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Mr. Tom Blaine, Manager
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Santa Fe, New Mexico 87502

Dear Mr. Blaine

Attached please find the Soil Vapor Extraction (SVE) Pilot Test Report that was recently completed. This report details the pilot testing of candidate wells that were performed to collect required data in order to design the expansion of the SVE system at Solid Waste Management Units ST-106 and SS-111.

Please contact Mr. L. Wayne Bitner at 505.853.3484 or at ludie.bitner@us.af.mil or Ms. Victoria R. Branson at 505.846.6362 or at victoria.branson@us.af.mil, if you have any questions.

Sincerely

TOM D. MILLER, Colonel USAF
Commander

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KIRTLAND AIR FORCE BASE
ALBUQUERQUE, NEW MEXICO

Soil-Vapor Extraction System Pilot Test Report
Bulk Fuels Facility Spill
Solid Waste Management Units ST-106 and SS-111

February 2014

377 MSG/CEANR
2050 Wyoming Blvd. SE
Kirtland AFB, New Mexico 87117-5270

KIRTLAND AIR FORCE BASE
ALBUQUERQUE, NEW MEXICO

SOIL-VAPOR EXTRACTION SYSTEM PILOT TEST REPORT

BULK FUELS FACILITY SPILL
SOLID WASTE MANAGEMENT UNITS ST-106 AND SS-111
KIRTLAND AIR FORCE BASE, NEW MEXICO

February 2014

Prepared for
U.S. Army Corps of Engineers
Albuquerque District
Albuquerque, New Mexico 87109

USACE Contract No. W912DY-10-D-0014
Delivery Order 0002

Prepared by
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NOTICE

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CB&I Federal Services LLC prepared this report, which details pilot testing of candidate wells to collect the required data in order to design the expansion of the soil-vapor extraction (SVE) system at Solid Waste Management Units ST-106 and SS-111, Bulk Fuels Facility Spill site, Kirtland Air Force Base, New Mexico. Pilot testing took place between October 3, 2013 and November 8, 2013. Two groups of wells were evaluated during pilot testing. Thirteen wells outside of the zone of influence of the existing SVE wells were evaluated to determine if they are suitable for expansion of the SVE zone of influence. The second set of wells tested included the two existing SVE wells (KAFB-106160 and KAFB-106161) and three Pneulog® wells within the zone of influence of the existing SVE system. Pilot test data from these five wells will be evaluated to optimize the removal of benzene and ethylene dibromide (EDB) in soil-vapor within the zone of influence of the existing SVE system. The SVE pilot test generated much of the data that is needed to complete the design of an expanded Bulk Fuels Facility SVE system. These data include the concentrations of hydrocarbons, oxygen, carbon dioxide, and EDB that can be expected from the various SVE wells. These concentrations, in conjunction with the amount of soil vapor produced by the wells as a function of wellhead vacuum, are necessary inputs to design an expanded SVE system.

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TOM D. MILLER, Colonel, USAF
Commander, 377th Air Base Wing

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PREFACE

This Soil-Vapor Extraction System Pilot Test Report has been prepared by CB&I Federal Services LLC (CB&I) for the U.S. Army Corps of Engineers (USACE), under Contract W912DY-10-D-0014, Delivery Order 0002. It pertains to the Kirtland Air Force Base Bulk Fuels Facility Spill, Solid Waste Management Units ST-106 and SS-111, located in Albuquerque, New Mexico. This report was prepared in accordance with all applicable federal, state, and local laws and regulations, including the New Mexico Hazardous Waste Act, New Mexico Statutes Annotated 1978, New Mexico Hazardous Waste Management Regulations, Resource Conservation and Recovery Act, and regulatory correspondence between the New Mexico Environment Department Hazardous Waste Bureau and the U.S. Air Force, dated April 2, June 4, August 6, and December 10, 2010.

This work will be performed under the authority of USACE Contract No. W912DY-10-D-0014, Delivery Order 0002. Mr. John McBee is the USACE Albuquerque District Project Manager; Mr. Wayne Bitner, Jr. is the Kirtland Air Force Base Restoration Section Chief; and Mr. Michael Amdurer is the CB&I Project Manager. This report was prepared by Stuart Shealy and Rachel Hobbs.

Michael Amdurer PG, PhD
CB&I Federal Services LLC
Project Manager

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ACRONYMS AND ABBREVIATIONS

%	percent
AFB	Air Force Base
BFF	Bulk Fuels Facility
bgs	below ground surface
CATOX	catalytic oxidizer
CO	carbon monoxide
CO_2	carbon dioxide
CY	Calendar Year
EDB	ethylene dibromide
EPA	U.S. Environmental Protection Agency
H_2S	hydrogen sulfide
inWC	inches of water column
KAFB	Kirtland Air Force Base
LEL	lower explosive limit
O_2	oxygen
ppmv	parts per million by volume
ppbv	parts per billion by volume
QAPP	Quality Assurance Project Plan
ROI	radius of influence
SCFM	standard cubic feet per minute
SDG	sample delivery group
SVE	soil-vapor extraction
SVM	soil-vapor monitoring
THC	total hydrocarbons
USACE	U.S. Army Corps of Engineers
VOC	volatile organic compound

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EXECUTIVE SUMMARY

CB&I Federal Services LLC prepared this report, which details pilot testing of candidate wells to collect the required data in order to design the expansion of the soil-vapor extraction (SVE) system at Solid Waste Management Units ST-106 and SS-111, Bulk Fuels Facility Spill site, Kirtland Air Force Base, New Mexico. Pilot testing took place between October 3, 2013 and November 8, 2013. Two groups of wells were evaluated during pilot testing. Thirteen wells outside of the zone of influence of the existing SVE wells were evaluated to determine if they are suitable for expansion of the SVE zone of influence. The second set of wells tested included the two existing SVE wells (KAFB-106160 and KAFB-106161) and three Pneulog® wells within the zone of influence of the existing SVE system. Pilot test data from these five wells will be evaluated to optimize the removal of benzene and ethylene dibromide in soil-vapor within the zone of influence of the existing SVE system.

Expansion of the BFF SVE system will occur in two phases. The first phase will focus on piping existing wells to the current CATOX system. The second phase will focus on additional treatment capacity requirements (i.e. more CATOX, thermox etc.) as well as identifying additional vapor extraction wells (new or existing) needed to address the vadose zone. The SVE pilot test generated adequate data to inform both phases of the expansion of the Bulk Fuels Facility SVE system. These data include the concentrations of hydrocarbons, oxygen, carbon dioxide, and ethylene dibromide that can be expected from the various SVE wells, , along with the amount of soil vapor produced by the wells as a function of wellhead vacuum.

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1. INTRODUCTION

The Bulk Fuels Facility (BFF) Spill site is located within the western portion of Kirtland Air Force Base (AFB), New Mexico (Figure 1-1) and is comprised of two solid waste management units, designated as ST-106 and SS-111. The component of the BFF Spill project related to investigation and remediation of the vadose zone near the Former Fuel Off-Loading Rack is designated as ST-106. The phase-separated, hydrocarbon-impacted groundwater component of the project is designated as SS-111.

This Soil-Vapor Extraction System Pilot Test Report (herein referred to as Report) describes the soil-vapor extraction (SVE) pilot testing that took place between October 4, 2013 and November 8, 2013. Pilot testing was performed in accordance with the *Soil Vapor Extraction System Expansion Work Plan Part 1: Candidate Well Identification and Pilot Testing, Kirtland Air Force Base, Albuquerque, New Mexico* (U.S. Army Corps of Engineers [USACE], 2013a), and was designed to gather data to begin the expansion of the existing SVE system as an interim measure at Solid Waste Management Units ST-106 and SS-111, BFF Spill site, Kirtland AFB, New Mexico (U.S. Environmental Protection Agency [EPA] Identification Number NM9570024423/HWB-KAFB-10-004). Eighteen wells were selected for pilot testing, and they were tested by either connecting them to the existing manifold for the catalytic oxidizer (CATOX) system or by using a mobile SVE system.

The portable system included the following: a vapor-liquid separator on the SVE vapor inlet, two claw-type SVE blowers, an air cooler for the blower outlet air, and two carbon beds for removal of organics from the soil gas. A more detailed description of the mobile SVE system can be found in Section 3.2, "Mobile SVE System Specifications." Both long duration tests and quick tests were conducted in accordance with the Work Plan (USACE, 2013a). This SVE System Pilot Test Report describes the field activities that took place during pilot testing as well as the results of the pilot tests. Results include radius

of influence (ROI) calculations for each well, analytical data from vapor samples collected during pilot testing, and additional data as required in the Work Plan (USACE, 2013a).

1.1 Current SVE System Overview

A full description of the existing SVE system, including an operations and maintenance manual, can be found in the Phase II Remediation Interim Measures Work Plan (USACE, 2013b). The SVE system includes two SVE wells (Kirtland AFB [KAFB]-106160 and KAFB-106161), an aboveground piping manifold that transports the vapors to a blower skid, and a catalytic oxidation unit to destroy the hydrocarbon vapors in the extracted well gas. The SVE system is designed to extract up to 1,600 standard cubic feet per minute (SCFM) of air, which contains up to 3,450 parts per million by volume (ppmv) total hydrocarbons (THC) from the two SVE wells (KAFB-106160 and KAFB-106161). This process results in the removal of over 2,100 pounds of hydrocarbons per day. In addition to the 1,600 SCFM of well gas and dilution air from the well field, the unit also draws in another 900 SCFM of dilution air at the inlet of the CATOX, for a total of up to 2,500 SCFM of air flow through the unit.

The SVE blower skid includes a knock-out pot for removing and collecting entrained non-aqueous phase liquid condensate, and a positive displacement blower fitted with silencers and inlet filters. The blower is enclosed in a noise-reduction housing and fitted with a variable frequency drive that can be used to adjust the blower speed. The blower is designed to operate at a wide range of inlet vacuum and air flow rates. The blower motor horsepower and variable frequency drive speed allow the blower to operate at start-up conditions (approximately 1,600 SCFM and 40 inches of water vacuum) and later in the remediation when it may be necessary to apply high vacuum to the wells (1,000 SCFM and 11 inches of mercury vacuum).

The CATOX is a natural, gas-fired unit designed for 98 percent (%) destruction of hydrocarbons. The catalyst block is a Johnson Mathey volatile organic compound (VOC) oxidation catalyst,

CONCAT #91447, which is a platinum group metal catalyst. The CATOX includes an inlet system fan burner and burner control systems, a catalyst bed, a heat-recovery exchanger, and an exhaust stack.

Construction of the new SVE treatment system was started in October 2012 and was completed on January 21, 2013. SVE system startup and ROI testing were completed, and full operation started on March 15, 2013. Beginning on May 6, 2013, flow rate, vacuum pressure, and THC were measured at the two SVE wells two to three times per week while the SVE system was running. Beginning on April 2, 2013, flow rate, vacuum pressure, and THC were measured at the CATOX unit at least four times per week while the SVE system was running.

1.2 Existing SVE Well Construction

The existing SVE system configuration operates on two wells, KAFB-106160 and KAFB-106161, as shown on Figure 1-2, which also illustrates all soil vapor wells used for quarterly soil-vapor monitoring (SVM) sampling. Well construction diagrams for the two wells are presented in Appendix A. The well casing is 6-inch, stainless steel with stainless-steel centralizers. The well screen is 6-inch, 0.050-slot wire-wrapped stainless steel set in a 50-foot section and a 40-foot section separated by 10 feet of casing. From the bottom of the 40-foot section of the 6-inch, 0.050-slot screen, a 6-inch, 0.030-slot wire-wrapped stainless steel screen is continued to 525 feet below ground surface (bgs). The bottom of the sump is set at 530 feet bgs and is 5 feet in length. The SVE well design was constructed for multi-purpose applications and, as such, was screened across the water table to provide an option to adapt the well for future potential remedies.

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2. SOIL VAPOR EXTRACTION PILOT TEST WELLS

In accordance with the SVE System Expansion Work Plan (USACE, 2013a), two groups of wells were evaluated during pilot testing. Thirteen wells outside of the zone of influence of the existing SVE wells were evaluated to determine if they are suitable for expansion of the SVE system when additional SVE treatment equipment is installed in late 2014. In addition, five wells were evaluated to optimize SVE within the zone of influence of the current system. These five wells included the existing SVE wells KAFB-106160 and KAFB-106161. Figure 2-1 illustrates all of the wells where pilot testing was performed in October and November 2013. Table 2-1 lists each tested well, the type of test that was performed, and the date the testing was performed.

Two types of tests were conducted as part of pilot testing; log duration tests generally lasted between 8 to 10 hours, and quick tests lasted about 1 hour. Except for the existing SVE-wells (KAFB-106160 and 106161), a step flow test was conducted on all wells in the pilot test program, generally as part of the quick test. The step flow tests were conducted to generate data on the flow rate from each well as a function of the applied vacuum. At the Pneulog® wells, step flow tests were conducted on at least the two lower screened intervals. Typically, the upper screened intervals were low in hydrocarbons and not likely candidates for inclusion in the SVE system. An in-depth description of the long-duration and quick-test procedures can be found in Section 3.1, "Testing Procedures".

2.1 Quick-Test Wells

Quick tests were conducted to select the wells used for long-duration tests, and to estimate the flow rates used during the long-duration tests. Quick tests were performed at a total of 16 wells.

- Soil-vapor extraction well (SVEW)-11
- SVMW KAFB-106113
- SVMW KAFB-106119
- SVMW KAFB-106131

- SVMW KAFB-106129
- SVMW KAFB-106130
- SVMW KAFB-106142
- SVMW KAFB-10628
- Pneulog® well KAFB-106148
- Pneulog® well KAFB-106149
- Pneulog® well KAFB-106150
- Pneulog® well KAFB-106152
- Pneulog® well KAFB-106153
- Pneulog® well KAFB-106154
- Pneulog® well KAFB-106155
- Pneulog® well KAFB-106156

Two wells (KAFB-106149 and KAFB-106154) are located inside the zone of influence of the existing SVE system. Thirteen wells are located outside of the zone of influence of the existing SVE system: KAFB-10628, KAFB-106113, KAFB-106119, KAFB-106129, KAFB-106130, KAFB-106131, KAFB-106142, KAFB-106148, KAFB-106152, KAFB-106153, KAFB-106155, KAFB-106156, and SVEW-11. Except for KAFB-106119, all quick tests on these wells were conducted using the mobile SVE system. KAFB-106119 was connected to the existing SVE system. The quick tests on these wells were performed by connecting them to the existing SVE system.

Quick-test were initiated for two Pneulog® wells (KAFB-106148 and KAFB-106150), but were directly converted to the long-duration test .A quick test was started on well KAFB-106148, but since it was one of the last wells tested and showed the highest concentrations of hydrocarbons encountered to date, the decision was made to go directly to a long-duration test. KAFB-106150 was another high hydrocarbon well where the decision was made to go directly to a long-duration test.

2.2 Long-Duration Test Wells

Wells for long-duration tests were selected based on the following criteria. In the case of the Pneulog® wells, these criteria also determined the screened interval at which the long-duration test would be performed:

- The wells are screened in areas where previous soil vapor sampling results have shown elevated concentrations of benzene.
- The wells are capable of producing a high flow rate of at least 100 SCFM, as determined by the quick tests or step flow tests
- The hydrocarbon concentration in the wells was above 1,000 ppmv as measured by the Horiba instrument.

Long-duration tests were performed at a total of seven wells. These include each of the five wells identified within the zone of influence of the existing SVE system: KAFB-106149, KAFB-106150, KAFB-106154, and the SVE wells KAFB-106160 and KAFB-106161. At the Pneulog® wells KAFB-106149, and KAFB-106154, the middle screened interval was chosen for the long-duration test. Even though these two wells were low in hydrocarbon concentrations, they were included in the long-duration testing. These wells were intended to address benzene and ethylene dibromide (EDB) in the soil above the current SVE system zone of influence and may also be used to supply dilution air to the SVE system, thus replacing clean wellhead dilution air with soil vapor containing lower levels of contamination and achieving additional remediation. The deepest screened interval was chosen for the long-duration test at KAFB-106150. Additionally, 2 of the 13 wells outside of the zone of influence of the existing SVE system were chosen for long-duration tests: wells KAFB-106155 and KAFB-106148. The middle screened interval at KAFB-106148 was chosen because it had very high hydrocarbon concentrations in the soil vapor and was in an area where benzene concentrations have been elevated. The deepest screened interval at KAFB-106155 was chosen because it produced a relatively high soil vapor extraction rate and was in an area where benzene and THC have been somewhat elevated compared to the other quick-test wells.

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3. PILOT TEST PROCEDURES AND EQUIPMENT

3.1 Testing Procedures

3.1.1 Quick-Test Procedures

The quick-test included two individual tests: the step flow test and the 1-hour duration test. Quick-test wells were connected to either the mobile SVE unit or the existing SVE pipeline. The quick tests were conducted in two phases. The first phase was an initial step flow test, which applied three successive vacuums to the well by adjusting the dilution air. The step flow tests were conducted to generate data on the flow rate from each well as a function of the applied vacuum.

To conduct the step flow test, the SVE system was connected to the well, and the maximum vacuum possible was applied to the well. Once the maximum vacuum was determined, two lower "steps" were calculated, a low vacuum setting of 8 to 10 inches of water column (inWC), and a setting roughly half-way between the low and maximum vacuums. In this way, the three successive "steps" were determined. The step test was then begun at the lowest vacuum calculated for the test. The applied vacuum to the well was adjusted by adjusting the amount of dilution air to the SVE system. Once all of the necessary measurements were recorded at the lowest vacuum, the applied vacuum was adjusted to the second strength, and then the maximum strength. Once all measurements were recorded at each vacuum strength, the first phase of the quick test was complete.

The second phase of the quick test was a 1-hour test at a single vacuum strength determined by the step test. The vacuum strength during the step test that yielded the highest THC readings was used for the 1-hour test. If the THC measurements were the same for more than one vacuum strength, the highest applied vacuum was used for the second phase of the quick test. In general, the maximum applied vacuum at the quick-test wells ranged from 22 inWC to 186.5 inWC. During the second phase, measurements

were collected every 10 minutes at the extraction well. The following parameters were measured during each step of the test:

- Vacuum
- Soil-vapor temperature and humidity
- THCs, fixed gases (carbon dioxide [CO_2], carbon monoxide [CO], oxygen [O_2], hydrogen sulfide [H_2S]), and lower explosive limit (LEL)

For wells that were directly connected to the existing CATOX unit, flow rate was measured by the system and recorded from the PLC. For wells tested with the mobile SVE system flow rate was calculated using the area of the well head adaptor multiplied by vapor velocity. Differential pressure, barometric pressure, temperature, and a correction factor based on humidity and temperature were used to determine vapor velocity. These calculations can be found in Appendix C-1. The monitoring instrumentation used to collect these measurements is described in Section 3.3. Additionally, the equilibrium of the soil-vapor was not altered enough to be visible over the time-span of a quick test. CB&I Federal Services LLC used the most recent quarterly vapor monitoring data to help determine the wells chosen for the long-duration tests.

Two observation wells were selected for each quick test: the nearest SVM well to the extraction well, and one well at least 500 feet from the extraction well to be used as a background monitoring well. Vacuum pressure at the observation wells was measured prior to the start of the quick tests , 30 minutes into the test, and immediately before the test ended. Measurements collected at the test well and at the observation wells were recorded on the field forms located in Appendix B. Table 3-1 lists the observation wells used during the quick tests as well as the distance from each observation well to each extraction well.

3.1.2 Long-Duration Test Procedures

Long-duration tests were also conducted by connecting wells to either the mobile SVE unit or the existing SVE manifold. Wells KAFB-106148, KAFB-106149, KAFB-106150, KAFB-106160, and KAFB-106161 were connected to the SVE CATOX system. The long-duration tests for wells KAFB-106148 and KAFB-106155 were conducted using the mobile SVE unit.

Data from the quick test described in Section 3.1.1, "Quick-Test Procedures," were used to determine the optimal vacuum to run the long-duration test, and the optimal screened interval at which to perform the long-duration test for the Pneulog® wells. At wells KAFB-106148 and KAFB-106150 where full quick tests were not performed, step flow tests were conducted prior to the long-duration tests to determine the optimal vacuum.

The long-duration tests lasted between 8 to 10 hours. The vacuum applied to each test well remained constant for the duration of the test. The following parameters were measured every 30 minutes for the duration of the test:

- Test well vacuum
- Test well soil-vapor temperature and humidity
- Test well THCs, fixed gases (CO_2, CO, O_2, H_2S), and LEL
- Observation well vacuum

For wells that were directly connected to the existing CATOX unit, flow rate was measured by the system and recorded from the PLC. For wells tested with the mobile SVE system flow rate was calculated using the area of the well head adaptor multiplied by vapor velocity. Differential pressure, barometric pressure, temperature, and a correction factor based on humidity and temperature were used to determine vapor velocity. These calculations can be found in Appendices C-2 and C-3. The monitoring instrumentation used to collect these measurements is described in Section 3.3. In addition to the parameters listed above, soil vapor samples were collected 30 minutes into each test and at the end of each test for VOCs; benzene,

toluene, ethylbenzene, xylenes; and EDB. Analytical testing methods are described in Section 3.4, "Analytical Testing Methods," and results of these analytical samples are discussed in Section 4.3, "Analytical Results."

Barometric pressure changes at the site have a strong impact on vacuum pressure at the observation wells, which can drown out the effect of SVE on a single well. It is therefore necessary to have a sufficient network of observation wells. During the long-duration tests, vacuum pressures were monitored in the observation wells prior to the start of the test, and every 30 minutes throughout the test. Table 2-1 identifies observation wells chosen for the long-duration tests.

SVM wells were used as observation wells for both long-duration tests and quick tests. In accordance with the Vadose Zone Investigation Work Plan (USACE, 2011a), SVM wells are comprised of six nested wells with 10-foot screened intervals at 450 feet bgs, 350 feet bgs, 250 feet bgs, 150 feet bgs, 50 feet bgs, and 25 feet bgs. Due to the multiple depths available for observations, these wells are appropriate for use as observation wells. Six wells were used as observation wells during the long-duration tests. The six wells included the five SVM wells nearest to the extraction well and one background observation well. The background well was at least 500 feet away from the test well. During data analysis, vacuums observed in the five closest observation wells were compared to vacuums observed in the background monitoring well. Table 3-2 lists the observation wells used during each long-duration test and quick test.

3.2 Mobile SVE System Specifications

Wells that were not tested by connecting directly to the existing SVE system were tested using a mobile SVE system. A schematic flow diagram for the mobile SVE system is attached as Figure 3-1. The mobile treatment system included a vapor-liquid separator, two claw-type SVE blowers, and an air cooler, in which all were housed in an enclosed trailer, and two carbon adsorbers were mounted on an open trailer. Each carbon adsorber contained 1,000 pounds each of virgin vapor-phase carbon. The blowers and air-

cooler fan were powered by a mobile, diesel-driven generator. Pictures of the mobile system are included as Figure 3-2.

Except for well KAFB-10628 in Bullhead Park, all of the wells in the pilot test program were 3-inch-diameter polyvinyl chloride at the wellhead. A common wellhead assembly shown on Figure 3-3 was used to connect the mobile SVE system to the SVE wells. A 3-inch-diameter flexible hose was used to connect the wellhead assembly to the SVE system vapor-liquid separator.

As shown on the flow diagram (Figure 3-1), soil vapor from the wells was pulled through the separator into the SVE blower. Soil vapor was generally dry during pilot testing, and ambient temperatures were typically above soil temperatures; therefore, no liquid collected in the separator. The soil vapor blower exhausted the blower outlet gas into a fin-fan air cooler, which dropped the temperature of the gas to between 75 and 80 degrees Fahrenheit, and therefore, improved the performance of the carbon adsorbers. In addition to the soil vapor blower, the mobile SVE system included a fresh air blower that could be used to dilute the soil vapor with fresh outside air. The dilution air was used to keep the LEL of the inlet gas to the carbon below 25%, and to reduce the carbon temperature increase from heat of adsorption for hydrocarbons. For most wells in the pilot testing, the dilution air was not needed because soil vapor hydrocarbon was below 1,500 ppmv. Both the soil vapor and dilution air blowers were 15-horsepower Mink MI 1502 BV manufactured by Busch.

After the fin-fan air cooler, the soil vapor went through two carbon adsorbers connected in a series, or "lead-lag" configuration to remove the hydrocarbons from the soil vapor. The hydrocarbon concentration in the outlet of the second carbon bed was monitored using a photoionization detector, and hydrocarbon was typically below 1 ppmv.

3.3 Monitoring Instrumentation

The same monitoring instrumentation was used for both the quick tests and the long-duration tests. Soil-vapor hydrocarbon concentrations (ppmv), O_2%, CO%, CO_2%, and pressure were measured in the field at time of collection using a Horiba Model MEXA 584 L portable auto emissions analyzer, which can measure from 0 to 10,000 ppmv of THC. Vacuum and differential pressure measurements were collected using both a digital and magnehelic pressure gauge manometers series 477-1-FM. A four-gas monitor (MSA Orion, model #10031091) was used to detect H_2S and was calibrated before each test. Temperature and relative humidity were collected using a temperature and humidity sensor (Dwyer model #485B1).

3.4 Analytical Testing Methods

All soil-vapor samples were collected in accordance with the Vadose Zone Investigation Work Plan procedures (USACE, 2011a) and Kirtland AFB BFF Spill Quality Assurance Project Plan (QAPP) requirements (USACE, 2011b).

No samples for laboratory analysis were collected during the 1-hour quick tests because the short time-span made collection of samples logistically impossible. Additionally, the equilibrium of the soil-vapor was not altered enough to be visible over the time-span of a quick test. The most recent quarterly vapor monitoring data were used to help determine the wells chosen for the long-duration tests.

The five candidate well that were chosen for long-duration tests and the two existing extraction wells (KAFB-106160 and KAFB-106161) were sampled 30 minutes into each test and at the end of each test for VOCs; benzene, toluene, ethylbenzene, xylenes; and EDB. The samples were collected using a 6-liter Summa canister through sampling ports installed at the top of each individual well casing. At wells KAFB-106160 and KAFB-106161, the Summa canister pressure gauge was not representing pressure in the canister, so the Summa canisters were connected to the port for 10 minutes to collect the vapor

sample. Soil-vapor samples were shipped to ALS Laboratories in Simi Valley, California, for the following list of analytical parameters:

- VOCs by EPA Method TO-15 (EPA, 1999)
- EDB by California Air Resources Board, Method 422 (California Air Resources Board, 1987)

Field quality control samples were collected in accordance with the BFF Spill QAPP (USACE, 2011b) and included one field duplicate sample. Soil-vapor analytical data were validated for precision, accuracy, representativeness, comparability, and completeness in accordance with the BFF Spill QAPP (USACE, 2011b). Appropriate data qualifiers are appended to the analytical data in the project database. The data quality report can be found in Appendix D. Results of the analytical samples are discussed in Section 4.3, "Analytical Results." Thirty-five additional soil vapor samples were collected during the Fourth Quarter Calendar Year (CY) 2013 and analyzed for EDB. The analytical results of these additional soil vapor samples will be reported in the Fourth Quarter CY 2013 quarterly report, as stated in Section 2.2.3, "Analytical Sampling Methodology," of the Work Plan (USACE, 2013a).

3.5 Calculations

3.5.1 ROI Calculations

Data collected during the ROI tests were overprinted by the vadose zone's response to changes in barometric pressure. As the barometric pressure increased, vacuum pressure in the wells screened within the vadose zone increased. This effect is particularly pronounced for wells in the deeper parts of the vadose zone, which cannot equilibrate with the atmosphere as readily as wells in the more shallow regions. Consequently, the barometric pressure had a much stronger effect on vacuum pressure in wells being monitored than did the SVE system used during ROI testing.

To determine the ROI for each extraction well, the data were corrected for barometric pressure. Hourly barometric pressure was available for download from a weather station located at the Albuquerque International Sunport, which is adjacent to Kirtland AFB.

First, the barometric efficiency of the monitoring wells was determined using data collected during the background monitoring for SVM well depths of 450 feet bgs, 350 feet bgs, and 250 feet bgs. Barometric efficiency is a measurement of how vacuum pressure in a well responds to a change in barometric pressure, and is calculated by dividing the change in vacuum pressure by the change in barometric pressure for a given period of time.

Data collected were grouped by well type and depth. For instance, all of the data from 484-foot bgs PneuLog® wells were grouped together, all of the data from the 150-foot bgs SVM wells were grouped together, and so forth. For each of the groupings, the vacuum pressure was plotted against barometric pressure, and a best-fit line was matched to each. Correlation coefficients of the data to the best-fit lines ranged from $r^2 = 0.93$ to 0.95 for 450 feet bgs, 350 feet bgs, and 250 feet bgs, respectively, thus indicating a very good match to the data. The slope of the best-fit line for each grouping was the calculated barometric efficiency for that well type and depth.

The barometric efficiency for SVM wells with depths of 150 feet bgs and 50 feet bgs was calculated using the background data of well KAFB-106121 during the long-duration tests of KAFB-106149 and KAFB-106154. The vacuum pressure of well KAFB-106121 during long-duration tests of KAFB-106149 and KAFB-106154 was plotted against barometric pressure at the time of the test and, a best-fit line was matched to each. The slopes of the best-fit lines were averaged and used as the estimated barometric efficiencies for SVM depths of 150 feet bgs and 50 feet bgs.

Next, for each ROI test, a vacuum pressure at a chosen mid-point for each round was estimated using the observed vacuum pressures and the calculated barometric efficiencies. Because the barometric pressure was changing rapidly during some periods of testing, it was necessary to estimate a vacuum pressure at a mid-point time for each well during each monitoring round to accurately compare the responses of the monitoring wells. The vacuum pressure for each well was estimated for the chosen mid-point time for each round using the following method:

First, the barometric pressure at the selected mid-point time was interpolated using hourly barometric pressure downloaded from a weather station located at the Albuquerque International Sunport, which is adjacent to Kirtland AFB. The equation used is as follows:

$$B_{t_m} = Pb_{t_0} + \left(\frac{Pb_{t_1} - Pb_{t_0}}{t_1 - t_0} \times [t_m - t_0]\right)$$

Where:

B_{t_m} = Calculated barometric pressure at the selected mid-round time
Pb_{t_0} = Recorded barometric pressure at the last time pressure was recorded prior to the mid-round time
Pb_{t_1} = Recorded barometric pressure at the first time pressure was recorded following the mid-round time
t_0 = Time of Pb_{t_0}
t_1 = Time of Pb_{t_1}
t_m = Time of B_{t_m}

Next, the barometric pressure at the time of monitoring was interpolated using the following equations:

$$Equation\ \#1: B_{t_0} = B_{t_{0-1}} + \left(\frac{B_{t_{0+1}} - B_{t_{0-1}}}{t_{0+1} - t_{0-1}} \times [t_0 - t_{0-1}]\right)$$

$$Equation\ \#2: B_{t_1} = B_{t_{1-1}} + \left(\frac{B_{t_{1+1}} - B_{t_{1-1}}}{t_{1+1} - t_{1-1}} \times [t_1 - t_{1-1}]\right)$$

Where:

B_{t_0} = Calculated barometric pressure at the time of monitoring, if monitoring occurred prior to the mid-round time
B_{t_1} = Calculated barometric pressure at the time of monitoring, if monitoring occurred after the mid-round time
$B_{t_{0-1}}$ = Recorded barometric pressure at the last time pressure was recorded prior to B_{t_0}.
$B_{t_{0+1}}$ = Recorded barometric pressure at the first time pressure was recorded following B_{t_0}.
$B_{t_{1-1}}$ = Recorded barometric pressure at the last time pressure was recorded prior to B_{t_1}.
$B_{t_{1+1}}$ = Recorded barometric pressure at the first time pressure was recorded following B_{t_1}.
t_0 = Time of B_{t_0}.
t_1 = Time of B_{t_1}.
t_{0-1} = Time of $B_{t_{0-1}}$.
t_{0+1} = Time of $B_{t_{0+1}}$.
t_{1-1} = Time of $B_{t_{1-1}}$.
t_{1+1} =Time of $B_{t_{1+1}}$.

Next, the following equations were used to extrapolate the vacuum pressure at each well:

$$Equation\ \#3\ P_{t_m} = P \quad + \left(BE \times \left[B_{t_m} - B_{t_0}\right]\right)$$
$$Equation\ \#4\ P_{t_m} = P \quad - \left(BE \times \left[B_{t_1} - B_{t_m}\right]\right)$$

Where:

P_{t_m} = Calculated vacuum pressure at the mid-round time
P = Measured vacuum pressure at the monitoring well
BE = Barometric efficiency

Equation #3 was used where the vacuum pressure in the given monitoring round was recorded prior to the selected mid-round time, while Equation #4 was used where the vacuum pressure in the given monitoring round was recorded following the selected mid-round time.

For each monitoring round and well depth, the calculated P_{t_m} for each background well was selected as the null point. The null point was different for each long-duration test because each test had a different background well. The following lists the extraction well and its respective background well:

- Extraction well KAFB-106148 – background well KAFB-106113
- Extraction well KAFB-106149 – background well KAFB-106121
- Extraction well KAFB-106150 – background well KAFB-106109
- Extraction well KAFB-106154 – background well KAFB-106121
- Extraction well KAFB-106155 – background well KAFB-106118
- Extraction wells KAFB-106160 and KAFB-106161 – background well KAFB-106121

All of the observation wells for the long-duration tests were SVM wells, and each well was analyzed by depth. For each monitoring round, the difference was taken between the calculated P_{t_m} at each monitoring well and the null point for that depth. Both, the 484-foot-bgs Pneulog® and 450-foot-bgs SVM wells, were compared to the respective background well at 450 feet; the 350-foot-bgs Pneulog® and SVM wells were compared to the respective background well at 350 feet; and the 250-foot-bgs PneuLog®, 150-foot bgs SVM wells, and 50-foot bgs SVM wells were compared to the respective background well at 250 feet bgs, 150 feet bgs, and 50 feet bgs.

For each monitoring well and each test, the average of the differences from the null points for all monitoring rounds was taken. These average differences from the null point, hereafter referred to as "corrected-observed vacuum," were plotted against the distance to the nearest monitoring well for each grouping of well depths and types on a semi-log graph. An exponential line was fit to the data on each graph. The corrected-observed vacuums at the SVE wells are referred to as applied vacuum, and are shown on the graphs, as is the 0.3 inWC dotted line that has been determined as the edge of the ROI. The ROI is determined to be the point where the best-fit line crosses the line where the vacuum is 0.3 inWC (See graphs in Appendix C). Based on field observations made during previous ROI tests (USACE, 2013c), at values below 0.3 inWC, the variability in the measurements and corrections are such that it is uncertain that the area is actually under the influence of the SVE well.

Next, the background-corrected-observed vacuums were subtracted from the corrected-observed vacuums for each test. For each well type in each test, these values were plotted, and contours were created to map out the ROI of the new SVE system (see Section 4.2, "Long Duration Tests Results"). The edge of the

ROI is determined to be 0.3 inWC. For the most part, wells with a corrected-observed vacuum near the edge of ROI varied between appearing to be within or outside of the ROI, depending on the barometric pressure.

ROI results and figures are discussed in Section 4.2.

3.5.2 Mass-Recovery Rates

In order to determine the effectiveness of SVE during each test, mass-recovery rates were estimated using the following equation:

$$R = \frac{HC}{24.055} \times MW \times Q \times 28.3\frac{L}{SCF} \times 60\frac{min}{hour} \times 2.2\frac{lbs}{kg} \times 10^{-9}\frac{\mu g}{kg}$$

Where:

R = Mass-recovery rate in pounds per day (lbs/day)
HC = Total hydrocarbons in ppmv
24.055 = Universal gas law conversion factor for volume to mass concentration
MW = Molecular weight. The molecular weight for hexane, 86.18, was used.
Q = Flow rate (SCFM)
$28.3\frac{L}{SCF}$ = Conversion factor between liters and standard cubic feet
$60\frac{min}{hr}$ = Conversion factor between minutes and days
$2.2\frac{lbs}{kg}$ = Conversion factor between pounds and kilograms
$10^{-9}\frac{\mu g}{kg}$ = Conversion factor between micrograms and kilograms

During each monitoring round, THC and flow rates were measured for each extraction well. The equation above was used to convert this data into mass-recovery rates in pounds per hour.

4. PILOT TEST RESULTS

4.1 Quick-Test Results

Quick-duration pilot tests were completed following the procedures stated in Section 3.1.1, "Quick-Test Procedures." All quick-test data, flow-rate calculations, and averaged parameters are provided in Appendices C-1 and C-4. Step flow test data, flow-versus-vacuum correlation equations, and average run data are also provided in Tables 4-1, 4-2, and 4-3, respectively. Quick-duration pilot tests were performed during October and November of 2013 on 16 wells. As described in Section 2.1, two Pneulog® wells (KAFB-106148 and KAFB-106150) were directly converted to the long-duration test, and therefore, quick-test results are described for the following:

- SVEW-11
- SVMW KAFB-106113
- SVMW KAFB-106119
- SVMW KAFB-106131
- SVMW KAFB-106129
- SVMW KAFB-106130
- SVMW KAFB-106142
- SVMW KAFB-10628
- Pneulog® well KAFB-106149
- Pneulog® well KAFB-106152
- Pneulog® well KAFB-106153
- Pneulog® well KAFB-106154
- Pneulog® well KAFB-106155
- Pneulog® well KAFB-106156

The step flow tests were conducted to generate data on the soil vapor flow rate from each well as a function of the applied vacuum at the wellhead. Typically, the step flow tests were conducted at the start of testing on each well and involved adjusting the position of the dilution air valve on the wellhead assembly to give air flow at three different applied vacuum settings. The three levels of applied vacuum included the highest vacuum that could be obtained at the well (dilution air valve shut), a low vacuum setting of 8 to 10 inches of water, and a setting roughly half-way between the high-low points. At the Pneulog® wells, step flow tests were conducted on at least two lower screened intervals. Typically, the

upper screened intervals were low in hydrocarbons and not likely candidates for inclusion in the SVE system. All data from the step flow tests are summarized in Tables 4- 1 through 4-3.

For each of the SVM wells and the individual screened intervals of the Pneulog® wells, the flow rate was plotted versus the applied vacuum, and the data were curve-fit to a linear equation. The slope and intercept values of the flow rate curves are shown in Table 4-2. Except for SVEW-11 and KAFB-10628, the regression coefficients for the flow curves were linear. SVEW-11 and KAFB-10628 had small screens. At SVEW-11 an adaptor was used to measured 450, 350 and 250 feet bgs wells simultaneously, which each had ten foot screens of two-inch diameter PVC. Similarly, at KAFB-10628 an adaptor also measured 450, 350 and 250 feet bgs wells simultaneously, which each had only 2.5 foot screens of ¾ inch diameter PVC. These wells also had low flow rates. Flow rate for these wells may have been limited by length of the screen and diameter of the well. The flow rate curves for each well will be used in the design evaluation of the expanded SVE system.

Flow rates calculated for quick tests varied from approximately 100 to 365 SCFM. Hydrocarbon concentrations recovered from quick tests also varied widely from approximately 5 to 2,700 ppmv based on the test wells location. Average vacuum strengths used during quick tests varied from approximately 12 to 60 inWC. Quick-test field measurements for each test are provided in Appendix C-4. Step flow test data and flow-versus-vacuum correlation equations are provided for each test in Tables 4-1 and 4-2.

4.2 Long-Duration Tests Results

Long-duration pilot tests were completed following the procedures stated in the Work Plan (USACE, 2013a). All long-duration test data, flow-rate calculations, and averaged parameters are provided in Appendix C. Long-duration pilot tests were performed during October and November of 2013 on the following wells:

- SVEW KAFB-106161
- SVEW KAFB-106160
- Pneulog® well KAFB-106149
- Pneulog® well KAFB-106154
- Pneulog® well KAFB-106148
- Pneulog® well KAFB-106155
- Pneulog® well KAFB-106150

Field parameters versus time plots for each long-duration test are summarized on Figures 4-1 through 4-7. Vacuum versus time graphs for the corresponding observation wells for each long-duration test are provided on Figures 4-8 through 4-14. Cumulative mass recovery of hydrocarbons versus time is shown graphically for each long-duration test on Figures 4-15 through 4-21. Step flow test data, flow-versus-vacuum correlation equations, and average run data are provided in Tables 4-1, 4-2, and 4-3, respectively. Calculations of hydrocarbon mass recovery are provided for each long-duration test in Tables 4-4 through 4-10, and in Appendix C-5. ROI calculations for each long-duration test are provided in Appendices C-6 through C-12. ROI is shown graphically as vacuum-corrected for barometric pressure versus distance for each long-duration test on Figures 4-22 through 4-47.

4.2.1 Background Monitoring Results

The following barometric efficiencies were determined for each group of well types during background monitoring. These barometric efficiencies were used to calculate the ROI for each well:

- 450 feet bgs SVM wells: -0.96
- 350 feet bgs SVM wells: -0.96
- 250 feet bgs SVM wells: -0.56
- 150 feet bgs SVM wells: -0.63
- 50 feet bgs SVM wells: -0.20

Data collected during the background monitoring show that the average difference from null was relatively small for each monitoring well at depths of 450 feet bgs, 350 feet bgs, and 250 feet bgs, respectively. The average difference from null ranged from -0.9 to 0.17 inWC, with standard deviations ranging from 0.03 to 0.60 inWC. For wells at these three depths, the standard deviation is greater than the

absolute value of the average difference from null. No spatial patterns are apparent in the background data for SVM wells at depths of 150 feet bgs and 50 feet bgs, and no data were collected during background monitoring. The barometric efficiencies were determined using data from the pilot tests.

4.2.2 KAFB-106161

The long-duration pilot test for well KAFB-106161 was performed on October 3, 2013. Wells KAFB-106116, KAFB-106117, KAFB-106114, KAFB-106121, KAFB-106129, and KAFB-106112 were used as observation wells for the test. An average flow rate of 743.5 cfm was calculated for KAFB-106161 during the test. Field parameters versus time plots for the pilot test on well KAFB-106161 are provided on Figure 4-1. Vacuum versus time in the observation wells during the long-duration pilot test on well KAFB-106161 are shown on Figure 4-8. Hydrocarbon concentrations throughout the duration of the test varied from 7,610 to 7,710 ppmv. The formulas and data used to calculate the cumulative mass of hydrocarbons removed during the long-duration test on well KAFB-106161 are provided in Table 4-4. A total of 616.4 pounds of hydrocarbons were removed from well KAFB-106161 during the test. The cumulative mass of hydrocarbons removed versus time at KAFB-106161 is shown graphically on Figure 4-15.

During the long-duration test at KAFB-106161, the applied vacuum ranged from 24.46 to 25.17 inWC with an average of 24.73 inWC. The ROI for KAFB-106161 was calculated using the value of 0.3 inWC as the boundary of the ROI. Applied vacuum calculations are shown in Appendix C-6 along with the corrected-observed vacuums for each monitoring well during the ROI test. Maps contouring applied vacuum for each well depth, and ROI tests are presented on Figures 4-22 through 4-24.

All 450-foot-bgs SVM wells (Table 3-2) had corrected-observed vacuums greater than 0.3 inWC. Well KAFB-106129 (252 feet from KAFB-106161) had a corrected-observed vacuum of 0.83 inWC. The

furthest observation well from the extraction well, KAFB-106114 (294 feet from KAFB-106161), had an applied pressure of 0.49 inWC (Figure 4-22).

With the exception of KAFB-106129, all 350-foot-bgs SVM wells had corrected-observed vacuums greater than 0.3 inWC. Well KAFB-106129 (249 feet from KAFB-106161), had an applied pressure of 0.27 inWC, while the furthest well, KAFB-106114 (291 feet from KAFB-106161), had an applied pressure of 0.50 inWC (Figure 4-23).

Of the 250-foot-bgs SVM well, only KAFB-106116 (144 feet from KAFB-106161) did not have greater vacuum pressure than 0.3 inWC. Well KAFB-106116 had an applied vacuum of 0.20 inWC (Figure 4-24).

Using the data from these wells, the ROI at KAFB-106161 is calculated to be approximately 320 feet (Appendix C-6).

4.2.3 KAFB-106160

The long-duration pilot test for well KAFB-106160 was performed on October4, 2013. Wells KAFB-106117, KAFB-106116, KAFB-106121, KAFB-106114, KAFB-106128, and KAFB-106119 were used as observation wells for the test. An average flow rate of 473.8 cfm was calculated for KAFB-106160 during the test. Field parameters versus time plots for the pilot test on well KAFB-106160 are provided on Figure 4-2. Vacuum versus time in the observation wells during the long-duration pilot test on well KAFB-106160 are shown on Figure 4-9. Hydrocarbon concentrations throughout the duration of the test varied from 7, 120 to 7,370 ppmv. The formulas and data used to calculate the cumulative mass of hydrocarbons removed during the long-duration test on well KAFB-106160 are provided in Table 4-5. A total of 367.18 pounds of hydrocarbons were removed from well KAFB-106160 during the test. The

cumulative mass of hydrocarbons removed versus time at KAFB-106160 is shown graphically on Figure 4-16.

During the long-duration test, the applied vacuum on KAFB-106160 ranged from 21.13 to 21.67 inWC with an average of 21.31 inWC. The ROI at KAFB-106160 was calculated using the value of 0.3 inWC as the boundary of the ROI. Applied vacuum calculations are shown in Appendix C-7 as well as the corrected-observed vacuums for each monitoring well during the ROI test. Maps contouring applied vacuum for each well depth, and ROI tests are presented on Figures 4-25 through 4-27.

During the long-duration test on KAFB-106160, all 450-foot-bgs SVM wells had corrected-observed vacuums of greater than 0.3 inWC. The second farthest well from KAFB-106160, i.e., KAFB-106114 (305 feet from KAFB-106160), had an applied pressure of 0.52 inWC, while the farthest well from KAFB-106160, i.e., KAFB-106116 (307 feet from KAFB-106160), had an applied pressure of 0.59 inWC (Figure 4-25).

All 350-foot-bgs SVM wells had corrected-observed vacuums of greater than 0.3 inWC. Well KAFB-106128 had an applied pressure of 0.97 inWC. The next closest well, KAFB-106117 (163 feet from KAFB-106160), had an applied pressure of 0.65 inWC. Well KAFB-106119 (242 feet from KAFB-106160) had a corrected-observed vacuum of 0.56 inWC (Figure 4-26).

Of the 250-foot-bgs SVM wells, none of the corrected-observed vacuums were above 0.3 inWC. The closest well, KAFB-106128 (154 feet from KAFB-106160), had an applied pressure of 0.20 (Figure 4-27).

Using the data from these wells, the ROI for KAFB-106160 is calculated to be approximately 340 feet (Appendix C-7).

4.2.4 Pneulog® Well KAFB-106149

The long-duration pilot test for well KAFB-106149 was performed on October 16, 2013. Wells KAFB-106117, KAFB-106116, KAFB-106128, KAFB-106119, KAFB-106112, and KAFB-106121 were used as observation wells for the test. An average flow rate of 517.4 cfm was calculated for KAFB-106149 during the test. Field parameters versus time plots for the pilot test on well KAFB-106149 are provided on Figure 4-3. Vacuum versus time in the observation wells during the long-duration pilot test on KAFB-106149 are shown on Figure 4-10. Hydrocarbon concentrations throughout the duration of the test varied from 283 to 495 ppmv. The formulas and data used to calculate the cumulative mass of hydrocarbons removed during the long-duration test on well KAFB-106149 are provided in Table 4-6. A total of 21.28 pounds of hydrocarbons were removed from well 106149 during the test. The cumulative mass of hydrocarbons removed versus time at well 106149 is shown on Figure 4-17.

During the long-duration test, the applied vacuum on KAFB-106149 ranged from 31.32 to 36.46 inWC with an average of 34.42 inWC. The applied vacuums were greater when the barometric pressure was lower and the natural system was venting. The ROI for KAFB-106149 was calculated using the value of 0.3 inWC as the boundary of the ROI. Applied vacuum calculations are shown in Appendix C-8. Maps contouring applied vacuum for each well depth, and ROI tests are presented on Figures 4-28 through 4-31.

Of the 350-foot-bgs SVM wells, only one well, i.e., KAFB-106117 (30 feet from KAFB-106149), had an applied pressure above 0.3 inWC. The next closest well, KAFB-106116 (161 feet from KAFB-106149), had an applied pressure of 0.10 inWC, while the next closest well after that, KAFB-106119 (200 feet from KAFB-106149), had an applied pressure of 0.11 inWC (Figure 4-28).

The 250-foot-bgs SVM wells KAFB-106117 (103 feet from KAFB-106149), KAFB-106116 (188 feet from KAFB-106149), and KAFB-106128 (229 feet from KAFB-106149) had applied vacuum

pressures higher than 0.3 inWC. Wells KAFB-106119 (222 feet from KAFB-106149) and KAFB-106112 (240 feet from KAFB-106149) had applied vacuum pressures of 0.29 inWC and 0.28 inWC, respectively (Figure 4-29).

The 150-foot-bgs SVM wells KAFB-106117 (200 feet from KAFB-106149) and KAFB-106119 (280 feet from KAFB-106149) had applied vacuums greater than 0.3 inWC. The next highest vacuum was at well KAFB-106128 (285 feet from KAFB-106149), which had an applied vacuum of 0.26 inWC (Figure 4-30).

Of the 50-foot-bgs SVM wells, only KAFB-106117 (300 feet from KAFB-106149) had an applied vacuum above 0.3 inWC, with 0.42 inWC. The next highest applied vacuum was 0.22 from well KAFB-106128 (362 feet from KAFB-106149) (Figure 4-31).

Using the data from these wells, the ROI at KAFB-106149 is calculated to be approximately 180 feet (Appendix C-8).

4.2.5 Pneulog® Well KAFB-106154

The long-duration pilot test on well KAFB-106154 was performed on October 18, 2013. Wells KAFB-106112, KAFB-106117, KAFB-106116, KAFB-106130, KAFB-106119, and KAFB-106121 were used as observation wells for the test. An average flow rate of 290 cfm was calculated for KAFB-106154 during the test. Field parameters versus time plots for the pilot test on well KAFB-106154 are shown on Figure 4-4. Vacuum versus time in the observation wells during the long-duration pilot test on KAFB-106154 are shown on Figure 4-11. Hydrocarbon concentrations throughout the duration of the test varied from 71 to 123 ppmv. The formulas and data used to calculate the cumulative mass of hydrocarbons removed during the long-duration test on well KAFB-106154 are provided in Table 4-7. A

total of 4.41 pounds of hydrocarbons were removed from well KAFB-106154 during the test. The cumulative mass of hydrocarbons removed versus time at well KAFB-106154 is shown on Figure 4-18.

During the long-duration test at well KAFB-106154, the applied vacuum ranged from 57.11 to 69.04 inWC with an average of 62.58 inWC. The ROI at KAFB-106154 was calculated using the value of 0.3 inWC as the boundary of the ROI. Applied vacuum calculations are shown in Appendix C-9. The corrected-observed vacuums for each monitoring well during the ROI test are presented in Appendix C-9. Maps contouring applied vacuum for each well depth, and ROI tests are presented on Figures 4-32 through 4-34.

Of the 350-foot-bgs SVM wells, not one well had vacuums above 0.3 inWC. The highest applied vacuum was 0.26 inWC at KAFB-106112 (70 feet from KAFB-106154; refer to Figure 4-32).

With the exception of KAFB-106119 and KAFB-106121, all of the 250-foot-bgs SVM wells had applied vacuums greater than 0.3 inWC. Well KAFB-106119 (274 feet from KAFB-106154) had an applied vacuum of 0.29 inWC, and KAFB-106121 (289 feet from KAFB-106154) had an applied vacuum of 0.23 inWC (Figure 4-33).

For the 150-foot-bgs SVM wells, the only well that had a greater applied vacuum than 0.3 inWC was KAFB-106119 (214 feet from KAFB-106154) with an applied vacuum of 0.31 inWC. The next closest well, KAFB-106117 (297 feet from KAFB-106154), had an applied vacuum of 0.17 inWC (Figure 4-34).

Using the data from these wells, the ROI at KAFB-106154 is calculated to be approximately 190 feet (Appendix C-9).

4.2.6 Pneulog® Well KAFB-106148

The long-duration pilot test on well KAFB-106148 was performed on November 1, 2013. Wells KAFB-106120, KAFB-106115, KAFB-106113, KAFB-106129, KAFB-106116, and KAFB-106118 were used as observation wells for the test. An average flow rate of 272.5 cfm was calculated for KAFB-106148 during the test. Field parameters versus time plots for the pilot test on well KAFB-106148 are shown on Figure 4-5. Vacuum versus time in the observation wells during the long-duration pilot test on KAFB-106148 are shown on Figure 4-12. Hydrocarbon concentrations throughout the duration of the test varied from 9,420 to 10,000 ppmv. The formulas and data used to calculate the cumulative mass of hydrocarbons removed during the long-duration test on well KAFB-106148 are provided in Table 4-8. A total of 268.36 pounds of hydrocarbons were removed from well KAFB-106148 during the test. The cumulative mass of hydrocarbons removed versus time at well KAFB-106148 is shown on Figure 4-19.

During testing, the applied vacuum on KAFB-106148 ranged from 23.46 to 27.17 inWC with an average of 26.33 inWC. The ROI at KAFB-106148 was calculated using the value of 0.3 inWC as the boundary of the ROI. Applied vacuum calculations are shown in Appendix C-10 as well as the corrected-observed vacuums for each monitoring well during the ROI test. Maps contouring applied vacuum for each well depth, and ROI tests are presented on Figures 4-35 through 4-39.

During ROI test on KAFB-106148, all 450-foot-bgs SVM wells had corrected-observed vacuums less than 0.3 inWC. The well with the highest vacuum, i.e., KAFB-106119 (160 feet from KAFB-106148), had an applied pressure of 0.09 inWC, while the next highest vacuum, i.e., KAFB-106111 (281 feet from KAFB-106148), had an applied pressure of 0.13 inWC (Figure 4-35).

All 350-foot-bgs SVM wells had corrected-observed vacuums less than 0.3 inWC. The well with the highest vacuum, i.e., KAFB-106111 (260 feet from KAFB-106148), had an applied pressure of

0.20 inWC, while the next well with the highest vacuum, i.e., KAFB-106119 (119 feet from KAFB-106148), had an applied pressure of 0.19 inWC (Figure 4-36).

With the exception of KAFB-106119, all 250-foot-bgs SVM wells (Table 3-2) had corrected-observed vacuums lower than 0.3 inWC. Well KAFB-106119 (115 feet from KAFB-106148) had a corrected-observed vacuum of 0.43 inWC. The well just outside the ROI, i.e., KAFB-106111 (277 feet from KAFB-106148), had an applied pressure of 0.29 inWC (Figure 4-37).

With the exception of KAFB-106119, all 150-foot-bgs SVM wells (Table 3-2) had corrected-observed vacuums lower than 0.3 inWC. Well KAFB-106119 (229 feet from KAFB-106148) had a corrected-observed vacuum of 0.35 inWC. The well just outside the ROI, i.e., KAFB-106111 (326 feet from KAFB-106148), had an applied pressure of 0.22 inWC (Figure 4-38).

For the 50-foot-bgs SVM wells, KAFB-106117 (396 feet from KAFB-106148) and KAFB-106128 (418 feet from KAFB-106148) were within the ROI with an applied vacuum of 0.34 inWC and 0.32 inWC, respectively. The next highest applied vacuum was well KAFB-106113 (396 feet from KAFB-106148) with 0.25 inWC (Figure 4-39).

Because all 450-foot-bgs and 350-foot bgs monitoring locations had corrected vacuums less than 0.3 inWC, the best-fit line does not intersect the 0.3 inWC, and the calculated ROI for KAFB-106148 does not include these monitoring locations. Using the 250-foot bgs, 150-foot bgs, and 50-foot bgs monitoring locations, the calculated ROI for this well is 220 feet (Appendix C-10).

4.2.7 Pneulog® Well KAFB-106155

The long-duration pilot test on well KAFB-106155 was performed on November 4, 2013. Wells KAFB-106120, KAFB-106115, KAFB-106113, KAFB-106129, KAFB-106116, and KAFB-106118

were used as observation wells for the test. An average flow rate of 275.1 cfm was calculated for KAFB-106155 during the test. Field parameters versus time plots for the pilot test on well KAFB-106155 are shown on Figure 4-6. Vacuum versus time in the observation wells during the long-duration pilot test on KAFB-106155 are shown on Figure 4-13. Hydrocarbon concentrations throughout the duration of the test varied from 802 to 1296 ppmv. The formulas and data used to calculate the cumulative mass of hydrocarbons removed during the long-duration test on well KAFB-106155 are provided in Table 4-9. A total of 34.73 pounds of hydrocarbons were removed from well 106155 during the test. The cumulative mass of hydrocarbons removed versus time at well KAFB-106155 is shown on Figure 4-20.

The ROI at KAFB-106155 was calculated using the value of 0.3 inWC. Applied vacuum calculations are shown in Appendix C-11 along with the corrected-observed vacuums for each monitoring well during the ROI test. Maps contouring applied vacuum for each well depth, and ROI tests are presented on Figures 4-40 through 4-42.

During ROI test on KAFB-106155, all 450-foot-bgs SVM wells within 254 feet of the extraction well KAFB-106155 (Table 3-2) had corrected-observed vacuums of greater than 0.3 inWC. The next closest well, i.e., KAFB-106120 (285 feet from KAFB-106155), had an applied pressure of 0.28 inWC, while the next closest well after that, i.e., KAFB-106115 (287 feet from KAFB-106155), had an applied pressure of 0.22 inWC (Figure 4-40).

Of the 350-foot-bgs SVM wells, wells within 284 feet of the extraction well KAFB-106155 (Table 3-2) had corrected-observed vacuums of greater than 0.3 inWC. The next closest well, i.e., KAFB-106120 (312 feet from KAFB-106155), had an applied pressure of 0.20 inWC, while the next closest well after that, i.e., KAFB-106115 (316 feet from KAFB-106155), had an applied pressure of 0.12 inWC (Figure 4-41).

Of the 250-foot-bgs SVM, 150-foot-bgs SVM, and 50-foot-bgs SVM wells, none of the corrected-observed vacuums were above 0.3 inWC (Figure 4-42). The 250-foot-bgs SVM well had the highest vacuum of 0.28 inWC at well KAFB-106116 (342 feet from KAFB-106155). The 150-foot-bgs SVM well had the highest vacuum of 0.22 inWC at well KAFB-106116 (413 feet from KAFB-106155). The 50-foot-bgs SVM well with the highest vacuum was KAFB-106115 (519 feet from KAFB-106155) with an applied vacuum of 0.22 inWC.

Using the data from these wells, the ROI for KAFB-106155 is calculated to be approximately 220 feet (Appendix C-11).

4.2.8 Pneulog® Well KAFB-106150

The long-duration pilot test on well KAFB-106150 was performed on November 7, 2013. Wells KAFB-106128, KAFB-106117, KAFB-106144, KAFB-106116, KAFB-106111, and KAFB-106109 were used as observation wells for the test. An average flow rate of 213.5 cfm was calculated for KAFB-106150 during the test. Field parameters versus time plots for the pilot test on well KAFB-106150 are shown on Figure 4-7. Vacuum versus time in the observation wells during the long-duration pilot test on KAFB-106150 are shown on Figure 4-14. Towards the end of the test on KAFB-106150, two of the observation wells, i.e., KAFB-106117 and KAFB-106116, showed elevated vacuum readings of approximately 0.5 to 1.7 inWC above the vacuum recorded in other observations wells at the same time. Vacuum readings in these two wells (KAFB-106117 and KAFB-106116) then dropped down to the level of the other observation wells during the last set of readings recorded during the test. It is possible these abnormally high vacuum readings in the two observation wells were due to instrument malfunction or a minor blockage in the tubing at these wells during the time the readings were recorded.

All hydrocarbon concentrations recorded during the long-duration test at KAFB-106150 were 10,000 ppmv, which was the maximum concentration of hydrocarbon vapor that was detectable by the

Horiba Mexa-584L instrument used in the field. The formulas and data used to calculate the cumulative mass of hydrocarbons removed during the long-duration test on well KAFB-106150 are provided in Table 4-10. A total of 226.28 pounds of hydrocarbons were removed from well KAFB-106150 during the test. The cumulative mass of hydrocarbons removed versus time at well KAFB-106150 is shown on Figure 4-21.

During testing, the applied vacuum at KAFB-106150 ranged from 23.49 to 32.92 inWC with an average of 27.01 inWC. The ROI at KAFB-106150 was calculated using the value of 0.3 inWC. Applied vacuums are shown in Appendix C-12. The corrected-observed vacuums for each monitoring well during the ROI test are presented in Appendix C-12. Maps contouring applied vacuum for each well depth, and ROI tests are presented on Figures 4-43 through 4-47.

All of the 450-foot-bgs SVM wells had applied vacuums greater than 0.3 inWC. Well KAFB-106128 (53 feet from KAFB-106150) had an applied vacuum on 0.56 inWC. However, the farthest well from the extraction well, KAFB-106111 (332 feet from KAFB-106150), had a higher applied vacuum than KAFB-106128 with a vacuum of 0.65 inWC (Figure 4-43).Because of this discrepancy it is difficult to determine the edge of ROI for extraction well KAFB-106150.

Like the 450-foot-bgs SVM wells, all of the 350-foot-bgs SVM wells had vacuums exceeding 0.3 inWC. Again, the farthest well was KAFB-106117 (357 feet from KAFB-106150), which had an applied vacuum of 0.79 inWC (Figure 4-44).

Of the 250-foot-bgs SVM wells, not one well had vacuums above 0.3 inWC (Figure 4-45). The highest applied vacuum was 0.25 inWC at KAFB-106111 (404 feet from KAFB-106150).

With the exception of KAFB-106116, all of the 150-foot-bgs SVM wells had applied vacuums greater than 0.3 inWC. Well KAFB-106116 (405 feet from KAFB-106150) had an applied vacuum of 0.01 inWC (Figure 4-46).

All of the 50-foot-bgs SVM wells had applied vacuums greater than 0.3 inWC. The farthest well from KAFB-106150 was KAFB-106111 (545 feet from KAFB-106150) with an applied vacuum of 1.17 inWC (Figure 4-47).

Because all of the monitoring depths, except for 150 feet bgs, had applied vacuums greater than 0.3 inWC, a ROI was not able to be calculated for this well (Appendix C-12). Because the data are so inconsistent (the closest monitoring well—53feet away—has a lower vacuum pressure than three of the more distant wells—161 to 332 feet away), a minimum ROI cannot be calculated. Alternative methods for evaluating ROI at this location are under evaluation.

4.3 Analytical Results

4.3.1 Data Quality

Table 4-11 provides analytical results for the vapor samples collected during pilot testing. The data quality report for this sampling event is provided in Appendix D. All sampling was conducted in accordance with the *Quality Assurance Project Plan, Bulk Fuels Facility Spill, Solid Waste Management Units ST-106 and SS-111, Kirtland Air Force Base, Albuquerque, New Mexico* (USACE, 2011b). During the period from October 3 through November 7, 2013, 15 soil vapor samples were collected and submitted to ALS Laboratories, Inc. in Simi Valley, California, for the following analyses:

- VOCs—EPA Method TO15
- EDB—California Air Resources Board (Method 422

All analytical results for the Fourth Quarter 2013 SVE Pilot Test SVM event were submitted in three sample delivery groups (SDGs). Appendix D – Table 1 summarizes sample locations; sample dates, sample numbers; and SDG numbers. All laboratory analytical reports are provided in Appendix D. An EPA Level III data review was performed on the analytical results for the three SDGs for the Fourth Quarter 2013 SVE Pilot Test SVM event. The review was performed in accordance with the guidelines and control criteria specified in the following documents:

- The site-specific BFF Spill Quality Assurance Project Plan (USACE, 2011b)
- Department of Defense Quality Systems Manual for Environmental Laboratories, Version 4. 2 (2010)
- Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air; Compendium of Method TO-15, Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS) (EPA, 1999)
- Method 422. Determination of Volatile Organic Compounds in Emissions from Stationary Sources (California Air Resources Board, 1991)
- USACE. 2005. *Environmental Quality – Guidance for Evaluating Performance-Based Chemical Data*, EM 200-1-10. June 30.
- EPA. 2008. *USEPA Contract Laboratory Program, National Functional Guidelines for Superfund Organic Methods Data Review, Final.* Office of Superfund Remediation and Technology Innovation, OSWER 9240.1-48 and EPA-540-R-08-01. June.

4.3.2 Results

Table 4-12 summarizes the EDB and benzene results for the samples collected at the beginning and end of each long-duration test, as well as the average run data calculated using the readings collected during testing. Four wells, KAFB-106148, KAFB-106150, KAFB-106160, and KAFB-106161, had the highest THC concentrations, measured at 9,693 ppmv; 10,000 ppmv; 7,242 ppmv; and 7,669 ppmv, respectively (these concentrations are the average run concentrations over the duration of the test). Analytical data support these measurements. KAFB-106150 had the highest EDB concentrations, detected at 1,200 ppbv at the beginning of the test, and at 1,300 ppbv at the end of the test. Benzene concentrations in this well are also elevated, measuring 100,000 ppbv at the conclusion of the test. KAFB-106160 and

KAFB-106161 both had high EDB concentrations, measuring 1000 ppbv and 870 ppbv respectively at the end of the long-duration tests. Benzene concentrations in these wells measured 82,000 ppbv and 52,000 ppbv respectively at the conclusion of testing. EDB was detected in KAFB-106148 at a concentration of 680 ppbv, and benzene was detected at 54,000 ppbv in this well at the conclusion of testing.

Wells KAFB-106149, KAFB-106154, and KAFB-106155 had the lowest THC readings with average run concentrations of 411 ppmv, 99 ppmv, and 1,156 ppmv, respectively. Analytical concentrations measured at the end of testing at these wells ranged from 42 ppbv to 63 ppbv for EDB and from 1600 ppbv to 2500 ppbv for benzene.

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5. CONCLUSIONS

The SVE pilot test generated adequate data to complete the design of an expanded BFF SVE system. These data include the concentrations of hydrocarbons, O_2, CO_2, and EDB that can be expected from the various SVE wells, which will be included in an expanded system, along with the amount of soil vapor produced by the wells as a function of wellhead vacuum.

Four wells, KAFB-106148, KAFB-106150, KAFB-106160, and KAFB-106161, had the highest THC concentrations based on analytical samples as well as measurements taken during monitoring.

The ROIs calculated for the five wells where long-duration tests were performed (other than the currently-operating SVE wells KAFB-106160 and KAFB-106161) ranged from a maximum of 220 feet at KAFB-106155 and KAFB-106148 to a minimum of 180 feet at KAFB-106149. The ROIs calculated for the operational SVE wells KAFB-106160 and KAFB-106161 were calculated to be 340 feet and 320 feet, respectively. These calculations support the testing performed at these wells during First Quarter CY 2013 (USACE, 2013c), which calculated ROIs of these wells as approximately 300 feet.

Table 5-1 shows how the soil gas composition data and flow-rate curves will be used to estimate the SVE rate and combined soil vapor concentrations that can be expected from an expanded SVE system. This table is a copy of a spreadsheet that will be used to evaluate SVE design cases. Appendix E provides justification for the addition of three wells to the existing SVE system.

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FIGURES

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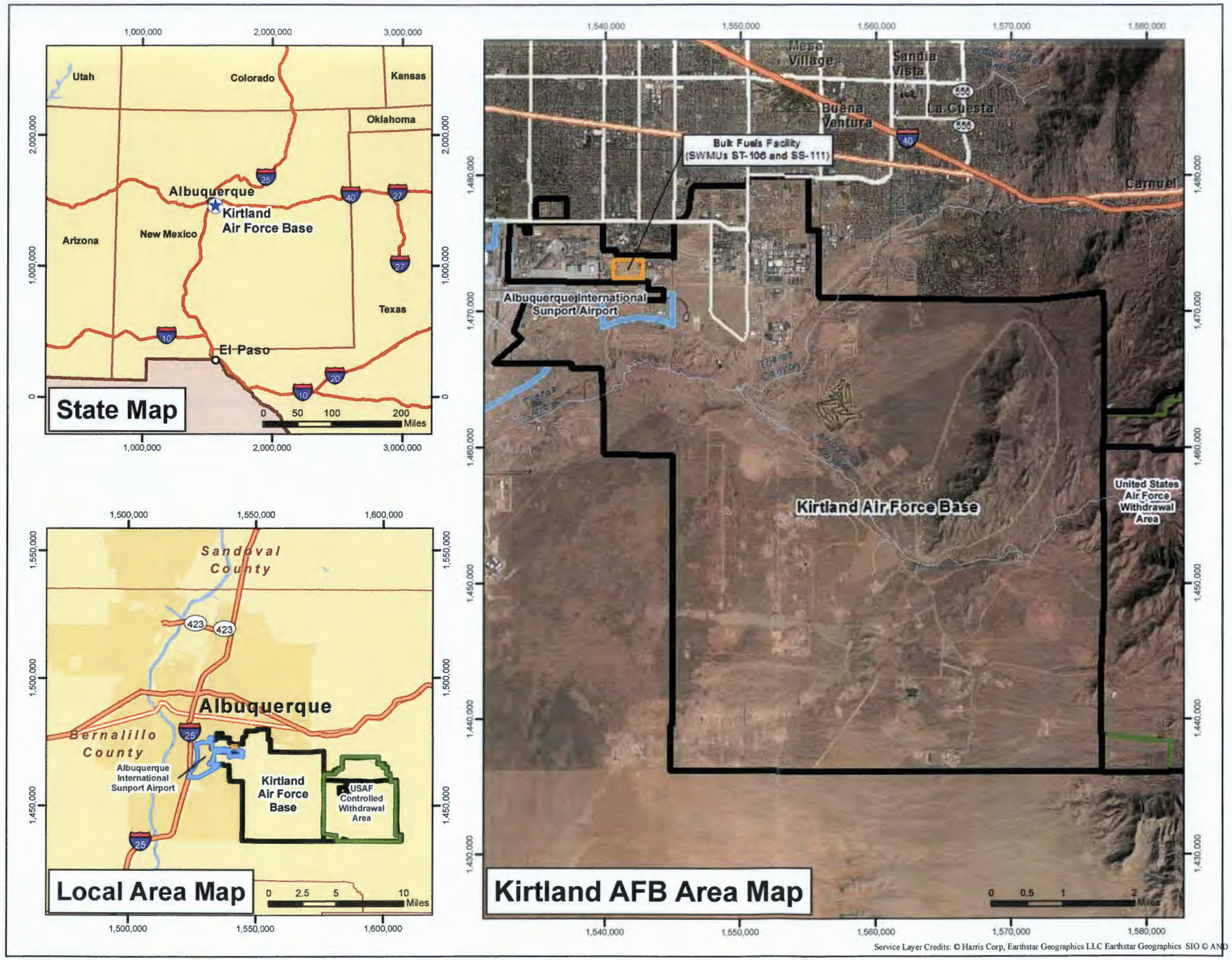

Legend

- Installation Location
- Kirtland Air Force Base Installation Boundary
- Bulk Fuels Facility (SWMUs ST-106 and SS-111)
- Albuquerque International Sunport Airport
- United States Air Force Withdrawal Area
- Major Highways
- Highways
- Major Roads
- Rivers
- Urban Areas
- Counties
- States

N

Revision Date: 12/31/13

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 1-1

SITE LOCATION MAP

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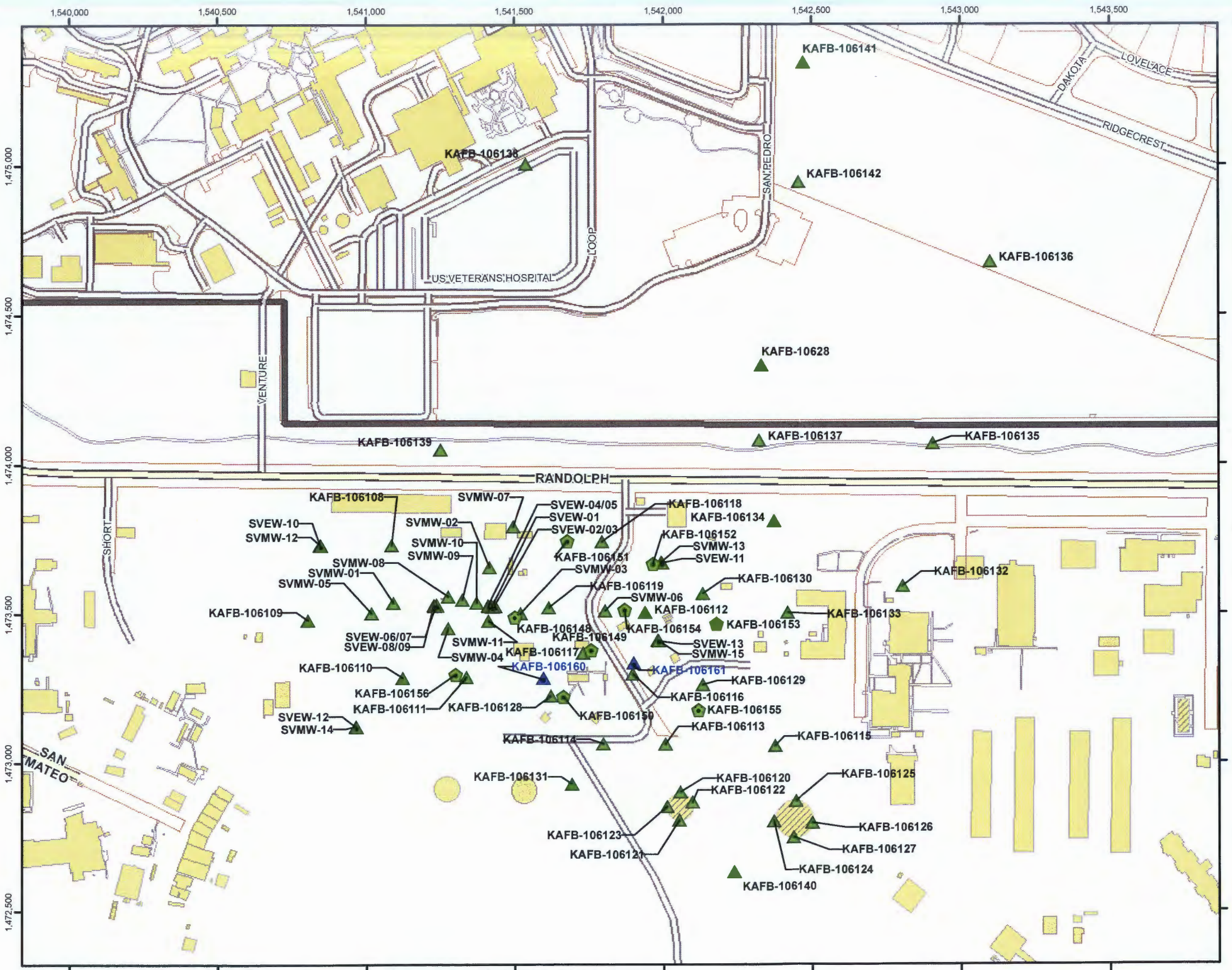

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Legend

- Currently Operational SVE Extraction Well
- Pneulog Cluster
- SVE Extraction Well
- SVM Cluster
- Previously Existing Structure
- Existing Structure
- Installation Boundary
- Major Road
- Road

Service Layer Credits: © Harris Corp, Earthstar Geographics LLC © AND

Revision Date: 12/31/13

N

0 175 350 700

Feet

1 inch = 350 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 1-2

SVE, SVM, AND PNEULOG
WELL LOCATIONS

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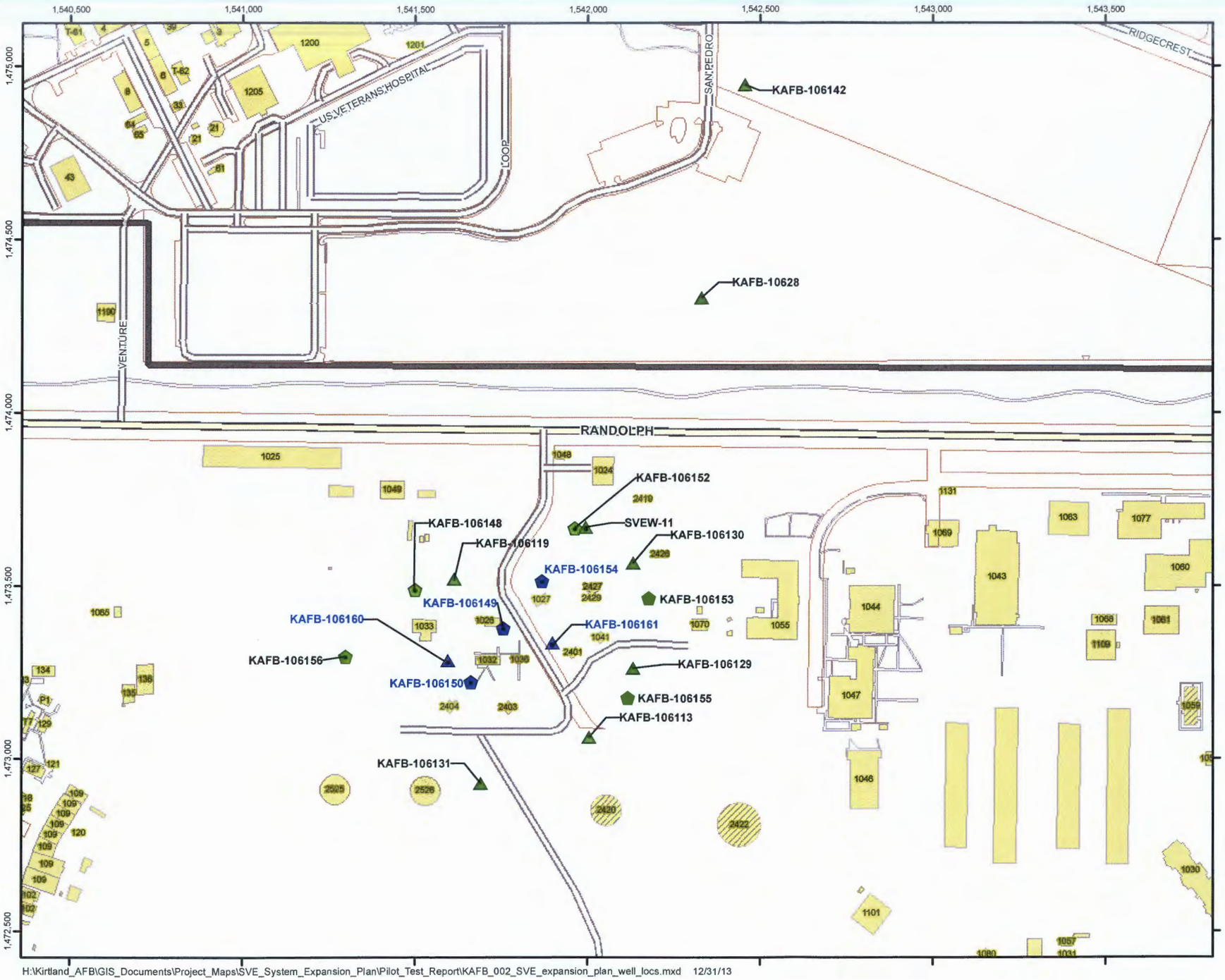

Legend

Wells Tested for Optimization of SVE in Current Zone of Influence

- Pneulog Cluster
- SVE Extraction Well

Wells Tested for Expansion of SVE Zone of Influence

- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Installation Boundary
- Existing Structure
- Previously Existing Structure
- Major Road
- Road

Service Layer Credits: © Harris Corp, Earthstar Geographics LLC © AND

Revision Date: 12/31/13

N

0 150 300 600

Feet

1 inch = 300 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 2-1

WELLS TESTED
DURING SVE PILOT TESTING

H:\Kirtland_AFB\GIS_Documents\Project_Maps\SVE_System_Expansion_Plan\Pilot_Test_Report\KAFB_002_SVE_expansion_plan_well_locs.mxd 12/31/13

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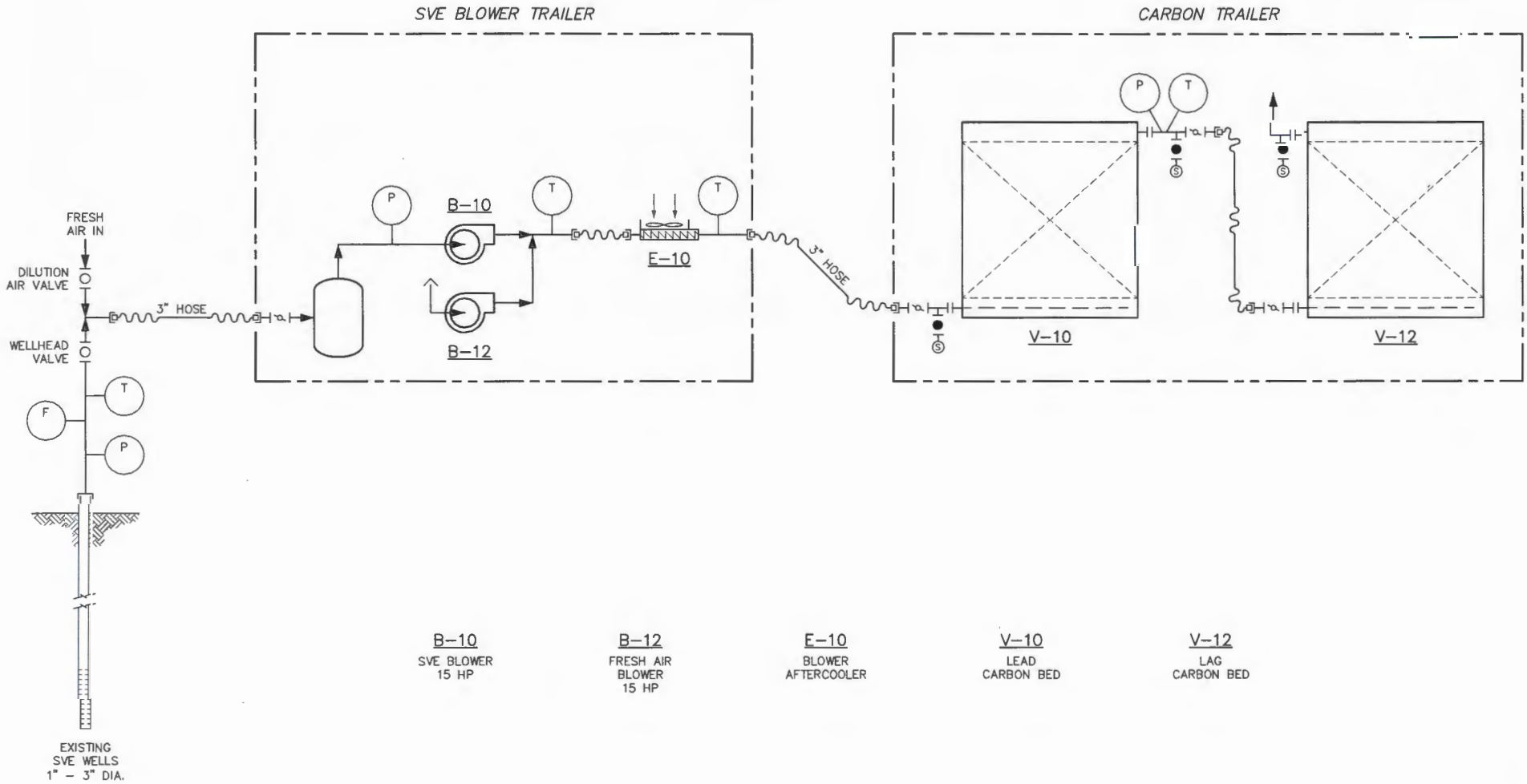

B-10	B-12	E-10	V-10	V-12
SVE BLOWER 15 HP	FRESH AIR BLOWER 15 HP	BLOWER AFTERCOOLER	LEAD CARBON BED	LAG CARBON BED

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 3-1

FLOW DIAGRAM
MOBILE SVE SYSTEM

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Air Cooler Fan and Carbon Beds

Vapor-Liquid Separator and SVE Blowers

Mobile SVE Treatment System

Two Claw-Type SVE Blowers

Figure 3-2
Mobile SVE Treatment System
SVE Pilot Test

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Wellhead Assembly

Wellhead Assembly

Figure 3-3
SVE Wellhead Assembly
SVE Pilot Test

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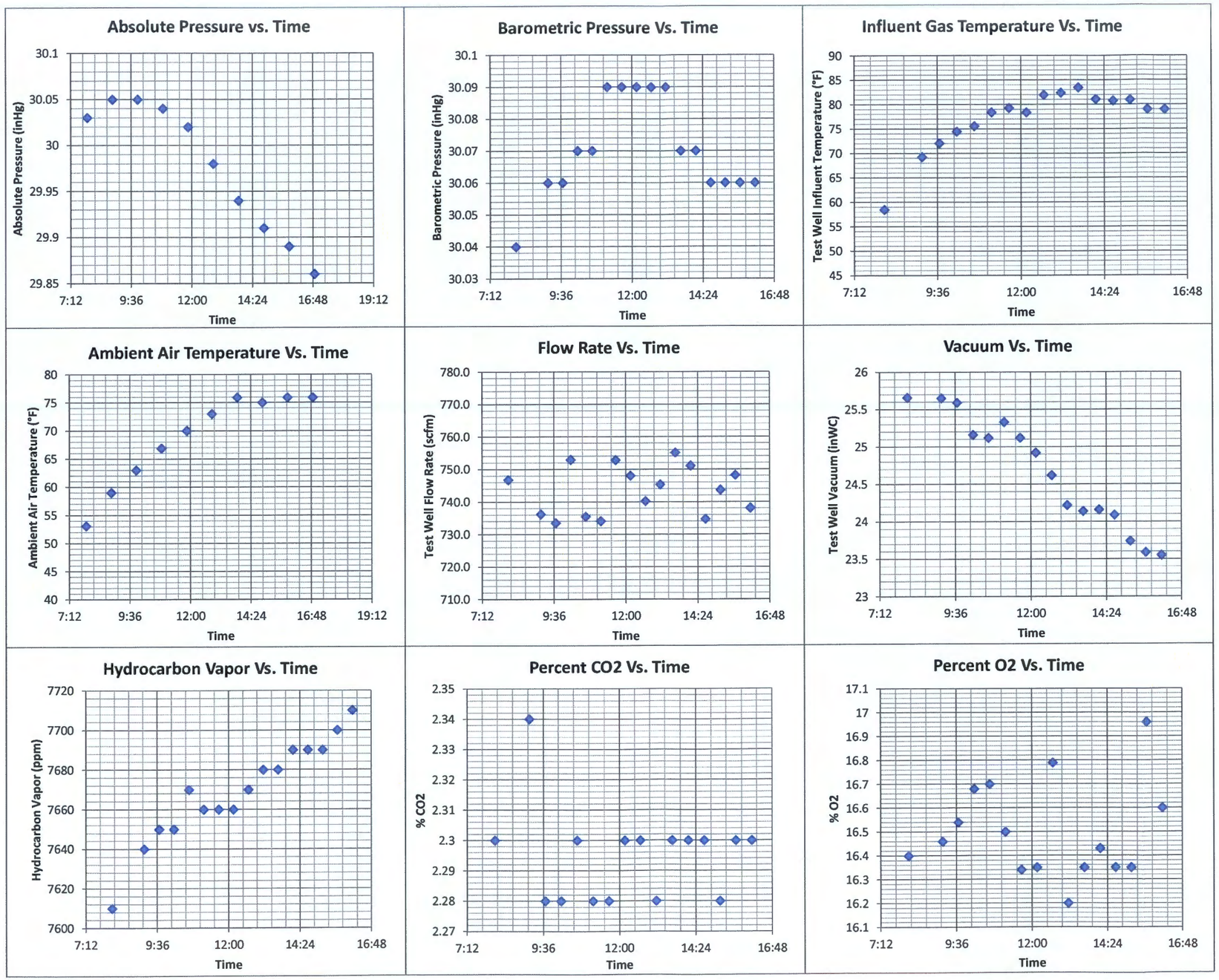
Figure 4-1
Test Well Parameters Versus Time During Long Term Pilot Test on Well 106161 on 10/3/2013



% = percent
°F = degrees Fahrenheit
inHg = inches mercury
inWC = inches water column
ppm = parts per million
scfm = standard cubic feet per minute

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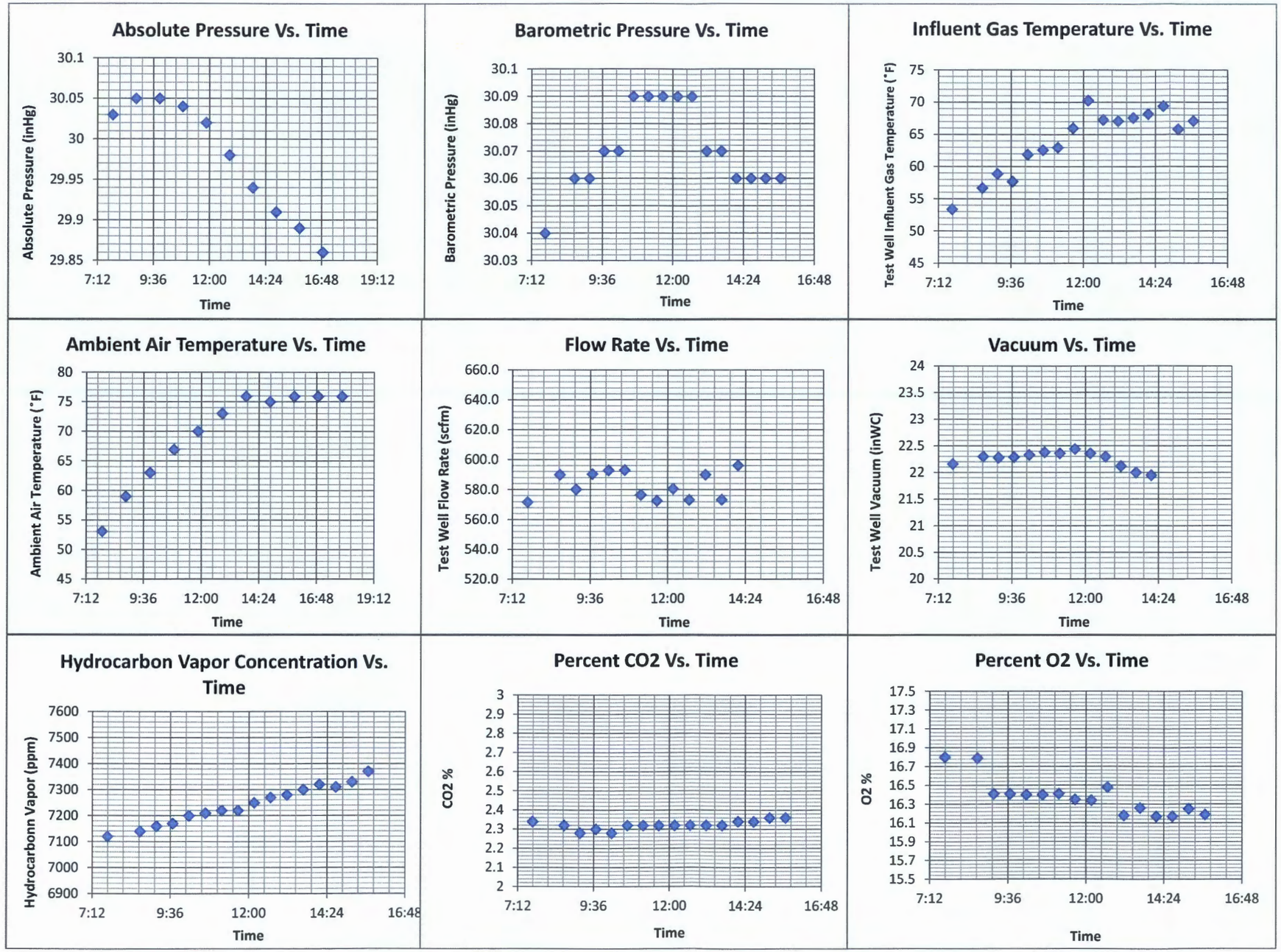
Figure 4-2
Test Well Parameters Versus Time During Long Term Pilot Test on Well 106160 on 10/4/2013



% = percent
°F = degrees Fahrenheit
inHg = inches mercury
inWC = inches water column
ppm = parts per million
scfm = standard cubic feet per minute

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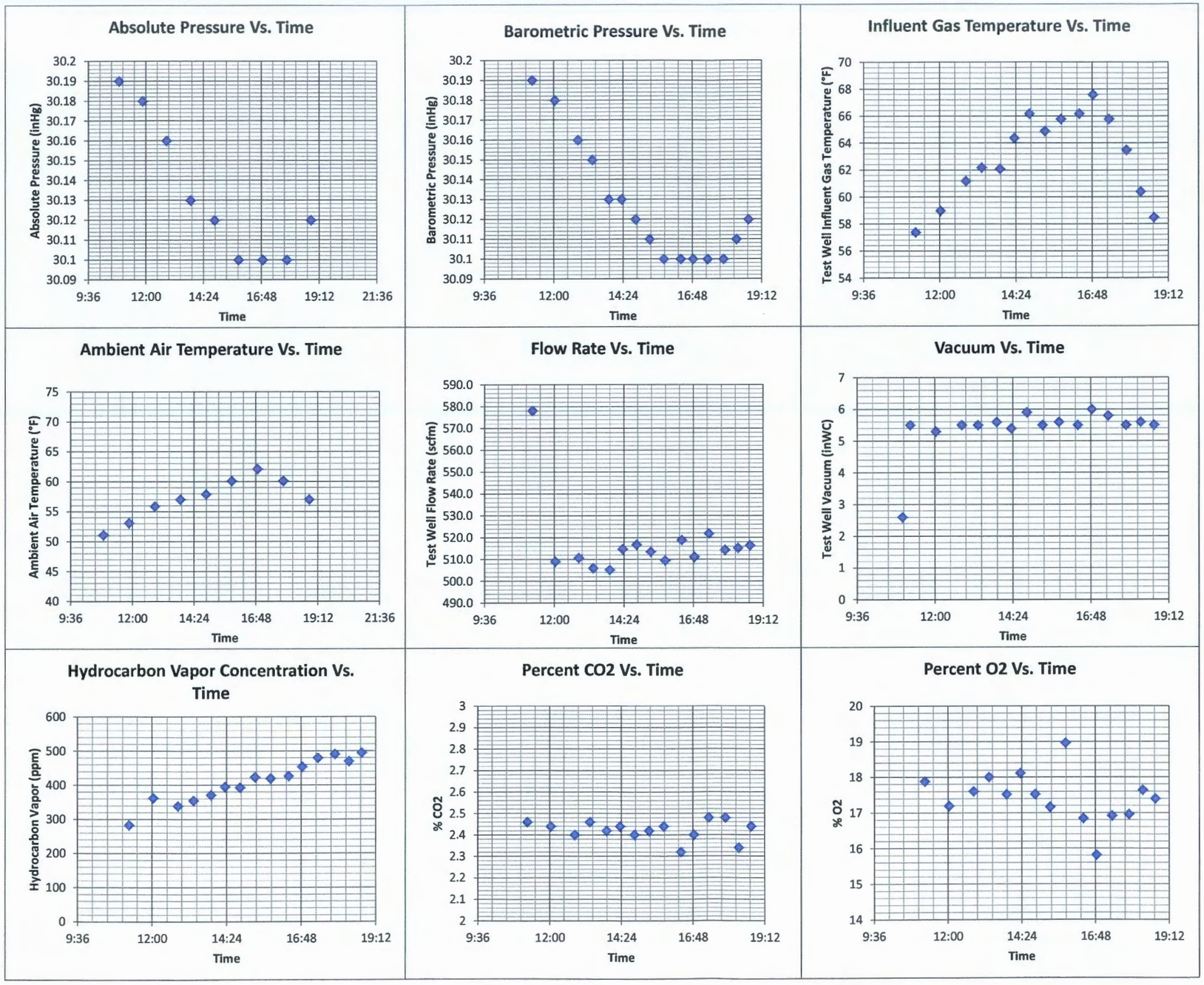
Figure 4-3
Test Well Parameters Versus Time During Long Term Pilot Test on Well 106149 on 10/16/2013



% = percent
°F = degrees Fahrenheit
inHg = inches mercury
inWC = inches water column
ppm = parts per million
scfm = standard cubic feet per minute

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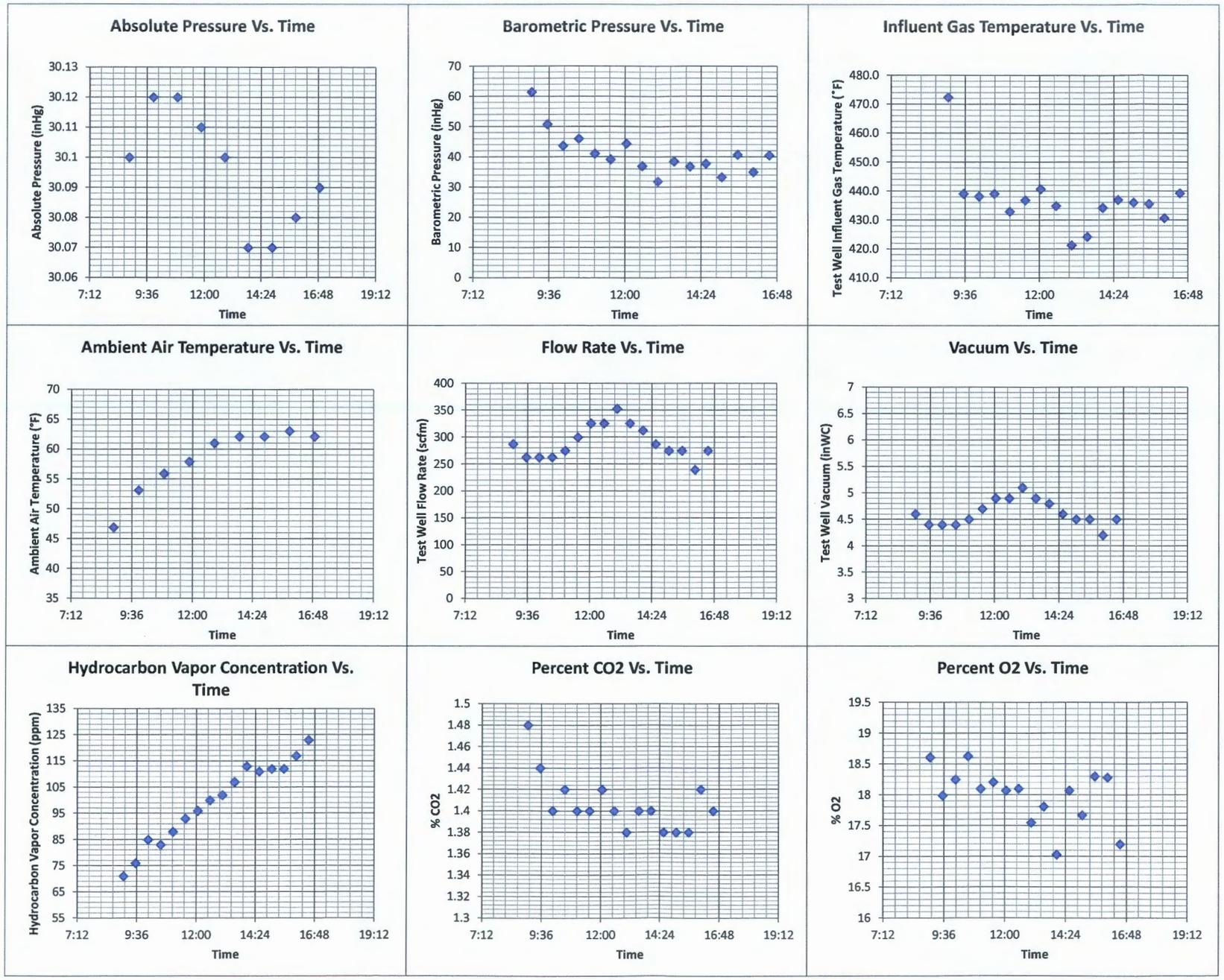
Figure 4-4
Test Well Parameters Versus Time During Long Term Pilot Test on Well 106154 on 10/18/2013



% = percent
°F = degrees Fahrenheit
inHg = inches mercury
inWC = inches water column
ppm = parts per million
scfm = standard cubic feet per minute

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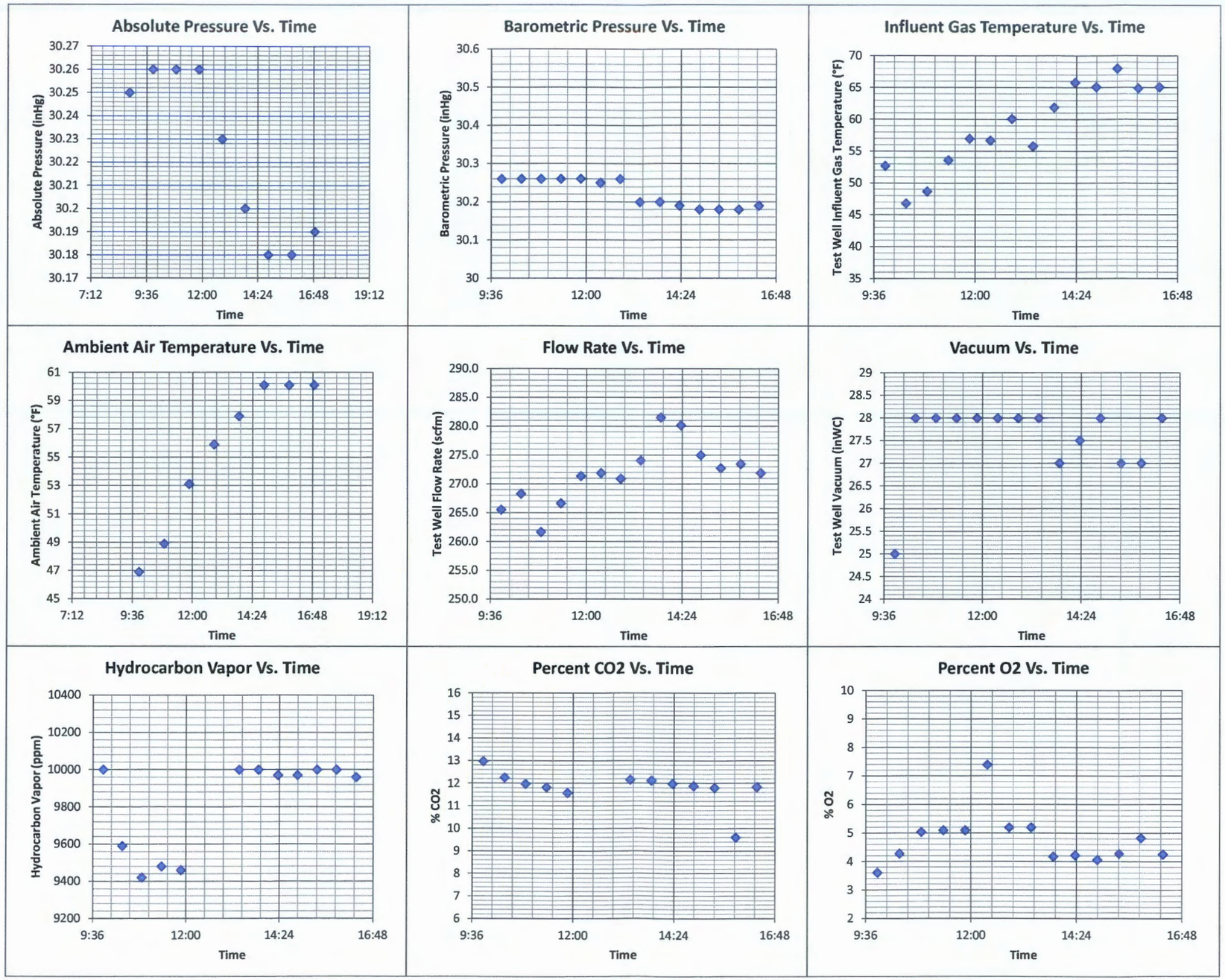
Figure 4-5
Test Well Parameters Versus Time During Long Term Pilot Test on Well 106148 on 11/1/2013



% = percent
°F = degrees Fahrenheit
inHg = inches mercury
inWC = inches water column
ppm = parts per million
scfm = standard cubic feet per minute

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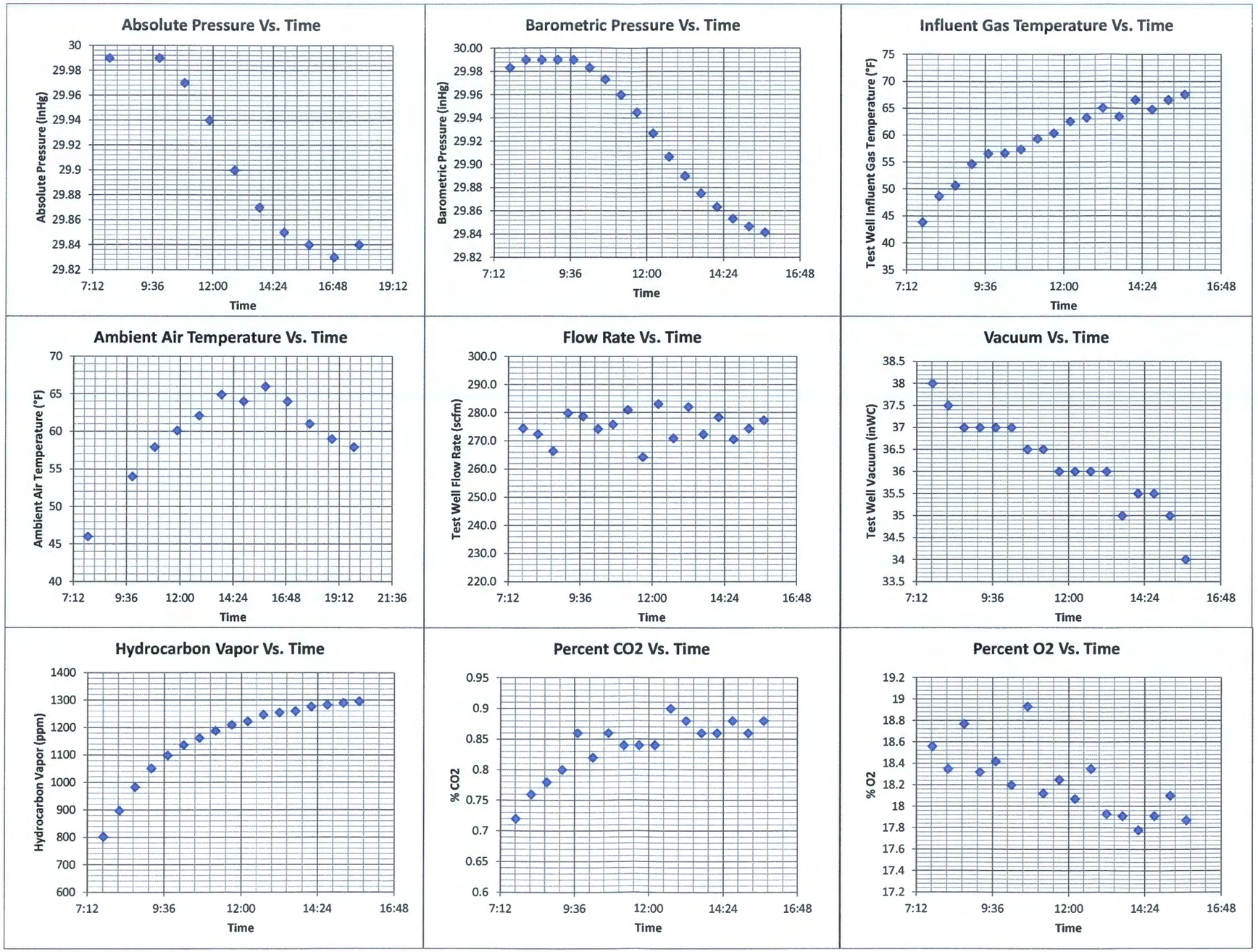
Figure 4-6
Test Well Parameters Versus Time During Long Term Pilot Test on Well 106155 on 11/4/2013



% = percent
°F = degrees Fahrenheit
inHg = inches mercury
inWC = inches water column
ppm = parts per million
scfm = standard cubic feet per

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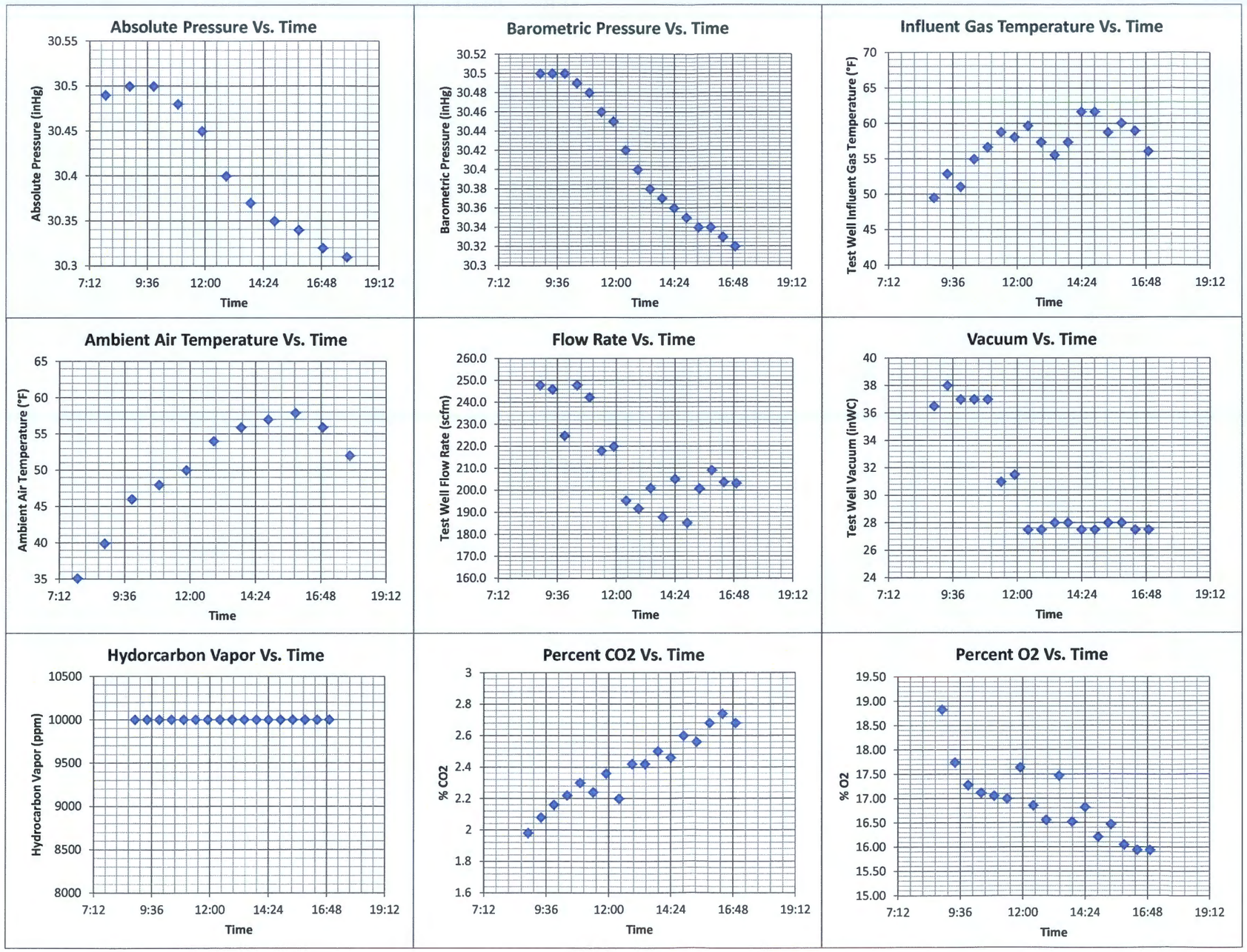
Figure 4-7
Test Well Parameters Versus Time During Long Term Pilot Test on Well 106150 on 11/7/2013



% = percent
°F = degrees Fahrenheit
inHg = inches mercury
inWC = inches water column
ppm = parts per million
scfm = standard cubic feet per minute

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Figure 4-8: Vacuum Versus Time in Observation Wells During Long Term Pilot Test on Well 106161 on 10/3/2013

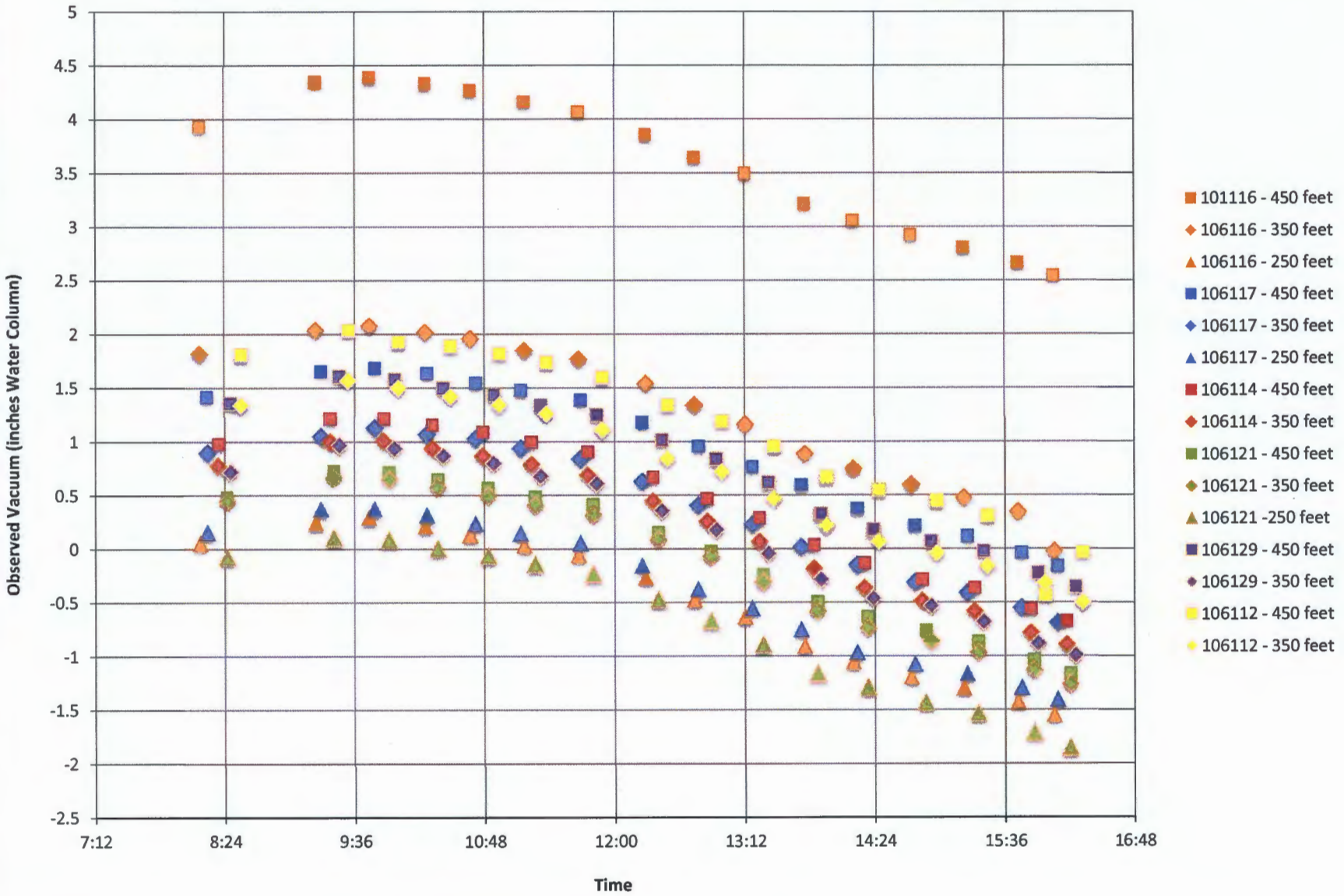

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Figure 4-9: Vacuum Versus Time in Observation Wells During Long Term Pilot Test on Well 106160 on 10/4/2013

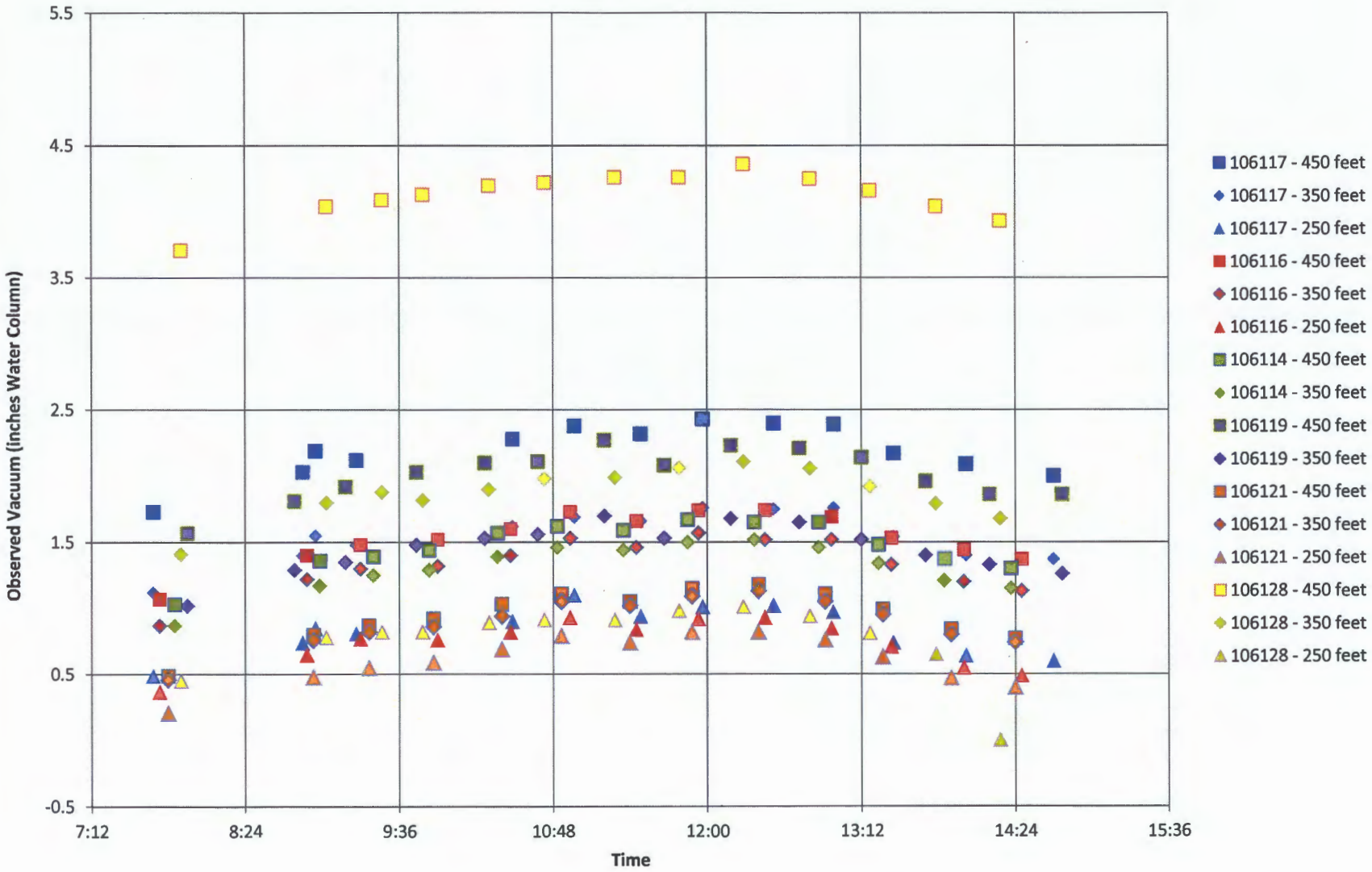

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Figure 4-10: Vacuum Versus Time in Observation Wells During Long Term Pilot Test on Well 106149 on 10/16/2013

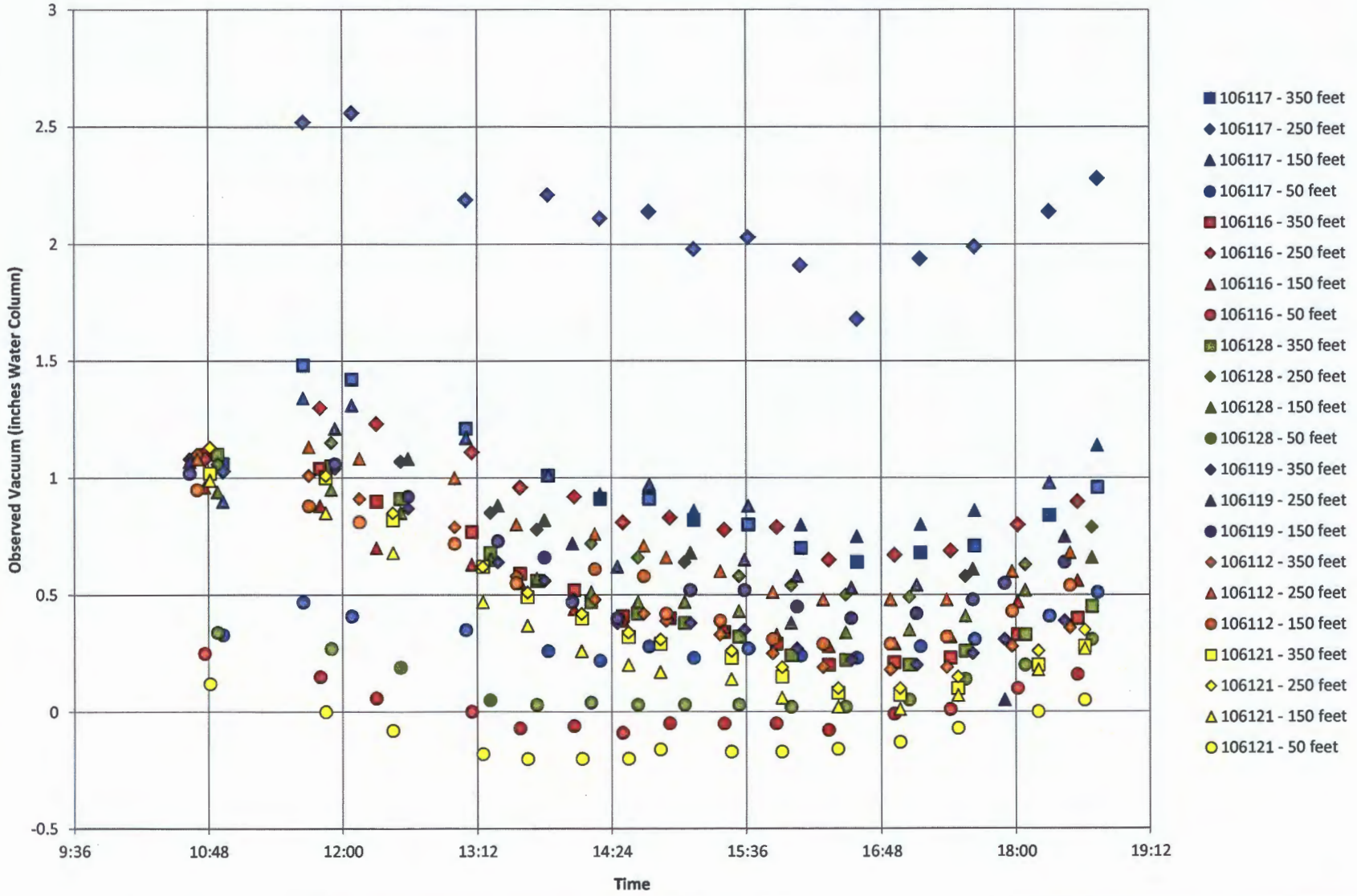

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Figure 4-11: Vacuum Versus Time in Observation Wells During Long Term Pilot Test on Well 106154 on 10/18/2013

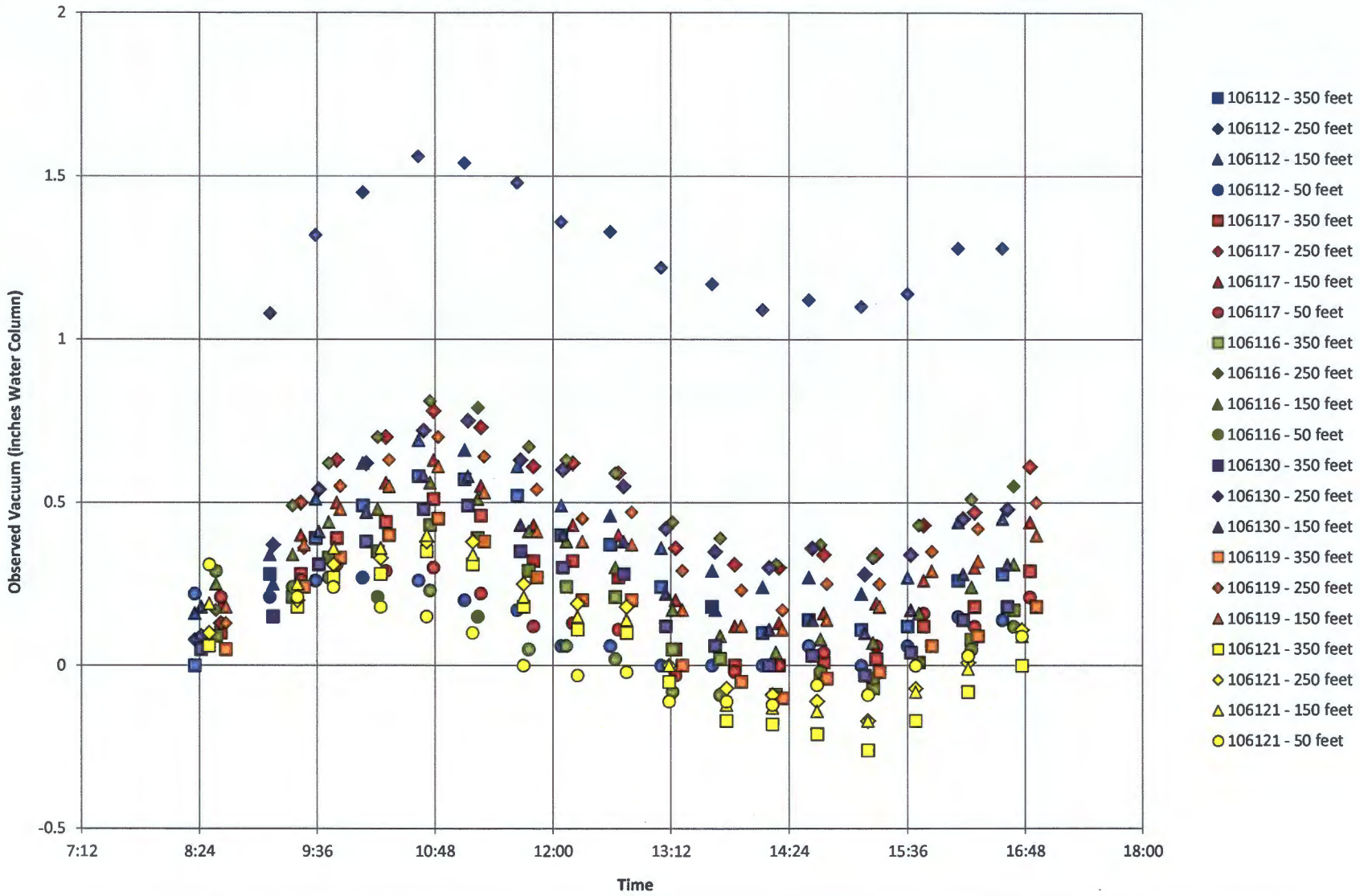

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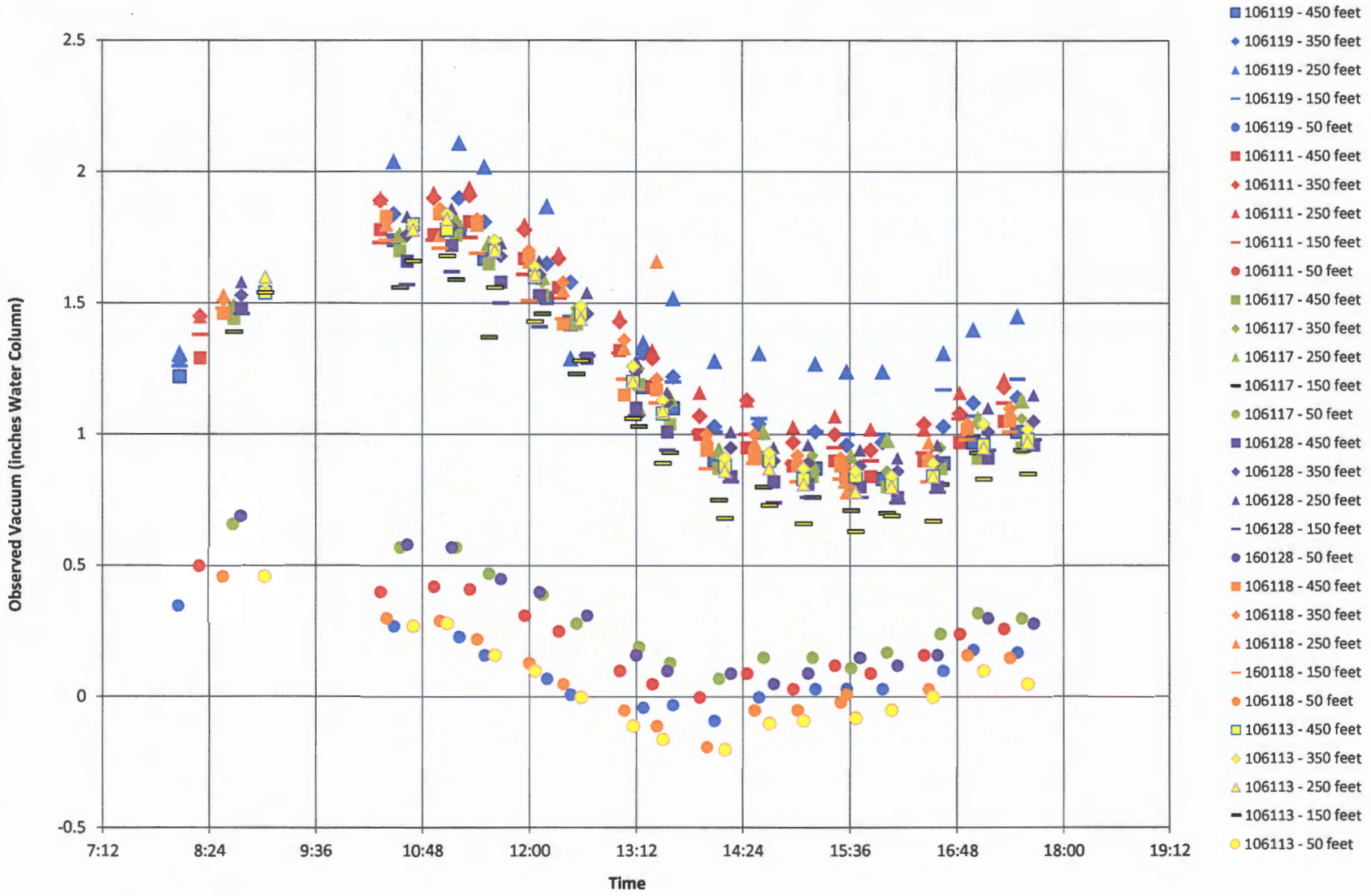
Figure 4-12: Vacuum Versus Time in Observation Wells During Long Term Pilot Test on Well 106148 on 11/1/2013



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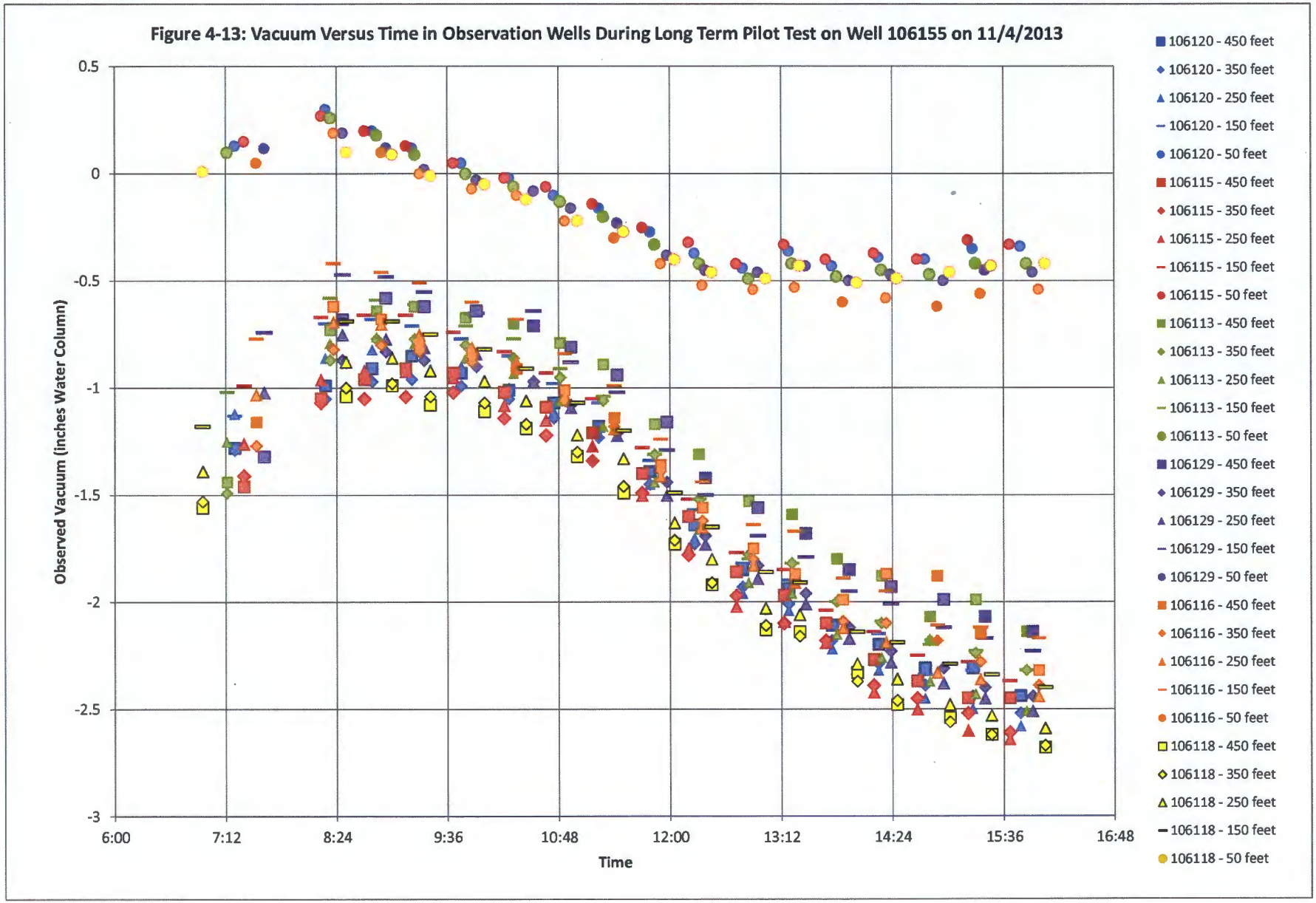
Figure 4-13: Vacuum Versus Time in Observation Wells During Long Term Pilot Test on Well 106155 on 11/4/2013
Observed Vacuum (inches Water Column)
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
6:00
7:12
8:24
9:36
10:48
12:00
13:12
14:24
15:36
16:48
Time
106120 - 450 feet
106120 - 350 feet
106120 - 250 feet
106120 - 150 feet
106120 - 50 feet
106115 - 450 feet
106115 - 350 feet
106115 - 250 feet
106115 - 150 feet
106115 - 50 feet
106113 - 450 feet
106113 - 350 feet
106113 - 250 feet
106113 - 150 feet
106113 - 50 feet
106129 - 450 feet
106129 - 350 feet
106129 - 250 feet
106129 - 150 feet
106129 - 50 feet
106116 - 450 feet
106116 - 350 feet
106116 - 250 feet
106116 - 150 feet
106116 - 50 feet
106118 - 450 feet
106118 - 350 feet
106118 - 250 feet
106118 - 150 feet
106118 - 50 feet

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Figure 4-14: Vacuum Versus Time in Observation Wells During Long Term Pilot Test on Well 106150 on 11/7/2013

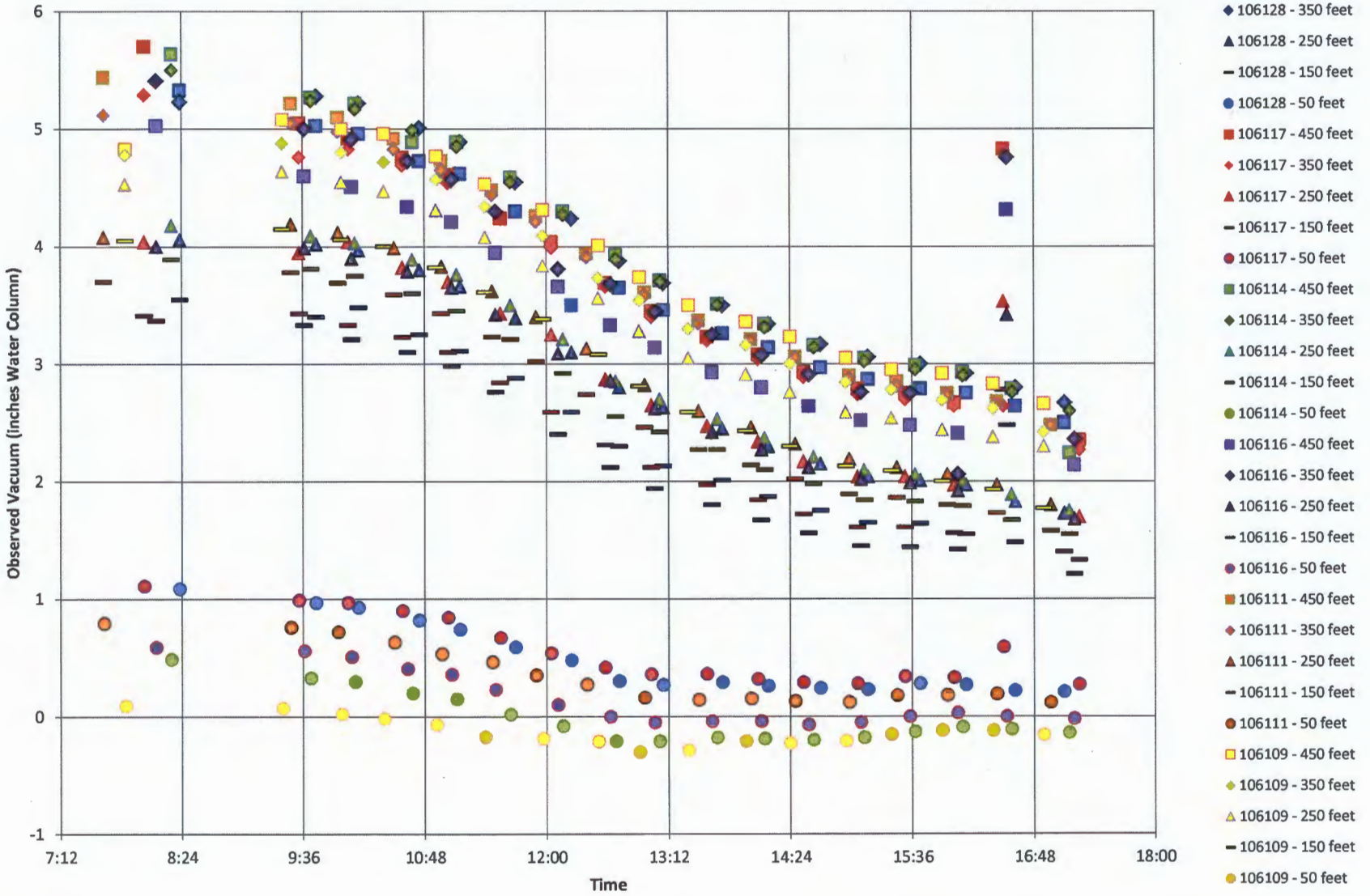

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Figure 4-15 Cumulative Mass of Hydrocarbons Removed Versus Time During Long Duration Pilot Test on Well 106161 on 10/3/13

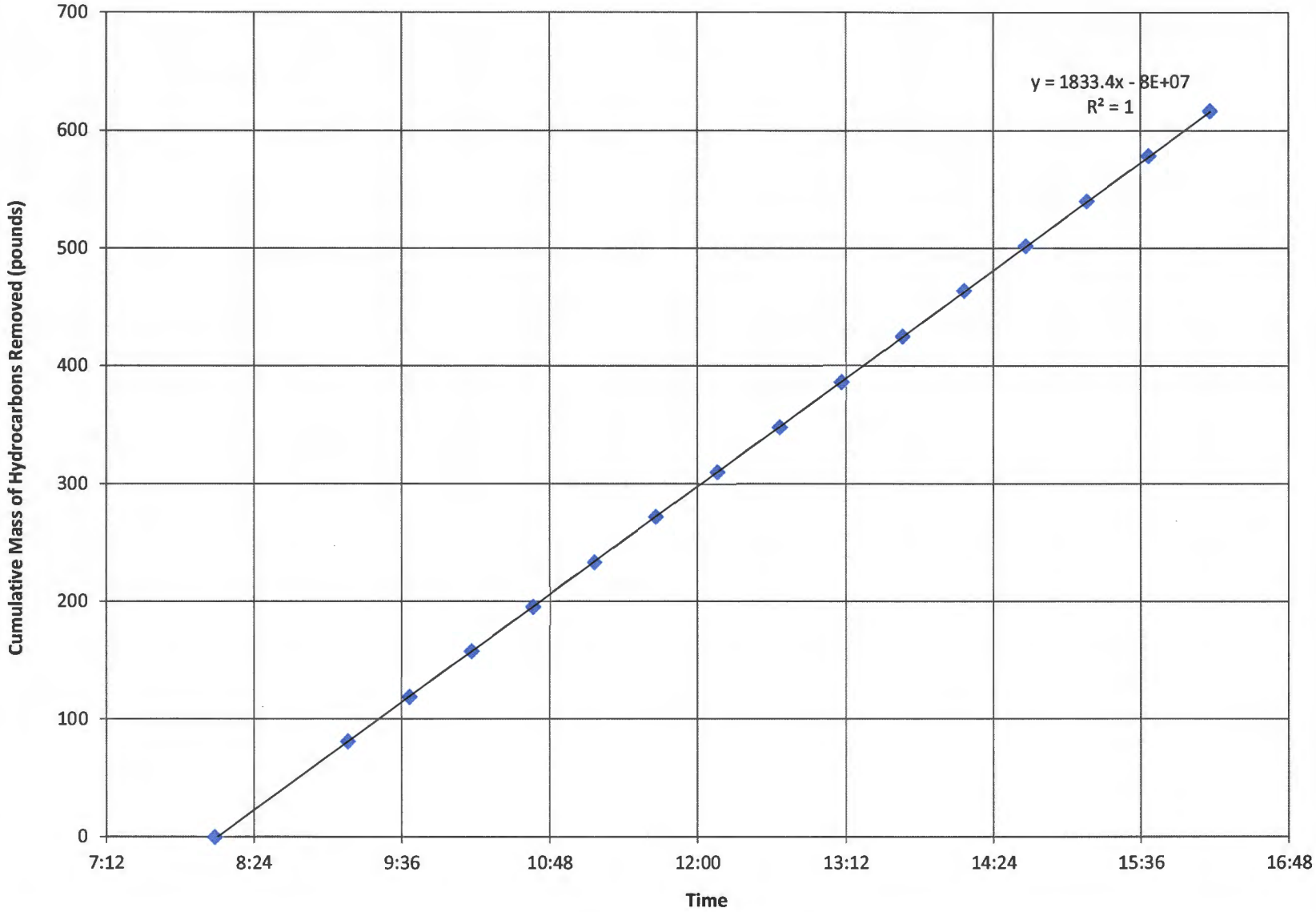

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Figure 4-16 Cumulative Mass of Hydrocarbons Removed Versus Time During Long Duration Pilot Test on Well 106160 on 10/4/13

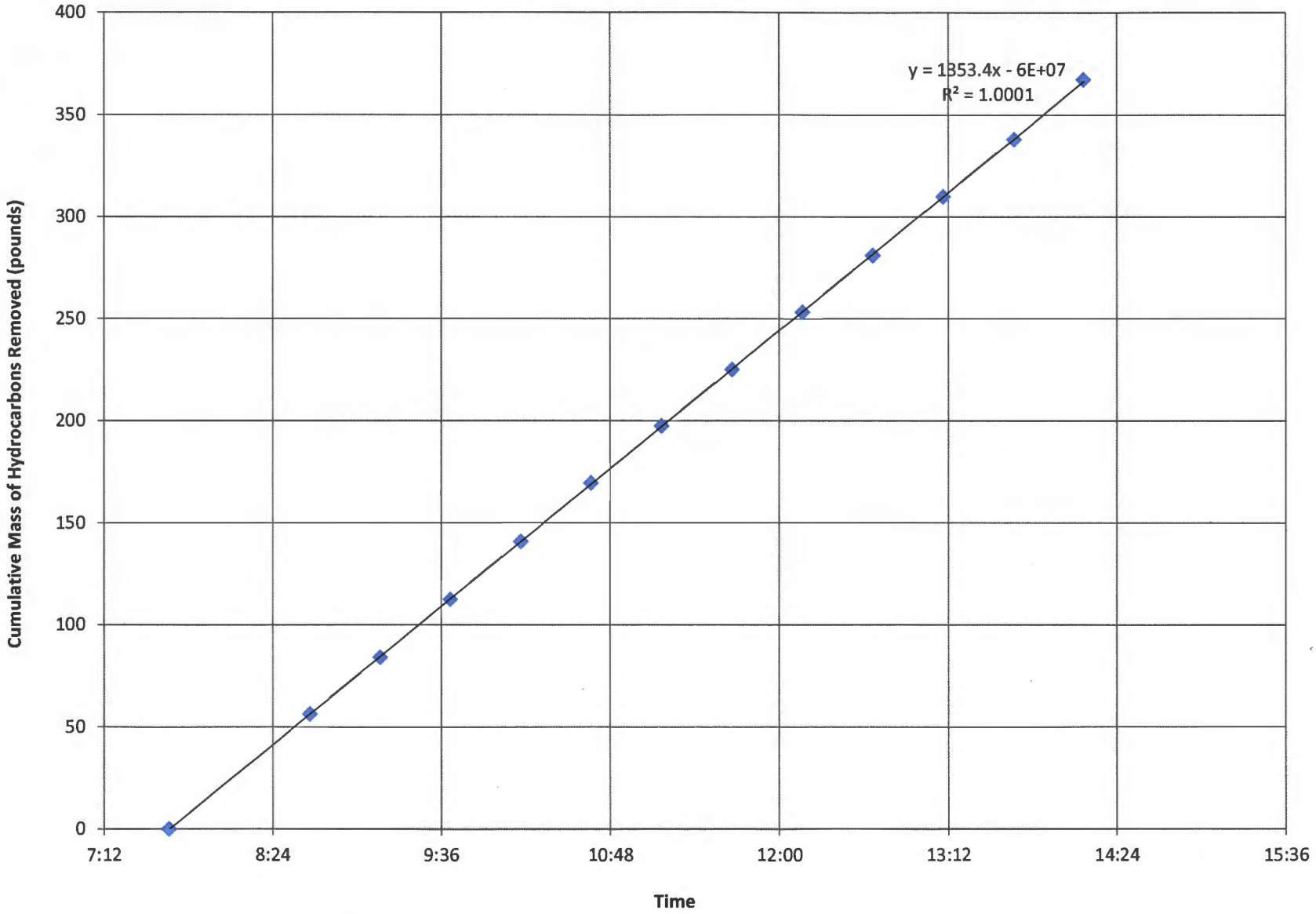

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Figure 4-17 Cumulative Mass of Hydrocarbons Removed Versus Time During Long Duration Pilot Test on Well 106149 on 10/16/13

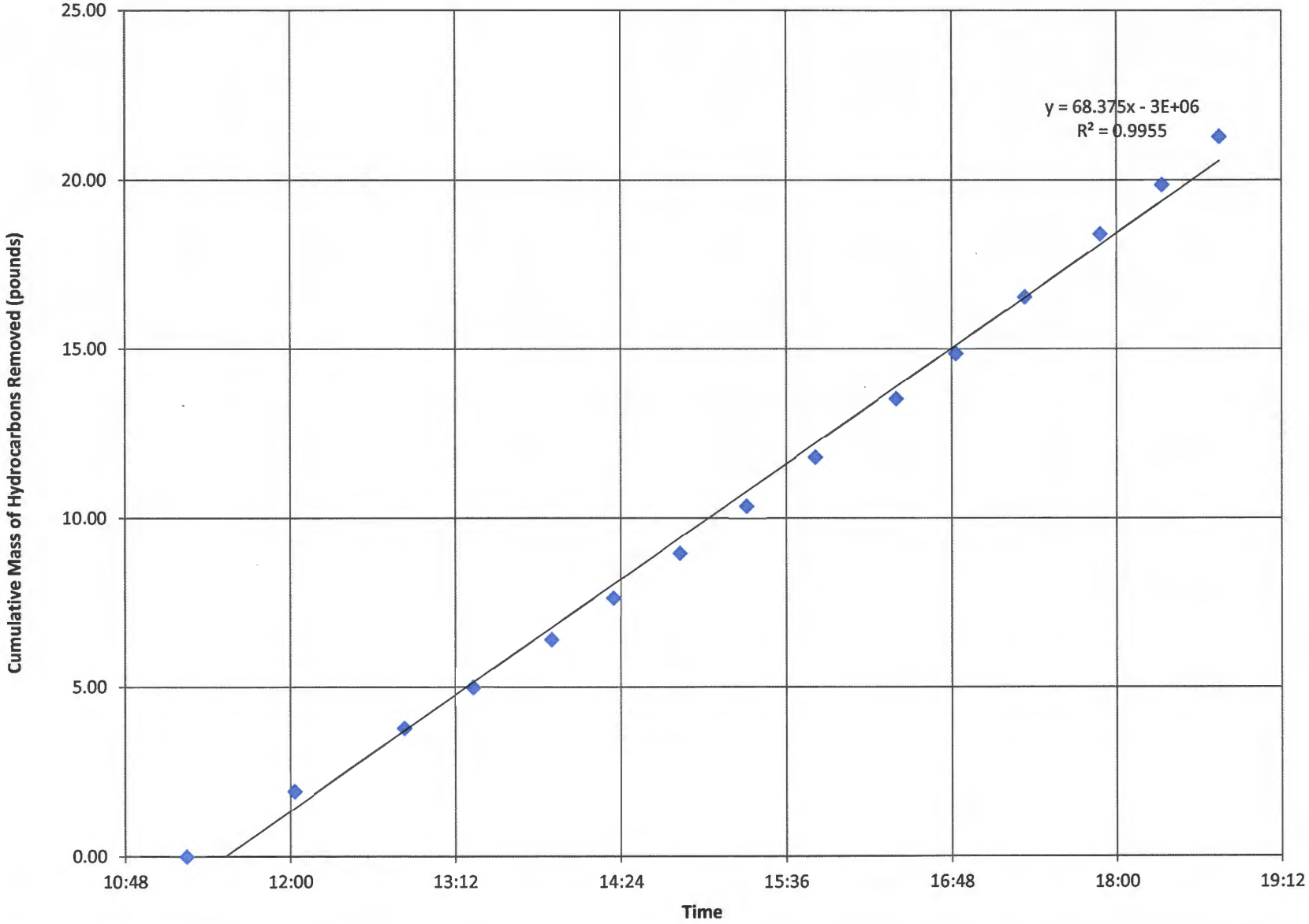

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Figure 4-18 Cumulative Mass of Hydrocarbons Removed Versus Time During Long Duration Pilot Test on Well 106154 on 10/18/13

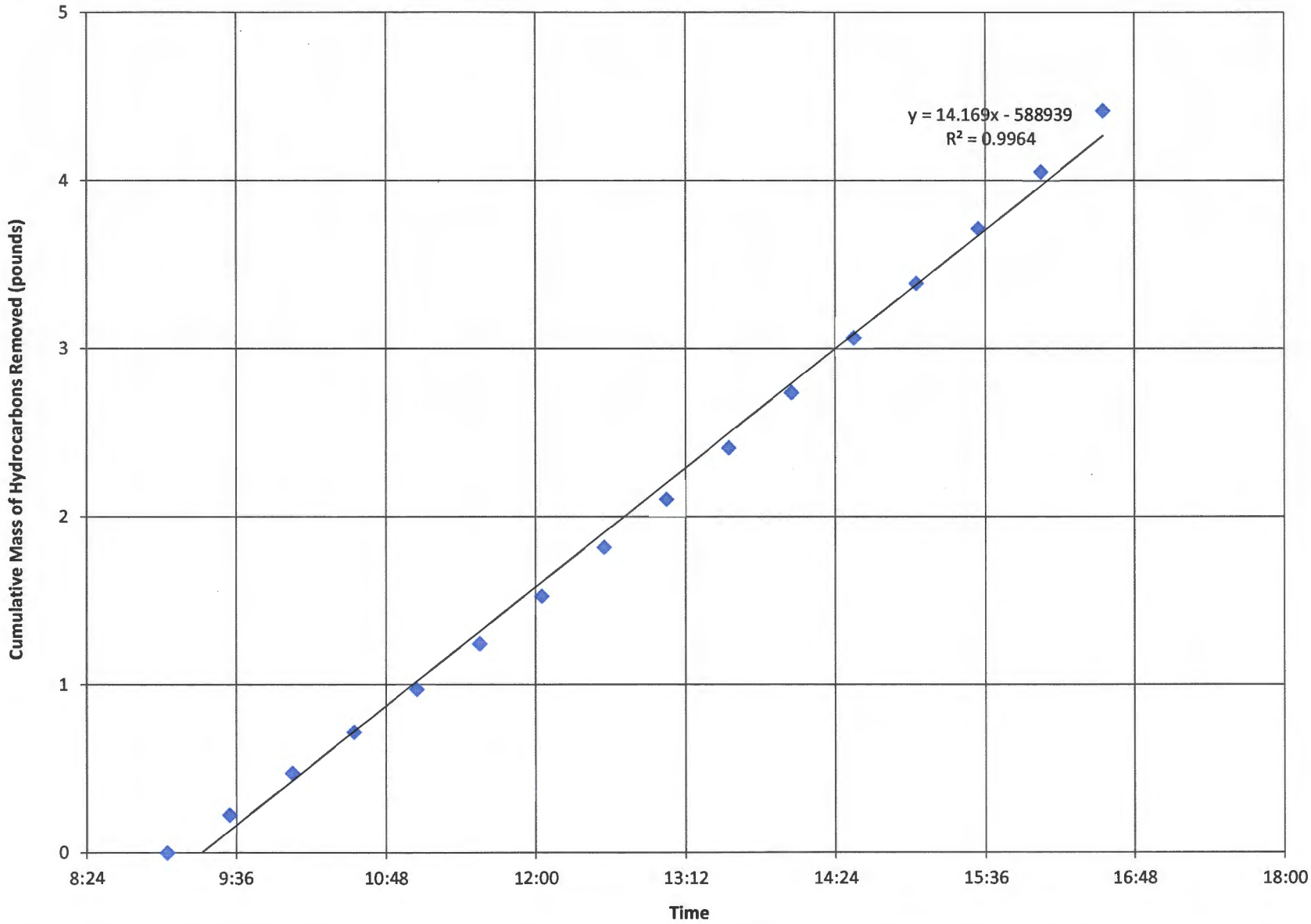

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Figure 4-19 Cumulative Mass of Hydrocarbons Removed Versus Time During Long Duration Pilot Test on Well 106148 on 11/1/13

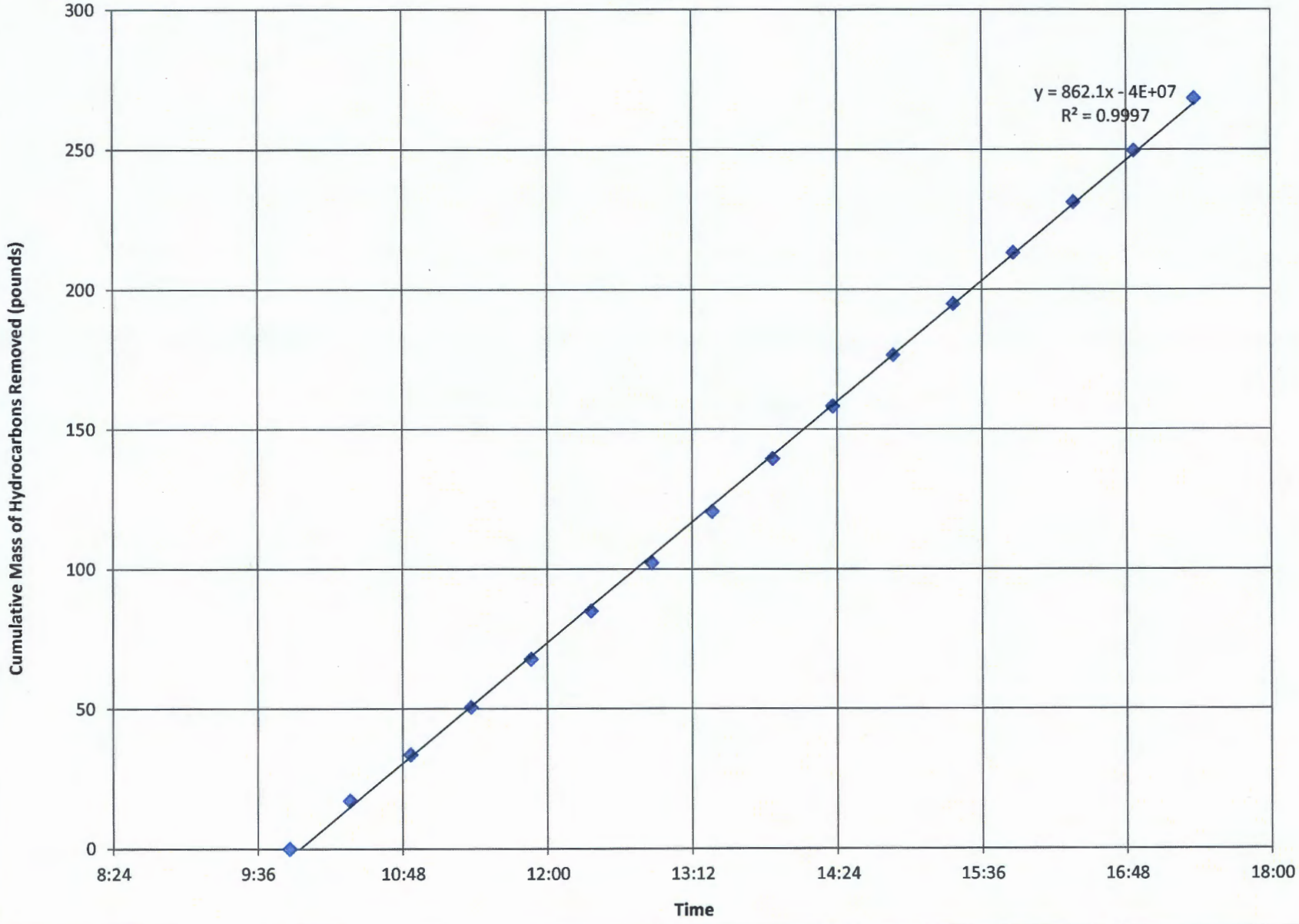

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Figure 4-20 Cumulative Mass of Hydrocarbons Removed Versus Time During Long Duration Pilot Test on Well 106155 on 11/4/13

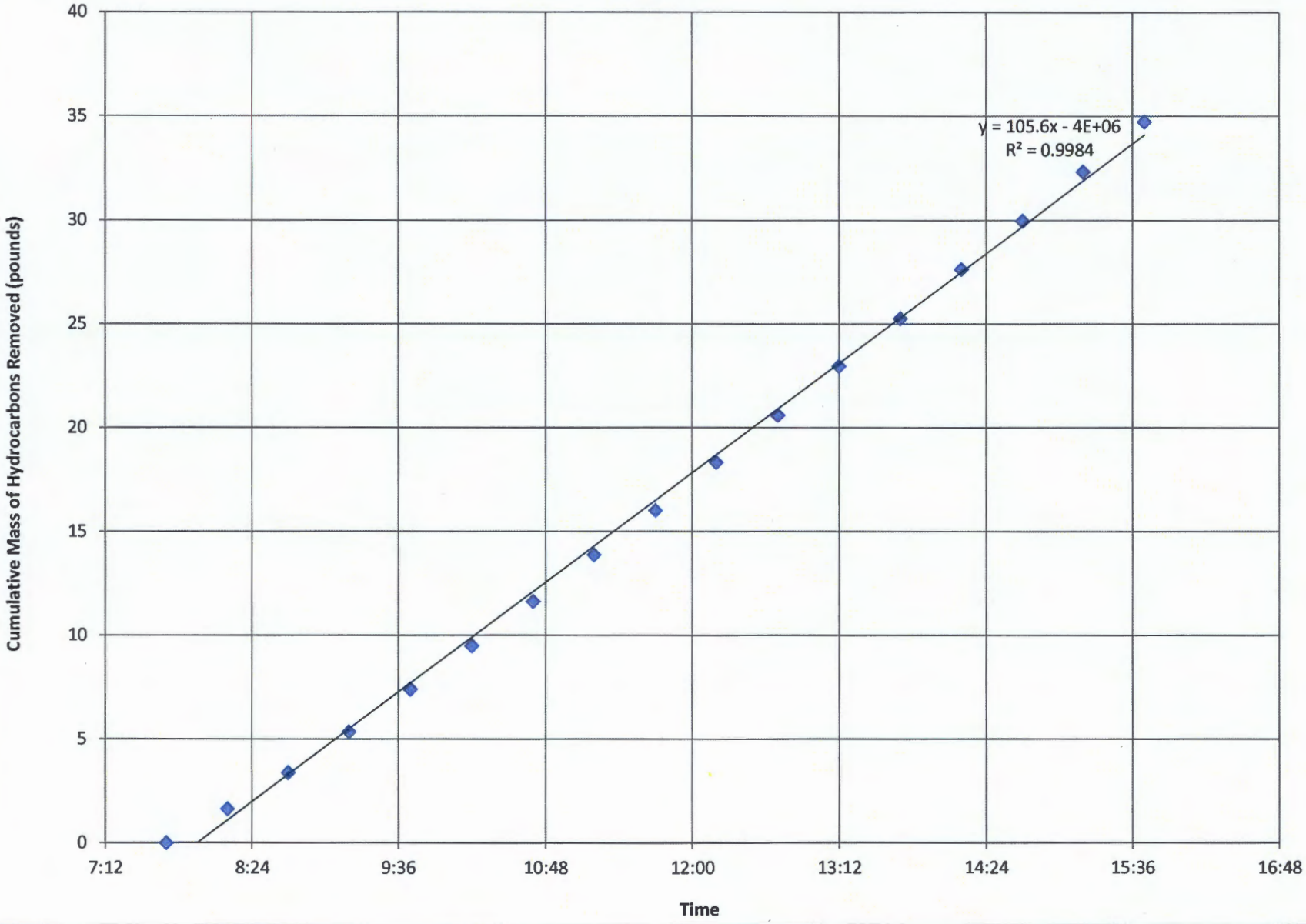

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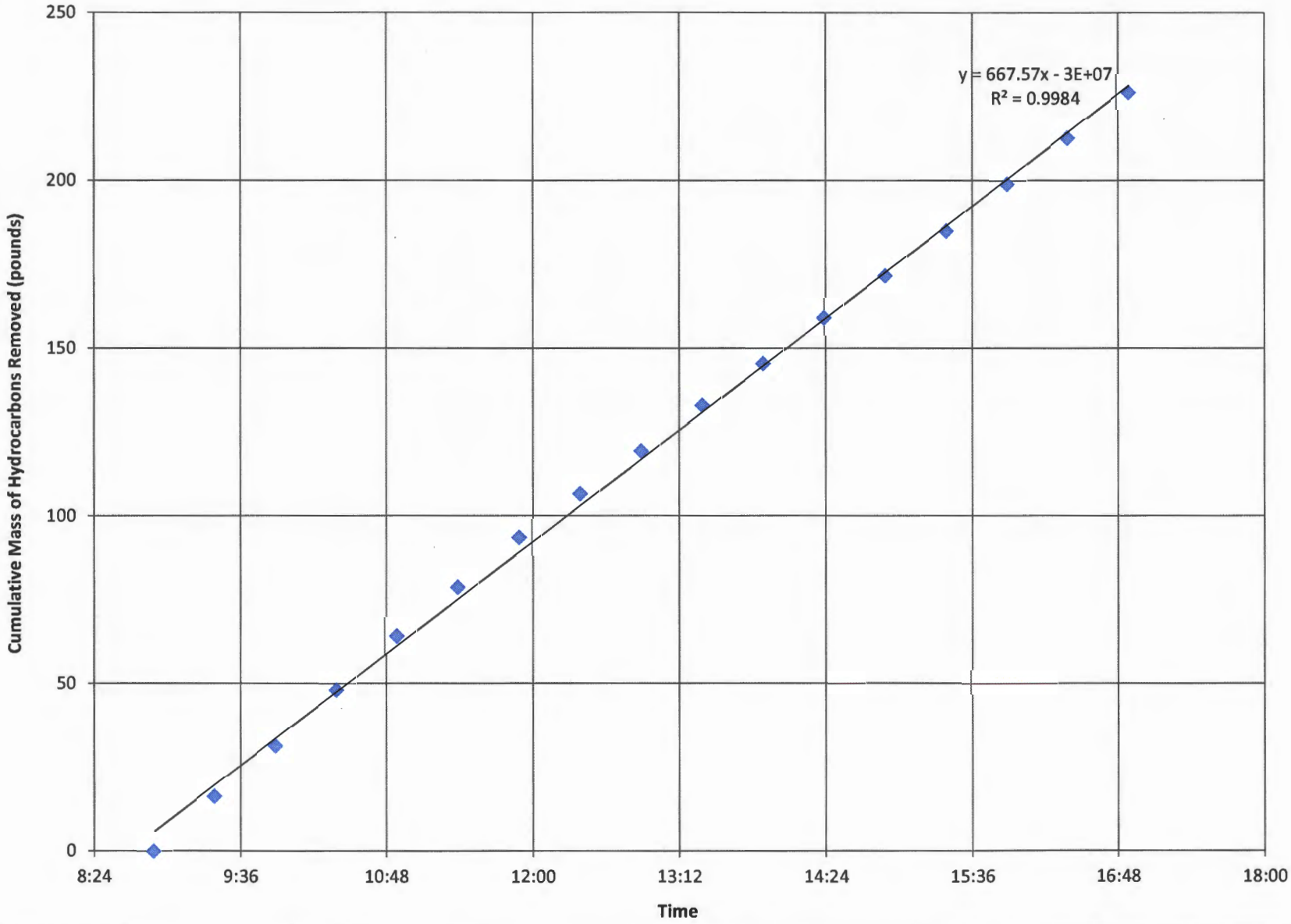
Figure 4-21 Cumulative Mass of Hydrocarbons Removed Versus Time During Long Duration Pilot Test on Well 106150 on 11/7/13



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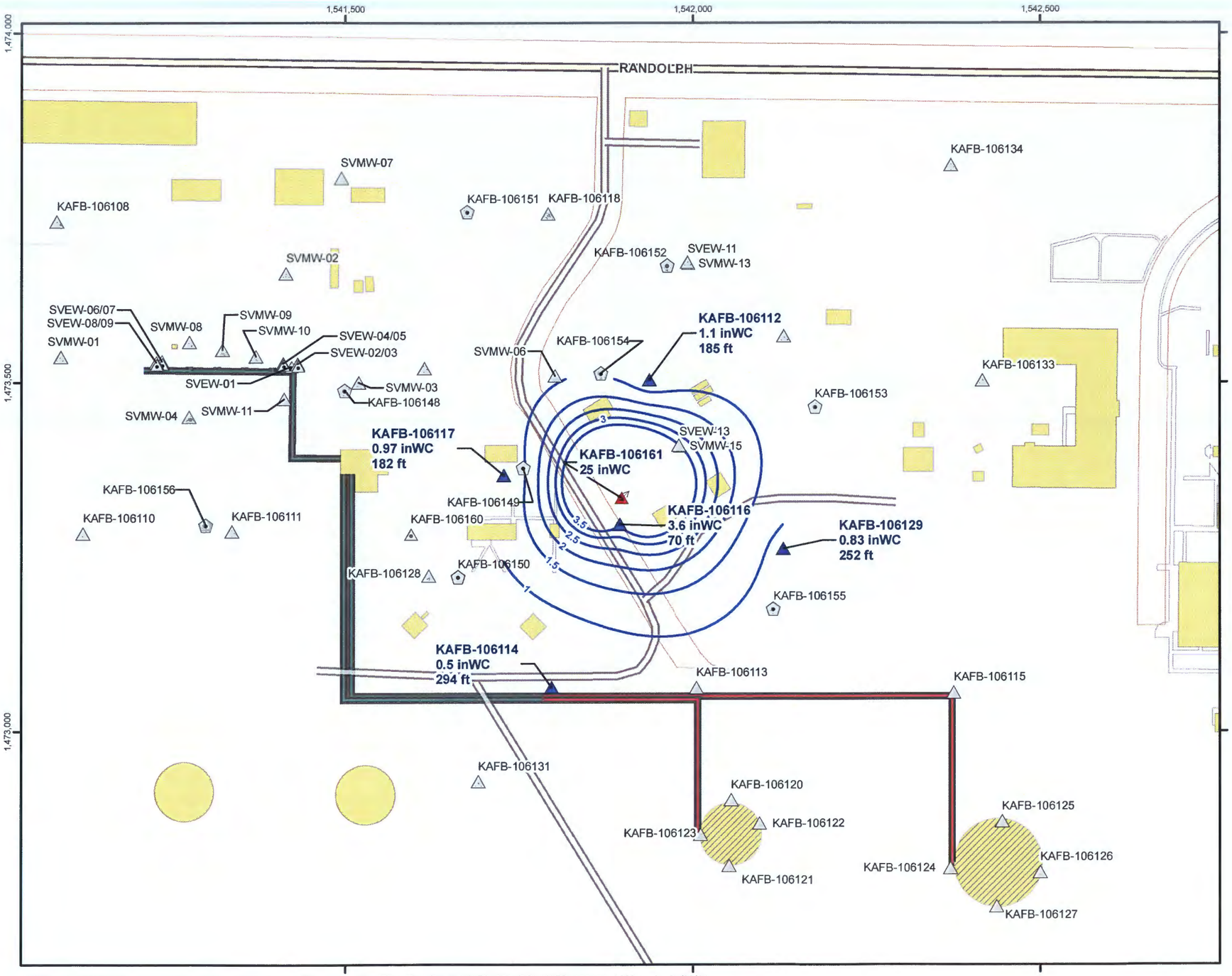

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 150 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

Service Layer Credits: © Harris Corp, Earthstar Geographics LLC © AND

Revision Date: 01/08/14

N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-22

ROI OF KAFB-106161
IN 450 FT BGS
MONITORING WELLS

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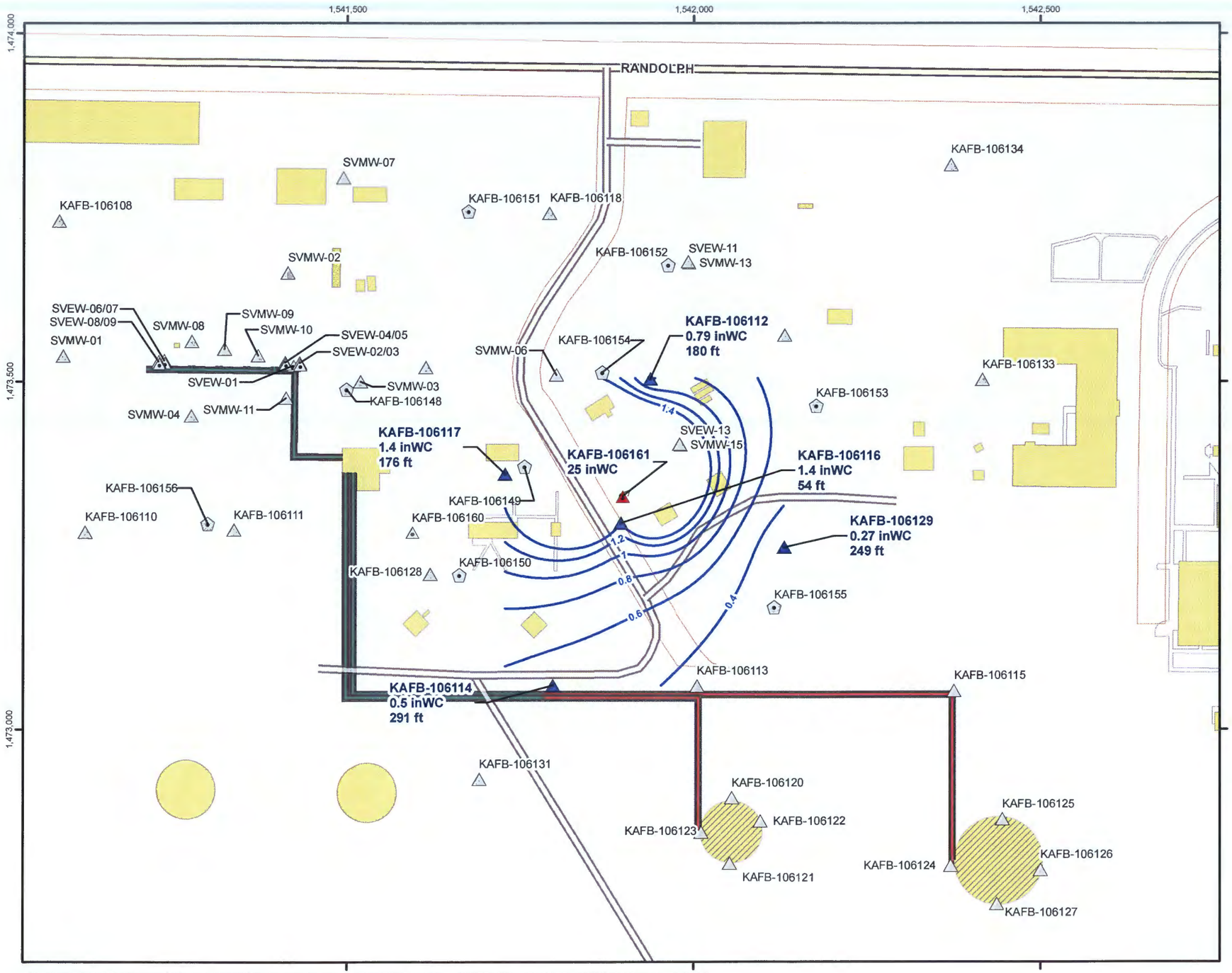

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 150 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

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Revision Date: 01/08/14

N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-23

ROI OF KAFB-106161
IN 350 FT BGS
MONITORING WELLS

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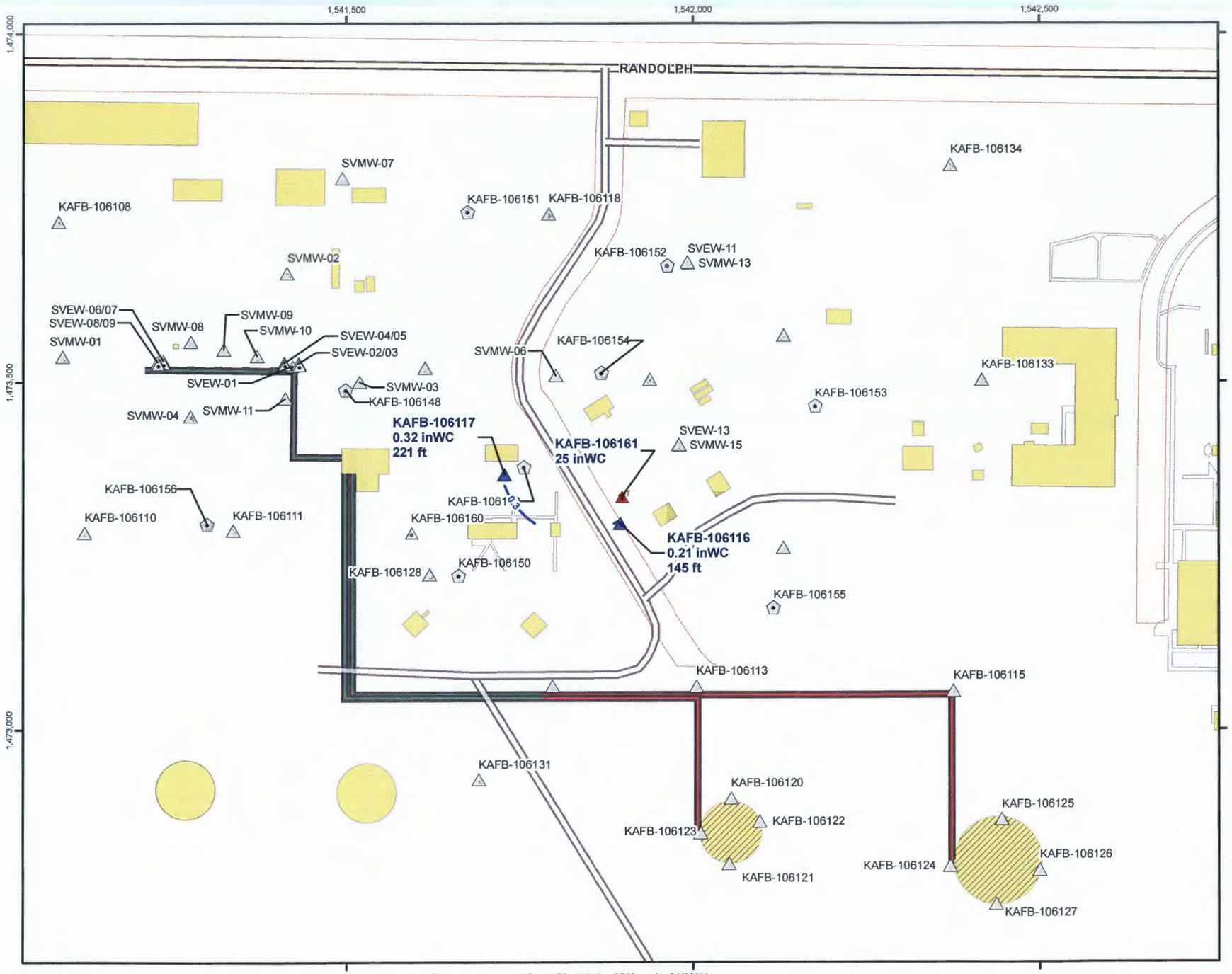
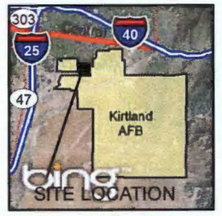


Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 45 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.



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Revision Date: 01/08/14

N

0 75 150 300

Feet

1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-24

ROI OF KAFB-106161
IN 250 FT BGS
MONITORING WELLS

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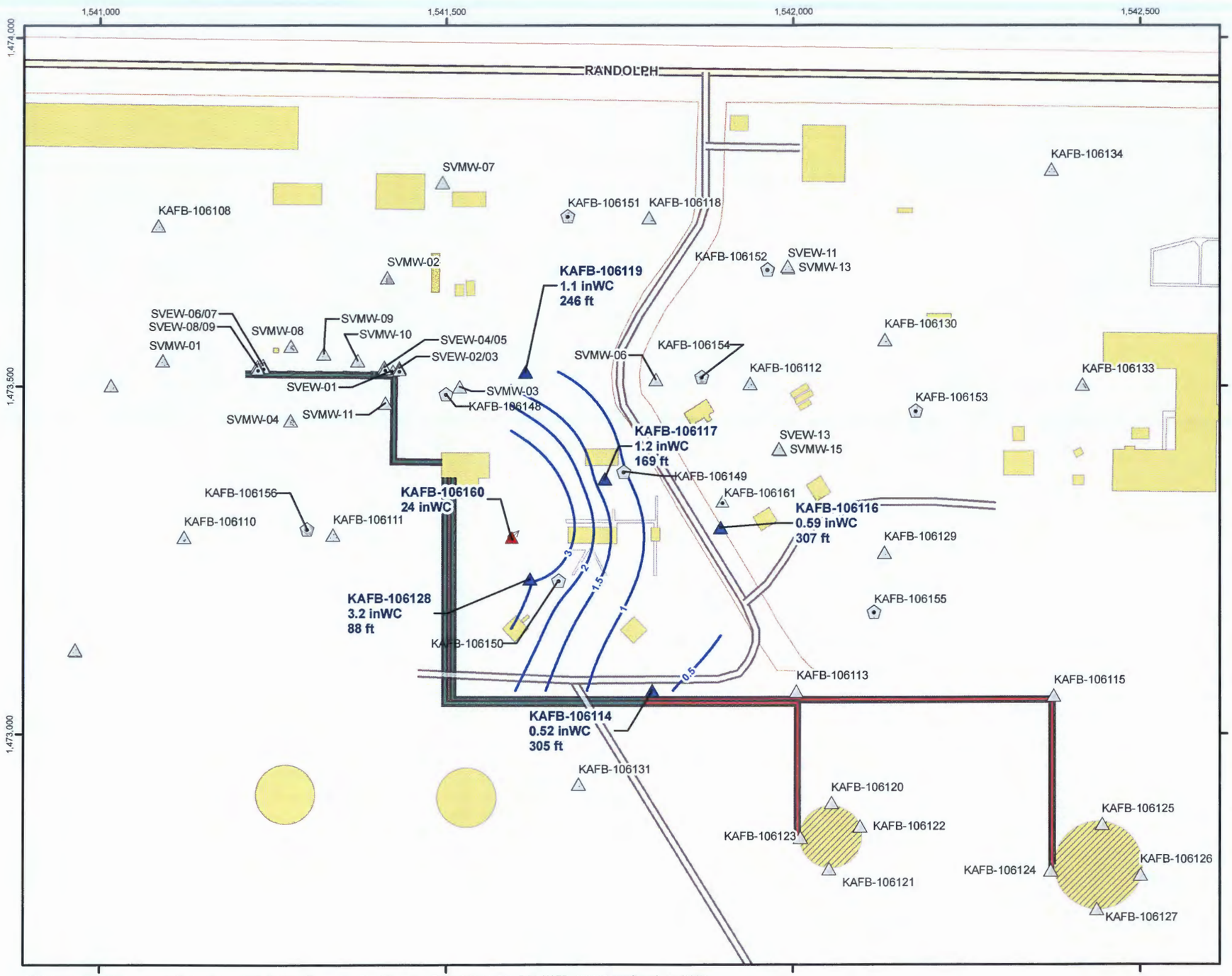

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 130 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

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Revision Date: 01/08/14

N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-25

ROI OF KAFB-106160
IN 450 FT BGS
MONITORING WELLS

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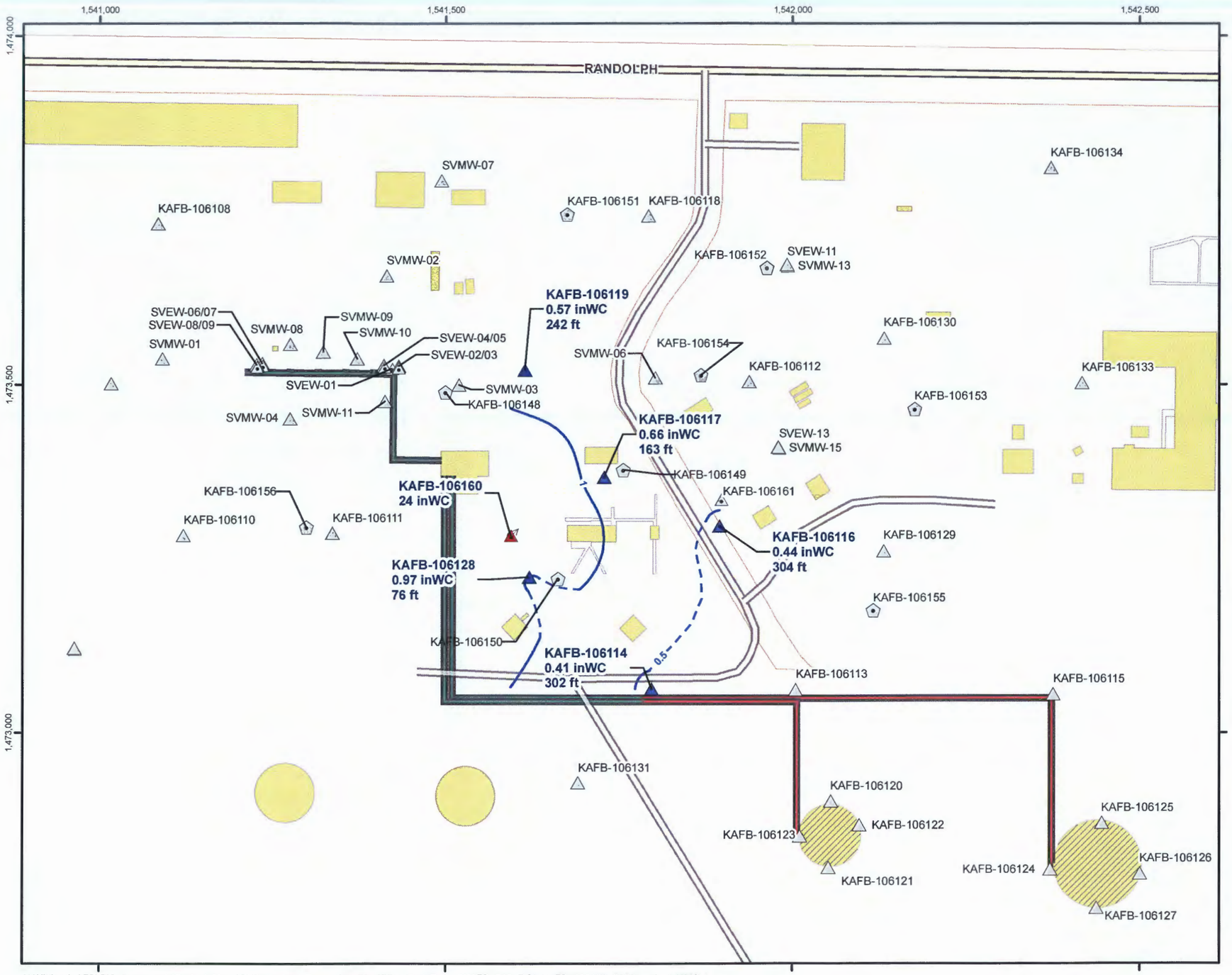

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- (dashed where estimated)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 130 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

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Revision Date: 01/08/14

N

0 75 150 300

Feet

1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-26

ROI OF KAFB-106160
IN 350 FT BGS
MONITORING WELLS

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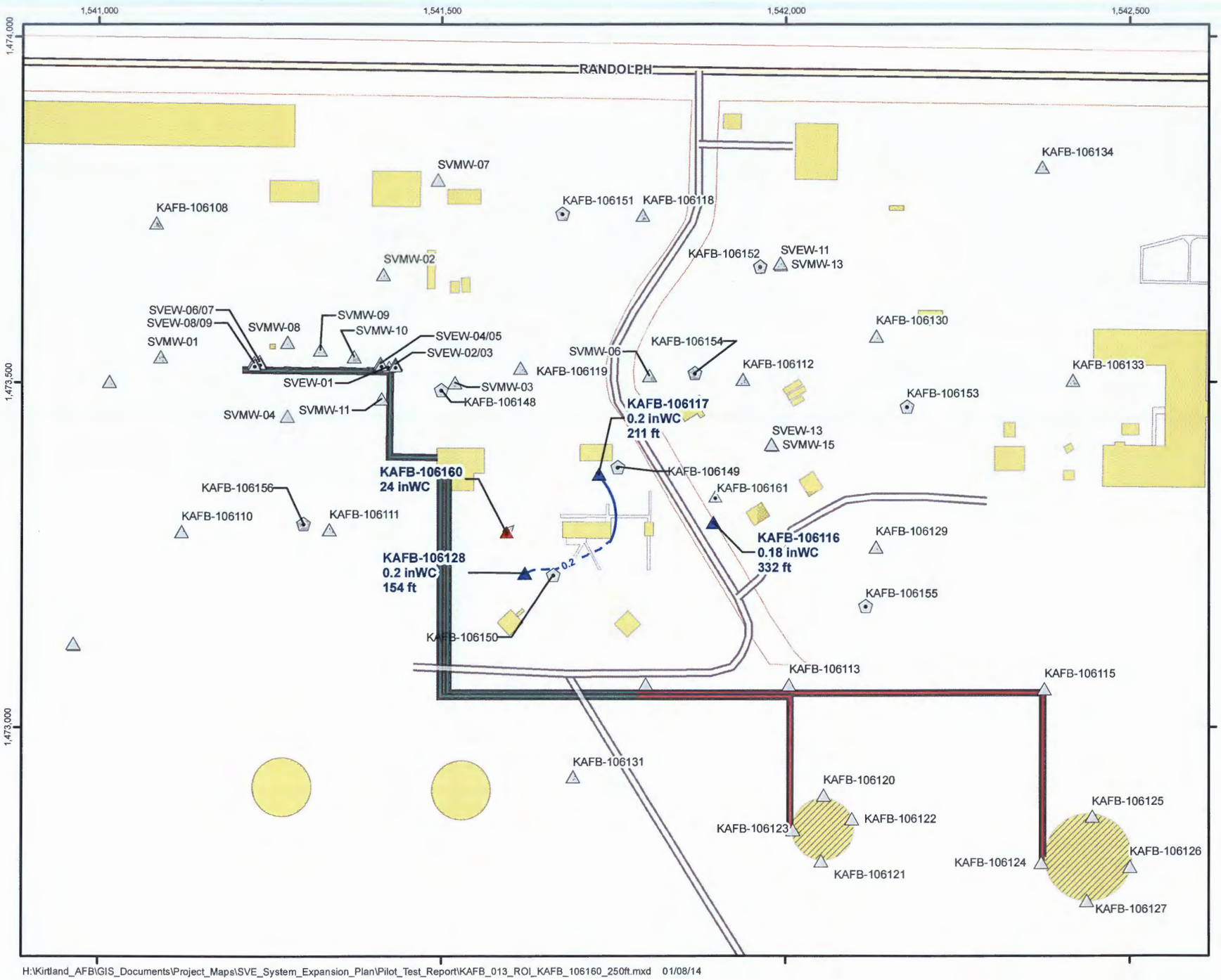
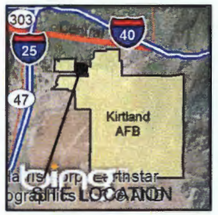


Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- (dashed where estimated)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary



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N

0 75 150 300

Feet

1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-27

ROI OF KAFB-106160
IN 250 FT BGS
MONITORING WELLS

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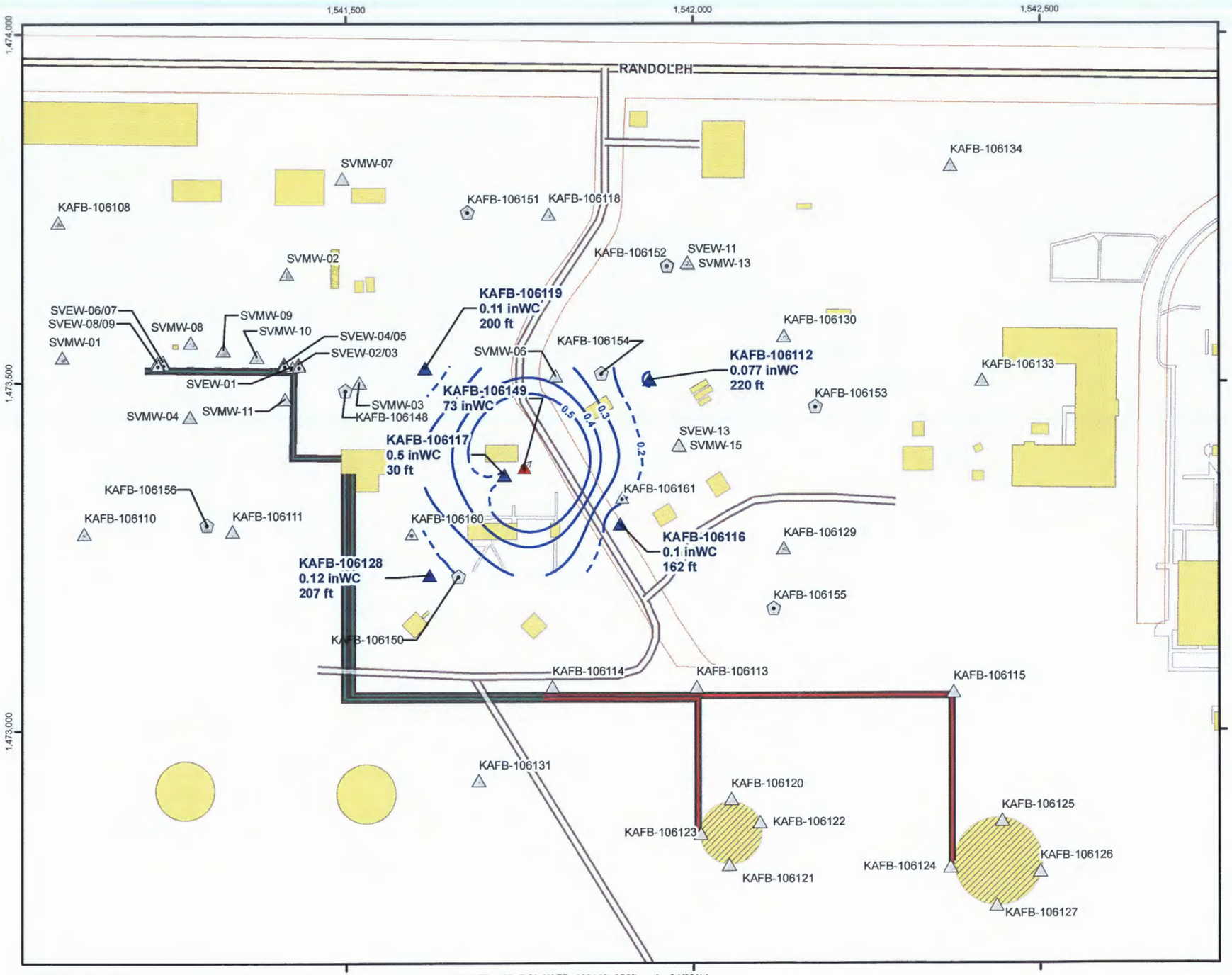

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- (dashed where estimated)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 110 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

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Revision Date: 01/08/14

N

0 75 150 300

Feet

1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-28

ROI OF KAFB-106149
IN 350 FT BGS
MONITORING WELLS

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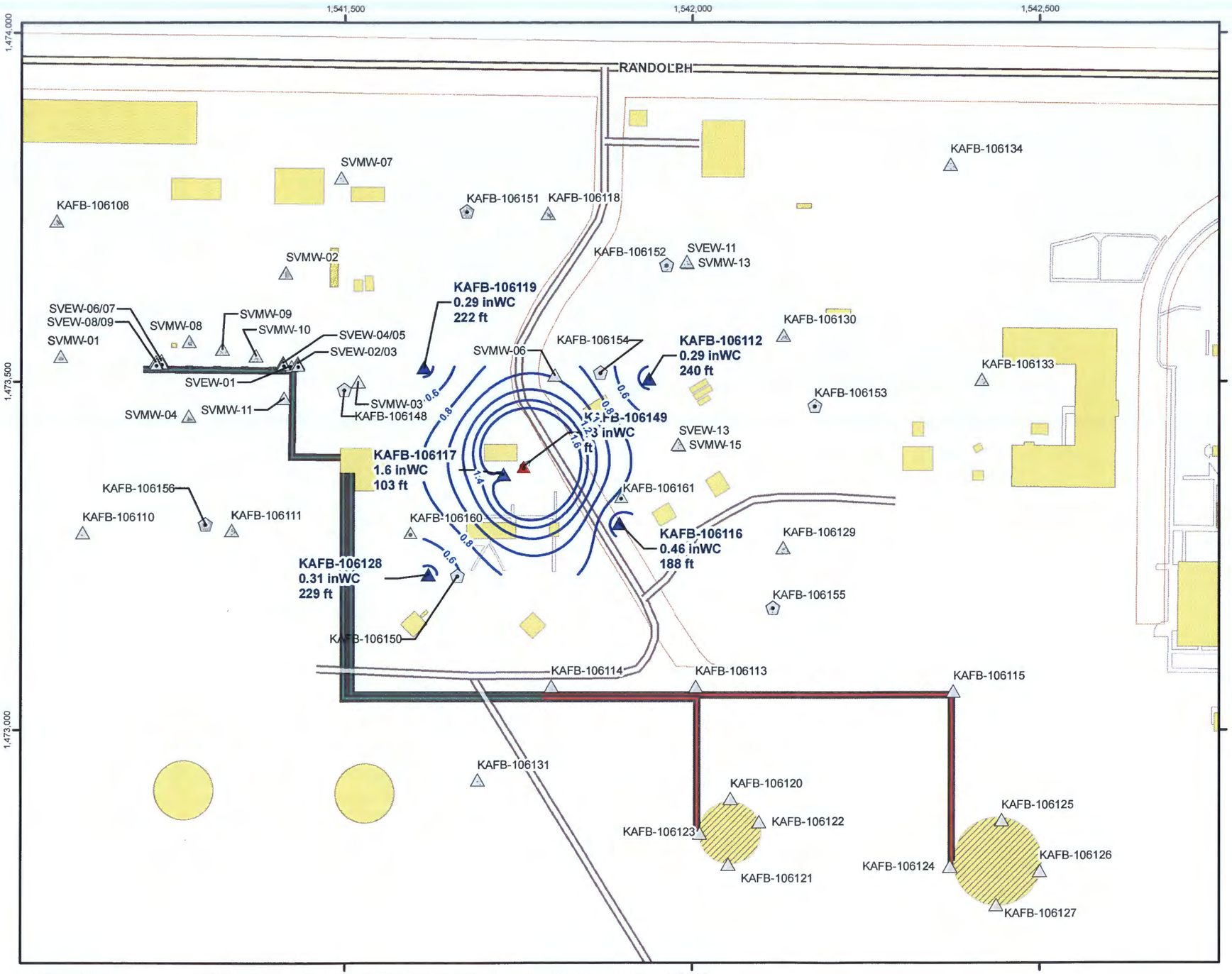
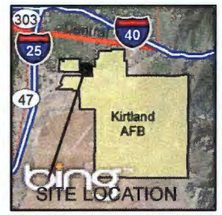


Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 110 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.



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N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-29

ROI OF KAFB-106149
IN 250 FT BGS
MONITORING WELLS

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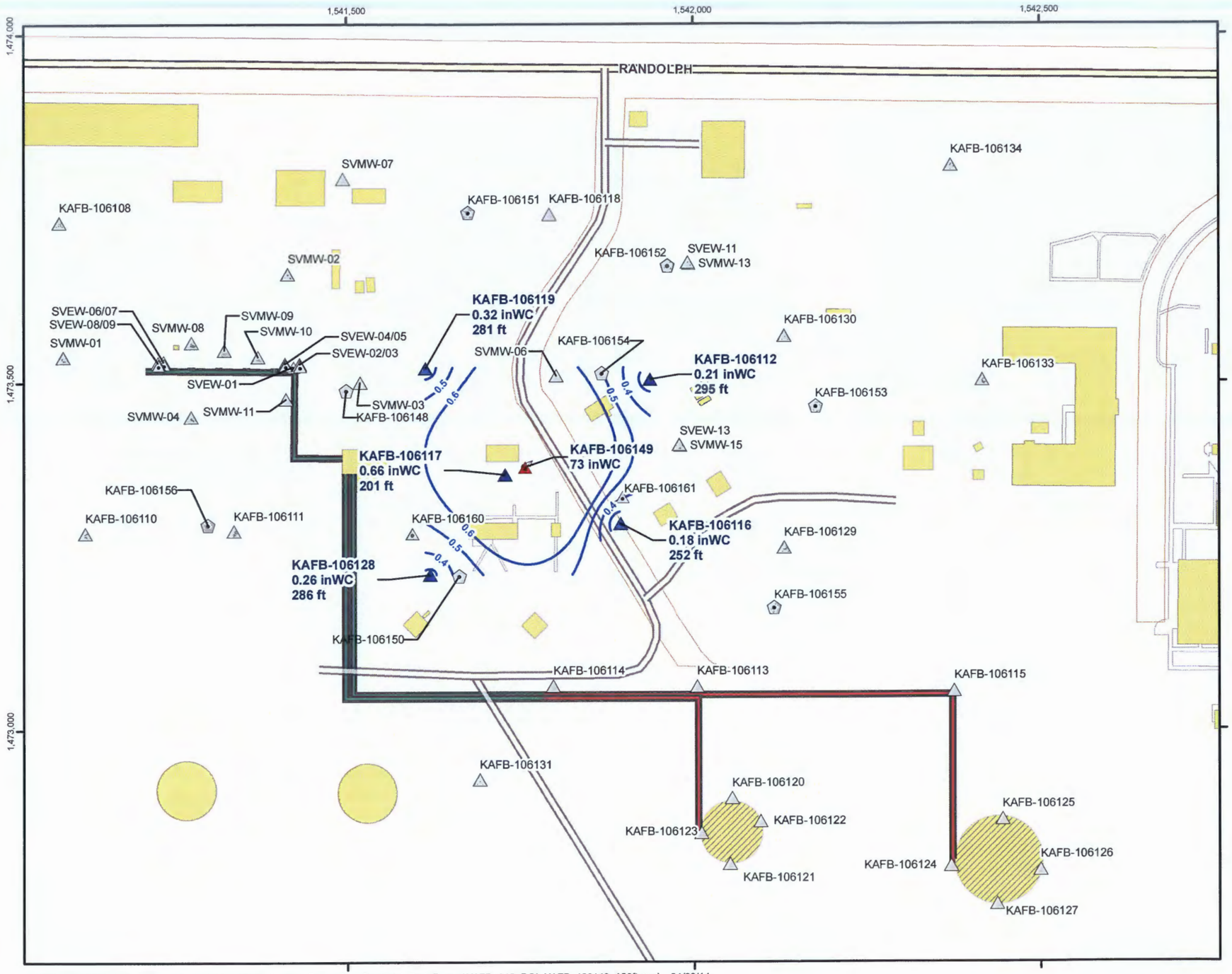

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 110 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

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N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-30

ROI OF KAFB-106149
IN 150 FT BGS
MONITORING WELLS

H:\Kirtland_AFB\GIS_Documents\Project_Maps\SVE_System_Expansion_Plan\Pilot_Test_Report\KAFB_015_ROI_KAFB_106149_150ft.mxd 01/08/14

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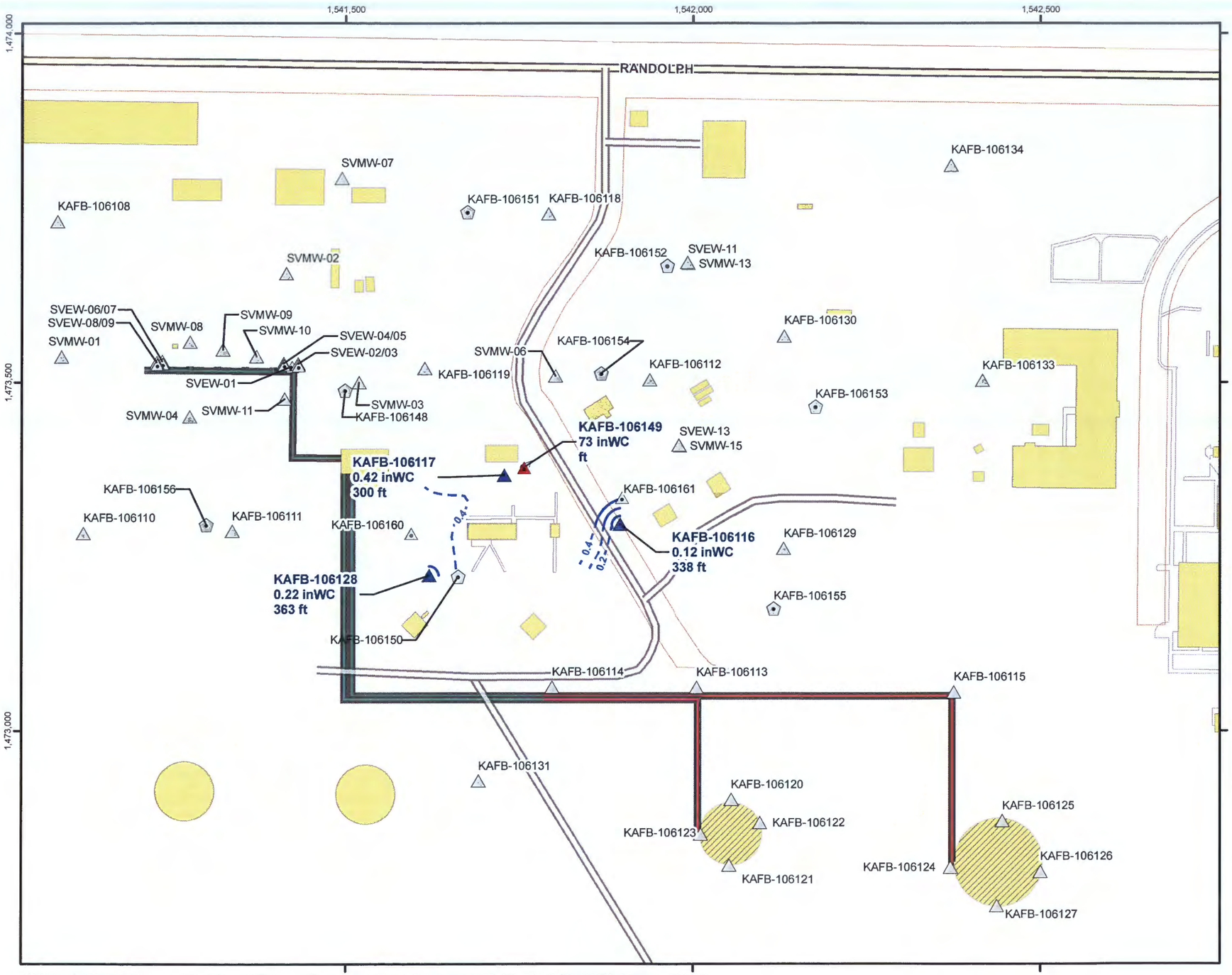

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- (dashed where estimated)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 78 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

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N

0 75 150 300

Feet

1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-31

ROI OF KAFB-106149
IN 50 FT BGS
MONITORING WELLS

H:\Kirtland_AFB\GIS_Documents\Project_Maps\SVE_System_Expansion_Plan\Pilot_Test_Report\KAFB_016_ROI_KAFB_106149_50ft.mxd 01/08/14

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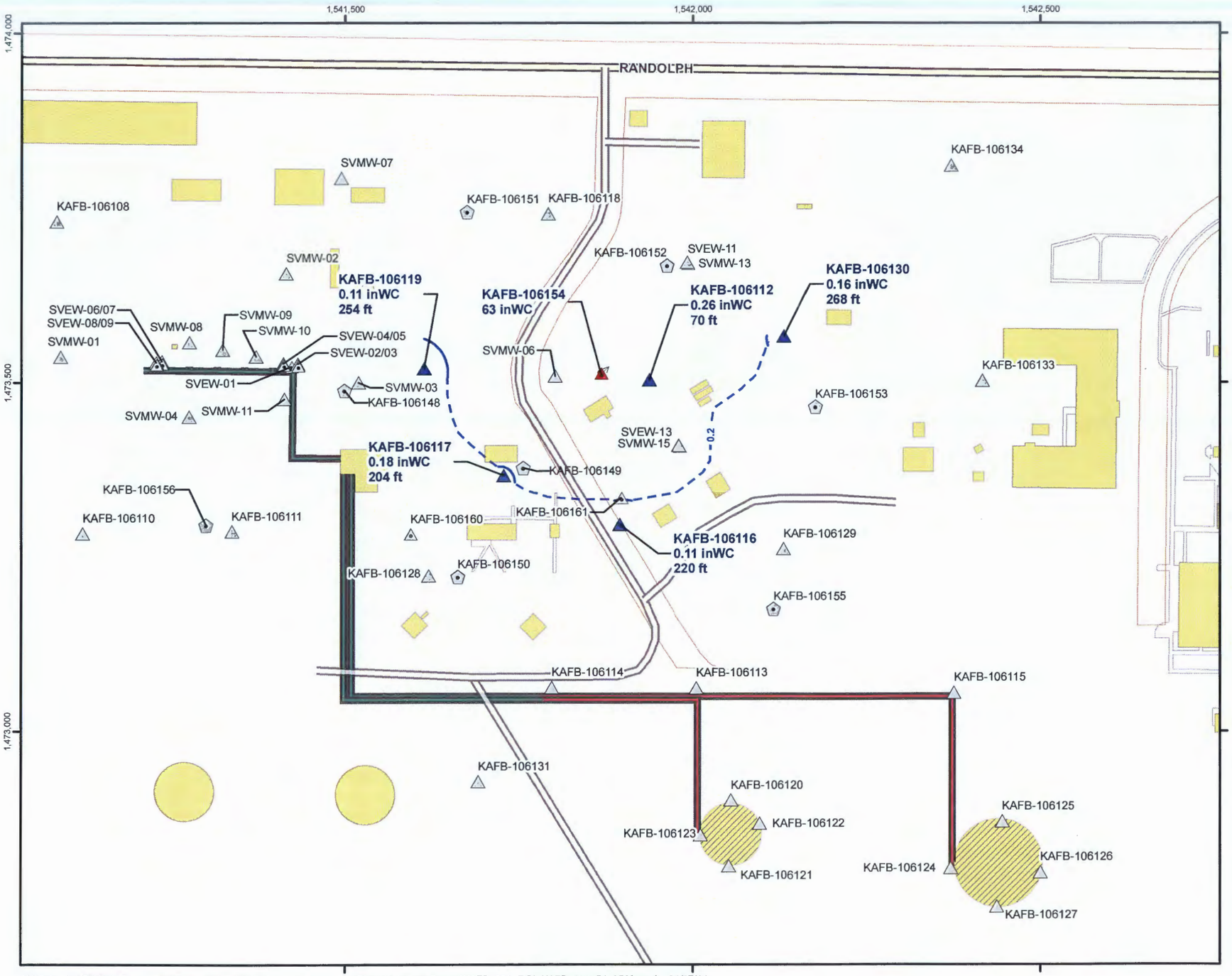

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- (dashed where estimated)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 145 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

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N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-32

ROI OF KAFB-106154
IN 350 FT BGS
MONITORING WELLS

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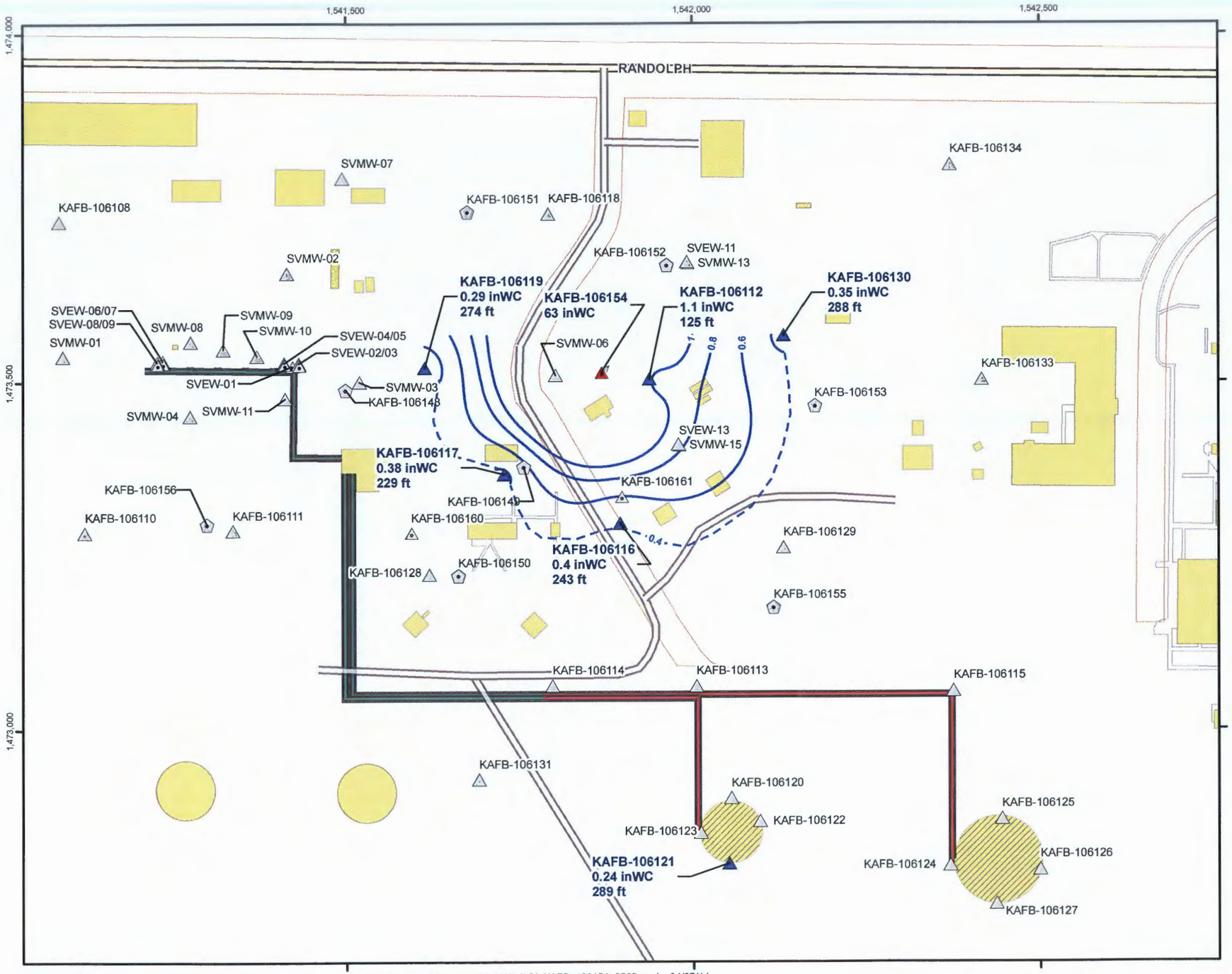

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- (dashed where estimated)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 230 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

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Revision Date: 01/07/14

N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-33

ROI OF KAFB-106154
IN 250 FT BGS
MONITORING WELLS

H:\Kirtland_AFB\GIS_Documents\Project_Maps\SVE_System_Expansion_Plan\Pilot_Test_Report\KAFB_005_ROI_KAFB_106154_250ft.mxd 01/07/14

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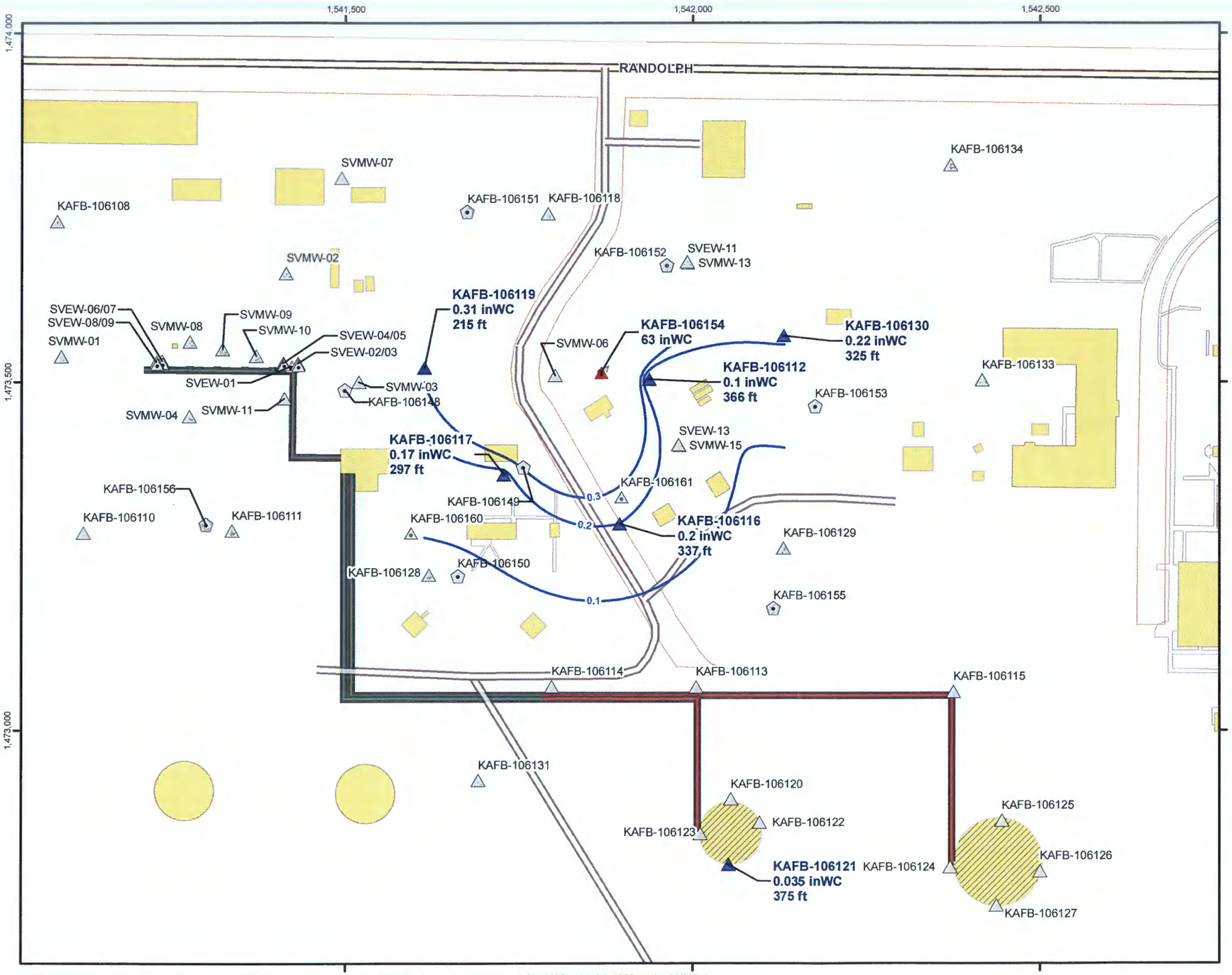
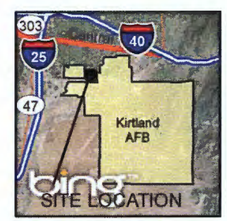


Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 230 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.



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N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
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BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-34

ROI OF KAFB-106154
IN 150 FT BGS
MONITORING WELLS

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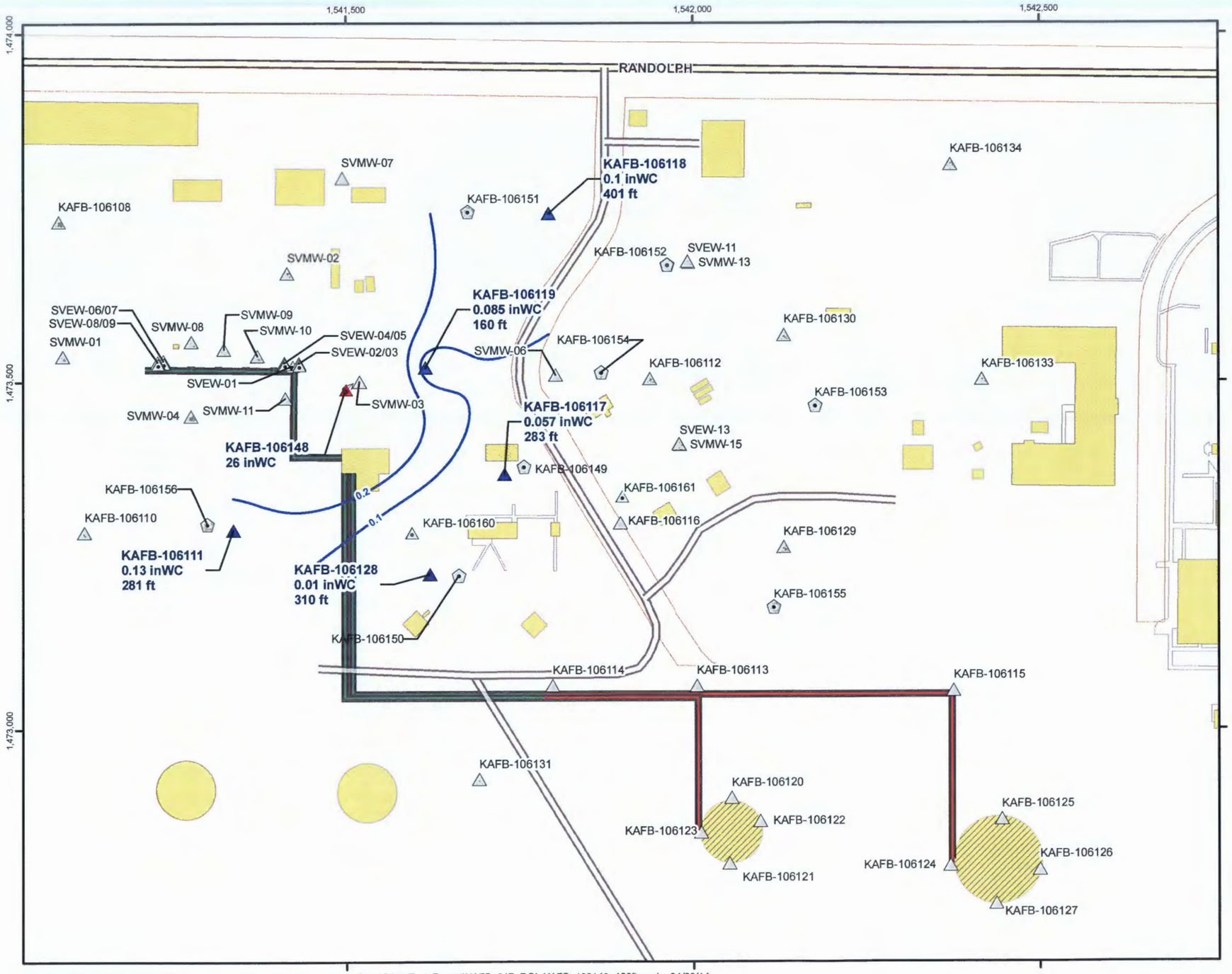

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 170 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

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N

0 75 150 300

Feet

1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-35

ROI OF KAFB-106148
IN 450 FT BGS
MONITORING WELLS

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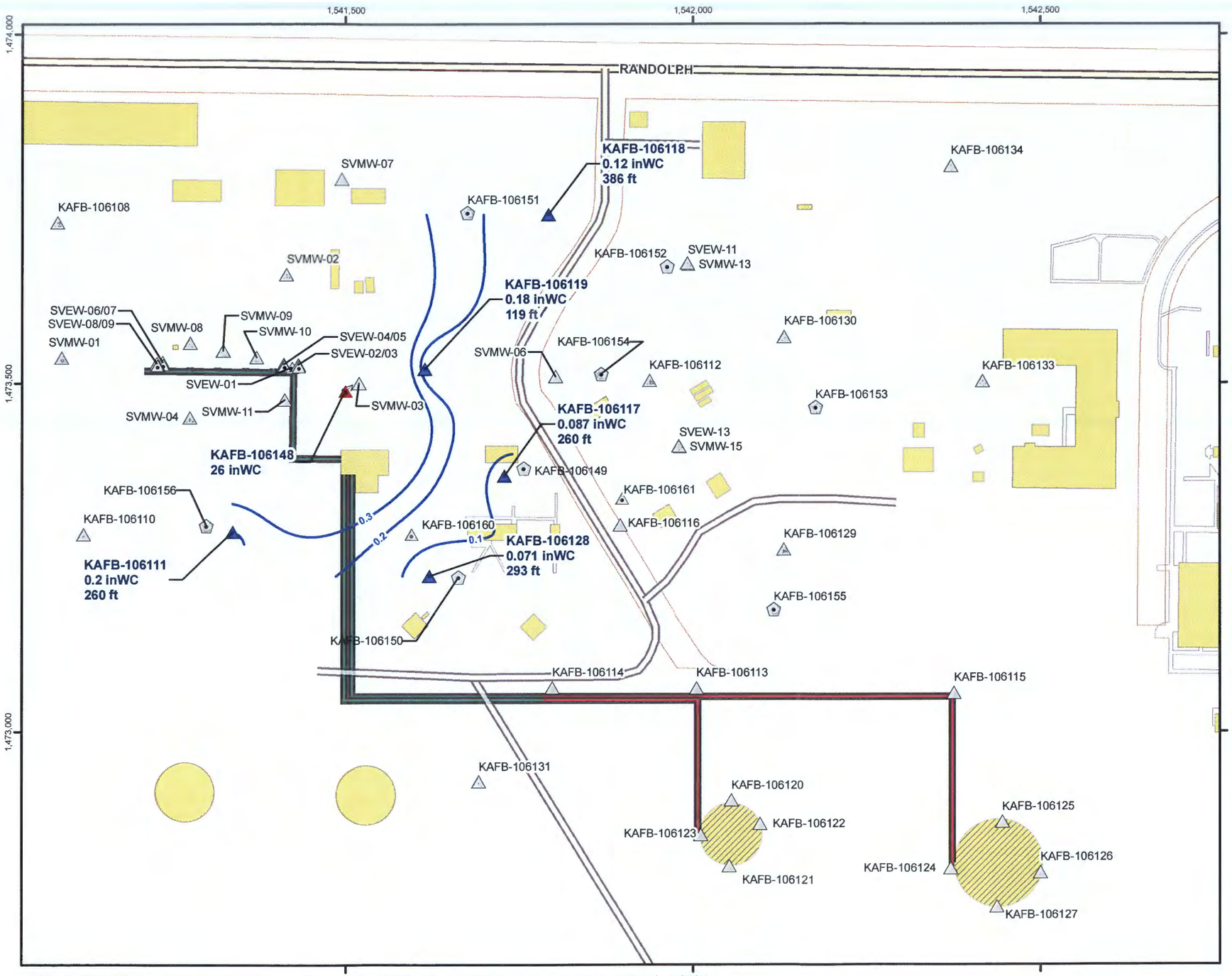

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 170 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

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N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
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KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-36

ROI OF KAFB-106148
IN 350 FT BGS
MONITORING WELLS

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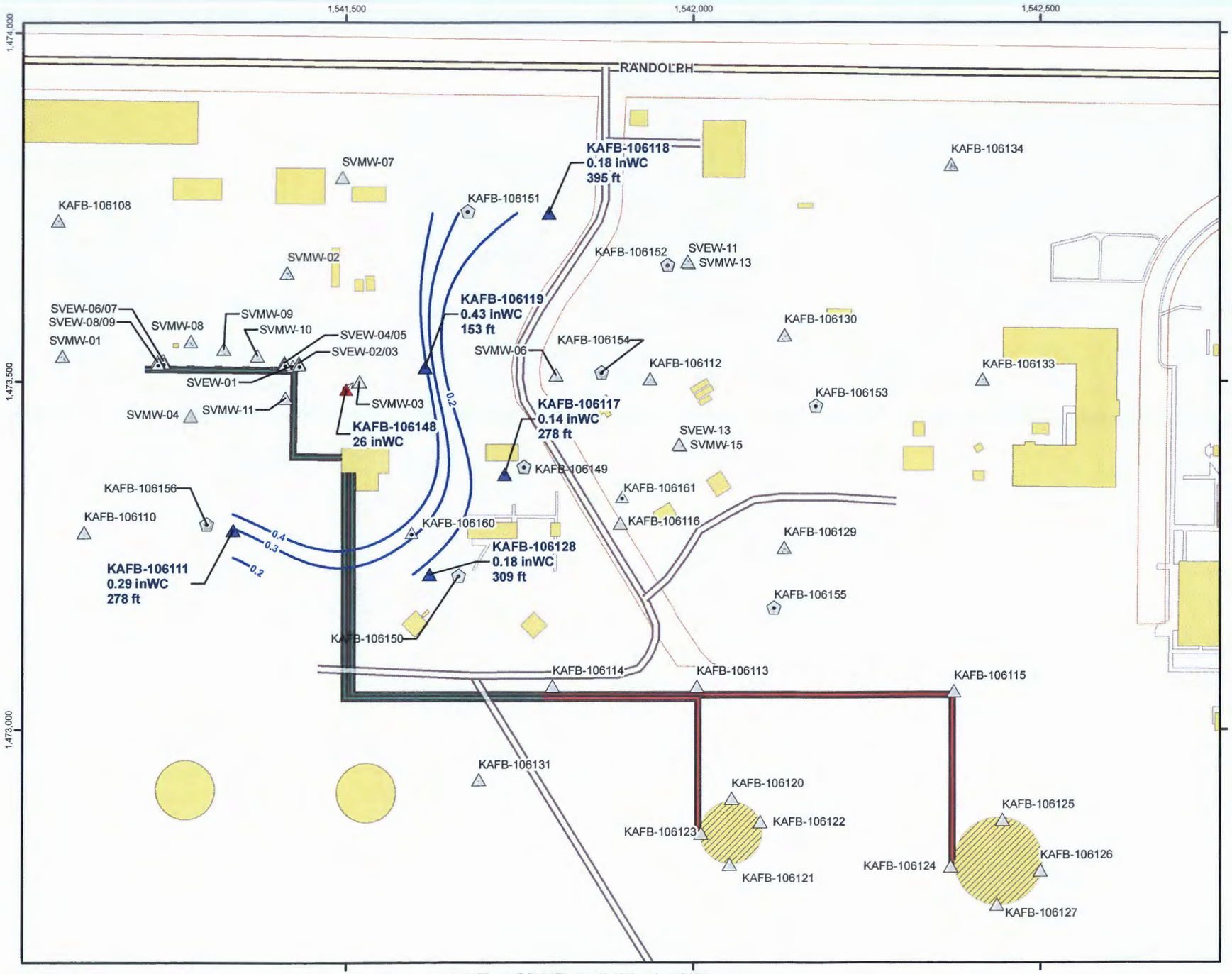
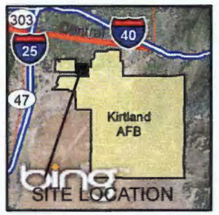


Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 170 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.



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N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-37

ROI OF KAFB-106148
IN 250 FT BGS
MONITORING WELLS

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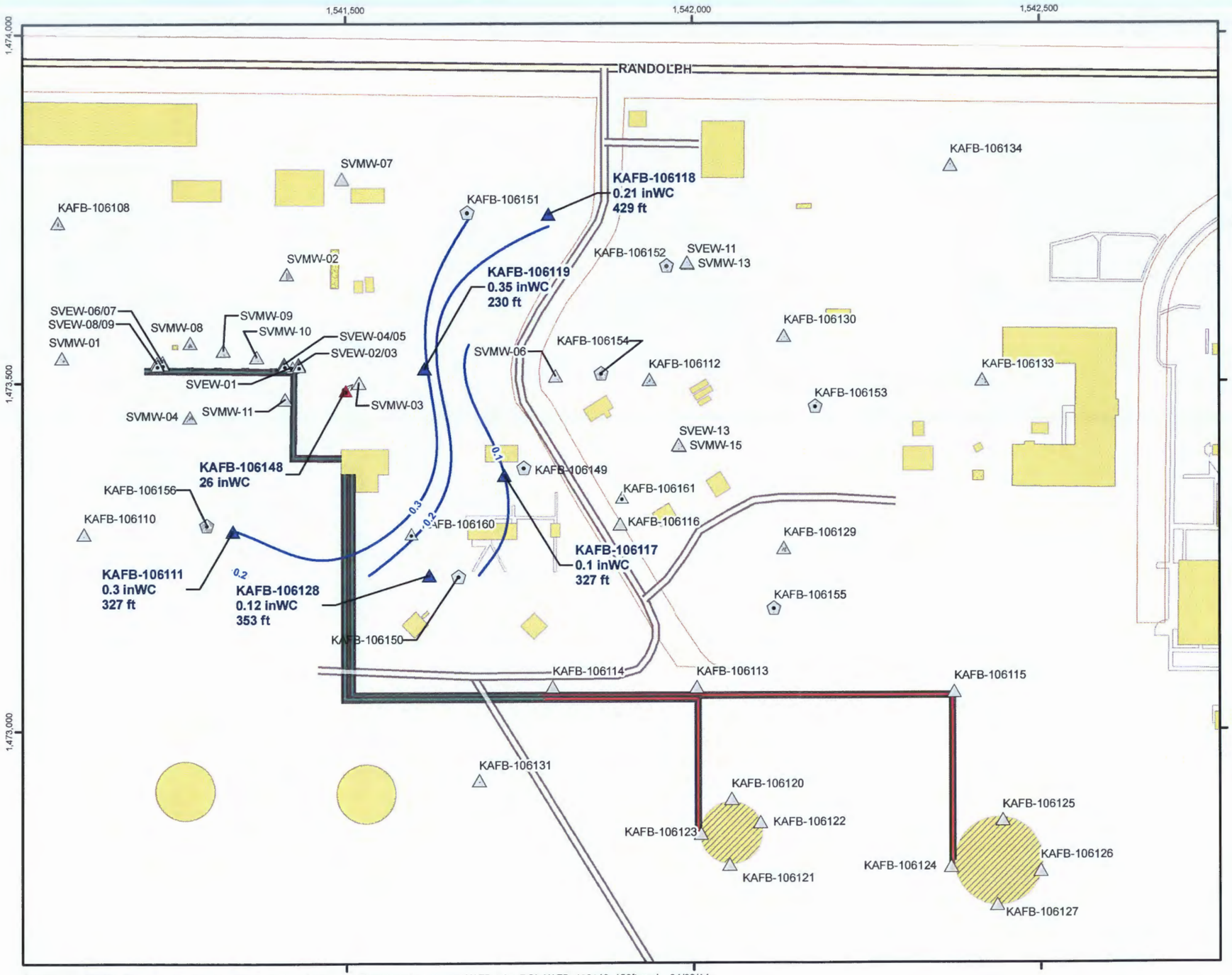
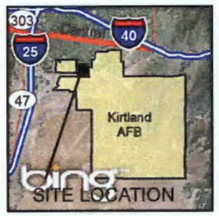


Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 170 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.



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N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-38

ROI OF KAFB-106148
IN 150 FT BGS
MONITORING WELLS

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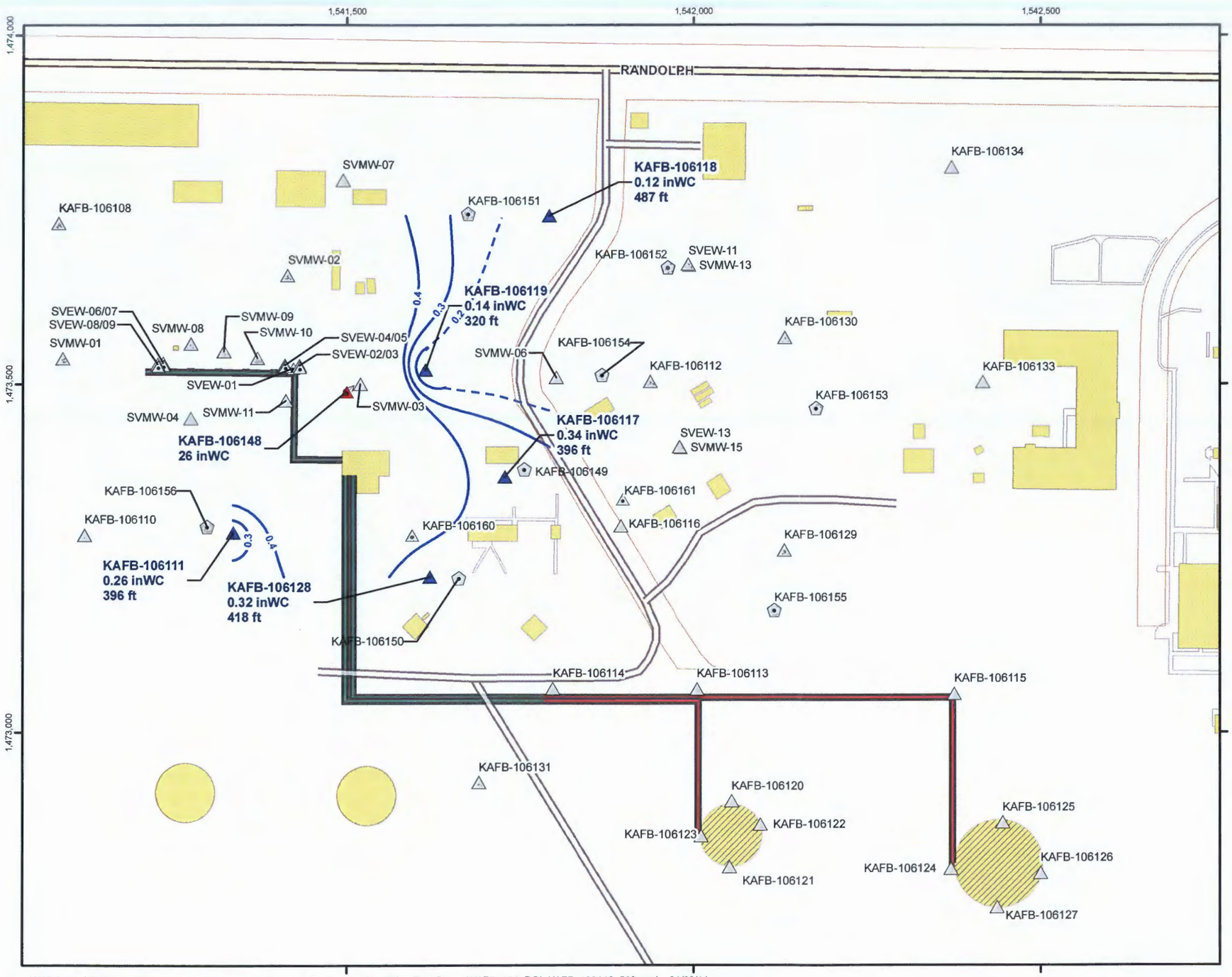

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- (dashed where estimated)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 170 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

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Revision Date: 01/08/14

N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-39

ROI OF KAFB-106148
IN 50 FT BGS
MONITORING WELLS

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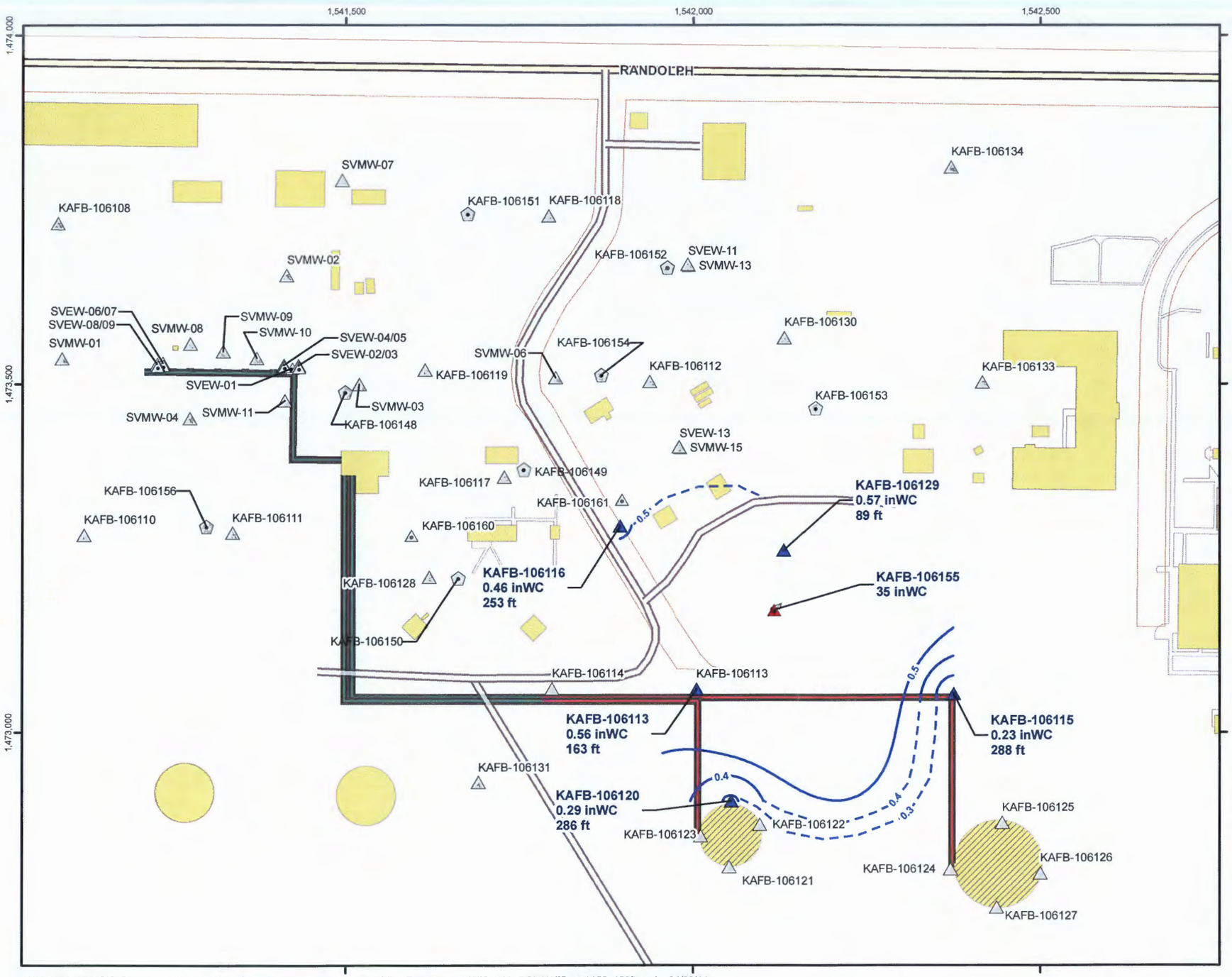

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- (dashed where estimated)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 155 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

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N

0 75 150 300

Feet

1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-40

ROI OF KAFB-106155
IN 450 FT BGS
MONITORING WELLS

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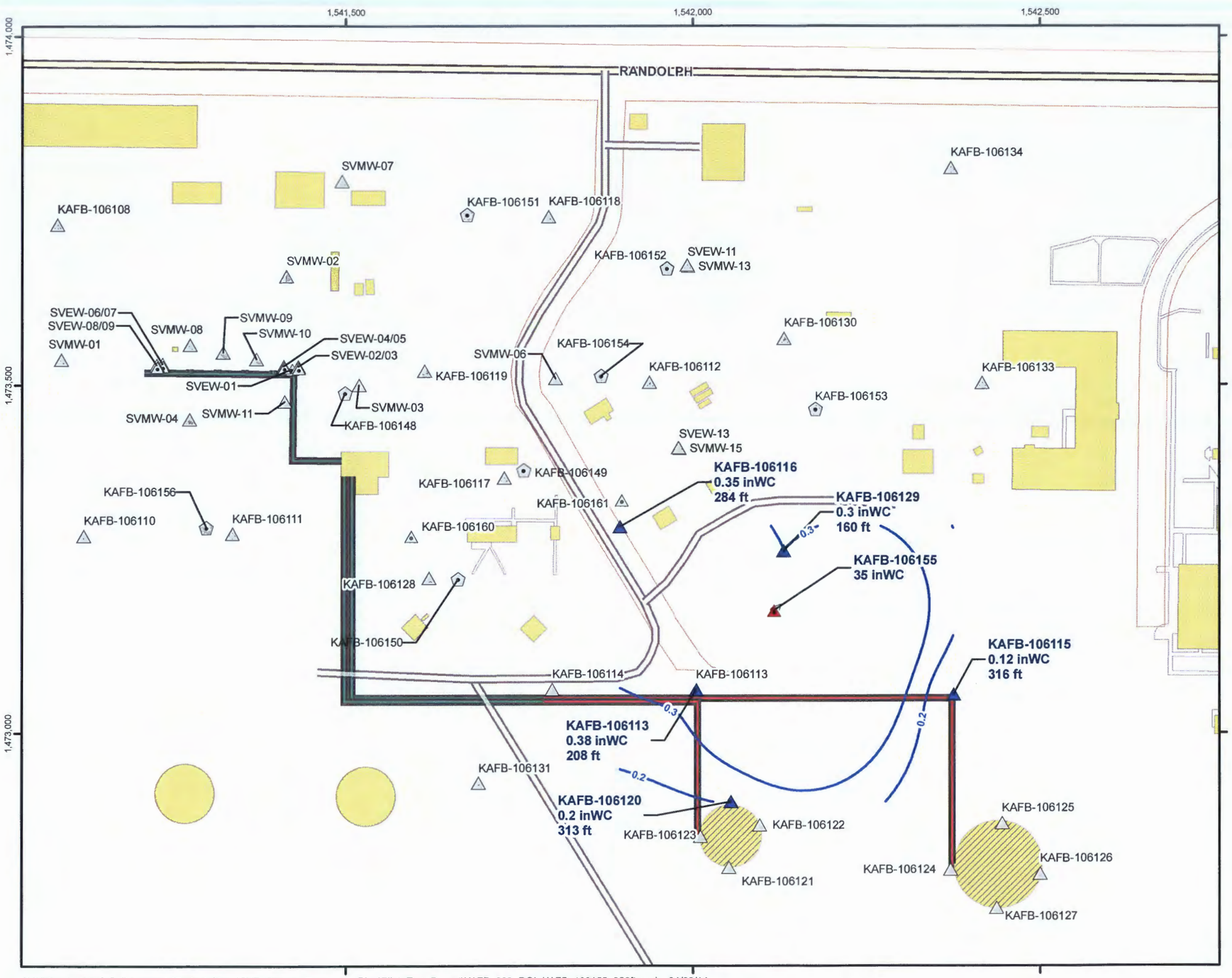

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 155 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

Service Layer Credits: © Harris Corp, Earthstar Geographics LLC © AND

Revision Date: 01/08/14

N

0 75 150 300

Feet

1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-41

ROI OF KAFB-106155
IN 350 FT BGS
MONITORING WELLS

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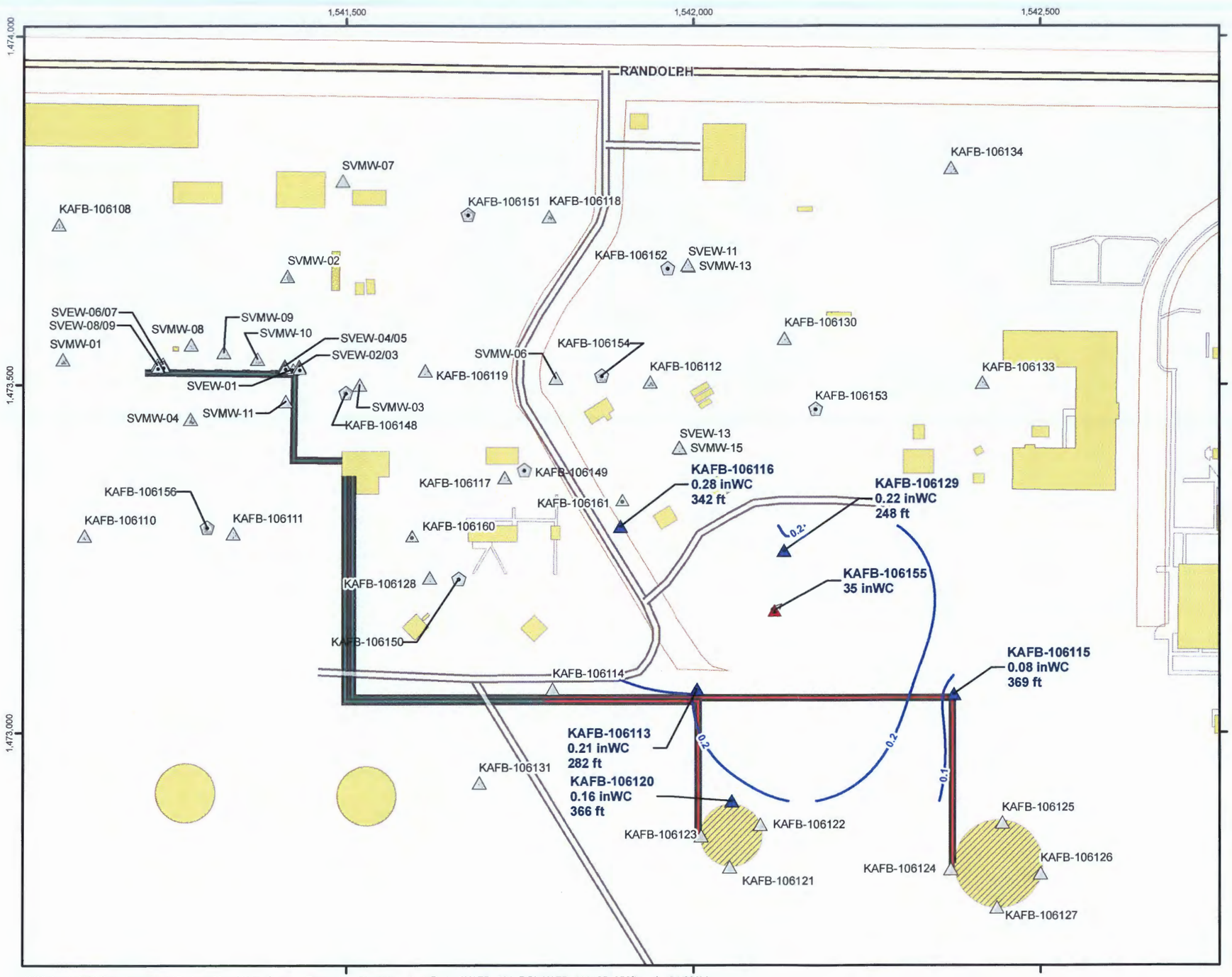

Legend

- SVE Extraction Well Currently in
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 155 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

Service Layer Credits: © Harris Corp, Earthstar Geographics LLC © AND

Revision Date: 01/08/14

N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-42

ROI OF KAFB-106155
IN 250 FT BGS
MONITORING WELLS

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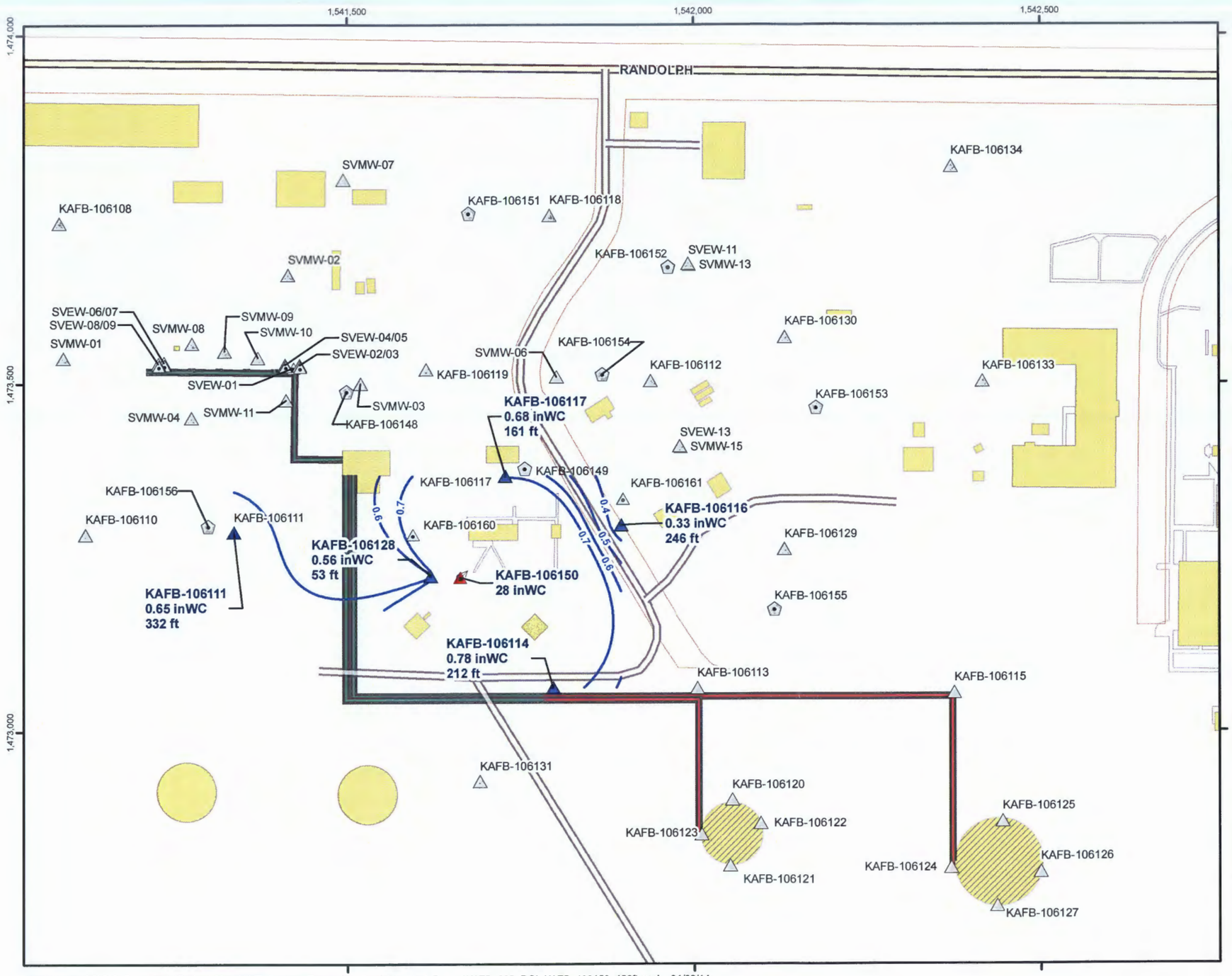

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 160 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

Service Layer Credits: © Harris Corp, Earthstar Geographics LLC © AND

Revision Date: 01/08/14

N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-43

ROI OF KAFB-106150
IN 450 FT BGS
MONITORING WELLS

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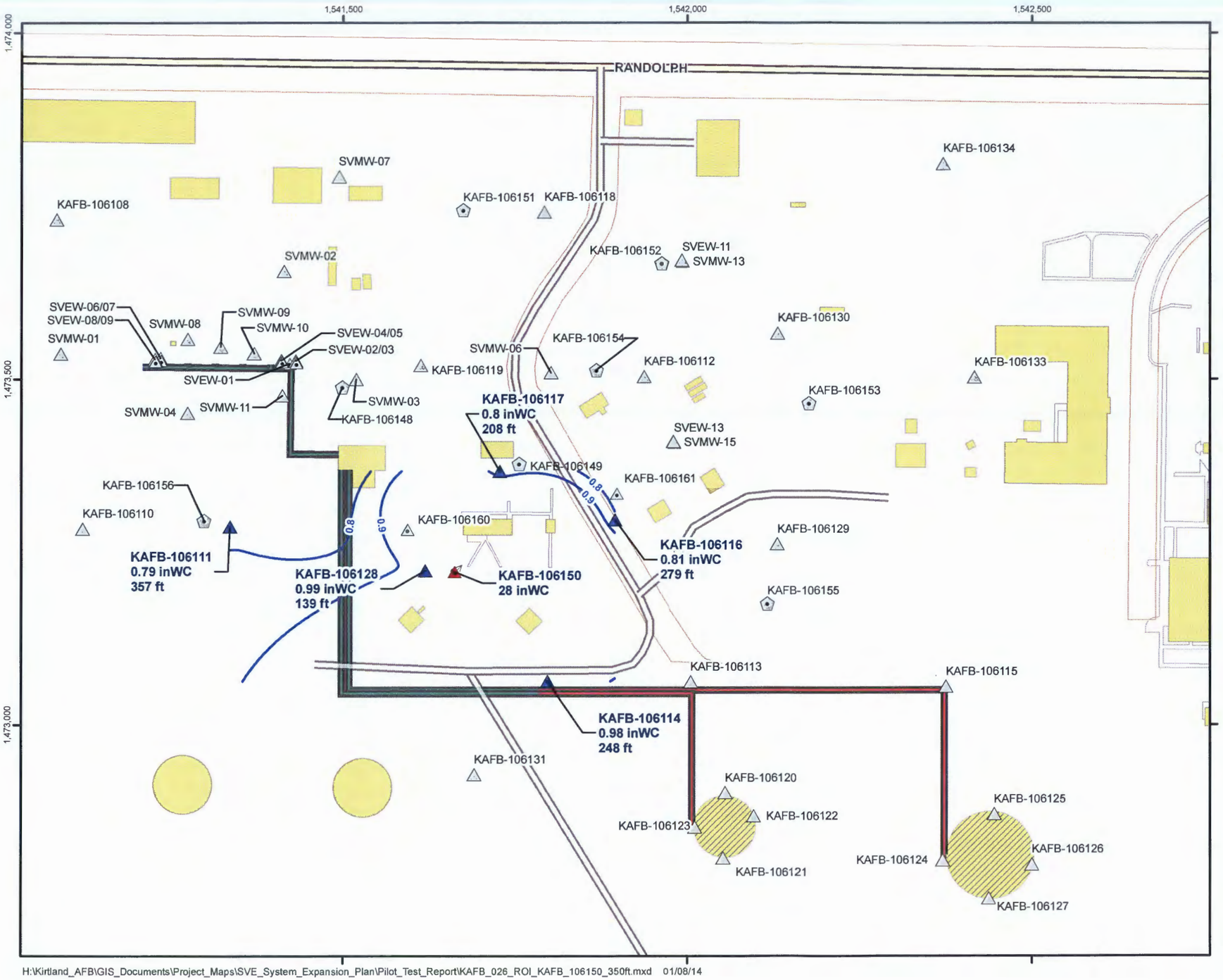

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 160 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

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Revision Date: 01/08/14

N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-44

ROI OF KAFB-106150
IN 350 FT BGS
MONITORING WELLS

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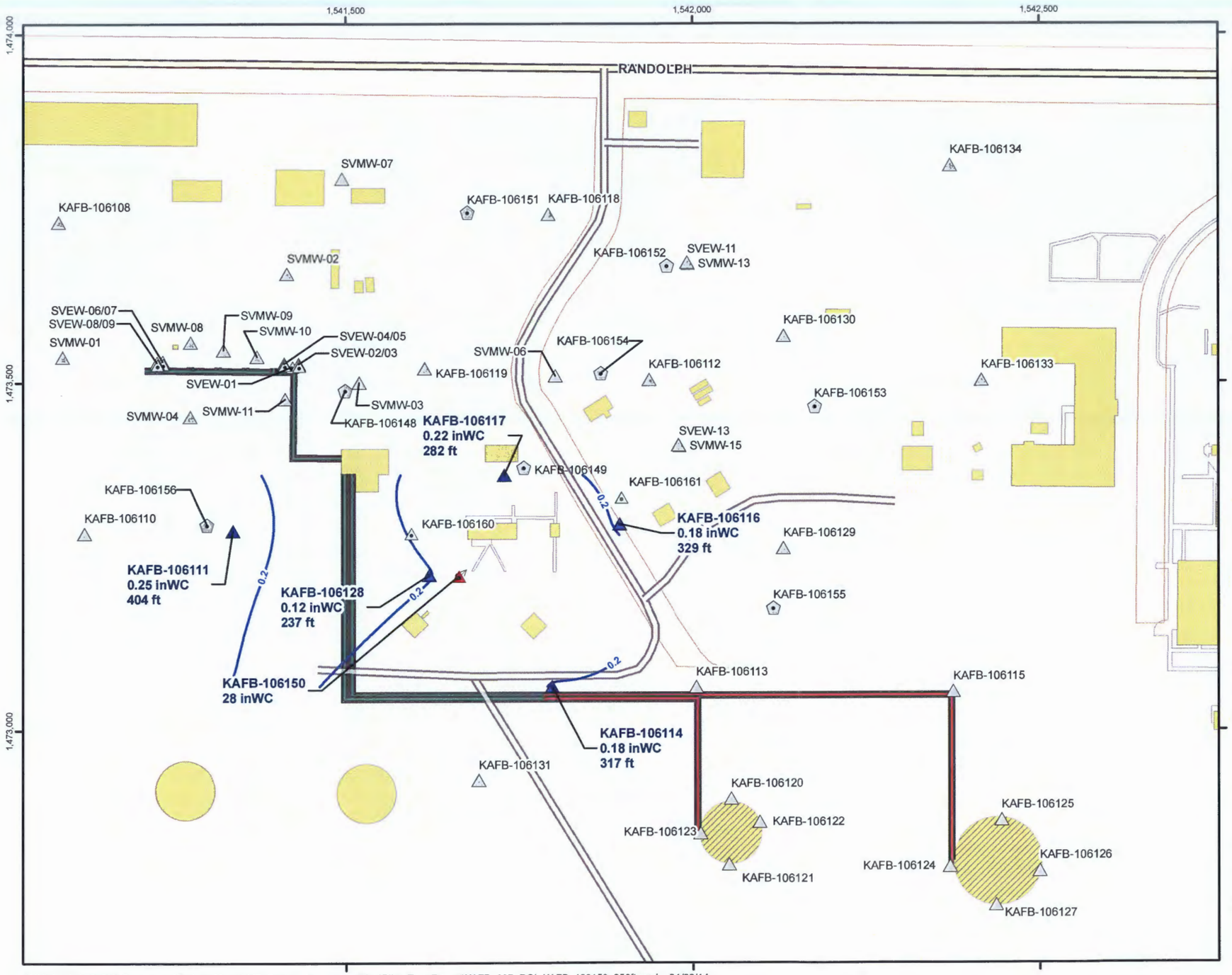

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 160 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

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Revision Date: 01/08/14

N

0 75 150 300

Feet

1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-45

ROI OF KAFB-106150
IN 250 FT BGS
MONITORING WELLS

H:\Kirtland_AFB\GIS_Documents\Project_Maps\SVE_System_Expansion_Plan\Pilot_Test_Report\KAFB_027_ROI_KAFB_106150_250ft.mxd 01/08/14

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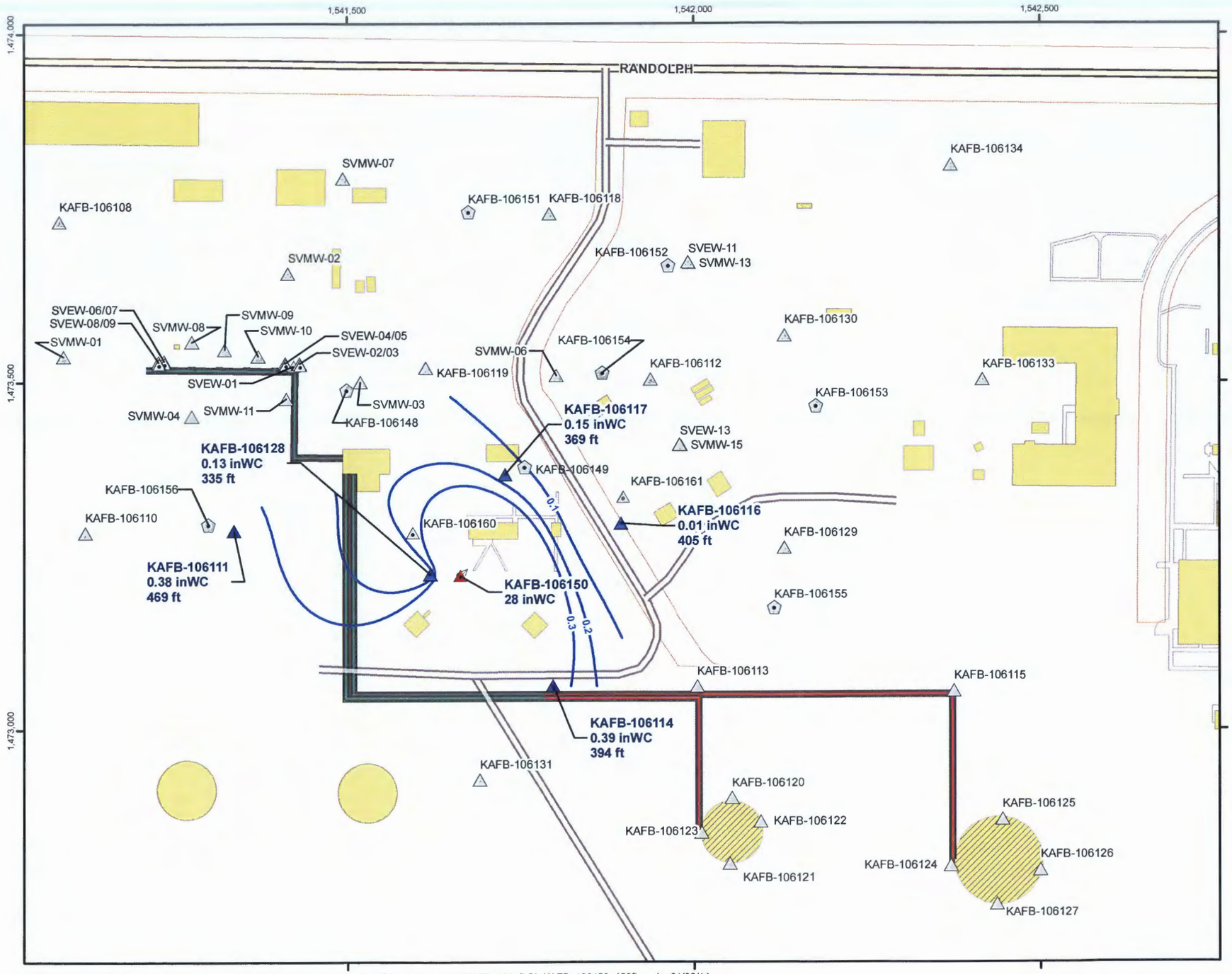

Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 300 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.

Service Layer Credits: © Harris Corp, Earthstar Geographics LLC © AND

Revision Date: 01/08/14

N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-46

ROI OF KAFB-106150
IN 150 FT BGS
MONITORING WELLS

H:\Kirtland_AFB\GIS_Documents\Project_Maps\SVE_System_Expansion_Plan\Pilot_Test_Report\KAFB_028_ROI_KAFB_106150_150ft.mxd 01/08/14

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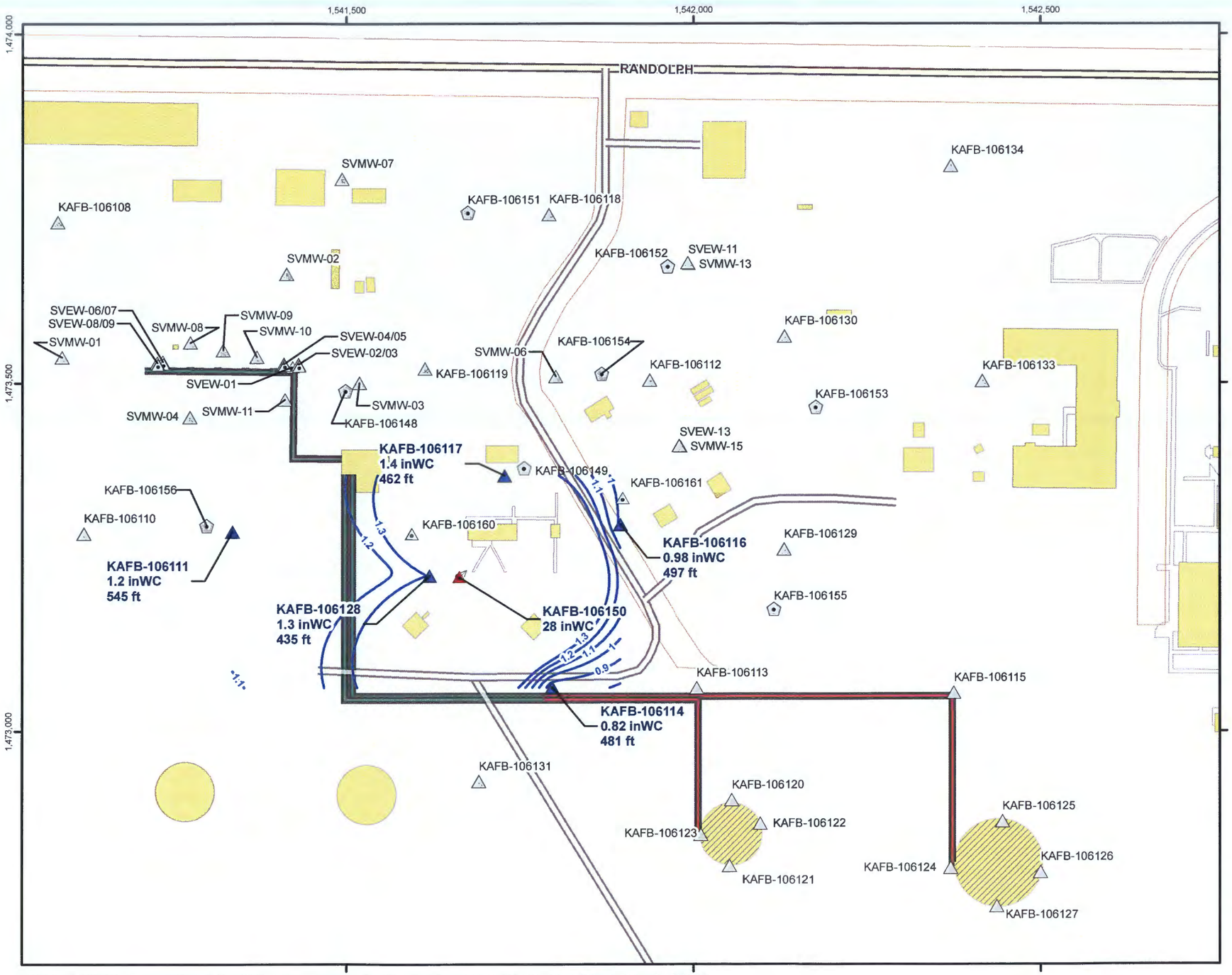
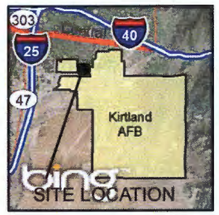


Legend

- SVE Extraction Well Currently in Use
- SVM Monitoring Cluster (with corrected observed vacuum value and minimum distance to SVE well)
- SVE Extraction Well
- SVM Cluster
- Pneulog Cluster
- Corrected Observed Vacuum (inWC)
- Major Road
- Road
- Aboveground Fuel Transfer Lines
- Underground Fuel Transfer Lines
- Previously Existing Structure
- Existing Structure
- Installation Boundary

Note: Corrected observed vacuum values were gridded using radial basis functions with a range of 160 ft,

The measurement for minimum distance to an extraction well includes the vertical and horizontal components.



Service Layer Credits: © Harris Corp, Earthstar Geographics LLC © AND

Revision Date: 01/08/14

N

0 75 150 300

Feet
1 inch = 150 feet

Projection : NAD83 State Plane New Mexico Central FIPS3002 Feet

SOIL VAPOR EXTRACTION SYSTEM
PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE 4-47

ROI OF KAFB-106150
IN 50 FT BGS
MONITORING WELLS

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TABLES

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Table 2-1
SVE Pilot Tested Wells and Dates

Test Purpose	Test Type	Well Type	Well Number	Quick-Test Date (Step-Flow Test and Quick Test)	Long-Duration Test Date
Wells Tested for Optimization of Current Zone of Influence	Long Duration Test Only	SVEW	KAFB-106160	NA	10/4/2013
		SVEW	KAFB-106161	NA	10/3/2013
		Pneulog®	KAFB-106150	NA	11/7/2013
	Quick Test and Long Duration Test	Pneulog®	KAFB-106149	10/15/13 and 10/16/13	10/16/2013
		Pneulog®	KAFB-106154	10/17/2013	10/18/2013
Wells Tested to Expand Zone of Influence	Quick Test Only	SVM	KAFB-106130	10/30/2013	NA
		Pneulog®	KAFB-106152	10/29/13 and 11/18/13	NA
		Pneulog®	KAFB-106156	10/30/2013	NA
		SVEW	SVEW-11	10/29/13 and 11/18/13	NA
		Pneulog®	KAFB-106153	10/31/2013	NA
		SVM	KAFB-106129	10/31/2013	NA
		SVM	KAFB-106113	10/31/2013	NA
		SVM	KAFB-106119	11/2/2013	NA
		SVM	KAFB-106131	11/2/2013	NA
		SVM	KAFB-10628	11/8/2013	NA
		SVM	KAFB-106142	11/8/2013	NA
	Long Duration Test Only	Pneulog®	KAFB-106148	NA	11/1/2013
	Quick Test and Long Duration test	Pneulog®	KAFB-106155	10/31/2013	11/4/2013

KAFB - Kirtland Air Force Base

NA - Not applicable

SVEW - Soil vapor extraction well

SVM - Soil vapor monitoring

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Table 3-1
Observation Wells for Quick-Test Pilot Testing

Pilot Test Well	Observation Wells	Distances from Screened Intervals at Observation Well to Test Well (ft)					
		15-25 (ft bgs)	40-50 (ft bgs)	140-150 (ft bgs)	240-250 (ft bgs)	340-350 (ft bgs)	440-450 (ft bgs)
KAFB-106113	KAFB-106120	457	434	344	262	197	169
	KAFB-106119	737	723	672	634	610	602
KAFB-106119	KAFB-106117	466	443	356	277	216	191
	KAFB-106121	941	930	893	863	845	839
KAFB-106129	KAFB-106116	492	466	384	312	259	239
	KAFB-106127	734	719	669	630	606	598
KAFB-106130	KAFB-106112	471	449	363	286	228	204
	KAFB-106121	876	864	825	792	773	766
KAFB-106131	KAFB-106114	458	435	346	267	199	172
	KAFB-106112	757	743	694	657	634	626
KAFB-106142	KAFB-106141	584	559	488	447	412	400
	KAFB-106136	816	804	759	725	704	697
KAFB-106149	KAFB-106117	460	435	335	236	137	45
	KAFB-106121	792	778	729	686	659	647
KAFB-106152	KAFB-106130	509	486	388	313	244	201
	KAFB-106121	986	975	935	901	879	869
KAFB-106153	KAFB-106130	472	448	342	259	174	116
	KAFB-106121	814	801	753	712	686	674
KAFB-106154	KAFB-106112	464	440	341	244	152	79
	KAFB-106121	865	852	808	769	745	734
KAFB-106155	KAFB-106116	529	502	419	345	286	255
	KAFB-106127	705	689	631	584	551	536
KAFB-106156	KAFB-106111	317	293	193	97	40	121
	KAFB-106121	953	945	920	904	899	905
KAFB-10628	KAFB-106137	493	472	472	391	270	251
	KAFB-106142	756	745	688	660	637	629
SVEW-11	KAFB-106130	459	436	338	265	201	174
	KAFB-106121	966	956	920	891	874	868

bgs below ground surface
ft feet
KAFB Kirtland Air Force Base
SVEW Soil vapor extraction well

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Table 3-2
Observation Wells for Long Duration Pilot Testing

Long Duration Pilot Test Well	Observation Wells	Distance of Screened Intervals at Observation Well from Testing Well (ft)				
		40-50 (ft bgs)	140-150 (ft bgs)	240-250 (ft bgs)	340-350 (ft bgs)	440-450 (ft bgs)
KAFB-106160	KAFB-106128	346	248	154	76	88
	KAFB-106117	375	288	211	163	169
	KAFB-106119	416	339	277	242	246
	KAFB-106116	454	385	332	304	407
	KAFB-106114	453	384	332	302	305
	KAFB-106121	743	705	675	662	663
KAFB-106161	KAFB-106116	342	243	145	54	70
	KAFB-106117	381	295	221	176	182
	KAFB-106112	382	297	224	180	185
	KAFB-106129	419	343	282	249	252
	KAFB-106114	446	375	323	291	294
	KAFB-106121	646	602	567	551	552
KAFB-106148	KAFB-106119	NA	230	153	119	160
	KAFB-106111	NA	327	278	261	281
	KAFB-106117	NA	328	278	260	283
	KAFB-106128	NA	353	309	293	311
	KAFB-106118	NA	429	395	386	401
	KAFB-106113	NA	692	670	663	673
KAFB-106149	KAFB-106117	300	201	103	30	NA
	KAFB-106116	338	352	188	162	NA
	KAFB-106128	363	286	229	207	NA
	KAFB-106119	NA	281	222	200	NA
	KAFB-106112	NA	295	240	220	NA
	KAFB-106121	NA	67	552	645	NA
KAFB-106150	KAFB-106128	435	335	237	139	53
	KAFB-106117	462	369	282	208	161
	KAFB-106114	481	394	317	248	212
	KAFB-106116	497	405	329	279	246
	KAFB-106111	545	469	404	357	332
	KAFB-106109	994	955	924	905	895
KAFB-106154	KAFB-106112	312	215	125	70	NA
	KAFB-106117	366	289	229	204	NA
	KAFB-106116	375	297	243	220	NA
	KAFB-106130	NA	337	288	268	NA
	KAFB-106119	NA	325	274	254	NA
	KAFB-106121	793	762	740	733	NA
KAFB-106155	KAFB-106120	516	436	366	313	286
	KAFB-106115	519	435	369	316	288
	KAFB-106113	462	370	282	208	163
	KAFB-106129	442	344	248	160	89
	KAFB-106116	500	413	342	284	253
	KAFB-106118	781	726	686	664	651

bgs below ground surface
ft feet
KAFB Kirtland Air Force Base
NA Not applicable

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Table 4-1
Step Flow Test Data

Pneulog® Well KAFB-106148: Test performed on 11/01/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
484	9:27	36	1.5	249.4	47.8	44	1010	2.92	0	16.36	NR	NR
484	NR	22	0.9	188.9	47.7	44.5	1481	3.42	0	15.48	NR	NR
484	NR	10	0.32	110.5	47.1	44.8	1853	3.76	0	14.87	NR	NR
349	9:35	NR	NR	0.0	47.1	51.7	9410	15.96	0	0.51	NR	NR
349	NR	22	1.38	233.9	47.7	48.7	>10000	NR	NR	NR	NR	NR
349	NR	30	1.88	276.1	46.4	79.5	>10000	15.14	0	1.19	0	>40
199	9:45	22	1.95	279.0	50.2	52.3	7060	16.2	0	0.44	0	34
199	NR	10	0.67	160.4	49.5	45.8	7280	16.3	0	0.37	NR	NR

Pneulog® Well KAFB-106149: Test performed on 10/16/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
349	8:28	3.5	0.2	87.1	52.9	50.5	220	2.6	0	17.71	0	1
349	8:41	3.5	0.18	83.0	52.2	51.1	225	2.62	0	17.87	0	1
349	8:48	9.4	0.6	152.3	52.9	53.8	225	2.64	0	17.91	0	1
349	8:56	9.4	0.62	154.9	53.6	51.7	221	2.52	0	17.55	0	1
349	9:08	35	2.6	330.6	53.9	70.4	210	2.52	0	17.83	0	1
349	9:17	35	2.5	324.2	54	58.1	220	2.52	0	17.97	0	1
349	9:27	35	2.5	324.2	54.7	52.9	224	2.54	0	18.06	0	1
484	15:20	2	0.17	82.0	74.8	21.3	848	1.38	0	18.70	0	0
484	15:33	2	0.16	79.5	73.6	23.1	976	1.5	0	19.50	0	0
484	15:42	8	0.66	162.9	73.6	20.7	1125	1.64	0.01	19.47	0	4
484	15:55	8	0.28	106.1	72.9	21.7	1228	1.6	0	17.50	0	5
484	16:06	35	1.5	255.5	69.3	24.7	1415	1.66	0	17.75	0	9
484	16:22	35	1.6	263.6	66.7	29.4	1548	1.68	0	17.41	0	5
484	16:32	36	1.6	263.8	65.8	26.8	1660	1.68	0	17.20	0	5
199	16:59	2	0.28	104.7	65.8	53.4	22	2.44	0	18.66	0	0
199	17:07	2.2	0.26	100.6	64.8	33.4	22	2.5	0	18.68	0	0
199	17:21	8	1	199.2	64.8	42	16	2.6	0	18.66	0	0
199	17:28	8.2	1	199.2	63.7	49.3	16	2.62	0	18.65	0	0
199	17:39	22	3.2	364.0	63	60.6	13	2.62	0	18.61	0	0
199	17:48	24	3.2	365.1	62.2	65.3	14	2.62	0	18.71	0	0
199	17:59	22	3.2	363.7	62.2	58.6	13	2.62	0	18.74	0	0

Table 4-1
Step Flow Test Data

Pneulog® Well KAFB-106150: Test performed on 11/07/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
484	8:30	38	1.49	248.1	47.8	39	>10000	2.04	0	17.89	NR	NR
484	NR	24	0.62	156.5	48	38.3	>10000	2	0	17.80	NR	NR
484	NR	12	0.17	80.5	48.4	38.3	>10000	2.02	0	17.80	NR	NR
349	8:38	34	1.71	264.2	48.5	43.4	351	2.68	0	18.55	NR	NR
349	NR	22	0.95	194.3	49.1	39.2	370	2.72	0	18.73	NR	NR
349	NR	10	0.11	64.6	49.1	38.2	397	2.76	0	18.75	NR	NR
200	8:46	22	2.66	323.8	49.1	52.9	0	2.18	0	19.64	NR	NR
200	NR	11	1.04	198.9	49.3	43.8	1	2.28	0	19.91	NR	NR

Pneulog® Well KAFB-106152: Test performed on 11/18/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
450	10:18	39	1.5	251.0	50.7	43.9	15	1.02	0	18.78	NR	NR
450	10:27	26	0.84	183.9	50.9	42.1	23	1.1	0	18.52	NR	NR
450	10:32	13	0.3	107.9	51.4	45	33	1.14	0	18.85	NR	NR
350	10:40	30	1.63	258.1	51.6	42.2	7	0.84	0	18.52	NR	NR
350	10:43	20	0.94	193.0	51.3	45	7	0.84	0	18.94	NR	NR
350	10:48	10	0.25	98.0	51.8	44.6	6	0.84	0	19.22	NR	NR
194	10:51	18	1.75	262.8	53.4	52.3	1	0.76	0	20.12	NR	NR
194	10:55	10	0.51	140.1	52.3	47.6	2	0.76	0	19.39	NR	NR

Pneulog® Well KAFB-106153: Test performed on 10/31/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
484	8:41	12	0.44	130.6	50.9	39.2	76	0.82	0	20	NR	NR
484	8:43	24	0.87	187.5	51.8	38.5	142	0.98	0	19.38	NR	NR
484	8:44	36.5	1.45	246.6	50.9	38.1	245	1.14	0	18.13	NR	NR
350	9:10	12	0.74	169.9	53.1	46.7	4	NR	NR	NR	NR	NR
350	NR	26	1.55	251.2	53.1	43.5	3	NR	NR	NR	NR	NR
200	9:15	18	1.39	234.8	NR	NR	2	0.32	0	19.74	NR	NR

Table 4-1
Step Flow Test Data

Pneulog® Well KAFB-106154: Test performed on 10/17/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
484	15:10	5.4	0.2	89.3	73.9	13.6	460	0.98	0	18.2	0	4
484	15:20	5.55	0.19	87.1	74.7	13.6	466	1.14	0	17.45	0	5
484	15:30	30	1.23	229.0	68.4	23.2	396	1.16	0	17.39	0	4
484	15:40	30	1.19	225.9	71.1	18.8	398	1.22	0	17.56	0	5
484	15:50	90.85	4.4	485.1	69.1	25.8	339	1.16	0	17.84	0	1
484	16:00	94.92	4.39	488.6	68.9	26.8	350	1.2	0	17.56	0	1
350	14:04	4.42	0.2	89.0	72.5	15.1	47	1.08	0	19.3	0	0
350	14:14	4.55	0.19	86.8	72.5	14.6	51	1.18	0	19.22	0	0
350	14:24	28	2	291.9	70.9	27.5	54	1.32	0	18.79	0	0
350	14:34	28	1.99	290.9	70	30	60	1.38	0	18.41	0	0
350	14:44	88.14	7.34	621.7	67.5	33.8	63	1.28	0	18.33	0	0
350	14:54	89.5	7.29	621.8	67.6	36.2	64	1.36	0	17.59	0	0
197	12:55	6.55	0.58	152.2	74.1	23.6	3	1.48	0	20.04	0	0
197	13:05	6.38	0.49	140.6	77	26.5	2	1.52	0	19.36	0	0
197	13:15	21	2.51	323.4	70.7	43.3	5	1.58	0	19.52	0	0
197	13:25	22	2.79	341.7	71.1	40.3	1	1.58	0	19.24	0	0
197	13:35	54	8.19	616.4	69.1	31.3	3	1.52	0	19.95	0	0
197	13:45	55	8.16	615.9	67.6	38.5	3	1.58	0	20.45	0	0

Pneulog® Well KAFB-106155: Test performed on 10/31/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
200	12:16	18	1.69	234.4	61.9	30	7	0.28	0	19.38	NR	NR
350	12:22	14	0.6	155.0	64	22.9	68	0.58	0	18.35	NR	NR
350	12:25	28	1.6	258.1	61	26.2	67	0.58	0	18.42	NR	NR
484	12:28	12	0.37	121.1	61.2	25.5	1473	0.9	0	17.95	NR	NR
484	12:30	24	0.74	174.5	61.5	24.2	1293	0.88	0	17.99	NR	NR
484	12:31	36	1.32	237.6	60.8	23.6	1239	0.86	0	18.02	0	11

Table 4-1
Step Flow Test Data

Pneulog® Well KAFB-106156: Test performed on 10/30/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
484	1346	10	0.33	114.3	57.7	45.7	68	1.48	0	16.26	NR	NR
484	1348	21	0.91	193.0	58.1	44.4	86	1.42	0	16.7	NR	NR
484	1350	32	1.45	248.1	58.1	42.5	68	1.04	0	17.01	NR	NR
341	1354	10	0.57	150.2	58.5	45.1	945	2.16	0	17.67	NR	NR
341	1356	22	1.72	266.0	58.5	44.6	937	2.14	0	17.57	NR	NR
178	1400	13	1.6	253.3	60.1	56.3	265	3.98	0	16.33	NR	NR

SVE Well SVEW-11: Test performed on 11/18/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
450+	9:36	60	0.04	42.3	46.6	42.8	11	0.8	0	18.96	NR	NR
350+	9:54	40	0.06	50.2	47.1	46.4	7	0.84	0	19.28	NR	NR
250+	9:58	20	0.04	39.6	46.6	49.2	6	0.88	0	19.38	NR	NR

SVM Well KAFB-10628: Test performed on 11/8/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
250, 450, 350	11:03	60	0.1	67.7	57.4	26.3	248	0.32	0	19.97	NR	NR
250, 450, 350	NR	40	0.12	72.3	65.1	25.3	341	0.42	0	19.97	NR	NR
250, 450, 350	NR	20	0.13	72.9	65.8	26.3	348	0.38	0	19.88	NR	NR

SVM Well KAFB-106113: Test performed on 10/31/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
450	16:11	16	0.22	94.2	62.8	23.6	2590	0.76	0	18.39	NR	NR
450	16:12	32	0.63	163.6	63	22	2580	0.76	0	18.36	NR	NR
450	16:14	49	1.2	232.3	62.2	21.2	2570	0.74	0	18.38	0	20

Table 4-1
Step Flow Test Data

SVM Well KAFB-106119: Test performed on 11/2/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
450	8:36	14	0	0.0	44.1	45.1	NR	NR	NR	NR	NR	NR
450	8:39	24	0.22	91.7	44.1	45.1	NR	NR	NR	NR	NR	NR
450	8:41	36	0.5	143.1	44.1	45.1	NR	NR	NR	NR	NR	NR

SVM Well KAFB-106129: Test performed on 10/31/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
450	14:13	15	0.2	89.8	64.4	21	2590	1.56	0	15.68	NR	NR
450	14:14	30	0.69	170.9	64.8	20.4	2660	1.56	0	15.86	NR	NR
450	14:22	45	1.25	235.5	63	20.8	2710	1.56	0	15.90	0	25

SVM Well KAFB-106130: Test performed on 10/30/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
450	9:45	12.3	0.39	124.1	55.8	48.4	146	0.56	0	18.92	0	0
450	9:51	26.5	0.78	179.5	56.3	45.3	137	0.52	0	19.11	0	0
450	9:57	43	1.58	261.9	53.8	46.1	191	0.7	0	18.62	0	1

SVM Well KAFB-106131: Test performed on 11/2/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
450	10:31	16	0.22	93.1	57.2	NR	NR	NR	NR	NR	NR	NR
450	10:34	36	0.88	192.2	57.2	NR	NR	NR	NR	NR	NR	NR
450	10:39	50	1.5	256.9	57.2	NR	NR	NR	NR	NR	NR	NR

Table 4-1
Step Flow Test Data

SVM Well KAFB-106142: Test performed on 11/8/2013

Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
450	15:17	45	1.32	242.5	68	16.4	0	0.04	0	20.33	NR	NR
450	NR	30	0.61	160.3	65.1	21.9	0	0.06	0	20.44	NR	NR
450	NR	15	0.2	89.5	64.2	21.8	0	0.06	0	20.39	NR	NR

% - percent
> - greater than
deg F - degrees Fahrenheit
ft bgs - feet below ground surface
ID - identification
inWC - inches water column
KAFB - Kirtland Air Force Base
LEL - lower explosive limit
NR - not recorded
P-log - Pneulog
ppm - parts per million
SCFM - standard cubic feet per minute
SVE - soil vapor extraction
SVM - soil vapor monitoring
THC - total hydrocarbons

Table 4-2
Flow versus Vacuum Correlation Equations

Well ID	Well Type	Screened Interval (ft bgs)	Linear Equation for Flow Rate versus Well Vacuum	
			Slope	Intercept
KAFB-106148	Pneulog®	484	5.32	62
		349	5.28	117
		199	9.88	62
KAFB-106149	Pneulog®	349	7.53	64
		484	5.14	81
		199	12.34	87
KAFB-106150	Pneulog®	484	6.45	3
		349	8.32	-9
		200	11.35	74
KAFB-106152	Pneulog®	450	5.51	38
		350	8.01	23
		194	15.34	-13
KAFB-106153	Pneulog®	484	4.74	74
		350	5.80	100
		200		
KAFB-106154	Pneulog®	484	4.47	74
		350	6.15	85
		197	9.59	102
KAFB-106155	Pneulog®	200		
		350	7.36	52
		484	4.85	61
KAFB-106156	Pneulog®	484	6.08	57
		341	9.64	54
		178		
SVEW-11	SVEW	250+	not linear	
KAFB-10628	SVM	250, 450, 350	not linear	
KAFB-106113	SVM	450	4.18	28
KAFB-106119	SVM	450	6.43	-80
KAFB-106129	SVM	450	4.86	20
KAFB-106130	SVM	450	4.50	57
KAFB-106131	SVM	450	4.83	17
KAFB-106142	SVM	450	5.10	11

ft bgs - feet below ground surface
ID - identification
KAFB - Kirtland Air Force Base
SVEW - soil vapor extraction well
SVM - soil vapor monitoring

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Table 4-3
Average Run Data for SVE Pilot Tests

Well ID	Well Type	Test Date	Screened Interval (ft bgs)	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (SCFM)	Temperature (deg F)	Relative Humidity (%)	THC (ppm)	CO2(%)	CO(%)	O2(%)	H2S(%)	LEL(%)
Quick Tests - 1 hour duration														
KAFB-106149	Pneulog®	10/16/2013	349	18.7	1.3	208.0	53.5	55.5	221	2.6	0	17.8	0	1.0
KAFB-106149	Pneulog®	10/15/2013	484	18.0	0.9	173.3	71.0	24.0	1257	1.6	0	18.2	0	4.0
KAFB-106149	Pneulog®	10/15/2013	199	12.6	1.7	242.4	63.8	51.8	17	2.6	0	18.7	0	0.0
KAFB-106152	Pneulog®	10/29/2013	494	50.7	1.4	244.9	72.1	19.3	525	1.7	0	17.2	0	4.1
KAFB-106152	Pneulog®	10/29/2013	194	16.9	1.84	275.7	74.7	28.7	2	0.8	0	19.5	0	0.0
KAFB-106152	Pneulog®	10/29/2013	350	25.7	1.88	282.3	69.8	20.9	24	0.9	0	18.3	0	0.0
KAFB-106153	Pneulog®	10/31/2013	484	35.9	1.5	249.5	57.3	32.8	272	1.3	0	18.0	0	2.0
KAFB-106154	Pneulog®	10/17/2013	484	42.8	1.9	267.5	71.0	20.3	402	1.1	0	17.7	0	3.3
KAFB-106154	Pneulog®	10/17/2013	350	40.4	3	333.7	70.2	26.2	57	1.3	0	18.6	0	0.0
KAFB-106154	Pneulog®	10/17/2013	197	27.5	3.79	365.1	71.6	33.9	3	1.5	0	19.8	0	0.0
KAFB-106155	Pneulog®	10/31/2013	484	36.9	1.4	245.4	60.3	24.1	1154	0.8	0	18.1	0	11.4
KAFB-106156	Pneulog®	10/30/2013	341	22.0	1.6	256.2	62.1	36.2	931	2.1	0	17.3	0	6.4
SVEW-11	SVEW	10/29/2013	NR	59.8	0.3	108.5	68.9	17.0	70	0.8	0	18.4	0	0.0
KAFB-106113	SVM	10/31/2013	450	49.7	1	221.2	59.8	21.9	2452	0.7	0	18.4	0	21.0
KAFB-106119	SVM	11/2/2013	450	36.1	0.4	134.7	48.9	38.6	27	1.6	No Data	18.2	No Data	No Data
KAFB-106131	SVM	11/2/2013	450	49.9	1.49	257.5	61.8	26.3	407	0.5	No Data	18.3	No Data	No Data
KAFB-106129	SVM	10/31/2013	450	45.7	1.1	224.7	62.2	21.1	2947	1.6	0	15.6	0	26.0
KAFB-106130	SVM	10/30/2013	450	40.9	1.5	249.3	56.4	40.3	208	0.7	0	18.4	0	0.9
KAFB-106142	SVM	11/8/2013	450	45.7	1.19	229.3	62.6	25.1	5	0.1	0	20.2	0	0.0
KAFB-10628	SVM	11/8/2013	NR	59.4	0.22	101.6	66.7	25.1	239	0.4	0	20.1	0	0.0
Long Term Tests - 8 hours minimum duration														
KAFB-106148	Pneulog®	11/1/2013	349	27.5	1.8	272.5	59.4	35.6	9693	11.8	0.0	4.7	0	51.4
KAFB-106149	Pneulog®	10/16/2013	349	73.1	6.7	517.4	63.0	40.3	411	2.4	0.0	17.4	0	3.5
KAFB-106150	Pneulog®	11/7/2013	484	30.9	1.1	213.5	57.0	29.5	10000	2.4	0.0	16.9	0	82.1
KAFB-106154	Pneulog®	10/18/2013	350	62.6	4.9	437.0	64.4	41.1	99	1.4	0.0	18.0	0	0.0
KAFB-106155	Pneulog®	11/4/2013	484	36.2	1.75	275.1	59.3	40.5	1156	0.8	0.0	18.2	0	12.4
KAFB-106160	SVEW	10/4/2013	NR	22.3	0.5	473.8	63.9	19.5	7242	2.3	0.0	16.4	0	56.4
KAFB-106161	SVEW	10/3/2013	NR	24.7	0.8	743.5	77.2	20.5	7669	2.3	0.0	16.5	0	56.3

% - percent
deg F - degrees Fahrenheit
ft - feet
ID - identification
inWC - inches water column
KAFB - Kirtland Air Force Base
LEL - lower explosive limit
ppm - parts per million
SCFM - standard cubic feet per minute
SVE - soil vapor extraction
SVEW - soil vapor extraction well
SVM - soil vapor monitoring well
THC - total hydrocarbons

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Table 4-4
Well KAFB-106161: Cumulative Mass of Hydrocarbons Removed Calculations During Long-Duration Test on 10/3/2013

Assumptions:

20000 Btu/lbs
6.2 lbs/gallon of gasoline
86.18 Mole Weight of Extracted VOC
2520 Btu/Cubic Foot of Propane
1000 Btu/Cubic Foot of Natural Gas

Parts/Million by Volume (ppmv) Conversion to Micrograms/Liter (µg/L)
(ppmv/24.055)*AVG. Mole Weight=µg/L

Mass Transfer Equation to Convert to Pounds/Hour:
(µg/L)*(Flow SCFM)*28.3 L/SCF*60 Minutes/Hour*2.2 lbs/Kg*(1/10^9)

Date and Time	Elapsed time (hours)	Flow (SCFM)	TPH (ppmv)	Concentration (µg/L)	Removed (lbs/hour)	Removed (lbs/period)	Cumulative Removed (lbs)
10/3/2013 8:05	0.000	747	7610	27,264	76.05	0.00	0
10/3/2013 9:10	1.083	736	7640	27,371	75.27	81.54	81.54
10/3/2013 9:40	0.500	733	7650	27,407	75.09	37.55	119.09
10/3/2013 10:10	0.500	753	7650	27,407	77.09	38.54	157.63
10/3/2013 10:40	0.500	735	7670	27,479	75.50	37.75	195.38
10/3/2013 11:10	0.500	734	7660	27,443	75.25	37.63	233.01
10/3/2013 11:40	0.500	753	7660	27,443	77.17	38.59	271.60
10/3/2013 12:10	0.500	748	7660	27,443	76.69	38.34	309.94
10/3/2013 12:40	0.500	740	7670	27,479	75.98	37.99	347.93
10/3/2013 13:10	0.500	745	7680	27,515	76.60	38.30	386.23
10/3/2013 13:40	0.500	755	7680	27,515	77.61	38.81	425.04
10/3/2013 14:10	0.500	751	7690	27,550	77.30	38.65	463.69
10/3/2013 14:40	0.500	735	7690	27,550	75.62	37.81	501.50
10/3/2013 15:10	0.500	744	7690	27,550	76.54	38.27	539.77
10/3/2013 15:40	0.500	748	7700	27,586	77.10	38.55	578.32
10/3/2013 16:10	0.500	738	7710	27,622	76.16	38.08	616.40

µg/L - micrograms per liter
Btu - British thermal units
kg - kilogram
L/SCF - liters per standard cubic feet
lbs - pounds
ppmv - parts per million by volume
SCFM - standard cubic feet per minute
TPH - total petroleum hydrocarbons
VOC - volatile organic compound

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Table 4-5
Well KAFB-106160: Cumulative Mass of Hydrocarbons Removed Calculations During Long-Duration Test on 10/4/2013

Assumptions:

20000 Btu/lbs
6.2 lbs/gallon of gasoline
86.18 Mole Weight of Extracted VOC
2520 Btu/Cubic Foot of Propane
1000 Btu/Cubic Foot of Natural Gas

Parts/Million by Volume (ppmv) Conversion to Micrograms/Liter (µg/L)
(ppmv/24.055)*AVG. Mole Weight=µg/L

Mass Transfer Equation to Convert to Pounds/Hour:
(µg/L)*(Flow SCFM)*28.3 L/SCF*60 Minutes/Hour*2.2 lbs/Kg*(1/10^9)

Date and Time	Elapsed time (hours)	Flow (SCFM)	TPH (ppmv)	Concentration (µg/L)	Removed Lbs/Hour	Removed Lbs/period	Cumulative Removed Lbs
10/4/13 7:40 AM	0.000	572	7120	25,508	54.47	0.00	0
10/4/13 8:40 AM	1.000	590	7140	25,580	56.38	56.38	56.38
10/4/13 9:10 AM	0.500	580	7160	25,652	55.59	27.80	84.17
10/4/13 9:40 AM	0.500	590	7170	25,687	56.65	28.33	112.50
10/4/13 10:10 AM	0.500	593	7200	25,795	57.12	28.56	141.06
10/4/13 10:40 AM	0.500	593	7210	25,831	57.22	28.61	169.67
10/4/13 11:10 AM	0.500	577	7220	25,867	55.71	27.85	197.53
10/4/13 11:40 AM	0.500	573	7220	25,867	55.32	27.66	225.19
10/4/13 12:10 PM	0.500	581	7250	25,974	56.33	28.16	253.35
10/4/13 12:40 PM	0.500	573	7270	26,046	55.76	27.88	281.23
10/4/13 1:10 PM	0.500	590	7280	26,081	57.49	28.74	309.97
10/4/13 1:40 PM	0.500	573	7300	26,153	56.01	28.00	337.98
10/4/13 2:10 PM	0.500	596	7320	26,225	58.40	29.20	367.18

µg/L - micrograms per liter
Btu - British thermal units
kg - kilogram
L/SCF - liters per standard cubic feet
lbs - pounds
ppmv - parts per million by volume
SCFM - standard cubic feet per minute
TPH - total petroleum hydrocarbons
VOC - volatile organic compound

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Table 4-6
Well KAFB-106149: Cumulative Mass of Hydrocarbons Removed Calculations During Long-Duration Test on 10/16/2013

Assumptions:

20000 Btu/lbs
6.2 lbs/gallon of gasoline
86.18 Mole Weight of Extracted VOC
2520 Btu/Cubic Foot of Propane
1000 Btu/Cubic Foot of Natural Gas

Parts/Million by Volume (ppmv) Conversion to Micrograms/Liter (µg/L)
(ppmv/24.055)*AVG. Mole Weight=µg/L

Mass Transfer Equation to Convert to Pounds/Hour:
(µg/L)*(Flow SCFM)*28.3 L/SCF*60 Minutes/Hour*2.2 lbs/Kg*(1/10^9)

Date and Time	Elapsed time (hours)	Flow (SCFM)	TPH (ppmv)	Concentration (µg/L)	Removed Lbs/Hour	Removed Lbs/period	Cumulative Removed Lbs
10/16/13 11:15 AM	0.00	578	283	0.00	0.00	0.00	0.00
10/16/13 12:02 PM	0.78	509	362	1296.91	2.47	1.93	1.93
10/16/13 12:50 PM	0.80	511	339	1214.51	2.32	1.85	3.79
10/16/13 1:20 PM	0.50	506	355	1271.83	2.40	1.20	4.99
10/16/13 1:54 PM	0.57	505	371	1329.15	2.51	1.42	6.41
10/16/13 2:21 PM	0.45	515	395	1415.14	2.72	1.22	7.63
10/16/13 2:50 PM	0.48	517	393	1407.97	2.72	1.31	8.95
10/16/13 3:19 PM	0.48	513	424	1519.03	2.91	1.41	10.36
10/16/13 3:49 PM	0.50	509	420	1504.70	2.86	1.43	11.79
10/16/13 4:24 PM	0.58	519	427	1529.78	2.96	1.73	13.52
10/16/13 4:50 PM	0.43	511	454	1626.51	3.11	1.35	14.86
10/16/13 5:20 PM	0.50	522	480	1719.66	3.35	1.68	16.54
10/16/13 5:53 PM	0.55	514	491	1759.07	3.38	1.86	18.40
10/16/13 6:20 PM	0.45	515	470	1683.83	3.24	1.46	19.86
10/16/13 6:45 PM	0.42	516	495	1773.40	3.42	1.43	21.28

µg/L - micrograms per liter
Btu - British thermal units
kg - kilogram
L/SCF - liters per standard cubic feet
lbs - pounds
ppmv - parts per million by volume
SCFM - standard cubic feet per minute
TPH - total petroleum hydrocarbons
VOC - volatile organic compound

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Table 4-9
Well KAFB-106155: Cumulative Mass of Hydrocarbons Removed Calculations During Long-Duration Test on 11/4/2013

Assumptions:

20000 Btu/lbs
6.2 lbs/gallon of gasoline
86.18 Mole Weight of Extracted VOC
2520 Btu/Cubic Foot of Propane
1000 Btu/Cubic Foot of Natural Gas

Parts/Million by Volume (ppmv) Conversion to Micrograms/Liter (µg/L)
(ppmv/24.055)*AVG. Mole Weight=µg/L

Mass Transfer Equation to Convert to Pounds/Hour:
(µg/L)*(Flow SCFM)*28.3 L/SCF*60 Minutes/Hour*2.2 lbs/Kg*(1/10^9)

Date and Time	Elapsed time (hours)	Flow (SCFM)	TPH (ppmv)	Concentration (µg/L)	Removed Lbs/Hour	Removed Lbs/period	Cumulative Removed Lbs
11/4/13 7:42 AM	0.00	274	802	2873.26	2.95	0.00	0.00
11/4/13 8:12 AM	0.50	272	897	3213.61	3.27	1.63	1.63
11/4/13 8:42 AM	0.50	266	983	3521.72	3.50	1.75	3.39
11/4/13 9:12 AM	0.50	280	1051	3765.34	3.94	1.97	5.36
11/4/13 9:42 AM	0.50	279	1099	3937.30	4.10	2.05	7.40
11/4/13 10:12 AM	0.50	274	1137	4073.44	4.17	2.09	9.49
11/4/13 10:42 AM	0.50	276	1162	4163.01	4.29	2.14	11.63
11/4/13 11:12 AM	0.50	281	1188	4256.16	4.47	2.23	13.87
11/4/13 11:42 AM	0.50	264	1210	4334.97	4.28	2.14	16.01
11/4/13 12:12 PM	0.50	283	1223	4381.55	4.63	2.32	18.33
11/4/13 12:42 PM	0.50	271	1247	4467.53	4.52	2.26	20.59
11/4/13 1:12 PM	0.50	282	1255	4496.19	4.74	2.37	22.95
11/4/13 1:42 PM	0.50	272	1260	4514.11	4.59	2.30	25.25
11/4/13 2:12 PM	0.50	278	1277	4575.01	4.76	2.38	27.63
11/4/13 2:42 PM	0.50	271	1283	4596.51	4.65	2.32	29.95
11/4/13 3:12 PM	0.50	274	1290	4621.58	4.74	2.37	32.32
11/4/13 3:42 PM	0.50	277	1296	4643.08	4.81	2.41	34.73

µg/L - micrograms per liter
Btu - British thermal units
kg - kilogram
L/SCF - liters per standard cubic feet
lbs - pounds
ppmv - parts per million by volume
SCFM - standard cubic feet per minute
TPH - total petroleum hydrocarbons
VOC - volatile organic compound

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Table 4-10
Well KAFB-106150: Cumulative Mass of Hydrocarbons Removed Calculations During Long-Duration Test on 11/7/2013

Assumptions:

20000 Btu/lbs
6.2 lbs/gallon of gasoline
86.18 Mole Weight of Extracted VOC
2520 Btu/Cubic Foot of Propane
1000 Btu/Cubic Foot of Natural Gas

Parts/Million by Volume (ppmv) Conversion to Micrograms/Liter (µg/L)
(ppmv/24.055)*AVG. Mole Weight=µg/L

Mass Transfer Equation to Convert to Pounds/Hour:
(µg/L)*(Flow SCFM)*28.3 L/SCF*60 Minutes/Hour*2.2 lbs/Kg*(1/10^9)

Date and Time	Elapsed time (hours)	Flow (SCFM)	TPH (ppmv)	Concentration (µg/L)	Removed Lbs/Hour	Removed Lbs/period	Cumulative Removed Lbs
11/7/13 8:54	0.000	248	10000	35,826	33.17	0.00	0
11/7/13 9:24	0.500	246	10000	35,826	32.92	16.46	16.46
11/7/13 9:54	0.500	225	10000	35,826	30.09	15.04	31.50
11/7/13 10:24	0.500	248	10000	35,826	33.16	16.58	48.08
11/7/13 10:54	0.500	242	10000	35,826	32.42	16.21	64.30
11/7/13 11:24	0.500	218	10000	35,826	29.17	14.58	78.88
11/7/13 11:54	0.500	220	10000	35,826	29.44	14.72	93.60
11/7/13 12:24	0.500	195	10000	35,826	26.13	13.06	106.66
11/7/13 12:54	0.500	192	10000	35,826	25.66	12.83	119.49
11/7/13 13:24	0.500	201	10000	35,826	26.90	13.45	132.94
11/7/13 13:54	0.500	188	10000	35,826	25.12	12.56	145.50
11/7/13 14:24	0.500	205	10000	35,826	27.46	13.73	159.23
11/7/13 14:54	0.500	185	10000	35,826	24.78	12.39	171.62
11/7/13 15:24	0.500	201	10000	35,826	26.87	13.43	185.05
11/7/13 15:54	0.500	209	10000	35,826	27.98	13.99	199.04
11/7/13 16:24	0.500	204	10000	35,826	27.27	13.63	212.68
11/7/13 16:54	0.500	203	10000	35,826	27.20	13.60	226.28

µg/L - micrograms per liter
Btu - British thermal units
kg - kilogram
L/SCF - liters per standard cubic feet
lbs - pounds
ppmv - parts per million by volume
SCFM - standard cubic feet per minute
TPH - total petroleum hydrocarbons
VOC - volatile organic compound

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Table 4-11
Soil Vapor Analytical Results

	LOCATION CODE	KAFB-106148			KAFB-106148			KAFB-106149			KAFB-106149			KAFB-106150			KAFB-106150			KAFB-106154			KAFB-106154			KAFB-106154			KAFB-106155		
	SAMPLE NO	KAFB-106148-PT-001			KAFB-106148-PT-002			KAFB-106149-PT-001			KAFB-106149-PT-002			KAFB-106150-PT-001			KAFB-106150-PT-002			KAFB-106154-PT-001			KAFB-106154-PT-002			KAFB-106154-PT-003			KAFB-106155-PT-001		
	SAMPLE DATE	1-Nov-13			1-Nov-13			16-Oct-13			16-Oct-13			7-Nov-13			7-Nov-13			18-Oct-13			18-Oct-13			18-Oct-13			4-Nov-13		
	PURP	REG			REG			REG			REG			REG			REG			REG			REG			FD			REG		
	DEPTH	-			-			-			-			-			-			-			-			-			-		
Chemical Class & Analytical Method [a]	Parameter	Result	VAL QUAL	LOQ	Result	VAL QUAL	LOQ	Result	VAL QUAL	LOQ	Result	VAL QUAL	LOQ	Result	VAL QUAL	LOQ	Result	VAL QUAL	LOQ	Result	VAL QUAL	LOQ	Result	VAL QUAL	LOQ	Result	VAL QUAL	LOQ	Result	VAL QUAL	LOQ
EDB (ppbv) Method CARB422 Mod	1,2-DIBROMOETHANE	650		7.8	680		7.7	33		0.91	63		0.94	1200		8.1	1300		7.7	27		0.94	42		0.88	24		0.91	24		0.8
VOCs (ppbv) Method TO15	1,1,1-TRICHLOROETHANE	ND	U	720	ND	U	940	ND	U	55	ND	U	110	ND	U	1200	ND	U	1200	ND	U	86	ND	U	110	ND	U	110	ND	U	59
	1,1,2,2-TETRACHLOROETHANE	ND	U	570	ND	U	740	ND	U	44	ND	U	91	ND	U	980	ND	U	930	ND	U	68	ND	U	85	ND	U	88	ND	U	47
	1,1,2-TRICHLOROETHANE	ND	U	720	ND	U	940	ND	U	55	ND	U	110	ND	U	1200	ND	U	1200	ND	U	86	ND	U	110	ND	U	110	ND	U	59
	1,1-DICHLOROETHANE	ND	U	960	ND	U	1300	ND	U	75	ND	U	150	ND	U	1700	ND	U	1600	ND	U	120	ND	U	150	ND	U	150	ND	U	79
	1,1-DICHLOROETHENE	ND	U	980	ND	U	1300	ND	U	76	ND	U	160	ND	U	1700	ND	U	1600	ND	U	120	ND	U	150	ND	U	150	ND	U	81
	1,2,4-TRICHLOROBENZENE	ND	U	530	ND	U	690	ND	U	41	ND	U	84	ND	U	900	ND	U	860	ND	U	63	ND	U	79	ND	U	81	ND	U	43
	1,2,4-TRIMETHYLBENZENE	2400		790	2600		1000	49	J	61	79	J	130	630	J	1400	850	J	1300	ND	U	96	ND	U	120	ND	U	120	36	J	65
	1,2-DIBROMOETHANE	530		510	530	J	660	18	J	39	30	J	82	990		870	1200		830	ND	U	61	ND	U	76	ND	U	79	15	J	42
	1,2-DICHLOROBENZENE	ND	U	650	ND	U	850	ND	U	50	ND	U	100	ND	U	1100	ND	U	1100	ND	U	78	ND	U	98	ND	U	100	ND	U	53
	1,2-DICHLOROETHANE	ND	U	960	ND	U	1300	ND	U	75	ND	U	150	ND	U	1700	ND	U	1600	ND	U	120	ND	U	150	ND	U	150	ND	U	79
	1,2-DICHLOROPROPANE	ND	U	840	ND	U	1100	ND	U	65	ND	U	140	ND	U	1500	ND	U	1400	ND	U	100	ND	U	130	ND	U	130	ND	U	69
	1,3,5-TRIMETHYLBENZENE	1300		790	1500		1000	34	J	61	71	J	130	450	J	1400	590	J	1300	ND	U	96	ND	U	120	ND	U	120	25	J	65
	1,3-DICHLOROBENZENE	ND	U	650	ND	U	850	ND	U	50	ND	U	100	ND	U	1100	ND	U	1100	ND	U	78	ND	U	98	ND	U	100	ND	U	53
	1,4-DICHLOROBENZENE	ND	U	650	ND	U	850	ND	U	50	ND	U	100	ND	U	1100	ND	U	1100	ND	U	78	ND	U	98	ND	U	100	ND	U	53
	2-BUTANONE	10000	J	13000	12000	J	17000	44	J	1000	ND	U	2100	20000	J	23000	24000		22000	ND	U	1600	ND	U	2000	ND	U	2000	ND	U	1100
	2-HEXANONE	ND	U	950	ND	U	1200	ND	U	74	ND	U	150	ND	U	1600	ND	U	1600	ND	U	110	ND	U	140	ND	U	150	ND	U	78
	4-METHYL-2-PENTANONE	840	J	950	1000	J	1200	ND	U	74	ND	U	150	2100		1600	2600		1600	ND	U	110	ND	U	140	ND	U	150	ND	U	78
	ACETONE	71000		16000	63000		21000	ND	U	1300	ND	U	2600	55000		28000	73000		27000	ND	U	2000	ND	U	2500	ND	U	2500	ND	U	1300
	BENZENE	52000		1200	54000		1600	11000		94	16000		200	94000		2100	100000		2000	13000		150	19000		180	21000		190	1700		100
	BENZENE, (CHLOROMETHYL)-	ND	U	750	ND	U	990	ND	U	58	ND	U	120	ND	U	1300	ND	U	1200	ND	U	91	ND	U	110	ND	U	120	ND	U	62
	BROMODICHLOROMETHANE	ND	U	580	ND	U	760	ND	U	45	ND	U	94	ND	U	1000	ND	U	950	ND	U	70	ND	U	88	ND	U	90	ND	U	48
	BROMOFORM	ND	U	380	ND	U	490	ND	U	29	ND	U	61	ND	U	650	ND	U	620	ND	U	45	ND	U	57	ND	U	58	ND	U	31
	BROMOMETHANE	ND	U	1000	ND	U	1300	ND	U	78	ND	U	160	ND	U	1700	ND	U	1600	ND	U	120	ND	U	150	ND	U	160	ND	U	82
	CARBON DISULFIDE	ND	U	13000	ND	U	16000	ND	U	970	ND	U	2000	ND	U	22000	ND	U	20000	ND	U	1500	ND	U	1900	ND	U	1900	ND	U	1000
	CARBON TETRACHLORIDE	ND	U	620	ND	U	810	ND	U	48	ND	U	100	ND	U	1100	ND	U	1000	ND	U	75	ND	U	93	ND	U	96	ND	U	51
	CHLOROBENZENE	ND	U	850	ND	U	1100	ND	U	66	ND	U	140	ND	U	1500	ND	U	1400	ND	U	100	ND	U	130	ND	U	130	ND	U	70
	CHLOROETHANE	ND	U	1500	ND	U	1900	ND	U	110	ND	U	240	ND	U	2500	ND	U	2400	ND	U	180	ND	U	220	ND	U	230	ND	U	120
	CHLOROFORM	ND	U	800	ND	U	1000	ND	U	62	ND	U	130	ND	U	1400	ND	U	1300	ND	U	96	ND	U	120	ND	U	120	ND	U	66
	CHLOROMETHANE	ND	U	1900	ND	U	2500	ND	U	150	ND	U	300	ND	U	3200	ND	U	3100	ND	U	230	ND	U	280	ND	U	290	ND	U	160
	CIS-1,2-DICHLOROETHENE	ND	U	980	ND	U	1300	ND	U	76	ND	U	160	ND	U	1700	ND	U	1600	ND	U	120	ND	U	150	ND	U	150	ND	U	81
	CIS-1,3-DICHLOROPROPENE	ND	U	860	ND	U	1100	ND	U	66	ND	U	140	ND	U	1500	ND	U	1400	ND	U	100	ND	U	130	ND	U	130	ND	U	71
	CYCLOHEXANE	190000		2300	200000		3000	14000		180	25000		360	280000		3900	280000		3700	3500		270	5100		340	5400		350	3300		190
	DIBROMOCHLOROMETHANE	ND	U	460	ND	U	600	ND	U	35	ND	U	74	ND	U	790	ND	U	750	ND	U	55	ND	U	69	ND	U	71	ND	U	38
	DICHLORODIFLUOROMETHANE	ND	U	790	ND	U	1000	ND	U	61	ND	U	130	ND	U	1400	ND	U	1300	ND	U	95	ND	U	120	ND	U	120	ND	U	65
	ERYTHRENE	ND	U	1800	ND	U	2300	ND	U	140	ND	U	280	ND	U	3000	ND	U	2900	ND	U	210	ND	U	270	ND	U	270	ND	U	140
	ETHYL ACETATE	ND	U	2200	ND	U	2800	ND	U	170	ND	U	350	ND	U	3700	ND	U	3500	ND	U	260	ND	U	330	ND	U	330	ND	U	180
	ETHYLBENZENE	14000		900	17000		1200	610		69	1000		140	8600		1500	10000		1500	400		110	660		140	780		140	350		74
	FREON 113	ND	U	510	ND	U	670	ND	U	39	ND	U	82	ND	U	880	ND	U	830	ND	U	61	ND	U	77	ND	U	79	ND	U	42
	HEPTANE	180000		950	200000		1200	11000		74	20000		150	280000		1600	300000		1600	530		110	2000		140	2100		150	950		78
	HEXACHLOROBUTADIENE	ND	U	370	ND	U	480	ND	U	28	ND	U	59	ND	U	630	ND	U	600	ND	U	44	ND	U	55	ND	U	57	ND	U	30
	HEXANE	130000		1100	150000		1400	17000		86	29000		180	180000		1900	180000		1800	3700		130	6000		170	6400		170	4300		91
	M,P-XYLENES	34000		1800	41000		2300	1400		140	2300		290	27000		3100	35000		2900	730		220	1200		270	1500		280	1000		150
	METHYL TERT-BUTYL ETHER	ND	U	1100	ND	U	1400	ND	U	84	ND	U	170	ND	U	1900	ND	U	1800	ND	U	130	ND	U	160	ND	U	170	ND	U	89
	METHYLENE CHLORIDE	ND	U	1100	ND	U	1500	ND	U	87	ND	U	180	ND	U	1900	ND	U	1800	ND	U	140	ND	U	170	ND	U	170	ND	U	92
	NAPHTHALENE	ND	U	740	ND	U	970	ND	U	58	ND	U	120	ND	U	1300	ND	U	1200	ND	U	90	ND	U	110	ND	U	120	ND	U	61
	O-XYLENE	10000		900	12000		1200	380		69	610		140	6200		1500	6000		1500	200		110	300		140	370		140	280		74
	PROPYLENE	2700		2300	3300		3000	63	J	180	150	J	360	ND	U	3900	ND	U	3700	180	J	270	220	J	340	230	J	350	540		190
	STYRENE	ND	U	920	ND	U	1200	ND	U	71	ND	U	150	ND	U	1600	ND	U	1500	ND	U	110	ND	U	140	ND	U	140	ND	U	75
	TETRACHLOROETHENE	ND	U	580	ND	U	750	ND	U	45	ND	U	92	ND	U	990	ND	U	940	ND	U	69	ND	U	87	ND	U	89	ND	U	47
	THF	ND	U	1300	ND	U	1700	170		100	ND	U	210	ND	U	2300	ND	U	2200	750		160	240		200	110	J	200	ND	U	110
	TOLUENE	170000		1000	190000		1400	14000		80	22000		170	260000		1800	290000		1700	16000		120	26000		160	30000		160	4600		85
	TRANS-1,2-DICHLOROETHENE	ND	U	980	ND	U	1300	ND	U	76	ND	U	160	ND	U	1700	ND	U	1600	ND	U	120	ND	U	150	ND	U	150	ND	U	81
	TRANS-1,3-DICHLOROPROPENE	ND	U	860	ND	U	1100	ND	U	66	ND	U	140	ND	U	1500	ND	U	1400	ND	U	100	ND	U	130	ND	U	130	ND	U	71
	TRICHLOROETHENE	ND	U	730	ND	U	950	ND	U	56	ND	U	120	ND	U	1200	ND	U	1200	ND	U	87	ND	U	110	ND	U	110	ND	U	60
	TRICHLOROFLUOROMETHANE	ND	U	690	ND	U	910	ND	U	54	ND	U	110	ND	U	1200	ND	U	1100	ND	U	84	ND	U	100	ND	U	110	ND	U	57
	VINYL ACETATE	ND	U	11000	ND	U	14000	ND	U	860	ND	U	1800	ND	U	19000	ND	U	18000	ND	U	1300	ND	U	1700	ND	U	1700	ND	U	910
	VINYL CHLORIDE	ND	U	1500	ND	U	2000	ND	U	120	ND	U	250	ND	U	2600	ND	U	2500	ND	U	180	ND	U	230	ND	U	240	ND	U	130
	XYLENES	44000		1800	53000		2300	1800		140	3000		290	33000		3100	43000		2900	920		220	1500		270	1800		280	1300		150

[a] EPA analytical methods listed are for the most recent sampling event.

Shading indicates the analyte was detected.

EDB - 1,2-dibromoethane/ethylene dibromide.

EPA - U.S. Environmental Protection Agency.

FD - Field duplicate.

J - estimated value, concentration is less than LOQ but greater than laboratory method detection limit (DL).

KAFB - Kirtland Air Force Base.

LOQ - Reporting Limit.

ND - Not detected.

ppbv - Part per billion by volume.

U - Analyte was not detected. The reported numerical value is at or below the DL.

VAL QUAL - Validation qualifier.

VOC - Volatile organic compound.

Table 4-11
Soil Vapor Analytical Results

	LOCATION CODE	KAFB-106155			KAFB-106160			KAFB-106160			KAFB-106161			KAFB-106161		
	SAMPLE NO	KAFB-106155-PT-002			KAFB-106160-PT-001			KAFB-106160-PT-002			KAFB-106161-PT-001			KAFB-106161-PT-002		
	SAMPLE DATE	4-Nov-13			4-Oct-13			4-Oct-13			3-Oct-13			3-Oct-13		
	PURP	REG			REG			REG			REG			REG		
	DEPTH	-			-			-			-			-		
Chemical Class & Analytical Method [a]	Parameter	Result	VAL QUAL	LOQ	Result	VAL QUAL	LOQ	Result	VAL QUAL	LOQ	Result	VAL QUAL	LOQ	Result	VAL QUAL	LOQ
EDB (ppbv) Method CARB422 Mod	1,2-DIBROMOETHANE	42		0.82	790		7.6	1000		7.9	730		8.1	870		8.3
VOCs (ppbv) Method TO15	1,1,1-TRICHLOROETHANE	ND	U	75	ND	U	920	ND	U	720	ND	U	1500	ND	U	1000
	1,1,2,2-TETRACHLOROETHANE	ND	U	59	ND	U	730	ND	U	570	ND	U	1200	ND	U	800
	1,1,2-TRICHLOROETHANE	ND	U	75	ND	U	920	ND	U	720	ND	U	1500	ND	U	1000
	1,1-DICHLOROETHANE	ND	U	100	ND	U	1200	ND	U	970	ND	U	2000	ND	U	1400
	1,1-DICHLOROETHENE	ND	U	100	ND	U	1300	ND	U	990	ND	U	2000	ND	U	1400
	1,2,4-TRICHLOROBENZENE	ND	U	55	ND	U	680	ND	U	530	ND	U	1100	ND	U	740
	1,2,4-TRIMETHYLBENZENE	110		83	880	J	1000	1300		800	1400	J	1600	1700		1100
	1,2-DIBROMOETHANE	36	J	53	290	J	660	670		510	440	J	1000	630	J	720
	1,2-DICHLOROBENZENE	ND	U	68	ND	U	840	ND	U	650	ND	U	1300	ND	U	920
	1,2-DICHLOROETHANE	ND	U	100	ND	U	1200	ND	U	970	ND	U	2000	ND	U	1400
	1,2-DICHLOROPROPANE	ND	U	88	ND	U	1100	ND	U	850	ND	U	1700	ND	U	1200
	1,3,5-TRIMETHYLBENZENE	78	J	83	450	J	1000	760	J	800	740	J	1600	940	J	1100
	1,3-DICHLOROBENZENE	ND	U	68	ND	U	840	ND	U	650	ND	U	1300	ND	U	920
	1,4-DICHLOROBENZENE	ND	U	68	ND	U	840	ND	U	650	ND	U	1300	ND	U	920
	2-BUTANONE	ND	U	1400	11000	J	17000	16000		13000	6900	J	27000	8200	J	19000
	2-HEXANONE	ND	U	100	ND	U	1200	ND	U	960	ND	U	2000	ND	U	1300
	4-METHYL-2-PENTANONE	ND	U	99	650	J	1200	1200		960	690	J	2000	920	J	1300
	ACETONE	ND	U	1700	46000		21000	58000		17000	ND	U	34000	16000	J	23000
	BENZENE	2500		130	51000		1600	82000		1200	43000		2500	52000		1700
	BENZENE, (CHLOROMETHYL)-	ND	U	79	ND	U	970	ND	U	760	ND	U	1600	ND	U	1100
	BROMODICHLOROMETHANE	ND	U	61	ND	U	750	ND	U	590	ND	U	1200	ND	U	820
	BROMOFORM	ND	U	39	ND	U	490	ND	U	380	ND	U	780	ND	U	530
	BROMOMETHANE	ND	U	100	ND	U	1300	ND	U	1000	ND	U	2100	ND	U	1400
	CARBON DISULFIDE	ND	U	1300	ND	U	16000	ND	U	13000	ND	U	26000	ND	U	18000
	CARBON TETRACHLORIDE	ND	U	65	ND	U	800	ND	U	620	ND	U	1300	ND	U	870
	CHLOROBENZENE	ND	U	89	ND	U	1100	ND	U	850	ND	U	1700	ND	U	1200
	CHLOROETHANE	ND	U	150	ND	U	1900	ND	U	1500	ND	U	3100	ND	U	2100
	CHLOROFORM	ND	U	83	ND	U	1000	ND	U	800	ND	U	1600	ND	U	1100
	CHLOROMETHANE	ND	U	200	ND	U	2400	ND	U	1900	ND	U	3900	ND	U	2700
	CIS-1,2-DICHLOROETHENE	ND	U	100	ND	U	1300	ND	U	990	ND	U	2000	ND	U	1400
	CIS-1,3-DICHLOROPROPENE	ND	U	90	ND	U	1100	ND	U	860	ND	U	1800	ND	U	1200
	CYCLOHEXANE	4800		240	140000		2900	220000		2300	150000		4700	190000		3200
	DIBROMOCHLOROMETHANE	ND	U	48	ND	U	590	ND	U	460	ND	U	950	ND	U	650
	DICHLORODIFLUOROMETHANE	ND	U	82	ND	U	1000	ND	U	790	ND	U	1600	ND	U	1100
	ERYTHRENE	ND	U	180	ND	U	2300	ND	U	1800	ND	U	3600	ND	U	2500
	ETHYL ACETATE	ND	U	230	ND	U	2800	ND	U	2200	ND	U	4500	ND	U	3100
	ETHYLBENZENE	860		94	3800		1200	9700		900	10000		1900	14000		1300
	FREON 113	ND	U	53	ND	U	660	ND	U	510	ND	U	1100	ND	U	720
	HEPTANE	1400		99	150000		1200	240000		1900	200000		2000	240000		1300
	HEXACHLOROBUTADIENE	ND	U	38	150	J	470	ND	U	370	ND	U	750	ND	U	520
	HEXANE	6200		120	120000		1400	180000		1100	120000		2300	150000		1600
	M,P-XYLENES	2900		190	13000		2300	32000		1800	27000		3700	38000		2500
	METHYL TERT-BUTYL ETHER	ND	U	110	ND	U	1400	ND	U	1100	ND	U	2200	ND	U	1500
	METHYLENE CHLORIDE	ND	U	120	ND	U	1400	ND	U	1100	ND	U	2300	ND	U	1600
	NAPHTHALENE	ND	U	78	ND	U	960	ND	U	750	ND	U	1500	ND	U	1000
	O-XYLENE	830		94	3300		1200	7800		900	7300		1900	10000		1300
	PROPYLENE	1100		240	1000	J	2900	850	J	2300	ND	U	4700	ND	U	3200
	STYRENE	ND	U	96	ND	U	1200	ND	U	920	ND	U	1900	ND	U	1300
	TETRACHLOROETHENE	ND	U	60	ND	U	740	ND	U	580	ND	U	1200	ND	U	810
	THF	ND	U	140	ND	U	1700	ND	U	1300	ND	U	2700	ND	U	1900
	TOLUENE	8100		110	110000		1300	210000		1000	180000		2100	220000		1500
	TRANS-1,2-DICHLOROETHENE	ND	U	100	ND	U	1300	ND	U	990	ND	U	2000	ND	U	1400
	TRANS-1,3-DICHLOROPROPENE	ND	U	90	ND	U	1100	ND	U	860	ND	U	1800	ND	U	1200
	TRICHLOROETHENE	ND	U	76	ND	U	940	ND	U	730	ND	U	1500	ND	U	1000
	TRICHLOROFLUOROMETHANE	ND	U	73	ND	U	900	ND	U	700	ND	U	1400	ND	U	980
	VINYL ACETATE	ND	U	1200	ND	U	14000	ND	U	11000	ND	U	23000	ND	U	16000
	VINYL CHLORIDE	ND	U	160	ND	U	2000	ND	U	1500	ND	U	3200	ND	U	2200
	XYLENES	3800		190	16000		2300	40000		1800	34000		3700	49000		2500

[a] EPA analytical methods listed are for the most recent sampling event.
Shading indicates the analyte was detected.
EDB - 1,2-dibromoethane/ethylene dibromide.
EPA - U.S. Environmental Protection Agency.
FD - Field duplicate.
J - estimated value, concentration is less than LOQ but greater than laboratory n
KAFB - Kirtland Air Force Base.
LOQ - Reporting Limit.
ND - Not detected.
ppbv - Part per billion by volume.
U - Analyte was not detected. The reported numerical value is at or below the DL
VAL QUAL - Validation qualifier.
VOC - Volatile organic compound.

Table 4-12
Summary of Long-Duration Test Results

Well ID	Test Date	Screened Interval (ft bgs)	THC (ppm)	CO_2 (%)	O_2 (%)	LEL (%)	Benzene at SOR (ppbv)	Benzene at EOR (ppbv)	EDB at SOR (ppbv)	EDB at EOR (ppbv)
KAFB-106148	11/1/2013	349	9,693	11.8	4.7	51.4	52,000	54,000	650	680
KAFB-160149	10/16/2013	349	411	2.4	17.4	3.5	11,000	16,000	33	63
KAFB-106150	11/7/2013	484	>10,000[a]	2.4	16.9	82.1	94,000	100,000	1,200	1,300
KAFB-106154	10/18/2013	350	99	1.4	18.0	0.0	13,000	19,000	27	42
KAFB-106155	11/4/2013	484	1,156	0.8	18.2	12.4	1,700	2,500	24	42
KAFB-106160	10/4/2013	530	7,242	2.3	16.4	56.4	51,000	82,000	790	1,000
KAFB-106161	10/3/2013	530	7,669	2.3	16.5	56.3	43,000	52,000	730	870

[a] Instrument reads up to 10,000 ppm. All readings at this well were measured at concentrations greater than 10,000 ppm.

% - Percent

EDB - 1,2-dibromoethane/ethylene dibromide

EOR - End of run

ft bgs - Feet below ground surface

ID - Identification

KAFB - Kirtland Air Force Base

LEL - Lower explosive limit

ppbv - Parts per billion by volume

ppm - Parts per million

SOR - Start of run

THC - total hydrocarbons

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Table 5-1
Well Field with New SVE Unit

	Wellhead Vacuum (inWC)	Flow Rate (SCFM)	TPH Concentration (ppmv)	CO_2	O_2	Initial TPH Mass (pound/hour)	EDB Concentration (ppbv)	EDB Mass (gram/day)
East Manifold Leg								
SVEW KAFB-106161	20	603	7710	2.3%	16.5%	63.4	870	77.9
Plog 106150 bottom screen	20	131	11,000	2.4%	16.9%	19.6	1300	25.2
Dilution air to reduce LEL		500		0.5%	21%			
Combined East Manifold		1234	4934	1.6%	18.4%	83.0		103.1
West Manifold Leg								
SVEW KAFB-106160	20	518	7370	2.3%	16.4%	52.1	1000	76.9
Plog 106150 bottom screen	0	0	11,000	2.4%	16.91%	0.0	1300	0.0
Plog 106149-middle screen	20	215	495	2.4%	17.4%	1.4	63	2.0
Plog 106154 middle screen	20	208	123	1.4%	18.0%	0.3	33	1.0
Dilution air to reduce LEL		0		0.5%	21.0%			
Combined West Manifold		941	4200	2.1%	17.0%	53.9		80.0
New Northwest Leg								
Old ICE Unit SVE Manifold		300	7,000	2.3%	16.5%	28.6	500	22.3
Plog 106148 middle screen	20	168	10,000	11.8%	4.7%	23.0	680	17.0
Dilution air to reduce LEL		200		0.5%	21.0%			
Combined Northwest Leg		668	5661	4.2%	14.9%	52		39
Combined Vapor		2843	4862	**2.37%**	**17.09%**	188.5		222.3

% - percent
EDB - ethylene dibromide
ICE - internal combustion engine
inWc - inches of water column
LEL - lower explosive limit
ppbv - parts per billion by volume
ppmv - parts per million by volume
SCFM - standard cubic foot per minute
SVE - soil-vapor extraction
TPH - total petroleum hydrocarbons

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APPENDIX A

Well Construction Diagrams of Pilot Tested Wells

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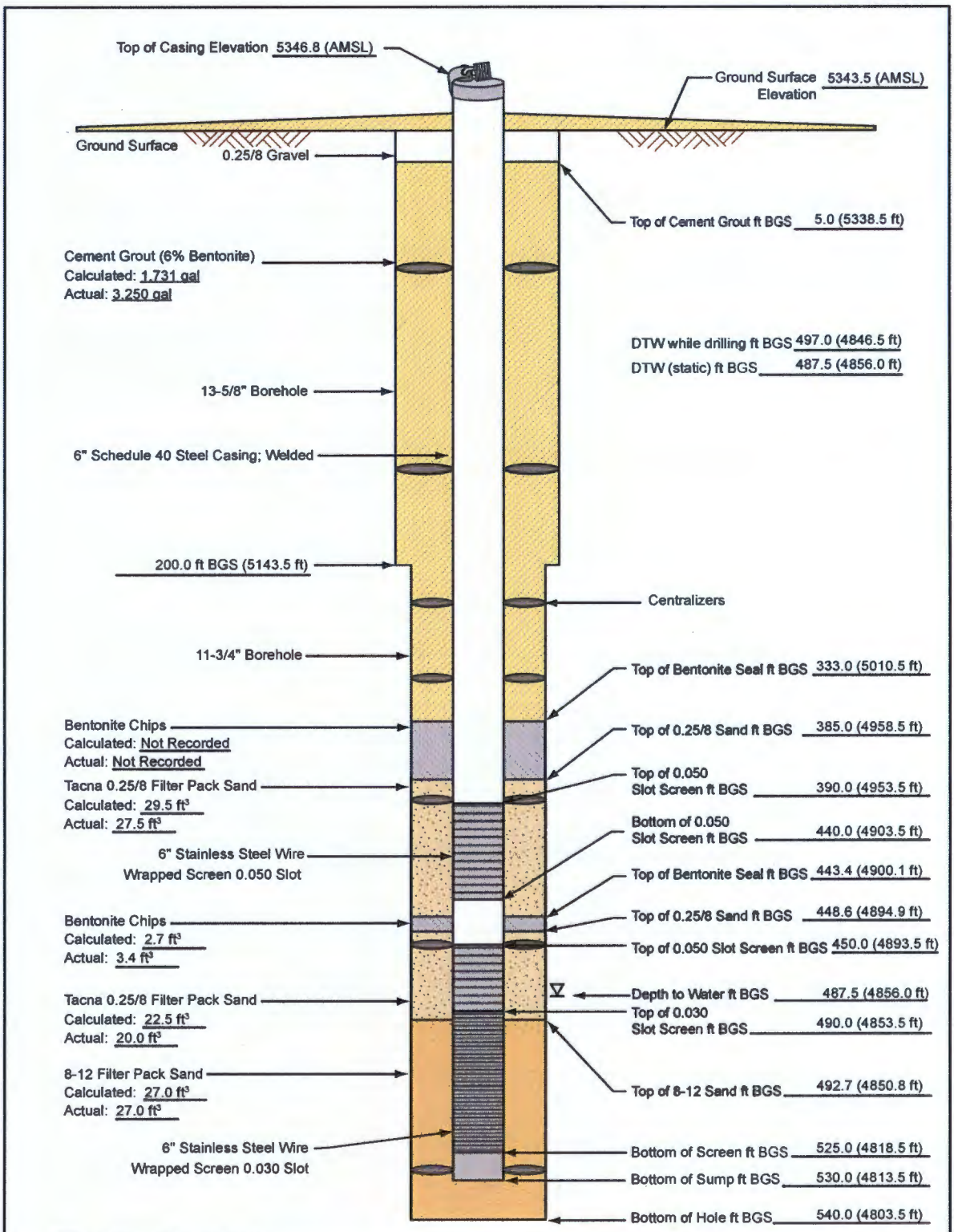
Soil Vapor Extraction Well KAFB-106160

Installation Start Date/Time: 2/29/2012 @ 0930
Installation End Date/Time: 3/5/2012 @ 1700



∇ = *Depth to Groundwater*

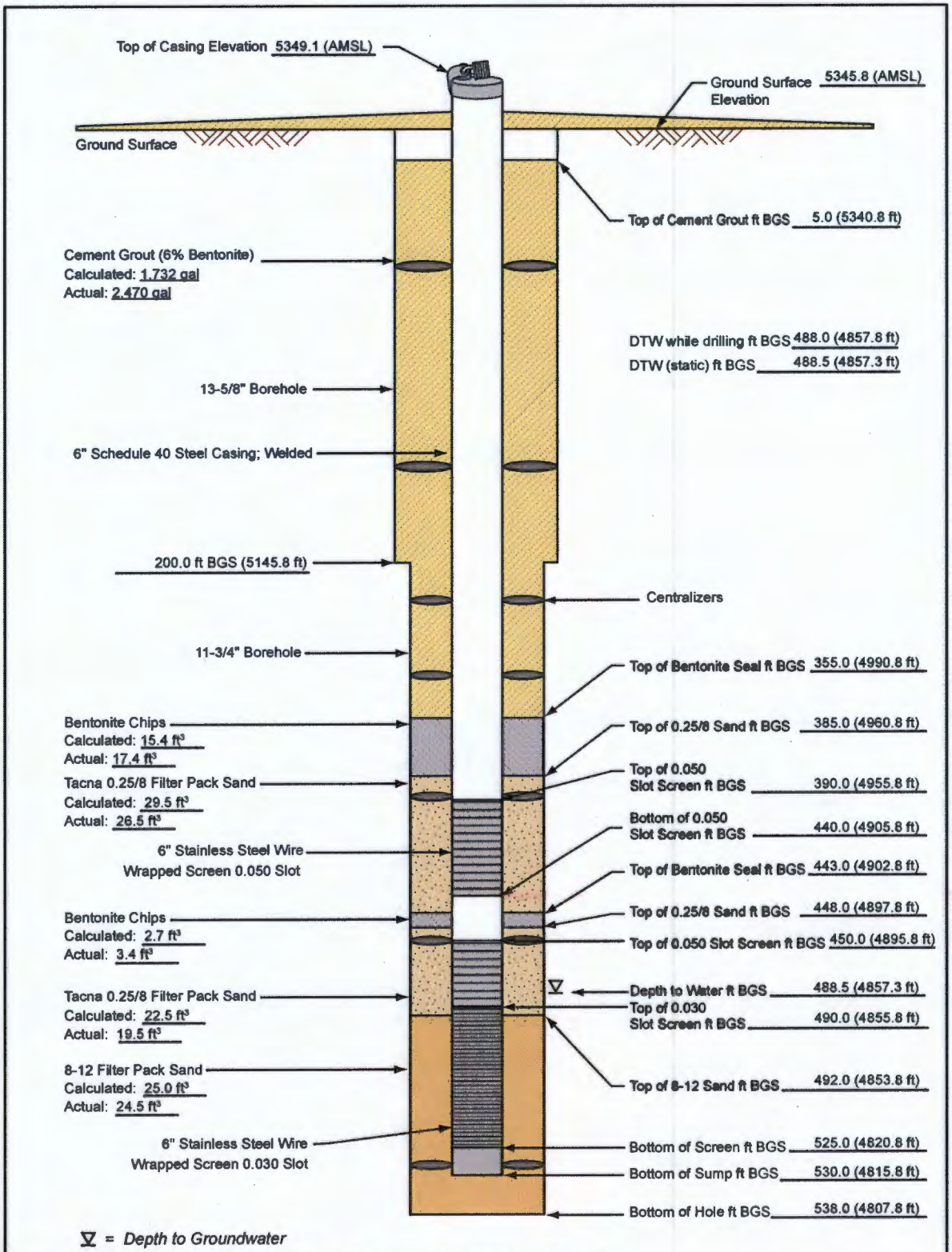
(4,816.90) = *Elevations are NAVD 88 Datum values based on NGS Control Station "Hanger", Elevation = 5,343.43 ft. GPS/RTK methods and GEO1D99 model were used to determine elevations of all surveyed points.*

Not to Scale
BGS = Below Ground Surface

140705.FB010010_SVE_KAFB_106160

Soil Vapor Extraction Well KAFB-106161

Installation Start Date/Time: 2/13/2012 @ 0915
Installation End Date/Time: 2/23/2012 @ 1720



∇ = *Depth to Groundwater*

(4,816.90) = *Elevations are NAVD 88 Datum values based on NGS Control Station "Hanger", Elevation = 5,343.43 ft. GPS/RTK methods and GEO1D99 model were used to determine elevations of all surveyed points.*

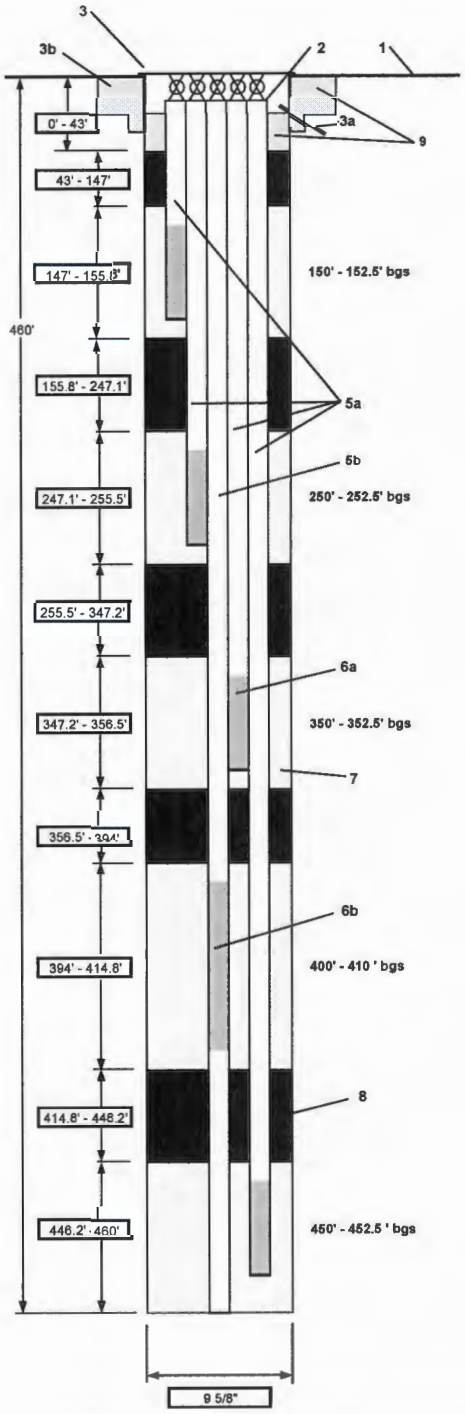
Not to Scale
BGS = Below Ground Surface

140705.FB010010_SVE_KAFB_106161

CH2MHILL	PROJECT NUMBER 185906.02.FI	WELL NUMBER SVMW-13/SVEW-11 SHEET 1 OF 1

SOIL VAPOR WELL COMPLETION DIAGRAM

PROJECT : Distal Vapor Monitoring Points
LOCATION : Bulk Fuels Facility - KAFB
ELEVATION: 5344.98
DRILLING CONTRACTOR : Water Development Corporation / Mark Green
DRILLING METHOD AND EQUIPMENT USED: SpeedStar 30K ARCH w/18" split spoon
WATER LEVELS: NA
START : 01/27/2004 END : 01/30/2004 LOGGER : D. Boss-Walker



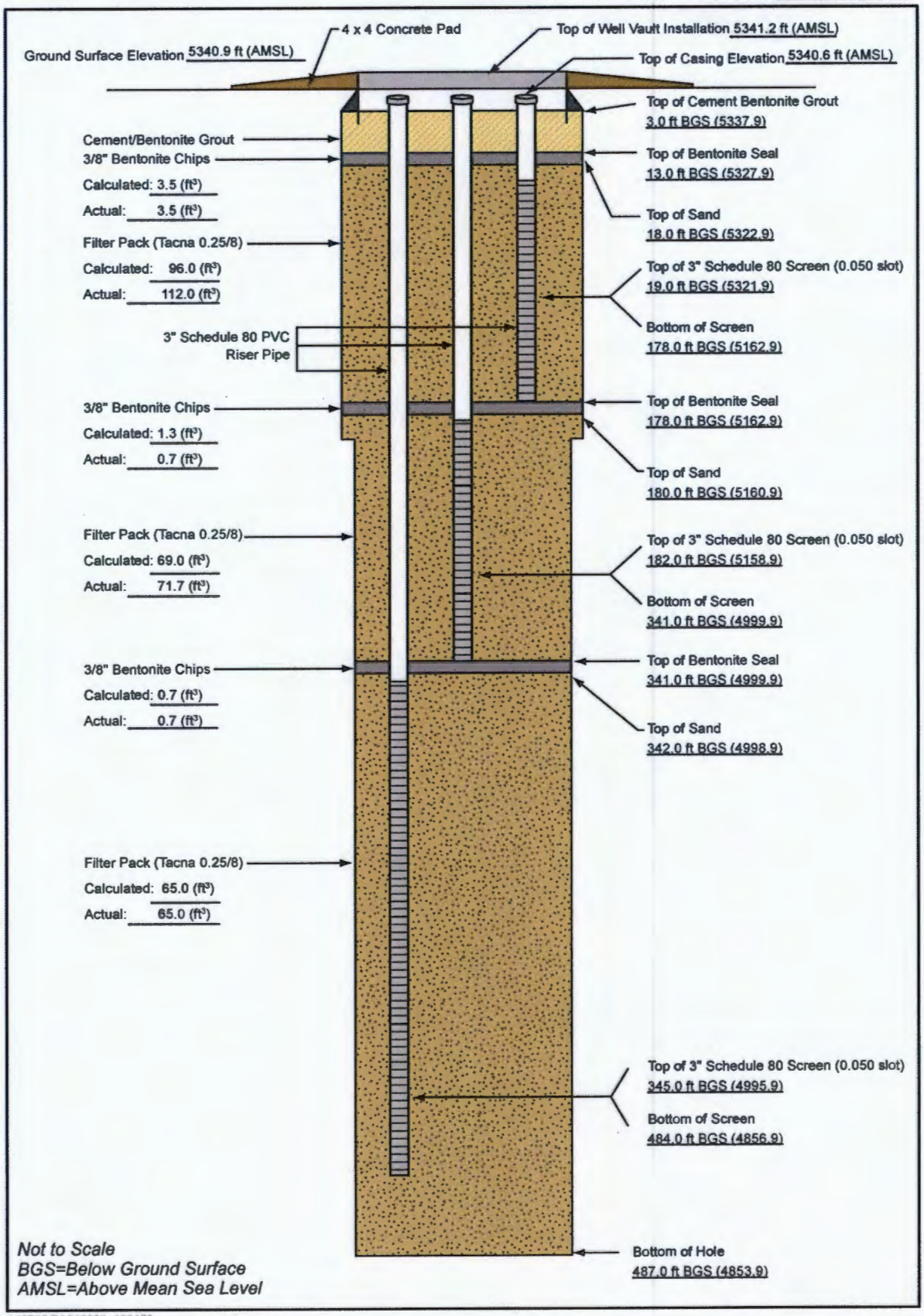
1- Ground elevation at well	approximately 5339'
2- Top of casing elevation	NA
3- Wellhead protection cover type	12" flush mount, locking caps
a) drain tube?	None
b) concrete pad dimensions	4' square flush mount
4- Dia./type surface casing	None
5- a) Dia./type of well casing	1/2" OD Sch. 80 PVC w/ball valve
b) Dia./type of well casing	2" OD Sch. 80 PVC w/slip cap
6- a) Type/slot/size of screen	1/2" OD Sch. 80 PVC, 0.050 slot, 2.5' length
b) Type/slot/size of screen	2" OD Sch. 80 PVC, 0.050 slot, 10' length
7- Type screen filter	8 - 12 Oglebay Colorado Silica
quantity used	56 x 50 lb sacks
8- Type of seals	Hydrated Enviroplug 3/8" (medium)
quantity used	Bentonite chips - 290 x 50 lb sacks
9- Grout	
a) Grout mix used	Portland Cement
b) Method of placement	Pump
c) Vol.of surface casing grout	NA
d) Vol. of well casing grout	Portland cement - 38 x 100 lb sacks Bentonite Gel - 2 x 50 lb sacks
Development method	NA - Vapor well
Development time	NA - Vapor well
Estimated purge volume	NA - Vapor well

Comments
Each of the four 1/2" wells is fitted with a PVC slip cap with a brass ball valve threaded into the cap. The 2" well is fitted with a PVC slip cap.

Illustration not to scale.

PneuLog Well Completion Diagram KAFB-106156

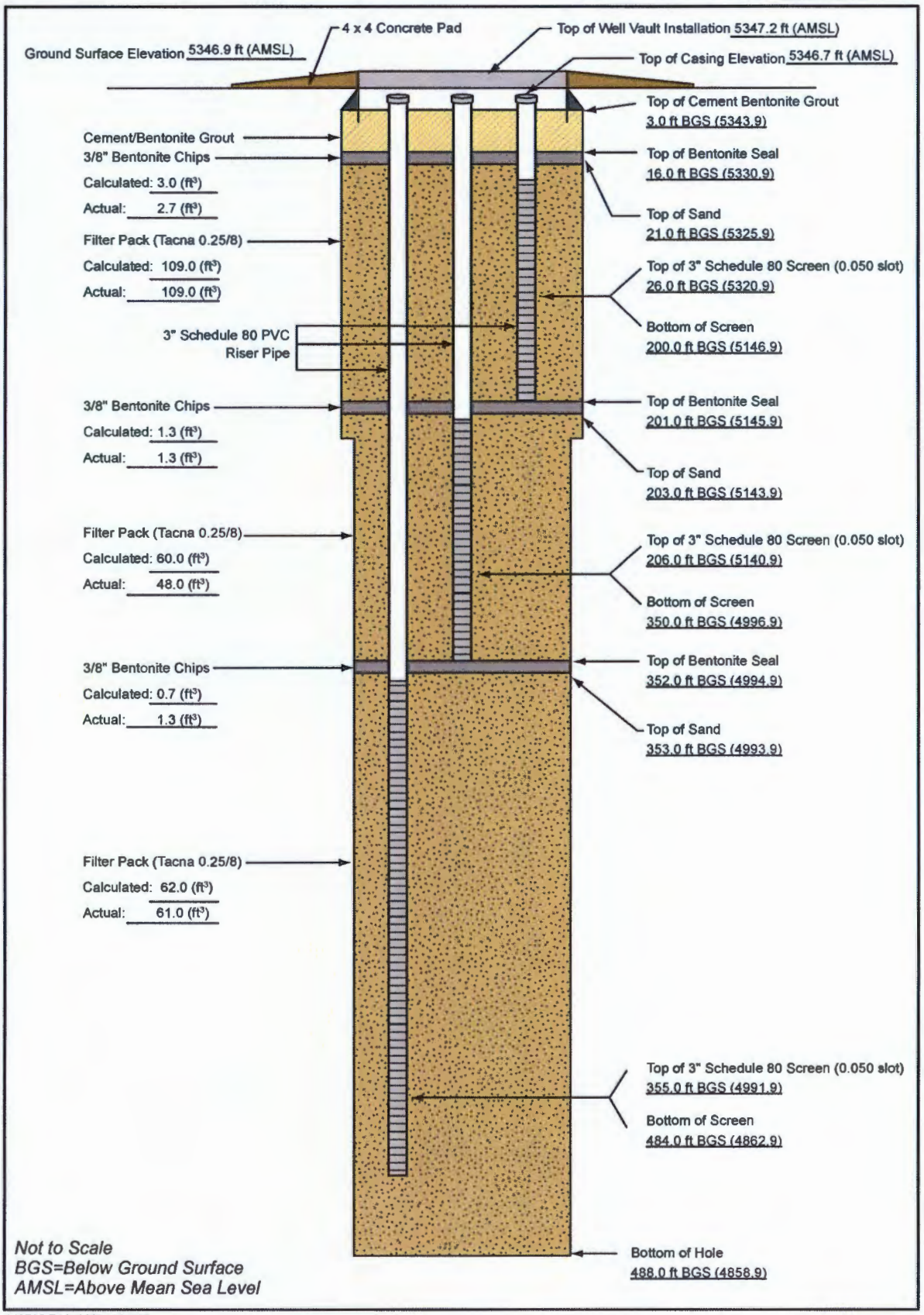
Installation Start Date/Time: 11/04/2011@ 08:00
Installation End Date/Time: 11/09/2011@ 12:00



140705.EA010020_106156

PneuLog Well Completion Diagram KAFB-106155

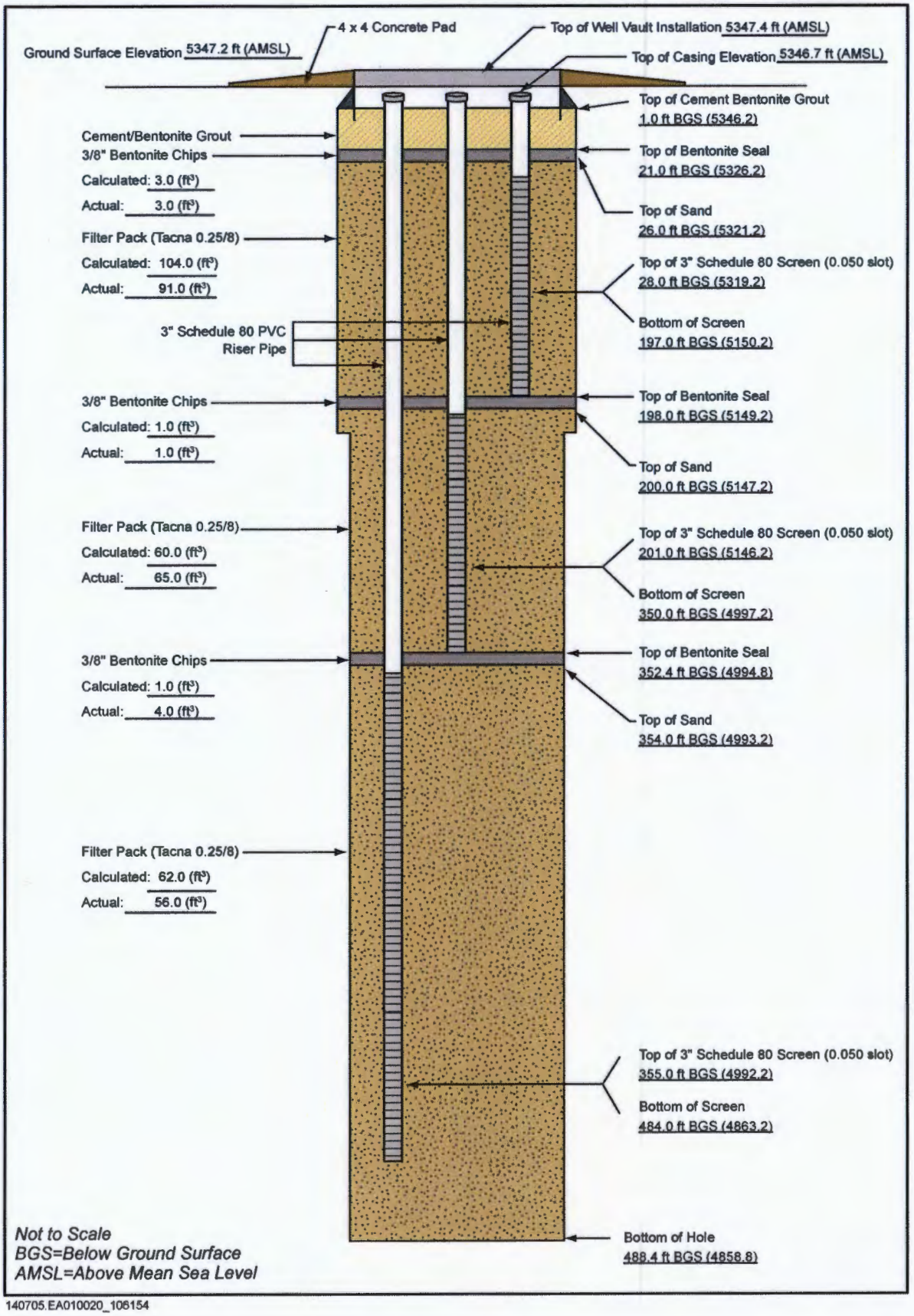
Installation Start Date/Time: 10/28/2011@ 08:00
Installation End Date/Time: 11/01/2011@ 12:00



140705.EA010020_106155

PneuLog Well Completion Diagram KAFB-106154

Installation Start Date/Time: 10/18/2011@08:00
Installation End Date/Time: 10/20/2011@12:00

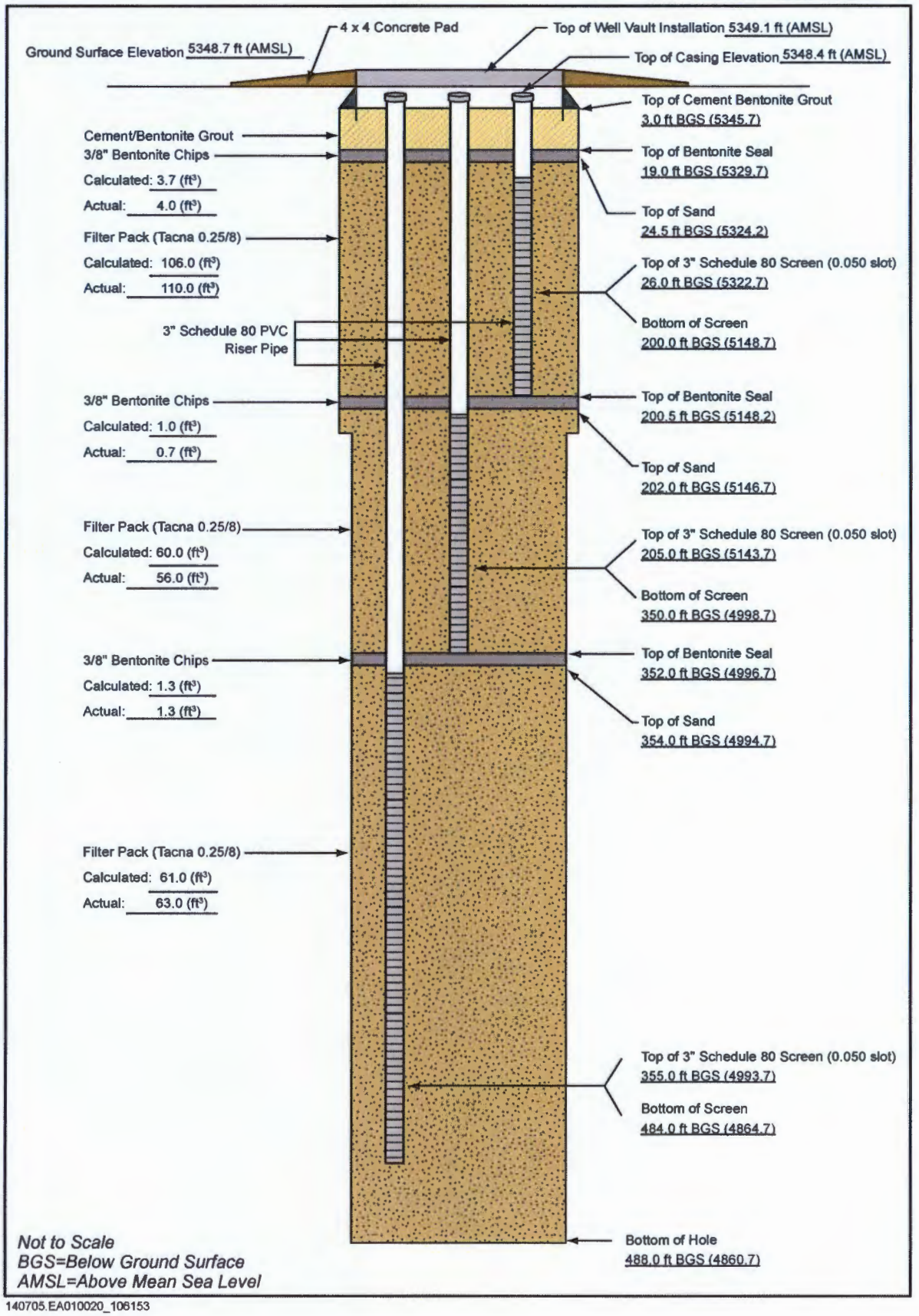


Not to Scale
BGS=Below Ground Surface
AMSL=Above Mean Sea Level

140705.EA010020_106154

PneuLog Well Completion Diagram KAFB-106153

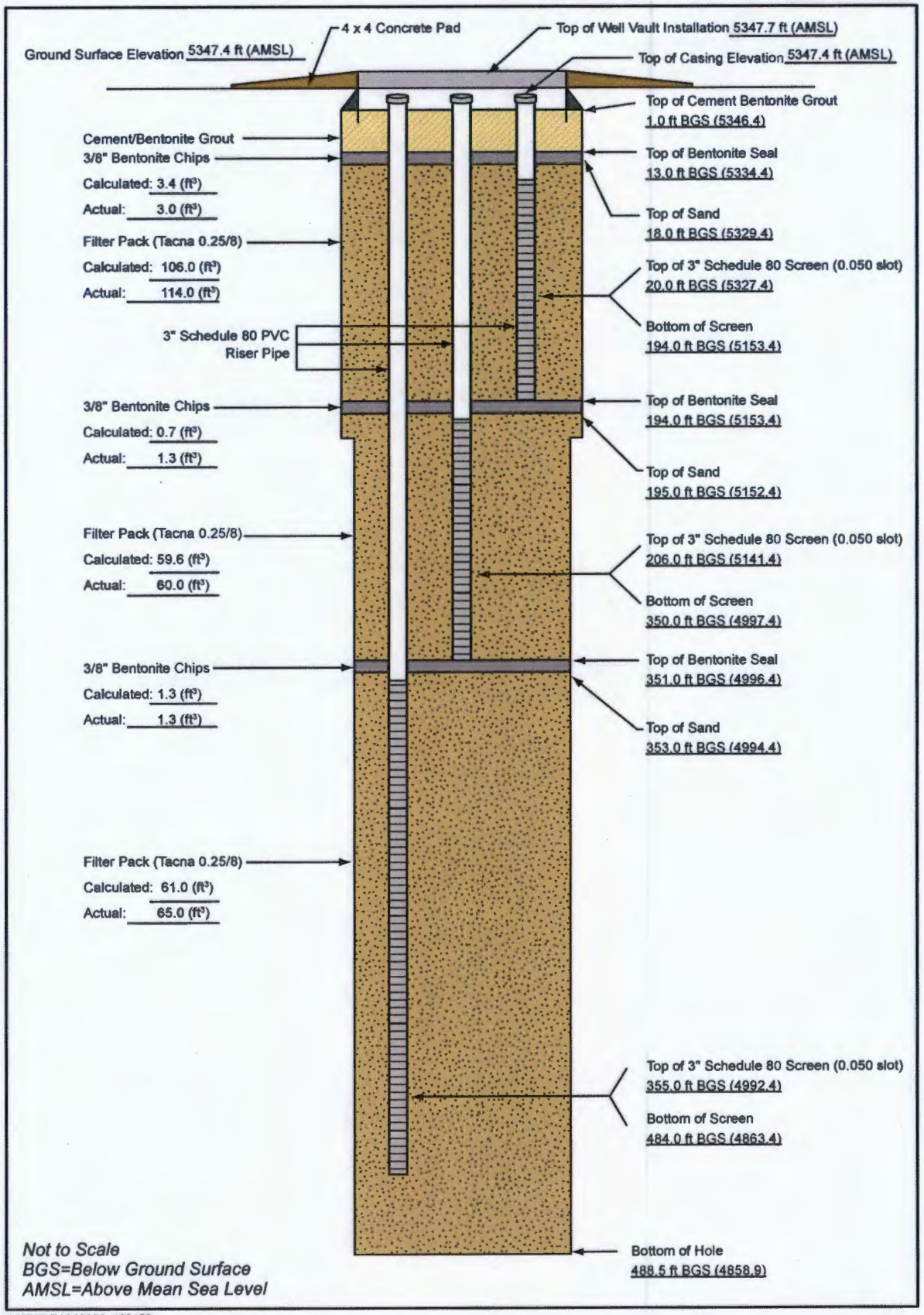
Installation Start Date/Time: 10/21/2011@11:00
Installation End Date/Time: 10/25/2011@12:00



140705.EA010020_106153

PneuLog Well Completion Diagram KAFB-106152

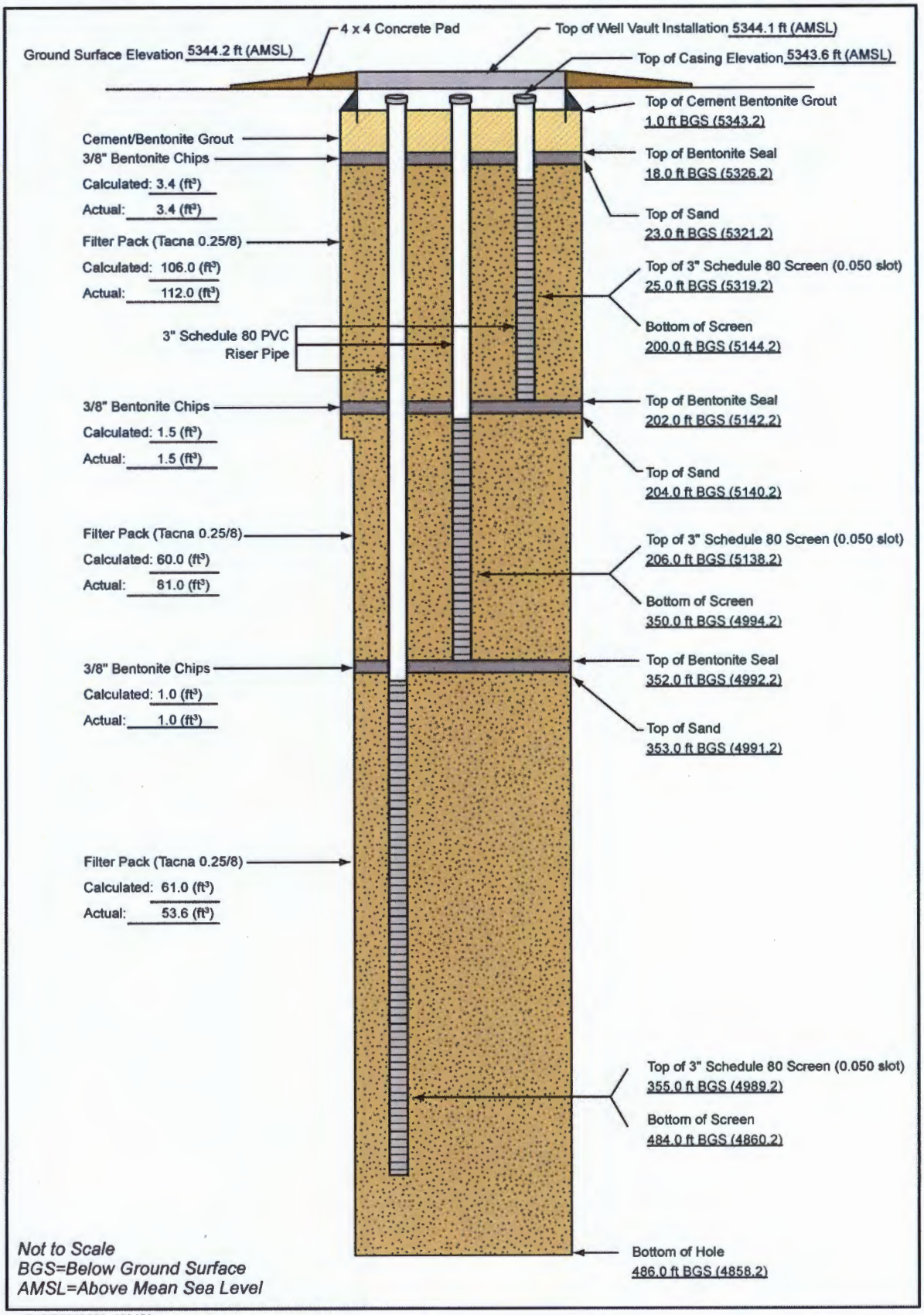
Installation Start Date/Time: 10/05/2011@12:00
Installation End Date/Time: 10/07/2011@12:20



140705.EA010020_106152

PneuLog Well Completion Diagram KAFB-106150

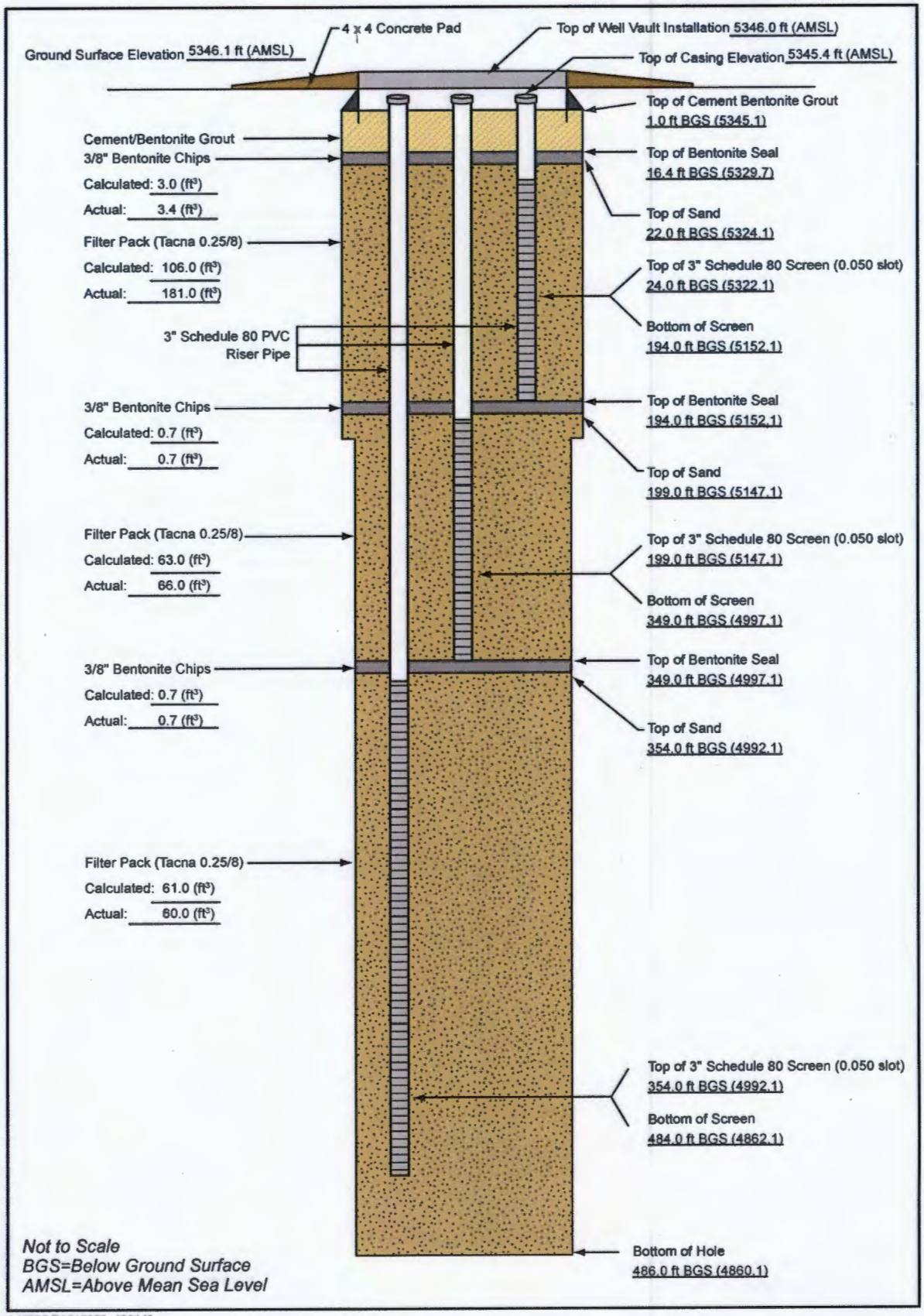
Installation Start Date/Time: 9/21/2011@12:00
Installation End Date/Time: 9/23/2011@12:00



140705.EA010020_106150

PneuLog Well Completion Diagram KAFB-106149

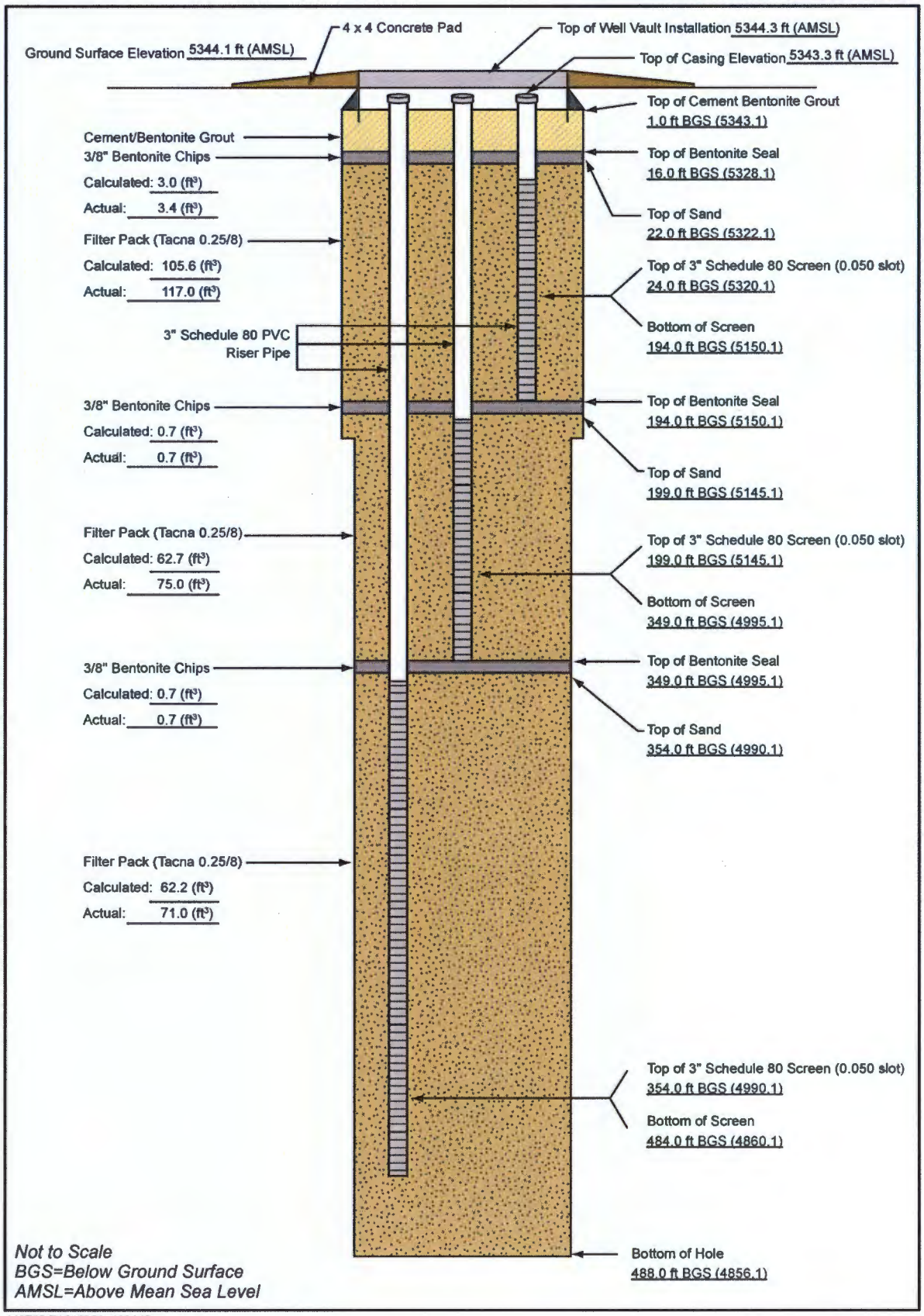
Installation Start Date/Time: 9/15/2011@08:40
Installation End Date/Time: 9/16/2011@13:15



140705.EA010020_106149

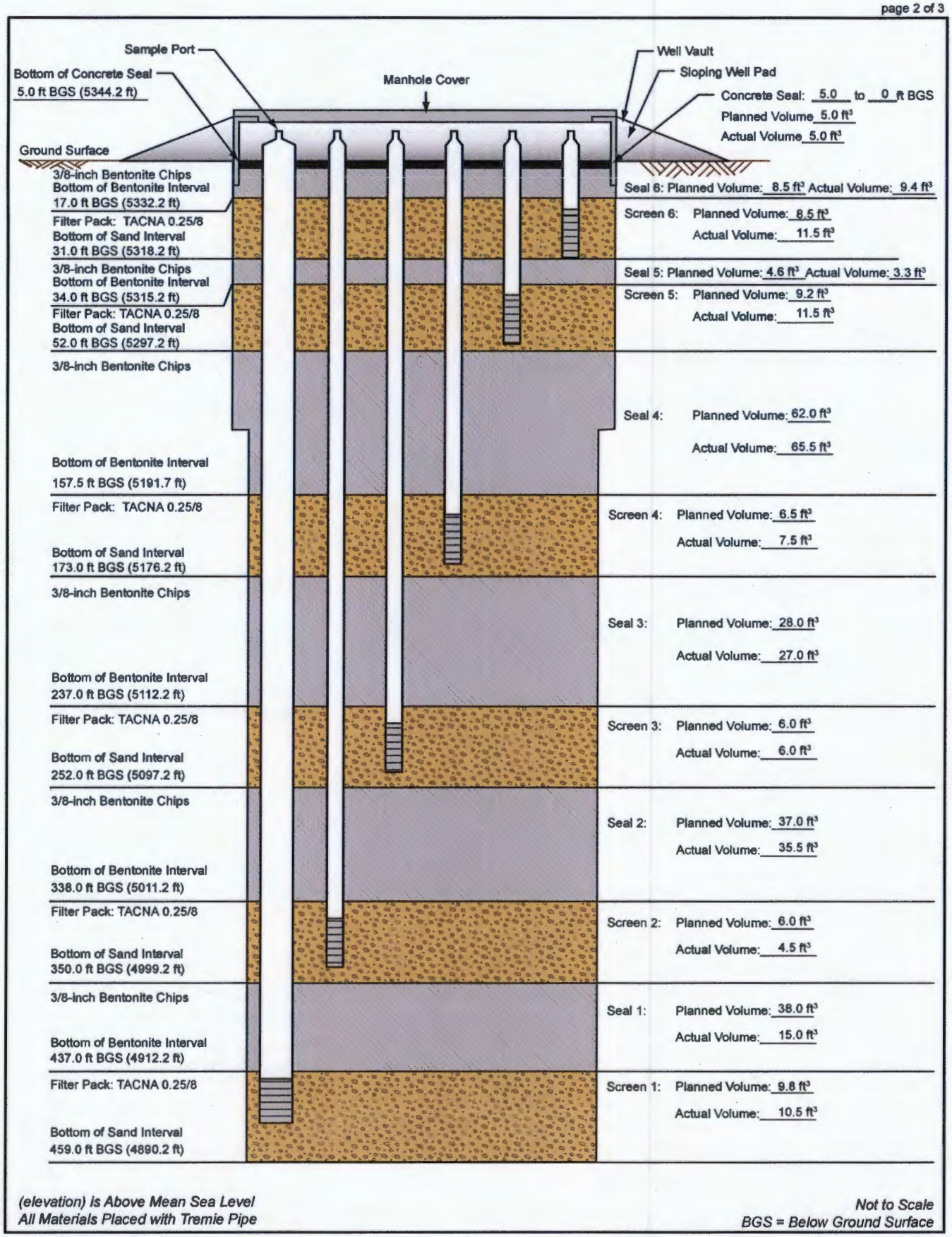
PneuLog Well Completion Diagram KAFB-106148

Installation Start Date/Time: 9/08/2011@10:00
Installation End Date/Time: 9/12/2011@10:20



140705.EA010020_106148

Nested Soil Vapor Well Completion Diagram for KAFB-106142



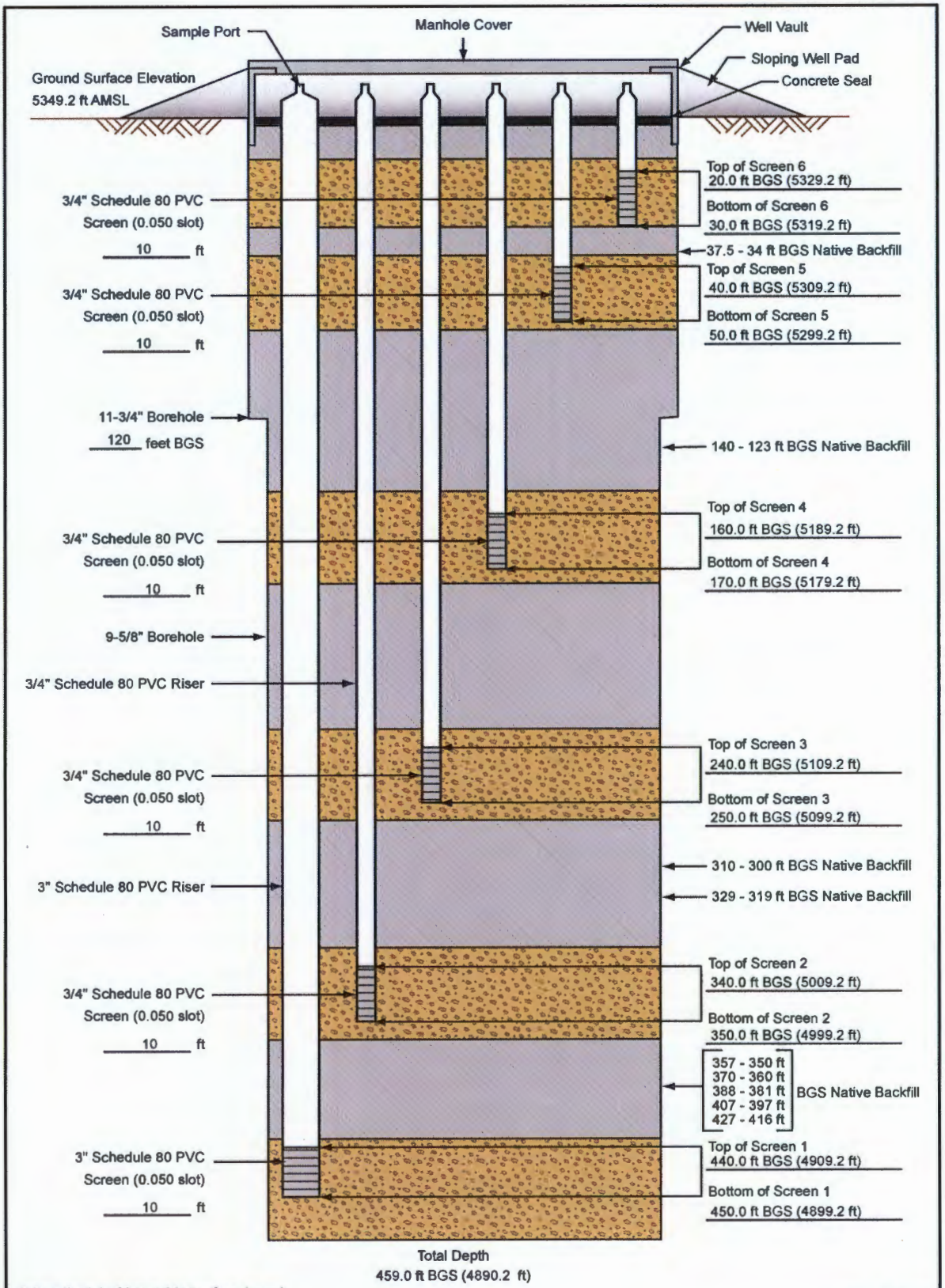
(elevation) is Above Mean Sea Level
All Materials Placed with Tremie Pipe

Not to Scale
BGS = Below Ground Surface

140705_CA010020_SV_KAFB.106142 (b)

Nested Soil Vapor Well Completion Diagram for KAFB-106142

Installation Start Date/Time: 4/18/2011 @ 09:20
Installation End Date/Time: 4/21/2011 @ 14:30

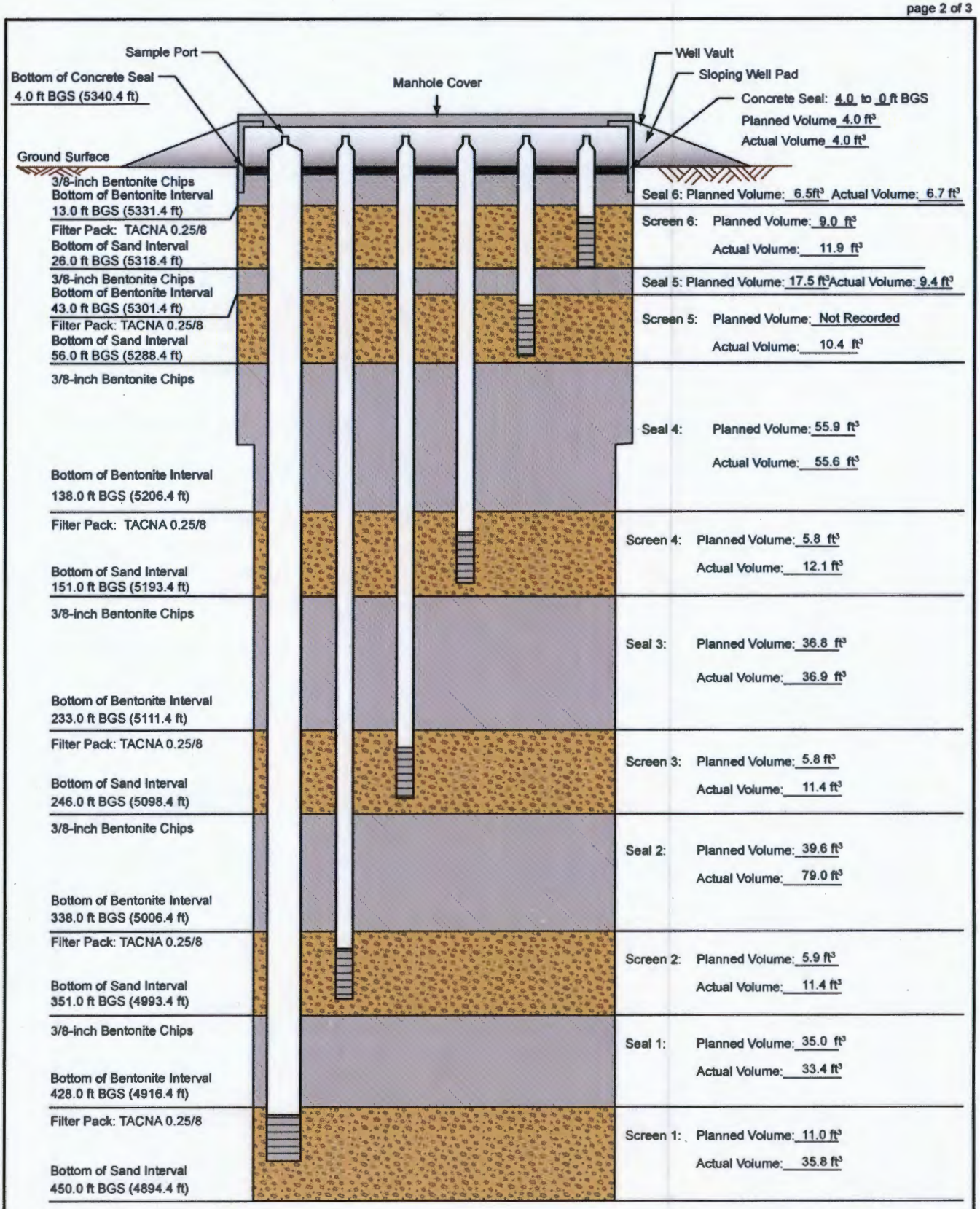


(elevation) is Above Mean Sea Level
AMSL = Above Mean Sea Level

Not to Scale
BGS = Below Ground Surface

140705_CA010020_SV_KAFB.106142 (a)

Nested Soil Vapor Well Completion Diagram for KAFB-106131



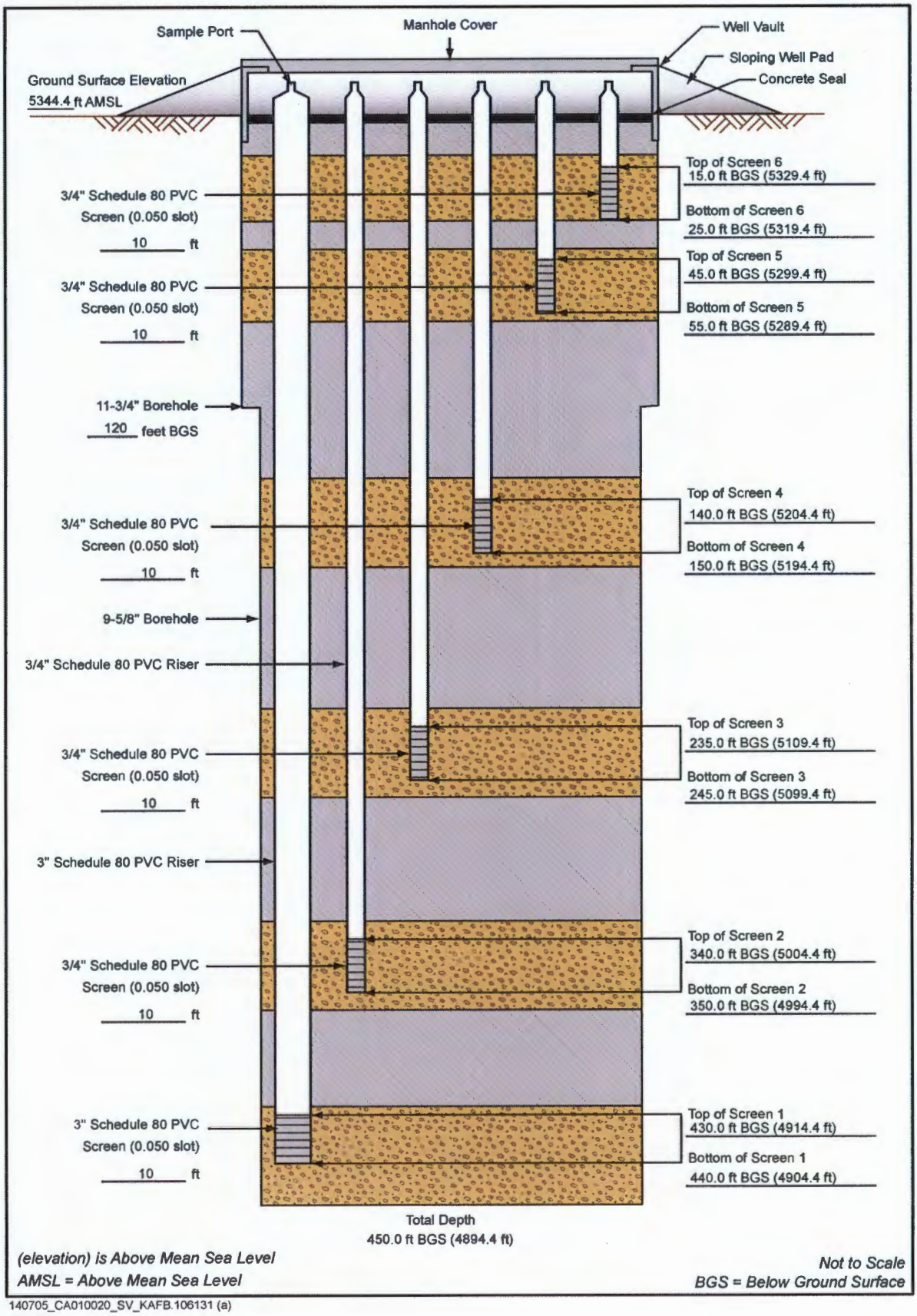
(elevation) is Above Mean Sea Level
All Materials Placed with Tremie Pipe

Not to Scale
BGS = Below Ground Surface

140705_CA010020_SV_KAFB.106131 (b)

Nested Soil Vapor Well Completion Diagram for KAFB-106131

Installation Start Date/Time: 3/6/2011 @ 07:40
Installation End Date/Time: 3/7/2011 @ 16:00

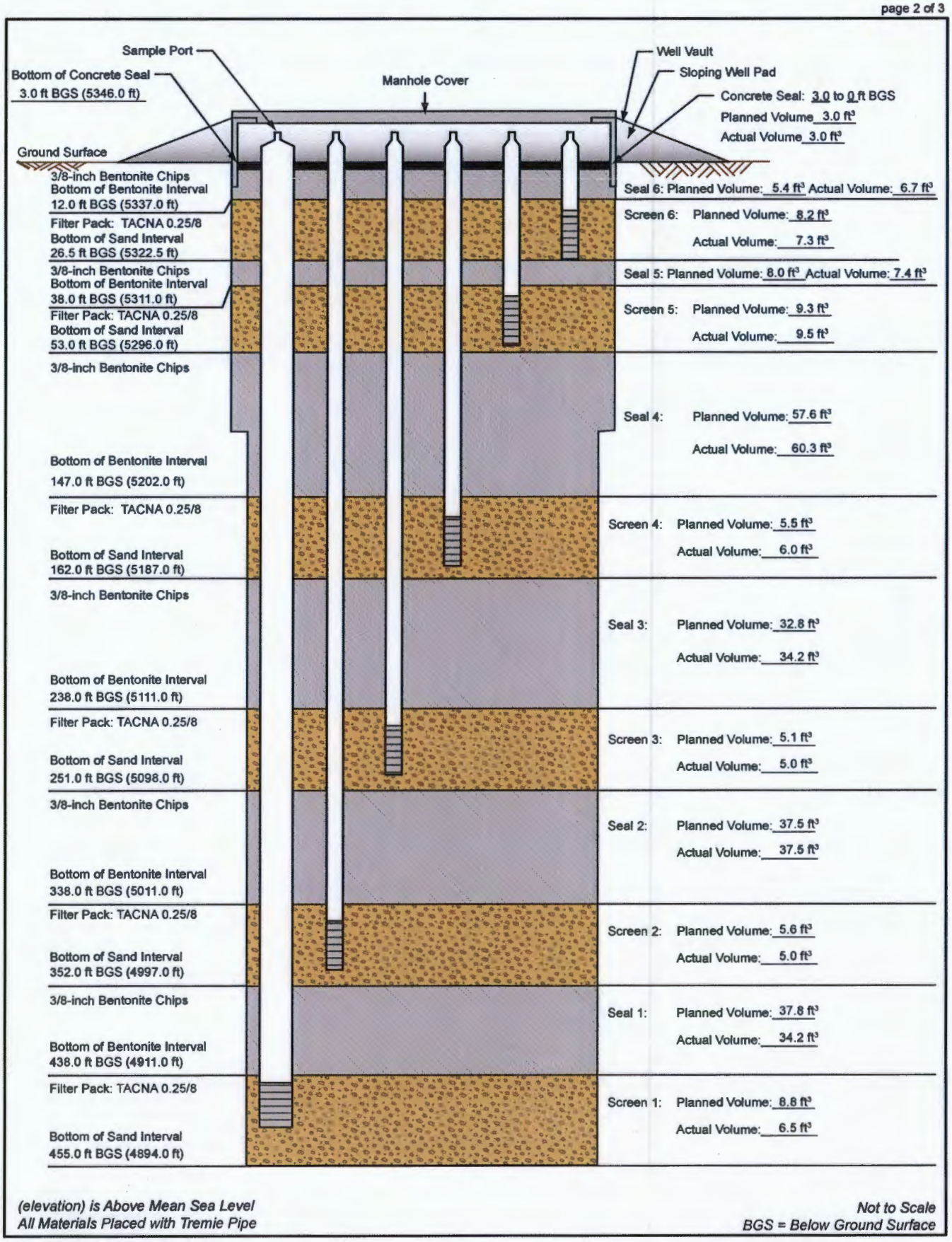


(elevation) is Above Mean Sea Level
AMSL = Above Mean Sea Level

Not to Scale
BGS = Below Ground Surface

140705_CA010020_SV_KAFB.106131 (a)

Nested Soil Vapor Well Completion Diagram for KAFB-106130



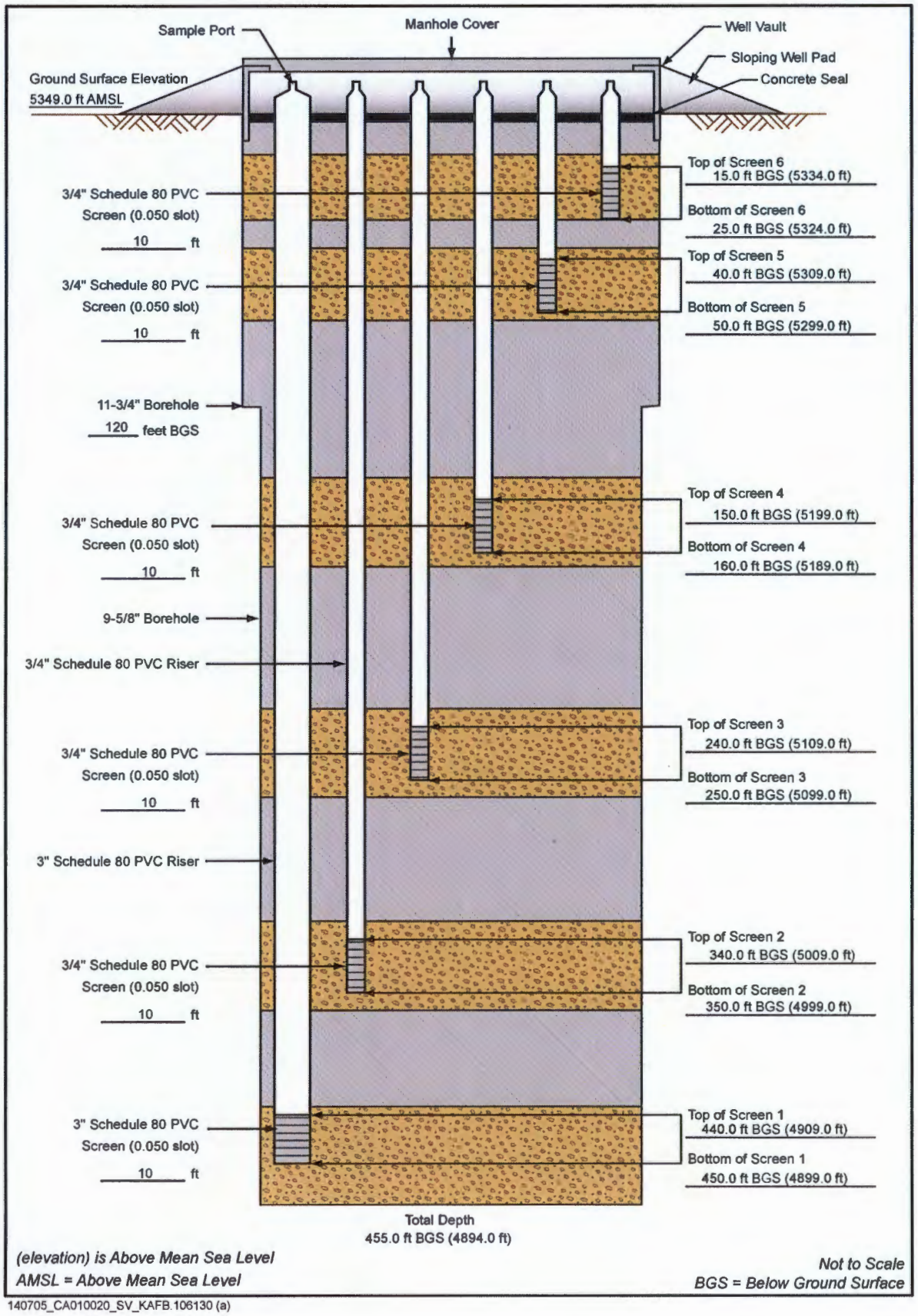
(elevation) is Above Mean Sea Level
All Materials Placed with Tremie Pipe

Not to Scale
BGS = Below Ground Surface

140705_CA010020_SV_KAFB.106130 (b)

Nested Soil Vapor Well Completion Diagram for KAFB-106130

Installation Start Date/Time: 2/20/2011 @ 09:22
Installation End Date/Time: 2/21/2011 @ 16:45

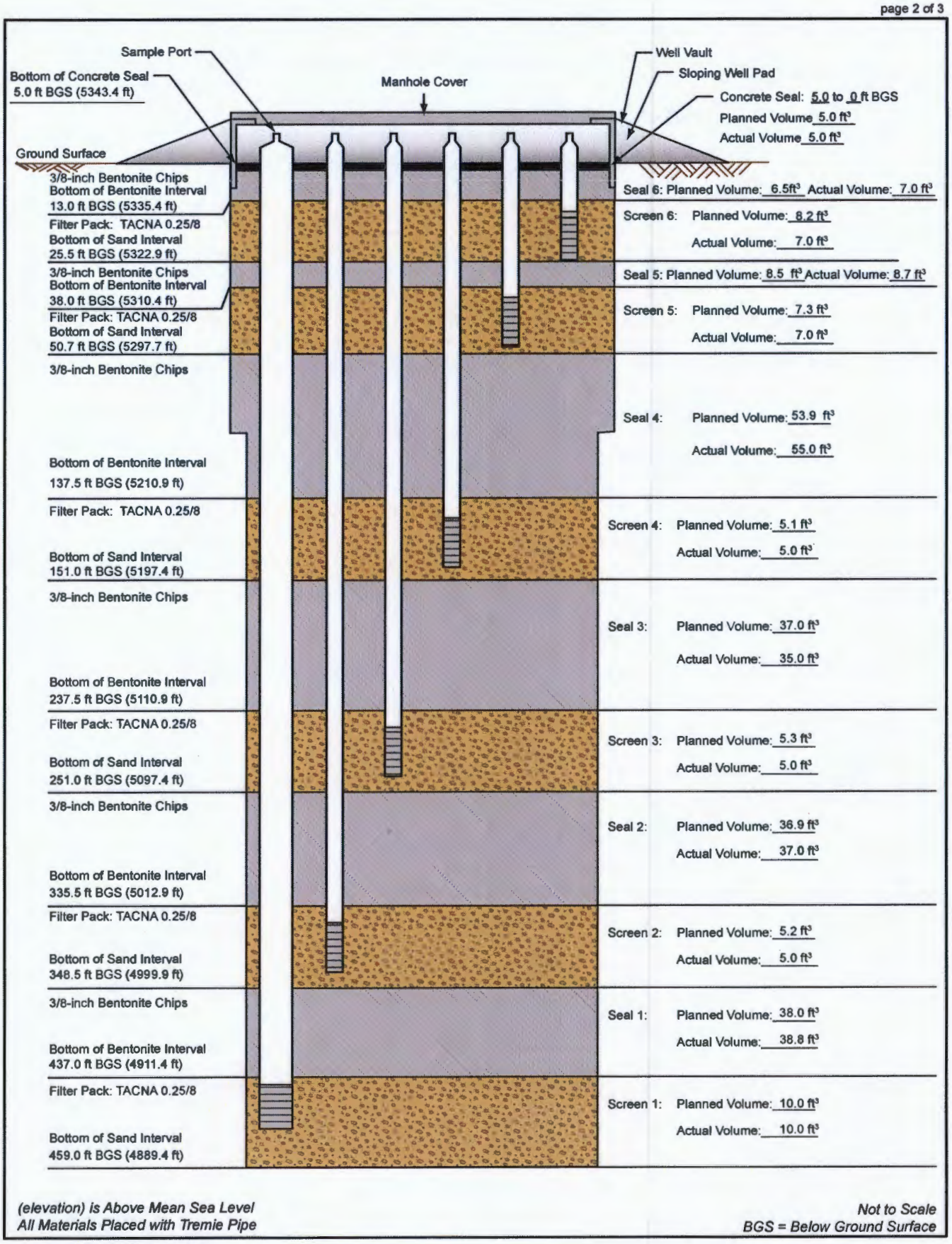


(elevation) is Above Mean Sea Level
AMSL = Above Mean Sea Level

Not to Scale
BGS = Below Ground Surface

140705_CA010020_SV_KAFB.106130 (a)

Nested Soil Vapor Well Completion Diagram for KAFB-106129

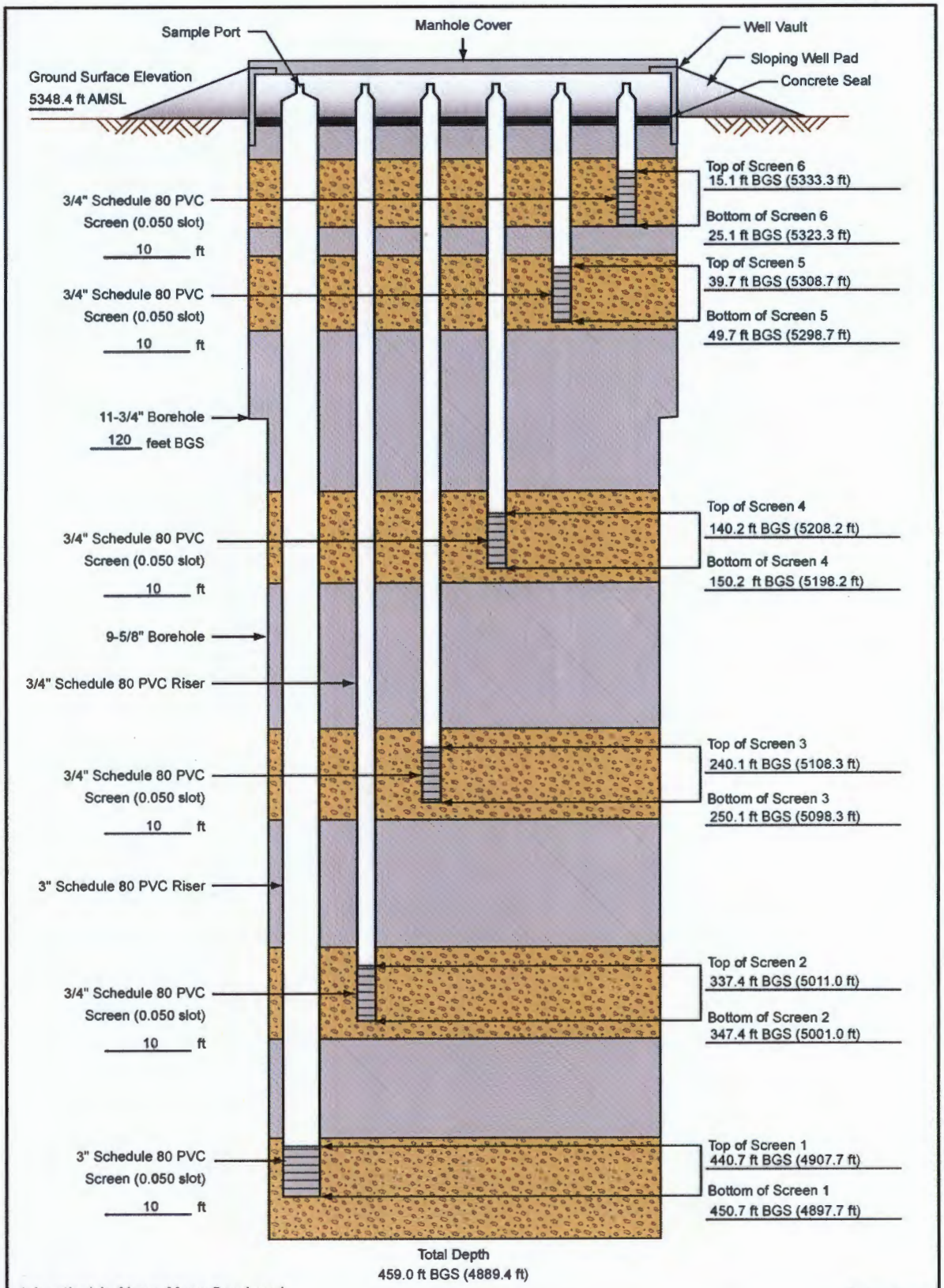


(elevation) is Above Mean Sea Level
All Materials Placed with Tremie Pipe

Not to Scale
BGS = Below Ground Surface

Nested Soil Vapor Well Completion Diagram for KAFB-106129

Installation Start Date/Time: 3/3/2011 @ 16:40
Installation End Date/Time: 3/6/2011 @ 14:30

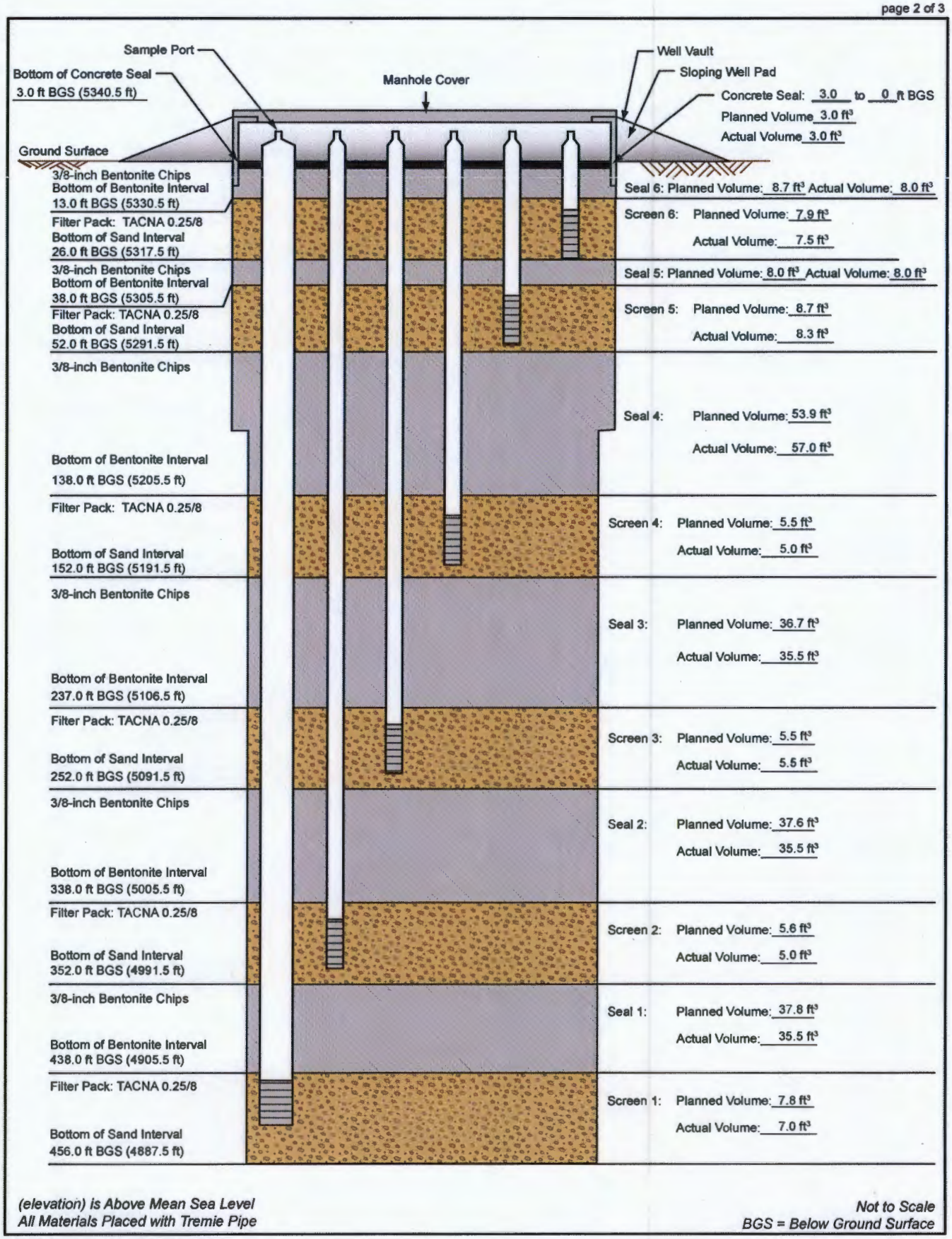


(elevation) is Above Mean Sea Level
AMSL = Above Mean Sea Level

Not to Scale
BGS = Below Ground Surface

140705_CA010020_SV_KAFB.106129 (a)

Nested Soil Vapor Well Completion Diagram for KAFB-106119

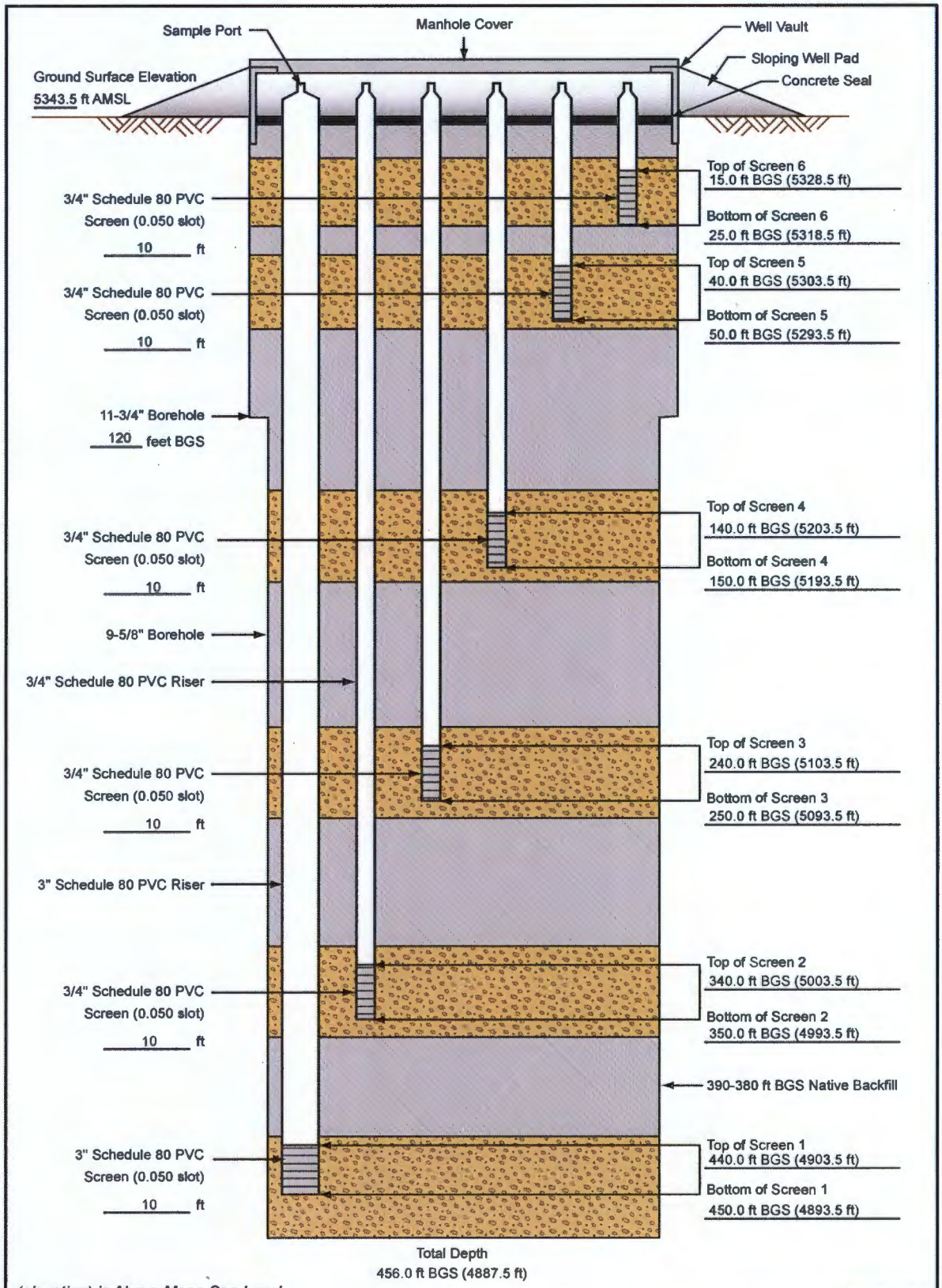


(elevation) is Above Mean Sea Level
All Materials Placed with Tremie Pipe

Not to Scale
BGS = Below Ground Surface

Nested Soil Vapor Well Completion Diagram for KAFB-106119

Installation Start Date/Time: 3/5/2011 @ 8:00
Installation End Date/Time: 3/6/2011 @ 15:00

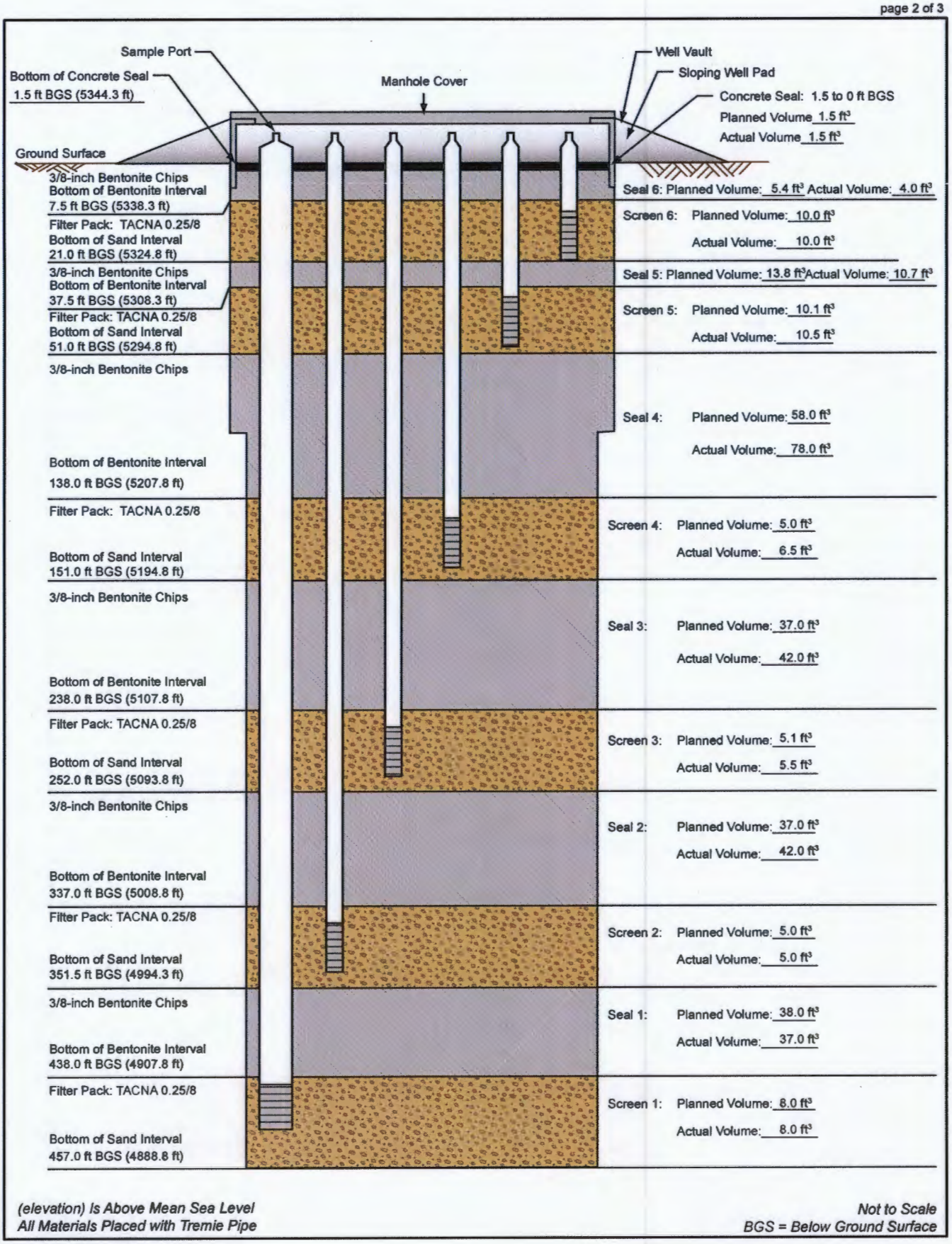


(elevation) is Above Mean Sea Level
AMSL = Above Mean Sea Level

Not to Scale
BGS = Below Ground Surface

140705_CA010020_SV_KAFB.106119 (a)

Nested Soil Vapor Well Completion Diagram for KAFB-106113

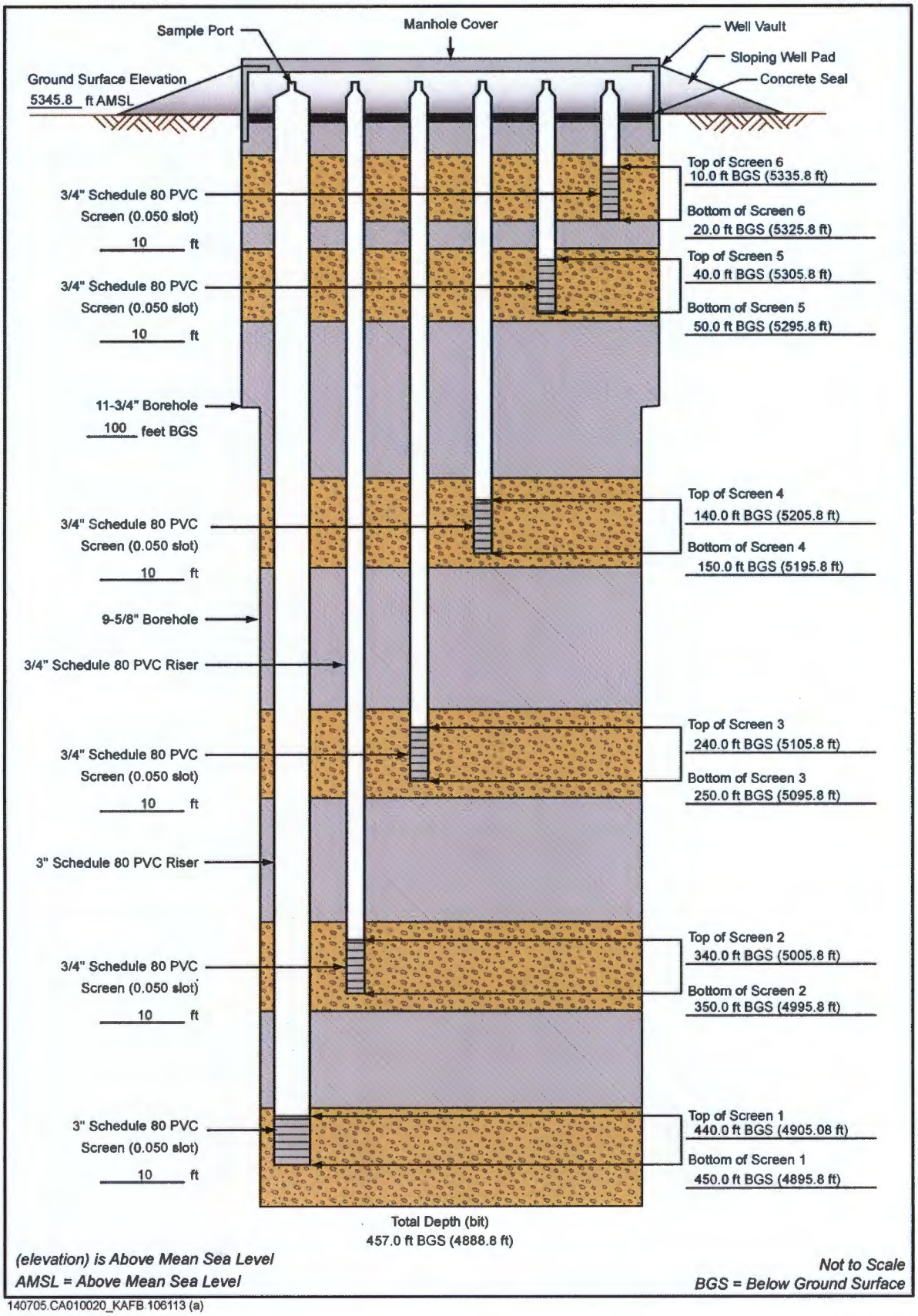


(elevation) Is Above Mean Sea Level
All Materials Placed with Tremie Pipe

Not to Scale
BGS = Below Ground Surface

Nested Soil Vapor Well Completion Diagram for KAFB-106113

Installation Start Date/Time: 2/5/2011 @ 08:08
Installation End Date/Time: 2/8/2011 @ 10:51

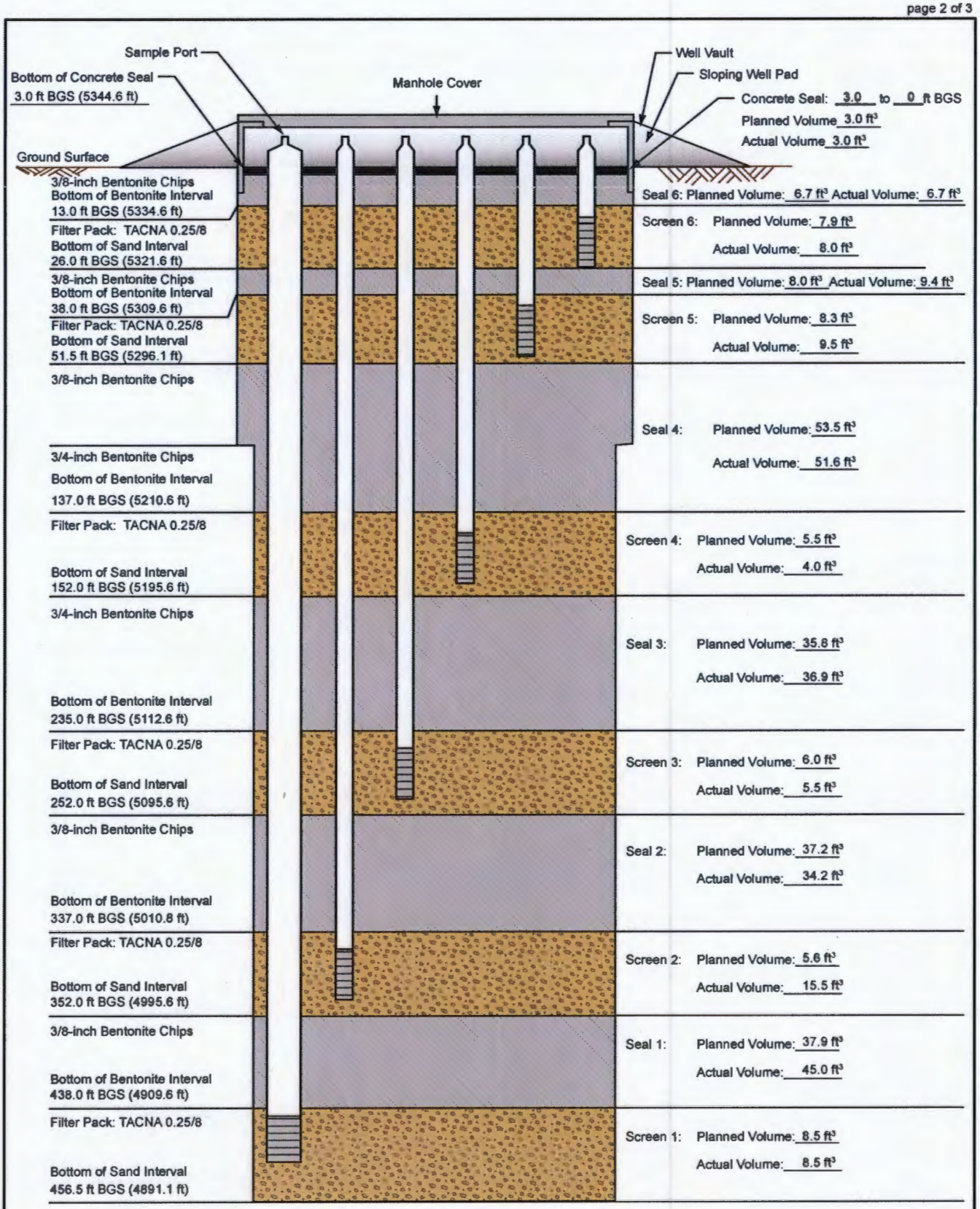


(elevation) is Above Mean Sea Level
AMSL = Above Mean Sea Level

Not to Scale
BGS = Below Ground Surface

140705.CA010020_KAFB 106113 (a)

Nested Soil Vapor Well Completion Diagram for KAFB-106112



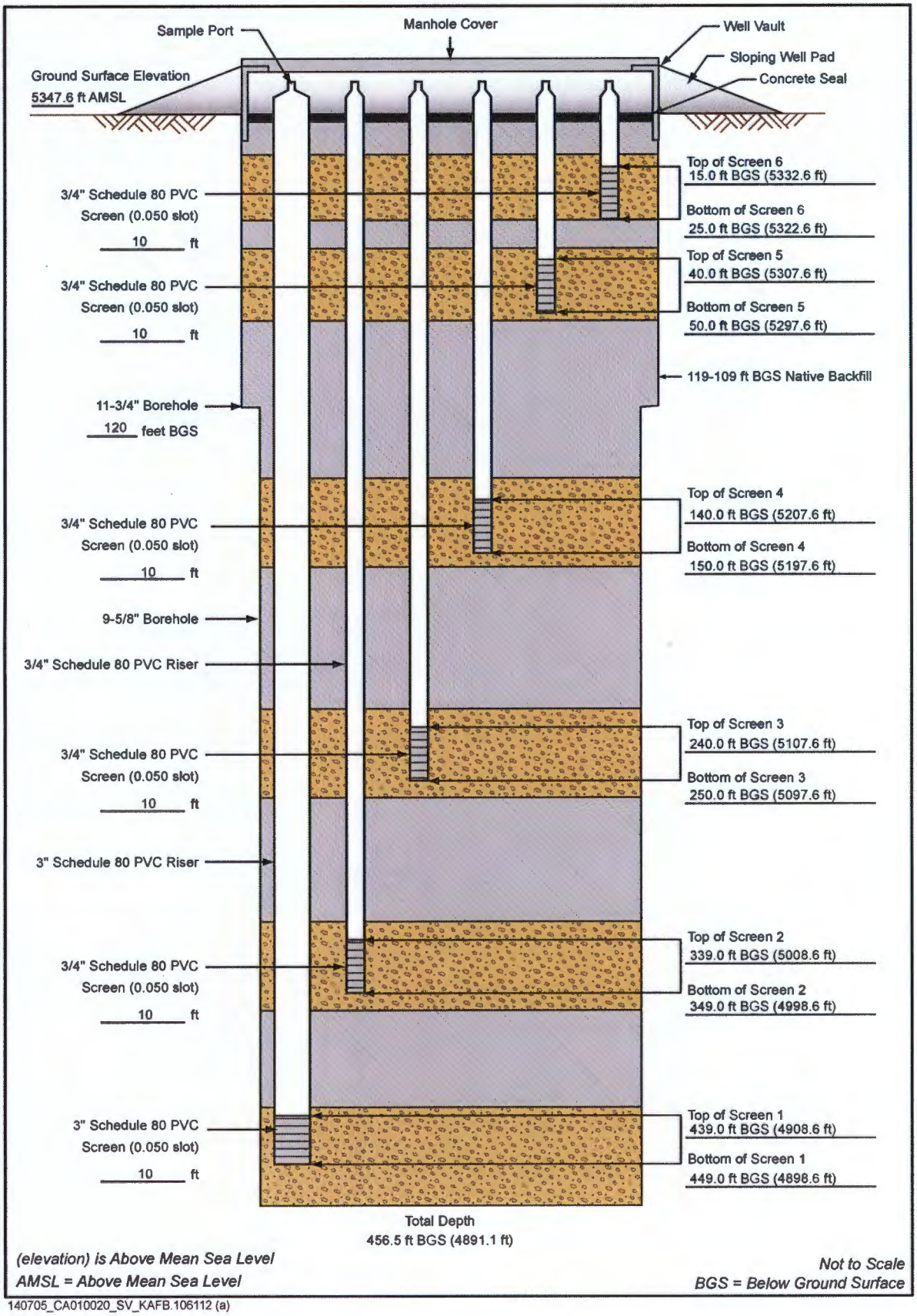
(elevation) is Above Mean Sea Level
All Materials Placed with Tremie Pipe

Not to Scale
BGS = Below Ground Surface

140705_CA010020_SV_KAFB.106112 (b)

Nested Soil Vapor Well Completion Diagram for KAFB-106112

Installation Start Date/Time: 3/1/2011 @ 8:00
Installation End Date/Time: 3/2/2011 @ 16:45



(elevation) is Above Mean Sea Level
AMSL = Above Mean Sea Level

Not to Scale
BGS = Below Ground Surface

140705_CA010020_SV_KAFB.106112 (a)

CH2MHILL	PROJECT NUMBER	WELL NUMBER KAFB-10628	SHEET 1 OF 1

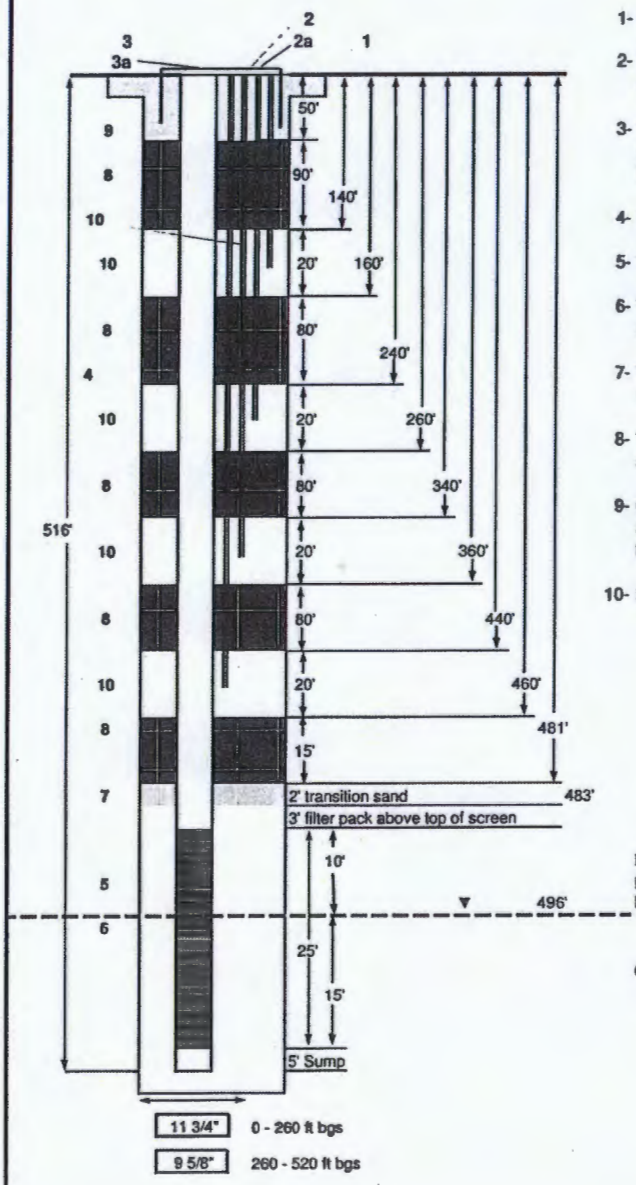
WELL COMPLETION DIAGRAM

PROJECT : KAFB Bulk Fuels Facility, LOCATION : USS Bullhead Park

DRILLING CONTRACTOR : WDC Exploration & Wells COORDINATES : TBD

DRILLING METHOD AND EQUIPMENT USED : Air Rotary Casing Hammer, Speedstar 30K DRILLER: Lee Alymer

WATER LEVEL : 496' START : 5/4/2010 END : 5/16/2010 LOGGER : W.Conway and M.Brislen



Not to scale

1- Ground elevation at well	TBD
2- Top of casing elevation	Surface elevation
a) vent hole?	no
3- Wellhead protection cover type	Surface completion
a) weep hole?	no
b) concrete pad dimensions	4' x 4'
4- Dia./type of well casing	4" schedule 80 PVC
5- Type/slot size of screen	Stainless Steel 0.010" slot
6- Type screen filter	10-20 Colorado Silica Sand
a) thickness installed	
7- Transition sand	20-40 Colorado Silica Sand
a) thickness installed	
8- Type of seal	Hydrated bentonite chips
a) thickness installed	
9- Cement	
a) Cement mix used	portland cement grout
b) thickness installed	50' (from ground surface to 50' bgs)
10- Dia./type of vapor wells	3/4" PVC vapor wells to be installed with 2.5' of 0.050" slot PVC screen and 8-16 Colorado Silica Sand filter pack. Installed at 450' bgs, 350' bgs, 250' bgs, and 150' bgs. Vapor wells will be spaced in well vault at ground surface with at least 1" of clearance between vapor well groundwater monitoring well. WDC indicated building a metal plate to aid well spacing in the vault.
Development method	None expected
Estimated purge volume	
Development time	

Comments: Borehole drilled to 520' bgs.
All depths below ground surface.

Well vault will need to be of sufficient size for access to all wells

APPENDIX B

Field Documentation

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Shaw Environmental and Infrastructure Inc., a CB&I Co.

CHAIN OF CUSTODY

Reference Document # 140705-SG TBC1

Page 1 of 1

Project Number: 140705
Project Name / Location: Kirtland AFB
Purchase Order #: 860167
Shipment Date: 10/7/13
UPS ~~FedEx~~ Number: 1Z 10335E 03 4343 7655
M-S

Lab Destination: ALS - Simi Valley
Mon-Sat DELIVERY
2655 Park Center Drive, Suite A
Simi Valley, CA 93065 USA
Lab Contact Name: Kate Kaneko Aguilera
Phone #: 805-577-2089

Project Manager: Tom Cooper
Send Report To: Susan Huang
Phone/Fax Number: 925-288-2099
Address: 4005 Port Chicago Hwy
City: Concord, CA 94520
susan.huang@cbifederalservices.com

Sampler's Name(s):

Sample ID Number	Location	Date	Time	Method	Matrix	# of containers	Preservative / Container	VOCs: TO-15	EDB: CARB 422				MS/MSD
							Preservative	none					
							Container	1x6 L Summa Canister					
KAFB-106161-PT-001	KAFB 106161	10-3-13	0840	G	SG	1		X	X				
KAFB-106161-PT-002	KAFB - 106161	10-3-13	1630	G	SG	1		X	X				
KAFB-106160-PT-001	KAFB - 106160	10-4-13	0825	G	SG	1		X	X				
KAFB-106160-PT-002	KAFB - 106160	10-4-13	1600	G	SG	1		X	X				

Special Instructions:

Turnaround Time: ■ Standard 21-day ☐ 24-hr ☐ 48-hr ☐ 3-day ☐ 5-day

Level Of QC Required: I II (III) IV Project Specific: unless IV requested

Relinquished By: Megan Bell Date: 10-7-13 Time: 1530

Received By: Date: Time:

Relinquished By: Date: Time:

Received By: Date: Time:

Method Codes
CS = Composite
G = Grab

Matrix Codes
SG = Soil Gas

Shaw Environmental and Infrastructure Inc., a CB&I Co.

CHAIN OF CUSTODY

Reference Document # 140705-SG TB02

Page 1 of 1

Project Number: 140705
Project Name / Location: Kirtland AFB
Purchase Order #: 860167
Shipment Date: 10/21/13
UPS ~~FedEx~~ Number: 1Z 1033SE0345158442

Lab Destination: ALS - Simi Valley
Mon-Sat DELIVERY
2655 Park Center Drive, Suite A
Simi Valley, CA 93065 USA
Lab Contact Name: Kate Kaneko Aguilera
Phone #: 805-577-2089

Project Manager: Tom Cooper
Send Report To: Susan Huang
Phone/Fax Number: 925-288-2099
Address: 4005 Port Chicago Hwy
City: Concord, CA 94520
susan.huang@cbifederalservices.com

Sampler's Name(s): V. Bracht, G. Peacock

Analyses Requested

Sample ID Number	Location	Date	Time	Method	Matrix	# of containers	Preservative / Container	VOCs: TO-15	EDB: CARB 422	QC'd by TP Dogg 10/21/13			MS/MSD
							Preservative	none					
							Container	1x6 L Summa Canister					
KAFB-106154-PT-002	KAFB-106154-349	10/18/13	0844	G	SG	1	NA	X	X	✓			
KAFB-106154-PT-002	KAFB-106154-349	10/18/13	1645	G	SG	1	NA	X	X	✓			
KAFB-106154-PT-003	KAFB-106154-349	10/18/13	1645	G	SG	1	NA	X	X	✓			
KAFB-106149-PT-001	KAFB-106149-349	10/16/13	1200	G	SG	1	NA	X	X	✓			
KAFB-106149-PT-002	KAFB-106149-349	10/16/13	1850	G	SG	1	NA	X	X	✓			

Special Instructions:

Turnaround Time: ■ Standard 21-day ☐ 24-hr ☐ 48-hr ☐ 3-day ☐ 5-day

Level Of QC Required: I II (III) IV Project Specific: unless IV requested

Relinquished By: V. Bracht Date: 10/21/13 Time: 1600

Received By: Date: Time:

Relinquished By: Date: Time:

Received By: Date: Time:

Method Codes
CS = Composite
G = Grab

Matrix Codes
SG = Soil Gas

Shaw® Shaw E & I

FS003.1_0

Ref. Document # 140705-PT001

Page 1 of 1

Form 3. Shaw E & I Chain of Custody Form

Project Number: 140705

Project Name / Location: KAFB-BFF Albuquerque N.M.

Purchase Order #:

Shipment Date: 11/8/13

Waybill/Airbill Number: 6155 7132 00

Lab Destination: ALS

Lab Contact Name / ph. #: Kate Aguilera 805-526-7161

Project Contact: Susan Huang 925-288-2099 (Name & phone #)

Send Report To: Susan Huang

Phone/Fax Number: 925-288-2099

Address: 4005 Port Chicago Hwy.

City: Concord CA 94520

Sampler's Name(s): Greg Peacock

Sample ID Number	Sample Description	Collection Information Date	Time	G/C	Matrix	# of containers	Container type	Preservative HCL	NaOH	HNO_3	H_2SO_4	Ice		Analyses Requested TO-15 (VOCs)	Carbon 422 (EDB)								Turn Around Time Requested
KAFB-106148-PT-001	VAPOR	11-1-13	10:30	G	AS	1	6LS							X	X								
KAFB-106148-PT-002	VAPOR	11-1-13	17:30	G	AS	1	6LS							X	X								
KAFB-106150-PT-001	VAPOR	11-7-13	09:30	G	AS	1	6LS							X	X								
KAFB-106150-PT-002	VAPOR	11-7-13	17:00	G	AS	1	6LS							X	X								
KAFB-106155-PT-001	VAPOR	11-4-13	08:12	G	AS	1	6LS							X	X								
KAFB-106155-PT-002	VAPOR	11-4-13	15:50	G	AS	1	6LS							X	X								

Special Instructions:

QC/Data Package Level Required: I II III IV/Project Specific:

Relinquished By:	Date:	Received By:	Date:
T Nogar / Shaw	Time: 11/8/13 10:00		Time:
Relinquished By:	Date:	Received By:	Date:
	Time:		Time:
Relinquished By:	Date:	Received By:	Date:
	Time:		Time:

G/C Codes

C = Composite G = Grab

Matrix Codes

DW = Drinking Water SO = Soil

GW = Ground Water SL = Sludge

WW = Waste Water CP = Chip Samples

SW = Surface Water WP = Wipe Samples

LIQ = Other Liquid SOL = Other Solid

AS = Air Sample SED = Sediment

Field Activity Daily Log

DATE	10	2	13
NO.			
SHEET	1	OF	1

Project Name: KAFB BFF

Project No. 140705

Field Activity Subject: SVE Pilot testing

Description of Daily Activities and Events:

0700: Safety meeting.
0720: Begin prep for Pilot testing. SVE system has been on overnight with 106/160 shut off, and only pulling from 106/161.
0800: Remove bolts from observation wells.
1030: H_2S and LEL meter arrives. Set up and calibrate.
1140: Begin test run of monitoring procedure.
1230: Finish test run, return to site trailer and put away equipment
1300: Leave site.

VB 10/2/13

VISITORS ON SITE:

—

CHANGES FROM PLANS AND SPECIFICATIONS AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:
H_2S meter does not arrive until 1030. Pilot testing will begin on Thursday.

WEATHER CONDITIONS:
Sunny, Warm

IMPORTANT TELEPHONE CALLS:

—

SHAW E & I PERSONNEL ON SITE: V. Bracht, M. Bitten

SIGNATURE: Vicki Bracht

DATE: 10/2/13

0.25 in x 0.25 in

Form Number: 139_2
Rev. 01-03-10

Field Activity Daily Log

DATE	10	3	13
NO.			
SHEET	1	OF	1

Project Name: 140705 Kirtland Air Force Base BFF Project No. 140705

Field Activity Subject: Pilot test

Description of Daily Activities and Events:

7:00 Safety meeting

7:20 gathered equipment for pilot test. checked calibration on equipment.

7:40 Truck inspection. gathered Horiba and generator

8:05 Began Pilot test

8:40 Began 1st summa sample, appears gauge on summa can is not working. using manometer to measure pressure. There is a chance ambient air will get into summa can and dilute the air sample.

9:10 Begin 2nd pilot test.

9:10 - 1624 Continued pilot testing

16:30 - Collected 2nd Grab Sample at well KAFB 106161 at 1630

16:45 - pack up equipment, put away.

17:05 - finish paper work

VISITORS ON SITE:

CHANGES FROM PLANS AND SPECIFICATIONS AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:
gauge on summa sample not working. left connected for 10 min.

WEATHER CONDITIONS:
Sunny

IMPORTANT TELEPHONE CALLS:

SHAW E & I PERSONNEL ON SITE: John Salazar

SIGNATURE: Meg R A

DATE: 10-3-13

0.25 in x 0.25 in

Form Number: 139_2
Rev. 01-03-10

Field Activity Daily Log

DATE	10	4	13
NO.			
SHEET	1	OF	1

Project Name: KAFB BFF Project No. 140705

Field Activity Subject: Pilot Testing

Description of Daily Activities and Events:

7:00 Signed Safty Analysis Sheet
7:10 Began gathering equipment for pilot test
7:40 Began Pilot testing
8:25 Collected 1st grab summa can sample, preasure gauge showed no change. Let run for 10 minutes.
8:40 Continued pilot testing
1300 Battery died on manometer, went to trailer to exchange battery. Went back to pilot test and received an error message: DFLT 9786
Went back to trailer called techarcian at 1330. They did not fix manomerter.
1340 Continued Pilot test without manomert
1600 Collected 2nd grab summa can sample. Preasure gauge did not move. Let collect for 10 minutes.
1630 Packed everything up and put equipment away and parked truck.

VISITORS ON SITE:

CHANGES FROM PLANS AND SPECIFICATIONS AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:
Manomert Stopped working at 1500, could not gather measurements

WEATHER CONDITIONS:
Windy Sunny

IMPORTANT TELEPHONE CALLS:
Manometer technician

SHAW E & I PERSONNEL ON SITE: John Salazar

SIGNATURE: Meg Sst

DATE: 10-4-13

0.25 in x 0.25 in

Form Number: 139_2
Rev 01-03-10

Field Activity Daily Log

DATE	10	14	13
NO.			
SHEET		OF	

Project Name: 140705 - KAFB - BFF

Project No.

Field Activity Subject: GAC Pad Prep & PVC Install for Pilot test

Description of Daily Activities and Events:

0700 Safety meeting
0730 Gather tools & equip
0800 Water truck operations
1330 To BFF for Pilot testing Assembly Build
well KAFB-106149 3 Heads. Measure, cut, glue PVC.

1700 Stop Pilot testing Assembly Build for Day
Put tools away. Store parts for tomorrow
1730 Leave - End of Day

10/14/13

VISITORS ON SITE:

CHANGES FROM PLANS AND SPECIFICATIONS AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:

WEATHER CONDITIONS: Sunny / Breezy

IMPORTANT TELEPHONE CALLS:

SHAW E & I PERSONNEL ON SITE: Adam Sloan

SIGNATURE:

DATE: 10/14/13

0.25 in x 0.25 in

Form Number: 139_2

Rev. 01-03-10

Field Activity Daily Log

DATE	10	15	13
NO.			
SHEET		OF	

Project Name: 140705 - KAFB

Project No.

Field Activity Subject: Finish PVC Install For pilot test Well # KAFB 106149

Description of Daily Activities and Events:

0700 Safety briefing
0745 Leave to pick up truck (Maco)
0820 Return truck to KAFB
0830 Gather equipment tools
0845 Back to BFF to finish Install For Pilot test KAFB 106149
1600 Pack Samples w/ Timmi
1630 Put tools in Shed. Store parts for pilot test Assembly
1700 Leave - End of Day

Adam Sloan
10/15/13

VISITORS ON SITE:

CHANGES FROM PLANS AND SPECIFICATIONS AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:

WEATHER CONDITIONS: Sunny / Breezy

IMPORTANT TELEPHONE CALLS:

SHAW E & I PERSONNEL ON SITE: ADAM SLOAN

SIGNATURE: Adam Sloan

DATE: 10/15/13

0.25 in x 0.25 in

Form Number: 139_2
Rev. 01-03-10

Shaw® Shaw Environmental, Inc.

FIELD ACTIVITY DAILY LOG

DAILY LOG			
DATE	10	15	13
NO.			
SHEET 1 OF 1			

PROJECT NAME: KAFB - BFF

PROJECT NO.: 140705

FIELD ACTIVITY SUBJECT: BFF well photos for Adam and Pilot test construction

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

7:00a Daily meet, tasks and safety
7:30a Assisted Adam Sloan with photos of wells in BFF
9:30a Began work on Pilot test construction
3:00p Assisted Tim and Andrew w/ packaging water samples
4:00p Took samples to Fedex w/ Sustin
4:30p Back to trailer to put supplies away from Trucks
5:00p End of Day

10-15-13

VISITORS ON SITE: N/A

CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS: N/A

WEATHER CONDITIONS: Clear and Windy 0-15 mph

IMPORTANT TELEPHONE CALLS: N/A

SHAW E&I PERSONNEL ON SITE: Adam Sloan, A. Aubrey, S. Martinez

SIGNATURE: DATE: 10-15-13

327C-12-98

Field Activity Daily Log

DATE	10	15	13
NO.			
SHEET	1	OF	1

Project Name: KAFB OFF

Project No. 140705

Field Activity Subject: SVE Pilot testing

Description of Daily Activities and Events:

1415: Arrive on site.
1458: Measure vacuum at observation wells KAFB-106117 and 106121.
1520: Begin quick test on 106149-484
1632: Finish quick test on 106149-484.
1659: Begin quick test on 106149-199.
1800: Finish quick test on 106149-199
1822: Leave site, end of day.

VB 10/15/13

VISITORS ON SITE:

CHANGES FROM PLANS AND SPECIFICATIONS AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:

WEATHER CONDITIONS:
Windy, chilly, VB Cloudy

IMPORTANT TELEPHONE CALLS:

SHAW E & I PERSONNEL ON SITE: V. Bracht

SIGNATURE: V. Bracht

DATE: 10/15/13

0.25 in x 0.25 in

Form Number: 139_2
Rev. 01-03-10

Field Activity Daily Log

DATE	10	16	13
NO.			
SHEET	1	OF	1

Project Name: KAFB-BFF Project No. 140705

Field Activity Subject: SVE Pilot test

Description of Daily Activities and Events:

0700: Safety meeting.
0800: Measure vacuum at observation wells
0828: Begin quick test on 106149-349.
0930: Complete quick test on 106149-349
0950: Call Shaw. Decide to long-test the Intermediate well because of high Benzene in nearby wells at the Intermediate level.
1100: Begin long test on 106149-349. Vacuum at 35 in WC.
1105: Close chain-wheel dilution valve. Vacuum at 5.5 in Hg. Every 30 min, measure vacuum, differential pressure, temperature, relative humidity, total hydrocarbons, CO, CO_2, O_2, H_2S, % LEL, and observation well vacuums.
1133: Begin sample. 10 min. duration
1200: Sample valve was closed. Open valve and begin 10 min. duration
1850: Second sample time.
1900: Test over.
1915: End of day.

VB 10/16/13

VISITORS ON SITE: —

CHANGES FROM PLANS AND SPECIFICATIONS AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS: —

WEATHER CONDITIONS: Cool light winds

IMPORTANT TELEPHONE CALLS: —

SHAW E & I PERSONNEL ON SITE: V. Bracht, G. Peacock, J. Tarbert.

SIGNATURE: V. Bracht DATE: 10/16/13

0.25 in x 0.25 in

Form Number: 139_2
Rev. 01-03-10

Shaw® Shaw Environmental, Inc.

FIELD ACTIVITY DAILY LOG

DAILY LOG			
DATE	10	17	13
NO.			
SHEET 1 OF 1			

PROJECT NAME: KAFB - BFF

PROJECT NO.: 140705

FIELD ACTIVITY SUBJECT: Relocation of Pilot test System and sample ship

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

7:00a Daily Meet, safety and Tasks
7:30a Assisted Justin Martinez with vehicle inspection on 29, 75, 77.
8:00a Began work on relocating Pilot test unit in BFF with Aaron Aubrey and Justin Martinez.
10:00a Completed Pilot test assembly, conducted an initial test for leaks.
11:00a Drilled 3 holes with Aaron Aubrey ~~to~~ Pilot unit for Ginny's sample.
11:30a Bagged Ice with Aaron Aubrey for water samples.
12:00p At BFF to remove cut Asphalt from Well for concrete pour.
1:30p Loaded shipment of coolers into blue conex, ~~left~~ w/ Aaron Aubrey.
2:00p Went to Gas Station to get 10 bags of Ice w/ Justin Martinez.
3:00p prepared Ice bags for water sample shipping with Kaelen Trice.
3:15p ~~QC Training with John Salazar, Kaelen Trice, and Tim Rogers.~~
4:10p ~~Sample (Water) Sent with Justin Martinez and Andrew Salazar~~
5:00p End of Day

10-17-13

VISITORS ON SITE: N/A

CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS: N/A

WEATHER CONDITIONS: Clear, 60's

IMPORTANT TELEPHONE CALLS: N/A

SHAW E&I PERSONNEL ON SITE: Aaron Aubrey

SIGNATURE: DATE: 10-17-13

Field Activity Daily Log

DATE	10	17	13
NO.			
SHEET	1	OF	1

Project Name: EAFB BFF

Project No. 140705

Field Activity Subject: SVE Pilot test

Description of Daily Activities and Events:

1140: Arrive on site.
1255: Begin quick test on 106154-~~149~~ 197 VB
1355: VB Quick test on 106154-197 complete.
1404: Begin quick test on 106154-350
1504: Quick test on 106154-350 complete
1510: Begin quick test on 106154-484.
1610: Quick test on 106154-484 complete.
1620: Check for highest vacuum 4-gas + Horiba can read on side port.
52 inWC - 4 gas can read.
4.6 in Hg - 4 gas can read, Horiba can read.
5.2 in Hg - 4 gas pump failure.
4.8 in Hg - 4 gas pump failure.
→ 4.6 in Hg max vacuum that both 4-gas meter and Horiba can read on the side port.
1715: Leave site, end of day

VB 10/17/13

VISITORS ON SITE: —

CHANGES FROM PLANS AND SPECIFICATIONS AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS: —

WEATHER CONDITIONS: Sunny, warm (PM) light breeze

IMPORTANT TELEPHONE CALLS: —

SHAW E & I PERSONNEL ON SITE: V. Bracht, G. Peacock

SIGNATURE: V. Bracht

DATE: 10/17/13

0.25 in x 0.25 in

Form Number: 139_2
Rev. 01-03-10

Shaw® Shaw Environmental, Inc.

FIELD ACTIVITY DAILY LOG

DAILY LOG				
	DATE	10	18	13
	NO.			
	SHEET 1 OF 1			

PROJECT NAME: KAFB BFF

PROJECT NO.: 140705

FIELD ACTIVITY SUBJECT: Long test of 106154-350

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

0700 - JSA + Tailgate @ trailer
0715 - Load truck, find gear necessary for day's work
0815 - MOB to KAFB-106154, take initial pressure readings @ 6 observation wells
0844 - Begin taking initial vapor sample from KAFB-106154-350
0903 - Begin Long Test of 106154-350, Readings @ 106154 and 6 observation wells every 30 min
1645 - Long test complete, begin taking ~~M~~ 106154-~~350~~ PT-002 and 106154-~~350~~ PT-003 (FD)
1715 - Sampling complete, MOB to trailer, unload truck
1730 - End of Day

10/18/13

VISITORS ON SITE: N/A

CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS: N/A

WEATHER CONDITIONS: clear, ~ 65°

IMPORTANT TELEPHONE CALLS: N/A

SHAW E&I PERSONNEL ON SITE: G. Peacock

SIGNATURE: Gy Peacock

DATE: 10/18/13

327C-12-98

Field Activity Daily Log

DATE	10	29	13
NO.			
SHEET	1	OF	

Project Name: KAFB BFF Pilot Test Project No. 140705

Field Activity Subject: Quick Test of KAFB-106152

Description of Daily Activities and Events:

0700 - JSA & Tailgate @ trailer
0720 - Load truck, prep equipment, discuss pilot test plans w/ Knoxville Engineers
0840 - Take background readings @ 106130 and 106121, cont. setting up quick test
0915 - air line from vacuum to well head is too short, need to move trailers closer.
- Must get ball and hitch from other truck @ water extraction well
1030 - Trailers are moved, retake background readings
1040 - Wait for Stewart to be back on site
1126 - Begin Quick test of 106152-494 Stewart determined Quick test could be run w/ dilution fully closed and wellhead fully open from the start without a problem
1244 - Begin Quick test of 106152-494
1453 - Begin Quick test of 106152-350
1630 - Begin analyzing vacuum data of SVMW-11 for ability to run quick test
- 4.5 inHg vacuum applied, Differential = 0.23 inWc
- 68 HC, RH = 18.8, Temp = 67.5°F, 0 LEL, 0 H_2S
1650 - G. Peacock leaves site, S. Shealy begins Quick test of SVEW-11
1743 - End Quick test, MOB to trailer, unload truck
1810 - End of Day

GP 10/29/13

VISITORS ON SITE:	CHANGES FROM PLANS AND SPECIFICATIONS AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:
N/A	N/A
WEATHER CONDITIONS:	IMPORTANT TELEPHONE CALLS:
~70°, windy pm	N/A

SHAW E & I PERSONNEL ON SITE: G. Peacock, S. Shealy

SIGNATURE: [signature] DATE: 10/29/13

0.25 in x 0.25 in

Form Number: 139_2
Rev. 01-03-10

Field Activity Daily Log Continuation Sheet

DATE	10	30	13
NO.			
SHEET	1	OF	1

Project Name: KAFB BFF Pilot Test Project No. 140705

Field Activity Subject: Pilot Quick test of KAFB-106130, 106156

Description of Daily Activities and Events:

0700 - JSA + Tailgate @ trailer
0720 - Grather equipment, plan activities, load truck
0820 - Begin MoBing trailers (3) to 106130
0945 - Begin step flow test of 106130
0957 - Begin Quick test of 106130
1100 - MoB equipment to 106156, set up @ well
1400 - Begin quick ~~test of~~ 106156-341
1530 - Quick test on 106156 complete, ~~begin Slow test on GP 10A11~~
- Begin MoBing equipment to P-Log well KAFB-106153
1650 - Unload truck
1700 - End of Day

GP

10/30/13

Gary Pearson
weather: partly cloudy ~55°
No visitors
CBI personel: G. Peacock, S. Shealy, S. Zachek

0.25 in x 0.25 in

Form Number: 140_2
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Shaw® Shaw Environmental, Inc.

FIELD ACTIVITY DAILY LOG

DAILY LOG				
	DATE	10	31	13
	NO.			
	SHEET 1 OF 1			

PROJECT NAME: KAFB BFF Pilot Test

PROJECT NO.: 140705

FIELD ACTIVITY SUBJECT: Quick test of KAFB-106153.

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

0700 - JSA & Tailgate @ trailer
0720 - Load truck, prep equipment
0820 - MOB to KAFB-106153, set up equipment
0830 - Begin flow test of well cluster @ 106153
0920 - Begin Quick test of 106153-484
1030 - Begin MOBing equipment to ~~106129~~ 106155
1215 - Begin Flowtest of 106155
1232 - Begin Quicktest of 106155-484
1337 - MOB to 106129, set up equipment
1422 - Begin Quick test @ 106129
1522 - MOB to 106113, set up equipment
1614 - Begin Quicktest of 106113
1715 - Break down site, MOB to trailer, unload equipment
1745 - End of Day

10/31/13

VISITORS ON SITE:

N/A

CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:

WEATHER CONDITIONS:

windy, ~ 60°

IMPORTANT TELEPHONE CALLS:

N/A

SHAW E&I PERSONNEL ON SITE: Peacock, Shealy, Zachek

SIGNATURE: [signature]

DATE: 10/31/13

327C-12-98

Field Activity Daily Log

DATE	11	1	13
NO.			
SHEET	1	OF	1

Project Name: KAFB BFF Pilot test Project No. 140705

Field Activity Subject: Quick tests, Long Test @ 106148

Description of Daily Activities and Events:

0700 - JSA + Tailgate @ trailer
0720 - Load truck, prep equipment, organize for pilot tests
0750 - MOB to 106148, set up well to CATOX unit for Long test
0930 - Begin Step Slow test of 106148
1002 - Begin Long test of KAFB-106148
1022 - Collect vapor sample from 106148, # KAFB-106148-349-PT-001
1530 - move portable SVE system to staging area near KAFB-106131
1730 - Collect vapor grab sample KAFB-106148-PT-002
1746 - Long test of 106148 complete, breakdown site
1800 - Organize paperwork
1815 - End of day

GP

11/1/13

VISITORS ON SITE: N/A

CHANGES FROM PLANS AND SPECIFICATIONS AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS: N/A

WEATHER CONDITIONS: clear, ~60°

IMPORTANT TELEPHONE CALLS: N/A

SHAW E & I PERSONNEL ON SITE: Peacock, Shealy, Zachek

SIGNATURE: [signature] DATE: 11/1/13

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Form Number: 139_2
Rev. 01-03-10

Shaw® Shaw Environmental, Inc.

FIELD ACTIVITY DAILY LOG

DAILY LOG				
	DATE			
	NO.	11/4/13		
	SHEET 1 OF			

PROJECT NAME: KAFB BFF Pilot Test

PROJECT NO.: 140705

FIELD ACTIVITY SUBJECT: Long test of KAFB-106155

DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:

0600 - JSA & Tailgate @ trailer
0620 - Load truck, organize plan for the test, prep equipment
0700 - MOB to KAFB-106155, set up equipment, Zachek takes background readings @ observation wells
0812 - Begin long test of 106155
0842 - Take Summa Can vapor sample # KAFB-106155-PT-001
1550 - Collect Summa Can vapor sample # KAFB-106155-PT-002
1615 - Shut down SVE system, break down site
1630 - MOB to trailer, unload truck, organize paperwork
1645 - End of Day

GP

11/4/13

VISITORS ON SITE: N/A

CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS: N/A

WEATHER CONDITIONS: ~~N/A~~ GP clear, ~62°

IMPORTANT TELEPHONE CALLS: N/A

SHAW E&I PERSONNEL ON SITE: Peacock, Zachek, Shealy

SIGNATURE: [signature]

DATE: 11/4/13

Field Activity Daily Log

DATE	11	7	13
NO.			
SHEET	1	OF	1

Project Name: KAFB BFF Pilot Test Project No. 140705

Field Activity Subject: Long test of KAFB-106150

Description of Daily Activities and Events:

0700 - JSA + Tailgate @ trailer
0720 - Load truck, prep equipment, take background readings @ all observation wells, connect 106150 to CATOX unit
0820 - MOB to 106150, warm-up Horiba
0830 - Step Flow test of 106150
0854 - Begin Long Test of 106150-484, HC > 10,000
0930 - Take vapor grab sample KAFB-106150-PT-001
1124 - Dilution valve @ well head opened to 1/4 for dilution of LEL. LEL is reading > 80%
1200 - Dilution valve @ well head opened to 3/8 for dilution of LEL.
1700 - Take vapor grab sample KAFB-106150-PT-002.
1710 - Break down site, MOB to trailer
1730 - Unload truck, prep paperwork
1750 - End of Day

11/7/13
GP

VISITORS ON SITE: N/A

CHANGES FROM PLANS AND SPECIFICATIONS AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS: N/A

WEATHER CONDITIONS: clear, ~60°

IMPORTANT TELEPHONE CALLS: N/A

SHAW E & I PERSONNEL ON SITE: Peacock, Zachek, Britten

SIGNATURE: [signature] DATE: 11/7/13

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Form Number: 139_2
Rev. 01-03-10

Field Activity Daily Log

DATE	11	8	13
NO.			
SHEET	1	OF	1

Project Name: KAFB BFF PILOT TEST Project No. 140705

Field Activity Subject: Pilot Test Quick TESTS

Description of Daily Activities and Events:

7:00 Safety meeting
7:30 Gathered gear for pilot Test
8:00 Seth went to store to buy hitch to haul trailers to well locations. 10628
8:45 Began hauling equipment to well ~~106428~~
Set up equipment, David bought missing pipe.
11:00 Began step test at well KAFB10628

11:30 Began pilot quick test
12:30 Ended pilot quick test
12:30 Began packing up equipment and moving to well KAFB 106142
14:30 Set up equipment at well KAFB 106142

1515 Began step test at well KAFB 106142

1530 Began quick test at KAFB 106142
Note: well KAFB 106141 Buried by dirt at construction site only observed well KAFB 106136.
1630 Finished quick test at KAFB 106142
1640 Packed up equipment, moved trailers to KAFB BFF.
1740 Finished unloading all equipment.

VISITORS ON SITE:
NA

CHANGES FROM PLANS AND SPECIFICATIONS AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:
NA

WEATHER CONDITIONS:
Sunny

IMPORTANT TELEPHONE CALLS:
NA

SHAW E & I PERSONNEL ON SITE: John Salazar

SIGNATURE: [illegible]

DATE: 11-8-13

0.25 in x 0.25 in

Form Number: 139_2
Rev. 01-03-1

Field Activity Daily Log

DATE	11	18	13
NO.			
SHEET	1	OF	1

Project Name: Kirtland Project No. 140705

Field Activity Subject: Pilot Test Step flow Test

Description of Daily Activities and Events:

7:00 Safety Meeting

7:45 Seth and I gathered equipment for pilot Test

8:00 Moved trailers to well site hooked up equipment with hoses and generator

9:30 Began step flow test, took readings first at well SVEW 11 then at well KAFB 106152.

10:45 Gathered equipment, shut down blower and generator

11:00 put equipment away

11:30 Aquifer Test Meeting

VISITORS ON SITE: NA

CHANGES FROM PLANS AND SPECIFICATIONS AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS: NA

WEATHER CONDITIONS: Cool

IMPORTANT TELEPHONE CALLS: NA

SHAW E & I PERSONNEL ON SITE:

SIGNATURE: Megan BA

DATE: 11-18-13

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Form Number: 139_2

Rev. 01-03-10

SVE Pilot Testing
Observation Wells

106160

Project Name: KAFB BFF
Project Number: 140705

Staff: Megan Britton
Date: 10-04-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106117	450	7:41	1.73	
	350		1.12	
	250		0.49	
106116	450	7:44	1.07	
	350		0.87	
	250		0.37	
106121	450	7:48	0.49	
	350		0.46	
	250		0.21	
106114	450	7:51	1.03	
	350		0.87	
106128	450	7:54	3.71	
	350		1.41	
	250		0.45	
106119	450	7:57	1.57	
	350		~~8~~ 1.02	
106119	450	8:47	1.81	
	350		1.29	
106117	450	851	2.03	
	350		1.40	
	250		0.74	
106116	450	853	1.40	
	350		1.22	
	250		0.65	
106121	450	856	0.81	
	350		0.76	
	250		0.48	
106114	450	8:59	1.36	
	350		1.17	
106128	450	9:02	4.04	
	350		1.80	
	250		0.78	
106119		9:11	1.92	
			1.35	
106117		916	2.12	
			1.48	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Meg a Brittain
Date: 10-4-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106117	250		0.81	
106116	450	9:18	1.48	
	350		1.30	
	250		0.77	
106121	450	9:22	0.87	
	350		0.82	
	250		0.55	
106114	450	9.24	1.39	
	350		1.15	
106128	450	9.28	4.09	
	350		1.88	
	250		0.82	
106119	450	9:44	2.03	
	350		1.48	
106128	450	9:47	4.13	
	350		1.82	
	250		0.82	
106114	450	9:50	1.44	
	350		1.29	
106121	450	9:52	0.92	
	350		0.86	
	250		0.59	
106116	450	9:54	1.52	
	350		1.32	
	250		0.76	
106117	450	9:57	2.19	
	350		1.55	
	250		0.85	
106119	450	10:16	2.10	
	350		1.53	
106128	450	10:18	4.20	
	350		1.90	
	250		0.89	
106114	450	10:22	1.57	
	350		1.39	
106121	450	10:24	1.03	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Megan Britter
Date: 10-4-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106121	350		0.94	
	250		0.69	
106116	450	10.28	1.60	
	350		1.40	
	250		0.82	
→ 106117	450	10.29	2.28	
	350		1.62	
	250		~~1~~ 0.90	
106119	450	10:41	2.11	
	350		1.56	
106128	450	10:44	4.22	
	350		1.98	
	250		0.91	
106114	450	1050	1.62	
	350		1.46	
106121	450	1052	1.11	
	350		1.05	
	250		0.79	
106116	450	1056	1.73	
	350		1.53	
	250		0.93	
106117	450	1058	2.38	
	350		1.69	
	250		1.16	
106119	450	1112	2.27	
	350		1.70	
6128	450	1117	4.26	
	350		1.99	
	250		0.91	
106~~121~~114	450	1121	1.59	
	350		1.44	
106121	450	1124	1.05	
	350		1.02	
	250		0.74	
106116	450	1127	1.66	
	350		1.46	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Megan Britten
Date: 10-4-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106116	250		0.84	
106117	450	1129	2.32	
106117	350	1129	1.66	
	250		0.94	
106119	450	1140	2.09	
	350		1.53	
106128	450	1147	4.26	
	350		2.06	
	250		0.98	
106114	450	1151	1.67	
	350		1.50	
106121	450	1153	1.15	
	350		1.09	
	250		0.82	
106116	450	1156	1.74	
	350		1.57	
	250		0.92	
106117	450	1158	2.43	
	350		1.76	
	250		1.01	
106119	450	1211	2.23	
	350		1.68	
106128	450	1217	4.36	
	350		2.11	
	250		1.01	
106114	450	1222	1.65	
	350		1.52	
106121	450	1224	1.18	
	350		1.13	
	250		0.82	
106116	450	1227	1.74	
	350		1.52	
	250		0.93	
106117	450	1231	2.40	
	350		1.75	
	250		1.02	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Megan Britten
Date: 10-4-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	1243	2.21	
	350		1.65	
106128	450	1248	4.25	
	350		2.06	
	250		0.94	
106114	450	1252	1.65	
	350		1.46	
106121	450	1255	1.11	
	350		1.05	
	250		0.76	
106116	450	1258	1.69	
	350		1.52	
	250		0.85	
106117	450	1259	2.39	
	350		1.76	
	250		0.97	
106119	450	1312	2.14	
	350		1.52	
106~~#4~~128	450	1316	4.16	
	350		1.92	
	250		0.81	
106114	450	1320	1.48	
	350		1.34	
106121	450	1322	0.99	
	350		0.95	
	250		0.63	
106116	450	1326	1.53	
	350		1.33	
	250		0.71	
106117	450	1327	2.17	
	350		1.54	
	250		0.74	
106119	450	1342		1.96
	350		1.40	
106128	450	1347	4.04	
	350		1.79	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Megan Britten
Date: 10-4-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	250		0.65	
106114	450	1351	1.37	
	350		1.21	
106121	450	1354	0.84	
	350		0.80	
	250		0.47	
106116	450	1400	1.44	
	350		1.20	
	250		0.55	
106117	450	1401	2.09	
	350		1.40	
	250		0.64	
106119	450	1412	1.86	
	350		1.33	
106128	450	1417	3.93	
	350		1.68	
	250		0.00	
106114	450	1422	1.30	
	350		1.15	
106121	450	1424	0.77	
	350		0.74	
	250		0.40	
106116	450	1427	1.37	
	350		1.13	
	250		0.49	
106117	450	1442	2.00	
	350		1.37	
	250		0.60	
106119	450	1446	1.86	
	350		1.26	
				Manometer stopped working :(

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: Megan Britton
Date: 10-4-13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
Sample 8:25 106160		7:40	22.16	0.51		63.4	32.2	7120	2.34	0.00	16.80	0	2	
106160		8:40	22.30	0.54		56.7	29.7	7140	2.32	0.00	16.79	0	46	
106160		9:10	22.28	0.52		58.9	26.7	7160	2.28	0.00	16.41	0	47	
106160		9:40	22.29	0.54		57.7	26.7	7170	2.30	0.00	16.41	0	59	
106160		10:10	22.33	0.54		61.9	23.5	7200	2.28	0.00	16.40	0	61	
106160		10:40	22.38	0.54		62.6	23.6	7210	2.32	0.00	16.40	0	62	
106160		11:10	22.36	0.51		63.0	18.8	7220	2.32	0.00	16.41	0	64	
106160		11:40	22.44	0.50		66.0	18.5	7220	2.32	0.00	16.35	0	65	
106160		12:10	22.36	0.51		70.3	14.3	7250	2.32	0.00	16.34	0	66	
106160		12:40	22.30	0.50		67.3	15.4	7270	2.32	0.00	16.48	0	64	
106160		13:10	22.12	0.53		67.1	16.2	7280	2.32	0.00	16.18	0	64	
106160		13:40	22.06	0.50		67.6	16.0	7300	2.32	0.00	16.26	0	62	
106160		14:10	21.95	0.54		68.2	13.7	7320	2.34	0.00	16.17	0	62	
106160		14:40				69.4	11.9	7310	2.34	0.00	16.17	0	58	
Sample 16:00 106160		15:10				65.8	13.2	7330	2.36	0.00	16.25	0	58	
106160		15:40				67.1	12.0	7370	2.36	0.00	16.19	0	62	

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF 106161
Project Number: 140705

Staff: Megan Britten
Date: 10-3-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106116	450	8:10	3.94	
	350		1.82	
	250		0.06	
106117	450	8:14	1.42	
	350		0.90	
	250		0.16	
106114	450	8:20	0.98	
	350		0.78	
106121	450	8:25	0.49	
	350		0.45	
	250		0.07	
106129	450	8:27	1.36	
	350		0.72	
106112	450	8:33	1.81	
	350		1.34	
	~~250~~	8:40		Grab Sample
106116	450	9:14	4.35	
	350		2.04	
	250		0.25	
106117	450	9:17	1.66	
	350		1.05	
	250		0.38	
106114	450	9:22	1.22	
	350		1.00	
106121	450	9:24	0.73	
	350		0.67	
	250		~~0.03~~ 0.11	
106129	450	9:27	1.61	
	350		0.97	
106112	450	9:32	2.04	
	350		1.57	
106116	450	9:44	4.39	
	350		2.08	
	250		0.30	
106117	450	9:47	1.69	
	350		1.13	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Megan Britten
Date: 10-3-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106117	250	9:47	0.38	
106114	450	9:52	1.22	
	350		1.01	
106121	450	9:55	0.72	
	350		0.65	
	250		0.09	
106129	450	9:58	1.58	
	350		0.94	
106112	450	10:00	1.93	
	350		1.50	
106116	450	10:13	4.33	
	350		2.02	
	250		0.22	
106117	450	10:16	1.64	
	350		1.07	
	250		0.32	
106114	450	10:19	1.16	
	350		0.94	
106121	450	10:22	0.65	
	350		0.58	
	250		0.01	
106 129	450	10:25	1.50	
	350		0.87	
106112	450	10:29	1.89	
	350		1.42	
106116	450	10:40	4.27	
	350		1.96	
	250		0.14	
106117	450	10:43	1.55	
	350		1.03	
	250		0.24	
106114	450	10:47	1.09	
	350		0.87	
106121	450	10:50	0.57	
	350		0.50	
	250		-0.06	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Megan Britter
Date: 10-3-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106129	450	10:53	1.44	
	350		0.80	
106112	450	10:56	1.82	
	350		1.34	
106116	450	11:10	4.17	
	350		1.85	
	250		0.04	
106117	450	11:08	1.48	
	350		0.94	
	250		0.15	
106114	450	11:14	1.00	
	350		0.79	
106121	450	11:16	0.49	
	350		0.41	
	250		-0.14	
106129	450	11:19	1.34	
	350		0.68	
106112	450	11:22	1.74	
	350		1.20	
106116	450	11:40	4.07	
	350		1.77	
	250		-0.05	
106117	450	11:41	1.39	
	350		0.84	
	250		0.06	
106114	450	11:45	0.91	
	350		0.69	
106121	450	11:48	0.42	
	350		0.32	
	250		-0.23	
106129	450	11:50	1.25	
	350		0.61	
106112	450	11:53	1.60	
	350		1.11	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Megan Britten
Date: 10-3-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106116	450	12:17	3.86	
	350		1.54	
	250		-0.026	
106117	450	12:15	1.18	
	350		0.63	
	250		-0.15	
106114	450	12:21	0.67	
	350		0.45	
106121	450	12:24	0.16	
	350		0.09	
	250		-0.47	
106129	450	12:26	1.02	
	350		0.36	
→ 106112	450	12:29	1.34	
	350		0.84	
106116	450	12:44	3.65	
	350		1.34	
	250		-0.47	
106117	450	12:46	0.96	
	350		0.41	
	250		-0.37	
106114	450	12:51	0.47	
	350		0.26	
106121	450	12:53	-0.02	
	350		-0.07	
	250		-0.67	
106129	450	12:56	0.84	
	350		0.18	
106112	450	12:59	1.19	
	350		0.72	
106116	450	13:12	3.50	
	350		~~1.75~~	1.16
	250		~~0.00~~	-0.63
106117	450	13:16	0.77	
	350		0.23	
	250		-0.55	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Megan Bt
Date: 10-3-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106114	450	1320	0.29	
	350		0.07	
106121	450	1322	-0.24	
	350		-0.31	
	250		-0.89	
106129	450	1325	0.62	
	350		-0.04	
106112	450	1328	0.96	
	350		0.47	
106116	450	1345	3.22	
	350		0.89	
	250		-0.90	
106117	450	1343	0.60	
	350		0.02	
	250		-0.75	
106114	450	1350	0.04	
	350		-0.18	
106121	450	1352	-0.49	
	350		-0.58	
	250		-1.16	
106129	450	1354	0.33	
	350		-0.28	
106112	450	1357	0.67	
	350		0.22	
106116	450	1412	3.06	
	350		0.75	
	250		-1.05	
106117	450	1414	0.32	
	350		-0.15	
	250		-0.96	
106114	450	1418	-0.13	
	350		-0.36	
106121	450	1420	-0.63	
	350		-0.74	
	250		-1.29	
106129	450	1423	0.18	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Megan Britten
Date: 10-3-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106129	350		-0.46	
106112	450	1426	0.55	
	350		0.07	
106116	450	1444	2.93	
	350		0.60	
	250		~~-0.~~ -1.19	
106117	450	1446	0.22	
	350		-0.31	
	250		~~-0.~~ -1.07	
106114	450	1450	-0.28	
	350		-0.48	
106121	450	1452	-0.76	
	350		-0.86	
	250		-1.43	
106129	450	1455	0.07	
	350		-0.53	
106112	450	1458	0.45	
	350		-0.04	
106116	450	1513	2.81	
	350		0.48	
	250		-1.29	
106117	450	1515	0.12	
	350		-0.41	
	250		-1.16	
106114	450	1519	-0.36	
	350		-0.58	
106121	450	1521	-0.86	
	350		-0.96	
	250		-1.53	
106129	450	1524	-0.02	
	350		-0.68	
106112	450	1526	0.31	
	350		-0.16	
106116	450	1543	2.67	
	350		~~-1.42~~ 0.35	
	250		-1.42	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff:
Date:

Well ID	Depth	Time	Vacuum (inWC)	Comments
106117	450	1545	-0.03	
	350		-0.55	
	250		-1.29	
106114	450	1550	-0.56	
	350		-0.78	
106121	450	1552	-1.03	
	350		-1.13	
	250		-1.71	
106129	450	1554	-0.22	
	350		-0.88	
106112	450	1558	-0.45	
	350		-0.32	
106116	450	1603	2.55	
	350		-0.02	
	250		-1.54	
106117	450	1605	-0.16	
	350		-0.69	
	250		-1.40	
106114	450	1610	-0.67	
	350		-0.89	
106121	450	1612	-1.16	
	350		-1.26	
	250		-1.85	
106129	450	1615	-0.35	
	350		-0.99	
106112	450	1619	-0.03	
	350		-0.50	
106116	450			
	350			
	250			
106117	450			
	350			
	250			
106114	450			
	350			
106121	450			

SVE Pilot Testing
Observation Wells

Page _____ of _____

Project Name: KAFB BFF
Project Number: 140705

Staff: _____
Date: _____

Well ID	Depth	Time	Vacuum (inWC)	Comments
106121	350			
	250			
106129	450			
	350			
106112	450			
	350			
106116				

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

10-3-13
Sample 8:43

Staff: Megan Britten
Date: 10-3-13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
Sample 106161 ~~106162~~		8:05	25.66	0.85		58.5	45.1	7610 ~~120~~	2.30	0.00 ~~0.01~~	16.40 ~~0~~	0	50	
106161		8:10	25.65	0.81		69.3	28.8	7640	2.34	0.00	16.46	0	38	
106161		9:40	25.59	0.80		72.1	26.7	7650	2.28	0.00	16.59	0	55	
106161		10:10	25.16	0.84		74.5	23.9	7650	2.28	0.00	16.68	0	56	
106161		10:40	25.12	0.80		75.6	24.7	7670	2.30	0.00	16.70	0	57	
106161		11:10	25.33	0.79		78.4	20.9	7660	2.28	0.00	16.50	0	58	
106161		11:40	25.12	0.83		79.3	18.8	7660	2.28	0.00	16.34	0	58	
106161		12:10	24.92	0.82		78.4	19.0	7660	2.30	0.00	16.35	0	59	
106161		12:40	24.62	0.80		82.0	15.5	7670	2.30	0.00	16.79	0	59	
106161		13:10	24.22	0.81		82.4	13.0	7680	2.28	0.00	16.20	0	59	
106161		1340	24.14	0.83		83.5	10.9	7680	2.30	0.00	16.35	0	59	
106161		1410	24.16	0.82		81.1	15.9	7690	2.30	0.00	16.43	0	59	
106161		1440	24.09	0.79		80.8	16.2	7690	2.30	0.00	16.35	0	59	
106161		1510	23.74	0.81		81.0	15.7	7690	2.28	0.00	16.35	0	59	
106161		1540	23.59	0.82		79.0	16.1	7700	2.30	0.00	16.96	0	60	
Sample 106161 ~~106161~~		1610	23.55	0.80		79.0	16.2	7710	2.30	0.00	16.60			

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: Shanly, Peacock
Date: 11/1/13
106148 Long Test

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106148	484	0927	36	1.50		47.8	44.0	1010	2.92	0	16.36	—		Step Flow Test
			22	0.90		47.7	44.5	1481	3.42	0	15.48	—		
			10	0.32		47.1	44.8	1853	3.76	0	14.87	—		HC climbing > 2120
	349	0935				47.1	51.7	9410	15.98	0	0.51			
			22	1.38		47.7	48.7	>10000	—	—	—	—		
			30	1.88		46.4	79.5	>10000	15.14	0	1.19	0	40+	4 gas CO: 27 ppm
	199	~~199~~ 0945	22	1.95		50.2	52.3	7060	16.20	0	0.44	0	34	
			10	0.67		49.5	45.8	7280	16.30	0	0.37	—		
	349	0952	25	1.74		52.7	69.8	>10000	12.98	0	3.61	0	44	Long Test Start, 4 gas CO: 35 ppm
		1022	28	1.78		46.8	62.1	9590	12.26	0	4.28	0	51	4 gas CO: 40 ~~Collect Sample~~
		1052	28	1.68		48.7	79.3	9420	11.98	0	5.04	0	40+	Collect Sample #
		1122	28	1.74		53.6	1.0	9480	11.82	0.01	5.10	0	42	4 gas CO: 45 ppm
		1152	28	1.79		57.0	1.0	9460	11.58	0.01	5.10	0	42+	4 gas CO: 57 ppm
		1222	28	1.79		56.7	56.2	–	–		7.44	0	47+	4 gas CO 61 } Horiba Fuji
		1252	28	1.77		60.1	43.8	–	–		5.2	0	55+	77 ppm CO }
		1322	28	1.82		58.8	45.0	10,000+	12.16	0.01	5.2	0	57	80 ppm CO
		1352	27	1.91		61.9	31.4	10,000+	12.12	0.01	4.18	0	45	77 ppm CO
		1422	27.5	1.87		65.8	26.1	9,970	11.98	0	4.22	0	57	80 ppm CO
		1452	28	1.80		65.1	26.5	9,970	11.88	0.01	4.06	0	48+	78 ppm CO
		1522	27	1.77		69.0	23.9	>10,000	11.80	0.01	4.20	0	48+	76 ppm CO
		1552	27	1.79		64.9	28.1	~~9550~~	~~11.84~~	0.01	~~4.23~~	0	50	70 ppm CO
		1622	28	1.76		65.1	24.9	9960	11.84	0.01	4.26	0	47+	76 ppm CO
		1652	28	1.81		64.6	26.0	10,000+	11.78	0.01	4.39	0	66	78 ppm CO

1552-CO_2 11.76 O_2 4.31

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: Shenly, Peacock, Zachek
Date: 11/1/13
106148 Long Test

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106148	349	1522	27	1.87		63.3	25.1	10,000+	11.86	0.01	4.35	0	51	75 ppm CO

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek
Date: 11/1/13
Long Test of 106148

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	8:04	1.22	
	350		1.28	
	250		1.31	
	150		1.26	
	50		0.35	
106111	450	8:18	1.29	
	350		1.45	
	250		1.45	
	150		1.38	
	50		0.50	
106117	450	8:41	1.44	
	350		1.49	
	250		1.49	
	150		1.39	
	50		0.66	
106128	450	8:46	1.48	
	350		1.53	
	250		1.58	
	150		1.46	
	50		0.69	
106118	450	8:54	1.46	
	350		1.51	
	250		1.53	
	150		1.48	
	50		0.46	
106113	450		1.54	
	350		1.58	
	250		1.60	
	150		1.54	
	50		0.46	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek
Date: 11/1/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	10:29	1.74	
	350		1.84	
	250		2.04	
	150		1.76	
	50		0.27	
106111	450	10:20	1.78	
	350		1.89	
	250		1.90	
	150		1.73	
	50		0.46	
106117	450	10:33	1.70	
	350		1.76	
	250		1.76	
	150		1.56	
	50		0.57	
106128	450	10:38	1.66	
	350		1.76	
	250		1.83	
	150		1.57	
	50		0.58	
106118	450	10:24	1.83	
	350		1.81	
	250		1.80	
	150		1.74	
	50		0.30	
106113	450	10:42	1.80	
	350		1.80	
	250		1.78	
	150		1.66	
	50		0.27	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock
Date: 11/1/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	1113	1.77	
	350		1.90	
	250		2.11	
	150		1.78	
	50		0.23	
106111	450	1056	1.76	
	350		1.90	
	250		1.92	
	150		1.74	
	50		0.42	
106117	450	1111	1.76	
	350		1.81	
	250		1.82	
	150		1.59	
	50		0.57	
106128	450	1108	1.72	
	350		1.79	
	250		1.86	
	150		1.62	
	50		0.57	
106118	450	1100	1.84	
	350		1.86	
	250		1.76	
	150		1.71	
	50		0.29	
106113	450	1105	1.78	
	350		1.84	
	250		1.82	
	150		1.68	
	50		0.28	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zach K
Date: 11/1/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	11:30	1.67	
	350		1.81	
	250		2.02	
	150		1.69	
	50		0.16	
106111	450	11:20	1.81	
	350		1.91	
	250		1.94	
	150		1.75	
	50		0.41	
106117	450	11:33	1.65	
	350		1.71	
	250		1.73	
	150		1.46	
	50		0.47	
106128	450	11:41	1.58	
	350		1.68	
	250		1.73	
	150		1.50	
	50		0.45	
106118	450	11:25	1.81	
	350		1.82	
	250		1.80	
	150		1.69	
	50		0.22	
106113	450	11:37	1.70	
	350		1.74	
	250		1.70	
	150		1.56	
	50		0.16	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock
Date: 11/1/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	1212	1.52	
	350		1.65	
	250		1.87	
	150		1.54	
	50		0.07	
106111	450	1157	1.67	
	350		1.78	
	250		1.80	
	150		1.61	
	50		0.31	
106117	450	1209	1.53	
	350		1.58	
	250		1.60	
	150		1.37	
	50		0.39	
106128	450	1207	1.53	
	350		1.61	
	250		1.66	
	150		1.41	
	50		0.40	
106118	450	1200	1.68	
	350		1.70	
	250		1.66	
	150		1.51	
	50		0.13	
106113	450	1204	1.60	
	350		1.64	
	250		1.61	
	150		1.43	
	50		0.10	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek
Date: 11/1/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	12:28	1.42	
	350		1.58	
	250		1.79	
	150		1.45	
	50		0.01	
106111	450	12:20	1.56	
	350		1.67	
	250		1.69	
	150		1.52	
	50		0.25	
106117	450	12:32	1.42	
	350		1.49	
	250		1.47	
	150		1.23	
	50		0.28	
106128	450	12:39	1.29	
	350		1.46	
	250		1.54	
	150		1.30	
	50		0.31	
106118	450	12:23	1.42	
	350		1.58	
	250		1.55	
	150		1.44	
	50		0.05	
106113	450	12:35	1.46	
	350		1.49	
	250		1.44	
	150		1.28	
	50		0.00	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock
Date: 11/1/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	1317	1.18	
	350		1.31	
	250		1.33	
	150		1.29	
	50		-0.04	
106111	450	1301	1.32	
	350		1.43	
	250		1.45	
	150		1.31	
	50		0.10	
106117	450	1314	1.19	
	350		1.25	
	250		1.10	
	150		1.03	
	50		0.19	
106128	450	1312	1.10	
	350		1.24	
	250		1.28	
	150		1.07	
	50		0.16	
106118	450	1304	1.15	
	350		1.36	
	250		1.33	
	150		1.21	
	50		-0.05	
106113	450	1310	1.20	
	350		1.26	
	250		1.20	
	150		1.06	
	50		-0.11	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock
Date: 11/1/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	1337	1.10	
	350		1.22	
	250		1.52	
	150		1.20	
	50		-0.03	
106111	450	1323	1.18	
	350		1.29	
	250		1.32	
	150		1.17	
	50		0.05	
106117	450	1335	1.04	
	350		1.12	
	250		1.14	
	150		0.93	
	50		0.13	
106128	450	1333	1.01	
	350		1.12	
	250		1.16	
	150		0.94	
	50		0.10	
106118	450	1328	1.17	
	350		1.21	
	250		1.66	
	150		1.12	
	50		-0.11	
106113	450	1330	1.08	
	350		1.13	
	250		1.09	
	150		0.89	
	50		-0.16	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek
Date: 11/1/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	14:05	0.90	
	350		1.03	
	250		1.28	
	150		1.01	
	50		-0.09	
106111	450	13:55	1.00	
	350		1.13	
	250		1.16	
	150		1.01	
	50		0.00	
106117	450	14:08	0.87	
	350		0.92	
	250		0.94	
	150		0.75	
	50		0.07	
106128	450	14:16	0.84	
	350		0.95	
	250		1.01	
	150		0.82	
	50		0.09	
106118	450	14:00	0.94	
	350		1.00	
	250		0.99	
	150		0.87	
	50		-0.19	
106113	450	14:12	0.89	
	350		0.91	
	250		0.86	
	150		0.69	
	50		-0.20	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachik
Date: 11/1/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	14:35	0.91	
	350		1.04	
	250		1.31	
	150		1.06	
	50		0.00	
106111	450	14:27	0.95	
	350		1.07	
	250		1.13	
	150		1.00	
	50		0.09	
106117	450	14:38	0.91	
	350		1.00	
	250		1.01	
	150		0.90	
	50		0.15	
106128	450	14:45	0.82	
	350		0.90	
	250		0.95	
	150		0.74	
	50		0.05	
106118	450	14:32	0.92	
	350		1.00	
	250		0.97	
	150		0.89	
	50		-0.05	
106113	450	14:42	0.90	
	350		0.93	
	250		0.87	
	150		0.73	
	50		-0.10	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock
Date: 11/1/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	1513	0.87	
	350		1.01	
	250		1.27	
	150		1.01	
	50		0.03	
106111	450	1458	0.88	
	350		0.97	
	250		1.03	
	150		0.89	
	50		0.03	
106117	450	1511	0.84	
	350		0.92	
	250		0.92	
	150		0.76	
	50		0.15	
106128	450	1508	0.81	
	350		0.89	
	250		0.96	
	150		0.76	
	50		0.09	
106118	450	1501	0.88	
	350		0.92	
	250		0.91	
	150		0.82	
	50		-0.05	
106113	450	1505	0.83	
	350		0.87	
	250		0.81	
	150		0.66	
	50		-0.09	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek
Date: 11-1-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	15:34	0.84	
	350		0.96	
	250		1.24	
	150		1.00	
	50		0.03	
106111	450	15:26	0.90	
	350		1.00	
	250		1.07	
	150		0.95	
	50		0.12	
106117	450	15:37	~~0.07~~ 0.80	
	350		0.84	
	250		0.89	
	150		0.71	
	50		0.11	
106128	450	15:43	0.80	
	350		0.88	
	250		0.94	
	150		0.76	
	50		0.15	
106118	450	15:30	0.88	
	350		0.91	
	250		0.91	
	150		0.83	
	50		-0.02	
106113	450	15:40	0.84	
	350		0.86	
	250		0.78	
	150		0.63	
	50		-0.08	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek
Date: 11-1-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	15:58	0.83	
	350		0.97	
	250		1.24	
	150		1.00	
	50		0.03	
106111	450	15:50	0.84	
	350		0.94	
	250		1.02	
	150		0.90	
	50		0.09	
106117	450	16:01	0.80	
	350		0.86	
	250		0.88	
	150		0.70	
	50		0.17	
106128	450	16:08	0.76	
	350		0.86	
	250		0.91	
	150		0.74	
	50		0.12	
106118	450	15:34	0.83	
	350		0.87	
	250		0.78	
	150		0.80	
	50		0.01	
106113	450	16:04	0.81	
	350		0.84	
	250		0.90	
	150		0.69	
	50		-0.05	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock
Date: 11/1/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	1639	0.89	
	350		1.03	
	250		1.31	
	150		1.07	
	50		0.10	
106111	450	1626	0.90	
	350		1.04	
	250		1.02	
	150		0.95	
	50		0.16	
106117	450	1637	0.87	
	350		0.95	
	250		0.98	
	150		0.81	
	50		0.24	
106128	450	1635	0.80	
	350		0.90	
	250		0.96	
	150		0.78	
	50		0.16	
106118	450	1629	0.90	
	350		0.91	
	250		0.97	
	150		0.82	
	50		0.03	
106113	450	1632	0.84	
	350		0.89	
	250		0.84	
	150		0.67	
	50		0.00	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zabek
Date: 11-1-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	16:59	0.97	
	350		~~0.03~~ 1.12	02
	250		1.40	
	150		1.17	
	50		0.18	
106111	450	16:50	0.97	
	350		1.08	
	250		1.16	
	150		1.06	
	50		0.24	
106117	450	17:02	0.91	
	350		1.04	
	250		1.06	
	150		0.93	
	50		0.32	
106128	450	17:09	0.91	
	350		1.01	
	250		1.10	
	150		0.94	
	50		0.28	
106118	450	16:55	1.02	
	350		1.04	
	250		1.03	
	150		0.98	
	50		0.16	
106113	450	17:06	0.96	
	350		1.02	
	250		0.95	
	150		0.83	
	50		0.10	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek
Date: 11-1-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	450	17:29	1.01	
	350		1.14	
	250		1.45	
	150		1.21	
	50		0.17	
106111	450	17:20	1.05	
	350		1.18	
	250		1.21	
	150		1.12	
	50		0.26	
106117	450	17:32	0.95	
	350		1.06	
	250		1.13	
	150		0.94	
	50		0.30	
106128	450	17:40	0.96	
	350		1.05	
	250		1.15	
	150		0.98	
	50		0.30	
106118	450	17:24	1.05	
	350		1.10	
	250		1.09	
	150		1.01	
	50		0.15	
106113	450	17:36	0.98	
	350		1.04	
	250		0.97	
	150		0.85	
	50		0.05	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Bracht, G. Peacock
Date: 10/16/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106149	349	1100	35											Begin test Well FC dilution FC
		1115	5.5 inHg	6.85	517	57.4	51.6	283	2.46	0.00	17.89	0	1	close chamulated dilution
		1133												Begin sample - 10 min. dwell
		1200												Valve was closed. Open and start 10 min.
		1202	5.3 inHg	6.70	512	59.0	40.2	362	2.44	0.00	17.20	0	2	
		1250	5.5 inHg	6.70	513	61.2	48.8	339	2.40	0.00	17.61	0	4	
		1320	5.5 inHg	6.56	509	62.2	54.8	355	2.46	0.00	18.01	0	4	
		1354	5.6 inHg	6.54	508	62.1	35.7	371	2.42	0.00	17.53	0	4	
		1421	5.4 inHg	6.75	517	64.4	46.4	395	2.44	0.00	18.12	0	4	
		1450	5.9 inHg	6.78	518	66.2	27.2	393	2.40	0.00	17.53	0	2	
		1519	5.5 inHg	6.73	516	64.9	33.6	424	2.42	0.00	17.17	0	4	
		1549	5.6 inHg	6.61	512	65.8	29.6	420	2.44	0.00	18.97	0	4	
		1624	5.5 inHg	6.83	521	66.2	39.1	427	2.32	0.00	16.85	0	4	
		1650	6.0 inHg	6.61	513	67.6	33.5	454	2.40	0.00	15.82	0	4	
		1720	5.8 inHg	6.91	524	65.8	42.5	480	2.48	0.00	16.92	0	4	
		1753	5.5 inHg	6.75	517	63.5	48.8	491	2.48	0.00	16.96	0	4	
		1820	5.6 inHg	6.82	518	60.4	37.3	470	2.34	0.00	17.64	0	4	
		1845	5.5 inHg	6.88	519	58.5	41.4	495	2.44	0.00	17.40	0	4	
		1850												Second sample time
		1900												Close well valve, test over.

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Bracht, G. Peacock
Date: 10/16/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106117	350	1056	1.06	Dig. Manometer, -part
	250		1.03	
	150		0.90	
	50		0.33	
~~116~~ 106116	350	1046	1.10	
	250		1.00	
	150		0.96	
	50		0.25	
106128	350	1053	1.10	
	250		1.06	
	150		~~1.0~~ 0.94	
	50		0.34	
106119	350	1038	1.08	Dig. Man, -part
	250		1.07	
	150		1.02	
106112	350	1042	1.10	
	250		1.08	
	150		~~1.42~~ 0.95	
106121	350	1049	1.08	
	250		1.13	
	150		0.99	
	50		0.12	
106117	350	1139	1.48	
	250		2.52	
	150		1.34	
	50		0.47	
106116	350	1148	1.04	
	250		1.30	
	150		0.88	
	50		0.15	
106128	350	1154	1.05	
	250		1.15	
	150		0.95	
	50		0.27	
106119	350	1156	1.04	
	250		1.21	

Pre-test

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Bracht, G. Peacock
Date: 10/16/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106119	150	1156	1.06	Dig. Manometer, - port
106112	350	1142	1.01	
	250		1.13	
	150		0.88	
106121	350	1151	1.00	
	250		1.01	
	150		0.85	
	50		0.00	
106117	350	~~1205~~	1.42	
	250		2.56	
	150		1.31	
	50		0.41	
106116	350	1218	0.90	
	250		1.23	
	150		0.78	
	50		0.06	
106128	350	1231	0.91	
	250		1.07	
	150		0.85	
	50		0.19	
106119	350	1235	0.87	
	250		1.08	
~~158~~	150		0.92	
106112	350	1209	0.91	
	250		1.08	
	150		0.81	
106121	350	1227	0.82	
	250		0.85	
	180		0.68	
	50		-0.08	
106117	350	1306	1.21	
	250		2.19	
	150		1.17	
	50		0.35	
106116	350	1309	0.77	
	250		1.11	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Bracht, G. Peacock
Date: 10/16/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106116	150	1307	0.63	Dig. Manometer, -part
↓	50	↓	0.00	
106128	350	1319	0.68	
	250		0.85	
	150		0.65	
↓	50	↓	0.05	
106119	350	1323	0.64	
	250		0.88	
↓	150	↓	0.73	
106112	350	1300	0.79	
	250		1.00	
↓	150	↓	0.72	
106121	350	1315	0.62	
	250		0.62	
	150		0.47	
↓	50	↓	-0.18	
106117	350	1350	1.01	
	250		2.21	
	150		1.01	
↓	50	↓	0.26	
106116	350	1335	0.59	
	250		0.96	
	150		0.55	
↓	50	↓	-0.07	
106128	350	1344	0.58	
	250		0.78	
	150		0.57	
↓	50	↓	0.03	
106119	350	1348	0.56	
	250		0.82	
↓	150	↓	0.66	
106112	350	1333	0.58	
	250		0.80	
↓	150	↓	0.55	
106121	350	1339	0.49	
↓	250	↓	0.51	↓

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Bracht, G. Peacock
Date: 10/16/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106121	150	1339	0.37	Dig. Manometer, -port
↓	50	↓	-0.20	
106117	350	1418	0.91	
	250		2.11	
	150		0.93	
↓	50	↓	0.22	
106116	350	1404	0.52	
	250		0.92	
	150		0.44	
↓	50	↓	-0.06	
106128	350	1413	0.47	
	250		0.72	
	150		0.51	
↓	50	↓	0.04	
106112	350	1403	0.48	
	250		0.72	
↓	150	↓	0.47	
106119	350	1415	0.48	
	250		VB ~~1~~ 0.76	
↓	150	↓	0.61	
106121	350	1408	0.40	
	250		0.42	
	150		0.26	
↓	50	↓	-0.20	
106117	350	1444	0.91	
	250		2.14	
	150		0.97	
↓	50	↓	0.28	
106116	350	1430	0.41	
	250		0.81	
	150		0.39	
↓	50	↓	-0.09	
106128	350	1438	0.42	
	250		0.66	
	150		0.47	
↓	50	↓	0.03	↓

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Bracht, G. Peacock
Date: 10/16/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106112	350	1427	0.38	Dig. Manometer, -pat
	250		0.62	
	150		0.40	
106119	350	1441	0.42	
	250		0.71	
	150		0.58	
106121	350	1433	0.32	
	250		0.34	
	150		0.20	
	50		-0.20	
106117	350	1508	0.82	
	250		1.98	
	150		0.86	
	50		0.23	
106116	350	1455	0.40	
	250		0.83	
	150		0.40	
	50		-0.05	
106128	350	1503	0.38	
	250		0.64	
	150		0.47	
	50		0.03	
106119	350	1504	~~1506~~ 0.38	
	250		VB 0.68	
	150		0.52	
106112	350	1453	0.39	
	250		VB ~~0.7~~ 0.66	
	150		0.42	
106121	350	1458	0.29	
	250		0.31	
	150		0.17	
	50		-0.16	
106117	350	1537	0.80	
	250		2.03	
	150		0.88	
	50		0.27	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Bracht, G. Peacock
Date: 10/16/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106116	350	1524	0.34	Dig. Manometer, -pat
	250		0.78	
	150		0.36	
	50		-0.05	
106128	350	1532	0.32	
	250		0.58	
	150		0.43	
	50		0.03	
106119	350	1535	0.35	
	250		0.65	
	150		0.52	
106112	350	1522	0.33	
	250		0.60	
	150		0.39	
106121	350	1528	0.23	
	250		0.26	
	150		0.14	
	50		-0.17	
106117	350	1605	~~1605~~ 0.70	
	250		1.91	
	150		0.80	
	50		0.24	
106116	350	1552	0.29	
	250		0.79	
	150		0.33	
	50		-0.05	
106128	350	1600	0.24	
	250		0.54	
	150		0.38 vis	
	50		0.02	
106119	350	1603	0.27	
	250		0.58	
	150		0.45	
106112	350	1550	0.25	
	250		0.51	
	150		0.31	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Brecht, G. Peacock
Date: 10/16/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106121	350	1555	0.15	Dig. Manometer, port
	250		0.19	
	150		0.06	
	50		-0.17	
106117	350	1635	0.64	
	250		1.68	
	150		0.75	
	50		0.23	
106116	350	1620	0.20	
	250		0.65	
	150		0.28	
	50		-0.08	
106128	350	1629	~~0.28~~ 0.22	
	250		0.50	
	150		0.34	
	50		0.02	
106119	350	1632	0.22	
	250		0.53	
	150		0.40	
106112	350	1617	0.19	
	250		0.48	
	150		0.29	
106121	350	1625	0.08	
	250		0.10	
	150		0.02	
	50		-0.16	
106117	350	1709	0.68	
	250		1.94	
	150		0.80	
	50		0.28	
106116	350	1655	0.21	
	250		0.67	
	150		0.29	
	50		-0.01	
106128	350	1703	0.20	
	250		0.49	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Bracht, G. Peacock
Date: 10/16/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	150	1703	0.35	Dig. Manometer, -pat
	50		0.05	
106119	350	1707	0.20	
	250		0.54	
	150		0.42	
106112	350	1653	0.18	
	250		0.40	
	150		0.29	
106121	350	1658	0.07	
	250		0.10	
	150		0.01	
	50		-0.13	
106117	350	1738	0.71	
	250		1.99	
	150		0.86	
	50		0.31	
106116	350	1725	0.23	
	250		0.69	
	150		0.32	
	50		0.01	
106128	350	1733	0.26	
	250		0.58	
	150		0.41	
	50		0.14	
106119	350	1737	0.25	
	250		0.61	
	150		0.48	
106112	350	1723	0.19	
	250		0.48	
	150		0.32	
106121	350	1729	0.10	
	250		0.15	
	150		0.07	
	50		-0.07	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Bracht, G. Peacock
Date: 10/16/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106117	350	1818	.84	Readings by A. Sloan ↑
	250		2.14	Dig. Manometer, - port
	150		.98	
	50		.41	
106116	350	1801	.33	
	250		.80	
	150		.47	
	50		.10	
106128	350	1805	.33	
	250		.63	
	150		.52	
	50		.20	
106119	350	1754	0.31	
	250		.05	
	150		.55	
106112	350	1758	.28	
	250		.60	
	150		.43	
106121	350	1812	.20	
	250		.26	
	150		.18	
	50		0.0	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Bracht, G. Peacock
Date: 10/10/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106117	350	1844	.96	Readings by A. Sloan & Dig-Manometer, -pat
	250		2.28	
	150		1.14	
	50		.51	
106116	350	1833	.40	
	250		.90	
	150		.56	
	50		.16	
106128	350	1841	.45	
	250		.79	
	150		.66	
	50		.31	
106119	350	1826	.39	
	250		.75	
	150		.64	
106112	350	1829	.36	
	250	1	.68	
	150		.54	
106121	350	1837	.28	
	250		.35	
	150		.27	
	50		.05	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock, Zachek
Date: 11/7/13

Long Test of 106150

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106150	484	0830	38	1.49		47.8	39.0	10000 +	2.04	0	17.89	—		Step Flow test
			24	0.62		48.0	38.3	10000 +	2.00	0	17.80	—		
			12	0.17		48.4	38.3	10000 +	2.02	0	17.80	—		
	349	0839	34	1.71		48.5	43.4	351	2.64	0	18.55	—		
			22	0.95		49.1	39.2	370	2.72	0	18.73	—		
			10	0.11		49.1	38.2	397	2.76	0	18.75	—		
	200	0846	22	2.66		49.1	57.4	0	2.18	0	19.67	—		
			11	1.04		49.3	43.8	1	2.28	0	19.91	—		
	484	0854	36.5	1.49		49.5	37.4	10,000 +	1.98	0	18.83	0	75	Long Test, 26 ppm CO
		0924	38	1.45		52.4	31.7	10,000 +	2.08	0	17.74	0	72	28 ppm CO
		0954	37	1.22		51.1	39.1	10,000 +	2.16	0	17.25	0	76	31 ppm CO
		1024	37	1.47		55.0	32.1	10,000 +	2.22	0	17.12	0	91	36 ppm CO
		1054	37	1.40		56.7	31.8	10,000 +	2.30	0.01	17.06	0	100	34 ppm CO
		1124	31	1.15		58.8	28.0	10,000 +	2.24	0	17.00	0	four gas malfunction	dilution 1/4 open to reduce LEL
		1154	31.5	1.17		58.1	28.5	10000 +	2.36	0.01	17.64	0	88	
		1224	27.5	0.93		59.7	26.6	10000 +	2.20	0	16.86	0	79	37 ppm CO, dilution 3/4 open
		1254	27.5	0.90		57.4	29.1	10000 +	2.42	0	16.55	0	81	32 ppm CO
		1324	28	0.99		55.6	30.5	10000 +	2.42	0	17.47	0	84	35 ppm CO
		1354	29	0.86		57.4	29.6	10000 +	2.50	0	16.32	0	85	33 ppm CO
		1424	27.5	1.02		61.7	23.4	10000 +	2.46	0	16.82	0	83	35 ppm CO
		1454	27.5	0.83		61.9	23.3	10000 +	2.60	0	16.21	0	80	32 ppm CO
		1524	28	0.98		58.8	25.5	10000 +	2.56	0	16.47	0	81	33 ppm CO
		1554	28	1.06		60.1	25.2	10000 +	2.68	0	16.05	0	78	27 ppm CO
		1624	27.5	1.01		59.0	26.1	10000 +	2.74	0	15.94	0	79	26 ppm CO
		1654	27.5	1.01		56.1	32.8	10000 +	2.68	0	15.94	no battery power		

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek
Date: 11-7-13
Long Test of 106150

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	0823	5.33	
	350	↓	5.23	
	250		4.06	
	150		3.55	
	50		1.09	
106117	450	0802	5.70	
	350	↓	5.29	
	250		4.04	
	150		3.41	
	50		1.11	
106114	450	0815	5.64	
	350	↓	5.50	
	250		4.18	
	150		3.89	
	50		0.49	
106116	450	0809	5.03	
	350	↓	5.41	
	250		4.00	
	150		3.37	
	50		0.57	
106111	450	0738	5.44	
	350	↓	5.12	
	250		4.08	
	150		3.70	
	50		0.79	
106109	450	0751	4.93	
	350	↓	4.78	
	250		4.53	
	150		4.05	
	50		0.09	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek
Date: 11-7-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	0944	5.03	
	350	↓	5.28	
	250		4.02	
	150		3.48	
	50		0.97	
106117	450	0934	5.05	
	350	↓	4.96	
	250		4.09	
	150		3.43	
	50		0.99	
106114	450	0941	5.27	
	350	↓	5.24	
	250		4.09	
	150		3.81	
	50		0.33	
106116	450	0937	4.60	
	350	↓	5.00	
	250		3.99	
	150		3.33	
	50		0.56	
106111	450	0929	5.22	
	350	↓	5.05	
	250		4.19	
	150		3.78	
	50		0.76	
106109	450	0924	5.08	
	350	↓	4.88	
	250		4.64	
	150		4.15	
	50		0.07	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock
Date: 11/7/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	1009	4.96	
	350		5.22	
	250		3.97	
	150		3.40	
	50		0.93	
106117	450	10:03	4.92	
	350		4.83	
	250		3.95	
	150		3.33	
	50		0.97	
106114	450	1007	5.22	
	350		5.17	
	250		4.03	
	150		3.75	
	50		0.30	
106116	450	10:05	4.51	
	350		4.91	
	250		3.90	
	150		3.21	
	50		0.51	
106111	450	9:57	5.10	
	350		4.98	
	250		4.12	
	150		3.69	
	50		0.72	
106109	450	9:59	5.00	
	350		4.80	
	250		4.55	
	150		4.06	
	50		0.02	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zaubek
Date: 11-7-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	1045	4.73	
	350		5.01	
	250		3.80	
	150		3.25	
	50		0.82	
106117	450	1035	4.76	
	350		4.69	
	250		3.82	
	150		3.23	
	50		0.90	
106114	450	1041	4.89	
	350		4.99	
	250		3.89	
	150		3.60	
	50		0.20	
106116	450	1038	4.34	
	350		4.73	
	250		3.79	
	150		3.10	
	50		0.41	
106111	450	1030	4.92	
	350		4.85	
	250		3.99	
	150		3.59	
	50		0.63	
106109	450	1024	4.96	
	350		4.72	
	250		4.47	
	150		4.00	
	50		-0.02	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock
Date: 11/7/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	1109	4.62	
	350		4.89	
	250		3.66	
	150		3.11	
	50		0.74	
106117	450	1102	4.61	
	350		4.54	
	250		3.70	
	150		3.10	
	50		0.84	
106114	450	1107	4.89	
	350		4.85	
	250		3.76	
	150		3.45	
	50		0.15	
106116	450	1104	4.21	
	350		4.57	
	250		3.65	
	150		2.98	
	50		0.36	
106111	450	1058	4.73	
	350		4.65	
	250		3.83	
	150		3.43	
	50		0.53	
106109	450	1055	4.77	
	350		4.57	
	250		4.31	
	150		3.82	
	50		-0.07	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek
Date: 11-7-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	1142	4.30	
	350		4.55	
	250		3.39	
	150		2.88	
	50		0.59	
106117	450	1133	4.24	
	350		4.24	
	250		3.43	
	150		2.84	
	50		0.67	
106114	450	1139	4.59	
	350		4.55	
	250		3.50	
	150		3.21	
	50		0.02	
106116	450	1136	3.95	
	350		4.30	
	250		3.42	
	150		2.76	
	50		0.23	
106111	450	1128	4.48	
	350		4.44	
	250		3.62	
	150		3.23	
	50		0.46	
106109	450	1124	4.53	
	350		4.34	
	250		4.08	
	150		3.61	
	50		-0.17	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Megan Britten
Date: 11-7-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	~~1154~~	~~4.26~~	~~3.62~~ 3.50
	350		~~4.21~~	4.24
	250		~~3.40~~	3.10
	150		~~3.02~~	2.59
	50		~~0.35~~	~~0.03~~ 0.48
106117	450	~~1158~~	~~4.31~~	4.04
	350	1203	~~4.09~~	3.99
	250		~~3.84~~	3.25
	150		~~3.38~~	2.59
	50		~~-0.19~~	0.54
106114	450	1210	4.30	
	350		4.27	
	250		3.21	
	150		2.92	
	50		-0.08	
106116	450	1207	3.66	
	350		3.81	
	250		3.09	
	150		2.40	
	50		0.10	
106111	450	1154	4.26	
	350		4.21	
	250		3.40	
	150		3.02	
	50		0.35	
106109	450	1158	4.31	
	350		4.09	
	250		3.84	
	150		3.38	
	50		-0.19	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Megan Britten
Date: 11-7-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	~~1224~~	~~3.94~~	3.65
	350	1243	~~3.91~~	3.88
	250		~~3.13~~	~~3.~~ 2.80
	150		~~2.74~~	2.30
	50			0.30
106117	450	1235	3.69	
	350		3.66	
	250		2.87	
	150		2.31	
	50		0.42	
106114	450	1241	3.93	
	350		3.89	
	250		2.85	
	150		2.55	
	50		-0.21	
106116	450	1238	3.33	
	350		3.68	
	250		2.86	
	150		2.12	
	50		0.00	
106111	450	1224	3.94	
	350		3.91	
	250		3.13	
	150		2.74	
	50		0.27	
106109	450	1231	4.01	
	350		3.73	
	250		3.56	
	150		3.08	
	50		-0.21	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock
Date: 11/7/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	1309	3.46	
	350		3.69	
	250		2.63	
	150		2.13	
	50		0.27	
106117	450	1302	3.45	
	350		3.40	
	250		2.65	
	150		2.12	
	50		0.36	
106114	450	1307	3.71	
	350		3.70	
	250		2.70	
	150		2.42	
	50		-0.21	
106116	450	1304	3.14	
	350		3.44	
	250		2.62	
	150		1.94	
	50		-0.05	
106111	450	1258	3.61	
	350		3.58	
	250		2.82	
	150		2.46	
	50		0.16	
106109	450	1255	3.74	
	350		3.54	
	250		3.28	
	150		2.81	
	50		-0.30	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek
Date: 11/7/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	1344	3.26	
	350		3.50	
	250		2.45	
	150		2.01	
	50		0.29	
106117	450	1335	3.23	
	350		3.20	
	250		2.47	
	150		1.97	
	50		0.36	
106114	450	1341	3.51	
	350		3.50	
	250		2.53	
	150		2.27	
	50		-0.18	
106116	450	1338	2.93	
	350		3.23	
	250		2.42	
	150		1.80	
	50		-0.04	
106111	450	1330	3.37	
	350		3.34	
	250		2.60	
	150		2.27	
	50		0.14	
106109	450	1324	3.50	
	350		3.30	
	250		3.05	
	150		2.59	
	50		-0.29	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock
Date: 11/7/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	1411	3.14	
	350		3.34	
	250		2.30	
	150		1.87	
	50		0.26	
106117	450	1405	3.08	
	350		3.04	
	250		2.34	
	150		1.84	
	50		0.32	
106114	450	1409	3.34	
	350		3.31	
	250		2.37	
	150		2.10	
	50		-0.19	
106116	450	1407	2.80	
	350		3.07	
	250		2.27	
	150		1.67	
	50		-0.04	
106111	450	1401	3.21	
	350		3.20	
	250		2.46	
	150		2.14	
	50		0.15	
106109	450	1358	3.36	
	350		3.16	
	250		2.91	
	150		2.43	
	50		-0.21	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: ~~H-7~~ Zachek
Date: 11-7-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	1442	2.97	
	350		3.17	
	250		2.15	
	150		1.75	
	50		0.24	
106117	450	1432	2.93	
	350		2.89	
	250		2.17	
	150		1.72	
	50		0.29	
106114	450	1428	~~7~~ 3.16	
	350		3.14	
	250		2.21	
	150		1.98	
	50		-0.20	
106116	450	1435	2.64	
	350		2.91	
	250		2.12	
	150		1.56	
	50		-0.07	
106111	450	1427	3.06	
	350		3.05	
	250		2.32	
	150		2.02	
	50		0.13	
106109	450	1424	3.23	
	350		3.00	
	250		2.76	
	150		2.30	
	50		-0.23	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock
Date: 11/7/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	1510	2.87	
	350		3.06	
	250		2.04	
	150		1.65	
	50		0.23	
106117	450	1504	2.79	
	350		2.74	
	250		2.04	
	150		1.61	
	50		0.28	
106114	450	1508	3.05	
	350		3.02	
	250		2.10	
	150		1.84	
	50		-0.18	
106116	450	1506	2.52	
	350		2.76	
	250		2.02	
	150		1.45	
	50		-0.05	
106111	450	1454	2.90	
	350		2.87	
	250		2.19	
	150		1.89	
	50		0.12	
106109	450	1457	3.05	
	350		2.84	
	250		2.59	
	150		2.13	
	50		-0.21	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek
Date: 11-7-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	1541	2.79	
	350		3.00	
	250		2.01	
	150		1.64	
	50		0.28	
106117	450	1532	2.75	
	350		2.70	
	250		2.04	
	150		1.61	
	50		0.34	
106114	450	1538	2.99	
	350		2.95	
	250		2.06	
	150		1.83	
	50		-0.13	
106116	450	1535	2.48	
	350		2.75	
	250		1.99	
	150		1.44	
	50		0.00	
106111	450	1527	2.85	
	350		2.81	
	250		2.12	
	150		1.86	
	50		0.18	
106109	450	1524	2.95	
	350		2.78	
	250		2.54	
	150		2.09	
	50		-0.15	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock
Date: 11/7/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	1605	2.75	
	350		2.92	
	250		1.97	
	150		1.55	
	50		0.27	
106117	450	1601	2.67	
	350		2.64	
	250		1.97	
	150		1.56	
	50		0.33	
106114	450	1606	2.93	
	350		2.90	
	250		2.01	
	150		1.79	
	50		-0.09	
106116	450	1603	2.41	
	350		2.66	
	250		1.92	
	150		1.42	
	50		0.03	
106111	450	1557	2.75	
	350		2.73	
	250		2.06	
	150		1.80	
	50		0.18	
106109	450	1554	2.92	
	350		2.69	
	250		2.44	
	150		2.00	
	50		-0.12	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock
Date: 11/7/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	1637	2.64	
	350		2.80	
	250		1.83	
	150		1.48	
	50		0.22	
106117	450	1630	4.83	
	350		4.75	
	250		3.53	
	150		2.78	
	50		0.59	
106114	450	1635	2.79	
	350		2.76	
	250		1.89	
	150		1.67	
	50		-0.11	
106116	450	1632	4.31	
	350		4.76	
	250		3.42	
	150		2.48	
	50		0.00	
106111	450	1626	2.68	
	350		2.65	
	250		1.97	
	150		1.73	
	50		0.19	
106109	450	1624	2.83	
	350		2.62	
	250		2.38	
	150		1.93	
	50		-0.12	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek
Date: 11-7-13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106128	450	1706	2.50	
	350		2.67	
	250		1.73	
	150		1.40	
	50		0.21	
106117	450	1715	2.35	
	350		2.27	
	250		1.70	
	150		1.33	
	50		0.27	
106114	450	1709	2.24	
	350		2.60	
	250		1.75	
	150		1.55	
	50		-0.14	
106116	450	1712	2.14	
	350		2.36	
	250		1.66	
	150		1.21	
	50		-0.02	
106111	450	1658	2.48	
	350		2.48	
	250		1.80	
	150		1.58	
	50		0.12	
106109	450	1654	2.66	
	350		2.42	
	250		2.30	
	150		1.77	
	50		-0.16	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: G. Peacock
Date: 10/18/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106154	350	0903	4.6 inHg	5.79	475	55.8	61.5	71	1.48	0	18.61	0	0	
		0933	4.4 in.Hg	4.98	442	59.0	50.8	76	1.44	0	17.99	0	0	Collect sample
		1003	4.4 inHg	4.95	441	60.8	43.7	85	1.40	0	18.25	0	0	
		1033	4.4 inHg	4.96	442	61.2	46.0	83	1.42	0	18.63	0	0	
		1103	4.5 inHg	4.81	436	63.0	41.1	88	1.40	0	18.10	0	0	
		1133	4.7 inHg	4.89	440	63.3	39.2	93	1.40	0	18.21	0	0	
		1203	4.9 inHg	4.96	443	64.6	44.4	96	1.42	0	18.07	0	0	
		1233	4.9 inHg	4.83	437	64.6	37.0	100	1.40	0	18.10	0	0	
		1303	5.1 inHg	4.51	424	66.6	31.9	102	1.38	0	17.55	0	0	
		1333	4.9 inHg	4.57	427	66.4	38.5	107	1.40	0	17.81	0	0	
		1403	4.8 inHg	4.78	437	67.3	36.8	113	1.40	0	17.03	0	0	
		1433	4.6 inHg	4.83	440	68.7	37.8	111	1.38	0	18.07	0	0	
		1503	4.5 inHg	4.83	439	67.1	33.3	112	1.38	0	17.67	0	0	
		1533	4.5 inHg	4.82	438	66.7	40.7	112	1.38	0	18.30	0	0	
		1603	4.2 inHg	4.71	434	67.6	35.0	117	1.42	0	18.28	0	0	
		1633	4.5 inHg	4.90	442	67.3	40.5	123	1.40	0	17.20			
		~~1705~~ 1645												Collect sample and FD
		1703												Test complete

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: G. Peacock
Date: 10/18/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106112	350	0821	0.00	Dig. Manometer, pat
	250		0.08	
	150		0.16	
	50		0.22	
106117	350	0837	0.10	
	250		0.13	
	150		0.18	
	50		0.21	
106116	350	0834	0.09	
	250		0.17	
	150		0.25	
	50		0.29	
106130	350	0825	0.05	
	250		0.09	
	150		0.18	
106119	350	0840	0.05	
	250		0.13	
	150		0.18	
106121	350	0850	0.06	
	250		0.10	
	150		0.19	
	50		0.31	
106112	350	0907	0.28	
	250		1.08	
	150		0.34	
	50		0.21	
106117	350	0926	0.28	
	250		0.50	
	150		0.40	
	50		0.26	
106116	350	0921	0.21	
	250		0.49	
	150		0.34	
	50		0.24	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: G.P.
Date: 10/18/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106130	350	0909	0.15	Dig. Manometer, -port
	250		0.37	
	150		0.25	
106119	350	0928	0.24	
	250		0.36	
	150		0.37	
106121	350	0924	0.18	
	250		0.20	
	150		0.25	
	50		0.21	
106112	350	0935	0.39	
	250		1.32	
	150		0.51	
	50		0.26	
106117	350	0948	0.39	
	250		0.63	
	150		0.50	
	50		0.31	
106116	350	0943	0.33	
	250		0.62	
	150		0.44	
	50		0.27	
106130	350	0937	0.31	
	250		0.54	
	150		0.41	
106119	350	0950	0.33	
	250		0.55	
	150		0.48	
106121	350	0946	0.27	
	250		0.31	
	150		0.36	
	50		0.24	
106112	350	1004	0.49	
	250		1.45	
	150		0.62	
	50		0.27	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: GP
Date: 10/18/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106117	350	1018	0.44	Dig. manometer, pat
	250		0.70	
	150		0.56	
	50		0.29	
106116	350	1013	0.35	
	250		0.70	
	150		0.48	
	50		0.21	
~~130~~ 106130	350	1006	0.38	
	250		0.62	
	150		0.47	
106119	350	1020	0.40	
	250		0.63	
	150		0.55	
106121	350	1015	0.28	
	250		0.33	
	150		0.36	
	50		0.18	
106112	350	1038	0.58	
	250		1.56	
	150		0.69	
	50		0.26	
106117	350	1047	0.51	
	250		0.78	
	150		0.63	
	50		0.30	
106116	350	1045	0.43	
	250		0.81	
	150		0.56	
	50		0.23	
106130	350	1041	0.48	
	~~150~~ 250		0.72	
	~~250~~ 150		0.58	
106119	350	1050	0.45	
	250		0.70	
	150		0.61	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: GP
Date: 10/18/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106121	350	1043	0.35	Dig. manometer, -pot
	250		0.38	
	150		0.40	
	50		0.15	
106112	350	1106	0.57	
	250		1.54	
	150		0.66	
	50		0.20	
106117	350	1116	0.46	
	250		0.73	
	150		0.55	
	50		0.22	
106116	350	1114	0.39	
	250		0.79	
	150		0.51	
	50		0.15	
106130	350	1108	0.49	
	250		0.75	
	150		0.58	
106119	350	1118	0.38	
	250		0.64	
	150		0.53	
106121	350	1111	0.31	
	250		0.38	
	150		0.34	
	50		0.10	
106112	350	1138	0.52	
	250		1.48	
	150		0.61	
	50		0.17	
106117	350	1148	0.32	
	250		0.61	
	150		0.43	
	50		0.12	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: GP
Date: 10/18/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106116	350	1145	0.29	Dig. manometer, pat
	250		0.67	
	150		0.41	
	50		0.05	
106130	350	1140	0.35	
	250		0.63	
	150		0.43	
106119	350	1150	0.27	
	250		0.54	
	150		0.41	
106121	350	1142	0.18	
	250		0.25	
	150		0.21	
	50		0.00	
106112	350	1205	0.40	
	250		1.36	
	150		0.49	
	50		0.06	
106117	350	1212	0.32	
	250		0.62	
	150		0.43	
	50		0.13	
106116	350	1208	0.24	
	250		0.63	
	150		0.38	
	50		0.06	
106130	350	1206	0.30	
	250		0.60	
	150		0.40	
106119	350	1218	0.20	
	250		0.45	
	150		0.38	
106121	350	1215	0.11	
	250		0.19	
	150		0.15	
	50		-0.03	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: GP
Date: 10/18/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106112	350	1235	0.37	Dig. manometer, -pat
	250		1.33	
	150		0.46	
	50		0.06	
106117	350	1240	0.27	
	250		0.59	
	150		0.40	
	50		0.11	
106116	350	1238	0.21	
	250		0.59	
	150		0.30	
	50		0.02	
106130	350	1243	0.28	
	250		0.55	
	150		0.38	
106119	350	1248	0.20	
	250		0.47	
	150		0.37	
106121	350	1245	0.10	
	250		0.18	
	150		0.14	
	50		-0.02	
106112	350	1306	0.24	
	250		1.22	
	150		0.36	
	50		0.00	
106117	350	1315	0.05	
	250		0.36	
	150		0.20	
	50		-0.03	
106116	350	1313	0.05	
	250		0.44	
	150		0.17	
	50		-0.08	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: GP
Date: 10/18/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106130	350	1309	0.12	Dig. manometer, -pm
	250		~~0.62~~ 0.42	
	150		0.22	
106119	350	1319	0.00	
	250		0.29	
	150		0.17	
106121	350	1311	-0.05	
	250		0.00	
	150		0.00	
	50		-0.11	
106112	350	1337	0.18	
	250		1.17	
	150		0.29	
	50		0.00	
106117	350	1351	0.00	
	250		0.31	
	150		0.12	
	50		-0.02	
106116	350	1342	0.02	
	250		0.39	
	150		0.09	
	50		-0.09	
106130	350	1339	0.06	
	250		0.35	
	150		0.17	
106119	350	1355	-0.05	
	250		0.23	
	150		0.12	
106121	350	1346	-0.17	
	250		-0.07	
	150		-0.12	
	50		-0.11	
106112	350	1408	0.10	
	250		1.09	
	150		0.24	
	50		0.00	

SVE Pilot Testing
Observation Wells

Project Name: AFB BFF
Project Number: 1[illegible]705

Staff: GP
Date: 10/18/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106117	350	1418	0.00	Dig. manometer, -pat
	250		0.30	
	150		0.13	
	50		0.00	
106116	350	1416	-0.09	
	250		0.31	
	150		0.04	
	50		-0.10	
106130	350	1412	0.00	
	250		0.30	
	150		0.11	
106119	350	1420	-0.10	
	250		0.17	
	150		0.11	
106121	350	1414	-0.18	
	250		-0.09	
	150		-0.13	
	50		-0.12	
106112	350	1436	0.14	
	250		1.12	
	150		0.27	
	50		0.06	
106117	350	1445	0.01	
	250		0.34	
	150		0.16	
	50		0.04	
106116	350	1443	-0.03	
	250		0.37	
	150		0.08	
	50		-0.02	
106130	350	1438	0.03	
	250		0.36	
	150		0.14	
106119	350	1447	-0.04	
	250		0.25	
	150		0.14	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: GP
Date: 10/18/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106121	350	1441	-0.21	Dig. manometer, -pot
	250		-0.11	
	150		-0.14	
	50		-0.06	
106112	350	1508	0.11	
	250		1.10	
	150		0.22	
	50		0.00	
106117	350	1517	0.02	
	250		0.34	
	150		0.19	
	50		0.06	
106116	350	1515	-0.07	
	250		0.33	
	150		0.07	
	50		-0.04	
106130	350	1510	-0.03	
	250		0.28	
	150		0.10	
106119	350	1519	-0.02	
	250		0.25	
	150		0.18	
106121	350	1512	-0.26	
	250		-0.17	
	150		-0.17	
	50		-0.09	
106112	350	1536	0.12	
	250		1.14	
	150		0.27	
	50		0.06	
106117	350	1546	0.12	
	250		0.43	
	150		0.26	
	50		0.16	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: GP
Date: 10/18/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106116	350	1543	0.01	Dig. manometer - port
	250		0.43	
	150		0.16	
	50		0.01	
106130	350	1538	0.04	
	250		0.34	
	150		0.17	
106119	350	1551	0.06	
	250		0.35	
	150		0.29	
106121	350	1541	-0.17	
	250		-0.07	
	150		-0.08	
	50		0.00	
106112	350	1607	0.26	
	250		1.28	
	150		0.44	
	50		0.15	
106117	350	1617	0.18	
	250		0.47	
	150		0.30	
	50		0.12	
106116	350	1615	0.08	
	250		0.51	
	150		0.24	
	50		0.05	
106130	350	1610	0.14	
	250		0.45	
	150		0.28	
106119	350	1619	0.09	
	250		0.42	
	150		0.32	
106121	350	1613	-0.08	
	250		0.01	
	150		-0.01	
	50		0.03	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: GP
Date: 10/18/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106112	350	1634	0.28	Big manometer, -port
	250		1.28	
	150		0.45	
	50		0.14	
106117	350	1651	0.29	Readings taken by G. Bracht
	250		0.61	
	150		0.44	
	50		0.21	
106116	350	1641	0.17	
	250		0.55	
	150		0.31	
	50		0.12	
106130	350	1637	0.18	
	250		0.48	
	150		0.31	
106119	350	1655	0.18	
	250		0.50	
	150		0.40	
106121	350	1646	0.00	
	250		0.11	
	150		0.09	
	50		0.09	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock, Sheely
Date: 11/4/13

Long Test of 106155

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
									0.72				6	
106155	484	0742	38	1.79		43.9	80.8	802	~~0.86~~		18.56	0	~~15~~ 8	
		0812	37.5	1.75		48.7	58.4	897	0.76	0	18.35	0	8	PID show 0.0
		0842	37	1.67		50.7	55.7	983	0.78	0	18.77	0	11	methane back
		0912	37	1.83		54.7	48.0	1051	0.80	0	18.32	0	9	
		0942	37	1.81		55.6	45.4	1099	0.86	0	18.42	0	12	
		1012	37	1.75		56.7	42.0	1137	0.82	0	18.20	0	11	
		1042	36.5	1.77		57.4	41.8	1162	0.86	0	18.93	0	13	1ppm CO
		1112	36.5	1.83		59.4	36.2	1188	0.84	0	18.12	0	12	
		1142	36	1.62		60.4	34.4	1210	0.84	0	18.25	0	14	1ppm CO
		1212	36	1.85		62.6	32.5	1223	0.84	0	18.07	0	13	1ppm CO
		1220	PID	above		3.0	ppmv	out of	bed #1		0.1 ppmv	out of	#2	
		1225	T out of	Bed 1	80°F	took	Tedlar	turned on	#1 blower					
		1242	36	1.69		63.3	31.6	1247	0.9	0	18.35	0	13	1ppm CO
		1312	36	1.82		65.1	30.2	1255	0.84	0	17.93	0	13	1ppm CO
		1342	35	1.71		63.5	30.7	1260	0.86	0	17.91	0	14	2ppm CO
		1412	35.5	1.77		66.6	28.6	1277	0.86	0	17.78	0	14	2ppm CO
		1442	35.5	1.68		64.8	32.2	1283	0.88	0	17.91	0	16	2ppm CO
		1512	35	1.72		66.6	30.3	1290	0.86	0	18.10	0	16	2ppm CO
		1542	34	1.76		67.6	29.2	1296	0.88	0	17.87	0	14	
		13 ppm v		THC	out	of	1st	carbon	bed	1	0.0	out	of	#2

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	7:18	-1.28	
	350		-1.29	
	250		-1.12	
	150		-1.13	
	50		0.13	
106115	450	7:24	-1.46	
	350		-1.41	
	250		-1.26	
	150		-0.99	
	50		0.15	
106113	450	7:13	-1.44	
	350		-1.49	
	250		-1.25	
	150		-1.02	
	50		0.10	
106129	450	7:37	-1.32	
	350		-1.32	
	250		-1.02	
	150		-0.74	
	50		0.12	
106116	450	7:32	-1.16	
	350		-1.27	
	250		-1.03	
	150		-0.77	
	50		0.05	
106118	450	6:57	-1.56	
	350		-1.53	
	250		-1.39	
	150		-1.18	
	50		0.01	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	0817	-0.99	
	350		-1.05	
	250		-0.86	
	150		-0.70	
	50		0.30	
106115	450	0814	-1.05	
	350		-1.07	
	250		-0.96	
	150		-0.67	
	50		0.27	
106113	450	0820	-0.73	
	350		-0.87	
	250		-0.79	
	150		-0.58	
	50		0.26	
106129	450	0824	-0.68	
	350		-0.87	
	250		-0.75	
	150		-0.47	
	50		0.19	
106116	450	0822	-0.62	
	350		~~0.19~~ -0.82	
	250		-0.69	
	150		-0.42	
	50		0.19	
106118	450	0830	-1.04	
	350		-1.00	
	250		-0.88	
	150		-0.69	
	50		0.16	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	0847	-0.91	
	350		-0.97	
	250		-0.82	
	150		-0.68	
	50		0.20	
106115	450	0842	-0.96	
	350		-1.05	
	250		-0.92	
	150		-0.66	
	50		0.20	
106113	450	0850	-0.64	
	350		-0.77	
	250		-0.76	
	150		-0.59	
	50		0.18	
106129	450	0856	-0.58	
	350		-0.83	
	250		-0.77	
	150		-0.48	
	50		0.12	
106116	450	0853	-0.68	
	350		-0.80	
	250		-0.70	
	150		-0.46	
	50		0.10	
106118	450	0900	-0.99	
	350		-0.98	
	250		~~-0.69~~ -0.86	
	150		-0.49	
	50		0.09	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	0913	-0.85	
	350		-0.96	
	250		-0.84	
	150		-0.71	
	50		0.12	
106115	450	0909	-0.91	
	350		-1.04	
	250		-0.92	
	150		-0.66	
	50		0.13	
106113	450	0915	-0.62	
	350		-0.77	
	250		-0.79	
	150		-0.61	
	50		0.09	
106129	450	0921	-0.62	
	350		-0.87	
	250		-0.81	
	150		-0.55	
	50		0.02	
106116	450	0918	-0.80	
	350		-0.83	
	250		-0.75	
	150		-0.51	
	50		0.00	
106118	450	0925	-1.08	
	350		-1.04	
	250		-0.92	
	150		-0.75	
	50		-0.01	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	0945	-0.93	
	350		-0.99	
	250		-0.90	
	150		-0.77	
	50		0.05	
106115	450	0940	-0.93	
	350		-1.02	
	250		-0.95	
	150		-0.74	
	50		0.05	
106113	450	0948	-0.67	
	350		-0.80	
	250		-0.86	
	150		-0.71	
	50		0.00	
106129	450	0955	-0.64	
	350		-0.90	
	250		-0.84	
	150		-0.65	
	50		-0.03	
106116	450	0952	-0.84	
	350		-0.88	
	250		-0.81	
	150		-0.60	
	50		-0.07	
106118	450	~~0900~~	-1.11	1000 Time
	350		-1.07	
	250		-0.97	
	150		-0.82	
	50		-0.05	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	1016	-1.01	
	350		-1.05	
	250		-1.00	
	150		-0.85	
	50		-0.02	
106115	450	1013	-1.02	
	350		-1.14	
	250		-1.08	
	150		-0.83	
	50		-0.02	
106113	450	1019	-0.70	
	350		-0.86	
	250		-0.93	
	150		-0.77	
	50		-0.06	
106129	450	1032	-0.71	
	350		-0.97	
	250		-0.97	
	150		-0.64	
	50		-0.08	
106116	450	1021	-0.91	
	350		-0.92	
	250		-0.88	
	150		-0.68	
	50		-0.10	
106118	450	1027	-1.19	
	350		-1.17	
	250		-1.06	
	150		0.91	
	50		-0.12	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	1045	-1.07	
	350		-1.14	
	250		-1.11	
	150		-0.98	
	50		-0.10	
106115	450	1040	-1.09	
	350		-1.22	
	250		-1.15	
	150		-0.93	
	50		-0.06	
106113	450	1049	-0.79	
	350		-0.95	
	250		-1.06	
	150		-0.91	
	50		-0.13	
106129	450	1056	-0.81	
	350		-1.08	
	250		-1.09	
	150		-0.88	
	50		-0.16	
106116	450	1052	-1.07	
	350		-1.06	
	250		-1.03	
	150		-0.84	
	50		-0.22	
106118	450	11:00	-1.32	
	350		-1.30	
	250		-1.22	
	150		-1.07	
	50		-0.22	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	1114	-1.18	
	350	↓	-1.23	
	250	↓	-1.21	
	150	↓	-1.07	
	50	↓	-0.16	
106115	450	1110	-1.21	
	350	↓	-1.34	
	250	↓	-1.27	
	150	↓	-1.05	
	50	↓	-0.14	
106113	450	1117	-0.89	
	350	↓	-1.06	
	250	↓	-1.18	
	150	↓	-1.04	
	50	↓	-0.20	
106129	450	1126	-0.94	
	350	↓	-1.21	
	250	↓	-1.22	
	150	↓	-1.02	
	50	↓	-0.23	
106116	450	1124	-1.14	
	350	↓	-1.18	
	250	↓	-1.19	
	150	↓	-0.99	
	50	↓	-0.30	
106118	450	1130	-1.49	
	350	↓	-1.46	
	250	↓	-1.33	
	150	↓	-1.20	
	50	↓	-0.27	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	1147	-1.39	
	350		-1.45	
	250		-1.45	
	150		-1.34	
	50		-0.27	
106115	450	1142	-1.40	
	350		-1.49	
	250		-1.50	
	150		-1.28	
	50		-0.25	
106113	450	1150	-1.17	
	350		-1.31	
	250		-1.44	
	150		-1.31	
	50		-0.33	
106129	450	1158	-1.16	
	350		-1.44	
	250		-1.50	
	150		-1.29	
	50		-0.38	
106116	450	1154	-1.36	
	350		-1.39	
	250		-1.41	
	150		-1.24	
	50		-0.42	
106118	450	1203	-1.73	
	350		-1.71	
	250		-1.63	
	150		-1.49	
	50		-0.40	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	1216	-1.64	
	350		~~-1.70~~ -1.73	
	250		-1.70	
	150		-1.57	
	50		-0.37	
106115	450	1212	-1.60	
	350		-1.78	
	250		-1.75	
	150		-1.52	
	50		-0.32	
106113	450	1219	-1.31	
	350		-1.52	
	250		-1.66	
	150		-1.52	
	50		-0.42	
106129	450	1223	-1.42	
	350		-1.69	
	250		-1.73	
	150		-1.50	
	50		-0.45	
106116	450	1221	-1.56	
	350		-1.62	
	250		-1.65	
	150		-1.44	
	50		-0.52	
106118	450	1227	-1.92	
	350		-1.91	
	250		-1.80	
	150		-1.65	
	50		-0.46	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	1247	-1.85	
	350		-1.93	
	250		-1.96	
	150		-1.82	
	50		-0.44	
106115	450	1243	-1.86	
	350		-1.97	
	250		-2.02	
	150		-1.77	
	50		-0.42	
106113	450	1251	-1.53	
	350		-1.78	
	250		-1.91	
	150		-1.80	
	50		-0.49	
106129	450	1257	-1.56	
	350		-1.83	
	250		-1.89	
	150		-1.69	
	50		-0.46	
106116	450	1254	-1.75	
	350		-1.80	
	250		-1.83	
	150		-1.64	
	50		-0.54	
106118	450	1302	-2.13	
	350		-2.11	
	250		-2.03	
	150		-1.86	
	50		-0.49	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	1317	-1.94	
	350		-2.01	
	250		-2.04	
	150		-1.90	
	50		-0.36	
106115	450	1314	-1.97	
	350		-2.10	
	250		-2.09	
	150		-1.85	
	50		-0.33	
106113	450	1319	-1.59	
	350		-1.82	
	250		-1.96	
	150		-1.82	
	50		-0.42	
106129	450	1328	-1.68	
	350		-1.96	
	250		-2.01	
	150		-1.79	
	50		-0.43	
106116	450	1321	-1.87	
	350		-1.90	
	250		-1.91	
	150		-1.67	
	50		-0.53	
106118	450	1324	-2.14	
	350		-2.16	
	250		-2.06	
	150		-1.91	
	50		-0.43	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	1345	-2.11	
	350		-2.18	
	250		-2.22	
	150		-2.11	
	50		-0.43	
106115	450	1341	-2.10	
	350		-2.18	
	250		-2.19	
	150		-2.04	
	50		-0.40	
106113	450	1348	-1.80	
	350		-2.00	
	250		-2.15	
	150		-2.00	
	50		-0.48	
106129	450	1356	-1.85	
	350		-2.12	
	250		-2.17	
	150		-1.95	
	50		-0.50	
106116	450	1352	-1.99	
	350		-2.09	
	250		-2.12	
	150		-1.89	
	50		-0.60	
106118	450	14:01	-2.33	
	350		-2.37	
	250		-2.29	
	150		-2.14	
	50		-0.51	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	1415	-2.20	
	350		-2.29	
	250		-2.32	
	150		-2.15	
	50		-0.39	
106115	450	1412	-2.27	
	350		-2.39	
	250		-2.42	
	150		-2.14	
	50		-0.37	
106113	450	1417	-1.88	
	350		-2.10	
	250		-2.26	
	150		-2.09	
	50		-0.45	
106129	450	1423	-1.93	
	350		-2.23	
	250		-2.28	
	150		-2.01	
	50		-0.47	
106116	450	1420	-1.87	
	350		-2.10	
	250		-2.19	
	150		-1.95	
	50		-0.58	
106118	450	1427	-2.48	
	350		-2.46	
	250		-2.36	
	150		-2.19	
	50		-0.49	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	1445	-2.31	
	350		-2.39	
	250		-2.45	
	150		-2.34	
	50		-0.40	
106115	450	1440	-2.37	
	350		-2.45	
	250		-2.50	
	150		-2.25	
	50		-0.40	
106113	450	1448	~~2.57~~ (52)	-2.07
	350		~~2.45~~ (52)	-2.18
	250		~~2.50~~ (52)	-2.37
	150		~~2.23~~ (52)	-2.20
	50		~~0.40~~ (52)	-0.47
106129	450	14:57	-1.99	
	350		-2.31	
	250		-2.38	
	150		-2.12	
	50		-0.50	
106116	450	1453	-1.58	
	350		-2.18	
	250		-2.33	
	150		-2.11	
	50		-0.62	
106118	450	1501	-2.54	
	350		-2.56	
	250		-2.48	
	150		-2.29	
	50		-0.46	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	1516	-2.31	
	350		-2.44	
	250		-2.50	
	150		-2.32	
	50		-0.35	
106115	450	1513	-2.45	
	350		-2.52	
	250		-2.50	
	150		-2.28	
	50		-0.31	
106113	450	1518	-1.99	
	350		-2.24	
	250		-2.43	
	150		-2.23	
	50		-0.42	
106129	450	1524	-2.07	
	350		-2.40	
	250		-2.45	
	150		-2.17	
	50		-0.45	
106116	450	1521	-2.15	
	350		-2.28	
	250		-2.36	
	150		-2.12	
	50		-0.56	
106118	450	1528	-2.62	
	350		-2.62	
	250		-2.53	
	150		-2.34	
	50		-0.43	

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 11/4/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	1547	-2.44	
	350		-2.52	
	250		-2.58	
	150		-2.45	
	50		-0.34	
106115	450	1540	-2.45	
	350		-2.69	
	250		-2.64	
	150		-2.37	
	50		-0.33	
106113	450	1551	-2.14	
	350		-2.32	
	250		-2.51	
	150		-2.32	
	50		-0.42	
106129	450	1555	-2.14	
	350		-2.44	
	250		-2.51	
	150		-2.23	
	50		-0.46	
106116	450	1559	-2.32	
	350		-2.39	
	250		-2.44	
	150		-2.17	
	50		-0.54	
106118	450	1603	-2.68	
	350		-2.67	
	250		-2.59	
	150		-2.40	
	50		-0.42	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: Britten
Date: 11-18-13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC) 0.04	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
SVEW11	450+	9:36	60	~~0.16~~ 30		46.6	42.8	11	0.80	0	18.96			Step flow test
	350+	9:54	40	0.06		47.1	46.4	7	0.84	0	19.28			adapter set at
	250	9:58	20	0.04		46.6	49.2	6	0.88	0	19.38			450ft, 350ft, 250ft
														simultaneously
														pulling from three
														depths.
106152	450	1018	39	1.50		50.7	43.9	15	1.02	0	18.78			Step Flow Test
		1027	26	0.84		50.9	42.1	23	1.10	0	18.52			
		1032	13	0.30		51.4	45.0	33	1.14	0	18.85			
	350	1040	30	1.63		51.6	42.2	7	0.84	0	18.52			
		1043	20	0.94		51.3	45.0	7	0.84	0	18.94			
		1048	10	~~0.84~~ 0.25		51.8	44.6	6	0.84	0	19.22			
	194	1051	18	1.75		53.4	52.3	1	0.76	0	20.12			
		1055	10	0.51		52.3	47.6	2	0.76	0	19.39			

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: S. Shealy
Date: 10/29/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum ~~(inWC)~~ inHg	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
SVEW 11		1643	4.2	0.28		67.5	18.3	68	0.82	0	18.51	0	0	Quick Test
		1653	4.0	0.25		70.9	15.8	68	0.82	0	18.22	0	0	
		1703	4.0	0.28		68.5	17.2	72	0.86	0	18.71	0	0	
		1713	4.0	0.27		69.0	18.1	66	0.83	0	18.56	0	0	
		1723	4.0	0.30		70.4	16.2	81	0.82	0	18.27	0	0	
		1733	4.1	0.30		68.6	15.9	69	0.83	0	18.53	0	0	
		1743	4.0	0.25		67.4	18.1	68	0.87	0	16.21	0	0	
		1745	7	0.47										

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: S. Shealy
Date: 10/29/13

Quick Test of ~~106~~ SVEW-11

Well ID	Depth	Time	Vacuum (inWC)	Comments
106130	450	1657	-2.57	
	350		-2.58	
	250		-2.44	
	150		-2.21	
	50		-0.30	
106121	450	1657	-2.88	
	350		-2.89	
	250		-2.61	
	145		-2.19	
	50		-0.30	
106130	450	1730	-2.67	
	350		-2.67	
	250		-2.55	
	150		-2.20	
	50		-0.30	
106121	450		-2.98	
	350		-3.00	
	250		~~-2.60~~ -2.69	
	145		-2.20	
	50		-0.30	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock
Date: 10/31/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106113	4.50	1611	16	0.22		62.8	23.6	2590	0.76	0	18.39	—	—	Step Flow Test
			32	0.63		63.0	22.0	2580	0.76	0	18.36	—	—	↓
		1614	49	1.20		62.2	21.2	2570	0.74	0	18.38	0	20	↓ Quick Test: 4gas CO: 1ppm
		1624	49.5	1.19		61.2	21.2	2500	0.72	0	18.34	0	20	4gas CO: 0 ppm
		1634	49.5	1.16		60.8	21.4	2460	0.70	0	18.33	0	21	4gas CO: 0ppm
		1644	50	1.00		59.5	22.1	2450	0.72	0	18.37	0	21	4gas CO: 0ppm
		1654	50	1.09		59.9	21.9	2440	0.72	0	18.38	0	21	4gas CO: 0ppm
		1704	50	1.11		59.2	22.1	2440	0.72	0	18.33	0	21	0.0 THC at hose
		1714	50	1.00		58.3	22.6	2420	0.72	0	18.46	0	22	Carbon Outlet

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 10/31/13
Quick Test of 106113

Well ID	Depth	Time	Vacuum (inWC)	Comments
106120	450	~~3:57~~ 4:06	-0.65	Time 4:06
	350	↓	-0.69	
	250		-0.70	
	150		-0.69	
	50		-0.20	
106119	450	4:14	-0.64	
	350	↓	-0.66	
	250		-0.60	
	150		-0.56	
	50		-0.12	
106120	450	4:44	-0.41	
	350	↓	-0.59	
	250		-0.64	
	150		-0.61	
	50		-0.09	
106119	450	4:50	-0.60	
	350	↓	-0.61	
	250		-0.59	
	150		-0.53	
	50		-0.11	
106120	450	5:14	-0.42	
	350	↓	-0.59	
	250		-0.63	
	150		-0.64	
	50		-0.11	
106119	450	5:19	-0.67	
	350	↓	-0.66	
	250		-0.64	
	150		-0.60	
	50		-0.15	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: DA, SS, JM, AA
Date: 11/2/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
KAF-13														
106119		0836	~~-24~~	~~0.00~~		~~44.8~~	~~45.5~~	~~12~~	~~0.25~~	~~Ø~~	~~20.5~~			
		0839	-24	0.22										
Start Test		0841	-36	0.50		44.1	45.1	26	1.50	Ø	17.95	Ø	Ø	Quick Test
		0851	-36	0.34		46.9	41.7	19	1.60	Ø	18.79	Ø	Ø	
		0901	-36	0.24		47.3	40.7	23	1.66	Ø	18.40	Ø	Ø	
		0911	37	0.45		48.4	40.0	33	1.68	Ø	18.27	Ø	Ø	
		0921	36	0.46		52.2	34.2	36	1.70	Ø	18.24	Ø	Ø	
		0931	36	0.45		51.4	34.8	26	1.60	Ø	18.24	Ø	Ø	
		0941	36	0.70		52.2	33.8	27	1.68	Ø	18.06	Ø	Ø	
KAF-13 106119		1031	16	0.22		~~57.2~~	~~30.7~~	~~414~~	~~0.56~~	~~Ø~~	~~18.45~~	~~Ø~~	~~Ø~~	
		1034	36	0.88										
		1039	50	1.50										
Start test		1050	50	~~1.5~~		57.2	30.7	414	0.56	Ø	18.45	Ø	Ø	Quick Test
		1100	50	1.39		59.0	31.8	415	0.58	Ø	18.68	Ø	Ø	
		1110	50	1.47		60.1	27.2	400	0.50	Ø	17.96	Ø	Ø	
		1120	50	1.48		62.2	25.2	401	0.50	Ø	18.23	Ø	Ø	
		1130	50	1.52		63.7	24.0	405	0.53	Ø	18.39	Ø	Ø	
		1140	50	1.56		66.2	22.4	405	0.54	Ø	18.30	Ø	Ø	
		1150	49	1.58		64.2	22.9	407	0.52	Ø	18.12	Ø	Ø	

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: DA, JM, AA
Date: 11/2/13

Quick Test of 106119

Well ID	Depth	Time	Vacuum (inWC)	Comments
106117	450	0825	-2.21	
	350	0827	-2.26	
	250	0824	-2.07	
	150	0823	-1.79	
	50	0823	-.55	
106121	450	0830	-2.21	
	350	0829	-2.52	
	250	0829	-2.33	
	150	0828	-2.03	
	50	0828	-.10	
106117	450	0855	-2.36	
	350	0854	-2.40	
	250	0854	-2.21	
	150	0853	-1.94	
	50	0853	-0.65	
106121	450	0900	-2.61	
	350	0859	-2.65	
	250	0859	-2.48	
	150	0858	-2.17	
	50	0858	-.18	
106117	450	0913	-2.34	
	350	0912	-2.50	
	250	0912	-2.29	
	150	0911	-2.01	
	50	0911	-0.24	
106121	450	0918	-2.80	
	350	0919	-2.83	
	250	0917	-2.62	
	150	0916	-2.30	
	50	0916	-.26	
~~106121~~ 106117	450	0942	-2.55	
	350	0942	-2.66	
	250	0941	-2.44	
	150	0941	-2.15	
	50	0941	-.79	
106121	450	0947	-2.92	
	350	0946	-2.94	
	250	0946	-2.72	
	150	0945	-2.41	
	50	0945	-.28	

911
944

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: DA, JM, AA
Date: 11/7/13

Quick Test of 106131

Well ID	Depth	Time	Vacuum (inWC)	Comments
106112	50	1040	-0.32	
	150	1041	-1.93	
	250	1041	-2.30	
	350	1042	-2.52	
	450	1042	-2.51	
106114	50	1047	-.18	
	150	1047	-2.24	
	250	1048	-2.39	
	350	1048	-2.65	
	450	1049	-2.70	
106112	50	1120	-0.30	
	150	1120	-1.81	
	250	1120	-2.17	
	350	1121	-2.38	
	450	1121	-2.33	
106114	50	1124	-.09	
	150	1124	-2.07	
	250	1125	-2.22	
	350	1125	-2.52	
	450	1125	-2.67	
106112	50	1150	-0.25	
	150	1150	-1.67	
	250	1150	-2.03	
	350	1150	-2.23	
	450	1151	-2.20	
106114	50	1153	-0.03	
	150	1154	-1.93	
	250	1154	-2.08	
	350	1155	-2.43	
	450	1155	-2.64	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock, Shealy
Date: 10/31/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106129	450	1413	15	0.20		64.4	21.0	2590	1.56	0	15.68	—		Flow Step Test
			30	0.69		64.8	20.4	2660	1.56	0	15.86	—		↓
		1422	45	1.25		63.0	20.8	2710	1.56	0	15.90	0	25	↓ Quick Test Start, 4gas CO: 6 ppm
		1432	46	1.16		62.8	20.6	2920	1.56	0	15.52	0	22	4 gas CO: 7ppm, 1HC @ carbon filter outlet
		1442	45	1.21		62.4	20.9	2940	1.58	0	16.37	0	23	4 gas CO: 7ppm
		1452	46	1.05		63.7	20.2	3010	1.58	0	15.38	0	28	4 gas CO: 9ppm
		1502	46	1.10		61.9	20.5	3010	1.60	0	15.37	0	28	4 gas CO: 9ppm
		1512	46	1.06		60.8	22.7	3020	1.60	0	15.48	0	28	4 gas CO: 9ppm
		1522	46	1.13		61.0	22.2	3020	1.58	0	15.42	0	28	4 gas CO: 9ppm

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

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Project Name: KAFB BFF
Project Number: 140705

Staff: Zacheck, Peacock
Date: 10/31/13
Quick Test @ 106129

Well ID	Depth	Time	Vacuum (inWC)	Comments
106116	450	2:04	-0.31	Readings influenced by previous test.
	350		-0.39	
	250		-0.47	
	150		-0.49	
	50		-0.36	
106127	450	2:11	-0.60	
	350		-0.61	
	250		-0.50	
	150		-0.52	
	50		-0.32	
106116	450	2:52	-0.37	
	350		-0.49	
	250		-0.60	
	150		-0.63	
	50		-0.31	
106127	450	2:59	-0.71	
	350		-0.78	
	250		-0.67	
	150		-0.65	
	50		-0.22	
106116	450	3:27	-0.30	
	350		-0.44	
	250		-0.59	
	150		-0.54	
	50		-0.25	
106127	450	3:27	-0.66	
	350		-0.75	
	250		-0.67	
	150		-0.66	
	50		-0.20	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: Shenly, Pencock T.
Date: 10/30/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106130	450	0945 ~~1145~~	12.3	0.39		55.8	48.4	146	0.56	0	18.92	0	0	Step Flow test
		0951 ~~1151~~	26.5	0.78		56.3	45.3	137	0.52	0	19.11	0	0	"
		0957	43	~~1.62~~ 1.58		57.8	46.1	191	0.70	0	18.62	0	1	Start Quick Test
		1007	42.5	1.70		56.7	41.0	201	0.68	0	18.22	0	1	~~Start Quick Test~~
		1017	43.5	1.38		56.7	39.9	213	0.74	0	17.98	0	2	LEL is mis-reading
		1027	44.0	1.46		55.6	41.0	217	0.74	0	18.26	0	1	LEL meter is mis-reading
		1037	43.0	1.55		57.7	37.8	220	0.68	0	18.12	0	1	4-Gas has been re-zeroed
		1047	43.0	1.53		55.9	38.5	223	0.72	0	18.49	0	1	and calibrated
		1057	43.0	1.63		57.0	37.2	227	0.70	0	18.72	0	1	

At 10:15 checked outlet of carbon beds w PID, 50 ppm 0.0

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: G. Peacock
Date: 10/30/13

Quick Test @ 106130

Well ID	Depth	Time	Vacuum (inWC)	Comments
106112	450	9:42	-0.83	
	350		-0.84	
	250		-0.66	
	150		-0.45	
	50		-0.01	
106121	450	0948	-1.01	
	350		-1.02	
	250		-0.76	
	150		-0.58	
~~106112~~	50		0.10	
106112	450	1027	-0.77	
	350		-0.84	
	250		-0.74	
	150		-0.56	
	50		-0.10	
106121	450	1034	-1.12	
	350		-1.14	
	250		-0.88	
	150		-0.71	
	50		-0.02	
106112	450	1057	-0.81	
	350		-0.90	
	250		-0.85	
	150		-0.68	
	50		-0.17	
106121	450	11:04	-1.25	
	350		-1.26	
	250		-1.00	
	150		-0.85	
	50		-0.10	

SVE Pilot Testing
Test Well

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Project Name: KAFB BFF
Project Number: 140705

Staff: Britten
Date: 11-8-13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106142		1517	45	1.32		68.0	16.4	0	0.04	0	20.33			Step Test start
			30	0.61		65.1	21.9	0	0.06	0	20.44			
			15	0.20		64.2	21.8	0	0.06	0	20.39			
		1530	46	1.21		63.9	21.0	0	0.08	0	20.42	0	0	Quick Test start
		1540	45	1.06		62.6	23.3	5	0.12	0	20.12	0	0	
		1550	46	1.24		62.2	20.9	5	0.14	0	20.15	0	0	
		1600	46	1.19		63.1	23.5	6	0.16	0	20.20	0	0	
		1610	46	1.26		62.4	23.0	5	0.16	0	20.24	0	0	
		1620	45	1.15		62.6	39.2	6	0.18	0	20.30	0	0	
		1630	46	1.22		61.2	24.7	7	0.16	0	20.12	0	0	

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Britten, Zacheek
Date: 11/8/13
Quick Test of 106142

Well ID	Depth	Time	Vacuum (inWC)	Comments
106141	450	Well blocked w/Dirt pile, unable to access		
	350			
	250			
	150			
	50			
106136	450	1448	-0.12	
	350		-0.15	
	250		-0.25	
	150		-0.70	
	50		-0.19	
106136	450	1600	-0.36	
	350		-0.40	
	250		-0.50	
	150		-0.82	
	50		-0.18	
106136	450	1630	-0.41	
	350		-0.41	
	250		-0.51	
	150		-0.78	
	50		-0.14	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Brecht
Date: 10/16/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106149	349	0828	3.5	0.20	88	52.9	50.5	~~212~~ 220	2.60	0.00	17.71	0	1	Dilution FO, wellhead ½ O
		0841	3.5	0.18	83	52.9	51.1	225	2.62	0.00	17.87	0	1	
		0848	9.4	0.60	152	52.9	53.8	225	2.64	0.00	17.91	0	1	Dilution ½ O, wellhead FO
		0856	9.4	0.62	155	53.6	51.7	221	2.52	0.00	17.55	0	1	
		0908	35	2.6	317	53.4	49.4	210	2.50	0.00	17.83	0	1	Dilution FO, wellhead FO
		0917	35	2.5	311	54.0	56.1	220	2.52	0.00	17.97	0	1	
		0927	35	2.5	311	54.7	52.9	224	2.54	0.00	18.06	0	1	
		0930												Test over.

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

106149-349

Project Name: KAFB BFF
Project Number: 140705

Staff: VB JT
Date: 10/16/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
KAFB-106121	450	~~0.85~~ 0809	0.85	Magnihelic 0-1 inch
	350	~~0.88~~ 0809	0.88	
	250	0809	0.90	
	150	0809	0.85	
	50	0809	0.27	
	25	0809	0.20	
KAFB-106117	450	0817	0.90	Magnehelic 0-1 inch
	350		0.91	
	250		0.92	
	150		0.86	
	50		0.43	
	25		0.20	
KAFB-106117	450	0858	0.98	Magnehelic 0-1 inch
	350		1.20	Magnehelic 0-4 inch
	250		1.40	
	150		1.0	
	50		0.48	Magnehelic 0-1 inch
	25		0.23	
KAFB-106121	450	0904	1.1	Magnehelic 0-4 inch
	350		1.1	
	250		1.1	
	150		1.0	
	50		0.26	Magnehelic 0-1 inch
	25		0.21	
KAFB-106117	450	0925	1.10	Magnehelic 0-4 inch
	350		1.40	
	250		2.0	
	150		1.25	
	50		0.58	Magnehelic 0-1 inch
	25		0.27	
KAFB-106121	450	0930	1.15	Magnehelic 0-4 inch
	350		1.15	
	250		1.20	
	150		1.10	
	50		0.28	Magnehelic 0-1 inch
	25		0.22	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Bracht
Date: 10/15/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106/49	4/84	1520	2 inWC	0.17	83	74.8	21.3	848	1.38	0	18.70	0	0	Open valve
		1533	2	0.16	80	73.6	23.1	976	1.50	0.00	19.50	0	0	Dilution: FO Well head: 1/4
		1542	8	0.66	163	73.6	20.7	1125	1.64	0.01	19.47	0	4	Increase vacuum
		1555	8	0.28	106	72.9	21.7	1228	1.60	0.00	17.50	0	5	Dilution: 1/2 Well head: FO
		1606	35	1.5	245	69.3	24.7	1415	1.66	0.00	17.75	0	4	Well head: FO Dilution FC
		1622	35	1.6	253	66.7	29.4	1548	1.68	0.00	17.41	0	5	Increase vacuum
		1628	36	1.6	253	65.8	26.8	1660	1.68	0.00	17.20	0	4/5	End test - shut off flow to well

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

WELL 106149 - 484 FT

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Bracht
Date: 10/15/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106121	450	1458	~~-0.84~~ -0.88	Magnehelic, 0-1"
	350		~~-0.85~~ -0.90	
	250		-0.93	
	150		-0.90	
	50		-0.36	
	25		-0.25	
106117	450	1500	-0.90	Magnehelic, 0-1"
	350		-0.92	
	250		-0.90	
	150		-0.86	
	50		-0.46	
	25		-0.22	
106121	450	1601	-.90	MAGNEHELIC, 0-1"
	350		-.96	
	250		-1.0	
	145		-.90	
	50		-.16	
	25		-.14	
106117	450	1605	-.74	MAGNEHELIC, 0-1"
	350		-.90	
	250		-1.05	MAGNEHELIC, 0-4"
	150		-1.0	MAGNEHELIC, 0-1"
	50		-.52	
	25		-.10	
106117	450	1640	-0.44	Mag. 0-1"
	350		-0.69	
	250		-1.25	Mag. 0-4"
	150		-1.10	
	50		-0.60	Mag. 0-1"
	25		-0.28	
106121	450	1652	-1.2	MAG 0-4"
	350		1.25	
	250		1.3	
	145		1.2	
	50		.325	MAG 0-1"
	25		.26	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Bracht
Date: 10/15/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106149	(Shallow) 199	1654	2	0.28	106	65.8	53.4	22	2.44	0.00	18.66	0	0	Open valve Wellhead 1/4
106149	199	1707	2.2	0.26	102	64.8	33.4	22	2.50	0.00	18.68	0	0	Dilution FC
↓	↓	1721	8	1.00	200	64.8	42.0	16 vB	2.60	0.00	18.66	0	0	Wellhead FC, dilution 1/3 open vB
		1728	8.2	1.00	199	63.7	49.3	16	2.62	0.00	18.65	0	0	
		1739	22	3.2	357	63.0	60.6	13	2.62	0.00	18.61	0	0	Wellhead FC, Dilution FC
		1748	24	3.2	357	62.2	65.3	14	2.62	0.00	18.71	0	0	
↓	↓	1759	22	3.2	356	62.2	58.6	13	2.62	0.00	18.74	0	0	End of test

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

WELL 106149 - 199 FT

Project Name: KAFB BFF
Project Number: 140705

Staff: A. Sloan
Date: 10/15/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106117	450	1702	1.0	MAG 0-4"
	350		1.1	
	250		1.15	
	150		.93	MAG 0-1"
	50		.24	
	25		.20	
106121	450	1652	-1.2	MAG 0-4"
	350		-1.25	
	250		-1.3	
	150		-1.2	
	50		-.325	MAG 0-1"
	25		-.26	
106121	450	1730	-1.20	MAG 0-4"
	350		-1.25	
	250		-1.3	
	145		-1.18	
	50		-.23	MAG 0-1"
	25		-.18	
106117	450	1739	-1.2	MAG 0-4"
	350		-1.18	
	250		-1.05	
	150		-.45	MAG 0-1"
	50		+1.1	MAG 0-4"
	25		+.30	MAG 0-1"
106117	450	1800	-1.2	MAG 0-4"
	350		-1.1	
	250		-.90	MAG 0-1"
	150		-.08	MAG 0-1"
	50		+1.8	MAG 0-4"
	25		+.76	MAG 0-1"
106121	450	1810	-1.2	MAG 0-4"
	350		-1.2	
	250		-1.25	
	150		-1.15	
	50		-.18	MAG 0-1"
	25		-.16	

SVE Pilot Testing
Test Well

Page _____ of _____

Project Name: KAFB BFF
Project Number: 140705

Staff: G. Peacock
Date: 10/29/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106152	4 94	1244	2.4 inHg	1.63		76.8	17.1	306	1.52	0	17.50	0	2	
		~~1295~~												
		1254	2.55 inHg	1.39		75.0	17.3	371	1.70	0	17.54	0	2	
		1304	2.40 inHg	1.41		74.3	18.2	436	1.76	0	17.78	0	5	
		1314	2.2	1.44		71.1	20.3	514	1.78	0	17.07	0	5	
		1324	2.2	1.54		68.5	21.7	565	1.78	0	17.17	0	5	
		1334	2.2 inHg	1.71		68.5	21.2	594	1.76	0	17.12	0	5	
		1344	2.2 inHg	1.49		70.7	19.1	621	1.76	0	16.79	0	5	
		~~1354~~	13.75	0.49				789	1.92		16.28			Dilution: ½ (to determine the affect of applied vacuum on flow rate)

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: G. Peacock
Date: 10/29/13
Quicktest @ 106152-494

Well ID	Depth	Time	Vacuum (inWC)	Comments
106130	450	1252	-1.60	
	350		-1.58	
	250		-1.35	
	150		-0.96	
	50		-0.24	
106121	450	1255	-1.54	
	350		-1.56	
	250		-1.31	
	150		-1.16	
	50		-0.32	
106130	450	1318	~~-1.74~~ -1.70	
	350		-1.74	
	250		~~-1.69~~ -1.61	
	150		-1.31	
	50		-0.33	
106121	450	1323	-1.94	
	350		-1.96	
	250		-1.73	
	150		-1.56	
	50		-0.44	
106130	450	1349	-1.90	
	350		-2.00	
	250		-1.87	
	150		-1.65	
	50		-0.44	
106121	450	1352	-2.25	
	350		-2.27	
	250		-2.04	
	150		-1.87	
	50		-0.55	

every 10

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: G. Peacock
Date: 10/29/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
~~106152~~	~~149194~~	~~1112~~	~~0.88~~			~~76.8~~	~~19.6~~	~~2~~	~~0.78~~	~~0~~	~~20.04~~	~~0~~	~~0~~	~~Dilution: 1/2~~
106152	194	1126	16.55	2.06		74.5	26.6	3	0.80	0	19.76	0	0	~~Wellhead: 1/4~~ Dilution: Closed
		1136	17.10	1.68		73.8	29.6	2	0.78	0	19.23	0	0	Wellhead: FO
		1146	16.99	1.86		73.9	29.4	1	0.78	0	19.44	0	0	~~Dilution: FO~~
		1156	16.96	1.92		75.6	27.7	1	0.76	0	19.68	0	0	~~Wellhead: 1/2~~
		1206	17.05	1.97		74.8	28.4	1	0.78	0	20.03	0	0	
		1216	16.85	1.62		75.6	29.2	2	0.74	0	19.21	0	0	~~Dilution:~~
		1226	16.55	1.74		74.5	29.8	3	0.76	0	19.47	0	0	~~Wellhead: FO~~

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

every ~~20~~ 30

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: G. Peacock
Date: 10/29/13
Quick test @ 106152-194

Well ID	Depth	Time	Vacuum (inWC)	Comments
106130	~~450~~ 450			
	350			
	250			
	150			
106121	450			
	350			
	250			All readings taken on the Negative port of the digital Manometer
	150			
	5			
106130	450	~~0847~~ 1030	~~-0.81~~ -0.83	Background Readings, prior to initial quick test
	350		~~-0.81~~ -0.80	
	250		~~-0.61~~ -0.61	
	150		~~-0.43~~ -0.46	
	50	1032	~~-0.11~~ 0.00	
106121	450	~~0846~~	~~-0.89~~ -0.90	
	350		~~-0.91~~ -0.91	
	250		~~-0.61~~ -0.62	
	150		~~-0.43~~ ~~-0.01~~ -0.54	
	50		~~0.21~~ 0.00	
106130	450	1159	-1.16	
	350		-1.14	
	250		-0.95	
	150		-0.60	
	50		-0.15	
106121	450	1202	-1.29	
	350		-1.30	
	250		-1.07	
	150		-0.91	
	50		-0.21	
106130	450	1230	-1.42	
	350		-1.40	
	250		-1.20	
	150		-0.75	
	50		-0.16	
106121	450	1233	-1.54	
	350		-1.56	
	250		-1.31	
	150		-1.16	
	50		-0.32	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: G. Peacock
Date: 10/29/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106152	350	1453	26	1.83		69.6	22.5	26	0.88	0	18.20	0	0	Dilution: closed Quick Test
		1503	26	1.84		70.5	20.5	23	0.88	0	18.18	0	0	wellhead: FO
		1513	25	1.87		71.1	19.2	23	0.88	0	17.94	0	0	
		1523	26	1.89		70.3	19.9	22	0.88	0	18.30	0	0	
		1533	26	1.82		69.6	20.4	23	0.88	0	18.26	0	0	
		1543	26	1.96		68.9	22.0	24	0.86	0	18.47	0	0	
		1553	25	1.94		68.9	22.0	24	0.88	0	18.49	0	0	

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: G. Peacock
Date: 10/29/13
Quicktest @ 106152-350

Well ID	Depth	Time	Vacuum (inWC)	Comments
106130	450	1458	-2.40	
	350		-2.47	
	250		-2.33	
	150		-2.16	
	50		-0.48	
106121	450	1501	-2.25	
	350		-2.27	
	250		-2.04	
	150		-1.87	
	50		-0.55	
106130	450	1531	-2.56	
	350		-2.56	
	250		-2.31	
	150		-2.23	
	50		-0.44	
106121	450	1535	-2.79	
	350		-2.81	
	250		-2.57	
	150		-2.34	
	50		-0.43	
106130	450	1557	-2.70	
	350		-2.60	
	250		-2.34	
	150		-2.30	
	50		-0.41	
106121	450	1600	-2.88	
	350		-2.93	
	250		-2.67	
	150		-2.44	
	50		-0.43	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock, Shealy
Date: 10/31/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106153	484	0841	~~13~~12	0.44		50.9	39.2	76	0.82	0	20.00			Flow Test
		0843	24	0.87		51.8	38.5	142	0.98	0	19.38			
		0844	36.5	1.45		50.9	38.1	~~205~~ 245	1.14	0	18.13			
	350	0910	12	0.74		~~34~~ 53.1	46.7	~~621~~ 4	—	—	—			
			~~12~~ 26	1.55		53.1	43.5	~~8~~ 243	—	—	—			
	200	0915	18	1.39		—	—	2	0.32	0	19.74			
	484	0918	36	1.75		53.2	38.3	63	0.64	0	19.23	0	2	Quick Test, 4 gas CO: 1 ppm
		0928	36	1.53		49.3	43.2	298	1.38	0	17.96	0	2	4 Gas CO: 2 ppm
		0938	36	1.31		56.1	34.1	314	1.42	0	18.03	0	2	
		~~0948~~ ~~0948~~	36	1.38		58.8	30.6	305	1.36	0	17.79	0	2	0.0 THC in Carbon Outlet
		0958	36	1.58		60.4	28.4	308	1.38	0	17.64	0	2	both heads
		1008	35.5	1.40		61.3	27.8	310	1.34	0	17.78	0	2	
		1018	35.5	1.36		62.2	27.4	309	1.38	0	17.37	0	2	

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Page _____ of _____

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek, Peacock
Date: 10/31/13
Quick Test @ 106153

Well ID	Depth	Time	Vacuum (inWC)	Comments
106130	450	8:35	0.40	
	350		0.45	
	250		0.59	
	150		0.63	
	50		0.21	
106121	450	8:42	0.45	
	350		0.43	
	250		0.62	
	150		0.65	
	50		0.23	
106130	450	9:48	0.72	
	350		0.60	
	250		0.60	
	150		0.58	
	50		0.10	
106121	450	9:54	0.42	
	350		0.39	
	250		0.58	
	150		0.58	
	50		0.09	
106130	450	10:18	0.82	
	350		0.66	
	250		0.58	
	150		0.56	
	50		0.09	
106121	450	10:24	0.45	
	350		0.43	
	250		0.60	
	150		0.58	
	50		0.09	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: G. Peacock
Date: 10/17/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106154	484	1510	5.40	0.20	90	73.9	13.6	460	0.98	0	18.20	0	4	Dilution: FO
		1520	5.55	0.19	88	74.7	13.6	466	1.14	0	17.45	0	5	Wellhead: 1/4
		1530	30	1.23	222	68.4	23.2	396	1.16	0	17.39	0	4	Dilution: 1/2
		1540	30	1.19	218	71.1	18.8	398	1.22	0	17.56	0	4	Wellhead: FO
		1550	6.7 inHg	4.40	420	69.1	25.8	339	1.16	0	17.84	0	1	Dilution: closed
		1600	7.0 inHg	4.39	419	68.9	26.8	~~30~~ 96 350	~~1.04~~ 1.20	0	~~17.41~~ 17.56	0	1	Wellhead: FO
		1610												Valve off, test complete.

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

KAFB - 106154 - 484

Project Name: KAFB BFF
Project Number: 140705

Staff: V. Brachl
Date: 10/17/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106121	450	1502	-0.40	Dig. Manometer, -pot
	350		-0.42	
	250		-0.52	
	150		-0.68	
	50		-0.36	
	25		-0.26	
106112	450	1507	-0.46	
	350		-0.39	
	250		0.02	
	150		-0.39	
	50		-0.23	
	25		-0.17	
106112	450	1540	-0.36	
	350		-0.34	
	250		-0.55 LB	
	150		-0.58	
	50		-0.29	
	25		-0.18	
106121	450	1544	-0.61	
	350		-0.64	
	250		~~-0.57~~ -0.72	
	150		-0.73	
	50		-0.33	
	25		-0.24	
106112	450	1604	-0.12	
	350		-0.06	
	250		-0.64	
	150		-0.65	
	50		-0.28	
	25		-0.15	
106121	450	1611	-0.68	
	350		-0.72	
	250		-0.78	
	150		-0.79	
	50		-0.29	
	25		-0.20 22	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: G. Peacock
Date: 10/17/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106154	350	1404	4.42	0.20	90	72.5	15.1	47	1.08	0	19.30	0	0	Dilution: FO
		1414	4.55	0.19	87	72.5	14.6	51	1.18	0	19.22	0	0	wellhead: 1/4
		1424	28	2.00	283	70.9	27.5	54	1.32	0	18.79	0	0	Dilution: 1/2
		1434	28	1.99	282	70.0	30.0	60	1.38	0	18.41	0	0	Wellhead: FO
		1444	6.5 inHg	7.34	541	67.5	33.8	63	1.28	0	18.33	0	0	Dilution: closed
		1454	6.6 inHg	7.29	540	67.6	36.2	64	1.36	0	17.59	0	0	Wellhead: FO
		1504												Valve off, test complete.

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

KAFB-106154-~~484~~ 349 VB
350

Project Name: KAFB BFF
Project Number: 140705

Staff: V.Bracht
Date: 10/17/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
KAFB-106121	450	1355	-0.06	Dig. Manometer, - port
	350	↓	-0.08	↓
	250	↓	-0.19	↓
	150	↓	-0.29	↓
	50	↓	-0.38	↓
	25	↓	-0.30	↓
106112	450	1401	-0.16	↓
	350	↓	-0.16	↓
	250	↓	-0.14	↓
	150	↓	0.44	↓
	50	↓	0.66	↓
	25	↓	0.41	↓
106112	450	1430	-0.30	↓
	350	↓	-0.25	↓
	250	↓	0.07	↓
	150	↓	-0.20	↓
	50	↓	-0.10	↓
	25	↓	-0.07	↓
106121	450	1435	-0.33	↓
	350	↓	-0.34	↓
	250	↓	-0.43	↓
	150	↓	-0.51	↓
	50	↓	-0.39	↓
	25	↓	-0.30	↓
106112	450	1456	-0.40	↓
	350	↓	-0.29	↓
	250	↓	0.42	↓
	150	↓	-0.32	↓
	50	↓	-0.19	↓
	25	↓	-0.12	↓
106121	450	1502	-0.40	↓
	350	↓	-0.42	↓
	250	↓	-0.52	↓
	150	↓	-0.50	↓
	50	↓	-0.36	↓
	25	↓	-0.26	↓

Blank Sheet Temp

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: G. Peacock
Date: 10/17/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106154 -	~~4-84~~ 167 GP	1255	6.55	0.58	153	74.1	23.6	3	1.48	0	20.04	0	0	dilution: FO
														wellhead: 1/4
		1305	6.38	0.49	141	77.0	26.5	2	1.52	0	19.36	0	0	
		1315	21	2.51	317	70.7	43.3	5	1.58	0	19.52	0	0	dilution: 1/2
		1325	22	2.79	335	71.1	40.3	1	1.58	0	19.24	0	0	wellhead: FO
	GP	~~1335~~												
		1335	54	8.19	572	69.1	31.3	3	1.52	0	19.95	0	0	dilution: closed
		1345	55	8.16	571	67.6	38.5	3	1.58	0	20.45	0	0	wellhead: FO
		1355												Valve off, test complete.

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

KAFB-106154-~~484~~ ~~194~~ 197 VB

Project Name: KAFB BFF
Project Number: 140705

Staff: V.Bracht
Date: 10/17/13

Well ID	Depth	Time	Vacuum (inWC)	Comments
106112	450	1242	0.53	All well values open on 106154, Dig. Manometer - port
	350		0.55	noticed after readings
	250		0.53	were collected.
	150		0.38	
	50		0.15	
	25		0.04	
106121	450	1248	0.46	
	350		0.45	
	250		0.37	
	150		0.22	
	50		-0.23	
	25		-0.17	
106112	450	1325	0.15	
	350		~~0.14~~ ~~0.10~~ 0.12	
	250		0.06	
	150		0.34	
	50		0.33	
	25		0.10	
106121	450	1331	~~-0.01~~ 0.10	
	350		0.08	
	250		-0.01	
	150		-0.12	
	50		-0.34	
	25		-0.26	
106112	450	1350	-0.05	
	350		-0.06	
	250		-0.05	
	150		~~-0.27~~ 0.54	
	50		0.94	
	25		0.42	
106121	450	1355	-0.06	
	350		-0.08	
	250		-0.19	
	150		-0.29	
	50		-0.38	
	25		-0.30	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock, Shealy
Date: 10/31/13

Well ID	Screened Interval (ft bgs)	Time 1216	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106155	200	~~1416~~	18	1.69		61.9	30.0	7	0.28	0	19.38	—		Flow Test
	350	1222	14	0.60		64.0	22.9	68	0.58	0	18.35	—		
		1225	28	1.60		61.0	26.2	67	0.58	0	18.42	—		
	484	1228	12	0.37		61.2	25.5	1473	0.90	0	17.95	—		
		1230	24	0.74		61.5	24.2	1293	0.84	0	17.99	—		
	484	1231	36	1.32		60.8	23.6	1239	0.86	0	18.02	0	11	Quick Test, 4 gas CO: 1 ppm
		1241	37	1.19		59.9	25.5	1143	0.82	0	18.10	0	11	4 Gas CO: 1 ppm, 6 HC @ filter outlet
		1251	37	1.40		58.3	25.6	1139	0.86	0	18.31	0	12	4 Gas CO: 2 ppm
		1301	37	1.52		62.2	23.4	1137	0.86	0	18.13	0	12	4 Gas CO: 2 ppm
		1311	37	1.49		59.7	24.2	1143	0.88	0	18.39	0	12	4 Gas CO: 2 ppm
		1321	37	1.44		61.7	22.6	1132	0.82	0	17.87	0	11	4 Gas CO: 2 ppm
		1331	37	1.49		59.2	24.1	1145	0.82	0	17.65	0	11	4 Gas CO: 2 ppm

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Page _____ of _____

Project Name: KAFB BFF
Project Number: 140705

Staff: Bachelor, Peacock
Date: 10/31/13
For Quick test @ 106155

Well ID	Depth	Time	Vacuum (inWC)	Comments
106116	450	10:50	0.40	
	350		0.52	
	250		0.57	
	150		0.54	
	50		0.15	
106127	450	11:00	0.42	
	350		0.55	
	250		0.54	
	150		0.55	
	50		0.06	
106116	450	1:01	-0.09	
	350		-0.07	
	250		-0.11	
	150		-0.15	
	50		-0.23	
106127	450	1:09	-0.21	
	350		-0.25	
	250		-0.11	
	150		-0.10	
	50		-0.21	
106116	450	1:31	-0.17	
	350		-0.20	
	250		-0.30	
	150		-0.34	
	50		-0.30	
106127	450	1:38	-0.43	
	350		-0.49	
	250		-0.36	
	150		-0.37	
	50		-0.31	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock, Shealy
Date: 10/30/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
106158	484	1346	10	~~0.41~~ 0.33		57.7	45.7	68	1.48	0	16.26			Flow Step Test
		1348	21	0.91		58.1	44.4	86	1.42	0	16.70			
		1350	32	1.45		58.1	42.5	68	1.04	0	17.01			
	341	1354	10	0.57		58.5	45.1	945	2.16	0	17.67			
		1356	22	1.72		58.5	44.6	937	2.14	0	17.57			
	178	1400	13	1.60		60.1	56.3	265	3.98	0	16.33			
	341	1409	22	1.74		61.0	39.6	926	2.08	0	17.32	0	8	4 Gas CO: 8 ppm Quick Test
		1419	22	1.62		62.2	38.3	927	2.10	0	17.37	0	6	Start, 0 ppm on PID @
		1429	22	1.72		61.9	35.5	937	2.14	0	17.35	0	6	outlet of both carbon filters
		1439	22	1.50		63.1	34.2	936	2.16	0	17.12	0	6	4 Gas CO: 8 ppm
		1449	22	1.50		62.2	34.9	937	2.18	0	17.27	0	6	4 Gas CO: 8 ppm
		1459	22	1.49		63.1	34.3	924	2.18	0	17.26	0	6	4 Gas CO: 8 ppm
		1509	22	1.53		61.2	36.5	927	2.20	0	17.53	0	7	4 Gas CO: 7 ppm
					HC @ entry to filter ~920 ppm									
					HC @ exit from carbon filter ~1 ppm									

comment @1429: 0 ppm PID @ both carbon filter outlets
Comment @1509: 0 ppm PID @ both carbon filter outlets

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Peacock, Shealy
Date: 10/30/13
Quick Test of 106156

Well ID	Depth	Time	Vacuum (inWC)	Comments
106111	450	13.38	-2.20	Background
	350		-2.25	
	250		-2.12	
	150		~~-2.~~ -1.96	
	50		-0.68	
106121	450	13.48	-2.55	
	350		-2.55	
	250		-2.39	
	150		-2.15	
	50		-0.52	
106111	450	14:39	-2.72	
	350		-2.60	
	250		-1.85	
	150		-2.05	
	50		-0.73	
106121	450	14:46	-2.88	
	350		-2.90	
	250		-2.69	
	150		-2.48	
	50		-0.49	
106111	450	15:09	-2.92	
	350		-2.75	
	250		-1.95	
	150		-2.18	
	50		-0.77	
106121	450	15:16	-2.97	
	350		-2.98	
	250		-2.75	
	150		-2.51	
	50		-0.38	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: Britten, Zachek
Date: 11/8/13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
											19.97			250, 350, 450
10628	250, 450, 350	1103	60	0.10		57.4	26.3	248	0.32	0	~~20.70~~	-		Step test start
			40	0.12		65.1	25.3	341	0.42	0	19.99			All screened intervals tested simultaneously
			20	0.13		65.8	26.3	348	0.38	0	19.80			
		1130	60	0.19		69.3	23.5	319	0.42	0	20.57	0	0	Quick test
		1140	60	0.22		67.1	24.7	291	0.42	0	19.39	0	0	
		1150	59.5	0.24		67.6	30.1	258	0.44	0	20.78	0	0	
		1200	59.5	0.24		69.1	20.9	228	0.46	0	20.44	0	0	
		1210	59	0.23		67.3	25.7	209	0.38	0	19.61	0	0	
		1220	59	0.24		63.5	24.7	193	0.38	0	20.07	0	0	
		1230	59	0.19		62.8	26.1	177	0.38	0	20.16	0	0	

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

SVE Pilot Testing
Observation Wells

Project Name: KAFB BFF
Project Number: 140705

Staff: Zachek
Date: 11-8-13
Quick Test of 10628

Well ID	Depth	Time	Vacuum (inWC)	Comments
106137	450	1049	1.55	Background
	350		1.58	
	250		1.03	
	150		0.78	
	50 ~~250~~		-0.09	
106142	450	1035	1.20	
	350		1.22	
	250		1.02	
	150		1.00	
	50		-0.09	
106137	450	1215	0.90	
	350		0.91	
	250		0.37	
	150		0.16	
	50		-0.32	
106142	450	1200	0.69	
	350		0.68	
	250		0.50	
	150		0.47	
	50		-0.14	
106137	450	~~1230~~	0.60	Time 1242
	350		0.60	
	250		0.07	
	150		-0.10	
	50		-0.41	
106142	450	1230	0.37	
	350		0.35	
	250		0.16	
	150		0.13	
	50		-0.27	

SVE Pilot Testing
Test Well

Project Name: KAFB BFF
Project Number: 140705

Staff: Britten
Date: 11-18-13

Well ID	Screened Interval (ft bgs)	Time	Vacuum (inWC)	Differential Pressure (inWC)	Flow Rate (scfm)	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO_2 (%)	CO (%)	O_2 (%)	H_2S (%)	LEL (%)	Comments
SVEW11	450+	9:36	60	~~0.16~~ 0.30		46.6	42.8	11	0.80	0	18.96			Step flow test
	350+	9:54	40	0.06		47.1	46.4	7	0.84	0	19.28			adapter set at
	250	9:58	20	0.04		46.6	49.2	6	0.88	0	19.38			450 ft, 350 ft, 250 ft
														simultaneously
														pulling from three
														depths.
106152	450	1018	39	1.50		50.7	43.9	15	1.02	0	18.78			Step flow Test
		1027	26	0.84		50.9	42.1	23	1.10	0	18.52			
		1032	13	0.30		51.4	45.0	33	1.14	0	18.85			
	350	1040	30	1.63		51.6	42.2	7	0.84	0	18.52			
		1043	20	0.94		51.3	45.0	7	0.84	0	18.94			
		1048	10	~~0.87~~ 0.25		51.8	44.6	6	0.84	0	19.22			
	194	1051	18	1.75		53.4	52.3	1	0.76	0	20.12			
		1055	10	0.51		52.3	47.6	2	0.76	0	19.39			

ft bgs = feet below ground surface inWC = inches of water column scfm = standard cubic feet per minute °F = degrees Fahrenheit % = percent
ppm = parts per million HC = hydrocarbons LEL = lower explosive limit

Shaw Environmental, Inc.

DATE	1 0 0 3 1 3
TIME	0 8 4 0
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PROJECT NO.	140705

SAMPLE COLLECTION LOG

PROJECT NAME KAFB BFF Pilot Test

SAMPLE NO. KAFB - 106161 - PT - 001

SAMPLE LOCATION KAFB - 106161

SAMPLE TYPE Summa can - grab

COMPOSITE ____ YES ✓ NO

COMPOSITE TYPE NA

DEPTH OF SAMPLE 530 feet

WEATHER Sunny

CONTAINERS USED	AMOUNT COLLECTED
Summa can	1

COMMENTS:

Analysis:
- VOCs - TO-15
- BTEX
- EDB - CARB 422

Pressure gauge never move, left valve open for ten minutes then sealed closed.

We checked the pressure on the summa can with the manometer. It gave a reading of about -20 inWc

PREPARED BY: Megan Britten

Shaw Environmental, Inc.

DATE	100313
TIME	1630
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PROJECT NO.	140705

SAMPLE COLLECTION LOG

PROJECT NAME KAFB BFF Pilot Test

SAMPLE NO. KAFB-106161-PT-002

SAMPLE LOCATION KAFB-106161

SAMPLE TYPE Summa can - grab

COMPOSITE ____ YES ✓ NO

COMPOSITE TYPE NA

DEPTH OF SAMPLE 530 feet

WEATHER Sunny

CONTAINERS USED	AMOUNT COLLECTED
Summa can	1

COMMENTS:

Analysis:
- VOCs - TO-15
- BTEX
- EDB - CARB-422

Pressure gauge never moved,
left valve open on can for 10 minutes then sealed closed.

Summa can pressure similar to sample: KAFB 106161-PT-001

PREPARED BY: Megan Britten

Shaw Environmental, Inc.

DATE	1	0	0	4	1	3
TIME	1	6	0	0		
PAGE 1 OF 1						
PAGE						
PROJECT NO. 140705						

SAMPLE COLLECTION LOG

PROJECT NAME 140705 KAFB BFF

SAMPLE NO. KAFB- 106160 - PT - 002

SAMPLE LOCATION KAFB 106160

SAMPLE TYPE summa can - Grab

COMPOSITE ____ YES ✓ NO

COMPOSITE TYPE NA

DEPTH OF SAMPLE ~30 feet

WEATHER Sunny windy

CONTAINERS USED	AMOUNT COLLECTED
summa canisters	1

COMMENTS:

Analysis:
- VOCs - TO - 15
- BTEX
- EDB - CARB 422

Pressure gauge never moved on can, left valve open for 10 minutes then sealed closed.

Summa Can pressure similar to Sample: KAFB - 106161 - PT - 001.

PREPARED BY: Megan Reitter

Shaw Environmental, Inc.

DATE	0 0 4 1 3
TIME	0 8 2 5
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PAGE	
PROJECT NO.	140705

SAMPLE COLLECTION LOG

PROJECT NAME KAFB BFP

SAMPLE NO. KAFB-106160-PT-001

SAMPLE LOCATION KAFB-106160

SAMPLE TYPE Summa Can - Grab

COMPOSITE ____ YES ✓ NO

COMPOSITE TYPE NA

DEPTH OF SAMPLE 530 feet

WEATHER sunny windy

CONTAINERS USED	AMOUNT COLLECTED
Summa Can	1

COMMENTS:

Analysis:
- VOCs - TO-15
- BTEX
- EDB - CARB 422

Pressure gauges never moved on can, left valve open for 10 minutes then sealed closed.

Summa can pressure similar to sample:

KAFB 106161-PT-001

PREPARED BY: Megan Britten

Shaw Environmental, Inc.

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PROJECT NO.	140705

SAMPLE COLLECTION LOG

PROJECT NAME KAFB BFF Pilot Test

SAMPLE NO. KAFB-106149-PT-002

SAMPLE LOCATION KAFB-106149-349

SAMPLE TYPE grab

COMPOSITE ____ YES x NO

COMPOSITE TYPE NA

DEPTH OF SAMPLE 349 ft

WEATHER cool, breezy

CONTAINERS USED	AMOUNT COLLECTED
Summa Can	1

COMMENTS:

Analyses:

VOCs: TO-15

HDB: CARB 422

COC Number: 140705-SG-TB02

Reviewed by/Date:

PREPARED BY: Ng Bracht 10/16/13

Shaw Environmental, Inc.

DATE	10/16/13				
TIME	~~11~~	~~33~~	12	00	VB
PAGE 1 OF 2					
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PROJECT NO. 140705					

SAMPLE COLLECTION LOG

PROJECT NAME KAFB BFF Pilot Test

SAMPLE NO. KAFB-106149-PT-001

SAMPLE LOCATION KAFB-106149-349

SAMPLE TYPE grab

COMPOSITE ____ YES X NO

COMPOSITE TYPE NA

DEPTH OF SAMPLE 349

WEATHER Cool

CONTAINERS USED	AMOUNT COLLECTED
Somma Can	1

COMMENTS:

Analyses:

VOCs: TO-15

EDB: CARB 422

COC Number 140705-SG-TB02

Reviewed by/Date:

PREPARED BY: [signature] 10/16/13

Shaw® Shaw Environmental, Inc.

DATE	10	18	13		
TIME	0	8	4	4	
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PROJECT NO. 140705					

SAMPLE COLLECTION LOG

PROJECT NAME KAFB BFF Pilot Test

SAMPLE NO. KAFB-106154-PT-001

SAMPLE LOCATION KAFB-106154-349

SAMPLE TYPE grab

COMPOSITE ____ YES X NO

COMPOSITE TYPE NA

DEPTH OF SAMPLE 349

WEATHER clear, ~48°

CONTAINERS USED	AMOUNT COLLECTED
Summa can	1

COMMENTS:

Analyses:
VOCs: TO-15
EDB: CARB 422

COC Number: 140705-SG-TB02
Collected: G.P.

Reviewed by/Date:

PREPARED BY: G. Peacock

Shaw Environmental, Inc.

DATE	1	0	1	8	1	3
TIME	16	45				
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PROJECT NO. 140705						

SAMPLE COLLECTION LOG

PROJECT NAME KAFB BFF Pilot Test

SAMPLE NO. KAFB-106154-PT-002

SAMPLE LOCATION KAFB-106154-349

SAMPLE TYPE grab

COMPOSITE ____ YES X NO

COMPOSITE TYPE N/A

DEPTH OF SAMPLE 349

WEATHER clear, ~65°

CONTAINERS USED	AMOUNT COLLECTED
Summa Can	1

COMMENTS:

Analysis: VOCs: TO-15
EDB: CARB 422

COC #: 140705-SGTB02
Collector: GP

Reviewed by/Date:

PREPARED BY: G. Peacock

Shaw Environmental, Inc.

DATE	1 0 1 8 1 3
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PROJECT NO.	140705

SAMPLE COLLECTION LOG

PROJECT NAME KAFB BFF Pilot Test

SAMPLE NO. KAFB-106154-PT-003

SAMPLE LOCATION KAFB-106154-349

SAMPLE TYPE Vapor / grab

COMPOSITE ____ YES X NO

COMPOSITE TYPE N/A

DEPTH OF SAMPLE 349

WEATHER clear, ~ 65°

CONTAINERS USED	AMOUNT COLLECTED
Summa Can	1

COMMENTS:

Analysis: TO-15 for VOCs
Carb 422 for EDB
Field duplicate sample

COC # 140705-SGTB02
Collector: GP

Reviewed by Date:

PREPARED BY: G. Peacock

Shaw Environmental, Inc.

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PROJECT NO.	140705

SAMPLE COLLECTION LOG

PROJECT NAME KAFB BFF Pilot Test

SAMPLE NO. KAFB-106150-PT-001

SAMPLE LOCATION KAFB-106150

SAMPLE TYPE Vapor grab

COMPOSITE ____ YES X NO

COMPOSITE TYPE N/A

DEPTH OF SAMPLE 484

WEATHER clear, ~48°

CONTAINERS USED	AMOUNT COLLECTED
Summa Can	1

COMMENTS:

Analysis: TO-15, Carb 422

Collector: GP

COC #:

PREPARED BY: _____

Shaw Environmental, Inc.

DATE	110713
TIME	1700
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PROJECT NO.	140705

SAMPLE COLLECTION LOG

PROJECT NAME KAFB BFF Pilot Test

SAMPLE NO. KAFB-106150-PT-002

SAMPLE LOCATION KAFB-106150

SAMPLE TYPE Vapor, grab

COMPOSITE ____ YES X NO

COMPOSITE TYPE N/A

DEPTH OF SAMPLE 484

WEATHER clear, ~60°

CONTAINERS USED	AMOUNT COLLECTED
Summa Can	1

COMMENTS:

Analysis: TO-15 for VOCs, Carb 422 for EOB

Collected: GP

COC#:

PREPARED BY: [signature]

Shaw Environmental, Inc.

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PROJECT NO.	140705

SAMPLE COLLECTION LOG

PROJECT NAME KAFB BFF Pilot Test

SAMPLE NO. KAFB-106153-PT-001

SAMPLE LOCATION KAFB-106153

SAMPLE TYPE Vapor grab

COMPOSITE ____ YES X NO

COMPOSITE TYPE N/A

DEPTH OF SAMPLE 484

WEATHER Clear, ~55°

CONTAINERS USED	AMOUNT COLLECTED
Summa Can	1

COMMENTS:

Analysis: VOCs, EDB
TO-15 Carb 4-22

Collector: CP

COC #:

PREPARED BY: _____

Shaw® Shaw Environmental, Inc.

DATE	110413
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PROJECT NO.	140705

SAMPLE COLLECTION LOG

PROJECT NAME KAFB BFF Pilot test

SAMPLE NO. KAFB-106155-PT-002

SAMPLE LOCATION KAFB-106155

SAMPLE TYPE Vapor grab

COMPOSITE ____ YES X NO

COMPOSITE TYPE N/A

DEPTH OF SAMPLE 484 ft

WEATHER clear, ~63°

CONTAINERS USED	AMOUNT COLLECTED
Summa Can	1

COMMENTS:

Analysis: VOCs (TO-15), EDB (Carb 422)

Collector: GP

COC #:

PREPARED BY: _____

Shaw Environmental, Inc.

DATE	1	1	0	1	1	3
TIME	1	0	3	0		
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PROJECT NO. 140705						

SAMPLE COLLECTION LOG

PROJECT NAME KAFB BFF Pilot Test

SAMPLE NO. KAFB-106148-PT-001

SAMPLE LOCATION KAFB-106148

SAMPLE TYPE Vapor, grab

COMPOSITE ____ YES X NO

COMPOSITE TYPE N/A

DEPTH OF SAMPLE 349

WEATHER clear ~60°

CONTAINERS USED	AMOUNT COLLECTED
Summa Can	1

COMMENTS: Analysis: TO-15 for VOCs
Carb 422 for EDB

COC #:
Collector: GP

PREPARED BY: _____

Shaw® Shaw Environmental, Inc.

DATE	1 1 0 1 1 3
TIME	1 7 3 0
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PROJECT NO.	140705

SAMPLE COLLECTION LOG

PROJECT NAME KAFB BFF Pilot test

SAMPLE NO. KAFB-106148-PT-002

SAMPLE LOCATION KAFB-106148

SAMPLE TYPE Vapor Grab

COMPOSITE ____ YES X NO

COMPOSITE TYPE N/A

DEPTH OF SAMPLE 349

WEATHER clear, ~ 60°

CONTAINERS USED	AMOUNT COLLECTED
Summa Can	1 ea

COMMENTS: Analysis: TO-15 for VOCs
Carb 422 for EDB

COC #:
Collector: GP

PREPARED BY: _____

APPENDIX C

Raw Data and Calculations

C-1 Flow Calculations: Quick Tests

C-2 Flow Calculations: Long Duration Tests at KAFB-106160 and KAFB-106161

C-3 Flow Calculations: Long Duration Tests at KAFB-106148, KAFB-106150, KAFB 106154 and KAFB-106155

C-4 Pilot Test Field Measurements for all Tests

C-5 Hydrocarbon Mass Recovery Calculations

C-6 ROI Calculations for KAFB-106161

C-7 ROI Calculations for KAFB-106160

C-8 ROI Calculations for KAFB-106149

C-9 ROI Calculations for KAFB-106154

C-10 ROI Calculations for KAFB-106148

C-11 ROI Calculations for KAFB-106155

C-12 ROI Calculations for KAFB-106150

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Date_time		Absolute Barometric Pressure (inHg)
10-1-2013 0:52 MDT	10/1/2013 0:52	30.04
10-1-2013 1:52 MDT	10/1/2013 1:52	30.05
10-1-2013 2:52 MDT	10/1/2013 2:52	30.06
10-1-2013 3:52 MDT	10/1/2013 3:52	30.06
10-1-2013 4:52 MDT	10/1/2013 4:52	30.06
10-1-2013 5:52 MDT	10/1/2013 5:52	30.08
10-1-2013 6:52 MDT	10/1/2013 6:52	30.09
10-1-2013 7:52 MDT	10/1/2013 7:52	30.11
10-1-2013 8:52 MDT	10/1/2013 8:52	30.13
10-1-2013 9:52 MDT	10/1/2013 9:52	30.13
10-1-2013 10:52 MDT	10/1/2013 10:52	30.13
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11-11-2013 5:52 MST	11/11/2013 5:52	30.31
11-11-2013 6:52 MST	11/11/2013 6:52	30.33
11-11-2013 7:52 MST	11/11/2013 7:52	30.35
11-11-2013 8:52 MST	11/11/2013 8:52	30.36
11-11-2013 9:52 MST	11/11/2013 9:52	30.36
11-11-2013 10:52 MST	11/11/2013 10:52	30.35
11-11-2013 11:52 MST	11/11/2013 11:52	30.34
11-11-2013 12:52 MST	11/11/2013 12:52	30.31
11-11-2013 13:52 MST	11/11/2013 13:52	30.28
11-11-2013 14:52 MST	11/11/2013 14:52	30.28
11-11-2013 15:52 MST	11/11/2013 15:52	30.28
11-11-2013 16:52 MST	11/11/2013 16:52	30.28
11-11-2013 17:52 MST	11/11/2013 17:52	30.3
11-11-2013 18:52 MST	11/11/2013 18:52	30.31
11-11-2013 19:52 MST	11/11/2013 19:52	30.33
11-11-2013 20:52 MST	11/11/2013 20:52	30.35
11-11-2013 21:52 MST	11/11/2013 21:52	30.37
11-11-2013 22:52 MST	11/11/2013 22:52	30.4
11-11-2013 23:52 MST	11/11/2013 23:52	30.41
11-12-2013 0:52 MST	11/12/2013 0:52	30.41
11-12-2013 1:52 MST	11/12/2013 1:52	30.42
11-12-2013 2:52 MST	11/12/2013 2:52	30.44
11-12-2013 3:52 MST	11/12/2013 3:52	30.46
11-12-2013 4:52 MST	11/12/2013 4:52	30.49
11-12-2013 5:52 MST	11/12/2013 5:52	30.51
11-12-2013 6:52 MST	11/12/2013 6:52	30.54
11-12-2013 7:52 MST	11/12/2013 7:52	30.57
11-12-2013 8:52 MST	11/12/2013 8:52	30.6
11-12-2013 9:52 MST	11/12/2013 9:52	30.61
11-12-2013 10:52 MST	11/12/2013 10:52	30.61
11-12-2013 11:52 MST	11/12/2013 11:52	30.58
11-12-2013 12:52 MST	11/12/2013 12:52	30.57
11-12-2013 13:52 MST	11/12/2013 13:52	30.54
11-12-2013 14:52 MST	11/12/2013 14:52	30.52
11-12-2013 15:52 MST	11/12/2013 15:52	30.52
11-12-2013 16:52 MST	11/12/2013 16:52	30.51
11-12-2013 17:52 MST	11/12/2013 17:52	30.52
11-12-2013 18:52 MST	11/12/2013 18:52	30.54
11-12-2013 19:52 MST	11/12/2013 19:52	30.56
11-12-2013 20:52 MST	11/12/2013 20:52	30.57
11-12-2013 21:52 MST	11/12/2013 21:52	30.57
11-12-2013 22:52 MST	11/12/2013 22:52	30.56
11-12-2013 23:52 MST	11/12/2013 23:52	30.55
11-13-2013 0:52 MST	11/13/2013 0:52	30.54
11-13-2013 1:52 MST	11/13/2013 1:52	30.53
11-13-2013 2:52 MST	11/13/2013 2:52	30.52
11-13-2013 3:52 MST	11/13/2013 3:52	30.51
11-13-2013 4:52 MST	11/13/2013 4:52	30.51
11-13-2013 5:52 MST	11/13/2013 5:52	30.51
11-13-2013 6:52 MST	11/13/2013 6:52	30.51
11-13-2013 7:52 MST	11/13/2013 7:52	30.51
11-13-2013 8:52 MST	11/13/2013 8:52	30.51
11-13-2013 9:52 MST	11/13/2013 9:52	30.49
11-13-2013 10:52 MST	11/13/2013 10:52	30.46
11-13-2013 11:52 MST	11/13/2013 11:52	30.41

11-13-2013 12:52 MST	11/13/2013 12:52	30.36
11-13-2013 13:52 MST	11/13/2013 13:52	30.32
11-13-2013 14:52 MST	11/13/2013 14:52	30.29
11-13-2013 15:52 MST	11/13/2013 15:52	30.27
11-13-2013 16:52 MST	11/13/2013 16:52	30.25
11-13-2013 17:52 MST	11/13/2013 17:52	30.25
11-13-2013 18:52 MST	11/13/2013 18:52	30.24
11-13-2013 19:52 MST	11/13/2013 19:52	30.23
11-13-2013 20:52 MST	11/13/2013 20:52	30.22
11-13-2013 21:52 MST	11/13/2013 21:52	30.22
11-13-2013 22:52 MST	11/13/2013 22:52	30.2
11-13-2013 23:52 MST	11/13/2013 23:52	30.19
11-14-2013 0:52 MST	11/14/2013 0:52	30.17
11-14-2013 1:52 MST	11/14/2013 1:52	30.15
11-14-2013 2:52 MST	11/14/2013 2:52	30.15
11-14-2013 3:52 MST	11/14/2013 3:52	30.13
11-14-2013 4:52 MST	11/14/2013 4:52	30.13
11-14-2013 5:52 MST	11/14/2013 5:52	30.12
11-14-2013 6:52 MST	11/14/2013 6:52	30.14
11-14-2013 7:52 MST	11/14/2013 7:52	30.15
11-14-2013 8:52 MST	11/14/2013 8:52	30.15
11-14-2013 9:52 MST	11/14/2013 9:52	30.16
11-14-2013 10:52 MST	11/14/2013 10:52	30.14
11-18-2013 8:52 MST		30.28
11-18-2013 9:52 MST		30.29
11-18-2013 10:52 MST		30.28
11-18-2013 11:52 MST		30.26
11-18-2013 12:52 MST		30.23
11-18-2013 13:52 MST		30.21
11-18-2013 14:52 MST		30.18
11-18-2013 15:52 MST		30.17
11-18-2013 16:52 MST		30.17
11-18-2013 17:52 MST		30.18
11-18-2013 18:52 MST		30.19
11-18-2013 19:52 MST		30.19
11-18-2013 20:52 MST		30.19
11-18-2013 21:52 MST		30.2
11-18-2013 22:52 MST		30.19
11-18-2013 23:52 MST		30.18
11-19-2013 0:52 MST		30.17
11-19-2013 1:52 MST		30.16
11-19-2013 2:52 MST		30.15
11-19-2013 3:52 MST		30.13
11-19-2013 4:52 MST		30.13
11-19-2013 5:52 MST		30.12
11-19-2013 6:52 MST		30.13
11-19-2013 7:52 MST		30.12

Barometric pressure prior = barometric pressure from the last time it was recorded before the Date_Time in Column A
Barometric pressure post = barometric pressure from the next time it was recorded after the Date_Time in Column A
Time since prior = elapsed time (minutes) between the time of barometric pressure prior and Date_Time in Column A
Relative humidity: recorded in the field Differential pressure: recorded in the field Barometric Pressure: calculated Temperature: recorded in the field
Correction factor: Use temperature and relative humidity and the chart in the "Correction Factor" tal d: Calculated.
CS area for 3" sch 8 PVC pipe 0.0447 ft2

Date	Time	Well ID	barometric pressure prior (inHg)	barometric pressure post (inHg)	Time since prior (minutes)	Relative humidty (%)	well vacuum, in WC	Differential Pressure (inWC)	Barometric Pressure (inHg)	Pressure for Density	T (°F)	Correction factor	d (lbs/ft^3)	Area (ft^2)	Velocity (ft/min)	Flow Rate (ACFM)
step flow test for 106154 at the 197 ft screened interval																
10/17/2013	1255	106154	30.13	30.09	3.00	23.60	6.55	0.58	30.13	24.28	74.10	1.000	0.060	0.045	3403	152
10/17/2013	1305	106154	30.13	30.09	13.00	26.50	6.38	0.49	30.12	24.29	77.00	0.996	0.060	0.045	3142	141
10/17/2013	1315	106154	30.13	30.09	23	43.30	21	2.51	30.11	23.21	70.70	0.997	0.058	0.045	7229	323
10/17/2013	1325	106154	30.13	30.09	33	40.30	22	2.79	30.11	23.13	71.10	0.997	0.058	0.045	7638	342
10/17/2013	1335	106154	30.13	30.09	43	31.30	54	8.19	30.10	20.76	69.10	0.998	0.052	0.045	13779	616
10/17/2013	1345	106154	30.13	30.09	53	38.50	55	8.16	30.09	20.68	67.60	0.997	0.052	0.045	13768	616
step flow test for 106154 at the 484 ft screened interva																
10/17/2013	1510	106154	30.06	30.04	18	13.60	5.4	0.2	30.05	24.30	73.90	1.000	0.060	0.045	1997	89
10/17/2013	1520	106154	30.06	30.04	28	13.60	5.55	0.19	30.05	24.28	74.70	1.000	0.060	0.045	1949	87
10/17/2013	1530	106154	30.06	30.04	38	23.20	30	1.23	30.05	22.47	68.40	1.000	0.056	0.045	5123	229
10/17/2013	1540	106154	30.06	30.04	48	18.80	30	1.19	30.04	22.47	71.10	1.000	0.056	0.045	5053	226
10/17/2013	1550	106154	30.06	30.04	58	25.80	91	4.4	30.04	17.98	69.10	0.998	0.045	0.045	10852	485
10/17/2013	1600	106154	30.04	30.02	8	26.80	95	4.39	30.04	17.68	68.90	0.998	0.044	0.045	10930	489
step flow test for 106154 at the 350 ft screened interva																
10/17/2013	1404	106154	30.09	30.06	12	15.10	4.42	0.2	30.08	24.40	72.50	1.000	0.061	0.045	1991	89
10/17/2013	1414	106154	30.09	30.06	22	14.60	4.55	0.19	30.08	24.38	72.50	1.000	0.061	0.045	1941	87
10/17/2013	1424	106154	30.09	30.06	32	27.50	28	2	30.07	22.65	70.90	0.998	0.056	0.045	6530	292
10/17/2013	1434	106154	30.09	30.06	42	30.00	28	1.99	30.07	22.64	70.00	0.998	0.056	0.045	6509	291
10/17/2013	1444	106154	30.09	30.06	52	33.80	88	7.34	30.06	18.20	67.50	0.998	0.046	0.045	13909	622
10/17/2013	1454	106154	30.06	30.04	2	36.20	89	7.29	30.06	18.10	67.60	0.997	0.045	0.045	13910	622
Step flow test for Plog well 106149 at the 349 ft screened interva																
10/16/2013	828	106149	30.16	30.18	36	50.50	3.5	0.2	30.17	24.55	52.90	0.998	0.063	0.045	1949	87
10/16/2013	841	106149	30.16	30.18	49	51.10	6.5	0.18	30.18	24.34	52.20	0.998	0.063	0.045	1856	83
10/16/2013	848	106149	30.16	30.18	56	53.80	9.4	0.6	30.18	24.13	52.90	0.998	0.062	0.045	3406	152
10/16/2013	856	106149	30.18	30.19	4	51.70	9.4	0.62	30.18	24.13	53.60	0.998	0.062	0.045	3465	155
10/16/2013	908	106149	30.18	30.19	16	70.40	35	2.6	30.18	22.24	53.40	0.996	0.057	0.045	7396	331
10/16/2013	917	106149	30.18	30.19	25	58.10	35	2.5	30.18	22.24	54.00	0.997	0.057	0.045	7252	324
10/16/2013	927	106149	30.18	30.19	35	52.90	35	2.5	30.19	22.24	54.70	0.998	0.057	0.045	7254	324
Step flow test for Plog well 106149 at the 484 ft screened interva																
10/15/2013	1520	106149	30.1	30	28	21.30	2	0.17	30.05	24.55	74.80	1.000	0.061	0.045	1834	82
10/15/2013	1533	106149	30.1	30	41	23.10	2	0.16	30.03	24.52	73.60	1.000	0.061	0.045	1778	79
10/15/2013	1542	106149	30.1	30	50	20.70	8	0.66	30.02	24.07	73.60	1.000	0.060	0.045	3645	163
10/15/2013	1555	106149	30	29.98	3	21.70	8	0.28	30.00	24.05	72.90	1.000	0.060	0.045	2373	106
10/15/2013	1606	106149	30	29.98	14	24.70	35	1.5	30.00	22.05	69.30	1.000	0.055	0.045	5717	256
10/15/2013	1622	106149	30	29.98	30	29.40	35	1.6	29.99	22.05	66.70	0.998	0.055	0.045	5896	264
10/15/2013	1632	106149	30	29.98	40	26.80	36	1.6	29.99	21.97	65.80	0.998	0.055	0.045	5901	264

Barometric pressure prior = barometric pressure from the last time it was recorded before the Date_Time in Column A
Barometric pressure post = barometric pressure from the next time it was recorded after the Date_Time in Column A
Time since prior = elapsed time (minutes) between the time of barometric pressure prior and Date_Time in Column A
Relative humidity: recorded in the field Differential pressure: recorded in the field Barometric Pressure: calculated Temperature: recorded in the field
Correction factor: Use temperature and relative humidity and the chart in the "Correction Factor" tal d: Calculated.
CS area for 3" sch 8 PVC pipe 0.0447 ft2

Date	Time	Well ID	barometric pressure prior (inHg)	barometric pressure post (inHg)	Time since prior (minutes)	Relative humidty (%)	well vacuum, in WC	Differential Pressure (inWC)	Barometric Pressure (inHg)	Pressure for Density	T (°F)	Correction factor	d (lbs/ft^3)	Area (ft^2)	Velocity (ft/min)	Flow Rate (ACFM)
Step flow test for Plog well 106149 at the 199 ft screened interva																
10/15/2013	1659	106149	29.98	29.98	7	53.40	2	0.28	29.98	24.47	65.80	0.996	0.061	0.045	2342	105
10/15/2013	1707	106149	29.98	29.98	15	33.40	2.2	0.26	29.98	24.46	64.80	1.000	0.062	0.045	2250	101
10/15/2013	1721	106149	29.98	29.98	29	42.00	8	1	29.98	24.03	64.80	0.998	0.061	0.045	4457	199
10/15/2013	1728	106149	29.98	29.98	36	49.30	8.2	1	29.98	24.02	63.70	0.997	0.061	0.045	4456	199
10/15/2013	1739	106149	29.98	29.98	47	60.60	22	3.2	29.98	23.00	63.00	0.996	0.058	0.045	8144	364
10/15/2013	1748	106149	29.98	29.98	56	65.30	24	3.2	29.98	22.85	62.20	0.995	0.058	0.045	8168	365
10/15/2013	1759	106149	29.98	29.99	7	58.60	22	3.2	29.98	23.00	62.20	0.996	0.058	0.045	8138	364
Step flow test for Plog well 106152																
11/18/2013	1018	106152	30.29	30.28	26	43.90	39	1.5	30.29	22.05	50.70	1.000	0.057	0.045	5616	251
11/18/2013	1027	450 ft	30.29	30.28	35	42.10	26	0.84	30.28	23.01	50.90	1.000	0.060	0.045	4115	184
11/18/2013	1032		30.29	30.28	40	45.00	13	0.3	30.28	23.96	51.40	0.998	0.062	0.045	2413	108
11/18/2013	1040	106152	30.29	30.28	48	42.20	30	1.63	30.28	22.71	51.60	1.000	0.059	0.045	5773	258
11/18/2013	1043	350 ft	30.29	30.28	51	45.00	20	0.94	30.28	23.45	51.30	0.998	0.061	0.045	4318	193
11/18/2013	1048		30.29	30.28	56	44.60	10	0.25	30.28	24.18	51.80	1.000	0.063	0.045	2192	98
11/18/2013	1051	106152	30.29	30.28	59	52.30	18	1.75	30.28	23.59	53.40	1.000	0.061	0.045	5879	263
11/18/2013	1055	194 ft	30.28	30.26	3	47.60	10	0.51	30.28	24.18	52.30	0.998	0.062	0.045	3135	140
Quick test on Plog well 106152 at 194 ft screened interval																
10/29/2013	1126	106152	30.06	30.04	34	26.60	16.55	2.06	30.05	23.47	74.50	0.998	0.058	0.045	6533	292
10/29/2013	1136	106152	30.06	30.04	44	29.60	17.1	1.68	30.05	23.42	73.80	0.998	0.058	0.045	5901	264
10/29/2013	1146	106152	30.06	30.04	54	29.40	16.99	1.86	30.04	23.43	73.90	0.998	0.058	0.045	6209	278
10/29/2013	1156	106152	30.04	30	4	27.90	16.96	1.92	30.04	23.43	75.60	0.998	0.058	0.045	6319	282
10/29/2013	1206	106152	30.04	30	14	28.40	17.05	1.97	30.03	23.41	74.80	0.998	0.058	0.045	6398	286
10/29/2013	1216	106152	30.04	30	24	29.20	16.85	1.62	30.02	23.42	75.60	0.996	0.058	0.045	5811	260
10/29/2013	1226	106152	30.04	30	34	29.80	16.55	1.74	30.02	23.44	74.50	0.998	0.058	0.045	6008	269
Quick test on Plog well 106152 at 350 ft screened interval																
10/29/2013	1453	106152	29.92	29.89	1	22.50	26	1.83	29.92	22.64	69.60	1.000	0.057	0.045	6233	279
10/29/2013	1503	106152	29.92	29.89	11	20.50	26	1.84	29.91	22.64	70.50	1.000	0.057	0.045	6256	280
10/29/2013	1513	106152	29.92	29.89	21	19.20	25	1.87	29.91	22.71	71.10	1.000	0.057	0.045	6301	282
10/29/2013	1523	106152	29.92	29.89	31	19.90	26	1.89	29.90	22.63	70.30	1.000	0.057	0.045	6341	283
10/29/2013	1533	106152	29.92	29.89	41	20.40	26	1.82	29.90	22.62	69.60	1.000	0.057	0.045	6219	278
10/29/2013	1543	106152	29.92	29.89	51	22.00	26	1.96	29.89	22.62	68.90	1.000	0.057	0.045	6450	288
10/29/2013	1553	106152	29.89	29.89	1	22.00	25	1.94	29.89	22.69	68.90	1.000	0.057	0.045	6407	286
Quick test on Plog well 106152 at 494 ft screened interval																
10/29/2013	1244	106152	29.96	29.92	52	17.10	2.4	1.63	29.93	24.39	76.80	0.998	0.060	0.045	5712	255
10/29/2013	1254	106152	29.92	29.89	2	17.30	2.55	1.39	29.92	24.37	75.00	0.998	0.060	0.045	5268	235
10/29/2013	1304	106152	29.92	29.89	12	18.20	2.4	1.41	29.91	24.38	74.30	1.000	0.060	0.045	5297	237
10/29/2013	1314	106152	29.92	29.89	22	20.30	2.2	1.44	29.91	24.39	71.10	1.000	0.061	0.045	5335	238
10/29/2013	1324	106152	29.92	29.89	32	21.70	2.2	1.54	29.90	24.38	68.50	1.000	0.061	0.045	5505	246
10/29/2013	1334	106152	29.92	29.89	42	21.20	2.2	1.71	29.90	24.38	68.50	1.000	0.061	0.045	5801	259
10/29/2013	1344	106152	29.92	29.89	52	19.10	2.2	1.49	29.89	24.37	70.70	1.000	0.061	0.045	5427	243
10/29/2013																

Barometric pressure prior = barometric pressure from the last time it was recorded before the Date_Time in Column A
Barometric pressure post = barometric pressure from the next time it was recorded after the Date_Time in Column A
Time since prior = elapsed time (minutes) between the time of barometric pressure prior and Date_Time in Column A
Relative humidity: recorded in the field Differential pressure: recorded in the field Barometric Pressure: calculated Temperature: recorded in the field
Correction factor: Use temperature and relative humidity and the chart in the "Correction Factor" tal d: Calculated.
CS area for 3" sch 8 PVC pipe 0.0447 ft2

Date	Time	Well ID	barometric pressure prior (inHg)	barometric pressure post (inHg)	Time since prior (minutes)	Relative humidty (%)	well vacuum, in WC	Differential Pressure (inWC)	Barometric Pressure (inHg)	Pressure for Density	T (°F)	Correction factor	d (lbs/ft^3)	Area (ft^2)	Velocity (ft/min)	Flow Rate (ACFM)
Step flow test on SVEW 11 with multi point adapter set to pull simultaneously from 250, 350, and 450 ft intervals																
11/18/2013	936	SVEW11	30.28	30.29	48	42.80	60	0.04	30.29	20.50	46.60	1.000	0.054	0.045	947	42
11/18/2013	954	SVEW11	30.29	30.28	2	46.40	40	0.06	30.29	21.98	47.10	0.998	0.057	0.045	1122	50
11/18/2013	958	SVEW11	30.29	30.28	6	49.20	20	0.04	30.29	23.45	46.60	0.998	0.061	0.045	886	40
Quick test on ????? ft screened interval of SVEW 11																
10/29/2013	1643	SVEW11	29.89	29.89	11	18.30	57	0.28	29.89	24.22	67.50	1.000	0.061	0.045	2353	105
10/29/2013	1653	SVEW11	29.89	29.88	1	15.80	54	0.25	29.89	24.23	70.90	1.000	0.060	0.045	2230	100
10/29/2013	1703	SVEW11	29.89	29.88	11	17.20	54	0.28	29.89	24.23	68.50	1.000	0.061	0.045	2354	105
10/29/2013	1713	SVEW11	29.89	29.88	21	18.10	54	0.27	29.89	24.23	69.00	1.000	0.061	0.045	2313	103
10/29/2013	1723	SVEW11	29.89	29.88	31	16.20	54	0.3	29.88	24.23	70.40	1.000	0.061	0.045	2442	109
10/29/2013	1733	SVEW11	29.89	29.88	41	15.90	56	0.3	29.88	24.22	68.60	1.000	0.061	0.045	2438	109
10/29/2013	1743	SVEW11	29.89	29.88	51	18.10	54	0.25	29.88	24.23	67.40	1.000	0.061	0.045	2223	99
10/29/2013	1745	SVEW11	29.89	29.88	53	18.10	94.92	0.47	29.88	24.00	67.40	1.000	0.060	0.045	3062	137
Step flow test on 450 ft screened interval of SVMW 106130																
10/30/2013	945	106130	30.03	30.04	53	48.40	12.3	0.39	30.04	23.77	55.80	0.997	0.061	0.045	2776	124
10/30/2013	951	106130	30.03	30.04	59	45.30	26.5	0.78	30.04	22.73	56.30	0.997	0.058	0.045	4017	180
10/30/2013	957	106130	30.04	30.02	5	46.10	43	1.58	30.04	21.51	53.80	0.998	0.055	0.045	5859	262
Quick test on 450 ft screened interval of SVMW 106130																
10/30/2013	1007	106130	30.04	30.02	15	41.00	42.5	1.7	30.04	21.54	56.70	0.998	0.055	0.045	6090	272
10/30/2013	1017	106130	30.04	30.02	25	39.90	43.5	1.38	30.03	21.46	56.70	0.998	0.055	0.045	5497	246
10/30/2013	1027	106130	30.04	30.02	35	41.00	44	1.46	30.03	21.42	55.60	0.998	0.055	0.045	5653	253
10/30/2013	1037	106130	30.04	30.02	45	37.80	43	1.55	30.03	21.49	57.70	0.998	0.055	0.045	5827	260
10/30/2013	1047	106130	30.04	30.02	55	38.50	43	1.53	30.02	21.49	55.90	0.998	0.055	0.045	5780	258
10/30/2013	1057	106130	30.02	29.99	5	37.20	43	1.63	30.02	21.49	57.00	0.998	0.055	0.045	5973	267
Step flow test on Plog well 106156																
10/30/2013	1346	106156	29.94	29.9	54	45.70	10	0.33	29.90	23.81	57.70	0.997	0.061	0.045	2556	114
10/30/2013	1348	106156	29.94	29.9	56	44.40	21	0.91	29.90	22.99	58.10	0.998	0.059	0.045	4319	193
10/30/2013	1350	106156	29.94	29.9	58	42.50	32	1.45	29.90	22.18	58.10	0.998	0.057	0.045	5550	248
10/30/2013	1354	106156	29.9	29.86	2	45.10	10	0.57	29.90	23.80	58.50	0.998	0.061	0.045	3361	150
10/30/2013	1356	106156	29.9	29.86	4	44.60	22	1.72	29.90	22.91	58.50	0.998	0.058	0.045	5950	266
10/30/2013	1400	106156	29.9	29.86	8	56.30	13	1.6	29.89	23.58	60.10	0.998	0.060	0.045	5666	253
Quick test on 341 ft screened interval of 106156																
10/30/2013	1409	106156	29.9	29.86	17	39.60	22	1.74	29.89	22.91	61.00	0.998	0.058	0.045	6000	268
10/30/2013	1419	106156	29.9	29.86	27	38.30	22	1.62	29.88	22.90	62.20	0.998	0.058	0.045	5797	259
10/30/2013	1429	106156	29.9	29.86	37	35.50	22	1.72	29.88	22.89	61.90	0.998	0.058	0.045	5972	267
10/30/2013	1439	106156	29.9	29.86	47	34.20	22	1.5	29.87	22.89	63.10	1.000	0.058	0.045	5579	249
10/30/2013	1449	106156	29.9	29.86	57	34.90	22	1.5	29.86	22.88	62.20	1.000	0.058	0.045	5575	249
10/30/2013	1459	106156	29.86	29.84	7	34.30	22	1.49	29.86	22.88	63.10	1.000	0.058	0.045	5561	249
10/30/2013	1509	106156	29.86	29.84	17	36.50	22	1.53	29.85	22.87	61.20	0.998	0.058	0.045	5631	252

Barometric pressure prior = barometric pressure from the last time it was recorded before the Date_Time in Column A
Barometric pressure post = barometric pressure from the next time it was recorded after the Date_Time in Column A
Time since prior = elapsed time (minutes) between the time of barometric pressure prior and Date_Time in Column A
Relative humidity: recorded in the field Differential pressure: recorded in the field Barometric Pressure: calculated Temperature: recorded in the field
Correction factor: Use temperature and relative humidity and the chart in the "Correction Factor" tal d: Calculated.
CS area for 3" sch 8 PVC pipe 0.0447 ft2

Date	Time	Well ID	barometric pressure prior (inHg)	barometric pressure post (inHg)	Time since prior (minutes)	Relative humidty (%)	well vacuum, in WC	Differential Pressure (inWC)	Barometric Pressure (inHg)	Pressure for Density	T (°F)	Correction factor	d (lbs/ft^3)	Area (ft^2)	Velocity (ft/min)	Flow Rate (ACFM)
Step flow test on SVMW 106119																
11/2/2013	836	106119	30.33	30.35		45.10	14	0	30.33	23.94	44.10	1.000	0.063	0.045	0	0
	839					45.10	24	0.22	30.33	23.94	44.10	1.000	0.063	0.045	2051	92
	841					45.10	36	0.5	30.33	22.32	44.10	1.000	0.059	0.045	3202	143
Quick test on SVMW 106119																
11/2/2013	841		30.33	30.35	49	45.10	36	0.5	30.35	22.33	44.10	1.000	0.059	0.045	3201	143
11/2/2013	851	106119	30.33	30.35	59	41.70	36	0.34	30.35	22.33	46.90	1.000	0.058	0.045	2647	118
11/2/2013	901	106119	30.35	30.37	9	40.70	36	0.24	30.35	22.34	47.30	1.000	0.058	0.045	2224	99
11/2/2013	911	106119	30.35	30.37	19	40.00	37	0.45	30.36	22.27	48.40	1.000	0.058	0.045	3054	137
11/2/2013	921	106119	30.35	30.37	29	34.20	36	0.46	30.36	22.34	52.20	1.000	0.058	0.045	3094	138
11/2/2013	931	106119	30.35	30.37	39	34.80	36	0.45	30.36	22.35	51.40	1.000	0.058	0.045	3057	137
11/2/2013	941	106119	30.35	30.37	49	33.80	36	0.7	30.37	22.35	52.20	1.000	0.058	0.045	3816	171
Step flow rate test on 450 ft intervl of SVMW 106131																
11/2/2013	1031	106131	30.37	30.35			16	0.22	30.37	23.83	57.20	1.000	0.061	0.045	2082	93
11/2/2013	1034	106131	30.37	30.35			36	0.88	30.37	22.36	57.20	1.000	0.057	0.045	4299	192
11/2/2013	1034	106131	30.37	30.35			50	1.5	30.37	21.32	57.20	1.000	0.055	0.045	5747	257
Quick test on 450 ft interval of SVMW 106131																
11/2/2013	1050	106131	30.37	30.35	58	30.70	50	1.46	30.35	21.30	57.20	1.000	0.055	0.045	5672	254
11/2/2013	1100	106131	30.35	30.33	8	31.80	50	1.38	30.35	21.30	59.00	1.000	0.054	0.045	5525	247
11/2/2013	1110	106131	30.35	30.33	18	27.20	50	1.47	30.34	21.30	60.10	1.000	0.054	0.045	5709	255
11/2/2013	1120	106131	30.35	30.33	28	25.20	50	1.48	30.34	21.29	62.20	1.000	0.054	0.045	5740	257
11/2/2013	1130	106131	30.35	30.33	38	24.00	50	1.52	30.34	21.29	63.70	1.000	0.054	0.045	5826	260
11/2/2013	1140	106131	30.35	30.33	48	22.40	50	1.56	30.33	21.29	66.20	1.000	0.054	0.045	5916	264
11/2/2013	1150	106131	30.35	30.33	58	22.90	49	1.58	30.33	21.36	64.20	1.000	0.054	0.045	5933	265
Step flow test on Plog well 106153																
10/31/2013	841	484 ft	30.13	30.14	49	39.20	12	0.44	30.14	23.89	50.90	1.000	0.062	0.045	2922	131
10/31/2013	843		30.13	30.14	51	38.50	24	0.87	30.14	23.01	51.80	0.998	0.059	0.045	4195	188
10/31/2013	844		30.13	30.14	52	38.10	36.5	1.45	30.14	22.09	50.90	1.000	0.057	0.045	5518	247
10/31/2013	910	350 ft	30.14	30.15	18	46.70	12	0.74	30.14	23.90	53.10	0.998	0.062	0.045	3801	170
10/31/2013	910		30.14	30.15	23	43.50	26	1.55	30.14	22.87	53.10	1.000	0.059	0.045	5619	251
10/31/2013	915	200 ft	30.14	30.15	23	43.50	18	1.39	30.14	23.46	53.10	1.000	0.061	0.045	5254	235
Quick test on 484 ft screened interval of Plog well 106153																
10/31/2013	918	106153	30.14	30.15	26	38.30	36	1.75	30.14	22.13	53.20	1.000	0.057	0.045	6070	271
10/31/2013	928	106153	30.14	30.15	36	43.20	36	1.53	30.15	22.13	49.30	1.000	0.058	0.045	5653	253
10/31/2013	938	106153	30.14	30.15	46	34.10	36	1.31	30.15	22.13	56.10	1.000	0.057	0.045	5266	235
10/31/2013	948	106153	30.14	30.15	56	30.60	36	1.38	30.15	22.13	58.80	1.000	0.057	0.045	5419	242
10/31/2013	958	106153	30.15	30.15	6	28.40	36	1.58	30.15	22.14	60.40	1.000	0.056	0.045	5807	260
10/31/2013	1008	106153	30.15	30.15	16	27.80	35.5	1.4	30.15	22.17	61.30	1.000	0.056	0.045	5466	244
10/31/2013	1018	106153	30.15	30.15	26	27.40	35.5	1.36	30.15	22.17	62.20	1.000	0.056	0.045	5392	241

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Relative humidity: recorded in the field Differential pressure: recorded in the field Barometric Pressure: calculated Temperature: recorded in the field
Correction factor: Use temperature and relative humidity and the chart in the "Correction Factor" tal d: Calculated.
CS area for 3" sch 8 PVC pipe 0.0447 ft2

Date	Time	Well ID	barometric pressure prior (inHg)	barometric pressure post (inHg)	Time since prior (minutes)	Relative humidty (%)	well vacuum, in WC	Differential Pressure (inWC)	Barometric Pressure (inHg)	Pressure for Density	T (°F)	Correction factor	d (lbs/ft^3)	Area (ft^2)	Velocity (ft/min)	Flow Rate (ACFM)
Step flow test on Plog well 106155																
10/31/2013	1216	200 ft	30.13	30.1	24	30.00	18	1.69	30.12	23.43	61.90	1.000	0.059	0.045	5244	234
10/31/2013	1222	350 ft	30.13	30.1	30	22.90	14	0.6	30.12	23.72	64.00	1.000	0.060	0.045	3468	155
10/31/2013	1225		30.13	30.1	33	26.20	28	1.6	30.11	22.69	61.00	1.000	0.058	0.045	5775	258
10/31/2013	1228	484 ft	30.13	30.1	36	25.50	12	0.37	30.11	23.87	61.20	1.000	0.061	0.045	2708	121
10/31/2013	1230		30.13	30.1	38	24.20	24	0.74	30.11	22.98	61.50	1.000	0.058	0.045	3904	175
10/31/2013	1231		30.13	30.1	39	23.60	36	1.32	30.11	22.10	60.80	1.000	0.056	0.045	5314	238
Quicktest on 484 ft interval of Plog well 106155																
10/31/2013	1231	106155	30.13	30.1	39	23.60	36	1.32	30.11	22.10	60.80	1.000	0.056	0.045	5314	238
10/31/2013	1241	106155	30.13	30.1	49	25.50	37	1.19	30.11	22.02	59.90	1.000	0.056	0.045	5051	226
10/31/2013	1251	106155	30.13	30.1	59	25.60	37	1.4	30.10	22.01	58.30	1.000	0.056	0.045	5470	245
10/31/2013	1301	106155	30.1	30.06	9	23.40	37	1.52	30.09	22.01	62.20	1.000	0.056	0.045	5722	256
10/31/2013	1311	106155	30.1	30.06	19	24.20	37	1.49	30.09	22.00	59.70	1.000	0.056	0.045	5653	253
10/31/2013	1321	106155	30.1	30.06	29	22.60	37	1.44	30.08	21.99	61.70	1.000	0.056	0.045	5569	249
10/31/2013	1331	106155	30.1	30.06	39	24.10	37	1.49	30.07	21.99	59.20	1.000	0.056	0.045	5652	253
Step flow test on SVMW 106113																
10/31/2013	1611	106113	30.04	30.04	19	23.60	16	0.22	30.04	23.50	62.80	1.000	0.060	0.045	2108	94
10/31/2013	1612	106113	30.04	30.04	20	22.00	32	0.63	30.04	22.32	63.00	1.000	0.057	0.045	3661	164
10/31/2013	1614	106113	30.04	30.04	22	21.20	49	1.2	30.04	21.07	62.20	1.000	0.053	0.045	5196	232
Quick test on SVMW 106113																
10/31/2013	1624	106113	30.04	30.04	32	21.20	49.5	1.19	30.04	21.03	61.20	1.000	0.053	0.045	5174	231
10/31/2013	1634	106113	30.04	30.04	42	21.40	49.5	1.16	30.04	21.03	60.80	1.000	0.054	0.045	5107	228
10/31/2013	1644	106113	30.04	30.04	52	22.10	50	1	30.04	20.99	59.50	1.000	0.054	0.045	4740	212
10/31/2013	1654	106113	30.04	30.03	2	21.90	50	1.09	30.04	20.99	59.90	1.000	0.054	0.045	4950	221
10/31/2013	1704	106113	30.04	30.03	12	22.10	50	1.11	30.04	20.99	59.20	1.000	0.054	0.045	4992	223
10/31/2013	1714	106113	30.04	30.03	22	22.60	50	1	30.04	20.99	58.30	1.000	0.054	0.045	4735	212
Step flow test on SVMW 106129																
10/31/2013	1413	106129	30.06	30.04	21	21.00	15	0.2	30.05	23.59	64.40	1.000	0.060	0.045	2009	90
10/31/2013	1414	106129	30.06	30.04	22	20.40	30	0.69	30.05	22.48	64.80	1.000	0.057	0.045	3824	171
	1422	106129	30.06	30.04	30	20.80	45	1.25	30.05	21.37	63.00	1.000	0.054	0.045	5269	236
Quick test on 450 ft screened interval of SVMW 106129																
10/31/2013	1422	106129	30.06	30.04	30	20.80	45	1.25	30.05	21.37	63.00	1.000	0.054	0.045	5269	236
10/31/2013	1432	106129	30.06	30.04	40	20.60	46	1.16	30.05	21.29	62.80	1.000	0.054	0.045	5084	227
10/31/2013	1442	106129	30.06	30.04	50	20.90	45	1.21	30.04	21.36	62.40	1.000	0.054	0.045	5182	232
10/31/2013	1452	106129	30.04	30.04	0	20.20	46	1.05	30.04	21.29	63.70	1.000	0.054	0.045	4842	216
10/31/2013	1502	106129	30.04	30.04	10	20.50	46	1.1	30.04	21.29	61.90	1.000	0.054	0.045	4948	221
10/31/2013	1512	106129	30.04	30.04	20	22.70	46	1.06	30.04	21.29	60.80	1.000	0.054	0.045	4852	217
10/31/2013	1522	106129	30.04	30.04	30	22.20	46	1.13	30.04	21.29	61.00	1.000	0.054	0.045	5010	224

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CS area for 3" sch 8 PVC pipe 0.0447 ft2

Date	Time	Well ID	barometric pressure prior (inHg)	barometric pressure post (inHg)	Time since prior (minutes)	Relative humidty (%)	well vacuum, in WC	Differential Pressure (inWC)	Barometric Pressure (inHg)	Pressure for Density	T (°F)	Correction factor	d (lbs/ft^3)	Area (ft^2)	Velocity (ft/min)	Flow Rate (ACFM)
step flow test for SVMW 10628 (SVE connnected to 3 lower screen intervals)																
11/8/2013	1103	10628	30.24	30.2	11	26.30	60	0.1	30.23	20.45	57.40	1.000	0.052	0.045	1516	68
11/8/2013	1110	10628	30.24	30.2	18	25.30	40	0.12	30.23	21.92	65.10	0.998	0.055	0.045	1617	72
11/8/2013	1120	10628	30.24	30.2	28	26.30	20	0.13	30.22	23.39	65.80	0.998	0.059	0.045	1630	73
Quick test on SVMW 10628 (SVE connected to 3 lower screened intervals)																
11/8/2013	1130	10628	30.24	30.2	38	23.50	60	0.19	30.21	20.43	69.30	1.000	0.051	0.045	2114	94
11/8/2013	1140	10628	30.24	30.2	48	24.70	60	0.22	30.21	20.42	67.10	1.000	0.051	0.045	2270	101
11/8/2013	1150	10628	30.24	30.2	58	30.10	59.5	0.24	30.20	20.45	67.60	0.998	0.051	0.045	2373	106
11/8/2013	1200	10628	30.2	30.16	8	20.90	59.5	0.24	30.19	20.45	69.10	1.000	0.051	0.045	2374	106
11/8/2013	1210	10628	30.2	30.16	18	25.70	59	0.23	30.19	20.48	67.30	0.998	0.051	0.045	2321	104
11/8/2013	1220	10628	30.2	30.16	28	24.70	59	0.24	30.18	20.47	63.50	1.000	0.052	0.045	2360	106
11/8/2013	1230	10628	30.2	30.16	38	26.10	59	0.19	30.17	20.46	62.80	1.000	0.052	0.045	2099	94
Step flow test on 450 ft screened interval of SVMW 106142																
11/8/2013	1517	106142	30.18	30.18	25	16.40	45	1.32	30.18	21.50	68.00	1.000	0.054	0.045	5424	242
11/8/2013	1520	106142	30.18	30.18	28	21.90	30	0.61	30.18	22.61	65.10	1.000	0.057	0.045	3586	160
11/8/2013	1525	106142	30.18	30.18	33	21.80	15	0.2	30.18	23.71	64.20	1.000	0.060	0.045	2003	90
Quick test on 450 ft screened interval of SVMW 106142																
11/8/2013	1530	106142	30.18	30.18	38	21.00	46	1.21	30.18	21.43	63.90	1.000	0.054	0.045	5182	232
11/8/2013	1540	106142	30.18	30.18	48	23.30	45	1.06	30.18	21.50	62.60	1.000	0.055	0.045	4836	216
11/8/2013	1550	106142	30.18	30.18	58	20.90	46	1.24	30.18	21.43	62.20	1.000	0.054	0.045	5237	234
11/8/2013	1600	106142	30.18	30.19	8	23.50	46	1.19	30.18	21.43	63.10	1.000	0.054	0.045	5135	230
11/8/2013	1610	106142	30.18	30.19	18	23.00	46	1.26	30.18	21.43	62.40	1.000	0.054	0.045	5280	236
11/8/2013	1620	106142	30.18	30.19	28	39.20	45	1.15	30.18	21.51	62.60	0.998	0.054	0.045	5042	225
11/8/2013	1630	106142	30.18	30.19	38	24.7	46	1.22	30.19	21.43	61.2	1.000	0.054	0.045	5189	232

		Relative Humidity (%)									
		10	20	30	40	50	60	70	80	90	100
Temperature (Fahrenheit)	40	1	1	1	1	1	0.998	0.998	0.997	0.997	0.996
	50	1	1	1	1	0.998	0.997	0.997	0.996	0.996	0.996
	60	1	1	1	0.998	0.997	0.996	0.995	0.995	0.994	0.994
	70	1	1	0.998	0.997	0.996	0.994	0.993	0.991	0.99	0.989
	80	1	0.998	0.996	0.994	0.993	0.991	0.99	0.989	0.987	0.985
	90	1	0.996	0.994	0.991	0.99	0.989	0.987	0.985	0.983	0.981
	100	0.998	0.995	0.991	0.989	0.987	0.984	0.982	0.98	0.977	0.975
	110	0.996	0.993	0.989	0.985	0.983	0.98	0.975	0.973	0.97	0.967
	120	0.994	0.991	0.985	0.981	0.977	0.974	0.97	0.965	0.961	0.954
	130	0.991	0.987	0.981	0.975	0.97	0.965	0.959	0.953	0.947	0.944
	140	0.989	0.983	0.975	0.969	0.961	0.953	0.946	0.938	0.931	0.925
	150	0.987	0.98	0.97	0.961	0.952	0.938	0.927	0.918	0.912	0.904
	160	0.985	0.974	0.962	0.952	0.937	0.921	0.907	0.896	0.888	0.877
	170	0.981	0.967	0.952	0.937	0.817	0.898	0.885	0.871	0.859	0.846
	180	0.977	0.959	0.94	0.921	0.898	0.877	0.857	0.842	0.825	0.808
	190	0.972	0.949	0.927	0.902	0.875	0.843	0.823	0.806	0.785	0.76
	200	0.967	0.939	0.912	0.883	0.849	0.818	0.795	0.767	0.738	0.708
	210	0.961	0.927	0.896	0.861	0.825	0.791	0.764	0.73	0.693	0.645

Observation Wells for KAFB-106154

Well ID	depth	time	vacuum	comments
106112	450	1242	0.53	all well valves
	350		0.55	open on
	250		0.53	106154,
	150		0.38	Digital
	50		0.15	Manameter -
	25		0.04	port, noticed
106121	450	1248	0.46	ofter readings
	350		0.45	were
	250		0.37	collected.
	150		0.22	
	50		-0.23	
	25		-0.17	
106112	450	1325	0.15	
	350		0.12	
	250		0.06	
	150		0.34	
	50		0.33	
	25		0.1	
106121	450	1331	0.1	
	350		0.08	
	250		-0.01	
	150		-0.12	
	50		-0.34	
	25		-0.26	
106112	450	1350	-0.05	
	350		-0.06	
	250		-0.05	
	150		0.54	
	50		0.94	
	25		0.42	
106121	450	1355	-0.06	
	350		-0.08	
	250		-0.19	
	150		-0.29	
	50		-0.38	
	25		-0.3	
106112	450	1502	-0.4	digital manameter -port
	350		-0.42	
	250		-0.52	
	150		-0.58	
	50		-0.36	
	25		-0.26	
106121	450	1507	-0.46	
	350		-0.39	
	250		0.02	
	150		-0.39	
	50		-0.23	
	25		-0.17	
106112	450	1540	-0.36	
	350		-0.34	
	250		-0.55	
	150		-0.58	
	50		-0.29	
	25		-0.18	
106121	450	1544	-0.61	
	350		-0.64	
	250		-0.72	
	150		-0.73	
	50		-0.33	
	25		-0.24	
106112	450	1604	-0.12	
	350		-0.06	
	250		-0.64	
	150		-0.65	
	50		-0.28	
	25		-0.15	
106121	450	1611	-0.68	
	350		-0.72	
	250		-0.78	
	150		-0.79	
	50		-0.29	
	25		-0.22	
106112	450	1355	-0.06	digital manameter -port
	350		-0.08	
	250		-0.19	
	150		-0.29	
	50		-0.38	
	25		-0.3	
106121	450	1401	-0.16	
	350		-0.16	
	250		-0.14	
	150		0.44	
	50		0.66	
	25		0.41	
106112	450	1430	-0.3	
	350		-0.25	
	250		0.07	
	150		-0.2	
	50		-0.1	
	25		-0.07	
106121	450	1435	-0.33	
	350		-0.34	
	250		-0.43	
	150		-0.51	
	50		-0.39	
	25		-30	
106112	450	1456	-0.4	
	350		-0.29	
	250		0.42	
	150		-0.32	
	50		-0.19	
	25		-0.12	
106121	450	1502	-0.4	
	350		-0.42	
	250		-0.52	
	150		-0.58	
	50		-0.36	
	25		-0.26	

Distance calculations from well 106154

X	Y	ground elevation		Well ID	X	Y		top screen	bottom screen	horizontal	vertical	distance
1541867.52	1473515.14	5347.2	484	106112	1541936.8	1473503.19	5347.6	439	449	70.30306466	35	78.5335654
								339	349		135	152.208807
								240	250		234	244.332808
								140	150		334	341.318797
								40	50		434	439.657277
								15	25		459	464.352798
				106121	1542051.48	1472805.67	5343.7	430	440	732.9317584	44	734.251294
								340	350		134	745.080507
								240	250		234	769.379596
								135	145		339	807.533258
								40	50		434	851.789271
								15	25		459	864.794752

Observation Wells for KAFB-106149

Well ID	depth	time	vacuum	comments
106121	450	809	0.85	magnihelic 0-1 inch
	350		0.88	
	250		0.9	
	150		0.85	
	50		0.27	
	25		0.2	
106117	450	817	0.9	magnihelic 0-1 inch
	350		0.91	
	250		0.92	
	150		0.86	
	50		0.43	
	25		0.2	
106121	450	858	0.98	magnihelic 0-1 inch
	350		1.2	magnihelic 0-4 inch
	250		1.4	
	150		1	
	50		0.48	magnihelic 0-1 inch
	25		0.23	
106117	450	904	1.1	magnihelic 0-4 inch
	350		1.1	
	250		1.1	
	150		1	
	50		0.26	magnihelic 0-1 inch
	25		0.21	
106121	450	925	1.1	magnihelic 0-4 inch
	350		1.4	
	250		2	
	150		1.25	
	50		0.58	magnihelic 0-1 inch
	25		0.27	
106117	450	930	1.15	magnihelic 0-4 inch
	350		1.15	
	250		1.2	
	150		1.1	
	50		0.28	magnihelic 0-1 inch
	25		0.22	
106121	450	1458	-0.88	magnihelic 0-1 inch
	350		-0.9	
	250		-0.93	
	150		-0.9	
	50		-0.36	
	25		-0.25	
106117	450	1506	-0.9	magnihelic 0-1 inch
	350		-0.92	
	250		-0.9	
	150		-0.86	
	50		-0.48	
	25		-0.22	
106121	450	1601	-0.9	magnihelic 0-1 inch
	350		-0.96	
	250		-1	
	150		-0.9	
	50		-0.16	
	25		-0.14	
106117	450	1605	-0.74	magnihelic 0-1 inch
	350		-0.9	
	250		-1.05	magnihelic 0-4 inch
	150		-1	magnihelic 0-1 inch
	50		-0.52	
	25		-0.1	
106121	450	1640	-0.44	magnihelic 0-1 inch
	350		-0.69	
	250		-1.15	magnihelic 0-4 inch
	150		-1.1	
	50		-0.6	magnihelic 0-1 inch
	25		-0.28	
106117	450	1652	-1.2	magnihelic 0-4 inch
	350		1.25	
	250		1.3	
	150		1.2	
	50		0.325	magnihelic 0-1 inch
	25		0.26	
106121	450	1702	1	magnihelic 0-4 inch
	350		1.1	
	250		1.15	
	150		0.93	magnihelic 0-1 inch
	50		0.24	
	25		0.2	
106117	450	1652	-1.2	magnihelic 0-4 inch
	350		-1.25	
	250		-1.3	
	150		-1.2	
	50		-0.325	magnihelic 0-1 inch
	25		-0.26	
106121	450	1730	-1.2	magnihelic 0-4 inch
	350		-1.25	
	250		-1.3	
	150		-1.18	
	50		-0.23	magnihelic 0-1 inch
	25		-0.18	
106117	450	1739	-1.2	magnihelic 0-4 inch
	350		-1.18	
	250		-1.05	
	150		-0.45	magnihelic 0-1 inch
	50		1.1	magnihelic 0-4 inch
	25		0.3	magnihelic 0-1 inch
106121	450	1800	-1.2	magnihelic 0-4 inch
	350		-1.1	
	250		-0.9	magnihelic 0-1 inch
	150		-0.08	magnihelic 0-1 inch
	50		1.8	magnihelic 0-4 inch
	25		0.76	magnihelic 0-1 inch
106117	450	1810	-1.2	magnihelic 0-4 inch
	350		-1.2	
	250		-1.25	
	150		-1.15	
	50		-0.18	magnihelic 0-1 inch
	25		-0.16	

Distance calculations from well 106149

X	Y	ground elevation		Well ID	X	Y		top screen	bottom screen	horizontal	vertical	distance
1541755.47	1473378.95	5346.1	484	106117	1541727.74	1473368.67		440	450	29.57416609	34	45.0625266
								340	350		134	137.224747
								240	250		234	235.861466
								140	150		334	335.306772
								40	50		434	435.006473
								15	25		459	459.951771
				106121	1542051.48	1472805.67	5343.7	430	440	645.1913503	44	646.68994
								340	350		134	658.959694
								240	250		234	686.314708
								135	145		339	728.829801
								40	50		434	777.578214
								15	25		459	791.803561

Observation Wells for KAFB-106152

Well ID	depth	time	vacuum	comments
106130	450	1030	-0.83	
	350		-0.8	
	250		-0.61	
	150		-0.46	
	50		0	
106121	450	1032	-0.9	
	350		-0.91	
	250		-0.62	
	150		-0.54	
	50		0	
106130	450	1159	-1.16	
	350		-1.14	
	250		-0.95	
	150		-0.6	
	50		-0.15	
106121	450	1202	-1.29	
	350		-1.3	
	250		-1.07	
	150		-0.91	
	50		-0.21	
106130	450	1230	-1.42	
	350		-1.4	
	250		-1.2	
	150		-0.75	
	50		-0.16	
106121	450	1233	-1.54	
	350		-1.56	
	250		-1.31	
	150		-1.16	
	50		-0.32	
106130	450	1458	-2.4	
	350		-2.47	
	250		-2.33	
	150		-2.16	
	50		-0.48	
106121	450	1501	-2.25	
	350		-2.27	
	250		-2.04	
	150		-1.87	
	50		-0.55	
106130	450	1531	-2.56	
	350		-2.56	
	250		-2.31	
	150		-2.23	
	50		-0.44	
106121	450	1535	-2.79	
	350		-2.81	
	250		-2.57	
	150		-2.34	
	50		-0.43	
106130	450	1557	-2.7	
	350		-2.6	
	250		-2.34	
	150		-2.3	
	50		-0.41	
106121	450	1600	-2.88	
	350		-2.93	
	250		-2.67	
	150		-2.44	
	50		-0.43	
106130	450	1252	-1.6	
	350		-1.58	
	250		-1.35	
	150		-0.96	
	50		-0.24	
106121	450	1255	-1.54	
	350		-1.56	
	250		-1.31	
	150		-1.16	
	50		-0.32	
106130	450	1318	-1.7	
	350		-1.74	
	250		-1.61	
	150		-1.31	
	50		-0.33	
106121	450	1323	-1.94	
	350		-1.96	
	250		-1.73	
	150		-1.56	
	50		-0.44	
106130	450	1349	-1.9	
	350		-2	
	250		-1.87	
	150		-1.65	
	50		-0.44	
106121	450	1352	-2.25	
	350		-2.27	
	250		-2.04	
	150		-1.87	
	50		-0.55	

Distance calculations from well 106152

X	Y	ground elevation		Well ID	X	Y		top screen	bottom screen	horizontal	vertical	distance
1541962.34	1473668.59	5347.4	494	106130	1542131.09	1473567.7	5349	440	450	196.6096503	44	201.472962
								340	350		144	243.703415
								240	250		244	313.354998
								150	160		334	387.571096
								40	50		444	485.58352
								15	25		469	508.543366
				106121	1542051.48	1472805.67	5343.7	430	440	867.5118823	54	869.190926
								340	350		144	879.382093
								240	250		244	901.17305
								135	145		349	935.081743
								40	50		444	974.532127
								15	25		469	986.173345

Observation Wells for SVEW11

Well ID	depth	time	vacuum	comments
106130	450	1657	-2.57	
	350		-2.58	
	250		-2.44	
	150		-2.21	
	50		-0.3	
106121	450	1657	-2.88	
	350		-2.89	
	250		-2.61	
	150		-2.19	
	50		-0.3	
106130	450	1730	-2.67	
	350		-2.67	
	250		-2.55	
	150		-2.2	
	50		-0.3	
106121	450	NA	-2.98	
	350		-3	
	250		-2.69	
	150		-2.2	
	50		-0.3	

Distance calculations from well SVEW11

X	Y	ground elevation		Well ID	X	Y		top screen	bottom screen	horizontal	vertical	distance
1541991.08	1473671.36	5344.98	450	106130	1542131.09	1473567.7	5349	440	450	174.2073354	0	174.207335
								340	350		100	200.868603
								240	250		200	265.232343
								150	160		290	338.30193
								40	50		400	436.289119
								15	25		425	459.318186
				106121	1542051.48	1472805.67	5343.7	430	440	867.7945241	10	867.85214
								340	350		100	873.537255
								240	250		200	890.543281
								135	145		305	919.832776
								40	50		400	955.54557
								15	25		425	966.277567

Observation Wells for KAFB-106130

Well ID	depth	time	vacuum	comments
106112	450	942	-0.83	
	350		-0.84	
	250		-0.66	
	150		-0.45	
	50		-0.01	
106121	450	948	-1.01	
	350		-1.02	
	250		-0.76	
	150		-0.58	
	50		0.1	
106112	450	1027	-0.77	
	350		-0.84	
	250		-0.74	
	150		-0.56	
	50		-0.1	
106121	450	1034	-1.12	
	350		-1.14	
	250		-0.88	
	150		-0.71	
	50		-0.02	
106112	450	1057	-0.81	
	350		-0.9	
	250		-0.85	
	150		-0.68	
	50		-0.17	
106121	450	1104	-1.25	
	350		-1.26	
	250		-1	
	150		-0.85	
	50		-0.1	

Distance calculations from well 106130

X	Y	ground elevation		Well ID	X	Y		top screen	bottom screen	horizontal	vertical	distance
1542131.09	1473567.7	5349	450	106112	1541936.76	1473505.07	5347.6	439	449	204.173127	1	204.175576
								339	349		101	227.788643
								240	250		200	285.808792
								140	150		300	362.886574
								40	50		400	449.095386
								15	25		425	471.49938
				106121	1542051.48	1472805.67	5343.7	430	440	766.1771812	10	766.242437
								340	350		100	772.675529
								240	250		200	791.850663
								135	145		305	824.652941
								40	50		400	864.307511
								15	25		425	876.15779

Observation Wells for KAFB-106156

Well ID	depth	time	vacuum	comments
106111	450	1338	-2.2	
	350		-2.25	
	250		-2.12	
	150		-1.96	
	50		-0.68	
106121	450	1348	-2.55	
	350		-2.55	
	250		-2.34	
	150		-2.15	
	50		-0.52	
106111	450	1439	-2.72	
	350		-2.6	
	250		-1.85	
	150		-2.05	
	50		-0.73	
106121	450	1446	-2.88	
	350		-2.9	
	250		-2.69	
	150		-2.48	
	50		-0.49	
106111	450	1509	-2.92	
	350		-2.75	
	250		-1.95	
	150		-2.18	
	50		-0.77	
106121	450	1516	-2.97	
	350		-2.98	
	250		-2.75	
	150		-2.51	
	50		-0.38	

Distance calculations from well 106156

X	Y	ground elevation	Well ID	X	Y	top screen	bottom screen	horizontal	vertical	distance
1541298.57	1473297.18	5340.9	341	106111	1541336.23	1473288.69	5341.3	437	455.6	38.60512531	-114.6	120.927729
								336.5	352		-11	40.1416953
								238	252		89	97.012142
								137	152		189	192.902451
								39	51		290	292.558295
								13	26		315	317.356827
				106121	1542051.48	1472805.67	5343.7	430	440	899.1415618	-99	904.575341
								340	350		-9	899.186604
								240	250		91	903.734778
								135	145		196	920.256241
								40	50		291	945.059018
								15	25		316	953.053801

Observation Wells for KAFB-106119

Well ID	depth	time	vacuum	comments
106117	450	825	-2.21	
	350		-2.26	
	250		-2.07	
	150		-1.79	
	50		-0.55	
106121	450	830	-2.21	
	350		-2.52	
	250		-2.33	
	150		-2.03	
	50		-0.1	
106117	450	855	-2.36	
	350		-2.4	
	250		-2.21	
	150		-1.94	
	50		-0.65	
106121	450	900	-2.66	
	350		-2.68	
	250		-2.48	
	150		-2.17	
	50		-0.18	
106117	450	913	-2.38	
	350		-2.5	
	250		-2.29	
	150		-2.01	
	50		-0.21	
106121	450	918	-2.8	
	350		-2.83	
	250		-2.62	
	150		-2.3	
	50		-0.26	
106117	450	942	-2.55	
	350		-2.66	
	250		-2.44	
	150		-2.15	
	50		-0.79	
106121	450	947	-2.92	
	350		-2.94	
	250		-2.72	
	150		-2.41	
	50		-0.28	

Distance calculations from well 106119

X	Y	ground elevation		Well ID	X	Y		top screen	bottom screen	horizontal	vertical	distance
1541613.14	1473521.57	5343.5	450	106117	1541727.74	1473368.67	5345.3	440	450	191.0800094	0	191.080009
								340	350		100	215.665412
								240	250		200	276.607249
								140	150		300	355.68465
								40	50		400	443.296255
								15	25		425	465.979152
				106121	1542051.48	1472805.67	5343.7	430	440	839.4371719	10	839.496734
								340	350		100	845.37256
								240	250		200	862.933813
								135	145		305	893.129199
								40	50		400	929.868144
								15	25		425	940.893068

Observation Wells for KAFB-106153

Well ID	depth	time	vacuum	comments
106130	450	835	0.4	
	350		0.45	
	250		0.59	
	150		0.63	
	50		0.21	
106121	450	842	0.45	
	350		0.43	
	250		0.62	
	150		0.65	
	50		0.23	
106130	450	948	0.72	
	350		0.6	
	250		0.6	
	150		0.58	
	50		0.1	
106121	450	954	0.42	
	350		0.39	
	250		0.58	
	150		0.58	
	50		0.09	
106130	450	1018	0.82	
	350		0.66	
	250		0.58	
	150		0.56	
	50		0.09	
106121	450	1024	0.45	
	350		0.43	
	250		0.6	
	150		0.58	
	50		0.09	

Distance calculations from well 106153

X	Y	ground elevation		Well ID	X	Y		top screen	bottom screen	horizontal	vertical	distance
1542176.47	1473466.72	5348.7	484	106130	1542131.09	1473567.7	5349	440	450	110.7081966	34	115.811505
								340	350		134	173.816871
								240	250		234	258.86735
								150	160		324	342.392034
								40	50		434	447.89765
								15	25		459	472.162371
				106121	1542051.48	1472805.67	5343.7	430	440	672.7626644	44	674.199972
								340	350		134	685.977844
								240	250		234	712.296008
								135	145		339	753.34627
								40	50		434	800.603274
								15	25		459	814.426548

Observation Wells KAFB-106155

Well ID	depth	time	vacuum	comments
106116	450	1050	0.4	
	350		0.52	
	250		0.57	
	150		0.54	
	50		0.15	
106127	450	1100	0.42	
	350		0.35	
	250		0.54	
	150		0.55	
	50		0.06	
106116	450	1301	-0.09	
	350		-0.07	
	250		-0.11	
	150		-0.15	
	50		-0.23	
106127	450	1309	-0.21	
	350		-0.25	
	250		-0.11	
	150		-0.1	
	50		-0.21	
106116	450	1331	-0.17	
	350		-0.2	
	250		-0.3	
	150		-0.34	
	50		-0.3	
106127	450	1338	-0.43	
	350		-0.49	
	250		-0.36	
	150		-0.37	
	50		-0.31	

Distance calculations from well 106155

X	Y	ground elevation	Well ID	X	Y		top screen	bottom screen	horizontal	vertical	distance
1542116.08	1473177.27	5346.9	484	106116	1541894.1	1473298.77	5346.2	440	450	253.0560618	34	255.329925
								340	350		134	286.344845
								240	250		234	344.664141
								140	150		334	419.038626
								40	50		434	502.387669
								10	20		464	528.519981
				106127	1542436.59	1472749.19	5345.9	440	450	534.770181	34	535.849929
								340	350		134	551.303135
								240	250		234	583.725232
								140	150		334	630.503883
								40	50		434	688.719933
								15	25		459	704.741191

Observation Wells for KAFB-106113

Well ID	depth	time	vacuum	comments
106120	450	1606	-0.65	
	350		-0.69	
	250		-0.7	
	150		-0.69	
	50		-0.2	
106119	450	1614	-0.64	
	350		-0.66	
	250		-0.6	
	150		-0.56	
	50		-0.12	
106120	450	1644	-0.41	
	350		-0.59	
	250		-0.64	
	150		-0.61	
	50		-0.09	
106119	450	1650	-0.6	
	350		-0.61	
	250		-0.59	
	150		-0.53	
	50		-0.11	
106120	450	1714	-0.42	
	350		-0.59	
	250		-0.63	
	150		-0.64	
	50		-0.11	
106119	450	1719	-0.67	
	350		-0.66	
	250		-0.64	
	150		-0.6	
	50		-0.15	

Distance calculations from well 106113

X	Y	ground elevation		Well ID	X	Y		top screen	bottom screen	horizontal	vertical	distance
1542004.39	1473064.22	5345.8	450	106120	1542054.23	1472902.46	5343.4	434	444	169.2640635	6	169.370373
								340	350		100	196.596855
								240	250		200	262.012067
								140	150		300	344.456562
								40	50		400	434.33895
								15	25		425	457.466199
				106119	1541613.14	1473521.57	5343.5	440	450	601.8684117	0	601.868412
								340	350		100	610.11932
								240	250		200	634.228338
								140	150		300	672.492071
								40	50		400	722.665611
								15	25		425	736.79752

Observation Wells for KAFB-106129

Well ID	depth	time	vacuum	comments
106116	450	1404	-0.31	
	350		-0.39	
	250		-0.47	
	150		-0.49	
	50		-0.36	
106127	450	1411	-0.6	
	350		-0.61	
	250		-0.5	
	150		-0.57	
	50		-0.32	
106116	450	1452	-0.37	
	350		-0.49	
	250		-0.6	
	150		-0.63	
	50		-0.31	
106127	450	1458	-0.71	
	350		-0.78	
	250		-0.67	
	150		-0.65	
	50		-0.22	
106116	450	1522	-0.3	
	350		-0.44	
	250		-0.59	
	150		-0.54	
	50		-0.25	
106127	450	1527	-0.66	
	350		-0.75	
	250		-0.67	
	150		-0.66	
	50		-0.2	

Distance calculations from well 106129

X	Y	ground elevation		Well ID	X	Y		top screen	bottom screen	horizontal	vertical	distance
1542130.45	1473262.72	5348.4	450	106116	1541894.1	1473298.77	5346.2	440	450	239.0835105	0	239.083511
								340	350		100	259.154249
								240	250		200	311.706473
								140	150		300	383.615595
								40	50		400	466.005284
								10	20		430	491.996875
				106127	1542436.59	1472749.19	5345.9	440	450	597.8584787	0	597.858479
								340	350		100	606.163972
								240	250		200	630.42427
								140	150		300	668.905644
								40	50		400	719.329382
								15	25		425	733.525569

	Date_time	Absolute Barometric Pressure (inHg)
10-3-2013 0:52 MDT	10/3/2013 0:52	30.01
10-3-2013 1:52 MDT	10/3/2013 1:52	30.01
10-3-2013 2:52 MDT	10/3/2013 2:52	30.01
10-3-2013 3:52 MDT	10/3/2013 3:52	30.01
10-3-2013 4:52 MDT	10/3/2013 4:52	30.01
10-3-2013 5:52 MDT	10/3/2013 5:52	30.02
10-3-2013 6:52 MDT	10/3/2013 6:52	30.02
10-3-2013 7:52 MDT	10/3/2013 7:52	30.03
10-3-2013 8:52 MDT	10/3/2013 8:52	30.05
10-3-2013 9:52 MDT	10/3/2013 9:52	30.05
10-3-2013 10:52 MDT	10/3/2013 10:52	30.04
10-3-2013 11:52 MDT	10/3/2013 11:52	30.02
10-3-2013 12:52 MDT	10/3/2013 12:52	29.98
10-3-2013 13:52 MDT	10/3/2013 13:52	29.94
10-3-2013 14:52 MDT	10/3/2013 14:52	29.91
10-3-2013 15:52 MDT	10/3/2013 15:52	29.89
10-3-2013 16:52 MDT	10/3/2013 16:52	29.86
10-3-2013 17:52 MDT	10/3/2013 17:52	29.84
10-3-2013 18:52 MDT	10/3/2013 18:52	29.83
10-3-2013 19:52 MDT	10/3/2013 19:52	29.84
10-3-2013 20:52 MDT	10/3/2013 20:52	29.87
10-3-2013 21:52 MDT	10/3/2013 21:52	29.89
10-3-2013 22:52 MDT	10/3/2013 22:52	29.92
10-3-2013 23:52 MDT	10/3/2013 23:52	29.91
10-4-2013 0:52 MDT	10/4/2013 0:52	29.92
10-4-2013 1:52 MDT	10/4/2013 1:52	29.93
10-4-2013 2:52 MDT	10/4/2013 2:52	29.94
10-4-2013 3:52 MDT	10/4/2013 3:52	29.94
10-4-2013 4:52 MDT	10/4/2013 4:52	29.98
10-4-2013 5:52 MDT	10/4/2013 5:52	30
10-4-2013 6:52 MDT	10/4/2013 6:52	30.01
10-4-2013 7:52 MDT	10/4/2013 7:52	30.04
10-4-2013 8:52 MDT	10/4/2013 8:52	30.06
10-4-2013 9:52 MDT	10/4/2013 9:52	30.07
10-4-2013 10:52 MDT	10/4/2013 10:52	30.09
10-4-2013 11:52 MDT	10/4/2013 11:52	30.09
10-4-2013 12:52 MDT	10/4/2013 12:52	30.09
10-4-2013 13:52 MDT	10/4/2013 13:52	30.07
10-4-2013 14:52 MDT	10/4/2013 14:52	30.06
10-4-2013 15:52 MDT	10/4/2013 15:52	30.06
10-4-2013 16:52 MDT	10/4/2013 16:52	30.07
10-4-2013 17:52 MDT	10/4/2013 17:52	30.09
10-4-2013 18:52 MDT	10/4/2013 18:52	30.1
10-4-2013 19:52 MDT	10/4/2013 19:52	30.12
10-4-2013 20:52 MDT	10/4/2013 20:52	30.14
10-4-2013 21:52 MDT	10/4/2013 21:52	30.16
10-4-2013 22:52 MDT	10/4/2013 22:52	30.19
10-4-2013 23:52 MDT	10/4/2013 23:52	30.2

		Relative Humidity (%)									
		10	20	30	40	50	60	70	80	90	100
Temperature (Fahrenheit)	40	1	1	1	1	1	0.998	0.998	0.997	0.997	0.996
	50	1	1	1	1	0.998	0.997	0.997	0.996	0.996	0.996
	60	1	1	1	0.998	0.997	0.996	0.995	0.995	0.994	0.994
	70	1	1	0.998	0.997	0.996	0.994	0.993	0.991	0.99	0.989
	80	1	0.998	0.996	0.994	0.993	0.991	0.99	0.989	0.987	0.985
	90	1	0.996	0.994	0.991	0.99	0.989	0.987	0.985	0.983	0.981
	100	0.998	0.995	0.991	0.989	0.987	0.984	0.982	0.98	0.977	0.975
	110	0.996	0.993	0.989	0.985	0.983	0.98	0.975	0.973	0.97	0.967
	120	0.994	0.991	0.985	0.981	0.977	0.974	0.97	0.965	0.961	0.954
	130	0.991	0.987	0.981	0.975	0.97	0.965	0.959	0.953	0.947	0.944
	140	0.989	0.983	0.975	0.969	0.961	0.953	0.946	0.938	0.931	0.925
	150	0.987	0.98	0.97	0.961	0.952	0.938	0.927	0.918	0.912	0.904
	160	0.985	0.974	0.962	0.952	0.937	0.921	0.907	0.896	0.888	0.877
	170	0.981	0.967	0.952	0.937	0.817	0.898	0.885	0.871	0.859	0.846
	180	0.977	0.959	0.94	0.921	0.898	0.877	0.857	0.842	0.825	0.808
	190	0.972	0.949	0.927	0.902	0.875	0.843	0.823	0.806	0.785	0.76
	200	0.967	0.939	0.912	0.883	0.849	0.818	0.795	0.767	0.738	0.708
	210	0.961	0.927	0.896	0.861	0.825	0.791	0.764	0.73	0.693	0.645

KAFB BFF Pilot Testing SVE Expansion KAFB 106160
10/4/2013

Well ID	Screen Interval	Time	Vacuum (inWC)	Differenctial Pressure (inWC)	Flow Rate (scfm	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO2	CO	O2	H2S	LEL
106160		7:40	22.16	0.51		53.4	32.2	7120	2.34	0	16.8	0	2
106160		8:40	22.3	0.54		56.7	29.7	7140	2.32	0	16.79	0	46
106160		9:10	22.28	0.52		58.9	26.7	7160	2.28	0	16.41	0	47
106160		9:40	22.29	0.54		57.7	26.7	7170	2.3	0	16.41	0	59
106160		10:10	22.33	0.54		61.9	23.5	7200	2.28	0	16.4	0	61
106160		10:40	22.38	0.54		62.6	23.6	7210	2.32	0	16.4	0	62
106160		11:10	22.36	0.51		63	18.8	7220	2.32	0	16.41	0	64
106160		11:40	22.44	0.5		66	18.5	7220	2.32	0	16.35	0	65
106160		12:10	22.36	0.51		70.3	14.3	7250	2.32	0	16.34	0	66
106160		12:40	22.3	0.5		67.3	15.4	7270	2.32	0	16.48	0	64
106160		13:10	22.12	0.53		67.1	16.2	7280	2.32	0	16.18	0	64
106160		13:40	22	0.5		67.6	16	7300	2.32	0	16.26	0	62
106160		14:10	21.95	0.54		68.2	13.7	7320	2.34	0	16.17	0	62
106160		14:40				69.4	11.9	7310	2.34	0	16.17	0	58
106160		15:10				65.8	13.2	7330	2.36	0	16.25	0	58
106160		15:40				67.1	12	7370	2.36	0	16.19	0	62

Observation Wells for KAFB-106160

Well ID	Depth	Time	Vacuum (inWC)
106117	450	7:41	1.73
106117	350		1.12
106117	250		0.49
106116	450	7:44	1.07
106116	350		0.87
106116	250		0.37
106121	450	7:48	0.49
106121	350		0.46
106121	250		0.21
106114	450	7:51	1.03
106114	350		0.87
106128	450	7:54	3.71
106128	350		1.41
106128	250		0.45
106119	450	7:57	1.57
106119	350		1.02
106119	450	8:47	1.81
106119	350		1.29
106117	450	8:51	2.03
106117	350		1.4
106117	250		0.74
106116	450	8:53	1.4
106116	350		1.22
106116	250		0.65
106121	450	8:56	0.8
106121	350		0.76
106121	250		0.48
106114	450	8:59	1.36
106114	350		1.17
106128	450	9:02	4.04
106128	350		1.8
106128	250		0.78
106119	450	9:11	1.92
106119	350		1.35
106117	450	9:16	2.12
106117	350		1.48
106117	250		0.81
106116	450	9:18	1.48
106116	350		1.3
106116	250		0.77
106121	450	9:22	0.87
106121	350		0.82
106121	250		0.55
106114	450	9:24	1.39
106114	350		1.25
106128	450	9:28	4.09
106128	350		1.88
106128	250		0.82
106119	450	9:44	2.03
106119	350		1.48
106128	450	9:47	4.13
106128	350		1.82
106128	250		0.82
106114	450	9:50	1.44
106114	350		1.29
106121	450	9:52	0.92
106121	350		0.86
106121	250		0.59
106116	450	9:54	1.52
106116	350		1.32
106116	250		0.76
106117	450	8:57	2.19
106117	350		1.55
106117	250		0.85
106119	450	10:16	2.1
106119	350		1.53
106128	450	10:18	4.2
106128	350		1.9
106128	250		0.89
106114	450	10:22	1.57
106114	350		1.39
106121	450	10:24	1.03
106121	350		0.94
106121	250		0.69
106116	450	10:28	1.6
106116	350		1.4
106116	250		0.82
106117	450	10:29	2.28
106117	350		1.62
106117	250		0.9
106119	450	10:41	2.11
106119	350		1.56
106128	450	10:44	4.22
106128	350		1.98
106128	250		0.91
106114	450	10:50	1.62
106114	350		1.46
106121	450	10:52	1.11
106121	350		1.05
106121	250		0.79
106116	450	10:56	1.73
106116	350		1.53
106116	250		0.93

106117	450	10:58	2.38
106117	350		1.69
106117	250		1.1
106119	450	11:12	2.27
106119	350		1.7
106128	450	11:17	4.26
106128	350		1.99
106128	250		0.91
106114	450	11:21	1.59
106114	350		1.44
106121	450	11:24	1.05
106121	350		1.02
106121	250		0.74
106116	450	11:27	1.66
106116	350		1.46
106116	250		0.84
106117	450	11:29	2.32
106117	350		1.66
106117	250		0.94
106119	450	11:40	2.08
106119	350		1.53
106128	450	11:47	4.26
106128	350		2.06
106128	250		0.98
106114	450	11:51	1.67
106114	350		1.5
106121	450	11:53	1.15
106121	350		1.09
106121	250		0.82
106116	450	11:56	1.74
106116	350		1.57
106116	250		0.92
106117	450	11:58	2.43
106117	350		1.76
106117	250		1.01
106119	450	12:11	2.23
106119	350		1.68
106128	450	12:17	4.36
106128	350		2.11
106128	250		1.01
106114	450	12:22	1.65
106114	350		1.52
106121	450	12:24	1.18
106121	350		1.13
106121	250		0.82
106116	450	12:27	1.74
106116	350		1.52
106116	250		0.93
106117	450	12:31	2.4
106117	350		1.75
106117	250		1.02
106119	450	12:43	2.21
106119	350		1.65
106128	450	12:48	4.25
106128	350		2.06
106128	250		0.94
106114	450	12:52	1.65
106114	350		1.46
106121	450	12:55	1.11
106121	350		1.05
106121	250		0.076
106116	450	12:58	1.69
106116	350		1.52
106116	250		0.85
106117	450	12:59	2.39
106117	350		1.76
106117	250		0.97
106119	450	13:12	2.14
106119	350		1.52
106128	450	13:16	4.16
106128	350		1.92
106128	250		0.81
106114	450	13:20	1.48
106114	350		1.34
106121	450	13:22	0.99
106121	350		0.95
106121	250		0.63
106116	450	13:26	1.53
106116	350		1.33
106116	250		0.71
106117	450	13:27	2.17
106117	350		1.54
106117	250		0.74
106119	450	13:42	1.96
106119	350		1.4
106128	450	13:47	4.04
106128	350		1.79
106128	250		0.65
106114	450	13:51	1.37
106114	350		1.21
106121	450	13:54	0.84
106121	350		0.8
106121	250		0.47
106116	450	14:00	1.44
106116	350		1.2
106116	250		0.55
106117	450	14:01	2.09
106117	350		1.4
106117	250		0.64
106119	450	14:12	1.86
106119	350		1.33
106128	450	14:17	3.93
106128	350		1.68
106128	250		0
106114	450	14:22	1.3
106114	350		1.15
106121	450	14:24	0.77
106121	350		0.74
106121	250		40
106116	450	14:27	1.37
106116	350		1.13
106116	250		0.49
106117	450	14:42	2
106117	350		1.37
106117	250		0.6

106119	450	14:46	1.86
106119	350		1.26

KAFB BFF Pilot Test SVE Expansion KAFB-106161
10/3/2013

Well ID	Screen Interval	Time	Vacuum (inWC)	Differenctial Pressure (inWC)	Flow Rate (scfm	Temp. (°F)	Relative Humidity (%)	Total HC (ppm)	CO2	CO	O2	H2S	LEL
106161		8:05	25.66	0.85		58.5	45.1	7610	2.3	0	16.4	0	50
106161		9:10	25.65	0.81		69.3	28.8	7640	2.34	0	16.46	0	38
106161		9:40	25.59	0.8		72.1	26.7	7650	2.28	0	16.54	0	55
106161		10:10	25.16	0.84		74.5	23.9	7650	2.28	0	16.68	0	56
106161		10:40	25.12	0.8		75.6	24.7	7670	2.3	0	16.7	0	57
106161		11:10	25.33	0.79		78.4	20.9	7660	2.28	0	16.5	0	58
106161		11:40	25.12	0.83		79.3	18.8	7660	2.28	0	16.34	0	58
106161		12:10	24.92	0.82		78.4	19	7660	2.3	0	16.35	0	59
106161		12:40	24.62	0.8		82	15.5	7670	2.3	0	16.79	0	59
106161		13:10	24.22	0.81		82.4	13	7680	2.28	0	16.2	0	59
106161		13:40	24.14	0.83		83.5	10.9	7680	2.3	0	16.35	0	59
106161		14:10	24.16	0.82		81.1	15.9	7690	2.3	0	16.43	0	59
106161		14:40	24.09	0.79		80.8	16.2	7690	2.3	0	16.35	0	59
106161		15:10	23.74	0.81		81	15.7	7690	2.28	0	16.35	0	59
106161		15:40	23.59	0.82		79	16.1	7700	2.3	0	16.96	0	59
106161		16:10	23.55	0.8		79	16.2	7710	2.3	0	16.6	0	60

Observation Wells for KAFB-106161

Well ID	Depth	Time	Vacuum (inWC)
106116	450	8:10	3.94
106116	350		1.82
106116	250		0.06
106117	450	8:14	1.42
106117	350		0.9
106117	250		0.16
106114	450	8:20	0.98
106114	350		0.78
106121	450	8:25	0.49
106121	350		0.45
106121	250		-0.07
106129	450	8:27	1.36
106129	350		0.72
106112	450	8:33	1.81
106112	350		1.34
106116	450	9:14	4.35
106116	350		2.04
106116	250		0.25
106117	450	9:17	1.66
106117	350		1.05
106117	250		0.38
106114	450	9:22	1.22
106114	350		1
106121	450	9:24	0.73
106121	350		0.67
106121	250		0.11
106129	450	9:27	1.61
106129	350		0.97
106112	450	9:32	2.04
106112	350		1.57
106116	450	9:44	4.39
106116	350		2.08
106116	250		0.3
106117	450	9:47	1.69
106117	350		1.13
106117	250		0.38
106114	450	9:52	1.22
106114	350		1.01
106121	450	9:55	0.72
106121	350		0.65
106121	250		0.09
106129	450	9:58	1.58
106129	350		0.94
106112	450	10:00	1.93
106112	350		1.5
106116	450	10:15	4.33
106116	350		2.02
106116	250		0.22
106117	450	10:16	1.64
106117	350		1.07
106117	250		0.32
106114	450	10:19	1.16
106114	350		0.94
106121	450	10:22	0.65
106121	350		0.58
106121	250		0.01
106129	450	10:25	1.5
106129	350		0.87
106112	450	10:29	1.89
106112	350		1.42
106116	450	10:40	4.27
106116	350		1.96
106116	250		0.14
106117	450	10:43	1.55
106117	350		1.03
106117	250		0.24
106114	450	10:47	1.09
106114	350		0.87
106121	450	10:50	0.57
106121	350		0.5
106121	250		-0.06
106129	450	10:53	1.44
106129	350		0.8
106112	450	10:56	1.82
106112	350		1.34
106116	450	11:10	4.17
106116	350		1.85
106116	250		0.04
106117	450	11:08	1.48
106117	350		0.94
106117	250		0.15
106114	450	11:14	1
106114	350		0.79
106121	450	11:16	0.49
106121	350		0.41
106121	250		-0.14
106129	450	11:19	1.34
106129	350		0.68
106112	450	11:22	1.74
106112	350		1.26
106116	450	11:40	4.07
106116	350		1.77
106116	250		-0.05
106117	450	11:41	1.39

106117	350		0.84
106117	250		0.06
106114	450	11:45	0.91
106114	350		0.69
106121	450	11:48	0.42
106121	350		0.32
106121	250		-0.23
106129	450	11:50	1.25
106129	350		0.61
106112	450	11:53	1.6
106112	350		1.11
106116	450	12:17	3.86
106116	350		1.54
106116	250		-0.26
106117	450	12:15	1.18
106117	350		0.63
106117	250		-0.15
106114	450	12:21	0.67
106114	350		0.45
106121	450	12:24	0.16
106121	350		0.09
106121	250		-0.47
106129	450	12:26	1.02
106129	350		0.36
106112	450	12:29	1.34
106112	350		0.84
106116	450	12:44	3.65
106116	350		1.34
106116	250		-0.47
106117	450	12:46	0.96
106117	350		0.41
106117	250		-0.37
106114	450	12:51	0.47
106114	350		0.26
106121	450	12:53	-0.02
106121	350		-0.07
106121	250		-0.67
106129	450	12:56	0.84
106129	350		0.18
106112	450	12:59	1.19
106112	350		0.72
106116	450	13:12	3.5
106116	350		1.16
106116	250		-0.63
106117	450	13:16	0.77
106117	350		0.23
106117	250		-0.55
106114	450	13:20	0.29
106114	350		0.07
106121	450	13:22	-0.24
106121	350		-0.31
106121	250		-0.89
106129	450	13:25	0.62
106129	350		-0.04
106112	450	13:28	0.96
106112	350		0.47
106116	450	13:45	3.22
106116	350		0.89
106116	250		-0.9
106117	450	13:43	0.6
106117	350		0.02
106117	250		-0.75
106114	450	13:50	0.04
106114	350		-0.18
106121	450	13:52	-0.49
106121	350		-0.58
106121	250		-1.16
106129	450	13:54	0.33
106129	350		-0.28
106112	450	13:57	0.67
106112	350		0.22
106116	450	14:12	3.06
106116	350		0.75
106116	250		-1.05
106117	450	14:14	0.38
106117	350		-0.15
106117	250		-0.96
106114	450	14:18	-0.13
106114	350		-0.36
106121	450	14:20	-0.63
106121	350		-0.74
106121	250		-1.29
106129	450	14:23	0.18
106129	350		-0.46
106112	450	14:26	0.55
106112	350		0.07
106116	450	14:44	2.93
106116	350		0.6
106116	250		-1.19
106117	450	14:46	0.22
106117	350		-0.31
106117	250		-1.07
106114	450	14:50	-0.28
106114	350		-0.48
106121	450	14:52	-0.76
106121	350		-0.86
106121	250		-1.43
106129	450	14:55	0.07
106129	350		-0.53
106112	450	14:58	0.45
106112	350		-0.04
106116	450	15:13	2.81
106116	350		0.48
106116	250		-1.29
106117	450	15:15	0.12
106117	350		-0.41
106117	250		-1.16
106114	450	15:19	-0.36
106114	350		-0.58
106121	450	15:21	-0.86
106121	350		-0.96
106121	250		-1.53
106129	450	15:24	-0.02
106129	350		-0.68
106112	450	15:26	0.31
106112	350		-0.16

106116	450	15:43	2.67
106116	350		0.35
106116	250		-1.42
106117	450	15:45	-0.03
106117	350		-0.55
106117	250		-1.29
106114	450	15:50	-0.56
106114	350		-0.78
106121	450	15:52	-1.03
106121	350		-1.13
106121	250		-1.71
106129	450	15:54	-0.22
106129	350		-0.88
106112	450	15:58	-0.43
106112	350		-0.32
106116	450	16:03	2.55
106116	350		-0.02
106116	250		-1.54
106117	450	16:05	-0.16
106117	350		-0.69
106117	250		-1.4
106114	450	16:10	-0.67
106114	350		-0.89
106121	450	16:12	-1.16
106121	350		-1.26
106121	250		-1.85
106129	450	16:15	-0.35
106129	350		-0.99
106112	450	16:19	-0.03
106112	350		-0.5

Barometric pressure prior = barometric pressure from the last time it was recorded before the Date_Time in Column A
Relative humidity: recorded in the field
Differential pressure: recorded in the field
Barometric Pressure: calculated
Temperature: recorded in the field
Correction factor: Use temperature and relative humidity and the chart in the "Correction Factor" tab
d: Calculated.
CS area 6" sch 80 PVC 0.178 ft2

Date	Time	Well ID	barometric pressure (inHg)	Relative humidty (%)	well vacuum, in WC	Differential Pressure (inWC)	Barometric Pressure (inHg)	T (°F)	Correction factor	d (lbs/ft^3)	Area (ft^2)	Velocity (ft/min)	Flow Rate (SCFM)
10/4/2013	7:40	106160	30.04	32.2	22.16	0.51	23.05	53.4	1.000	0.059	0.18	3211	572
10/4/2013	8:40	106160	30.06	29.7	22.3	0.54	23.06	56.7	1.000	0.059	0.18	3314	590
10/4/2013	9:10	106160	30.06	26.7	22.28	0.52	23.06	58.9	1.000	0.059	0.18	3259	580
10/4/2013	9:40	106160	30.07	26.7	22.29	0.54	23.07	57.7	1.000	0.059	0.18	3317	590
10/4/2013	10:10	106160	30.07	23.5	22.33	0.54	23.06	61.9	1.000	0.059	0.18	3331	593
10/4/2013	10:40	106160	30.09	23.6	22.38	0.54	23.08	62.6	1.000	0.059	0.18	3332	593
10/4/2013	11:10	106160	30.09	18.8	22.36	0.51	23.08	63	1.000	0.058	0.18	3239	577
10/4/2013	11:40	106160	30.09	18.5	22.44	0.5	23.08	66	1.000	0.058	0.18	3217	573
10/4/2013	12:10	106160	30.09	14.3	22.36	0.51	23.08	70.3	1.000	0.058	0.18	3261	581
10/4/2013	12:40	106160	30.09	15.4	22.3	0.5	23.09	67.3	1.000	0.058	0.18	3220	573
10/4/2013	13:10	106160	30.07	16.2	22.12	0.53	23.08	67.1	1.000	0.058	0.18	3315	590
10/4/2013	13:40	106160	30.07	16	22	0.5	23.09	67.6	1.000	0.058	0.18	3221	573
10/4/2013	14:10	106160	30.06	13.7	21.95	0.54	23.08	68.2	1.000	0.058	0.18	3349	596
10/4/2013	14:40	106160	30.06	11.9			24.70	69.4	1.000	0.062	0.18	0	0
10/4/2013	15:10	106160	30.06	13.2			24.70	65.8	1.000	0.062	0.18	0	0
10/4/2013	15:40	106160	30.06	12			24.70	67.1	1.000	0.062	0.18	0	0
10/3/2013	8:05	106161	30.03	45.1	25.66	0.85	22.78	58.5	0.998	0.058	0.18	4195	747
10/3/2013	9:10	106161	30.05	28.8	25.65	0.81	22.80	69.3	0.998	0.057	0.18	4136	736
10/3/2013	9:40	106161	30.05	26.7	25.59	0.8	22.80	72.1	0.998	0.057	0.18	4121	733
10/3/2013	10:10	106161	30.04	23.9	25.16	0.84	22.82	74.5	0.998	0.056	0.18	4230	753
10/3/2013	10:40	106161	30.04	24.7	25.12	0.8	22.83	75.6	0.998	0.056	0.18	4132	735
10/3/2013	11:10	106161	30.02	20.9	25.33	0.79	22.79	78.4	0.996	0.056	0.18	4124	734
10/3/2013	11:40	106161	30.02	18.8	25.12	0.83	22.81	79.3	0.996	0.056	0.18	4229	753
10/3/2013	12:10	106161	29.98	19	24.92	0.82	22.78	78.4	0.996	0.056	0.18	4203	748
10/3/2013	12:40	106161	29.98	15.5	24.62	0.8	22.80	82	0.998	0.056	0.18	4159	740
10/3/2013	13:10	106161	29.94	13	24.22	0.81	22.79	82.4	0.998	0.056	0.18	4187	745
10/3/2013	13:40	106161	29.94	10.9	24.14	0.83	22.80	83.5	0.998	0.055	0.18	4242	755
10/3/2013	14:10	106161	29.91	15.9	24.16	0.82	22.77	81.1	0.998	0.055	0.18	4219	751
10/3/2013	14:40	106161	29.91	16.2	24.09	0.79	22.77	80.8	1.000	0.056	0.18	4128	735
10/3/2013	15:10	106161	29.89	15.7	23.74	0.81	22.78	81	1.000	0.056	0.18	4178	744
10/3/2013	15:40	106161	29.89	16.1	23.59	0.82	22.79	79	1.000	0.056	0.18	4203	748
10/3/2013	16:10	106161	29.86	16.2	23.55	0.8	22.76	79	1.000	0.056	0.18	4147	738

	Date_time	Absolute Barometric Pressure (inHg)
10-1-2013 0:52 MDT	10/1/2013 0:52	30.04
10-1-2013 1:52 MDT	10/1/2013 1:52	30.05
10-1-2013 2:52 MDT	10/1/2013 2:52	30.06
10-1-2013 3:52 MDT	10/1/2013 3:52	30.06
10-1-2013 4:52 MDT	10/1/2013 4:52	30.06
10-1-2013 5:52 MDT	10/1/2013 5:52	30.08
10-1-2013 6:52 MDT	10/1/2013 6:52	30.09
10-1-2013 7:52 MDT	10/1/2013 7:52	30.11
10-1-2013 8:52 MDT	10/1/2013 8:52	30.13
10-1-2013 9:52 MDT	10/1/2013 9:52	30.13
10-1-2013 10:52 MDT	10/1/2013 10:52	30.13
10-1-2013 11:52 MDT	10/1/2013 11:52	30.12
10-1-2013 12:52 MDT	10/1/2013 12:52	30.1
10-1-2013 13:52 MDT	10/1/2013 13:52	30.07
10-1-2013 14:52 MDT	10/1/2013 14:52	30.05
10-1-2013 15:52 MDT	10/1/2013 15:52	30.03
10-1-2013 16:52 MDT	10/1/2013 16:52	30.02
10-1-2013 17:52 MDT	10/1/2013 17:52	30.03
10-1-2013 18:52 MDT	10/1/2013 18:52	30.03
10-1-2013 19:52 MDT	10/1/2013 19:52	30.03
10-1-2013 20:52 MDT	10/1/2013 20:52	30.05
10-1-2013 21:52 MDT	10/1/2013 21:52	30.06
10-1-2013 22:52 MDT	10/1/2013 22:52	30.07
10-1-2013 23:52 MDT	10/1/2013 23:52	30.07
10-2-2013 0:52 MDT	10/2/2013 0:52	30.07
10-2-2013 1:52 MDT	10/2/2013 1:52	30.07
10-2-2013 2:52 MDT	10/2/2013 2:52	30.07
10-2-2013 3:52 MDT	10/2/2013 3:52	30.07
10-2-2013 4:52 MDT	10/2/2013 4:52	30.08
10-2-2013 5:52 MDT	10/2/2013 5:52	30.1
10-2-2013 6:52 MDT	10/2/2013 6:52	30.11
10-2-2013 7:52 MDT	10/2/2013 7:52	30.14
10-2-2013 8:52 MDT	10/2/2013 8:52	30.15
10-2-2013 9:52 MDT	10/2/2013 9:52	30.16
10-2-2013 10:52 MDT	10/2/2013 10:52	30.15
10-2-2013 11:52 MDT	10/2/2013 11:52	30.13
10-2-2013 12:52 MDT	10/2/2013 12:52	30.11
10-2-2013 13:52 MDT	10/2/2013 13:52	30.07
10-2-2013 14:52 MDT	10/2/2013 14:52	30.04
10-2-2013 15:52 MDT	10/2/2013 15:52	30.03
10-2-2013 16:52 MDT	10/2/2013 16:52	30.01
10-2-2013 17:52 MDT	10/2/2013 17:52	29.99
10-2-2013 18:52 MDT	10/2/2013 18:52	29.99
10-2-2013 19:52 MDT	10/2/2013 19:52	30.01
10-2-2013 20:52 MDT	10/2/2013 20:52	30.02
10-2-2013 21:52 MDT	10/2/2013 21:52	30.02
10-2-2013 22:52 MDT	10/2/2013 22:52	30.02
10-2-2013 23:52 MDT	10/2/2013 23:52	30.02
10-3-2013 0:52 MDT	10/3/2013 0:52	30.01
10-3-2013 1:52 MDT	10/3/2013 1:52	30.01
10-3-2013 2:52 MDT	10/3/2013 2:52	30.01
10-3-2013 3:52 MDT	10/3/2013 3:52	30.01
10-3-2013 4:52 MDT	10/3/2013 4:52	30.01
10-3-2013 5:52 MDT	10/3/2013 5:52	30.02
10-3-2013 6:52 MDT	10/3/2013 6:52	30.02

10-3-2013 7:52 MDT	10/3/2013 7:52	30.03
10-3-2013 8:52 MDT	10/3/2013 8:52	30.05
10-3-2013 9:52 MDT	10/3/2013 9:52	30.05
10-3-2013 10:52 MDT	10/3/2013 10:52	30.04
10-3-2013 11:52 MDT	10/3/2013 11:52	30.02
10-3-2013 12:52 MDT	10/3/2013 12:52	29.98
10-3-2013 13:52 MDT	10/3/2013 13:52	29.94
10-3-2013 14:52 MDT	10/3/2013 14:52	29.91
10-3-2013 15:52 MDT	10/3/2013 15:52	29.89
10-3-2013 16:52 MDT	10/3/2013 16:52	29.86
10-3-2013 17:52 MDT	10/3/2013 17:52	29.84
10-3-2013 18:52 MDT	10/3/2013 18:52	29.83
10-3-2013 19:52 MDT	10/3/2013 19:52	29.84
10-3-2013 20:52 MDT	10/3/2013 20:52	29.87
10-3-2013 21:52 MDT	10/3/2013 21:52	29.89
10-3-2013 22:52 MDT	10/3/2013 22:52	29.92
10-3-2013 23:52 MDT	10/3/2013 23:52	29.91
10-4-2013 0:52 MDT	10/4/2013 0:52	29.92
10-4-2013 1:52 MDT	10/4/2013 1:52	29.93
10-4-2013 2:52 MDT	10/4/2013 2:52	29.94
10-4-2013 3:52 MDT	10/4/2013 3:52	29.94
10-4-2013 4:52 MDT	10/4/2013 4:52	29.98
10-4-2013 5:52 MDT	10/4/2013 5:52	30
10-4-2013 6:52 MDT	10/4/2013 6:52	30.01
10-4-2013 7:52 MDT	10/4/2013 7:52	30.04
10-4-2013 8:52 MDT	10/4/2013 8:52	30.06
10-4-2013 9:52 MDT	10/4/2013 9:52	30.07
10-4-2013 10:52 MDT	10/4/2013 10:52	30.09
10-4-2013 11:52 MDT	10/4/2013 11:52	30.09
10-4-2013 12:52 MDT	10/4/2013 12:52	30.09
10-4-2013 13:52 MDT	10/4/2013 13:52	30.07
10-4-2013 14:52 MDT	10/4/2013 14:52	30.06
10-4-2013 15:52 MDT	10/4/2013 15:52	30.06
10-4-2013 16:52 MDT	10/4/2013 16:52	30.07
10-4-2013 17:52 MDT	10/4/2013 17:52	30.09
10-4-2013 18:52 MDT	10/4/2013 18:52	30.1
10-4-2013 19:52 MDT	10/4/2013 19:52	30.12
10-4-2013 20:52 MDT	10/4/2013 20:52	30.14
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11-13-2013 11:52 MST	11/13/2013 11:52	30.41
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11-14-2013 10:52 MST	11/14/2013 10:52	30.14

		Relative Humidity (%)									
		10	20	30	40	50	60	70	80	90	100
Temperature (Fahrenheit)	40	1	1	1	1	1	0.998	0.998	0.997	0.997	0.996
	50	1	1	1	1	0.998	0.997	0.997	0.996	0.996	0.996
	60	1	1	1	0.998	0.997	0.996	0.995	0.995	0.994	0.994
	70	1	1	0.998	0.997	0.996	0.994	0.993	0.991	0.99	0.989
	80	1	0.998	0.996	0.994	0.993	0.991	0.99	0.989	0.987	0.985
	90	1	0.996	0.994	0.991	0.99	0.989	0.987	0.985	0.983	0.981
	100	0.998	0.995	0.991	0.989	0.987	0.984	0.982	0.98	0.977	0.975
	110	0.996	0.993	0.989	0.985	0.983	0.98	0.975	0.973	0.97	0.967
	120	0.994	0.991	0.985	0.981	0.977	0.974	0.97	0.965	0.961	0.954
	130	0.991	0.987	0.981	0.975	0.97	0.965	0.959	0.953	0.947	0.944
	140	0.989	0.983	0.975	0.969	0.961	0.953	0.946	0.938	0.931	0.925
	150	0.987	0.98	0.97	0.961	0.952	0.938	0.927	0.918	0.912	0.904
	160	0.985	0.974	0.962	0.952	0.937	0.921	0.907	0.896	0.888	0.877
	170	0.981	0.967	0.952	0.937	0.817	0.898	0.885	0.871	0.859	0.846
	180	0.977	0.959	0.94	0.921	0.898	0.877	0.857	0.842	0.825	0.808
	190	0.972	0.949	0.927	0.902	0.875	0.843	0.823	0.806	0.785	0.76
	200	0.967	0.939	0.912	0.883	0.849	0.818	0.795	0.767	0.738	0.708
	210	0.961	0.927	0.896	0.861	0.825	0.791	0.764	0.73	0.693	0.645

Barometric pressure post = barometric pressure from the next time it was recorded after the Date_Time in Column A
Time since prior = elapsed time (minutes) between the time of barometric pressure prior and Date_Time in Column A
Relative humidity: recorded in the field Differential pressure: recorded in the field Barometric Pressure: calculated Temperature: recorded in the field
Correction factor: Use temperature and relative humidity and the chart in the "Correction Factor" tab d: Calculated.
CS area for 3" sch 8 PVC pipe 0.0447 ft2

Date	Time	Well ID	barometric pressure prior (inHg)	barometric pressure post (inHg)	Time since prior (minutes)	well vacuum, in WC	Relative humidty (%)	Differential Pressure (inWC)	Barometric Pressure (inHg)	Pressure for the gas density	T (°F)	Correction factor	d (lbs/ft^3)	Area (ft^2)	Duct Velocity (ft/min)	Flow Rate (ACFM)
								step tests on 106148								
11/1/2013	927	106148	30.25	30.26	35.00	36	44.00	1.5	30.26	22.24	47.80	1.000	0.058	0.045	5576	249
	484 ft					22	44.50	0.9	30.26	23.27	47.70	1.000	0.061	0.045	4222	189
						10	44.80	0.32	30.26	24.16	47.10	1.000	0.063	0.045	2469	110
11/1/2013	935	106148	30.25	30.26	43		51.70		30.26	24.90	47.10	1.000	0.065	0.045	0	0
	349 ft					22	48.70	1.38	30.26	23.27	47.70	1.000	0.061	0.045	5227	234
						30	79.50	1.88	30.26	22.68	46.40	1.000	0.059	0.045	6172	276
11/1/2013	945	106148	30.25	30.26	7	22	52.30	1.95	30.25	23.27	50.20	0.998	0.060	0.045	6236	279
	199 ft					10	45.80	0.67	30.25	24.15	49.50	0.998	0.063	0.045	3585	160
							Long term test performed on 349 ft screen									
11/1/2013	952	106148	30.26	30.26	0	25	69.80	1.74	30.26	23.06	52.70	0.997	0.059	0.045	5935	266
11/1/2013	1022	106148	30.26	30.26	30	28	62.10	1.78	30.26	22.84	46.80	0.997	0.060	0.045	5997	268
11/1/2013	1052	106148	30.26	30.26	0	28	79.30	1.68	30.26	22.84	48.70	0.993	0.059	0.045	5849	262
11/1/2013	1122	106148	30.26	30.26	30	28	1.00	1.74	30.26	22.84	53.60	1.000	0.059	0.045	5960	267
11/1/2013	1152	106148	30.26	30.26	0	28	1.00	1.79	30.26	22.84	57.00	1.000	0.059	0.045	6065	271
11/1/2013	1222	106148	30.26	30.23	30	28	56.20	1.79	30.25	22.82	56.70	0.996	0.058	0.045	6078	272
11/1/2013	1252	106148	30.26	30.23	0	28	43.80	1.77	30.26	22.84	60.10	0.998	0.058	0.045	6055	271
11/1/2013	1322	106148	30.2	30.2	30	28	45.00	1.82	30.20	22.78	55.80	0.997	0.058	0.045	6126	274
11/1/2013	1352	106148	30.2	30.2	0	27	31.40	1.91	30.20	22.85	61.90	1.000	0.058	0.045	6293	282
11/1/2013	1422	106148	30.2	30.18	30	27.5	26.10	1.87	30.19	22.80	65.80	0.998	0.057	0.045	6263	280
11/1/2013	1452	106148	30.18	30.18	0	28	26.50	1.8	30.18	22.76	65.10	0.998	0.057	0.045	6147	275
11/1/2013	1522	106148	30.18	30.18	30	27	23.90	1.77	30.18	22.83	68.00	1.000	0.057	0.045	6096	273
11/1/2013	1552	106148	30.18	30.18	0	27	28.10	1.79	30.18	22.83	64.90	1.000	0.058	0.045	6112	273
11/1/2013	1622	106148	30.18	30.19	30	28	24.90	1.76	30.19	22.76	65.10	0.998	0.057	0.045	6077	272
11/1/2013	1652	106148	30.19	30.19	0	28	26.00	1.81	30.19	22.77	64.60	1.000	0.057	0.045	6153	275
11/1/2013	1522	106148				27	25.10	1.87	30.19	22.84	63.30	1.000	0.058	0.045	6236	279
								step tests on 106150								
11/7/2013	830	106150	30.49	30.5	38	38	39.00	1.49	30.50	22.33	47.80	1.000	0.058	0.045	5545	248
11/7/2013	484 ft					24	38.30	0.62	30.50	23.37	48.00	1.000	0.061	0.045	3498	156
11/7/2013						12	38.30	0.17	30.50	24.25	48.40	1.000	0.063	0.045	1799	80
11/7/2013	838	106150	30.49	30.5	46	34	43.40	1.71	30.50	22.63	48.50	1.000	0.059	0.045	5906	264
11/7/2013	349 ft					22	39.20	0.96	30.50	23.52	49.10	1.000	0.061	0.045	4344	194
11/7/2013						10	38.20	0.11	30.50	24.40	49.10	1.000	0.064	0.045	1443	65
11/7/2013	846	106150	30.49	30.5	54	22	52.40	2.66	30.50	23.52	49.10	0.998	0.061	0.045	7237	324
11/7/2013	200 ft					11	43.80	1.04	30.50	24.33	49.30	1.000	0.063	0.045	4446	199

Barometric pressure post = barometric pressure from the next time it was recorded after the Date_Time in Column A
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Relative humidity: recorded in the field Differential pressure: recorded in the field Barometric Pressure: calculated Temperature: recorded in the field
Correction factor: Use temperature and relative humidity and the chart in the "Correction Factor" tab d: Calculated.
CS area for 3" sch 8 PVC pipe 0.0447 ft2

Date	Time	Well ID	barometric pressure prior (inHg)	barometric pressure post (inHg)	Time since prior (minutes)	well vacuum, in WC	Relative humidty (%)	Differential Pressure (inWC)	Barometric Pressure (inHg)	Pressure for the gas density	T (°F)	Correction factor	d (lbs/ft^3)	Area (ft^2)	Duct Velocity (ft/min)	Flow Rate (ACFM)
Long term test performed on 484 ft screened interval																
11/7/2013	854	106150	30.5	30.5	2	36.5	37.40	1.49	30.50	22.45	49.50	1.000	0.058	0.045	5541	248
11/7/2013	924	106150	30.5	30.5	32	38	31.70	1.45	30.50	22.34	52.90	1.000	0.058	0.045	5497	246
11/7/2013	954	106150	30.5	30.48	2	37	39.10	1.22	30.50	22.41	51.10	1.000	0.058	0.045	5026	225
11/7/2013	1024	106150	30.5	30.48	32	37	32.10	1.47	30.49	22.40	55.00	1.000	0.058	0.045	5539	248
11/7/2013	1054	106150	30.48	30.45	2	37	31.80	1.4	30.48	22.39	56.70	1.000	0.057	0.045	5415	242
11/7/2013	1124	106150	30.48	30.45	32	31	28.00	1.15	30.46	22.82	58.80	1.000	0.058	0.045	4872	218
11/7/2013	1154	106150	30.45	30.4	2	31.5	28.50	1.17	30.45	22.77	58.10	1.000	0.058	0.045	4916	220
11/7/2013	1224	106150	30.45	30.4	32	27.5	26.60	0.93	30.42	23.04	59.70	1.000	0.059	0.045	4364	195
11/7/2013	1254	106150	30.4	30.37	2	27.5	29.10	0.9	30.40	23.01	57.40	1.000	0.059	0.045	4286	192
11/7/2013	1324	106150	30.4	30.37	32	28	30.50	0.99	30.38	22.96	55.60	1.000	0.059	0.045	4492	201
11/7/2013	1354	106150	30.37	30.35	2	28	29.60	0.86	30.37	22.94	57.40	1.000	0.059	0.045	4196	188
11/7/2013	1424	106150	30.37	30.35	32	27.5	23.40	1.02	30.36	22.97	61.70	1.000	0.058	0.045	4586	205
11/7/2013	1454	106150	30.35	30.34	2	27.5	23.30	0.83	30.35	22.96	61.90	1.000	0.058	0.045	4138	185
11/7/2013	1524	106150	30.35	30.34	32	28	25.50	0.98	30.34	22.92	58.80	1.000	0.059	0.045	4487	201
11/7/2013	1554	106150	30.34	30.32	2	28	25.20	1.06	30.34	22.91	60.10	1.000	0.058	0.045	4673	209
11/7/2013	1624	106150	30.34	30.32	32	27.5	26.10	1.01	30.33	22.94	59.00	1.000	0.059	0.045	4554	204
11/7/2013	1654	106150	30.32	30.31	2	27.5	32.80	1.01	30.32	22.93	56.10	1.000	0.059	0.045	4542	203
Long term test performed on 484 ft screened interval of 106155 - step tests in Quick test spreadsheet																
11/4/2013	742	106155	29.95	29.99	50	38	80.80	1.79	29.98	21.82	43.90	0.997	0.057	0.045	6135	274
11/4/2013	812	106155	29.99	29.99	20	37.5	58.40	1.75	29.99	21.86	48.70	0.997	0.057	0.045	6089	272
11/4/2013	842	106155	29.99	29.99	50	37	55.70	1.67	29.99	21.90	50.70	0.997	0.057	0.045	5954	266
11/4/2013	912	106155	29.99	29.99	20	37	48.00	1.83	29.99	21.90	54.70	0.998	0.056	0.045	6254	280
11/4/2013	942	106155	29.99	29.99	50	37	45.40	1.81	29.99	21.90	55.60	0.997	0.056	0.045	6229	279
11/4/2013	1012	106155	29.99	29.97	20	37	42.00	1.75	29.98	21.89	56.70	0.998	0.056	0.045	6129	274
11/4/2013	1042	106155	29.99	29.97	50	36.5	41.20	1.77	29.97	21.92	57.40	0.998	0.056	0.045	6164	276
11/4/2013	1112	106155	29.97	29.94	20	36.5	36.20	1.83	29.96	21.91	59.40	0.998	0.056	0.045	6282	281
11/4/2013	1142	106155	29.97	29.94	50	36	34.90	1.62	29.95	21.93	60.40	1.000	0.056	0.045	5907	264
11/4/2013	1212	106155	29.94	29.9	20	36	32.50	1.85	29.93	21.91	62.60	1.000	0.056	0.045	6329	283
11/4/2013	1242	106155	29.94	29.9	50	36	31.80	1.69	29.91	21.89	63.30	1.000	0.055	0.045	6056	271
11/4/2013	1312	106155	29.9	29.87	20	36	30.20	1.82	29.89	21.88	65.10	0.998	0.055	0.045	6304	282
11/4/2013	1342	106155	29.9	29.87	50	35	30.70	1.71	29.88	21.93	63.50	1.000	0.056	0.045	6087	272
11/4/2013	1412	106155	29.87	29.85	20	35.5	28.60	1.77	29.86	21.89	66.60	0.998	0.055	0.045	6224	278
11/4/2013	1442	106155	29.87	29.85	50	35.5	32.20	1.68	29.85	21.88	64.80	1.000	0.055	0.045	6049	271
11/4/2013	1512	106155	29.85	29.84	20	35	30.30	1.72	29.85	21.91	66.60	0.998	0.055	0.045	6133	274
11/4/2013	1542	106155	29.85	29.84	50	34	29.20	1.76	29.84	21.97	67.60	0.998	0.055	0.045	6200	277

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Relative humidity: recorded in the field Differential pressure: recorded in the field Barometric Pressure: calculated Temperature: recorded in the field
Correction factor: Use temperature and relative humidity and the chart in the "Correction Factor" tab d: Calculated.
CS area for 3" sch 8 PVC pipe 0.0447 ft2

Date	Time	Well ID	barometric pressure prior (inHg)	barometric pressure post (inHg)	Time since prior (minutes)	well vacuum, in WC	Relative humidty (%)	Differential Pressure (inWC)	Barometric Pressure (inHg)	Pressure for the gas density	T (°F)	Correction factor	d (lbs/ft^3)	Area (ft^2)	Duct Velocity (ft/min)	Flow Rate (ACFM)
Long term test on 106149 performed on 349 ft screened interval, step test data in quick test spreadsheet																
10/16/2013	1100	106149				35										
10/16/2013	1115	106149	30.19	30.18	23	74.6	51.60	6.85	30.19	19.33	57.40	0.997	0.049	0.045	12922	578
10/16/2013	1202	106149	30.18	30.16	10	71.9	40.20	6.7	30.18	24.43	59.00	0.998	0.062	0.045	11379	509
10/16/2013	1250	106149	30.18	30.16	58	74.6	48.80	6.7	30.16	24.40	61.20	0.997	0.062	0.045	11416	511
10/16/2013	1320	106149	30.16	30.13	28	74.6	54.80	6.56	30.15	24.38	62.20	0.997	0.062	0.045	11311	506
10/16/2013	1354	106149	30.13	30.12	2	75.9	35.70	6.54	30.13	24.36	62.10	0.998	0.062	0.045	11292	505
10/16/2013	1421	106149	30.13	30.12	29	73.2	46.40	6.75	30.13	24.37	64.40	0.996	0.061	0.045	11506	515
10/16/2013	1450	106149	30.13	30.12	58	80.0	27.20	6.78	30.12	24.33	66.20	0.998	0.061	0.045	11550	517
10/16/2013	1519	106149	30.12	30.1	27	74.6	33.60	6.73	30.11	24.35	64.90	1.000	0.061	0.045	11477	513
10/16/2013	1549	106149	30.12	30.1	57	75.9	23.20	6.61	30.10	24.33	65.80	1.000	0.061	0.045	11388	509
10/16/2013	1624	106149	30.1	30.1	32	74.6	39.10	6.83	30.10	24.33	66.20	0.997	0.061	0.045	11596	519
10/16/2013	1650	106149	30.1	30.1	58	81.4	33.50	6.61	30.10	24.30	67.60	0.998	0.061	0.045	11426	511
10/16/2013	1720	106149	30.1	30.1	28	78.6	42.50	6.91	30.10	24.31	65.80	0.997	0.061	0.045	11665	522
10/16/2013	1753	106149	30.1	30.12	1	74.6	48.80	6.75	30.10	24.33	63.50	0.997	0.061	0.045	11498	514
10/16/2013	1820	106149	30.1	30.12	28	75.9	37.30	6.82	30.11	24.34	60.40	0.998	0.062	0.045	11517	515
10/16/2013	1845	106149	30.1	30.12	53	74.6	41.40	6.88	30.12	24.35	58.50	0.998	0.062	0.045	11543	516
10/16/2013	1900	106149														
long term test performed on 350 ft screened interval on 106154, step test data in quick test spreadsheet																
10/18/2013	903	106154	30.1	30.12	11	62.4	61.50	5.79	30.10	24.40	55.80	0.996	0.062	0.000	10561	0
10/18/2013	933	106154	30.1	30.12	41	59.7	50.80	4.98	30.11	24.43	59.00	0.997	0.062	0.000	9815	0
10/18/2013	1003	106154	30.12	30.12	11	59.7	43.70	4.95	30.12	24.44	60.80	0.998	0.062	0.000	9796	0
10/18/2013	1033	106154	30.12	30.12	41	59.7	46.00	4.96	30.12	24.44	61.20	0.997	0.062	0.000	9814	0
10/18/2013	1103	106154	30.12	30.11	11	61.0	41.10	4.81	30.12	24.43	63.00	0.998	0.062	0.000	9679	0
10/18/2013	1133	106154	30.12	30.11	41	63.7	39.20	4.89	30.11	24.41	63.30	0.998	0.062	0.000	9765	0
10/18/2013	1203	106154	30.11	30.1	11	66.4	44.40	4.96	30.11	24.39	64.60	0.998	0.061	0.000	9851	0
10/18/2013	1233	106154	30.11	30.1	41	66.4	37.00	4.83	30.10	24.38	64.60	0.998	0.061	0.000	9722	0
10/18/2013	1303	106154	30.1	30.07	11	69.2	31.90	4.51	30.09	24.36	66.60	0.998	0.061	0.000	9417	0
10/18/2013	1333	106154	30.1	30.07	41	66.4	38.50	4.57	30.08	24.36	66.40	0.997	0.061	0.000	9483	0
10/18/2013	1403	106154	30.07	30.07	11	65.1	36.80	4.78	30.07	24.36	67.30	0.997	0.061	0.000	9707	0
10/18/2013	1433	106154	30.07	30.07	41	62.4	37.80	4.83	30.07	24.37	68.70	0.997	0.061	0.000	9767	0
10/18/2013	1503	106154	30.07	30.08	11	61.0	33.30	4.83	30.07	24.38	67.10	0.998	0.061	0.000	9746	0
10/18/2013	1533	106154	30.07	30.08	41	61.0	40.70	4.82	30.08	24.38	66.70	0.997	0.061	0.000	9736	0
10/18/2013	1603	106154	30.08	30.09	11	57.0	35.00	4.71	30.08	24.41	67.60	0.997	0.061	0.000	9627	0
10/18/2013	1633	106154	30.08	30.09	41	61.0	40.50	4.9	30.09	24.39	67.30	0.997	0.061	0.000	9820	0

Observation wells for KAFB-106148 11-1-2013

Well ID	Depth	Time	Vaccum
106119	450	804	1.22
	350		1.28
	250		1.31
	150		1.26
	50		0.35
106111	450	818	1.29
	350		1.45
	250		1.45
	150		1.38
	50		0.5
106117	450	841	1.44
	350		1.49
	250		1.49
	150		1.39
	50		0.66
106128	450	846	1.48
	350		1.53
	250		1.58
	150		1.46
	50		0.69
106118	450	834	1.46
	350		1.51
	250		1.53
	150		1.48
	50		0.46
106113	450		1.54
	350		1.58
	250		1.6
	150		1.54
	50		0.46
106119	450	1029	1.74
	350		1.84
	250		2.04
	150		1.76
	50		0.27
106111	450	1020	1.78
	350		1.89
	250		1.9
	150		1.73
	50		0.4
106117	450	1033	1.7
	350		1.76
	250		1.76
	150		1.56
	50		0.57
106128	450	1038	1.66
	350		1.76
	250		1.83
	150		1.57
	50		0.58
106118	450	1024	1.83
	350		1.81
	250		1.8
	150		1.74
	50		0.3
106113	450	1042	1.8
	350		1.8
	250		1.78

Well KAFB-106148					Observation Wells						a	b	
x coordinate	y coordinate	grnd elevation	screened interval	well depth	well id	x coordinate	y coordinate	grnd elevation	top of screen	bottom of screen	horizontal	vertical	Distance
1,541,498.43	1,473,490.11	5,344.10	349.00	488.00	106119	1,541,613.29	1,473,519.63	5,343.50	438.00	456.00	118.5927907	-107.00	159.728676
									338.00	352.00		-3.00	118.63073
									237.00	252.00		97.00	153.209823
									138.00	152.00		197.00	229.94184
									38.00	52.00		297.00	319.801892
					106111	1541336.22	1473286.3	5341.3	437.00	455.6	260.4814777	-106.60	281.450103
									336.50	352		-3.00	260.498753
									238.00	252.00		97.00	277.956112
									137.00	152.00		197.00	326.587814
									39.00	51.00		298.00	395.79616
					106117	1541727.76	1473366.68	5345.3	438.00	460	260.4365831	-111.00	283.104599
									338.00	350		-1.00	260.438503
									238.00	251		98.00	278.264647
									137.50	150.5		198.50	327.459102
									38.00	50.5		298.50	396.143236
					106128	1541619.72	1473223.15	5343.8	437.00	451	293.2215983	-102.00	310.455964
									338.00	351		-2.00	293.228419
									236.00	251		98.00	309.164852
									139.00	152		197.00	353.253317
									39.00	51		298.00	418.070455
					106118	1541791.61	1473740.91	5345.8	437.00	459.2	385.8175118	-110.20	401.247047
									336.00	351		-2.00	385.822696
									250.00	265		84.00	394.855863
									147.00	161		188.00	429.184287
									37.00	52		297.00	486.892342
					106113	1542004.5	1473062.01	5345.8	438.00	457	662.8547766	-108.00	671.595455
									337.00	351.5		-2.50	662.859491
									238.00	252		97.00	669.914513
									138.00	151		198.00	691.795096
									37.50	51		298.00	726.760246

	150		1.66
	50		0.27
106119	450	1113	1.77
	350		1.9
	250		2.11
	150		1.78
	50		0.23
106111	450	1056	1.76
	350		1.9
	250		1.92
	150		1.74
	50		0.42
106117	450	1111	1.76
	350		1.81
	250		1.82
	150		1.59
	50		0.57
106128	450	1108	1.72
	350		1.79
	250		1.86
	150		1.62
	50		0.57
106118	450	1100	1.84
	350		1.86
	250		1.76
	150		1.71
	50		0.29
106113	450	1105	1.78
	350		1.84
	250		1.82
	150		1.68
	50		0.28
106119	450	1130	1.67
	350		1.81
	250		2.02
	150		1.69
	50		0.16
106111	450	1120	1.81
	350		1.91
	250		1.94
	150		1.75
	50		0.41
106117	450	1133	1.65
	350		1.71
	250		1.73
	150		1.46
	50		0.47
106128	450	1141	1.58
	350		1.68
	250		1.73
	150		1.5
	50		0.45
106118	450	1125	1.81
	350		1.82
	250		1.8
	150		1.69
	50		0.22
106113	450	1137	1.7
	350		1.74
	250		1.7
	150		1.56

	50		0.16
106119	450	1212	1.52
	350		1.65
	250		1.87
	150		1.54
	50		0.07
106111	450	1157	1.67
	350		1.78
	250		1.8
	150		1.61
	50		0.31
106117	450	1209	1.53
	350		1.58
	250		1.6
	150		1.37
	50		0.39
106128	450	1207	1.53
	350		1.61
	250		1.66
	150		1.41
	50		0.4
106118	450	1200	1.68
	350		1.7
	250		1.66
	150		1.51
	50		0.13
106113	450	1204	1.6
	350		1.64
	250		1.61
	150		1.43
	50		0.1
106119	450	1228	1.42
	350		1.58
	250		1.29
	150		1.45
	50		0.01
106111	450	1220	1.56
	350		1.67
	250		1.69
	150		1.52
	50		0.25
106117	450	1232	1.42
	350		1.48
	250		1.47
	150		1.23
	50		0.28
106128	450	1239	1.29
	350		1.46
	250		1.54
	150		1.3
	50		0.31
106118	450	1223	1.42
	350		1.58
	250		1.55
	150		1.44
	50		0.05
106113	450	1235	1.46
	350		1.49
	250		1.44
	150		1.28
	50		0

106119	450	1317	1.18
	350		1.31
	250		1.35
	150		1.29
	50		-0.04
106111	450	1301	1.32
	350		1.43
	250		1.45
	150		1.31
	50		0.1
106117	450	1314	1.19
	350		1.25
	250		1.1
	150		1.03
	50		0.19
106128	450	1312	1.1
	350		1.24
	250		1.28
	150		1.07
	50		0.16
106118	450	1304	1.15
	350		1.36
	250		1.33
	150		1.21
	50		-0.05
106113	450	1310	1.2
	350		1.26
	250		1.2
	150		1.06
	50		-0.11
106119	450	1337	1.1
	350		1.22
	250		1.52
	150		1.2
	50		-0.03
106111	450	1323	1.18
	350		1.29
	250		1.32
	150		1.17
	50		0.05
106117	450	1335	1.04
	350		1.12
	250		1.14
	150		0.93
	50		0.13
106128	450	1333	1.01
	350		1.12
	250		1.16
	150		0.94
	50		0.1
106118	450	1326	1.17
	350		1.21
	250		1.66
	150		1.12
	50		-0.11
106113	450	1330	1.08
	350		1.13
	250		1.09
	150		0.89
	50		-0.16
106119	450	1405	0.9

	350		1.03
	250		1.28
	150		1.01
	50		-0.09
106111	450	1355	1
	350		1.13
	250		1.16
	150		1.01
	50		0
106117	450	1408	0.87
	350		0.92
	250		0.94
	150		0.75
	50		0.07
106128	450	1416	0.84
	350		0.95
	250		1.01
	150		0.82
	50		0.09
106118	450	1400	0.94
	350		1
	250		0.99
	150		0.87
	50		-0.19
106113	450	1412	0.88
	350		0.91
	250		0.86
	150		0.68
	50		-0.2
106119	450	1435	0.91
	350		1.04
	250		1.31
	150		1.06
	50		0
106111	450	1427	0.95
	350		1.07
	250		1.13
	150		1
	50		0.09
106117	450	1438	0.91
	350		1
	250		1.01
	150		0.8
	50		0.15
106128	450	1445	0.82
	350		0.9
	250		0.95
	150		0.74
	50		0.05
106118	450	1432	0.92
	350		1
	250		0.97
	150		0.89
	50		-0.05
106113	450	1442	0.9
	350		0.93
	250		0.87
	150		0.73
	50		-0.1
106119	450	1513	0.87
	350		1.01

	250		1.27
	150		1.01
	50		0.03
106111	450	1458	0.88
	350		0.97
	250		1.03
	150		0.89
	50		0.03
106117	450	1511	0.84
	350		0.92
	250		0.92
	150		0.76
	50		0.15
106128	450	1508	0.81
	350		0.89
	250		0.96
	150		0.76
	50		0.09
106118	450	1501	0.88
	350		0.92
	250		0.91
	150		0.82
	50		-0.05
106113	450	1505	0.83
	350		0.87
	250		0.81
	150		0.66
	50		-0.09
106119	450	1534	0.84
	350		0.96
	250		1.24
	150		1
	50		0.03
106111	450	1526	0.9
	350		1
	250		1.07
	150		0.95
	50		0.12
106117	450	1537	0.8
	350		0.84
	250		0.89
	150		0.71
	50		0.11
106128	450	1543	0.8
	350		0.88
	250		0.94
	150		0.76
	50		0.15
106118	450	1530	0.88
	350		0.91
	250		0.91
	150		0.83
	50		-0.02
106113	450	1540	0.84
	350		0.86
	250		0.78
	150		0.63
	50		-0.08
106119	450	1558	0.83
	350		0.97
	250		1.24

	150		1
	50		0.03
106111	450	1550	0.84
	350		0.94
	250		1.02
	150		0.9
	50		0.09
106117	450	1601	0.8
	350		0.86
	250		0.88
	150		0.7
	50		0.17
106128	450	1608	0.76
	350		0.86
	250		0.91
	150		0.74
	50		0.12
106118	450	1534	0.83
	350		0.87
	250		0.78
	150		0.8
	50		0.01
106113	450	1604	0.81
	350		0.84
	250		0.8
	150		0.69
	50		-0.05
106119	450	1639	0.89
	350		1.03
	250		1.31
	150		1.07
	50		0.1
106111	450	1626	0.9
	350		1.04
	250		1.02
	150		0.93
	50		0.16
106117	450	1637	0.87
	350		0.95
	250		0.98
	150		0.81
	50		0.24
106128	450	1635	0.8
	350		0.9
	250		0.96
	150		0.78
	50		0.16
106118	450	1629	0.9
	350		0.91
	250		0.97
	150		0.82
	50		0.03
106113	450	1632	0.84
	350		0.89
	250		0.84
	150		0.67
	50		0
106119	450	1659	0.97
	350		1.12
	250		1.4
	150		1.17

	50		0.18
106111	450	1650	0.97
	350		1.08
	250		1.16
	150		1.06
	50		0.24
106117	450	1702	0.91
	350		1.04
	250		1.06
	150		0.93
	50		0.32
106128	450	1709	0.91
	350		1.01
	250		1.1
	150		0.94
	50		0.28
106118	450	1655	1.02
	350		1.04
	250		1.03
	150		0.98
	50		0.16
106113	450	1706	0.96
	350		1.02
	250		0.95
	150		0.83
	50		0.1
106119	450	1729	1.01
	350		1.14
	250		1.45
	150		1.21
	50		0.17
106111	450	1720	1.05
	350		1.18
	250		1.21
	150		1.12
	50		0.26
106117	450	1732	0.95
	350		1.06
	250		1.13
	150		0.94
	50		0.3
106128	450	1740	0.96
	350		1.05
	250		1.15
	150		0.98
	50		0.3
106118	450	1724	1.05
	350		1.1
	250		1.09
	150		1.01
	50		0.15
106113	450	1736	0.98
	350		1.04
	250		0.97
	150		0.85
	50		0.05

Observation wells for KAFB-106150 11/7/2013

Well Id	Depth	Time	Vacuum
106128	450	823	5.33
	350		5.23
	250		4.06
	150		3.55
	50		1.09
106117	450	802	5.7
	350		5.29
	250		4.04
	150		3.41
	50		1.11
106114	450	818	5.64
	350		5.5
	250		4.18
	150		3.89
	50		0.49
106116	450	809	5.03
	350		5.41
	250		4
	150		3.37
	50		0.59
106111	450	738	5.44
	350		5.12
	250		4.08
	150		3.7
	50		0.79
106109	450	751	4.83
	350		4.78
	250		4.53
	150		4.05
	50		0.09
106128	450	944	5.03
	350		5.28
	250		4.02
	150		3.48
	50		0.97
106117	450	934	5.05
	350		4.76
	250		4.04
	150		3.43
	50		0.99
106114	450	941	5.27
	350		5.24
	250		4.09
	150		3.81
	50		0.33
106116	450	937	4.6
	350		5
	250		3.99
	150		3.33
	50		0.56
106111	450	929	5.22
	350		5.05
	250		4.19
	150		3.78
	50		0.76
106109	450	924	5.08
	350		4.88
	250		4.64
	150		4.15
	50		0.07
106128	450	1009	4.96

Well KAFB-106150					Observation Wells						a	b	
x coordinate	y coordinate	grnd elevation	screened interval	well depth	well id	x coordinate	y coordinate	grnd elevation	top of screen	bottom of screen	horizontal	vertical	Distance
1,541,661.26	1,473,222.53	5,344.20	484.00	486.00	106114	1,541,796.50	1,473,062.21	5,344.80	438.00	451.00	209.7435577	33.00	212.323715
									338.00	351.00		133.00	248.357323
									233.00	246.00		238.00	317.232344
									138.00	151.00		333.00	393.549692
									38.00	51.00		433.00	481.125098
					106111	1541336.22	1473286.3	5341.3	437.00	455.6	331.2364933	28.40	332.451763
									336.50	352		132.00	356.569228
									238.00	252.00		232.00	404.402787
									137.00	152.00		332.00	468.979333
									39.00	51.00		433.00	545.166593
					106117	1541727.76	1473366.68	5345.3	438.00	460	158.7497165	24.00	160.553644
									338.00	350		134.00	207.743766
									238.00	251		233.00	281.940548
									137.50	150.5		333.50	369.355821
									38.00	50.5		433.50	461.653249
					106128	1541619.72	1473223.15	5343.8	437.00	451	41.54462661	33.00	53.0561589
									338.00	351		133.00	139.337561
									236.00	251		233.00	236.67479
									139.00	152		332.00	334.589235
									39.00	51		433.00	434.988455
					106116	1541894.69	1473296.72	5346.2	437.00	459.2	244.936157	24.80	246.188466
									336.00	351		133.00	278.716202
									250.00	265		219.00	328.564637
									147.00	161		323.00	405.36739
									37.00	52		432.00	496.606203
					106109	1540803.65	1473477.95	5338.7	438.00	457	894.8375766	27.00	895.24482
									337.00	351.5		132.50	904.594129
									238.00	252		232.00	924.423219
									138.00	151		333.00	954.789657
									37.50	51		433.00	994.094205

	350		5.22
	250		3.97
	150		3.4
	50		0.93
106117	450	1003	4.92
	350		4.83
	250		3.95
	150		3.33
	50		0.97
106114	450	1007	5.22
	350		5.17
	250		4.03
	150		3.75
	50		0.3
106116	450	1005	4.51
	350		4.91
	250		3.9
	150		3.21
	50		0.51
106111	450	957	5.1
	350		4.98
	250		4.12
	150		3.69
	50		0.72
106109	450	959	5
	350		4.8
	250		4.55
	150		4.06
	50		0.02
106128	450	1045	4.73
	350		5.01
	250		3.8
	150		3.25
	50		0.82
106117	450	1035	4.76
	350		4.69
	250		3.82
	150		3.23
	50		0.9
106114	450	1041	4.89
	350		4.99
	250		3.89
	150		3.6
	50		0.2
106116	450	1038	4.34
	350		4.73
	250		3.79
	150		3.1
	50		0.41
106111	450	1030	4.92
	350		4.83
	250		3.99
	150		3.59
	50		0.63
106109	450	1024	4.96
	350		4.72
	250		4.47
	150		4
	50		-0.02
106128	450	1109	4.62
	350		4.89
	250		3.66
	150		3.11
	50		0.74
106117	450	1102	4.61

	350		4.54
	250		3.7
	150		3.1
	50		0.84
106114	450	1107	4.89
	350		4.85
	250		3.76
	150		3.45
	50		0.15
106116	450	1104	4.21
	350		4.57
	250		3.65
	150		2.98
	50		0.36
106111	450	1058	4.73
	350		4.65
	250		3.83
	150		3.43
	50		0.53
106109	450	1055	4.77
	350		4.57
	250		4.31
	150		3.82
	50		-0.07
106128	450	1142	4.3
	350		4.55
	250		3.39
	150		2.88
	50		0.59
106117	450	1133	4.24
	350		4.24
	250		3.43
	150		2.84
	50		0.67
106114	450	1139	4.59
	350		4.55
	250		3.5
	150		3.21
	50		0.02
106116	450	1130	3.95
	350		4.3
	250		3.42
	150		2.76
	50		0.23
106111	450	1128	4.48
	350		4.44
	250		3.62
	150		3.23
	50		0.46
106109	450	1124	4.53
	350		4.34
	250		4.08
	150		3.61
	50		-0.17
106128	450	1215	3.5
	350		4.24
	250		3.1
	150		2.59
	50		0.48
106117	450	1203	4.04
	350		3.99
	250		3.25
	150		2.59
	50		0.54
106114	450	1210	4.3

	350		4.27
	250		3.21
	150		2.92
	50		-0.08
106116	450	1207	3.66
	350		3.81
	250		3.09
	150		2.4
	50		0.1
106111	450	1154	4.26
	350		4.21
	250		3.4
	150		3.02
	50		0.35
106109	450	1158	4.31
	350		4.09
	250		3.84
	150		3.38
	50		-0.19
106128	450	1243	3.65
	350		3.88
	250		2.8
	150		2.3
	50		0.3
106117	450	1235	3.69
	350		3.66
	250		2.87
	150		2.31
	50		0.42
106114	450	1241	3.93
	350		3.89
	250		2.85
	150		2.55
	50		-0.21
106116	450	1238	3.33
	350		3.68
	250		2.86
	150		2.12
	50		0
106111	450	1224	3.94
	350		3.91
	250		3.13
	150		2.74
	50		0.27
106109	450	1231	4.01
	350		3.73
	250		3.56
	150		3.08
	50		-0.21
106128	450	1309	3.46
	350		3.69
	250		2.63
	150		2.13
	50		0.27
106117	450	1302	3.45
	350		3.4
	250		2.65
	150		2.12
	50		0.36
106114	450	1307	3.71
	350		3.7
	250		2.7
	150		2.42
	50		-0.21
106116	450	1304	3.14

	350		3.44
	250		2.62
	150		1.94
	50		-0.05
106111	450	1258	3.61
	350		3.58
	250		2.82
	150		2.46
	50		0.16
106109	450	1255	3.74
	350		3.54
	250		3.28
	150		2.81
	50		-0.3
106128	450	1344	3.26
	350		3.5
	250		2.45
	150		2.01
	50		0.29
106117	450	1335	3.23
	350		3.2
	250		2.47
	150		1.97
	50		0.36
106114	450	1341	3.51
	350		3.5
	250		2.53
	150		2.27
	50		-0.18
106116	450	1338	2.93
	350		3.25
	250		2.42
	150		1.8
	50		-0.04
106111	450	1330	3.37
	350		3.34
	250		2.6
	150		2.27
	50		0.14
106109	450	1324	3.5
	350		3.3
	250		3.05
	150		2.59
	50		-0.29
106128	450	1411	3.14
	350		3.34
	250		2.3
	150		1.87
	50		0.26
106117	450	1405	3.08
	350		3.04
	250		2.34
	150		1.84
	50		0.32
106114	450	1409	3.34
	350		3.31
	250		2.37
	150		2.1
	50		-0.19
106116	450	1407	2.8
	350		3.07
	250		2.27
	150		1.67
	50		-0.04
106111	450	1401	3.21

	350		3.2
	250		2.46
	150		2.14
	50		0.15
106109	450	1358	3.36
	350		3.16
	250		2.91
	150		2.43
	50		-0.21
106128	450	1442	2.97
	350		3.17
	250		2.15
	150		1.75
	50		0.24
106117	450	1432	2.93
	350		2.89
	250		2.17
	150		1.72
	50		0.29
106114	450	1438	3.16
	350		3.14
	250		2.21
	150		1.98
	50		-0.2
106116	450	1435	2.64
	350		2.91
	250		2.12
	150		1.56
	50		-0.07
106111	450	1427	3.06
	350		3.05
	250		2.32
	150		2.02
	50		0.13
106109	450	1424	3.23
	350		3
	250		2.76
	150		2.3
	50		-0.23
106128	450	1510	2.87
	350		3.06
	250		2.04
	150		1.65
	50		0.23
106117	450	1504	2.79
	350		2.74
	250		2.04
	150		1.61
	50		0.28
106114	450	1508	3.05
	350		3.02
	250		2.1
	150		1.84
	50		-0.18
106116	450	1506	2.52
	350		2.76
	250		2.02
	150		1.45
	50		-0.05
106111	450	1459	2.9
	350		2.87
	250		2.19
	150		1.89
	50		0.12
106109	450	1457	3.05

	350		2.84
	250		2.59
	150		2.13
	50		-0.21
106128	450	1541	2.79
	350		3
	250		2.01
	150		1.64
	50		0.28
106117	450	1532	2.75
	350		2.7
	250		2.04
	150		1.61
	50		0.34
106114	450	1538	2.99
	350		2.95
	250		2.06
	150		1.83
	50		-0.13
106116	450	1535	2.48
	350		2.75
	250		1.99
	150		1.44
	50		0
106111	450	1527	2.85
	350		2.81
	250		2.12
	150		1.86
	50		0.18
106109	450	1524	2.95
	350		2.78
	250		2.54
	150		2.09
	50		-0.15
106128	450	1608	2.75
	350		2.92
	250		1.97
	150		1.55
	50		0.27
106117	450	1601	2.67
	350		2.64
	250		1.97
	150		1.56
	50		0.33
106114	450	1606	2.93
	350		2.9
	250		2.01
	150		1.79
	50		-0.09
106116	450	1603	2.41
	350		2.06
	250		1.92
	150		1.42
	50		0.03
106111	450	1557	2.75
	350		2.73
	250		2.06
	150		1.8
	50		0.18
106109	450	1554	2.92
	350		2.69
	250		2.44
	150		2
	50		-0.12
106128	450	1637	2.64

	350		2.8
	250		1.83
	150		1.48
	50		0.22
106117	450	1630	4.83
	350		4.75
	250		3.53
	150		2.78
	50		0.59
106114	450	1635	2.79
	350		2.76
	250		1.89
	150		1.67
	50		-0.11
106116	450	1632	4.31
	350		4.76
	250		3.42
	150		2.48
	50		0
106111	450	1626	2.68
	350		2.65
	250		1.97
	150		1.73
	50		0.19
106109	450	1624	2.83
	350		2.62
	250		2.38
	150		1.93
	50		-0.12
106128	450	1706	2.5
	350		2.67
	250		1.73
	150		1.4
	50		0.21
106117	450	1715	2.35
	350		2.27
	250		1.7
	150		1.33
	50		0.27
106114	450	1709	2.24
	350		2.6
	250		1.75
	150		1.55
	50		-0.14
106116	450	1712	2.14
	350		2.36
	250		1.68
	150		1.21
	50		-0.02
106111	450	1658	2.48
	350		2.48
	250		1.8
	150		1.58
	50		0.12
106109	450	1654	2.66
	350		2.42
	250		2.3
	150		1.77
	50		-0.16

Observation Wells for KAFB-106155 11/4/2013

Well Id	Depth	Time	Vacuum
106120	450	718	-1.28
	350		-1.29
	250		-1.12
	150		-1.13
	50		0.13
106115	450	724	-1.46
	350		-1.41
	250		-1.26
	150		-0.99
	50		0.15
106113	450	713	-1.44
	350		-1.49
	250		-1.25
	150		-1.02
	50		0.1
106129	450	737	-1.32
	350		-1.32
	250		-1.02
	150		-0.74
	50		0.12
106116	450	732	-1.16
	350		-1.27
	250		-1.03
	150		-0.77
	50		0.05
106118	450	657	-1.56
	350		-1.53
	250		-1.39
	150		-1.18
	50		0.01
106120	450	817	-0.99
	350		-1.05
	250		-0.86
	150		-0.7
	50		0.3
106115	450	814	-1.05
	350		-1.07
	250		-0.96
	150		-0.67
	50		0.27
106113	450	820	-0.73
	350		-0.87
	250		-0.79
	150		-0.58
	50		0.26
106129	450	828	-0.68
	350		-0.87
	250		-0.75
	150		-0.47
	50		0.19
106116	450	822	-0.62
	350		-0.82

Well KAFB-106155					Observation Wells						a	b	
x coordinate	y coordinate	grnd elevation	screened interval	well depth	well id	x coordinate	y coordinate	grnd elevation	top of screen	bottom of screen	horizontal	vertical	Distance
1,542,116.08	1,473,177.27	5,346.90	484.00	484.00	106120	1,542,054.86	1472900.63	5343.4	431.00	447.50	283.3329808	36.50	285.674339
									336.00	352.00		132.00	312.572516
									237.00	252.00		232.00	366.198823
									137.00	153.00		331.00	435.704691
									36.00	53.00		431.00	515.789277
					106115	1542375.05	1473054.93	5347.9	438.00	455.00	286.4132268	29.00	287.877642
									338.00	351.00		133.00	315.78717
									238.00	251.00		233.00	369.217465
									143.00	156.00		328.00	435.449809
									38.00	51.00		433.00	519.154636
					106113	1542004.5	1473062.01	5345.8	438.00	457.00	160.4212081	27.00	162.677485
									337.00	351.50		132.50	208.065408
									238.00	252.00		232.00	282.061986
									138.00	151.00		333.00	369.62679
									37.50	51.00		433.00	461.761804
					106129	1542130.79	1473260.99	5348.4	437.00	459.00	85.00248526	25.00	88.60261
									335.50	348.50		135.50	159.95522
									237.50	251.00		233.00	248.021012
									137.50	151		333.00	343.677789
									38.00	50.7		433.30	441.558957
					106116	1541894.69	1473296.72	5346.2	437.00	456.00	251.5588094	28.00	253.112296
									338.00	352.50		131.50	283.855746
									238.00	252.50		231.50	341.868519
									137.00	156.00		328.00	413.359208
									37.00	52.00		432.00	499.905826
					106118	1541791.61	1473740.91	5345.8	437.00	459.20	650.3620765	24.80	650.834749
									336.00	351.00		133.00	663.822138
									250.00	265.00		219.00	686.244731
									147.00	161.00		323.00	726.154137
									37.00	52.00		432.00	780.765541

	250		-0.69
	150		-0.42
	50		0.19
106118	450	830	-1.04
	350		-1
	250		-0.88
	150		-0.69
	50		0.1
106120	450	847	-0.91
	350		-0.97
	250		-0.82
	150		-0.68
	50		0.2
106115	450	842	-0.96
	350		-1.05
	250		-0.92
	150		-0.66
	50		0.2
106113	450	850	-0.64
	350		-0.77
	250		-0.76
	150		-0.59
	50		0.18
106129	450	856	-0.58
	350		-0.83
	250		-0.77
	150		-0.48
	50		0.12
106116	450	853	-0.68
	350		-0.8
	250		-0.7
	150		-0.46
	50		0.1
106118	450	900	-0.99
	350		-0.98
	250		-0.86
	150		-0.69
	50		0.09
106120	450	913	-0.85
	350		-0.96
	250		-0.84
	150		-0.71
	50		0.12
106115	450	909	-0.91
	350		-1.04
	250		-0.92
	150		-0.66
	50		0.13
106113	450	915	-0.62
	350		-0.77
	250		-0.79
	150		-0.61
	50		0.09
106129	450	921	-0.62
	350		-0.87

	250		-0.81
	150		-0.55
	50		0.02
106116	450	918	-0.8
	350		-0.83
	250		-0.75
	150		-0.51
	50		0
106118	450	925	-1.08
	350		-1.04
	250		-0.92
	150		-0.75
	50		-0.01
106120	450	945	-0.93
	350		-0.99
	250		-0.9
	150		-0.77
	50		0.05
106115	450	940	-0.93
	350		-1.02
	250		-0.95
	150		-0.74
	50		0.05
106113	450	948	-0.67
	350		-0.8
	250		-0.86
	150		-0.71
	50		0
106129	450	955	-0.64
	350		-0.9
	250		-0.84
	150		-0.65
	50		-0.03
106116	450	952	-0.84
	350		-0.88
	250		-0.81
	150		-0.6
	50		-0.07
106118	450	1000	-1.11
	350		-1.07
	250		-0.97
	150		-0.82
	50		-0.05
106120	450	1016	-1.01
	350		-1.05
	250		-1
	150		-0.85
	50		-0.02
106115	450	1013	-1.02
	350		-1.14
	250		-1.08
	150		-0.83
	50		-0.02
106113	450	1019	-0.7
	350		-0.86

	250		-0.93
	150		-0.77
	50		-0.06
106129	450	1032	-0.71
	350		-0.97
	250		-0.97
	150		-0.64
	50		-0.08
106116	450	1021	-0.91
	350		-0.92
	250		-0.88
	150		-0.68
	50		-0.1
106118	450	1027	-1.19
	350		-1.17
	250		-1.06
	150		0.91
	50		-0.12
106120	450	1045	-1.07
	350		-1.14
	250		-1.11
	150		-0.98
	50		-0.1
106115	450	1040	-1.09
	350		-1.22
	250		-1.15
	150		-0.93
	50		-0.06
106113	450	1049	-0.79
	350		-0.95
	250		-1.06
	150		-0.91
	50		-0.13
106129	450	1056	-0.81
	350		-1.08
	250		-1.09
	150		-0.88
	50		-0.16
106116	450	1052	-1.01
	350		-1.06
	250		-1.03
	150		-0.84
	50		-0.22
106118	450	1100	-1.32
	350		-1.3
	250		-1.22
	150		-1.07
	50		-0.22
106120	450	1114	-1.18
	350		-1.23
	250		-1.21
	150		-1.07
	50		-0.16
106115	450	1110	-1.21
	350		-1.34

	250		-1.27
	150		-1.05
	50		-0.14
106113	450	1117	-0.89
	350		-1.06
	250		-1.18
	150		-1.04
	50		-0.2
106129	450	1126	-0.94
	350		-1.21
	250		-1.22
	150		-1.02
	50		-0.23
106116	450	1124	-1.14
	350		-1.18
	250		-1.19
	150		-0.99
	50		-0.3
106118	450	1130	-1.49
	350		-1.46
	250		-1.33
	150		-1.2
	50		-0.27
106120	450	1147	-1.39
	350		-1.45
	250		-1.45
	150		-1.34
	50		-0.27
106115	450	1142	-1.4
	350		-1.49
	250		-1.5
	150		-1.28
	50		-0.25
106113	450	1150	-1.17
	350		-1.31
	250		-1.44
	150		-1.31
	50		-0.33
106129	450	1158	-1.16
	350		-1.44
	250		-1.5
	150		-1.29
	50		-0.38
106116	450	1154	-1.36
	350		-1.39
	250		-1.41
	150		-1.24
	50		-0.42
106118	450	1203	-1.73
	350		-1.71
	250		-1.63
	150		-1.49
	50		-0.4
106120	450	1216	-1.64
	350		-1.73

	250		-1.7
	150		-1.57
	50		-0.37
106115	450	1212	-1.6
	350		-1.78
	250		-1.75
	150		-1.52
	50		-0.32
106113	450	1219	-1.31
	350		-1.52
	250		-1.66
	150		-1.52
	50		-0.42
106129	450	1223	-1.42
	350		-1.69
	250		-1.73
	150		-1.5
	50		-0.45
106116	450	1221	-1.56
	350		-1.62
	250		-1.65
	150		-1.44
	50		-0.52
106118	450	1227	-1.92
	350		-1.91
	250		-1.8
	150		-1.65
	50		-0.46
106120	450	1247	-1.85
	350		-1.93
	250		-1.96
	150		-1.82
	50		-0.44
106115	450	1243	-1.86
	350		-1.97
	250		-2.02
	150		-1.77
	50		-0.42
106113	450	1251	-1.53
	350		-1.78
	250		-1.91
	150		-1.8
	50		-0.49
106129	450	1257	-1.56
	350		-1.83
	250		-1.89
	150		-1.69
	50		-0.46
106116	450	1254	-1.75
	350		-1.8
	250		-1.83
	150		-1.64
	50		-0.54
106118	450	1302	-2.13
	350		-2.11
	250		-2.03

	150		-1.86
	50		-0.49
106120	450	1317	-1.94
	350		-2.01
	250		-2.04
	150		-1.9
	50		-0.36
106115	450	1314	-1.97
	350		-2.1
	250		-2.09
	150		-1.85
	50		-0.33
106113	450	1319	-1.59
	350		-1.82
	250		-1.96
	150		-1.82
	50		-0.42
106129	450	1328	-1.68
	350		-1.96
	250		-2.01
	150		-1.79
	50		-0.43
106116	450	1321	-1.87
	350		-1.9
	250		-1.91
	150		-1.67
	50		-0.53
106118	450	1324	-2.14
	350		-2.16
	250		-2.06
	150		-1.91
	50		-0.43
106120	450	1345	-2.11
	350		-2.18
	250		-2.22
	150		-2.11
	50		-0.43
106115	450	1341	-2.1
	350		-2.18
	250		-2.19
	150		-2.04
	50		-0.4
106113	450	1348	-1.8
	350		-2
	250		-2.15
	150		-2
	50		-0.48
106129	450	1356	-1.85
	350		-2.12
	250		-2.17
	150		-1.95
	50		-0.5
106116	450	1352	-1.99
	350		-2.09
	250		-2.12

	150		-1.89
	50		-0.6
106118	450	1401	-2.33
	350		-2.37
	250		-2.29
	150		-2.14
	50		-0.51
106120	450	1415	-2.2
	350		-2.29
	250		-2.32
	150		-2.15
	50		-0.39
106115	450	1412	-2.27
	350		-2.39
	250		-2.42
	150		-2.14
	50		-0.37
106113	450	1417	-1.88
	350		-2.1
	250		-2.26
	150		-2.09
	50		-0.45
106129	450	1423	-1.93
	350		-2.23
	250		-2.28
	150		-2.01
	50		-0.47
106116	450	1420	-1.87
	350		-2.1
	250		-2.19
	150		-1.95
	50		-0.58
106118	450	1427	-2.48
	350		-2.46
	250		-2.36
	150		-2.19
	50		-0.49
106120	450	1445	-2.31
	350		-2.39
	250		-2.45
	150		-2.34
	50		-0.4
106115	450	1440	-2.37
	350		-2.45
	250		-2.5
	150		-2.25
	50		-0.4
106113	450	1448	-2.07
	350		-2.18
	250		-2.37
	150		-2.2
	50		-0.47
106129	450	1457	-1.99
	350		-2.31
	250		-2.38

	150		-2.12
	50		-0.5
106116	450	1453	-1.88
	350		-2.18
	250		-2.33
	150		-2.11
	50		-0.62
106118	450	1501	-2.54
	350		-2.56
	250		-2.48
	150		-2.29
	50		-0.46
106120	450	1516	-2.31
	350		-2.44
	250		-2.5
	150		-2.32
	50		-0.35
106115	450	1513	-2.45
	350		-2.52
	250		-2.6
	150		-2.28
	50		-0.31
106113	450	1518	-1.99
	350		-2.24
	250		-2.43
	150		-2.23
	50		-0.42
106129	450	1524	-2.07
	350		-2.4
	250		-2.45
	150		-2.17
	50		-0.45
106116	450	1521	-2.15
	350		-2.28
	250		-2.36
	150		-2.12
	50		-0.56
106118	450	1528	-2.62
	350		-2.62
	250		-2.53
	150		-2.34
	50		-0.43
106120	450	1547	-2.44
	350		-2.52
	250		-2.58
	150		-2.45
	50		-0.34
106115	450	1540	-2.45
	350		-2.61
	250		-2.64
	150		-2.37
	50		-0.33
106113	450	1551	-2.14
	350		-232
	250		-2.51

	150		-2.32
	50		-0.42
106129	450	1555	-2.14
	350		-2.44
	250		-2.51
	150		-2.23
	50		-0.46
106116	450	1559	-2.32
	350		-2.39
	250		-2.44
	150		-2.17
	50		-0.54
106118	450	1603	-2.68
	350		-2.67
	250		-2.59
	150		-2.4
	50		-0.42

Observation wells for KAFB 106149

Well ID	depth	time	vacuum	comments
106117	350	1056	1.06	Digital
	250		1.03	Manameter -
	150		0.9	port
	50		0.33	
106116	350	1046	1.1	
	250		1.08	
	150		0.96	
	50		0.25	
106128	350	1053	1.1	
	250		1.06	
	150		0.94	
	50		0.34	
106119	350	1038	1.08	
	250		1.07	
	150		1.02	
106112	350	1042	1.1	
	250		1.08	
	150		0.95	
106121	350	1049	1.02	
	250		1.13	
	150		0.99	
	50		0.12	
106117	350	1139	1.48	
	250		2.52	
	150		1.34	
	50		0.47	
106116	350	1148	1.04	
	250		1.3	
	150		0.88	
	50		0.15	
106128	350	1154	1.05	
	250		1.15	
	150		0.95	
	50		0.27	
106119	350	1156	1.04	
	250		1.21	
	150		1.06	
106112	350	1142	1.01	
	250		1.13	
	150		0.88	
106121	350	1151	1	
	250		1.01	
	150		0.85	
	50		0	
106117	350	1205	1.42	
	250		2.56	
	150		1.31	
	50		0.41	
106116	350	1218	0.9	
	250		1.23	
	150		0.7	
	50		0.06	

Well KAFB-106149					Observation Wells						a	b	
x coordinate	y coordinate	grnd elevation	screened interval	well depth	well id	x coordinate	y coordinate	grnd elevation	top of screen	bottom of screen	horizontal	vertical	Distance
1,541,755.47	1,473,378.95	5,346.10	349.00	484.00	106117	1,541,727.76	1473366.68	5345.3	338.00	350.50	30.30506558	-1.50	30.3421654
									238.00	251.00		98.00	102.578736
									137.50	150.50		198.50	200.800017
									38.00	50.50		298.50	300.03441
					106116	1541894.69	1473296.72	5346.2	338.00	352.50	161.6910056	-3.50	161.728882
									238.00	252.50		96.50	188.298251
									137.00	156.00		193.00	251.779628
									37.00	52.00		297.00	338.161177
					106128	1541619.72	1473223.15	5343.8	338.00	351.00	206.6439026	-2.00	206.653581
									236.00	251.00		98.00	228.7044
									139.00	152.00		197.00	285.500792
									39.00	51.00		298.00	362.63715
					106119	1541613.29	1473519.63	5343.5	338.00	352.00	200.0150364	-3.00	200.037533
									237.00	252.00		97.00	222.294883
									138.00	152.00		197.00	280.74012
					106112	1541936.8	1473503.19	5347.6	337.00	352.00	219.8093412	-3.00	219.829813
									235.00	252.00		97.00	240.26058
									137.00	152.00		197.00	295.169691
					106121	1542051.48	1472805.67	5343.7	335.00	352.00	645.1913503	-3.00	645.198325
									237.00	252.00		97.00	652.442242
									131.00	147.50		201.50	675.924647

106128	350	1231	0.91
	250		1.07
	150		0.85
	50		0.19
106119	350	1235	0.87
	250		1.08
	150		0.92
106112	350	1209	0.91
	250		1.08
	150		0.81
106121	350	1227	0.82
	250		0.85
	150		0.68
	50		-0.08
106117	350	1306	1.21
	250		2.19
	150		1.17
	50		0.35
106116	350	1309	0.77
	250		1.11
	150		0.63
	50		0
106128	350	1319	0.68
	250		0.85
	150		0.65
	50		0.05
106119	350	1323	0.64
	250		0.88
	150		0.73
106112	350	1300	0.79
	250		1
	150		0.72
106121	350	1315	0.62
	250		0.62
	150		0.47
	50		-0.18
106117	350	1350	1.01
	250		2.21
	150		1.01
	50		0.26
106116	350	1335	0.59
	250		0.96
	150		0.55
	50		-0.07
106128	350	1344	0.56
	250		0.78
	150		0.57
	50		0.03
106119	350	1348	0.56
	250		0.82
	150		0.66
106112	350	1333	0.58
	250		0.8
	150		0.55
106121	350	1339	0.49

	250		0.51
	150		0.37
	50		-0.2
106117	350	1418	0.91
	250		2.11
	150		0.93
	50		0.22
106116	350	1404	0.52
	250		0.92
	150		0.44
	50		-0.06
106128	350	1413	0.47
	250		0.72
	150		0.51
	50		0.04
106119	350	1403	0.48
	250		0.72
	150		0.47
106112	350	1415	0.48
	250		0.76
	150		0.61
106121	350	1408	0.4
	250		0.42
	150		0.26
	50		-0.2
106117	350	1444	0.91
	250		2.14
	150		0.97
	50		0.28
106116	350	1430	0.41
	250		0.81
	150		0.39
	50		-0.09
106128	350	1438	0.42
	250		0.66
	150		0.47
	50		0.03
106119	350	1427	0.38
	250		0.62
	150		0.4
106112	350	1441	0.42
	250		0.71
	150		0.58
106121	350	1433	0.32
	250		0.34
	150		0.2
	50		-0.2
106117	350	1508	0.82
	250		1.98
	150		0.86
	50		0.23
106116	350	1455	0.4
	250		0.83
	150		0.4
	50		-0.05

106128	350	1503	0.38
	250		0.64
	150		0.47
	50		0.03
106119	350	1506	0.38
	250		0.68
	150		0.52
106112	350	1453	0.39
	250		0.66
	150		0.42
106121	350	1450	0.29
	250		0.31
	150		0.17
	50		-0.16
106117	350	1537	0.8
	250		2.03
	150		0.88
	50		0.27
106116	350	1524	0.34
	250		0.78
	150		0.36
	50		-0.05
106128	350	1532	0.32
	250		0.58
	150		0.43
	50		0.03
106119	350	1535	0.35
	250		0.65
	150		0.52
106112	350	1522	0.33
	250		0.6
	150		0.39
106121	350	1528	0.23
	250		0.26
	150		0.14
	50		-0.17
106117	350	1605	0.07
	250		1.91
	150		0.8
	50		0.24
106116	350	1552	0.29
	250		0.79
	150		0.33
	50		-0.05
106128	350	1600	0.24
	250		0.54
	150		0.38
	50		0.02
106119	350	1603	0.27
	250		0.58
	150		0.45
106112	350	1550	0.25
	250		0.51
	150		0.31
106121	350	1555	0.15

	250		0.19
	150		0.06
	50		-0.17
106117	350	1635	0.64
	250		1.68
	150		0.75
	50		0.23
106116	350	1620	0.2
	250		0.65
	150		0.28
	50		-0.08
106128	350	1629	0.22
	250		0.5
	150		0.34
	50		0.02
106119	350	1632	0.22
	250		0.53
	150		0.4
106112	350	1617	0.19
	250		0.48
	150		0.29
106121	350	1625	0.08
	250		0.1
	150		0.02
	50		-0.16
106117	350	1709	0.68
	250		1.94
	150		0.8
	50		0.28
106116	350	1655	0.21
	250		0.67
	150		0.29
	50		-0.01
106128	350	1703	0.2
	250		0.49
	150		0.35
	50		0.05
106119	350	1707	0.2
	250		0.54
	150		0.42
106112	350	1653	0.18
	250		0.48
	150		0.29
106121	350	1658	0.07
	250		0.1
	150		0.01
	50		-0.13
106117	350	1738	0.71
	250		1.99
	150		0.86
	50		0.31
106116	350	1725	0.23
	250		0.69
	150		0.32
	50		0.01

106128	350	1733	0.26
	250		0.58
	150		0.41
	50		0.14
106119	350	1737	0.25
	250		0.61
	150		0.48
106112	350	1723	0.19
	250		0.48
	150		0.32
106121	350	1729	0.1
	250		0.15
	150		0.07
	50		-0.07
106117	350	1818	0.84
	250		2.14
	150		0.98
	50		0.41
106116	350	1801	0.33
	250		0.8
	150		0.47
	50		0.1
106128	350	1805	0.33
	250		0.63
	150		0.52
	50		0.2
106119	350	1754	0.31
	250		0.05
	150		0.55
106112	350	1758	0.28
	250		0.6
	150		0.43
106121	350	1812	0.2
	250		0.26
	150		0.18
	50		0
106117	350	1844	0.96
	250		2.28
	150		1.14
	50		0.51
106116	350	1833	0.4
	250		0.9
	150		0.56
	50		0.16
106128	350	1841	0.45
	250		0.79
	150		0.66
	50		0.31
106119	350	1826	0.39
	250		0.75
	150		0.64
106112	350	1829	0.36
	250		0.68
	150		0.54
106121	350	1837	0.28

250	0.35
150	0.27
50	0.05

Observation wells for KAFB 106154

Well ID	depth	time	vacuum	comments
106112	350	821	0	Digital Manameter -port
	250		0.08	
	150		0.16	
	50		0.22	
106117	350	837	0.1	
	250		0.13	
	150		0.18	
	50		0.21	
106116	350	834	0.09	
	250		0.17	
	150		0.25	
	50		0.29	
106130	350	825	0.05	
	250		0.09	
	150		0.18	
106119	350	840	0.05	
	250		0.13	
	150		0.18	
106121	350	830	0.06	
	250		0.1	
	150		0.19	
	50		0.31	
106112	350	907	0.28	Digital Manameter -port
	250		1.08	
	150		0.34	
	50		0.21	
106117	350	926	0.28	
	250		0.5	
	150		0.4	
	50		0.26	
106116	350	921	0.21	
	250		0.49	
	150		0.34	
	50		0.24	
106130	350	909	0.15	
	250		0.37	
	150		0.25	
106119	350	928	0.24	
	250		0.36	
	150		0.37	
106121	350	924	0.18	
	250		0.2	
	150		0.25	
	50		0.21	
106112	350	935	0.39	Digital Manameter -port
	250		1.32	
	150		0.51	
	50		0.26	
106117	350	948	0.39	
	250		0.63	
	150		0.5	
	50		0.31	
106116	350	943	0.33	

Well KAFB-106154					Observation Wells						a	b	
x coordinate	y coordinate	grnd elevation	screened interval	well depth	well id	x coordinate	y coordinate	grnd elevation	top of screen	bottom of screen	horizontal	vertical	Distance
1,541,867.52	1,473,515.14	5,347.20	355.00	484.00	106117	1,541,727.76	1473366.68	5345.3	338.00	350.50	203.8951427	4.50	203.944794
									238.00	251.00		104.00	228.886935
									137.50	150.50		204.50	288.779292
									38.00	50.50		304.50	366.460747
					106116	1541894.69	1473296.72	5346.2	338.00	352.50	220.1033968	2.50	220.117594
									238.00	252.50		102.50	242.799826
									137.00	156.00		199.00	296.726314
									37.00	52.00		303.00	374.505681
					106130	1542131.11	1473565.86	5349	337.00	352.00	268.4254207	3.00	268.442185
									235.00	252.00		103.00	287.50862
									137.00	152.00		203.00	336.543023
					106119	1541613.29	1473519.63	5343.5	338.00	352.00	254.2696462	3.00	254.287343
									237.00	252.00		103.00	274.339303
									138.00	152.00		203.00	325.364493
					106112	1541936.8	1473503.19	5347.6	337.00	352.00	70.30306466	3.00	70.3670441
									235.00	252.00		103.00	124.705737
									137.00	152.00		203.00	214.82905
									38.00	51.50		303.50	311.536147
					106121	1542051.48	1472805.67	5343.7	335.00	352.00	732.9317584	3.00	732.937898
									237.00	252.00		103.00	740.133746
									131.00	147.50		207.50	761.738283
									37.00	52.00		303.00	793.093918

	250		0.62	
	150		0.44	
	50		0.27	
106130	350	937	0.31	
	250		0.54	
	150		0.41	
106119	350	950	0.33	
	250		0.55	
	150		0.48	
106121	350	946	0.27	
	250		0.31	
	150		0.36	
	50		0.24	
106112	350	1004	0.49	Digital Manameter -port
	250		1.45	
	150		0.62	
	50		0.27	
106117	350	1018	0.44	
	250		0.7	
	150		0.56	
	50		0.29	
106116	350	1013	0.35	
	250		0.7	
	150		0.48	
	50		0.21	
106130	350	1006	0.38	
	250		0.62	
	150		0.47	
106119	350	1020	0.4	
	250		0.63	
	150		0.55	
106121	350	1015	0.28	
	250		0.33	
	150		0.36	
	50		0.18	
106112	350	1038	0.58	Digital Manameter -port
	250		1.56	
	150		0.69	
	50		0.26	
106117	350	1047	0.51	
	250		0.78	
	150		0.63	
	50		0.3	
106116	350	1045	0.43	
	250		0.81	
	150		0.56	
	50		0.23	
106130	350	1041	0.48	
	250		0.72	
	150		0.58	
106119	350	1050	0.45	
	250		0.7	
	150		0.61	
106121	350	1043	0.35	
	250		0.38	
	150		0.4	
	50		0.15	

106112	350	1106	0.57	Digital Manameter -port
	250		1.54	
	150		0.66	
	50		0.2	
106117	350	1116	0.46	
	250		0.73	
	150		0.55	
	50		0.22	
106116	350	1114	0.39	
	250		0.79	
	150		0.51	
	50		0.15	
106130	350	1108	0.49	
	250		0.75	
	150		0.58	
106119	350	1118	0.38	
	250		0.64	
	150		0.53	
106121	350	1111	0.31	
	250		0.38	
	150		0.34	
	50		0.1	
106112	350	1138	0.52	Digital Manameter -port
	250		1.48	
	150		0.61	
	50		0.17	
106117	350	1148	0.32	
	250		0.61	
	150		0.43	
	50		0.12	
106116	350	1145	0.29	
	250		0.67	
	150		0.41	
	50		0.05	
106130	350	1140	0.35	
	250		0.63	
	150		0.43	
106119	350	1150	0.27	
	250		0.54	
	150		0.41	
106121	350	1142	0.18	
	250		0.25	
	150		0.21	
	50		0	
106112	350	1205	0.4	Digital Manameter -port
	250		1.36	
	150		0.49	
	50		0.06	
106117	350	1212	0.32	
	250		0.62	
	150		0.43	
	50		0.13	
106116	350	1208	0.24	
	250		0.63	
	150		0.38	
	50		0.06	
106130	350	1206	0.3	

	250		0.6	
	150		0.4	
106119	350	1218	0.2	
	250		0.45	
	150		0.38	
106121	350	1215	0.11	
	250		0.19	
	150		0.15	
	50		-0.03	
106112	350	1235	0.37	Digital Manameter -port
	250		1.33	
	150		0.46	
	50		0.06	
106117	350	1240	0.27	
	250		0.59	
	150		0.4	
	50		0.11	
106116	350	1238	0.21	
	250		0.59	
	150		0.3	
	50		0.02	
106130	350	1243	0.28	
	250		0.55	
	150		0.38	
106119	350	1248	0.2	
	250		0.47	
	150		0.37	
106121	350	1245	0.1	
	250		0.18	
	150		0.14	
	50		-0.02	
106112	350	1306	0.24	Digital Manameter -port
	250		1.22	
	150		0.36	
	50		0	
106117	350	1315	0.05	
	250		0.36	
	150		0.2	
	50		-0.03	
106116	350	1313	0.05	
	250		0.44	
	150		0.17	
	50		-0.08	
106130	350	1309	0.12	
	250		0.42	
	150		0.22	
106119	350	1319	0	
	250		0.29	
	150		0.17	
106121	350	1311	-0.05	
	250		0	
	150		0	
	50		-0.11	
106112	350	1337	0.18	Digital Manameter -port
	250		1.17	
	150		0.29	
	50		0	

106117	350	1351	0	
	250		0.31	
	150		0.12	
	50		-0.02	
106116	350	1342	0.02	
	250		0.39	
	150		0.09	
	50		-0.09	
106130	350	1339	0.06	
	250		0.35	
	150		0.17	
106119	350	1355	-0.05	
	250		0.23	
	150		0.12	
106121	350	1346	-0.17	
	250		-0.07	
	150		-0.12	
	50		-0.11	
106112	350	1408	0.1	Digital Manameter -port
	250		1.09	
	150		0.24	
	50		0	
106117	350	1418	0	
	250		0.3	
	150		0.13	
	50		0	
106116	350	1416	-0.09	
	250		0.31	
	150		0.04	
	50		-0.1	
106130	350	1412	0	
	250		0.3	
	150		0.11	
106119	350	1420	-0.1	
	250		0.17	
	150		0.11	
106121	350	1414	-0.18	
	250		-0.09	
	150		-0.13	
	50		-0.12	
106112	350	1436	0.14	Digital Manameter -port
	250		1.12	
	150		0.27	
	50		0.06	
106117	350	1445	0.01	
	250		0.34	
	150		0.16	
	50		0.04	
106116	350	1443	-0.03	
	250		0.37	
	150		0.08	
	50		-0.02	
106130	350	1438	0.03	
	250		0.36	
	150		0.14	
106119	350	1447	-0.04	
	250		0.25	

	150		0.14	
106121	350	1441	-0.21	
	250		-0.11	
	150		-0.14	
	50		-0.06	
106112	350	1508	0.11	Digital Manameter -port
	250		1.1	
	150		0.22	
	50		0	
106117	350	1517	0.02	
	250		0.34	
	150		0.19	
	50		0.06	
106116	350	1515	-0.07	
	250		0.33	
	150		0.07	
	50		-0.04	
106130	350	1510	-0.03	
	250		0.28	
	150		0.1	
106119	350	1519	-0.02	
	250		0.25	
	150		0.18	
106121	350	1512	-0.26	
	250		-0.17	
	150		-0.17	
	50		-0.09	
106112	350	1536	0.12	Digital Manameter -port
	250		1.14	
	150		0.27	
	50		0.06	
106117	350	1546	0.12	
	250		0.43	
	150		0.26	
	50		0.16	
106116	350	1543	0.01	
	250		0.43	
	150		0.16	
	50		0.01	
106130	350	1538	0.04	
	250		0.34	
	150		0.17	
106119	350	1551	0.06	
	250		0.35	
	150		0.29	
106121	350	1541	-0.17	
	250		-0.07	
	150		-0.08	
	50		0	
106112	350	1607	0.26	Digital Manameter -port
	250		1.28	
	150		0.44	
	50		0.15	
106117	350	1617	0.18	
	250		0.47	
	150		0.3	
	50		0.12	

106116	350	1615	0.08	
	250		0.51	
	150		0.24	
	50		0.05	
106130	350	1610	0.14	
	250		0.45	
	150		0.28	
106119	350	1619	0.09	
	250		0.42	
	150		0.32	
106121	350	1613	-0.08	
	250		0.01	
	150		-0.01	
	50		0.03	
106112	350	1634	0.28	Digital Manameter -port
	250		1.28	
	150		0.45	
	50		0.14	
106117	350	1651	0.29	
	250		0.61	
	150		0.44	
	50		0.21	
106116	350	1641	0.17	
	250		0.55	
	150		0.31	
	50		0.12	
106130	350	1637	0.18	
	250		0.48	
	150		0.31	
106119	350	1655	0.18	
	250		0.5	
	150		0.4	
106121	350	1646	0	
	250		0.11	
	150		0.09	
	50		0.09	

SVE Well 106160, Long Term Test Performed on 10/4/2013

Well ID	Screen Interval	Time	Vacuum (inWC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106160	NR	0740	22.16	0.51	571.6	53.4	32.2	7120	2.34	0	16.8	0	2
106160	NR	0840	22.3	0.54	590.0	56.7	29.7	7140	2.32	0	16.79	0	46
106160	NR	0910	22.28	0.52	580.2	58.9	26.7	7160	2.28	0	16.41	0	47
106160	NR	0940	22.29	0.54	590.4	57.7	26.7	7170	2.3	0	16.41	0	59
106160	NR	1010	22.33	0.54	592.8	61.9	23.5	7200	2.28	0	16.4	0	61
106160	NR	1040	22.38	0.54	593.0	62.6	23.6	7210	2.32	0	16.4	0	62
106160	NR	1110	22.36	0.51	576.5	63	18.8	7220	2.32	0	16.41	0	64
106160	NR	1140	22.44	0.5	572.5	66	18.5	7220	2.32	0	16.35	0	65
106160	NR	1210	22.36	0.51	580.5	70.3	14.3	7250	2.32	0	16.34	0	66
106160	NR	1240	22.3	0.5	573.1	67.3	15.4	7270	2.32	0	16.48	0	64
106160	NR	1310	22.12	0.53	590.0	67.1	16.2	7280	2.32	0	16.18	0	64
106160	NR	1340	22	0.5	573.3	67.6	16	7300	2.32	0	16.26	0	62
106160	NR	1410	21.95	0.54	596.2	68.2	13.7	7320	2.34	0	16.17	0	62
106160	NR	1440	NR	NR	0.0	69.4	11.9	7310	2.34	0	16.17	0	58
106160	NR	1510	NR	NR	0.0	65.8	13.2	7330	2.36	0	16.25	0	58
106160	NR	1540	NR	NR	0.0	67.1	12	7370	2.36	0	16.19	0	62
		Averaged parameters:	22.3	0.5	473.8	63.9	19.5	7242	2.3	0	16.4	0	56

SVE Well 106161, Long Term Test Performed on 10/3/2013

Well ID	Screen Interval	Time	Vacuum (inWC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106161	NR	0805	25.66	0.85	746.7	58.5	45.1	7610	2.3	0	16.4	0	50
106161	NR	0910	25.65	0.81	736.2	69.3	28.8	7640	2.34	0	16.46	0	38
106161	NR	0940	25.59	0.8	733.5	72.1	26.7	7650	2.28	0	16.54	0	55
106161	NR	1010	25.16	0.84	752.9	74.5	23.9	7650	2.28	0	16.68	0	56
106161	NR	1040	25.12	0.8	735.5	75.6	24.7	7670	2.3	0	16.7	0	57
106161	NR	1110	25.33	0.79	734.1	78.4	20.9	7660	2.28	0	16.5	0	58
106161	NR	1140	25.12	0.83	752.8	79.3	18.8	7660	2.28	0	16.34	0	58
106161	NR	1210	24.92	0.82	748.1	78.4	19	7660	2.3	0	16.35	0	59
106161	NR	1240	24.62	0.8	740.2	82	15.5	7670	2.3	0	16.79	0	59
106161	NR	1310	24.22	0.81	745.3	82.4	13	7680	2.28	0	16.2	0	59
106161	NR	1340	24.14	0.83	755.1	83.5	10.9	7680	2.3	0	16.35	0	59
106161	NR	1410	24.16	0.82	751.1	81.1	15.9	7690	2.3	0	16.43	0	59
106161	NR	1440	24.09	0.79	734.7	80.8	16.2	7690	2.3	0	16.35	0	59
106161	NR	1510	23.74	0.81	743.7	81	15.7	7690	2.28	0	16.35	0	59
106161	NR	1540	23.59	0.82	748.2	79	16.1	7700	2.3	0	16.96	0	60
106161	NR	1610	23.55	0.8	738.1	79	16.2	7710	2.3	0	16.6	NR	NR
		Averaged parameters:	24.67	0.8	743.5	77.2	20.5	7669	2.3	0	16.5	0	56

P-log well 106154, Long Term Test performed on 10/18/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106154	350	0903	4.6	62.4	5.79	472.5	55.8	61.5	71	1.48	0	18.61	0	0
106154	350	0933	4.4	59.7	4.98	439.1	59	50.8	76	1.44	0	17.99	0	0
106154	350	1003	4.4	59.7	4.95	438.2	60.8	43.7	85	1.4	0	18.25	0	0
106154	350	1033	4.4	59.7	4.96	439.1	61.2	46	83	1.42	0	18.63	0	0
106154	350	1103	4.5	61.0	4.81	433.0	63	41.1	88	1.4	0	18.1	0	0
106154	350	1133	4.7	63.7	4.89	436.9	63.3	39.2	93	1.4	0	18.21	0	0
106154	350	1203	4.9	66.4	4.96	440.7	64.6	44.4	96	1.42	0	18.07	0	0
106154	350	1233	4.9	66.4	4.83	435.0	64.6	37	100	1.4	0	18.1	0	0
106154	350	1303	5.1	69.2	4.51	421.3	66.6	31.9	102	1.38	0	17.55	0	0
106154	350	1333	4.9	66.4	4.57	424.2	66.4	38.5	107	1.4	0	17.81	0	0
106154	350	1403	4.8	65.1	4.78	434.3	67.3	36.8	113	1.4	0	17.03	0	0
106154	350	1433	4.6	62.4	4.83	437.0	68.7	37.8	111	1.38	0	18.07	0	0
106154	350	1503	4.5	61.0	4.83	436.0	67.1	33.3	112	1.38	0	17.67	0	0
106154	350	1533	4.5	61.0	4.82	435.6	66.7	40.7	112	1.38	0	18.3	0	0
106154	350	1603	4.2	57.0	4.71	430.7	67.6	35	117	1.42	0	18.28	0	0
106154	350	1633	4.5	61.0	4.9	439.3	67.3	40.5	123	1.4	0	17.2	0	0
106154	350	1645	Sampling, port closed											
106154	350	1703												
		Averaged parameters:	4.6	62.6	4.9	437.0	64.4	41.1	99	1.4	0	18.0	0	0

P-log well 106149, Long Term Test performed on 10/16/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106149	349	1100	2.6	35	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
106149	349	1115	5.5	74.6	6.85	578.1	57.4	51.6	283	2.46	0	17.89	0	1
106149	349	1133	Sampling, port closed											
106149	349	1200												
106149	349	1202	5.3	71.9	6.7	509.1	59	40.2	362	2.44	0	17.2	0	2
106149	349	1250	5.5	74.6	6.7	510.7	61.2	48.8	339	2.4	0	17.61	0	4
106149	349	1320	5.5	74.6	6.56	506.0	62.2	54.8	355	2.46	0	18.01	0	4
106149	349	1354	5.6	75.9	6.54	505.2	62.1	35.7	371	2.42	0	17.53	0	4
106149	349	1421	5.4	73.2	6.75	514.8	64.4	46.4	395	2.44	0	18.12	0	4
106149	349	1450	5.9	80.0	6.78	516.7	66.2	27.2	393	2.4	0	17.53	0	2
106149	349	1519	5.5	74.6	6.73	513.4	64.9	33.6	424	2.42	0	17.17	0	4
106149	349	1549	5.6	75.9	6.61	509.5	65.8	23.2	420	2.44	0	18.97	0	4
106149	349	1624	5.5	74.6	6.83	518.8	66.2	39.1	427	2.32	0	16.85	0	4
106149	349	1650	6	81.4	6.61	511.2	67.6	33.5	454	2.4	0	15.82	0	4
106149	349	1720	5.8	78.6	6.91	521.8	65.8	42.5	480	2.48	0	16.92	0	4
106149	349	1753	5.5	74.6	6.75	514.4	63.5	48.8	491	2.48	0	16.96	0	4
106149	349	1820	5.6	75.9	6.82	515.3	60.4	37.3	470	2.34	0	17.64	0	4
106149	349	1845	5.5	74.6	6.88	516.4	58.5	41.4	495	2.44	0	17.4	0	4
106149	349	1850	Sampling, port closed											
106149	349	1900												
		Averaged parameters:	5.4	73.1	6.7	517.4	63.0	40.3	411	2.4	0	17.4	0	4

P-log well 106148, Long Term Test and Step Flow Test performed on 11/1/13

Well ID	Screen Interval	Time	Vacuum (in WC)	Diff. Pressure (in WC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
106148	484	0927	36	1.5	249.4	47.8	44	1010	2.92	0	16.36	NR	NR	
106148	484	NR	22	0.9	188.9	47.7	44.5	1481	3.42	0	15.48	NR	NR	
106148	484	NR	10	0.32	110.5	47.1	44.8	1853	3.76	0	14.87	NR	NR	
106148	349	0935	NR	NR	0.0	47.1	51.7	9410	15.96	0	0.51	NR	NR	Step Flow
106148	349	NR	22	1.38	233.9	47.7	48.7	>10000	NR	NR	NR	NR	NR	Test
106148	349	NR	30	1.88	276.1	46.4	79.5	>10000	15.14	0	1.19	0	>40	
106148	199	0945	22	1.95	279.0	50.2	52.3	7060	16.2	0	0.44	0	34	
106148	199	NR	10	0.67	160.4	49.5	45.8	7280	16.3	0	0.37	NR	NR	
		Averaged parameters:	21.7	1.2	187.3	47.9	51.4	4682	10.5	0	7.03	0	34	
106148	349	0952	25	1.74	265.5	52.7	69.8	>10000	12.98	0	3.61	0	44	
106148	349	1022	28	1.78	268.3	46.8	62.1	9590	12.26	0	4.28	0	51	
106148	349	1052	28	1.68	261.7	48.7	79.3	9420	11.98	0	5.04	0	>40	
106148	349	1122	28	1.74	266.6	53.6	1	9480	11.82	0.01	5.1	0	42	
106148	349	1152	28	1.79	271.3	57	1	9460	11.58	0.01	5.1	0	>42	
106148	349	1222	28	1.79	271.9	56.7	56.2	NR	NR	NR	7.4	0	>47	
106148	349	1252	28	1.77	270.9	60.1	43.8	NR	NR	NR	5.2	0	>55	
106148	349	1322	28	1.82	274.1	55.8	45	>10000	12.16	0.01	5.2	0	57	Long Test
106148	349	1352	27	1.91	281.5	61.9	31.4	>10000	12.12	0.01	4.18	0	45	
106148	349	1422	27.5	1.87	280.2	65.8	26.1	9970	11.98	0	4.22	0	57	
106148	349	1452	28	1.8	275.0	65.1	26.5	9970	11.88	0.01	4.06	0	>48	
106148	349	1522	27	1.77	272.7	68	23.9	>10000	11.8	0.01	4.28	0	>48	
106148	349	1552	27	1.79	273.4	64.9	28.1	>10000	9.6	0.01	4.83	0	50	
106148	349	1622	28	1.76	271.9	65.1	24.9	9960	11.84	0.01	4.26	0	>47	
106148	349	1652	28	1.81	275.3	64.6	26	>10000	11.78	0.01	4.39	0	66	
106148	349	1722	27	1.87	279.0	63.3	25.1	>10000	11.8	0.01	4.35	0	51	
		Averaged parameters:	27.5	1.8	272.5	59.4	35.6	9693	11.8	0.0	4.7	0	51.4	

P-log well 106150, Long Term Test and Step Flow Test performed on 11/7/13

Well ID	Screen Interval	Time	Vacuum (in WC)	Diff. Pressure (in WC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
106150	484	0830	38	1.49	248.1	47.8	39	>10000	2.04	0	17.89	NR	NR	
106150	484	NR	24	0.62	156.5	48	38.3	>10000	2	0	17.80	NR	NR	
106150	484	NR	12	0.17	80.5	48.4	38.3	>10000	2.02	0	17.80	NR	NR	
106150	349	0838	34	1.71	264.2	48.5	43.4	351	2.68	0	18.55	NR	NR	Step Flow
106150	349	NR	22	0.95	194.3	49.1	39.2	370	2.72	0	18.73	NR	NR	Test
106150	349	NR	10	0.11	64.6	49.1	38.2	397	2.76	0	18.75	NR	NR	
106150	200	0846	22	2.66	323.8	49.1	52.9	0	2.18	0	19.64	NR	NR	
106150	200	NR	11	1.04	198.9	49.3	43.8	1	2.28	0	19.91	NR	NR	
	Averaged parameters:		22	1.09	191.4	48.7	41.6	224	2.3	0	18.63	ND	ND	
106150	484	0854	36.5	1.49	247.9	49.5	37.4	>10000	1.98	0	18.83	0	75	
106150	484	0924	38	1.45	245.9	52.9	31.7	>10000	2.08	0	17.74	0	72	
106150	484	954	37	1.22	224.8	51.1	39.1	>10000	2.16	0	17.28	0	76	
106150	484	1024	37	1.47	247.8	55	32.1	>10000	2.22	0	17.12	0	91	
106150	484	1054	37	1.4	242.3	56.7	31.8	>10000	2.3	0.01	17.06	0	100	
106150	484	1124	31	1.15	218.0	58.8	28	>10000	2.24	0	17.00	0	NR	
106150	484	1154	31.5	1.17	219.9	58.1	28.5	>10000	2.36	0.01	17.64	0	88	
106150	484	1224	27.5	0.93	195.2	59.7	26.6	>10000	2.2	0	16.86	0	79	
106150	484	1254	27.5	0.9	191.7	57.4	29.1	>10000	2.42	0	16.56	0	81	Long Test
106150	484	1324	28	0.99	201.0	55.6	30.5	>10000	2.42	0	17.47	0	84	
106150	484	1354	28	0.86	187.7	57.4	29.6	>10000	2.5	0	16.52	0	85	
106150	484	1424	27.5	1.02	205.2	61.7	23.4	>10000	2.46	0	16.82	0	83	
106150	484	1454	27.5	0.83	185.1	61.7	23.3	>10000	2.6	0	16.21	0	80	
106150	484	1524	28	0.98	200.8	58.8	25.5	>10000	2.56	0	16.47	0	81	
106150	484	1554	28	1.06	209.1	60.1	25.2	>10000	2.68	0	16.05	0	78	
106150	484	1624	27.5	1.01	203.7	59	26.1	>10000	2.74	0	15.94	0	79	
106150	484	1654	27.5	1.01	203.2	56.1	32.8	>10000	2.68	0	15.94	NR	NR	
	Averaged parameters:		31	1.1	213.5	57.0	29	10000	2.4	0	16.91	0	82	

P-log well 106155, Long Term Test performed on 11/4/13

Well ID	Screen Interval	Time	Vacuum (in WC)	Diff. Pressure (in WC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106155	484	0742	38	1.79	274.5	43.9	80.8	802	0.72	NR	18.56	0	8
106155	484	0812	37.5	1.75	272.4	48.7	58.4	897	0.76	0	18.35	0	8
106155	484	0842	37	1.67	266.4	50.7	55.7	983	0.78	0	18.77	0	11
106155	484	0912	37	1.83	279.8	54.7	48	1051	0.8	0	18.32	0	9
106155	484	0942	37	1.81	278.7	56.6	45.4	1099	0.86	0	18.42	0	12
106155	484	1012	37	1.75	274.2	56.7	42	1137	0.82	0	18.2	0	11
106155	484	1042	36.5	1.77	275.8	57.4	41.8	1162	0.86	0	18.93	0	13
106155	484	1112	36.5	1.83	281.0	59.4	36.2	1188	0.84	0	18.12	0	12
106155	484	1142	36	1.62	264.3	60.4	34.9	1210	0.84	0	18.25	0	14
106155	484	1212	36	1.85	283.1	62.6	32.5	1223	0.84	0	18.07	0	13
106155	484	1242	36	1.69	270.9	63.3	31.8	1247	0.9	0	18.35	0	13
106155	484	1312	36	1.82	282.0	65.1	30.2	1255	0.88	0	17.93	0	13
106155	484	1342	35	1.71	272.3	63.5	30.7	1260	0.86	0	17.91	0	14
106155	484	1412	35.5	1.77	278.4	66.6	28.6	1277	0.86	0	17.78	0	14
106155	484	1442	35.5	1.68	270.6	64.8	32.2	1283	0.88	0	17.91	0	16
106155	484	1512	35	1.72	274.4	66.6	30.3	1290	0.86	0	18.1	0	16
106155	484	1542	34	1.76	277.4	67.6	29.2	1296	0.88	0	17.87	0	14
	Averaged parameters:		36	1.75	275.1	59.3	41	1156	0.8	0	18.2	0	12

P-log well 106152, Flow Test performed on 11/18/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106152	450	1018	NR	39	1.5	251.0	50.7	43.9	15	1.02	0	18.78	NR	NR
106152	450	1027	NR	26	0.84	183.9	50.9	42.1	23	1.1	0	18.52	NR	NR
106152	450	1032	NR	13	0.3	107.9	51.4	45	33	1.14	0	18.85	NR	NR
106152	350	1040	NR	30	1.63	258.1	51.6	42.2	7	0.84	0	18.52	NR	NR
106152	350	1043	NR	20	0.94	193.0	51.3	45	7	0.84	0	18.94	NR	NR
106152	350	1048	NR	10	0.25	98.0	51.8	44.6	6	0.84	0	19.22	NR	NR
106152	194	1051	NR	18	1.75	262.8	53.4	52.3	1	0.76	0	20.12	NR	NR
106152	194	1055	NR	10	0.51	140.1	52.3	47.6	2	0.76	0	19.39	NR	NR
	Averaged parameters:		No Data	21	1.0	186.9	51.7	45	12	0.9	0	19.04	No Data	No Data

P-log well 106149, Quick Test performed on 10/16/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106149	349	0828	NR	3.5	0.2	87.1	52.9	50.5	220	2.6	0	17.71	0	1
106149	349	0841	NR	3.5	0.18	83.0	52.2	51.1	225	2.62	0	17.87	0	1
106149	349	0848	NR	9.4	0.6	152.3	52.9	53.8	225	2.64	0	17.91	0	1
106149	349	0856	NR	9.4	0.62	154.9	53.6	51.7	221	2.52	0	17.55	0	1
106149	349	0908	NR	35	2.6	330.6	53.9	70.4	210	2.52	0	17.83	0	1
106149	349	0917	NR	35	2.5	324.2	54	58.1	220	2.52	0	17.97	0	1
106149	349	0927	NR	35	2.5	324.2	54.7	52.9	224	2.54	0	18.06	0	1
	Averaged parameters:		No Data	19	1.3	208.0	53.5	55.5	221	2.6	0	17.84	0	1

P-log well 106149, Quick Test performed on 10/15/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106149	484	1520	NR	2	0.17	82.0	74.8	21.3	848	1.38	0	18.70	0	0
106149	484	1533	NR	2	0.16	79.5	73.6	23.1	976	1.5	0	19.50	0	0
106149	484	1542	NR	8	0.66	162.9	73.6	20.7	1125	1.64	0.01	19.47	0	4
106149	484	1555	NR	8	0.28	106.1	72.9	21.7	1228	1.6	0	17.50	0	5
106149	484	1606	NR	35	1.5	255.5	69.3	24.7	1415	1.66	0	17.75	0	9
106149	484	1622	NR	35	1.6	263.6	66.7	29.4	1548	1.68	0	17.41	0	5
106149	484	1632	NR	36	1.6	263.8	65.8	26.8	1660	1.68	0	17.20	0	5
	Averaged parameters:		No Data	18	0.9	173.3	71.0	24.0	1257	1.6	0	18.22	0	4

P-log well 106149, Quick Test performed on 10/15/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106149	199	1659	NR	2	0.28	104.7	65.8	53.4	22	2.44	0	18.66	0	0
106149	199	1707	NR	2.2	0.26	100.6	64.8	33.4	22	2.5	0	18.68	0	0
106149	199	1721	NR	8	1	199.2	64.8	42	16	2.6	0	18.66	0	0
106149	199	1728	NR	8.2	1	199.2	63.7	49.3	16	2.62	0	18.65	0	0
106149	199	1739	NR	22	3.2	364.0	63	60.6	13	2.62	0	18.61	0	0
106149	199	1748	NR	24	3.2	365.1	62.2	65.3	14	2.62	0	18.71	0	0
106149	199	1759	NR	22	3.2	363.7	62.2	58.6	13	2.62	0	18.74	0	0
	Averaged parameters:		No Data	13	1.7	242.4	63.8	51.8	17	2.6	0	18.67	0	0

P-log well 106152, Quick Test performed on 10/29/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106152	494	1244	2.4	32.5	1.63	255.3	76.8	17.1	306	1.52	0	17.5	0	2

106152	494	1254	2.55	34.6	1.39	235.5	75	17.3	371	1.7	0	17.54	0	2
106152	494	1304	2.4	32.5	1.41	236.8	74.3	18.2	436	1.76	0	17.78	0	5
106152	494	1314	2.2	29.8	1.44	238.5	71.1	20.3	514	1.78	0	17.07	0	5
106152	494	1324	2.2	29.8	1.54	246.1	68.6	21.7	565	1.78	0	17.17	0	5
106152	494	1334	2.2	29.8	1.71	259.3	68.5	21.2	594	1.76	0	17.12	0	5
106152	494	1344	2.2	29.8	1.49	242.6	70.7	19.1	621	1.76	0	16.79	0	5
106152	494	NR	13.75	186.5	0.49	NR	NR	NR	789	1.92	NR	16.28	NR	NR
		Averaged parameters:	3.7	50.7	1.4	244.9	72	19.3	525	1.7	0	17.2	0	4

P-log well 106152, Quick Test performed on 10/29/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106152	194	1126	NR	16.55	2.06	292.0	74.5	26.6	3	0.8	0	19.76	0	0
106152	194	1136	NR	17.1	1.68	263.8	73.8	29.6	2	0.78	0	19.23	0	0
106152	194	1146	NR	16.99	1.86	277.5	73.9	29.4	1	0.78	0	19.44	0	0
106152	194	1156	NR	16.96	1.92	282.4	75.6	27.9	1	0.76	0	19.68	0	0
106152	194	1206	NR	17.05	1.97	286.0	74.8	28.4	1	0.78	0	20.03	0	0
106152	194	1216	NR	16.85	1.62	259.7	75.6	29.2	2	0.74	0	19.21	0	0
106152	194	1226	NR	16.55	1.74	268.5	74.5	29.8	3	0.76	0	19.47	0	0
		Averaged parameters:	No Data	16.9	1.84	275.7	74.7	28.7	2	0.8	0	19.55	0	0

P-log well 106152, Quick Test performed on 10/29/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106152	350	1453	NR	26	1.83	278.6	69.6	22.5	26	0.88	0	18.2	0	0
106152	350	1503	NR	26	1.84	279.7	70.5	20.5	23	0.88	0	18.18	0	0
106152	350	1513	NR	25	1.87	281.7	71.1	19.2	23	0.88	0	17.94	0	0
106152	350	1523	NR	26	1.89	283.4	70.3	19.9	22	0.88	0	18.3	0	0
106152	350	1533	NR	26	1.82	278.0	69.6	20.4	23	0.88	0	18.26	0	0
106152	350	1543	NR	26	1.96	288.3	68.9	22	24	0.86	0	18.47	0	0
106152	350	1553	NR	25	1.94	286.4	68.9	22	24	0.88	0	18.49	0	0
		Averaged parameters:	No Data	26	1.88	282.3	69.8	21	24	0.88	0	18.3	0	0

P-log well 106153, Quick Test and Flow Test performed on 10/31/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
106153	484	0841	NR	12	0.44	130.6	50.9	39.2	76	0.82	0	20	NR	NR	Flow Test
106153	484	0843	NR	24	0.87	187.5	51.8	38.5	142	0.98	0	19.38	NR	NR	
106153	484	0844	NR	36.5	1.45	246.6	50.9	38.1	245	1.14	0	18.13	NR	NR	
106153	350	0910	NR	12	0.74	169.9	53.1	46.7	4	NR	NR	NR	NR	NR	
106153	350	NR	NR	26	1.55	251.2	53.1	43.5	3	NR	NR	NR	NR	NR	
106153	200	0915	NR	18	1.39	234.8	NR	NR	2	0.32	0	19.74	NR	NR	
		Averaged parameters:	No Data	21	1.07	203.5	52.0	41.2	79	0.82	0	19	No Data	No Data	
106153	484	0918	NR	36	1.75	271.3	53.2	38.3	63	0.64	0	19.23	0	2	Quick Test
106153	484	0928	NR	36	1.53	252.7	49.3	43.2	298	1.38	0	17.96	0	2	
106153	484	0938	NR	36	1.31	235.4	56.1	34.1	314	1.42	0	18.03	0	2	
106153	484	0948	NR	36	1.38	242.2	58.8	30.6	305	1.36	0	17.79	0	2	
106153	484	0958	NR	36	1.58	259.6	60.4	28.4	308	1.38	0	17.64	0	2	
106153	484	1008	NR	35.5	1.4	244.3	61.3	27.8	310	1.38	0	17.78	0	2	
106153	484	1018	NR	35.5	1.36	241.0	62.2	27.4	309	1.38	0	17.37	0	2	
		Averaged parameters:	No Data	36	1.5	249.5	57.3	32.8	272	1.28	0	17.97	0	2	

P-log well 106154, Quick Test performed on 10/17/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%

106154	484	1510	NR	5.4	0.2	89.3	73.9	13.6	460	0.98	0	18.2	0	4
106154	484	1520	NR	5.55	0.19	87.1	74.7	13.6	466	1.14	0	17.45	0	5
106154	484	1530	NR	30	1.23	229.0	68.4	23.2	396	1.16	0	17.39	0	4
106154	484	1540	NR	30	1.19	225.9	71.1	18.8	398	1.22	0	17.56	0	5
106154	484	1550	NR	90.85	4.4	485.1	69.1	25.8	339	1.16	0	17.84	0	1
106154	484	1600	NR	94.92	4.39	488.6	68.9	26.8	350	1.2	0	17.56	0	1
	Averaged parameters:		No Data	43	1.9	267.5	71.0	20.3	402	1.1	0	17.7	0	3

P-log well 106154, Quick Test performed on 10/17/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106154	350	1404	NR	4.42	0.2	89.0	72.5	15.1	47	1.08	0	19.3	0	0
106154	350	1414	NR	4.55	0.19	86.8	72.5	14.6	51	1.18	0	19.22	0	0
106154	350	1424	NR	28	2	291.9	70.9	27.5	54	1.32	0	18.79	0	0
106154	350	1434	NR	28	1.99	290.9	70	30	60	1.38	0	18.41	0	0
106154	350	1444	NR	88.14	7.34	621.7	67.5	33.8	63	1.28	0	18.33	0	0
106154	350	1454	NR	89.5	7.29	621.8	67.6	36.2	64	1.36	0	17.59	0	0
	Averaged parameters:		No Data	40	3	333.7	70	26	57	1.3	0	18.6	0	0

P-log well 106154, Quick Test performed on 10/17/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106154	197	1255	NR	6.55	0.58	152.2	74.1	23.6	3	1.48	0	20.04	0	0
106154	197	1305	NR	6.38	0.49	140.6	77	26.5	2	1.52	0	19.36	0	0
106154	197	1315	NR	21	2.51	323.4	70.7	43.3	5	1.58	0	19.52	0	0
106154	197	1325	NR	22	2.79	341.7	71.1	40.3	1	1.58	0	19.24	0	0
106154	197	1335	NR	54	8.19	616.4	69.1	31.3	3	1.52	0	19.95	0	0
106154	197	1345	NR	55	8.16	615.9	67.6	38.5	3	1.58	0	20.45	0	0
	Averaged parameters:		No Data	27	3.79	365.1	72	34	3	1.54	0	19.76	0	0

P-log well 106155, Quick Test and Flow Test performed on 10/31/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
106155	200	1216	NR	18	1.69	234.4	61.9	30	7	0.28	0	19.38	NR	NR	
106155	350	1222	NR	14	0.6	155.0	64	22.9	68	0.58	0	18.35	NR	NR	
106155	350	1225	NR	28	1.6	258.1	61	26.2	67	0.58	0	18.42	NR	NR	Flow Test
106155	484	1228	NR	12	0.37	121.1	61.2	25.5	1473	0.9	0	17.95	NR	NR	
106155	484	1230	NR	24	0.74	174.5	61.5	24.2	1293	0.88	0	17.99	NR	NR	
106155	484	1231	NR	36	1.32	237.6	60.8	23.6	1239	0.86	0	18.02	0	11	
	Averaged parameters:		No Data	22	1.1	196.8	62	25	691	0.7	0	18.35	0	11	
106155	484	1231	NR	36	1.32	237.6	60.8	23.6	1239	0.86	0	18.02	0	11	
106155	484	1241	NR	37	1.19	225.8	59.9	25.5	1143	0.82	0	18.1	0	11	
106155	484	1251	NR	37	1.4	244.5	58.3	25.6	1139	0.86	0	18.31	0	12	
106155	484	1301	NR	37	1.52	255.8	62.2	23.4	1137	0.86	0	18.13	0	12	Quick Test
106155	484	1311	NR	37	1.49	252.7	59.7	24.2	1143	0.88	0	18.39	0	12	
106155	484	1321	NR	37	1.44	248.9	61.7	22.6	1132	0.82	0	17.87	0	11	
106155	484	1331	NR	37	1.49	252.6	59.2	24.1	1145	0.82	0	17.65	0	11	
	Averaged parameters:		No Data	37	1.4	245.4	60.3	24.1	1154	0.85	0	18.1	0	11	

P-log well 106156, Quick Test and Flow Test performed on 10/30/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
106156	484	1346	NR	10	0.33	114.3	57.7	45.7	68	1.48	0	16.26	NR	NR	
106156	484	1348	NR	21	0.91	193.0	58.1	44.4	86	1.42	0	16.7	NR	NR	
106156	484	1350	NR	32	1.45	248.1	58.1	42.5	68	1.04	0	17.01	NR	NR	Flow Test

106156	341	1354	NR	10	0.57	150.2	58.5	45.1	945	2.16	0	17.67	NR	NR	Flow Test
106156	341	1356	NR	22	1.72	266.0	58.5	44.6	937	2.14	0	17.57	NR	NR	
106156	178	1400	NR	13	1.6	253.3	60.1	56.3	265	3.98	0	16.33	NR	NR	
		Averaged parameters:	No Data	18	1.1	204.1	58.5	46.4	395	2.04	0	16.9	ND	ND	
106156	341	1409	NR	22	1.74	268.2	61	39.6	926	2.08	0	17.32	0	8	
106156	341	1419	NR	22	1.62	259.1	62.2	38.3	927	2.1	0	17.37	0	6	
106156	341	1429	NR	22	1.72	266.9	61.9	35.5	937	2.14	0	17.35	0	6	
106156	341	1439	NR	22	1.5	249.4	63.1	34.2	936	2.16	0	17.12	0	6	Quick Test
106156	341	1449	NR	22	1.5	249.2	62.2	34.9	937	2.18	0	17.27	0	6	
106156	341	1459	NR	22	1.49	248.6	63.1	34.3	924	2.18	0	17.26	0	6	
106156	341	1509	NR	22	1.53	251.7	61.2	36.5	927	2.2	0	17.53	0	7	
		Averaged parameters:	No Data	22	1.6	256.2	62.1	36.2	931	2.1	0	17.32	0	6	

SVE Well SVEW11, Flow Test performed on 11/18/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
SVEW11	450+	0936	NR	60	0.04	42.3	46.6	42.8	11	0.8	0	18.96	NR	NR	
SVEW11	350+	0954	NR	40	0.06	50.2	47.1	46.4	7	0.84	0	19.28	NR	NR	Step Flow Test
SVEW11	250+	0958	NR	20	0.04	39.6	46.6	49.2	6	0.88	0	19.38	NR	NR	
		Averaged parameters:	No Data	40	0.05	44.0	46.8	46.1	8	0.8	0	19.21	ND	ND	

SVE Well SVEW11, Quick Test performed on 10/29/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
SVEW11	NA	1643	4.2	57.0	0.28	105.2	67.5	18.3	68	0.82	0	18.51	0	0	
SVEW11	NA	1653	4	54.2	0.25	99.7	70.9	15.8	68	0.82	0	18.22	0	0	
SVEW11	NA	1703	4	54.2	0.28	105.2	68.5	17.2	72	0.86	0	18.71	0	0	
SVEW11	NA	1713	4	54.2	0.27	103.4	69	18.1	66	0.83	0	18.56	0	0	
SVEW11	NA	1723	4	54.2	0.3	109.1	70.4	16.2	81	0.82	0	18.27	0	0	Quick Test
SVEW11	NA	1733	4.1	55.6	0.3	109.0	68.6	15.4	69	0.83	0	18.53	0	0	
SVEW11	NA	1743	4	54.2	0.25	99.4	67.4	18.1	68	0.87	0	18.21	0	0	
SVEW11	NA	1745	7	94.9	0.47	136.9	NR	NR	NR	NR	NR	NR	NR	NR	
		Averaged parameters:	4	59.8	0.3	108.5	69	17.0	70	0.84	0	18.43	0	0	

SVM Well 106113, Quick Test and Flow Test performed on 10/31/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
106113	450	1611	NR	16	0.22	94.2	62.8	23.6	2590	0.76	0	18.39	NR	NR	
106113	450	1612	NR	32	0.63	163.6	63	22	2580	0.76	0	18.36	NR	NR	Step Flow Test
106113	450	1614	NR	49	1.2	232.3	62.2	21.2	2570	0.74	0	18.38	0	20	
		Averaged parameters:	No Data	32	0.7	163.4	63	22	2580	0.75	0	18.38	0	20	
106113	450	1624	NR	49.5	1.19	231.3	61.2	21.2	2500	0.72	0	18.24	0	20	
106113	450	1634	NR	48.5	1.16	228.3	60.8	21.4	2460	0.7	0	18.33	0	21	
106113	450	1644	NR	50	1	211.9	59.5	22.1	2450	0.72	0	18.39	0	21	Quick Test
106113	450	1654	NR	50	1.09	221.3	59.9	21.9	2440	0.72	0	18.38	0	21	
106113	450	1704	NR	50	1.11	223.2	59.2	22.1	2440	0.72	0	18.33	0	21	
106113	450	1714	NR	50	1	211.6	58.3	22.6	2420	0.72	0	18.46	0	22	
		Averaged parameters:	No Data	50	1	221.2	59.8	21.9	2452	0.7	0	18.36	0	21	

SVM Well 106119, Quick Test and Flow Test performed on 11/2/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
106119	NR	0836	NR	14	0	0.0	44.1	45.1	NR	NR	NR	NR	NR	NR	Step Flow Test
106119	NR	0839	NR	24	0.22	91.7	44.1	45.1	NR	NR	NR	NR	NR	NR	
106119	NR	841	NR	36	0.5	143.1	44.1	45.1	NR	NR	NR	NR	NR	NR	

	Averaged parameters:		No Data	25	0.2	78.3	44.1	45.1	ND	ND	ND	ND	ND	ND	
106119	NR	0841	NR	36	0.5	143.1	44.1	45.1	26	1.5	NR	17.95	NR	NR	
106119	NR	0851	NR	36	0.34	118.3	46.9	41.7	19	1.62	NR	18.29	NR	NR	
106119	NR	0901	NR	36	0.24	99.4	47.3	40.7	23	1.66	NR	18.40	NR	NR	
106119	NR	0911	NR	37	0.45	136.5	48.4	40	33	1.68	NR	18.27	NR	NR	Quick Test
106119	NR	0921	NR	36	0.46	138.3	52.2	34.2	36	1.7	NR	18.24	NR	NR	
106119	NR	0931	NR	36	0.45	136.7	51.4	34.8	26	1.6	NR	18.24	NR	NR	
106119	NR	0941	NR	36	0.7	170.6	52.2	33.8	27	1.68	NR	18.06	NR	NR	
	Averaged parameters:		No Data	36	0.4	134.7	48.9	39	27	1.6	ND	18.21	ND	ND	

SVM Well 106131, Quick Test and Flow Test performed on 11/2/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
106131	NR	1031	NR	16	0.22	93.1	57.2	NR	NR	NR	NR	NR	NR	NR	
106131	NR	1034	NR	36	0.88	192.2	57.2	NR	NR	NR	NR	NR	NR	NR	Step Flow Test
106131	NR	1039	NR	50	1.5	256.9	57.2	NR	NR	NR	NR	NR	NR	NR	
	Averaged parameters:		No Data	34	0.9	180.7	57.2	ND	ND	ND	ND	ND	ND	ND	
106131	NR	1050	NR	50	1.46	253.6	57.2	30.7	414	0.56	NR	18.45	NR	NR	
106131	NR	1100	NR	50	1.38	247.0	59	31.8	415	0.58	NR	18.65	NR	NR	
106131	NR	1110	NR	50	1.47	255.2	60.1	27.2	400	0.5	NR	17.96	NR	NR	
106131	NR	1120	NR	50	1.48	256.6	62.2	25.2	401	0.5	NR	18.23	NR	NR	Quick Test
106131	NR	1130	NR	50	1.52	260.4	63.7	24	405	0.52	NR	18.34	NR	NR	
106131	NR	1140	NR	50	1.56	264.5	66.2	22.4	405	0.59	NR	18.33	NR	NR	
106131	NR	1150	NR	49	1.58	265.2	64.2	22.9	407	0.52	NR	18.12	NR	NR	
	Averaged parameters:		No Data	50	1.49	257.5	62	26	407	0.5	ND	18.30	ND	ND	

SVM Well 106129, Quick Test and Flow Test performed on 10/31/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
106129	450	1413	NR	15	0.2	89.8	64.4	21	2590	1.56	0	15.68	NR	NR	Step Flow Test
106129	450	1414	NR	30	0.69	170.9	64.8	20.4	2660	1.56	0	15.86	NR	NR	
106129	450	1422	NR	45	1.25	235.5	63	20.8	2710	1.56	0	15.90	0	25	
	Averaged parameters:		No Data	30	0.7	165.4	64	21	2653	1.56	0	15.81	0	25	
106129	450	1422	NR	45	1.25	235.5	63	20.8	2710	1.56	0	15.90	0	25	
106129	450	1432	NR	46	1.16	227.3	62.8	20.6	2920	1.56	0	15.52	0	22	
106129	450	1442	NR	45	1.21	231.7	62.4	20.9	2940	1.58	0	16.37	0	23	
106129	450	1452	NR	46	1.05	216.5	63.7	20.2	3010	1.58	0	15.38	0	28	Quick Test
106129	450	1502	NR	46	1.1	221.2	61.9	20.5	3010	1.6	0	15.37	0	28	
106129	450	1512	NR	46	1.06	216.9	60.8	22.7	3020	1.6	0	15.48	0	28	
106129	450	1522	NR	46	1.13	224.0	61	22.2	3020	1.58	0	15.42	0	28	
	Averaged parameters:		No Data	46	1.1	224.7	62.2	21.1	2947	1.6	0	15.63	0	26	

SVM Well 106130, Quick Test and Flow Test performed on 10/30/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%		
106130	450	0945	NR	12.3	0.39	124.1	55.8	48.4	146	0.56	0	18.92	0	0		
106130	450	0951	NR	26.5	0.78	179.5	56.3	45.3	137	0.52	0	19.11	0	0	Step Flow Test	
106130	450	0957	NR	43	1.58	261.9	53.8	46.1	191	0.7	0	18.62	0	1		
	Averaged parameters:		No Data	27	0.9	188.5	55	47	158	0.59	0	18.88	0	0		
106130	450	1007	NR	42.5	1.7	272.2	56.7	41	201	0.68	0	18.22	0	1		*LEL meter was miss-reading according to field notes
106130	450	1017	NR	43.5	1.38	245.7	56.7	39.9	213	0.74	0	17.98	0	2*		
106130	450	1027	NR	44	1.46	252.7	55.6	41	217	0.74	0	18.26	0	1*		
106130	450	1037	NR	43	1.55	260.5	57.7	37.8	220	0.68	0	18.12	0	1	Quick Test	
106130	450	1047	NR	43	1.53	258.4	55.9	38.5	223	0.72	0	18.49	0	1		
106130	450	1057	NR	43	1.63	267.0	57	37.2	227	0.7	0	18.72	0	1		
	Averaged parameters:		No Data	41	1.5	249.3	56.4	40.3	208	0.7	0	18.38	0	1		

SVM Well 106142, Quick Test and Flow Test performed on 11/8/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
106142	NR	1517	NR	45	1.32	242.5	68	16.4	0	0.04	0	20.33	NR	NR	
106142	NR	NR	NR	30	0.61	160.3	65.1	21.9	0	0.06	0	20.44	NR	NR	Step Flow Test
106142	NR	NR	NR	15	0.2	89.5	64.2	21.8	0	0.06	0	20.39	NR	NR	
	Averaged parameters:		No Data	30	0.7	164.1	66	20.0	0	0.05	0	20.39	ND	ND	
106142	NR	1530	NR	46	1.21	231.6	63.9	21	0	0.08	0	20.42	0	0	
106142	NR	1540	NR	45	1.06	216.2	62.6	23.3	5	0.12	0	20.12	0	0	
106142	NR	1550	NR	46	1.24	234.1	62.2	20.9	5	0.14	0	20.15	0	0	
106142	NR	1600	NR	46	1.19	229.5	63.1	23.5	6	0.16	0	20.20	0	0	Quick Test
106142	NR	1610	NR	46	1.26	236.0	62.4	23	5	0.16	0	20.29	0	0	
106142	NR	1620	NR	45	1.15	225.4	62.6	39.2	6	0.18	0	20.30	0	0	
106142	NR	1630	NR	46	1.22	232.0	61.2	24.7	7	0.16	0	20.12	0	0	
	Averaged parameters:		No Data	46	1.19	229.3	62.6	25.1	5	0.14	0	20.23	0	0	

SVM Well 10628, Quick Test and Flow Test performed on 11/8/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
10628	250, 450, 350	1103	NR	60	0.1	67.7	57.4	26.3	248	0.32	0	19.97	NR	NR	
10628	250, 450, 350	NR	NR	40	0.12	72.3	65.1	25.3	341	0.42	0	19.97	NR	NR	Step Flow Test
10628	250, 450, 350	NR	NR	20	0.13	72.9	65.8	26.3	348	0.38	0	19.88	NR	NR	
	Averaged parameters:		No Data	40	0.1	71.0	62.8	26.0	312	0.37	0	19.94	ND	ND	
10628	NR	1130	NR	60	0.19	94.5	69.3	23.5	317	0.42	0	20.57	0	0	
10628	NR	1140	NR	60	0.22	101.5	67.1	24.7	291	0.42	0	19.39	0	0	
10628	NR	1150	NR	59.5	0.24	106.1	67.6	30.1	258	0.44	0	20.78	0	0	
10628	NR	1200	NR	59.5	0.24	106.1	69.1	20.9	228	0.46	0	20.41	0	0	Quick Test
10628	NR	1210	NR	59	0.23	103.7	67.3	25.7	209	0.38	0	19.61	0	0	
10628	NR	1220	NR	59	0.24	105.5	63.5	24.7	193	0.38	0	20.07	0	0	
10628	NR	1230	NR	59	0.19	93.8	62.8	26.1	177	0.38	0	20.10	0	0	
	Averaged parameters:		No Data	59	0.22	101.6	66.7	25.1	239	0.41	0	20.13	0	0	

Observation wells for KAFB 106148 11-1-2013

Well ID	Depth	Time	Vacuum (inWC)
106119	450	804	1.22
	350		1.28
	250		1.31
	150		1.26
	50		0.35
106111	450	818	1.29
	350		1.45
	250		1.45
	150		1.38
	50		0.5
106117	450	841	1.44
	350		1.49
	250		1.49
	150		1.39
	50		0.66
106128	450	846	1.48
	350		1.53
	250		1.58
	150		1.46
	50		0.69
106118	450	834	1.46
	350		1.51
	250		1.53
	150		1.48
	50		0.46
106113	450		1.54
	350		1.58
	250		1.6
	150		1.54
	50		0.46
106119	450	1029	1.74
	350		1.84
	250		2.04
	150		1.76
	50		0.27
106111	450	1020	1.78
	350		1.89
	250		1.9
	150		1.73
	50		0.4
106117	450	1033	1.7
	350		1.76
	250		1.76
	150		1.56
	50		0.57
106128	450	1038	1.66
	350		1.76
	250		1.83
	150		1.57
	50		0.58
106118	450	1024	1.83
	350		1.81
	250		1.8
	150		1.74
	50		0.3
106113	450	1042	1.8
	350		1.8
	250		1.78
	150		1.66
	50		0.27
106119	450	1113	1.77
	350		1.9
	250		2.11
	150		1.78
	50		0.23
106111	450	1056	1.76
	350		1.9
	250		1.92
	150		1.74
	50		0.42
106117	450	1111	1.76
	350		1.81
	250		1.82
	150		1.59
	50		0.57
106128	450	1108	1.72
	350		1.79
	250		1.86
	150		1.62
	50		0.57
106118	450	1100	1.84
	350		1.86

Observation wells for KAFB-106150 11/7/2013

Well ID	Depth	Time	Vacuum (inWC)
106128	450	823	5.33
	350		5.23
	250		4.06
	150		3.55
	50		1.09
106117	450	802	5.7
	350		5.29
	250		4.04
	150		3.41
	50		1.11
106114	450	818	5.64
	350		5.5
	250		4.18
	150		3.89
	50		0.49
106116	450	809	5.03
	350		5.41
	250		4
	150		3.37
	50		0.59
106111	450	738	5.44
	350		5.12
	250		4.08
	150		3.7
	50		0.79
106109	450	751	4.83
	350		4.78
	250		4.53
	150		4.05
	50		0.09
106128	450	944	5.03
	350		5.28
	250		4.02
	150		3.48
	50		0.97
106117	450	934	5.05
	350		4.76
	250		4.04
	150		3.43
	50		0.99
106114	450	941	5.27
	350		5.24
	250		4.09
	150		3.81
	50		0.33
106116	450	937	4.6
	350		5
	250		3.99
	150		3.33
	50		0.56
106111	450	929	5.22
	350		5.05
	250		4.19
	150		3.78
	50		0.76
106109	450	924	5.08
	350		4.88
	250		4.64
	150		4.15
	50		0.07
106128	450	1009	4.96
	350		5.22
	250		3.97
	150		3.4
	50		0.93
106117	450	1003	4.92
	350		4.83
	250		3.95
	150		3.33
	50		0.97
106114	450	1007	5.22
	350		5.17
	250		4.03
	150		3.75
	50		0.3
106116	450	1005	4.51
	350		4.91
	250		3.9
	150		3.21
	50		0.51
106111	450	957	5.1
	350		4.98

Observation Wells for KAFB-106155 11/4/2013

Well ID	Depth	Time	Vacuum (inWC)
106120	450	718	-1.28
	350		-1.29
	250		-1.12
	150		-1.13
	50		0.13
106115	450	724	-1.46
	350		-1.41
	250		-1.26
	150		-0.99
	50		0.15
106113	450	713	-1.44
	350		-1.49
	250		-1.25
	150		-1.02
	50		0.1
106129	450	737	-1.32
	350		-1.32
	250		-1.02
	150		-0.74
	50		0.12
106116	450	732	-1.16
	350		-1.27
	250		-1.03
	150		-0.77
	50		0.05
106118	450	657	-1.56
	350		-1.53
	250		-1.39
	150		-1.18
	50		0.01
106120	450	817	-0.99
	350		-1.05
	250		-0.86
	150		-0.7
	50		0.3
106115	450	814	-1.05
	350		-1.07
	250		-0.96
	150		-0.67
	50		0.27
106113	450	820	-0.73
	350		-0.87
	250		-0.79
	150		-0.58
	50		0.26
106129	450	828	-0.68
	350		-0.87
	250		-0.75
	150		-0.47
	50		0.19
106116	450	822	-0.62
	350		-0.82
	250		-0.69
	150		-0.42
	50		0.19
106118	450	830	-1.04
	350		-1
	250		-0.88
	150		-0.69
	50		0.1
106120	450	847	-0.91
	350		-0.97
	250		-0.82
	150		-0.68
	50		0.2
106115	450	842	-0.96
	350		-1.05
	250		-0.92
	150		-0.66
	50		0.2
106113	450	850	-0.64
	350		-0.77
	250		-0.76
	150		-0.59
	50		0.18
106129	450	856	-0.58
	350		-0.83
	250		-0.77
	150		-0.48
	50		0.12
106116	450	853	-0.68
	350		-0.8

Observation Wells for KAFB 106149

Well ID	Depth	Time	Vacuum (inWC)
106117	350	1056	1.06 [1]
	250		1.03
	150		0.9
	50		0.33
106116	350	1046	1.1
	250		1.08
	150		0.96
	50		0.25
106128	350	1053	1.1
	250		1.06
	150		0.94
	50		0.34
106119	350	1038	1.08
	250		1.07
	150		1.02
106112	350	1042	1.1
	250		1.08
	150		0.95
106121	350	1049	1.02
	250		1.13
	150		0.99
	50		0.12
106117	350	1139	1.48
	250		2.52
	150		1.34
	50		0.47
106116	350	1148	1.04
	250		1.3
	150		0.88
	50		0.15
106128	350	1154	1.05
	250		1.15
	150		0.95
	50		0.27
106119	350	1156	1.04
	250		1.21
	150		1.06
106112	350	1142	1.01
	250		1.13
	150		0.88
106121	350	1151	1
	250		1.01
	150		0.85
	50		0
106117	350	1205	1.42
	250		2.56
	150		1.31
	50		0.41
106116	350	1218	0.9
	250		1.23
	150		0.7
	50		0.06
106128	350	1231	0.91
	250		1.07
	150		0.85
	50		0.19
106119	350	1235	0.87
	250		1.08
	150		0.92
106112	350	1209	0.91
	250		1.08
	150		0.81
106121	350	1227	0.82
	250		0.85
	150		0.68
	50		-0.08
106117	350	1306	1.21
	250		2.19
	150		1.17
	50		0.35
106116	350	1309	0.77
	250		1.11
	150		0.63
	50		0
106128	350	1319	0.68
	250		0.85
	150		0.65
	50		0.05
106119	350	1323	0.64
	250		0.88
	150		0.73
106112	350	1300	0.79

Observation Wells for KAFB 106154

Well ID	Depth	Time	Vacuum (inWC)
106112	350	821	0 [1]
	250		0.08
	150		0.16
	50		0.22
106117	350	837	0.1
	250		0.13
	150		0.18
	50		0.21
106116	350	834	0.09
	250		0.17
	150		0.25
	50		0.29
106130	350	825	0.05
	250		0.09
	150		0.18
106119	350	840	0.05
	250		0.13
	150		0.18
106121	350	830	0.06
	250		0.1
	150		0.19
	50		0.31
106112	350	907	0.28 [1]
	250		1.08
	150		0.34
	50		0.21
106117	350	926	0.28
	250		0.5
	150		0.4
	50		0.26
106116	350	921	0.21
	250		0.49
	150		0.34
	50		0.24
106130	350	909	0.15
	250		0.37
	150		0.25
106119	350	928	0.24
	250		0.36
	150		0.37
106121	350	924	0.18
	250		0.2
	150		0.25
	50		0.21
106112	350	935	0.39 [1]
	250		1.32
	150		0.51
	50		0.26
106117	350	948	0.39
	250		0.63
	150		0.5
	50		0.31
106116	350	943	0.33
	250		0.62
	150		0.44
	50		0.27
106130	350	937	0.31
	250		0.54
	150		0.41
106119	350	950	0.33
	250		0.55
	150		0.48
106121	350	946	0.27
	250		0.31
	150		0.36
	50		0.24
106112	350	1004	0.49 [1]
	250		1.45
	150		0.62
	50		0.27
106117	350	1018	0.44
	250		0.7
	150		0.56
	50		0.29
106116	350	1013	0.35
	250		0.7
	150		0.48
	50		0.21
106130	350	1006	0.38
	250		0.62
	150		0.47
106119	350	1020	0.4

Observation Wells for 106160 10/4/2013

Well ID	Depth	Time	Vacuum (inWC)
106117	450	7:41	1.73
106117	350		1.12
106117	250		0.49
106116	450	7:44	1.07
106116	350		0.87
106116	250		0.37
106121	450	7:48	0.49
106121	350		0.46
106121	250		0.21
106114	450	7:51	1.03
106114	350		0.87
106128	450	7:54	3.71
106128	350		1.41
106128	250		0.45
106119	450	7:57	1.57
106119	350		1.02
106119	450	8:47	1.81
106119	350		1.29
106117	450	8:51	2.03
106117	350		1.4
106117	250		0.74
106116	450	8:53	1.4
106116	350		1.22
106116	250		0.65
106121	450	8:56	0.8
106121	350		0.76
106121	250		0.48
106114	450	8:59	1.36
106114	350		1.17
106128	450	9:02	4.04
106128	350		1.8
106128	250		0.78
106119	450	9:11	1.92
106119	350		1.35
106117	450	9:16	2.12
106117	350		1.48
106117	250		0.81
106116	450	9:18	1.48
106116	350		1.3
106116	250		0.77
106121	450	9:22	0.87
106121	350		0.82
106121	250		0.55
106114	450	9:24	1.39
106114	350		1.25
106128	450	9:28	4.09
106128	350		1.88
106128	250		0.82
106119	450	9:44	2.03
106119	350		1.48
106128	450	9:47	4.13
106128	350		1.82
106128	250		0.82
106114	450	9:50	1.44
106114	350		1.29
106121	450	9:52	0.92
106121	350		0.86
106121	250		0.59
106116	450	9:54	1.52
106116	350		1.32
106116	250		0.76
106117	450	8:57	2.19
106117	350		1.55
106117	250		0.85
106119	450	10:16	2.1
106119	350		1.53
106128	450	10:18	4.2
106128	350		1.9
106128	250		0.89
106114	450	10:22	1.57
106114	350		1.39
106121	450	10:24	1.03
106121	350		0.94
106121	250		0.69
106116	450	10:28	1.6
106116	350		1.4
106116	250		0.82
106117	450	10:29	2.28
106117	350		1.62
106117	250		0.9
106119	450	10:41	2.11
106119	350		1.56

Observation Wells for 106161 10/3/2013

Well ID	Depth	Time	Vacuum (inWC)
106116	450	8:10	3.94
106116	350		1.82
106116	250		0.06
106117	450	8:14	1.42
106117	350		0.9
106117	250		0.16
106114	450	8:20	0.98
106114	350		0.78
106121	450	8:25	0.49
106121	350		0.45
106121	250		-0.07
106129	450	8:27	1.36
106129	350		0.72
106112	450	8:33	1.81
106112	350		1.34
106116	450	9:14	4.35
106116	350		2.04
106116	250		0.25
106117	450	9:17	1.66
106117	350		1.05
106117	250		0.38
106114	450	9:22	1.22
106114	350		1
106121	450	9:24	0.73
106121	350		0.67
106121	250		0.11
106129	450	9:27	1.61
106129	350		0.97
106112	450	9:32	2.04
106112	350		1.57
106116	450	9:44	4.39
106116	350		2.08
106116	250		0.3
106117	450	9:47	1.69
106117	350		1.13
106117	250		0.38
106114	450	9:52	1.22
106114	350		1.01
106121	450	9:55	0.72
106121	350		0.65
106121	250		0.09
106129	450	9:58	1.58
106129	350		0.94
106112	450	10:00	1.93
106112	350		1.5
106116	450	10:15	4.33
106116	350		2.02
106116	250		0.22
106117	450	10:16	1.64
106117	350		1.07
106117	250		0.32
106114	450	10:19	1.16
106114	350		0.94
106121	450	10:22	0.65
106121	350		0.58
106121	250		0.01
106129	450	10:25	1.5
106129	350		0.87
106112	450	10:29	1.89
106112	350		1.42
106116	450	10:40	4.27
106116	350		1.96
106116	250		0.14
106117	450	10:43	1.55
106117	350		1.03
106117	250		0.24
106114	450	10:47	1.09
106114	350		0.87
106121	450	10:50	0.57
106121	350		0.5
106121	250		-0.06
106129	450	10:53	1.44
106129	350		0.8
106112	450	10:56	1.82
106112	350		1.34
106116	450	11:10	4.17
106116	350		1.85
106116	250		0.04
106117	450	11:08	1.48
106117	350		0.94
106117	250		0.15
106114	450	11:14	1

	250		1.76
	150		1.71
	50		0.29
106113	450	1105	1.78
	350		1.84
	250		1.82
	150		1.68
	50		0.28
106119	450	1130	1.67
	350		1.81
	250		2.02
	150		1.69
	50		0.16
106111	450	1120	1.81
	350		1.91
	250		1.94
	150		1.75
	50		0.41
106117	450	1133	1.65
	350		1.71
	250		1.73
	150		1.46
	50		0.47
106128	450	1141	1.58
	350		1.68
	250		1.73
	150		1.5
	50		0.45
106118	450	1125	1.81
	350		1.82
	250		1.8
	150		1.69
	50		0.22
106113	450	1137	1.7
	350		1.74
	250		1.7
	150		1.56
	50		0.16
106119	450	1212	1.52
	350		1.65
	250		1.87
	150		1.54
	50		0.07
106111	450	1157	1.67
	350		1.78
	250		1.8
	150		1.61
	50		0.31
106117	450	1209	1.53
	350		1.58
	250		1.6
	150		1.37
	50		0.39
106128	450	1207	1.53
	350		1.61
	250		1.66
	150		1.41
	50		0.4
106118	450	1200	1.68
	350		1.7
	250		1.66
	150		1.51
	50		0.13
106113	450	1204	1.6
	350		1.64
	250		1.61
	150		1.43
	50		0.1
106119	450	1228	1.42
	350		1.58
	250		1.29
	150		1.45
	50		0.01
106111	450	1220	1.56
	350		1.67
	250		1.69
	150		1.52
	50		0.25
106117	450	1232	1.42
	350		1.48
	250		1.47
	150		1.23
	50		0.28
106128	450	1239	1.29
	350		1.46
	250		1.54

	250		4.12
	150		3.69
	50		0.72
106109	450	959	5
	350		4.8
	250		4.55
	150		4.06
	50		0.02
106128	450	1045	4.73
	350		5.01
	250		3.8
	150		3.25
	50		0.82
106117	450	1035	4.76
	350		4.69
	250		3.82
	150		3.23
	50		0.9
106114	450	1041	4.89
	350		4.99
	250		3.89
	150		3.6
	50		0.2
106116	450	1038	4.34
	350		4.73
	250		3.79
	150		3.1
	50		0.41
106111	450	1030	4.92
	350		4.83
	250		3.99
	150		3.59
	50		0.63
106109	450	1024	4.96
	350		4.72
	250		4.47
	150		4
	50		-0.02
106128	450	1109	4.62
	350		4.89
	250		3.66
	150		3.11
	50		0.74
106117	450	1102	4.61
	350		4.54
	250		3.7
	150		3.1
	50		0.84
106114	450	1107	4.89
	350		4.85
	250		3.76
	150		3.45
	50		0.15
106116	450	1104	4.21
	350		4.57
	250		3.65
	150		2.98
	50		0.36
106111	450	1058	4.73
	350		4.65
	250		3.83
	150		3.43
	50		0.53
106109	450	1055	4.77
	350		4.57
	250		4.31
	150		3.82
	50		-0.07
106128	450	1142	4.3
	350		4.55
	250		3.39
	150		2.88
	50		0.59
106117	450	1133	4.24
	350		4.24
	250		3.43
	150		2.84
	50		0.67
106114	450	1139	4.59
	350		4.55
	250		3.5
	150		3.21
	50		0.02
106116	450	1130	3.95
	350		4.3
	250		3.42

	250		-0.7
	150		-0.46
	50		0.1
106118	450	900	-0.99
	350		-0.98
	250		-0.86
	150		-0.69
	50		0.09
106120	450	913	-0.85
	350		-0.96
	250		-0.84
	150		-0.71
	50		0.12
106115	450	909	-0.91
	350		-1.04
	250		-0.92
	150		-0.66
	50		0.13
106113	450	915	-0.62
	350		-0.77
	250		-0.79
	150		-0.61
	50		0.09
106129	450	921	-0.62
	350		-0.87
	250		-0.81
	150		-0.55
	50		0.02
106116	450	918	-0.8
	350		-0.83
	250		-0.75
	150		-0.51
	50		0
106118	450	925	-1.08
	350		-1.04
	250		-0.92
	150		-0.75
	50		-0.01
106120	450	945	-0.93
	350		-0.99
	250		-0.9
	150		-0.77
	50		0.05
106115	450	940	-0.93
	350		-1.02
	250		-0.95
	150		-0.74
	50		0.05
106113	450	948	-0.67
	350		-0.8
	250		-0.86
	150		-0.71
	50		0
106129	450	955	-0.64
	350		-0.9
	250		-0.84
	150		-0.65
	50		-0.03
106116	450	952	-0.84
	350		-0.88
	250		-0.81
	150		-0.6
	50		-0.07
106118	450	1000	-1.11
	350		-1.07
	250		-0.97
	150		-0.82
	50		-0.05
106120	450	1016	-1.01
	350		-1.05
	250		-1
	150		-0.85
	50		-0.02
106115	450	1013	-1.02
	350		-1.14
	250		-1.08
	150		-0.83
	50		-0.02
106113	450	1019	-0.7
	350		-0.86
	250		-0.93
	150		-0.77
	50		-0.06
106129	450	1032	-0.71
	350		-0.97
	250		-0.97

	250		1
	150		0.72
106121	350	1315	0.62
	250		0.62
	150		0.47
	50		-0.18
106117	350	1350	1.01
	250		2.21
	150		1.01
	50		0.26
106116	350	1335	0.59
	250		0.96
	150		0.55
	50		-0.07
106128	350	1344	0.56
	250		0.78
	150		0.57
	50		0.03
106119	350	1348	0.56
	250		0.82
	150		0.66
106112	350	1333	0.58
	250		0.8
	150		0.55
106121	350	1339	0.49
	250		0.51
	150		0.37
	50		-0.2
106117	350	1418	0.91
	250		2.11
	150		0.93
	50		0.22
106116	350	1404	0.52
	250		0.92
	150		0.44
	50		-0.06
106128	350	1413	0.47
	250		0.72
	150		0.51
	50		0.04
106119	350	1403	0.48
	250		0.72
	150		0.47
106112	350	1415	0.48
	250		0.76
	150		0.61
106121	350	1408	0.4
	250		0.42
	150		0.26
	50		-0.2
106117	350	1444	0.91
	250		2.14
	150		0.97
	50		0.28
106116	350	1430	0.41
	250		0.81
	150		0.39
	50		-0.09
106128	350	1438	0.42
	250		0.66
	150		0.47
	50		0.03
106119	350	1427	0.38
	250		0.62
	150		0.4
106112	350	1441	0.42
	250		0.71
	150		0.58
106121	350	1433	0.32
	250		0.34
	150		0.2
	50		-0.2
106117	350	1508	0.82
	250		1.98
	150		0.86
	50		0.23
106116	350	1455	0.4
	250		0.83
	150		0.4
	50		-0.05
106128	350	1503	0.38
	250		0.64
	150		0.47
	50		0.03
106119	350	1506	0.38
	250		0.68

	250		0.63
	150		0.55
106121	350	1015	0.28
	250		0.33
	150		0.36
	50		0.18
106112	350	1038	0.58 [1]
	250		1.56
	150		0.69
	50		0.26
106117	350	1047	0.51
	250		0.78
	150		0.63
	50		0.3
106116	350	1045	0.43
	250		0.81
	150		0.56
	50		0.23
106130	350	1041	0.48
	250		0.72
	150		0.58
106119	350	1050	0.45
	250		0.7
	150		0.61
106121	350	1043	0.35
	250		0.38
	150		0.4
	50		0.15
106112	350	1106	0.57 [1]
	250		1.54
	150		0.66
	50		0.2
106117	350	1116	0.46
	250		0.73
	150		0.55
	50		0.22
106116	350	1114	0.39
	250		0.79
	150		0.51
	50		0.15
106130	350	1108	0.49
	250		0.75
	150		0.58
106119	350	1118	0.38
	250		0.64
	150		0.53
106121	350	1111	0.31
	250		0.38
	150		0.34
	50		0.1
106112	350	1138	0.52 [1]
	250		1.48
	150		0.61
	50		0.17
106117	350	1148	0.32
	250		0.61
	150		0.43
	50		0.12
106116	350	1145	0.29
	250		0.67
	150		0.41
	50		0.05
106130	350	1140	0.35
	250		0.63
	150		0.43
106119	350	1150	0.27
	250		0.54
	150		0.41
106121	350	1142	0.18
	250		0.25
	150		0.21
	50		0
106112	350	1205	0.4 [1]
	250		1.36
	150		0.49
	50		0.06
106117	350	1212	0.32
	250		0.62
	150		0.43
	50		0.13
106116	350	1208	0.24
	250		0.63
	150		0.38
	50		0.06
106130	350	1206	0.3
	250		0.6

106128	450	10:44	4.22
106128	350		1.98
106128	250		0.91
106114	450	10:50	1.62
106114	350		1.46
106121	450	10:52	1.11
106121	350		1.05
106121	250		0.79
106116	450	10:56	1.73
106116	350		1.53
106116	250		0.93
106117	450	10:58	2.38
106117	350		1.69
106117	250		1.1
106119	450	11:12	2.27
106119	350		1.7
106128	450	11:17	4.26
106128	350		1.99
106128	250		0.91
106114	450	11:21	1.59
106114	350		1.44
106121	450	11:24	1.05
106121	350		1.02
106121	250		0.74
106116	450	11:27	1.66
106116	350		1.46
106116	250		0.84
106117	450	11:29	2.32
106117	350		1.66
106117	250		0.94
106119	450	11:40	2.08
106119	350		1.53
106128	450	11:47	4.26
106128	350		2.06
106128	250		0.98
106114	450	11:51	1.67
106114	350		1.5
106121	450	11:53	1.15
106121	350		1.09
106121	250		0.82
106116	450	11:56	1.74
106116	350		1.57
106116	250		0.92
106117	450	11:58	2.43
106117	350		1.76
106117	250		1.01
106119	450	12:11	2.23
106119	350		1.68
106128	450	12:17	4.36
106128	350		2.11
106128	250		1.01
106114	450	12:22	1.65
106114	350		1.52
106121	450	12:24	1.18
106121	350		1.13
106121	250		0.82
106116	450	12:27	1.74
106116	350		1.52
106116	250		0.93
106117	450	12:31	2.4
106117	350		1.75
106117	250		1.02
106119	450	12:43	2.21
106119	350		1.65
106128	450	12:48	4.25
106128	350		2.06
106128	250		0.94
106114	450	12:52	1.65
106114	350		1.46
106121	450	12:55	1.11
106121	350		1.05
106121	250		0.076
106116	450	12:58	1.69
106116	350		1.52
106116	250		0.85
106117	450	12:59	2.39
106117	350		1.76
106117	250		0.97
106119	450	13:12	2.14
106119	350		1.52
106128	450	13:16	4.16
106128	350		1.92
106128	250		0.81
106114	450	13:20	1.48
106114	350		1.34
106121	450	13:22	0.99

106114	350		0.79
106121	450	11:16	0.49
106121	350		0.41
106121	250		-0.14
106129	450	11:19	1.34
106129	350		0.68
106112	450	11:22	1.74
106112	350		1.26
106116	450	11:40	4.07
106116	350		1.77
106116	250		-0.05
106117	450	11:41	1.39
106117	350		0.84
106117	250		0.06
106114	450	11:45	0.91
106114	350		0.69
106121	450	11:48	0.42
106121	350		0.32
106121	250		-0.23
106129	450	11:50	1.25
106129	350		0.61
106112	450	11:53	1.6
106112	350		1.11
106116	450	12:17	3.86
106116	350		1.54
106116	250		-0.26
106117	450	12:15	1.18
106117	350		0.63
106117	250		-0.15
106114	450	12:21	0.67
106114	350		0.45
106121	450	12:24	0.16
106121	350		0.09
106121	250		-0.47
106129	450	12:26	1.02
106129	350		0.36
106112	450	12:29	1.34
106112	350		0.84
106116	450	12:44	3.65
106116	350		1.34
106116	250		-0.47
106117	450	12:46	0.96
106117	350		0.41
106117	250		-0.37
106114	450	12:51	0.47
106114	350		0.26
106121	450	12:53	-0.02
106121	350		-0.07
106121	250		-0.67
106129	450	12:56	0.84
106129	350		0.18
106112	450	12:59	1.19
106112	350		0.72
106116	450	13:12	3.5
106116	350		1.16
106116	250		-0.63
106117	450	13:16	0.77
106117	350		0.23
106117	250		-0.55
106114	450	13:20	0.29
106114	350		0.07
106121	450	13:22	-0.24
106121	350		-0.31
106121	250		-0.89
106129	450	13:25	0.62
106129	350		-0.04
106112	450	13:28	0.96
106112	350		0.47
106116	450	13:45	3.22
106116	350		0.89
106116	250		-0.9
106117	450	13:43	0.6
106117	350		0.02
106117	250		-0.75
106114	450	13:50	0.04
106114	350		-0.18
106121	450	13:52	-0.49
106121	350		-0.58
106121	250		-1.16
106129	450	13:54	0.33
106129	350		-0.28
106112	450	13:57	0.67
106112	350		0.22
106116	450	14:12	3.06
106116	350		0.75
106116	250		-1.05

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	50		0.31
106118	450	1223	1.42
	350		1.58
	250		1.55
	150		1.44
	50		0.05
106113	450	1235	1.46
	350		1.49
	250		1.44
	150		1.28
	50		0
106119	450	1317	1.18
	350		1.31
	250		1.35
	150		1.29
	50		-0.04
106111	450	1301	1.32
	350		1.43
	250		1.45
	150		1.31
	50		0.1
106117	450	1314	1.19
	350		1.25
	250		1.1
	150		1.03
	50		0.19
106128	450	1312	1.1
	350		1.24
	250		1.28
	150		1.07
	50		0.16
106118	450	1304	1.15
	350		1.36
	250		1.33
	150		1.21
	50		-0.05
106113	450	1310	1.2
	350		1.26
	250		1.2
	150		1.06
	50		-0.11
106119	450	1337	1.1
	350		1.22
	250		1.52
	150		1.2
	50		-0.03
106111	450	1323	1.18
	350		1.29
	250		1.32
	150		1.17
	50		0.05
106117	450	1335	1.04
	350		1.12
	250		1.14
	150		0.93
	50		0.13
106128	450	1333	1.01
	350		1.12
	250		1.16
	150		0.94
	50		0.1
106118	450	1326	1.17
	350		1.21
	250		1.66
	150		1.12
	50		-0.11
106113	450	1330	1.08
	350		1.13
	250		1.09
	150		0.89
	50		-0.16
106119	450	1405	0.9
	350		1.03
	250		1.28
	150		1.01
	50		-0.09
106111	450	1355	1
	350		1.13
	250		1.16
	150		1.01
	50		0
106117	450	1408	0.87
	350		0.92
	250		0.94
	150		0.75

	150		2.76
	50		0.23
106111	450	1128	4.48
	350		4.44
	250		3.62
	150		3.23
	50		0.46
106109	450	1124	4.53
	350		4.34
	250		4.08
	150		3.61
	50		-0.17
106128	450	1215	3.5
	350		4.24
	250		3.1
	150		2.59
	50		0.48
106117	450	1203	4.04
	350		3.99
	250		3.25
	150		2.59
	50		0.54
106114	450	1210	4.3
	350		4.27
	250		3.21
	150		2.92
	50		-0.08
106116	450	1207	3.66
	350		3.81
	250		3.09
	150		2.4
	50		0.1
106111	450	1154	4.26
	350		4.21
	250		3.4
	150		3.02
	50		0.35
106109	450	1158	4.31
	350		4.09
	250		3.84
	150		3.38
	50		-0.19
106128	450	1243	3.65
	350		3.88
	250		2.8
	150		2.3
	50		0.3
106117	450	1235	3.69
	350		3.66
	250		2.87
	150		2.31
	50		0.42
106114	450	1241	3.93
	350		3.89
	250		2.85
	150		2.55
	50		-0.21
106116	450	1238	3.33
	350		3.68
	250		2.86
	150		2.12
	50		0
106111	450	1224	3.94
	350		3.91
	250		3.13
	150		2.74
	50		0.27
106109	450	1231	4.01
	350		3.73
	250		3.56
	150		3.08
	50		-0.21
106128	450	1309	3.46
	350		3.69
	250		2.63
	150		2.13
	50		0.27
106117	450	1302	3.45
	350		3.4
	250		2.65
	150		2.12
	50		0.36
106114	450	1307	3.71
	350		3.7
	250		2.7
	150		2.42

	150		-0.64
	50		-0.08
106116	450	1021	-0.91
	350		-0.92
	250		-0.88
	150		-0.68
	50		-0.1
106118	450	1027	-1.19
	350		-1.17
	250		-1.06
	150		0.91
	50		-0.12
106120	450	1045	-1.07
	350		-1.14
	250		-1.11
	150		-0.98
	50		-0.1
106115	450	1040	-1.09
	350		-1.22
	250		-1.15
	150		-0.93
	50		-0.06
106113	450	1049	-0.79
	350		-0.95
	250		-1.06
	150		-0.91
	50		-0.13
106129	450	1056	-0.81
	350		-1.08
	250		-1.09
	150		-0.88
	50		-0.16
106116	450	1052	-1.01
	350		-1.06
	250		-1.03
	150		-0.84
	50		-0.22
106118	450	1100	-1.32
	350		-1.3
	250		-1.22
	150		-1.07
	50		-0.22
106120	450	1114	-1.18
	350		-1.23
	250		-1.21
	150		-1.07
	50		-0.16
106115	450	1110	-1.21
	350		-1.34
	250		-1.27
	150		-1.05
	50		-0.14
106113	450	1117	-0.89
	350		-1.06
	250		-1.18
	150		-1.04
	50		-0.2
106129	450	1126	-0.94
	350		-1.21
	250		-1.22
	150		-1.02
	50		-0.23
106116	450	1124	-1.14
	350		-1.18
	250		-1.19
	150		-0.99
	50		-0.3
106118	450	1130	-1.49
	350		-1.46
	250		-1.33
	150		-1.2
	50		-0.27
106120	450	1147	-1.39
	350		-1.45
	250		-1.45
	150		-1.34
	50		-0.27
106115	450	1142	-1.4
	350		-1.49
	250		-1.5
	150		-1.28
	50		-0.25
106113	450	1150	-1.17
	350		-1.31
	250		-1.44
	150		-1.31

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106112	350	1453	0.39
	250		0.66
	150		0.42
106121	350	1450	0.29
	250		0.31
	150		0.17
	50		-0.16
106117	350	1537	0.8
	250		2.03
	150		0.88
	50		0.27
106116	350	1524	0.34
	250		0.78
	150		0.36
	50		-0.05
106128	350	1532	0.32
	250		0.58
	150		0.43
	50		0.03
106119	350	1535	0.35
	250		0.65
	150		0.52
106112	350	1522	0.33
	250		0.6
	150		0.39
106121	350	1528	0.23
	250		0.26
	150		0.14
	50		-0.17
106117	350	1605	0.07
	250		1.91
	150		0.8
	50		0.24
106116	350	1552	0.29
	250		0.79
	150		0.33
	50		-0.05
106128	350	1600	0.24
	250		0.54
	150		0.38
	50		0.02
106119	350	1603	0.27
	250		0.58
	150		0.45
106112	350	1550	0.25
	250		0.51
	150		0.31
106121	350	1555	0.15
	250		0.19
	150		0.06
	50		-0.17
106117	350	1635	0.64
	250		1.68
	150		0.75
	50		0.23
106116	350	1620	0.2
	250		0.65
	150		0.28
	50		-0.08
106128	350	1629	0.22
	250		0.5
	150		0.34
	50		0.02
106119	350	1632	0.22
	250		0.53
	150		0.4
106112	350	1617	0.19
	250		0.48
	150		0.29
106121	350	1625	0.08
	250		0.1
	150		0.02
	50		-0.16
106117	350	1709	0.68
	250		1.94
	150		0.8
	50		0.28
106116	350	1655	0.21
	250		0.67
	150		0.29
	50		-0.01
106128	350	1703	0.2
	250		0.49
	150		0.35
	50		0.05

	150		0.4
106119	350	1218	0.2
	250		0.45
	150		0.38
106121	350	1215	0.11
	250		0.19
	150		0.15
	50		-0.03
106112	350	1235	0.37 [1]
	250		1.33
	150		0.46
	50		0.06
106117	350	1240	0.27
	250		0.59
	150		0.4
	50		0.11
106116	350	1238	0.21
	250		0.59
	150		0.3
	50		0.02
106130	350	1243	0.28
	250		0.55
	150		0.38
106119	350	1248	0.2
	250		0.47
	150		0.37
106121	350	1245	0.1
	250		0.18
	150		0.14
	50		-0.02
106112	350	1306	0.24 [1]
	250		1.22
	150		0.36
	50		0
106117	350	1315	0.05
	250		0.36
	150		0.2
	50		-0.03
106116	350	1313	0.05
	250		0.44
	150		0.17
	50		-0.08
106130	350	1309	0.12
	250		0.42
	150		0.22
106119	350	1319	0
	250		0.29
	150		0.17
106121	350	1311	-0.05
	250		0
	150		0
	50		-0.11
106112	350	1337	0.18 [1]
	250		1.17
	150		0.29
	50		0
106117	350	1351	0
	250		0.31
	150		0.12
	50		-0.02
106116	350	1342	0.02
	250		0.39
	150		0.09
	50		-0.09
106130	350	1339	0.06
	250		0.35
	150		0.17
106119	350	1355	-0.05
	250		0.23
	150		0.12
106121	350	1346	-0.17
	250		-0.07
	150		-0.12
	50		-0.11
106112	350	1408	0.1 [1]
	250		1.09
	150		0.24
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106117	350	1418	0
	250		0.3
	150		0.13
	50		0
106116	350	1416	-0.09
	250		0.31
	150		0.04
	50		-0.1

106121	350		0.95
106121	250		0.63
106116	450	13:26	1.53
106116	350		1.33
106116	250		0.71
106117	450	13:27	2.17
106117	350		1.54
106117	250		0.74
106119	450	13:42	1.96
106119	350		1.4
106128	450	13:47	4.04
106128	350		1.79
106128	250		0.65
106114	450	13:51	1.37
106114	350		1.21
106121	450	13:54	0.84
106121	350		0.8
106121	250		0.47
106116	450	14:00	1.44
106116	350		1.2
106116	250		0.55
106117	450	14:01	2.09
106117	350		1.4
106117	250		0.64
106119	450	14:12	1.86
106119	350		1.33
106128	450	14:17	3.93
106128	350		1.68
106128	250		0
106114	450	14:22	1.3
106114	350		1.15
106121	450	14:24	0.77
106121	350		0.74
106121	250		40
106116	450	14:27	1.37
106116	350		1.13
106116	250		0.49
106117	450	14:42	2
106117	350		1.37
106117	250		0.6
106119	450	14:46	1.86
106119	350		1.26

106117	450	14:14	0.38
106117	350		-0.15
106117	250		-0.96
106114	450	14:18	-0.13
106114	350		-0.36
106121	450	14:20	-0.63
106121	350		-0.74
106121	250		-1.29
106129	450	14:23	0.18
106129	350		-0.46
106112	450	14:26	0.55
106112	350		0.07
106116	450	14:44	2.93
106116	350		0.6
106116	250		-1.19
106117	450	14:46	0.22
106117	350		-0.31
106117	250		-1.07
106114	450	14:50	-0.28
106114	350		-0.48
106121	450	14:52	-0.76
106121	350		-0.86
106121	250		-1.43
106129	450	14:55	0.07
106129	350		-0.53
106112	450	14:58	0.45
106112	350		-0.04
106116	450	15:13	2.81
106116	350		0.48
106116	250		-1.29
106117	450	15:15	0.12
106117	350		-0.41
106117	250		-1.16
106114	450	15:19	-0.36
106114	350		-0.58
106121	450	15:21	-0.86
106121	350		-0.96
106121	250		-1.53
106129	450	15:24	-0.02
106129	350		-0.68
106112	450	15:26	0.31
106112	350		-0.16
106116	450	15:43	2.67
106116	350		0.35
106116	250		-1.42
106117	450	15:45	-0.03
106117	350		-0.55
106117	250		-1.29
106114	450	15:50	-0.56
106114	350		-0.78
106121	450	15:52	-1.03
106121	350		-1.13
106121	250		-1.71
106129	450	15:54	-0.22
106129	350		-0.88
106112	450	15:58	-0.43
106112	350		-0.32
106116	450	16:03	2.55
106116	350		-0.02
106116	250		-1.54
106117	450	16:05	-0.16
106117	350		-0.69
106117	250		-1.4
106114	450	16:10	-0.67
106114	350		-0.89
106121	450	16:12	-1.16
106121	350		-1.26
106121	250		-1.85
106129	450	16:15	-0.35
106129	350		-0.99
106112	450	16:19	-0.03
106112	350		-0.5

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106128	450	1416	0.84
	350		0.95
	250		1.01
	150		0.82
	50		0.09
106118	450	1400	0.94
	350		1
	250		0.99
	150		0.87
	50		-0.19
106113	450	1412	0.88
	350		0.91
	250		0.86
	150		0.68
	50		-0.2
106119	450	1435	0.91
	350		1.04
	250		1.31
	150		1.06
	50		0
106111	450	1427	0.95
	350		1.07
	250		1.13
	150		1
	50		0.09
106117	450	1438	0.91
	350		1
	250		1.01
	150		0.8
	50		0.15
106128	450	1445	0.82
	350		0.9
	250		0.95
	150		0.74
	50		0.05
106118	450	1432	0.92
	350		1
	250		0.97
	150		0.89
	50		-0.05
106113	450	1442	0.9
	350		0.93
	250		0.87
	150		0.73
	50		-0.1
106119	450	1513	0.87
	350		1.01
	250		1.27
	150		1.01
	50		0.03
106111	450	1458	0.88
	350		0.97
	250		1.03
	150		0.89
	50		0.03
106117	450	1511	0.84
	350		0.92
	250		0.92
	150		0.76
	50		0.15
106128	450	1508	0.81
	350		0.89
	250		0.96
	150		0.76
	50		0.09
106118	450	1501	0.88
	350		0.92
	250		0.91
	150		0.82
	50		-0.05
106113	450	1505	0.83
	350		0.87
	250		0.81
	150		0.66
	50		-0.09
106119	450	1534	0.84
	350		0.96
	250		1.24
	150		1
	50		0.03
106111	450	1526	0.9
	350		1
	250		1.07
	150		0.95
	50		0.12

	50		-0.21
106116	450	1304	3.14
	350		3.44
	250		2.62
	150		1.94
	50		-0.05
106111	450	1258	3.61
	350		3.58
	250		2.82
	150		2.46
	50		0.16
106109	450	1255	3.74
	350		3.54
	250		3.28
	150		2.81
	50		-0.3
106128	450	1344	3.26
	350		3.5
	250		2.45
	150		2.01
	50		0.29
106117	450	1335	3.23
	350		3.2
	250		2.47
	150		1.97
	50		0.36
106114	450	1341	3.51
	350		3.5
	250		2.53
	150		2.27
	50		-0.18
106116	450	1338	2.93
	350		3.25
	250		2.42
	150		1.8
	50		-0.04
106111	450	1330	3.37
	350		3.34
	250		2.6
	150		2.27
	50		0.14
106109	450	1324	3.5
	350		3.3
	250		3.05
	150		2.59
	50		-0.29
106128	450	1411	3.14
	350		3.34
	250		2.3
	150		1.87
	50		0.26
106117	450	1405	3.08
	350		3.04
	250		2.34
	150		1.84
	50		0.32
106114	450	1409	3.34
	350		3.31
	250		2.37
	150		2.1
	50		-0.19
106116	450	1407	2.8
	350		3.07
	250		2.27
	150		1.67
	50		-0.04
106111	450	1401	3.21
	350		3.2
	250		2.46
	150		2.14
	50		0.15
106109	450	1358	3.36
	350		3.16
	250		2.91
	150		2.43
	50		-0.21
106128	450	1442	2.97
	350		3.17
	250		2.15
	150		1.75
	50		0.24
106117	450	1432	2.93
	350		2.89
	250		2.17
	150		1.72
	50		0.29

	50		-0.33
106129	450	1158	-1.16
	350		-1.44
	250		-1.5
	150		-1.29
	50		-0.38
106116	450	1154	-1.36
	350		-1.39
	250		-1.41
	150		-1.24
	50		-0.42
106118	450	1203	-1.73
	350		-1.71
	250		-1.63
	150		-1.49
	50		-0.4
106120	450	1216	-1.64
	350		-1.73
	250		-1.7
	150		-1.57
	50		-0.37
106115	450	1212	-1.6
	350		-1.78
	250		-1.75
	150		-1.52
	50		-0.32
106113	450	1219	-1.31
	350		-1.52
	250		-1.66
	150		-1.52
	50		-0.42
106129	450	1223	-1.42
	350		-1.69
	250		-1.73
	150		-1.5
	50		-0.45
106116	450	1221	-1.56
	350		-1.62
	250		-1.65
	150		-1.44
	50		-0.52
106118	450	1227	-1.92
	350		-1.91
	250		-1.8
	150		-1.65
	50		-0.46
106120	450	1247	-1.85
	350		-1.93
	250		-1.96
	150		-1.82
	50		-0.44
106115	450	1243	-1.86
	350		-1.97
	250		-2.02
	150		-1.77
	50		-0.42
106113	450	1251	-1.53
	350		-1.78
	250		-1.91
	150		-1.8
	50		-0.49
106129	450	1257	-1.56
	350		-1.83
	250		-1.89
	150		-1.69
	50		-0.46
106116	450	1254	-1.75
	350		-1.8
	250		-1.83
	150		-1.64
	50		-0.54
106118	450	1302	-2.13
	350		-2.11
	250		-2.03
	150		-1.86
	50		-0.49
106120	450	1317	-1.94
	350		-2.01
	250		-2.04
	150		-1.9
	50		-0.36
106115	450	1314	-1.97
	350		-2.1
	250		-2.09
	150		-1.85
	50		-0.33

106119	350	1707	0.2
	250		0.54
	150		0.42
106112	350	1653	0.18
	250		0.48
	150		0.29
106121	350	1658	0.07
	250		0.1
	150		0.01
	50		-0.13
106117	350	1738	0.71
	250		1.99
	150		0.86
	50		0.31
106116	350	1725	0.23
	250		0.69
	150		0.32
	50		0.01
106128	350	1733	0.26
	250		0.58
	150		0.41
	50		0.14
106119	350	1737	0.25
	250		0.61
	150		0.48
106112	350	1723	0.19
	250		0.48
	150		0.32
106121	350	1729	0.1
	250		0.15
	150		0.07
	50		-0.07
106117	350	1818	0.84
	250		2.14
	150		0.98
	50		0.41
106116	350	1801	0.33
	250		0.8
	150		0.47
	50		0.1
106128	350	1805	0.33
	250		0.63
	150		0.52
	50		0.2
106119	350	1754	0.31
	250		0.05
	150		0.55
106112	350	1758	0.28
	250		0.6
	150		0.43
106121	350	1812	0.2
	250		0.26
	150		0.18
	50		0
106117	350	1844	0.96
	250		2.28
	150		1.14
	50		0.51
106116	350	1833	0.4
	250		0.9
	150		0.56
	50		0.16
106128	350	1841	0.45
	250		0.79
	150		0.66
	50		0.31
106119	350	1826	0.39
	250		0.75
	150		0.64
106112	350	1829	0.36
	250		0.68
	150		0.54
106121	350	1837	0.28
	250		0.35
	150		0.27
	50		0.05

[1] Digital Manameter Port

106130	350	1412	0
	250		0.3
	150		0.11
106119	350	1420	-0.1
	250		0.17
	150		0.11
106121	350	1414	-0.18
	250		-0.09
	150		-0.13
	50		-0.12
106112	350	1436	0.14 [1]
	250		1.12
	150		0.27
	50		0.06
106117	350	1445	0.01
	250		0.34
	150		0.16
	50		0.04
106116	350	1443	-0.03
	250		0.37
	150		0.08
	50		-0.02
106130	350	1438	0.03
	250		0.36
	150		0.14
106119	350	1447	-0.04
	250		0.25
	150		0.14
106121	350	1441	-0.21
	250		-0.11
	150		-0.14
	50		-0.06
106112	350	1508	0.11 [1]
	250		1.1
	150		0.22
	50		0
106117	350	1517	0.02
	250		0.34
	150		0.19
	50		0.06
106116	350	1515	-0.07
	250		0.33
	150		0.07
	50		-0.04
106130	350	1510	-0.03
	250		0.28
	150		0.1
106119	350	1519	-0.02
	250		0.25
	150		0.18
106121	350	1512	-0.26
	250		-0.17
	150		-0.17
	50		-0.09
106112	350	1536	0.12 [1]
	250		1.14
	150		0.27
	50		0.06
106117	350	1546	0.12
	250		0.43
	150		0.26
	50		0.16
106116	350	1543	0.01
	250		0.43
	150		0.16
	50		0.01
106130	350	1538	0.04
	250		0.34
	150		0.17
106119	350	1551	0.06
	250		0.35
	150		0.29
106121	350	1541	-0.17
	250		-0.07
	150		-0.08
	50		0
106112	350	1607	0.26 [1]
	250		1.28
	150		0.44
	50		0.15
106117	350	1617	0.18
	250		0.47
	150		0.3
	50		0.12
106116	350	1615	0.08
	250		0.51

106117	450	1537	0.8
	350		0.84
	250		0.89
	150		0.71
	50		0.11
106128	450	1543	0.8
	350		0.88
	250		0.94
	150		0.76
	50		0.15
106118	450	1530	0.88
	350		0.91
	250		0.91
	150		0.83
	50		-0.02
106113	450	1540	0.84
	350		0.86
	250		0.78
	150		0.63
	50		-0.08
106119	450	1558	0.83
	350		0.97
	250		1.24
	150		1
	50		0.03
106111	450	1550	0.84
	350		0.94
	250		1.02
	150		0.9
	50		0.09
106117	450	1601	0.8
	350		0.86
	250		0.88
	150		0.7
	50		0.17
106128	450	1608	0.76
	350		0.86
	250		0.91
	150		0.74
	50		0.12
106118	450	1534	0.83
	350		0.87
	250		0.78
	150		0.8
	50		0.01
106113	450	1604	0.81
	350		0.84
	250		0.8
	150		0.69
	50		-0.05
106119	450	1639	0.89
	350		1.03
	250		1.31
	150		1.07
	50		0.1
106111	450	1626	0.9
	350		1.04
	250		1.02
	150		0.93
	50		0.16
106117	450	1637	0.87
	350		0.95
	250		0.98
	150		0.81
	50		0.24
106128	450	1635	0.8
	350		0.9
	250		0.96
	150		0.78
	50		0.16
106118	450	1629	0.9
	350		0.91
	250		0.97
	150		0.82
	50		0.03
106113	450	1632	0.84
	350		0.89
	250		0.84
	150		0.67
	50		0
106119	450	1659	0.97
	350		1.12
	250		1.4
	150		1.17
	50		0.18
106111	450	1650	0.97

106114	450	1438	3.16
	350		3.14
	250		2.21
	150		1.98
	50		-0.2
106116	450	1435	2.64
	350		2.91
	250		2.12
	150		1.56
	50		-0.07
106111	450	1427	3.06
	350		3.05
	250		2.32
	150		2.02
	50		0.13
106109	450	1424	3.23
	350		3
	250		2.76
	150		2.3
	50		-0.23
106128	450	1510	2.87
	350		3.06
	250		2.04
	150		1.65
	50		0.23
106117	450	1504	2.79
	350		2.74
	250		2.04
	150		1.61
	50		0.28
106114	450	1508	3.05
	350		3.02
	250		2.1
	150		1.84
	50		-0.18
106116	450	1506	2.52
	350		2.76
	250		2.02
	150		1.45
	50		-0.05
106111	450	1459	2.9
	350		2.87
	250		2.19
	150		1.89
	50		0.12
106109	450	1457	3.05
	350		2.84
	250		2.59
	150		2.13
	50		-0.21
106128	450	1541	2.79
	350		3
	250		2.01
	150		1.64
	50		0.28
106117	450	1532	2.75
	350		2.7
	250		2.04
	150		1.61
	50		0.34
106114	450	1538	2.99
	350		2.95
	250		2.06
	150		1.83
	50		-0.13
106116	450	1535	2.48
	350		2.75
	250		1.99
	150		1.44
	50		0
106111	450	1527	2.85
	350		2.81
	250		2.12
	150		1.86
	50		0.18
106109	450	1524	2.95
	350		2.78
	250		2.54
	150		2.09
	50		-0.15
106128	450	1608	2.75
	350		2.92
	250		1.97
	150		1.55
	50		0.27
106117	450	1601	2.67

106113	450	1319	-1.59
	350		-1.82
	250		-1.96
	150		-1.82
	50		-0.42
106129	450	1328	-1.68
	350		-1.96
	250		-2.01
	150		-1.79
	50		-0.43
106116	450	1321	-1.87
	350		-1.9
	250		-1.91
	150		-1.67
	50		-0.53
106118	450	1324	-2.14
	350		-2.16
	250		-2.06
	150		-1.91
	50		-0.43
106120	450	1345	-2.11
	350		-2.18
	250		-2.22
	150		-2.11
	50		-0.43
106115	450	1341	-2.1
	350		-2.18
	250		-2.19
	150		-2.04
	50		-0.4
106113	450	1348	-1.8
	350		-2
	250		-2.15
	150		-2
	50		-0.48
106129	450	1356	-1.85
	350		-2.12
	250		-2.17
	150		-1.95
	50		-0.5
106116	450	1352	-1.99
	350		-2.09
	250		-2.12
	150		-1.89
	50		-0.6
106118	450	1401	-2.33
	350		-2.37
	250		-2.29
	150		-2.14
	50		-0.51
106120	450	1415	-2.2
	350		-2.29
	250		-2.32
	150		-2.15
	50		-0.39
106115	450	1412	-2.27
	350		-2.39
	250		-2.42
	150		-2.14
	50		-0.37
106113	450	1417	-1.88
	350		-2.1
	250		-2.26
	150		-2.09
	50		-0.45
106129	450	1423	-1.93
	350		-2.23
	250		-2.28
	150		-2.01
	50		-0.47
106116	450	1420	-1.87
	350		-2.1
	250		-2.19
	150		-1.95
	50		-0.58
106118	450	1427	-2.48
	350		-2.46
	250		-2.36
	150		-2.19
	50		-0.49
106120	450	1445	-2.31
	350		-2.39
	250		-2.45
	150		-2.34
	50		-0.4
106115	450	1440	-2.37

	150		0.24
	50		0.05
106130	350	1610	0.14
	250		0.45
	150		0.28
106119	350	1619	0.09
	250		0.42
	150		0.32
106121	350	1613	-0.08
	250		0.01
	150		-0.01
	50		0.03
106112	350	1634	0.28 [1]
	250		1.28
	150		0.45
	50		0.14
106117	350	1651	0.29
	250		0.61
	150		0.44
	50		0.21
106116	350	1641	0.17
	250		0.55
	150		0.31
	50		0.12
106130	350	1637	0.18
	250		0.48
	150		0.31
106119	350	1655	0.18
	250		0.5
	150		0.4
106121	350	1646	0
	250		0.11
	150		0.09
	50		0.09

	350		1.08
	250		1.16
	150		1.06
	50		0.24
106117	450	1702	0.91
	350		1.04
	250		1.06
	150		0.93
	50		0.32
106128	450	1709	0.91
	350		1.01
	250		1.1
	150		0.94
	50		0.28
106118	450	1655	1.02
	350		1.04
	250		1.03
	150		0.98
	50		0.16
106113	450	1706	0.96
	350		1.02
	250		0.95
	150		0.83
	50		0.1
106119	450	1729	1.01
	350		1.14
	250		1.45
	150		1.21
	50		0.17
106111	450	1720	1.05
	350		1.18
	250		1.21
	150		1.12
	50		0.26
106117	450	1732	0.95
	350		1.06
	250		1.13
	150		0.94
	50		0.3
106128	450	1740	0.96
	350		1.05
	250		1.15
	150		0.98
	50		0.3
106118	450	1724	1.05
	350		1.1
	250		1.09
	150		1.01
	50		0.15
106113	450	1736	0.98
	350		1.04
	250		0.97
	150		0.85
	50		0.05

	350		2.64
	250		1.97
	150		1.56
	50		0.33
106114	450	1606	2.93
	350		2.9
	250		2.01
	150		1.79
	50		-0.09
106116	450	1603	2.41
	350		2.06
	250		1.92
	150		1.42
	50		0.03
106111	450	1557	2.75
	350		2.73
	250		2.06
	150		1.8
	50		0.18
106109	450	1554	2.92
	350		2.69
	250		2.44
	150		2
	50		-0.12
106128	450	1637	2.64
	350		2.8
	250		1.83
	150		1.48
	50		0.22
106117	450	1630	4.83
	350		4.75
	250		3.53
	150		2.78
	50		0.59
106114	450	1635	2.79
	350		2.76
	250		1.89
	150		1.67
	50		-0.11
106116	450	1632	4.31
	350		4.76
	250		3.42
	150		2.48
	50		0
106111	450	1626	2.68
	350		2.65
	250		1.97
	150		1.73
	50		0.19
106109	450	1624	2.83
	350		2.62
	250		2.38
	150		1.93
	50		-0.12
106128	450	1706	2.5
	350		2.67
	250		1.73
	150		1.4
	50		0.21
106117	450	1715	2.35
	350		2.27
	250		1.7
	150		1.33
	50		0.27
106114	450	1709	2.24
	350		2.6
	250		1.75
	150		1.55
	50		-0.14
106116	450	1712	2.14
	350		2.36
	250		1.68
	150		1.21
	50		-0.02
106111	450	1658	2.48
	350		2.48
	250		1.8
	150		1.58
	50		0.12
106109	450	1654	2.66
	350		2.42
	250		2.3
	150		1.77
	50		-0.16

	350		-2.45
	250		-2.5
	150		-2.25
	50		-0.4
106113	450	1448	-2.07
	350		-2.18
	250		-2.37
	150		-2.2
	50		-0.47
106129	450	1457	-1.99
	350		-2.31
	250		-2.38
	150		-2.12
	50		-0.5
106116	450	1453	-1.88
	350		-2.18
	250		-2.33
	150		-2.11
	50		-0.62
106118	450	1501	-2.54
	350		-2.56
	250		-2.48
	150		-2.29
	50		-0.46
106120	450	1516	-2.31
	350		-2.44
	250		-2.5
	150		-2.32
	50		-0.35
106115	450	1513	-2.45
	350		-2.52
	250		-2.6
	150		-2.28
	50		-0.31
106113	450	1518	-1.99
	350		-2.24
	250		-2.43
	150		-2.23
	50		-0.42
106129	450	1524	-2.07
	350		-2.4
	250		-2.45
	150		-2.17
	50		-0.45
106116	450	1521	-2.15
	350		-2.28
	250		-2.36
	150		-2.12
	50		-0.56
106118	450	1528	-2.62
	350		-2.62
	250		-2.53
	150		-2.34
	50		-0.43
106120	450	1547	-2.44
	350		-2.52
	250		-2.58
	150		-2.45
	50		-0.34
106115	450	1540	-2.45
	350		-2.61
	250		-2.64
	150		-2.37
	50		-0.33
106113	450	1551	-2.14
	350		-232
	250		-2.51
	150		-2.32
	50		-0.42
106129	450	1555	-2.14
	350		-2.44
	250		-2.51
	150		-2.23
	50		-0.46
106116	450	1559	-2.32
	350		-2.39
	250		-2.44
	150		-2.17
	50		-0.54
106118	450	1603	-2.68
	350		-2.67
	250		-2.59
	150		-2.4
	50		-0.42

Observation Wells for 106154 *

Well ID	Depth	Time	Vacuum (inWC)
106112	450	1242	0.53
	350		0.55
	250		0.53
	150		0.38
	50		0.15
	25		0.04
106121	450	1248	0.46
	350		0.45
	250		0.37
	150		0.22
	50		-0.23
	25		-0.17
106112	450	1325	0.15
	350		0.12
	250		0.06
	150		0.34
	50		0.33
	25		0.1
106121	450	1331	0.1
	350		0.08
	250		-0.01
	150		-0.12
	50		-0.34
	25		-0.26
106112	450	1350	-0.05
	350		-0.06
	250		-0.05
	150		0.54
	50		0.94
	25		0.42
106121	450	1355	-0.06
	350		-0.08
	250		-0.19
	150		-0.29
	50		-0.38
	25		-0.3
106112	450	1502	-0.4
	350		-0.42
	250		-0.52
	150		-0.58
	50		-0.36
	25		-0.26
106121	450	1507	-0.46
	350		-0.39
	250		0.02
	150		-0.39
	50		-0.23
	25		-0.17
106112	450	1540	-0.36
	350		-0.34
	250		-0.55
	150		-0.58
	50		-0.29
	25		-0.18
106121	450	1544	-0.61
	350		-0.64
	250		-0.72
	150		-0.73
	50		-0.33
	25		-0.24
106112	450	1604	-0.12
	350		-0.06
	250		-0.64
	150		-0.65
	50		-0.28
	25		-0.15
106121	450	1611	-0.68
	350		-0.72
	250		-0.78
	150		-0.79
	50		-0.29
	25		-0.22
106112	450	1355	-0.06
	350		-0.08
	250		-0.19
	150		-0.29
	50		-0.38
	25		-0.3
106121	450	1401	-0.16
	350		-0.16
	250		-0.14
	150		0.44
	50		0.66
	25		0.41
106112	450	1430	-0.3
	350		-0.25
	250		0.07
	150		-0.2
	50		-0.1
	25		-0.07
106121	450	1435	-0.33
	350		-0.34
	250		-0.43
	150		-0.51
	50		-0.39
	25		-30
106112	450	1456	-0.4
	350		-0.29
	250		0.42
	150		-0.32
	50		-0.19
	25		-0.12
106121	450	1502	-0.4
	350		-0.42
	250		-0.52
	150		-0.58
	50		-0.36
	25		-0.26

* all well valves open on 106154 Digital Manameter - port, noticed after readings were collected.

Observation Wells for KAFB-106149

Well ID	Depth	Time	Vacuum (inWC)
106121	450	809	0.85 [1]
	350		0.88
	250		0.9
	150		0.85
	50		0.27
	25		0.2
106117	450	817	0.9 [2]
	350		0.91
	250		0.92
	150		0.86
	50		0.43
	25		0.2
106121	450	858	0.98 [1]
	350		1.2 [1]
	250		1.4
	150		1
	50		0.48 [2]
	25		0.23
106117	450	904	1.1 [1]
	350		1.1
	250		1.1
	150		1
	50		0.26 [2]
	25		0.21
106121	450	925	1.1 [1]
	350		1.4
	250		2
	150		1.25
	50		0.58 [2]
	25		0.27
106117	450	930	1.15 [1]
	350		1.15
	250		1.2
	150		1.1
	50		0.28 [2]
	25		0.22
106121	450	1458	-0.88 [2]
	350		-0.9
	250		-0.93
	150		-0.9
	50		-0.36
	25		-0.25
106117	450	1506	-0.9 [2]
	350		-0.92
	250		-0.9
	150		-0.86
	50		-0.48
	25		-0.22
106121	450	1601	-0.9 [2]
	350		-0.96
	250		-1
	150		-0.9
	50		-0.16
	25		-0.14
106117	450	1605	-0.74 [2]
	350		-0.9
	250		-1.05 [1]
	150		1.1 [1]
	50		-0.52
	25		-0.1
106121	450	1640	-0.44 [2]
	350		-0.69
	250		-1.15 [1]
	150		-1.1
	50		-0.6 [2]
	25		-0.28
106117	450	1652	-1.2 [1]
	350		1.25
	250		1.3
	150		1.2
	50		0.325 [2]
	25		0.26
106121	450	1702	1 [1]
	350		1.1
	250		1.15
	150		0.93 [2]
	50		0.24
	25		0.2
106117	450	1652	-1.2 [1]
	350		-1.25
	250		-1.3
	150		-1.2
	50		-0.325 [2]
	25		-0.26
106121	450	1730	-1.2 [1]
	350		-1.25
	250		-1.3
	150		-1.18
	50		-0.23 [2]
	25		-0.18
106117	450	1739	-1.2 [1]
	350		-1.18
	250		-1.05
	150		-0.45 [2]
	50		1.1 [1]
	25		0.3 [2]
106121	450	1800	-1.2 [1]
	350		-1.1
	250		-0.9 [2]
	150		-0.08 [2]
	50		1.8 [1]
	25		0.76 [2]
106117	450	1810	-1.2 [1]
	350		-1.2
	250		-1.25
	150		-1.15
	50		-0.18 [2]
	25		-0.16

[1] magnihelic 0-4 inch
[2] magnihelic 0-1 inch

Observation Wells for KAFB-106152

Well ID	Depth	Time	Vacuum (inWC)
106130	450	1030	-0.83
	350		-0.8
	250		-0.61
	150		-0.46
	50		0
106121	450	1032	-0.9
	350		-0.91
	250		-0.62
	150		-0.54
	50		0
106130	450	1159	-1.16
	350		-1.14
	250		-0.95
	150		-0.6
	50		-0.15
106121	450	1202	-1.29
	350		-1.3
	250		-1.07
	150		-0.91
	50		-0.21
106130	450	1230	-1.42
	350		-1.4
	250		-1.2
	150		-0.75
	50		-0.16
106121	450	1233	-1.54
	350		-1.56
	250		-1.31
	150		-1.16
	50		-0.32
106130	450	1458	-2.4
	350		-2.47
	250		-2.33
	150		-2.16
	50		-0.48
106121	450	1501	-2.25
	350		-2.27
	250		-2.04
	150		-1.87
	50		-0.55
106130	450	1531	-2.56
	350		-2.56
	250		-2.31
	150		-2.23
	50		-0.44
106121	450	1535	-2.79
	350		-2.81
	250		-2.57
	150		-2.34
	50		-0.43
106130	450	1557	-2.7
	350		-2.6
	250		-2.34
	150		-2.3
	50		-0.41
106121	450	1600	-2.88
	350		-2.93
	250		-2.67
	150		-2.44
	50		-0.43
106130	450	1252	-1.6
	350		-1.58
	250		-1.35
	150		-0.96
	50		-0.24
106121	450	1255	-1.54
	350		-1.56
	250		-1.31
	150		-1.16
	50		-0.32
106130	450	1318	-1.7
	350		-1.74
	250		-1.61
	150		-1.31
	50		-0.33
106121	450	1323	-1.94
	350		-1.96
	250		-1.73
	150		-1.56
	50		-0.44
106130	450	1349	-1.9
	350		-2
	250		-1.87
	150		-1.65
	50		-0.44
106121	450	1352	-2.25
	350		-2.27
	250		-2.04
	150		-1.87
	50		-0.55

Observation Wells for SVEW11

Well ID	Depth	Time	Vacuum (inWC)
106130	450	1657	-2.57
	350		-2.58
	250		-2.44
	150		-2.21
	50		-0.3
106121	450	1657	-2.88
	350		-2.89
	250		-2.61
	150		-2.19
	50		-0.3
106130	450	1730	-2.67
	350		-2.67
	250		-2.55
	150		-2.2
	50		-0.3
106121	450	NA	-2.98
	350		-3
	250		-2.69
	150		-2.2
	50		-0.3

Observation Wells for KAFB-106130

Well ID	Depth	Time	Vacuum (inWC)
106112	450	942	-0.83
	350		-0.84
	250		-0.66
	150		-0.45
	50		-0.01
106121	450	948	-1.01
	350		-1.02
	250		-0.76
	150		-0.58
	50		0.1
106112	450	1027	-0.77
	350		-0.84
	250		-0.74
	150		-0.56
	50		-0.1
106121	450	1034	-1.12
	350		-1.14
	250		-0.88
	150		-0.71
	50		-0.02
106112	450	1057	-0.81
	350		-0.9
	250		-0.85
	150		-0.68
	50		-0.17
106121	450	1104	-1.25
	350		-1.26
	250		-1
	150		-0.85
	50		-0.1

Observation Wells for KAFB-106156

Well ID	Depth	Time	Vacuum (inWC)
106111	450	1338	-2.2
	350		-2.25
	250		-2.12
	150		-1.96
	50		-0.68
106121	450	1348	-2.55
	350		-2.55
	250		-2.34
	150		-2.15
	50		-0.52
106111	450	1439	-2.72
	350		-2.6
	250		-1.85
	150		-2.05
	50		-0.73
106121	450	1446	-2.88
	350		-2.9
	250		-2.69
	150		-2.48
	50		-0.49
106111	450	1509	-2.92
	350		-2.75
	250		-1.95
	150		-2.18
	50		-0.77
106121	450	1516	-2.97
	350		-2.98
	250		-2.75
	150		-2.51
	50		-0.38

Observation Wells for KAFB-106119

Well ID	Depth	Time	Vacuum (inWC)
106117	450	825	-2.21
	350		-2.26
	250		-2.07
	150		-1.79
	50		-0.55
106121	450	830	-2.21
	350		-2.52
	250		-2.33
	150		-2.03
	50		-0.1
106117	450	855	-2.36
	350		-2.4
	250		-2.21
	150		-1.94
	50		-0.65
106121	450	900	-2.66
	350		-2.68
	250		-2.48
	150		-2.17
	50		-0.18
106117	450	913	-2.38
	350		-2.5
	250		-2.29
	150		-2.01
	50		-0.21
106121	450	918	-2.8
	350		-2.83
	250		-2.62
	150		-2.3
	50		-0.26
106117	450	942	-2.55
	350		-2.66
	250		-2.44
	150		-2.15
	50		-0.79
106121	450	947	-2.92
	350		-2.94
	250		-2.72
	150		-2.41
	50		-0.28

Observation Wells for KAFB-106153

Well ID	Depth	Time	Vacuum (inWC)
106130	450	835	0.4
	350		0.52
	250		0.59
	150		0.63
	50		0.21
106121	450	842	0.45
	350		0.43
	250		0.62
	150		0.65
	50		0.23
106130	450	948	0.72
	350		0.6
	250		0.6
	150		0.58
	50		0.1
106121	450	954	0.42
	350		0.39
	250		0.58
	150		0.58
	50		0.09
106130	450	1018	0.82
	350		0.66
	250		0.58
	150		0.56
	50		0.09
106121	450	1024	0.45
	350		0.43
	250		0.6
	150		0.58
	50		0.09

Observation Wells for KAFB-106155

Well ID	Depth	Time	Vacuum (inWC)
106116	450	1050	0.4
	350		0.52
	250		0.57
	150		0.54
	50		0.15
106127	450	1100	0.42
	350		0.35
	250		0.54
	150		0.55
	50		0.06
106116	450	1301	-0.09
	350		-0.07
	250		-0.11
	150		-0.15
	50		-0.23
106127	450	1309	-0.21
	350		-0.25
	250		-0.11
	150		-0.1
	50		-0.21
106116	450	1331	-0.17
	350		-0.2
	250		-0.3
	150		-0.34
	50		-0.3
106127	450	1338	-0.43
	350		-0.49
	250		-0.36
	150		-0.37
	50		-0.31

Observation Wells for KAFB-10

Well ID	Depth	Time
106120	450	1606
	350	
	250	
	150	
	50	
106119	450	1614
	350	
	250	
	150	
	50	
106120	450	1644
	350	
	250	
	150	
	50	
106119	450	1650
	350	
	250	
	150	
	50	
106120	450	1714
	350	
	250	
	150	
	50	
106119	450	1719
	350	
	250	
	150	
	50	

6113
Vacuum (inWC)
-0.65
-0.69
-0.7
-0.69
-0.2
-0.64
-0.66
-0.6
-0.56
-0.12
-0.41
-0.59
-0.64
-0.61
-0.09
-0.6
-0.61
-0.59
-0.53
-0.11
-0.42
-0.59
-0.63
-0.64
-0.11
-0.67
-0.66
-0.64
-0.6
-0.15

Observation Wells for KAFB-106129			
Well ID	Depth	Time	Vacuum (inWC)
106116	450	1404	-0.31
	350		-0.39
	250		-0.47
	150		-0.49
	50		-0.36
106127	450	1411	-0.6
	350		-0.61
	250		-0.5
	150		-0.57
	50		-0.32
106116	450	1452	-0.37
	350		-0.49
	250		-0.6
	150		-0.63
	50		-0.31
106127	450	1458	-0.71
	350		-0.78
	250		-0.67
	150		-0.65
	50		-0.22
106116	450	1522	-0.3
	350		-0.44
	250		-0.59
	150		-0.54
	50		-0.25
106127	450	1527	-0.66
	350		-0.75
	250		-0.67
	150		-0.66
	50		-0.2

Observation Wells for KAFB-10628			
Well ID	Depth	Time	Vacuum (inWC)
106137	450	1049	1.55
	350		1.58
	250		1.03
	150		0.78
	50		-0.09
106142	450	1035	1.2
	350		1.22
	250		1.02
	150		1
	50		-0.09
106137	450	1215	0.9
	350		0.91
	250		0.37
	150		0.16
	50		-0.32
106142	450	1200	0.69
	350		0.68
	250		0.5
	150		0.47
	50		-0.14
106137	450	1242	0.6
	350		60
	250		0.07
	150		-0.1
	50		-0.41
106142	450	1230	0.37
	350		0.35
	250		0.16
	150		0.13
	50		-0.27

Observation Wells for KAFB-106142			
Well ID	Depth	Time	Vacuum (inWC)
106141	450	Well blocked with dirt pile, unable to access	
	350		
	250		
	150		
	50		
106136	450	1448	-0.12
	350		-0.15
	250		-0.25
	150		-0.7
	50		-0.19
106136	450	1600	-0.36
	350		-0.4
	250		-0.5
	150		-0.82
	50		-0.18
106136	450	1630	-0.41
	350		-0.41
	250		-0.51
	150		-0.78
	50		-0.14

Observation Wells for 106131			
Well ID	Depth	Time	Vacuum (inWC)
106112	450	1042	-2.51
	350		-2.52
	250		-2.3
	150		-1.93
	50		-0.32
106114	450	1049	-2.7
	350		-2.65
	250		-2.39
	150		-2.24
	50		-0.18
106112	450	1121	-2.33
	350		-2.38
	250		-2.17
	150		-1.81
	50		-0.3
106114	450	1125	-2.67
	350		-2.52
	250		-2.22
	150		-2.07
	50		-0.09
106112	450	1151	-2.2
	350		-2.23
	250		-2.03
	150		-1.67
	50		-0.25
106114	450	1155	-2.64
	350		-2.43
	250		-2.08
	150		-1.93
	50		-0.03

Hydrocarbon mass recovery calculations for long term pilot tests

Assumptions:

20000 Btu/lb
6.2 lb/gallon of gasoline
86.18 Mole Weight of Extracted VOC
2520 Btu/Cubic Foot of Propane
1000 Btu/Cubic Foot of Natural Gas

Parts/Million by Volume (PPMV) Conversion to Micrograms/Liter (µg/L)
(PPMV/24.055)*AVG. Mole Weight=µg/L

Mass Transfer Equation to Convert to Pounds/Hour:
(µg/L)*(Flow SCFM)*28.3 L/SCF*60 Minutes/Hour*2.2 lbs/Kg*(1/10^9)

Location	Date	Elapsed time (hours)	Flow (scfm)	PPMV of TPH	µg/L	Removed Lbs/Hour	Removed Lbs/period	Cumulative Removed Lbs
106161	10/3/2013 8:05	0.000	747	7610	27,264	76.05	0.00	0
	10/3/2013 9:10	1.083	736	7640	27,371	75.27	81.54	81.54
	10/3/2013 9:40	0.500	733	7650	27,407	75.09	37.55	119.09
	10/3/2013 10:10	0.500	753	7650	27,407	77.09	38.54	157.63
	10/3/2013 10:40	0.500	735	7670	27,479	75.50	37.75	195.38
	10/3/2013 11:10	0.500	734	7660	27,443	75.25	37.63	233.01
	10/3/2013 11:40	0.500	753	7660	27,443	77.17	38.59	271.60
	10/3/2013 12:10	0.500	748	7660	27,443	76.69	38.34	309.94
	10/3/2013 12:40	0.500	740	7670	27,479	75.98	37.99	347.93
	10/3/2013 13:10	0.500	745	7680	27,515	76.60	38.30	386.23
	10/3/2013 13:40	0.500	755	7680	27,515	77.61	38.81	425.04
	10/3/2013 14:10	0.500	751	7690	27,550	77.30	38.65	463.69
	10/3/2013 14:40	0.500	735	7690	27,550	75.62	37.81	501.50
	10/3/2013 15:10	0.500	744	7690	27,550	76.54	38.27	539.77
	10/3/2013 15:40	0.500	748	7700	27,586	77.10	38.55	578.32
	10/3/2013 16:10	0.500	738	7710	27,622	76.16	38.08	616.40
106160	10/4/13 7:40 AM	0.000	572	7120	25,508	54.47	0.00	0
	10/4/13 8:40 AM	1.000	590	7140	25,580	56.38	56.38	56.38
	10/4/13 9:10 AM	0.500	580	7160	25,652	55.59	27.80	84.17
	10/4/13 9:40 AM	0.500	590	7170	25,687	56.65	28.33	112.50
	10/4/13 10:10 AM	0.500	593	7200	25,795	57.12	28.56	141.06
	10/4/13 10:40 AM	0.500	593	7210	25,831	57.22	28.61	169.67
	10/4/13 11:10 AM	0.500	577	7220	25,867	55.71	27.85	197.53
	10/4/13 11:40 AM	0.500	573	7220	25,867	55.32	27.66	225.19
	10/4/13 12:10 PM	0.500	581	7250	25,974	56.33	28.16	253.35
	10/4/13 12:40 PM	0.500	573	7270	26,046	55.76	27.88	281.23
	10/4/13 1:10 PM	0.500	590	7280	26,081	57.49	28.74	309.97
	10/4/13 1:40 PM	0.500	573	7300	26,153	56.01	28.00	337.98
	10/4/13 2:10 PM	0.500	596	7320	26,225	58.40	29.20	367.18

Hydrocarbon mass recovery calculations for long term pilot tests

Assumptions:

20000 Btu/lb
6.2 lb/gallon of gasoline
86.18 Mole Weight of Extracted VOC
2520 Btu/Cubic Foot of Propane
1000 Btu/Cubic Foot of Natural Gas

Parts/Million by Volume (PPMV) Conversion to Micrograms/Liter (µg/L)
(PPMV/24.055)*AVG. Mole Weight=µg/L

Mass Transfer Equation to Convert to Pounds/Hour:
(µg/L)*(Flow SCFM)*28.3 L/SCF*60 Minutes/Hour*2.2 lbs/Kg*(1/10^9)

Location	Date	Elapsed time (hours)	Flow (scfm)	PPMV of TPH	µg/L	Removed Lbs/Hour	Removed Lbs/period	Cumulative Removed Lbs
106149	10/16/13 11:15 AM	0.00	578	283	0.00	0.00	0.00	0.00
	10/16/13 12:02 PM	0.78	509	362	1296.91	2.47	1.93	1.93
	10/16/13 12:50 PM	0.80	511	339	1214.51	2.32	1.85	3.79
	10/16/13 1:20 PM	0.50	506	355	1271.83	2.40	1.20	4.99
	10/16/13 1:54 PM	0.57	505	371	1329.15	2.51	1.42	6.41
	10/16/13 2:21 PM	0.45	515	395	1415.14	2.72	1.22	7.63
	10/16/13 2:50 PM	0.48	517	393	1407.97	2.72	1.31	8.95
	10/16/13 3:19 PM	0.48	513	424	1519.03	2.91	1.41	10.36
	10/16/13 3:49 PM	0.50	509	420	1504.70	2.86	1.43	11.79
	10/16/13 4:24 PM	0.58	519	427	1529.78	2.96	1.73	13.52
	10/16/13 4:50 PM	0.43	511	454	1626.51	3.11	1.35	14.86
	10/16/13 5:20 PM	0.50	522	480	1719.66	3.35	1.68	16.54
	10/16/13 5:53 PM	0.55	514	491	1759.07	3.38	1.86	18.40
	10/16/13 6:20 PM	0.45	515	470	1683.83	3.24	1.46	19.86
	10/16/13 6:45 PM	0.42	516	495	1773.40	3.42	1.43	21.28
106154	10/18/13 9:03 AM	0.00	472	71	254.37	0.45	0.00	0.00
	10/18/13 9:33 AM	0.50	439	76	272.28	0.45	0.22	0.22
	10/18/13 10:03 AM	0.50	438	85	304.52	0.50	0.25	0.47
	10/18/13 10:33 AM	0.50	439	83	297.36	0.49	0.24	0.72
	10/18/13 11:03 AM	0.50	433	88	315.27	0.51	0.25	0.97
	10/18/13 11:33 AM	0.50	437	93	333.18	0.54	0.27	1.24
	10/18/13 12:03 PM	0.50	441	96	343.93	0.57	0.28	1.53
	10/18/13 12:33 PM	0.50	435	100	358.26	0.58	0.29	1.82
	10/18/13 1:03 PM	0.50	421	102	365.43	0.58	0.29	2.11
	10/18/13 1:33 PM	0.50	424	107	383.34	0.61	0.30	2.41
	10/18/13 2:03 PM	0.50	434	113	404.84	0.66	0.33	2.74
	10/18/13 2:33 PM	0.50	437	111	397.67	0.65	0.32	3.06
	10/18/13 3:03 PM	0.50	436	112	401.25	0.65	0.33	3.39
	10/18/13 3:33 PM	0.50	436	112	401.25	0.65	0.33	3.71
	10/18/13 4:03 PM	0.50	431	117	419.17	0.67	0.34	4.05
	10/18/13 4:33 PM	0.50	439	123	440.66	0.72	0.36	4.41

Hydrocarbon mass recovery calculations for long term pilot tests

Assumptions:

20000 Btu/lb
6.2 lb/gallon of gasoline
86.18 Mole Weight of Extracted VOC
2520 Btu/Cubic Foot of Propane
1000 Btu/Cubic Foot of Natural Gas

Parts/Million by Volume (PPMV) Conversion to Micrograms/Liter (µg/L)
(PPMV/24.055)*AVG. Mole Weight=µg/L

Mass Transfer Equation to Convert to Pounds/Hour:
(µg/L)*(Flow SCFM)*28.3 L/SCF*60 Minutes/Hour*2.2 lbs/Kg*(1/10^9)

Location	Date	Elapsed time (hours)	Flow (scfm)	PPMV of TPH	µg/L	Removed Lbs/Hour	Removed Lbs/period	Cumulative Removed Lbs
106148	11/1/13 9:52 AM	0.000	266	10000	35,826	35.54	0.00	0
	11/1/13 10:22 AM	0.500	268	9590	34,357	34.44	17.22	17.22
	11/1/13 10:52 AM	0.500	262	9420	33,748	32.99	16.49	33.71
	11/1/13 11:22 AM	0.500	267	9480	33,963	33.83	16.92	50.63
	11/1/13 11:52 AM	0.500	271	9460	33,892	34.35	17.18	67.81
	11/1/13 12:22 PM	0.500	272	9500	34,035	34.57	17.28	85.09
	11/1/13 12:52 PM	0.500	271	9500	34,035	34.44	17.22	102.31
	11/1/13 1:22 PM	0.500	274	10000	35,826	36.68	18.34	120.65
	11/1/13 1:52 PM	0.500	282	10000	35,826	37.68	18.84	139.49
	11/1/13 2:22 PM	0.500	280	9970	35,719	37.38	18.69	158.18
	11/1/13 2:52 PM	0.500	275	9970	35,719	36.69	18.35	176.53
	11/1/13 3:22 PM	0.500	273	10000	35,826	36.50	18.25	194.78
	11/1/13 3:52 PM	0.500	273	10000	35,826	36.60	18.30	213.08
	11/1/13 4:22 PM	0.500	272	9960	35,683	36.24	18.12	231.20
	11/1/13 4:52 PM	0.500	275	10000	35,826	36.84	18.42	249.62
	11/1/13 5:22 PM	0.500	279	10000	35,826	37.34	18.67	268.29
106155	11/4/13 7:42 AM	0.00	274	802	2873.26	2.95	0.00	0.00
	11/4/13 8:12 AM	0.50	272	897	3213.61	3.27	1.63	1.63
	11/4/13 8:42 AM	0.50	266	983	3521.72	3.50	1.75	3.39
	11/4/13 9:12 AM	0.50	280	1051	3765.34	3.94	1.97	5.36
	11/4/13 9:42 AM	0.50	279	1099	3937.30	4.10	2.05	7.40
	11/4/13 10:12 AM	0.50	274	1137	4073.44	4.17	2.09	9.49
	11/4/13 10:42 AM	0.50	276	1162	4163.01	4.29	2.14	11.63
	11/4/13 11:12 AM	0.50	281	1188	4256.16	4.47	2.23	13.87
	11/4/13 11:42 AM	0.50	264	1210	4334.97	4.28	2.14	16.01
	11/4/13 12:12 PM	0.50	283	1223	4381.55	4.63	2.32	18.33
	11/4/13 12:42 PM	0.50	271	1247	4467.53	4.52	2.26	20.59
	11/4/13 1:12 PM	0.50	282	1255	4496.19	4.74	2.37	22.95
	11/4/13 1:42 PM	0.50	272	1260	4514.11	4.59	2.30	25.25
	11/4/13 2:12 PM	0.50	278	1277	4575.01	4.76	2.38	27.63
	11/4/13 2:42 PM	0.50	271	1283	4596.51	4.65	2.32	29.95
	11/4/13 3:12 PM	0.50	274	1290	4621.58	4.74	2.37	32.32
	11/4/13 3:42 PM	0.50	277	1296	4643.08	4.81	2.41	34.73
	11/7/13 8:54	0.000	248	10000	35,826	33.17	0.00	0

Hydrocarbon mass recovery calculations for long term pilot tests

Assumptions:

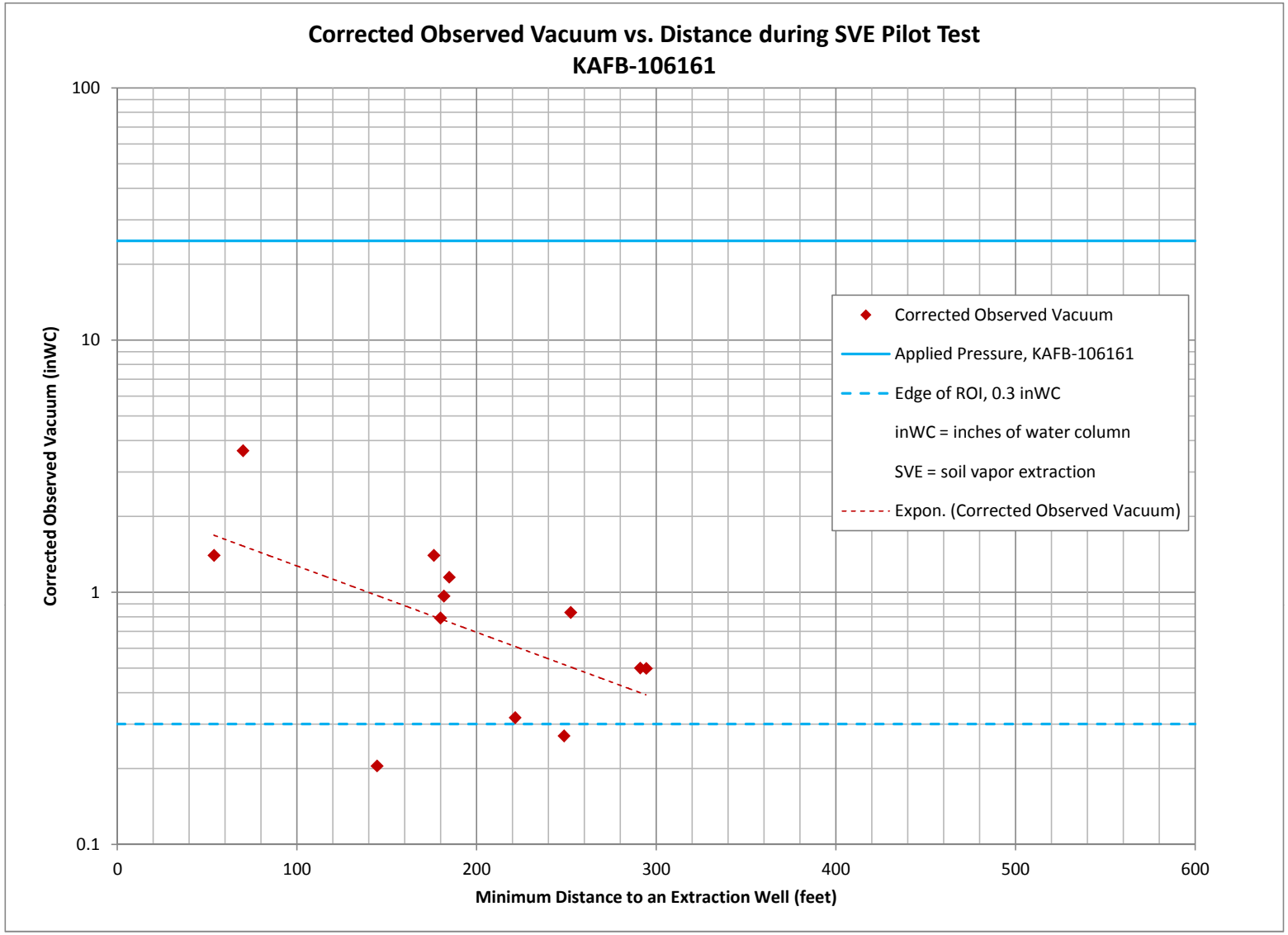
20000 Btu/lb
6.2 lb/gallon of gasoline
86.18 Mole Weight of Extracted VOC
2520 Btu/Cubic Foot of Propane
1000 Btu/Cubic Foot of Natural Gas

Parts/Million by Volume (PPMV) Conversion to Micrograms/Liter (µg/L)
(PPMV/24.055)*AVG. Mole Weight=µg/L

Mass Transfer Equation to Convert to Pounds/Hour:
(µg/L)*(Flow SCFM)*28.3 L/SCF*60 Minutes/Hour*2.2 lbs/Kg*(1/10^9)

Location	Date	Elapsed time (hours)	Flow (scfm)	PPMV of TPH	µg/L	Removed Lbs/Hour	Removed Lbs/period	Cumulative Removed Lbs
106150	11/7/13 9:24	0.500	246	10000	35,826	32.92	16.46	16.46
	11/7/13 9:54	0.500	225	10000	35,826	30.09	15.04	31.50
	11/7/13 10:24	0.500	248	10000	35,826	33.16	16.58	48.08
	11/7/13 10:54	0.500	242	10000	35,826	32.42	16.21	64.30
	11/7/13 11:24	0.500	218	10000	35,826	29.17	14.58	78.88
	11/7/13 11:54	0.500	220	10000	35,826	29.44	14.72	93.60
	11/7/13 12:24	0.500	195	10000	35,826	26.13	13.06	106.66
	11/7/13 12:54	0.500	192	10000	35,826	25.66	12.83	119.49
	11/7/13 13:24	0.500	201	10000	35,826	26.90	13.45	132.94
	11/7/13 13:54	0.500	188	10000	35,826	25.12	12.56	145.50
	11/7/13 14:24	0.500	205	10000	35,826	27.46	13.73	159.23
	11/7/13 14:54	0.500	185	10000	35,826	24.78	12.39	171.62
	11/7/13 15:24	0.500	201	10000	35,826	26.87	13.43	185.05
	11/7/13 15:54	0.500	209	10000	35,826	27.98	13.99	199.04
	11/7/13 16:24	0.500	204	10000	35,826	27.27	13.63	212.68
	11/7/13 16:54	0.500	203	10000	35,826	27.20	13.60	226.28

Monitoring instrument was malfunctioning during these recordings; these values are approximate.


Corrected Observed Vacuum vs. Distance during SVE Pilot Test
KAFB-106161
Corrected Observed Vacuum (inWC)
100
10
1
0.1
0
100
200
300
400
500
600
Minimum Distance to an Extraction Well (feet)
Corrected Observed Vacuum
Applied Pressure, KAFB-106161
Edge of ROI, 0.3 inWC
inWC = inches of water column
SVE = soil vapor extraction
Expon. (Corrected Observed Vacuum)

KAFB BFF Pilot Testing

10/3/2013

Well ID	Screen Interval	Time	Vacuum (inWC)	Differenctial Pressure (inWC)	Flow Rate (scfm	Temp. (˚F)
106161		8:05	25.66	0.85		58.5
106161		9:10	25.65	0.81		69.3
106161		9:40	25.59	0.8		72.1
106161		10:10	25.16	0.84		74.5
106161		10:40	25.12	0.8		75.6
106161		11:10	25.33	0.79		78.4
106161		11:40	25.12	0.83		79.3
106161		12:10	24.92	0.82		78.4
106161		12:40	24.62	0.8		82
106161		13:10	24.22	0.81		82.4
106161		13:40	24.14	0.83		83.5
106161		14:10	24.16	0.82		81.1
106161		14:40	24.09	0.79		80.8
106161		15:10	23.74	0.81		81
106161		15:40	23.59	0.82		79
106161		16:10	23.55	0.8		79

Relative Humidity (%)	Total HC (ppm)	CO2	CO	O2	H2S	LEL
45.1	7610	2.3	0	16.4	0	50
28.8	7640	2.34	0	16.46	0	38
26.7	7650	2.28	0	16.54	0	55
23.9	7650	2.28	0	16.68	0	56
24.7	7670	2.3	0	16.7	0	57
20.9	7660	2.28	0	16.5	0	58
18.8	7660	2.28	0	16.34	0	58
19	7660	2.3	0	16.35	0	59
15.5	7670	2.3	0	16.79	0	59
13	7680	2.28	0	16.2	0	59
10.9	7680	2.3	0	16.35	0	59
15.9	7690	2.3	0	16.43	0	59
16.2	7690	2.3	0	16.35	0	59
15.7	7690	2.28	0	16.35	0	59
16.1	7700	2.3	0	16.96	0	59
16.2	7710	2.3	0	16.6	0	60

Date and time	Barometric Pressure (inHg)	inWC	-inWC
10-3-2013 0:52 MDT	30.01	407.986	-407.986
10-3-2013 1:52 MDT	30.01	407.986	-407.986
10-3-2013 2:52 MDT	30.01	407.986	-407.986
10-3-2013 3:52 MDT	30.01	407.986	-407.986
10-3-2013 4:52 MDT	30.01	407.986	-407.986
10-3-2013 5:52 MDT	30.02	408.1219	-408.122
10-3-2013 6:52 MDT	30.02	408.1219	-408.122
10-3-2013 7:52 MDT	30.03	408.2579	-408.258
10-3-2013 8:52 MDT	30.05	408.5298	-408.53
10-3-2013 9:52 MDT	30.05	408.5298	-408.53
10-3-2013 10:52 MDT	30.04	408.3938	-408.394
10-3-2013 11:52 MDT	30.02	408.1219	-408.122
10-3-2013 12:52 MDT	29.98	407.5781	-407.578
10-3-2013 13:52 MDT	29.94	407.0343	-407.034
10-3-2013 14:52 MDT	29.91	406.6265	-406.626
10-3-2013 15:52 MDT	29.89	406.3546	-406.355
10-3-2013 16:52 MDT	29.86	405.9467	-405.947
10-3-2013 17:52 MDT	29.84	405.6748	-405.675
10-3-2013 18:52 MDT	29.83	405.5389	-405.539
10-3-2013 19:52 MDT	29.84	405.6748	-405.675
10-3-2013 20:52 MDT	29.87	406.0827	-406.083
10-3-2013 21:52 MDT	29.89	406.3546	-406.355
10-3-2013 22:52 MDT	29.92	406.7624	-406.762
10-3-2013 23:52 MDT	29.91	406.6265	-406.626

MesoWest Disclaimer

Data provided by: National Weather Service

Contact MesoWest

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
106116	450	3.94		10/3/2013	8:10	10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398	8:10							-408.258	-408.53	-0.00453	18	-408.339
106116	350	1.82		10/3/2013		10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398										0		
106116	250	0.06		10/3/2013		10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398										0		
106117	450	1.42		10/3/2013	8:14	10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398	8:14							-408.258	-408.53	-0.00453	22	-408.358
106117	350	0.9		10/3/2013		10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398										0		
106117	250	0.16		10/3/2013		10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398										0		
106114	450	0.98		10/3/2013	8:20	10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398	8:20							-408.258	-408.53	-0.00453	28	-408.385
106114	350	0.78		10/3/2013		10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398										0		
106121	450	0.49		10/3/2013	8:25	10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398		8:25	-408.258	-408.53	-0.00453	33	-408.407					
106121	350	0.45		10/3/2013		10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398					0		0					
106121	250	-0.07		10/3/2013		10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398					0							
106129	450	1.36		10/3/2013	8:27	10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398		8:27	-408.258	-408.53	-0.00453	35	-408.416					
106129	350	0.72		10/3/2013		10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398					0		0					
106112	450	1.81		10/3/2013	8:33	10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398		8:33	-408.258	-408.53	-0.00453	41	-408.444					
106112	350	1.34		10/3/2013		10/3/2013 8:23	-408.258	-408.53	-0.00453	31	-408.398					0		0					
106116	450	4.35		10/3/2013	9:14	10/3/2013 9:23	-408.53	-408.53	0	31	-408.53	9:14							-408.53	-408.53	0	22	-408.53
106116	350	2.04		10/3/2013		10/3/2013 9:23	-408.53	-408.53	0	31	-408.53												0
106116	250	0.25		10/3/2013		10/3/2013 9:23	-408.53	-408.53	0	31	-408.53												
106117	450	1.66		10/3/2013	9:17	10/3/2013 9:23	-408.53	-408.53	0	31	-408.53	9:17							-408.53	-408.53	0	25	-408.53
106117	350	1.05		10/3/2013		10/3/2013 9:23	-408.53	-408.53	0	31	-408.53												
106117	250	0.38		10/3/2013		10/3/2013 9:23	-408.53	-408.53	0	31	-408.53												
106114	450	1.22		10/3/2013	9:22	10/3/2013 9:23	-408.53	-408.53	0	31	-408.53	9:22							-408.53	-408.53	0	30	-408.53
106114	350	1		10/3/2013		10/3/2013 9:23	-408.53	-408.53	0	31	-408.53												
106121	450	0.73		10/3/2013	9:24	10/3/2013 9:23	-408.53	-408.53	0	31	-408.53		9:24	-408.53	-408.53	0	32	-408.53					
106121	350	0.67		10/3/2013		10/3/2013 9:23	-408.53	-408.53	0	31	-408.53					0		0					
106121	250	0.11		10/3/2013		10/3/2013 9:23	-408.53	-408.53	0	31	-408.53					0							
106129	450	1.61		10/3/2013	9:27	10/3/2013 9:23	-408.53	-408.53	0	31	-408.53		9:27	-408.53	-408.53	0	35	-408.53					
106129	350	0.97		10/3/2013		10/3/2013 9:23	-408.53	-408.53	0	31	-408.53					0		0					
106112	450	2.04		10/3/2013	9:32	10/3/2013 9:23	-408.53	-408.53	0	31	-408.53		9:32	-408.53	-408.53	0	40	-408.53					
106112	350	1.57		10/3/2013		10/3/2013 9:23	-408.53	-408.53	0	31	-408.53					0		0					
106116	450	4.39		10/3/2013	9:44	10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525	9:44							-408.53	-408.53	0	52	-408.53
106116	350	2.08		10/3/2013		10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525												0
106116	250	0.3		10/3/2013		10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525												0
106117	450	1.69		10/3/2013	9:47	10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525	9:47							-408.53	-408.53	0	55	-408.53
106117	350	1.13		10/3/2013		10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525												0
106117	250	0.38		10/3/2013		10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525												
106114	450	1.22		10/3/2013	9:52	10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525	9:52							-408.53	-408.53	0	0	-408.53
106114	350	1.01		10/3/2013		10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525												0
106121	450	0.72		10/3/2013	9:55	10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525		9:55	-408.53	-408.394	0.002266	3	-408.523					
106121	350	0.65		10/3/2013		10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525							0					
106121	250	0.09		10/3/2013		10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525							0					
106129	450	1.58		10/3/2013	9:58	10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525		9:58	-408.53	-408.394	0.002266	6	-408.516					
106129	350	0.94		10/3/2013		10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525												
106112	450	1.93		10/3/2013	10:00	10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525		10:00	-408.53	-408.394	0.002266	8	-408.512					
106112	350	1.5		10/3/2013		10/3/2013 9:54	-408.53	-408.394	0.002266	2	-408.525												
106116	450	4.33		10/3/2013	10:15	10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464	10:15							-408.53	-408.394	0.002266	23	-408.478
106116	350	2.02		10/3/2013		10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464												0
106116	250	0.22		10/3/2013		10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464												0
106117	450	1.64		10/3/2013	10:16	10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464	10:16							-408.53	-408.394	0.002266	24	-408.475
106117	350	1.07		10/3/2013		10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464												0
106117	250	0.32		10/3/2013		10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464												0
106114	450	1.16		10/3/2013	10:19	10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464	10:19							-408.53	-408.394	0.002266	27	-408.469
106114	350	0.94		10/3/2013		10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464												
106121	450	0.65		10/3/2013	10:22	10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464		10:22	-408.53	-408.394	0.002266	30	-408.462					
106121	350	0.58		10/3/2013		10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464							0					
106121	250	0.01		10/3/2013		10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464							0					
106129	450	1.5		10/3/2013	10:25	10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464		10:25	-408.53	-408.394	0.002266	33	-408.455					

106129	350	0.87	10/3/2013		10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464							0						
106112	450	1.89	10/3/2013	10:29	10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464		10:29	-408.53	-408.394	0.002266	37	-408.446						
106112	350	1.42	10/3/2013		10/3/2013 10:21	-408.53	-408.394	0.002266	29	-408.464													
106116	450	4.27	10/3/2013	10:40	10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401	10:40							-408.53	-408.394	0.002266	48	-408.421	
106116	350	1.96	10/3/2013		10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401													0
106116	250	0.14	10/3/2013		10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401													0
106117	450	1.55	10/3/2013	10:43	10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401	10:43							-408.53	-408.394	0.002266	51	-408.414	
106117	350	1.03	10/3/2013		10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401													0
106117	250	0.24	10/3/2013		10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401													0
106114	450	1.09	10/3/2013	10:47	10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401	10:47							-408.53	-408.394	0.002266	55	-408.405	
106114	350	0.87	10/3/2013		10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401													
106121	450	0.57	10/3/2013	10:50	10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401		10:50	-408.53	-408.394	0.002266	58	-408.398						
106121	350	0.5	10/3/2013		10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401					0		0						0
106121	250	-0.06	10/3/2013		10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401					0		0						
106129	450	1.44	10/3/2013	10:53	10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401		10:53	-408.394	-408.122	0.004532	1	-408.389						
106129	350	0.8	10/3/2013		10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401					0		0						
106112	450	1.82	10/3/2013	10:56	10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401		10:56	-408.394	-408.122	0.004532	4	-408.376						
106112	350	1.34	10/3/2013		10/3/2013 10:49	-408.53	-408.394	0.002266	57	-408.401							0						
106116	450	4.17	10/3/2013	11:10	10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29	11:10							-408.394	-408.122	0.004532	18	-408.312	
106116	350	1.85	10/3/2013		10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29													0
106116	250	0.04	10/3/2013		10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29													0
106117	450	1.48	10/3/2013	11:08	10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29	11:08							-408.394	-408.122	0.004532	16	-408.321	
106117	350	0.94	10/3/2013		10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29													0
106117	250	0.15	10/3/2013		10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29													0
106114	450	1	10/3/2013	11:14	10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29	11:14							-408.394	-408.122	0.004532	22	-408.294	
106114	350	0.79	10/3/2013		10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29													0
106121	450	0.49	10/3/2013	11:16	10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29		11:16	-408.394	-408.122	0.004532	24	-408.285						
106121	350	0.41	10/3/2013		10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29							0						
106121	250	-0.14	10/3/2013		10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29							0						0
106129	450	1.34	10/3/2013	11:19	10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29		11:19	-408.394	-408.122	0.004532	27	-408.271						
106129	350	0.68	10/3/2013		10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29							0						
106112	450	1.74	10/3/2013	11:22	10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29		11:22	-408.394	-408.122	0.004532	30	-408.258						
106112	350	1.26	10/3/2013		10/3/2013 11:15	-408.394	-408.122	0.004532	23	-408.29													
106116	450	4.07	10/3/2013	11:40	10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145	11:40						0	-408.394	-408.122	0.004532	48	-408.176	
106116	350	1.77	10/3/2013		10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145													0
106116	250	-0.05	10/3/2013		10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145													0
106117	450	1.39	10/3/2013	11:41	10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145	11:41						0	-408.394	-408.122	0.004532	49	-408.172	
106117	350	0.84	10/3/2013		10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145													0
106117	250	0.06	10/3/2013		10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145													0
106114	450	0.91	10/3/2013	11:45	10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145	11:45							-408.394	-408.122	0.004532	53	-408.154	
106114	350	0.69	10/3/2013		10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145													0
106121	450	0.42	10/3/2013	11:48	10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145		11:48	-408.394	-408.122	0.004532	56	-408.14						0
106121	350	0.32	10/3/2013		10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145							0						
106121	250	-0.23	10/3/2013		10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145							0						
106129	450	1.25	10/3/2013	11:50	10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145		11:50	-408.394	-408.122	0.004532	58	-408.131						0
106129	350	0.61	10/3/2013		10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145							0						
106112	450	1.6	10/3/2013	11:53	10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145		11:53	-408.122	-407.578	0.009063	1	-408.113						
106112	350	1.11	10/3/2013		10/3/2013 11:47	-408.394	-408.122	0.004532	55	-408.145													
106116	450	3.86	10/3/2013	12:17	10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841	12:17							-408.122	-407.578	0.009063	25	-407.895	
106116	350	1.54	10/3/2013		10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841							0						0
106116	250	-0.26	10/3/2013		10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841													0
106117	450	1.18	10/3/2013	12:15	10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841	12:15							-408.122	-407.578	0.009063	23	-407.913	
106117	350	0.63	10/3/2013		10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841							0						0
106117	250	-0.15	10/3/2013		10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841													0
106114	450	0.67	10/3/2013	12:21	10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841	12:21							-408.122	-407.578	0.009063	29	-407.859	
106114	350	0.45	10/3/2013		10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841													0
106121	450	0.16	10/3/2013	12:24	10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841		12:24	-408.122	-407.578	0.009063	32	-407.832						
106121	350	0.09	10/3/2013		10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841							0						0
106121	250	-0.47	10/3/2013		10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841							0						
106129	450	1.02	10/3/2013	12:26	10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841		12:26	-408.122	-407.578	0.009063	34	-407.814						

106129	350	0.36	10/3/2013		10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841								0					0
106112	450	1.34	10/3/2013	12:29	10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841		12:29	-408.122	-407.578	0.009063	37	-407.787						
106112	350	0.84	10/3/2013		10/3/2013 12:23	-408.122	-407.578	0.009063	31	-407.841								0					
106116	450	3.65	10/3/2013	12:44	10/3/2013 12:52	-407.578	-407.578	0	0	-407.578	12:44								-408.122	-407.578	0.009063	52	-407.651
106116	350	1.34	10/3/2013		10/3/2013 12:52	-407.578	-407.578	0	0	-407.578													0
106116	250	-0.47	10/3/2013		10/3/2013 12:52	-407.578	-407.578	0	0	-407.578								0					0
106117	450	0.96	10/3/2013	12:46	10/3/2013 12:52	-407.578	-407.578	0	0	-407.578	12:46								-408.122	-407.578	0.009063	54	-407.632
106117	350	0.41	10/3/2013		10/3/2013 12:52	-407.578	-407.578	0	0	-407.578													0
106117	250	-0.37	10/3/2013		10/3/2013 12:52	-407.578	-407.578	0	0	-407.578								0					0
106114	450	0.47	10/3/2013	12:51	10/3/2013 12:52	-407.578	-407.578	0	0	-407.578	12:51								-408.122	-407.578	0.009063	59	-407.587
106114	350	0.26	10/3/2013		10/3/2013 12:52	-407.578	-407.578	0	0	-407.578													0
106121	450	-0.02	10/3/2013	12:53	10/3/2013 12:52	-407.578	-407.578	0	0	-407.578		12:53	-407.578	-407.034	0.009063	1	-407.569						0
106121	350	-0.07	10/3/2013		10/3/2013 12:52	-407.578	-407.578	0	0	-407.578													
106121	250	-0.67	10/3/2013		10/3/2013 12:52	-407.578	-407.578	0	0	-407.578													0
106129	450	0.84	10/3/2013	12:56	10/3/2013 12:52	-407.578	-407.578	0	0	-407.578		12:56	-407.578	-407.034	0.009063	4	-407.542						
106129	350	0.18	10/3/2013		10/3/2013 12:52	-407.578	-407.578	0	0	-407.578													
106112	450	1.19	10/3/2013	12:59	10/3/2013 12:52	-407.578	-407.578	0	0	-407.578		12:59	-407.578	-407.034	0.009063	7	-407.515						0
106112	350	0.72	10/3/2013		10/3/2013 12:52	-407.578	-407.578	0	0	-407.578													
106116	450	3.5	10/3/2013	13:12	10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315	13:12							0	-407.578	-407.034	0.009063	20	-407.397
106116	350	1.16	10/3/2013		10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315													0
106116	250	-0.63	10/3/2013		10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315													0
106117	450	0.77	10/3/2013	13:16	10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315	13:16							0	-407.578	-407.034	0.009063	24	-407.361
106117	350	0.23	10/3/2013		10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315													0
106117	250	-0.55	10/3/2013		10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315													0
106114	450	0.29	10/3/2013	13:20	10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315	13:20							0	-407.578	-407.034	0.009063	28	-407.324
106114	350	0.07	10/3/2013		10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315								0					0
106121	450	-0.24	10/3/2013	13:22	10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315		13:22	-407.578	-407.034	0.009063	30	-407.306						0
106121	350	-0.31	10/3/2013		10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315								0					0
106121	250	-0.89	10/3/2013		10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315								0					
106129	450	0.62	10/3/2013	13:25	10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315		13:25	-407.578	-407.034	0.009063	33	-407.279						0
106129	350	-0.04	10/3/2013		10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315								0					
106112	450	0.96	10/3/2013	13:28	10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315		13:28	-407.578	-407.034	0.009063	36	-407.252						
106112	350	0.47	10/3/2013		10/3/2013 13:21	-407.578	-407.034	0.009063	29	-407.315													0
106116	450	3.22	10/3/2013	13:45	10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043	13:45								-407.578	-407.034	0.009063	53	-407.098
106116	350	0.89	10/3/2013		10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043								0					0
106116	250	-0.9	10/3/2013		10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043													0
106117	450	0.6	10/3/2013	13:43	10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043	13:43								-407.578	-407.034	0.009063	51	-407.116
106117	350	0.02	10/3/2013		10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043								0					0
106117	250	-0.75	10/3/2013		10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043													0
106114	450	0.04	10/3/2013	13:50	10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043	13:50								-407.578	-407.034	0.009063	58	-407.052
106114	350	-0.18	10/3/2013		10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043								0					0
106121	450	-0.49	10/3/2013	13:52	10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043		13:52	-407.034	-407.034	0	0	-407.034						0
106121	350	-0.58	10/3/2013		10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043								0					0
106121	250	-1.16	10/3/2013		10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043								0					0
106129	450	0.33	10/3/2013	13:54	10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043		13:54	-407.034	-406.626	0.006797	2	-407.021						
106129	350	-0.28	10/3/2013		10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043								0					0
106112	450	0.67	10/3/2013	13:57	10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043		13:57	-407.034	-406.626	0.006797	5	-407						
106112	350	0.22	10/3/2013		10/3/2013 13:51	-407.578	-407.034	0.009063	59	-407.043													
106116	450	3.06	10/3/2013	14:12	10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851	14:12								-407.034	-406.626	0.006797	20	-406.898
106116	350	0.75	10/3/2013		10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851													0
106116	250	-1.05	10/3/2013		10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851								0					0
106117	450	0.38	10/3/2013	14:14	10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851	14:14								-407.034	-406.626	0.006797	22	-406.885
106117	350	-0.15	10/3/2013		10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851													0
106117	250	-0.96	10/3/2013		10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851								0					0
106114	450	-0.13	10/3/2013	14:18	10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851	14:18							0	-407.034	-406.626	0.006797	26	-406.858
106114	350	-0.36	10/3/2013		10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851								0					
106121	450	-0.63	10/3/2013	14:20	10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851		14:20	-407.034	-406.626	0.006797	28	-406.844						
106121	350	-0.74	10/3/2013		10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851								0					
106121	250	-1.29	10/3/2013		10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851								0					
106129	450	0.18	10/3/2013	14:23	10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851		14:23	-407.034	-406.626	0.006797	31	-406.824						0

106129	350	-0.46	10/3/2013		10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851							0					
106112	450	0.55	10/3/2013	14:26	10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851		14:26	-407.034	-406.626	0.006797	34	-406.803					0
106112	350	0.07	10/3/2013		10/3/2013 14:19	-407.034	-406.626	0.006797	27	-406.851												0
106116	450	2.93	10/3/2013	14:44	10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633	14:44							-407.034	-406.626	0.006797	52	-406.681
106116	350	0.6	10/3/2013		10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633												0
106116	250	-1.19	10/3/2013		10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633												0
106117	450	0.22	10/3/2013	14:46	10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633	14:46						0	-407.034	-406.626	0.006797	54	-406.667
106117	350	-0.31	10/3/2013		10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633												0
106117	250	-1.07	10/3/2013		10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633												0
106114	450	-0.28	10/3/2013	14:50	10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633	14:50						0	-407.034	-406.626	0.006797	58	-406.64
106114	350	-0.48	10/3/2013		10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633							0					
106121	450	-0.76	10/3/2013	14:52	10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633		14:52	-406.626	-406.626	0	0	-406.626					
106121	350	-0.86	10/3/2013		10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633					0		0					
106121	250	-1.43	10/3/2013		10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633					0		0					
106129	450	0.07	10/3/2013	14:55	10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633		14:55	-406.626	-406.355	0.004532	3	-406.613					
106129	350	-0.53	10/3/2013		10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633					0		0					0
106112	450	0.45	10/3/2013	14:58	10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633		14:58	-406.626	-406.355	0.004532	6	-406.599					
106112	350	-0.04	10/3/2013		10/3/2013 14:51	-407.034	-406.626	0.006797	59	-406.633												0
106116	450	2.81	10/3/2013	15:13	10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5	15:13							-406.626	-406.355	0.004532	21	-406.531
106116	350	0.48	10/3/2013		10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5												0
106116	250	-1.29	10/3/2013		10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5												0
106117	450	0.12	10/3/2013	15:15	10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5	15:15							-406.626	-406.355	0.004532	23	-406.522
106117	350	-0.41	10/3/2013		10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5							0					0
106117	250	-1.16	10/3/2013		10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5												0
106114	450	-0.36	10/3/2013	15:19	10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5	15:19							-406.626	-406.355	0.004532	27	-406.504
106114	350	-0.58	10/3/2013		10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5							0					0
106121	450	-0.86	10/3/2013	15:21	10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5		15:21	-406.626	-406.355	0.004532	29	-406.495					0
106121	350	-0.96	10/3/2013		10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5							0					0
106121	250	-1.53	10/3/2013		10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5							0					0
106129	450	-0.02	10/3/2013	15:24	10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5		15:24	-406.626	-406.355	0.004532	32	-406.481					0
106129	350	-0.68	10/3/2013		10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5							0					0
106112	450	0.31	10/3/2013	15:26	10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5		15:26	-406.626	-406.355	0.004532	34	-406.472					0
106112	350	-0.16	10/3/2013		10/3/2013 15:20	-406.626	-406.355	0.004532	28	-406.5							0					0
106116	450	2.67	10/3/2013	15:43	10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359	15:43						0	-406.626	-406.355	0.004532	51	-406.395
106116	350	0.35	10/3/2013		10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359							0					0
106116	250	-1.42	10/3/2013		10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359							0					0
106117	450	-0.03	10/3/2013	15:45	10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359	15:45						0	-406.626	-406.355	0.004532	53	-406.386
106117	350	-0.55	10/3/2013		10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359							0					0
106117	250	-1.29	10/3/2013		10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359							0					0
106114	450	-0.56	10/3/2013	15:50	10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359	15:50						0	-406.626	-406.355	0.004532	58	-406.364
106114	350	-0.78	10/3/2013		10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359							0					0
106121	450	-1.03	10/3/2013	15:52	10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359		15:52	-406.355	-406.355	0	0	-406.355					0
106121	350	-1.13	10/3/2013		10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359							0					0
106121	250	-1.71	10/3/2013		10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359							0					0
106129	450	-0.22	10/3/2013	15:54	10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359		15:54	-406.355	-405.947	0.006797	2	-406.341					0
106129	350	-0.88	10/3/2013		10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359							0					0
106112	450	-0.43	10/3/2013	15:58	10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359		15:58	-406.355	-405.947	0.006797	6	-406.314					0
106112	350	-0.32	10/3/2013		10/3/2013 15:51	-406.626	-406.355	0.004532	59	-406.359							0					0
106116	450	2.55	10/3/2013	16:03	10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225	16:03						0	-406.355	-405.947	0.006797	11	-406.28
106116	350	-0.02	10/3/2013		10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225							0					0
106116	250	-1.54	10/3/2013		10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225							0					0
106117	450	-0.16	10/3/2013	16:05	10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225	16:05						0	-406.355	-405.947	0.006797	13	-406.266
106117	350	-0.69	10/3/2013		10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225							0					0
106117	250	-1.4	10/3/2013		10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225							0					0
106114	450	-0.67	10/3/2013	16:10	10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225	16:10						0	-406.355	-405.947	0.006797	18	-406.232
106114	350	-0.89	10/3/2013		10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225							0					0
106121	450	-1.16	10/3/2013	16:12	10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225		16:12	-406.355	-405.947	0.006797	20	-406.219					0
106121	350	-1.26	10/3/2013		10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225							0					0
106121	250	-1.85	10/3/2013		10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225							0					0
106129	450	-0.35	10/3/2013	16:15	10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225		16:15	-406.355	-405.947	0.006797	23	-406.198					0

106129	350	-0.99	10/3/2013		10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225							0			0
106112	450	-0.03	10/3/2013	16:19	10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225	16:19	-406.355	-405.947	0.006797	27	-406.171				0
106112	350	-0.5	10/3/2013		10/3/2013 16:11	-406.355	-405.947	0.006797	19	-406.225							0			0
																	0			0
																	0			

Well	Depth	Distance to 106161 (ft)	Monitoring round	Time	Vacuum (in	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106116	450			8:10	3.94	10/3/2013 8:23	-408.398		-408.339	3.996555	3.4978544			
106116	350				1.82	10/3/2013 8:23	-408.398							
106116	250				0.06	10/3/2013 8:23	-408.398							
106117	450			8:14	1.42	10/3/2013 8:23	-408.398		-408.358	1.459154	0.9604528			
106117	350				0.9	10/3/2013 8:23	-408.398							
106117	250				0.16	10/3/2013 8:23	-408.398							
106114	450			8:20	0.98	10/3/2013 8:23	-408.398		-408.385	0.993051	0.4943504			
106114	350				0.78	10/3/2013 8:23	-408.398							
106121	450			8:25	0.49	10/3/2013 8:23	-408.398	-408.407		0.498701				
106121	350				0.45	10/3/2013 8:23	-408.398	0						
106121	250				-0.07	10/3/2013 8:23	-408.398							
106129	450			8:27	1.36	10/3/2013 8:23	-408.398	-408.416		1.377402	0.8787008			
106129	350				0.72	10/3/2013 8:23	-408.398	0						
106112	450			8:33	1.81	10/3/2013 8:23	-408.398	-408.444		1.853504	1.3548032			
106112	350				1.34	10/3/2013 8:23	-408.398	0						
106116	450			9:14	4.35	10/3/2013 9:23	-408.53		-408.53	4.35	3.62			
106116	350				2.04	10/3/2013 9:23	-408.53		0					
106116	250				0.25	10/3/2013 9:23	-408.53							
106117	450			9:17	1.66	10/3/2013 9:23	-408.53		-408.53	1.66	0.93			
106117	350				1.05	10/3/2013 9:23	-408.53							
106117	250				0.38	10/3/2013 9:23	-408.53							
106114	450			9:22	1.22	10/3/2013 9:23	-408.53		-408.53	1.22	0.49			
106114	350				1	10/3/2013 9:23	-408.53							
106121	450			9:24	0.73	10/3/2013 9:23	-408.53	-408.53		0.73				
106121	350				0.67	10/3/2013 9:23	-408.53	0						
106121	250				0.11	10/3/2013 9:23	-408.53							
106129	450			9:27	1.61	10/3/2013 9:23	-408.53	-408.53		1.61	0.88			
106129	350				0.97	10/3/2013 9:23	-408.53	0						
106112	450			9:32	2.04	10/3/2013 9:23	-408.53	-408.53		2.04	1.31			
106112	350				1.57	10/3/2013 9:23	-408.53	0						
106116	450			9:44	4.39	10/3/2013 9:54	-408.525		-408.53	4.38565	3.6678248			
106116	350				2.08	10/3/2013 9:54	-408.525		0					
106116	250				0.3	10/3/2013 9:54	-408.525		0					
106117	450			9:47	1.69	10/3/2013 9:54	-408.525		-408.53	1.68565	0.9678248			
106117	350				1.13	10/3/2013 9:54	-408.525		0					
106117	250				0.38	10/3/2013 9:54	-408.525							
106114	450			9:52	1.22	10/3/2013 9:54	-408.525		-408.53	1.21565	0.4978248			
106114	350				1.01	10/3/2013 9:54	-408.525		0					
106121	450			9:55	0.72	10/3/2013 9:54	-408.525	-408.523		0.717825				
106121	350				0.65	10/3/2013 9:54	-408.525	0						
106121	250				0.09	10/3/2013 9:54	-408.525	0						
106129	450			9:58	1.58	10/3/2013 9:54	-408.525	-408.516		1.571299	0.8534744			
106129	350				0.94	10/3/2013 9:54	-408.525							
106112	450			10:00	1.93	10/3/2013 9:54	-408.525	-408.512		1.916949	1.199124			
106112	350				1.5	10/3/2013 9:54	-408.525							

106116	450	10:15	4.33	10/3/2013 10:21	-408.464		-408.478	4.316949	3.669124
106116	350		2.02	10/3/2013 10:21	-408.464		0		
106116	250		0.22	10/3/2013 10:21	-408.464		0		
106117	450	10:16	1.64	10/3/2013 10:21	-408.464		-408.475	1.629124	0.9812992
106117	350		1.07	10/3/2013 10:21	-408.464		0		
106117	250		0.32	10/3/2013 10:21	-408.464		0		
106114	450	10:19	1.16	10/3/2013 10:21	-408.464		-408.469	1.15565	0.5078248
106114	350		0.94	10/3/2013 10:21	-408.464				
106121	450	10:22	0.65	10/3/2013 10:21	-408.464	-408.462		0.647825	
106121	350		0.58	10/3/2013 10:21	-408.464	0			
106121	250		0.01	10/3/2013 10:21	-408.464	0			
106129	450	10:25	1.5	10/3/2013 10:21	-408.464	-408.455		1.491299	0.8434744
106129	350		0.87	10/3/2013 10:21	-408.464	0			
106112	450	10:29	1.89	10/3/2013 10:21	-408.464	-408.446		1.872598	1.2247736
106112	350		1.42	10/3/2013 10:21	-408.464				
106116	450	10:40	4.27	10/3/2013 10:49	-408.401		-408.421	4.250423	3.6825984
106116	350		1.96	10/3/2013 10:49	-408.401		0		
106116	250		0.14	10/3/2013 10:49	-408.401		0		
106117	450	10:43	1.55	10/3/2013 10:49	-408.401		-408.414	1.536949	0.969124
106117	350		1.03	10/3/2013 10:49	-408.401		0		
106117	250		0.24	10/3/2013 10:49	-408.401		0		
106114	450	10:47	1.09	10/3/2013 10:49	-408.401		-408.405	1.08565	0.5178248
106114	350		0.87	10/3/2013 10:49	-408.401				
106121	450	10:50	0.57	10/3/2013 10:49	-408.401	-408.398		0.567825	
106121	350		0.5	10/3/2013 10:49	-408.401	0	0		
106121	250		-0.06	10/3/2013 10:49	-408.401	0			
106129	450	10:53	1.44	10/3/2013 10:49	-408.401	-408.389		1.429124	0.8612992
106129	350		0.8	10/3/2013 10:49	-408.401	0			
106112	450	10:56	1.82	10/3/2013 10:49	-408.401	-408.376		1.796073	1.228248
106112	350		1.34	10/3/2013 10:49	-408.401	0			
106116	450	11:10	4.17	10/3/2013 11:15	-408.29		-408.312	4.148248	3.6625984
106116	350		1.85	10/3/2013 11:15	-408.29		0		
106116	250		0.04	10/3/2013 11:15	-408.29		0		
106117	450	11:08	1.48	10/3/2013 11:15	-408.29		-408.321	1.449547	0.9638976
106117	350		0.94	10/3/2013 11:15	-408.29		0		
106117	250		0.15	10/3/2013 11:15	-408.29		0		
106114	450	11:14	1	10/3/2013 11:15	-408.29		-408.294	0.99565	0.51
106114	350		0.79	10/3/2013 11:15	-408.29		0		
106121	450	11:16	0.49	10/3/2013 11:15	-408.29	-408.285		0.48565	
106121	350		0.41	10/3/2013 11:15	-408.29	0			
106121	250		-0.14	10/3/2013 11:15	-408.29	0	0		
106129	450	11:19	1.34	10/3/2013 11:15	-408.29	-408.271		1.322598	0.8369488
106129	350		0.68	10/3/2013 11:15	-408.29	0			
106112	450	11:22	1.74	10/3/2013 11:15	-408.29	-408.258		1.709547	1.2238976
106112	350		1.26	10/3/2013 11:15	-408.29				
106116	450	11:40	4.07	10/3/2013 11:47	-408.145	0	-408.176	4.039547	3.6238976
106116	350		1.77	10/3/2013 11:47	-408.145		0		

106116	250		-0.05	10/3/2013 11:47	-408.145		0		
106117	450	11:41	1.39	10/3/2013 11:47	-408.145	0	-408.172	1.363898	0.948248
106117	350		0.84	10/3/2013 11:47	-408.145		0		
106117	250		0.06	10/3/2013 11:47	-408.145		0		
106114	450	11:45	0.91	10/3/2013 11:47	-408.145		-408.154	0.901299	0.4856496
106114	350		0.69	10/3/2013 11:47	-408.145		0		
106121	450	11:48	0.42	10/3/2013 11:47	-408.145	-408.14	0	0.41565	
106121	350		0.32	10/3/2013 11:47	-408.145	0			
106121	250		-0.23	10/3/2013 11:47	-408.145	0			
106129	450	11:50	1.25	10/3/2013 11:47	-408.145	-408.131	0	1.236949	0.8212992
106129	350		0.61	10/3/2013 11:47	-408.145	0			
106112	450	11:53	1.6	10/3/2013 11:47	-408.145	-408.113		1.569547	1.1538976
106112	350		1.11	10/3/2013 11:47	-408.145				
106116	450	12:17	3.86	10/3/2013 12:23	-407.841		-407.895	3.807795	3.656496
106116	350		1.54	10/3/2013 12:23	-407.841	0	0		
106116	250		-0.26	10/3/2013 12:23	-407.841		0		
106117	450	12:15	1.18	10/3/2013 12:23	-407.841		-407.913	1.110394	0.9590944
106117	350		0.63	10/3/2013 12:23	-407.841	0	0		
106117	250		-0.15	10/3/2013 12:23	-407.841		0		
106114	450	12:21	0.67	10/3/2013 12:23	-407.841		-407.859	0.652598	0.5012992
106114	350		0.45	10/3/2013 12:23	-407.841		0		
106121	450	12:24	0.16	10/3/2013 12:23	-407.841	-407.832		0.151299	
106121	350		0.09	10/3/2013 12:23	-407.841	0	0		
106121	250		-0.47	10/3/2013 12:23	-407.841	0			
106129	450	12:26	1.02	10/3/2013 12:23	-407.841	-407.814		0.993898	0.8425984
106129	350		0.36	10/3/2013 12:23	-407.841	0	0		
106112	450	12:29	1.34	10/3/2013 12:23	-407.841	-407.787		1.287795	1.136496
106112	350		0.84	10/3/2013 12:23	-407.841	0			
106116	450	12:44	3.65	10/3/2013 12:52	-407.578		-407.651	3.580394	3.6090944
106116	350		1.34	10/3/2013 12:52	-407.578		0		
106116	250		-0.47	10/3/2013 12:52	-407.578	0	0		
106117	450	12:46	0.96	10/3/2013 12:52	-407.578		-407.632	0.907795	0.936496
106117	350		0.41	10/3/2013 12:52	-407.578		0		
106117	250		-0.37	10/3/2013 12:52	-407.578	0	0		
106114	450	12:51	0.47	10/3/2013 12:52	-407.578		-407.587	0.461299	0.49
106114	350		0.26	10/3/2013 12:52	-407.578		0		
106121	450	12:53	-0.02	10/3/2013 12:52	-407.578	-407.569	0	-0.0287	
106121	350		-0.07	10/3/2013 12:52	-407.578				
106121	250		-0.67	10/3/2013 12:52	-407.578		0		
106129	450	12:56	0.84	10/3/2013 12:52	-407.578	-407.542		0.805197	0.8338976
106129	350		0.18	10/3/2013 12:52	-407.578				
106112	450	12:59	1.19	10/3/2013 12:52	-407.578	-407.515	0	1.129094	1.1577952
106112	350		0.72	10/3/2013 12:52	-407.578				
106116	450	13:12	3.5	10/3/2013 13:21	-407.315	0	-407.397	3.421693	3.6703936
106116	350		1.16	10/3/2013 13:21	-407.315		0		
106116	250		-0.63	10/3/2013 13:21	-407.315		0		
106117	450	13:16	0.77	10/3/2013 13:21	-407.315	0	-407.361	0.726496	0.9751968

106117	350		0.23	10/3/2013 13:21	-407.315		0		
106117	250		-0.55	10/3/2013 13:21	-407.315		0		
106114	450	13:20	0.29	10/3/2013 13:21	-407.315	0	-407.324	0.281299	0.53
106114	350		0.07	10/3/2013 13:21	-407.315	0	0		
106121	450	13:22	-0.24	10/3/2013 13:21	-407.315	-407.306	0	-0.2487	
106121	350		-0.31	10/3/2013 13:21	-407.315	0	0		
106121	250		-0.89	10/3/2013 13:21	-407.315	0			
106129	450	13:25	0.62	10/3/2013 13:21	-407.315	-407.279	0	0.585197	0.8338976
106129	350		-0.04	10/3/2013 13:21	-407.315	0			
106112	450	13:28	0.96	10/3/2013 13:21	-407.315	-407.252		0.899094	1.1477952
106112	350		0.47	10/3/2013 13:21	-407.315		0		
106116	450	13:45	3.22	10/3/2013 13:51	-407.043		-407.098	3.167795	3.666496
106116	350		0.89	10/3/2013 13:51	-407.043	0	0		
106116	250		-0.9	10/3/2013 13:51	-407.043		0		
106117	450	13:43	0.6	10/3/2013 13:51	-407.043		-407.116	0.530394	1.0290944
106117	350		0.02	10/3/2013 13:51	-407.043	0	0		
106117	250		-0.75	10/3/2013 13:51	-407.043		0		
106114	450	13:50	0.04	10/3/2013 13:51	-407.043		-407.052	0.031299	0.53
106114	350		-0.18	10/3/2013 13:51	-407.043	0	0		
106121	450	13:52	-0.49	10/3/2013 13:51	-407.043	-407.034	0	-0.4987	
106121	350		-0.58	10/3/2013 13:51	-407.043	0	0		
106121	250		-1.16	10/3/2013 13:51	-407.043	0	0		
106129	450	13:54	0.33	10/3/2013 13:51	-407.043	-407.021		0.308248	0.8069488
106129	350		-0.28	10/3/2013 13:51	-407.043	0	0		
106112	450	13:57	0.67	10/3/2013 13:51	-407.043	-407		0.628671	1.127372
106112	350		0.22	10/3/2013 13:51	-407.043				
106116	450	14:12	3.06	10/3/2013 14:19	-406.851		-406.898	3.014321	3.6508464
106116	350		0.75	10/3/2013 14:19	-406.851		0		
106116	250		-1.05	10/3/2013 14:19	-406.851	0	0		
106117	450	14:14	0.38	10/3/2013 14:19	-406.851		-406.885	0.347372	0.9838976
106117	350		-0.15	10/3/2013 14:19	-406.851		0		
106117	250		-0.96	10/3/2013 14:19	-406.851	0	0		
106114	450	14:18	-0.13	10/3/2013 14:19	-406.851	0	-406.858	-0.13653	0.5
106114	350		-0.36	10/3/2013 14:19	-406.851	0			
106121	450	14:20	-0.63	10/3/2013 14:19	-406.851	-406.844		-0.63653	
106121	350		-0.74	10/3/2013 14:19	-406.851	0			
106121	250		-1.29	10/3/2013 14:19	-406.851	0			
106129	450	14:23	0.18	10/3/2013 14:19	-406.851	-406.824	0	0.153898	0.7904232
106129	350		-0.46	10/3/2013 14:19	-406.851	0			
106112	450	14:26	0.55	10/3/2013 14:19	-406.851	-406.803	0	0.504321	1.1408464
106112	350		0.07	10/3/2013 14:19	-406.851		0		
106116	450	14:44	2.93	10/3/2013 14:51	-406.633		-406.681	2.884321	3.6508464
106116	350		0.6	10/3/2013 14:51	-406.633		0		
106116	250		-1.19	10/3/2013 14:51	-406.633		0		
106117	450	14:46	0.22	10/3/2013 14:51	-406.633	0	-406.667	0.187372	0.9538976
106117	350		-0.31	10/3/2013 14:51	-406.633		0		
106117	250		-1.07	10/3/2013 14:51	-406.633		0		

106114	450	14:50	-0.28	10/3/2013 14:51	-406.633	0	-406.64	-0.28653	0.48
106114	350		-0.48	10/3/2013 14:51	-406.633	0			
106121	450	14:52	-0.76	10/3/2013 14:51	-406.633	-406.626		-0.76653	
106121	350		-0.86	10/3/2013 14:51	-406.633	0			
106121	250		-1.43	10/3/2013 14:51	-406.633	0			
106129	450	14:55	0.07	10/3/2013 14:51	-406.633	-406.613		0.050423	0.8169488
106129	350		-0.53	10/3/2013 14:51	-406.633	0	0		
106112	450	14:58	0.45	10/3/2013 14:51	-406.633	-406.599		0.417372	1.1838976
106112	350		-0.04	10/3/2013 14:51	-406.633		0		
106116	450	15:13	2.81	10/3/2013 15:20	-406.5		-406.531	2.779547	3.6438976
106116	350		0.48	10/3/2013 15:20	-406.5		0		
106116	250		-1.29	10/3/2013 15:20	-406.5		0		
106117	450	15:15	0.12	10/3/2013 15:20	-406.5		-406.522	0.098248	0.9625984
106117	350		-0.41	10/3/2013 15:20	-406.5	0	0		
106117	250		-1.16	10/3/2013 15:20	-406.5		0		
106114	450	15:19	-0.36	10/3/2013 15:20	-406.5		-406.504	-0.36435	0.5
106114	350		-0.58	10/3/2013 15:20	-406.5	0	0		
106121	450	15:21	-0.86	10/3/2013 15:20	-406.5	-406.495	0	-0.86435	
106121	350		-0.96	10/3/2013 15:20	-406.5	0	0		
106121	250		-1.53	10/3/2013 15:20	-406.5	0	0		
106129	450	15:24	-0.02	10/3/2013 15:20	-406.5	-406.481	0	-0.0374	0.8269488
106129	350		-0.68	10/3/2013 15:20	-406.5	0	0		
106112	450	15:26	0.31	10/3/2013 15:20	-406.5	-406.472	0	0.283898	1.148248
106112	350		-0.16	10/3/2013 15:20	-406.5	0	0		
106116	450	15:43	2.67	10/3/2013 15:51	-406.359	0	-406.395	2.635197	3.6695472
106116	350		0.35	10/3/2013 15:51	-406.359	0	0		
106116	250		-1.42	10/3/2013 15:51	-406.359	0	0		
106117	450	15:45	-0.03	10/3/2013 15:51	-406.359	0	-406.386	-0.0561	0.978248
106117	350		-0.55	10/3/2013 15:51	-406.359	0	0		
106117	250		-1.29	10/3/2013 15:51	-406.359	0	0		
106114	450	15:50	-0.56	10/3/2013 15:51	-406.359	0	-406.364	-0.56435	0.47
106114	350		-0.78	10/3/2013 15:51	-406.359	0	0		
106121	450	15:52	-1.03	10/3/2013 15:51	-406.359	-406.355	0	-1.03435	
106121	350		-1.13	10/3/2013 15:51	-406.359	0	0		
106121	250		-1.71	10/3/2013 15:51	-406.359	0	0		
106129	450	15:54	-0.22	10/3/2013 15:51	-406.359	-406.341	0	-0.2374	0.7969488
106129	350		-0.88	10/3/2013 15:51	-406.359	0	0		
106112	450	15:58	-0.43	10/3/2013 15:51	-406.359	-406.314	0	-0.4735	0.5608464
106112	350		-0.32	10/3/2013 15:51	-406.359	0	0		
106116	450	16:03	2.55	10/3/2013 16:11	-406.225	0	-406.28	2.497795	3.6643208
106116	350		-0.02	10/3/2013 16:11	-406.225	0	0		
106116	250		-1.54	10/3/2013 16:11	-406.225	0	0		
106117	450	16:05	-0.16	10/3/2013 16:11	-406.225	0	-406.266	-0.19915	0.967372
106117	350		-0.69	10/3/2013 16:11	-406.225	0	0		
106117	250		-1.4	10/3/2013 16:11	-406.225	0	0		
106114	450	16:10	-0.67	10/3/2013 16:11	-406.225	0	-406.232	-0.67653	0.49
106114	350		-0.89	10/3/2013 16:11	-406.225	0	0		

106121	450	16:12	-1.16	10/3/2013 16:11	-406.225	-406.219	0	-1.16653	
106121	350		-1.26	10/3/2013 16:11	-406.225	0	0		
106121	250		-1.85	10/3/2013 16:11	-406.225	0	0		
106129	450	16:15	-0.35	10/3/2013 16:11	-406.225	-406.198	0	-0.3761	0.7904232
106129	350		-0.99	10/3/2013 16:11	-406.225	0	0		
106112	450	16:19	-0.03	10/3/2013 16:11	-406.225	-406.171	0	-0.0822	1.0843208
106112	350		-0.5	10/3/2013 16:11	-406.225	0	0		

Well	Depth	Distance to 106161 (ft)	Monitoring round	Time	Vacuum (in	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106116	450			8:10	3.94	10/3/2013 8:23	-408.398		-408.339	1.876555	1.4178544			
106116	350				1.82	10/3/2013 8:23	-408.398							
106116	250				0.06	10/3/2013 8:23	-408.398							
106117	450			8:14	1.42	10/3/2013 8:23	-408.398		-408.358	0.939154	0.4804528			
106117	350				0.9	10/3/2013 8:23	-408.398							
106117	250				0.16	10/3/2013 8:23	-408.398							
106114	450			8:20	0.98	10/3/2013 8:23	-408.398		-408.385	0.793051	0.3343504			
106114	350				0.78	10/3/2013 8:23	-408.398							
106121	450			8:25	0.49	10/3/2013 8:23	-408.398	-408.407		0.458701				
106121	350				0.45	10/3/2013 8:23	-408.398	0						
106121	250				-0.07	10/3/2013 8:23	-408.398							
106129	450			8:27	1.36	10/3/2013 8:23	-408.398	-408.416		0.737402	0.2787008			
106129	350				0.72	10/3/2013 8:23	-408.398	0						
106112	450			8:33	1.81	10/3/2013 8:23	-408.398	-408.444		1.383504	0.9248032			
106112	350				1.34	10/3/2013 8:23	-408.398	0						
106116	450			9:14	4.35	10/3/2013 9:23	-408.53		-408.53	2.04	1.37			
106116	350				2.04	10/3/2013 9:23	-408.53		0					
106116	250				0.25	10/3/2013 9:23	-408.53							
106117	450			9:17	1.66	10/3/2013 9:23	-408.53		-408.53	1.05	0.38			
106117	350				1.05	10/3/2013 9:23	-408.53							
106117	250				0.38	10/3/2013 9:23	-408.53							
106114	450			9:22	1.22	10/3/2013 9:23	-408.53		-408.53	1	0.33			
106114	350				1	10/3/2013 9:23	-408.53							
106121	450			9:24	0.73	10/3/2013 9:23	-408.53	-408.53		0.67				
106121	350				0.67	10/3/2013 9:23	-408.53	0						
106121	250				0.11	10/3/2013 9:23	-408.53							
106129	450			9:27	1.61	10/3/2013 9:23	-408.53	-408.53		0.97	0.3			
106129	350				0.97	10/3/2013 9:23	-408.53	0						
106112	450			9:32	2.04	10/3/2013 9:23	-408.53	-408.53		1.57	0.9			
106112	350				1.57	10/3/2013 9:23	-408.53	0						
106116	450			9:44	4.39	10/3/2013 9:54	-408.525		-408.53	2.07565	1.4278248			
106116	350				2.08	10/3/2013 9:54	-408.525		0					
106116	250				0.3	10/3/2013 9:54	-408.525		0					
106117	450			9:47	1.69	10/3/2013 9:54	-408.525		-408.53	1.12565	0.4778248			
106117	350				1.13	10/3/2013 9:54	-408.525		0					
106117	250				0.38	10/3/2013 9:54	-408.525							
106114	450			9:52	1.22	10/3/2013 9:54	-408.525		-408.53	1.00565	0.3578248			
106114	350				1.01	10/3/2013 9:54	-408.525		0					
106121	450			9:55	0.72	10/3/2013 9:54	-408.525	-408.523		0.647825				
106121	350				0.65	10/3/2013 9:54	-408.525	0						
106121	250				0.09	10/3/2013 9:54	-408.525	0						
106129	450			9:58	1.58	10/3/2013 9:54	-408.525	-408.516		0.931299	0.2834744			
106129	350				0.94	10/3/2013 9:54	-408.525							
106112	450			10:00	1.93	10/3/2013 9:54	-408.525	-408.512		1.486949	0.839124			
106112	350				1.5	10/3/2013 9:54	-408.525							

106116	450	10:15	4.33	10/3/2013 10:21	-408.464		-408.478	2.006949	1.429124
106116	350		2.02	10/3/2013 10:21	-408.464		0		
106116	250		0.22	10/3/2013 10:21	-408.464		0		
106117	450	10:16	1.64	10/3/2013 10:21	-408.464		-408.475	1.059124	0.4812992
106117	350		1.07	10/3/2013 10:21	-408.464		0		
106117	250		0.32	10/3/2013 10:21	-408.464		0		
106114	450	10:19	1.16	10/3/2013 10:21	-408.464		-408.469	0.93565	0.3578248
106114	350		0.94	10/3/2013 10:21	-408.464				
106121	450	10:22	0.65	10/3/2013 10:21	-408.464	-408.462		0.577825	
106121	350		0.58	10/3/2013 10:21	-408.464	0			
106121	250		0.01	10/3/2013 10:21	-408.464	0			
106129	450	10:25	1.5	10/3/2013 10:21	-408.464	-408.455		0.861299	0.2834744
106129	350		0.87	10/3/2013 10:21	-408.464	0			
106112	450	10:29	1.89	10/3/2013 10:21	-408.464	-408.446		1.402598	0.8247736
106112	350		1.42	10/3/2013 10:21	-408.464				
106116	450	10:40	4.27	10/3/2013 10:49	-408.401		-408.421	1.940423	1.4425984
106116	350		1.96	10/3/2013 10:49	-408.401		0		
106116	250		0.14	10/3/2013 10:49	-408.401		0		
106117	450	10:43	1.55	10/3/2013 10:49	-408.401		-408.414	1.016949	0.519124
106117	350		1.03	10/3/2013 10:49	-408.401		0		
106117	250		0.24	10/3/2013 10:49	-408.401		0		
106114	450	10:47	1.09	10/3/2013 10:49	-408.401		-408.405	0.86565	0.3678248
106114	350		0.87	10/3/2013 10:49	-408.401				
106121	450	10:50	0.57	10/3/2013 10:49	-408.401	-408.398		0.497825	
106121	350		0.5	10/3/2013 10:49	-408.401	0	0		
106121	250		-0.06	10/3/2013 10:49	-408.401	0			
106129	450	10:53	1.44	10/3/2013 10:49	-408.401	-408.389		0.789124	0.2912992
106129	350		0.8	10/3/2013 10:49	-408.401	0			
106112	450	10:56	1.82	10/3/2013 10:49	-408.401	-408.376		1.316073	0.818248
106112	350		1.34	10/3/2013 10:49	-408.401	0			
106116	450	11:10	4.17	10/3/2013 11:15	-408.29		-408.312	1.828248	1.4225984
106116	350		1.85	10/3/2013 11:15	-408.29		0		
106116	250		0.04	10/3/2013 11:15	-408.29		0		
106117	450	11:08	1.48	10/3/2013 11:15	-408.29		-408.321	0.909547	0.5038976
106117	350		0.94	10/3/2013 11:15	-408.29		0		
106117	250		0.15	10/3/2013 11:15	-408.29		0		
106114	450	11:14	1	10/3/2013 11:15	-408.29		-408.294	0.78565	0.38
106114	350		0.79	10/3/2013 11:15	-408.29		0		
106121	450	11:16	0.49	10/3/2013 11:15	-408.29	-408.285		0.40565	
106121	350		0.41	10/3/2013 11:15	-408.29	0			
106121	250		-0.14	10/3/2013 11:15	-408.29	0	0		
106129	450	11:19	1.34	10/3/2013 11:15	-408.29	-408.271		0.662598	0.2569488
106129	350		0.68	10/3/2013 11:15	-408.29	0			
106112	450	11:22	1.74	10/3/2013 11:15	-408.29	-408.258		1.229547	0.8238976
106112	350		1.26	10/3/2013 11:15	-408.29				
106116	450	11:40	4.07	10/3/2013 11:47	-408.145	0	-408.176	1.739547	1.4238976
106116	350		1.77	10/3/2013 11:47	-408.145		0		

106116	250		-0.05	10/3/2013 11:47	-408.145		0		
106117	450	11:41	1.39	10/3/2013 11:47	-408.145	0	-408.172	0.813898	0.498248
106117	350		0.84	10/3/2013 11:47	-408.145		0		
106117	250		0.06	10/3/2013 11:47	-408.145		0		
106114	450	11:45	0.91	10/3/2013 11:47	-408.145		-408.154	0.681299	0.3656496
106114	350		0.69	10/3/2013 11:47	-408.145		0		
106121	450	11:48	0.42	10/3/2013 11:47	-408.145	-408.14	0	0.31565	
106121	350		0.32	10/3/2013 11:47	-408.145	0			
106121	250		-0.23	10/3/2013 11:47	-408.145	0			
106129	450	11:50	1.25	10/3/2013 11:47	-408.145	-408.131	0	0.596949	0.2812992
106129	350		0.61	10/3/2013 11:47	-408.145	0			
106112	450	11:53	1.6	10/3/2013 11:47	-408.145	-408.113		1.079547	0.7638976
106112	350		1.11	10/3/2013 11:47	-408.145				
106116	450	12:17	3.86	10/3/2013 12:23	-407.841		-407.895	1.487795	1.406496
106116	350		1.54	10/3/2013 12:23	-407.841	0	0		
106116	250		-0.26	10/3/2013 12:23	-407.841		0		
106117	450	12:15	1.18	10/3/2013 12:23	-407.841		-407.913	0.560394	0.4790944
106117	350		0.63	10/3/2013 12:23	-407.841	0	0		
106117	250		-0.15	10/3/2013 12:23	-407.841		0		
106114	450	12:21	0.67	10/3/2013 12:23	-407.841		-407.859	0.432598	0.3512992
106114	350		0.45	10/3/2013 12:23	-407.841		0		
106121	450	12:24	0.16	10/3/2013 12:23	-407.841	-407.832		0.081299	
106121	350		0.09	10/3/2013 12:23	-407.841	0	0		
106121	250		-0.47	10/3/2013 12:23	-407.841	0			
106129	450	12:26	1.02	10/3/2013 12:23	-407.841	-407.814		0.333898	0.2525984
106129	350		0.36	10/3/2013 12:23	-407.841	0	0		
106112	450	12:29	1.34	10/3/2013 12:23	-407.841	-407.787		0.787795	0.706496
106112	350		0.84	10/3/2013 12:23	-407.841	0			
106116	450	12:44	3.65	10/3/2013 12:52	-407.578		-407.651	1.270394	1.3490944
106116	350		1.34	10/3/2013 12:52	-407.578		0		
106116	250		-0.47	10/3/2013 12:52	-407.578	0	0		
106117	450	12:46	0.96	10/3/2013 12:52	-407.578		-407.632	0.357795	0.436496
106117	350		0.41	10/3/2013 12:52	-407.578		0		
106117	250		-0.37	10/3/2013 12:52	-407.578	0	0		
106114	450	12:51	0.47	10/3/2013 12:52	-407.578		-407.587	0.251299	0.33
106114	350		0.26	10/3/2013 12:52	-407.578		0		
106121	450	12:53	-0.02	10/3/2013 12:52	-407.578	-407.569	0	-0.0787	
106121	350		-0.07	10/3/2013 12:52	-407.578				
106121	250		-0.67	10/3/2013 12:52	-407.578		0		
106129	450	12:56	0.84	10/3/2013 12:52	-407.578	-407.542		0.145197	0.2238976
106129	350		0.18	10/3/2013 12:52	-407.578				
106112	450	12:59	1.19	10/3/2013 12:52	-407.578	-407.515	0	0.659094	0.7377952
106112	350		0.72	10/3/2013 12:52	-407.578				
106116	450	13:12	3.5	10/3/2013 13:21	-407.315	0	-407.397	1.081693	1.4003936
106116	350		1.16	10/3/2013 13:21	-407.315		0		
106116	250		-0.63	10/3/2013 13:21	-407.315		0		
106117	450	13:16	0.77	10/3/2013 13:21	-407.315	0	-407.361	0.186496	0.5051968

106117	350		0.23	10/3/2013 13:21	-407.315		0		
106117	250		-0.55	10/3/2013 13:21	-407.315		0		
106114	450	13:20	0.29	10/3/2013 13:21	-407.315	0	-407.324	0.061299	0.38
106114	350		0.07	10/3/2013 13:21	-407.315	0	0		
106121	450	13:22	-0.24	10/3/2013 13:21	-407.315	-407.306	0	-0.3187	
106121	350		-0.31	10/3/2013 13:21	-407.315	0	0		
106121	250		-0.89	10/3/2013 13:21	-407.315	0			
106129	450	13:25	0.62	10/3/2013 13:21	-407.315	-407.279	0	-0.0748	0.2438976
106129	350		-0.04	10/3/2013 13:21	-407.315	0			
106112	450	13:28	0.96	10/3/2013 13:21	-407.315	-407.252		0.409094	0.7277952
106112	350		0.47	10/3/2013 13:21	-407.315		0		
106116	450	13:45	3.22	10/3/2013 13:51	-407.043		-407.098	0.837795	1.426496
106116	350		0.89	10/3/2013 13:51	-407.043	0	0		
106116	250		-0.9	10/3/2013 13:51	-407.043		0		
106117	450	13:43	0.6	10/3/2013 13:51	-407.043		-407.116	-0.04961	0.5390944
106117	350		0.02	10/3/2013 13:51	-407.043	0	0		
106117	250		-0.75	10/3/2013 13:51	-407.043		0		
106114	450	13:50	0.04	10/3/2013 13:51	-407.043		-407.052	-0.1887	0.4
106114	350		-0.18	10/3/2013 13:51	-407.043	0	0		
106121	450	13:52	-0.49	10/3/2013 13:51	-407.043	-407.034	0	-0.5887	
106121	350		-0.58	10/3/2013 13:51	-407.043	0	0		
106121	250		-1.16	10/3/2013 13:51	-407.043	0	0		
106129	450	13:54	0.33	10/3/2013 13:51	-407.043	-407.021		-0.30175	0.2869488
106129	350		-0.28	10/3/2013 13:51	-407.043	0	0		
106112	450	13:57	0.67	10/3/2013 13:51	-407.043	-407		0.178671	0.767372
106112	350		0.22	10/3/2013 13:51	-407.043				
106116	450	14:12	3.06	10/3/2013 14:19	-406.851		-406.898	0.704321	1.4508464
106116	350		0.75	10/3/2013 14:19	-406.851		0		
106116	250		-1.05	10/3/2013 14:19	-406.851	0	0		
106117	450	14:14	0.38	10/3/2013 14:19	-406.851		-406.885	-0.18263	0.5638976
106117	350		-0.15	10/3/2013 14:19	-406.851		0		
106117	250		-0.96	10/3/2013 14:19	-406.851	0	0		
106114	450	14:18	-0.13	10/3/2013 14:19	-406.851	0	-406.858	-0.36653	0.38
106114	350		-0.36	10/3/2013 14:19	-406.851	0			
106121	450	14:20	-0.63	10/3/2013 14:19	-406.851	-406.844		-0.74653	
106121	350		-0.74	10/3/2013 14:19	-406.851	0			
106121	250		-1.29	10/3/2013 14:19	-406.851	0			
106129	450	14:23	0.18	10/3/2013 14:19	-406.851	-406.824	0	-0.4861	0.2604232
106129	350		-0.46	10/3/2013 14:19	-406.851	0			
106112	450	14:26	0.55	10/3/2013 14:19	-406.851	-406.803	0	0.024321	0.7708464
106112	350		0.07	10/3/2013 14:19	-406.851		0		
106116	450	14:44	2.93	10/3/2013 14:51	-406.633		-406.681	0.554321	1.4208464
106116	350		0.6	10/3/2013 14:51	-406.633		0		
106116	250		-1.19	10/3/2013 14:51	-406.633		0		
106117	450	14:46	0.22	10/3/2013 14:51	-406.633	0	-406.667	-0.34263	0.5238976
106117	350		-0.31	10/3/2013 14:51	-406.633		0		
106117	250		-1.07	10/3/2013 14:51	-406.633		0		

106114	450	14:50	-0.28	10/3/2013 14:51	-406.633	0	-406.64	-0.48653	0.38
106114	350		-0.48	10/3/2013 14:51	-406.633	0			
106121	450	14:52	-0.76	10/3/2013 14:51	-406.633	-406.626		-0.86653	
106121	350		-0.86	10/3/2013 14:51	-406.633	0			
106121	250		-1.43	10/3/2013 14:51	-406.633	0			
106129	450	14:55	0.07	10/3/2013 14:51	-406.633	-406.613		-0.54958	0.3169488
106129	350		-0.53	10/3/2013 14:51	-406.633	0	0		
106112	450	14:58	0.45	10/3/2013 14:51	-406.633	-406.599		-0.07263	0.7938976
106112	350		-0.04	10/3/2013 14:51	-406.633		0		
106116	450	15:13	2.81	10/3/2013 15:20	-406.5		-406.531	0.449547	1.4138976
106116	350		0.48	10/3/2013 15:20	-406.5		0		
106116	250		-1.29	10/3/2013 15:20	-406.5		0		
106117	450	15:15	0.12	10/3/2013 15:20	-406.5		-406.522	-0.43175	0.5325984
106117	350		-0.41	10/3/2013 15:20	-406.5	0	0		
106117	250		-1.16	10/3/2013 15:20	-406.5		0		
106114	450	15:19	-0.36	10/3/2013 15:20	-406.5		-406.504	-0.58435	0.38
106114	350		-0.58	10/3/2013 15:20	-406.5	0	0		
106121	450	15:21	-0.86	10/3/2013 15:20	-406.5	-406.495	0	-0.96435	
106121	350		-0.96	10/3/2013 15:20	-406.5	0	0		
106121	250		-1.53	10/3/2013 15:20	-406.5	0	0		
106129	450	15:24	-0.02	10/3/2013 15:20	-406.5	-406.481	0	-0.6974	0.2669488
106129	350		-0.68	10/3/2013 15:20	-406.5	0	0		
106112	450	15:26	0.31	10/3/2013 15:20	-406.5	-406.472	0	-0.1861	0.778248
106112	350		-0.16	10/3/2013 15:20	-406.5	0	0		
106116	450	15:43	2.67	10/3/2013 15:51	-406.359	0	-406.395	0.315197	1.4495472
106116	350		0.35	10/3/2013 15:51	-406.359	0	0		
106116	250		-1.42	10/3/2013 15:51	-406.359	0	0		
106117	450	15:45	-0.03	10/3/2013 15:51	-406.359	0	-406.386	-0.5761	0.558248
106117	350		-0.55	10/3/2013 15:51	-406.359	0	0		
106117	250		-1.29	10/3/2013 15:51	-406.359	0	0		
106114	450	15:50	-0.56	10/3/2013 15:51	-406.359	0	-406.364	-0.78435	0.35
106114	350		-0.78	10/3/2013 15:51	-406.359	0	0		
106121	450	15:52	-1.03	10/3/2013 15:51	-406.359	-406.355	0	-1.13435	
106121	350		-1.13	10/3/2013 15:51	-406.359	0	0		
106121	250		-1.71	10/3/2013 15:51	-406.359	0	0		
106129	450	15:54	-0.22	10/3/2013 15:51	-406.359	-406.341	0	-0.8974	0.2369488
106129	350		-0.88	10/3/2013 15:51	-406.359	0	0		
106112	450	15:58	-0.43	10/3/2013 15:51	-406.359	-406.314	0	-0.3635	0.7708464
106112	350		-0.32	10/3/2013 15:51	-406.359	0	0		
106116	450	16:03	2.55	10/3/2013 16:11	-406.225	0	-406.28	-0.0722	1.1943208
106116	350		-0.02	10/3/2013 16:11	-406.225	0	0		
106116	250		-1.54	10/3/2013 16:11	-406.225	0	0		
106117	450	16:05	-0.16	10/3/2013 16:11	-406.225	0	-406.266	-0.72915	0.537372
106117	350		-0.69	10/3/2013 16:11	-406.225	0	0		
106117	250		-1.4	10/3/2013 16:11	-406.225	0	0		
106114	450	16:10	-0.67	10/3/2013 16:11	-406.225	0	-406.232	-0.89653	0.37
106114	350		-0.89	10/3/2013 16:11	-406.225	0	0		

106121	450	16:12	-1.16	10/3/2013 16:11	-406.225	-406.219	0	-1.26653	
106121	350		-1.26	10/3/2013 16:11	-406.225	0	0		
106121	250		-1.85	10/3/2013 16:11	-406.225	0	0		
106129	450	16:15	-0.35	10/3/2013 16:11	-406.225	-406.198	0	-1.0161	0.2504232
106129	350		-0.99	10/3/2013 16:11	-406.225	0	0		
106112	450	16:19	-0.03	10/3/2013 16:11	-406.225	-406.171	0	-0.5522	0.7143208
106112	350		-0.5	10/3/2013 16:11	-406.225	0	0		

Well	Depth	Distance to 106161 (ft)	Monitoring round	Time	Vacuum (in	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106116	450			8:10	3.94	10/3/2013 8:23	-408.398		-408.339	0.092991	0.154289733			
106116	350				1.82	10/3/2013 8:23	-408.398							
106116	250				0.06	10/3/2013 8:23	-408.398							
106117	450			8:14	1.42	10/3/2013 8:23	-408.398		-408.358	0.18284	0.2441388			
106117	350				0.9	10/3/2013 8:23	-408.398							
106117	250				0.16	10/3/2013 8:23	-408.398							
106114	450			8:20	0.98	10/3/2013 8:23	-408.398		-408.385					
106114	350				0.78	10/3/2013 8:23	-408.398							
106121	450			8:25	0.49	10/3/2013 8:23	-408.398	-408.407		-0.0613				
106121	350				0.45	10/3/2013 8:23	-408.398	0						
106121	250				-0.07	10/3/2013 8:23	-408.398							
106129	450			8:27	1.36	10/3/2013 8:23	-408.398	-408.416						
106129	350				0.72	10/3/2013 8:23	-408.398	0						
106112	450			8:33	1.81	10/3/2013 8:23	-408.398	-408.444						
106112	350				1.34	10/3/2013 8:23	-408.398	0						
106116	450			9:14	4.35	10/3/2013 9:23	-408.53		-408.53	0.25	0.14			
106116	350				2.04	10/3/2013 9:23	-408.53		0					
106116	250				0.25	10/3/2013 9:23	-408.53							
106117	450			9:17	1.66	10/3/2013 9:23	-408.53		-408.53	0.38	0.27			
106117	350				1.05	10/3/2013 9:23	-408.53							
106117	250				0.38	10/3/2013 9:23	-408.53							
106114	450			9:22	1.22	10/3/2013 9:23	-408.53		-408.53					
106114	350				1	10/3/2013 9:23	-408.53							
106121	450			9:24	0.73	10/3/2013 9:23	-408.53	-408.53		0.11				
106121	350				0.67	10/3/2013 9:23	-408.53	0						
106121	250				0.11	10/3/2013 9:23	-408.53							
106129	450			9:27	1.61	10/3/2013 9:23	-408.53	-408.53						
106129	350				0.97	10/3/2013 9:23	-408.53	0						
106112	450			9:32	2.04	10/3/2013 9:23	-408.53	-408.53						
106112	350				1.57	10/3/2013 9:23	-408.53	0						
106116	450			9:44	4.39	10/3/2013 9:54	-408.525		-408.53	0.297462	0.209637467			
106116	350				2.08	10/3/2013 9:54	-408.525		0					
106116	250				0.3	10/3/2013 9:54	-408.525		0					
106117	450			9:47	1.69	10/3/2013 9:54	-408.525		-408.53	0.377462	0.289637467			
106117	350				1.13	10/3/2013 9:54	-408.525		0					
106117	250				0.38	10/3/2013 9:54	-408.525							
106114	450			9:52	1.22	10/3/2013 9:54	-408.525		-408.53					
106114	350				1.01	10/3/2013 9:54	-408.525		0					
106121	450			9:55	0.72	10/3/2013 9:54	-408.525	-408.523		0.087825				
106121	350				0.65	10/3/2013 9:54	-408.525	0						
106121	250				0.09	10/3/2013 9:54	-408.525	0						
106129	450			9:58	1.58	10/3/2013 9:54	-408.525	-408.516						
106129	350				0.94	10/3/2013 9:54	-408.525							
106112	450			10:00	1.93	10/3/2013 9:54	-408.525	-408.512						
106112	350				1.5	10/3/2013 9:54	-408.525							

106116	450	10:15	4.33	10/3/2013 10:21	-408.464		-408.478	0.212387	0.204562
106116	350		2.02	10/3/2013 10:21	-408.464		0		
106116	250		0.22	10/3/2013 10:21	-408.464		0		
106117	450	10:16	1.64	10/3/2013 10:21	-408.464		-408.475	0.313656	0.305830867
106117	350		1.07	10/3/2013 10:21	-408.464		0		
106117	250		0.32	10/3/2013 10:21	-408.464		0		
106114	450	10:19	1.16	10/3/2013 10:21	-408.464		-408.469		
106114	350		0.94	10/3/2013 10:21	-408.464				
106121	450	10:22	0.65	10/3/2013 10:21	-408.464	-408.462		0.007825	
106121	350		0.58	10/3/2013 10:21	-408.464	0			
106121	250		0.01	10/3/2013 10:21	-408.464	0			
106129	450	10:25	1.5	10/3/2013 10:21	-408.464	-408.455			
106129	350		0.87	10/3/2013 10:21	-408.464	0			
106112	450	10:29	1.89	10/3/2013 10:21	-408.464	-408.446			
106112	350		1.42	10/3/2013 10:21	-408.464				
106116	450	10:40	4.27	10/3/2013 10:49	-408.401		-408.421	0.12858	0.1907554
106116	350		1.96	10/3/2013 10:49	-408.401		0		
106116	250		0.14	10/3/2013 10:49	-408.401		0		
106117	450	10:43	1.55	10/3/2013 10:49	-408.401		-408.414	0.232387	0.294562
106117	350		1.03	10/3/2013 10:49	-408.401		0		
106117	250		0.24	10/3/2013 10:49	-408.401		0		
106114	450	10:47	1.09	10/3/2013 10:49	-408.401		-408.405		
106114	350		0.87	10/3/2013 10:49	-408.401				
106121	450	10:50	0.57	10/3/2013 10:49	-408.401	-408.398		-0.06218	
106121	350		0.5	10/3/2013 10:49	-408.401	0	0		
106121	250		-0.06	10/3/2013 10:49	-408.401	0			
106129	450	10:53	1.44	10/3/2013 10:49	-408.401	-408.389			
106129	350		0.8	10/3/2013 10:49	-408.401	0			
106112	450	10:56	1.82	10/3/2013 10:49	-408.401	-408.376			
106112	350		1.34	10/3/2013 10:49	-408.401	0			
106116	450	11:10	4.17	10/3/2013 11:15	-408.29		-408.312	0.027311	0.171661733
106116	350		1.85	10/3/2013 11:15	-408.29		0		
106116	250		0.04	10/3/2013 11:15	-408.29		0		
106117	450	11:08	1.48	10/3/2013 11:15	-408.29		-408.321	0.132236	0.276586267
106117	350		0.94	10/3/2013 11:15	-408.29		0		
106117	250		0.15	10/3/2013 11:15	-408.29		0		
106114	450	11:14	1	10/3/2013 11:15	-408.29		-408.294		
106114	350		0.79	10/3/2013 11:15	-408.29		0		
106121	450	11:16	0.49	10/3/2013 11:15	-408.29	-408.285		-0.14435	
106121	350		0.41	10/3/2013 11:15	-408.29	0			
106121	250		-0.14	10/3/2013 11:15	-408.29	0	0		
106129	450	11:19	1.34	10/3/2013 11:15	-408.29	-408.271			
106129	350		0.68	10/3/2013 11:15	-408.29	0			
106112	450	11:22	1.74	10/3/2013 11:15	-408.29	-408.258			
106112	350		1.26	10/3/2013 11:15	-408.29				
106116	450	11:40	4.07	10/3/2013 11:47	-408.145	0	-408.176	-0.06776	0.166586267
106116	350		1.77	10/3/2013 11:47	-408.145		0		

106116	250		-0.05	10/3/2013 11:47	-408.145		0		
106117	450	11:41	1.39	10/3/2013 11:47	-408.145	0	-408.172	0.044774	0.279124
106117	350		0.84	10/3/2013 11:47	-408.145		0		
106117	250		0.06	10/3/2013 11:47	-408.145		0		
106114	450	11:45	0.91	10/3/2013 11:47	-408.145		-408.154		
106114	350		0.69	10/3/2013 11:47	-408.145		0		
106121	450	11:48	0.42	10/3/2013 11:47	-408.145	-408.14	0	-0.23435	
106121	350		0.32	10/3/2013 11:47	-408.145	0			
106121	250		-0.23	10/3/2013 11:47	-408.145	0			
106129	450	11:50	1.25	10/3/2013 11:47	-408.145	-408.131	0		
106129	350		0.61	10/3/2013 11:47	-408.145	0			
106112	450	11:53	1.6	10/3/2013 11:47	-408.145	-408.113			
106112	350		1.11	10/3/2013 11:47	-408.145				
106116	450	12:17	3.86	10/3/2013 12:23	-407.841		-407.895	-0.29045	0.188248
106116	350		1.54	10/3/2013 12:23	-407.841	0	0		
106116	250		-0.26	10/3/2013 12:23	-407.841		0		
106117	450	12:15	1.18	10/3/2013 12:23	-407.841		-407.913	-0.1906	0.288097067
106117	350		0.63	10/3/2013 12:23	-407.841	0	0		
106117	250		-0.15	10/3/2013 12:23	-407.841		0		
106114	450	12:21	0.67	10/3/2013 12:23	-407.841		-407.859		
106114	350		0.45	10/3/2013 12:23	-407.841		0		
106121	450	12:24	0.16	10/3/2013 12:23	-407.841	-407.832		-0.4787	
106121	350		0.09	10/3/2013 12:23	-407.841	0	0		
106121	250		-0.47	10/3/2013 12:23	-407.841	0			
106129	450	12:26	1.02	10/3/2013 12:23	-407.841	-407.814			
106129	350		0.36	10/3/2013 12:23	-407.841	0	0		
106112	450	12:29	1.34	10/3/2013 12:23	-407.841	-407.787			
106112	350		0.84	10/3/2013 12:23	-407.841	0			
106116	450	12:44	3.65	10/3/2013 12:52	-407.578		-407.651	-0.5106	0.168097067
106116	350		1.34	10/3/2013 12:52	-407.578		0		
106116	250		-0.47	10/3/2013 12:52	-407.578	0	0		
106117	450	12:46	0.96	10/3/2013 12:52	-407.578		-407.632	-0.40045	0.278248
106117	350		0.41	10/3/2013 12:52	-407.578		0		
106117	250		-0.37	10/3/2013 12:52	-407.578	0	0		
106114	450	12:51	0.47	10/3/2013 12:52	-407.578		-407.587		
106114	350		0.26	10/3/2013 12:52	-407.578		0		
106121	450	12:53	-0.02	10/3/2013 12:52	-407.578	-407.569	0	-0.6787	
106121	350		-0.07	10/3/2013 12:52	-407.578				
106121	250		-0.67	10/3/2013 12:52	-407.578		0		
106129	450	12:56	0.84	10/3/2013 12:52	-407.578	-407.542			
106129	350		0.18	10/3/2013 12:52	-407.578				
106112	450	12:59	1.19	10/3/2013 12:52	-407.578	-407.515	0		
106112	350		0.72	10/3/2013 12:52	-407.578				
106116	450	13:12	3.5	10/3/2013 13:21	-407.315	0	-407.397	-0.67568	0.2230216
106116	350		1.16	10/3/2013 13:21	-407.315		0		
106116	250		-0.63	10/3/2013 13:21	-407.315		0		
106117	450	13:16	0.77	10/3/2013 13:21	-407.315	0	-407.361	-0.57538	0.323323467

106117	350		0.23	10/3/2013 13:21	-407.315		0		
106117	250		-0.55	10/3/2013 13:21	-407.315		0		
106114	450	13:20	0.29	10/3/2013 13:21	-407.315	0	-407.324		
106114	350		0.07	10/3/2013 13:21	-407.315	0	0		
106121	450	13:22	-0.24	10/3/2013 13:21	-407.315	-407.306	0	-0.8987	
106121	350		-0.31	10/3/2013 13:21	-407.315	0	0		
106121	250		-0.89	10/3/2013 13:21	-407.315	0			
106129	450	13:25	0.62	10/3/2013 13:21	-407.315	-407.279	0		
106129	350		-0.04	10/3/2013 13:21	-407.315	0			
106112	450	13:28	0.96	10/3/2013 13:21	-407.315	-407.252			
106112	350		0.47	10/3/2013 13:21	-407.315		0		
106116	450	13:45	3.22	10/3/2013 13:51	-407.043		-407.098	-0.93045	0.238248
106116	350		0.89	10/3/2013 13:51	-407.043	0	0		
106116	250		-0.9	10/3/2013 13:51	-407.043		0		
106117	450	13:43	0.6	10/3/2013 13:51	-407.043		-407.116	-0.7906	0.378097067
106117	350		0.02	10/3/2013 13:51	-407.043	0	0		
106117	250		-0.75	10/3/2013 13:51	-407.043		0		
106114	450	13:50	0.04	10/3/2013 13:51	-407.043		-407.052		
106114	350		-0.18	10/3/2013 13:51	-407.043	0	0		
106121	450	13:52	-0.49	10/3/2013 13:51	-407.043	-407.034	0	-1.1687	
106121	350		-0.58	10/3/2013 13:51	-407.043	0	0		
106121	250		-1.16	10/3/2013 13:51	-407.043	0	0		
106129	450	13:54	0.33	10/3/2013 13:51	-407.043	-407.021			
106129	350		-0.28	10/3/2013 13:51	-407.043	0	0		
106112	450	13:57	0.67	10/3/2013 13:51	-407.043	-407			
106112	350		0.22	10/3/2013 13:51	-407.043				
106116	450	14:12	3.06	10/3/2013 14:19	-406.851		-406.898	-1.07665	0.2198794
106116	350		0.75	10/3/2013 14:19	-406.851		0		
106116	250		-1.05	10/3/2013 14:19	-406.851	0	0		
106117	450	14:14	0.38	10/3/2013 14:19	-406.851		-406.885	-0.97903	0.3174926
106117	350		-0.15	10/3/2013 14:19	-406.851		0		
106117	250		-0.96	10/3/2013 14:19	-406.851	0	0		
106114	450	14:18	-0.13	10/3/2013 14:19	-406.851	0	-406.858		
106114	350		-0.36	10/3/2013 14:19	-406.851	0			
106121	450	14:20	-0.63	10/3/2013 14:19	-406.851	-406.844		-1.29653	
106121	350		-0.74	10/3/2013 14:19	-406.851	0			
106121	250		-1.29	10/3/2013 14:19	-406.851	0			
106129	450	14:23	0.18	10/3/2013 14:19	-406.851	-406.824	0		
106129	350		-0.46	10/3/2013 14:19	-406.851	0			
106112	450	14:26	0.55	10/3/2013 14:19	-406.851	-406.803	0		
106112	350		0.07	10/3/2013 14:19	-406.851		0		
106116	450	14:44	2.93	10/3/2013 14:51	-406.633		-406.681	-1.21665	0.2198794
106116	350		0.6	10/3/2013 14:51	-406.633		0		
106116	250		-1.19	10/3/2013 14:51	-406.633		0		
106117	450	14:46	0.22	10/3/2013 14:51	-406.633	0	-406.667	-1.08903	0.3474926
106117	350		-0.31	10/3/2013 14:51	-406.633		0		
106117	250		-1.07	10/3/2013 14:51	-406.633		0		

106114	450	14:50	-0.28	10/3/2013 14:51	-406.633	0	-406.64		
106114	350		-0.48	10/3/2013 14:51	-406.633	0			
106121	450	14:52	-0.76	10/3/2013 14:51	-406.633	-406.626		-1.43653	
106121	350		-0.86	10/3/2013 14:51	-406.633	0			
106121	250		-1.43	10/3/2013 14:51	-406.633	0			
106129	450	14:55	0.07	10/3/2013 14:51	-406.633	-406.613			
106129	350		-0.53	10/3/2013 14:51	-406.633	0	0		
106112	450	14:58	0.45	10/3/2013 14:51	-406.633	-406.599			
106112	350		-0.04	10/3/2013 14:51	-406.633		0		
106116	450	15:13	2.81	10/3/2013 15:20	-406.5		-406.531	-1.30776	0.226586267
106116	350		0.48	10/3/2013 15:20	-406.5		0		
106116	250		-1.29	10/3/2013 15:20	-406.5		0		
106117	450	15:15	0.12	10/3/2013 15:20	-406.5		-406.522	-1.17269	0.361661733
106117	350		-0.41	10/3/2013 15:20	-406.5	0	0		
106117	250		-1.16	10/3/2013 15:20	-406.5		0		
106114	450	15:19	-0.36	10/3/2013 15:20	-406.5		-406.504		
106114	350		-0.58	10/3/2013 15:20	-406.5	0	0		
106121	450	15:21	-0.86	10/3/2013 15:20	-406.5	-406.495	0	-1.53435	
106121	350		-0.96	10/3/2013 15:20	-406.5	0	0		
106121	250		-1.53	10/3/2013 15:20	-406.5	0	0		
106129	450	15:24	-0.02	10/3/2013 15:20	-406.5	-406.481	0		
106129	350		-0.68	10/3/2013 15:20	-406.5	0	0		
106112	450	15:26	0.31	10/3/2013 15:20	-406.5	-406.472	0		
106112	350		-0.16	10/3/2013 15:20	-406.5	0	0		
106116	450	15:43	2.67	10/3/2013 15:51	-406.359	0	-406.395	-1.4403	0.274048533
106116	350		0.35	10/3/2013 15:51	-406.359	0	0		
106116	250		-1.42	10/3/2013 15:51	-406.359	0	0		
106117	450	15:45	-0.03	10/3/2013 15:51	-406.359	0	-406.386	-1.30523	0.409124
106117	350		-0.55	10/3/2013 15:51	-406.359	0	0		
106117	250		-1.29	10/3/2013 15:51	-406.359	0	0		
106114	450	15:50	-0.56	10/3/2013 15:51	-406.359	0	-406.364		
106114	350		-0.78	10/3/2013 15:51	-406.359	0	0		
106121	450	15:52	-1.03	10/3/2013 15:51	-406.359	-406.355	0	-1.71435	
106121	350		-1.13	10/3/2013 15:51	-406.359	0	0		
106121	250		-1.71	10/3/2013 15:51	-406.359	0	0		
106129	450	15:54	-0.22	10/3/2013 15:51	-406.359	-406.341	0		
106129	350		-0.88	10/3/2013 15:51	-406.359	0	0		
106112	450	15:58	-0.43	10/3/2013 15:51	-406.359	-406.314	0		
106112	350		-0.32	10/3/2013 15:51	-406.359	0	0		
106116	450	16:03	2.55	10/3/2013 16:11	-406.225	0	-406.28	-1.57045	0.2860728
106116	350		-0.02	10/3/2013 16:11	-406.225	0	0		
106116	250		-1.54	10/3/2013 16:11	-406.225	0	0		
106117	450	16:05	-0.16	10/3/2013 16:11	-406.225	0	-406.266	-1.42284	0.433686
106117	350		-0.69	10/3/2013 16:11	-406.225	0	0		
106117	250		-1.4	10/3/2013 16:11	-406.225	0	0		
106114	450	16:10	-0.67	10/3/2013 16:11	-406.225	0	-406.232		
106114	350		-0.89	10/3/2013 16:11	-406.225	0	0		

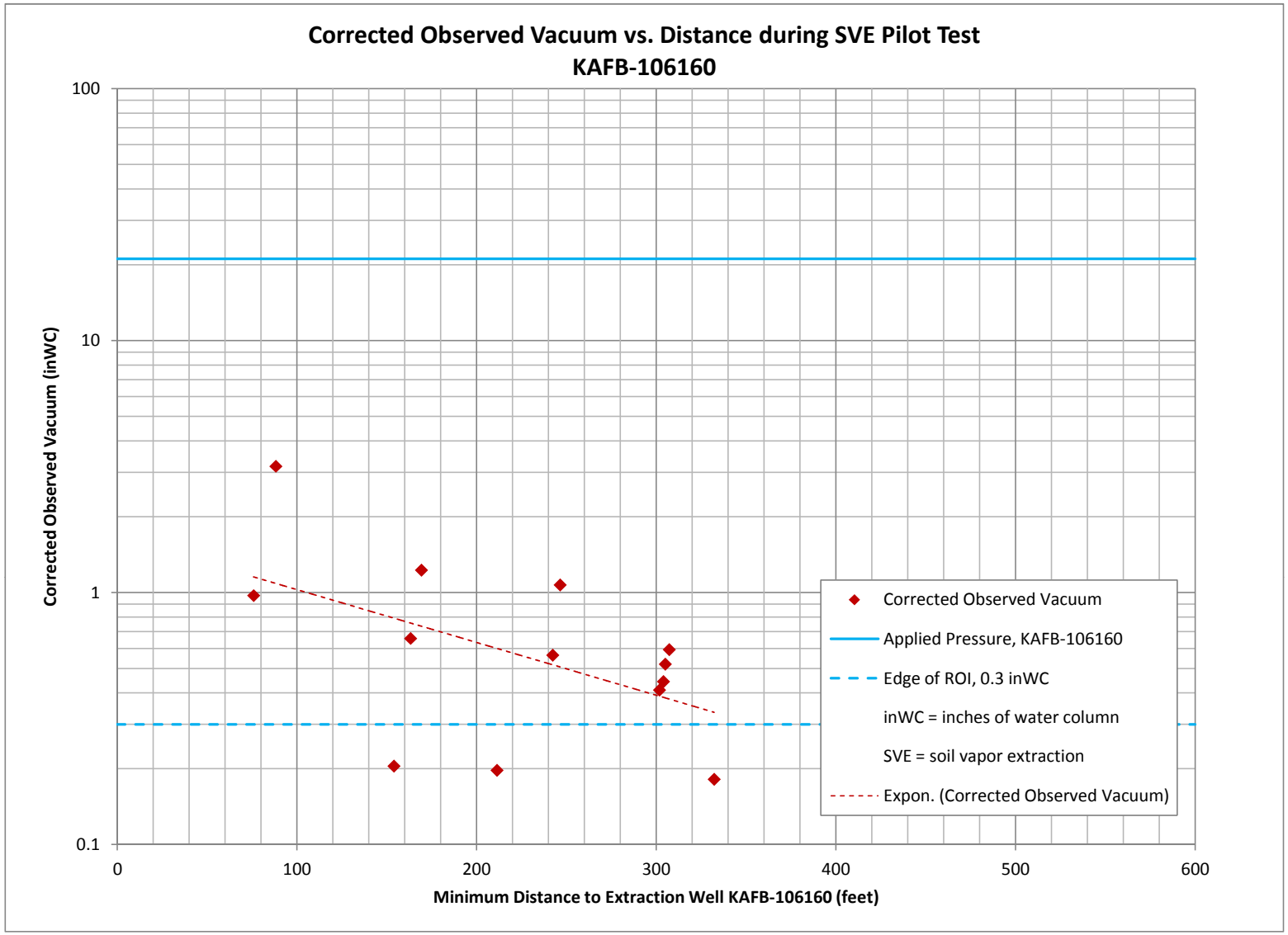
106121	450		16:12	-1.16	10/3/2013 16:11	-406.225	-406.219	0	-1.85653
106121	350			-1.26	10/3/2013 16:11	-406.225	0	0	
106121	250			-1.85	10/3/2013 16:11	-406.225	0	0	
106129	450		16:15	-0.35	10/3/2013 16:11	-406.225	-406.198	0	
106129	350			-0.99	10/3/2013 16:11	-406.225	0	0	
106112	450		16:19	-0.03	10/3/2013 16:11	-406.225	-406.171	0	
106112	350			-0.5	10/3/2013 16:11	-406.225	0	0	

Well ID	Monitoring	10/4/2013_Time	Value	106121-450 measured	Applied Pressure
106161	1	8:05	25.66	0.49	25.17
106161	2	9:10	25.65	0.73	24.92
106161	3	9:40	25.59	0.72	24.87
106161	4	10:10	25.16	0.65	24.51
106161	5	10:40	25.12	0.57	24.55
106161	6	11:10	25.33	0.49	24.84
106161	7	11:40	25.12	0.42	24.7
106161	8	12:10	24.92	0.16	24.76
106161	9	12:40	24.62	-0.02	24.64
106161	10	13:10	24.22	-0.24	24.46
106161	11	13:40	24.14	-0.49	24.63
106161	12	14:10	24.16	-0.63	24.79
106161	13	14:40	24.09	-0.76	24.85
106161	14	15:10	23.74	-0.86	24.6
106161	15	15:40	23.59	-1.03	24.62
106161	16	16:10	23.55	-1.16	24.71

	106116	106117	106114	106121	106129	106112	106116	106117	106114	106121	106129	106112	106116	106117	106114
depth	450	450	450	450	450	450	350	350	350	350	350	350	250	250	250
Distance to 106161	69.96521	181.74835	294.4464	551.8901	252.3603	184.7878	53.80642	176.1603	291.1125	551.0741	248.6282	179.8515	144.5515	221.4327	322.7561
10/3/2013 8:23	3.497854	0.9604528	0.49435		0.878701	1.354803	1.417854	0.480453	0.33435		0.278701	0.924803	0.15429	0.244139	NA
10/3/2013 9:23	3.62	0.93	0.49		0.88	1.31	1.37	0.38	0.33		0.3	0.9	0.14	0.27	NA
10/3/2013 9:54	3.667825	0.9678248	0.497825		0.853474	1.199124	1.427825	0.477825	0.357825		0.283474	0.839124	0.209637	0.289637	NA
10/3/2013 10:21	3.669124	0.9812992	0.507825		0.843474	1.224774	1.429124	0.481299	0.357825		0.283474	0.824774	0.204562	0.305831	NA
10/3/2013 10:49	3.682598	0.969124	0.517825		0.861299	1.228248	1.442598	0.519124	0.367825		0.291299	0.818248	0.190755	0.294562	NA
10/3/2013 11:15	3.662598	0.9638976	0.51		0.836949	1.223898	1.422598	0.503898	0.38		0.256949	0.823898	0.171662	0.276586	NA
10/3/2013 11:47	3.623898	0.948248	0.48565		0.821299	1.153898	1.423898	0.498248	0.36565		0.281299	0.763898	0.166586	0.279124	NA
10/3/2013 12:23	3.656496	0.9590944	0.501299		0.842598	1.136496	1.406496	0.479094	0.351299		0.252598	0.706496	0.188248	0.288097	NA
10/3/2013 12:52	3.609094	0.936496	0.49		0.833898	1.157795	1.349094	0.436496	0.33		0.223898	0.737795	0.168097	0.278248	NA
10/3/2013 13:21	3.670394	0.9751968	0.53		0.833898	1.147795	1.400394	0.505197	0.38		0.243898	0.727795	0.223022	0.323323	NA
10/3/2013 13:51	3.666496	1.0290944	0.53		0.806949	1.127372	1.426496	0.539094	0.4		0.286949	0.767372	0.238248	0.378097	NA
10/3/2013 14:19	3.650846	0.9838976	0.5		0.790423	1.140846	1.450846	0.563898	0.38		0.260423	0.770846	0.219879	0.317493	NA
10/3/2013 14:51	3.650846	0.9538976	0.48		0.816949	1.183898	1.420846	0.523898	0.38		0.316949	0.793898	0.219879	0.347493	NA
10/3/2013 15:20	3.643898	0.9625984	0.5		0.826949	1.148248	1.413898	0.532598	0.38		0.266949	0.778248	0.226586	0.361662	NA
10/3/2013 15:51	3.669547	0.978248	0.47		0.796949	0.560846	1.449547	0.558248	0.35		0.236949	0.770846	0.274049	0.409124	NA
10/3/2013 16:11	3.664321	0.967372	0.49		0.790423	1.084321	1.194321	0.537372	0.37		0.250423	0.714321	0.286073	0.433686	NA
	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

106121	106129	106112													
250	250	250	150	150	150	150	150	150	50	50	50	50	50	50	
567.1708	282.0873	224.1998													
	NA	NA													25.17
	NA	NA													24.92
	NA	NA													24.87
	NA	NA													24.51
	NA	NA													24.55
	NA	NA													24.84
	NA	NA													24.7
	NA	NA													24.76
	NA	NA													24.64
	NA	NA													24.46
	NA	NA													24.63
	NA	NA													24.79
	NA	NA													24.85
	NA	NA													24.6
	NA	NA													24.62
	NA	NA													24.71
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	

well	depth	distance		average	corrected average
106116	450	69.96521		3.644115	
106117	450	181.7483		0.966671	
106114	450	294.4464		0.499673	
106129	450	252.3603		0.83214	
106112	450	184.7878		1.148898	
106116	350	53.80642		1.402865	
106117	350	176.1603		1.402865	
106114	350	291.1125		0.501046	
106129	350	248.6282		0.26964	
106112	350	179.8515		0.791398	
106116	250	144.5515		0.205098	
106117	250	221.4327		0.318569	
106114	250	322.7561			
106121	250	567.1708			
106129	250	282.0873			
106112	250	224.1998			
	150				
	150				
	150				
	150				
	150				
	150				
	50				
	50				
	50				
	50				
	50				
	50				
			0	24.72625	
			600	24.72625	
			0	0.741788	
			600	0.741788	
				0.3	
				0.3	


Corrected Observed Vacuum vs. Distance during SVE Pilot Test
KAFB-106160
Corrected Observed Vacuum (inWC)
100
10
1
0.1
0
100
200
300
400
500
600
Minimum Distance to Extraction Well KAFB-106160 (feet)
Corrected Observed Vacuum
Applied Pressure, KAFB-106160
Edge of ROI, 0.3 inWC
inWC = inches of water column
SVE = soil vapor extraction
Expon. (Corrected Observed Vacuum)

KAFB BFF Pilot Testing

SVE Well 106160, Long Term Test Performed on 10/4/2013

Well ID	Screen Interval	Time	monitoring round	Vacuum (inWC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (˚F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106160	450	0740	1	22.16	0.51	571.6	53.4	32.2	7120	2.34	0	16.8	0	2
106160	450	0840	2	22.3	0.54	590.0	56.7	29.7	7140	2.32	0	16.79	0	46
106160	450	0910	3	22.28	0.52	580.2	58.9	26.7	7160	2.28	0	16.41	0	47
106160	450	0940	4	22.29	0.54	590.4	57.7	26.7	7170	2.3	0	16.41	0	59
106160	450	1010	5	22.33	0.54	592.8	61.9	23.5	7200	2.28	0	16.4	0	61
106160	450	1040	6	22.38	0.54	593.0	62.6	23.6	7210	2.32	0	16.4	0	62
106160	450	1110	7	22.36	0.51	576.5	63	18.8	7220	2.32	0	16.41	0	64
106160	450	1140	8	22.44	0.5	572.5	66	18.5	7220	2.32	0	16.35	0	65
106160	450	1210	9	22.36	0.51	580.5	70.3	14.3	7250	2.32	0	16.34	0	66
106160	450	1240	10	22.3	0.5	573.1	67.3	15.4	7270	2.32	0	16.48	0	64
106160	450	1310	11	22.12	0.53	590.0	67.1	16.2	7280	2.32	0	16.18	0	64
106160	450	1340	12	22	0.5	573.3	67.6	16	7300	2.32	0	16.26	0	62
106160	450	1410	13	21.95	0.54	596.2	68.2	13.7	7320	2.34	0	16.17	0	62
106160	450	1440	14	NR	NR	0.0	69.4	11.9	7310	2.34	0	16.17	0	58
106160	450	1510	15	NR	NR	0.0	65.8	13.2	7330	2.36	0	16.25	0	58
106160	450	1540	16	NR	NR	0.0	67.1	12	7370	2.36	0	16.19	0	62
	Averaged parameters:			**22.3**	**0.5**	**473.8**	**63.9**	**19.5**	**7242**	**2.3**	**0**	**16.4**	**0**	**56**

Date and time	Barometric Pressure (inHg)	inWC	-inWC
10-4-2013 0:52 MDT	29.92	406.7624	-406.762
10-4-2013 1:52 MDT	29.93	406.8984	-406.898
10-4-2013 2:52 MDT	29.94	407.0343	-407.034
10-4-2013 3:52 MDT	29.94	407.0343	-407.034
10-4-2013 4:52 MDT	29.98	407.5781	-407.578
10-4-2013 4:59 MDT	29.98	407.5781	-407.578
10-4-2013 5:52 MDT	30	407.85	-407.85
10-4-2013 6:52 MDT	30.01	407.986	-407.986
10-4-2013 7:52 MDT	30.04	408.3938	-408.394
10-4-2013 8:52 MDT	30.06	408.6657	-408.666
10-4-2013 9:52 MDT	30.07	408.8017	-408.802
10-4-2013 10:52 MDT	30.09	409.0736	-409.074
10-4-2013 11:52 MDT	30.09	409.0736	-409.074
10-4-2013 12:52 MDT	30.09	409.0736	-409.074
10-4-2013 13:52 MDT	30.07	408.8017	-408.802
10-4-2013 14:52 MDT	30.06	408.6657	-408.666
10-4-2013 15:52 MDT	30.06	408.6657	-408.666
10-4-2013 16:52 MDT	30.07	408.8017	-408.802
10-4-2013 17:52 MDT	30.09	409.0736	-409.074
10-4-2013 18:52 MDT	30.1	409.2095	-409.21
10-4-2013 19:52 MDT	30.12	409.4814	-409.481
10-4-2013 20:52 MDT	30.14	409.7533	-409.753
10-4-2013 21:52 MDT	30.16	410.0252	-410.025
10-4-2013 22:52 MDT	30.19	410.4331	-410.433
10-4-2013 23:52 MDT	30.2	410.569	-410.569

MesoWest Disclaimer

Data provided by: National Weather Service

Contact MesoWest

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
106117	450	1.73	1	10/4/2013	7:41	10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38	7:41							-407.986	-408.394	-0.0068	49	-408.319
106117	350	1.12	1	10/4/2013		10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38								-407.986	-408.394	-0.0068		
106117	250	0.49	1	10/4/2013		10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38								-407.986	-408.394	-0.0068		
106116	450	1.07	1	10/4/2013	7:44	10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38	7:44							-407.986	-408.394	-0.0068	52	-408.34
106116	350	0.87	1	10/4/2013		10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38								-407.986	-408.394	-0.0068		
106116	250	0.37	1	10/4/2013		10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38								-407.986	-408.394	-0.0068		
106121	450	0.49	1	10/4/2013	7:48	10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38	7:48							-407.986	-408.394	-0.0068	56	-408.367
106121	350	0.46	1	10/4/2013		10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38								-407.986	-408.394	-0.0068		
106121	250	0.21	1	10/4/2013		10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38			-407.986	-408.394	-0.0068							
106114	450	1.03	1	10/4/2013	7:51	10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38		7:51	-407.986	-408.394	-0.0068	59	-408.387					
106114	350	0.87	1	10/4/2013		10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38			-407.986	-408.394	-0.0068							
106128	450	3.71	1	10/4/2013	7:54	10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38		7:54	-408.394	-408.666	-0.00453	2	-408.403					
106128	350	1.41	1	10/4/2013		10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38			-408.394	-408.666	-0.00453							
106128	250	0.45	1	10/4/2013		10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38			-408.394	-408.666	-0.00453							
106119	450	1.57	1	10/4/2013	7:57	10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38		7:57	-408.394	-408.666	-0.00453	5	-408.417					
106119	350	1.02	1	10/4/2013		10/4/2013 7:50	-407.986	-408.394	-0.0068	58	-408.38			-408.394	-408.666	-0.00453							
106119	450	1.81	2	10/4/2013	8:47	10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672	8:47							-408.394	-408.666	-0.00453	55	-408.643
106119	350	1.29	2	10/4/2013		10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672												
106117	450	2.03	2	10/4/2013	8:51	10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672	8:51							-408.394	-408.666	-0.00453	59	-408.661
106117	350	1.4	2	10/4/2013		10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672												
106117	250	0.74	2	10/4/2013		10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672												
106116	450	1.4	2	10/4/2013	8:53	10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672	8:53							-408.666	-408.802	-0.00227	1	-408.668
106116	350	1.22	2	10/4/2013		10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672												
106116	250	0.65	2	10/4/2013		10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672												
106121	450	0.8	2	10/4/2013	8:56	10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672		8:56	-408.666	-408.802	-0.00227	4	-408.675					
106121	350	0.76	2	10/4/2013		10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672			-408.666	-408.802	-0.00227							
106121	250	0.48	2	10/4/2013		10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672			-408.666	-408.802	-0.00227							
106114	450	1.36	2	10/4/2013	8:59	10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672		8:59	-408.666	-408.802	-0.00227	7	-408.682					
106114	350	1.17	2	10/4/2013		10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672			-408.666	-408.802	-0.00227							
106128	450	4.04	2	10/4/2013	9:02	10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672		9:02	-408.666	-408.802	-0.00227	10	-408.688					
106128	350	1.8	2	10/4/2013		10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672			-408.666	-408.802	-0.00227							
106128	250	0.78	2	10/4/2013		10/4/2013 8:55	-408.666	-408.802	-0.00227	3	-408.672			-408.666	-408.802	-0.00227							
106119	450	1.92	3	10/4/2013	9:11	10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729	9:11							-408.666	-408.802	-0.00227	19	-408.709
106119	350	1.35	3	10/4/2013		10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729												
106117	450	2.12	3	10/4/2013	9:16	10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729	9:16							-408.666	-408.802	-0.00227	24	-408.72
106117	350	1.48	3	10/4/2013		10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729												
106117	250	0.81	3	10/4/2013		10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729												
106116	450	1.48	3	10/4/2013	9:18	10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729	9:18							-408.666	-408.802	-0.00227	26	-408.725
106116	350	1.3	3	10/4/2013		10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729												
106116	250	0.77	3	10/4/2013		10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729												
106121	450	0.87	3	10/4/2013	9:22	10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729		9:22	-408.666	-408.802	-0.00227	30	-408.734					
106121	350	0.82	3	10/4/2013		10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729												
106121	250	0.55	3	10/4/2013		10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729												
106114	450	1.39	3	10/4/2013	9:24	10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729		9:24	-408.666	-408.802	-0.00227	32	-408.738					
106114	350	1.25	3	10/4/2013		10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729												
106128	450	4.09	3	10/4/2013	9:28	10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729		9:28	-408.666	-408.802	-0.00227	36	-408.747					
106128	350	1.88	3	10/4/2013		10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729												
106128	250	0.82	3	10/4/2013		10/4/2013 9:20	-408.666	-408.802	-0.00227	28	-408.729												
106119	450	2.03	4	10/4/2013	9:44	10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799	9:44							-408.666	-408.802	-0.00227	52	-408.784
106119	350	1.48	4	10/4/2013		10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799												
106128	450	4.13	4	10/4/2013	9:47	10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799	9:47							-408.666	-408.802	-0.00227	55	-408.79
106128	350	1.82	4	10/4/2013		10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799												
106128	250	0.82	4	10/4/2013		10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799												
106114	450	1.44	4	10/4/2013	9:50	10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799	9:50							-408.666	-408.802	-0.00227	58	-408.797
106114	350	1.29	4	10/4/2013		10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799												
106121	450	0.92	4	10/4/2013	9:52	10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799		9:52	-408.802	-408.802	0	0	-408.802					
106121	350	0.86	4	10/4/2013		10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799												

106121	250	0.59	4	10/4/2013		10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799												
106116	450	1.52	4	10/4/2013	9:54	10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799		9:54	-408.802	-409.074	-0.00453	2	-408.811					
106116	350	1.32	4	10/4/2013		10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799												
106116	250	0.76	4	10/4/2013		10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799												
106117	450	2.19	4	10/4/2013	9:57	10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799		9:57	-408.802	-409.074	-0.00453	5	-408.824					
106117	350	1.55	4	10/4/2013		10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799												
106117	250	0.85	4	10/4/2013		10/4/2013 9:51	-408.666	-408.802	-0.00227	59	-408.799												
106119	450	2.1	5	10/4/2013	10:16	10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942	10:16							-408.802	-409.074	-0.00453	24	-408.91
106119	350	1.53	5	10/4/2013		10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942												
106128	450	4.2	5	10/4/2013	10:18	10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942	10:18							-408.802	-409.074	-0.00453	26	-408.919
106128	350	1.9	5	10/4/2013		10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942												
106128	250	0.89	5	10/4/2013		10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942												
106114	450	1.57	5	10/4/2013	10:22	10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942	10:22							-408.802	-409.074	-0.00453	30	-408.938
106114	350	1.39	5	10/4/2013		10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942												
106121	450	1.03	5	10/4/2013	10:24	10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942		10:24	-408.802	-409.074	-0.00453	32	-408.947					
106121	350	0.94	5	10/4/2013		10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942												
106121	250	0.69	5	10/4/2013		10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942												
106116	450	1.6	5	10/4/2013	10:28	10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942		10:28	-408.802	-409.074	-0.00453	36	-408.965					
106116	350	1.4	5	10/4/2013		10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942												
106116	250	0.82	5	10/4/2013		10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942												
106117	450	2.28	5	10/4/2013	10:29	10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942		10:29	-408.802	-409.074	-0.00453	37	-408.969					
106117	350	1.62	5	10/4/2013		10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942												
106117	250	0.9	5	10/4/2013		10/4/2013 10:23	-408.802	-409.074	-0.00453	31	-408.942												
106119	450	2.11	6	10/4/2013	10:41	10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069	10:41							-408.802	-409.074	-0.00453	49	-409.024
106119	350	1.56	6	10/4/2013		10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069												
106128	450	4.22	6	10/4/2013	10:44	10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069	10:44							-408.802	-409.074	-0.00453	52	-409.037
106128	350	1.98	6	10/4/2013		10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069												
106128	250	0.91	6	10/4/2013		10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069												
106114	450	1.62	6	10/4/2013	10:50	10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069	10:50							-408.802	-409.074	-0.00453	58	-409.064
106114	350	1.46	6	10/4/2013		10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069												
106121	450	1.11	6	10/4/2013	10:52	10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069		10:52	-409.074	-409.074	0	0	-409.074					
106121	350	1.05	6	10/4/2013		10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069												
106121	250	0.79	6	10/4/2013		10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069												
106116	450	1.73	6	10/4/2013	10:56	10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069		10:56	-409.074	-409.074	0	4	-409.074					
106116	350	1.53	6	10/4/2013		10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069												
106116	250	0.93	6	10/4/2013		10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069												
106117	450	2.38	6	10/4/2013	10:58	10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069		10:58	-409.074	-409.074	0	6	-409.074					
106117	350	1.69	6	10/4/2013		10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069												
106117	250	1.1	6	10/4/2013		10/4/2013 10:51	-408.802	-409.074	-0.00453	59	-409.069												
106119	450	2.27	7	10/4/2013	11:12	10/4/2013 11:23	-409.074	-409.074	0	31	-409.074	11:12							-409.074	-409.074	0	20	-409.074
106119	350	1.7	7	10/4/2013		10/4/2013 11:23	-409.074	-409.074	0	31	-409.074												
106128	450	4.26	7	10/4/2013	11:17	10/4/2013 11:23	-409.074	-409.074	0	31	-409.074	11:17							-409.074	-409.074	0	25	-409.074
106128	350	1.99	7	10/4/2013		10/4/2013 11:23	-409.074	-409.074	0	31	-409.074												
106128	250	0.91	7	10/4/2013		10/4/2013 11:23	-409.074	-409.074	0	31	-409.074												
106114	450	1.59	7	10/4/2013	11:21	10/4/2013 11:23	-409.074	-409.074	0	31	-409.074	11:21							-409.074	-409.074	0	29	-409.074
106114	350	1.44	7	10/4/2013		10/4/2013 11:23	-409.074	-409.074	0	31	-409.074												
106121	450	1.05	7	10/4/2013	11:24	10/4/2013 11:23	-409.074	-409.074	0	31	-409.074		11:24	-409.074	-409.074	0	32	-409.074					
106121	350	1.02	7	10/4/2013		10/4/2013 11:23	-409.074	-409.074	0	31	-409.074												
106121	250	0.74	7	10/4/2013		10/4/2013 11:23	-409.074	-409.074	0	31	-409.074												
106116	450	1.66	7	10/4/2013	11:27	10/4/2013 11:23	-409.074	-409.074	0	31	-409.074		11:27	-409.074	-409.074	0	35	-409.074					
106116	350	1.46	7	10/4/2013		10/4/2013 11:23	-409.074	-409.074	0	31	-409.074												
106116	250	0.84	7	10/4/2013		10/4/2013 11:23	-409.074	-409.074	0	31	-409.074												
106117	450	2.32	7	10/4/2013	11:29	10/4/2013 11:23	-409.074	-409.074	0	31	-409.074		11:29	-409.074	-409.074	0	37	-409.074					
106117	350	1.66	7	10/4/2013		10/4/2013 11:23	-409.074	-409.074	0	31	-409.074												
106117	250	0.94	7	10/4/2013		10/4/2013 11:23	-409.074	-409.074	0	31	-409.074												
106119	450	2.08	8	10/4/2013	11:40	10/4/2013 11:52	-409.074	-409.074	0	0	-409.074	11:40							-409.074	-409.074	0	48	-409.074
106119	350	1.53	8	10/4/2013		10/4/2013 11:52	-409.074	-409.074	0	0	-409.074												
106128	450	4.26	8	10/4/2013	11:47	10/4/2013 11:52	-409.074	-409.074	0	0	-409.074	11:47							-409.074	-409.074	0	55	-409.074
106128	350	2.06	8	10/4/2013		10/4/2013 11:52	-409.074	-409.074	0	0	-409.074												
106128	250	0.98	8	10/4/2013		10/4/2013 11:52	-409.074	-409.074	0	0	-409.074												

106114	450	1.67	8	10/4/2013	11:51	10/4/2013 11:52	-409.074	-409.074	0	0	-409.074	11:51							-409.074	-409.074	0	59	-409.074
106114	350	1.5	8	10/4/2013		10/4/2013 11:52	-409.074	-409.074	0	0	-409.074												
106121	450	1.15	8	10/4/2013	11:53	10/4/2013 11:52	-409.074	-409.074	0	0	-409.074		11:53	-409.074	-409.074	0	1	-409.074					
106121	350	1.09	8	10/4/2013		10/4/2013 11:52	-409.074	-409.074	0	0	-409.074												
106121	250	0.82	8	10/4/2013		10/4/2013 11:52	-409.074	-409.074	0	0	-409.074												
106116	450	1.74	8	10/4/2013	11:56	10/4/2013 11:52	-409.074	-409.074	0	0	-409.074		11:56	-409.074	-409.074	0	4	-409.074					
106116	350	1.57	8	10/4/2013		10/4/2013 11:52	-409.074	-409.074	0	0	-409.074												
106116	250	0.92	8	10/4/2013		10/4/2013 11:52	-409.074	-409.074	0	0	-409.074												
106117	450	2.43	8	10/4/2013	11:58	10/4/2013 11:52	-409.074	-409.074	0	0	-409.074		11:58	-409.074	-409.074	0	6	-409.074					
106117	350	1.76	8	10/4/2013		10/4/2013 11:52	-409.074	-409.074	0	0	-409.074												
106117	250	1.01	8	10/4/2013		10/4/2013 11:52	-409.074	-409.074	0	0	-409.074												
106119	450	2.23	9	10/4/2013	12:11	10/4/2013 12:23	-409.074	-409.074	0	31	-409.074	12:11							-409.074	-409.074	0	19	-409.074
106119	350	1.68	9	10/4/2013		10/4/2013 12:23	-409.074	-409.074	0	31	-409.074												
106128	450	4.36	9	10/4/2013	12:17	10/4/2013 12:23	-409.074	-409.074	0	31	-409.074	12:17							-409.074	-409.074	0	25	-409.074
106128	350	2.11	9	10/4/2013		10/4/2013 12:23	-409.074	-409.074	0	31	-409.074												
106128	250	1.01	9	10/4/2013		10/4/2013 12:23	-409.074	-409.074	0	31	-409.074												
106114	450	1.65	9	10/4/2013	12:22	10/4/2013 12:23	-409.074	-409.074	0	31	-409.074	12:22							-409.074	-409.074	0	30	-409.074
106114	350	1.52	9	10/4/2013		10/4/2013 12:23	-409.074	-409.074	0	31	-409.074												
106121	450	1.18	9	10/4/2013	12:24	10/4/2013 12:23	-409.074	-409.074	0	31	-409.074		12:24	-409.074	-409.074	0	32	-409.074					
106121	350	1.13	9	10/4/2013		10/4/2013 12:23	-409.074	-409.074	0	31	-409.074												
106121	250	0.82	9	10/4/2013		10/4/2013 12:23	-409.074	-409.074	0	31	-409.074												
106116	450	1.74	9	10/4/2013	12:27	10/4/2013 12:23	-409.074	-409.074	0	31	-409.074		12:27	-409.074	-409.074	0	35	-409.074					
106116	350	1.52	9	10/4/2013		10/4/2013 12:23	-409.074	-409.074	0	31	-409.074												
106116	250	0.93	9	10/4/2013		10/4/2013 12:23	-409.074	-409.074	0	31	-409.074												
106117	450	2.4	9	10/4/2013	12:31	10/4/2013 12:23	-409.074	-409.074	0	31	-409.074		12:31	-409.074	-409.074	0	39	-409.074					
106117	350	1.75	9	10/4/2013		10/4/2013 12:23	-409.074	-409.074	0	31	-409.074												
106117	250	1.02	9	10/4/2013		10/4/2013 12:23	-409.074	-409.074	0	31	-409.074												
106119	450	2.21	10	10/4/2013	12:43	10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064	12:43							-409.074	-409.074	0	51	-409.074
106119	350	1.65	10	10/4/2013		10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064												
106128	450	4.25	10	10/4/2013	12:48	10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064	12:48							-409.074	-409.074	0	56	-409.074
106128	350	2.06	10	10/4/2013		10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064												
106128	250	0.94	10	10/4/2013		10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064												
106114	450	1.65	10	10/4/2013	12:52	10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064	12:52							-409.074	-409.074	0	0	-409.074
106114	350	1.46	10	10/4/2013		10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064												
106121	450	1.11	10	10/4/2013	12:55	10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064		12:55	-409.074	-408.802	0.004532	3	-409.06					
106121	350	1.05	10	10/4/2013		10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064												
106121	250	0.076	10	10/4/2013		10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064												
106116	450	1.69	10	10/4/2013	12:58	10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064		12:58	-409.074	-408.802	0.004532	6	-409.046					
106116	350	1.52	10	10/4/2013		10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064												
106116	250	0.85	10	10/4/2013		10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064												
106117	450	2.39	10	10/4/2013	12:59	10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064		12:59	-409.074	-408.802	0.004532	7	-409.042					
106117	350	1.76	10	10/4/2013		10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064												
106117	250	0.97	10	10/4/2013		10/4/2013 12:54	-409.074	-408.802	0.004532	2	-409.064												
106119	450	2.14	11	10/4/2013	13:12	10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942	13:12							-409.074	-408.802	0.004532	20	-408.983
106119	350	1.52	11	10/4/2013		10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942												
106128	450	4.16	11	10/4/2013	13:16	10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942	13:16							-409.074	-408.802	0.004532	24	-408.965
106128	350	1.92	11	10/4/2013		10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942												
106128	250	0.81	11	10/4/2013		10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942												
106114	450	1.48	11	10/4/2013	13:20	10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942	13:20							-409.074	-408.802	0.004532	28	-408.947
106114	350	1.34	11	10/4/2013		10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942												
106121	450	0.99	11	10/4/2013	13:22	10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942		13:22	-409.074	-408.802	0.004532	30	-408.938					
106121	350	0.95	11	10/4/2013		10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942												
106121	250	0.63	11	10/4/2013		10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942												
106116	450	1.53	11	10/4/2013	13:26	10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942		13:26	-409.074	-408.802	0.004532	34	-408.919					
106116	350	1.33	11	10/4/2013		10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942												
106116	250	0.71	11	10/4/2013		10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942												
106117	450	2.17	11	10/4/2013	13:27	10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942		13:27	-409.074	-408.802	0.004532	35	-408.915					
106117	350	1.54	11	10/4/2013		10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942												
106117	250	0.74	11	10/4/2013		10/4/2013 13:21	-409.074	-408.802	0.004532	29	-408.942												
106119	450	1.96	12	10/4/2013	13:42	10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799	13:42							-409.074	-408.802	0.004532	50	-408.847

106119	350	1.4	12	10/4/2013		10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799												
106128	450	4.04	12	10/4/2013	13:47	10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799	13:47							-409.074	-408.802	0.004532	55	-408.824
106128	350	1.79	12	10/4/2013		10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799												
106128	250	0.65	12	10/4/2013		10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799												
106114	450	1.37	12	10/4/2013	13:51	10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799	13:51							-409.074	-408.802	0.004532	59	-408.806
106114	350	1.21	12	10/4/2013		10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799												
106121	450	0.84	12	10/4/2013	13:54	10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799		13:54	-408.802	-408.666	0.002266	2	-408.797					
106121	350	0.8	12	10/4/2013		10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799												
106121	250	0.47	12	10/4/2013		10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799												
106116	450	1.44	12	10/4/2013	14:00	10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799		14:00	-408.802	-408.666	0.002266	8	-408.784					
106116	350	1.2	12	10/4/2013		10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799												
106116	250	0.55	12	10/4/2013		10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799												
106117	450	2.09	12	10/4/2013	14:01	10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799		14:01	-408.802	-408.666	0.002266	9	-408.781					
106117	350	1.4	12	10/4/2013		10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799												
106117	250	0.64	12	10/4/2013		10/4/2013 13:53	-408.802	-408.666	0.002266	1	-408.799												
106119	450	1.86	13	10/4/2013	14:12	10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731	14:12							-408.802	-408.666	0.002266	20	-408.756
106119	350	1.33	13	10/4/2013		10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731												
106128	450	3.93	13	10/4/2013	14:17	10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731	14:17							-408.802	-408.666	0.002266	25	-408.745
106128	350	1.68	13	10/4/2013		10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731												
106128	250	0	13	10/4/2013		10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731												
106114	450	1.3	13	10/4/2013	14:22	10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731	14:22							-408.802	-408.666	0.002266	30	-408.734
106114	350	1.15	13	10/4/2013		10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731												
106121	450	0.77	13	10/4/2013	14:24	10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731		14:24	-408.802	-408.666	0.002266	32	-408.729					
106121	350	0.74	13	10/4/2013		10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731												
106121	250	40	13	10/4/2013		10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731												
106116	450	1.37	13	10/4/2013	14:27	10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731		14:27	-408.802	-408.666	0.002266	35	-408.722					
106116	350	1.13	13	10/4/2013		10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731												
106116	250	0.49	13	10/4/2013		10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731												
106117	450	2	13	10/4/2013	14:42	10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731		14:42	-408.802	-408.666	0.002266	50	-408.688					
106117	350	1.37	13	10/4/2013		10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731												
106117	250	0.6	13	10/4/2013		10/4/2013 14:23	-408.802	-408.666	0.002266	31	-408.731												
106119	450	1.86	14	10/4/2013	14:46	10/4/2013 14:46	-408.802	-408.666	0.002266	54	-408.679	14:46		-408.802	-408.666	0.002266	54	-408.679	-408.802	-408.666	0.002266	54	-408.679
106119	350	1.26	14	10/4/2013			-408.802	-408.666	0.002266	54	-408.679												

Well	Minimum distance to extraction well	Distance to 106160 (ft)	Monitoring round	Time	Value	**Mid-Round Time**	**Btm**	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106117	450		1	7:41	1.73	10/4/2013 7:50	-408.38		-408.319	1.788752	1.285696			
106117	350		1		1.12	10/4/2013 7:50	-408.38							
106117	250		1		0.49	10/4/2013 7:50	-408.38							
106116	450		1	7:44	1.07	10/4/2013 7:50	-408.38		-408.34	1.109168	0.606112			
106116	350		1		0.87	10/4/2013 7:50	-408.38							
106116	250		1		0.37	10/4/2013 7:50	-408.38							
106121	450		1	7:48	0.49	10/4/2013 7:50	-408.38		-408.367	0.503056				
106121	350		1		0.46	10/4/2013 7:50	-408.38							
106121	250		1		0.21	10/4/2013 7:50	-408.38							
106114	450		1	7:51	1.03	10/4/2013 7:50	-408.38	-408.387		1.023472	0.520416			
106114	350		1		0.87	10/4/2013 7:50	-408.38							
106128	450		1	7:54	3.71	10/4/2013 7:50	-408.38	-408.403		3.68824	3.185184			
106128	350		1		1.41	10/4/2013 7:50	-408.38							
106128	250		1		0.45	10/4/2013 7:50	-408.38							
106119	450		1	7:57	1.57	10/4/2013 7:50	-408.38	-408.417		1.535184	1.032128			
106119	350		1		1.02	10/4/2013 7:50	-408.38							
106119	450		2	8:47	1.81	10/4/2013 8:55	-408.672		-408.643	1.838278	1.0404528			
106119	350		2		1.29	10/4/2013 8:55	-408.672							
106117	450		2	8:51	2.03	10/4/2013 8:55	-408.672		-408.661	2.040876	1.2430512			
106117	350		2		1.4	10/4/2013 8:55	-408.672							
106117	250		2		0.74	10/4/2013 8:55	-408.672							
106116	450		2	8:53	1.4	10/4/2013 8:55	-408.672		-408.668	1.40435	0.6065256			
106116	350		2		1.22	10/4/2013 8:55	-408.672							
106116	250		2		0.65	10/4/2013 8:55	-408.672							
106121	450		2	8:56	0.8	10/4/2013 8:55	-408.672	-408.675		0.797825				
106121	350		2		0.76	10/4/2013 8:55	-408.672							
106121	250		2		0.48	10/4/2013 8:55	-408.672							
106114	450		2	8:59	1.36	10/4/2013 8:55	-408.672	-408.682		1.351299	0.5534744			
106114	350		2		1.17	10/4/2013 8:55	-408.672							
106128	450		2	9:02	4.04	10/4/2013 8:55	-408.672	-408.688		4.024774	3.2269488			
106128	350		2		1.8	10/4/2013 8:55	-408.672							
106128	250		2		0.78	10/4/2013 8:55	-408.672							
106119	450		3	9:11	1.92	10/4/2013 9:20	-408.729		-408.709	1.939577	1.0739272			
106119	350		3		1.35	10/4/2013 9:20	-408.729							
106117	450		3	9:16	2.12	10/4/2013 9:20	-408.729		-408.72	2.128701	1.2630512			
106117	350		3		1.48	10/4/2013 9:20	-408.729							
106117	250		3		0.81	10/4/2013 9:20	-408.729							
106116	450		3	9:18	1.48	10/4/2013 9:20	-408.729		-408.725	1.48435	0.6187008			
106116	350		3		1.3	10/4/2013 9:20	-408.729							
106116	250		3		0.77	10/4/2013 9:20	-408.729							
106121	450		3	9:22	0.87	10/4/2013 9:20	-408.729	-408.734		0.86565				
106121	350		3		0.82	10/4/2013 9:20	-408.729							
106121	250		3		0.55	10/4/2013 9:20	-408.729							
106114	450		3	9:24	1.39	10/4/2013 9:20	-408.729	-408.738		1.381299	0.5156496			
106114	350		3		1.25	10/4/2013 9:20	-408.729							

106128	450	3	9:28	4.09	10/4/2013 9:20	-408.729	-408.747		4.072598	3.2069488
106128	350	3		1.88	10/4/2013 9:20	-408.729				
106128	250	3		0.82	10/4/2013 9:20	-408.729				
106119	450	4	9:44	2.03	10/4/2013 9:51	-408.799		-408.784	2.045226	1.1274016
106119	350	4		1.48	10/4/2013 9:51	-408.799				
106128	450	4	9:47	4.13	10/4/2013 9:51	-408.799		-408.79	4.138701	3.220876
106128	350	4		1.82	10/4/2013 9:51	-408.799				
106128	250	4		0.82	10/4/2013 9:51	-408.799				
106114	450	4	9:50	1.44	10/4/2013 9:51	-408.799		-408.797	1.442175	0.5243504
106114	350	4		1.29	10/4/2013 9:51	-408.799				
106121	450	4	9:52	0.92	10/4/2013 9:51	-408.799	-408.802		0.917825	
106121	350	4		0.86	10/4/2013 9:51	-408.799				
106121	250	4		0.59	10/4/2013 9:51	-408.799				
106116	450	4	9:54	1.52	10/4/2013 9:51	-408.799	-408.811		1.509124	0.5912992
106116	350	4		1.32	10/4/2013 9:51	-408.799				
106116	250	4		0.76	10/4/2013 9:51	-408.799				
106117	450	4	8:57	2.19	10/4/2013 9:51	-408.799	-408.824		2.166073	1.248248
106117	350	4		1.55	10/4/2013 9:51	-408.799				
106117	250	4		0.85	10/4/2013 9:51	-408.799				
106119	450	5	10:16	2.1	10/4/2013 10:23	-408.942		-408.91	2.130453	1.1048032
106119	350	5		1.53	10/4/2013 10:23	-408.942				
106128	450	5	10:18	4.2	10/4/2013 10:23	-408.942		-408.919	4.221752	3.1961024
106128	350	5		1.9	10/4/2013 10:23	-408.942				
106128	250	5		0.89	10/4/2013 10:23	-408.942				
106114	450	5	10:22	1.57	10/4/2013 10:23	-408.942		-408.938	1.57435	0.5487008
106114	350	5		1.39	10/4/2013 10:23	-408.942				
106121	450	5	10:24	1.03	10/4/2013 10:23	-408.942	-408.947		1.02565	
106121	350	5		0.94	10/4/2013 10:23	-408.942				
106121	250	5		0.69	10/4/2013 10:23	-408.942				
106116	450	5	10:28	1.6	10/4/2013 10:23	-408.942	-408.965		1.578248	0.5525984
106116	350	5		1.4	10/4/2013 10:23	-408.942				
106116	250	5		0.82	10/4/2013 10:23	-408.942				
106117	450	5	10:29	2.28	10/4/2013 10:23	-408.942	-408.969		2.253898	1.228248
106117	350	5		1.62	10/4/2013 10:23	-408.942				
106117	250	5		0.9	10/4/2013 10:23	-408.942				
106119	450	6	10:41	2.11	10/4/2013 10:51	-409.069		-409.024	2.153504	1.0478544
106119	350	6		1.56	10/4/2013 10:51	-409.069				
106128	450	6	10:44	4.22	10/4/2013 10:51	-409.069		-409.037	4.250453	3.1448032
106128	350	6		1.98	10/4/2013 10:51	-409.069				
106128	250	6		0.91	10/4/2013 10:51	-409.069				
106114	450	6	10:50	1.62	10/4/2013 10:51	-409.069		-409.064	1.62435	0.5187008
106114	350	6		1.46	10/4/2013 10:51	-409.069				
106121	450	6	10:52	1.11	10/4/2013 10:51	-409.069	-409.074		1.10565	
106121	350	6		1.05	10/4/2013 10:51	-409.069				
106121	250	6		0.79	10/4/2013 10:51	-409.069				
106116	450	6	10:56	1.73	10/4/2013 10:51	-409.069	-409.074		1.72565	0.62
106116	350	6		1.53	10/4/2013 10:51	-409.069				

106116	250	6		0.93	10/4/2013 10:51	-409.069					
106117	450	6	10:58	2.38	10/4/2013 10:51	-409.069	-409.074		2.37565	1.27	
106117	350	6		1.69	10/4/2013 10:51	-409.069					
106117	250	6		1.1	10/4/2013 10:51	-409.069					
106119	450	7	11:12	2.27	10/4/2013 11:23	-409.074		-409.074	2.27	1.22	
106119	350	7		1.7	10/4/2013 11:23	-409.074					
106128	450	7	11:17	4.26	10/4/2013 11:23	-409.074		-409.074	4.26	3.21	
106128	350	7		1.99	10/4/2013 11:23	-409.074					
106128	250	7		0.91	10/4/2013 11:23	-409.074					
106114	450	7	11:21	1.59	10/4/2013 11:23	-409.074		-409.074	1.59	0.54	
106114	350	7		1.44	10/4/2013 11:23	-409.074					
106121	450	7	11:24	1.05	10/4/2013 11:23	-409.074	-409.074		1.05		
106121	350	7		1.02	10/4/2013 11:23	-409.074					
106121	250	7		0.74	10/4/2013 11:23	-409.074					
106116	450	7	11:27	1.66	10/4/2013 11:23	-409.074	-409.074		1.66	0.61	
106116	350	7		1.46	10/4/2013 11:23	-409.074					
106116	250	7		0.84	10/4/2013 11:23	-409.074					
106117	450	7	11:29	2.32	10/4/2013 11:23	-409.074	-409.074		2.32	1.27	
106117	350	7		1.66	10/4/2013 11:23	-409.074					
106117	250	7		0.94	10/4/2013 11:23	-409.074					
106119	450	8	11:40	2.08	10/4/2013 11:52	-409.074		-409.074	2.08	0.93	
106119	350	8		1.53	10/4/2013 11:52	-409.074					
106128	450	8	11:47	4.26	10/4/2013 11:52	-409.074		-409.074	4.26	3.11	
106128	350	8		2.06	10/4/2013 11:52	-409.074					
106128	250	8		0.98	10/4/2013 11:52	-409.074					
106114	450	8	11:51	1.67	10/4/2013 11:52	-409.074		-409.074	1.67	0.52	
106114	350	8		1.5	10/4/2013 11:52	-409.074					
106121	450	8	11:53	1.15	10/4/2013 11:52	-409.074	-409.074		1.15		
106121	350	8		1.09	10/4/2013 11:52	-409.074					
106121	250	8		0.82	10/4/2013 11:52	-409.074					
106116	450	8	11:56	1.74	10/4/2013 11:52	-409.074	-409.074		1.74	0.59	
106116	350	8		1.57	10/4/2013 11:52	-409.074					
106116	250	8		0.92	10/4/2013 11:52	-409.074					
106117	450	8	11:58	2.43	10/4/2013 11:52	-409.074	-409.074		2.43	1.28	
106117	350	8		1.76	10/4/2013 11:52	-409.074					
106117	250	8		1.01	10/4/2013 11:52	-409.074					
106119	450	9	12:11	2.23	10/4/2013 12:23	-409.074		-409.074	2.23	1.05	
106119	350	9		1.68	10/4/2013 12:23	-409.074					
106128	450	9	12:17	4.36	10/4/2013 12:23	-409.074		-409.074	4.36	3.18	
106128	350	9		2.11	10/4/2013 12:23	-409.074					
106128	250	9		1.01	10/4/2013 12:23	-409.074					
106114	450	9	12:22	1.65	10/4/2013 12:23	-409.074		-409.074	1.65	0.47	
106114	350	9		1.52	10/4/2013 12:23	-409.074					
106121	450	9	12:24	1.18	10/4/2013 12:23	-409.074	-409.074		1.18		
106121	350	9		1.13	10/4/2013 12:23	-409.074					
106121	250	9		0.82	10/4/2013 12:23	-409.074					
106116	450	9	12:27	1.74	10/4/2013 12:23	-409.074	-409.074		1.74	0.56	

106116	350	9		1.52	10/4/2013 12:23	-409.074				
106116	250	9		0.93	10/4/2013 12:23	-409.074				
106117	450	9	12:31	2.4	10/4/2013 12:23	-409.074	-409.074		2.4	1.22
106117	350	9		1.75	10/4/2013 12:23	-409.074				
106117	250	9		1.02	10/4/2013 12:23	-409.074				
106119	450	10	12:43	2.21	10/4/2013 12:54	-409.064		-409.074	2.201299	1.0869488
106119	350	10		1.65	10/4/2013 12:54	-409.064				
106128	450	10	12:48	4.25	10/4/2013 12:54	-409.064		-409.074	4.241299	3.1269488
106128	350	10		2.06	10/4/2013 12:54	-409.064				
106128	250	10		0.94	10/4/2013 12:54	-409.064				
106114	450	10	12:52	1.65	10/4/2013 12:54	-409.064		-409.074	1.641299	0.5269488
106114	350	10		1.46	10/4/2013 12:54	-409.064				
106121	450	10	12:55	1.11	10/4/2013 12:54	-409.064	-409.06		1.11435	
106121	350	10		1.05	10/4/2013 12:54	-409.064				
106121	250	10		0.076	10/4/2013 12:54	-409.064				
106116	450	10	12:58	1.69	10/4/2013 12:54	-409.064	-409.046		1.707402	0.5930512
106116	350	10		1.52	10/4/2013 12:54	-409.064				
106116	250	10		0.85	10/4/2013 12:54	-409.064				
106117	450	10	12:59	2.39	10/4/2013 12:54	-409.064	-409.042		2.411752	1.2974016
106117	350	10		1.76	10/4/2013 12:54	-409.064				
106117	250	10		0.97	10/4/2013 12:54	-409.064				
106119	450	11	13:12	2.14	10/4/2013 13:21	-408.942		-408.983	2.100846	1.106496
106119	350	11		1.52	10/4/2013 13:21	-408.942				
106128	450	11	13:16	4.16	10/4/2013 13:21	-408.942		-408.965	4.138248	3.1438976
106128	350	11		1.92	10/4/2013 13:21	-408.942				
106128	250	11		0.81	10/4/2013 13:21	-408.942				
106114	450	11	13:20	1.48	10/4/2013 13:21	-408.942		-408.947	1.47565	0.4812992
106114	350	11		1.34	10/4/2013 13:21	-408.942				
106121	450	11	13:22	0.99	10/4/2013 13:21	-408.942	-408.938		0.99435	
106121	350	11		0.95	10/4/2013 13:21	-408.942				
106121	250	11		0.63	10/4/2013 13:21	-408.942				
106116	450	11	13:26	1.53	10/4/2013 13:21	-408.942	-408.919		1.551752	0.5574016
106116	350	11		1.33	10/4/2013 13:21	-408.942				
106116	250	11		0.71	10/4/2013 13:21	-408.942				
106117	450	11	13:27	2.17	10/4/2013 13:21	-408.942	-408.915		2.196102	1.201752
106117	350	11		1.54	10/4/2013 13:21	-408.942				
106117	250	11		0.74	10/4/2013 13:21	-408.942				
106119	450	12	13:42	1.96	10/4/2013 13:53	-408.799		-408.847	1.914321	1.0721456
106119	350	12		1.4	10/4/2013 13:53	-408.799				
106128	450	12	13:47	4.04	10/4/2013 13:53	-408.799		-408.824	4.016073	3.1738976
106128	350	12		1.79	10/4/2013 13:53	-408.799				
106128	250	12		0.65	10/4/2013 13:53	-408.799				
106114	450	12	13:51	1.37	10/4/2013 13:53	-408.799		-408.806	1.363474	0.5212992
106114	350	12		1.21	10/4/2013 13:53	-408.799				
106121	450	12	13:54	0.84	10/4/2013 13:53	-408.799	-408.797		0.842175	
106121	350	12		0.8	10/4/2013 13:53	-408.799				
106121	250	12		0.47	10/4/2013 13:53	-408.799				

106116	450	12	14:00	1.44	10/4/2013 13:53	-408.799	-408.784		1.455226	0.6130512
106116	350	12		1.2	10/4/2013 13:53	-408.799				
106116	250	12		0.55	10/4/2013 13:53	-408.799				
106117	450	12	14:01	2.09	10/4/2013 13:53	-408.799	-408.781		2.107402	1.2652264
106117	350	12		1.4	10/4/2013 13:53	-408.799				
106117	250	12		0.64	10/4/2013 13:53	-408.799				
106119	450	13	14:12	1.86	10/4/2013 14:23	-408.731		-408.756	1.836073	1.0638976
106119	350	13		1.33	10/4/2013 14:23	-408.731				
106128	450	13	14:17	3.93	10/4/2013 14:23	-408.731		-408.745	3.916949	3.1447736
106128	350	13		1.68	10/4/2013 14:23	-408.731				
106128	250	13		0	10/4/2013 14:23	-408.731				
106114	450	13	14:22	1.3	10/4/2013 14:23	-408.731		-408.734	1.297825	0.5256496
106114	350	13		1.15	10/4/2013 14:23	-408.731				
106121	450	13	14:24	0.77	10/4/2013 14:23	-408.731	-408.729		0.772175	
106121	350	13		0.74	10/4/2013 14:23	-408.731				
106121	250	13		40	10/4/2013 14:23	-408.731				
106116	450	13	14:27	1.37	10/4/2013 14:23	-408.731	-408.722		1.378701	0.6065256
106116	350	13		1.13	10/4/2013 14:23	-408.731				
106116	250	13		0.49	10/4/2013 14:23	-408.731				
106117	450	13	14:42	2	10/4/2013 14:23	-408.731	-408.688		2.041329	1.2691536
106117	350	13		1.37	10/4/2013 14:23	-408.731				
106117	250	13		0.6	10/4/2013 14:23	-408.731				
106119	450	14	14:46	1.86	10/4/2013 14:46	-408.679	-408.679	-408.679	1.86	
106119	350	14		1.26		-408.679				

Well	Minimum distance to extraction well	Distance to 106160 (ft)	Monitoring round	Time	Value	**Mid-Round Time**	**Btm**	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106117	450		1	7:41	1.73	10/4/2013 7:50	-408.38		-408.319	1.178752	0.705696			
106117	350		1		1.12	10/4/2013 7:50	-408.38							
106117	250		1		0.49	10/4/2013 7:50	-408.38							
106116	450		1	7:44	1.07	10/4/2013 7:50	-408.38		-408.34	0.909168	0.436112			
106116	350		1		0.87	10/4/2013 7:50	-408.38							
106116	250		1		0.37	10/4/2013 7:50	-408.38							
106121	450		1	7:48	0.49	10/4/2013 7:50	-408.38		-408.367	0.473056				
106121	350		1		0.46	10/4/2013 7:50	-408.38							
106121	250		1		0.21	10/4/2013 7:50	-408.38							
106114	450		1	7:51	1.03	10/4/2013 7:50	-408.38	-408.387		0.863472	0.390416			
106114	350		1		0.87	10/4/2013 7:50	-408.38							
106128	450		1	7:54	3.71	10/4/2013 7:50	-408.38	-408.403		1.38824	0.915184			
106128	350		1		1.41	10/4/2013 7:50	-408.38							
106128	250		1		0.45	10/4/2013 7:50	-408.38							
106119	450		1	7:57	1.57	10/4/2013 7:50	-408.38	-408.417		0.985184	0.512128			
106119	350		1		1.02	10/4/2013 7:50	-408.38							
106119	450		2	8:47	1.81	10/4/2013 8:55	-408.672		-408.643	1.318278	0.5604528			
106119	350		2		1.29	10/4/2013 8:55	-408.672							
106117	450		2	8:51	2.03	10/4/2013 8:55	-408.672		-408.661	1.410876	0.6530512			
106117	350		2		1.4	10/4/2013 8:55	-408.672							
106117	250		2		0.74	10/4/2013 8:55	-408.672							
106116	450		2	8:53	1.4	10/4/2013 8:55	-408.672		-408.668	1.22435	0.4665256			
106116	350		2		1.22	10/4/2013 8:55	-408.672							
106116	250		2		0.65	10/4/2013 8:55	-408.672							
106121	450		2	8:56	0.8	10/4/2013 8:55	-408.672	-408.675		0.757825				
106121	350		2		0.76	10/4/2013 8:55	-408.672							
106121	250		2		0.48	10/4/2013 8:55	-408.672							
106114	450		2	8:59	1.36	10/4/2013 8:55	-408.672	-408.682		1.161299	0.4034744			
106114	350		2		1.17	10/4/2013 8:55	-408.672							
106128	450		2	9:02	4.04	10/4/2013 8:55	-408.672	-408.688		1.784774	1.0269488			
106128	350		2		1.8	10/4/2013 8:55	-408.672							
106128	250		2		0.78	10/4/2013 8:55	-408.672							
106119	450		3	9:11	1.92	10/4/2013 9:20	-408.729		-408.709	1.369577	0.5539272			
106119	350		3		1.35	10/4/2013 9:20	-408.729							
106117	450		3	9:16	2.12	10/4/2013 9:20	-408.729		-408.72	1.488701	0.6730512			
106117	350		3		1.48	10/4/2013 9:20	-408.729							
106117	250		3		0.81	10/4/2013 9:20	-408.729							
106116	450		3	9:18	1.48	10/4/2013 9:20	-408.729		-408.725	1.30435	0.4887008			
106116	350		3		1.3	10/4/2013 9:20	-408.729							
106116	250		3		0.77	10/4/2013 9:20	-408.729							
106121	450		3	9:22	0.87	10/4/2013 9:20	-408.729	-408.734		0.81565				
106121	350		3		0.82	10/4/2013 9:20	-408.729							
106121	250		3		0.55	10/4/2013 9:20	-408.729							
106114	450		3	9:24	1.39	10/4/2013 9:20	-408.729	-408.738		1.241299	0.4256496			

106114	350	3		1.25	10/4/2013 9:20	-408.729				
106128	450	3	9:28	4.09	10/4/2013 9:20	-408.729	-408.747	1.862598	1.0469488	
106128	350	3		1.88	10/4/2013 9:20	-408.729				
106128	250	3		0.82	10/4/2013 9:20	-408.729				
106119	450	4	9:44	2.03	10/4/2013 9:51	-408.799	-408.784	1.495226	0.6374016	
106119	350	4		1.48	10/4/2013 9:51	-408.799				
106128	450	4	9:47	4.13	10/4/2013 9:51	-408.799	-408.79	1.828701	0.970876	
106128	350	4		1.82	10/4/2013 9:51	-408.799				
106128	250	4		0.82	10/4/2013 9:51	-408.799				
106114	450	4	9:50	1.44	10/4/2013 9:51	-408.799	-408.797	1.292175	0.4343504	
106114	350	4		1.29	10/4/2013 9:51	-408.799				
106121	450	4	9:52	0.92	10/4/2013 9:51	-408.799	-408.802	0.857825		
106121	350	4		0.86	10/4/2013 9:51	-408.799				
106121	250	4		0.59	10/4/2013 9:51	-408.799				
106116	450	4	9:54	1.52	10/4/2013 9:51	-408.799	-408.811	1.309124	0.4512992	
106116	350	4		1.32	10/4/2013 9:51	-408.799				
106116	250	4		0.76	10/4/2013 9:51	-408.799				
106117	450	4	8:57	2.19	10/4/2013 9:51	-408.799	-408.824	1.526073	0.668248	
106117	350	4		1.55	10/4/2013 9:51	-408.799				
106117	250	4		0.85	10/4/2013 9:51	-408.799				
106119	450	5	10:16	2.1	10/4/2013 10:23	-408.942	-408.91	1.560453	0.6248032	
106119	350	5		1.53	10/4/2013 10:23	-408.942				
106128	450	5	10:18	4.2	10/4/2013 10:23	-408.942	-408.919	1.921752	0.9861024	
106128	350	5		1.9	10/4/2013 10:23	-408.942				
106128	250	5		0.89	10/4/2013 10:23	-408.942				
106114	450	5	10:22	1.57	10/4/2013 10:23	-408.942	-408.938	1.39435	0.4587008	
106114	350	5		1.39	10/4/2013 10:23	-408.942				
106121	450	5	10:24	1.03	10/4/2013 10:23	-408.942	-408.947	0.93565		
106121	350	5		0.94	10/4/2013 10:23	-408.942				
106121	250	5		0.69	10/4/2013 10:23	-408.942				
106116	450	5	10:28	1.6	10/4/2013 10:23	-408.942	-408.965	1.378248	0.4425984	
106116	350	5		1.4	10/4/2013 10:23	-408.942				
106116	250	5		0.82	10/4/2013 10:23	-408.942				
106117	450	5	10:29	2.28	10/4/2013 10:23	-408.942	-408.969	1.593898	0.658248	
106117	350	5		1.62	10/4/2013 10:23	-408.942				
106117	250	5		0.9	10/4/2013 10:23	-408.942				
106119	450	6	10:41	2.11	10/4/2013 10:51	-409.069	-409.024	1.603504	0.5578544	
106119	350	6		1.56	10/4/2013 10:51	-409.069				
106128	450	6	10:44	4.22	10/4/2013 10:51	-409.069	-409.037	2.010453	0.9648032	
106128	350	6		1.98	10/4/2013 10:51	-409.069				
106128	250	6		0.91	10/4/2013 10:51	-409.069				
106114	450	6	10:50	1.62	10/4/2013 10:51	-409.069	-409.064	1.46435	0.4187008	
106114	350	6		1.46	10/4/2013 10:51	-409.069				
106121	450	6	10:52	1.11	10/4/2013 10:51	-409.069	-409.074	1.04565		
106121	350	6		1.05	10/4/2013 10:51	-409.069				
106121	250	6		0.79	10/4/2013 10:51	-409.069				
106116	450	6	10:56	1.73	10/4/2013 10:51	-409.069	-409.074	1.52565	0.48	

106116	350	6		1.53	10/4/2013 10:51	-409.069					
106116	250	6		0.93	10/4/2013 10:51	-409.069					
106117	450	6	10:58	2.38	10/4/2013 10:51	-409.069	-409.074		1.68565	0.64	
106117	350	6		1.69	10/4/2013 10:51	-409.069					
106117	250	6		1.1	10/4/2013 10:51	-409.069					
106119	450	7	11:12	2.27	10/4/2013 11:23	-409.074		-409.074	1.7	0.68	
106119	350	7		1.7	10/4/2013 11:23	-409.074					
106128	450	7	11:17	4.26	10/4/2013 11:23	-409.074		-409.074	1.99	0.97	
106128	350	7		1.99	10/4/2013 11:23	-409.074					
106128	250	7		0.91	10/4/2013 11:23	-409.074					
106114	450	7	11:21	1.59	10/4/2013 11:23	-409.074		-409.074	1.44	0.42	
106114	350	7		1.44	10/4/2013 11:23	-409.074					
106121	450	7	11:24	1.05	10/4/2013 11:23	-409.074	-409.074		1.02		
106121	350	7		1.02	10/4/2013 11:23	-409.074					
106121	250	7		0.74	10/4/2013 11:23	-409.074					
106116	450	7	11:27	1.66	10/4/2013 11:23	-409.074	-409.074		1.46	0.44	
106116	350	7		1.46	10/4/2013 11:23	-409.074					
106116	250	7		0.84	10/4/2013 11:23	-409.074					
106117	450	7	11:29	2.32	10/4/2013 11:23	-409.074	-409.074		1.66	0.64	
106117	350	7		1.66	10/4/2013 11:23	-409.074					
106117	250	7		0.94	10/4/2013 11:23	-409.074					
106119	450	8	11:40	2.08	10/4/2013 11:52	-409.074		-409.074	1.53	0.44	
106119	350	8		1.53	10/4/2013 11:52	-409.074					
106128	450	8	11:47	4.26	10/4/2013 11:52	-409.074		-409.074	2.06	0.97	
106128	350	8		2.06	10/4/2013 11:52	-409.074					
106128	250	8		0.98	10/4/2013 11:52	-409.074					
106114	450	8	11:51	1.67	10/4/2013 11:52	-409.074		-409.074	1.5	0.41	
106114	350	8		1.5	10/4/2013 11:52	-409.074					
106121	450	8	11:53	1.15	10/4/2013 11:52	-409.074	-409.074		1.09		
106121	350	8		1.09	10/4/2013 11:52	-409.074					
106121	250	8		0.82	10/4/2013 11:52	-409.074					
106116	450	8	11:56	1.74	10/4/2013 11:52	-409.074	-409.074		1.57	0.48	
106116	350	8		1.57	10/4/2013 11:52	-409.074					
106116	250	8		0.92	10/4/2013 11:52	-409.074					
106117	450	8	11:58	2.43	10/4/2013 11:52	-409.074	-409.074		1.76	0.67	
106117	350	8		1.76	10/4/2013 11:52	-409.074					
106117	250	8		1.01	10/4/2013 11:52	-409.074					
106119	450	9	12:11	2.23	10/4/2013 12:23	-409.074		-409.074	1.68	0.55	
106119	350	9		1.68	10/4/2013 12:23	-409.074					
106128	450	9	12:17	4.36	10/4/2013 12:23	-409.074		-409.074	2.11	0.98	
106128	350	9		2.11	10/4/2013 12:23	-409.074					
106128	250	9		1.01	10/4/2013 12:23	-409.074					
106114	450	9	12:22	1.65	10/4/2013 12:23	-409.074		-409.074	1.52	0.39	
106114	350	9		1.52	10/4/2013 12:23	-409.074					
106121	450	9	12:24	1.18	10/4/2013 12:23	-409.074	-409.074		1.13		
106121	350	9		1.13	10/4/2013 12:23	-409.074					
106121	250	9		0.82	10/4/2013 12:23	-409.074					

106116	450	9	12:27	1.74	10/4/2013 12:23	-409.074	-409.074		1.52	0.39
106116	350	9		1.52	10/4/2013 12:23	-409.074				
106116	250	9		0.93	10/4/2013 12:23	-409.074				
106117	450	9	12:31	2.4	10/4/2013 12:23	-409.074	-409.074		1.75	0.62
106117	350	9		1.75	10/4/2013 12:23	-409.074				
106117	250	9		1.02	10/4/2013 12:23	-409.074				
106119	450	10	12:43	2.21	10/4/2013 12:54	-409.064		-409.074	1.641299	0.5869488
106119	350	10		1.65	10/4/2013 12:54	-409.064				
106128	450	10	12:48	4.25	10/4/2013 12:54	-409.064		-409.074	2.051299	0.9969488
106128	350	10		2.06	10/4/2013 12:54	-409.064				
106128	250	10		0.94	10/4/2013 12:54	-409.064				
106114	450	10	12:52	1.65	10/4/2013 12:54	-409.064		-409.074	1.451299	0.3969488
106114	350	10		1.46	10/4/2013 12:54	-409.064				
106121	450	10	12:55	1.11	10/4/2013 12:54	-409.064	-409.06		1.05435	
106121	350	10		1.05	10/4/2013 12:54	-409.064				
106121	250	10		0.076	10/4/2013 12:54	-409.064				
106116	450	10	12:58	1.69	10/4/2013 12:54	-409.064	-409.046		1.537402	0.4830512
106116	350	10		1.52	10/4/2013 12:54	-409.064				
106116	250	10		0.85	10/4/2013 12:54	-409.064				
106117	450	10	12:59	2.39	10/4/2013 12:54	-409.064	-409.042		1.781752	0.7274016
106117	350	10		1.76	10/4/2013 12:54	-409.064				
106117	250	10		0.97	10/4/2013 12:54	-409.064				
106119	450	11	13:12	2.14	10/4/2013 13:21	-408.942		-408.983	1.480846	0.526496
106119	350	11		1.52	10/4/2013 13:21	-408.942				
106128	450	11	13:16	4.16	10/4/2013 13:21	-408.942		-408.965	1.898248	0.9438976
106128	350	11		1.92	10/4/2013 13:21	-408.942				
106128	250	11		0.81	10/4/2013 13:21	-408.942				
106114	450	11	13:20	1.48	10/4/2013 13:21	-408.942		-408.947	1.33565	0.3812992
106114	350	11		1.34	10/4/2013 13:21	-408.942				
106121	450	11	13:22	0.99	10/4/2013 13:21	-408.942	-408.938		0.95435	
106121	350	11		0.95	10/4/2013 13:21	-408.942				
106121	250	11		0.63	10/4/2013 13:21	-408.942				
106116	450	11	13:26	1.53	10/4/2013 13:21	-408.942	-408.919		1.351752	0.3974016
106116	350	11		1.33	10/4/2013 13:21	-408.942				
106116	250	11		0.71	10/4/2013 13:21	-408.942				
106117	450	11	13:27	2.17	10/4/2013 13:21	-408.942	-408.915		1.566102	0.611752
106117	350	11		1.54	10/4/2013 13:21	-408.942				
106117	250	11		0.74	10/4/2013 13:21	-408.942				
106119	450	12	13:42	1.96	10/4/2013 13:53	-408.799		-408.847	1.354321	0.5521456
106119	350	12		1.4	10/4/2013 13:53	-408.799				
106128	450	12	13:47	4.04	10/4/2013 13:53	-408.799		-408.824	1.766073	0.9638976
106128	350	12		1.79	10/4/2013 13:53	-408.799				
106128	250	12		0.65	10/4/2013 13:53	-408.799				
106114	450	12	13:51	1.37	10/4/2013 13:53	-408.799		-408.806	1.203474	0.4012992
106114	350	12		1.21	10/4/2013 13:53	-408.799				
106121	450	12	13:54	0.84	10/4/2013 13:53	-408.799	-408.797		0.802175	
106121	350	12		0.8	10/4/2013 13:53	-408.799				

106121	250	12		0.47	10/4/2013 13:53	-408.799					
106116	450	12	14:00	1.44	10/4/2013 13:53	-408.799	-408.784		1.215226	0.4130512	
106116	350	12		1.2	10/4/2013 13:53	-408.799					
106116	250	12		0.55	10/4/2013 13:53	-408.799					
106117	450	12	14:01	2.09	10/4/2013 13:53	-408.799	-408.781		1.417402	0.6152264	
106117	350	12		1.4	10/4/2013 13:53	-408.799					
106117	250	12		0.64	10/4/2013 13:53	-408.799					
106119	450	13	14:12	1.86	10/4/2013 14:23	-408.731		-408.756	1.306073	0.5638976	
106119	350	13		1.33	10/4/2013 14:23	-408.731					
106128	450	13	14:17	3.93	10/4/2013 14:23	-408.731		-408.745	1.666949	0.9247736	
106128	350	13		1.68	10/4/2013 14:23	-408.731					
106128	250	13		0	10/4/2013 14:23	-408.731					
106114	450	13	14:22	1.3	10/4/2013 14:23	-408.731		-408.734	1.147825	0.4056496	
106114	350	13		1.15	10/4/2013 14:23	-408.731					
106121	450	13	14:24	0.77	10/4/2013 14:23	-408.731	-408.729		0.742175		
106121	350	13		0.74	10/4/2013 14:23	-408.731					
106121	250	13		40	10/4/2013 14:23	-408.731					
106116	450	13	14:27	1.37	10/4/2013 14:23	-408.731	-408.722		1.138701	0.3965256	
106116	350	13		1.13	10/4/2013 14:23	-408.731					
106116	250	13		0.49	10/4/2013 14:23	-408.731					
106117	450	13	14:42	2	10/4/2013 14:23	-408.731	-408.688		1.411329	0.6691536	
106117	350	13		1.37	10/4/2013 14:23	-408.731					
106117	250	13		0.6	10/4/2013 14:23	-408.731					
106119	450	14	14:46	1.86	10/4/2013 14:46	-408.679	-408.679	-408.679	1.26		
106119	350	14		1.26		-408.679					

Well	Minimum distance to extraction well	Distance to 106160 (ft)	Monitoring round	Time	Value	**Mid-Round Time**	**Btm**	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106117	450		1	7:41	1.73	10/4/2013 7:50	-408.38		-408.319	0.524272	0.306656			
106117	350		1		1.12	10/4/2013 7:50	-408.38							
106117	250		1		0.49	10/4/2013 7:50	-408.38							
106116	450		1	7:44	1.07	10/4/2013 7:50	-408.38		-408.34	0.392848	0.175232			
106116	350		1		0.87	10/4/2013 7:50	-408.38							
106116	250		1		0.37	10/4/2013 7:50	-408.38							
106121	450		1	7:48	0.49	10/4/2013 7:50	-408.38		-408.367	0.217616				
106121	350		1		0.46	10/4/2013 7:50	-408.38							
106121	250		1		0.21	10/4/2013 7:50	-408.38							
106114	450		1	7:51	1.03	10/4/2013 7:50	-408.38	-408.387						
106114	350		1		0.87	10/4/2013 7:50	-408.38							
106128	450		1	7:54	3.71	10/4/2013 7:50	-408.38	-408.403		0.437307	0.219690667			
106128	350		1		1.41	10/4/2013 7:50	-408.38							
106128	250		1		0.45	10/4/2013 7:50	-408.38							
106119	450		1	7:57	1.57	10/4/2013 7:50	-408.38	-408.417						
106119	350		1		1.02	10/4/2013 7:50	-408.38							
106119	450		2	8:47	1.81	10/4/2013 8:55	-408.672		-408.643					
106119	350		2		1.29	10/4/2013 8:55	-408.672							
106117	450		2	8:51	2.03	10/4/2013 8:55	-408.672		-408.661	0.746344	0.2676132			
106117	350		2		1.4	10/4/2013 8:55	-408.672							
106117	250		2		0.74	10/4/2013 8:55	-408.672							
106116	450		2	8:53	1.4	10/4/2013 8:55	-408.672		-408.668	0.652538	0.1738066			
106116	350		2		1.22	10/4/2013 8:55	-408.672							
106116	250		2		0.65	10/4/2013 8:55	-408.672							
106121	450		2	8:56	0.8	10/4/2013 8:55	-408.672	-408.675		0.478731				
106121	350		2		0.76	10/4/2013 8:55	-408.672							
106121	250		2		0.48	10/4/2013 8:55	-408.672							
106114	450		2	8:59	1.36	10/4/2013 8:55	-408.672	-408.682						
106114	350		2		1.17	10/4/2013 8:55	-408.672							
106128	450		2	9:02	4.04	10/4/2013 8:55	-408.672	-408.688		0.771118	0.2923868			
106128	350		2		1.8	10/4/2013 8:55	-408.672							
106128	250		2		0.78	10/4/2013 8:55	-408.672							
106119	450		3	9:11	1.92	10/4/2013 9:20	-408.729		-408.709					
106119	350		3		1.35	10/4/2013 9:20	-408.729							
106117	450		3	9:16	2.12	10/4/2013 9:20	-408.729		-408.72	0.815075	0.2676132			
106117	350		3		1.48	10/4/2013 9:20	-408.729							
106117	250		3		0.81	10/4/2013 9:20	-408.729							
106116	450		3	9:18	1.48	10/4/2013 9:20	-408.729		-408.725	0.772538	0.225075467			
106116	350		3		1.3	10/4/2013 9:20	-408.729							
106116	250		3		0.77	10/4/2013 9:20	-408.729							
106121	450		3	9:22	0.87	10/4/2013 9:20	-408.729	-408.734		0.547462				
106121	350		3		0.82	10/4/2013 9:20	-408.729							
106121	250		3		0.55	10/4/2013 9:20	-408.729							
106114	450		3	9:24	1.39	10/4/2013 9:20	-408.729	-408.738						

106114	350	3		1.25	10/4/2013 9:20	-408.729					
106128	450	3	9:28	4.09	10/4/2013 9:20	-408.729	-408.747		0.809849	0.2623868	
106128	350	3		1.88	10/4/2013 9:20	-408.729					
106128	250	3		0.82	10/4/2013 9:20	-408.729					
106119	450	4	9:44	2.03	10/4/2013 9:51	-408.799		-408.784			
106119	350	4		1.48	10/4/2013 9:51	-408.799					
106128	450	4	9:47	4.13	10/4/2013 9:51	-408.799		-408.79	0.825075	0.236344333	
106128	350	4		1.82	10/4/2013 9:51	-408.799					
106128	250	4		0.82	10/4/2013 9:51	-408.799					
106114	450	4	9:50	1.44	10/4/2013 9:51	-408.799		-408.797			
106114	350	4		1.29	10/4/2013 9:51	-408.799					
106121	450	4	9:52	0.92	10/4/2013 9:51	-408.799	-408.802		0.588731		
106121	350	4		0.86	10/4/2013 9:51	-408.799					
106121	250	4		0.59	10/4/2013 9:51	-408.799					
106116	450	4	9:54	1.52	10/4/2013 9:51	-408.799	-408.811		0.753656	0.164924533	
106116	350	4		1.32	10/4/2013 9:51	-408.799					
106116	250	4		0.76	10/4/2013 9:51	-408.799					
106117	450	4	8:57	2.19	10/4/2013 9:51	-408.799	-408.824		0.836042	0.247311333	
106117	350	4		1.55	10/4/2013 9:51	-408.799					
106117	250	4		0.85	10/4/2013 9:51	-408.799					
106119	450	5	10:16	2.1	10/4/2013 10:23	-408.942		-408.91			
106119	350	5		1.53	10/4/2013 10:23	-408.942					
106128	450	5	10:18	4.2	10/4/2013 10:23	-408.942		-408.919	0.902689	0.2152264	
106128	350	5		1.9	10/4/2013 10:23	-408.942					
106128	250	5		0.89	10/4/2013 10:23	-408.942					
106114	450	5	10:22	1.57	10/4/2013 10:23	-408.942		-408.938			
106114	350	5		1.39	10/4/2013 10:23	-408.942					
106121	450	5	10:24	1.03	10/4/2013 10:23	-408.942	-408.947		0.687462		
106121	350	5		0.94	10/4/2013 10:23	-408.942					
106121	250	5		0.69	10/4/2013 10:23	-408.942					
106116	450	5	10:28	1.6	10/4/2013 10:23	-408.942	-408.965		0.807311	0.119849067	
106116	350	5		1.4	10/4/2013 10:23	-408.942					
106116	250	5		0.82	10/4/2013 10:23	-408.942					
106117	450	5	10:29	2.28	10/4/2013 10:23	-408.942	-408.969		0.884774	0.197311333	
106117	350	5		1.62	10/4/2013 10:23	-408.942					
106117	250	5		0.9	10/4/2013 10:23	-408.942					
106119	450	6	10:41	2.11	10/4/2013 10:51	-409.069		-409.024			
106119	350	6		1.56	10/4/2013 10:51	-409.069					
106128	450	6	10:44	4.22	10/4/2013 10:51	-409.069		-409.037	0.927764	0.140301867	
106128	350	6		1.98	10/4/2013 10:51	-409.069					
106128	250	6		0.91	10/4/2013 10:51	-409.069					
106114	450	6	10:50	1.62	10/4/2013 10:51	-409.069		-409.064			
106114	350	6		1.46	10/4/2013 10:51	-409.069					
106121	450	6	10:52	1.11	10/4/2013 10:51	-409.069	-409.074		0.787462		
106121	350	6		1.05	10/4/2013 10:51	-409.069					
106121	250	6		0.79	10/4/2013 10:51	-409.069					
106116	450	6	10:56	1.73	10/4/2013 10:51	-409.069	-409.074		0.927462	0.14	

106116	350	6		1.53	10/4/2013 10:51	-409.069					
106116	250	6		0.93	10/4/2013 10:51	-409.069					
106117	450	6	10:58	2.38	10/4/2013 10:51	-409.069	-409.074		1.097462	0.31	
106117	350	6		1.69	10/4/2013 10:51	-409.069					
106117	250	6		1.1	10/4/2013 10:51	-409.069					
106119	450	7	11:12	2.27	10/4/2013 11:23	-409.074		-409.074			
106119	350	7		1.7	10/4/2013 11:23	-409.074					
106128	450	7	11:17	4.26	10/4/2013 11:23	-409.074		-409.074	0.91	0.17	
106128	350	7		1.99	10/4/2013 11:23	-409.074					
106128	250	7		0.91	10/4/2013 11:23	-409.074					
106114	450	7	11:21	1.59	10/4/2013 11:23	-409.074		-409.074			
106114	350	7		1.44	10/4/2013 11:23	-409.074					
106121	450	7	11:24	1.05	10/4/2013 11:23	-409.074	-409.074		0.74		
106121	350	7		1.02	10/4/2013 11:23	-409.074					
106121	250	7		0.74	10/4/2013 11:23	-409.074					
106116	450	7	11:27	1.66	10/4/2013 11:23	-409.074	-409.074		0.84	0.1	
106116	350	7		1.46	10/4/2013 11:23	-409.074					
106116	250	7		0.84	10/4/2013 11:23	-409.074					
106117	450	7	11:29	2.32	10/4/2013 11:23	-409.074	-409.074		0.94	0.2	
106117	350	7		1.66	10/4/2013 11:23	-409.074					
106117	250	7		0.94	10/4/2013 11:23	-409.074					
106119	450	8	11:40	2.08	10/4/2013 11:52	-409.074		-409.074			
106119	350	8		1.53	10/4/2013 11:52	-409.074					
106128	450	8	11:47	4.26	10/4/2013 11:52	-409.074		-409.074	0.98	0.16	
106128	350	8		2.06	10/4/2013 11:52	-409.074					
106128	250	8		0.98	10/4/2013 11:52	-409.074					
106114	450	8	11:51	1.67	10/4/2013 11:52	-409.074		-409.074			
106114	350	8		1.5	10/4/2013 11:52	-409.074					
106121	450	8	11:53	1.15	10/4/2013 11:52	-409.074	-409.074		0.82		
106121	350	8		1.09	10/4/2013 11:52	-409.074					
106121	250	8		0.82	10/4/2013 11:52	-409.074					
106116	450	8	11:56	1.74	10/4/2013 11:52	-409.074	-409.074		0.92	0.1	
106116	350	8		1.57	10/4/2013 11:52	-409.074					
106116	250	8		0.92	10/4/2013 11:52	-409.074					
106117	450	8	11:58	2.43	10/4/2013 11:52	-409.074	-409.074		1.01	0.19	
106117	350	8		1.76	10/4/2013 11:52	-409.074					
106117	250	8		1.01	10/4/2013 11:52	-409.074					
106119	450	9	12:11	2.23	10/4/2013 12:23	-409.074		-409.074			
106119	350	9		1.68	10/4/2013 12:23	-409.074					
106128	450	9	12:17	4.36	10/4/2013 12:23	-409.074		-409.074	1.01	0.19	
106128	350	9		2.11	10/4/2013 12:23	-409.074					
106128	250	9		1.01	10/4/2013 12:23	-409.074					
106114	450	9	12:22	1.65	10/4/2013 12:23	-409.074		-409.074			
106114	350	9		1.52	10/4/2013 12:23	-409.074					
106121	450	9	12:24	1.18	10/4/2013 12:23	-409.074	-409.074		0.82		
106121	350	9		1.13	10/4/2013 12:23	-409.074					
106121	250	9		0.82	10/4/2013 12:23	-409.074					

106116	450	9	12:27	1.74	10/4/2013 12:23	-409.074	-409.074		0.93	0.11	
106116	350	9		1.52	10/4/2013 12:23	-409.074					
106116	250	9		0.93	10/4/2013 12:23	-409.074					
106117	450	9	12:31	2.4	10/4/2013 12:23	-409.074	-409.074		1.02	0.2	
106117	350	9		1.75	10/4/2013 12:23	-409.074					
106117	250	9		1.02	10/4/2013 12:23	-409.074					
106119	450	10	12:43	2.21	10/4/2013 12:54	-409.064		-409.074			
106119	350	10		1.65	10/4/2013 12:54	-409.064					
106128	450	10	12:48	4.25	10/4/2013 12:54	-409.064		-409.074	0.934925	0.8563868	
106128	350	10		2.06	10/4/2013 12:54	-409.064					
106128	250	10		0.94	10/4/2013 12:54	-409.064					
106114	450	10	12:52	1.65	10/4/2013 12:54	-409.064		-409.074			
106114	350	10		1.46	10/4/2013 12:54	-409.064					
106121	450	10	12:55	1.11	10/4/2013 12:54	-409.064	-409.06		0.078538		
106121	350	10		1.05	10/4/2013 12:54	-409.064					
106121	250	10		0.076	10/4/2013 12:54	-409.064					
106116	450	10	12:58	1.69	10/4/2013 12:54	-409.064	-409.046		0.860151	0.7816132	
106116	350	10		1.52	10/4/2013 12:54	-409.064					
106116	250	10		0.85	10/4/2013 12:54	-409.064					
106117	450	10	12:59	2.39	10/4/2013 12:54	-409.064	-409.042		0.982689	0.904150933	
106117	350	10		1.76	10/4/2013 12:54	-409.064					
106117	250	10		0.97	10/4/2013 12:54	-409.064					
106119	450	11	13:12	2.14	10/4/2013 13:21	-408.942		-408.983			
106119	350	11		1.52	10/4/2013 13:21	-408.942					
106128	450	11	13:16	4.16	10/4/2013 13:21	-408.942		-408.965	0.797311	0.1647736	
106128	350	11		1.92	10/4/2013 13:21	-408.942					
106128	250	11		0.81	10/4/2013 13:21	-408.942					
106114	450	11	13:20	1.48	10/4/2013 13:21	-408.942		-408.947			
106114	350	11		1.34	10/4/2013 13:21	-408.942					
106121	450	11	13:22	0.99	10/4/2013 13:21	-408.942	-408.938		0.632538		
106121	350	11		0.95	10/4/2013 13:21	-408.942					
106121	250	11		0.63	10/4/2013 13:21	-408.942					
106116	450	11	13:26	1.53	10/4/2013 13:21	-408.942	-408.919		0.722689	0.090150933	
106116	350	11		1.33	10/4/2013 13:21	-408.942					
106116	250	11		0.71	10/4/2013 13:21	-408.942					
106117	450	11	13:27	2.17	10/4/2013 13:21	-408.942	-408.915		0.755226	0.122688667	
106117	350	11		1.54	10/4/2013 13:21	-408.942					
106117	250	11		0.74	10/4/2013 13:21	-408.942					
106119	450	12	13:42	1.96	10/4/2013 13:53	-408.799		-408.847			
106119	350	12		1.4	10/4/2013 13:53	-408.799					
106128	450	12	13:47	4.04	10/4/2013 13:53	-408.799		-408.824	0.636042	0.1647736	
106128	350	12		1.79	10/4/2013 13:53	-408.799					
106128	250	12		0.65	10/4/2013 13:53	-408.799					
106114	450	12	13:51	1.37	10/4/2013 13:53	-408.799		-408.806			
106114	350	12		1.21	10/4/2013 13:53	-408.799					
106121	450	12	13:54	0.84	10/4/2013 13:53	-408.799	-408.797		0.471269		
106121	350	12		0.8	10/4/2013 13:53	-408.799					

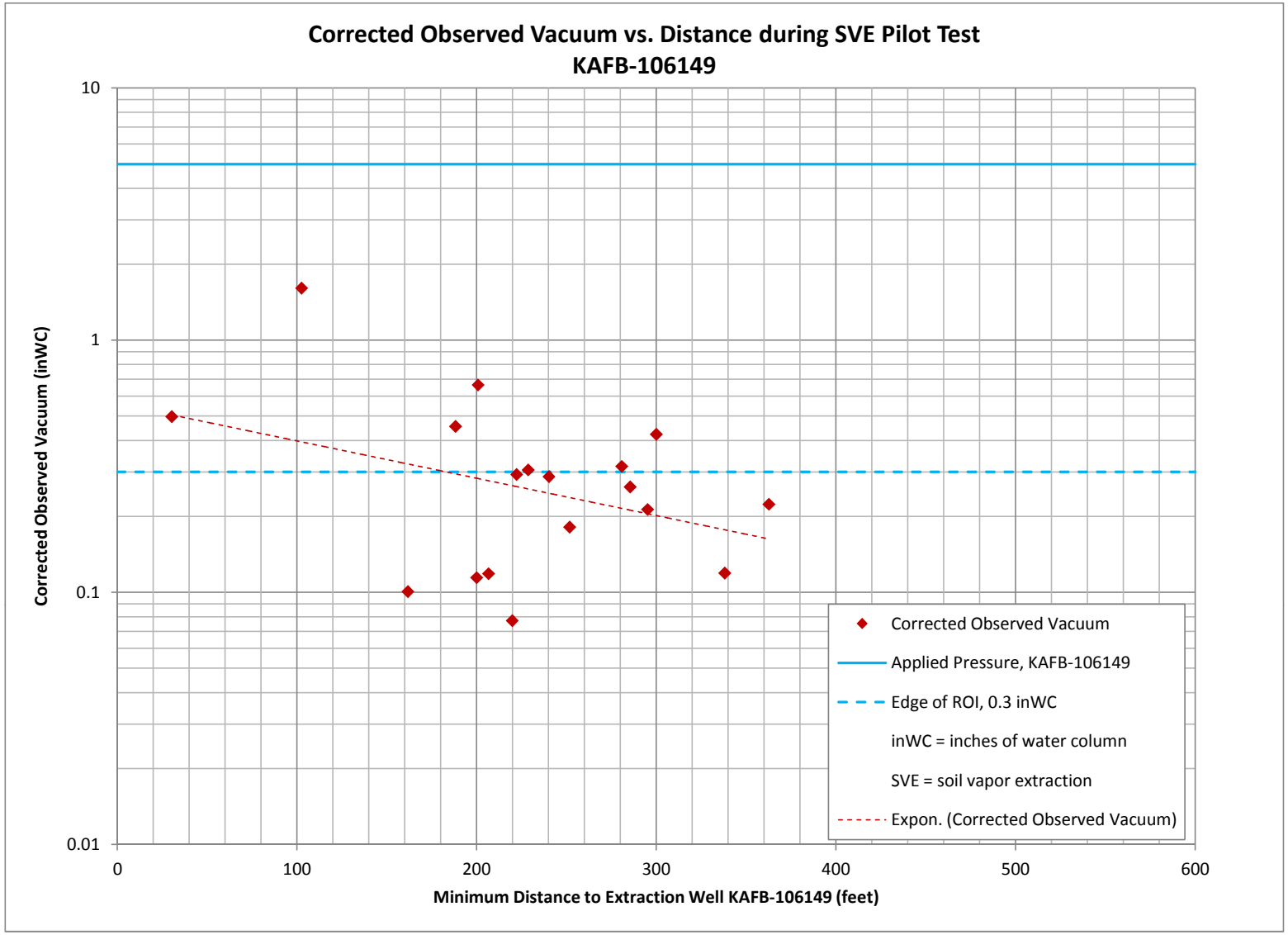
106121	250	12		0.47	10/4/2013 13:53	-408.799					
106116	450	12	14:00	1.44	10/4/2013 13:53	-408.799	-408.784		0.558882	0.0876132	
106116	350	12		1.2	10/4/2013 13:53	-408.799					
106116	250	12		0.55	10/4/2013 13:53	-408.799					
106117	450	12	14:01	2.09	10/4/2013 13:53	-408.799	-408.781		0.650151	0.178882067	
106117	350	12		1.4	10/4/2013 13:53	-408.799					
106117	250	12		0.64	10/4/2013 13:53	-408.799					
106119	450	13	14:12	1.86	10/4/2013 14:23	-408.731		-408.756			
106119	350	13		1.33	10/4/2013 14:23	-408.731					
106128	450	13	14:17	3.93	10/4/2013 14:23	-408.731		-408.745	-0.00761	-0.408882067	
106128	350	13		1.68	10/4/2013 14:23	-408.731					
106128	250	13		0	10/4/2013 14:23	-408.731					
106114	450	13	14:22	1.3	10/4/2013 14:23	-408.731		-408.734			
106114	350	13		1.15	10/4/2013 14:23	-408.731					
106121	450	13	14:24	0.77	10/4/2013 14:23	-408.731	-408.729		0.401269		
106121	350	13		0.74	10/4/2013 14:23	-408.731					
106121	250	13		0.4	10/4/2013 14:23	-408.731					
106116	450	13	14:27	1.37	10/4/2013 14:23	-408.731	-408.722		0.495075	0.0938066	
106116	350	13		1.13	10/4/2013 14:23	-408.731					
106116	250	13		0.49	10/4/2013 14:23	-408.731					
106117	450	13	14:42	2	10/4/2013 14:23	-408.731	-408.688		0.624108	0.2228396	
106117	350	13		1.37	10/4/2013 14:23	-408.731					
106117	250	13		0.6	10/4/2013 14:23	-408.731					
106119	450	14	14:46	1.86	10/4/2013 14:46	-408.679	-408.679	-408.679	1.86		
106119	350	14		1.26		-408.679					

Well ID	Monitoring	10/4/2013_Time	Value	106121-450 measured	Applied Pressure
106160	1	0740	22.16	0.49	21.67
106160	2	0840	22.3	0.8	21.5
106160	3	0910	22.28	0.87	21.41
106160	4	0940	22.29	0.92	21.37
106160	5	1010	22.33	1.03	21.3
106160	6	1040	22.38	1.11	21.27
106160	7	1110	22.36	1.05	21.31
106160	8	1140	22.44	1.15	21.29
106160	9	1210	22.36	1.18	21.18
106160	10	1240	22.3	1.11	21.19
106160	11	1310	22.12	0.99	21.13
106160	12	1340	22	0.84	21.16
106160	13	1410	21.95	0.77	21.18

	106117	106116	106121	106114	106128	106119	106117	106116	106121	106114	106128	106119	106117	106116	106121	106114	106128	106119	106117
depth	450	450	450	450	450	450	350	350	350	350	350	350	250	250	250	250	250	250	150
Distance to 106160	169.2927	307.240866	662.5385	305.0364	88.25583	246.4799	163.279	303.9687	661.859	301.8195	75.87656	242.3888	211.3292	332.2604	675.3202	332.4455	153.9649	277.0421	287.5066
10/4/2013 7:50	1.285696	0.606112		0.520416	3.185184	1.032128	0.705696	0.436112		0.390416	0.915184	0.512128	0.306656	0.175232		NA	0.219691	NA	
10/4/2013 8:55	1.243051	0.6065256		0.553474	3.226949	1.040453	0.653051	0.466526		0.403474	1.026949	0.560453	0.267613	0.173807		NA	0.292387	NA	
10/4/2013 9:20	1.263051	0.6187008		0.51565	3.206949	1.073927	0.673051	0.488701		0.42565	1.046949	0.553927	0.267613	0.225075		NA	0.262387	NA	
10/4/2013 9:51	1.248248	0.5912992		0.52435	3.220876	1.127402	0.668248	0.451299		0.43435	0.970876	0.637402	0.247311	0.164925		NA	0.236344	NA	
10/4/2013 10:23	1.228248	0.5525984		0.548701	3.196102	1.104803	0.658248	0.442598		0.458701	0.986102	0.624803	0.197311	0.119849		NA	0.215226	NA	
10/4/2013 10:51	1.27	0.62		0.518701	3.144803	1.047854	0.64	0.48		0.418701	0.964803	0.557854	0.31	0.14		NA	0.140302	NA	
10/4/2013 11:23	1.27	0.61		0.54	3.21	1.22	0.64	0.44		0.42	0.97	0.68	0.2	0.1		NA	0.17	NA	
10/4/2013 11:52	1.28	0.59		0.52	3.11	0.93	0.67	0.48		0.41	0.97	0.44	0.19	0.1		NA	0.16	NA	
10/4/2013 12:23	1.22	0.56		0.47	3.18	1.05	0.62	0.39		0.39	0.98	0.55	0.2	0.11		NA	0.19	NA	
10/4/2013 12:54	1.297402	0.5930512		0.526949	3.126949	1.086949	0.727402	0.483051		0.396949	0.996949	0.586949	0.904151	0.781613		NA	0.856387	NA	
10/4/2013 13:21	1.201752	0.5574016		0.481299	3.143898	1.106496	0.611752	0.397402		0.381299	0.943898	0.526496	0.122689	0.090151		NA	0.164774	NA	
10/4/2013 13:53	1.265226	0.6130512		0.521299	3.173898	1.072146	0.615226	0.413051		0.401299	0.963898	0.552146	0.178882	0.087613		NA	0.164774	NA	
10/4/2013 14:23	1.269154	0.6065256		0.52565	3.144774	1.063898	0.669154	0.396526		0.40565	0.924774	0.563898	0.22284	0.093807		NA	-0.40888	NA	
	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

106116	106121	106114	106128	106119	106117	106116	106121	106114	106128	106119	
150	150	150	150	150	50	50	50	50	50	50	
385.2232	704.615	383.5297	248.381	338.7511	375.0467	454.3093	743.0056	452.8742	346.0074	415.6349	
											21.67
											21.5
											21.41
											21.37
											21.3
											21.27
											21.31
											21.29
											21.18
											21.19
											21.13
											21.16
											21.18
x	x	x	x	x	x	x	x	x	x	x	x

	Depth		Distance to 106160 (ft)	Avg. Diff from Null	Corrected Avg. Diff from Null
106117	450		169.2927	1.228248	1.05655
106116	450		307.2409	0.594251	0.422553
106114	450		305.0364	0.520499	0.348801
106128	450		88.25583	3.174645	3.002947
106119	450		246.4799	1.073543	0.901845
106117	350		163.279	0.658248	0.48655
106116	350		303.9687	0.443482	0.271784
106114	350		301.8195	0.410499	0.238801
106128	350		75.87656	0.973875	0.802178
106119	350		242.3888	0.565081	0.393383
106117	250		211.3292	0.197311	0.025614
106116	250		332.2604	0.181698	0.01
106128	250		153.9649	0.204876	0.033178
KAFB-106160	Applied Pressure	0		21.30462	21.13292
KAFB-106160	Applied Pressure	600		21.30462	21.13292
KAFB-106160	3% Applied Pressure	0		0.639138	0.633988
KAFB-106160	3% Applied Pressure	600		0.639138	0.633988
					0.3
					0.3


Corrected Observed Vacuum vs. Distance during SVE Pilot Test
KAFB-106149
Corrected Observed Vacuum (inWC)
10
1
0.1
0.01
0
100
200
300
400
500
600
Minimum Distance to Extraction Well KAFB-106149 (feet)
Corrected Observed Vacuum
Applied Pressure, KAFB-106149
Edge of ROI, 0.3 inWC
inWC = inches of water column
SVE = soil vapor extraction
Expon. (Corrected Observed Vacuum)

KAFB BFF Pilot Testing

P-log well 106149, Long Term Test performed on 10/16/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (˚F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106149	349	1100	2.6	35	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
106149	349	1115	5.5	74.6	6.85	578.1	57.4	51.6	283	2.46	0	17.89	0	1
106149	349	1133	Sampling, port closed											
106149	349	1200												
106149	349	1202	5.3	71.9	6.7	509.1	59	40.2	362	2.44	0	17.2	0	2
106149	349	1250	5.5	74.6	6.7	510.7	61.2	48.8	339	2.4	0	17.61	0	4
106149	349	1320	5.5	74.6	6.56	506.0	62.2	54.8	355	2.46	0	18.01	0	4
106149	349	1354	5.6	75.9	6.54	505.2	62.1	35.7	371	2.42	0	17.53	0	4
106149	349	1421	5.4	73.2	6.75	514.8	64.4	46.4	395	2.44	0	18.12	0	4
106149	349	1450	5.9	80.0	6.78	516.7	66.2	27.2	393	2.4	0	17.53	0	2
106149	349	1519	5.5	74.6	6.73	513.4	64.9	33.6	424	2.42	0	17.17	0	4
106149	349	1549	5.6	75.9	6.61	509.5	65.8	23.2	420	2.44	0	18.97	0	4
106149	349	1624	5.5	74.6	6.83	518.8	66.2	39.1	427	2.32	0	16.85	0	4
106149	349	1650	6	81.4	6.61	511.2	67.6	33.5	454	2.4	0	15.82	0	4
106149	349	1720	5.8	78.6	6.91	521.8	65.8	42.5	480	2.48	0	16.92	0	4
106149	349	1753	5.5	74.6	6.75	514.4	63.5	48.8	491	2.48	0	16.96	0	4
106149	349	1820	5.6	75.9	6.82	515.3	60.4	37.3	470	2.34	0	17.64	0	4
106149	349	1845	5.5	74.6	6.88	516.4	58.5	41.4	495	2.44	0	17.4	0	4
106149	349	1850	Sampling, port closed											
106149	349	1900												
	Averaged parameters:		**5.4**	**73.1**	**6.7**	**517.4**	**63.0**	**40.3**	**411**	**2.4**	**0**	**17.4**	**0**	**4**

Date and time	Barometric Pressure (inHg)	inWC	-inWC
11-4-2013 0:15 MST	29.93	406.8984	-406.898
11-4-2013 0:35 MST	29.93	406.8984	-406.898
11-4-2013 0:55 MST	29.93	406.8984	-406.898
11-4-2013 1:15 MST	29.93	406.8984	-406.898
11-4-2013 1:35 MST	29.93	406.8984	-406.898
11-4-2013 1:55 MST	29.92	406.7624	-406.762
11-4-2013 2:15 MST	29.93	406.8984	-406.898
11-4-2013 2:35 MST	29.93	406.8984	-406.898
11-4-2013 2:55 MST	29.93	406.8984	-406.898
11-4-2013 3:15 MST	29.92	406.7624	-406.762
11-4-2013 3:35 MST	29.93	406.8984	-406.898
11-4-2013 3:55 MST	29.93	406.8984	-406.898
11-4-2013 4:15 MST	29.94	407.0343	-407.034
11-4-2013 4:35 MST	29.94	407.0343	-407.034
11-4-2013 6:50 MST	29.96	407.3062	-407.306
11-4-2013 7:50 MST	29.99	407.7141	-407.714
11-4-2013 9:50 MST	30	407.85	-407.85
11-4-2013 10:50 MST	29.99	407.7141	-407.714
11-4-2013 11:50 MST	29.96	407.3062	-407.306
11-4-2013 12:50 MST	29.93	406.8984	-406.898
11-4-2013 13:50 MST	29.9	406.4905	-406.491
11-4-2013 14:50 MST	29.88	406.2186	-406.219
11-4-2013 15:50 MST	29.87	406.0827	-406.083
11-4-2013 16:50 MST	29.85	405.8108	-405.811
11-4-2013 17:52 MST	29.85	405.8108	-405.811
11-4-2013 18:49 MST	29.87	406.0827	-406.083
11-4-2013 19:49 MST	29.88	406.2186	-406.219
11-4-2013 20:49 MST	29.89	406.3546	-406.355
11-4-2013 21:15 MST	29.89	406.3546	-406.355
11-4-2013 21:35 MST	29.88	406.2186	-406.219
11-4-2013 21:50 MST	29.88	406.2186	-406.219
11-4-2013 21:55 MST	29.88	406.2186	-406.219
11-4-2013 22:15 MST	29.88	406.2186	-406.219
11-4-2013 22:35 MST	29.87	406.0827	-406.083
11-4-2013 22:55 MST	29.87	406.0827	-406.083
11-4-2013 23:15 MST	29.87	406.0827	-406.083
11-4-2013 23:35 MST	29.87	406.0827	-406.083
11-4-2013 23:55 MST	29.9	406.4905	-406.491

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
106117	350	1.06		10/16/2013	1056	10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719		1056	-407.714	-407.306	0.006797	6	-407.673				0	0
	250	1.03		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
	150	0.9		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
	50	0.33		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
106116	350	1.1		10/16/2013	1046	10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719	1046				0		0	-407.85	-407.714	0.002266	56	-407.723
	250	1.08		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
	150	0.96		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
	50	0.25		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
106128	350	1.1		10/16/2013	1053	10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719		1053	-407.714	-407.306	0.006797	3	-407.694				0	0
	250	1.06		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
	150	0.94		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
	50	0.34		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
106119	350	1.08		10/16/2013	1038	10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719	1038				0		0	-407.85	-407.714	0.002266	48	-407.741
	250	1.07		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
	150	1.02		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
106112	350	1.1		10/16/2013	1042	10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719	1042				0		0	-407.85	-407.714	0.002266	52	-407.732
	250	1.08		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
	150	0.95		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
106121	350	1.02		10/16/2013	1049	10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719		1049	-407.85	-407.714	0.002266	59	-407.716				0	0
	250	1.13		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
	150	0.99		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
	50	0.12		10/16/2013		10/16/2013 10:48	-407.85	-407.714	0.002265833	58	-407.719					0		0				0	0
106117	350	1.48		10/16/2013	1139	10/16/2013 11:50	-407.306	-407.306	0	0	-407.306	1139				0		0	-407.714	-407.306	0.006797	49	-407.381
	250	2.52		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
	150	1.34		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
	50	0.47		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
106116	350	1.04		10/16/2013	1148	10/16/2013 11:50	-407.306	-407.306	0	0	-407.306	1148				0		0	-407.714	-407.306	0.006797	58	-407.32
	250	1.3		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
	150	0.88		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
	50	0.15		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
106128	350	1.05		10/16/2013	1154	10/16/2013 11:50	-407.306	-407.306	0	0	-407.306		1154	-407.306	-406.898	0.006797	4	-407.279				0	0
	250	1.15		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
	150	0.95		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
	50	0.27		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
106119	350	1.04		10/16/2013	1156	10/16/2013 11:50	-407.306	-407.306	0	0	-407.306		1156	-407.306	-406.898	0.006797	6	-407.265				0	0
	250	1.21		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
	150	1.06		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
106112	350	1.01		10/16/2013	1142	10/16/2013 11:50	-407.306	-407.306	0	0	-407.306	1142				0		0	-407.714	-407.306	0.006797	52	-407.361
	250	1.13		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
	150	0.88		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
106121	350	1		10/16/2013	1151	10/16/2013 11:50	-407.306	-407.306	0	0	-407.306		1151	-407.306	-406.898	0.006797	1	-407.299				0	0
	250	1.01		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
	150	0.85		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
	50	0		10/16/2013		10/16/2013 11:50	-407.306	-407.306	0	0	-407.306					0		0				0	0
106117	350	1.42		10/16/2013	1205	10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082	1205				0		0	-407.306	-406.898	0.006797	15	-407.204
	250	2.56		10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0				0	0
	150	1.31		10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0				0	0
	50	0.41		10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0				0	0
106116	350	0.9		10/16/2013	1218	10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082	1218				0		0	-407.306	-406.898	0.006797	28	-407.116
	250	1.23		10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0				0	0
	150	0.7		10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0				0	0
	50	0.06		10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0				0	0
106128	350	0.91		10/16/2013	1231	10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082		1231	-407.306	-406.898	0.006797	41	-407.028				0	0
	250	1.07		10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0				0	0
	150	0.85		10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0				0	0
	50	0.19		10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0				0	0
106119	350	0.87		10/16/2013	1235	10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082		1235	-407.306	-406.898	0.006797	45	-407				0	0
	250	1.08		10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0				0	0
	150	0.92		10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0				0	0
106112	350	0.91		10/16/2013	1209	10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082	1209				0		0	-407.306	-406.898	0.006797	19	-407.177
	250	1.08		10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0				0	0
	150	0.81		10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0				0	0

106121	350	0.82	10/16/2013	1227	10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082		1227	-407.306	-406.898	0.006797	37	-407.055			0		0	
	250	0.85	10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0			0		0	
	150	0.68	10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0			0		0	
	50	-0.08	10/16/2013		10/16/2013 12:23	-407.306	-406.898	0.0067975	33	-407.082					0		0			0		0	
106117	350	1.21	10/16/2013	1306	10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749	1306				0		0	-406.898	-406.491	0.006797	16	-406.79	
	250	2.19	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
	150	1.17	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
	50	0.35	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
106116	350	0.77	10/16/2013	1309	10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749	1309				0		0	-406.898	-406.491	0.006797	19	-406.769	
	250	1.11	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
	150	0.63	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
	50	0	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
106128	350	0.68	10/16/2013	1319	10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749		1319	-406.898	-406.491	0.006797	29	-406.701			0		0	
	250	0.85	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
	150	0.65	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
	50	0.05	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
106119	350	0.64	10/16/2013	1323	10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749		1323	-406.898	-406.491	0.006797	33	-406.674			0		0	
	250	0.88	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
	150	0.73	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
106112	350	0.79	10/16/2013	1300	10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749	1300				0		0	-406.898	-406.491	0.006797	10	-406.83	
	250	1	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
	150	0.72	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
106121	350	0.62	10/16/2013	1315	10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749		1315	-406.898	-406.491	0.006797	25	-406.728			0		0	
	250	0.62	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
	150	0.47	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
	50	-0.18	10/16/2013		10/16/2013 13:12	-406.898	-406.491	0.0067975	22	-406.749					0		0			0		0	
106117	350	1.01	10/16/2013	1350	10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545		1350	-406.491	-406.491	0	0	-406.491			0		0	
	250	2.21	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
	150	1.01	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
	50	0.26	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
106116	350	0.59	10/16/2013	1335	10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545	1335				0		0	-406.898	-406.491	0.006797	45	-406.592	
	250	0.96	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
	150	0.55	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
	50	-0.07	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
106128	350	0.56	10/16/2013	1344	10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545		1344	-406.898	-406.491	0.006797	54	-406.531			0		0	
	250	0.78	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
	150	0.57	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
	50	0.03	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
106119	350	0.56	10/16/2013	1348	10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545		1348	-406.898	-406.491	0.006797	58	-406.504			0		0	
	250	0.82	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
	150	0.66	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
106112	350	0.58	10/16/2013	1333	10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545	1333				0		0	-406.898	-406.491	0.006797	43	-406.606	
	250	0.8	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
	150	0.55	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
106121	350	0.49	10/16/2013	1339	10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545	1339				0		0	-406.898	-406.491	0.006797	49	-406.565	
	250	0.51	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
	150	0.37	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
	50	-0.2	10/16/2013		10/16/2013 13:42	-406.898	-406.491	0.0067975	52	-406.545					0		0			0		0	
106117	350	0.91	10/16/2013	1418	10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395		1418	-406.491	-406.219	0.004532	28	-406.364			0		0	
	250	2.11	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0		0			0		0	
	150	0.93	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0		0			0		0	
	50	0.22	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0		0			0		0	
106116	350	0.52	10/16/2013	1404	10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395	1404				0		0	-406.491	-406.219	0.004532	14	-406.427	
	250	0.92	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0		0			0		0	
	150	0.44	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0		0			0		0	
	50	-0.06	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0		0			0		0	
106128	350	0.47	10/16/2013	1413	10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395		1413	-406.491	-406.219	0.004532	23	-406.386			0		0	
	250	0.72	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0		0			0		0	
	150	0.51	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0		0			0		0	
	50	0.04	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0		0			0		0	
106119	350	0.48	10/16/2013	1403	10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395	1403				0		0	-406.491	-406.219	0.004532	13	-406.432	
	250	0.72	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0		0			0		0	
	150	0.47	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0		0			0		0	
106112	350	0.48	10/16/2013	1415	10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395		1415	-406.491	-406.219	0.004532	25	-406.377			0		0	
	250	0.76	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0		0			0		0	

	150	0.61	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0	0		0		0			
106121	350	0.4	10/16/2013	1408	10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395	1408				0	0	-406.491	-406.219	0.004532	0	18	-406.409	
	250	0.42	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0	0			0	0			
	150	0.26	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0	0			0	0			
	50	-0.2	10/16/2013		10/16/2013 14:11	-406.491	-406.219	0.004531667	21	-406.395					0	0			0	0			
106117	350	0.91	10/16/2013	1444	10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282		1444	-406.491	-406.219	0.004532	54	-406.246		0	0			
	250	2.14	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
	150	0.97	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
	50	0.28	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
106116	350	0.41	10/16/2013	1430	10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282	1430				0	0	-406.491	-406.219	0.004532	0	40	-406.309	
	250	0.81	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
	150	0.39	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
	50	-0.09	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
106128	350	0.42	10/16/2013	1438	10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282		1438	-406.491	-406.219	0.004532	48	-406.273		0	0			
	250	0.66	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
	150	0.47	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
	50	0.03	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
106119	350	0.38	10/16/2013	1427	10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282	1427				0	0	-406.491	-406.219	0.004532	0	37	-406.323	
	250	0.62	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
	150	0.4	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
106112	350	0.42	10/16/2013	1441	10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282		1441	-406.491	-406.219	0.004532	51	-406.259		0	0			
	250	0.71	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
	150	0.58	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
106121	350	0.32	10/16/2013	1433	10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282	1433				0	0	-406.491	-406.219	0.004532	0	43	-406.296	
	250	0.34	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
	150	0.2	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
	50	-0.2	10/16/2013		10/16/2013 14:36	-406.491	-406.219	0.004531667	46	-406.282					0	0			0	0			
106117	350	0.82	10/16/2013	1508	10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198		1508	-406.219	-406.083	0.002266	18	-406.178		0	0			
	250	1.98	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
	150	0.86	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
	50	0.23	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
106116	350	0.4	10/16/2013	1455	10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198	1455				0	0	-406.219	-406.083	0.002266	0	5	-406.207	
	250	0.83	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
	150	0.4	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
	50	-0.05	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
106128	350	0.38	10/16/2013	1503	10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198		1503	-406.219	-406.083	0.002266	13	-406.189		0	0			
	250	0.64	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
	150	0.47	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
	50	0.03	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
106119	350	0.38	10/16/2013	1506	10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198		1506	-406.219	-406.083	0.002266	16	-406.182		0	0			
	250	0.68	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
	150	0.52	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
106112	350	0.39	10/16/2013	1453	10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198	1453				0	0	-406.219	-406.083	0.002266	0	3	-406.212	
	250	0.66	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
	150	0.42	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
106121	350	0.29	10/16/2013	1450	10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198	1450				0	0	-406.219	-406.219	0	0	0	-406.219	
	250	0.31	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
	150	0.17	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
	50	-0.16	10/16/2013		10/16/2013 14:59	-406.219	-406.083	0.002265833	9	-406.198					0	0			0	0			
106117	350	0.8	10/16/2013	1537	10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128		1537	-406.219	-406.083	0.002266	47	-406.112		0	0			
	250	2.03	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0			0	0			
	150	0.88	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0			0	0			
	50	0.27	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0			0	0			
106116	350	0.34	10/16/2013	1524	10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128	1524				0	0	-406.219	-406.083	0.002266	0	34	-406.142	
	250	0.78	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0			0	0			
	150	0.36	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0			0	0			
	50	-0.05	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0			0	0			
106128	350	0.32	10/16/2013	1532	10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128		1532	-406.219	-406.083	0.002266	42	-406.123		0	0			
	250	0.58	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0			0	0			
	150	0.43	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0			0	0			
	50	0.03	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0			0	0			
106119	350	0.35	10/16/2013	1535	10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128		1535	-406.219	-406.083	0.002266	45	-406.117		0	0			
	250	0.65	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0			0	0			
	150	0.52	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0			0	0			
106112	350	0.33	10/16/2013	1522	10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128	1522				0	0	-406.219	-406.083	0.002266	0	32	-406.146	

	250	0.6	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0		0		0			
	150	0.39	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0		0		0			
106121	350	0.23	10/16/2013	1528	10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128	1528				0	0	-406.219	-406.083	0.002266	38	-406.132		
	250	0.26	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0			0		0		
	150	0.14	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0			0		0		
	50	-0.17	10/16/2013		10/16/2013 15:30	-406.219	-406.083	0.002265833	40	-406.128					0	0			0		0		
106117	350	0.07	10/16/2013	1605	10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046	1605				0	0	-406.083	-405.811	0.004532	15	-406.015		
	250	1.91	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
	150	0.8	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
	50	0.24	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
106116	350	0.29	10/16/2013	1552	10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046		1552	-406.083	-405.811	0.004532	2	-406.074		0		0		
	250	0.79	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
	150	0.33	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
	50	-0.05	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
106128	350	0.24	10/16/2013	1600	10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046	1600				0	0	-406.083	-405.811	0.004532	10	-406.037		
	250	0.54	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
	150	0.38	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
	50	0.02	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
106119	350	0.27	10/16/2013	1603	10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046	1603				0	0	-406.083	-405.811	0.004532	13	-406.024		
	250	0.58	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
	150	0.45	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
106112	350	0.25	10/16/2013	1550	10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046		1550	-406.083	-406.083	0	0	-406.083		0		0		
	250	0.51	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
	150	0.31	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
106121	350	0.15	10/16/2013	1555	10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046		1555	-406.083	-405.811	0.004532	5	-406.06		0		0		
	250	0.19	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
	150	0.06	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
	50	-0.17	10/16/2013		10/16/2013 15:58	-406.083	-405.811	0.004531667	8	-406.046					0	0			0		0		
106117	350	0.64	10/16/2013	1635	10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915		1635	-406.083	-405.811	0.004532	45	-405.879		0		0		
	250	1.68	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
	150	0.75	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
	50	0.23	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
106116	350	0.2	10/16/2013	1620	10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915	1620				0	0	-406.083	-405.811	0.004532	30	-405.947		
	250	0.65	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
	150	0.28	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
	50	-0.08	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
106128	350	0.22	10/16/2013	1629	10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915		1629	-406.083	-405.811	0.004532	39	-405.906		0		0		
	250	0.5	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
	150	0.34	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
	50	0.02	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
106119	350	0.22	10/16/2013	1632	10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915		1632	-406.083	-405.811	0.004532	42	-405.892		0		0		
	250	0.53	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
	150	0.4	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
106112	350	0.19	10/16/2013	1617	10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915	1617				0	0	-406.083	-405.811	0.004532	27	-405.96		
	250	0.48	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
	150	0.29	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
106121	350	0.08	10/16/2013	1625	10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915	1625				0	0	-406.083	-405.811	0.004532	35	-405.924		
	250	0.1	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
	150	0.02	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
	50	-0.16	10/16/2013		10/16/2013 16:27	-406.083	-405.811	0.004531667	37	-405.915					0	0			0		0		
106117	350	0.68	10/16/2013	1709	10/16/2013 17:01	-405.811	-405.811	0	11	-405.811		1709	-405.811	-405.811	0	19	-405.811		0		0		
	250	1.94	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
	150	0.8	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
	50	0.28	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
106116	350	0.21	10/16/2013	1655	10/16/2013 17:01	-405.811	-405.811	0	11	-405.811	1655				0	0	-405.811	-405.811	0	5	-405.811		
	250	0.67	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
	150	0.29	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
	50	-0.01	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
106128	350	0.2	10/16/2013	1703	10/16/2013 17:01	-405.811	-405.811	0	11	-405.811		1703	-405.811	-405.811	0	13	-405.811		0		0		
	250	0.49	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
	150	0.35	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
	50	0.05	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
106119	350	0.2	10/16/2013	1707	10/16/2013 17:01	-405.811	-405.811	0	11	-405.811		1707	-405.811	-405.811	0	17	-405.811		0		0		
	250	0.54	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
	150	0.42	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		

106112	350	0.18	10/16/2013	1653	10/16/2013 17:01	-405.811	-405.811	0	11	-405.811	1653				0	0	-405.811	-405.811	0	3	-405.811		
	250	0.48	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
	150	0.29	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
106121	350	0.07	10/16/2013	1658	10/16/2013 17:01	-405.811	-405.811	0	11	-405.811	1658				0	0	-405.811	-405.811	0	8	-405.811		
	250	0.1	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
	150	0.01	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
	50	-0.13	10/16/2013		10/16/2013 17:01	-405.811	-405.811	0	11	-405.811					0	0			0		0		
106117	350	0.71	10/16/2013	1738	10/16/2013 17:31	-405.811	-405.811	0	41	-405.811		1738	-405.811	-405.811	0	48 -405.811			0		0		
	250	1.99	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
	150	0.86	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
	50	0.31	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
106116	350	0.23	10/16/2013	1725	10/16/2013 17:31	-405.811	-405.811	0	41	-405.811	1725				0	0	-405.811	-405.811	0	35	-405.811		
	250	0.69	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
	150	0.32	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
	50	0.01	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
106128	350	0.26	10/16/2013	1733	10/16/2013 17:31	-405.811	-405.811	0	41	-405.811		1733	-405.811	-405.811	0	43 -405.811			0		0		
	250	0.58	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
	150	0.41	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
	50	0.14	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
106119	350	0.25	10/16/2013	1737	10/16/2013 17:31	-405.811	-405.811	0	41	-405.811		1737	-405.811	-405.811	0	47 -405.811			0		0		
	250	0.61	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
	150	0.48	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
106112	350	0.19	10/16/2013	1723	10/16/2013 17:31	-405.811	-405.811	0	41	-405.811	1723				0	0	-405.811	-405.811	0	33	-405.811		
	250	0.48	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
	150	0.32	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
106121	350	0.1	10/16/2013	1729	10/16/2013 17:31	-405.811	-405.811	0	41	-405.811	1729				0	0	-405.811	-405.811	0	39	-405.811		
	250	0.15	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
	150	0.07	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
	50	-0.07	10/16/2013		10/16/2013 17:31	-405.811	-405.811	0	41	-405.811					0	0			0		0		
106117	350	0.84	10/16/2013	1818	10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861		1818	-405.811	-406.083	-0.00453	26 -405.929			0		0		
	250	2.14	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
	150	0.98	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
	50	0.41	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
106116	350	0.33	10/16/2013	1801	10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861	1801				0	0	-405.811	-406.083	-0.00453	9	-405.852		
	250	0.8	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
	150	0.47	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
	50	0.1	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
106128	350	0.33	10/16/2013	1805	10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861		1805	-405.811	-406.083	-0.00453	13 -405.87			0		0		
	250	0.63	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
	150	0.52	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
	50	0.2	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
106119	350	0.31	10/16/2013	1754	10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861	1754				0	0	-405.811	-406.083	-0.00453	2	-405.82		
	250	0.05	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
	150	0.55	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
106112	350	0.28	10/16/2013	1758	10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861	1758				0	0	-405.811	-406.083	-0.00453	6	-405.838		
	250	0.6	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
	150	0.43	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
106121	350	0.2	10/16/2013	1812	10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861		1812	-405.811	-406.083	-0.00453	20 -405.901			0		0		
	250	0.26	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
	150	0.18	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
	50	0	10/16/2013		10/16/2013 18:03	-405.811	-406.083	-0.00453167	11	-405.861					0	0			0		0		
106117	350	0.96	10/16/2013	1844	10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006		1844	-405.811	-406.083	-0.00453	52 -406.046			0		0		
	250	2.28	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0	0			0		0		
	150	1.14	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0	0			0		0		
	50	0.51	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0	0			0		0		
106116	350	0.4	10/16/2013	1833	10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006	1833				0	0	-405.811	-406.083	-0.00453	41	-405.997		
	250	0.9	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0	0			0		0		
	150	0.56	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0	0			0		0		
	50	0.16	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0	0			0		0		
106128	350	0.45	10/16/2013	1841	10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006		1841	-405.811	-406.083	-0.00453	49 -406.033			0		0		
	250	0.79	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0	0			0		0		
	150	0.66	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0	0			0		0		
	50	0.31	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0	0			0		0		
106119	350	0.39	10/16/2013	1826	10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006	1826				0	0	-405.811	-406.083	-0.00453	34	-405.965		
	250	0.75	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0	0			0		0		

	150	0.64	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0		0				0		0
106112	350	0.36	10/16/2013	1829	10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006	1829				0		0	-405.811	-406.083	-0.00453		37	-405.978
	250	0.68	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0		0				0		0
	150	0.54	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0		0				0		0
106121	350	0.28	10/16/2013	1837	10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006		1837	-405.811	-406.083	-0.00453	45	-406.015				0		0
	250	0.35	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0		0				0		0
	150	0.27	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0		0				0		0
	50	0.05	10/16/2013		10/16/2013 18:35	-405.811	-406.083	-0.00453167	43	-406.006					0		0				0		0

Well ID	Depth	Minimum distance to extraction well	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106117	350			1056	1.06	10/16/2013 10:48	-407.719	-407.673	0	1.103504	0.0813288			
	250				1.03	10/16/2013 10:48	-407.719	0	0					
	150				0.9	10/16/2013 10:48	-407.719	0	0					
	50				0.33	10/16/2013 10:48	-407.719	0	0					
106116	350			1046	1.1	10/16/2013 10:48	-407.719	0	-407.723	1.09565	0.0734744			
	250				1.08	10/16/2013 10:48	-407.719	0	0					
	150				0.96	10/16/2013 10:48	-407.719	0	0					
	50				0.25	10/16/2013 10:48	-407.719	0	0					
106128	350			1053	1.1	10/16/2013 10:48	-407.719	-407.694	0	1.123927	0.101752			
	250				1.06	10/16/2013 10:48	-407.719	0	0					
	150				0.94	10/16/2013 10:48	-407.719	0	0					
	50				0.34	10/16/2013 10:48	-407.719	0	0					
106119	350			1038	1.08	10/16/2013 10:48	-407.719	0	-407.741	1.058248	0.0360728			
	250				1.07	10/16/2013 10:48	-407.719	0	0					
	150				1.02	10/16/2013 10:48	-407.719	0	0					
106112	350			1042	1.1	10/16/2013 10:48	-407.719	0	-407.732	1.086949	0.0647736			
	250				1.08	10/16/2013 10:48	-407.719	0	0					
	150				0.95	10/16/2013 10:48	-407.719	0	0					
106121	350			1049	1.02	10/16/2013 10:48	-407.719	-407.716	0	1.022175	0			
106121	250				1.13	10/16/2013 10:48	-407.719	0	0					
106121	150				0.99	10/16/2013 10:48	-407.719	0	0					
106121	50				0.12	10/16/2013 10:48	-407.719	0	0					
106117	350			1139	1.48	10/16/2013 11:50	-407.306	0	-407.381	1.408218	0.4016928			
	250				2.52	10/16/2013 11:50	-407.306	0	0					
	150				1.34	10/16/2013 11:50	-407.306	0	0					
	50				0.47	10/16/2013 11:50	-407.306	0	0					
106116	350			1148	1.04	10/16/2013 11:50	-407.306	0	-407.32	1.026949	0.0204232			
	250				1.3	10/16/2013 11:50	-407.306	0	0					
	150				0.88	10/16/2013 11:50	-407.306	0	0					
	50				0.15	10/16/2013 11:50	-407.306	0	0					
106128	350			1154	1.05	10/16/2013 11:50	-407.306	-407.279	0	1.076102	0.0695768			
	250				1.15	10/16/2013 11:50	-407.306	0	0					
	150				0.95	10/16/2013 11:50	-407.306	0	0					
	50				0.27	10/16/2013 11:50	-407.306	0	0					
106119	350			1156	1.04	10/16/2013 11:50	-407.306	-407.265	0	1.079154	0.072628			
	250				1.21	10/16/2013 11:50	-407.306	0	0					
	150				1.06	10/16/2013 11:50	-407.306	0	0					
106112	350			1142	1.01	10/16/2013 11:50	-407.306	0	-407.361	0.957795	-0.0487304			
	250				1.13	10/16/2013 11:50	-407.306	0	0					
	150				0.88	10/16/2013 11:50	-407.306	0	0					
106121	350			1151	1	10/16/2013 11:50	-407.306	-407.299	0	1.006526	0			
106121	250				1.01	10/16/2013 11:50	-407.306	0	0					
106121	150				0.85	10/16/2013 11:50	-407.306	0	0					
106121	50				0	10/16/2013 11:50	-407.306	0	0					
106117	350			1205	1.42	10/16/2013 12:23	-407.082	0	-407.204	1.302539	0.4564368			

	250		2.56	10/16/2013 12:23	-407.082	0	0			
	150		1.31	10/16/2013 12:23	-407.082	0	0			
	50		0.41	10/16/2013 12:23	-407.082	0	0			
106116	350	1218	0.9	10/16/2013 12:23	-407.082	0	-407.116	0.867372	0.0212696	
	250		1.23	10/16/2013 12:23	-407.082	0	0			
	150		0.7	10/16/2013 12:23	-407.082	0	0			
	50		0.06	10/16/2013 12:23	-407.082	0	0			
106128	350	1231	0.91	10/16/2013 12:23	-407.082	-407.028	0	0.962205	0.1161024	
	250		1.07	10/16/2013 12:23	-407.082	0	0			
	150		0.85	10/16/2013 12:23	-407.082	0	0			
	50		0.19	10/16/2013 12:23	-407.082	0	0			
106119	350	1235	0.87	10/16/2013 12:23	-407.082	-407	0	0.948307	0.1022048	
	250		1.08	10/16/2013 12:23	-407.082	0	0			
	150		0.92	10/16/2013 12:23	-407.082	0	0			
106112	350	1209	0.91	10/16/2013 12:23	-407.082	0	-407.177	0.818642	-0.0274608	
	250		1.08	10/16/2013 12:23	-407.082	0	0			
	150		0.81	10/16/2013 12:23	-407.082	0	0			
106121	350	1227	0.82	10/16/2013 12:23	-407.082	-407.055	0	0.846102	0	
106121	250		0.85	10/16/2013 12:23	-407.082	0	0			
106121	150		0.68	10/16/2013 12:23	-407.082	0	0			
106121	50		-0.08	10/16/2013 12:23	-407.082	0	0			
106117	350	1306	1.21	10/16/2013 13:12	-406.749	0	-406.79	1.170846	0.5312696	
	250		2.19	10/16/2013 13:12	-406.749	0	0			
	150		1.17	10/16/2013 13:12	-406.749	0	0			
	50		0.35	10/16/2013 13:12	-406.749	0	0			
106116	350	1309	0.77	10/16/2013 13:12	-406.749	0	-406.769	0.750423	0.1108464	
	250		1.11	10/16/2013 13:12	-406.749	0	0			
	150		0.63	10/16/2013 13:12	-406.749	0	0			
	50		0	10/16/2013 13:12	-406.749	0	0			
106128	350	1319	0.68	10/16/2013 13:12	-406.749	-406.701	0	0.725679	0.0861024	
	250		0.85	10/16/2013 13:12	-406.749	0	0			
	150		0.65	10/16/2013 13:12	-406.749	0	0			
	50		0.05	10/16/2013 13:12	-406.749	0	0			
106119	350	1323	0.64	10/16/2013 13:12	-406.749	-406.674	0	0.711782	0.0722048	
	250		0.88	10/16/2013 13:12	-406.749	0	0			
	150		0.73	10/16/2013 13:12	-406.749	0	0			
106112	350	1300	0.79	10/16/2013 13:12	-406.749	0	-406.83	0.711693	0.072116	
	250		1	10/16/2013 13:12	-406.749	0	0			
	150		0.72	10/16/2013 13:12	-406.749	0	0			
106121	350	1315	0.62	10/16/2013 13:12	-406.749	-406.728	0	0.639577	0	
106121	250		0.62	10/16/2013 13:12	-406.749	0	0			
106121	150		0.47	10/16/2013 13:12	-406.749	0	0			
106121	50		-0.18	10/16/2013 13:12	-406.749	0	0			
106117	350	1350	1.01	10/16/2013 13:42	-406.545	-406.491	0	1.062205	0.5917816	
	250		2.21	10/16/2013 13:42	-406.545	0	0			
	150		1.01	10/16/2013 13:42	-406.545	0	0			
	50		0.26	10/16/2013 13:42	-406.545	0	0			

106116	350	1335	0.59	10/16/2013 13:42	-406.545	0	-406.592	0.544321	0.0738976
	250		0.96	10/16/2013 13:42	-406.545	0	0		
	150		0.55	10/16/2013 13:42	-406.545	0	0		
	50		-0.07	10/16/2013 13:42	-406.545	0	0		
106128	350	1344	0.56	10/16/2013 13:42	-406.545	-406.531	0	0.573051	0.102628
	250		0.78	10/16/2013 13:42	-406.545	0	0		
	150		0.57	10/16/2013 13:42	-406.545	0	0		
	50		0.03	10/16/2013 13:42	-406.545	0	0		
106119	350	1348	0.56	10/16/2013 13:42	-406.545	-406.504	0	0.599154	0.1287304
	250		0.82	10/16/2013 13:42	-406.545	0	0		
	150		0.66	10/16/2013 13:42	-406.545	0	0		
106112	350	1333	0.58	10/16/2013 13:42	-406.545	0	-406.606	0.52127	0.0508464
	250		0.8	10/16/2013 13:42	-406.545	0	0		
	150		0.55	10/16/2013 13:42	-406.545	0	0		
106121	350	1339	0.49	10/16/2013 13:42	-406.545	0	-406.565	0.470423	0
106121	250		0.51	10/16/2013 13:42	-406.545	0	0		
106121	150		0.37	10/16/2013 13:42	-406.545	0	0		
106121	50		-0.2	10/16/2013 13:42	-406.545	0	0		
106117	350	1418	0.91	10/16/2013 14:11	-406.395	-406.364	0	0.940453	0.553504
	250		2.11	10/16/2013 14:11	-406.395	0	0		
	150		0.93	10/16/2013 14:11	-406.395	0	0		
	50		0.22	10/16/2013 14:11	-406.395	0	0		
106116	350	1404	0.52	10/16/2013 14:11	-406.395	0	-406.427	0.489547	0.1025984
	250		0.92	10/16/2013 14:11	-406.395	0	0		
	150		0.44	10/16/2013 14:11	-406.395	0	0		
	50		-0.06	10/16/2013 14:11	-406.395	0	0		
106128	350	1413	0.47	10/16/2013 14:11	-406.395	-406.386	0	0.478701	0.091752
	250		0.72	10/16/2013 14:11	-406.395	0	0		
	150		0.51	10/16/2013 14:11	-406.395	0	0		
	50		0.04	10/16/2013 14:11	-406.395	0	0		
106119	350	1403	0.48	10/16/2013 14:11	-406.395	0	-406.432	0.445197	0.058248
	250		0.72	10/16/2013 14:11	-406.395	0	0		
	150		0.47	10/16/2013 14:11	-406.395	0	0		
106112	350	1415	0.48	10/16/2013 14:11	-406.395	-406.377	0	0.497402	0.1104528
	250		0.76	10/16/2013 14:11	-406.395	0	0		
	150		0.61	10/16/2013 14:11	-406.395	0	0		
106121	350	1408	0.4	10/16/2013 14:11	-406.395	0	-406.409	0.386949	0
106121	250		0.42	10/16/2013 14:11	-406.395	0	0		
106121	150		0.26	10/16/2013 14:11	-406.395	0	0		
106121	50		-0.2	10/16/2013 14:11	-406.395	0	0		
106117	350	1444	0.91	10/16/2013 14:36	-406.282	-406.246	0	0.944803	0.6378544
	250		2.14	10/16/2013 14:36	-406.282	0	0		
	150		0.97	10/16/2013 14:36	-406.282	0	0		
	50		0.28	10/16/2013 14:36	-406.282	0	0		
106116	350	1430	0.41	10/16/2013 14:36	-406.282	0	-406.309	0.383898	0.0769488
	250		0.81	10/16/2013 14:36	-406.282	0	0		
	150		0.39	10/16/2013 14:36	-406.282	0	0		

	50		-0.09	10/16/2013 14:36	-406.282	0	0			
106128	350	1438	0.42	10/16/2013 14:36	-406.282	-406.273	0	0.428701	0.121752	
	250		0.66	10/16/2013 14:36	-406.282	0	0			
	150		0.47	10/16/2013 14:36	-406.282	0	0			
	50		0.03	10/16/2013 14:36	-406.282	0	0			
106119	350	1427	0.38	10/16/2013 14:36	-406.282	0	-406.323	0.340846	0.0338976	
	250		0.62	10/16/2013 14:36	-406.282	0	0			
	150		0.4	10/16/2013 14:36	-406.282	0	0			
106112	350	1441	0.42	10/16/2013 14:36	-406.282	-406.259	0	0.441752	0.1348032	
	250		0.71	10/16/2013 14:36	-406.282	0	0			
	150		0.58	10/16/2013 14:36	-406.282	0	0			
106121	350	1433	0.32	10/16/2013 14:36	-406.282	0	-406.296	0.306949	0	
106121	250		0.34	10/16/2013 14:36	-406.282	0	0			
106121	150		0.2	10/16/2013 14:36	-406.282	0	0			
106121	50		-0.2	10/16/2013 14:36	-406.282	0	0			
106117	350	1508	0.82	10/16/2013 14:59	-406.198	-406.178	0	0.839577	0.5691536	
	250		1.98	10/16/2013 14:59	-406.198	0	0			
	150		0.86	10/16/2013 14:59	-406.198	0	0			
	50		0.23	10/16/2013 14:59	-406.198	0	0			
106116	350	1455	0.4	10/16/2013 14:59	-406.198	0	-406.207	0.391299	0.120876	
	250		0.83	10/16/2013 14:59	-406.198	0	0			
	150		0.4	10/16/2013 14:59	-406.198	0	0			
	50		-0.05	10/16/2013 14:59	-406.198	0	0			
106128	350	1503	0.38	10/16/2013 14:59	-406.198	-406.189	0	0.388701	0.1182776	
	250		0.64	10/16/2013 14:59	-406.198	0	0			
	150		0.47	10/16/2013 14:59	-406.198	0	0			
	50		0.03	10/16/2013 14:59	-406.198	0	0			
106119	350	1506	0.38	10/16/2013 14:59	-406.198	-406.182	0	0.395226	0.1248032	
	250		0.68	10/16/2013 14:59	-406.198	0	0			
	150		0.52	10/16/2013 14:59	-406.198	0	0			
106112	350	1453	0.39	10/16/2013 14:59	-406.198	0	-406.212	0.376949	0.1065256	
	250		0.66	10/16/2013 14:59	-406.198	0	0			
	150		0.42	10/16/2013 14:59	-406.198	0	0			
106121	350	1450	0.29	10/16/2013 14:59	-406.198	0	-406.219	0.270423	0	
106121	250		0.31	10/16/2013 14:59	-406.198	0	0			
106121	150		0.17	10/16/2013 14:59	-406.198	0	0			
106121	50		-0.16	10/16/2013 14:59	-406.198	0	0			
106117	350	1537	0.8	10/16/2013 15:30	-406.128	-406.112	0	0.815226	0.5895768	
	250		2.03	10/16/2013 15:30	-406.128	0	0			
	150		0.88	10/16/2013 15:30	-406.128	0	0			
	50		0.27	10/16/2013 15:30	-406.128	0	0			
106116	350	1524	0.34	10/16/2013 15:30	-406.128	0	-406.142	0.326949	0.1012992	
	250		0.78	10/16/2013 15:30	-406.128	0	0			
	150		0.36	10/16/2013 15:30	-406.128	0	0			
	50		-0.05	10/16/2013 15:30	-406.128	0	0			
106128	350	1532	0.32	10/16/2013 15:30	-406.128	-406.123	0	0.32435	0.0987008	
	250		0.58	10/16/2013 15:30	-406.128	0	0			

	150		0.43	10/16/2013 15:30	-406.128	0	0			
	50		0.03	10/16/2013 15:30	-406.128	0	0			
106119	350	1535	0.35	10/16/2013 15:30	-406.128	-406.117	0	0.360876	0.1352264	
	250		0.65	10/16/2013 15:30	-406.128	0	0			
	150		0.52	10/16/2013 15:30	-406.128	0	0			
106112	350	1522	0.33	10/16/2013 15:30	-406.128	0	-406.146	0.312598	0.0869488	
	250		0.6	10/16/2013 15:30	-406.128	0	0			
	150		0.39	10/16/2013 15:30	-406.128	0	0			
106121	350	1528	0.23	10/16/2013 15:30	-406.128	0	-406.132	0.22565	0	
106121	250		0.26	10/16/2013 15:30	-406.128	0	0			
106121	150		0.14	10/16/2013 15:30	-406.128	0	0			
106121	50		-0.17	10/16/2013 15:30	-406.128	0	0			
106117	350	1605	0.07	10/16/2013 15:58	-406.046	0	-406.015	0.100453	-0.036496	
	250		1.91	10/16/2013 15:58	-406.046	0	0			
	150		0.8	10/16/2013 15:58	-406.046	0	0			
	50		0.24	10/16/2013 15:58	-406.046	0	0			
106116	350	1552	0.29	10/16/2013 15:58	-406.046	-406.074	0	0.263898	0.1269488	
	250		0.79	10/16/2013 15:58	-406.046	0	0			
	150		0.33	10/16/2013 15:58	-406.046	0	0			
	50		-0.05	10/16/2013 15:58	-406.046	0	0			
106128	350	1600	0.24	10/16/2013 15:58	-406.046	0	-406.037	0.248701	0.111752	
	250		0.54	10/16/2013 15:58	-406.046	0	0			
	150		0.38	10/16/2013 15:58	-406.046	0	0			
	50		0.02	10/16/2013 15:58	-406.046	0	0			
106119	350	1603	0.27	10/16/2013 15:58	-406.046	0	-406.024	0.291752	0.1548032	
	250		0.58	10/16/2013 15:58	-406.046	0	0			
	150		0.45	10/16/2013 15:58	-406.046	0	0			
106112	350	1550	0.25	10/16/2013 15:58	-406.046	-406.083	0	0.215197	0.078248	
	250		0.51	10/16/2013 15:58	-406.046	0	0			
	150		0.31	10/16/2013 15:58	-406.046	0	0			
106121	350	1555	0.15	10/16/2013 15:58	-406.046	-406.06	0	0.136949	0	
106121	250		0.19	10/16/2013 15:58	-406.046	0	0			
106121	150		0.06	10/16/2013 15:58	-406.046	0	0			
106121	50		-0.17	10/16/2013 15:58	-406.046	0	0			
106117	350	1635	0.64	10/16/2013 16:27	-405.915	-405.879	0	0.674803	0.603504	
	250		1.68	10/16/2013 16:27	-405.915	0	0			
	150		0.75	10/16/2013 16:27	-405.915	0	0			
	50		0.23	10/16/2013 16:27	-405.915	0	0			
106116	350	1620	0.2	10/16/2013 16:27	-405.915	0	-405.947	0.169547	0.098248	
	250		0.65	10/16/2013 16:27	-405.915	0	0			
	150		0.28	10/16/2013 16:27	-405.915	0	0			
	50		-0.08	10/16/2013 16:27	-405.915	0	0			
106128	350	1629	0.22	10/16/2013 16:27	-405.915	-405.906	0	0.228701	0.1574016	
	250		0.5	10/16/2013 16:27	-405.915	0	0			
	150		0.34	10/16/2013 16:27	-405.915	0	0			
	50		0.02	10/16/2013 16:27	-405.915	0	0			
106119	350	1632	0.22	10/16/2013 16:27	-405.915	-405.892	0	0.241752	0.1704528	

	250		0.53	10/16/2013 16:27	-405.915	0	0			
	150		0.4	10/16/2013 16:27	-405.915	0	0			
106112	350	1617	0.19	10/16/2013 16:27	-405.915	0	-405.96	0.146496	0.0751968	
	250		0.48	10/16/2013 16:27	-405.915	0	0			
	150		0.29	10/16/2013 16:27	-405.915	0	0			
106121	350	1625	0.08	10/16/2013 16:27	-405.915	0	-405.924	0.071299	0	
106121	250		0.1	10/16/2013 16:27	-405.915	0	0			
106121	150		0.02	10/16/2013 16:27	-405.915	0	0			
106121	50		-0.16	10/16/2013 16:27	-405.915	0	0			
106117	350	1709	0.68	10/16/2013 17:01	-405.811	-405.811	0	0.68	0.61	
	250		1.94	10/16/2013 17:01	-405.811	0	0			
	150		0.8	10/16/2013 17:01	-405.811	0	0			
	50		0.28	10/16/2013 17:01	-405.811	0	0			
106116	350	1655	0.21	10/16/2013 17:01	-405.811	0	-405.811	0.21	0.14	
	250		0.67	10/16/2013 17:01	-405.811	0	0			
	150		0.29	10/16/2013 17:01	-405.811	0	0			
	50		-0.01	10/16/2013 17:01	-405.811	0	0			
106128	350	1703	0.2	10/16/2013 17:01	-405.811	-405.811	0	0.2	0.13	
	250		0.49	10/16/2013 17:01	-405.811	0	0			
	150		0.35	10/16/2013 17:01	-405.811	0	0			
	50		0.05	10/16/2013 17:01	-405.811	0	0			
106119	350	1707	0.2	10/16/2013 17:01	-405.811	-405.811	0	0.2	0.13	
	250		0.54	10/16/2013 17:01	-405.811	0	0			
	150		0.42	10/16/2013 17:01	-405.811	0	0			
106112	350	1653	0.18	10/16/2013 17:01	-405.811	0	-405.811	0.18	0.11	
	250		0.48	10/16/2013 17:01	-405.811	0	0			
	150		0.29	10/16/2013 17:01	-405.811	0	0			
106121	350	1658	0.07	10/16/2013 17:01	-405.811	0	-405.811	0.07	0	
106121	250		0.1	10/16/2013 17:01	-405.811	0	0			
106121	150		0.01	10/16/2013 17:01	-405.811	0	0			
106121	50		-0.13	10/16/2013 17:01	-405.811	0	0			
106117	350	1738	0.71	10/16/2013 17:31	-405.811	-405.811	0	0.71	0.61	
	250		1.99	10/16/2013 17:31	-405.811	0	0			
	150		0.86	10/16/2013 17:31	-405.811	0	0			
	50		0.31	10/16/2013 17:31	-405.811	0	0			
106116	350	1725	0.23	10/16/2013 17:31	-405.811	0	-405.811	0.23	0.13	
	250		0.69	10/16/2013 17:31	-405.811	0	0			
	150		0.32	10/16/2013 17:31	-405.811	0	0			
	50		0.01	10/16/2013 17:31	-405.811	0	0			
106128	350	1733	0.26	10/16/2013 17:31	-405.811	-405.811	0	0.26	0.16	
	250		0.58	10/16/2013 17:31	-405.811	0	0			
	150		0.41	10/16/2013 17:31	-405.811	0	0			
	50		0.14	10/16/2013 17:31	-405.811	0	0			
106119	350	1737	0.25	10/16/2013 17:31	-405.811	-405.811	0	0.25	0.15	
	250		0.61	10/16/2013 17:31	-405.811	0	0			
	150		0.48	10/16/2013 17:31	-405.811	0	0			
106112	350	1723	0.19	10/16/2013 17:31	-405.811	0	-405.811	0.19	0.09	

	250		0.48	10/16/2013 17:31	-405.811	0	0		
	150		0.32	10/16/2013 17:31	-405.811	0	0		
106121	350	1729	0.1	10/16/2013 17:31	-405.811	0	-405.811	0.1	0
106121	250		0.15	10/16/2013 17:31	-405.811	0	0		
106121	150		0.07	10/16/2013 17:31	-405.811	0	0		
106121	50		-0.07	10/16/2013 17:31	-405.811	0	0		
106117	350	1818	0.84	10/16/2013 18:03	-405.861	-405.929	0	0.774744	0.6138976
	250		2.14	10/16/2013 18:03	-405.861	0	0		
	150		0.98	10/16/2013 18:03	-405.861	0	0		
	50		0.41	10/16/2013 18:03	-405.861	0	0		
106116	350	1801	0.33	10/16/2013 18:03	-405.861	0	-405.852	0.338701	0.1778544
	250		0.8	10/16/2013 18:03	-405.861	0	0		
	150		0.47	10/16/2013 18:03	-405.861	0	0		
	50		0.1	10/16/2013 18:03	-405.861	0	0		
106128	350	1805	0.33	10/16/2013 18:03	-405.861	-405.87	0	0.321299	0.1604528
	250		0.63	10/16/2013 18:03	-405.861	0	0		
	150		0.52	10/16/2013 18:03	-405.861	0	0		
	50		0.2	10/16/2013 18:03	-405.861	0	0		
106119	350	1754	0.31	10/16/2013 18:03	-405.861	0	-405.82	0.349154	0.1883072
	250		0.05	10/16/2013 18:03	-405.861	0	0		
	150		0.55	10/16/2013 18:03	-405.861	0	0		
106112	350	1758	0.28	10/16/2013 18:03	-405.861	0	-405.838	0.301752	0.1409056
	250		0.6	10/16/2013 18:03	-405.861	0	0		
	150		0.43	10/16/2013 18:03	-405.861	0	0		
106121	350	1812	0.2	10/16/2013 18:03	-405.861	-405.901	0	0.160846	0
106121	250		0.26	10/16/2013 18:03	-405.861	0	0		
106121	150		0.18	10/16/2013 18:03	-405.861	0	0		
106121	50		0	10/16/2013 18:03	-405.861	0	0		
106117	350	1844	0.96	10/16/2013 18:35	-406.006	-406.046	0	0.920846	0.6495472
	250		2.28	10/16/2013 18:35	-406.006	0	0		
	150		1.14	10/16/2013 18:35	-406.006	0	0		
	50		0.51	10/16/2013 18:35	-406.006	0	0		
106116	350	1833	0.4	10/16/2013 18:35	-406.006	0	-405.997	0.408701	0.1374016
	250		0.9	10/16/2013 18:35	-406.006	0	0		
	150		0.56	10/16/2013 18:35	-406.006	0	0		
	50		0.16	10/16/2013 18:35	-406.006	0	0		
106128	350	1841	0.45	10/16/2013 18:35	-406.006	-406.033	0	0.423898	0.1525984
	250		0.79	10/16/2013 18:35	-406.006	0	0		
	150		0.66	10/16/2013 18:35	-406.006	0	0		
	50		0.31	10/16/2013 18:35	-406.006	0	0		
106119	350	1826	0.39	10/16/2013 18:35	-406.006	0	-405.965	0.429154	0.1578544
	250		0.75	10/16/2013 18:35	-406.006	0	0		
	150		0.64	10/16/2013 18:35	-406.006	0	0		
106112	350	1829	0.36	10/16/2013 18:35	-406.006	0	-405.978	0.386102	0.1148032
	250		0.68	10/16/2013 18:35	-406.006	0	0		
	150		0.54	10/16/2013 18:35	-406.006	0	0		
106121	350	1837	0.28	10/16/2013 18:35	-406.006	-406.015	0	0.271299	0

106121	250	0.35	10/16/2013 18:35	-406.006	0	0	
106121	150	0.27	10/16/2013 18:35	-406.006	0	0	
106121	50	0.05	10/16/2013 18:35	-406.006	0	0	

Well ID	Depth	Minimum distance to extraction well	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106117	350			1056	1.06	10/16/2013 10:48	-407.719	-407.673	0	1.055377	-0.075891533			
	250				1.03	10/16/2013 10:48	-407.719	0	0					
	150				0.9	10/16/2013 10:48	-407.719	0	0					
	50				0.33	10/16/2013 10:48	-407.719	0	0					
106116	350			1046	1.1	10/16/2013 10:48	-407.719	0	-407.723	1.077462	-0.0538066			
	250				1.08	10/16/2013 10:48	-407.719	0	0					
	150				0.96	10/16/2013 10:48	-407.719	0	0					
	50				0.25	10/16/2013 10:48	-407.719	0	0					
106128	350			1053	1.1	10/16/2013 10:48	-407.719	-407.694	0	1.073958	-0.057311333			
	250				1.06	10/16/2013 10:48	-407.719	0	0					
	150				0.94	10/16/2013 10:48	-407.719	0	0					
	50				0.34	10/16/2013 10:48	-407.719	0	0					
106119	350			1038	1.08	10/16/2013 10:48	-407.719	0	-407.741	1.057311	-0.073957533			
	250				1.07	10/16/2013 10:48	-407.719	0	0					
	150				1.02	10/16/2013 10:48	-407.719	0	0					
106112	350			1042	1.1	10/16/2013 10:48	-407.719	0	-407.732	1.072387	-0.058882067			
	250				1.08	10/16/2013 10:48	-407.719	0	0					
	150				0.95	10/16/2013 10:48	-407.719	0	0					
106121	350			1049	1.02	10/16/2013 10:48	-407.719	-407.716	0	1.131269	0			
	250				1.13	10/16/2013 10:48	-407.719	0	0					
	150				0.99	10/16/2013 10:48	-407.719	0	0					
	50				0.12	10/16/2013 10:48	-407.719	0	0					
106117	350			1139	1.48	10/16/2013 11:50	-407.306	0	-407.381	2.478127	1.4643208			
	250				2.52	10/16/2013 11:50	-407.306	0	0					
	150				1.34	10/16/2013 11:50	-407.306	0	0					
	50				0.47	10/16/2013 11:50	-407.306	0	0					
106116	350			1148	1.04	10/16/2013 11:50	-407.306	0	-407.32	1.292387	0.2785802			
	250				1.3	10/16/2013 11:50	-407.306	0	0					
	150				0.88	10/16/2013 11:50	-407.306	0	0					
	50				0.15	10/16/2013 11:50	-407.306	0	0					
106128	350			1154	1.05	10/16/2013 11:50	-407.306	-407.279	0	1.165226	0.1514198			
	250				1.15	10/16/2013 11:50	-407.306	0	0					
	150				0.95	10/16/2013 11:50	-407.306	0	0					
	50				0.27	10/16/2013 11:50	-407.306	0	0					
106119	350			1156	1.04	10/16/2013 11:50	-407.306	-407.265	0	1.23284	0.219033			
	250				1.21	10/16/2013 11:50	-407.306	0	0					
	150				1.06	10/16/2013 11:50	-407.306	0	0					
106112	350			1142	1.01	10/16/2013 11:50	-407.306	0	-407.361	1.099547	0.0857406			
	250				1.13	10/16/2013 11:50	-407.306	0	0					
	150				0.88	10/16/2013 11:50	-407.306	0	0					
106121	350			1151	1	10/16/2013 11:50	-407.306	-407.299	0	1.013807	0			
	250				1.01	10/16/2013 11:50	-407.306	0	0					
	150				0.85	10/16/2013 11:50	-407.306	0	0					
	50				0	10/16/2013 11:50	-407.306	0	0					

106117	350	1205	1.42	10/16/2013 12:23	-407.082	0	-407.204	2.491481	1.6262548	
	250		2.56	10/16/2013 12:23	-407.082	0	0			
	150		1.31	10/16/2013 12:23	-407.082	0	0			
	50		0.41	10/16/2013 12:23	-407.082	0	0			
106116	350	1218	0.9	10/16/2013 12:23	-407.082	0	-407.116	1.210967	0.3457406	
	250		1.23	10/16/2013 12:23	-407.082	0	0			
	150		0.7	10/16/2013 12:23	-407.082	0	0			
	50		0.06	10/16/2013 12:23	-407.082	0	0			
106128	350	1231	0.91	10/16/2013 12:23	-407.082	-407.028	0	1.100453	0.2352264	
	250		1.07	10/16/2013 12:23	-407.082	0	0			
	150		0.85	10/16/2013 12:23	-407.082	0	0			
	50		0.19	10/16/2013 12:23	-407.082	0	0			
106119	350	1235	0.87	10/16/2013 12:23	-407.082	-407	0	1.125679	0.2604528	
	250		1.08	10/16/2013 12:23	-407.082	0	0			
	150		0.92	10/16/2013 12:23	-407.082	0	0			
106112	350	1209	0.91	10/16/2013 12:23	-407.082	0	-407.177	1.026708	0.1614812	
	250		1.08	10/16/2013 12:23	-407.082	0	0			
	150		0.81	10/16/2013 12:23	-407.082	0	0			
106121	350	1227	0.82	10/16/2013 12:23	-407.082	-407.055	0	0.865226	0	
	250		0.85	10/16/2013 12:23	-407.082	0	0			
	150		0.68	10/16/2013 12:23	-407.082	0	0			
	50		-0.08	10/16/2013 12:23	-407.082	0	0			
106117	350	1306	1.21	10/16/2013 13:12	-406.749	0	-406.79	2.16716	1.5357406	
	250		2.19	10/16/2013 13:12	-406.749	0	0			
	150		1.17	10/16/2013 13:12	-406.749	0	0			
	50		0.35	10/16/2013 13:12	-406.749	0	0			
106116	350	1309	0.77	10/16/2013 13:12	-406.749	0	-406.769	1.09858	0.4671604	
	250		1.11	10/16/2013 13:12	-406.749	0	0			
	150		0.63	10/16/2013 13:12	-406.749	0	0			
	50		0	10/16/2013 13:12	-406.749	0	0			
106128	350	1319	0.68	10/16/2013 13:12	-406.749	-406.701	0	0.876646	0.2452264	
	250		0.85	10/16/2013 13:12	-406.749	0	0			
	150		0.65	10/16/2013 13:12	-406.749	0	0			
	50		0.05	10/16/2013 13:12	-406.749	0	0			
106119	350	1323	0.64	10/16/2013 13:12	-406.749	-406.674	0	0.921873	0.2904528	
	250		0.88	10/16/2013 13:12	-406.749	0	0			
	150		0.73	10/16/2013 13:12	-406.749	0	0			
106112	350	1300	0.79	10/16/2013 13:12	-406.749	0	-406.83	0.954321	0.322901	
	250		1	10/16/2013 13:12	-406.749	0	0			
	150		0.72	10/16/2013 13:12	-406.749	0	0			
106121	350	1315	0.62	10/16/2013 13:12	-406.749	-406.728	0	0.63142	0	
	250		0.62	10/16/2013 13:12	-406.749	0	0			
	150		0.47	10/16/2013 13:12	-406.749	0	0			
	50		-0.18	10/16/2013 13:12	-406.749	0	0			
106117	350	1350	1.01	10/16/2013 13:42	-406.545	-406.491	0	2.240453	1.7418726	
	250		2.21	10/16/2013 13:42	-406.545	0	0			
	150		1.01	10/16/2013 13:42	-406.545	0	0			

	50		0.26	10/16/2013 13:42	-406.545	0	0			
106116	350	1335	0.59	10/16/2013 13:42	-406.545	0	-406.592	0.933354	0.4347736	
	250		0.96	10/16/2013 13:42	-406.545	0	0			
	150		0.55	10/16/2013 13:42	-406.545	0	0			
	50		-0.07	10/16/2013 13:42	-406.545	0	0			
106128	350	1344	0.56	10/16/2013 13:42	-406.545	-406.531	0	0.787613	0.289033	
	250		0.78	10/16/2013 13:42	-406.545	0	0			
	150		0.57	10/16/2013 13:42	-406.545	0	0			
	50		0.03	10/16/2013 13:42	-406.545	0	0			
106119	350	1348	0.56	10/16/2013 13:42	-406.545	-406.504	0	0.84284	0.3442594	
	250		0.82	10/16/2013 13:42	-406.545	0	0			
	150		0.66	10/16/2013 13:42	-406.545	0	0			
106112	350	1333	0.58	10/16/2013 13:42	-406.545	0	-406.606	0.765741	0.2671604	
	250		0.8	10/16/2013 13:42	-406.545	0	0			
	150		0.55	10/16/2013 13:42	-406.545	0	0			
106121	350	1339	0.49	10/16/2013 13:42	-406.545	0	-406.565	0.49858	0	
	250		0.51	10/16/2013 13:42	-406.545	0	0			
	150		0.37	10/16/2013 13:42	-406.545	0	0			
	50		-0.2	10/16/2013 13:42	-406.545	0	0			
106117	350	1418	0.91	10/16/2013 14:11	-406.395	-406.364	0	2.127764	1.715377333	
	250		2.11	10/16/2013 14:11	-406.395	0	0			
	150		0.93	10/16/2013 14:11	-406.395	0	0			
	50		0.22	10/16/2013 14:11	-406.395	0	0			
106116	350	1404	0.52	10/16/2013 14:11	-406.395	0	-406.427	0.902236	0.489849067	
	250		0.92	10/16/2013 14:11	-406.395	0	0			
	150		0.44	10/16/2013 14:11	-406.395	0	0			
	50		-0.06	10/16/2013 14:11	-406.395	0	0			
106128	350	1413	0.47	10/16/2013 14:11	-406.395	-406.386	0	0.725075	0.312688667	
	250		0.72	10/16/2013 14:11	-406.395	0	0			
	150		0.51	10/16/2013 14:11	-406.395	0	0			
	50		0.04	10/16/2013 14:11	-406.395	0	0			
106119	350	1403	0.48	10/16/2013 14:11	-406.395	0	-406.432	0.699698	0.287311333	
	250		0.72	10/16/2013 14:11	-406.395	0	0			
	150		0.47	10/16/2013 14:11	-406.395	0	0			
106112	350	1415	0.48	10/16/2013 14:11	-406.395	-406.377	0	0.770151	0.357764133	
	250		0.76	10/16/2013 14:11	-406.395	0	0			
	150		0.61	10/16/2013 14:11	-406.395	0	0			
106121	350	1408	0.4	10/16/2013 14:11	-406.395	0	-406.409	0.412387	0	
	250		0.42	10/16/2013 14:11	-406.395	0	0			
	150		0.26	10/16/2013 14:11	-406.395	0	0			
	50		-0.2	10/16/2013 14:11	-406.395	0	0			
106117	350	1444	0.91	10/16/2013 14:36	-406.282	-406.246	0	2.160302	1.827915067	
	250		2.14	10/16/2013 14:36	-406.282	0	0			
	150		0.97	10/16/2013 14:36	-406.282	0	0			
	50		0.28	10/16/2013 14:36	-406.282	0	0			
106116	350	1430	0.41	10/16/2013 14:36	-406.282	0	-406.309	0.794774	0.4623868	
	250		0.81	10/16/2013 14:36	-406.282	0	0			

	150		0.39	10/16/2013 14:36	-406.282	0	0				
	50		-0.09	10/16/2013 14:36	-406.282	0	0				
106128	350	1438	0.42	10/16/2013 14:36	-406.282	-406.273	0	0.665075	0.332688667		
	250		0.66	10/16/2013 14:36	-406.282	0	0				
	150		0.47	10/16/2013 14:36	-406.282	0	0				
	50		0.03	10/16/2013 14:36	-406.282	0	0				
106119	350	1427	0.38	10/16/2013 14:36	-406.282	0	-406.323	0.59716	0.2647736		
	250		0.62	10/16/2013 14:36	-406.282	0	0				
	150		0.4	10/16/2013 14:36	-406.282	0	0				
106112	350	1441	0.42	10/16/2013 14:36	-406.282	-406.259	0	0.722689	0.390301867		
	250		0.71	10/16/2013 14:36	-406.282	0	0				
	150		0.58	10/16/2013 14:36	-406.282	0	0				
106121	350	1433	0.32	10/16/2013 14:36	-406.282	0	-406.296	0.332387	0		
	250		0.34	10/16/2013 14:36	-406.282	0	0				
	150		0.2	10/16/2013 14:36	-406.282	0	0				
	50		-0.2	10/16/2013 14:36	-406.282	0	0				
106117	350	1508	0.82	10/16/2013 14:59	-406.198	-406.178	0	1.99142	1.6928396		
	250		1.98	10/16/2013 14:59	-406.198	0	0				
	150		0.86	10/16/2013 14:59	-406.198	0	0				
	50		0.23	10/16/2013 14:59	-406.198	0	0				
106116	350	1455	0.4	10/16/2013 14:59	-406.198	0	-406.207	0.824925	0.526344333		
	250		0.83	10/16/2013 14:59	-406.198	0	0				
	150		0.4	10/16/2013 14:59	-406.198	0	0				
	50		-0.05	10/16/2013 14:59	-406.198	0	0				
106128	350	1503	0.38	10/16/2013 14:59	-406.198	-406.189	0	0.645075	0.346495267		
	250		0.64	10/16/2013 14:59	-406.198	0	0				
	150		0.47	10/16/2013 14:59	-406.198	0	0				
	50		0.03	10/16/2013 14:59	-406.198	0	0				
106119	350	1506	0.38	10/16/2013 14:59	-406.198	-406.182	0	0.688882	0.390301867		
	250		0.68	10/16/2013 14:59	-406.198	0	0				
	150		0.52	10/16/2013 14:59	-406.198	0	0				
106112	350	1453	0.39	10/16/2013 14:59	-406.198	0	-406.212	0.652387	0.3538066		
	250		0.66	10/16/2013 14:59	-406.198	0	0				
	150		0.42	10/16/2013 14:59	-406.198	0	0				
106121	350	1450	0.29	10/16/2013 14:59	-406.198	0	-406.219	0.29858	0		
	250		0.31	10/16/2013 14:59	-406.198	0	0				
	150		0.17	10/16/2013 14:59	-406.198	0	0				
	50		-0.16	10/16/2013 14:59	-406.198	0	0				
106117	350	1537	0.8	10/16/2013 15:30	-406.128	-406.112	0	2.038882	1.7814198		
	250		2.03	10/16/2013 15:30	-406.128	0	0				
	150		0.88	10/16/2013 15:30	-406.128	0	0				
	50		0.27	10/16/2013 15:30	-406.128	0	0				
106116	350	1524	0.34	10/16/2013 15:30	-406.128	0	-406.142	0.772387	0.514924533		
	250		0.78	10/16/2013 15:30	-406.128	0	0				
	150		0.36	10/16/2013 15:30	-406.128	0	0				
	50		-0.05	10/16/2013 15:30	-406.128	0	0				
106128	350	1532	0.32	10/16/2013 15:30	-406.128	-406.123	0	0.582538	0.325075467		

	250		0.58	10/16/2013 15:30	-406.128	0	0				
	150		0.43	10/16/2013 15:30	-406.128	0	0				
	50		0.03	10/16/2013 15:30	-406.128	0	0				
106119	350	1535	0.35	10/16/2013 15:30	-406.128	-406.117	0	0.656344	0.398882067		
	250		0.65	10/16/2013 15:30	-406.128	0	0				
	150		0.52	10/16/2013 15:30	-406.128	0	0				
106112	350	1522	0.33	10/16/2013 15:30	-406.128	0	-406.146	0.589849	0.3323868		
	250		0.6	10/16/2013 15:30	-406.128	0	0				
	150		0.39	10/16/2013 15:30	-406.128	0	0				
106121	350	1528	0.23	10/16/2013 15:30	-406.128	0	-406.132	0.257462	0		
	250		0.26	10/16/2013 15:30	-406.128	0	0				
	150		0.14	10/16/2013 15:30	-406.128	0	0				
	50		-0.17	10/16/2013 15:30	-406.128	0	0				
106117	350	1605	0.07	10/16/2013 15:58	-406.046	0	-406.015	1.927764	1.745377333		
	250		1.91	10/16/2013 15:58	-406.046	0	0				
	150		0.8	10/16/2013 15:58	-406.046	0	0				
	50		0.24	10/16/2013 15:58	-406.046	0	0				
106116	350	1552	0.29	10/16/2013 15:58	-406.046	-406.074	0	0.774774	0.5923868		
	250		0.79	10/16/2013 15:58	-406.046	0	0				
	150		0.33	10/16/2013 15:58	-406.046	0	0				
	50		-0.05	10/16/2013 15:58	-406.046	0	0				
106128	350	1600	0.24	10/16/2013 15:58	-406.046	0	-406.037	0.545075	0.362688667		
	250		0.54	10/16/2013 15:58	-406.046	0	0				
	150		0.38	10/16/2013 15:58	-406.046	0	0				
	50		0.02	10/16/2013 15:58	-406.046	0	0				
106119	350	1603	0.27	10/16/2013 15:58	-406.046	0	-406.024	0.592689	0.410301867		
	250		0.58	10/16/2013 15:58	-406.046	0	0				
	150		0.45	10/16/2013 15:58	-406.046	0	0				
106112	350	1550	0.25	10/16/2013 15:58	-406.046	-406.083	0	0.489698	0.307311333		
	250		0.51	10/16/2013 15:58	-406.046	0	0				
	150		0.31	10/16/2013 15:58	-406.046	0	0				
106121	350	1555	0.15	10/16/2013 15:58	-406.046	-406.06	0	0.182387	0		
	250		0.19	10/16/2013 15:58	-406.046	0	0				
	150		0.06	10/16/2013 15:58	-406.046	0	0				
	50		-0.17	10/16/2013 15:58	-406.046	0	0				
106117	350	1635	0.64	10/16/2013 16:27	-405.915	-405.879	0	1.700302	1.605377333		
	250		1.68	10/16/2013 16:27	-405.915	0	0				
	150		0.75	10/16/2013 16:27	-405.915	0	0				
	50		0.23	10/16/2013 16:27	-405.915	0	0				
106116	350	1620	0.2	10/16/2013 16:27	-405.915	0	-405.947	0.632236	0.537311333		
	250		0.65	10/16/2013 16:27	-405.915	0	0				
	150		0.28	10/16/2013 16:27	-405.915	0	0				
	50		-0.08	10/16/2013 16:27	-405.915	0	0				
106128	350	1629	0.22	10/16/2013 16:27	-405.915	-405.906	0	0.505075	0.410150933		
	250		0.5	10/16/2013 16:27	-405.915	0	0				
	150		0.34	10/16/2013 16:27	-405.915	0	0				
	50		0.02	10/16/2013 16:27	-405.915	0	0				

106119	350	1632	0.22	10/16/2013 16:27	-405.915	-405.892	0	0.542689	0.447764133
	250		0.53	10/16/2013 16:27	-405.915	0	0		
	150		0.4	10/16/2013 16:27	-405.915	0	0		
106112	350	1617	0.19	10/16/2013 16:27	-405.915	0	-405.96	0.454623	0.359698133
	250		0.48	10/16/2013 16:27	-405.915	0	0		
	150		0.29	10/16/2013 16:27	-405.915	0	0		
106121	350	1625	0.08	10/16/2013 16:27	-405.915	0	-405.924	0.094925	0
	250		0.1	10/16/2013 16:27	-405.915	0	0		
	150		0.02	10/16/2013 16:27	-405.915	0	0		
	50		-0.16	10/16/2013 16:27	-405.915	0	0		
106117	350	1709	0.68	10/16/2013 17:01	-405.811	-405.811	0	1.94	1.84
	250		1.94	10/16/2013 17:01	-405.811	0	0		
	150		0.8	10/16/2013 17:01	-405.811	0	0		
	50		0.28	10/16/2013 17:01	-405.811	0	0		
106116	350	1655	0.21	10/16/2013 17:01	-405.811	0	-405.811	0.67	0.57
	250		0.67	10/16/2013 17:01	-405.811	0	0		
	150		0.29	10/16/2013 17:01	-405.811	0	0		
	50		-0.01	10/16/2013 17:01	-405.811	0	0		
106128	350	1703	0.2	10/16/2013 17:01	-405.811	-405.811	0	0.49	0.39
	250		0.49	10/16/2013 17:01	-405.811	0	0		
	150		0.35	10/16/2013 17:01	-405.811	0	0		
	50		0.05	10/16/2013 17:01	-405.811	0	0		
106119	350	1707	0.2	10/16/2013 17:01	-405.811	-405.811	0	0.54	0.44
	250		0.54	10/16/2013 17:01	-405.811	0	0		
	150		0.42	10/16/2013 17:01	-405.811	0	0		
106112	350	1653	0.18	10/16/2013 17:01	-405.811	0	-405.811	0.48	0.38
	250		0.48	10/16/2013 17:01	-405.811	0	0		
	150		0.29	10/16/2013 17:01	-405.811	0	0		
106121	350	1658	0.07	10/16/2013 17:01	-405.811	0	-405.811	0.1	0
	250		0.1	10/16/2013 17:01	-405.811	0	0		
	150		0.01	10/16/2013 17:01	-405.811	0	0		
	50		-0.13	10/16/2013 17:01	-405.811	0	0		
106117	350	1738	0.71	10/16/2013 17:31	-405.811	-405.811	0	1.99	1.84
	250		1.99	10/16/2013 17:31	-405.811	0	0		
	150		0.86	10/16/2013 17:31	-405.811	0	0		
	50		0.31	10/16/2013 17:31	-405.811	0	0		
106116	350	1725	0.23	10/16/2013 17:31	-405.811	0	-405.811	0.69	0.54
	250		0.69	10/16/2013 17:31	-405.811	0	0		
	150		0.32	10/16/2013 17:31	-405.811	0	0		
	50		0.01	10/16/2013 17:31	-405.811	0	0		
106128	350	1733	0.26	10/16/2013 17:31	-405.811	-405.811	0	0.58	0.43
	250		0.58	10/16/2013 17:31	-405.811	0	0		
	150		0.41	10/16/2013 17:31	-405.811	0	0		
	50		0.14	10/16/2013 17:31	-405.811	0	0		
106119	350	1737	0.25	10/16/2013 17:31	-405.811	-405.811	0	0.61	0.46
	250		0.61	10/16/2013 17:31	-405.811	0	0		
	150		0.48	10/16/2013 17:31	-405.811	0	0		

106112	350	1723	0.19	10/16/2013 17:31	-405.811	0	-405.811	0.48	0.33
	250		0.48	10/16/2013 17:31	-405.811	0	0		
	150		0.32	10/16/2013 17:31	-405.811	0	0		
106121	350	1729	0.1	10/16/2013 17:31	-405.811	0	-405.811	0.15	0
	250		0.15	10/16/2013 17:31	-405.811	0	0		
	150		0.07	10/16/2013 17:31	-405.811	0	0		
	50		-0.07	10/16/2013 17:31	-405.811	0	0		
106117	350	1818	0.84	10/16/2013 18:03	-405.861	-405.929	0	2.101934	1.8647736
	250		2.14	10/16/2013 18:03	-405.861	0	0		
	150		0.98	10/16/2013 18:03	-405.861	0	0		
	50		0.41	10/16/2013 18:03	-405.861	0	0		
106116	350	1801	0.33	10/16/2013 18:03	-405.861	0	-405.852	0.805075	0.567915067
	250		0.8	10/16/2013 18:03	-405.861	0	0		
	150		0.47	10/16/2013 18:03	-405.861	0	0		
	50		0.1	10/16/2013 18:03	-405.861	0	0		
106128	350	1805	0.33	10/16/2013 18:03	-405.861	-405.87	0	0.624925	0.387764133
	250		0.63	10/16/2013 18:03	-405.861	0	0		
	150		0.52	10/16/2013 18:03	-405.861	0	0		
	50		0.2	10/16/2013 18:03	-405.861	0	0		
106119	350	1754	0.31	10/16/2013 18:03	-405.861	0	-405.82	0.07284	-0.1643208
	250		0.05	10/16/2013 18:03	-405.861	0	0		
	150		0.55	10/16/2013 18:03	-405.861	0	0		
106112	350	1758	0.28	10/16/2013 18:03	-405.861	0	-405.838	0.612689	0.375528267
	250		0.6	10/16/2013 18:03	-405.861	0	0		
	150		0.43	10/16/2013 18:03	-405.861	0	0		
106121	350	1812	0.2	10/16/2013 18:03	-405.861	-405.901	0	0.23716	0
	250		0.26	10/16/2013 18:03	-405.861	0	0		
	150		0.18	10/16/2013 18:03	-405.861	0	0		
	50		0	10/16/2013 18:03	-405.861	0	0		
106117	350	1844	0.96	10/16/2013 18:35	-406.006	-406.046	0	2.25716	1.912235867
	250		2.28	10/16/2013 18:35	-406.006	0	0		
	150		1.14	10/16/2013 18:35	-406.006	0	0		
	50		0.51	10/16/2013 18:35	-406.006	0	0		
106116	350	1833	0.4	10/16/2013 18:35	-406.006	0	-405.997	0.905075	0.560150933
	250		0.9	10/16/2013 18:35	-406.006	0	0		
	150		0.56	10/16/2013 18:35	-406.006	0	0		
	50		0.16	10/16/2013 18:35	-406.006	0	0		
106128	350	1841	0.45	10/16/2013 18:35	-406.006	-406.033	0	0.774774	0.429849067
	250		0.79	10/16/2013 18:35	-406.006	0	0		
	150		0.66	10/16/2013 18:35	-406.006	0	0		
	50		0.31	10/16/2013 18:35	-406.006	0	0		
106119	350	1826	0.39	10/16/2013 18:35	-406.006	0	-405.965	0.77284	0.427915067
	250		0.75	10/16/2013 18:35	-406.006	0	0		
	150		0.64	10/16/2013 18:35	-406.006	0	0		
106112	350	1829	0.36	10/16/2013 18:35	-406.006	0	-405.978	0.695226	0.350301867
	250		0.68	10/16/2013 18:35	-406.006	0	0		
	150		0.54	10/16/2013 18:35	-406.006	0	0		

106121	350	1837	0.28	10/16/2013 18:35	-406.006	-406.015	0	0.344925		0
	250		0.35	10/16/2013 18:35	-406.006	0	0			
	150		0.27	10/16/2013 18:35	-406.006	0	0			
	50		0.05	10/16/2013 18:35	-406.006	0	0			

Well ID	Depth	Minimum distance to extraction well	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106117	350			1056	1.06	10/16/2013 10:48	-407.719	-407.673	0	0.928549	-0.062877975			
	250				1.03	10/16/2013 10:48	-407.719	0	0					
	150				0.9	10/16/2013 10:48	-407.719	0	0					
	50				0.33	10/16/2013 10:48	-407.719	0	0					
106116	350			1046	1.1	10/16/2013 10:48	-407.719	0	-407.723	0.957145	-0.034282425			
	250				1.08	10/16/2013 10:48	-407.719	0	0					
	150				0.96	10/16/2013 10:48	-407.719	0	0					
	50				0.25	10/16/2013 10:48	-407.719	0	0					
106128	350			1053	1.1	10/16/2013 10:48	-407.719	-407.694	0	0.955702	-0.03572525			
	250				1.06	10/16/2013 10:48	-407.719	0	0					
	150				0.94	10/16/2013 10:48	-407.719	0	0					
	50				0.34	10/16/2013 10:48	-407.719	0	0					
106119	350			1038	1.08	10/16/2013 10:48	-407.719	0	-407.741	1.005725	0.014297775			
	250				1.07	10/16/2013 10:48	-407.719	0	0					
	150				1.02	10/16/2013 10:48	-407.719	0	0					
106112	350			1042	1.1	10/16/2013 10:48	-407.719	0	-407.732	0.941435	-0.049992325			
	250				1.08	10/16/2013 10:48	-407.719	0	0					
	150				0.95	10/16/2013 10:48	-407.719	0	0					
106121	350			1049	1.02	10/16/2013 10:48	-407.719	-407.716	0	0.991427	0			
106121	250				1.13	10/16/2013 10:48	-407.719	0	0					
106121	150				0.99	10/16/2013 10:48	-407.719	0	0					
106121	50				0.12	10/16/2013 10:48	-407.719	0	0					
106117	350			1139	1.48	10/16/2013 11:50	-407.306	0	-407.381	1.292893	0.4386109			
	250				2.52	10/16/2013 11:50	-407.306	0	0					
	150				1.34	10/16/2013 11:50	-407.306	0	0					
	50				0.47	10/16/2013 11:50	-407.306	0	0					
106116	350			1148	1.04	10/16/2013 11:50	-407.306	0	-407.32	0.871435	0.017152725			
	250				1.3	10/16/2013 11:50	-407.306	0	0					
	150				0.88	10/16/2013 11:50	-407.306	0	0					
	50				0.15	10/16/2013 11:50	-407.306	0	0					
106128	350			1154	1.05	10/16/2013 11:50	-407.306	-407.279	0	0.96713	0.112847275			
	250				1.15	10/16/2013 11:50	-407.306	0	0					
	150				0.95	10/16/2013 11:50	-407.306	0	0					
	50				0.27	10/16/2013 11:50	-407.306	0	0					
106119	350			1156	1.04	10/16/2013 11:50	-407.306	-407.265	0	1.085695	0.231412125			
	250				1.21	10/16/2013 11:50	-407.306	0	0					
	150				1.06	10/16/2013 11:50	-407.306	0	0					
106112	350			1142	1.01	10/16/2013 11:50	-407.306	0	-407.361	0.845741	-0.008541825			
	250				1.13	10/16/2013 11:50	-407.306	0	0					
	150				0.88	10/16/2013 11:50	-407.306	0	0					
106121	350			1151	1	10/16/2013 11:50	-407.306	-407.299	0	0.854282	0			
106121	250				1.01	10/16/2013 11:50	-407.306	0	0					
106121	150				0.85	10/16/2013 11:50	-407.306	0	0					
106121	50				0	10/16/2013 11:50	-407.306	0	0					

106117	350	1205	1.42	10/16/2013 12:23	-407.082	0	-407.204	1.232916	0.53578665	
	250		2.56	10/16/2013 12:23	-407.082	0	0			
	150		1.31	10/16/2013 12:23	-407.082	0	0			
	50		0.41	10/16/2013 12:23	-407.082	0	0			
106116	350	1218	0.9	10/16/2013 12:23	-407.082	0	-407.116	0.678588	-0.018541825	
	250		1.23	10/16/2013 12:23	-407.082	0	0			
	150		0.7	10/16/2013 12:23	-407.082	0	0			
	50		0.06	10/16/2013 12:23	-407.082	0	0			
106128	350	1231	0.91	10/16/2013 12:23	-407.082	-407.028	0	0.884259	0.1871297	
	250		1.07	10/16/2013 12:23	-407.082	0	0			
	150		0.85	10/16/2013 12:23	-407.082	0	0			
	50		0.19	10/16/2013 12:23	-407.082	0	0			
106119	350	1235	0.87	10/16/2013 12:23	-407.082	-407	0	0.971389	0.2742594	
	250		1.08	10/16/2013 12:23	-407.082	0	0			
	150		0.92	10/16/2013 12:23	-407.082	0	0			
106112	350	1209	0.91	10/16/2013 12:23	-407.082	0	-407.177	0.750046	0.05291635	
	250		1.08	10/16/2013 12:23	-407.082	0	0			
	150		0.81	10/16/2013 12:23	-407.082	0	0			
106121	350	1227	0.82	10/16/2013 12:23	-407.082	-407.055	0	0.69713	0	
106121	250		0.85	10/16/2013 12:23	-407.082	0	0			
106121	150		0.68	10/16/2013 12:23	-407.082	0	0			
106121	50		-0.08	10/16/2013 12:23	-407.082	0	0			
106117	350	1306	1.21	10/16/2013 13:12	-406.749	0	-406.79	1.144305	0.661458175	
	250		2.19	10/16/2013 13:12	-406.749	0	0			
	150		1.17	10/16/2013 13:12	-406.749	0	0			
	50		0.35	10/16/2013 13:12	-406.749	0	0			
106116	350	1309	0.77	10/16/2013 13:12	-406.749	0	-406.769	0.617153	0.13430545	
	250		1.11	10/16/2013 13:12	-406.749	0	0			
	150		0.63	10/16/2013 13:12	-406.749	0	0			
	50		0	10/16/2013 13:12	-406.749	0	0			
106128	350	1319	0.68	10/16/2013 13:12	-406.749	-406.701	0	0.679977	0.1971297	
	250		0.85	10/16/2013 13:12	-406.749	0	0			
	150		0.65	10/16/2013 13:12	-406.749	0	0			
	50		0.05	10/16/2013 13:12	-406.749	0	0			
106119	350	1323	0.64	10/16/2013 13:12	-406.749	-406.674	0	0.777107	0.2942594	
	250		0.88	10/16/2013 13:12	-406.749	0	0			
	150		0.73	10/16/2013 13:12	-406.749	0	0			
106112	350	1300	0.79	10/16/2013 13:12	-406.749	0	-406.83	0.668611	0.185763625	
	250		1	10/16/2013 13:12	-406.749	0	0			
	150		0.72	10/16/2013 13:12	-406.749	0	0			
106121	350	1315	0.62	10/16/2013 13:12	-406.749	-406.728	0	0.482847	0	
106121	250		0.62	10/16/2013 13:12	-406.749	0	0			
106121	150		0.47	10/16/2013 13:12	-406.749	0	0			
106121	50		-0.18	10/16/2013 13:12	-406.749	0	0			
106117	350	1350	1.01	10/16/2013 13:42	-406.545	-406.491	0	1.044259	0.687106675	
	250		2.21	10/16/2013 13:42	-406.545	0	0			
	150		1.01	10/16/2013 13:42	-406.545	0	0			

	50		0.26	10/16/2013 13:42	-406.545	0	0			
106116	350	1335	0.59	10/16/2013 13:42	-406.545	0	-406.592	0.520023	0.1628703	
	250		0.96	10/16/2013 13:42	-406.545	0	0			
	150		0.55	10/16/2013 13:42	-406.545	0	0			
	50		-0.07	10/16/2013 13:42	-406.545	0	0			
106128	350	1344	0.56	10/16/2013 13:42	-406.545	-406.531	0	0.578565	0.221412125	
	250		0.78	10/16/2013 13:42	-406.545	0	0			
	150		0.57	10/16/2013 13:42	-406.545	0	0			
	50		0.03	10/16/2013 13:42	-406.545	0	0			
106119	350	1348	0.56	10/16/2013 13:42	-406.545	-406.504	0	0.685695	0.328541825	
	250		0.82	10/16/2013 13:42	-406.545	0	0			
	150		0.66	10/16/2013 13:42	-406.545	0	0			
106112	350	1333	0.58	10/16/2013 13:42	-406.545	0	-406.606	0.511458	0.15430545	
	250		0.8	10/16/2013 13:42	-406.545	0	0			
	150		0.55	10/16/2013 13:42	-406.545	0	0			
106121	350	1339	0.49	10/16/2013 13:42	-406.545	0	-406.565	0.357153	0	
106121	250		0.51	10/16/2013 13:42	-406.545	0	0			
106121	150		0.37	10/16/2013 13:42	-406.545	0	0			
106121	50		-0.2	10/16/2013 13:42	-406.545	0	0			
106117	350	1418	0.91	10/16/2013 14:11	-406.395	-406.364	0	0.949985	0.6985495	
	250		2.11	10/16/2013 14:11	-406.395	0	0			
	150		0.93	10/16/2013 14:11	-406.395	0	0			
	50		0.22	10/16/2013 14:11	-406.395	0	0			
106116	350	1404	0.52	10/16/2013 14:11	-406.395	0	-406.427	0.420015	0.1685802	
	250		0.92	10/16/2013 14:11	-406.395	0	0			
	150		0.44	10/16/2013 14:11	-406.395	0	0			
	50		-0.06	10/16/2013 14:11	-406.395	0	0			
106128	350	1413	0.47	10/16/2013 14:11	-406.395	-406.386	0	0.51571	0.26427475	
	250		0.72	10/16/2013 14:11	-406.395	0	0			
	150		0.51	10/16/2013 14:11	-406.395	0	0			
	50		0.04	10/16/2013 14:11	-406.395	0	0			
106119	350	1403	0.48	10/16/2013 14:11	-406.395	0	-406.432	0.44716	0.19572525	
	250		0.72	10/16/2013 14:11	-406.395	0	0			
	150		0.47	10/16/2013 14:11	-406.395	0	0			
106112	350	1415	0.48	10/16/2013 14:11	-406.395	-406.377	0	0.62142	0.36998465	
	250		0.76	10/16/2013 14:11	-406.395	0	0			
	150		0.61	10/16/2013 14:11	-406.395	0	0			
106121	350	1408	0.4	10/16/2013 14:11	-406.395	0	-406.409	0.251435	0	
106121	250		0.42	10/16/2013 14:11	-406.395	0	0			
106121	150		0.26	10/16/2013 14:11	-406.395	0	0			
106121	50		-0.2	10/16/2013 14:11	-406.395	0	0			
106117	350	1444	0.91	10/16/2013 14:36	-406.282	-406.246	0	0.99284	0.80140445	
	250		2.14	10/16/2013 14:36	-406.282	0	0			
	150		0.97	10/16/2013 14:36	-406.282	0	0			
	50		0.28	10/16/2013 14:36	-406.282	0	0			
106116	350	1430	0.41	10/16/2013 14:36	-406.282	0	-406.309	0.37287	0.18143515	
	250		0.81	10/16/2013 14:36	-406.282	0	0			

	150		0.39	10/16/2013 14:36	-406.282	0	0			
	50		-0.09	10/16/2013 14:36	-406.282	0	0			
106128	350	1438	0.42	10/16/2013 14:36	-406.282	-406.273	0	0.47571	0.28427475	
	250		0.66	10/16/2013 14:36	-406.282	0	0			
	150		0.47	10/16/2013 14:36	-406.282	0	0			
	50		0.03	10/16/2013 14:36	-406.282	0	0			
106119	350	1427	0.38	10/16/2013 14:36	-406.282	0	-406.323	0.374305	0.1828703	
	250		0.62	10/16/2013 14:36	-406.282	0	0			
	150		0.4	10/16/2013 14:36	-406.282	0	0			
106112	350	1441	0.42	10/16/2013 14:36	-406.282	-406.259	0	0.594275	0.4028396	
	250		0.71	10/16/2013 14:36	-406.282	0	0			
	150		0.58	10/16/2013 14:36	-406.282	0	0			
106121	350	1433	0.32	10/16/2013 14:36	-406.282	0	-406.296	0.191435	0	
106121	250		0.34	10/16/2013 14:36	-406.282	0	0			
106121	150		0.2	10/16/2013 14:36	-406.282	0	0			
106121	50		-0.2	10/16/2013 14:36	-406.282	0	0			
106117	350	1508	0.82	10/16/2013 14:59	-406.198	-406.178	0	0.872847	0.71569455	
	250		1.98	10/16/2013 14:59	-406.198	0	0			
	150		0.86	10/16/2013 14:59	-406.198	0	0			
	50		0.23	10/16/2013 14:59	-406.198	0	0			
106116	350	1455	0.4	10/16/2013 14:59	-406.198	0	-406.207	0.39429	0.237137375	
	250		0.83	10/16/2013 14:59	-406.198	0	0			
	150		0.4	10/16/2013 14:59	-406.198	0	0			
	50		-0.05	10/16/2013 14:59	-406.198	0	0			
106128	350	1503	0.38	10/16/2013 14:59	-406.198	-406.189	0	0.47571	0.318557175	
	250		0.64	10/16/2013 14:59	-406.198	0	0			
	150		0.47	10/16/2013 14:59	-406.198	0	0			
	50		0.03	10/16/2013 14:59	-406.198	0	0			
106119	350	1506	0.38	10/16/2013 14:59	-406.198	-406.182	0	0.529992	0.3728396	
	250		0.68	10/16/2013 14:59	-406.198	0	0			
	150		0.52	10/16/2013 14:59	-406.198	0	0			
106112	350	1453	0.39	10/16/2013 14:59	-406.198	0	-406.212	0.411435	0.254282425	
	250		0.66	10/16/2013 14:59	-406.198	0	0			
	150		0.42	10/16/2013 14:59	-406.198	0	0			
106121	350	1450	0.29	10/16/2013 14:59	-406.198	0	-406.219	0.157153	0	
106121	250		0.31	10/16/2013 14:59	-406.198	0	0			
106121	150		0.17	10/16/2013 14:59	-406.198	0	0			
106121	50		-0.16	10/16/2013 14:59	-406.198	0	0			
106117	350	1537	0.8	10/16/2013 15:30	-406.128	-406.112	0	0.889992	0.752847275	
	250		2.03	10/16/2013 15:30	-406.128	0	0			
	150		0.88	10/16/2013 15:30	-406.128	0	0			
	50		0.27	10/16/2013 15:30	-406.128	0	0			
106116	350	1524	0.34	10/16/2013 15:30	-406.128	0	-406.142	0.351435	0.2142901	
	250		0.78	10/16/2013 15:30	-406.128	0	0			
	150		0.36	10/16/2013 15:30	-406.128	0	0			
	50		-0.05	10/16/2013 15:30	-406.128	0	0			
106128	350	1532	0.32	10/16/2013 15:30	-406.128	-406.123	0	0.432855	0.2957099	

	250		0.58	10/16/2013 15:30	-406.128	0	0			
	150		0.43	10/16/2013 15:30	-406.128	0	0			
	50		0.03	10/16/2013 15:30	-406.128	0	0			
106119	350	1535	0.35	10/16/2013 15:30	-406.128	-406.117	0	0.527137	0.389992325	
	250		0.65	10/16/2013 15:30	-406.128	0	0			
	150		0.52	10/16/2013 15:30	-406.128	0	0			
106112	350	1522	0.33	10/16/2013 15:30	-406.128	0	-406.146	0.37858	0.24143515	
	250		0.6	10/16/2013 15:30	-406.128	0	0			
	150		0.39	10/16/2013 15:30	-406.128	0	0			
106121	350	1528	0.23	10/16/2013 15:30	-406.128	0	-406.132	0.137145	0	
106121	250		0.26	10/16/2013 15:30	-406.128	0	0			
106121	150		0.14	10/16/2013 15:30	-406.128	0	0			
106121	50		-0.17	10/16/2013 15:30	-406.128	0	0			
106117	350	1605	0.07	10/16/2013 15:58	-406.046	0	-406.015	0.819985	0.7685495	
	250		1.91	10/16/2013 15:58	-406.046	0	0			
	150		0.8	10/16/2013 15:58	-406.046	0	0			
	50		0.24	10/16/2013 15:58	-406.046	0	0			
106116	350	1552	0.29	10/16/2013 15:58	-406.046	-406.074	0	0.31287	0.26143515	
	250		0.79	10/16/2013 15:58	-406.046	0	0			
	150		0.33	10/16/2013 15:58	-406.046	0	0			
	50		-0.05	10/16/2013 15:58	-406.046	0	0			
106128	350	1600	0.24	10/16/2013 15:58	-406.046	0	-406.037	0.38571	0.33427475	
	250		0.54	10/16/2013 15:58	-406.046	0	0			
	150		0.38	10/16/2013 15:58	-406.046	0	0			
	50		0.02	10/16/2013 15:58	-406.046	0	0			
106119	350	1603	0.27	10/16/2013 15:58	-406.046	0	-406.024	0.464275	0.4128396	
	250		0.58	10/16/2013 15:58	-406.046	0	0			
	150		0.45	10/16/2013 15:58	-406.046	0	0			
106112	350	1550	0.25	10/16/2013 15:58	-406.046	-406.083	0	0.28716	0.23572525	
	250		0.51	10/16/2013 15:58	-406.046	0	0			
	150		0.31	10/16/2013 15:58	-406.046	0	0			
106121	350	1555	0.15	10/16/2013 15:58	-406.046	-406.06	0	0.051435	0	
106121	250		0.19	10/16/2013 15:58	-406.046	0	0			
106121	150		0.06	10/16/2013 15:58	-406.046	0	0			
106121	50		-0.17	10/16/2013 15:58	-406.046	0	0			
106117	350	1635	0.64	10/16/2013 16:27	-405.915	-405.879	0	0.77284	0.7585495	
	250		1.68	10/16/2013 16:27	-405.915	0	0			
	150		0.75	10/16/2013 16:27	-405.915	0	0			
	50		0.23	10/16/2013 16:27	-405.915	0	0			
106116	350	1620	0.2	10/16/2013 16:27	-405.915	0	-405.947	0.260015	0.24572525	
	250		0.65	10/16/2013 16:27	-405.915	0	0			
	150		0.28	10/16/2013 16:27	-405.915	0	0			
	50		-0.08	10/16/2013 16:27	-405.915	0	0			
106128	350	1629	0.22	10/16/2013 16:27	-405.915	-405.906	0	0.34571	0.3314198	
	250		0.5	10/16/2013 16:27	-405.915	0	0			
	150		0.34	10/16/2013 16:27	-405.915	0	0			
	50		0.02	10/16/2013 16:27	-405.915	0	0			

106119	350	1632	0.22	10/16/2013 16:27	-405.915	-405.892	0	0.414275	0.39998465
	250		0.53	10/16/2013 16:27	-405.915	0	0		
	150		0.4	10/16/2013 16:27	-405.915	0	0		
106112	350	1617	0.19	10/16/2013 16:27	-405.915	0	-405.96	0.261451	0.2471604
	250		0.48	10/16/2013 16:27	-405.915	0	0		
	150		0.29	10/16/2013 16:27	-405.915	0	0		
106121	350	1625	0.08	10/16/2013 16:27	-405.915	0	-405.924	0.01429	0
106121	250		0.1	10/16/2013 16:27	-405.915	0	0		
106121	150		0.02	10/16/2013 16:27	-405.915	0	0		
106121	50		-0.16	10/16/2013 16:27	-405.915	0	0		
106117	350	1709	0.68	10/16/2013 17:01	-405.811	-405.811	0	0.8	0.79
	250		1.94	10/16/2013 17:01	-405.811	0	0		
	150		0.8	10/16/2013 17:01	-405.811	0	0		
	50		0.28	10/16/2013 17:01	-405.811	0	0		
106116	350	1655	0.21	10/16/2013 17:01	-405.811	0	-405.811	0.29	0.28
	250		0.67	10/16/2013 17:01	-405.811	0	0		
	150		0.29	10/16/2013 17:01	-405.811	0	0		
	50		-0.01	10/16/2013 17:01	-405.811	0	0		
106128	350	1703	0.2	10/16/2013 17:01	-405.811	-405.811	0	0.35	0.34
	250		0.49	10/16/2013 17:01	-405.811	0	0		
	150		0.35	10/16/2013 17:01	-405.811	0	0		
	50		0.05	10/16/2013 17:01	-405.811	0	0		
106119	350	1707	0.2	10/16/2013 17:01	-405.811	-405.811	0	0.42	0.41
	250		0.54	10/16/2013 17:01	-405.811	0	0		
	150		0.42	10/16/2013 17:01	-405.811	0	0		
106112	350	1653	0.18	10/16/2013 17:01	-405.811	0	-405.811	0.29	0.28
	250		0.48	10/16/2013 17:01	-405.811	0	0		
	150		0.29	10/16/2013 17:01	-405.811	0	0		
106121	350	1658	0.07	10/16/2013 17:01	-405.811	0	-405.811	0.01	0
106121	250		0.1	10/16/2013 17:01	-405.811	0	0		
106121	150		0.01	10/16/2013 17:01	-405.811	0	0		
106121	50		-0.13	10/16/2013 17:01	-405.811	0	0		
106117	350	1738	0.71	10/16/2013 17:31	-405.811	-405.811	0	0.86	0.79
	250		1.99	10/16/2013 17:31	-405.811	0	0		
	150		0.86	10/16/2013 17:31	-405.811	0	0		
	50		0.31	10/16/2013 17:31	-405.811	0	0		
106116	350	1725	0.23	10/16/2013 17:31	-405.811	0	-405.811	0.32	0.25
	250		0.69	10/16/2013 17:31	-405.811	0	0		
	150		0.32	10/16/2013 17:31	-405.811	0	0		
	50		0.01	10/16/2013 17:31	-405.811	0	0		
106128	350	1733	0.26	10/16/2013 17:31	-405.811	-405.811	0	0.41	0.34
	250		0.58	10/16/2013 17:31	-405.811	0	0		
	150		0.41	10/16/2013 17:31	-405.811	0	0		
	50		0.14	10/16/2013 17:31	-405.811	0	0		
106119	350	1737	0.25	10/16/2013 17:31	-405.811	-405.811	0	0.48	0.41
	250		0.61	10/16/2013 17:31	-405.811	0	0		
	150		0.48	10/16/2013 17:31	-405.811	0	0		

106112	350	1723	0.19	10/16/2013 17:31	-405.811	0	-405.811	0.32	0.25
	250		0.48	10/16/2013 17:31	-405.811	0	0		
	150		0.32	10/16/2013 17:31	-405.811	0	0		
106121	350	1729	0.1	10/16/2013 17:31	-405.811	0	-405.811	0.07	0
106121	250		0.15	10/16/2013 17:31	-405.811	0	0		
106121	150		0.07	10/16/2013 17:31	-405.811	0	0		
106121	50		-0.07	10/16/2013 17:31	-405.811	0	0		
106117	350	1818	0.84	10/16/2013 18:03	-405.861	-405.929	0	0.937176	0.7828703
	250		2.14	10/16/2013 18:03	-405.861	0	0		
	150		0.98	10/16/2013 18:03	-405.861	0	0		
	50		0.41	10/16/2013 18:03	-405.861	0	0		
106116	350	1801	0.33	10/16/2013 18:03	-405.861	0	-405.852	0.47571	0.32140445
	250		0.8	10/16/2013 18:03	-405.861	0	0		
	150		0.47	10/16/2013 18:03	-405.861	0	0		
	50		0.1	10/16/2013 18:03	-405.861	0	0		
106128	350	1805	0.33	10/16/2013 18:03	-405.861	-405.87	0	0.51429	0.35998465
	250		0.63	10/16/2013 18:03	-405.861	0	0		
	150		0.52	10/16/2013 18:03	-405.861	0	0		
	50		0.2	10/16/2013 18:03	-405.861	0	0		
106119	350	1754	0.31	10/16/2013 18:03	-405.861	0	-405.82	0.575695	0.4213891
	250		0.05	10/16/2013 18:03	-405.861	0	0		
	150		0.55	10/16/2013 18:03	-405.861	0	0		
106112	350	1758	0.28	10/16/2013 18:03	-405.861	0	-405.838	0.444275	0.2899693
	250		0.6	10/16/2013 18:03	-405.861	0	0		
	150		0.43	10/16/2013 18:03	-405.861	0	0		
106121	350	1812	0.2	10/16/2013 18:03	-405.861	-405.901	0	0.154305	0
106121	250		0.26	10/16/2013 18:03	-405.861	0	0		
106121	150		0.18	10/16/2013 18:03	-405.861	0	0		
106121	50		0	10/16/2013 18:03	-405.861	0	0		
106117	350	1844	0.96	10/16/2013 18:35	-406.006	-406.046	0	1.114305	0.85001535
	250		2.28	10/16/2013 18:35	-406.006	0	0		
	150		1.14	10/16/2013 18:35	-406.006	0	0		
	50		0.51	10/16/2013 18:35	-406.006	0	0		
106116	350	1833	0.4	10/16/2013 18:35	-406.006	0	-405.997	0.56571	0.3014198
	250		0.9	10/16/2013 18:35	-406.006	0	0		
	150		0.56	10/16/2013 18:35	-406.006	0	0		
	50		0.16	10/16/2013 18:35	-406.006	0	0		
106128	350	1841	0.45	10/16/2013 18:35	-406.006	-406.033	0	0.64287	0.3785802
	250		0.79	10/16/2013 18:35	-406.006	0	0		
	150		0.66	10/16/2013 18:35	-406.006	0	0		
	50		0.31	10/16/2013 18:35	-406.006	0	0		
106119	350	1826	0.39	10/16/2013 18:35	-406.006	0	-405.965	0.665695	0.40140445
	250		0.75	10/16/2013 18:35	-406.006	0	0		
	150		0.64	10/16/2013 18:35	-406.006	0	0		
106112	350	1829	0.36	10/16/2013 18:35	-406.006	0	-405.978	0.55713	0.2928396
	250		0.68	10/16/2013 18:35	-406.006	0	0		
	150		0.54	10/16/2013 18:35	-406.006	0	0		

106121	350	1837	0.28	10/16/2013 18:35	-406.006	-406.015	0	0.26429		0
106121	250		0.35	10/16/2013 18:35	-406.006	0	0			
106121	150		0.27	10/16/2013 18:35	-406.006	0	0			
106121	50		0.05	10/16/2013 18:35	-406.006	0	0			

Well ID	Depth	Minimum distance to extraction well	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106117	350			1056	1.06	10/16/2013 10:48	-407.719	-407.673	0	0.339063	0.21861017			
	250				1.03	10/16/2013 10:48	-407.719	0	0					
	150				0.9	10/16/2013 10:48	-407.719	0	0					
	50				0.33	10/16/2013 10:48	-407.719	0	0					
106116	350			1046	1.1	10/16/2013 10:48	-407.719	0	-407.723	0.249094	0.1286405			
	250				1.08	10/16/2013 10:48	-407.719	0	0					
	150				0.96	10/16/2013 10:48	-407.719	0	0					
	50				0.25	10/16/2013 10:48	-407.719	0	0					
106128	350			1053	1.1	10/16/2013 10:48	-407.719	-407.694	0	0.344985	0.22453167			
	250				1.06	10/16/2013 10:48	-407.719	0	0					
	150				0.94	10/16/2013 10:48	-407.719	0	0					
	50				0.34	10/16/2013 10:48	-407.719	0	0					
106119	350			1038	1.08	10/16/2013 10:48	-407.719	0	-407.741		-0.12045317			
	250				1.07	10/16/2013 10:48	-407.719	0	0					
	150				1.02	10/16/2013 10:48	-407.719	0	0					
106112	350			1042	1.1	10/16/2013 10:48	-407.719	0	-407.732		-0.12045317			
	250				1.08	10/16/2013 10:48	-407.719	0	0					
	150				0.95	10/16/2013 10:48	-407.719	0	0					
106121	350			1049	1.02	10/16/2013 10:48	-407.719	-407.716	0	0.120453	0			
106121	250				1.13	10/16/2013 10:48	-407.719	0	0					
106121	150				0.99	10/16/2013 10:48	-407.719	0	0					
106121	50				0.12	10/16/2013 10:48	-407.719	0	0					
106117	350			1139	1.48	10/16/2013 11:50	-407.306	0	-407.381	0.455046	0.453686			
	250				2.52	10/16/2013 11:50	-407.306	0	0					
	150				1.34	10/16/2013 11:50	-407.306	0	0					
	50				0.47	10/16/2013 11:50	-407.306	0	0					
106116	350			1148	1.04	10/16/2013 11:50	-407.306	0	-407.32	0.147281	0.1459215			
	250				1.3	10/16/2013 11:50	-407.306	0	0					
	150				0.88	10/16/2013 11:50	-407.306	0	0					
	50				0.15	10/16/2013 11:50	-407.306	0	0					
106128	350			1154	1.05	10/16/2013 11:50	-407.306	-407.279	0	0.275438	0.2740785			
	250				1.15	10/16/2013 11:50	-407.306	0	0					
	150				0.95	10/16/2013 11:50	-407.306	0	0					
	50				0.27	10/16/2013 11:50	-407.306	0	0					
106119	350			1156	1.04	10/16/2013 11:50	-407.306	-407.265	0		-0.0013595			
	250				1.21	10/16/2013 11:50	-407.306	0	0					
	150				1.06	10/16/2013 11:50	-407.306	0	0					
106112	350			1142	1.01	10/16/2013 11:50	-407.306	0	-407.361		-0.0013595			
	250				1.13	10/16/2013 11:50	-407.306	0	0					
	150				0.88	10/16/2013 11:50	-407.306	0	0					
106121	350			1151	1	10/16/2013 11:50	-407.306	-407.299	0	0.00136	0			
106121	250				1.01	10/16/2013 11:50	-407.306	0	0					
106121	150				0.85	10/16/2013 11:50	-407.306	0	0					

106121	50		0	10/16/2013 11:50	-407.306	0	0			
106117	350	1205	1.42	10/16/2013 12:23	-407.082	0	-407.204	0.385529	0.460091	
	250		2.56	10/16/2013 12:23	-407.082	0	0			
	150		1.31	10/16/2013 12:23	-407.082	0	0			
	50		0.41	10/16/2013 12:23	-407.082	0	0			
106116	350	1218	0.9	10/16/2013 12:23	-407.082	0	-407.116	0.053203	0.1277645	
	250		1.23	10/16/2013 12:23	-407.082	0	0			
	150		0.7	10/16/2013 12:23	-407.082	0	0			
	50		0.06	10/16/2013 12:23	-407.082	0	0			
106128	350	1231	0.91	10/16/2013 12:23	-407.082	-407.028	0	0.200876	0.275438	
	250		1.07	10/16/2013 12:23	-407.082	0	0			
	150		0.85	10/16/2013 12:23	-407.082	0	0			
	50		0.19	10/16/2013 12:23	-407.082	0	0			
106119	350	1235	0.87	10/16/2013 12:23	-407.082	-407	0		0.074562	
	250		1.08	10/16/2013 12:23	-407.082	0	0			
	150		0.92	10/16/2013 12:23	-407.082	0	0			
106112	350	1209	0.91	10/16/2013 12:23	-407.082	0	-407.177		0.074562	
	250		1.08	10/16/2013 12:23	-407.082	0	0			
	150		0.81	10/16/2013 12:23	-407.082	0	0			
106121	350	1227	0.82	10/16/2013 12:23	-407.082	-407.055	0	-0.07456	0	
106121	250		0.85	10/16/2013 12:23	-407.082	0	0			
106121	150		0.68	10/16/2013 12:23	-407.082	0	0			
106121	50		-0.08	10/16/2013 12:23	-407.082	0	0			
106117	350	1306	1.21	10/16/2013 13:12	-406.749	0	-406.79	0.341843	0.5177645	
	250		2.19	10/16/2013 13:12	-406.749	0	0			
	150		1.17	10/16/2013 13:12	-406.749	0	0			
	50		0.35	10/16/2013 13:12	-406.749	0	0			
106116	350	1309	0.77	10/16/2013 13:12	-406.749	0	-406.769	-0.00408	0.171843	
	250		1.11	10/16/2013 13:12	-406.749	0	0			
	150		0.63	10/16/2013 13:12	-406.749	0	0			
	50		0	10/16/2013 13:12	-406.749	0	0			
106128	350	1319	0.68	10/16/2013 13:12	-406.749	-406.701	0	0.059517	0.235438	
	250		0.85	10/16/2013 13:12	-406.749	0	0			
	150		0.65	10/16/2013 13:12	-406.749	0	0			
	50		0.05	10/16/2013 13:12	-406.749	0	0			
106119	350	1323	0.64	10/16/2013 13:12	-406.749	-406.674	0		0.1759215	
	250		0.88	10/16/2013 13:12	-406.749	0	0			
	150		0.73	10/16/2013 13:12	-406.749	0	0			
106112	350	1300	0.79	10/16/2013 13:12	-406.749	0	-406.83		0.1759215	
	250		1	10/16/2013 13:12	-406.749	0	0			
	150		0.72	10/16/2013 13:12	-406.749	0	0			
106121	350	1315	0.62	10/16/2013 13:12	-406.749	-406.728	0	-0.17592	0	
106121	250		0.62	10/16/2013 13:12	-406.749	0	0			
106121	150		0.47	10/16/2013 13:12	-406.749	0	0			
106121	50		-0.18	10/16/2013 13:12	-406.749	0	0			
106117	350	1350	1.01	10/16/2013 13:42	-406.545	-406.491	0	0.270876	0.4749545	

	250		2.21	10/16/2013 13:42	-406.545	0	0			
	150		1.01	10/16/2013 13:42	-406.545	0	0			
	50		0.26	10/16/2013 13:42	-406.545	0	0			
106116	350	1335	0.59	10/16/2013 13:42	-406.545	0	-406.592	-0.07952	0.124562	
	250		0.96	10/16/2013 13:42	-406.545	0	0			
	150		0.55	10/16/2013 13:42	-406.545	0	0			
	50		-0.07	10/16/2013 13:42	-406.545	0	0			
106128	350	1344	0.56	10/16/2013 13:42	-406.545	-406.531	0	0.032719	0.2367975	
	250		0.78	10/16/2013 13:42	-406.545	0	0			
	150		0.57	10/16/2013 13:42	-406.545	0	0			
	50		0.03	10/16/2013 13:42	-406.545	0	0			
106119	350	1348	0.56	10/16/2013 13:42	-406.545	-406.504	0		0.2040785	
	250		0.82	10/16/2013 13:42	-406.545	0	0			
	150		0.66	10/16/2013 13:42	-406.545	0	0			
106112	350	1333	0.58	10/16/2013 13:42	-406.545	0	-406.606		0.2040785	
	250		0.8	10/16/2013 13:42	-406.545	0	0			
	150		0.55	10/16/2013 13:42	-406.545	0	0			
106121	350	1339	0.49	10/16/2013 13:42	-406.545	0	-406.565	-0.20408	0	
106121	250		0.51	10/16/2013 13:42	-406.545	0	0			
106121	150		0.37	10/16/2013 13:42	-406.545	0	0			
106121	50		-0.2	10/16/2013 13:42	-406.545	0	0			
106117	350	1418	0.91	10/16/2013 14:11	-406.395	-406.364	0	0.226344	0.42906333	
	250		2.11	10/16/2013 14:11	-406.395	0	0			
	150		0.93	10/16/2013 14:11	-406.395	0	0			
	50		0.22	10/16/2013 14:11	-406.395	0	0			
106116	350	1404	0.52	10/16/2013 14:11	-406.395	0	-406.427	-0.06634	0.13637467	
	250		0.92	10/16/2013 14:11	-406.395	0	0			
	150		0.44	10/16/2013 14:11	-406.395	0	0			
	50		-0.06	10/16/2013 14:11	-406.395	0	0			
106128	350	1413	0.47	10/16/2013 14:11	-406.395	-406.386	0	0.041813	0.24453167	
	250		0.72	10/16/2013 14:11	-406.395	0	0			
	150		0.51	10/16/2013 14:11	-406.395	0	0			
	50		0.04	10/16/2013 14:11	-406.395	0	0			
106119	350	1403	0.48	10/16/2013 14:11	-406.395	0	-406.432		0.202719	
	250		0.72	10/16/2013 14:11	-406.395	0	0			
	150		0.47	10/16/2013 14:11	-406.395	0	0			
106112	350	1415	0.48	10/16/2013 14:11	-406.395	-406.377	0		0.202719	
	250		0.76	10/16/2013 14:11	-406.395	0	0			
	150		0.61	10/16/2013 14:11	-406.395	0	0			
106121	350	1408	0.4	10/16/2013 14:11	-406.395	0	-406.409	-0.20272	0	
106121	250		0.42	10/16/2013 14:11	-406.395	0	0			
106121	150		0.26	10/16/2013 14:11	-406.395	0	0			
106121	50		-0.2	10/16/2013 14:11	-406.395	0	0			
106117	350	1444	0.91	10/16/2013 14:36	-406.282	-406.246	0	0.287251	0.48996967	
	250		2.14	10/16/2013 14:36	-406.282	0	0			
	150		0.97	10/16/2013 14:36	-406.282	0	0			

	50		0.28	10/16/2013 14:36	-406.282	0	0		
106116	350	1430	0.41	10/16/2013 14:36	-406.282	0	-406.309	-0.09544	0.107281
	250		0.81	10/16/2013 14:36	-406.282	0	0		
	150		0.39	10/16/2013 14:36	-406.282	0	0		
	50		-0.09	10/16/2013 14:36	-406.282	0	0		
106128	350	1438	0.42	10/16/2013 14:36	-406.282	-406.273	0	0.031813	0.23453167
	250		0.66	10/16/2013 14:36	-406.282	0	0		
	150		0.47	10/16/2013 14:36	-406.282	0	0		
	50		0.03	10/16/2013 14:36	-406.282	0	0		
106119	350	1427	0.38	10/16/2013 14:36	-406.282	0	-406.323		0.202719
	250		0.62	10/16/2013 14:36	-406.282	0	0		
	150		0.4	10/16/2013 14:36	-406.282	0	0		
106112	350	1441	0.42	10/16/2013 14:36	-406.282	-406.259	0		0.202719
	250		0.71	10/16/2013 14:36	-406.282	0	0		
	150		0.58	10/16/2013 14:36	-406.282	0	0		
106121	350	1433	0.32	10/16/2013 14:36	-406.282	0	-406.296	-0.20272	0
106121	250		0.34	10/16/2013 14:36	-406.282	0	0		
106121	150		0.2	10/16/2013 14:36	-406.282	0	0		
106121	50		-0.2	10/16/2013 14:36	-406.282	0	0		
106117	350	1508	0.82	10/16/2013 14:59	-406.198	-406.178	0	0.234078	0.398157
	250		1.98	10/16/2013 14:59	-406.198	0	0		
	150		0.86	10/16/2013 14:59	-406.198	0	0		
	50		0.23	10/16/2013 14:59	-406.198	0	0		
106116	350	1455	0.4	10/16/2013 14:59	-406.198	0	-406.207	-0.05181	0.11226583
	250		0.83	10/16/2013 14:59	-406.198	0	0		
	150		0.4	10/16/2013 14:59	-406.198	0	0		
	50		-0.05	10/16/2013 14:59	-406.198	0	0		
106128	350	1503	0.38	10/16/2013 14:59	-406.198	-406.189	0	0.031813	0.19589117
	250		0.64	10/16/2013 14:59	-406.198	0	0		
	150		0.47	10/16/2013 14:59	-406.198	0	0		
	50		0.03	10/16/2013 14:59	-406.198	0	0		
106119	350	1506	0.38	10/16/2013 14:59	-406.198	-406.182	0		0.1640785
	250		0.68	10/16/2013 14:59	-406.198	0	0		
	150		0.52	10/16/2013 14:59	-406.198	0	0		
106112	350	1453	0.39	10/16/2013 14:59	-406.198	0	-406.212		0.1640785
	250		0.66	10/16/2013 14:59	-406.198	0	0		
	150		0.42	10/16/2013 14:59	-406.198	0	0		
106121	350	1450	0.29	10/16/2013 14:59	-406.198	0	-406.219	-0.16408	0
106121	250		0.31	10/16/2013 14:59	-406.198	0	0		
106121	150		0.17	10/16/2013 14:59	-406.198	0	0		
106121	50		-0.16	10/16/2013 14:59	-406.198	0	0		
106117	350	1537	0.8	10/16/2013 15:30	-406.128	-406.112	0	0.273172	0.4440785
	250		2.03	10/16/2013 15:30	-406.128	0	0		
	150		0.88	10/16/2013 15:30	-406.128	0	0		
	50		0.27	10/16/2013 15:30	-406.128	0	0		
106116	350	1524	0.34	10/16/2013 15:30	-406.128	0	-406.142	-0.05272	0.11818733

	250			0.78	10/16/2013 15:30	-406.128	0	0		
	150			0.36	10/16/2013 15:30	-406.128	0	0		
	50			-0.05	10/16/2013 15:30	-406.128	0	0		
106128	350		1532	0.32	10/16/2013 15:30	-406.128	-406.123	0	0.030906	0.20181267
	250			0.58	10/16/2013 15:30	-406.128	0	0		
	150			0.43	10/16/2013 15:30	-406.128	0	0		
	50			0.03	10/16/2013 15:30	-406.128	0	0		
106119	350		1535	0.35	10/16/2013 15:30	-406.128	-406.117	0		0.17090633
	250			0.65	10/16/2013 15:30	-406.128	0	0		
	150			0.52	10/16/2013 15:30	-406.128	0	0		
106112	350		1522	0.33	10/16/2013 15:30	-406.128	0	-406.146		0.17090633
	250			0.6	10/16/2013 15:30	-406.128	0	0		
	150			0.39	10/16/2013 15:30	-406.128	0	0		
106121	350		1528	0.23	10/16/2013 15:30	-406.128	0	-406.132	-0.17091	0
106121	250			0.26	10/16/2013 15:30	-406.128	0	0		
106121	150			0.14	10/16/2013 15:30	-406.128	0	0		
106121	50			-0.17	10/16/2013 15:30	-406.128	0	0		
106117	350		1605	0.07	10/16/2013 15:58	-406.046	0	-406.015	0.246344	0.41906333
	250			1.91	10/16/2013 15:58	-406.046	0	0		
	150			0.8	10/16/2013 15:58	-406.046	0	0		
	50			0.24	10/16/2013 15:58	-406.046	0	0		
106116	350		1552	0.29	10/16/2013 15:58	-406.046	-406.074	0	-0.05544	0.117281
	250			0.79	10/16/2013 15:58	-406.046	0	0		
	150			0.33	10/16/2013 15:58	-406.046	0	0		
	50			-0.05	10/16/2013 15:58	-406.046	0	0		
106128	350		1600	0.24	10/16/2013 15:58	-406.046	0	-406.037	0.021813	0.19453167
	250			0.54	10/16/2013 15:58	-406.046	0	0		
	150			0.38	10/16/2013 15:58	-406.046	0	0		
	50			0.02	10/16/2013 15:58	-406.046	0	0		
106119	350		1603	0.27	10/16/2013 15:58	-406.046	0	-406.024		0.172719
	250			0.58	10/16/2013 15:58	-406.046	0	0		
	150			0.45	10/16/2013 15:58	-406.046	0	0		
106112	350		1550	0.25	10/16/2013 15:58	-406.046	-406.083	0		0.172719
	250			0.51	10/16/2013 15:58	-406.046	0	0		
	150			0.31	10/16/2013 15:58	-406.046	0	0		
106121	350		1555	0.15	10/16/2013 15:58	-406.046	-406.06	0	-0.17272	0
106121	250			0.19	10/16/2013 15:58	-406.046	0	0		
106121	150			0.06	10/16/2013 15:58	-406.046	0	0		
106121	50			-0.17	10/16/2013 15:58	-406.046	0	0		
106117	350		1635	0.64	10/16/2013 16:27	-405.915	-405.879	0	0.237251	0.39906333
	250			1.68	10/16/2013 16:27	-405.915	0	0		
	150			0.75	10/16/2013 16:27	-405.915	0	0		
	50			0.23	10/16/2013 16:27	-405.915	0	0		
106116	350		1620	0.2	10/16/2013 16:27	-405.915	0	-405.947	-0.08634	0.07546833
	250			0.65	10/16/2013 16:27	-405.915	0	0		
	150			0.28	10/16/2013 16:27	-405.915	0	0		

	50		-0.08	10/16/2013 16:27	-405.915	0	0		
106128	350	1629	0.22	10/16/2013 16:27	-405.915	-405.906	0	0.021813	0.18362533
	250		0.5	10/16/2013 16:27	-405.915	0	0		
	150		0.34	10/16/2013 16:27	-405.915	0	0		
	50		0.02	10/16/2013 16:27	-405.915	0	0		
106119	350	1632	0.22	10/16/2013 16:27	-405.915	-405.892	0		0.16181267
	250		0.53	10/16/2013 16:27	-405.915	0	0		
	150		0.4	10/16/2013 16:27	-405.915	0	0		
106112	350	1617	0.19	10/16/2013 16:27	-405.915	0	-405.96		0.16181267
	250		0.48	10/16/2013 16:27	-405.915	0	0		
	150		0.29	10/16/2013 16:27	-405.915	0	0		
106121	350	1625	0.08	10/16/2013 16:27	-405.915	0	-405.924	-0.16181	0
106121	250		0.1	10/16/2013 16:27	-405.915	0	0		
106121	150		0.02	10/16/2013 16:27	-405.915	0	0		
106121	50		-0.16	10/16/2013 16:27	-405.915	0	0		
106117	350	1709	0.68	10/16/2013 17:01	-405.811	-405.811	0	0.28	0.41
	250		1.94	10/16/2013 17:01	-405.811	0	0		
	150		0.8	10/16/2013 17:01	-405.811	0	0		
	50		0.28	10/16/2013 17:01	-405.811	0	0		
106116	350	1655	0.21	10/16/2013 17:01	-405.811	0	-405.811	-0.01	0.12
	250		0.67	10/16/2013 17:01	-405.811	0	0		
	150		0.29	10/16/2013 17:01	-405.811	0	0		
	50		-0.01	10/16/2013 17:01	-405.811	0	0		
106128	350	1703	0.2	10/16/2013 17:01	-405.811	-405.811	0	0.05	0.18
	250		0.49	10/16/2013 17:01	-405.811	0	0		
	150		0.35	10/16/2013 17:01	-405.811	0	0		
	50		0.05	10/16/2013 17:01	-405.811	0	0		
106119	350	1707	0.2	10/16/2013 17:01	-405.811	-405.811	0		0.13
	250		0.54	10/16/2013 17:01	-405.811	0	0		
	150		0.42	10/16/2013 17:01	-405.811	0	0		
106112	350	1653	0.18	10/16/2013 17:01	-405.811	0	-405.811		0.13
	250		0.48	10/16/2013 17:01	-405.811	0	0		
	150		0.29	10/16/2013 17:01	-405.811	0	0		
106121	350	1658	0.07	10/16/2013 17:01	-405.811	0	-405.811	-0.13	0
106121	250		0.1	10/16/2013 17:01	-405.811	0	0		
106121	150		0.01	10/16/2013 17:01	-405.811	0	0		
106121	50		-0.13	10/16/2013 17:01	-405.811	0	0		
106117	350	1738	0.71	10/16/2013 17:31	-405.811	-405.811	0	0.31	0.38
	250		1.99	10/16/2013 17:31	-405.811	0	0		
	150		0.86	10/16/2013 17:31	-405.811	0	0		
	50		0.31	10/16/2013 17:31	-405.811	0	0		
106116	350	1725	0.23	10/16/2013 17:31	-405.811	0	-405.811	0.01	0.08
	250		0.69	10/16/2013 17:31	-405.811	0	0		
	150		0.32	10/16/2013 17:31	-405.811	0	0		
	50		0.01	10/16/2013 17:31	-405.811	0	0		
106128	350	1733	0.26	10/16/2013 17:31	-405.811	-405.811	0	0.14	0.21

	250			0.58	10/16/2013 17:31	-405.811	0	0		
	150			0.41	10/16/2013 17:31	-405.811	0	0		
	50			0.14	10/16/2013 17:31	-405.811	0	0		
106119	350		1737	0.25	10/16/2013 17:31	-405.811	-405.811	0		0.07
	250			0.61	10/16/2013 17:31	-405.811	0	0		
	150			0.48	10/16/2013 17:31	-405.811	0	0		
106112	350		1723	0.19	10/16/2013 17:31	-405.811	0	-405.811		0.07
	250			0.48	10/16/2013 17:31	-405.811	0	0		
	150			0.32	10/16/2013 17:31	-405.811	0	0		
106121	350		1729	0.1	10/16/2013 17:31	-405.811	0	-405.811	-0.07	0
106121	250			0.15	10/16/2013 17:31	-405.811	0	0		
106121	150			0.07	10/16/2013 17:31	-405.811	0	0		
106121	50			-0.07	10/16/2013 17:31	-405.811	0	0		
106117	350		1818	0.84	10/16/2013 18:03	-405.861	-405.929	0	0.396405	0.404562
	250			2.14	10/16/2013 18:03	-405.861	0	0		
	150			0.98	10/16/2013 18:03	-405.861	0	0		
	50			0.41	10/16/2013 18:03	-405.861	0	0		
106116	350		1801	0.33	10/16/2013 18:03	-405.861	0	-405.852	0.101813	0.10996967
	250			0.8	10/16/2013 18:03	-405.861	0	0		
	150			0.47	10/16/2013 18:03	-405.861	0	0		
	50			0.1	10/16/2013 18:03	-405.861	0	0		
106128	350		1805	0.33	10/16/2013 18:03	-405.861	-405.87	0	0.198187	0.20634433
	250			0.63	10/16/2013 18:03	-405.861	0	0		
	150			0.52	10/16/2013 18:03	-405.861	0	0		
	50			0.2	10/16/2013 18:03	-405.861	0	0		
106119	350		1754	0.31	10/16/2013 18:03	-405.861	0	-405.82		0.008157
	250			0.05	10/16/2013 18:03	-405.861	0	0		
	150			0.55	10/16/2013 18:03	-405.861	0	0		
106112	350		1758	0.28	10/16/2013 18:03	-405.861	0	-405.838		0.008157
	250			0.6	10/16/2013 18:03	-405.861	0	0		
	150			0.43	10/16/2013 18:03	-405.861	0	0		
106121	350		1812	0.2	10/16/2013 18:03	-405.861	-405.901	0	-0.00816	0
106121	250			0.26	10/16/2013 18:03	-405.861	0	0		
106121	150			0.18	10/16/2013 18:03	-405.861	0	0		
106121	50			0	10/16/2013 18:03	-405.861	0	0		
106117	350		1844	0.96	10/16/2013 18:35	-406.006	-406.046	0	0.501843	0.45365567
	250			2.28	10/16/2013 18:35	-406.006	0	0		
	150			1.14	10/16/2013 18:35	-406.006	0	0		
	50			0.51	10/16/2013 18:35	-406.006	0	0		
106116	350		1833	0.4	10/16/2013 18:35	-406.006	0	-405.997	0.161813	0.11362533
	250			0.9	10/16/2013 18:35	-406.006	0	0		
	150			0.56	10/16/2013 18:35	-406.006	0	0		
	50			0.16	10/16/2013 18:35	-406.006	0	0		
106128	350		1841	0.45	10/16/2013 18:35	-406.006	-406.033	0	0.304562	0.25637467
	250			0.79	10/16/2013 18:35	-406.006	0	0		
	150			0.66	10/16/2013 18:35	-406.006	0	0		

	50			0.31	10/16/2013 18:35	-406.006	0	0		
106119	350		1826	0.39	10/16/2013 18:35	-406.006	0	-405.965		-0.04818733
	250			0.75	10/16/2013 18:35	-406.006	0	0		
	150			0.64	10/16/2013 18:35	-406.006	0	0		
106112	350		1829	0.36	10/16/2013 18:35	-406.006	0	-405.978		-0.04818733
	250			0.68	10/16/2013 18:35	-406.006	0	0		
	150			0.54	10/16/2013 18:35	-406.006	0	0		
106121	350		1837	0.28	10/16/2013 18:35	-406.006	-406.015	0	0.048187	0
106121	250			0.35	10/16/2013 18:35	-406.006	0	0		
106121	150			0.27	10/16/2013 18:35	-406.006	0	0		
106121	50			0.05	10/16/2013 18:35	-406.006	0	0		

Well ID	Monitoring	10/16/2013_Time	Value	106121-350 measured	Applied Pressure
106149	1	1100	2.6	1.0221752	1.577825
106149	2	1115	5.5	1.0065256	4.493474
106149	3	1133	Sampling, port closed		
106149	4	1200			
106149	5	1202	5.3	0.8461024	4.453898
106149	6	1250	5.5	0.6395768	4.860423
106149	7	1320	5.5	0.4704232	5.029577
106149	8	1354	5.6	0.3869488	5.213051
106149	9	1421	5.4	0.3069488	5.093051
106149	10	1450	5.9	0.2704232	5.629577
106149	11	1519	5.5	0.2256496	5.27435
106149	12	1549	5.6	0.1369488	5.463051
106149	13	1624	5.5	0.0712992	5.428701
106149	14	1650	6	0.07	5.93
106149	15	1720	5.8	0.1	5.7
106149	16	1753	5.5	0.1608464	5.339154
106149	17	1820	5.6	0.2712992	5.328701
106149	18	1845	5.5		
106149	19	1850	Sampling, port closed		
106149	20	1900			

	106117	106116	106128	106119	106112	106121	106117	106116	106128	106119	106112	106121	106117
depth	350	350	350	350	350	350	250	250	250	250	250	250	150
Distance to 106149	30.34217	161.7289	206.6536	200.0375	219.8298	645.1983	102.5787	188.2983	228.7044	222.2949	240.2606	652.4422	200.8
10/16/2013 10:48	0.081329	0.073474	0.101752	0.036073	0.064774		-0.07589	-0.05381	-0.05731	-0.07396	-0.05888		-0.06288
10/16/2013 11:50	0.401693	0.020423	0.069577	0.072628	-0.04873		1.464321	0.27858	0.15142	0.219033	0.085741		0.438611
10/16/2013 12:23	0.456437	0.02127	0.116102	0.102205	-0.02746		1.626255	0.345741	0.235226	0.260453	0.161481		0.535787
10/16/2013 13:12	0.53127	0.110846	0.086102	0.072205	0.072116		1.535741	0.46716	0.245226	0.290453	0.322901		0.661458
10/16/2013 13:42	0.591782	0.073898	0.102628	0.12873	0.050846		1.741873	0.434774	0.289033	0.344259	0.26716		0.687107
10/16/2013 14:11	0.553504	0.102598	0.091752	0.058248	0.110453		1.715377	0.489849	0.312689	0.287311	0.357764		0.69855
10/16/2013 14:38	0.637854	0.076949	0.121752	0.033898	0.134803		1.827915	0.462387	0.332689	0.264774	0.390302		0.801404
10/16/2013 14:59	0.569154	0.120876	0.118278	0.124803	0.106526		1.69284	0.526344	0.346495	0.390302	0.353807		0.715695
10/16/2013 15:30	0.589577	0.101299	0.098701	0.135226	0.086949		1.78142	0.514925	0.325075	0.398882	0.332387		0.752847
10/16/2013 15:58	-0.0365	0.126949	0.111752	0.154803	0.078248		1.745377	0.592387	0.362689	0.410302	0.307311		0.76855
10/16/2013 16:27	0.603504	0.098248	0.157402	0.170453	0.075197		1.605377	0.537311	0.410151	0.447764	0.359698		0.75855
10/16/2013 17:01	0.61	0.14	0.13	0.13	0.11		1.84	0.57	0.39	0.44	0.38		0.79
10/16/2013 17:31	0.61	0.13	0.16	0.15	0.09		1.84	0.54	0.43	0.46	0.33		0.79
10/16/2013 18:03	0.613898	0.177854	0.160453	0.188307	0.140906		1.864774	0.567915	0.387764	-0.16432	0.375528		0.78287
10/16/2013 18:35	0.649547	0.137402	0.152598	0.157854	0.114803		1.912236	0.560151	0.429849	0.427915	0.350302		0.850015
	values have been updated												
	x	x	x	x	x	x	x	x	x	x	x	x	x

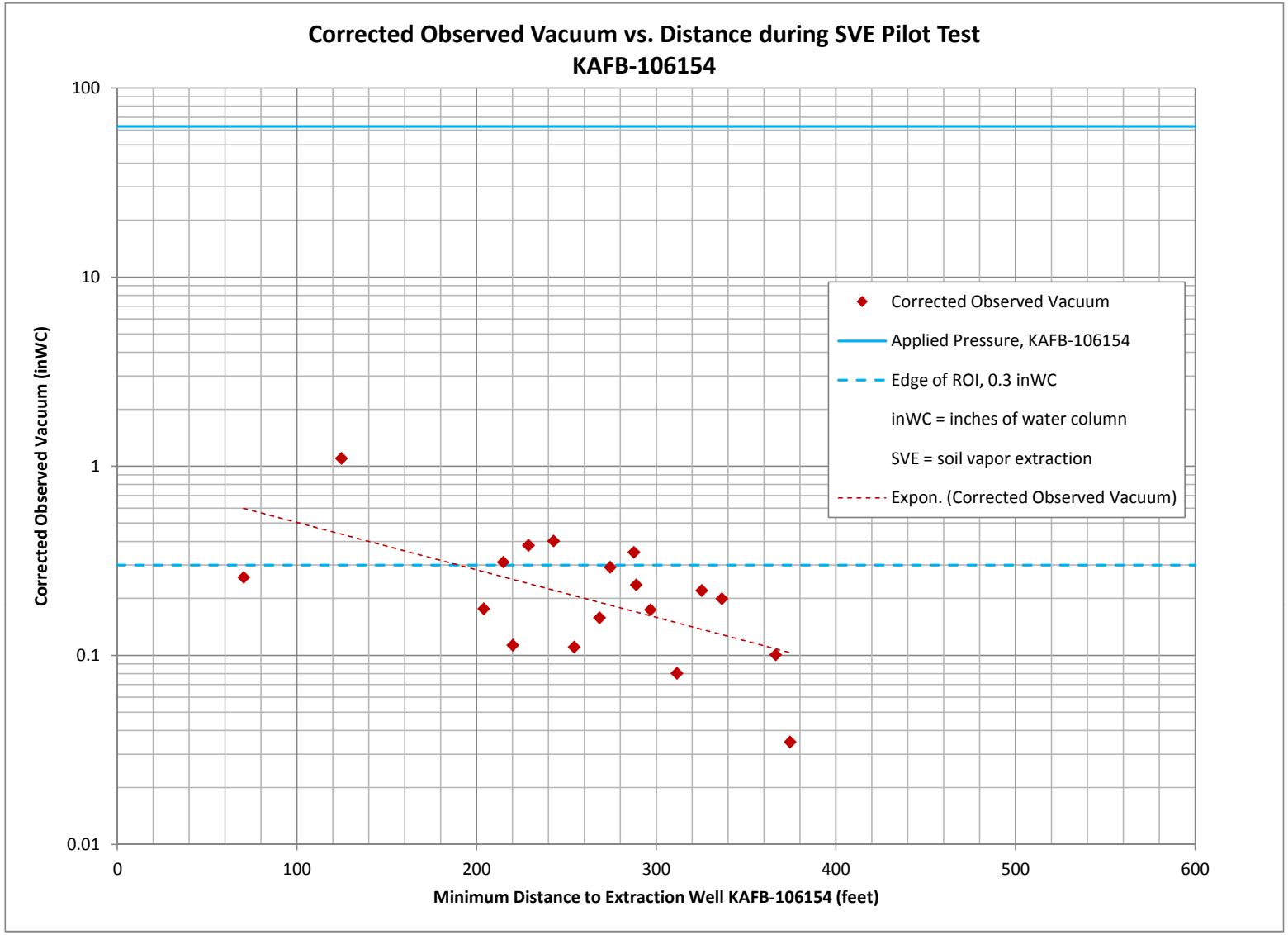
106116	106128	106119	106112	106121	106117	106116	106128	106119	106112	106121	
150	150	150	150	150	50	50	50	50	50	50	
251.7796	285.5008	280.7401	295.1697	675.9246	300.0344	338.1612	362.6371				
-0.03428	-0.03573	0.014298	-0.04999		0.21861	0.12864	0.224532	-0.12045	-0.12045		1.577825
0.017153	0.112847	0.231412	-0.00854		0.453686	0.145921	0.274079	-0.00136	-0.00136		4.493474
-0.01854	0.18713	0.274259	0.052916		0.460091	0.127765	0.275438	0.074562	0.074562		4.453898
0.134305	0.19713	0.294259	0.185764		0.517765	0.171843	0.235438	0.175921	0.175921		4.860423
0.16287	0.221412	0.328542	0.154305		0.474954	0.124562	0.236797	0.204079	0.204079		5.029577
0.16858	0.264275	0.195725	0.369985		0.429063	0.136375	0.244532	0.202719	0.202719		5.213051
0.181435	0.284275	0.18287	0.40284		0.48997	0.107281	0.234532	0.202719	0.202719		5.093051
0.237137	0.318557	0.37284	0.254282		0.398157	0.112266	0.195891	0.164079	0.164079		5.629577
0.21429	0.29571	0.389992	0.241435		0.444079	0.118187	0.201813	0.170906	0.170906		5.27435
0.261435	0.334275	0.41284	0.235725		0.419063	0.117281	0.194532	0.172719	0.172719		5.463051
0.245725	0.33142	0.399985	0.24716		0.399063	0.075468	0.183625	0.161813	0.161813		5.428701
0.28	0.34	0.41	0.28		0.41	0.12	0.18	0.13	0.13		5.93
0.25	0.34	0.41	0.25		0.38	0.08	0.21	0.07	0.07		5.7
0.321404	0.359985	0.421389	0.289969		0.404562	0.10997	0.206344	0.008157	0.008157		5.339154
0.30142	0.37858	0.401404	0.29284		0.453656	0.113625	0.256375	-0.04819	-0.04819		5.328701
x	x	x	x	x	x	x	x	x	x		

	Depth	Minimum distance to an extraction well	Distance to 106149 (ft)	Avg. Diff from Null	Corrected Avg. Diff from Null
106117	350		30.34217	0.497537	NA
106116	350		161.7289	0.100806	
106128	350		206.6536	0.11859	
106119	350		200.0375	0.114362	
106112	350		219.8298	0.077295	
106117	250		102.5787	1.607841	
106116	250		188.2983	0.455581	
106128	250		228.7044	0.306066	
106119	250		222.2949	0.293545	
106112	250		240.2606	0.2877	
106117	150		200.8	0.664571	
106116	150		251.7796	0.181529	
106128	150		285.5008	0.261991	
106119	150		280.7401	0.315988	
106112	150		295.1697	0.213246	
106117	50		300.0344	0.423515	
106116	50		338.1612	0.119279	
106128	50		362.6371	0.223595	
106119	50				
106112	50				
106121					
			0	4.987656	
			600	4.987656	
			0	0.14963	
			600	0.14963	

values have been updated

0.3

0.3


Corrected Observed Vacuum vs. Distance during SVE Pilot Test
KAFB-106154
Corrected Observed Vacuum (inWC)
100
10
1
0.1
0.01
0
100
200
300
400
500
600
Minimum Distance to Extraction Well KAFB-106154 (feet)
Corrected Observed Vacuum
Applied Pressure, KAFB-106154
Edge of ROI, 0.3 inWC
inWC = inches of water column
SVE = soil vapor extraction
Expon. (Corrected Observed Vacuum)

KAFB BFF Pilot Testing

P-log well 106154, Long Term Test performed on 10/18/13

Well ID	Screen Interval	Time	Vacuum (in Hg)	Vacuum (in WC)	Diff. Pressure (inWC)	Flow Rate (scfm)	Temp. (˚F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
106154	350	0903	4.6	62.4	5.79	472.5	55.8	61.5	71	1.48	0	18.61	0	0	
106154	350	0933	4.4	59.7	4.98	439.1	59	50.8	76	1.44	0	17.99	0	0	Collect
106154	350	1003	4.4	59.7	4.95	438.2	60.8	43.7	85	1.4	0	18.25	0	0	Sample
106154	350	1033	4.4	59.7	4.96	439.1	61.2	46	83	1.42	0	18.63	0	0	
106154	350	1103	4.5	61.0	4.81	433.0	63	41.1	88	1.4	0	18.1	0	0	
106154	350	1133	4.7	63.7	4.89	436.9	63.3	39.2	93	1.4	0	18.21	0	0	
106154	350	1203	4.9	66.4	4.96	440.7	64.6	44.4	96	1.42	0	18.07	0	0	
106154	350	1233	4.9	66.4	4.83	435.0	64.6	37	100	1.4	0	18.1	0	0	
106154	350	1303	5.1	69.2	4.51	421.3	66.6	31.9	102	1.38	0	17.55	0	0	
106154	350	1333	4.9	66.4	4.57	424.2	66.4	38.5	107	1.4	0	17.81	0	0	
106154	350	1403	4.8	65.1	4.78	434.3	67.3	36.8	113	1.4	0	17.03	0	0	
106154	350	1433	4.6	62.4	4.83	437.0	68.7	37.8	111	1.38	0	18.07	0	0	
106154	350	1503	4.5	61.0	4.83	436.0	67.1	33.3	112	1.38	0	17.67	0	0	
106154	350	1533	4.5	61.0	4.82	435.6	66.7	40.7	112	1.38	0	18.3	0	0	
106154	350	1603	4.2	57.0	4.71	430.7	67.6	35	117	1.42	0	18.28	0	0	
106154	350	1633	4.5	61.0	4.9	439.3	67.3	40.5	123	1.4	0	17.2	0	0	
106154	350	1645	Sampling, port closed												
106154	350	1703													
	Averaged parameters:		**4.6**	**62.6**	**4.9**	**437.0**	**64.4**	**41.1**	**99**	**1.4**	**0**	**18.0**	**0**	**0**	

Date and time	Barometric Pressure (inHg)	inWC	-inWC
10-18-2013 0:52 MDT	30.01	407.986	-407.986
10-18-2013 1:52 MDT	30.02	408.1219	-408.122
10-18-2013 2:52 MDT	30.03	408.2579	-408.258
10-18-2013 3:52 MDT	30.03	408.2579	-408.258
10-18-2013 4:52 MDT	30.03	408.2579	-408.258
10-18-2013 5:52 MDT	30.04	408.3938	-408.394
10-18-2013 6:52 MDT	30.05	408.5298	-408.53
10-18-2013 7:52 MDT	30.07	408.8017	-408.802
10-18-2013 8:52 MDT	30.1	409.2095	-409.21
10-18-2013 9:52 MDT	30.12	409.4814	-409.481
10-18-2013 10:52 MDT	30.12	409.4814	-409.481
10-18-2013 11:52 MDT	30.11	409.3455	-409.345
10-18-2013 12:52 MDT	30.1	409.2095	-409.21
10-18-2013 13:52 MDT	30.07	408.8017	-408.802
10-18-2013 14:52 MDT	30.07	408.8017	-408.802
10-18-2013 15:52 MDT	30.08	408.9376	-408.938
10-18-2013 16:52 MDT	30.09	409.0736	-409.074
10-18-2013 17:52 MDT	30.11	409.3455	-409.345
10-18-2013 18:52 MDT	30.13	409.6174	-409.617
10-18-2013 19:52 MDT	30.16	410.0252	-410.025
10-18-2013 20:52 MDT	30.18	410.2971	-410.297
10-18-2013 21:52 MDT	30.2	410.569	-410.569
10-18-2013 22:52 MDT	30.21	410.705	-410.705
10-18-2013 23:52 MDT	30.21	410.705	-410.705

MesoWest Disclaimer

Data provided by: National Weather Service

Contact MesoWest

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
106112	350	0		10/18/2013	821	10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074	821				0		0	-408.802	-409.21	-0.0068	29	-408.999
	250	0.08		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
	150	0.16		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
	50	0.22		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
106117	350	0.1		10/18/2013	837	10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074		837	-408.802	-409.21	-0.0068	45	-409.108			0		0
	250	0.13		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
	150	0.18		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
	50	0.21		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
106116	350	0.09		10/18/2013	834	10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074		834	-408.802	-409.21	-0.0068	42	-409.087			0		0
	250	0.17		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
	150	0.25		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
	50	0.29		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
106130	350	0.05		10/18/2013	825	10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074	825				0		0	-408.802	-409.21	-0.0068	33	-409.026
	250	0.09		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
	150	0.18		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
106119	350	0.05		10/18/2013	840	10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074		840	-408.802	-409.21	-0.0068	48	-409.128			0		0
	250	0.13		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
	150	0.18		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
106121	350	0.06		10/18/2013	830	10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074	830				0		0	-408.802	-409.21	-0.0068	38	-409.06
106121	250	0.1		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
106121	150	0.19		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
106121	50	0.31		10/18/2013		10/18/2013 8:32	-408.802	-409.21	-0.0068	40	-409.074					0		0			0		0
106112	350	0.28		10/18/2013	907	10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35	907				0		0	-409.21	-409.481	-0.00453	15	-409.277
	250	1.08		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
	150	0.34		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
	50	0.21		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
106117	350	0.28		10/18/2013	926	10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35		926	-409.21	-409.481	-0.00453	34	-409.364			0		0
	250	0.5		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
	150	0.4		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
	50	0.26		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
106116	350	0.21		10/18/2013	921	10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35	921				0		0	-409.21	-409.481	-0.00453	29	-409.341
	250	0.49		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
	150	0.34		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
	50	0.24		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
106130	350	0.15		10/18/2013	909	10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35	909				0		0	-409.21	-409.481	-0.00453	17	-409.287
	250	0.37		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
	150	0.25		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
106119	350	0.24		10/18/2013	928	10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35		928	-409.21	-409.481	-0.00453	36	-409.373			0		0
	250	0.36		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
	150	0.37		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
106121	350	0.18		10/18/2013	924	10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35		924	-409.21	-409.481	-0.00453	32	-409.355			0		0
106121	250	0.2		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
106121	150	0.25		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
106121	50	0.21		10/18/2013		10/18/2013 9:23	-409.21	-409.481	-0.00453	31	-409.35					0		0			0		0
106112	350	0.39		10/18/2013	935	10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45	935				0		0	-409.21	-409.481	-0.00453	43	-409.404
	250	1.32		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0		0
	150	0.51		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0		0
	50	0.26		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0		0
106117	350	0.39		10/18/2013	948	10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45		948	-409.21	-409.481	-0.00453	56	-409.463			0		0
	250	0.63		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0		0
	150	0.5		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0		0
	50	0.31		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0		0
106116	350	0.33		10/18/2013	943	10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45	943				0		0	-409.21	-409.481	-0.00453	51	-409.441
	250	0.62		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0		0
	150	0.44		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0		0
	50	0.27		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0		0
106130	350	0.31		10/18/2013	937	10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45	937				0		0	-409.21	-409.481	-0.00453	45	-409.413
	250	0.54		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0		0
	150	0.41		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0		0

106119	350	0.33		10/18/2013	950	10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45		950	-409.21	-409.481	-0.00453	58	-409.472			0	0
	250	0.55		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0	0
	150	0.48		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0	0
106121	350	0.27		10/18/2013	946	10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45		946	-409.21	-409.481	-0.00453	54	-409.454			0	0
106121	250	0.31		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0	0
106121	150	0.36		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0	0
106121	50	0.24		10/18/2013		10/18/2013 9:45	-409.21	-409.481	-0.00453	53	-409.45					0		0			0	0
106112	350	0.49		10/18/2013	1004	10/18/2013 10:14	-409.481	-409.481	0	22	-409.481	1004				0		0	-409.481	-409.481	0	12	-409.481
	250	1.45		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
	150	0.62		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
	50	0.27		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
106117	350	0.44		10/18/2013	1018	10/18/2013 10:14	-409.481	-409.481	0	22	-409.481		1018	-409.481	-409.481	0	26	-409.481			0	0
	250	0.7		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
	150	0.56		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
	50	0.29		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
106116	350	0.35		10/18/2013	1013	10/18/2013 10:14	-409.481	-409.481	0	22	-409.481	1013				0		0	-409.481	-409.481	0	21	-409.481
	250	0.7		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
	150	0.48		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
	50	0.21		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
106130	350	0.38		10/18/2013	1006	10/18/2013 10:14	-409.481	-409.481	0	22	-409.481	1006				0		0	-409.481	-409.481	0	14	-409.481
	250	0.62		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
	150	0.47		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
106119	350	0.4		10/18/2013	1020	10/18/2013 10:14	-409.481	-409.481	0	22	-409.481		1020	-409.481	-409.481	0	28	-409.481			0	0
	250	0.63		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
	150	0.55		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
106121	350	0.28		10/18/2013	1015	10/18/2013 10:14	-409.481	-409.481	0	22	-409.481		1015	-409.481	-409.481	0	23	-409.481			0	0
106121	250	0.33		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
106121	150	0.36		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
106121	50	0.18		10/18/2013		10/18/2013 10:14	-409.481	-409.481	0	22	-409.481					0		0			0	0
106112	350	0.58		10/18/2013	1038	10/18/2013 10:44	-409.481	-409.481	0	52	-409.481		1038	-409.481	-409.481	0	46	-409.481			0	0
	250	1.56		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
	150	0.69		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
	50	0.26		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
106117	350	0.51		10/18/2013	1047	10/18/2013 10:44	-409.481	-409.481	0	52	-409.481		1047	-409.481	-409.481	0	55	-409.481			0	0
	250	0.78		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
	150	0.63		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
	50	0.3		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
106116	350	0.43		10/18/2013	1045	10/18/2013 10:44	-409.481	-409.481	0	52	-409.481	1045				0		0	-409.481	-409.481	0	53	-409.481
	250	0.81		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
	150	0.56		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
	50	0.23		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
106130	350	0.48		10/18/2013	1041	10/18/2013 10:44	-409.481	-409.481	0	52	-409.481	1041				0		0	-409.481	-409.481	0	49	-409.481
	250	0.72		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
	150	0.58		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
106119	350	0.45		10/18/2013	1050	10/18/2013 10:44	-409.481	-409.481	0	52	-409.481		1050	-409.481	-409.481	0	58	-409.481			0	0
	250	0.7		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
	150	0.61		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
106121	350	0.35		10/18/2013	1043	10/18/2013 10:44	-409.481	-409.481	0	52	-409.481	1043				0		0	-409.481	-409.481	0	51	-409.481
106121	250	0.38		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
106121	150	0.4		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
106121	50	0.15		10/18/2013		10/18/2013 10:44	-409.481	-409.481	0	52	-409.481					0		0			0	0
106112	350	0.57		10/18/2013	1106	10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434	1106				0		0	-409.481	-409.345	0.002266	14	-409.45
	250	1.54		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0	0
	150	0.66		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0	0
	50	0.2		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0	0
106117	350	0.46		10/18/2013	1116	10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434		1116	-409.481	-409.345	0.002266	24	-409.427			0	0
	250	0.73		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0	0
	150	0.55		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0	0
	50	0.22		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0	0
106116	350	0.39		10/18/2013	1114	10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434		1114	-409.481	-409.345	0.002266	22	-409.432			0	0
	250	0.79		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0	0
	150	0.51		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0	0

	50	0.15		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0		0
106130	350	0.49		10/18/2013	1108	10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434	1108				0		0	-409.481	-409.345	0.002266	16	-409.445
	250	0.75		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0		0
	150	0.58		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0		0
106119	350	0.38		10/18/2013	1118	10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434		1118	-409.481	-409.345	0.002266	26	-409.422			0		0
	250	0.64		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0		0
	150	0.53		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0		0
106121	350	0.31		10/18/2013	1111	10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434	1111				0		0	-409.481	-409.345	0.002266	19	-409.438
106121	250	0.38		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0		0
106121	150	0.34		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0		0
106121	50	0.1		10/18/2013		10/18/2013 11:13	-409.481	-409.345	0.002266	21	-409.434					0		0			0		0
106112	350	0.52		10/18/2013	1138	10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364	1138				0		0	-409.481	-409.345	0.002266	46	-409.377
	250	1.48		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
	150	0.61		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
	50	0.17		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
106117	350	0.32		10/18/2013	1148	10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364		1148	-409.481	-409.345	0.002266	56	-409.355			0		0
	250	0.61		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
	150	0.43		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
	50	0.12		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
106116	350	0.29		10/18/2013	1145	10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364		1145	-409.481	-409.345	0.002266	53	-409.361			0		0
	250	0.67		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
	150	0.41		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
	50	0.05		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
106130	350	0.35		10/18/2013	1140	10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364	1140				0		0	-409.481	-409.345	0.002266	48	-409.373
	250	0.63		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
	150	0.43		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
106119	350	0.27		10/18/2013	1150	10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364		1150	-409.481	-409.345	0.002266	58	-409.35			0		0
	250	0.54		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
	150	0.41		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
106121	350	0.18		10/18/2013	1142	10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364	1142				0		0	-409.481	-409.345	0.002266	50	-409.368
106121	250	0.25		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
106121	150	0.21		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
106121	50	0		10/18/2013		10/18/2013 11:44	-409.481	-409.345	0.002266	52	-409.364					0		0			0		0
106112	350	0.4		10/18/2013	1205	10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305	1205				0		0	-409.345	-409.21	0.002266	13	-409.316
	250	1.36		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
	150	0.49		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
	50	0.06		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
106117	350	0.32		10/18/2013	1212	10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305		1212	-409.345	-409.21	0.002266	20	-409.3			0		0
	250	0.62		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
	150	0.43		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
	50	0.13		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
106116	350	0.24		10/18/2013	1208	10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305	1208				0		0	-409.345	-409.21	0.002266	16	-409.309
	250	0.63		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
	150	0.38		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
	50	0.06		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
106130	350	0.3		10/18/2013	1206	10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305	1206				0		0	-409.345	-409.21	0.002266	14	-409.314
	250	0.6		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
	150	0.4		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
106119	350	0.2		10/18/2013	1218	10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305		1218	-409.345	-409.21	0.002266	26	-409.287			0		0
	250	0.45		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
	150	0.38		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
106121	350	0.11		10/18/2013	1215	10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305		1215	-409.345	-409.21	0.002266	23	-409.293			0		0
106121	250	0.19		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
106121	150	0.15		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
106121	50	-0.03		10/18/2013		10/18/2013 12:10	-409.345	-409.21	0.002266	18	-409.305					0		0			0		0
106112	350	0.37		10/18/2013	1235	10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232	1235				0		0	-409.345	-409.21	0.002266	43	-409.248
	250	1.33		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
	150	0.46		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
	50	0.06		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
106117	350	0.27		10/18/2013	1240	10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232	1240				0		0	-409.345	-409.21	0.002266	48	-409.237
	250	0.59		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
	150	0.4		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0

	50	0.11		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
106116	350	0.21		10/18/2013	1238	10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232	1238				0		0	-409.345	-409.21	0.002266	46	-409.241
	250	0.59		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
	150	0.3		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
	50	0.02		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
106130	350	0.28		10/18/2013	1243	10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232		1243	-409.345	-409.21	0.002266	51	-409.23			0		0
	250	0.55		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
	150	0.38		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
106119	350	0.2		10/18/2013	1248	10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232		1248	-409.345	-409.21	0.002266	56	-409.219			0		0
	250	0.47		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
	150	0.37		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
106121	350	0.1		10/18/2013	1245	10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232		1245	-409.345	-409.21	0.002266	53	-409.225			0		0
106121	250	0.18		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
106121	150	0.14		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
106121	50	-0.02		10/18/2013		10/18/2013 12:42	-409.345	-409.21	0.002266	50	-409.232					0		0			0		0
106112	350	0.24		10/18/2013	1306	10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074	1306				0		0	-409.21	-408.802	0.006797	14	-409.114
	250	1.22		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
	150	0.36		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
	50	0		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
106117	350	0.05		10/18/2013	1315	10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074		1315	-409.21	-408.802	0.006797	23	-409.053			0		0
	250	0.36		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
	150	0.2		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
	50	-0.03		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
106116	350	0.05		10/18/2013	1313	10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074		1313	-409.21	-408.802	0.006797	21	-409.067			0		0
	250	0.44		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
	150	0.17		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
	50	-0.08		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
106130	350	0.12		10/18/2013	1309	10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074	1309				0		0	-409.21	-408.802	0.006797	17	-409.094
	250	0.42		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
	150	0.22		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
106119	350	0		10/18/2013	1319	10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074		1319	-409.21	-408.802	0.006797	27	-409.026			0		0
	250	0.29		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
	150	0.17		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
106121	350	-0.05		10/18/2013	1311	10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074	1311				0		0	-409.21	-408.802	0.006797	19	-409.08
106121	250	0		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
106121	150	0		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
106121	50	-0.11		10/18/2013		10/18/2013 13:12	-409.21	-408.802	0.006797	20	-409.074					0		0			0		0
106112	350	0.18		10/18/2013	1337	10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856	1337				0		0	-409.21	-408.802	0.006797	45	-408.904
	250	1.17		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
	150	0.29		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
	50	0		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
106117	350	0		10/18/2013	1351	10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856		1351	-409.21	-408.802	0.006797	59	-408.808			0		0
	250	0.31		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
	150	0.12		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
	50	-0.02		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
106116	350	0.02		10/18/2013	1342	10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856	1342				0		0	-409.21	-408.802	0.006797	50	-408.87
	250	0.39		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
	150	0.09		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
	50	-0.09		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
106130	350	0.06		10/18/2013	1339	10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856	1339				0		0	-409.21	-408.802	0.006797	47	-408.89
	250	0.35		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
	150	0.17		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
106119	350	-0.05		10/18/2013	1355	10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856		1355	-408.802	-408.802	0	3	-408.802			0		0
	250	0.23		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
	150	0.12		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
106121	350	-0.17		10/18/2013	1346	10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856		1346	-409.21	-408.802	0.006797	54	-408.842			0		0
106121	250	-0.07		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
106121	150	-0.12		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
106121	50	-0.11		10/18/2013		10/18/2013 13:44	-409.21	-408.802	0.006797	52	-408.856					0		0			0		0
106112	350	0.1		10/18/2013	1408	10/18/2013 14:15	-408.802	-408.802	0	23	-408.802	1408				0		0	-408.802	-408.802	0	16	-408.802
	250	1.09		10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0		0			0		0
	150	0.24		10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0		0			0		0

	50	0	10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0	0			0	0
106117	350	0	10/18/2013	1418	10/18/2013 14:15	-408.802	-408.802	0	23	-408.802		1418	-408.802	-408.802	0	26 -408.802			0	0
	250	0.3	10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0	0			0	0
	150	0.13	10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0	0			0	0
	50	0	10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0	0			0	0
106116	350	-0.09	10/18/2013	1416	10/18/2013 14:15	-408.802	-408.802	0	23	-408.802		1416	-408.802	-408.802	0	24 -408.802			0	0
	250	0.31	10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0	0			0	0
	150	0.04	10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0	0			0	0
	50	-0.1	10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0	0			0	0
106130	350	0	10/18/2013	1412	10/18/2013 14:15	-408.802	-408.802	0	23	-408.802	1412				0	0	-408.802	-408.802	0	20 -408.802
	250	0.3	10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0	0			0	0
	150	0.11	10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0	0			0	0
106119	350	-0.1	10/18/2013	1420	10/18/2013 14:15	-408.802	-408.802	0	23	-408.802		1420	-408.802	-408.802	0	28 -408.802			0	0
	250	0.17	10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0	0			0	0
	150	0.11	10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0	0			0	0
106121	350	-0.18	10/18/2013	1414	10/18/2013 14:15	-408.802	-408.802	0	23	-408.802	1414				0	0	-408.802	-408.802	0	22 -408.802
106121	250	-0.09	10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0	0			0	0
106121	150	-0.13	10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0	0			0	0
106121	50	-0.12	10/18/2013		10/18/2013 14:15	-408.802	-408.802	0	23	-408.802					0	0			0	0
106112	350	0.14	10/18/2013	1436	10/18/2013 14:42	-408.802	-408.802	0	50	-408.802	1436				0	0	-408.802	-408.802	0	44 -408.802
	250	1.12	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
	150	0.27	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
	50	0.06	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
106117	350	0.01	10/18/2013	1445	10/18/2013 14:42	-408.802	-408.802	0	50	-408.802		1445	-408.802	-408.802	0	53 -408.802			0	0
	250	0.34	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
	150	0.16	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
	50	0.04	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
106116	350	-0.03	10/18/2013	1443	10/18/2013 14:42	-408.802	-408.802	0	50	-408.802		1443	-408.802	-408.802	0	51 -408.802			0	0
	250	0.37	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
	150	0.08	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
	50	-0.02	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
106130	350	0.03	10/18/2013	1438	10/18/2013 14:42	-408.802	-408.802	0	50	-408.802	1438				0	0	-408.802	-408.802	0	46 -408.802
	250	0.36	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
	150	0.14	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
106119	350	-0.04	10/18/2013	1447	10/18/2013 14:42	-408.802	-408.802	0	50	-408.802		1447	-408.802	-408.802	0	55 -408.802			0	0
	250	0.25	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
	150	0.14	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
106121	350	-0.21	10/18/2013	1441	10/18/2013 14:42	-408.802	-408.802	0	50	-408.802	1441				0	0	-408.802	-408.802	0	49 -408.802
106121	250	-0.11	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
106121	150	-0.14	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
106121	50	-0.06	10/18/2013		10/18/2013 14:42	-408.802	-408.802	0	50	-408.802					0	0			0	0
106112	350	0.11	10/18/2013	1508	10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851	1508				0	0	-408.802	-408.938	-0.00227	16 -408.838
	250	1.1	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
	150	0.22	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
	50	0	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
106117	350	0.02	10/18/2013	1517	10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851		1517	-408.802	-408.938	-0.00227	25 -408.858			0	0
	250	0.34	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
	150	0.19	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
	50	0.06	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
106116	350	-0.07	10/18/2013	1515	10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851		1515	-408.802	-408.938	-0.00227	23 -408.854			0	0
	250	0.33	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
	150	0.07	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
	50	-0.04	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
106130	350	-0.03	10/18/2013	1510	10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851	1510				0	0	-408.802	-408.938	-0.00227	18 -408.842
	250	0.28	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
	150	0.1	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
106119	350	-0.02	10/18/2013	1519	10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851		1519	-408.802	-408.938	-0.00227	27 -408.863			0	0
	250	0.25	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
	150	0.18	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
106121	350	-0.26	10/18/2013	1512	10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851	1512				0	0	-408.802	-408.938	-0.00227	20 -408.847
106121	250	-0.17	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
106121	150	-0.17	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0

106121	50	-0.09	10/18/2013		10/18/2013 15:14	-408.802	-408.938	-0.00227	22	-408.851					0	0			0	0
106112	350	0.12	10/18/2013	1536	10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915	1536				0	0	-408.802	-408.938	-0.00227	44	-408.901
	250	1.14	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
	150	0.27	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
	50	0.06	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
106117	350	0.12	10/18/2013	1546	10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915		1546	-408.802	-408.938	-0.00227	54	-408.924		0		0
	250	0.43	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
	150	0.26	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
	50	0.16	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
106116	350	0.01	10/18/2013	1543	10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915		1543	-408.802	-408.938	-0.00227	51	-408.917		0		0
	250	0.43	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
	150	0.16	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
	50	0.01	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
106130	350	0.04	10/18/2013	1538	10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915	1538				0	0	-408.802	-408.938	-0.00227	46	-408.906
	250	0.34	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
	150	0.17	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
106119	350	0.06	10/18/2013	1551	10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915		1551	-408.802	-408.938	-0.00227	59	-408.935		0		0
	250	0.35	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
	150	0.29	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
106121	350	-0.17	10/18/2013	1541	10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915	1541				0	0	-408.802	-408.938	-0.00227	49	-408.913
106121	250	-0.07	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
106121	150	-0.08	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
106121	50	0	10/18/2013		10/18/2013 15:42	-408.802	-408.938	-0.00227	50	-408.915					0	0			0		0
106112	350	0.26	10/18/2013	1607	10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987	1607				0	0	-408.938	-409.074	-0.00227	15	-408.972
	250	1.28	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
	150	0.44	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
	50	0.15	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
106117	350	0.18	10/18/2013	1617	10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987		1617	-408.938	-409.074	-0.00227	25	-408.994		0		0
	250	0.47	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
	150	0.3	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
	50	0.12	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
106116	350	0.08	10/18/2013	1615	10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987		1615	-408.938	-409.074	-0.00227	23	-408.99		0		0
	250	0.51	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
	150	0.24	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
	50	0.05	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
106130	350	0.14	10/18/2013	1610	10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987	1610				0	0	-408.938	-409.074	-0.00227	18	-408.978
	250	0.45	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
	150	0.28	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
106119	350	0.09	10/18/2013	1619	10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987		1619	-408.938	-409.074	-0.00227	27	-408.999		0		0
	250	0.42	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
	150	0.32	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
106121	350	-0.08	10/18/2013	1613	10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987	1613				0	0	-408.938	-409.074	-0.00227	21	-408.985
106121	250	0.01	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
106121	150	-0.01	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
106121	50	0.03	10/18/2013		10/18/2013 16:14	-408.938	-409.074	-0.00227	22	-408.987					0	0			0		0
106112	350	0.28	10/18/2013	1634	10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055	1634				0	0	-408.938	-409.074	-0.00227	42	-409.033
	250	1.28	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055					0	0			0		0
	150	0.45	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055					0	0			0		0
	50	0.14	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055					0	0			0		0
106117	350	0.29	10/18/2013	1651	10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055		1651	-408.938	-409.074	-0.00227	59	-409.071		0		0
	250	0.61	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055					0	0			0		0
	150	0.44	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055					0	0			0		0
	50	0.21	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055					0	0			0		0
106116	350	0.17	10/18/2013	1641	10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055	1641				0	0	-408.938	-409.074	-0.00227	49	-409.049
	250	0.55	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055					0	0			0		0
	150	0.31	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055					0	0			0		0
	50	0.12	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055					0	0			0		0
106130	350	0.18	10/18/2013	1637	10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055	1637				0	0	-408.938	-409.074	-0.00227	45	-409.04
	250	0.48	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055					0	0			0		0
	150	0.31	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055					0	0			0		0
106119	350	0.18	10/18/2013	1655	10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055		1655	-409.074	-409.345	-0.00453	3	-409.087		0		0
	250	0.5	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055					0	0			0		0

	150	0.4	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055				0	0	0	0
106121	350	0	10/18/2013	1646	10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055	1646	-408.938	-409.074	-0.00227	54	-409.06	0	0
106121	250	0.11	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055				0	0	0	0	0
106121	150	0.09	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055				0	0	0	0	0
106121	50	0.09	10/18/2013		10/18/2013 16:44	-408.938	-409.074	-0.00227	52	-409.055				0	0	0	0	0

Well ID	Depth	Distance to 106161 (ft)	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106121	350			830	0.06	10/18/2013 8:32	-409.074	0	-409.06	0.073051	0			
106121	350			924	0.18	10/18/2013 9:23	-409.35	-409.355	0	0.17565	0			
106121	350			946	0.27	10/18/2013 9:45	-409.45	-409.454	0	0.26565	0			
106121	350			1015	0.28	10/18/2013 10:14	-409.481	-409.481	0	0.28	0			
106121	350			1043	0.35	10/18/2013 10:44	-409.481	0	-409.481	0.35	0			
106121	350			1111	0.31	10/18/2013 11:13	-409.434	0	-409.438	0.30565	0			
106121	350			1142	0.18	10/18/2013 11:44	-409.364	0	-409.368	0.17565	0			
106121	350			1215	0.11	10/18/2013 12:10	-409.305	-409.293	0	0.120876	0			
106121	350			1245	0.1	10/18/2013 12:42	-409.232	-409.225	0	0.106526	0			
106121	350			1311	-0.05	10/18/2013 13:12	-409.074	0	-409.08	-0.05653	0			
106121	350			1346	-0.17	10/18/2013 13:44	-408.856	-408.842	0	-0.15695	0			
106121	350			1414	-0.18	10/18/2013 14:15	-408.802	0	-408.802	-0.18	0			
106121	350			1441	-0.21	10/18/2013 14:42	-408.802	0	-408.802	-0.21	0			
106121	350			1512	-0.26	10/18/2013 15:14	-408.851	0	-408.847	-0.25565	0			
106121	350			1541	-0.17	10/18/2013 15:42	-408.915	0	-408.913	-0.16782	0			
106121	350			1613	-0.08	10/18/2013 16:14	-408.987	0	-408.985	-0.07782	0			
106121	350			1646	0	10/18/2013 16:44	-409.055	-409.06	0	-0.00435	0			

Well ID	Depth	Distance to 106161 (ft)	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106112	350			821	0	10/18/2013 8:32	-409.074	0	-408.999	0.121873	0.0142594			
	250				0.08	10/18/2013 8:32	-409.074	0	0					
	150				0.16	10/18/2013 8:32	-409.074	0	0					
	50				0.22	10/18/2013 8:32	-409.074	0	0					
106117	350			837	0.1	10/18/2013 8:32	-409.074	-409.108	0	0.110967	0.0033538			
	250				0.13	10/18/2013 8:32	-409.074	0	0					
	150				0.18	10/18/2013 8:32	-409.074	0	0					
	50				0.21	10/18/2013 8:32	-409.074	0	0					
106116	350			834	0.09	10/18/2013 8:32	-409.074	-409.087	0	0.162387	0.0547736			
	250				0.17	10/18/2013 8:32	-409.074	0	0					
	150				0.25	10/18/2013 8:32	-409.074	0	0					
	50				0.29	10/18/2013 8:32	-409.074	0	0					
106130	350			825	0.05	10/18/2013 8:32	-409.074	0	-409.026	0.116646	0.009033			
	250				0.09	10/18/2013 8:32	-409.074	0	0					
	150				0.18	10/18/2013 8:32	-409.074	0	0					
106119	350			840	0.05	10/18/2013 8:32	-409.074	-409.128	0	0.099547	-0.008066			
	250				0.13	10/18/2013 8:32	-409.074	0	0					
	150				0.18	10/18/2013 8:32	-409.074	0	0					
106121	350			830	0.06	10/18/2013 8:32	-409.074	0	-409.06	0.107613	0			
	250				0.1	10/18/2013 8:32	-409.074	0	0					
	150				0.19	10/18/2013 8:32	-409.074	0	0					
	50				0.31	10/18/2013 8:32	-409.074	0	0					
106112	350			907	0.28	10/18/2013 9:23	-409.35	0	-409.277	1.120604	0.923141467			
	250				1.08	10/18/2013 9:23	-409.35	0	0					
	150				0.34	10/18/2013 9:23	-409.35	0	0					
	50				0.21	10/18/2013 9:23	-409.35	0	0					
106117	350			926	0.28	10/18/2013 9:23	-409.35	-409.364	0	0.492387	0.294924533			
	250				0.5	10/18/2013 9:23	-409.35	0	0					
	150				0.4	10/18/2013 9:23	-409.35	0	0					
	50				0.26	10/18/2013 9:23	-409.35	0	0					
106116	350			921	0.21	10/18/2013 9:23	-409.35	0	-409.341	0.495075	0.2976132			
	250				0.49	10/18/2013 9:23	-409.35	0	0					
	150				0.34	10/18/2013 9:23	-409.35	0	0					
	50				0.24	10/18/2013 9:23	-409.35	0	0					
106130	350			909	0.15	10/18/2013 9:23	-409.35	0	-409.287	0.405528	0.208066			
	250				0.37	10/18/2013 9:23	-409.35	0	0					
	150				0.25	10/18/2013 9:23	-409.35	0	0					
106119	350			928	0.24	10/18/2013 9:23	-409.35	-409.373	0	0.347311	0.149849067			
	250				0.36	10/18/2013 9:23	-409.35	0	0					
	150				0.37	10/18/2013 9:23	-409.35	0	0					
106121	350			924	0.18	10/18/2013 9:23	-409.35	-409.355	0	0.197462	0			
	250				0.2	10/18/2013 9:23	-409.35	0	0					
	150				0.25	10/18/2013 9:23	-409.35	0	0					
	50				0.21	10/18/2013 9:23	-409.35	0	0					

106112	350	935	0.39	10/18/2013 9:45	-409.45	0	-409.404	1.345377	1.037915067	
	250		1.32	10/18/2013 9:45	-409.45	0	0			
	150		0.51	10/18/2013 9:45	-409.45	0	0			
	50		0.26	10/18/2013 9:45	-409.45	0	0			
106117	350	948	0.39	10/18/2013 9:45	-409.45	-409.463	0	0.622387	0.314924533	
	250		0.63	10/18/2013 9:45	-409.45	0	0			
	150		0.5	10/18/2013 9:45	-409.45	0	0			
	50		0.31	10/18/2013 9:45	-409.45	0	0			
106116	350	943	0.33	10/18/2013 9:45	-409.45	0	-409.441	0.625075	0.3176132	
	250		0.62	10/18/2013 9:45	-409.45	0	0			
	150		0.44	10/18/2013 9:45	-409.45	0	0			
	50		0.27	10/18/2013 9:45	-409.45	0	0			
106130	350	937	0.31	10/18/2013 9:45	-409.45	0	-409.413	0.560302	0.2528396	
	250		0.54	10/18/2013 9:45	-409.45	0	0			
	150		0.41	10/18/2013 9:45	-409.45	0	0			
106119	350	950	0.33	10/18/2013 9:45	-409.45	-409.472	0	0.537311	0.229849067	
	250		0.55	10/18/2013 9:45	-409.45	0	0			
	150		0.48	10/18/2013 9:45	-409.45	0	0			
106121	350	946	0.27	10/18/2013 9:45	-409.45	-409.454	0	0.307462	0	
	250		0.31	10/18/2013 9:45	-409.45	0	0			
	150		0.36	10/18/2013 9:45	-409.45	0	0			
	50		0.24	10/18/2013 9:45	-409.45	0	0			
106112	350	1004	0.49	10/18/2013 10:14	-409.481	0	-409.481	1.45	1.12	
	250		1.45	10/18/2013 10:14	-409.481	0	0			
	150		0.62	10/18/2013 10:14	-409.481	0	0			
	50		0.27	10/18/2013 10:14	-409.481	0	0			
106117	350	1018	0.44	10/18/2013 10:14	-409.481	-409.481	0	0.7	0.37	
	250		0.7	10/18/2013 10:14	-409.481	0	0			
	150		0.56	10/18/2013 10:14	-409.481	0	0			
	50		0.29	10/18/2013 10:14	-409.481	0	0			
106116	350	1013	0.35	10/18/2013 10:14	-409.481	0	-409.481	0.7	0.37	
	250		0.7	10/18/2013 10:14	-409.481	0	0			
	150		0.48	10/18/2013 10:14	-409.481	0	0			
	50		0.21	10/18/2013 10:14	-409.481	0	0			
106130	350	1006	0.38	10/18/2013 10:14	-409.481	0	-409.481	0.62	0.29	
	250		0.62	10/18/2013 10:14	-409.481	0	0			
	150		0.47	10/18/2013 10:14	-409.481	0	0			
106119	350	1020	0.4	10/18/2013 10:14	-409.481	-409.481	0	0.63	0.3	
	250		0.63	10/18/2013 10:14	-409.481	0	0			
	150		0.55	10/18/2013 10:14	-409.481	0	0			
106121	350	1015	0.28	10/18/2013 10:14	-409.481	-409.481	0	0.33	0	
	250		0.33	10/18/2013 10:14	-409.481	0	0			
	150		0.36	10/18/2013 10:14	-409.481	0	0			
	50		0.18	10/18/2013 10:14	-409.481	0	0			
106112	350	1038	0.58	10/18/2013 10:44	-409.481	-409.481	0	1.56	1.18	
	250		1.56	10/18/2013 10:44	-409.481	0	0			

	150			0.69	10/18/2013 10:44	-409.481	0	0		
	50			0.26	10/18/2013 10:44	-409.481	0	0		
106117	350		1047	0.51	10/18/2013 10:44	-409.481	-409.481	0	0.78	0.4
	250			0.78	10/18/2013 10:44	-409.481	0	0		
	150			0.63	10/18/2013 10:44	-409.481	0	0		
	50			0.3	10/18/2013 10:44	-409.481	0	0		
106116	350		1045	0.43	10/18/2013 10:44	-409.481	0	-409.481	0.81	0.43
	250			0.81	10/18/2013 10:44	-409.481	0	0		
	150			0.56	10/18/2013 10:44	-409.481	0	0		
	50			0.23	10/18/2013 10:44	-409.481	0	0		
106130	350		1041	0.48	10/18/2013 10:44	-409.481	0	-409.481	0.72	0.34
	250			0.72	10/18/2013 10:44	-409.481	0	0		
	150			0.58	10/18/2013 10:44	-409.481	0	0		
106119	350		1050	0.45	10/18/2013 10:44	-409.481	-409.481	0	0.7	0.32
	250			0.7	10/18/2013 10:44	-409.481	0	0		
	150			0.61	10/18/2013 10:44	-409.481	0	0		
106121	350		1043	0.35	10/18/2013 10:44	-409.481	0	-409.481	0.38	0
	250			0.38	10/18/2013 10:44	-409.481	0	0		
	150			0.4	10/18/2013 10:44	-409.481	0	0		
	50			0.15	10/18/2013 10:44	-409.481	0	0		
106112	350		1106	0.57	10/18/2013 11:13	-409.434	0	-409.45	1.531118	1.153655667
	250			1.54	10/18/2013 11:13	-409.434	0	0		
	150			0.66	10/18/2013 11:13	-409.434	0	0		
	50			0.2	10/18/2013 11:13	-409.434	0	0		
106117	350		1116	0.46	10/18/2013 11:13	-409.434	-409.427	0	0.733807	0.356344333
	250			0.73	10/18/2013 11:13	-409.434	0	0		
	150			0.55	10/18/2013 11:13	-409.434	0	0		
	50			0.22	10/18/2013 11:13	-409.434	0	0		
106116	350		1114	0.39	10/18/2013 11:13	-409.434	-409.432	0	0.791269	0.4138066
	250			0.79	10/18/2013 11:13	-409.434	0	0		
	150			0.51	10/18/2013 11:13	-409.434	0	0		
	50			0.15	10/18/2013 11:13	-409.434	0	0		
106130	350		1108	0.49	10/18/2013 11:13	-409.434	0	-409.445	0.743656	0.3661934
	250			0.75	10/18/2013 11:13	-409.434	0	0		
	150			0.58	10/18/2013 11:13	-409.434	0	0		
106119	350		1118	0.38	10/18/2013 11:13	-409.434	-409.422	0	0.646344	0.268882067
	250			0.64	10/18/2013 11:13	-409.434	0	0		
	150			0.53	10/18/2013 11:13	-409.434	0	0		
106121	350		1111	0.31	10/18/2013 11:13	-409.434	0	-409.438	0.377462	0
	250			0.38	10/18/2013 11:13	-409.434	0	0		
	150			0.34	10/18/2013 11:13	-409.434	0	0		
	50			0.1	10/18/2013 11:13	-409.434	0	0		
106112	350		1138	0.52	10/18/2013 11:44	-409.364	0	-409.377	1.472387	1.224924533
	250			1.48	10/18/2013 11:44	-409.364	0	0		
	150			0.61	10/18/2013 11:44	-409.364	0	0		
	50			0.17	10/18/2013 11:44	-409.364	0	0		

106117	350	1148	0.32	10/18/2013 11:44	-409.364	-409.355	0	0.615075	0.3676132	
	250		0.61	10/18/2013 11:44	-409.364	0	0			
	150		0.43	10/18/2013 11:44	-409.364	0	0			
	50		0.12	10/18/2013 11:44	-409.364	0	0			
106116	350	1145	0.29	10/18/2013 11:44	-409.364	-409.361	0	0.671269	0.4238066	
	250		0.67	10/18/2013 11:44	-409.364	0	0			
	150		0.41	10/18/2013 11:44	-409.364	0	0			
	50		0.05	10/18/2013 11:44	-409.364	0	0			
106130	350	1140	0.35	10/18/2013 11:44	-409.364	0	-409.373	0.624925	0.377462267	
	250		0.63	10/18/2013 11:44	-409.364	0	0			
	150		0.43	10/18/2013 11:44	-409.364	0	0			
106119	350	1150	0.27	10/18/2013 11:44	-409.364	-409.35	0	0.547613	0.300150933	
	250		0.54	10/18/2013 11:44	-409.364	0	0			
	150		0.41	10/18/2013 11:44	-409.364	0	0			
106121	350	1142	0.18	10/18/2013 11:44	-409.364	0	-409.368	0.247462	0	
	250		0.25	10/18/2013 11:44	-409.364	0	0			
	150		0.21	10/18/2013 11:44	-409.364	0	0			
	50		0	10/18/2013 11:44	-409.364	0	0			
106112	350	1205	0.4	10/18/2013 12:10	-409.305	0	-409.316	1.353656	1.157311333	
	250		1.36	10/18/2013 12:10	-409.305	0	0			
	150		0.49	10/18/2013 12:10	-409.305	0	0			
	50		0.06	10/18/2013 12:10	-409.305	0	0			
106117	350	1212	0.32	10/18/2013 12:10	-409.305	-409.3	0	0.622538	0.4261934	
	250		0.62	10/18/2013 12:10	-409.305	0	0			
	150		0.43	10/18/2013 12:10	-409.305	0	0			
	50		0.13	10/18/2013 12:10	-409.305	0	0			
106116	350	1208	0.24	10/18/2013 12:10	-409.305	0	-409.309	0.627462	0.431117933	
	250		0.63	10/18/2013 12:10	-409.305	0	0			
	150		0.38	10/18/2013 12:10	-409.305	0	0			
	50		0.06	10/18/2013 12:10	-409.305	0	0			
106130	350	1206	0.3	10/18/2013 12:10	-409.305	0	-409.314	0.594925	0.3985802	
	250		0.6	10/18/2013 12:10	-409.305	0	0			
	150		0.4	10/18/2013 12:10	-409.305	0	0			
106119	350	1218	0.2	10/18/2013 12:10	-409.305	-409.287	0	0.460151	0.2638066	
	250		0.45	10/18/2013 12:10	-409.305	0	0			
	150		0.38	10/18/2013 12:10	-409.305	0	0			
106121	350	1215	0.11	10/18/2013 12:10	-409.305	-409.293	0	0.196344	0	
	250		0.19	10/18/2013 12:10	-409.305	0	0			
	150		0.15	10/18/2013 12:10	-409.305	0	0			
	50		-0.03	10/18/2013 12:10	-409.305	0	0			
106112	350	1235	0.37	10/18/2013 12:42	-409.232	0	-409.248	1.321118	1.137311333	
	250		1.33	10/18/2013 12:42	-409.232	0	0			
	150		0.46	10/18/2013 12:42	-409.232	0	0			
	50		0.06	10/18/2013 12:42	-409.232	0	0			
106117	350	1240	0.27	10/18/2013 12:42	-409.232	0	-409.237	0.587462	0.403655667	
	250		0.59	10/18/2013 12:42	-409.232	0	0			

	150		0.4	10/18/2013 12:42	-409.232	0	0			
	50		0.11	10/18/2013 12:42	-409.232	0	0			
106116	350	1238	0.21	10/18/2013 12:42	-409.232	0	-409.241	0.584925	0.401117933	
	250		0.59	10/18/2013 12:42	-409.232	0	0			
	150		0.3	10/18/2013 12:42	-409.232	0	0			
	50		0.02	10/18/2013 12:42	-409.232	0	0			
106130	350	1243	0.28	10/18/2013 12:42	-409.232	-409.23	0	0.551269	0.367462267	
	250		0.55	10/18/2013 12:42	-409.232	0	0			
	150		0.38	10/18/2013 12:42	-409.232	0	0			
106119	350	1248	0.2	10/18/2013 12:42	-409.232	-409.219	0	0.477613	0.2938066	
	250		0.47	10/18/2013 12:42	-409.232	0	0			
	150		0.37	10/18/2013 12:42	-409.232	0	0			
106121	350	1245	0.1	10/18/2013 12:42	-409.232	-409.225	0	0.183807	0	
	250		0.18	10/18/2013 12:42	-409.232	0	0			
	150		0.14	10/18/2013 12:42	-409.232	0	0			
	50		-0.02	10/18/2013 12:42	-409.232	0	0			
106112	350	1306	0.24	10/18/2013 13:12	-409.074	0	-409.114	1.19716	1.200967	
	250		1.22	10/18/2013 13:12	-409.074	0	0			
	150		0.36	10/18/2013 13:12	-409.074	0	0			
	50		0	10/18/2013 13:12	-409.074	0	0			
106117	350	1315	0.05	10/18/2013 13:12	-409.074	-409.053	0	0.37142	0.3752264	
	250		0.36	10/18/2013 13:12	-409.074	0	0			
	150		0.2	10/18/2013 13:12	-409.074	0	0			
	50		-0.03	10/18/2013 13:12	-409.074	0	0			
106116	350	1313	0.05	10/18/2013 13:12	-409.074	-409.067	0	0.443807	0.4476132	
	250		0.44	10/18/2013 13:12	-409.074	0	0			
	150		0.17	10/18/2013 13:12	-409.074	0	0			
	50		-0.08	10/18/2013 13:12	-409.074	0	0			
106130	350	1309	0.12	10/18/2013 13:12	-409.074	0	-409.094	0.40858	0.4123868	
	250		0.42	10/18/2013 13:12	-409.074	0	0			
	150		0.22	10/18/2013 13:12	-409.074	0	0			
106119	350	1319	0	10/18/2013 13:12	-409.074	-409.026	0	0.316646	0.3204528	
	250		0.29	10/18/2013 13:12	-409.074	0	0			
	150		0.17	10/18/2013 13:12	-409.074	0	0			
106121	350	1311	-0.05	10/18/2013 13:12	-409.074	0	-409.08	-0.00381	0	
	250		0	10/18/2013 13:12	-409.074	0	0			
	150		0	10/18/2013 13:12	-409.074	0	0			
	50		-0.11	10/18/2013 13:12	-409.074	0	0			
106112	350	1337	0.18	10/18/2013 13:44	-408.856	0	-408.904	1.143354	1.2057406	
	250		1.17	10/18/2013 13:44	-408.856	0	0			
	150		0.29	10/18/2013 13:44	-408.856	0	0			
	50		0	10/18/2013 13:44	-408.856	0	0			
106117	350	1351	0	10/18/2013 13:44	-408.856	-408.808	0	0.336646	0.399033	
	250		0.31	10/18/2013 13:44	-408.856	0	0			
	150		0.12	10/18/2013 13:44	-408.856	0	0			
	50		-0.02	10/18/2013 13:44	-408.856	0	0			

106116	350	1342	0.02	10/18/2013 13:44	-408.856	0	-408.87	0.382387	0.4447736
	250		0.39	10/18/2013 13:44	-408.856	0	0		
	150		0.09	10/18/2013 13:44	-408.856	0	0		
	50		-0.09	10/18/2013 13:44	-408.856	0	0		
106130	350	1339	0.06	10/18/2013 13:44	-408.856	0	-408.89	0.330967	0.3933538
	250		0.35	10/18/2013 13:44	-408.856	0	0		
	150		0.17	10/18/2013 13:44	-408.856	0	0		
106119	350	1355	-0.05	10/18/2013 13:44	-408.856	-408.802	0	0.260453	0.3228396
	250		0.23	10/18/2013 13:44	-408.856	0	0		
	150		0.12	10/18/2013 13:44	-408.856	0	0		
106121	350	1346	-0.17	10/18/2013 13:44	-408.856	-408.842	0	-0.06239	0
	250		-0.07	10/18/2013 13:44	-408.856	0	0		
	150		-0.12	10/18/2013 13:44	-408.856	0	0		
	50		-0.11	10/18/2013 13:44	-408.856	0	0		
106112	350	1408	0.1	10/18/2013 14:15	-408.802	0	-408.802	1.09	1.18
	250		1.09	10/18/2013 14:15	-408.802	0	0		
	150		0.24	10/18/2013 14:15	-408.802	0	0		
	50		0	10/18/2013 14:15	-408.802	0	0		
106117	350	1418	0	10/18/2013 14:15	-408.802	-408.802	0	0.3	0.39
	250		0.3	10/18/2013 14:15	-408.802	0	0		
	150		0.13	10/18/2013 14:15	-408.802	0	0		
	50		0	10/18/2013 14:15	-408.802	0	0		
106116	350	1416	-0.09	10/18/2013 14:15	-408.802	-408.802	0	0.31	0.4
	250		0.31	10/18/2013 14:15	-408.802	0	0		
	150		0.04	10/18/2013 14:15	-408.802	0	0		
	50		-0.1	10/18/2013 14:15	-408.802	0	0		
106130	350	1412	0	10/18/2013 14:15	-408.802	0	-408.802	0.3	0.39
	250		0.3	10/18/2013 14:15	-408.802	0	0		
	150		0.11	10/18/2013 14:15	-408.802	0	0		
106119	350	1420	-0.1	10/18/2013 14:15	-408.802	-408.802	0	0.17	0.26
	250		0.17	10/18/2013 14:15	-408.802	0	0		
	150		0.11	10/18/2013 14:15	-408.802	0	0		
106121	350	1414	-0.18	10/18/2013 14:15	-408.802	0	-408.802	-0.09	0
	250		-0.09	10/18/2013 14:15	-408.802	0	0		
	150		-0.13	10/18/2013 14:15	-408.802	0	0		
	50		-0.12	10/18/2013 14:15	-408.802	0	0		
106112	350	1436	0.14	10/18/2013 14:42	-408.802	0	-408.802	1.12	1.23
	250		1.12	10/18/2013 14:42	-408.802	0	0		
	150		0.27	10/18/2013 14:42	-408.802	0	0		
	50		0.06	10/18/2013 14:42	-408.802	0	0		
106117	350	1445	0.01	10/18/2013 14:42	-408.802	-408.802	0	0.34	0.45
	250		0.34	10/18/2013 14:42	-408.802	0	0		
	150		0.16	10/18/2013 14:42	-408.802	0	0		
	50		0.04	10/18/2013 14:42	-408.802	0	0		
106116	350	1443	-0.03	10/18/2013 14:42	-408.802	-408.802	0	0.37	0.48
	250		0.37	10/18/2013 14:42	-408.802	0	0		

	150		0.08	10/18/2013 14:42	-408.802	0	0		
	50		-0.02	10/18/2013 14:42	-408.802	0	0		
106130	350	1438	0.03	10/18/2013 14:42	-408.802	0	-408.802	0.36	0.47
	250		0.36	10/18/2013 14:42	-408.802	0	0		
	150		0.14	10/18/2013 14:42	-408.802	0	0		
106119	350	1447	-0.04	10/18/2013 14:42	-408.802	-408.802	0	0.25	0.36
	250		0.25	10/18/2013 14:42	-408.802	0	0		
	150		0.14	10/18/2013 14:42	-408.802	0	0		
106121	350	1441	-0.21	10/18/2013 14:42	-408.802	0	-408.802	-0.11	0
	250		-0.11	10/18/2013 14:42	-408.802	0	0		
	150		-0.14	10/18/2013 14:42	-408.802	0	0		
	50		-0.06	10/18/2013 14:42	-408.802	0	0		
106112	350	1508	0.11	10/18/2013 15:14	-408.851	0	-408.838	1.107613	1.275075467
	250		1.1	10/18/2013 15:14	-408.851	0	0		
	150		0.22	10/18/2013 15:14	-408.851	0	0		
	50		0	10/18/2013 15:14	-408.851	0	0		
106117	350	1517	0.02	10/18/2013 15:14	-408.851	-408.858	0	0.336193	0.503655667
	250		0.34	10/18/2013 15:14	-408.851	0	0		
	150		0.19	10/18/2013 15:14	-408.851	0	0		
	50		0.06	10/18/2013 15:14	-408.851	0	0		
106116	350	1515	-0.07	10/18/2013 15:14	-408.851	-408.854	0	0.328731	0.4961934
	250		0.33	10/18/2013 15:14	-408.851	0	0		
	150		0.07	10/18/2013 15:14	-408.851	0	0		
	50		-0.04	10/18/2013 15:14	-408.851	0	0		
106130	350	1510	-0.03	10/18/2013 15:14	-408.851	0	-408.842	0.285075	0.452537733
	250		0.28	10/18/2013 15:14	-408.851	0	0		
	150		0.1	10/18/2013 15:14	-408.851	0	0		
106119	350	1519	-0.02	10/18/2013 15:14	-408.851	-408.863	0	0.243656	0.411117933
	250		0.25	10/18/2013 15:14	-408.851	0	0		
	150		0.18	10/18/2013 15:14	-408.851	0	0		
106121	350	1512	-0.26	10/18/2013 15:14	-408.851	0	-408.847	-0.16746	0
	250		-0.17	10/18/2013 15:14	-408.851	0	0		
	150		-0.17	10/18/2013 15:14	-408.851	0	0		
	50		-0.09	10/18/2013 15:14	-408.851	0	0		
106112	350	1536	0.12	10/18/2013 15:42	-408.915	0	-408.901	1.147613	1.216344333
	250		1.14	10/18/2013 15:42	-408.915	0	0		
	150		0.27	10/18/2013 15:42	-408.915	0	0		
	50		0.06	10/18/2013 15:42	-408.915	0	0		
106117	350	1546	0.12	10/18/2013 15:42	-408.915	-408.924	0	0.424925	0.493655667
	250		0.43	10/18/2013 15:42	-408.915	0	0		
	150		0.26	10/18/2013 15:42	-408.915	0	0		
	50		0.16	10/18/2013 15:42	-408.915	0	0		
106116	350	1543	0.01	10/18/2013 15:42	-408.915	-408.917	0	0.428731	0.497462267
	250		0.43	10/18/2013 15:42	-408.915	0	0		
	150		0.16	10/18/2013 15:42	-408.915	0	0		
	50		0.01	10/18/2013 15:42	-408.915	0	0		

106130	350	1538	0.04	10/18/2013 15:42	-408.915	0	-408.906	0.345075	0.4138066
	250		0.34	10/18/2013 15:42	-408.915	0	0		
	150		0.17	10/18/2013 15:42	-408.915	0	0		
106119	350	1551	0.06	10/18/2013 15:42	-408.915	-408.935	0	0.33858	0.407311333
	250		0.35	10/18/2013 15:42	-408.915	0	0		
	150		0.29	10/18/2013 15:42	-408.915	0	0		
106121	350	1541	-0.17	10/18/2013 15:42	-408.915	0	-408.913	-0.06873	0
	250		-0.07	10/18/2013 15:42	-408.915	0	0		
	150		-0.08	10/18/2013 15:42	-408.915	0	0		
	50		0	10/18/2013 15:42	-408.915	0	0		
106112	350	1607	0.26	10/18/2013 16:14	-408.987	0	-408.972	1.288882	1.2776132
	250		1.28	10/18/2013 16:14	-408.987	0	0		
	150		0.44	10/18/2013 16:14	-408.987	0	0		
	50		0.15	10/18/2013 16:14	-408.987	0	0		
106117	350	1617	0.18	10/18/2013 16:14	-408.987	-408.994	0	0.466193	0.454924533
	250		0.47	10/18/2013 16:14	-408.987	0	0		
	150		0.3	10/18/2013 16:14	-408.987	0	0		
	50		0.12	10/18/2013 16:14	-408.987	0	0		
106116	350	1615	0.08	10/18/2013 16:14	-408.987	-408.99	0	0.508731	0.497462267
	250		0.51	10/18/2013 16:14	-408.987	0	0		
	150		0.24	10/18/2013 16:14	-408.987	0	0		
	50		0.05	10/18/2013 16:14	-408.987	0	0		
106130	350	1610	0.14	10/18/2013 16:14	-408.987	0	-408.978	0.455075	0.4438066
	250		0.45	10/18/2013 16:14	-408.987	0	0		
	150		0.28	10/18/2013 16:14	-408.987	0	0		
106119	350	1619	0.09	10/18/2013 16:14	-408.987	-408.999	0	0.413656	0.4023868
	250		0.42	10/18/2013 16:14	-408.987	0	0		
	150		0.32	10/18/2013 16:14	-408.987	0	0		
106121	350	1613	-0.08	10/18/2013 16:14	-408.987	0	-408.985	0.011269	0
	250		0.01	10/18/2013 16:14	-408.987	0	0		
	150		-0.01	10/18/2013 16:14	-408.987	0	0		
	50		0.03	10/18/2013 16:14	-408.987	0	0		
106112	350	1634	0.28	10/18/2013 16:44	-409.055	0	-409.033	1.292689	1.1852264
	250		1.28	10/18/2013 16:44	-409.055	0	0		
	150		0.45	10/18/2013 16:44	-409.055	0	0		
	50		0.14	10/18/2013 16:44	-409.055	0	0		
106117	350	1651	0.29	10/18/2013 16:44	-409.055	-409.071	0	0.601118	0.493655667
	250		0.61	10/18/2013 16:44	-409.055	0	0		
	150		0.44	10/18/2013 16:44	-409.055	0	0		
	50		0.21	10/18/2013 16:44	-409.055	0	0		
106116	350	1641	0.17	10/18/2013 16:44	-409.055	0	-409.049	0.553807	0.446344333
	250		0.55	10/18/2013 16:44	-409.055	0	0		
	150		0.31	10/18/2013 16:44	-409.055	0	0		
	50		0.12	10/18/2013 16:44	-409.055	0	0		
106130	350	1637	0.18	10/18/2013 16:44	-409.055	0	-409.04	0.488882	0.3814198
	250		0.48	10/18/2013 16:44	-409.055	0	0		

	150		0.31	10/18/2013 16:44	-409.055	0	0		
106119	350	1655	0.18	10/18/2013 16:44	-409.055	-409.087	0	0.482236	0.3747736
	250		0.5	10/18/2013 16:44	-409.055	0	0		
	150		0.4	10/18/2013 16:44	-409.055	0	0		
106121	350	1646	0	10/18/2013 16:44	-409.055	-409.06	0	0.107462	0
	250		0.11	10/18/2013 16:44	-409.055	0	0		
	150		0.09	10/18/2013 16:44	-409.055	0	0		
	50		0.09	10/18/2013 16:44	-409.055	0	0		

Well ID	Depth	Distance to 106161 (ft)	Monitoring round	Time	Vacuum (in	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences
106112	350			821	0	10/18/2013 8:32	-409.074	0	-408.999	0.207107	0.008542
	250				0.08	10/18/2013 8:32	-409.074	0	0		
	150				0.16	10/18/2013 8:32	-409.074	0	0		
	50				0.22	10/18/2013 8:32	-409.074	0	0		
106117	350			837	0.1	10/18/2013 8:32	-409.074	-409.108	0	0.158588	-0.03998
	250				0.13	10/18/2013 8:32	-409.074	0	0		
	150				0.18	10/18/2013 8:32	-409.074	0	0		
	50				0.21	10/18/2013 8:32	-409.074	0	0		
106116	350			834	0.09	10/18/2013 8:32	-409.074	-409.087	0	0.241435	0.04287
	250				0.17	10/18/2013 8:32	-409.074	0	0		
	150				0.25	10/18/2013 8:32	-409.074	0	0		
	50				0.29	10/18/2013 8:32	-409.074	0	0		
106130	350			825	0.05	10/18/2013 8:32	-409.074	0	-409.026	0.209977	0.011412
	250				0.09	10/18/2013 8:32	-409.074	0	0		
	150				0.18	10/18/2013 8:32	-409.074	0	0		
106119	350			840	0.05	10/18/2013 8:32	-409.074	-409.128	0	0.145741	-0.05282
	250				0.13	10/18/2013 8:32	-409.074	0	0		
	150				0.18	10/18/2013 8:32	-409.074	0	0		
106121	350			830	0.06	10/18/2013 8:32	-409.074	0	-409.06	0.198565	0
	250				0.1	10/18/2013 8:32	-409.074	0	0		
	150				0.19	10/18/2013 8:32	-409.074	0	0		
	50				0.31	10/18/2013 8:32	-409.074	0	0		
106112	350			907	0.28	10/18/2013 9:23	-409.35	0	-409.277	0.385679	0.138534
	250				1.08	10/18/2013 9:23	-409.35	0	0		
	150				0.34	10/18/2013 9:23	-409.35	0	0		
	50				0.21	10/18/2013 9:23	-409.35	0	0		
106117	350			926	0.28	10/18/2013 9:23	-409.35	-409.364	0	0.391435	0.14429
	250				0.5	10/18/2013 9:23	-409.35	0	0		
	150				0.4	10/18/2013 9:23	-409.35	0	0		
	50				0.26	10/18/2013 9:23	-409.35	0	0		
106116	350			921	0.21	10/18/2013 9:23	-409.35	0	-409.341	0.34571	0.098565
	250				0.49	10/18/2013 9:23	-409.35	0	0		
	150				0.34	10/18/2013 9:23	-409.35	0	0		
	50				0.24	10/18/2013 9:23	-409.35	0	0		
106130	350			909	0.15	10/18/2013 9:23	-409.35	0	-409.287	0.289969	0.042824
	250				0.37	10/18/2013 9:23	-409.35	0	0		
	150				0.25	10/18/2013 9:23	-409.35	0	0		
106119	350			928	0.24	10/18/2013 9:23	-409.35	-409.373	0	0.355725	0.10858
	250				0.36	10/18/2013 9:23	-409.35	0	0		
	150				0.37	10/18/2013 9:23	-409.35	0	0		
106121	350			924	0.18	10/18/2013 9:23	-409.35	-409.355	0	0.247145	0
	250				0.2	10/18/2013 9:23	-409.35	0	0		

	150		0.25	10/18/2013 9:23	-409.35	0	0		
	50		0.21	10/18/2013 9:23	-409.35	0	0		
106112	350	935	0.39	10/18/2013 9:45	-409.45	0	-409.404	0.53855	0.181404
	250		1.32	10/18/2013 9:45	-409.45	0	0		
	150		0.51	10/18/2013 9:45	-409.45	0	0		
	50		0.26	10/18/2013 9:45	-409.45	0	0		
106117	350	948	0.39	10/18/2013 9:45	-409.45	-409.463	0	0.491435	0.13429
	250		0.63	10/18/2013 9:45	-409.45	0	0		
	150		0.5	10/18/2013 9:45	-409.45	0	0		
	50		0.31	10/18/2013 9:45	-409.45	0	0		
106116	350	943	0.33	10/18/2013 9:45	-409.45	0	-409.441	0.44571	0.088565
	250		0.62	10/18/2013 9:45	-409.45	0	0		
	150		0.44	10/18/2013 9:45	-409.45	0	0		
	50		0.27	10/18/2013 9:45	-409.45	0	0		
106130	350	937	0.31	10/18/2013 9:45	-409.45	0	-409.413	0.43284	0.075695
	250		0.54	10/18/2013 9:45	-409.45	0	0		
	150		0.41	10/18/2013 9:45	-409.45	0	0		
106119	350	950	0.33	10/18/2013 9:45	-409.45	-409.472	0	0.465725	0.10858
	250		0.55	10/18/2013 9:45	-409.45	0	0		
	150		0.48	10/18/2013 9:45	-409.45	0	0		
106121	350	946	0.27	10/18/2013 9:45	-409.45	-409.454	0	0.357145	0
	250		0.31	10/18/2013 9:45	-409.45	0	0		
	150		0.36	10/18/2013 9:45	-409.45	0	0		
	50		0.24	10/18/2013 9:45	-409.45	0	0		
106112	350	1004	0.49	10/18/2013 10:14	-409.481	0	-409.481	0.62	0.26
	250		1.45	10/18/2013 10:14	-409.481	0	0		
	150		0.62	10/18/2013 10:14	-409.481	0	0		
	50		0.27	10/18/2013 10:14	-409.481	0	0		
106117	350	1018	0.44	10/18/2013 10:14	-409.481	-409.481	0	0.56	0.2
	250		0.7	10/18/2013 10:14	-409.481	0	0		
	150		0.56	10/18/2013 10:14	-409.481	0	0		
	50		0.29	10/18/2013 10:14	-409.481	0	0		
106116	350	1013	0.35	10/18/2013 10:14	-409.481	0	-409.481	0.48	0.12
	250		0.7	10/18/2013 10:14	-409.481	0	0		
	150		0.48	10/18/2013 10:14	-409.481	0	0		
	50		0.21	10/18/2013 10:14	-409.481	0	0		
106130	350	1006	0.38	10/18/2013 10:14	-409.481	0	-409.481	0.47	0.11
	250		0.62	10/18/2013 10:14	-409.481	0	0		
	150		0.47	10/18/2013 10:14	-409.481	0	0		
106119	350	1020	0.4	10/18/2013 10:14	-409.481	-409.481	0	0.55	0.19
	250		0.63	10/18/2013 10:14	-409.481	0	0		
	150		0.55	10/18/2013 10:14	-409.481	0	0		
106121	350	1015	0.28	10/18/2013 10:14	-409.481	-409.481	0	0.36	0
	250		0.33	10/18/2013 10:14	-409.481	0	0		
	150		0.36	10/18/2013 10:14	-409.481	0	0		
	50		0.18	10/18/2013 10:14	-409.481	0	0		

106112	350	1038	0.58	10/18/2013 10:44	-409.481	-409.481	0	0.69	0.29
	250		1.56	10/18/2013 10:44	-409.481	0	0		
	150		0.69	10/18/2013 10:44	-409.481	0	0		
	50		0.26	10/18/2013 10:44	-409.481	0	0		
106117	350	1047	0.51	10/18/2013 10:44	-409.481	-409.481	0	0.63	0.23
	250		0.78	10/18/2013 10:44	-409.481	0	0		
	150		0.63	10/18/2013 10:44	-409.481	0	0		
	50		0.3	10/18/2013 10:44	-409.481	0	0		
106116	350	1045	0.43	10/18/2013 10:44	-409.481	0	-409.481	0.56	0.16
	250		0.81	10/18/2013 10:44	-409.481	0	0		
	150		0.56	10/18/2013 10:44	-409.481	0	0		
	50		0.23	10/18/2013 10:44	-409.481	0	0		
106130	350	1041	0.48	10/18/2013 10:44	-409.481	0	-409.481	0.58	0.18
	250		0.72	10/18/2013 10:44	-409.481	0	0		
	150		0.58	10/18/2013 10:44	-409.481	0	0		
106119	350	1050	0.45	10/18/2013 10:44	-409.481	-409.481	0	0.61	0.21
	250		0.7	10/18/2013 10:44	-409.481	0	0		
	150		0.61	10/18/2013 10:44	-409.481	0	0		
106121	350	1043	0.35	10/18/2013 10:44	-409.481	0	-409.481	0.4	0
	250		0.38	10/18/2013 10:44	-409.481	0	0		
	150		0.4	10/18/2013 10:44	-409.481	0	0		
	50		0.15	10/18/2013 10:44	-409.481	0	0		
106112	350	1106	0.57	10/18/2013 11:13	-409.434	0	-409.45	0.650008	0.312863
	250		1.54	10/18/2013 11:13	-409.434	0	0		
	150		0.66	10/18/2013 11:13	-409.434	0	0		
	50		0.2	10/18/2013 11:13	-409.434	0	0		
106117	350	1116	0.46	10/18/2013 11:13	-409.434	-409.427	0	0.554282	0.217137
	250		0.73	10/18/2013 11:13	-409.434	0	0		
	150		0.55	10/18/2013 11:13	-409.434	0	0		
	50		0.22	10/18/2013 11:13	-409.434	0	0		
106116	350	1114	0.39	10/18/2013 11:13	-409.434	-409.432	0	0.511427	0.174282
	250		0.79	10/18/2013 11:13	-409.434	0	0		
	150		0.51	10/18/2013 11:13	-409.434	0	0		
	50		0.15	10/18/2013 11:13	-409.434	0	0		
106130	350	1108	0.49	10/18/2013 11:13	-409.434	0	-409.445	0.572863	0.235718
	250		0.75	10/18/2013 11:13	-409.434	0	0		
	150		0.58	10/18/2013 11:13	-409.434	0	0		
106119	350	1118	0.38	10/18/2013 11:13	-409.434	-409.422	0	0.537137	0.199992
	250		0.64	10/18/2013 11:13	-409.434	0	0		
	150		0.53	10/18/2013 11:13	-409.434	0	0		
106121	350	1111	0.31	10/18/2013 11:13	-409.434	0	-409.438	0.337145	0
	250		0.38	10/18/2013 11:13	-409.434	0	0		
	150		0.34	10/18/2013 11:13	-409.434	0	0		
	50		0.1	10/18/2013 11:13	-409.434	0	0		
106112	350	1138	0.52	10/18/2013 11:44	-409.364	0	-409.377	0.601435	0.39429
	250		1.48	10/18/2013 11:44	-409.364	0	0		

	150		0.61	10/18/2013 11:44	-409.364	0	0		
	50		0.17	10/18/2013 11:44	-409.364	0	0		
106117	350	1148	0.32	10/18/2013 11:44	-409.364	-409.355	0	0.43571	0.228565
	250		0.61	10/18/2013 11:44	-409.364	0	0		
	150		0.43	10/18/2013 11:44	-409.364	0	0		
	50		0.12	10/18/2013 11:44	-409.364	0	0		
106116	350	1145	0.29	10/18/2013 11:44	-409.364	-409.361	0	0.411427	0.204282
	250		0.67	10/18/2013 11:44	-409.364	0	0		
	150		0.41	10/18/2013 11:44	-409.364	0	0		
	50		0.05	10/18/2013 11:44	-409.364	0	0		
106130	350	1140	0.35	10/18/2013 11:44	-409.364	0	-409.373	0.42429	0.217145
	250		0.63	10/18/2013 11:44	-409.364	0	0		
	150		0.43	10/18/2013 11:44	-409.364	0	0		
106119	350	1150	0.27	10/18/2013 11:44	-409.364	-409.35	0	0.418565	0.21142
	250		0.54	10/18/2013 11:44	-409.364	0	0		
	150		0.41	10/18/2013 11:44	-409.364	0	0		
106121	350	1142	0.18	10/18/2013 11:44	-409.364	0	-409.368	0.207145	0
	250		0.25	10/18/2013 11:44	-409.364	0	0		
	150		0.21	10/18/2013 11:44	-409.364	0	0		
	50		0	10/18/2013 11:44	-409.364	0	0		
106112	350	1205	0.4	10/18/2013 12:10	-409.305	0	-409.316	0.482863	0.325725
	250		1.36	10/18/2013 12:10	-409.305	0	0		
	150		0.49	10/18/2013 12:10	-409.305	0	0		
	50		0.06	10/18/2013 12:10	-409.305	0	0		
106117	350	1212	0.32	10/18/2013 12:10	-409.305	-409.3	0	0.432855	0.275718
	250		0.62	10/18/2013 12:10	-409.305	0	0		
	150		0.43	10/18/2013 12:10	-409.305	0	0		
	50		0.13	10/18/2013 12:10	-409.305	0	0		
106116	350	1208	0.24	10/18/2013 12:10	-409.305	0	-409.309	0.377145	0.220008
	250		0.63	10/18/2013 12:10	-409.305	0	0		
	150		0.38	10/18/2013 12:10	-409.305	0	0		
	50		0.06	10/18/2013 12:10	-409.305	0	0		
106130	350	1206	0.3	10/18/2013 12:10	-409.305	0	-409.314	0.39429	0.237153
	250		0.6	10/18/2013 12:10	-409.305	0	0		
	150		0.4	10/18/2013 12:10	-409.305	0	0		
106119	350	1218	0.2	10/18/2013 12:10	-409.305	-409.287	0	0.39142	0.234282
	250		0.45	10/18/2013 12:10	-409.305	0	0		
	150		0.38	10/18/2013 12:10	-409.305	0	0		
106121	350	1215	0.11	10/18/2013 12:10	-409.305	-409.293	0	0.157137	0
	250		0.19	10/18/2013 12:10	-409.305	0	0		
	150		0.15	10/18/2013 12:10	-409.305	0	0		
	50		-0.03	10/18/2013 12:10	-409.305	0	0		
106112	350	1235	0.37	10/18/2013 12:42	-409.232	0	-409.248	0.450008	0.305725
	250		1.33	10/18/2013 12:42	-409.232	0	0		
	150		0.46	10/18/2013 12:42	-409.232	0	0		
	50		0.06	10/18/2013 12:42	-409.232	0	0		

106117	350	1240	0.27	10/18/2013 12:42	-409.232	0	-409.237	0.397145	0.252863
	250		0.59	10/18/2013 12:42	-409.232	0	0		
	150		0.4	10/18/2013 12:42	-409.232	0	0		
	50		0.11	10/18/2013 12:42	-409.232	0	0		
106116	350	1238	0.21	10/18/2013 12:42	-409.232	0	-409.241	0.29429	0.150008
	250		0.59	10/18/2013 12:42	-409.232	0	0		
	150		0.3	10/18/2013 12:42	-409.232	0	0		
	50		0.02	10/18/2013 12:42	-409.232	0	0		
106130	350	1243	0.28	10/18/2013 12:42	-409.232	-409.23	0	0.381427	0.237145
	250		0.55	10/18/2013 12:42	-409.232	0	0		
	150		0.38	10/18/2013 12:42	-409.232	0	0		
106119	350	1248	0.2	10/18/2013 12:42	-409.232	-409.219	0	0.378565	0.234282
	250		0.47	10/18/2013 12:42	-409.232	0	0		
	150		0.37	10/18/2013 12:42	-409.232	0	0		
106121	350	1245	0.1	10/18/2013 12:42	-409.232	-409.225	0	0.144282	0
	250		0.18	10/18/2013 12:42	-409.232	0	0		
	150		0.14	10/18/2013 12:42	-409.232	0	0		
	50		-0.02	10/18/2013 12:42	-409.232	0	0		
106112	350	1306	0.24	10/18/2013 13:12	-409.074	0	-409.114	0.334305	0.338588
	250		1.22	10/18/2013 13:12	-409.074	0	0		
	150		0.36	10/18/2013 13:12	-409.074	0	0		
	50		0	10/18/2013 13:12	-409.074	0	0		
106117	350	1315	0.05	10/18/2013 13:12	-409.074	-409.053	0	0.212847	0.21713
	250		0.36	10/18/2013 13:12	-409.074	0	0		
	150		0.2	10/18/2013 13:12	-409.074	0	0		
	50		-0.03	10/18/2013 13:12	-409.074	0	0		
106116	350	1313	0.05	10/18/2013 13:12	-409.074	-409.067	0	0.174282	0.178565
	250		0.44	10/18/2013 13:12	-409.074	0	0		
	150		0.17	10/18/2013 13:12	-409.074	0	0		
	50		-0.08	10/18/2013 13:12	-409.074	0	0		
106130	350	1309	0.12	10/18/2013 13:12	-409.074	0	-409.094	0.207153	0.211435
	250		0.42	10/18/2013 13:12	-409.074	0	0		
	150		0.22	10/18/2013 13:12	-409.074	0	0		
106119	350	1319	0	10/18/2013 13:12	-409.074	-409.026	0	0.199977	0.204259
	250		0.29	10/18/2013 13:12	-409.074	0	0		
	150		0.17	10/18/2013 13:12	-409.074	0	0		
106121	350	1311	-0.05	10/18/2013 13:12	-409.074	0	-409.08	-0.00428	0
	250		0	10/18/2013 13:12	-409.074	0	0		
	150		0	10/18/2013 13:12	-409.074	0	0		
	50		-0.11	10/18/2013 13:12	-409.074	0	0		
106112	350	1337	0.18	10/18/2013 13:44	-408.856	0	-408.904	0.260023	0.371458
	250		1.17	10/18/2013 13:44	-408.856	0	0		
	150		0.29	10/18/2013 13:44	-408.856	0	0		
	50		0	10/18/2013 13:44	-408.856	0	0		
106117	350	1351	0	10/18/2013 13:44	-408.856	-408.808	0	0.149977	0.261412
	250		0.31	10/18/2013 13:44	-408.856	0	0		

	150			0.12	10/18/2013 13:44	-408.856	0	0		
	50			-0.02	10/18/2013 13:44	-408.856	0	0		
106116	350		1342	0.02	10/18/2013 13:44	-408.856	0	-408.87	0.081435	0.19287
	250			0.39	10/18/2013 13:44	-408.856	0	0		
	150			0.09	10/18/2013 13:44	-408.856	0	0		
	50			-0.09	10/18/2013 13:44	-408.856	0	0		
106130	350		1339	0.06	10/18/2013 13:44	-408.856	0	-408.89	0.148588	0.260023
	250			0.35	10/18/2013 13:44	-408.856	0	0		
	150			0.17	10/18/2013 13:44	-408.856	0	0		
106119	350		1355	-0.05	10/18/2013 13:44	-408.856	-408.802	0	0.154259	0.265695
	250			0.23	10/18/2013 13:44	-408.856	0	0		
	150			0.12	10/18/2013 13:44	-408.856	0	0		
106121	350		1346	-0.17	10/18/2013 13:44	-408.856	-408.842	0	-0.11144	0
	250			-0.07	10/18/2013 13:44	-408.856	0	0		
	150			-0.12	10/18/2013 13:44	-408.856	0	0		
	50			-0.11	10/18/2013 13:44	-408.856	0	0		
106112	350		1408	0.1	10/18/2013 14:15	-408.802	0	-408.802	0.24	0.37
	250			1.09	10/18/2013 14:15	-408.802	0	0		
	150			0.24	10/18/2013 14:15	-408.802	0	0		
	50			0	10/18/2013 14:15	-408.802	0	0		
106117	350		1418	0	10/18/2013 14:15	-408.802	-408.802	0	0.13	0.26
	250			0.3	10/18/2013 14:15	-408.802	0	0		
	150			0.13	10/18/2013 14:15	-408.802	0	0		
	50			0	10/18/2013 14:15	-408.802	0	0		
106116	350		1416	-0.09	10/18/2013 14:15	-408.802	-408.802	0	0.04	0.17
	250			0.31	10/18/2013 14:15	-408.802	0	0		
	150			0.04	10/18/2013 14:15	-408.802	0	0		
	50			-0.1	10/18/2013 14:15	-408.802	0	0		
106130	350		1412	0	10/18/2013 14:15	-408.802	0	-408.802	0.11	0.24
	250			0.3	10/18/2013 14:15	-408.802	0	0		
	150			0.11	10/18/2013 14:15	-408.802	0	0		
106119	350		1420	-0.1	10/18/2013 14:15	-408.802	-408.802	0	0.11	0.24
	250			0.17	10/18/2013 14:15	-408.802	0	0		
	150			0.11	10/18/2013 14:15	-408.802	0	0		
106121	350		1414	-0.18	10/18/2013 14:15	-408.802	0	-408.802	-0.13	0
	250			-0.09	10/18/2013 14:15	-408.802	0	0		
	150			-0.13	10/18/2013 14:15	-408.802	0	0		
	50			-0.12	10/18/2013 14:15	-408.802	0	0		
106112	350		1436	0.14	10/18/2013 14:42	-408.802	0	-408.802	0.27	0.41
	250			1.12	10/18/2013 14:42	-408.802	0	0		
	150			0.27	10/18/2013 14:42	-408.802	0	0		
	50			0.06	10/18/2013 14:42	-408.802	0	0		
106117	350		1445	0.01	10/18/2013 14:42	-408.802	-408.802	0	0.16	0.3
	250			0.34	10/18/2013 14:42	-408.802	0	0		
	150			0.16	10/18/2013 14:42	-408.802	0	0		
	50			0.04	10/18/2013 14:42	-408.802	0	0		

106116	350		1443	-0.03	10/18/2013 14:42	-408.802	-408.802	0	0.08	0.22
	250			0.37	10/18/2013 14:42	-408.802	0	0		
	150			0.08	10/18/2013 14:42	-408.802	0	0		
	50			-0.02	10/18/2013 14:42	-408.802	0	0		
106130	350		1438	0.03	10/18/2013 14:42	-408.802	0	-408.802	0.14	0.28
	250			0.36	10/18/2013 14:42	-408.802	0	0		
	150			0.14	10/18/2013 14:42	-408.802	0	0		
106119	350		1447	-0.04	10/18/2013 14:42	-408.802	-408.802	0	0.14	0.28
	250			0.25	10/18/2013 14:42	-408.802	0	0		
	150			0.14	10/18/2013 14:42	-408.802	0	0		
106121	350		1441	-0.21	10/18/2013 14:42	-408.802	0	-408.802	-0.14	0
	250			-0.11	10/18/2013 14:42	-408.802	0	0		
	150			-0.14	10/18/2013 14:42	-408.802	0	0		
	50			-0.06	10/18/2013 14:42	-408.802	0	0		
106112	350		1508	0.11	10/18/2013 15:14	-408.851	0	-408.838	0.228565	0.39571
	250			1.1	10/18/2013 15:14	-408.851	0	0		
	150			0.22	10/18/2013 15:14	-408.851	0	0		
	50			0	10/18/2013 15:14	-408.851	0	0		
106117	350		1517	0.02	10/18/2013 15:14	-408.851	-408.858	0	0.185718	0.352863
	250			0.34	10/18/2013 15:14	-408.851	0	0		
	150			0.19	10/18/2013 15:14	-408.851	0	0		
	50			0.06	10/18/2013 15:14	-408.851	0	0		
106116	350		1515	-0.07	10/18/2013 15:14	-408.851	-408.854	0	0.068573	0.235718
	250			0.33	10/18/2013 15:14	-408.851	0	0		
	150			0.07	10/18/2013 15:14	-408.851	0	0		
	50			-0.04	10/18/2013 15:14	-408.851	0	0		
106130	350		1510	-0.03	10/18/2013 15:14	-408.851	0	-408.842	0.10571	0.272855
	250			0.28	10/18/2013 15:14	-408.851	0	0		
	150			0.1	10/18/2013 15:14	-408.851	0	0		
106119	350		1519	-0.02	10/18/2013 15:14	-408.851	-408.863	0	0.172863	0.340008
	250			0.25	10/18/2013 15:14	-408.851	0	0		
	150			0.18	10/18/2013 15:14	-408.851	0	0		
106121	350		1512	-0.26	10/18/2013 15:14	-408.851	0	-408.847	-0.16715	0
	250			-0.17	10/18/2013 15:14	-408.851	0	0		
	150			-0.17	10/18/2013 15:14	-408.851	0	0		
	50			-0.09	10/18/2013 15:14	-408.851	0	0		
106112	350		1536	0.12	10/18/2013 15:42	-408.915	0	-408.901	0.278565	0.357137
	250			1.14	10/18/2013 15:42	-408.915	0	0		
	150			0.27	10/18/2013 15:42	-408.915	0	0		
	50			0.06	10/18/2013 15:42	-408.915	0	0		
106117	350		1546	0.12	10/18/2013 15:42	-408.915	-408.924	0	0.25429	0.332863
	250			0.43	10/18/2013 15:42	-408.915	0	0		
	150			0.26	10/18/2013 15:42	-408.915	0	0		
	50			0.16	10/18/2013 15:42	-408.915	0	0		
106116	350		1543	0.01	10/18/2013 15:42	-408.915	-408.917	0	0.158573	0.237145
	250			0.43	10/18/2013 15:42	-408.915	0	0		

	150		0.16	10/18/2013 15:42	-408.915	0	0		
	50		0.01	10/18/2013 15:42	-408.915	0	0		
106130	350	1538	0.04	10/18/2013 15:42	-408.915	0	-408.906	0.17571	0.254282
	250		0.34	10/18/2013 15:42	-408.915	0	0		
	150		0.17	10/18/2013 15:42	-408.915	0	0		
106119	350	1551	0.06	10/18/2013 15:42	-408.915	-408.935	0	0.277153	0.355725
	250		0.35	10/18/2013 15:42	-408.915	0	0		
	150		0.29	10/18/2013 15:42	-408.915	0	0		
106121	350	1541	-0.17	10/18/2013 15:42	-408.915	0	-408.913	-0.07857	0
	250		-0.07	10/18/2013 15:42	-408.915	0	0		
	150		-0.08	10/18/2013 15:42	-408.915	0	0		
	50		0	10/18/2013 15:42	-408.915	0	0		
106112	350	1607	0.26	10/18/2013 16:14	-408.987	0	-408.972	0.449992	0.458565
	250		1.28	10/18/2013 16:14	-408.987	0	0		
	150		0.44	10/18/2013 16:14	-408.987	0	0		
	50		0.15	10/18/2013 16:14	-408.987	0	0		
106117	350	1617	0.18	10/18/2013 16:14	-408.987	-408.994	0	0.295718	0.30429
	250		0.47	10/18/2013 16:14	-408.987	0	0		
	150		0.3	10/18/2013 16:14	-408.987	0	0		
	50		0.12	10/18/2013 16:14	-408.987	0	0		
106116	350	1615	0.08	10/18/2013 16:14	-408.987	-408.99	0	0.238573	0.247145
	250		0.51	10/18/2013 16:14	-408.987	0	0		
	150		0.24	10/18/2013 16:14	-408.987	0	0		
	50		0.05	10/18/2013 16:14	-408.987	0	0		
106130	350	1610	0.14	10/18/2013 16:14	-408.987	0	-408.978	0.28571	0.294282
	250		0.45	10/18/2013 16:14	-408.987	0	0		
	150		0.28	10/18/2013 16:14	-408.987	0	0		
106119	350	1619	0.09	10/18/2013 16:14	-408.987	-408.999	0	0.312863	0.321435
	250		0.42	10/18/2013 16:14	-408.987	0	0		
	150		0.32	10/18/2013 16:14	-408.987	0	0		
106121	350	1613	-0.08	10/18/2013 16:14	-408.987	0	-408.985	-0.00857	0
	250		0.01	10/18/2013 16:14	-408.987	0	0		
	150		-0.01	10/18/2013 16:14	-408.987	0	0		
	50		0.03	10/18/2013 16:14	-408.987	0	0		
106112	350	1634	0.28	10/18/2013 16:44	-409.055	0	-409.033	0.464275	0.37713
	250		1.28	10/18/2013 16:44	-409.055	0	0		
	150		0.45	10/18/2013 16:44	-409.055	0	0		
	50		0.14	10/18/2013 16:44	-409.055	0	0		
106117	350	1651	0.29	10/18/2013 16:44	-409.055	-409.071	0	0.430008	0.342863
	250		0.61	10/18/2013 16:44	-409.055	0	0		
	150		0.44	10/18/2013 16:44	-409.055	0	0		
	50		0.21	10/18/2013 16:44	-409.055	0	0		
106116	350	1641	0.17	10/18/2013 16:44	-409.055	0	-409.049	0.314282	0.227137
	250		0.55	10/18/2013 16:44	-409.055	0	0		
	150		0.31	10/18/2013 16:44	-409.055	0	0		
	50		0.12	10/18/2013 16:44	-409.055	0	0		

106130	350	1637	0.18	10/18/2013 16:44	-409.055	0	-409.04	0.319992	0.232847
	250		0.48	10/18/2013 16:44	-409.055	0	0		
	150		0.31	10/18/2013 16:44	-409.055	0	0		
106119	350	1655	0.18	10/18/2013 16:44	-409.055	-409.087	0	0.380015	0.29287
	250		0.5	10/18/2013 16:44	-409.055	0	0		
	150		0.4	10/18/2013 16:44	-409.055	0	0		
106121	350	1646	0	10/18/2013 16:44	-409.055	-409.06	0	0.087145	0
	250		0.11	10/18/2013 16:44	-409.055	0	0		
	150		0.09	10/18/2013 16:44	-409.055	0	0		
	50		0.09	10/18/2013 16:44	-409.055	0	0		

Well ID	Depth	Distance to 106161 (ft)	Monitoring round	Time	Vacuum (in	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences
106112	350			821	0	10/18/2013 8:32	-409.074	0	-408.999	0.234954	-0.07776
	250				0.08	10/18/2013 8:32	-409.074	0	0		change for barometric efficiency
	150				0.16	10/18/2013 8:32	-409.074	0	0		
	50				0.22	10/18/2013 8:32	-409.074	0	0		
106117	350			837	0.1	10/18/2013 8:32	-409.074	-409.108	0	0.203203	-0.10952
	250				0.13	10/18/2013 8:32	-409.074	0	0		
	150				0.18	10/18/2013 8:32	-409.074	0	0		
	50				0.21	10/18/2013 8:32	-409.074	0	0		
106116	350			834	0.09	10/18/2013 8:32	-409.074	-409.087	0	0.287281	-0.02544
	250				0.17	10/18/2013 8:32	-409.074	0	0		
	150				0.25	10/18/2013 8:32	-409.074	0	0		
	50				0.29	10/18/2013 8:32	-409.074	0	0		
106130	350			825	0.05	10/18/2013 8:32	-409.074	0	-409.026		-0.31272
	250				0.09	10/18/2013 8:32	-409.074	0	0		
	150				0.18	10/18/2013 8:32	-409.074	0	0		
106119	350			840	0.05	10/18/2013 8:32	-409.074	-409.128	0		-0.31272
	250				0.13	10/18/2013 8:32	-409.074	0	0		
	150				0.18	10/18/2013 8:32	-409.074	0	0		
106121	350			830	0.06	10/18/2013 8:32	-409.074	0	-409.06	0.312719	0
	250				0.1	10/18/2013 8:32	-409.074	0	0		
	150				0.19	10/18/2013 8:32	-409.074	0	0		
	50				0.31	10/18/2013 8:32	-409.074	0	0		
106112	350			907	0.28	10/18/2013 9:23	-409.35	0	-409.277	0.224501	0.015408
	250				1.08	10/18/2013 9:23	-409.35	0	0		
	150				0.34	10/18/2013 9:23	-409.35	0	0		
	50				0.21	10/18/2013 9:23	-409.35	0	0		
106117	350			926	0.28	10/18/2013 9:23	-409.35	-409.364	0	0.257281	0.048187
	250				0.5	10/18/2013 9:23	-409.35	0	0		
	150				0.4	10/18/2013 9:23	-409.35	0	0		
	50				0.26	10/18/2013 9:23	-409.35	0	0		
106116	350			921	0.21	10/18/2013 9:23	-409.35	0	-409.341	0.241813	0.032719
	250				0.49	10/18/2013 9:23	-409.35	0	0		
	150				0.34	10/18/2013 9:23	-409.35	0	0		
	50				0.24	10/18/2013 9:23	-409.35	0	0		
106130	350			909	0.15	10/18/2013 9:23	-409.35	0	-409.287		-0.20909
	250				0.37	10/18/2013 9:23	-409.35	0	0		
	150				0.25	10/18/2013 9:23	-409.35	0	0		
106119	350			928	0.24	10/18/2013 9:23	-409.35	-409.373	0		-0.20909
	250				0.36	10/18/2013 9:23	-409.35	0	0		
	150				0.37	10/18/2013 9:23	-409.35	0	0		
106121	350			924	0.18	10/18/2013 9:23	-409.35	-409.355	0	0.209094	0
	250				0.2	10/18/2013 9:23	-409.35	0	0		

	150		0.25	10/18/2013 9:23	-409.35	0	0		
	50		0.21	10/18/2013 9:23	-409.35	0	0		
106112	350	935	0.39	10/18/2013 9:45	-409.45	0	-409.404	0.269063	0.02997
	250		1.32	10/18/2013 9:45	-409.45	0	0		
	150		0.51	10/18/2013 9:45	-409.45	0	0		
	50		0.26	10/18/2013 9:45	-409.45	0	0		
106117	350	948	0.39	10/18/2013 9:45	-409.45	-409.463	0	0.307281	0.068187
	250		0.63	10/18/2013 9:45	-409.45	0	0		
	150		0.5	10/18/2013 9:45	-409.45	0	0		
	50		0.31	10/18/2013 9:45	-409.45	0	0		
106116	350	943	0.33	10/18/2013 9:45	-409.45	0	-409.441	0.271813	0.032719
	250		0.62	10/18/2013 9:45	-409.45	0	0		
	150		0.44	10/18/2013 9:45	-409.45	0	0		
	50		0.27	10/18/2013 9:45	-409.45	0	0		
106130	350	937	0.31	10/18/2013 9:45	-409.45	0	-409.413		-0.23909
	250		0.54	10/18/2013 9:45	-409.45	0	0		
	150		0.41	10/18/2013 9:45	-409.45	0	0		
106119	350	950	0.33	10/18/2013 9:45	-409.45	-409.472	0		-0.23909
	250		0.55	10/18/2013 9:45	-409.45	0	0		
	150		0.48	10/18/2013 9:45	-409.45	0	0		
106121	350	946	0.27	10/18/2013 9:45	-409.45	-409.454	0	0.239094	0
	250		0.31	10/18/2013 9:45	-409.45	0	0		
	150		0.36	10/18/2013 9:45	-409.45	0	0		
	50		0.24	10/18/2013 9:45	-409.45	0	0		
106112	350	1004	0.49	10/18/2013 10:14	-409.481	0	-409.481	0.27	0.09
	250		1.45	10/18/2013 10:14	-409.481	0	0		
	150		0.62	10/18/2013 10:14	-409.481	0	0		
	50		0.27	10/18/2013 10:14	-409.481	0	0		
106117	350	1018	0.44	10/18/2013 10:14	-409.481	-409.481	0	0.29	0.11
	250		0.7	10/18/2013 10:14	-409.481	0	0		
	150		0.56	10/18/2013 10:14	-409.481	0	0		
	50		0.29	10/18/2013 10:14	-409.481	0	0		
106116	350	1013	0.35	10/18/2013 10:14	-409.481	0	-409.481	0.21	0.03
	250		0.7	10/18/2013 10:14	-409.481	0	0		
	150		0.48	10/18/2013 10:14	-409.481	0	0		
	50		0.21	10/18/2013 10:14	-409.481	0	0		
106130	350	1006	0.38	10/18/2013 10:14	-409.481	0	-409.481	0.4	0.22
	250		0.62	10/18/2013 10:14	-409.481	0	0		
	150		0.47	10/18/2013 10:14	-409.481	0	0		
106119	350	1020	0.4	10/18/2013 10:14	-409.481	-409.481	0		
	250		0.63	10/18/2013 10:14	-409.481	0	0		
	150		0.55	10/18/2013 10:14	-409.481	0	0		
106121	350	1015	0.28	10/18/2013 10:14	-409.481	-409.481	0	0.18	0
	250		0.33	10/18/2013 10:14	-409.481	0	0		
	150		0.36	10/18/2013 10:14	-409.481	0	0		
	50		0.18	10/18/2013 10:14	-409.481	0	0		

106112	350	1038	0.58	10/18/2013 10:44	-409.481	-409.481	0	0.26	0.11
	250		1.56	10/18/2013 10:44	-409.481	0	0		
	150		0.69	10/18/2013 10:44	-409.481	0	0		
	50		0.26	10/18/2013 10:44	-409.481	0	0		
106117	350	1047	0.51	10/18/2013 10:44	-409.481	-409.481	0	0.3	0.15
	250		0.78	10/18/2013 10:44	-409.481	0	0		
	150		0.63	10/18/2013 10:44	-409.481	0	0		
	50		0.3	10/18/2013 10:44	-409.481	0	0		
106116	350	1045	0.43	10/18/2013 10:44	-409.481	0	-409.481	0.23	0.08
	250		0.81	10/18/2013 10:44	-409.481	0	0		
	150		0.56	10/18/2013 10:44	-409.481	0	0		
	50		0.23	10/18/2013 10:44	-409.481	0	0		
106130	350	1041	0.48	10/18/2013 10:44	-409.481	0	-409.481	0.45	0.3
	250		0.72	10/18/2013 10:44	-409.481	0	0		
	150		0.58	10/18/2013 10:44	-409.481	0	0		
106119	350	1050	0.45	10/18/2013 10:44	-409.481	-409.481	0		-0.15
	250		0.7	10/18/2013 10:44	-409.481	0	0		
	150		0.61	10/18/2013 10:44	-409.481	0	0		
106121	350	1043	0.35	10/18/2013 10:44	-409.481	0	-409.481	0.15	0
	250		0.38	10/18/2013 10:44	-409.481	0	0		
	150		0.4	10/18/2013 10:44	-409.481	0	0		
	50		0.15	10/18/2013 10:44	-409.481	0	0		
106112	350	1106	0.57	10/18/2013 11:13	-409.434	0	-409.45	0.196828	0.097734
	250		1.54	10/18/2013 11:13	-409.434	0	0		
	150		0.66	10/18/2013 11:13	-409.434	0	0		
	50		0.2	10/18/2013 11:13	-409.434	0	0		
106117	350	1116	0.46	10/18/2013 11:13	-409.434	-409.427	0	0.22136	0.122266
	250		0.73	10/18/2013 11:13	-409.434	0	0		
	150		0.55	10/18/2013 11:13	-409.434	0	0		
	50		0.22	10/18/2013 11:13	-409.434	0	0		
106116	350	1114	0.39	10/18/2013 11:13	-409.434	-409.432	0	0.150453	0.05136
	250		0.79	10/18/2013 11:13	-409.434	0	0		
	150		0.51	10/18/2013 11:13	-409.434	0	0		
	50		0.15	10/18/2013 11:13	-409.434	0	0		
106130	350	1108	0.49	10/18/2013 11:13	-409.434	0	-409.445		-0.09909
	250		0.75	10/18/2013 11:13	-409.434	0	0		
	150		0.58	10/18/2013 11:13	-409.434	0	0		
106119	350	1118	0.38	10/18/2013 11:13	-409.434	-409.422	0		-0.09909
	250		0.64	10/18/2013 11:13	-409.434	0	0		
	150		0.53	10/18/2013 11:13	-409.434	0	0		
106121	350	1111	0.31	10/18/2013 11:13	-409.434	0	-409.438	0.099094	0
	250		0.38	10/18/2013 11:13	-409.434	0	0		
	150		0.34	10/18/2013 11:13	-409.434	0	0		
	50		0.1	10/18/2013 11:13	-409.434	0	0		
106112	350	1138	0.52	10/18/2013 11:44	-409.364	0	-409.377	0.167281	0.168187
	250		1.48	10/18/2013 11:44	-409.364	0	0		

	150		0.61	10/18/2013 11:44	-409.364	0	0		
	50		0.17	10/18/2013 11:44	-409.364	0	0		
106117	350	1148	0.32	10/18/2013 11:44	-409.364	-409.355	0	0.121813	0.122719
	250		0.61	10/18/2013 11:44	-409.364	0	0		
	150		0.43	10/18/2013 11:44	-409.364	0	0		
	50		0.12	10/18/2013 11:44	-409.364	0	0		
106116	350	1145	0.29	10/18/2013 11:44	-409.364	-409.361	0	0.050453	0.05136
	250		0.67	10/18/2013 11:44	-409.364	0	0		
	150		0.41	10/18/2013 11:44	-409.364	0	0		
	50		0.05	10/18/2013 11:44	-409.364	0	0		
106130	350	1140	0.35	10/18/2013 11:44	-409.364	0	-409.373		0.000906
	250		0.63	10/18/2013 11:44	-409.364	0	0		
	150		0.43	10/18/2013 11:44	-409.364	0	0		
106119	350	1150	0.27	10/18/2013 11:44	-409.364	-409.35	0		0.000906
	250		0.54	10/18/2013 11:44	-409.364	0	0		
	150		0.41	10/18/2013 11:44	-409.364	0	0		
106121	350	1142	0.18	10/18/2013 11:44	-409.364	0	-409.368	-0.00091	0
	250		0.25	10/18/2013 11:44	-409.364	0	0		
	150		0.21	10/18/2013 11:44	-409.364	0	0		
	50		0	10/18/2013 11:44	-409.364	0	0		
106112	350	1205	0.4	10/18/2013 12:10	-409.305	0	-409.316	0.057734	0.085468
	250		1.36	10/18/2013 12:10	-409.305	0	0		
	150		0.49	10/18/2013 12:10	-409.305	0	0		
	50		0.06	10/18/2013 12:10	-409.305	0	0		
106117	350	1212	0.32	10/18/2013 12:10	-409.305	-409.3	0	0.130906	0.15864
	250		0.62	10/18/2013 12:10	-409.305	0	0		
	150		0.43	10/18/2013 12:10	-409.305	0	0		
	50		0.13	10/18/2013 12:10	-409.305	0	0		
106116	350	1208	0.24	10/18/2013 12:10	-409.305	0	-409.309	0.059094	0.086828
	250		0.63	10/18/2013 12:10	-409.305	0	0		
	150		0.38	10/18/2013 12:10	-409.305	0	0		
	50		0.06	10/18/2013 12:10	-409.305	0	0		
106130	350	1206	0.3	10/18/2013 12:10	-409.305	0	-409.314		0.027734
	250		0.6	10/18/2013 12:10	-409.305	0	0		
	150		0.4	10/18/2013 12:10	-409.305	0	0		
106119	350	1218	0.2	10/18/2013 12:10	-409.305	-409.287	0		0.027734
	250		0.45	10/18/2013 12:10	-409.305	0	0		
	150		0.38	10/18/2013 12:10	-409.305	0	0		
106121	350	1215	0.11	10/18/2013 12:10	-409.305	-409.293	0	-0.02773	0
	250		0.19	10/18/2013 12:10	-409.305	0	0		
	150		0.15	10/18/2013 12:10	-409.305	0	0		
	50		-0.03	10/18/2013 12:10	-409.305	0	0		
106112	350	1235	0.37	10/18/2013 12:42	-409.232	0	-409.248	0.056828	0.075468
	250		1.33	10/18/2013 12:42	-409.232	0	0		
	150		0.46	10/18/2013 12:42	-409.232	0	0		
	50		0.06	10/18/2013 12:42	-409.232	0	0		

106117	350	1240	0.27	10/18/2013 12:42	-409.232	0	-409.237	0.109094	0.127734
	250		0.59	10/18/2013 12:42	-409.232	0	0		
	150		0.4	10/18/2013 12:42	-409.232	0	0		
	50		0.11	10/18/2013 12:42	-409.232	0	0		
106116	350	1238	0.21	10/18/2013 12:42	-409.232	0	-409.241	0.018187	0.036828
	250		0.59	10/18/2013 12:42	-409.232	0	0		
	150		0.3	10/18/2013 12:42	-409.232	0	0		
	50		0.02	10/18/2013 12:42	-409.232	0	0		
106130	350	1243	0.28	10/18/2013 12:42	-409.232	-409.23	0		0.01864
	250		0.55	10/18/2013 12:42	-409.232	0	0		
	150		0.38	10/18/2013 12:42	-409.232	0	0		
106119	350	1248	0.2	10/18/2013 12:42	-409.232	-409.219	0		0.01864
	250		0.47	10/18/2013 12:42	-409.232	0	0		
	150		0.37	10/18/2013 12:42	-409.232	0	0		
106121	350	1245	0.1	10/18/2013 12:42	-409.232	-409.225	0	-0.01864	0
	250		0.18	10/18/2013 12:42	-409.232	0	0		
	150		0.14	10/18/2013 12:42	-409.232	0	0		
	50		-0.02	10/18/2013 12:42	-409.232	0	0		
106112	350	1306	0.24	10/18/2013 13:12	-409.074	0	-409.114	-0.00816	0.103203
	250		1.22	10/18/2013 13:12	-409.074	0	0		
	150		0.36	10/18/2013 13:12	-409.074	0	0		
	50		0	10/18/2013 13:12	-409.074	0	0		
106117	350	1315	0.05	10/18/2013 13:12	-409.074	-409.053	0	-0.02592	0.085438
	250		0.36	10/18/2013 13:12	-409.074	0	0		
	150		0.2	10/18/2013 13:12	-409.074	0	0		
	50		-0.03	10/18/2013 13:12	-409.074	0	0		
106116	350	1313	0.05	10/18/2013 13:12	-409.074	-409.067	0	-0.07864	0.032719
	250		0.44	10/18/2013 13:12	-409.074	0	0		
	150		0.17	10/18/2013 13:12	-409.074	0	0		
	50		-0.08	10/18/2013 13:12	-409.074	0	0		
106130	350	1309	0.12	10/18/2013 13:12	-409.074	0	-409.094		0.11136
	250		0.42	10/18/2013 13:12	-409.074	0	0		
	150		0.22	10/18/2013 13:12	-409.074	0	0		
106119	350	1319	0	10/18/2013 13:12	-409.074	-409.026	0		0.11136
	250		0.29	10/18/2013 13:12	-409.074	0	0		
	150		0.17	10/18/2013 13:12	-409.074	0	0		
106121	350	1311	-0.05	10/18/2013 13:12	-409.074	0	-409.08	-0.11136	0
	250		0	10/18/2013 13:12	-409.074	0	0		
	150		0	10/18/2013 13:12	-409.074	0	0		
	50		-0.11	10/18/2013 13:12	-409.074	0	0		
106112	350	1337	0.18	10/18/2013 13:44	-408.856	0	-408.904	-0.00952	0.097765
	250		1.17	10/18/2013 13:44	-408.856	0	0		
	150		0.29	10/18/2013 13:44	-408.856	0	0		
	50		0	10/18/2013 13:44	-408.856	0	0		
106117	350	1351	0	10/18/2013 13:44	-408.856	-408.808	0	-0.01048	0.096798
	250		0.31	10/18/2013 13:44	-408.856	0	0		

	150			0.12	10/18/2013 13:44	-408.856	0	0		
	50			-0.02	10/18/2013 13:44	-408.856	0	0		
106116	350		1342	0.02	10/18/2013 13:44	-408.856	0	-408.87	-0.09272	0.014562
	250			0.39	10/18/2013 13:44	-408.856	0	0		
	150			0.09	10/18/2013 13:44	-408.856	0	0		
	50			-0.09	10/18/2013 13:44	-408.856	0	0		
106130	350		1339	0.06	10/18/2013 13:44	-408.856	0	-408.89		0.107281
	250			0.35	10/18/2013 13:44	-408.856	0	0		
	150			0.17	10/18/2013 13:44	-408.856	0	0		
106119	350		1355	-0.05	10/18/2013 13:44	-408.856	-408.802	0		0.107281
	250			0.23	10/18/2013 13:44	-408.856	0	0		
	150			0.12	10/18/2013 13:44	-408.856	0	0		
106121	350		1346	-0.17	10/18/2013 13:44	-408.856	-408.842	0	-0.10728	0
	250			-0.07	10/18/2013 13:44	-408.856	0	0		
	150			-0.12	10/18/2013 13:44	-408.856	0	0		
	50			-0.11	10/18/2013 13:44	-408.856	0	0		
106112	350		1408	0.1	10/18/2013 14:15	-408.802	0	-408.802	0	0.12
	250			1.09	10/18/2013 14:15	-408.802	0	0		
	150			0.24	10/18/2013 14:15	-408.802	0	0		
	50			0	10/18/2013 14:15	-408.802	0	0		
106117	350		1418	0	10/18/2013 14:15	-408.802	-408.802	0	0	0.12
	250			0.3	10/18/2013 14:15	-408.802	0	0		
	150			0.13	10/18/2013 14:15	-408.802	0	0		
	50			0	10/18/2013 14:15	-408.802	0	0		
106116	350		1416	-0.09	10/18/2013 14:15	-408.802	-408.802	0	-0.1	0.02
	250			0.31	10/18/2013 14:15	-408.802	0	0		
	150			0.04	10/18/2013 14:15	-408.802	0	0		
	50			-0.1	10/18/2013 14:15	-408.802	0	0		
106130	350		1412	0	10/18/2013 14:15	-408.802	0	-408.802		0.12
	250			0.3	10/18/2013 14:15	-408.802	0	0		
	150			0.11	10/18/2013 14:15	-408.802	0	0		
106119	350		1420	-0.1	10/18/2013 14:15	-408.802	-408.802	0		0.12
	250			0.17	10/18/2013 14:15	-408.802	0	0		
	150			0.11	10/18/2013 14:15	-408.802	0	0		
106121	350		1414	-0.18	10/18/2013 14:15	-408.802	0	-408.802	-0.12	0
	250			-0.09	10/18/2013 14:15	-408.802	0	0		
	150			-0.13	10/18/2013 14:15	-408.802	0	0		
	50			-0.12	10/18/2013 14:15	-408.802	0	0		
106112	350		1436	0.14	10/18/2013 14:42	-408.802	0	-408.802	0.06	0.12
	250			1.12	10/18/2013 14:42	-408.802	0	0		
	150			0.27	10/18/2013 14:42	-408.802	0	0		
	50			0.06	10/18/2013 14:42	-408.802	0	0		
106117	350		1445	0.01	10/18/2013 14:42	-408.802	-408.802	0	0.04	0.1
	250			0.34	10/18/2013 14:42	-408.802	0	0		
	150			0.16	10/18/2013 14:42	-408.802	0	0		
	50			0.04	10/18/2013 14:42	-408.802	0	0		

106116	350	1443	-0.03	10/18/2013 14:42	-408.802	-408.802	0	-0.02	0.04
	250		0.37	10/18/2013 14:42	-408.802	0	0		
	150		0.08	10/18/2013 14:42	-408.802	0	0		
	50		-0.02	10/18/2013 14:42	-408.802	0	0		
106130	350	1438	0.03	10/18/2013 14:42	-408.802	0	-408.802		0.06
	250		0.36	10/18/2013 14:42	-408.802	0	0		
	150		0.14	10/18/2013 14:42	-408.802	0	0		
106119	350	1447	-0.04	10/18/2013 14:42	-408.802	-408.802	0		0.06
	250		0.25	10/18/2013 14:42	-408.802	0	0		
	150		0.14	10/18/2013 14:42	-408.802	0	0		
106121	350	1441	-0.21	10/18/2013 14:42	-408.802	0	-408.802	-0.06	0
	250		-0.11	10/18/2013 14:42	-408.802	0	0		
	150		-0.14	10/18/2013 14:42	-408.802	0	0		
	50		-0.06	10/18/2013 14:42	-408.802	0	0		
106112	350	1508	0.11	10/18/2013 15:14	-408.851	0	-408.838	0.002719	0.091813
	250		1.1	10/18/2013 15:14	-408.851	0	0		
	150		0.22	10/18/2013 15:14	-408.851	0	0		
	50		0	10/18/2013 15:14	-408.851	0	0		
106117	350	1517	0.02	10/18/2013 15:14	-408.851	-408.858	0	0.05864	0.147734
	250		0.34	10/18/2013 15:14	-408.851	0	0		
	150		0.19	10/18/2013 15:14	-408.851	0	0		
	50		0.06	10/18/2013 15:14	-408.851	0	0		
106116	350	1515	-0.07	10/18/2013 15:14	-408.851	-408.854	0	-0.04045	0.04864
	250		0.33	10/18/2013 15:14	-408.851	0	0		
	150		0.07	10/18/2013 15:14	-408.851	0	0		
	50		-0.04	10/18/2013 15:14	-408.851	0	0		
106130	350	1510	-0.03	10/18/2013 15:14	-408.851	0	-408.842		0.089094
	250		0.28	10/18/2013 15:14	-408.851	0	0		
	150		0.1	10/18/2013 15:14	-408.851	0	0		
106119	350	1519	-0.02	10/18/2013 15:14	-408.851	-408.863	0		0.089094
	250		0.25	10/18/2013 15:14	-408.851	0	0		
	150		0.18	10/18/2013 15:14	-408.851	0	0		
106121	350	1512	-0.26	10/18/2013 15:14	-408.851	0	-408.847	-0.08909	0
	250		-0.17	10/18/2013 15:14	-408.851	0	0		
	150		-0.17	10/18/2013 15:14	-408.851	0	0		
	50		-0.09	10/18/2013 15:14	-408.851	0	0		
106112	350	1536	0.12	10/18/2013 15:42	-408.915	0	-408.901	0.062719	0.062266
	250		1.14	10/18/2013 15:42	-408.915	0	0		
	150		0.27	10/18/2013 15:42	-408.915	0	0		
	50		0.06	10/18/2013 15:42	-408.915	0	0		
106117	350	1546	0.12	10/18/2013 15:42	-408.915	-408.924	0	0.158187	0.157734
	250		0.43	10/18/2013 15:42	-408.915	0	0		
	150		0.26	10/18/2013 15:42	-408.915	0	0		
	50		0.16	10/18/2013 15:42	-408.915	0	0		
106116	350	1543	0.01	10/18/2013 15:42	-408.915	-408.917	0	0.009547	0.009094
	250		0.43	10/18/2013 15:42	-408.915	0	0		

	150		0.16	10/18/2013 15:42	-408.915	0	0		
	50		0.01	10/18/2013 15:42	-408.915	0	0		
106130	350	1538	0.04	10/18/2013 15:42	-408.915	0	-408.906	0.065075	0.064622
	250		0.34	10/18/2013 15:42	-408.915	0	0		
	150		0.17	10/18/2013 15:42	-408.915	0	0		
106119	350	1551	0.06	10/18/2013 15:42	-408.915	-408.935	0		-0.00045
	250		0.35	10/18/2013 15:42	-408.915	0	0		
	150		0.29	10/18/2013 15:42	-408.915	0	0		
106121	350	1541	-0.17	10/18/2013 15:42	-408.915	0	-408.913	0.000453	0
	250		-0.07	10/18/2013 15:42	-408.915	0	0		
	150		-0.08	10/18/2013 15:42	-408.915	0	0		
	50		0	10/18/2013 15:42	-408.915	0	0		
106112	350	1607	0.26	10/18/2013 16:14	-408.987	0	-408.972	0.153172	0.122719
	250		1.28	10/18/2013 16:14	-408.987	0	0		
	150		0.44	10/18/2013 16:14	-408.987	0	0		
	50		0.15	10/18/2013 16:14	-408.987	0	0		
106117	350	1617	0.18	10/18/2013 16:14	-408.987	-408.994	0	0.11864	0.088187
	250		0.47	10/18/2013 16:14	-408.987	0	0		
	150		0.3	10/18/2013 16:14	-408.987	0	0		
	50		0.12	10/18/2013 16:14	-408.987	0	0		
106116	350	1615	0.08	10/18/2013 16:14	-408.987	-408.99	0	0.049547	0.019094
	250		0.51	10/18/2013 16:14	-408.987	0	0		
	150		0.24	10/18/2013 16:14	-408.987	0	0		
	50		0.05	10/18/2013 16:14	-408.987	0	0		
106130	350	1610	0.14	10/18/2013 16:14	-408.987	0	-408.978		-0.03045
	250		0.45	10/18/2013 16:14	-408.987	0	0		
	150		0.28	10/18/2013 16:14	-408.987	0	0		
106119	350	1619	0.09	10/18/2013 16:14	-408.987	-408.999	0		-0.03045
	250		0.42	10/18/2013 16:14	-408.987	0	0		
	150		0.32	10/18/2013 16:14	-408.987	0	0		
106121	350	1613	-0.08	10/18/2013 16:14	-408.987	0	-408.985	0.030453	0
	250		0.01	10/18/2013 16:14	-408.987	0	0		
	150		-0.01	10/18/2013 16:14	-408.987	0	0		
	50		0.03	10/18/2013 16:14	-408.987	0	0		
106112	350	1634	0.28	10/18/2013 16:44	-409.055	0	-409.033	0.144532	0.055438
	250		1.28	10/18/2013 16:44	-409.055	0	0		
	150		0.45	10/18/2013 16:44	-409.055	0	0		
	50		0.14	10/18/2013 16:44	-409.055	0	0		
106117	350	1651	0.29	10/18/2013 16:44	-409.055	-409.071	0	0.206828	0.117734
	250		0.61	10/18/2013 16:44	-409.055	0	0		
	150		0.44	10/18/2013 16:44	-409.055	0	0		
	50		0.21	10/18/2013 16:44	-409.055	0	0		
106116	350	1641	0.17	10/18/2013 16:44	-409.055	0	-409.049	0.12136	0.032266
	250		0.55	10/18/2013 16:44	-409.055	0	0		
	150		0.31	10/18/2013 16:44	-409.055	0	0		
	50		0.12	10/18/2013 16:44	-409.055	0	0		

106130	350	1637	0.18	10/18/2013 16:44	-409.055	0	-409.04		-0.08909
	250		0.48	10/18/2013 16:44	-409.055	0	0		
	150		0.31	10/18/2013 16:44	-409.055	0	0		
106119	350	1655	0.18	10/18/2013 16:44	-409.055	-409.087	0		-0.08909
	250		0.5	10/18/2013 16:44	-409.055	0	0		
	150		0.4	10/18/2013 16:44	-409.055	0	0		
106121	350	1646	0	10/18/2013 16:44	-409.055	-409.06	0	0.089094	0
	250		0.11	10/18/2013 16:44	-409.055	0	0		
	150		0.09	10/18/2013 16:44	-409.055	0	0		
	50		0.09	10/18/2013 16:44	-409.055	0	0		

Well ID	Monitoring	10/4/2013_Time	Value	106121-350 measured	Applied Pressure
106154	1	0903	62.4	0.0730512	62.30295
106154	2	0933	59.7	0.1756496	59.48835
106154	3	1003	59.7	0.2656496	59.39835
106154	4	1033	59.7	0.28	59.384
106154	5	1103	61.0	0.35	60.67
106154	6	1133	63.7	0.3056496	63.42635
106154	7	1203	66.4	0.1756496	66.26835
106154	8	1233	66.4	0.120876	66.32312
106154	9	1303	69.2	0.1065256	69.04947
106154	10	1333	66.4	-0.0565256	66.50053
106154	11	1403	65.1	-0.1569488	65.24495
106154	12	1433	62.4	-0.18	62.556
106154	13	1503	61.0	-0.21	61.23
106154	14	1533	61.0	-0.2556496	61.27565
106154	15	1603	57.0	-0.1678248	57.11982
106154	16	1633	61.0	-0.0778248	61.09782
106154		1645		-0.0043504	
106154		1703			

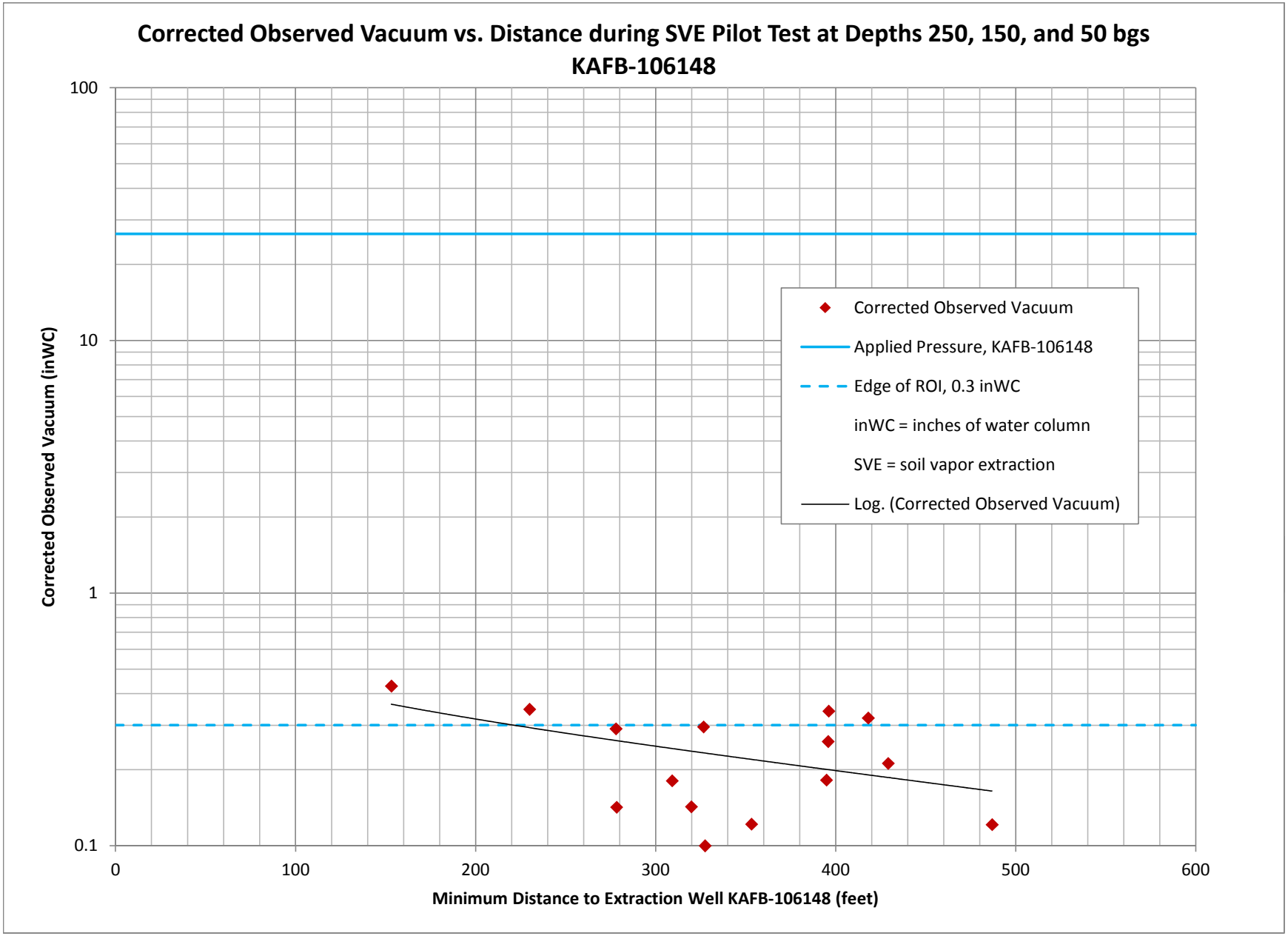
	106117	106116	106130	106119	106112	106121	106117	106116	106130	106119	106112	106121	106117	106116
depth	450	450	450	450	450	450	350	350	350	350	350	350	250	250
Distance to 106154							203.9448	220.1176	268.4422	254.2873	70.36704	732.9379	228.8869	242.7998
10/18/2013 8:32							-0.00568	0.003898	0.022628	-0.07526	-0.00127		0.003354	0.054774
10/18/2013 9:23							0.091299	0.043051	0.035256	0.042598	0.173957		0.294925	0.297613
10/18/2013 9:45							0.111299	0.073051	0.079154	0.042598	0.167854		0.314925	0.317613
10/18/2013 10:14							0.16	0.07	0.1	0.12	0.21		0.37	0.37
10/18/2013 10:46							0.16	0.08	0.13	0.1	0.23		0.4	0.43
10/18/2013 11:13							0.160876	0.086526	0.173474	0.085226	0.249124		0.356344	0.413807
10/18/2013 11:44							0.153051	0.116526	0.16565	0.107402	0.331299		0.367613	0.423807
10/18/2013 12:10							0.203474	0.114774	0.170423	0.096526	0.268248		0.426193	0.431118
10/18/2013 12:42							0.159124	0.094774	0.17565	0.106526	0.248248		0.403656	0.401118
10/18/2013 13:12							0.126102	0.113051	0.156949	0.102205	0.257372		0.375226	0.447613
10/18/2013 13:41							0.202628	0.163898	0.184321	0.159154	0.29127		0.399033	0.444774
10/18/2013 14:15							0.18	0.09	0.18	0.08	0.28		0.39	0.4
10/18/2013 14:42							0.22	0.18	0.24	0.17	0.35		0.45	0.48
10/18/2013 15:14							0.269124	0.183474	0.23435	0.224774	0.378701		0.503656	0.496193
10/18/2013 15:42							0.279124	0.17565	0.216526	0.208248	0.300876		0.493656	0.497462
10/18/2013 16:14							0.251299	0.15565	0.226526	0.156949	0.353051		0.454925	0.497462
10/18/2013 16:44							0.279124	0.180876	0.199577	0.153898	0.306102		0.493656	0.446344
							x	x	x	x	x	x	x	x
	updated values have been added													

106130	106119	106112	106121	106117	106116	106130	106119	106112	106121	106117	106116	106130	106119	106112	106121	
250	250	250	250	150	150	150	150	150	150	50	50	50	50	50	50	
287.5086	274.3393	124.7057	740.1337	288.7793	296.7263	336.543	325.3645	214.8291	761.7383	366.4607	374.5057			311.5361	793.0939	
0.009033	-0.00807	0.014259		-0.03998	0.04287	0.011412	-0.05282	0.008542		-0.10952	-0.02544			-0.07776		62.30295
0.208066	0.149849	0.923141		0.14429	0.098565	0.042824	0.10858	0.138534		0.048187	0.032719			0.015408		59.48835
0.25284	0.229849	1.037915		0.13429	0.088565	0.075695	0.10858	0.181404		0.068187	0.032719			0.02997		59.39835
0.29	0.3	1.12		0.2	0.12	0.11	0.19	0.26		0.11	0.03			0.09		59.384
0.34	0.32	1.18		0.23	0.16	0.18	0.21	0.29		0.15	0.08			0.11		60.67
0.366193	0.268882	1.153656		0.217137	0.174282	0.235718	0.199992	0.312863		0.122266	0.05136			0.097734		63.42635
0.377462	0.300151	1.224925		0.228565	0.204282	0.217145	0.21142	0.39429		0.122719	0.05136			0.168187		66.26835
0.39858	0.263807	1.157311		0.275718	0.220008	0.237153	0.234282	0.325725		0.15864	0.086828			0.085468		66.32312
0.367462	0.293807	1.137311		0.252863	0.150008	0.237145	0.234282	0.305725		0.127734	0.036828			0.075468		69.04947
0.412387	0.320453	1.200967		0.21713	0.178565	0.211435	0.204259	0.338588		0.085438	0.032719			0.103203		66.50053
0.393354	0.32284	1.205741		0.261412	0.19287	0.260023	0.265695	0.371458		0.096798	0.014562			0.097765		65.24495
0.39	0.26	1.18		0.26	0.17	0.24	0.24	0.37		0.12	0.02			0.12		62.556
0.47	0.36	1.23		0.3	0.22	0.28	0.28	0.41		0.1	0.04			0.12		61.23
0.452538	0.411118	1.275075		0.352863	0.235718	0.272855	0.340008	0.39571		0.147734	0.04864			0.091813		61.27565
0.413807	0.407311	1.216344		0.332863	0.237145	0.254282	0.355725	0.357137		0.157734	0.009094			0.062266		57.11982
0.443807	0.402387	1.277613		0.30429	0.247145	0.294282	0.321435	0.458565		0.088187	0.019094			0.122719		61.09782
0.38142	0.374774	1.185226		0.342863	0.227137	0.232847	0.29287	0.37713		0.117734	0.032266			0.055438		
x	x	x														

well	depth	distance	Avg. Diff from Null	Corrected Avg. Diff from Null
106117	350	203.9448	0.176520376	NA
106116	350	220.1176	0.113246871	
106130	350	268.4422	0.158263671	
106119	350	254.2873	0.110638024	
106112	350	70.36704	0.258519576	
106117	250	228.8869	0.382185906	
106116	250	242.7998	0.40292342	
106130	250	287.5086	0.350996945	
106119	250	274.3393	0.292774141	
106112	250	124.7057	1.101146224	
106121	250	288.7793	0.236135615	
106117	150	296.7263	0.174538847	
106116	150	336.543	0.199577446	
106130	150	325.3645	0.220253262	
106119	150	214.8291	0.31151009	
106112	150	366.4607	0.100696647	
106121	150	374.5057	0.034867608	
106117	50			
106116	50			
106130	50	311.5361	0.080451382	
106119	50	793.0939		
106112	50			
106121	50			

	applied pressure
0	62.58348265
600	62.58348265
0	1.87750448
600	1.87750448

	0.3
	0.3


Corrected Observed Vacuum vs. Distance during SVE Pilot Test at Depths 250, 150, and 50 bgs
KAFB-106148
Corrected Observed Vacuum (inWC)
100
10
1
0.1
0
100
200
300
400
500
600
Minimum Distance to Extraction Well KAFB-106148 (feet)
Corrected Observed Vacuum
Applied Pressure, KAFB-106148
Edge of ROI, 0.3 inWC
inWC = inches of water column
SVE = soil vapor extraction
Log. (Corrected Observed Vacuum)

KAFB BFF Pilot Testing

Well ID	Screen Interval	Time	Vacuum (in WC)	Diff. Pressure (in WC)	Flow Rate (scfm)	Temp. (˚F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%	
106148	484	0927	36	1.5	249.4	47.8	44	1010	2.92	0	16.36	NR	NR	
106148	484	NR	22	0.9	188.9	47.7	44.5	1481	3.42	0	15.48	NR	NR	
106148	484	NR	10	0.32	110.5	47.1	44.8	1853	3.76	0	14.87	NR	NR	
106148	349	0935	NR	NR	0.0	47.1	51.7	9410	15.96	0	0.51	NR	NR	Step Flow
106148	349	NR	22	1.38	233.9	47.7	48.7	>10000	NR	NR	NR	NR	NR	Test
106148	349	NR	30	1.88	276.1	46.4	79.5	>10000	15.14	0	1.19	0	>40	
106148	199	0945	22	1.95	279.0	50.2	52.3	7060	16.2	0	0.44	0	34	
106148	199	NR	10	0.67	160.4	49.5	45.8	7280	16.3	0	0.37	NR	NR	
	Averaged parameters:		**21.7**	**1.2**	**187.3**	**47.9**	**51.4**	**4682**	**10.5**	**0**	**7.03**	**0**	**34**	
106148	349	0952	25	1.74	265.5	52.7	69.8	>10000	12.98	0	3.61	0	44	
106148	349	1022	28	1.78	268.3	46.8	62.1	9590	12.26	0	4.28	0	51	
106148	349	1052	28	1.68	261.7	48.7	79.3	9420	11.98	0	5.04	0	>40	
106148	349	1122	28	1.74	266.6	53.6	1	9480	11.82	0.01	5.1	0	42	
106148	349	1152	28	1.79	271.3	57	1	9460	11.58	0.01	5.1	0	>42	
106148	349	1222	28	1.79	271.9	56.7	56.2	NR	NR	NR	7.4	0	>47	
106148	349	1252	28	1.77	270.9	60.1	43.8	NR	NR	NR	5.2	0	>55	
106148	349	1322	28	1.82	274.1	55.8	45	>10000	12.16	0.01	5.2	0	57	Long Test
106148	349	1352	27	1.91	281.5	61.9	31.4	>10000	12.12	0.01	4.18	0	45	
106148	349	1422	27.5	1.87	280.2	65.8	26.1	9970	11.98	0	4.22	0	57	
106148	349	1452	28	1.8	275.0	65.1	26.5	9970	11.88	0.01	4.06	0	>48	
106148	349	1522	27	1.77	272.7	68	23.9	>10000	11.8	0.01	4.28	0	>48	
106148	349	1552	27	1.79	273.4	64.9	28.1	>10000	9.6	0.01	4.83	0	50	
106148	349	1622	28	1.76	271.9	65.1	24.9	9960	11.84	0.01	4.26	0	>47	
106148	349	1652	28	1.81	275.3	64.6	26	>10000	11.78	0.01	4.39	0	66	
106148	349	1522	27	1.87	279.0	63.3	25.1	>10000	11.8	0.01	4.35	0	51	
	Averaged parameters:		**27.5**	**1.8**	**272.5**	**59.4**	**35.6**	**9693**	**11.8**	**0.0**	**4.7**	**0**	**51.4**	

Date and time	Barometric Pressure (inHg)	inWC	-inWC
11-1-2013 0:15 MDT	30.12	409.4814	-409.481
11-1-2013 0:35 MDT	30.12	409.4814	-409.481
11-1-2013 0:55 MDT	30.12	409.4814	-409.481
11-1-2013 1:15 MDT	30.12	409.4814	-409.481
11-1-2013 1:35 MDT	30.12	409.4814	-409.481
11-1-2013 1:55 MDT	30.12	409.4814	-409.481
11-1-2013 2:15 MDT	30.12	409.4814	-409.481
11-1-2013 2:35 MDT	30.12	409.4814	-409.481
11-1-2013 2:55 MDT	30.12	409.4814	-409.481
11-1-2013 3:15 MDT	30.12	409.4814	-409.481
11-1-2013 3:35 MDT	30.12	409.4814	-409.481
11-1-2013 3:55 MDT	30.12	409.4814	-409.481
11-1-2013 4:15 MDT	30.12	409.4814	-409.481
11-1-2013 4:35 MDT	30.13	409.6174	-409.617
11-1-2013 4:55 MDT	30.15	409.8893	-409.889
11-1-2013 5:15 MDT	30.15	409.8893	-409.889
11-1-2013 5:35 MDT	30.16	410.0252	-410.025
11-1-2013 5:50 MDT	30.16	410.0252	-410.025
11-1-2013 6:50 MDT	30.19	410.4331	-410.433
11-1-2013 7:50 MDT	30.2	410.569	-410.569
11-1-2013 8:50 MDT	30.23	410.9769	-410.977
11-1-2013 9:50 MDT	30.27	411.5207	-411.521
11-1-2013 10:50 MDT	30.27	411.5207	-411.521
11-1-2013 11:50 MDT	30.26	411.3847	-411.385
11-1-2013 12:50 MDT	30.25	411.2488	-411.249
11-1-2013 13:50 MDT	30.21	410.705	-410.705
11-1-2013 14:50 MDT	30.21	410.705	-410.705
11-1-2013 15:50 MDT	30.2	410.569	-410.569
11-1-2013 16:50 MDT	30.21	410.705	-410.705
11-1-2013 17:50 MDT	30.22	410.8409	-410.841
11-1-2013 18:50 MDT	30.23	410.9769	-410.977
11-1-2013 19:50 MDT	30.26	411.3847	-411.385
11-1-2013 20:50 MDT	30.27	411.5207	-411.521
11-1-2013 22:15 MDT	30.3	411.9285	-411.929
11-1-2013 22:35 MDT	30.3	411.9285	-411.929
11-1-2013 22:55 MDT	30.31	412.0645	-412.064
11-1-2013 23:15 MDT	30.31		
11-1-2013 23:35 MDT	30.31		
11-1-2013 23:55 MDT	30.31		

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
106119	450	1.22		11/1/2013	804	11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868	804				0		0	-410.569	-410.977	-0.0068	14	-410.664
	350	1.28		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	250	1.31		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	150	1.26		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	50	0.35		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
106111	450	1.29		11/1/2013	818	11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868	818				0		0	-410.569	-410.977	-0.0068	28	-410.759
	350	1.45		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	250	1.45		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	150	1.38		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	50	0.5		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
106117	450	1.44		11/1/2013	841	11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868		841	-410.569	-410.977	-0.0068	51	-410.916			0		0
	350	1.49		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	250	1.49		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	150	1.39		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	50	0.66		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
106128	450	1.48		11/1/2013	846	11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868		846	-410.569	-410.977	-0.0068	56	-410.95			0		0
	350	1.53		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	250	1.58		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	150	1.46		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	50	0.69		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
106118	450	1.46		11/1/2013	834	11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868		834	-410.569	-410.977	-0.0068	44	-410.868			0		0
	350	1.51		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	250	1.53		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	150	1.48		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	50	0.46		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
106113	450	1.54		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	350	1.58		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	250	1.6		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	150	1.54		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
	50	0.46		11/1/2013		11/1/2013 8:34	-410.569	-410.977	-0.0068	44	-410.868					0		0			0		0
106119	450	1.74		11/1/2013	1029	11/1/2013 10:31	-411.521	-411.521	0	41	-411.521	1029				0		0	-411.521	-411.521	0	39	-411.521
	350	1.84		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	250	2.04		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	150	1.76		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	50	0.27		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
106111	450	1.78		11/1/2013	1020	11/1/2013 10:31	-411.521	-411.521	0	41	-411.521	1020				0		0	-411.521	-411.521	0	30	-411.521
	350	1.89		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	250	1.9		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	150	1.73		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	50	0.4		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
106117	450	1.7		11/1/2013	1033	11/1/2013 10:31	-411.521	-411.521	0	41	-411.521		1033	-411.521	-411.521	0	43	-411.521			0		0
	350	1.76		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	250	1.76		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	150	1.56		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	50	0.57		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
106128	450	1.66		11/1/2013	1038	11/1/2013 10:31	-411.521	-411.521	0	41	-411.521		1038	-411.521	-411.521	0	48	-411.521			0		0
	350	1.76		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	250	1.83		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	150	1.57		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	50	0.58		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
106118	450	1.83		11/1/2013	1024	11/1/2013 10:31	-411.521	-411.521	0	41	-411.521	1024				0		0	-411.521	-411.521	0	34	-411.521
	350	1.81		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	250	1.8		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	150	1.74		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
	50	0.3		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0
106113	450	1.8		11/1/2013	1042	11/1/2013 10:31	-411.521	-411.521	0	41	-411.521		1042	-411.521	-411.521	0	52	-411.521			0		0
	350	1.8		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521					0		0			0		0

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
	250	1.78		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521						0	0			0		0
	150	1.66		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521						0	0			0		0
	50	0.27		11/1/2013		11/1/2013 10:31	-411.521	-411.521	0	41	-411.521						0	0			0		0
106119	450	1.77		11/1/2013	1113	11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482		1113	-411.521	-411.385	0.002266	23	-411.469			0		0
	350	1.9		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	250	2.11		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	150	1.78		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	50	0.23		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
106111	450	1.76		11/1/2013	1056	11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482	1056				0		0	-411.521	-411.385	0.002266	6	-411.507
	350	1.9		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	250	1.92		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	150	1.74		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	50	0.42		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
106117	450	1.76		11/1/2013	1111	11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482		1111	-411.521	-411.385	0.002266	21	-411.473			0		0
	350	1.81		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	250	1.82		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	150	1.59		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	50	0.57		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
106128	450	1.72		11/1/2013	1108	11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482		1108	-411.521	-411.385	0.002266	18	-411.48					0
	350	1.79		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	250	1.86		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	150	1.62		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	50	0.57		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
106118	450	1.84		11/1/2013	1100	11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482	1100				0		0	-411.521	-411.385	0.002266	10	-411.498
	350	1.86		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	250	1.76		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	150	1.71		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	50	0.29		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
106113	450	1.78		11/1/2013	1105	11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482	1105				0		0	-411.521	-411.385	0.002266	15	-411.487
	350	1.84		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	250	1.82		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	150	1.68		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
	50	0.28		11/1/2013		11/1/2013 11:07	-411.521	-411.385	0.002266	17	-411.482					0		0			0		0
106119	450	1.67		11/1/2013	1130	11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425	1130				0		0	-411.521	-411.385	0.002266	40	-411.43
	350	1.81		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
	250	2.02		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
	150	1.69		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
	50	0.16		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
106111	450	1.81		11/1/2013	1120	11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425	1120				0		0	-411.521	-411.385	0.002266	30	-411.453
	350	1.91		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
	250	1.94		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
	150	1.75		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
	50	0.41		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
106117	450	1.65		11/1/2013	1133	11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425		1133	-411.521	-411.385	0.002266	43	-411.423			0		0
	350	1.71		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
	250	1.73		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
	150	1.46		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
	50	0.47		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
106128	450	1.58		11/1/2013	1141	11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425		1141	-411.521	-411.385	0.002266	51	-411.405			0		0
	350	1.68		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
	250	1.73		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
	150	1.5		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
	50	0.45		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
106118	450	1.81		11/1/2013	1125	11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425	1125				0		0	-411.521	-411.385	0.002266	35	-411.441
	350	1.82		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
	250	1.8		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0
	150	1.69		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425					0		0			0		0

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
	50	0.22		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425						0	0			0		0
106113	450	1.7		11/1/2013	1137	11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425		1137	-411.521	-411.385	0.002266	47	-411.414			0		0
	350	1.74		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425						0	0			0		0
	250	1.7		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425						0	0			0		0
	150	1.56		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425						0	0			0		0
	50	0.16		11/1/2013		11/1/2013 11:32	-411.521	-411.385	0.002266	42	-411.425						0	0			0		0
106119	450	1.52		11/1/2013	1212	11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348		1212	-411.385	-411.249	0.002266	22	-411.335			0		0
	350	1.65		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	250	1.87		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	150	1.54		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	50	0.07		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
106111	450	1.67		11/1/2013	1157	11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348	1157					0	0	-411.385	-411.249	0.002266	7	-411.369
	350	1.78		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	250	1.8		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	150	1.61		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	50	0.31		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
106117	450	1.53		11/1/2013	1209	11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348		1209	-411.385	-411.249	0.002266	19	-411.342			0		0
	350	1.58		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	250	1.6		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	150	1.37		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	50	0.39		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
106128	450	1.53		11/1/2013	1207	11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348		1207	-411.385	-411.249	0.002266	17	-411.346			0		0
	350	1.61		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	250	1.66		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	150	1.41		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	50	0.4		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
106118	450	1.68		11/1/2013	1200	11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348	1200					0	0	-411.385	-411.249	0.002266	10	-411.362
	350	1.7		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	250	1.66		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	150	1.51		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	50	0.13		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
106113	450	1.6		11/1/2013	1204	11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348	1204					0	0	-411.385	-411.249	0.002266	14	-411.353
	350	1.64		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	250	1.61		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	150	1.43		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
	50	0.1		11/1/2013		11/1/2013 12:06	-411.385	-411.249	0.002266	16	-411.348						0	0			0		0
106119	450	1.42		11/1/2013	1228	11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294	1228					0	0	-411.385	-411.249	0.002266	38	-411.299
	350	1.58		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
	250	1.29		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
	150	1.45		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
	50	0.01		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
106111	450	1.56		11/1/2013	1220	11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294	1220					0	0	-411.385	-411.249	0.002266	30	-411.317
	350	1.67		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
	250	1.69		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
	150	1.52		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
	50	0.25		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
106117	450	1.42		11/1/2013	1232	11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294		1232	-411.385	-411.249	0.002266	42	-411.29			0		0
	350	1.48		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
	250	1.47		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
	150	1.23		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
	50	0.28		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
106128	450	1.29		11/1/2013	1239	11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294		1239	-411.385	-411.249	0.002266	49	-411.274			0		0
	350	1.46		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
	250	1.54		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
	150	1.3		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
	50	0.31		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0			0		0
106118	450	1.42		11/1/2013	1223	11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294	1223					0	0	-411.385	-411.249	0.002266	33	-411.31

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
	350	1.58		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0				0	0
	250	1.55		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0				0	0
	150	1.44		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0				0	0
	50	0.05		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0				0	0
106113	450	1.46		11/1/2013	1235	11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294		1235	-411.385	-411.249	0.002266	45	-411.283				0	0
	350	1.49		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0				0	0
	250	1.44		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0				0	0
	150	1.28		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0				0	0
	50	0		11/1/2013		11/1/2013 12:30	-411.385	-411.249	0.002266	40	-411.294						0	0				0	0
106119	450	1.18		11/1/2013	1317	11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058		1317	-411.249	-410.705	0.009063	27	-411.004				0	0
	350	1.31		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	250	1.35		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	150	1.29		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	50	-0.04		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
106111	450	1.32		11/1/2013	1301	11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058	1301					0	0	-411.249	-410.705	0.009063	11	-411.149
	350	1.43		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	250	1.45		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	150	1.31		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	50	0.1		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
106117	450	1.19		11/1/2013	1314	11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058		1314	-411.249	-410.705	0.009063	24	-411.031				0	0
	350	1.25		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	250	1.1		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	150	1.03		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	50	0.19		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
106128	450	1.1		11/1/2013	1312	11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058		1312	-411.249	-410.705	0.009063	22	-411.049				0	0
	350	1.24		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	250	1.28		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	150	1.07		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	50	0.16		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
106118	450	1.15		11/1/2013	1304	11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058	1304					0	0	-411.249	-410.705	0.009063	14	-411.122
	350	1.36		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	250	1.33		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	150	1.21		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	50	-0.05		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
106113	450	1.2		11/1/2013	1310	11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058	1310					0	0	-411.249	-410.705	0.009063	20	-411.067
	350	1.26		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	250	1.2		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	150	1.06		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
	50	-0.11		11/1/2013		11/1/2013 13:11	-411.249	-410.705	0.009063	21	-411.058						0	0				0	0
106119	450	1.1		11/1/2013	1337	11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868		1337	-411.249	-410.705	0.009063	47	-410.823				0	0
	350	1.22		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0				0	0
	250	1.52		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0				0	0
	150	1.2		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0				0	0
	50	-0.03		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0				0	0
106111	450	1.18		11/1/2013	1323	11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868	1323					0	0	-411.249	-410.705	0.009063	33	-410.95
	350	1.29		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0				0	0
	250	1.32		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0				0	0
	150	1.17		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0				0	0
	50	0.05		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0				0	0
106117	450	1.04		11/1/2013	1335	11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868		1335	-411.249	-410.705	0.009063	45	-410.841				0	0
	350	1.12		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0				0	0
	250	1.14		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0				0	0
	150	0.93		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0				0	0
	50	0.13		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0				0	0
106128	450	1.01		11/1/2013	1333	11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868		1333	-411.249	-410.705	0.009063	43	-410.859				0	0
	350	1.12		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0				0	0
	250	1.16		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0				0	0

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
	150	0.94		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0			0		0
	50	0.1		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0			0		0
106118	450	1.17		11/1/2013	1326	11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868	1326					0	0	-411.249	-410.705	0.009063	36	-410.922
	350	1.21		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0			0		0
	250	1.66		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0			0		0
	150	1.12		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0			0		0
	50	-0.11		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0			0		0
106113	450	1.08		11/1/2013	1330	11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868	1330					0	0	-411.249	-410.705	0.009063	40	-410.886
	350	1.13		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0			0		0
	250	1.09		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0			0		0
	150	0.89		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0			0		0
	50	-0.16		11/1/2013		11/1/2013 13:32	-411.249	-410.705	0.009063	42	-410.868						0	0			0		0
106119	450	0.9		11/1/2013	1405	11/1/2013 14:07	-410.705	-410.705	0	17	-410.705	1405					0	0	-410.705	-410.705	0	15	-410.705
	350	1.03		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	250	1.28		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	150	1.01		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	50	-0.09		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
106111	450	1		11/1/2013	1355	11/1/2013 14:07	-410.705	-410.705	0	17	-410.705	1355					0	0	-410.705	-410.705	0	5	-410.705
	350	1.13		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	250	1.16		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	150	1.01		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	50	0		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
106117	450	0.87		11/1/2013	1408	11/1/2013 14:07	-410.705	-410.705	0	17	-410.705		1408	-410.705	-410.705		0	18 -410.705			0		0
	350	0.92		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	250	0.94		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	150	0.75		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	50	0.07		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
106128	450	0.84		11/1/2013	1416	11/1/2013 14:07	-410.705	-410.705	0	17	-410.705		1416	-410.705	-410.705		0	26 -410.705			0		0
	350	0.95		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	250	1.01		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	150	0.82		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	50	0.09		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
106118	450	0.94		11/1/2013	1400	11/1/2013 14:07	-410.705	-410.705	0	17	-410.705	1400					0	0	-410.705	-410.705	0	10	-410.705
	350	1		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	250	0.99		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	150	0.87		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	50	-0.19		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
106113	450	0.88		11/1/2013	1412	11/1/2013 14:07	-410.705	-410.705	0	17	-410.705		1412	-410.705	-410.705		0	22 -410.705			0		0
	350	0.91		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	250	0.86		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	150	0.68		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
	50	-0.2		11/1/2013		11/1/2013 14:07	-410.705	-410.705	0	17	-410.705						0	0			0		0
106119	450	0.91		11/1/2013	1435	11/1/2013 14:37	-410.705	-410.705	0	47	-410.705	1435					0	0	-410.705	-410.705	0	45	-410.705
	350	1.04		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705						0	0			0		0
	250	1.31		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705						0	0			0		0
	150	1.06		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705						0	0			0		0
	50	0		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705						0	0			0		0
106111	450	0.95		11/1/2013	1427	11/1/2013 14:37	-410.705	-410.705	0	47	-410.705	1427					0	0	-410.705	-410.705	0	37	-410.705
	350	1.07		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705						0	0			0		0
	250	1.13		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705						0	0			0		0
	150	1		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705						0	0			0		0
	50	0.09		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705						0	0			0		0
106117	450	0.91		11/1/2013	1438	11/1/2013 14:37	-410.705	-410.705	0	47	-410.705		1438	-410.705	-410.705		0	48 -410.705			0		0
	350	1		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705						0	0			0		0
	250	1.01		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705						0	0			0		0
	150	0.8		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705						0	0			0		0
	50	0.15		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705						0	0			0		0

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
106128	450	0.82		11/1/2013	1445	11/1/2013 14:37	-410.705	-410.705	0	47	-410.705		1445	-410.705	-410.705	0	55	-410.705			0	0	0
	350	0.9		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705					0		0			0	0	0
	250	0.95		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705					0		0			0	0	0
	150	0.74		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705					0		0			0	0	0
	50	0.05		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705					0		0			0	0	0
106118	450	0.92		11/1/2013	1432	11/1/2013 14:37	-410.705	-410.705	0	47	-410.705	1432				0		0	-410.705	-410.705	0	42	-410.705
	350	1		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705					0		0			0	0	0
	250	0.97		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705					0		0			0	0	0
	150	0.89		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705					0		0			0	0	0
	50	-0.05		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705					0		0			0	0	0
106113	450	0.9		11/1/2013	1442	11/1/2013 14:37	-410.705	-410.705	0	47	-410.705		1442	-410.705	-410.705	0	52	-410.705			0	0	0
	350	0.93		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705					0		0			0	0	0
	250	0.87		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705					0		0			0	0	0
	150	0.73		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705					0		0			0	0	0
	50	-0.1		11/1/2013		11/1/2013 14:37	-410.705	-410.705	0	47	-410.705					0		0			0	0	0
106119	450	0.87		11/1/2013	1513	11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666		1513	-410.705	-410.569	0.002266	23	-410.653			0	0	0
	350	1.01		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	250	1.27		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	150	1.01		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	50	0.03		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
106111	450	0.88		11/1/2013	1458	11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666	1458				0		0	-410.705	-410.569	0.002266	8	-410.687
	350	0.97		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	250	1.03		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	150	0.89		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	50	0.03		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
106117	450	0.84		11/1/2013	1511	11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666		1511	-410.705	-410.569	0.002266	21	-410.657			0	0	0
	350	0.92		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	250	0.92		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	150	0.76		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	50	0.15		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
106128	450	0.81		11/1/2013	1508	11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666		1508	-410.705	-410.569	0.002266	18	-410.664			0	0	0
	350	0.89		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	250	0.96		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	150	0.76		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	50	0.09		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
106118	450	0.88		11/1/2013	1501	11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666	1501				0		0	-410.705	-410.569	0.002266	11	-410.68
	350	0.92		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	250	0.91		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	150	0.82		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	50	-0.05		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
106113	450	0.83		11/1/2013	1505	11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666	1505				0		0	-410.705	-410.569	0.002266	15	-410.671
	350	0.87		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	250	0.81		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	150	0.66		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
	50	-0.09		11/1/2013		11/1/2013 15:07	-410.705	-410.569	0.002266	17	-410.666					0		0			0	0	0
106119	450	0.84		11/1/2013	1534	11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601	1534				0		0	-410.705	-410.569	0.002266	44	-410.605
	350	0.96		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601					0		0			0	0	0
	250	1.24		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601					0		0			0	0	0
	150	1		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601					0		0			0	0	0
	50	0.03		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601					0		0			0	0	0
106111	450	0.9		11/1/2013	1526	11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601	1526				0		0	-410.705	-410.569	0.002266	36	-410.623
	350	1		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601					0		0			0	0	0
	250	1.07		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601					0		0			0	0	0
	150	0.95		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601					0		0			0	0	0
	50	0.12		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601					0		0			0	0	0
106117	450	0.8		11/1/2013	1537	11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601		1537	-410.705	-410.569	0.002266	47	-410.598			0	0	0
	350	0.84		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601					0		0			0	0	0

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
	250	0.89		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
	150	0.71		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
	50	0.11		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
106128	450	0.8		11/1/2013	1543	11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601		1543	-410.705	-410.569	0.002266	53	-410.585			0		0
	350	0.88		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
	250	0.94		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
	150	0.76		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
	50	0.15		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
106118	450	0.88		11/1/2013	1530	11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601	1530					0	0	-410.705	-410.569	0.002266	40	-410.614
	350	0.91		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
	250	0.91		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
	150	0.83		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
	50	-0.02		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
106113	450	0.84		11/1/2013	1540	11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601		1540	-410.705	-410.569	0.002266	50	-410.592			0		0
	350	0.86		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
	250	0.78		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
	150	0.63		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
	50	-0.08		11/1/2013		11/1/2013 15:36	-410.705	-410.569	0.002266	46	-410.601						0	0			0		0
106119	450	0.83		11/1/2013	1558	11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592	1558					0	0	-410.569	-410.705	-0.00227	8	-410.587
	350	0.97		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	250	1.24		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	150	1		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	50	0.03		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
106111	450	0.84		11/1/2013	1550	11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592	1550					0	0	-410.569	-410.569	0	0	-410.569
	350	0.94		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	250	1.02		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	150	0.9		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	50	0.09		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
106117	450	0.8		11/1/2013	1601	11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592		1601	-410.569	-410.705	-0.00227	11	-410.594			0		0
	350	0.86		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	250	0.88		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	150	0.7		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	50	0.17		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
106128	450	0.76		11/1/2013	1608	11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592		1608	-410.569	-410.705	-0.00227	18	-410.61			0		0
	350	0.86		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	250	0.91		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	150	0.74		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	50	0.12		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
106118	450	0.83		11/1/2013	1554	11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592	1534					0	0	-410.569	-410.705	-0.00227	44	-410.669
	350	0.87		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	250	0.78		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	150	0.8		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	50	0.01		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
106113	450	0.81		11/1/2013	1604	11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592		1604	-410.569	-410.705	-0.00227	14	-410.601			0		0
	350	0.84		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	250	0.8		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	150	0.69		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
	50	-0.05		11/1/2013		11/1/2013 16:00	-410.569	-410.705	-0.00227	10	-410.592						0	0			0		0
106119	450	0.89		11/1/2013	1639	11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669		1639	-410.569	-410.705	-0.00227	49	-410.68			0		0
	350	1.03		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669						0	0			0		0
	250	1.31		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669						0	0			0		0
	150	1.07		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669						0	0			0		0
	50	0.1		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669						0	0			0		0
106111	450	0.9		11/1/2013	1626	11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669	1626					0	0	-410.569	-410.705	-0.00227	36	-410.651
	350	1.04		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669						0	0			0		0
	250	1.02		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669						0	0			0		0
	150	0.93		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669						0	0			0		0

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
	50	0.16		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
106117	450	0.87		11/1/2013	1637	11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669		1637	-410.569	-410.705	-0.00227	47	-410.675			0		0
	350	0.95		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
	250	0.98		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
	150	0.81		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
	50	0.24		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
106128	450	0.8		11/1/2013	1635	11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669		1635	-410.569	-410.705	-0.00227	45	-410.671			0		0
	350	0.9		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
	250	0.96		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
	150	0.78		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
	50	0.16		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
106118	450	0.9		11/1/2013	1629	11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669		1629			0		0	-410.569	-410.705	-0.00227	39	-410.657
	350	0.91		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
	250	0.97		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
	150	0.82		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
	50	0.03		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
106113	450	0.84		11/1/2013	1632	11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669		1632			0		0	-410.569	-410.705	-0.00227	42	-410.664
	350	0.89		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
	250	0.84		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
	150	0.67		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
	50	0		11/1/2013		11/1/2013 16:34	-410.569	-410.705	-0.00227	44	-410.669					0		0			0		0
106119	450	0.97		11/1/2013	1659	11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73		1659			0		0	-410.705	-410.841	-0.00227	9	-410.725
	350	1.12		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	250	1.4		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	150	1.17		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	50	0.18		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
106111	450	0.97		11/1/2013	1650	11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73		1650			0		0	-410.705	-410.705	0	0	-410.705
	350	1.08		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	250	1.16		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	150	1.06		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	50	0.24		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
106117	450	0.91		11/1/2013	1702	11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73		1702	-410.705	-410.841	-0.00227	12	-410.732			0		0
	350	1.04		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	250	1.06		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	150	0.93		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	50	0.32		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
106128	450	0.91		11/1/2013	1709	11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73		1709	-410.705	-410.841	-0.00227	19	-410.748			0		0
	350	1.01		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	250	1.1		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	150	0.94		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	50	0.28		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
106118	450	1.02		11/1/2013	1655	11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73		1655			0		0	-410.705	-410.841	-0.00227	5	-410.716
	350	1.04		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	250	1.03		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	150	0.98		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	50	0.16		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
106113	450	0.96		11/1/2013	1706	11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73		1706	-410.705	-410.841	-0.00227	16	-410.741			0		0
	350	1.02		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	250	0.95		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	150	0.83		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
	50	0.1		11/1/2013		11/1/2013 17:01	-410.705	-410.841	-0.00227	11	-410.73					0		0			0		0
106119	450	1.01		11/1/2013	1729	11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798		1729			0		0	-410.705	-410.841	-0.00227	39	-410.793
	350	1.14		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798					0		0			0		0
	250	1.45		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798					0		0			0		0
	150	1.21		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798					0		0			0		0
	50	0.17		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798					0		0			0		0
106111	450	1.05		11/1/2013	1720	11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798		1720			0		0	-410.705	-410.841	-0.00227	30	-410.773

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
	350	1.18		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	250	1.21		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	150	1.12		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	50	0.26		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
106117	450	0.95		11/1/2013	1732	11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798		1732	-410.705	-410.841	-0.00227	42	-410.8				0	0
	350	1.06		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	250	1.13		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	150	0.94		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	50	0.3		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
106128	450	0.96		11/1/2013	1740	11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798		1740	-410.705	-410.841	-0.00227	50	-410.818				0	0
	350	1.05		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	250	1.15		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	150	0.98		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	50	0.3		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
106118	450	1.05		11/1/2013	1724	11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798	1724					0	0	-410.705	-410.841	-0.00227	34	-410.782
	350	1.1		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	250	1.09		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	150	1.01		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	50	0.15		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
106113	450	0.98		11/1/2013	1736	11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798		1736	-410.705	-410.841	-0.00227	46	-410.809				0	0
	350	1.04		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	250	0.97		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	150	0.85		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0
	50	0.05		11/1/2013		11/1/2013 17:31	-410.705	-410.841	-0.00227	41	-410.798						0	0				0	0

Well ID	Depth	Minimum distance to extraction well	Distance to 106160 (ft)	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106119	450				804	1.22	11/1/2013 8:34	-410.868	0	-410.664	1.415768				
	350					1.28	11/1/2013 8:34	-410.868	0	0					
	250					1.31	11/1/2013 8:34	-410.868	0	0					
	150					1.26	11/1/2013 8:34	-410.868	0	0					
	50					0.35	11/1/2013 8:34	-410.868	0	0					
106111	450				818	1.29	11/1/2013 8:34	-410.868	0	-410.759	1.39441				
	350					1.45	11/1/2013 8:34	-410.868	0	0					
	250					1.45	11/1/2013 8:34	-410.868	0	0					
	150					1.38	11/1/2013 8:34	-410.868	0	0					
	50					0.5	11/1/2013 8:34	-410.868	0	0					
106117	450				841	1.44	11/1/2013 8:34	-410.868	-410.916	0	1.394321				
	350					1.49	11/1/2013 8:34	-410.868	0	0					
	250					1.49	11/1/2013 8:34	-410.868	0	0					
	150					1.39	11/1/2013 8:34	-410.868	0	0					
	50					0.66	11/1/2013 8:34	-410.868	0	0					
106128	450				846	1.48	11/1/2013 8:34	-410.868	-410.95	0	1.401693				
	350					1.53	11/1/2013 8:34	-410.868	0	0					
	250					1.58	11/1/2013 8:34	-410.868	0	0					
	150					1.46	11/1/2013 8:34	-410.868	0	0					
	50					0.69	11/1/2013 8:34	-410.868	0	0					
106118	450				834	1.46	11/1/2013 8:34	-410.868	-410.868	0	1.46				
	350					1.51	11/1/2013 8:34	-410.868	0	0					
	250					1.53	11/1/2013 8:34	-410.868	0	0					
	350					1.51	11/1/2013 8:34	-410.868	0	0					
	250					1.53	11/1/2013 8:34	-410.868	0	0					
	150					1.48	11/1/2013 8:34	-410.868	0	0					
	50					0.46	11/1/2013 8:34	-410.868	0	0					
106113	450					1.54	11/1/2013 8:34	-410.868	0	0		NA			
	350					1.58	11/1/2013 8:34	-410.868	0	0					
	250					1.6	11/1/2013 8:34	-410.868	0	0					
	150					1.54	11/1/2013 8:34	-410.868	0	0					
	50					0.46	11/1/2013 8:34	-410.868	0	0					
106119	450				1029	1.74	11/1/2013 10:31	-411.521	0	-411.521	1.74	-0.06			
	350					1.84	11/1/2013 10:31	-411.521	0	0					
	250					2.04	11/1/2013 10:31	-411.521	0	0					
	150					1.76	11/1/2013 10:31	-411.521	0	0					
	50					0.27	11/1/2013 10:31	-411.521	0	0					
106111	450				1020	1.78	11/1/2013 10:31	-411.521	0	-411.521	1.78	-0.02			
	350					1.89	11/1/2013 10:31	-411.521	0	0					
	250					1.9	11/1/2013 10:31	-411.521	0	0					
	150					1.73	11/1/2013 10:31	-411.521	0	0					
	50					0.4	11/1/2013 10:31	-411.521	0	0					
106117	450				1033	1.7	11/1/2013 10:31	-411.521	-411.521	0	1.7	-0.1			
	350					1.76	11/1/2013 10:31	-411.521	0	0					
	250					1.76	11/1/2013 10:31	-411.521	0	0					
	150					1.56	11/1/2013 10:31	-411.521	0	0					
	50					0.57	11/1/2013 10:31	-411.521	0	0					

106128	450		1038	1.66	11/1/2013 10:31	-411.521	-411.521	0	1.66	-0.14	
	350			1.76	11/1/2013 10:31	-411.521	0	0			
	250			1.83	11/1/2013 10:31	-411.521	0	0			
	150			1.57	11/1/2013 10:31	-411.521	0	0			
	50			0.58	11/1/2013 10:31	-411.521	0	0			
106118	450		1024	1.83	11/1/2013 10:31	-411.521	0	-411.521	1.83	0.03	
	350			1.81	11/1/2013 10:31	-411.521	0	0			
	250			1.8	11/1/2013 10:31	-411.521	0	0			
	150			1.74	11/1/2013 10:31	-411.521	0	0			
	50			0.3	11/1/2013 10:31	-411.521	0	0			
106113	450		1042	1.8	11/1/2013 10:31	-411.521	-411.521	0	1.8	0	
	350			1.8	11/1/2013 10:31	-411.521	0	0			
	250			1.78	11/1/2013 10:31	-411.521	0	0			
	150			1.66	11/1/2013 10:31	-411.521	0	0			
	50			0.27	11/1/2013 10:31	-411.521	0	0			
106119	450	1	1113	1.77	11/1/2013 11:07	-411.482	-411.469	0	1.783051	0.0074016	
	350	1		1.9	11/1/2013 11:07	-411.482	0	0			
	250	1		2.11	11/1/2013 11:07	-411.482	0	0			
	150	1		1.78	11/1/2013 11:07	-411.482	0	0			
	50	1		0.23	11/1/2013 11:07	-411.482	0	0			
106111	450	1	1056	1.76	11/1/2013 11:07	-411.482	0	-411.507	1.736073	-0.0395768	
	350	1		1.9	11/1/2013 11:07	-411.482	0	0			
	250	1		1.92	11/1/2013 11:07	-411.482	0	0			
	150	1		1.74	11/1/2013 11:07	-411.482	0	0			
	50	1		0.42	11/1/2013 11:07	-411.482	0	0			
106117	450	1	1111	1.76	11/1/2013 11:07	-411.482	-411.473	0	1.768701	-0.0069488	
	350	1		1.81	11/1/2013 11:07	-411.482	0	0			
	250	1		1.82	11/1/2013 11:07	-411.482	0	0			
	150	1		1.59	11/1/2013 11:07	-411.482	0	0			
	50	1		0.57	11/1/2013 11:07	-411.482	0	0			
106128	450	1	1108	1.72	11/1/2013 11:07	-411.482	-411.48	0	1.722175	-0.0534744	
	350	1		1.79	11/1/2013 11:07	-411.482	0	0			
	250	1		1.86	11/1/2013 11:07	-411.482	0	0			
	150	1		1.62	11/1/2013 11:07	-411.482	0	0			
	50	1		0.57	11/1/2013 11:07	-411.482	0	0			
106118	450	1	1100	1.84	11/1/2013 11:07	-411.482	0	-411.498	1.824774	0.049124	
	350	1		1.86	11/1/2013 11:07	-411.482	0	0			
	250	1		1.76	11/1/2013 11:07	-411.482	0	0			
	150	1		1.71	11/1/2013 11:07	-411.482	0	0			
	50	1		0.29	11/1/2013 11:07	-411.482	0	0			
106113	450	1	1105	1.78	11/1/2013 11:07	-411.482	0	-411.487	1.77565	0	
	350	1		1.84	11/1/2013 11:07	-411.482	0	0			
	250	1		1.82	11/1/2013 11:07	-411.482	0	0			
	150	1		1.68	11/1/2013 11:07	-411.482	0	0			
	50	1		0.28	11/1/2013 11:07	-411.482	0	0			
106119	450		1130	1.67	11/1/2013 11:32	-411.425	0	-411.43	1.66565	-0.0452264	
	350			1.81	11/1/2013 11:32	-411.425	0	0			

	250		2.02	11/1/2013 11:32	-411.425	0	0			
	150		1.69	11/1/2013 11:32	-411.425	0	0			
	50		0.16	11/1/2013 11:32	-411.425	0	0			
106111	450	1120	1.81	11/1/2013 11:32	-411.425	0	-411.453	1.783898	0.0730216	
	350		1.91	11/1/2013 11:32	-411.425	0	0			
	250		1.94	11/1/2013 11:32	-411.425	0	0			
	150		1.75	11/1/2013 11:32	-411.425	0	0			
	50		0.41	11/1/2013 11:32	-411.425	0	0			
106117	450	1133	1.65	11/1/2013 11:32	-411.425	-411.423	0	1.652175	-0.0587008	
	350		1.71	11/1/2013 11:32	-411.425	0	0			
	250		1.73	11/1/2013 11:32	-411.425	0	0			
	150		1.46	11/1/2013 11:32	-411.425	0	0			
	50		0.47	11/1/2013 11:32	-411.425	0	0			
106128	450	1141	1.58	11/1/2013 11:32	-411.425	-411.405	0	1.599577	-0.1112992	
	350		1.68	11/1/2013 11:32	-411.425	0	0			
	250		1.73	11/1/2013 11:32	-411.425	0	0			
	150		1.5	11/1/2013 11:32	-411.425	0	0			
	50		0.45	11/1/2013 11:32	-411.425	0	0			
106118	450	1125	1.81	11/1/2013 11:32	-411.425	0	-411.441	1.794774	0.0838976	
	350		1.82	11/1/2013 11:32	-411.425	0	0			
	250		1.8	11/1/2013 11:32	-411.425	0	0			
	150		1.69	11/1/2013 11:32	-411.425	0	0			
	50		0.22	11/1/2013 11:32	-411.425	0	0			
106113	450	1137	1.7	11/1/2013 11:32	-411.425	-411.414	0	1.710876	0	
	350		1.74	11/1/2013 11:32	-411.425	0	0			
	250		1.7	11/1/2013 11:32	-411.425	0	0			
	150		1.56	11/1/2013 11:32	-411.425	0	0			
	50		0.16	11/1/2013 11:32	-411.425	0	0			
106119	450	1212	1.52	11/1/2013 12:06	-411.348	-411.335	0	1.533051	-0.0625984	
	350		1.65	11/1/2013 12:06	-411.348	0	0			
	250		1.87	11/1/2013 12:06	-411.348	0	0			
	150		1.54	11/1/2013 12:06	-411.348	0	0			
	50		0.07	11/1/2013 12:06	-411.348	0	0			
106111	450	1157	1.67	11/1/2013 12:06	-411.348	0	-411.369	1.650423	0.0547736	
	350		1.78	11/1/2013 12:06	-411.348	0	0			
	250		1.8	11/1/2013 12:06	-411.348	0	0			
	150		1.61	11/1/2013 12:06	-411.348	0	0			
	50		0.31	11/1/2013 12:06	-411.348	0	0			
106117	450	1209	1.53	11/1/2013 12:06	-411.348	-411.342	0	1.536526	-0.059124	
	350		1.58	11/1/2013 12:06	-411.348	0	0			
	250		1.6	11/1/2013 12:06	-411.348	0	0			
	150		1.37	11/1/2013 12:06	-411.348	0	0			
	50		0.39	11/1/2013 12:06	-411.348	0	0			
106128	450	1207	1.53	11/1/2013 12:06	-411.348	-411.346	0	1.532175	-0.0634744	
	350		1.61	11/1/2013 12:06	-411.348	0	0			
	250		1.66	11/1/2013 12:06	-411.348	0	0			
	150		1.41	11/1/2013 12:06	-411.348	0	0			

	50		0.4	11/1/2013 12:06	-411.348	0	0			
106118	450	1200	1.68	11/1/2013 12:06	-411.348	0	-411.362	1.666949	0.0712992	
	350		1.7	11/1/2013 12:06	-411.348	0	0			
	250		1.66	11/1/2013 12:06	-411.348	0	0			
	150		1.51	11/1/2013 12:06	-411.348	0	0			
	50		0.13	11/1/2013 12:06	-411.348	0	0			
106113	450	1204	1.6	11/1/2013 12:06	-411.348	0	-411.353	1.59565	0	
	350		1.64	11/1/2013 12:06	-411.348	0	0			
	250		1.61	11/1/2013 12:06	-411.348	0	0			
	150		1.43	11/1/2013 12:06	-411.348	0	0			
	50		0.1	11/1/2013 12:06	-411.348	0	0			
106119	450	1228	1.42	11/1/2013 12:30	-411.294	0	-411.299	1.41565	-0.0552264	
	350		1.58	11/1/2013 12:30	-411.294	0	0			
	250		1.29	11/1/2013 12:30	-411.294	0	0			
	150		1.45	11/1/2013 12:30	-411.294	0	0			
	50		0.01	11/1/2013 12:30	-411.294	0	0			
106111	450	1220	1.56	11/1/2013 12:30	-411.294	0	-411.317	1.538248	0.067372	
	350		1.67	11/1/2013 12:30	-411.294	0	0			
	250		1.69	11/1/2013 12:30	-411.294	0	0			
	150		1.52	11/1/2013 12:30	-411.294	0	0			
	50		0.25	11/1/2013 12:30	-411.294	0	0			
106117	450	1232	1.42	11/1/2013 12:30	-411.294	-411.29	0	1.42435	-0.0465256	
	350		1.48	11/1/2013 12:30	-411.294	0	0			
	250		1.47	11/1/2013 12:30	-411.294	0	0			
	150		1.23	11/1/2013 12:30	-411.294	0	0			
	50		0.28	11/1/2013 12:30	-411.294	0	0			
106128	450	1239	1.29	11/1/2013 12:30	-411.294	-411.274	0	1.309577	-0.1612992	
	350		1.46	11/1/2013 12:30	-411.294	0	0			
	250		1.54	11/1/2013 12:30	-411.294	0	0			
	150		1.3	11/1/2013 12:30	-411.294	0	0			
	50		0.31	11/1/2013 12:30	-411.294	0	0			
106118	450	1223	1.42	11/1/2013 12:30	-411.294	0	-411.31	1.404774	-0.0661024	
	350		1.58	11/1/2013 12:30	-411.294	0	0			
	250		1.55	11/1/2013 12:30	-411.294	0	0			
	150		1.44	11/1/2013 12:30	-411.294	0	0			
	50		0.05	11/1/2013 12:30	-411.294	0	0			
106113	450	1235	1.46	11/1/2013 12:30	-411.294	-411.283	0	1.470876	0	
	350		1.49	11/1/2013 12:30	-411.294	0	0			
	250		1.44	11/1/2013 12:30	-411.294	0	0			
	150		1.28	11/1/2013 12:30	-411.294	0	0			
	50		0	11/1/2013 12:30	-411.294	0	0			
106119	450	1317	1.18	11/1/2013 13:11	-411.058	-411.004	0	1.232205	0.0409056	
	350		1.31	11/1/2013 13:11	-411.058	0	0			
	250		1.35	11/1/2013 13:11	-411.058	0	0			
	150		1.29	11/1/2013 13:11	-411.058	0	0			
	50		-0.04	11/1/2013 13:11	-411.058	0	0			
106111	450	1301	1.32	11/1/2013 13:11	-411.058	0	-411.149	1.232992	0.0416928	

	350			1.43	11/1/2013 13:11	-411.058	0	0				
	250			1.45	11/1/2013 13:11	-411.058	0	0				
	150			1.31	11/1/2013 13:11	-411.058	0	0				
	50			0.1	11/1/2013 13:11	-411.058	0	0				
106117	450		1314	1.19	11/1/2013 13:11	-411.058	-411.031	0	1.216102	0.0248032		
	350			1.25	11/1/2013 13:11	-411.058	0	0				
	250			1.1	11/1/2013 13:11	-411.058	0	0				
	150			1.03	11/1/2013 13:11	-411.058	0	0				
	50			0.19	11/1/2013 13:11	-411.058	0	0				
106128	450		1312	1.1	11/1/2013 13:11	-411.058	-411.049	0	1.108701	-0.0825984		
	350			1.24	11/1/2013 13:11	-411.058	0	0				
	250			1.28	11/1/2013 13:11	-411.058	0	0				
	150			1.07	11/1/2013 13:11	-411.058	0	0				
	50			0.16	11/1/2013 13:11	-411.058	0	0				
106118	450		1304	1.15	11/1/2013 13:11	-411.058	0	-411.122	1.089094	-0.1022048		
	350			1.36	11/1/2013 13:11	-411.058	0	0				
	250			1.33	11/1/2013 13:11	-411.058	0	0				
	150			1.21	11/1/2013 13:11	-411.058	0	0				
	50			-0.05	11/1/2013 13:11	-411.058	0	0				
106113	450		1310	1.2	11/1/2013 13:11	-411.058	0	-411.067	1.191299	0		
	350			1.26	11/1/2013 13:11	-411.058	0	0				
	250			1.2	11/1/2013 13:11	-411.058	0	0				
	150			1.06	11/1/2013 13:11	-411.058	0	0				
	50			-0.11	11/1/2013 13:11	-411.058	0	0				
106119	450		1337	1.1	11/1/2013 13:32	-410.868	-410.823	0	1.143504	0.0809056		
	350			1.22	11/1/2013 13:32	-410.868	0	0				
	250			1.52	11/1/2013 13:32	-410.868	0	0				
	150			1.2	11/1/2013 13:32	-410.868	0	0				
	50			-0.03	11/1/2013 13:32	-410.868	0	0				
106111	450		1323	1.18	11/1/2013 13:32	-410.868	0	-410.95	1.101693	0.0390944		
	350			1.29	11/1/2013 13:32	-410.868	0	0				
	250			1.32	11/1/2013 13:32	-410.868	0	0				
	150			1.17	11/1/2013 13:32	-410.868	0	0				
	50			0.05	11/1/2013 13:32	-410.868	0	0				
106117	450		1335	1.04	11/1/2013 13:32	-410.868	-410.841	0	1.066102	0.003504		
	350			1.12	11/1/2013 13:32	-410.868	0	0				
	250			1.14	11/1/2013 13:32	-410.868	0	0				
	150			0.93	11/1/2013 13:32	-410.868	0	0				
	50			0.13	11/1/2013 13:32	-410.868	0	0				
106128	450		1333	1.01	11/1/2013 13:32	-410.868	-410.859	0	1.018701	-0.0438976		
	350			1.12	11/1/2013 13:32	-410.868	0	0				
	250			1.16	11/1/2013 13:32	-410.868	0	0				
	150			0.94	11/1/2013 13:32	-410.868	0	0				
	50			0.1	11/1/2013 13:32	-410.868	0	0				
106118	450		1326	1.17	11/1/2013 13:32	-410.868	0	-410.922	1.117795	0.0551968		
	350			1.21	11/1/2013 13:32	-410.868	0	0				
	250			1.66	11/1/2013 13:32	-410.868	0	0				

	150		1.12	11/1/2013 13:32	-410.868	0	0			
	50		-0.11	11/1/2013 13:32	-410.868	0	0			
106113	450	1330	1.08	11/1/2013 13:32	-410.868	0	-410.886	1.062598	0	
	350		1.13	11/1/2013 13:32	-410.868	0	0			
	250		1.09	11/1/2013 13:32	-410.868	0	0			
	150		0.89	11/1/2013 13:32	-410.868	0	0			
	50		-0.16	11/1/2013 13:32	-410.868	0	0			
106119	450	1405	0.9	11/1/2013 14:07	-410.705	0	-410.705	0.9	0.02	
	350		1.03	11/1/2013 14:07	-410.705	0	0			
	250		1.28	11/1/2013 14:07	-410.705	0	0			
	150		1.01	11/1/2013 14:07	-410.705	0	0			
	50		-0.09	11/1/2013 14:07	-410.705	0	0			
106111	450	1355	1	11/1/2013 14:07	-410.705	0	-410.705	1	0.12	
	350		1.13	11/1/2013 14:07	-410.705	0	0			
	250		1.16	11/1/2013 14:07	-410.705	0	0			
	150		1.01	11/1/2013 14:07	-410.705	0	0			
	50		0	11/1/2013 14:07	-410.705	0	0			
106117	450	1408	0.87	11/1/2013 14:07	-410.705	-410.705	0	0.87	-0.01	
	350		0.92	11/1/2013 14:07	-410.705	0	0			
	250		0.94	11/1/2013 14:07	-410.705	0	0			
	150		0.75	11/1/2013 14:07	-410.705	0	0			
	50		0.07	11/1/2013 14:07	-410.705	0	0			
106128	450	1416	0.84	11/1/2013 14:07	-410.705	-410.705	0	0.84	-0.04	
	350		0.95	11/1/2013 14:07	-410.705	0	0			
	250		1.01	11/1/2013 14:07	-410.705	0	0			
	150		0.82	11/1/2013 14:07	-410.705	0	0			
	50		0.09	11/1/2013 14:07	-410.705	0	0			
106118	450	1400	0.94	11/1/2013 14:07	-410.705	0	-410.705	0.94	0.06	
	350		1	11/1/2013 14:07	-410.705	0	0			
	250		0.99	11/1/2013 14:07	-410.705	0	0			
	150		0.87	11/1/2013 14:07	-410.705	0	0			
	50		-0.19	11/1/2013 14:07	-410.705	0	0			
106113	450	1412	0.88	11/1/2013 14:07	-410.705	-410.705	0	0.88	0	
	350		0.91	11/1/2013 14:07	-410.705	0	0			
	250		0.86	11/1/2013 14:07	-410.705	0	0			
	150		0.68	11/1/2013 14:07	-410.705	0	0			
	50		-0.2	11/1/2013 14:07	-410.705	0	0			
106119	450	1435	0.91	11/1/2013 14:37	-410.705	0	-410.705	0.91	0.01	
	350		1.04	11/1/2013 14:37	-410.705	0	0			
	250		1.31	11/1/2013 14:37	-410.705	0	0			
	150		1.06	11/1/2013 14:37	-410.705	0	0			
	50		0	11/1/2013 14:37	-410.705	0	0			
106111	450	1427	0.95	11/1/2013 14:37	-410.705	0	-410.705	0.95	0.05	
	350		1.07	11/1/2013 14:37	-410.705	0	0			
	250		1.13	11/1/2013 14:37	-410.705	0	0			
	150		1	11/1/2013 14:37	-410.705	0	0			
	50		0.09	11/1/2013 14:37	-410.705	0	0			

106117	450	1438	0.91	11/1/2013 14:37	-410.705	-410.705	0	0.91	0.01
	350		1	11/1/2013 14:37	-410.705	0	0		
	250		1.01	11/1/2013 14:37	-410.705	0	0		
	150		0.8	11/1/2013 14:37	-410.705	0	0		
	50		0.15	11/1/2013 14:37	-410.705	0	0		
106128	450	1445	0.82	11/1/2013 14:37	-410.705	-410.705	0	0.82	-0.08
	350		0.9	11/1/2013 14:37	-410.705	0	0		
	250		0.95	11/1/2013 14:37	-410.705	0	0		
	150		0.74	11/1/2013 14:37	-410.705	0	0		
	50		0.05	11/1/2013 14:37	-410.705	0	0		
106118	450	1432	0.92	11/1/2013 14:37	-410.705	0	-410.705	0.92	0.02
	350		1	11/1/2013 14:37	-410.705	0	0		
	250		0.97	11/1/2013 14:37	-410.705	0	0		
	150		0.89	11/1/2013 14:37	-410.705	0	0		
	50		-0.05	11/1/2013 14:37	-410.705	0	0		
106113	450	1442	0.9	11/1/2013 14:37	-410.705	-410.705	0	0.9	0
	350		0.93	11/1/2013 14:37	-410.705	0	0		
	250		0.87	11/1/2013 14:37	-410.705	0	0		
	150		0.73	11/1/2013 14:37	-410.705	0	0		
	50		-0.1	11/1/2013 14:37	-410.705	0	0		
106119	450	1513	0.87	11/1/2013 15:07	-410.666	-410.653	0	0.883051	0.0574016
	350		1.01	11/1/2013 15:07	-410.666	0	0		
	250		1.27	11/1/2013 15:07	-410.666	0	0		
	150		1.01	11/1/2013 15:07	-410.666	0	0		
	50		0.03	11/1/2013 15:07	-410.666	0	0		
106111	450	1458	0.88	11/1/2013 15:07	-410.666	0	-410.687	0.860423	0.0347736
	350		0.97	11/1/2013 15:07	-410.666	0	0		
	250		1.03	11/1/2013 15:07	-410.666	0	0		
	150		0.89	11/1/2013 15:07	-410.666	0	0		
	50		0.03	11/1/2013 15:07	-410.666	0	0		
106117	450	1511	0.84	11/1/2013 15:07	-410.666	-410.657	0	0.848701	0.0230512
	350		0.92	11/1/2013 15:07	-410.666	0	0		
	250		0.92	11/1/2013 15:07	-410.666	0	0		
	150		0.76	11/1/2013 15:07	-410.666	0	0		
	50		0.15	11/1/2013 15:07	-410.666	0	0		
106128	450	1508	0.81	11/1/2013 15:07	-410.666	-410.664	0	0.812175	-0.0134744
	350		0.89	11/1/2013 15:07	-410.666	0	0		
	250		0.96	11/1/2013 15:07	-410.666	0	0		
	150		0.76	11/1/2013 15:07	-410.666	0	0		
	50		0.09	11/1/2013 15:07	-410.666	0	0		
106118	450	1501	0.88	11/1/2013 15:07	-410.666	0	-410.68	0.866949	0.0412992
	350		0.92	11/1/2013 15:07	-410.666	0	0		
	250		0.91	11/1/2013 15:07	-410.666	0	0		
	150		0.82	11/1/2013 15:07	-410.666	0	0		
	50		-0.05	11/1/2013 15:07	-410.666	0	0		
106113	450	1505	0.83	11/1/2013 15:07	-410.666	0	-410.671	0.82565	0
	350		0.87	11/1/2013 15:07	-410.666	0	0		

	250		0.81	11/1/2013 15:07	-410.666	0	0			
	150		0.66	11/1/2013 15:07	-410.666	0	0			
	50		-0.09	11/1/2013 15:07	-410.666	0	0			
106119	450	1534	0.84	11/1/2013 15:36	-410.601	0	-410.605	0.83565	-0.0130512
	350		0.96	11/1/2013 15:36	-410.601	0	0		
	250		1.24	11/1/2013 15:36	-410.601	0	0		
	150		1	11/1/2013 15:36	-410.601	0	0		
	50		0.03	11/1/2013 15:36	-410.601	0	0		
106111	450	1526	0.9	11/1/2013 15:36	-410.601	0	-410.623	0.878248	0.0295472
	350		1	11/1/2013 15:36	-410.601	0	0		
	250		1.07	11/1/2013 15:36	-410.601	0	0		
	150		0.95	11/1/2013 15:36	-410.601	0	0		
	50		0.12	11/1/2013 15:36	-410.601	0	0		
106117	450	1537	0.8	11/1/2013 15:36	-410.601	-410.598	0	0.802175	-0.0465256
	350		0.84	11/1/2013 15:36	-410.601	0	0		
	250		0.89	11/1/2013 15:36	-410.601	0	0		
	150		0.71	11/1/2013 15:36	-410.601	0	0		
	50		0.11	11/1/2013 15:36	-410.601	0	0		
106128	450	1543	0.8	11/1/2013 15:36	-410.601	-410.585	0	0.815226	-0.0334744
	350		0.88	11/1/2013 15:36	-410.601	0	0		
	250		0.94	11/1/2013 15:36	-410.601	0	0		
	150		0.76	11/1/2013 15:36	-410.601	0	0		
	50		0.15	11/1/2013 15:36	-410.601	0	0		
106118	450	1530	0.88	11/1/2013 15:36	-410.601	0	-410.614	0.866949	0.018248
	350		0.91	11/1/2013 15:36	-410.601	0	0		
	250		0.91	11/1/2013 15:36	-410.601	0	0		
	150		0.83	11/1/2013 15:36	-410.601	0	0		
	50		-0.02	11/1/2013 15:36	-410.601	0	0		
106113	450	1540	0.84	11/1/2013 15:36	-410.601	-410.592	0	0.848701	0
	350		0.86	11/1/2013 15:36	-410.601	0	0		
	250		0.78	11/1/2013 15:36	-410.601	0	0		
	150		0.63	11/1/2013 15:36	-410.601	0	0		
	50		-0.08	11/1/2013 15:36	-410.601	0	0		
106119	450	1558	0.83	11/1/2013 16:00	-410.592	0	-410.587	0.83435	0.0330512
	350		0.97	11/1/2013 16:00	-410.592	0	0		
	250		1.24	11/1/2013 16:00	-410.592	0	0		
	150		1	11/1/2013 16:00	-410.592	0	0		
	50		0.03	11/1/2013 16:00	-410.592	0	0		
106111	450	1550	0.84	11/1/2013 16:00	-410.592	0	-410.569	0.861752	0.0604528
	350		0.94	11/1/2013 16:00	-410.592	0	0		
	250		1.02	11/1/2013 16:00	-410.592	0	0		
	150		0.9	11/1/2013 16:00	-410.592	0	0		
	50		0.09	11/1/2013 16:00	-410.592	0	0		
106117	450	1601	0.8	11/1/2013 16:00	-410.592	-410.594	0	0.797825	-0.0034744
	350		0.86	11/1/2013 16:00	-410.592	0	0		
	250		0.88	11/1/2013 16:00	-410.592	0	0		
	150		0.7	11/1/2013 16:00	-410.592	0	0		

	50		0.17	11/1/2013 16:00	-410.592	0	0		
106128	450	1608	0.76	11/1/2013 16:00	-410.592	-410.61	0	0.742598	-0.0587008
	350		0.86	11/1/2013 16:00	-410.592	0	0		
	250		0.91	11/1/2013 16:00	-410.592	0	0		
	150		0.74	11/1/2013 16:00	-410.592	0	0		
	50		0.12	11/1/2013 16:00	-410.592	0	0		
106118	450	1534	0.83	11/1/2013 16:00	-410.592	0	-410.669	0.756043	-0.045256
	350		0.87	11/1/2013 16:00	-410.592	0	0		
	250		0.78	11/1/2013 16:00	-410.592	0	0		
	150		0.8	11/1/2013 16:00	-410.592	0	0		
	50		0.01	11/1/2013 16:00	-410.592	0	0		
106113	450	1604	0.81	11/1/2013 16:00	-410.592	-410.601	0	0.801299	0
	350		0.84	11/1/2013 16:00	-410.592	0	0		
	250		0.8	11/1/2013 16:00	-410.592	0	0		
	150		0.69	11/1/2013 16:00	-410.592	0	0		
	50		-0.05	11/1/2013 16:00	-410.592	0	0		
106119	450	1639	0.89	11/1/2013 16:34	-410.669	-410.68	0	0.879124	0.0347736
	350		1.03	11/1/2013 16:34	-410.669	0	0		
	250		1.31	11/1/2013 16:34	-410.669	0	0		
	150		1.07	11/1/2013 16:34	-410.669	0	0		
	50		0.1	11/1/2013 16:34	-410.669	0	0		
106111	450	1626	0.9	11/1/2013 16:34	-410.669	0	-410.651	0.917402	0.0730512
	350		1.04	11/1/2013 16:34	-410.669	0	0		
	250		1.02	11/1/2013 16:34	-410.669	0	0		
	150		0.93	11/1/2013 16:34	-410.669	0	0		
	50		0.16	11/1/2013 16:34	-410.669	0	0		
106117	450	1637	0.87	11/1/2013 16:34	-410.669	-410.675	0	0.863474	0.019124
	350		0.95	11/1/2013 16:34	-410.669	0	0		
	250		0.98	11/1/2013 16:34	-410.669	0	0		
	150		0.81	11/1/2013 16:34	-410.669	0	0		
	50		0.24	11/1/2013 16:34	-410.669	0	0		
106128	450	1635	0.8	11/1/2013 16:34	-410.669	-410.671	0	0.797825	-0.0465256
	350		0.9	11/1/2013 16:34	-410.669	0	0		
	250		0.96	11/1/2013 16:34	-410.669	0	0		
	150		0.78	11/1/2013 16:34	-410.669	0	0		
	50		0.16	11/1/2013 16:34	-410.669	0	0		
106118	450	1629	0.9	11/1/2013 16:34	-410.669	0	-410.657	0.910876	0.0665256
	350		0.91	11/1/2013 16:34	-410.669	0	0		
	250		0.97	11/1/2013 16:34	-410.669	0	0		
	150		0.82	11/1/2013 16:34	-410.669	0	0		
	50		0.03	11/1/2013 16:34	-410.669	0	0		
106113	450	1632	0.84	11/1/2013 16:34	-410.669	0	-410.664	0.84435	0
	350		0.89	11/1/2013 16:34	-410.669	0	0		
	250		0.84	11/1/2013 16:34	-410.669	0	0		
	150		0.67	11/1/2013 16:34	-410.669	0	0		
	50		0	11/1/2013 16:34	-410.669	0	0		
106119	450	1659	0.97	11/1/2013 17:01	-410.73	0	-410.725	0.97435	0.0252264

	350		1.12	11/1/2013 17:01	-410.73	0	0		
	250		1.4	11/1/2013 17:01	-410.73	0	0		
	150		1.17	11/1/2013 17:01	-410.73	0	0		
	50		0.18	11/1/2013 17:01	-410.73	0	0		
106111	450	1650	0.97	11/1/2013 17:01	-410.73	0	-410.705	0.993927	0.0448032
	350		1.08	11/1/2013 17:01	-410.73	0	0		
	250		1.16	11/1/2013 17:01	-410.73	0	0		
	150		1.06	11/1/2013 17:01	-410.73	0	0		
	50		0.24	11/1/2013 17:01	-410.73	0	0		
106117	450	1702	0.91	11/1/2013 17:01	-410.73	-410.732	0	0.907825	-0.0412992
	350		1.04	11/1/2013 17:01	-410.73	0	0		
	250		1.06	11/1/2013 17:01	-410.73	0	0		
	150		0.93	11/1/2013 17:01	-410.73	0	0		
	50		0.32	11/1/2013 17:01	-410.73	0	0		
106128	450	1709	0.91	11/1/2013 17:01	-410.73	-410.748	0	0.892598	-0.0565256
	350		1.01	11/1/2013 17:01	-410.73	0	0		
	250		1.1	11/1/2013 17:01	-410.73	0	0		
	150		0.94	11/1/2013 17:01	-410.73	0	0		
	50		0.28	11/1/2013 17:01	-410.73	0	0		
106118	450	1655	1.02	11/1/2013 17:01	-410.73	0	-410.716	1.033051	0.0839272
	350		1.04	11/1/2013 17:01	-410.73	0	0		
	250		1.03	11/1/2013 17:01	-410.73	0	0		
	150		0.98	11/1/2013 17:01	-410.73	0	0		
	50		0.16	11/1/2013 17:01	-410.73	0	0		
106113	450	1706	0.96	11/1/2013 17:01	-410.73	-410.741	0	0.949124	0
	350		1.02	11/1/2013 17:01	-410.73	0	0		
	250		0.95	11/1/2013 17:01	-410.73	0	0		
	150		0.83	11/1/2013 17:01	-410.73	0	0		
	50		0.1	11/1/2013 17:01	-410.73	0	0		
106119	450	1729	1.01	11/1/2013 17:31	-410.798	0	-410.793	1.01435	0.0452264
	350		1.14	11/1/2013 17:31	-410.798	0	0		
	250		1.45	11/1/2013 17:31	-410.798	0	0		
	150		1.21	11/1/2013 17:31	-410.798	0	0		
	50		0.17	11/1/2013 17:31	-410.798	0	0		
106111	450	1720	1.05	11/1/2013 17:31	-410.798	0	-410.773	1.073927	0.1048032
	350		1.18	11/1/2013 17:31	-410.798	0	0		
	250		1.21	11/1/2013 17:31	-410.798	0	0		
	150		1.12	11/1/2013 17:31	-410.798	0	0		
	50		0.26	11/1/2013 17:31	-410.798	0	0		
106117	450	1732	0.95	11/1/2013 17:31	-410.798	-410.8	0	0.947825	-0.0212992
	350		1.06	11/1/2013 17:31	-410.798	0	0		
	250		1.13	11/1/2013 17:31	-410.798	0	0		
	150		0.94	11/1/2013 17:31	-410.798	0	0		
	50		0.3	11/1/2013 17:31	-410.798	0	0		
106128	450	1740	0.96	11/1/2013 17:31	-410.798	-410.818	0	0.940423	-0.0287008
	350		1.05	11/1/2013 17:31	-410.798	0	0		
	250		1.15	11/1/2013 17:31	-410.798	0	0		

	150		0.98	11/1/2013 17:31	-410.798	0	0			
	50		0.3	11/1/2013 17:31	-410.798	0	0			
106118	450	1724	1.05	11/1/2013 17:31	-410.798	0	-410.782	1.065226	0.0961024	
	350		1.1	11/1/2013 17:31	-410.798	0	0			
	250		1.09	11/1/2013 17:31	-410.798	0	0			
	150		1.01	11/1/2013 17:31	-410.798	0	0			
	50		0.15	11/1/2013 17:31	-410.798	0	0			
106113	450	1736	0.98	11/1/2013 17:31	-410.798	-410.809	0	0.969124	0	
	350		1.04	11/1/2013 17:31	-410.798	0	0			
	250		0.97	11/1/2013 17:31	-410.798	0	0			
	150		0.85	11/1/2013 17:31	-410.798	0	0			
	50		0.05	11/1/2013 17:31	-410.798	0	0			

Well ID	Depth	Minimum distance to extraction well	Distance to 106160 (ft)	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106119	450				804	1.22	11/1/2013 8:34	-410.868	0	-410.664	1.475768				
	350					1.28	11/1/2013 8:34	-410.868	0	0					
	250					1.31	11/1/2013 8:34	-410.868	0	0					
	150					1.26	11/1/2013 8:34	-410.868	0	0					
	50					0.35	11/1/2013 8:34	-410.868	0	0					
106111	450				818	1.29	11/1/2013 8:34	-410.868	0	-410.759	1.55441				
	350					1.45	11/1/2013 8:34	-410.868	0	0					
	250					1.45	11/1/2013 8:34	-410.868	0	0					
	150					1.38	11/1/2013 8:34	-410.868	0	0					
	50					0.5	11/1/2013 8:34	-410.868	0	0					
106117	450				841	1.44	11/1/2013 8:34	-410.868	-410.916	0	1.444321				
	350					1.49	11/1/2013 8:34	-410.868	0	0					
	250					1.49	11/1/2013 8:34	-410.868	0	0					
	150					1.39	11/1/2013 8:34	-410.868	0	0					
	50					0.66	11/1/2013 8:34	-410.868	0	0					
106128	450				846	1.48	11/1/2013 8:34	-410.868	-410.95	0	1.451693				
	350					1.53	11/1/2013 8:34	-410.868	0	0					
	250					1.58	11/1/2013 8:34	-410.868	0	0					
	150					1.46	11/1/2013 8:34	-410.868	0	0					
	50					0.69	11/1/2013 8:34	-410.868	0	0					
106118	450				834	1.46	11/1/2013 8:34	-410.868	-410.868	0	1.51				
	350					1.51	11/1/2013 8:34	-410.868	0	0					
	250					1.53	11/1/2013 8:34	-410.868	0	0					
	150					1.48	11/1/2013 8:34	-410.868	0	0					
	50					0.46	11/1/2013 8:34	-410.868	0	0					
106113	450					1.54	11/1/2013 8:34	-410.868	0	0		NA			
	350					1.58	11/1/2013 8:34	-410.868	0	0					
	250					1.6	11/1/2013 8:34	-410.868	0	0					
	150					1.54	11/1/2013 8:34	-410.868	0	0					
	50					0.46	11/1/2013 8:34	-410.868	0	0					
106119	450				1029	1.74	11/1/2013 10:31	-411.521	0	-411.521	1.84	0.04			
	350					1.84	11/1/2013 10:31	-411.521	0	0					
	250					2.04	11/1/2013 10:31	-411.521	0	0					
	150					1.76	11/1/2013 10:31	-411.521	0	0					
	50					0.27	11/1/2013 10:31	-411.521	0	0					
106111	450				1020	1.78	11/1/2013 10:31	-411.521	0	-411.521	1.89	0.09			
	350					1.89	11/1/2013 10:31	-411.521	0	0					
	250					1.9	11/1/2013 10:31	-411.521	0	0					
	150					1.73	11/1/2013 10:31	-411.521	0	0					
	50					0.4	11/1/2013 10:31	-411.521	0	0					
106117	450				1033	1.7	11/1/2013 10:31	-411.521	-411.521	0	1.76	-0.04			
	350					1.76	11/1/2013 10:31	-411.521	0	0					
	250					1.76	11/1/2013 10:31	-411.521	0	0					
	150					1.56	11/1/2013 10:31	-411.521	0	0					

	50		0.57	11/1/2013 10:31	-411.521	0	0			
106128	450	1038	1.66	11/1/2013 10:31	-411.521	-411.521	0	1.76	-0.04	
	350		1.76	11/1/2013 10:31	-411.521	0	0			
	250		1.83	11/1/2013 10:31	-411.521	0	0			
	150		1.57	11/1/2013 10:31	-411.521	0	0			
	50		0.58	11/1/2013 10:31	-411.521	0	0			
106118	450	1024	1.83	11/1/2013 10:31	-411.521	0	-411.521	1.81	0.01	
	350		1.81	11/1/2013 10:31	-411.521	0	0			
	250		1.8	11/1/2013 10:31	-411.521	0	0			
	150		1.74	11/1/2013 10:31	-411.521	0	0			
	50		0.3	11/1/2013 10:31	-411.521	0	0			
106113	450	1042	1.8	11/1/2013 10:31	-411.521	-411.521	0	1.8	0	
	350		1.8	11/1/2013 10:31	-411.521	0	0			
	250		1.78	11/1/2013 10:31	-411.521	0	0			
	150		1.66	11/1/2013 10:31	-411.521	0	0			
	50		0.27	11/1/2013 10:31	-411.521	0	0			
106119	450	1113	1.77	11/1/2013 11:07	-411.482	-411.469	0	1.913051	0.0774016	
	350		1.9	11/1/2013 11:07	-411.482	0	0			
	250		2.11	11/1/2013 11:07	-411.482	0	0			
	150		1.78	11/1/2013 11:07	-411.482	0	0			
	50		0.23	11/1/2013 11:07	-411.482	0	0			
106111	450	1056	1.76	11/1/2013 11:07	-411.482	0	-411.507	1.876073	0.0404232	
	350		1.9	11/1/2013 11:07	-411.482	0	0			
	250		1.92	11/1/2013 11:07	-411.482	0	0			
	150		1.74	11/1/2013 11:07	-411.482	0	0			
	50		0.42	11/1/2013 11:07	-411.482	0	0			
106117	450	1111	1.76	11/1/2013 11:07	-411.482	-411.473	0	1.818701	-0.0169488	
	350		1.81	11/1/2013 11:07	-411.482	0	0			
	250		1.82	11/1/2013 11:07	-411.482	0	0			
	150		1.59	11/1/2013 11:07	-411.482	0	0			
	50		0.57	11/1/2013 11:07	-411.482	0	0			
106128	450	1108	1.72	11/1/2013 11:07	-411.482	-411.48	0	1.792175	-0.0434744	
	350		1.79	11/1/2013 11:07	-411.482	0	0			
	250		1.86	11/1/2013 11:07	-411.482	0	0			
	150		1.62	11/1/2013 11:07	-411.482	0	0			
	50		0.57	11/1/2013 11:07	-411.482	0	0			
106118	450	1100	1.84	11/1/2013 11:07	-411.482	0	-411.498	1.844774	0.009124	
	350		1.86	11/1/2013 11:07	-411.482	0	0			
	250		1.76	11/1/2013 11:07	-411.482	0	0			
	150		1.71	11/1/2013 11:07	-411.482	0	0			
	50		0.29	11/1/2013 11:07	-411.482	0	0			
106113	450	1105	1.78	11/1/2013 11:07	-411.482	0	-411.487	1.83565	0	
	350		1.84	11/1/2013 11:07	-411.482	0	0			
	250		1.82	11/1/2013 11:07	-411.482	0	0			
	150		1.68	11/1/2013 11:07	-411.482	0	0			
	50		0.28	11/1/2013 11:07	-411.482	0	0			
106119	450	1130	1.67	11/1/2013 11:32	-411.425	0	-411.43	1.80565	0.0547736	

	350		1.81	11/1/2013 11:32	-411.425	0	0			
	250		2.02	11/1/2013 11:32	-411.425	0	0			
	150		1.69	11/1/2013 11:32	-411.425	0	0			
	50		0.16	11/1/2013 11:32	-411.425	0	0			
106111	450	1120	1.81	11/1/2013 11:32	-411.425	0	-411.453	1.883898	0.1330216	
	350		1.91	11/1/2013 11:32	-411.425	0	0			
	250		1.94	11/1/2013 11:32	-411.425	0	0			
	150		1.75	11/1/2013 11:32	-411.425	0	0			
	50		0.41	11/1/2013 11:32	-411.425	0	0			
106117	450	1133	1.65	11/1/2013 11:32	-411.425	-411.423	0	1.712175	-0.0387008	
	350		1.71	11/1/2013 11:32	-411.425	0	0			
	250		1.73	11/1/2013 11:32	-411.425	0	0			
	150		1.46	11/1/2013 11:32	-411.425	0	0			
	50		0.47	11/1/2013 11:32	-411.425	0	0			
106128	450	1141	1.58	11/1/2013 11:32	-411.425	-411.405	0	1.699577	-0.0512992	
	350		1.68	11/1/2013 11:32	-411.425	0	0			
	250		1.73	11/1/2013 11:32	-411.425	0	0			
	150		1.5	11/1/2013 11:32	-411.425	0	0			
	50		0.45	11/1/2013 11:32	-411.425	0	0			
106118	450	1125	1.81	11/1/2013 11:32	-411.425	0	-411.441	1.804774	0.0538976	
	350		1.82	11/1/2013 11:32	-411.425	0	0			
	250		1.8	11/1/2013 11:32	-411.425	0	0			
	150		1.69	11/1/2013 11:32	-411.425	0	0			
	50		0.22	11/1/2013 11:32	-411.425	0	0			
106113	450	1137	1.7	11/1/2013 11:32	-411.425	-411.414	0	1.750876	0	
	350		1.74	11/1/2013 11:32	-411.425	0	0			
	250		1.7	11/1/2013 11:32	-411.425	0	0			
	150		1.56	11/1/2013 11:32	-411.425	0	0			
	50		0.16	11/1/2013 11:32	-411.425	0	0			
106119	450	1212	1.52	11/1/2013 12:06	-411.348	-411.335	0	1.663051	0.0274016	
	350		1.65	11/1/2013 12:06	-411.348	0	0			
	250		1.87	11/1/2013 12:06	-411.348	0	0			
	150		1.54	11/1/2013 12:06	-411.348	0	0			
	50		0.07	11/1/2013 12:06	-411.348	0	0			
106111	450	1157	1.67	11/1/2013 12:06	-411.348	0	-411.369	1.760423	0.1247736	
	350		1.78	11/1/2013 12:06	-411.348	0	0			
	250		1.8	11/1/2013 12:06	-411.348	0	0			
	150		1.61	11/1/2013 12:06	-411.348	0	0			
	50		0.31	11/1/2013 12:06	-411.348	0	0			
106117	450	1209	1.53	11/1/2013 12:06	-411.348	-411.342	0	1.586526	-0.049124	
	350		1.58	11/1/2013 12:06	-411.348	0	0			
	250		1.6	11/1/2013 12:06	-411.348	0	0			
	150		1.37	11/1/2013 12:06	-411.348	0	0			
	50		0.39	11/1/2013 12:06	-411.348	0	0			
106128	450	1207	1.53	11/1/2013 12:06	-411.348	-411.346	0	1.612175	-0.0234744	
	350		1.61	11/1/2013 12:06	-411.348	0	0			
	250		1.66	11/1/2013 12:06	-411.348	0	0			

	150		1.41	11/1/2013 12:06	-411.348	0	0			
	50		0.4	11/1/2013 12:06	-411.348	0	0			
106118	450	1200	1.68	11/1/2013 12:06	-411.348	0	-411.362	1.686949	0.0512992	
	350		1.7	11/1/2013 12:06	-411.348	0	0			
	250		1.66	11/1/2013 12:06	-411.348	0	0			
	150		1.51	11/1/2013 12:06	-411.348	0	0			
	50		0.13	11/1/2013 12:06	-411.348	0	0			
106113	450	1204	1.6	11/1/2013 12:06	-411.348	0	-411.353	1.63565	0	
	350		1.64	11/1/2013 12:06	-411.348	0	0			
	250		1.61	11/1/2013 12:06	-411.348	0	0			
	150		1.43	11/1/2013 12:06	-411.348	0	0			
	50		0.1	11/1/2013 12:06	-411.348	0	0			
106119	450	1228	1.42	11/1/2013 12:30	-411.294	0	-411.299	1.57565	0.0747736	
	350		1.58	11/1/2013 12:30	-411.294	0	0			
	250		1.29	11/1/2013 12:30	-411.294	0	0			
	150		1.45	11/1/2013 12:30	-411.294	0	0			
	50		0.01	11/1/2013 12:30	-411.294	0	0			
106111	450	1220	1.56	11/1/2013 12:30	-411.294	0	-411.317	1.648248	0.147372	
	350		1.67	11/1/2013 12:30	-411.294	0	0			
	250		1.69	11/1/2013 12:30	-411.294	0	0			
	150		1.52	11/1/2013 12:30	-411.294	0	0			
	50		0.25	11/1/2013 12:30	-411.294	0	0			
106117	450	1232	1.42	11/1/2013 12:30	-411.294	-411.29	0	1.48435	-0.0165256	
	350		1.48	11/1/2013 12:30	-411.294	0	0			
	250		1.47	11/1/2013 12:30	-411.294	0	0			
	150		1.23	11/1/2013 12:30	-411.294	0	0			
	50		0.28	11/1/2013 12:30	-411.294	0	0			
106128	450	1239	1.29	11/1/2013 12:30	-411.294	-411.274	0	1.479577	-0.0212992	
	350		1.46	11/1/2013 12:30	-411.294	0	0			
	250		1.54	11/1/2013 12:30	-411.294	0	0			
	150		1.3	11/1/2013 12:30	-411.294	0	0			
	50		0.31	11/1/2013 12:30	-411.294	0	0			
106118	450	1223	1.42	11/1/2013 12:30	-411.294	0	-411.31	1.564774	0.0638976	
	350		1.58	11/1/2013 12:30	-411.294	0	0			
	250		1.55	11/1/2013 12:30	-411.294	0	0			
	150		1.44	11/1/2013 12:30	-411.294	0	0			
	50		0.05	11/1/2013 12:30	-411.294	0	0			
106113	450	1235	1.46	11/1/2013 12:30	-411.294	-411.283	0	1.500876	0	
	350		1.49	11/1/2013 12:30	-411.294	0	0			
	250		1.44	11/1/2013 12:30	-411.294	0	0			
	150		1.28	11/1/2013 12:30	-411.294	0	0			
	50		0	11/1/2013 12:30	-411.294	0	0			
106119	450	1317	1.18	11/1/2013 13:11	-411.058	-411.004	0	1.362205	0.1109056	
	350		1.31	11/1/2013 13:11	-411.058	0	0			
	250		1.35	11/1/2013 13:11	-411.058	0	0			
	150		1.29	11/1/2013 13:11	-411.058	0	0			
	50		-0.04	11/1/2013 13:11	-411.058	0	0			

106111	450	1301	1.32	11/1/2013 13:11	-411.058	0	-411.149	1.342992	0.0916928	
	350		1.43	11/1/2013 13:11	-411.058	0	0			
	250		1.45	11/1/2013 13:11	-411.058	0	0			
	150		1.31	11/1/2013 13:11	-411.058	0	0			
	50		0.1	11/1/2013 13:11	-411.058	0	0			
106117	450	1314	1.19	11/1/2013 13:11	-411.058	-411.031	0	1.276102	0.0248032	
	350		1.25	11/1/2013 13:11	-411.058	0	0			
	250		1.1	11/1/2013 13:11	-411.058	0	0			
	150		1.03	11/1/2013 13:11	-411.058	0	0			
	50		0.19	11/1/2013 13:11	-411.058	0	0			
106128	450	1312	1.1	11/1/2013 13:11	-411.058	-411.049	0	1.248701	-0.0025984	
	350		1.24	11/1/2013 13:11	-411.058	0	0			
	250		1.28	11/1/2013 13:11	-411.058	0	0			
	150		1.07	11/1/2013 13:11	-411.058	0	0			
	50		0.16	11/1/2013 13:11	-411.058	0	0			
106118	450	1304	1.15	11/1/2013 13:11	-411.058	0	-411.122	1.299094	0.0477952	
	350		1.36	11/1/2013 13:11	-411.058	0	0			
	250		1.33	11/1/2013 13:11	-411.058	0	0			
	150		1.21	11/1/2013 13:11	-411.058	0	0			
	50		-0.05	11/1/2013 13:11	-411.058	0	0			
106113	450	1310	1.2	11/1/2013 13:11	-411.058	0	-411.067	1.251299	0	
	350		1.26	11/1/2013 13:11	-411.058	0	0			
	250		1.2	11/1/2013 13:11	-411.058	0	0			
	150		1.06	11/1/2013 13:11	-411.058	0	0			
	50		-0.11	11/1/2013 13:11	-411.058	0	0			
106119	450	1337	1.1	11/1/2013 13:32	-410.868	-410.823	0	1.263504	0.1509056	
	350		1.22	11/1/2013 13:32	-410.868	0	0			
	250		1.52	11/1/2013 13:32	-410.868	0	0			
	150		1.2	11/1/2013 13:32	-410.868	0	0			
	50		-0.03	11/1/2013 13:32	-410.868	0	0			
106111	450	1323	1.18	11/1/2013 13:32	-410.868	0	-410.95	1.211693	0.0990944	
	350		1.29	11/1/2013 13:32	-410.868	0	0			
	250		1.32	11/1/2013 13:32	-410.868	0	0			
	150		1.17	11/1/2013 13:32	-410.868	0	0			
	50		0.05	11/1/2013 13:32	-410.868	0	0			
106117	450	1335	1.04	11/1/2013 13:32	-410.868	-410.841	0	1.146102	0.033504	
	350		1.12	11/1/2013 13:32	-410.868	0	0			
	250		1.14	11/1/2013 13:32	-410.868	0	0			
	150		0.93	11/1/2013 13:32	-410.868	0	0			
	50		0.13	11/1/2013 13:32	-410.868	0	0			
106128	450	1333	1.01	11/1/2013 13:32	-410.868	-410.859	0	1.128701	0.0161024	
	350		1.12	11/1/2013 13:32	-410.868	0	0			
	250		1.16	11/1/2013 13:32	-410.868	0	0			
	150		0.94	11/1/2013 13:32	-410.868	0	0			
	50		0.1	11/1/2013 13:32	-410.868	0	0			
106118	450	1326	1.17	11/1/2013 13:32	-410.868	0	-410.922	1.157795	0.0451968	
	350		1.21	11/1/2013 13:32	-410.868	0	0			

	250		1.66	11/1/2013 13:32	-410.868	0	0			
	150		1.12	11/1/2013 13:32	-410.868	0	0			
	50		-0.11	11/1/2013 13:32	-410.868	0	0			
106113	450	1330	1.08	11/1/2013 13:32	-410.868	0	-410.886	1.112598	0	
	350		1.13	11/1/2013 13:32	-410.868	0	0			
	250		1.09	11/1/2013 13:32	-410.868	0	0			
	150		0.89	11/1/2013 13:32	-410.868	0	0			
	50		-0.16	11/1/2013 13:32	-410.868	0	0			
106119	450	1405	0.9	11/1/2013 14:07	-410.705	0	-410.705	1.03	0.12	
	350		1.03	11/1/2013 14:07	-410.705	0	0			
	250		1.28	11/1/2013 14:07	-410.705	0	0			
	150		1.01	11/1/2013 14:07	-410.705	0	0			
	50		-0.09	11/1/2013 14:07	-410.705	0	0			
106111	450	1355	1	11/1/2013 14:07	-410.705	0	-410.705	1.13	0.22	
	350		1.13	11/1/2013 14:07	-410.705	0	0			
	250		1.16	11/1/2013 14:07	-410.705	0	0			
	150		1.01	11/1/2013 14:07	-410.705	0	0			
	50		0	11/1/2013 14:07	-410.705	0	0			
106117	450	1408	0.87	11/1/2013 14:07	-410.705	-410.705	0	0.92	0.01	
	350		0.92	11/1/2013 14:07	-410.705	0	0			
	250		0.94	11/1/2013 14:07	-410.705	0	0			
	150		0.75	11/1/2013 14:07	-410.705	0	0			
	50		0.07	11/1/2013 14:07	-410.705	0	0			
106128	450	1416	0.84	11/1/2013 14:07	-410.705	-410.705	0	0.95	0.04	
	350		0.95	11/1/2013 14:07	-410.705	0	0			
	250		1.01	11/1/2013 14:07	-410.705	0	0			
	150		0.82	11/1/2013 14:07	-410.705	0	0			
	50		0.09	11/1/2013 14:07	-410.705	0	0			
106118	450	1400	0.94	11/1/2013 14:07	-410.705	0	-410.705	1	0.09	
	350		1	11/1/2013 14:07	-410.705	0	0			
	250		0.99	11/1/2013 14:07	-410.705	0	0			
	150		0.87	11/1/2013 14:07	-410.705	0	0			
	50		-0.19	11/1/2013 14:07	-410.705	0	0			
106113	450	1412	0.88	11/1/2013 14:07	-410.705	-410.705	0	0.91	0	
	350		0.91	11/1/2013 14:07	-410.705	0	0			
	250		0.86	11/1/2013 14:07	-410.705	0	0			
	150		0.68	11/1/2013 14:07	-410.705	0	0			
	50		-0.2	11/1/2013 14:07	-410.705	0	0			
106119	450	1435	0.91	11/1/2013 14:37	-410.705	0	-410.705	1.04	0.11	
	350		1.04	11/1/2013 14:37	-410.705	0	0			
	250		1.31	11/1/2013 14:37	-410.705	0	0			
	150		1.06	11/1/2013 14:37	-410.705	0	0			
	50		0	11/1/2013 14:37	-410.705	0	0			
106111	450	1427	0.95	11/1/2013 14:37	-410.705	0	-410.705	1.07	0.14	
	350		1.07	11/1/2013 14:37	-410.705	0	0			
	250		1.13	11/1/2013 14:37	-410.705	0	0			
	150		1	11/1/2013 14:37	-410.705	0	0			

	50		0.09	11/1/2013 14:37	-410.705	0	0			
106117	450	1438	0.91	11/1/2013 14:37	-410.705	-410.705	0	1	0.07	
	350		1	11/1/2013 14:37	-410.705	0	0			
	250		1.01	11/1/2013 14:37	-410.705	0	0			
	150		0.8	11/1/2013 14:37	-410.705	0	0			
	50		0.15	11/1/2013 14:37	-410.705	0	0			
106128	450	1445	0.82	11/1/2013 14:37	-410.705	-410.705	0	0.9	-0.03	
	350		0.9	11/1/2013 14:37	-410.705	0	0			
	250		0.95	11/1/2013 14:37	-410.705	0	0			
	150		0.74	11/1/2013 14:37	-410.705	0	0			
	50		0.05	11/1/2013 14:37	-410.705	0	0			
106118	450	1432	0.92	11/1/2013 14:37	-410.705	0	-410.705	1	0.07	
	350		1	11/1/2013 14:37	-410.705	0	0			
	250		0.97	11/1/2013 14:37	-410.705	0	0			
	150		0.89	11/1/2013 14:37	-410.705	0	0			
	50		-0.05	11/1/2013 14:37	-410.705	0	0			
106113	450	1442	0.9	11/1/2013 14:37	-410.705	-410.705	0	0.93	0	
	350		0.93	11/1/2013 14:37	-410.705	0	0			
	250		0.87	11/1/2013 14:37	-410.705	0	0			
	150		0.73	11/1/2013 14:37	-410.705	0	0			
	50		-0.1	11/1/2013 14:37	-410.705	0	0			
106119	450	1513	0.87	11/1/2013 15:07	-410.666	-410.653	0	1.023051	0.1574016	
	350		1.01	11/1/2013 15:07	-410.666	0	0			
	250		1.27	11/1/2013 15:07	-410.666	0	0			
	150		1.01	11/1/2013 15:07	-410.666	0	0			
	50		0.03	11/1/2013 15:07	-410.666	0	0			
106111	450	1458	0.88	11/1/2013 15:07	-410.666	0	-410.687	0.950423	0.0847736	
	350		0.97	11/1/2013 15:07	-410.666	0	0			
	250		1.03	11/1/2013 15:07	-410.666	0	0			
	150		0.89	11/1/2013 15:07	-410.666	0	0			
	50		0.03	11/1/2013 15:07	-410.666	0	0			
106117	450	1511	0.84	11/1/2013 15:07	-410.666	-410.657	0	0.928701	0.0630512	
	350		0.92	11/1/2013 15:07	-410.666	0	0			
	250		0.92	11/1/2013 15:07	-410.666	0	0			
	150		0.76	11/1/2013 15:07	-410.666	0	0			
	50		0.15	11/1/2013 15:07	-410.666	0	0			
106128	450	1508	0.81	11/1/2013 15:07	-410.666	-410.664	0	0.892175	0.0265256	
	350		0.89	11/1/2013 15:07	-410.666	0	0			
	250		0.96	11/1/2013 15:07	-410.666	0	0			
	150		0.76	11/1/2013 15:07	-410.666	0	0			
	50		0.09	11/1/2013 15:07	-410.666	0	0			
106118	450	1501	0.88	11/1/2013 15:07	-410.666	0	-410.68	0.906949	0.0412992	
	350		0.92	11/1/2013 15:07	-410.666	0	0			
	250		0.91	11/1/2013 15:07	-410.666	0	0			
	150		0.82	11/1/2013 15:07	-410.666	0	0			
	50		-0.05	11/1/2013 15:07	-410.666	0	0			
106113	450	1505	0.83	11/1/2013 15:07	-410.666	0	-410.671	0.86565	0	

	350		0.87	11/1/2013 15:07	-410.666	0	0		
	250		0.81	11/1/2013 15:07	-410.666	0	0		
	150		0.66	11/1/2013 15:07	-410.666	0	0		
	50		-0.09	11/1/2013 15:07	-410.666	0	0		
106119	450	1534	0.84	11/1/2013 15:36	-410.601	0	-410.605	0.95565	0.0869488
	350		0.96	11/1/2013 15:36	-410.601	0	0		
	250		1.24	11/1/2013 15:36	-410.601	0	0		
	150		1	11/1/2013 15:36	-410.601	0	0		
	50		0.03	11/1/2013 15:36	-410.601	0	0		
106111	450	1526	0.9	11/1/2013 15:36	-410.601	0	-410.623	0.978248	0.1095472
	350		1	11/1/2013 15:36	-410.601	0	0		
	250		1.07	11/1/2013 15:36	-410.601	0	0		
	150		0.95	11/1/2013 15:36	-410.601	0	0		
	50		0.12	11/1/2013 15:36	-410.601	0	0		
106117	450	1537	0.8	11/1/2013 15:36	-410.601	-410.598	0	0.842175	-0.0265256
	350		0.84	11/1/2013 15:36	-410.601	0	0		
	250		0.89	11/1/2013 15:36	-410.601	0	0		
	150		0.71	11/1/2013 15:36	-410.601	0	0		
	50		0.11	11/1/2013 15:36	-410.601	0	0		
106128	450	1543	0.8	11/1/2013 15:36	-410.601	-410.585	0	0.895226	0.0265256
	350		0.88	11/1/2013 15:36	-410.601	0	0		
	250		0.94	11/1/2013 15:36	-410.601	0	0		
	150		0.76	11/1/2013 15:36	-410.601	0	0		
	50		0.15	11/1/2013 15:36	-410.601	0	0		
106118	450	1530	0.88	11/1/2013 15:36	-410.601	0	-410.614	0.896949	0.028248
	350		0.91	11/1/2013 15:36	-410.601	0	0		
	250		0.91	11/1/2013 15:36	-410.601	0	0		
	150		0.83	11/1/2013 15:36	-410.601	0	0		
	50		-0.02	11/1/2013 15:36	-410.601	0	0		
106113	450	1540	0.84	11/1/2013 15:36	-410.601	-410.592	0	0.868701	0
	350		0.86	11/1/2013 15:36	-410.601	0	0		
	250		0.78	11/1/2013 15:36	-410.601	0	0		
	150		0.63	11/1/2013 15:36	-410.601	0	0		
	50		-0.08	11/1/2013 15:36	-410.601	0	0		
106119	450	1558	0.83	11/1/2013 16:00	-410.592	0	-410.587	0.97435	0.1430512
	350		0.97	11/1/2013 16:00	-410.592	0	0		
	250		1.24	11/1/2013 16:00	-410.592	0	0		
	150		1	11/1/2013 16:00	-410.592	0	0		
	50		0.03	11/1/2013 16:00	-410.592	0	0		
106111	450	1550	0.84	11/1/2013 16:00	-410.592	0	-410.569	0.961752	0.1304528
	350		0.94	11/1/2013 16:00	-410.592	0	0		
	250		1.02	11/1/2013 16:00	-410.592	0	0		
	150		0.9	11/1/2013 16:00	-410.592	0	0		
	50		0.09	11/1/2013 16:00	-410.592	0	0		
106117	450	1601	0.8	11/1/2013 16:00	-410.592	-410.594	0	0.857825	0.0265256
	350		0.86	11/1/2013 16:00	-410.592	0	0		
	250		0.88	11/1/2013 16:00	-410.592	0	0		

	150		0.7	11/1/2013 16:00	-410.592	0	0		
	50		0.17	11/1/2013 16:00	-410.592	0	0		
106128	450	1608	0.76	11/1/2013 16:00	-410.592	-410.61	0	0.842598	0.0112992
	350		0.86	11/1/2013 16:00	-410.592	0	0		
	250		0.91	11/1/2013 16:00	-410.592	0	0		
	150		0.74	11/1/2013 16:00	-410.592	0	0		
	50		0.12	11/1/2013 16:00	-410.592	0	0		
106118	450	1534	0.83	11/1/2013 16:00	-410.592	0	-410.669	0.796043	-0.035256
	350		0.87	11/1/2013 16:00	-410.592	0	0		
	250		0.78	11/1/2013 16:00	-410.592	0	0		
	150		0.8	11/1/2013 16:00	-410.592	0	0		
	50		0.01	11/1/2013 16:00	-410.592	0	0		
106113	450	1604	0.81	11/1/2013 16:00	-410.592	-410.601	0	0.831299	0
	350		0.84	11/1/2013 16:00	-410.592	0	0		
	250		0.8	11/1/2013 16:00	-410.592	0	0		
	150		0.69	11/1/2013 16:00	-410.592	0	0		
	50		-0.05	11/1/2013 16:00	-410.592	0	0		
106119	450	1639	0.89	11/1/2013 16:34	-410.669	-410.68	0	1.019124	0.1247736
	350		1.03	11/1/2013 16:34	-410.669	0	0		
	250		1.31	11/1/2013 16:34	-410.669	0	0		
	150		1.07	11/1/2013 16:34	-410.669	0	0		
	50		0.1	11/1/2013 16:34	-410.669	0	0		
106111	450	1626	0.9	11/1/2013 16:34	-410.669	0	-410.651	1.057402	0.1630512
	350		1.04	11/1/2013 16:34	-410.669	0	0		
	250		1.02	11/1/2013 16:34	-410.669	0	0		
	150		0.93	11/1/2013 16:34	-410.669	0	0		
	50		0.16	11/1/2013 16:34	-410.669	0	0		
106117	450	1637	0.87	11/1/2013 16:34	-410.669	-410.675	0	0.943474	0.049124
	350		0.95	11/1/2013 16:34	-410.669	0	0		
	250		0.98	11/1/2013 16:34	-410.669	0	0		
	150		0.81	11/1/2013 16:34	-410.669	0	0		
	50		0.24	11/1/2013 16:34	-410.669	0	0		
106128	450	1635	0.8	11/1/2013 16:34	-410.669	-410.671	0	0.897825	0.0034744
	350		0.9	11/1/2013 16:34	-410.669	0	0		
	250		0.96	11/1/2013 16:34	-410.669	0	0		
	150		0.78	11/1/2013 16:34	-410.669	0	0		
	50		0.16	11/1/2013 16:34	-410.669	0	0		
106118	450	1629	0.9	11/1/2013 16:34	-410.669	0	-410.657	0.920876	0.0265256
	350		0.91	11/1/2013 16:34	-410.669	0	0		
	250		0.97	11/1/2013 16:34	-410.669	0	0		
	150		0.82	11/1/2013 16:34	-410.669	0	0		
	50		0.03	11/1/2013 16:34	-410.669	0	0		
106113	450	1632	0.84	11/1/2013 16:34	-410.669	0	-410.664	0.89435	0
	350		0.89	11/1/2013 16:34	-410.669	0	0		
	250		0.84	11/1/2013 16:34	-410.669	0	0		
	150		0.67	11/1/2013 16:34	-410.669	0	0		
	50		0	11/1/2013 16:34	-410.669	0	0		

106119	450	1659	0.97	11/1/2013 17:01	-410.73	0	-410.725	1.12435	0.1152264
	350		1.12	11/1/2013 17:01	-410.73	0	0		
	250		1.4	11/1/2013 17:01	-410.73	0	0		
	150		1.17	11/1/2013 17:01	-410.73	0	0		
	50		0.18	11/1/2013 17:01	-410.73	0	0		
106111	450	1650	0.97	11/1/2013 17:01	-410.73	0	-410.705	1.103927	0.0948032
	350		1.08	11/1/2013 17:01	-410.73	0	0		
	250		1.16	11/1/2013 17:01	-410.73	0	0		
	150		1.06	11/1/2013 17:01	-410.73	0	0		
	50		0.24	11/1/2013 17:01	-410.73	0	0		
106117	450	1702	0.91	11/1/2013 17:01	-410.73	-410.732	0	1.037825	0.0287008
	350		1.04	11/1/2013 17:01	-410.73	0	0		
	250		1.06	11/1/2013 17:01	-410.73	0	0		
	150		0.93	11/1/2013 17:01	-410.73	0	0		
	50		0.32	11/1/2013 17:01	-410.73	0	0		
106128	450	1709	0.91	11/1/2013 17:01	-410.73	-410.748	0	0.992598	-0.0165256
	350		1.01	11/1/2013 17:01	-410.73	0	0		
	250		1.1	11/1/2013 17:01	-410.73	0	0		
	150		0.94	11/1/2013 17:01	-410.73	0	0		
	50		0.28	11/1/2013 17:01	-410.73	0	0		
106118	450	1655	1.02	11/1/2013 17:01	-410.73	0	-410.716	1.053051	0.0439272
	350		1.04	11/1/2013 17:01	-410.73	0	0		
	250		1.03	11/1/2013 17:01	-410.73	0	0		
	150		0.98	11/1/2013 17:01	-410.73	0	0		
	50		0.16	11/1/2013 17:01	-410.73	0	0		
106113	450	1706	0.96	11/1/2013 17:01	-410.73	-410.741	0	1.009124	0
	350		1.02	11/1/2013 17:01	-410.73	0	0		
	250		0.95	11/1/2013 17:01	-410.73	0	0		
	150		0.83	11/1/2013 17:01	-410.73	0	0		
	50		0.1	11/1/2013 17:01	-410.73	0	0		
106119	450	1729	1.01	11/1/2013 17:31	-410.798	0	-410.793	1.14435	0.1152264
	350		1.14	11/1/2013 17:31	-410.798	0	0		
	250		1.45	11/1/2013 17:31	-410.798	0	0		
	150		1.21	11/1/2013 17:31	-410.798	0	0		
	50		0.17	11/1/2013 17:31	-410.798	0	0		
106111	450	1720	1.05	11/1/2013 17:31	-410.798	0	-410.773	1.203927	0.1748032
	350		1.18	11/1/2013 17:31	-410.798	0	0		
	250		1.21	11/1/2013 17:31	-410.798	0	0		
	150		1.12	11/1/2013 17:31	-410.798	0	0		
	50		0.26	11/1/2013 17:31	-410.798	0	0		
106117	450	1732	0.95	11/1/2013 17:31	-410.798	-410.8	0	1.057825	0.0287008
	350		1.06	11/1/2013 17:31	-410.798	0	0		
	250		1.13	11/1/2013 17:31	-410.798	0	0		
	150		0.94	11/1/2013 17:31	-410.798	0	0		
	50		0.3	11/1/2013 17:31	-410.798	0	0		
106128	450	1740	0.96	11/1/2013 17:31	-410.798	-410.818	0	1.030423	0.0012992
	350		1.05	11/1/2013 17:31	-410.798	0	0		

	250		1.15	11/1/2013 17:31	-410.798	0	0			
	150		0.98	11/1/2013 17:31	-410.798	0	0			
	50		0.3	11/1/2013 17:31	-410.798	0	0			
106118	450	1724	1.05	11/1/2013 17:31	-410.798	0	-410.782	1.115226	0.0861024	
	350		1.1	11/1/2013 17:31	-410.798	0	0			
	250		1.09	11/1/2013 17:31	-410.798	0	0			
	150		1.01	11/1/2013 17:31	-410.798	0	0			
	50		0.15	11/1/2013 17:31	-410.798	0	0			
106113	450	1736	0.98	11/1/2013 17:31	-410.798	-410.809	0	1.029124	0	
	350		1.04	11/1/2013 17:31	-410.798	0	0			
	250		0.97	11/1/2013 17:31	-410.798	0	0			
	150		0.85	11/1/2013 17:31	-410.798	0	0			
	50		0.05	11/1/2013 17:31	-410.798	0	0			

Well ID	Depth	Minimum distance to extraction well	Distance to 106160 (ft)	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106119	450				804	1.22	11/1/2013 8:34	-410.868	0	-410.664	1.424198				
	350					1.28	11/1/2013 8:34	-410.868	0	0					
	250					1.31	11/1/2013 8:34	-410.868	0	0					
	150					1.26	11/1/2013 8:34	-410.868	0	0					
	50					0.35	11/1/2013 8:34	-410.868	0	0					
106111	450				818	1.29	11/1/2013 8:34	-410.868	0	-410.759	1.510906				
	350					1.45	11/1/2013 8:34	-410.868	0	0					
	250					1.45	11/1/2013 8:34	-410.868	0	0					
	150					1.38	11/1/2013 8:34	-410.868	0	0					
	50					0.5	11/1/2013 8:34	-410.868	0	0					
106117	450				841	1.44	11/1/2013 8:34	-410.868	-410.916	0	1.463354				
	350					1.49	11/1/2013 8:34	-410.868	0	0					
	250					1.49	11/1/2013 8:34	-410.868	0	0					
	150					1.39	11/1/2013 8:34	-410.868	0	0					
	50					0.66	11/1/2013 8:34	-410.868	0	0					
106128	450				846	1.48	11/1/2013 8:34	-410.868	-410.95	0	1.534321				
	350					1.53	11/1/2013 8:34	-410.868	0	0					
	250					1.58	11/1/2013 8:34	-410.868	0	0					
	150					1.46	11/1/2013 8:34	-410.868	0	0					
	50					0.69	11/1/2013 8:34	-410.868	0	0					
106118	450				834	1.46	11/1/2013 8:34	-410.868	-410.868	0	1.53				
	350					1.51	11/1/2013 8:34	-410.868	0	0					
	250					1.53	11/1/2013 8:34	-410.868	0	0					
	150					1.48	11/1/2013 8:34	-410.868	0	0					
	50					0.46	11/1/2013 8:34	-410.868	0	0					
106113	450					1.54	11/1/2013 8:34	-410.868	0	0		NA			
	350					1.58	11/1/2013 8:34	-410.868	0	0					
	250					1.6	11/1/2013 8:34	-410.868	0	0					
	150					1.54	11/1/2013 8:34	-410.868	0	0					
	50					0.46	11/1/2013 8:34	-410.868	0	0					
106119	450				1029	1.74	11/1/2013 10:31	-411.521	0	-411.521	2.04	0.26			
	350					1.84	11/1/2013 10:31	-411.521	0	0					
	250					2.04	11/1/2013 10:31	-411.521	0	0					
	150					1.76	11/1/2013 10:31	-411.521	0	0					
	50					0.27	11/1/2013 10:31	-411.521	0	0					
106111	450				1020	1.78	11/1/2013 10:31	-411.521	0	-411.521	1.9	0.12			
	350					1.89	11/1/2013 10:31	-411.521	0	0					
	250					1.9	11/1/2013 10:31	-411.521	0	0					
	150					1.73	11/1/2013 10:31	-411.521	0	0					
	50					0.4	11/1/2013 10:31	-411.521	0	0					
106117	450				1033	1.7	11/1/2013 10:31	-411.521	-411.521	0	1.76	-0.02			
	350					1.76	11/1/2013 10:31	-411.521	0	0					
	250					1.76	11/1/2013 10:31	-411.521	0	0					
	150					1.56	11/1/2013 10:31	-411.521	0	0					

	50		0.57	11/1/2013 10:31	-411.521	0	0			
106128	450	1038	1.66	11/1/2013 10:31	-411.521	-411.521	0	1.83	0.05	
	350		1.76	11/1/2013 10:31	-411.521	0	0			
	250		1.83	11/1/2013 10:31	-411.521	0	0			
	150		1.57	11/1/2013 10:31	-411.521	0	0			
	50		0.58	11/1/2013 10:31	-411.521	0	0			
106118	450	1024	1.83	11/1/2013 10:31	-411.521	0	-411.521	1.8	0.02	
	350		1.81	11/1/2013 10:31	-411.521	0	0			
	250		1.8	11/1/2013 10:31	-411.521	0	0			
	150		1.74	11/1/2013 10:31	-411.521	0	0			
	50		0.3	11/1/2013 10:31	-411.521	0	0			
106113	450	1042	1.8	11/1/2013 10:31	-411.521	-411.521	0	1.78	0	
	350		1.8	11/1/2013 10:31	-411.521	0	0			
	250		1.78	11/1/2013 10:31	-411.521	0	0			
	150		1.66	11/1/2013 10:31	-411.521	0	0			
	50		0.27	11/1/2013 10:31	-411.521	0	0			
106119	450	1113	1.77	11/1/2013 11:07	-411.482	-411.469	0	2.117613	0.300150933	
	350		1.9	11/1/2013 11:07	-411.482	0	0			
	250		2.11	11/1/2013 11:07	-411.482	0	0			
	150		1.78	11/1/2013 11:07	-411.482	0	0			
	50		0.23	11/1/2013 11:07	-411.482	0	0			
106111	450	1056	1.76	11/1/2013 11:07	-411.482	0	-411.507	1.906042	0.0885802	
	350		1.9	11/1/2013 11:07	-411.482	0	0			
	250		1.92	11/1/2013 11:07	-411.482	0	0			
	150		1.74	11/1/2013 11:07	-411.482	0	0			
	50		0.42	11/1/2013 11:07	-411.482	0	0			
106117	450	1111	1.76	11/1/2013 11:07	-411.482	-411.473	0	1.825075	0.0076132	
	350		1.81	11/1/2013 11:07	-411.482	0	0			
	250		1.82	11/1/2013 11:07	-411.482	0	0			
	150		1.59	11/1/2013 11:07	-411.482	0	0			
	50		0.57	11/1/2013 11:07	-411.482	0	0			
106128	450	1108	1.72	11/1/2013 11:07	-411.482	-411.48	0	1.861269	0.0438066	
	350		1.79	11/1/2013 11:07	-411.482	0	0			
	250		1.86	11/1/2013 11:07	-411.482	0	0			
	150		1.62	11/1/2013 11:07	-411.482	0	0			
	50		0.57	11/1/2013 11:07	-411.482	0	0			
106118	450	1100	1.84	11/1/2013 11:07	-411.482	0	-411.498	1.751118	-0.066344333	
	350		1.86	11/1/2013 11:07	-411.482	0	0			
	250		1.76	11/1/2013 11:07	-411.482	0	0			
	150		1.71	11/1/2013 11:07	-411.482	0	0			
	50		0.29	11/1/2013 11:07	-411.482	0	0			
106113	450	1105	1.78	11/1/2013 11:07	-411.482	0	-411.487	1.817462	0	
	350		1.84	11/1/2013 11:07	-411.482	0	0			
	250		1.82	11/1/2013 11:07	-411.482	0	0			
	150		1.68	11/1/2013 11:07	-411.482	0	0			
	50		0.28	11/1/2013 11:07	-411.482	0	0			
106119	450	1130	1.67	11/1/2013 11:32	-411.425	0	-411.43	2.017462	0.311117933	

	350		1.81	11/1/2013 11:32	-411.425	0	0			
	250		2.02	11/1/2013 11:32	-411.425	0	0			
	150		1.69	11/1/2013 11:32	-411.425	0	0			
	50		0.16	11/1/2013 11:32	-411.425	0	0			
106111	450	1120	1.81	11/1/2013 11:32	-411.425	0	-411.453	1.924774	0.218429267	
	350		1.91	11/1/2013 11:32	-411.425	0	0			
	250		1.94	11/1/2013 11:32	-411.425	0	0			
	150		1.75	11/1/2013 11:32	-411.425	0	0			
	50		0.41	11/1/2013 11:32	-411.425	0	0			
106117	450	1133	1.65	11/1/2013 11:32	-411.425	-411.423	0	1.731269	0.024924533	
	350		1.71	11/1/2013 11:32	-411.425	0	0			
	250		1.73	11/1/2013 11:32	-411.425	0	0			
	150		1.46	11/1/2013 11:32	-411.425	0	0			
	50		0.47	11/1/2013 11:32	-411.425	0	0			
106128	450	1141	1.58	11/1/2013 11:32	-411.425	-411.405	0	1.74142	0.035075467	
	350		1.68	11/1/2013 11:32	-411.425	0	0			
	250		1.73	11/1/2013 11:32	-411.425	0	0			
	150		1.5	11/1/2013 11:32	-411.425	0	0			
	50		0.45	11/1/2013 11:32	-411.425	0	0			
106118	450	1125	1.81	11/1/2013 11:32	-411.425	0	-411.441	1.791118	0.0847736	
	350		1.82	11/1/2013 11:32	-411.425	0	0			
	250		1.8	11/1/2013 11:32	-411.425	0	0			
	150		1.69	11/1/2013 11:32	-411.425	0	0			
	50		0.22	11/1/2013 11:32	-411.425	0	0			
106113	450	1137	1.7	11/1/2013 11:32	-411.425	-411.414	0	1.706344	0	
	350		1.74	11/1/2013 11:32	-411.425	0	0			
	250		1.7	11/1/2013 11:32	-411.425	0	0			
	150		1.56	11/1/2013 11:32	-411.425	0	0			
	50		0.16	11/1/2013 11:32	-411.425	0	0			
106119	450	1212	1.52	11/1/2013 12:06	-411.348	-411.335	0	1.877613	0.270150933	
	350		1.65	11/1/2013 12:06	-411.348	0	0			
	250		1.87	11/1/2013 12:06	-411.348	0	0			
	150		1.54	11/1/2013 12:06	-411.348	0	0			
	50		0.07	11/1/2013 12:06	-411.348	0	0			
106111	450	1157	1.67	11/1/2013 12:06	-411.348	0	-411.369	1.78858	0.181117933	
	350		1.78	11/1/2013 12:06	-411.348	0	0			
	250		1.8	11/1/2013 12:06	-411.348	0	0			
	150		1.61	11/1/2013 12:06	-411.348	0	0			
	50		0.31	11/1/2013 12:06	-411.348	0	0			
106117	450	1209	1.53	11/1/2013 12:06	-411.348	-411.342	0	1.603807	-0.003655667	
	350		1.58	11/1/2013 12:06	-411.348	0	0			
	250		1.6	11/1/2013 12:06	-411.348	0	0			
	150		1.37	11/1/2013 12:06	-411.348	0	0			
	50		0.39	11/1/2013 12:06	-411.348	0	0			
106128	450	1207	1.53	11/1/2013 12:06	-411.348	-411.346	0	1.661269	0.0538066	
	350		1.61	11/1/2013 12:06	-411.348	0	0			
	250		1.66	11/1/2013 12:06	-411.348	0	0			

	150		1.41	11/1/2013 12:06	-411.348	0	0		
	50		0.4	11/1/2013 12:06	-411.348	0	0		
106118	450	1200	1.68	11/1/2013 12:06	-411.348	0	-411.362	1.652387	0.044924533
	350		1.7	11/1/2013 12:06	-411.348	0	0		
	250		1.66	11/1/2013 12:06	-411.348	0	0		
	150		1.51	11/1/2013 12:06	-411.348	0	0		
	50		0.13	11/1/2013 12:06	-411.348	0	0		
106113	450	1204	1.6	11/1/2013 12:06	-411.348	0	-411.353	1.607462	0
	350		1.64	11/1/2013 12:06	-411.348	0	0		
	250		1.61	11/1/2013 12:06	-411.348	0	0		
	150		1.43	11/1/2013 12:06	-411.348	0	0		
	50		0.1	11/1/2013 12:06	-411.348	0	0		
106119	450	1228	1.42	11/1/2013 12:30	-411.294	0	-411.299	1.287462	-0.158882067
	350		1.58	11/1/2013 12:30	-411.294	0	0		
	250		1.29	11/1/2013 12:30	-411.294	0	0		
	150		1.45	11/1/2013 12:30	-411.294	0	0		
	50		0.01	11/1/2013 12:30	-411.294	0	0		
106111	450	1220	1.56	11/1/2013 12:30	-411.294	0	-411.317	1.677311	0.230967
	350		1.67	11/1/2013 12:30	-411.294	0	0		
	250		1.69	11/1/2013 12:30	-411.294	0	0		
	150		1.52	11/1/2013 12:30	-411.294	0	0		
	50		0.25	11/1/2013 12:30	-411.294	0	0		
106117	450	1232	1.42	11/1/2013 12:30	-411.294	-411.29	0	1.472538	0.0261934
	350		1.48	11/1/2013 12:30	-411.294	0	0		
	250		1.47	11/1/2013 12:30	-411.294	0	0		
	150		1.23	11/1/2013 12:30	-411.294	0	0		
	50		0.28	11/1/2013 12:30	-411.294	0	0		
106128	450	1239	1.29	11/1/2013 12:30	-411.294	-411.274	0	1.55142	0.105075467
	350		1.46	11/1/2013 12:30	-411.294	0	0		
	250		1.54	11/1/2013 12:30	-411.294	0	0		
	150		1.3	11/1/2013 12:30	-411.294	0	0		
	50		0.31	11/1/2013 12:30	-411.294	0	0		
106118	450	1223	1.42	11/1/2013 12:30	-411.294	0	-411.31	1.541118	0.0947736
	350		1.58	11/1/2013 12:30	-411.294	0	0		
	250		1.55	11/1/2013 12:30	-411.294	0	0		
	150		1.44	11/1/2013 12:30	-411.294	0	0		
	50		0.05	11/1/2013 12:30	-411.294	0	0		
106113	450	1235	1.46	11/1/2013 12:30	-411.294	-411.283	0	1.446344	0
	350		1.49	11/1/2013 12:30	-411.294	0	0		
	250		1.44	11/1/2013 12:30	-411.294	0	0		
	150		1.28	11/1/2013 12:30	-411.294	0	0		
	50		0	11/1/2013 12:30	-411.294	0	0		
106119	450	1317	1.18	11/1/2013 13:11	-411.058	-411.004	0	1.380453	0.185528267
	350		1.31	11/1/2013 13:11	-411.058	0	0		
	250		1.35	11/1/2013 13:11	-411.058	0	0		
	150		1.29	11/1/2013 13:11	-411.058	0	0		
	50		-0.04	11/1/2013 13:11	-411.058	0	0		

106111	450	1301	1.32	11/1/2013 13:11	-411.058	0	-411.149	1.399245	0.2043208	
	350		1.43	11/1/2013 13:11	-411.058	0	0			
	250		1.45	11/1/2013 13:11	-411.058	0	0			
	150		1.31	11/1/2013 13:11	-411.058	0	0			
	50		0.1	11/1/2013 13:11	-411.058	0	0			
106117	450	1314	1.19	11/1/2013 13:11	-411.058	-411.031	0	1.115226	-0.079698133	
	350		1.25	11/1/2013 13:11	-411.058	0	0			
	250		1.1	11/1/2013 13:11	-411.058	0	0			
	150		1.03	11/1/2013 13:11	-411.058	0	0			
	50		0.19	11/1/2013 13:11	-411.058	0	0			
106128	450	1312	1.1	11/1/2013 13:11	-411.058	-411.049	0	1.285075	0.090150933	
	350		1.24	11/1/2013 13:11	-411.058	0	0			
	250		1.28	11/1/2013 13:11	-411.058	0	0			
	150		1.07	11/1/2013 13:11	-411.058	0	0			
	50		0.16	11/1/2013 13:11	-411.058	0	0			
106118	450	1304	1.15	11/1/2013 13:11	-411.058	0	-411.122	1.294472	0.0995472	
	350		1.36	11/1/2013 13:11	-411.058	0	0			
	250		1.33	11/1/2013 13:11	-411.058	0	0			
	150		1.21	11/1/2013 13:11	-411.058	0	0			
	50		-0.05	11/1/2013 13:11	-411.058	0	0			
106113	450	1310	1.2	11/1/2013 13:11	-411.058	0	-411.067	1.194925	0	
	350		1.26	11/1/2013 13:11	-411.058	0	0			
	250		1.2	11/1/2013 13:11	-411.058	0	0			
	150		1.06	11/1/2013 13:11	-411.058	0	0			
	50		-0.11	11/1/2013 13:11	-411.058	0	0			
106119	450	1337	1.1	11/1/2013 13:32	-410.868	-410.823	0	1.545377	0.465528267	
	350		1.22	11/1/2013 13:32	-410.868	0	0			
	250		1.52	11/1/2013 13:32	-410.868	0	0			
	150		1.2	11/1/2013 13:32	-410.868	0	0			
	50		-0.03	11/1/2013 13:32	-410.868	0	0			
106111	450	1323	1.18	11/1/2013 13:32	-410.868	0	-410.95	1.274321	0.194471733	
	350		1.29	11/1/2013 13:32	-410.868	0	0			
	250		1.32	11/1/2013 13:32	-410.868	0	0			
	150		1.17	11/1/2013 13:32	-410.868	0	0			
	50		0.05	11/1/2013 13:32	-410.868	0	0			
106117	450	1335	1.04	11/1/2013 13:32	-410.868	-410.841	0	1.155226	0.075377333	
	350		1.12	11/1/2013 13:32	-410.868	0	0			
	250		1.14	11/1/2013 13:32	-410.868	0	0			
	150		0.93	11/1/2013 13:32	-410.868	0	0			
	50		0.13	11/1/2013 13:32	-410.868	0	0			
106128	450	1333	1.01	11/1/2013 13:32	-410.868	-410.859	0	1.165075	0.0852264	
	350		1.12	11/1/2013 13:32	-410.868	0	0			
	250		1.16	11/1/2013 13:32	-410.868	0	0			
	150		0.94	11/1/2013 13:32	-410.868	0	0			
	50		0.1	11/1/2013 13:32	-410.868	0	0			
106118	450	1326	1.17	11/1/2013 13:32	-410.868	0	-410.922	1.629547	0.549698133	
	350		1.21	11/1/2013 13:32	-410.868	0	0			

	250		1.66	11/1/2013 13:32	-410.868	0	0		
	150		1.12	11/1/2013 13:32	-410.868	0	0		
	50		-0.11	11/1/2013 13:32	-410.868	0	0		
106113	450	1330	1.08	11/1/2013 13:32	-410.868	0	-410.886	1.079849	0
	350		1.13	11/1/2013 13:32	-410.868	0	0		
	250		1.09	11/1/2013 13:32	-410.868	0	0		
	150		0.89	11/1/2013 13:32	-410.868	0	0		
	50		-0.16	11/1/2013 13:32	-410.868	0	0		
106119	450	1405	0.9	11/1/2013 14:07	-410.705	0	-410.705	1.28	0.42
	350		1.03	11/1/2013 14:07	-410.705	0	0		
	250		1.28	11/1/2013 14:07	-410.705	0	0		
	150		1.01	11/1/2013 14:07	-410.705	0	0		
	50		-0.09	11/1/2013 14:07	-410.705	0	0		
106111	450	1355	1	11/1/2013 14:07	-410.705	0	-410.705	1.16	0.3
	350		1.13	11/1/2013 14:07	-410.705	0	0		
	250		1.16	11/1/2013 14:07	-410.705	0	0		
	150		1.01	11/1/2013 14:07	-410.705	0	0		
	50		0	11/1/2013 14:07	-410.705	0	0		
106117	450	1408	0.87	11/1/2013 14:07	-410.705	-410.705	0	0.94	0.08
	350		0.92	11/1/2013 14:07	-410.705	0	0		
	250		0.94	11/1/2013 14:07	-410.705	0	0		
	150		0.75	11/1/2013 14:07	-410.705	0	0		
	50		0.07	11/1/2013 14:07	-410.705	0	0		
106128	450	1416	0.84	11/1/2013 14:07	-410.705	-410.705	0	1.01	0.15
	350		0.95	11/1/2013 14:07	-410.705	0	0		
	250		1.01	11/1/2013 14:07	-410.705	0	0		
	150		0.82	11/1/2013 14:07	-410.705	0	0		
	50		0.09	11/1/2013 14:07	-410.705	0	0		
106118	450	1400	0.94	11/1/2013 14:07	-410.705	0	-410.705	0.99	0.13
	350		1	11/1/2013 14:07	-410.705	0	0		
	250		0.99	11/1/2013 14:07	-410.705	0	0		
	150		0.87	11/1/2013 14:07	-410.705	0	0		
	50		-0.19	11/1/2013 14:07	-410.705	0	0		
106113	450	1412	0.88	11/1/2013 14:07	-410.705	-410.705	0	0.86	0
	350		0.91	11/1/2013 14:07	-410.705	0	0		
	250		0.86	11/1/2013 14:07	-410.705	0	0		
	150		0.68	11/1/2013 14:07	-410.705	0	0		
	50		-0.2	11/1/2013 14:07	-410.705	0	0		
106119	450	1435	0.91	11/1/2013 14:37	-410.705	0	-410.705	1.31	0.44
	350		1.04	11/1/2013 14:37	-410.705	0	0		
	250		1.31	11/1/2013 14:37	-410.705	0	0		
	150		1.06	11/1/2013 14:37	-410.705	0	0		
	50		0	11/1/2013 14:37	-410.705	0	0		
106111	450	1427	0.95	11/1/2013 14:37	-410.705	0	-410.705	1.13	0.26
	350		1.07	11/1/2013 14:37	-410.705	0	0		
	250		1.13	11/1/2013 14:37	-410.705	0	0		
	150		1	11/1/2013 14:37	-410.705	0	0		

	50		0.09	11/1/2013 14:37	-410.705	0	0			
106117	450	1438	0.91	11/1/2013 14:37	-410.705	-410.705	0	1.01	0.14	
	350		1	11/1/2013 14:37	-410.705	0	0			
	250		1.01	11/1/2013 14:37	-410.705	0	0			
	150		0.8	11/1/2013 14:37	-410.705	0	0			
	50		0.15	11/1/2013 14:37	-410.705	0	0			
106128	450	1445	0.82	11/1/2013 14:37	-410.705	-410.705	0	0.95	0.08	
	350		0.9	11/1/2013 14:37	-410.705	0	0			
	250		0.95	11/1/2013 14:37	-410.705	0	0			
	150		0.74	11/1/2013 14:37	-410.705	0	0			
	50		0.05	11/1/2013 14:37	-410.705	0	0			
106118	450	1432	0.92	11/1/2013 14:37	-410.705	0	-410.705	0.97	0.1	
	350		1	11/1/2013 14:37	-410.705	0	0			
	250		0.97	11/1/2013 14:37	-410.705	0	0			
	150		0.89	11/1/2013 14:37	-410.705	0	0			
	50		-0.05	11/1/2013 14:37	-410.705	0	0			
106113	450	1442	0.9	11/1/2013 14:37	-410.705	-410.705	0	0.87	0	
	350		0.93	11/1/2013 14:37	-410.705	0	0			
	250		0.87	11/1/2013 14:37	-410.705	0	0			
	150		0.73	11/1/2013 14:37	-410.705	0	0			
	50		-0.1	11/1/2013 14:37	-410.705	0	0			
106119	450	1513	0.87	11/1/2013 15:07	-410.666	-410.653	0	1.277613	0.470150933	
	350		1.01	11/1/2013 15:07	-410.666	0	0			
	250		1.27	11/1/2013 15:07	-410.666	0	0			
	150		1.01	11/1/2013 15:07	-410.666	0	0			
	50		0.03	11/1/2013 15:07	-410.666	0	0			
106111	450	1458	0.88	11/1/2013 15:07	-410.666	0	-410.687	1.01858	0.211117933	
	350		0.97	11/1/2013 15:07	-410.666	0	0			
	250		1.03	11/1/2013 15:07	-410.666	0	0			
	150		0.89	11/1/2013 15:07	-410.666	0	0			
	50		0.03	11/1/2013 15:07	-410.666	0	0			
106117	450	1511	0.84	11/1/2013 15:07	-410.666	-410.657	0	0.925075	0.1176132	
	350		0.92	11/1/2013 15:07	-410.666	0	0			
	250		0.92	11/1/2013 15:07	-410.666	0	0			
	150		0.76	11/1/2013 15:07	-410.666	0	0			
	50		0.15	11/1/2013 15:07	-410.666	0	0			
106128	450	1508	0.81	11/1/2013 15:07	-410.666	-410.664	0	0.961269	0.1538066	
	350		0.89	11/1/2013 15:07	-410.666	0	0			
	250		0.96	11/1/2013 15:07	-410.666	0	0			
	150		0.76	11/1/2013 15:07	-410.666	0	0			
	50		0.09	11/1/2013 15:07	-410.666	0	0			
106118	450	1501	0.88	11/1/2013 15:07	-410.666	0	-410.68	0.902387	0.094924533	
	350		0.92	11/1/2013 15:07	-410.666	0	0			
	250		0.91	11/1/2013 15:07	-410.666	0	0			
	150		0.82	11/1/2013 15:07	-410.666	0	0			
	50		-0.05	11/1/2013 15:07	-410.666	0	0			
106113	450	1505	0.83	11/1/2013 15:07	-410.666	0	-410.671	0.807462	0	

	350			0.87	11/1/2013 15:07	-410.666	0	0		
	250			0.81	11/1/2013 15:07	-410.666	0	0		
	150			0.66	11/1/2013 15:07	-410.666	0	0		
	50			-0.09	11/1/2013 15:07	-410.666	0	0		
106119	450		1534	0.84	11/1/2013 15:36	-410.601	0	-410.605	1.237462	0.4523868
	350			0.96	11/1/2013 15:36	-410.601	0	0		
	250			1.24	11/1/2013 15:36	-410.601	0	0		
	150			1	11/1/2013 15:36	-410.601	0	0		
	50			0.03	11/1/2013 15:36	-410.601	0	0		
106111	450		1526	0.9	11/1/2013 15:36	-410.601	0	-410.623	1.057311	0.272235867
	350			1	11/1/2013 15:36	-410.601	0	0		
	250			1.07	11/1/2013 15:36	-410.601	0	0		
	150			0.95	11/1/2013 15:36	-410.601	0	0		
	50			0.12	11/1/2013 15:36	-410.601	0	0		
106117	450		1537	0.8	11/1/2013 15:36	-410.601	-410.598	0	0.891269	0.1061934
	350			0.84	11/1/2013 15:36	-410.601	0	0		
	250			0.89	11/1/2013 15:36	-410.601	0	0		
	150			0.71	11/1/2013 15:36	-410.601	0	0		
	50			0.11	11/1/2013 15:36	-410.601	0	0		
106128	450		1543	0.8	11/1/2013 15:36	-410.601	-410.585	0	0.948882	0.1638066
	350			0.88	11/1/2013 15:36	-410.601	0	0		
	250			0.94	11/1/2013 15:36	-410.601	0	0		
	150			0.76	11/1/2013 15:36	-410.601	0	0		
	50			0.15	11/1/2013 15:36	-410.601	0	0		
106118	450		1530	0.88	11/1/2013 15:36	-410.601	0	-410.614	0.902387	0.117311333
	350			0.91	11/1/2013 15:36	-410.601	0	0		
	250			0.91	11/1/2013 15:36	-410.601	0	0		
	150			0.83	11/1/2013 15:36	-410.601	0	0		
	50			-0.02	11/1/2013 15:36	-410.601	0	0		
106113	450		1540	0.84	11/1/2013 15:36	-410.601	-410.592	0	0.785075	0
	350			0.86	11/1/2013 15:36	-410.601	0	0		
	250			0.78	11/1/2013 15:36	-410.601	0	0		
	150			0.63	11/1/2013 15:36	-410.601	0	0		
	50			-0.08	11/1/2013 15:36	-410.601	0	0		
106119	450		1558	0.83	11/1/2013 16:00	-410.592	0	-410.587	1.242538	0.4476132
	350			0.97	11/1/2013 16:00	-410.592	0	0		
	250			1.24	11/1/2013 16:00	-410.592	0	0		
	150			1	11/1/2013 16:00	-410.592	0	0		
	50			0.03	11/1/2013 16:00	-410.592	0	0		
106111	450		1550	0.84	11/1/2013 16:00	-410.592	0	-410.569	1.032689	0.237764133
	350			0.94	11/1/2013 16:00	-410.592	0	0		
	250			1.02	11/1/2013 16:00	-410.592	0	0		
	150			0.9	11/1/2013 16:00	-410.592	0	0		
	50			0.09	11/1/2013 16:00	-410.592	0	0		
106117	450		1601	0.8	11/1/2013 16:00	-410.592	-410.594	0	0.878731	0.0838066
	350			0.86	11/1/2013 16:00	-410.592	0	0		
	250			0.88	11/1/2013 16:00	-410.592	0	0		

	150		0.7	11/1/2013 16:00	-410.592	0	0			
	50		0.17	11/1/2013 16:00	-410.592	0	0			
106128	450	1608	0.76	11/1/2013 16:00	-410.592	-410.61	0	0.899849	0.104924533
	350		0.86	11/1/2013 16:00	-410.592	0	0			
	250		0.91	11/1/2013 16:00	-410.592	0	0			
	150		0.74	11/1/2013 16:00	-410.592	0	0			
	50		0.12	11/1/2013 16:00	-410.592	0	0			
106118	450	1534	0.83	11/1/2013 16:00	-410.592	0	-410.669	0.736859	-0.058066
	350		0.87	11/1/2013 16:00	-410.592	0	0			
	250		0.78	11/1/2013 16:00	-410.592	0	0			
	150		0.8	11/1/2013 16:00	-410.592	0	0			
	50		0.01	11/1/2013 16:00	-410.592	0	0			
106113	450	1604	0.81	11/1/2013 16:00	-410.592	-410.601	0	0.794925	0
	350		0.84	11/1/2013 16:00	-410.592	0	0			
	250		0.8	11/1/2013 16:00	-410.592	0	0			
	150		0.69	11/1/2013 16:00	-410.592	0	0			
	50		-0.05	11/1/2013 16:00	-410.592	0	0			
106119	450	1639	0.89	11/1/2013 16:34	-410.669	-410.68	0	1.303656	0.461117933
	350		1.03	11/1/2013 16:34	-410.669	0	0			
	250		1.31	11/1/2013 16:34	-410.669	0	0			
	150		1.07	11/1/2013 16:34	-410.669	0	0			
	50		0.1	11/1/2013 16:34	-410.669	0	0			
106111	450	1626	0.9	11/1/2013 16:34	-410.669	0	-410.651	1.030151	0.1876132
	350		1.04	11/1/2013 16:34	-410.669	0	0			
	250		1.02	11/1/2013 16:34	-410.669	0	0			
	150		0.93	11/1/2013 16:34	-410.669	0	0			
	50		0.16	11/1/2013 16:34	-410.669	0	0			
106117	450	1637	0.87	11/1/2013 16:34	-410.669	-410.675	0	0.976193	0.133655667
	350		0.95	11/1/2013 16:34	-410.669	0	0			
	250		0.98	11/1/2013 16:34	-410.669	0	0			
	150		0.81	11/1/2013 16:34	-410.669	0	0			
	50		0.24	11/1/2013 16:34	-410.669	0	0			
106128	450	1635	0.8	11/1/2013 16:34	-410.669	-410.671	0	0.958731	0.1161934
	350		0.9	11/1/2013 16:34	-410.669	0	0			
	250		0.96	11/1/2013 16:34	-410.669	0	0			
	150		0.78	11/1/2013 16:34	-410.669	0	0			
	50		0.16	11/1/2013 16:34	-410.669	0	0			
106118	450	1629	0.9	11/1/2013 16:34	-410.669	0	-410.657	0.976344	0.1338066
	350		0.91	11/1/2013 16:34	-410.669	0	0			
	250		0.97	11/1/2013 16:34	-410.669	0	0			
	150		0.82	11/1/2013 16:34	-410.669	0	0			
	50		0.03	11/1/2013 16:34	-410.669	0	0			
106113	450	1632	0.84	11/1/2013 16:34	-410.669	0	-410.664	0.842538	0
	350		0.89	11/1/2013 16:34	-410.669	0	0			
	250		0.84	11/1/2013 16:34	-410.669	0	0			
	150		0.67	11/1/2013 16:34	-410.669	0	0			
	50		0	11/1/2013 16:34	-410.669	0	0			

106119	450	1659	0.97	11/1/2013 17:01	-410.73	0	-410.725	1.402538	0.458882067
	350		1.12	11/1/2013 17:01	-410.73	0	0		
	250		1.4	11/1/2013 17:01	-410.73	0	0		
	150		1.17	11/1/2013 17:01	-410.73	0	0		
	50		0.18	11/1/2013 17:01	-410.73	0	0		
106111	450	1650	0.97	11/1/2013 17:01	-410.73	0	-410.705	1.173958	0.230301867
	350		1.08	11/1/2013 17:01	-410.73	0	0		
	250		1.16	11/1/2013 17:01	-410.73	0	0		
	150		1.06	11/1/2013 17:01	-410.73	0	0		
	50		0.24	11/1/2013 17:01	-410.73	0	0		
106117	450	1702	0.91	11/1/2013 17:01	-410.73	-410.732	0	1.058731	0.115075467
	350		1.04	11/1/2013 17:01	-410.73	0	0		
	250		1.06	11/1/2013 17:01	-410.73	0	0		
	150		0.93	11/1/2013 17:01	-410.73	0	0		
	50		0.32	11/1/2013 17:01	-410.73	0	0		
106128	450	1709	0.91	11/1/2013 17:01	-410.73	-410.748	0	1.089849	0.1461934
	350		1.01	11/1/2013 17:01	-410.73	0	0		
	250		1.1	11/1/2013 17:01	-410.73	0	0		
	150		0.94	11/1/2013 17:01	-410.73	0	0		
	50		0.28	11/1/2013 17:01	-410.73	0	0		
106118	450	1655	1.02	11/1/2013 17:01	-410.73	0	-410.716	1.037613	0.093957533
	350		1.04	11/1/2013 17:01	-410.73	0	0		
	250		1.03	11/1/2013 17:01	-410.73	0	0		
	150		0.98	11/1/2013 17:01	-410.73	0	0		
	50		0.16	11/1/2013 17:01	-410.73	0	0		
106113	450	1706	0.96	11/1/2013 17:01	-410.73	-410.741	0	0.943656	0
	350		1.02	11/1/2013 17:01	-410.73	0	0		
	250		0.95	11/1/2013 17:01	-410.73	0	0		
	150		0.83	11/1/2013 17:01	-410.73	0	0		
	50		0.1	11/1/2013 17:01	-410.73	0	0		
106119	450	1729	1.01	11/1/2013 17:31	-410.798	0	-410.793	1.452538	0.488882067
	350		1.14	11/1/2013 17:31	-410.798	0	0		
	250		1.45	11/1/2013 17:31	-410.798	0	0		
	150		1.21	11/1/2013 17:31	-410.798	0	0		
	50		0.17	11/1/2013 17:31	-410.798	0	0		
106111	450	1720	1.05	11/1/2013 17:31	-410.798	0	-410.773	1.223958	0.260301867
	350		1.18	11/1/2013 17:31	-410.798	0	0		
	250		1.21	11/1/2013 17:31	-410.798	0	0		
	150		1.12	11/1/2013 17:31	-410.798	0	0		
	50		0.26	11/1/2013 17:31	-410.798	0	0		
106117	450	1732	0.95	11/1/2013 17:31	-410.798	-410.8	0	1.128731	0.165075467
	350		1.06	11/1/2013 17:31	-410.798	0	0		
	250		1.13	11/1/2013 17:31	-410.798	0	0		
	150		0.94	11/1/2013 17:31	-410.798	0	0		
	50		0.3	11/1/2013 17:31	-410.798	0	0		
106128	450	1740	0.96	11/1/2013 17:31	-410.798	-410.818	0	1.13858	0.174924533
	350		1.05	11/1/2013 17:31	-410.798	0	0		

	250		1.15	11/1/2013 17:31	-410.798	0	0			
	150		0.98	11/1/2013 17:31	-410.798	0	0			
	50		0.3	11/1/2013 17:31	-410.798	0	0			
106118	450	1724	1.05	11/1/2013 17:31	-410.798	0	-410.782	1.098882	0.1352264	
	350		1.1	11/1/2013 17:31	-410.798	0	0			
	250		1.09	11/1/2013 17:31	-410.798	0	0			
	150		1.01	11/1/2013 17:31	-410.798	0	0			
	50		0.15	11/1/2013 17:31	-410.798	0	0			
106113	450	1736	0.98	11/1/2013 17:31	-410.798	-410.809	0	0.963656	0	
	350		1.04	11/1/2013 17:31	-410.798	0	0			
	250		0.97	11/1/2013 17:31	-410.798	0	0			
	150		0.85	11/1/2013 17:31	-410.798	0	0			
	50		0.05	11/1/2013 17:31	-410.798	0	0			

Well ID	Depth	Minimum distance to extraction well	Distance to 106160 (ft)	Monitoring round	Time	Vacuum (ir	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences
106119	450				804	1.22	11/1/2013 8:34	-410.868	0	-410.664	1.388473	
	350					1.28	11/1/2013 8:34	-410.868	0	0		change with new barometric efficiency
	250					1.31	11/1/2013 8:34	-410.868	0	0		
	150					1.26	11/1/2013 8:34	-410.868	0	0		
	50					0.35	11/1/2013 8:34	-410.868	0	0		
106111	450				818	1.29	11/1/2013 8:34	-410.868	0	-410.759	1.448519	
	350					1.45	11/1/2013 8:34	-410.868	0	0		
	250					1.45	11/1/2013 8:34	-410.868	0	0		
	150					1.38	11/1/2013 8:34	-410.868	0	0		
	50					0.5	11/1/2013 8:34	-410.868	0	0		
106117	450				841	1.44	11/1/2013 8:34	-410.868	-410.916	0	1.360023	
	350					1.49	11/1/2013 8:34	-410.868	0	0		
	250					1.49	11/1/2013 8:34	-410.868	0	0		
	150					1.39	11/1/2013 8:34	-410.868	0	0		
	50					0.66	11/1/2013 8:34	-410.868	0	0		
106128	450				846	1.48	11/1/2013 8:34	-410.868	-410.95	0	1.408611	
	350					1.53	11/1/2013 8:34	-410.868	0	0		
	250					1.58	11/1/2013 8:34	-410.868	0	0		
	150					1.46	11/1/2013 8:34	-410.868	0	0		
	50					0.69	11/1/2013 8:34	-410.868	0	0		
106118	450				834	1.46	11/1/2013 8:34	-410.868	-410.868	0	1.48	
	350					1.51	11/1/2013 8:34	-410.868	0	0		
	250					1.53	11/1/2013 8:34	-410.868	0	0		
	150					1.48	11/1/2013 8:34	-410.868	0	0		
	50					0.46	11/1/2013 8:34	-410.868	0	0		
106113	450					1.54	11/1/2013 8:34	-410.868	0	0		NA
	350					1.58	11/1/2013 8:34	-410.868	0	0		
	250					1.6	11/1/2013 8:34	-410.868	0	0		
	150					1.54	11/1/2013 8:34	-410.868	0	0		
	50					0.46	11/1/2013 8:34	-410.868	0	0		
106119	450				1029	1.74	11/1/2013 10:31	-411.521	0	-411.521	1.76	0.1
	350					1.84	11/1/2013 10:31	-411.521	0	0		
	250					2.04	11/1/2013 10:31	-411.521	0	0		
	150					1.76	11/1/2013 10:31	-411.521	0	0		
	50					0.27	11/1/2013 10:31	-411.521	0	0		
106111	450				1020	1.78	11/1/2013 10:31	-411.521	0	-411.521	1.73	0.07
	350					1.89	11/1/2013 10:31	-411.521	0	0		
	250					1.9	11/1/2013 10:31	-411.521	0	0		
	150					1.73	11/1/2013 10:31	-411.521	0	0		
	50					0.4	11/1/2013 10:31	-411.521	0	0		
106117	450				1033	1.7	11/1/2013 10:31	-411.521	-411.521	0	1.56	-0.1

	350			1.76	11/1/2013 10:31	-411.521	0	0		
	250			1.76	11/1/2013 10:31	-411.521	0	0		
	150			1.56	11/1/2013 10:31	-411.521	0	0		
	50			0.57	11/1/2013 10:31	-411.521	0	0		
106128	450		1038	1.66	11/1/2013 10:31	-411.521	-411.521	0	1.57	-0.09
	350			1.76	11/1/2013 10:31	-411.521	0	0		
	250			1.83	11/1/2013 10:31	-411.521	0	0		
	150			1.57	11/1/2013 10:31	-411.521	0	0		
	50			0.58	11/1/2013 10:31	-411.521	0	0		
106118	450		1024	1.83	11/1/2013 10:31	-411.521	0	-411.521	1.74	0.08
	350			1.81	11/1/2013 10:31	-411.521	0	0		
	250			1.8	11/1/2013 10:31	-411.521	0	0		
	150			1.74	11/1/2013 10:31	-411.521	0	0		
	50			0.3	11/1/2013 10:31	-411.521	0	0		
106113	450		1042	1.8	11/1/2013 10:31	-411.521	-411.521	0	1.66	0
	350			1.8	11/1/2013 10:31	-411.521	0	0		
	250			1.78	11/1/2013 10:31	-411.521	0	0		
	150			1.66	11/1/2013 10:31	-411.521	0	0		
	50			0.27	11/1/2013 10:31	-411.521	0	0		
106119	450		1113	1.77	11/1/2013 11:07	-411.482	-411.469	0	1.788565	0.11142
	350			1.9	11/1/2013 11:07	-411.482	0	0		
	250			2.11	11/1/2013 11:07	-411.482	0	0		
	150			1.78	11/1/2013 11:07	-411.482	0	0		
	50			0.23	11/1/2013 11:07	-411.482	0	0		
106111	450		1056	1.76	11/1/2013 11:07	-411.482	0	-411.507	1.724298	0.047153
	350			1.9	11/1/2013 11:07	-411.482	0	0		
	250			1.92	11/1/2013 11:07	-411.482	0	0		
	150			1.74	11/1/2013 11:07	-411.482	0	0		
	50			0.42	11/1/2013 11:07	-411.482	0	0		
106117	450		1111	1.76	11/1/2013 11:07	-411.482	-411.473	0	1.59571	-0.08144
	350			1.81	11/1/2013 11:07	-411.482	0	0		
	250			1.82	11/1/2013 11:07	-411.482	0	0		
	150			1.59	11/1/2013 11:07	-411.482	0	0		
	50			0.57	11/1/2013 11:07	-411.482	0	0		
106128	450		1108	1.72	11/1/2013 11:07	-411.482	-411.48	0	1.621427	-0.05572
	350			1.79	11/1/2013 11:07	-411.482	0	0		
	250			1.86	11/1/2013 11:07	-411.482	0	0		
	150			1.62	11/1/2013 11:07	-411.482	0	0		
	50			0.57	11/1/2013 11:07	-411.482	0	0		
106118	450		1100	1.84	11/1/2013 11:07	-411.482	0	-411.498	1.700008	0.022863
	350			1.86	11/1/2013 11:07	-411.482	0	0		
	250			1.76	11/1/2013 11:07	-411.482	0	0		
	150			1.71	11/1/2013 11:07	-411.482	0	0		
	50			0.29	11/1/2013 11:07	-411.482	0	0		
106113	450		1105	1.78	11/1/2013 11:07	-411.482	0	-411.487	1.677145	0
	350			1.84	11/1/2013 11:07	-411.482	0	0		
	250			1.82	11/1/2013 11:07	-411.482	0	0		

	150		1.68	11/1/2013 11:07	-411.482	0	0		
	50		0.28	11/1/2013 11:07	-411.482	0	0		
106119	450	1130	1.67	11/1/2013 11:32	-411.425	0	-411.43	1.687145	0.120008
	350		1.81	11/1/2013 11:32	-411.425	0	0		
	250		2.02	11/1/2013 11:32	-411.425	0	0		
	150		1.69	11/1/2013 11:32	-411.425	0	0		
	50		0.16	11/1/2013 11:32	-411.425	0	0		
106111	450	1120	1.81	11/1/2013 11:32	-411.425	0	-411.453	1.73287	0.165733
	350		1.91	11/1/2013 11:32	-411.425	0	0		
	250		1.94	11/1/2013 11:32	-411.425	0	0		
	150		1.75	11/1/2013 11:32	-411.425	0	0		
	50		0.41	11/1/2013 11:32	-411.425	0	0		
106117	450	1133	1.65	11/1/2013 11:32	-411.425	-411.423	0	1.461427	-0.10571
	350		1.71	11/1/2013 11:32	-411.425	0	0		
	250		1.73	11/1/2013 11:32	-411.425	0	0		
	150		1.46	11/1/2013 11:32	-411.425	0	0		
	50		0.47	11/1/2013 11:32	-411.425	0	0		
106128	450	1141	1.58	11/1/2013 11:32	-411.425	-411.405	0	1.512847	-0.05429
	350		1.68	11/1/2013 11:32	-411.425	0	0		
	250		1.73	11/1/2013 11:32	-411.425	0	0		
	150		1.5	11/1/2013 11:32	-411.425	0	0		
	50		0.45	11/1/2013 11:32	-411.425	0	0		
106118	450	1125	1.81	11/1/2013 11:32	-411.425	0	-411.441	1.680008	0.11287
	350		1.82	11/1/2013 11:32	-411.425	0	0		
	250		1.8	11/1/2013 11:32	-411.425	0	0		
	150		1.69	11/1/2013 11:32	-411.425	0	0		
	50		0.22	11/1/2013 11:32	-411.425	0	0		
106113	450	1137	1.7	11/1/2013 11:32	-411.425	-411.414	0	1.567137	0
	350		1.74	11/1/2013 11:32	-411.425	0	0		
	250		1.7	11/1/2013 11:32	-411.425	0	0		
	150		1.56	11/1/2013 11:32	-411.425	0	0		
	50		0.16	11/1/2013 11:32	-411.425	0	0		
106119	450	1212	1.52	11/1/2013 12:06	-411.348	-411.335	0	1.548565	0.12142
	350		1.65	11/1/2013 12:06	-411.348	0	0		
	250		1.87	11/1/2013 12:06	-411.348	0	0		
	150		1.54	11/1/2013 12:06	-411.348	0	0		
	50		0.07	11/1/2013 12:06	-411.348	0	0		
106111	450	1157	1.67	11/1/2013 12:06	-411.348	0	-411.369	1.597153	0.170008
	350		1.78	11/1/2013 12:06	-411.348	0	0		
	250		1.8	11/1/2013 12:06	-411.348	0	0		
	150		1.61	11/1/2013 12:06	-411.348	0	0		
	50		0.31	11/1/2013 12:06	-411.348	0	0		
106117	450	1209	1.53	11/1/2013 12:06	-411.348	-411.342	0	1.374282	-0.05286
	350		1.58	11/1/2013 12:06	-411.348	0	0		
	250		1.6	11/1/2013 12:06	-411.348	0	0		
	150		1.37	11/1/2013 12:06	-411.348	0	0		
	50		0.39	11/1/2013 12:06	-411.348	0	0		

106128	450		1207	1.53	11/1/2013 12:06	-411.348	-411.346	0	1.411427	-0.01572
	350			1.61	11/1/2013 12:06	-411.348	0	0		
	250			1.66	11/1/2013 12:06	-411.348	0	0		
	150			1.41	11/1/2013 12:06	-411.348	0	0		
	50			0.4	11/1/2013 12:06	-411.348	0	0		
106118	450		1200	1.68	11/1/2013 12:06	-411.348	0	-411.362	1.501435	0.07429
	350			1.7	11/1/2013 12:06	-411.348	0	0		
	250			1.66	11/1/2013 12:06	-411.348	0	0		
	150			1.51	11/1/2013 12:06	-411.348	0	0		
	50			0.13	11/1/2013 12:06	-411.348	0	0		
106113	450		1204	1.6	11/1/2013 12:06	-411.348	0	-411.353	1.427145	0
	350			1.64	11/1/2013 12:06	-411.348	0	0		
	250			1.61	11/1/2013 12:06	-411.348	0	0		
	150			1.43	11/1/2013 12:06	-411.348	0	0		
	50			0.1	11/1/2013 12:06	-411.348	0	0		
106119	450		1228	1.42	11/1/2013 12:30	-411.294	0	-411.299	1.447145	0.160008
	350			1.58	11/1/2013 12:30	-411.294	0	0		
	250			1.29	11/1/2013 12:30	-411.294	0	0		
	150			1.45	11/1/2013 12:30	-411.294	0	0		
	50			0.01	11/1/2013 12:30	-411.294	0	0		
106111	450		1220	1.56	11/1/2013 12:30	-411.294	0	-411.317	1.505725	0.218588
	350			1.67	11/1/2013 12:30	-411.294	0	0		
	250			1.69	11/1/2013 12:30	-411.294	0	0		
	150			1.52	11/1/2013 12:30	-411.294	0	0		
	50			0.25	11/1/2013 12:30	-411.294	0	0		
106117	450		1232	1.42	11/1/2013 12:30	-411.294	-411.29	0	1.232855	-0.05428
	350			1.48	11/1/2013 12:30	-411.294	0	0		
	250			1.47	11/1/2013 12:30	-411.294	0	0		
	150			1.23	11/1/2013 12:30	-411.294	0	0		
	50			0.28	11/1/2013 12:30	-411.294	0	0		
106128	450		1239	1.29	11/1/2013 12:30	-411.294	-411.274	0	1.312847	0.02571
	350			1.46	11/1/2013 12:30	-411.294	0	0		
	250			1.54	11/1/2013 12:30	-411.294	0	0		
	150			1.3	11/1/2013 12:30	-411.294	0	0		
	50			0.31	11/1/2013 12:30	-411.294	0	0		
106118	450		1223	1.42	11/1/2013 12:30	-411.294	0	-411.31	1.430008	0.14287
	350			1.58	11/1/2013 12:30	-411.294	0	0		
	250			1.55	11/1/2013 12:30	-411.294	0	0		
	150			1.44	11/1/2013 12:30	-411.294	0	0		
	50			0.05	11/1/2013 12:30	-411.294	0	0		
106113	450		1235	1.46	11/1/2013 12:30	-411.294	-411.283	0	1.287137	0
	350			1.49	11/1/2013 12:30	-411.294	0	0		
	250			1.44	11/1/2013 12:30	-411.294	0	0		
	150			1.28	11/1/2013 12:30	-411.294	0	0		
	50			0	11/1/2013 12:30	-411.294	0	0		
106119	450		1317	1.18	11/1/2013 13:11	-411.058	-411.004	0	1.324259	0.269969
	350			1.31	11/1/2013 13:11	-411.058	0	0		

	250		1.35	11/1/2013 13:11	-411.058	0	0		
	150		1.29	11/1/2013 13:11	-411.058	0	0		
	50		-0.04	11/1/2013 13:11	-411.058	0	0		
106111	450	1301	1.32	11/1/2013 13:11	-411.058	0	-411.149	1.252901	0.198611
	350		1.43	11/1/2013 13:11	-411.058	0	0		
	250		1.45	11/1/2013 13:11	-411.058	0	0		
	150		1.31	11/1/2013 13:11	-411.058	0	0		
	50		0.1	11/1/2013 13:11	-411.058	0	0		
106117	450	1314	1.19	11/1/2013 13:11	-411.058	-411.031	0	1.04713	-0.00716
	350		1.25	11/1/2013 13:11	-411.058	0	0		
	250		1.1	11/1/2013 13:11	-411.058	0	0		
	150		1.03	11/1/2013 13:11	-411.058	0	0		
	50		0.19	11/1/2013 13:11	-411.058	0	0		
106128	450	1312	1.1	11/1/2013 13:11	-411.058	-411.049	0	1.07571	0.02142
	350		1.24	11/1/2013 13:11	-411.058	0	0		
	250		1.28	11/1/2013 13:11	-411.058	0	0		
	150		1.07	11/1/2013 13:11	-411.058	0	0		
	50		0.16	11/1/2013 13:11	-411.058	0	0		
106118	450	1304	1.15	11/1/2013 13:11	-411.058	0	-411.122	1.170031	0.115741
	350		1.36	11/1/2013 13:11	-411.058	0	0		
	250		1.33	11/1/2013 13:11	-411.058	0	0		
	150		1.21	11/1/2013 13:11	-411.058	0	0		
	50		-0.05	11/1/2013 13:11	-411.058	0	0		
106113	450	1310	1.2	11/1/2013 13:11	-411.058	0	-411.067	1.05429	0
	350		1.26	11/1/2013 13:11	-411.058	0	0		
	250		1.2	11/1/2013 13:11	-411.058	0	0		
	150		1.06	11/1/2013 13:11	-411.058	0	0		
	50		-0.11	11/1/2013 13:11	-411.058	0	0		
106119	450	1337	1.1	11/1/2013 13:32	-410.868	-410.823	0	1.22855	0.349969
	350		1.22	11/1/2013 13:32	-410.868	0	0		
	250		1.52	11/1/2013 13:32	-410.868	0	0		
	150		1.2	11/1/2013 13:32	-410.868	0	0		
	50		-0.03	11/1/2013 13:32	-410.868	0	0		
106111	450	1323	1.18	11/1/2013 13:32	-410.868	0	-410.95	1.118611	0.240031
	350		1.29	11/1/2013 13:32	-410.868	0	0		
	250		1.32	11/1/2013 13:32	-410.868	0	0		
	150		1.17	11/1/2013 13:32	-410.868	0	0		
	50		0.05	11/1/2013 13:32	-410.868	0	0		
106117	450	1335	1.04	11/1/2013 13:32	-410.868	-410.841	0	0.94713	0.06855
	350		1.12	11/1/2013 13:32	-410.868	0	0		
	250		1.14	11/1/2013 13:32	-410.868	0	0		
	150		0.93	11/1/2013 13:32	-410.868	0	0		
	50		0.13	11/1/2013 13:32	-410.868	0	0		
106128	450	1333	1.01	11/1/2013 13:32	-410.868	-410.859	0	0.94571	0.06713
	350		1.12	11/1/2013 13:32	-410.868	0	0		
	250		1.16	11/1/2013 13:32	-410.868	0	0		
	150		0.94	11/1/2013 13:32	-410.868	0	0		

	50		0.1	11/1/2013 13:32	-410.868	0	0		
106118	450	1326	1.17	11/1/2013 13:32	-410.868	0	-410.922	1.085741	0.20716
	350		1.21	11/1/2013 13:32	-410.868	0	0		
	250		1.66	11/1/2013 13:32	-410.868	0	0		
	150		1.12	11/1/2013 13:32	-410.868	0	0		
	50		-0.11	11/1/2013 13:32	-410.868	0	0		
106113	450	1330	1.08	11/1/2013 13:32	-410.868	0	-410.886	0.87858	0
	350		1.13	11/1/2013 13:32	-410.868	0	0		
	250		1.09	11/1/2013 13:32	-410.868	0	0		
	150		0.89	11/1/2013 13:32	-410.868	0	0		
	50		-0.16	11/1/2013 13:32	-410.868	0	0		
106119	450	1405	0.9	11/1/2013 14:07	-410.705	0	-410.705	1.01	0.33
	350		1.03	11/1/2013 14:07	-410.705	0	0		
	250		1.28	11/1/2013 14:07	-410.705	0	0		
	150		1.01	11/1/2013 14:07	-410.705	0	0		
	50		-0.09	11/1/2013 14:07	-410.705	0	0		
106111	450	1355	1	11/1/2013 14:07	-410.705	0	-410.705	1.01	0.33
	350		1.13	11/1/2013 14:07	-410.705	0	0		
	250		1.16	11/1/2013 14:07	-410.705	0	0		
	150		1.01	11/1/2013 14:07	-410.705	0	0		
	50		0	11/1/2013 14:07	-410.705	0	0		
106117	450	1408	0.87	11/1/2013 14:07	-410.705	-410.705	0	0.75	0.07
	350		0.92	11/1/2013 14:07	-410.705	0	0		
	250		0.94	11/1/2013 14:07	-410.705	0	0		
	150		0.75	11/1/2013 14:07	-410.705	0	0		
	50		0.07	11/1/2013 14:07	-410.705	0	0		
106128	450	1416	0.84	11/1/2013 14:07	-410.705	-410.705	0	0.82	0.14
	350		0.95	11/1/2013 14:07	-410.705	0	0		
	250		1.01	11/1/2013 14:07	-410.705	0	0		
	150		0.82	11/1/2013 14:07	-410.705	0	0		
	50		0.09	11/1/2013 14:07	-410.705	0	0		
106118	450	1400	0.94	11/1/2013 14:07	-410.705	0	-410.705	0.87	0.19
	350		1	11/1/2013 14:07	-410.705	0	0		
	250		0.99	11/1/2013 14:07	-410.705	0	0		
	150		0.87	11/1/2013 14:07	-410.705	0	0		
	50		-0.19	11/1/2013 14:07	-410.705	0	0		
106113	450	1412	0.88	11/1/2013 14:07	-410.705	-410.705	0	0.68	0
	350		0.91	11/1/2013 14:07	-410.705	0	0		
	250		0.86	11/1/2013 14:07	-410.705	0	0		
	150		0.68	11/1/2013 14:07	-410.705	0	0		
	50		-0.2	11/1/2013 14:07	-410.705	0	0		
106119	450	1435	0.91	11/1/2013 14:37	-410.705	0	-410.705	1.06	0.33
	350		1.04	11/1/2013 14:37	-410.705	0	0		
	250		1.31	11/1/2013 14:37	-410.705	0	0		
	150		1.06	11/1/2013 14:37	-410.705	0	0		
	50		0	11/1/2013 14:37	-410.705	0	0		
106111	450	1427	0.95	11/1/2013 14:37	-410.705	0	-410.705	1	0.27

	350		1.07	11/1/2013 14:37	-410.705	0	0		
	250		1.13	11/1/2013 14:37	-410.705	0	0		
	150		1	11/1/2013 14:37	-410.705	0	0		
	50		0.09	11/1/2013 14:37	-410.705	0	0		
106117	450	1438	0.91	11/1/2013 14:37	-410.705	-410.705	0	0.8	0.07
	350		1	11/1/2013 14:37	-410.705	0	0		
	250		1.01	11/1/2013 14:37	-410.705	0	0		
	150		0.8	11/1/2013 14:37	-410.705	0	0		
	50		0.15	11/1/2013 14:37	-410.705	0	0		
106128	450	1445	0.82	11/1/2013 14:37	-410.705	-410.705	0	0.74	0.01
	350		0.9	11/1/2013 14:37	-410.705	0	0		
	250		0.95	11/1/2013 14:37	-410.705	0	0		
	150		0.74	11/1/2013 14:37	-410.705	0	0		
	50		0.05	11/1/2013 14:37	-410.705	0	0		
106118	450	1432	0.92	11/1/2013 14:37	-410.705	0	-410.705	0.89	0.16
	350		1	11/1/2013 14:37	-410.705	0	0		
	250		0.97	11/1/2013 14:37	-410.705	0	0		
	150		0.89	11/1/2013 14:37	-410.705	0	0		
	50		-0.05	11/1/2013 14:37	-410.705	0	0		
106113	450	1442	0.9	11/1/2013 14:37	-410.705	-410.705	0	0.73	0
	350		0.93	11/1/2013 14:37	-410.705	0	0		
	250		0.87	11/1/2013 14:37	-410.705	0	0		
	150		0.73	11/1/2013 14:37	-410.705	0	0		
	50		-0.1	11/1/2013 14:37	-410.705	0	0		
106119	450	1513	0.87	11/1/2013 15:07	-410.666	-410.653	0	1.018565	0.36142
	350		1.01	11/1/2013 15:07	-410.666	0	0		
	250		1.27	11/1/2013 15:07	-410.666	0	0		
	150		1.01	11/1/2013 15:07	-410.666	0	0		
	50		0.03	11/1/2013 15:07	-410.666	0	0		
106111	450	1458	0.88	11/1/2013 15:07	-410.666	0	-410.687	0.877153	0.220008
	350		0.97	11/1/2013 15:07	-410.666	0	0		
	250		1.03	11/1/2013 15:07	-410.666	0	0		
	150		0.89	11/1/2013 15:07	-410.666	0	0		
	50		0.03	11/1/2013 15:07	-410.666	0	0		
106117	450	1511	0.84	11/1/2013 15:07	-410.666	-410.657	0	0.76571	0.108565
	350		0.92	11/1/2013 15:07	-410.666	0	0		
	250		0.92	11/1/2013 15:07	-410.666	0	0		
	150		0.76	11/1/2013 15:07	-410.666	0	0		
	50		0.15	11/1/2013 15:07	-410.666	0	0		
106128	450	1508	0.81	11/1/2013 15:07	-410.666	-410.664	0	0.761427	0.104282
	350		0.89	11/1/2013 15:07	-410.666	0	0		
	250		0.96	11/1/2013 15:07	-410.666	0	0		
	150		0.76	11/1/2013 15:07	-410.666	0	0		
	50		0.09	11/1/2013 15:07	-410.666	0	0		
106118	450	1501	0.88	11/1/2013 15:07	-410.666	0	-410.68	0.811435	0.15429
	350		0.92	11/1/2013 15:07	-410.666	0	0		
	250		0.91	11/1/2013 15:07	-410.666	0	0		

	150			0.82	11/1/2013 15:07	-410.666	0	0		
	50			-0.05	11/1/2013 15:07	-410.666	0	0		
106113	450		1505	0.83	11/1/2013 15:07	-410.666	0	-410.671	0.657145	0
	350			0.87	11/1/2013 15:07	-410.666	0	0		
	250			0.81	11/1/2013 15:07	-410.666	0	0		
	150			0.66	11/1/2013 15:07	-410.666	0	0		
	50			-0.09	11/1/2013 15:07	-410.666	0	0		
106119	450		1534	0.84	11/1/2013 15:36	-410.601	0	-410.605	0.997145	0.361435
	350			0.96	11/1/2013 15:36	-410.601	0	0		
	250			1.24	11/1/2013 15:36	-410.601	0	0		
	150			1	11/1/2013 15:36	-410.601	0	0		
	50			0.03	11/1/2013 15:36	-410.601	0	0		
106111	450		1526	0.9	11/1/2013 15:36	-410.601	0	-410.623	0.935725	0.300015
	350			1	11/1/2013 15:36	-410.601	0	0		
	250			1.07	11/1/2013 15:36	-410.601	0	0		
	150			0.95	11/1/2013 15:36	-410.601	0	0		
	50			0.12	11/1/2013 15:36	-410.601	0	0		
106117	450		1537	0.8	11/1/2013 15:36	-410.601	-410.598	0	0.711427	0.075718
	350			0.84	11/1/2013 15:36	-410.601	0	0		
	250			0.89	11/1/2013 15:36	-410.601	0	0		
	150			0.71	11/1/2013 15:36	-410.601	0	0		
	50			0.11	11/1/2013 15:36	-410.601	0	0		
106128	450		1543	0.8	11/1/2013 15:36	-410.601	-410.585	0	0.769992	0.134282
	350			0.88	11/1/2013 15:36	-410.601	0	0		
	250			0.94	11/1/2013 15:36	-410.601	0	0		
	150			0.76	11/1/2013 15:36	-410.601	0	0		
	50			0.15	11/1/2013 15:36	-410.601	0	0		
106118	450		1530	0.88	11/1/2013 15:36	-410.601	0	-410.614	0.821435	0.185725
	350			0.91	11/1/2013 15:36	-410.601	0	0		
	250			0.91	11/1/2013 15:36	-410.601	0	0		
	150			0.83	11/1/2013 15:36	-410.601	0	0		
	50			-0.02	11/1/2013 15:36	-410.601	0	0		
106113	450		1540	0.84	11/1/2013 15:36	-410.601	-410.592	0	0.63571	0
	350			0.86	11/1/2013 15:36	-410.601	0	0		
	250			0.78	11/1/2013 15:36	-410.601	0	0		
	150			0.63	11/1/2013 15:36	-410.601	0	0		
	50			-0.08	11/1/2013 15:36	-410.601	0	0		
106119	450		1558	0.83	11/1/2013 16:00	-410.592	0	-410.587	1.002855	0.318565
	350			0.97	11/1/2013 16:00	-410.592	0	0		
	250			1.24	11/1/2013 16:00	-410.592	0	0		
	150			1	11/1/2013 16:00	-410.592	0	0		
	50			0.03	11/1/2013 16:00	-410.592	0	0		
106111	450		1550	0.84	11/1/2013 16:00	-410.592	0	-410.569	0.914275	0.229985
	350			0.94	11/1/2013 16:00	-410.592	0	0		
	250			1.02	11/1/2013 16:00	-410.592	0	0		
	150			0.9	11/1/2013 16:00	-410.592	0	0		
	50			0.09	11/1/2013 16:00	-410.592	0	0		

106117	450	1601	0.8	11/1/2013 16:00	-410.592	-410.594	0	0.698573	0.014282
	350		0.86	11/1/2013 16:00	-410.592	0	0		
	250		0.88	11/1/2013 16:00	-410.592	0	0		
	150		0.7	11/1/2013 16:00	-410.592	0	0		
	50		0.17	11/1/2013 16:00	-410.592	0	0		
106128	450	1608	0.76	11/1/2013 16:00	-410.592	-410.61	0	0.72858	0.04429
	350		0.86	11/1/2013 16:00	-410.592	0	0		
	250		0.91	11/1/2013 16:00	-410.592	0	0		
	150		0.74	11/1/2013 16:00	-410.592	0	0		
	50		0.12	11/1/2013 16:00	-410.592	0	0		
106118	450	1534	0.83	11/1/2013 16:00	-410.592	0	-410.669	0.751466	0.067176
	350		0.87	11/1/2013 16:00	-410.592	0	0		
	250		0.78	11/1/2013 16:00	-410.592	0	0		
	150		0.8	11/1/2013 16:00	-410.592	0	0		
	50		0.01	11/1/2013 16:00	-410.592	0	0		
106113	450	1604	0.81	11/1/2013 16:00	-410.592	-410.601	0	0.68429	0
	350		0.84	11/1/2013 16:00	-410.592	0	0		
	250		0.8	11/1/2013 16:00	-410.592	0	0		
	150		0.69	11/1/2013 16:00	-410.592	0	0		
	50		-0.05	11/1/2013 16:00	-410.592	0	0		
106119	450	1639	0.89	11/1/2013 16:34	-410.669	-410.68	0	1.062863	0.390008
	350		1.03	11/1/2013 16:34	-410.669	0	0		
	250		1.31	11/1/2013 16:34	-410.669	0	0		
	150		1.07	11/1/2013 16:34	-410.669	0	0		
	50		0.1	11/1/2013 16:34	-410.669	0	0		
106111	450	1626	0.9	11/1/2013 16:34	-410.669	0	-410.651	0.94142	0.268565
	350		1.04	11/1/2013 16:34	-410.669	0	0		
	250		1.02	11/1/2013 16:34	-410.669	0	0		
	150		0.93	11/1/2013 16:34	-410.669	0	0		
	50		0.16	11/1/2013 16:34	-410.669	0	0		
106117	450	1637	0.87	11/1/2013 16:34	-410.669	-410.675	0	0.805718	0.132863
	350		0.95	11/1/2013 16:34	-410.669	0	0		
	250		0.98	11/1/2013 16:34	-410.669	0	0		
	150		0.81	11/1/2013 16:34	-410.669	0	0		
	50		0.24	11/1/2013 16:34	-410.669	0	0		
106128	450	1635	0.8	11/1/2013 16:34	-410.669	-410.671	0	0.778573	0.105718
	350		0.9	11/1/2013 16:34	-410.669	0	0		
	250		0.96	11/1/2013 16:34	-410.669	0	0		
	150		0.78	11/1/2013 16:34	-410.669	0	0		
	50		0.16	11/1/2013 16:34	-410.669	0	0		
106118	450	1629	0.9	11/1/2013 16:34	-410.669	0	-410.657	0.827137	0.154282
	350		0.91	11/1/2013 16:34	-410.669	0	0		
	250		0.97	11/1/2013 16:34	-410.669	0	0		
	150		0.82	11/1/2013 16:34	-410.669	0	0		
	50		0.03	11/1/2013 16:34	-410.669	0	0		
106113	450	1632	0.84	11/1/2013 16:34	-410.669	0	-410.664	0.672855	0
	350		0.89	11/1/2013 16:34	-410.669	0	0		

	250		0.84	11/1/2013 16:34	-410.669	0	0		
	150		0.67	11/1/2013 16:34	-410.669	0	0		
	50		0	11/1/2013 16:34	-410.669	0	0		
106119	450	1659	0.97	11/1/2013 17:01	-410.73	0	-410.725	1.172855	0.349992
	350		1.12	11/1/2013 17:01	-410.73	0	0		
	250		1.4	11/1/2013 17:01	-410.73	0	0		
	150		1.17	11/1/2013 17:01	-410.73	0	0		
	50		0.18	11/1/2013 17:01	-410.73	0	0		
106111	450	1650	0.97	11/1/2013 17:01	-410.73	0	-410.705	1.075702	0.25284
	350		1.08	11/1/2013 17:01	-410.73	0	0		
	250		1.16	11/1/2013 17:01	-410.73	0	0		
	150		1.06	11/1/2013 17:01	-410.73	0	0		
	50		0.24	11/1/2013 17:01	-410.73	0	0		
106117	450	1702	0.91	11/1/2013 17:01	-410.73	-410.732	0	0.928573	0.10571
	350		1.04	11/1/2013 17:01	-410.73	0	0		
	250		1.06	11/1/2013 17:01	-410.73	0	0		
	150		0.93	11/1/2013 17:01	-410.73	0	0		
	50		0.32	11/1/2013 17:01	-410.73	0	0		
106128	450	1709	0.91	11/1/2013 17:01	-410.73	-410.748	0	0.92858	0.105718
	350		1.01	11/1/2013 17:01	-410.73	0	0		
	250		1.1	11/1/2013 17:01	-410.73	0	0		
	150		0.94	11/1/2013 17:01	-410.73	0	0		
	50		0.28	11/1/2013 17:01	-410.73	0	0		
106118	450	1655	1.02	11/1/2013 17:01	-410.73	0	-410.716	0.988565	0.165702
	350		1.04	11/1/2013 17:01	-410.73	0	0		
	250		1.03	11/1/2013 17:01	-410.73	0	0		
	150		0.98	11/1/2013 17:01	-410.73	0	0		
	50		0.16	11/1/2013 17:01	-410.73	0	0		
106113	450	1706	0.96	11/1/2013 17:01	-410.73	-410.741	0	0.822863	0
	350		1.02	11/1/2013 17:01	-410.73	0	0		
	250		0.95	11/1/2013 17:01	-410.73	0	0		
	150		0.83	11/1/2013 17:01	-410.73	0	0		
	50		0.1	11/1/2013 17:01	-410.73	0	0		
106119	450	1729	1.01	11/1/2013 17:31	-410.798	0	-410.793	1.212855	0.369992
	350		1.14	11/1/2013 17:31	-410.798	0	0		
	250		1.45	11/1/2013 17:31	-410.798	0	0		
	150		1.21	11/1/2013 17:31	-410.798	0	0		
	50		0.17	11/1/2013 17:31	-410.798	0	0		
106111	450	1720	1.05	11/1/2013 17:31	-410.798	0	-410.773	1.135702	0.29284
	350		1.18	11/1/2013 17:31	-410.798	0	0		
	250		1.21	11/1/2013 17:31	-410.798	0	0		
	150		1.12	11/1/2013 17:31	-410.798	0	0		
	50		0.26	11/1/2013 17:31	-410.798	0	0		
106117	450	1732	0.95	11/1/2013 17:31	-410.798	-410.8	0	0.938573	0.09571
	350		1.06	11/1/2013 17:31	-410.798	0	0		
	250		1.13	11/1/2013 17:31	-410.798	0	0		
	150		0.94	11/1/2013 17:31	-410.798	0	0		

	50			0.3	11/1/2013 17:31	-410.798	0	0		
106128	450		1740	0.96	11/1/2013 17:31	-410.798	-410.818	0	0.967153	0.12429
	350			1.05	11/1/2013 17:31	-410.798	0	0		
	250			1.15	11/1/2013 17:31	-410.798	0	0		
	150			0.98	11/1/2013 17:31	-410.798	0	0		
	50			0.3	11/1/2013 17:31	-410.798	0	0		
106118	450		1724	1.05	11/1/2013 17:31	-410.798	0	-410.782	1.019992	0.17713
	350			1.1	11/1/2013 17:31	-410.798	0	0		
	250			1.09	11/1/2013 17:31	-410.798	0	0		
	150			1.01	11/1/2013 17:31	-410.798	0	0		
	50			0.15	11/1/2013 17:31	-410.798	0	0		
106113	450		1736	0.98	11/1/2013 17:31	-410.798	-410.809	0	0.842863	0
	350			1.04	11/1/2013 17:31	-410.798	0	0		
	250			0.97	11/1/2013 17:31	-410.798	0	0		
	150			0.85	11/1/2013 17:31	-410.798	0	0		
	50			0.05	11/1/2013 17:31	-410.798	0	0		

Well ID	Depth	Minimum distance to extraction well	Distance to 106160 (ft)	Monitoring round	Time	Vacuum (ir	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences
106119	450				804	1.22	11/1/2013 8:34	-410.868	0	-410.664	0.390785	
	350					1.28	11/1/2013 8:34	-410.868	0	0		
	250					1.31	11/1/2013 8:34	-410.868	0	0		
	150					1.26	11/1/2013 8:34	-410.868	0	0		
	50					0.35	11/1/2013 8:34	-410.868	0	0		
106111	450				818	1.29	11/1/2013 8:34	-410.868	0	-410.759	0.521752	
	350					1.45	11/1/2013 8:34	-410.868	0	0		
	250					1.45	11/1/2013 8:34	-410.868	0	0		
	150					1.38	11/1/2013 8:34	-410.868	0	0		
	50					0.5	11/1/2013 8:34	-410.868	0	0		
106117	450				841	1.44	11/1/2013 8:34	-410.868	-410.916	0	0.650483	
	350					1.49	11/1/2013 8:34	-410.868	0	0		
	250					1.49	11/1/2013 8:34	-410.868	0	0		
	150					1.39	11/1/2013 8:34	-410.868	0	0		
	50					0.66	11/1/2013 8:34	-410.868	0	0		
106128	450				846	1.48	11/1/2013 8:34	-410.868	-410.95	0	0.673686	
	350					1.53	11/1/2013 8:34	-410.868	0	0		
	250					1.58	11/1/2013 8:34	-410.868	0	0		
	150					1.46	11/1/2013 8:34	-410.868	0	0		
	50					0.69	11/1/2013 8:34	-410.868	0	0		
106118	450				834	1.46	11/1/2013 8:34	-410.868	-410.868	0	0.46	
	350					1.51	11/1/2013 8:34	-410.868	0	0		
	250					1.53	11/1/2013 8:34	-410.868	0	0		
	150					1.48	11/1/2013 8:34	-410.868	0	0		
	50					0.46	11/1/2013 8:34	-410.868	0	0		
106113	450					1.54	11/1/2013 8:34	-410.868	0	0		NA
	350					1.58	11/1/2013 8:34	-410.868	0	0		
	250					1.6	11/1/2013 8:34	-410.868	0	0		
	150					1.54	11/1/2013 8:34	-410.868	0	0		
	50					0.46	11/1/2013 8:34	-410.868	0	0		
106119	450				1029	1.74	11/1/2013 10:31	-411.521	0	-411.521	0.27	0
	350					1.84	11/1/2013 10:31	-411.521	0	0		
	250					2.04	11/1/2013 10:31	-411.521	0	0		
	150					1.76	11/1/2013 10:31	-411.521	0	0		
	50					0.27	11/1/2013 10:31	-411.521	0	0		
106111	450				1020	1.78	11/1/2013 10:31	-411.521	0	-411.521	0.4	0.13
	350					1.89	11/1/2013 10:31	-411.521	0	0		
	250					1.9	11/1/2013 10:31	-411.521	0	0		
	150					1.73	11/1/2013 10:31	-411.521	0	0		
	50					0.4	11/1/2013 10:31	-411.521	0	0		
106117	450				1033	1.7	11/1/2013 10:31	-411.521	-411.521	0	0.57	0.3

	350		1.76	11/1/2013 10:31	-411.521	0	0		
	250		1.76	11/1/2013 10:31	-411.521	0	0		
	150		1.56	11/1/2013 10:31	-411.521	0	0		
	50		0.57	11/1/2013 10:31	-411.521	0	0		
106128	450	1038	1.66	11/1/2013 10:31	-411.521	-411.521	0	0.58	0.31
	350		1.76	11/1/2013 10:31	-411.521	0	0		
	250		1.83	11/1/2013 10:31	-411.521	0	0		
	150		1.57	11/1/2013 10:31	-411.521	0	0		
	50		0.58	11/1/2013 10:31	-411.521	0	0		
106118	450	1024	1.83	11/1/2013 10:31	-411.521	0	-411.521	0.3	0.03
	350		1.81	11/1/2013 10:31	-411.521	0	0		
	250		1.8	11/1/2013 10:31	-411.521	0	0		
	150		1.74	11/1/2013 10:31	-411.521	0	0		
	50		0.3	11/1/2013 10:31	-411.521	0	0		
106113	450	1042	1.8	11/1/2013 10:31	-411.521	-411.521	0	0.27	0
	350		1.8	11/1/2013 10:31	-411.521	0	0		
	250		1.78	11/1/2013 10:31	-411.521	0	0		
	150		1.66	11/1/2013 10:31	-411.521	0	0		
	50		0.27	11/1/2013 10:31	-411.521	0	0		
106119	450	1113	1.77	11/1/2013 11:07	-411.482	-411.469	0	0.232719	-0.04637
	350		1.9	11/1/2013 11:07	-411.482	0	0		
	250		2.11	11/1/2013 11:07	-411.482	0	0		
	150		1.78	11/1/2013 11:07	-411.482	0	0		
	50		0.23	11/1/2013 11:07	-411.482	0	0		
106111	450	1056	1.76	11/1/2013 11:07	-411.482	0	-411.507	0.415015	0.135922
	350		1.9	11/1/2013 11:07	-411.482	0	0		
	250		1.92	11/1/2013 11:07	-411.482	0	0		
	150		1.74	11/1/2013 11:07	-411.482	0	0		
	50		0.42	11/1/2013 11:07	-411.482	0	0		
106117	450	1111	1.76	11/1/2013 11:07	-411.482	-411.473	0	0.571813	0.292719
	350		1.81	11/1/2013 11:07	-411.482	0	0		
	250		1.82	11/1/2013 11:07	-411.482	0	0		
	150		1.59	11/1/2013 11:07	-411.482	0	0		
	50		0.57	11/1/2013 11:07	-411.482	0	0		
106128	450	1108	1.72	11/1/2013 11:07	-411.482	-411.48	0	0.570453	0.29136
	350		1.79	11/1/2013 11:07	-411.482	0	0		
	250		1.86	11/1/2013 11:07	-411.482	0	0		
	150		1.62	11/1/2013 11:07	-411.482	0	0		
	50		0.57	11/1/2013 11:07	-411.482	0	0		
106118	450	1100	1.84	11/1/2013 11:07	-411.482	0	-411.498	0.286828	0.007734
	350		1.86	11/1/2013 11:07	-411.482	0	0		
	250		1.76	11/1/2013 11:07	-411.482	0	0		
	150		1.71	11/1/2013 11:07	-411.482	0	0		
	50		0.29	11/1/2013 11:07	-411.482	0	0		
106113	450	1105	1.78	11/1/2013 11:07	-411.482	0	-411.487	0.279094	0
	350		1.84	11/1/2013 11:07	-411.482	0	0		
	250		1.82	11/1/2013 11:07	-411.482	0	0		

	150		1.68	11/1/2013 11:07	-411.482	0	0		
	50		0.28	11/1/2013 11:07	-411.482	0	0		
106119	450	1130	1.67	11/1/2013 11:32	-411.425	0	-411.43	0.159094	-0.00317
	350		1.81	11/1/2013 11:32	-411.425	0	0		
	250		2.02	11/1/2013 11:32	-411.425	0	0		
	150		1.69	11/1/2013 11:32	-411.425	0	0		
	50		0.16	11/1/2013 11:32	-411.425	0	0		
106111	450	1120	1.81	11/1/2013 11:32	-411.425	0	-411.453	0.404562	0.242296
	350		1.91	11/1/2013 11:32	-411.425	0	0		
	250		1.94	11/1/2013 11:32	-411.425	0	0		
	150		1.75	11/1/2013 11:32	-411.425	0	0		
	50		0.41	11/1/2013 11:32	-411.425	0	0		
106117	450	1133	1.65	11/1/2013 11:32	-411.425	-411.423	0	0.470453	0.308187
	350		1.71	11/1/2013 11:32	-411.425	0	0		
	250		1.73	11/1/2013 11:32	-411.425	0	0		
	150		1.46	11/1/2013 11:32	-411.425	0	0		
	50		0.47	11/1/2013 11:32	-411.425	0	0		
106128	450	1141	1.58	11/1/2013 11:32	-411.425	-411.405	0	0.454078	0.291813
	350		1.68	11/1/2013 11:32	-411.425	0	0		
	250		1.73	11/1/2013 11:32	-411.425	0	0		
	150		1.5	11/1/2013 11:32	-411.425	0	0		
	50		0.45	11/1/2013 11:32	-411.425	0	0		
106118	450	1125	1.81	11/1/2013 11:32	-411.425	0	-411.441	0.216828	0.054562
	350		1.82	11/1/2013 11:32	-411.425	0	0		
	250		1.8	11/1/2013 11:32	-411.425	0	0		
	150		1.69	11/1/2013 11:32	-411.425	0	0		
	50		0.22	11/1/2013 11:32	-411.425	0	0		
106113	450	1137	1.7	11/1/2013 11:32	-411.425	-411.414	0	0.162266	0
	350		1.74	11/1/2013 11:32	-411.425	0	0		
	250		1.7	11/1/2013 11:32	-411.425	0	0		
	150		1.56	11/1/2013 11:32	-411.425	0	0		
	50		0.16	11/1/2013 11:32	-411.425	0	0		
106119	450	1212	1.52	11/1/2013 12:06	-411.348	-411.335	0	0.072719	-0.02637
	350		1.65	11/1/2013 12:06	-411.348	0	0		
	250		1.87	11/1/2013 12:06	-411.348	0	0		
	150		1.54	11/1/2013 12:06	-411.348	0	0		
	50		0.07	11/1/2013 12:06	-411.348	0	0		
106111	450	1157	1.67	11/1/2013 12:06	-411.348	0	-411.369	0.305921	0.206828
	350		1.78	11/1/2013 12:06	-411.348	0	0		
	250		1.8	11/1/2013 12:06	-411.348	0	0		
	150		1.61	11/1/2013 12:06	-411.348	0	0		
	50		0.31	11/1/2013 12:06	-411.348	0	0		
106117	450	1209	1.53	11/1/2013 12:06	-411.348	-411.342	0	0.391359	0.292266
	350		1.58	11/1/2013 12:06	-411.348	0	0		
	250		1.6	11/1/2013 12:06	-411.348	0	0		
	150		1.37	11/1/2013 12:06	-411.348	0	0		
	50		0.39	11/1/2013 12:06	-411.348	0	0		

106128	450	1207	1.53	11/1/2013 12:06	-411.348	-411.346	0	0.400453	0.30136
	350		1.61	11/1/2013 12:06	-411.348	0	0		
	250		1.66	11/1/2013 12:06	-411.348	0	0		
	150		1.41	11/1/2013 12:06	-411.348	0	0		
	50		0.4	11/1/2013 12:06	-411.348	0	0		
106118	450	1200	1.68	11/1/2013 12:06	-411.348	0	-411.362	0.127281	0.028187
	350		1.7	11/1/2013 12:06	-411.348	0	0		
	250		1.66	11/1/2013 12:06	-411.348	0	0		
	150		1.51	11/1/2013 12:06	-411.348	0	0		
	50		0.13	11/1/2013 12:06	-411.348	0	0		
106113	450	1204	1.6	11/1/2013 12:06	-411.348	0	-411.353	0.099094	0
	350		1.64	11/1/2013 12:06	-411.348	0	0		
	250		1.61	11/1/2013 12:06	-411.348	0	0		
	150		1.43	11/1/2013 12:06	-411.348	0	0		
	50		0.1	11/1/2013 12:06	-411.348	0	0		
106119	450	1228	1.42	11/1/2013 12:30	-411.294	0	-411.299	0.009094	0.006828
	350		1.58	11/1/2013 12:30	-411.294	0	0		
	250		1.29	11/1/2013 12:30	-411.294	0	0		
	150		1.45	11/1/2013 12:30	-411.294	0	0		
	50		0.01	11/1/2013 12:30	-411.294	0	0		
106111	450	1220	1.56	11/1/2013 12:30	-411.294	0	-411.317	0.245468	0.243202
	350		1.67	11/1/2013 12:30	-411.294	0	0		
	250		1.69	11/1/2013 12:30	-411.294	0	0		
	150		1.52	11/1/2013 12:30	-411.294	0	0		
	50		0.25	11/1/2013 12:30	-411.294	0	0		
106117	450	1232	1.42	11/1/2013 12:30	-411.294	-411.29	0	0.280906	0.27864
	350		1.48	11/1/2013 12:30	-411.294	0	0		
	250		1.47	11/1/2013 12:30	-411.294	0	0		
	150		1.23	11/1/2013 12:30	-411.294	0	0		
	50		0.28	11/1/2013 12:30	-411.294	0	0		
106128	450	1239	1.29	11/1/2013 12:30	-411.294	-411.274	0	0.314079	0.311813
	350		1.46	11/1/2013 12:30	-411.294	0	0		
	250		1.54	11/1/2013 12:30	-411.294	0	0		
	150		1.3	11/1/2013 12:30	-411.294	0	0		
	50		0.31	11/1/2013 12:30	-411.294	0	0		
106118	450	1223	1.42	11/1/2013 12:30	-411.294	0	-411.31	0.046828	0.044562
	350		1.58	11/1/2013 12:30	-411.294	0	0		
	250		1.55	11/1/2013 12:30	-411.294	0	0		
	150		1.44	11/1/2013 12:30	-411.294	0	0		
	50		0.05	11/1/2013 12:30	-411.294	0	0		
106113	450	1235	1.46	11/1/2013 12:30	-411.294	-411.283	0	0.002266	0
	350		1.49	11/1/2013 12:30	-411.294	0	0		
	250		1.44	11/1/2013 12:30	-411.294	0	0		
	150		1.28	11/1/2013 12:30	-411.294	0	0		
	50		0	11/1/2013 12:30	-411.294	0	0		
106119	450	1317	1.18	11/1/2013 13:11	-411.058	-411.004	0	-0.02912	0.082689
	350		1.31	11/1/2013 13:11	-411.058	0	0		

	250		1.35	11/1/2013 13:11	-411.058	0	0		
	150		1.29	11/1/2013 13:11	-411.058	0	0		
	50		-0.04	11/1/2013 13:11	-411.058	0	0		
106111	450	1301	1.32	11/1/2013 13:11	-411.058	0	-411.149	0.081873	0.193686
	350		1.43	11/1/2013 13:11	-411.058	0	0		
	250		1.45	11/1/2013 13:11	-411.058	0	0		
	150		1.31	11/1/2013 13:11	-411.058	0	0		
	50		0.1	11/1/2013 13:11	-411.058	0	0		
106117	450	1314	1.19	11/1/2013 13:11	-411.058	-411.031	0	0.195438	0.307251
	350		1.25	11/1/2013 13:11	-411.058	0	0		
	250		1.1	11/1/2013 13:11	-411.058	0	0		
	150		1.03	11/1/2013 13:11	-411.058	0	0		
	50		0.19	11/1/2013 13:11	-411.058	0	0		
106128	450	1312	1.1	11/1/2013 13:11	-411.058	-411.049	0	0.161813	0.273625
	350		1.24	11/1/2013 13:11	-411.058	0	0		
	250		1.28	11/1/2013 13:11	-411.058	0	0		
	150		1.07	11/1/2013 13:11	-411.058	0	0		
	50		0.16	11/1/2013 13:11	-411.058	0	0		
106118	450	1304	1.15	11/1/2013 13:11	-411.058	0	-411.122	-0.06269	0.049124
	350		1.36	11/1/2013 13:11	-411.058	0	0		
	250		1.33	11/1/2013 13:11	-411.058	0	0		
	150		1.21	11/1/2013 13:11	-411.058	0	0		
	50		-0.05	11/1/2013 13:11	-411.058	0	0		
106113	450	1310	1.2	11/1/2013 13:11	-411.058	0	-411.067	-0.11181	0
	350		1.26	11/1/2013 13:11	-411.058	0	0		
	250		1.2	11/1/2013 13:11	-411.058	0	0		
	150		1.06	11/1/2013 13:11	-411.058	0	0		
	50		-0.11	11/1/2013 13:11	-411.058	0	0		
106119	450	1337	1.1	11/1/2013 13:32	-410.868	-410.823	0	-0.02094	0.142689
	350		1.22	11/1/2013 13:32	-410.868	0	0		
	250		1.52	11/1/2013 13:32	-410.868	0	0		
	150		1.2	11/1/2013 13:32	-410.868	0	0		
	50		-0.03	11/1/2013 13:32	-410.868	0	0		
106111	450	1323	1.18	11/1/2013 13:32	-410.868	0	-410.95	0.033686	0.197311
	350		1.29	11/1/2013 13:32	-410.868	0	0		
	250		1.32	11/1/2013 13:32	-410.868	0	0		
	150		1.17	11/1/2013 13:32	-410.868	0	0		
	50		0.05	11/1/2013 13:32	-410.868	0	0		
106117	450	1335	1.04	11/1/2013 13:32	-410.868	-410.841	0	0.135438	0.299063
	350		1.12	11/1/2013 13:32	-410.868	0	0		
	250		1.14	11/1/2013 13:32	-410.868	0	0		
	150		0.93	11/1/2013 13:32	-410.868	0	0		
	50		0.13	11/1/2013 13:32	-410.868	0	0		
106128	450	1333	1.01	11/1/2013 13:32	-410.868	-410.859	0	0.101813	0.265438
	350		1.12	11/1/2013 13:32	-410.868	0	0		
	250		1.16	11/1/2013 13:32	-410.868	0	0		
	150		0.94	11/1/2013 13:32	-410.868	0	0		

	50		0.1	11/1/2013 13:32	-410.868	0	0		
106118	450	1326	1.17	11/1/2013 13:32	-410.868	0	-410.922	-0.12088	0.042749
	350		1.21	11/1/2013 13:32	-410.868	0	0		
	250		1.66	11/1/2013 13:32	-410.868	0	0		
	150		1.12	11/1/2013 13:32	-410.868	0	0		
	50		-0.11	11/1/2013 13:32	-410.868	0	0		
106113	450	1330	1.08	11/1/2013 13:32	-410.868	0	-410.886	-0.16363	0
	350		1.13	11/1/2013 13:32	-410.868	0	0		
	250		1.09	11/1/2013 13:32	-410.868	0	0		
	150		0.89	11/1/2013 13:32	-410.868	0	0		
	50		-0.16	11/1/2013 13:32	-410.868	0	0		
106119	450	1405	0.9	11/1/2013 14:07	-410.705	0	-410.705	-0.09	0.11
	350		1.03	11/1/2013 14:07	-410.705	0	0		
	250		1.28	11/1/2013 14:07	-410.705	0	0		
	150		1.01	11/1/2013 14:07	-410.705	0	0		
	50		-0.09	11/1/2013 14:07	-410.705	0	0		
106111	450	1355	1	11/1/2013 14:07	-410.705	0	-410.705	0	0.2
	350		1.13	11/1/2013 14:07	-410.705	0	0		
	250		1.16	11/1/2013 14:07	-410.705	0	0		
	150		1.01	11/1/2013 14:07	-410.705	0	0		
	50		0	11/1/2013 14:07	-410.705	0	0		
106117	450	1408	0.87	11/1/2013 14:07	-410.705	-410.705	0	0.07	0.27
	350		0.92	11/1/2013 14:07	-410.705	0	0		
	250		0.94	11/1/2013 14:07	-410.705	0	0		
	150		0.75	11/1/2013 14:07	-410.705	0	0		
	50		0.07	11/1/2013 14:07	-410.705	0	0		
106128	450	1416	0.84	11/1/2013 14:07	-410.705	-410.705	0	0.09	0.29
	350		0.95	11/1/2013 14:07	-410.705	0	0		
	250		1.01	11/1/2013 14:07	-410.705	0	0		
	150		0.82	11/1/2013 14:07	-410.705	0	0		
	50		0.09	11/1/2013 14:07	-410.705	0	0		
106118	450	1400	0.94	11/1/2013 14:07	-410.705	0	-410.705	-0.19	0.01
	350		1	11/1/2013 14:07	-410.705	0	0		
	250		0.99	11/1/2013 14:07	-410.705	0	0		
	150		0.87	11/1/2013 14:07	-410.705	0	0		
	50		-0.19	11/1/2013 14:07	-410.705	0	0		
106113	450	1412	0.88	11/1/2013 14:07	-410.705	-410.705	0	-0.2	0
	350		0.91	11/1/2013 14:07	-410.705	0	0		
	250		0.86	11/1/2013 14:07	-410.705	0	0		
	150		0.68	11/1/2013 14:07	-410.705	0	0		
	50		-0.2	11/1/2013 14:07	-410.705	0	0		
106119	450	1435	0.91	11/1/2013 14:37	-410.705	0	-410.705	0	0.1
	350		1.04	11/1/2013 14:37	-410.705	0	0		
	250		1.31	11/1/2013 14:37	-410.705	0	0		
	150		1.06	11/1/2013 14:37	-410.705	0	0		
	50		0	11/1/2013 14:37	-410.705	0	0		
106111	450	1427	0.95	11/1/2013 14:37	-410.705	0	-410.705	0.09	0.19

	350		1.07	11/1/2013 14:37	-410.705	0	0		
	250		1.13	11/1/2013 14:37	-410.705	0	0		
	150		1	11/1/2013 14:37	-410.705	0	0		
	50		0.09	11/1/2013 14:37	-410.705	0	0		
106117	450	1438	0.91	11/1/2013 14:37	-410.705	-410.705	0	0.15	0.25
	350		1	11/1/2013 14:37	-410.705	0	0		
	250		1.01	11/1/2013 14:37	-410.705	0	0		
	150		0.8	11/1/2013 14:37	-410.705	0	0		
	50		0.15	11/1/2013 14:37	-410.705	0	0		
106128	450	1445	0.82	11/1/2013 14:37	-410.705	-410.705	0	0.05	0.15
	350		0.9	11/1/2013 14:37	-410.705	0	0		
	250		0.95	11/1/2013 14:37	-410.705	0	0		
	150		0.74	11/1/2013 14:37	-410.705	0	0		
	50		0.05	11/1/2013 14:37	-410.705	0	0		
106118	450	1432	0.92	11/1/2013 14:37	-410.705	0	-410.705	-0.05	0.05
	350		1	11/1/2013 14:37	-410.705	0	0		
	250		0.97	11/1/2013 14:37	-410.705	0	0		
	150		0.89	11/1/2013 14:37	-410.705	0	0		
	50		-0.05	11/1/2013 14:37	-410.705	0	0		
106113	450	1442	0.9	11/1/2013 14:37	-410.705	-410.705	0	-0.1	0
	350		0.93	11/1/2013 14:37	-410.705	0	0		
	250		0.87	11/1/2013 14:37	-410.705	0	0		
	150		0.73	11/1/2013 14:37	-410.705	0	0		
	50		-0.1	11/1/2013 14:37	-410.705	0	0		
106119	450	1513	0.87	11/1/2013 15:07	-410.666	-410.653	0	0.032719	0.123625
	350		1.01	11/1/2013 15:07	-410.666	0	0		
	250		1.27	11/1/2013 15:07	-410.666	0	0		
	150		1.01	11/1/2013 15:07	-410.666	0	0		
	50		0.03	11/1/2013 15:07	-410.666	0	0		
106111	450	1458	0.88	11/1/2013 15:07	-410.666	0	-410.687	0.025921	0.116828
	350		0.97	11/1/2013 15:07	-410.666	0	0		
	250		1.03	11/1/2013 15:07	-410.666	0	0		
	150		0.89	11/1/2013 15:07	-410.666	0	0		
	50		0.03	11/1/2013 15:07	-410.666	0	0		
106117	450	1511	0.84	11/1/2013 15:07	-410.666	-410.657	0	0.151813	0.242719
	350		0.92	11/1/2013 15:07	-410.666	0	0		
	250		0.92	11/1/2013 15:07	-410.666	0	0		
	150		0.76	11/1/2013 15:07	-410.666	0	0		
	50		0.15	11/1/2013 15:07	-410.666	0	0		
106128	450	1508	0.81	11/1/2013 15:07	-410.666	-410.664	0	0.090453	0.181359
	350		0.89	11/1/2013 15:07	-410.666	0	0		
	250		0.96	11/1/2013 15:07	-410.666	0	0		
	150		0.76	11/1/2013 15:07	-410.666	0	0		
	50		0.09	11/1/2013 15:07	-410.666	0	0		
106118	450	1501	0.88	11/1/2013 15:07	-410.666	0	-410.68	-0.05272	0.038187
	350		0.92	11/1/2013 15:07	-410.666	0	0		
	250		0.91	11/1/2013 15:07	-410.666	0	0		

	150			0.82	11/1/2013 15:07	-410.666	0	0		
	50			-0.05	11/1/2013 15:07	-410.666	0	0		
106113	450		1505	0.83	11/1/2013 15:07	-410.666	0	-410.671	-0.09091	0
	350			0.87	11/1/2013 15:07	-410.666	0	0		
	250			0.81	11/1/2013 15:07	-410.666	0	0		
	150			0.66	11/1/2013 15:07	-410.666	0	0		
	50			-0.09	11/1/2013 15:07	-410.666	0	0		
106119	450		1534	0.84	11/1/2013 15:36	-410.601	0	-410.605	0.029094	0.107281
	350			0.96	11/1/2013 15:36	-410.601	0	0		
	250			1.24	11/1/2013 15:36	-410.601	0	0		
	150			1	11/1/2013 15:36	-410.601	0	0		
	50			0.03	11/1/2013 15:36	-410.601	0	0		
106111	450		1526	0.9	11/1/2013 15:36	-410.601	0	-410.623	0.115468	0.193656
	350			1	11/1/2013 15:36	-410.601	0	0		
	250			1.07	11/1/2013 15:36	-410.601	0	0		
	150			0.95	11/1/2013 15:36	-410.601	0	0		
	50			0.12	11/1/2013 15:36	-410.601	0	0		
106117	450		1537	0.8	11/1/2013 15:36	-410.601	-410.598	0	0.110453	0.18864
	350			0.84	11/1/2013 15:36	-410.601	0	0		
	250			0.89	11/1/2013 15:36	-410.601	0	0		
	150			0.71	11/1/2013 15:36	-410.601	0	0		
	50			0.11	11/1/2013 15:36	-410.601	0	0		
106128	450		1543	0.8	11/1/2013 15:36	-410.601	-410.585	0	0.153172	0.23136
	350			0.88	11/1/2013 15:36	-410.601	0	0		
	250			0.94	11/1/2013 15:36	-410.601	0	0		
	150			0.76	11/1/2013 15:36	-410.601	0	0		
	50			0.15	11/1/2013 15:36	-410.601	0	0		
106118	450		1530	0.88	11/1/2013 15:36	-410.601	0	-410.614	-0.02272	0.055468
	350			0.91	11/1/2013 15:36	-410.601	0	0		
	250			0.91	11/1/2013 15:36	-410.601	0	0		
	150			0.83	11/1/2013 15:36	-410.601	0	0		
	50			-0.02	11/1/2013 15:36	-410.601	0	0		
106113	450		1540	0.84	11/1/2013 15:36	-410.601	-410.592	0	-0.07819	0
	350			0.86	11/1/2013 15:36	-410.601	0	0		
	250			0.78	11/1/2013 15:36	-410.601	0	0		
	150			0.63	11/1/2013 15:36	-410.601	0	0		
	50			-0.08	11/1/2013 15:36	-410.601	0	0		
106119	450		1558	0.83	11/1/2013 16:00	-410.592	0	-410.587	0.030906	0.082719
	350			0.97	11/1/2013 16:00	-410.592	0	0		
	250			1.24	11/1/2013 16:00	-410.592	0	0		
	150			1	11/1/2013 16:00	-410.592	0	0		
	50			0.03	11/1/2013 16:00	-410.592	0	0		
106111	450		1550	0.84	11/1/2013 16:00	-410.592	0	-410.569	0.094532	0.146344
	350			0.94	11/1/2013 16:00	-410.592	0	0		
	250			1.02	11/1/2013 16:00	-410.592	0	0		
	150			0.9	11/1/2013 16:00	-410.592	0	0		
	50			0.09	11/1/2013 16:00	-410.592	0	0		

106117	450	1601	0.8	11/1/2013 16:00	-410.592	-410.594	0	0.169547	0.22136
	350		0.86	11/1/2013 16:00	-410.592	0	0		
	250		0.88	11/1/2013 16:00	-410.592	0	0		
	150		0.7	11/1/2013 16:00	-410.592	0	0		
	50		0.17	11/1/2013 16:00	-410.592	0	0		
106128	450	1608	0.76	11/1/2013 16:00	-410.592	-410.61	0	0.116375	0.168187
	350		0.86	11/1/2013 16:00	-410.592	0	0		
	250		0.91	11/1/2013 16:00	-410.592	0	0		
	150		0.74	11/1/2013 16:00	-410.592	0	0		
	50		0.12	11/1/2013 16:00	-410.592	0	0		
106118	450	1534	0.83	11/1/2013 16:00	-410.592	0	-410.669	-0.00541	0.046405
	350		0.87	11/1/2013 16:00	-410.592	0	0		
	250		0.78	11/1/2013 16:00	-410.592	0	0		
	150		0.8	11/1/2013 16:00	-410.592	0	0		
	50		0.01	11/1/2013 16:00	-410.592	0	0		
106113	450	1604	0.81	11/1/2013 16:00	-410.592	-410.601	0	-0.05181	0
	350		0.84	11/1/2013 16:00	-410.592	0	0		
	250		0.8	11/1/2013 16:00	-410.592	0	0		
	150		0.69	11/1/2013 16:00	-410.592	0	0		
	50		-0.05	11/1/2013 16:00	-410.592	0	0		
106119	450	1639	0.89	11/1/2013 16:34	-410.669	-410.68	0	0.097734	0.096828
	350		1.03	11/1/2013 16:34	-410.669	0	0		
	250		1.31	11/1/2013 16:34	-410.669	0	0		
	150		1.07	11/1/2013 16:34	-410.669	0	0		
	50		0.1	11/1/2013 16:34	-410.669	0	0		
106111	450	1626	0.9	11/1/2013 16:34	-410.669	0	-410.651	0.163625	0.162719
	350		1.04	11/1/2013 16:34	-410.669	0	0		
	250		1.02	11/1/2013 16:34	-410.669	0	0		
	150		0.93	11/1/2013 16:34	-410.669	0	0		
	50		0.16	11/1/2013 16:34	-410.669	0	0		
106117	450	1637	0.87	11/1/2013 16:34	-410.669	-410.675	0	0.23864	0.237734
	350		0.95	11/1/2013 16:34	-410.669	0	0		
	250		0.98	11/1/2013 16:34	-410.669	0	0		
	150		0.81	11/1/2013 16:34	-410.669	0	0		
	50		0.24	11/1/2013 16:34	-410.669	0	0		
106128	450	1635	0.8	11/1/2013 16:34	-410.669	-410.671	0	0.159547	0.158641
	350		0.9	11/1/2013 16:34	-410.669	0	0		
	250		0.96	11/1/2013 16:34	-410.669	0	0		
	150		0.78	11/1/2013 16:34	-410.669	0	0		
	50		0.16	11/1/2013 16:34	-410.669	0	0		
106118	450	1629	0.9	11/1/2013 16:34	-410.669	0	-410.657	0.032266	0.03136
	350		0.91	11/1/2013 16:34	-410.669	0	0		
	250		0.97	11/1/2013 16:34	-410.669	0	0		
	150		0.82	11/1/2013 16:34	-410.669	0	0		
	50		0.03	11/1/2013 16:34	-410.669	0	0		
106113	450	1632	0.84	11/1/2013 16:34	-410.669	0	-410.664	0.000906	0
	350		0.89	11/1/2013 16:34	-410.669	0	0		

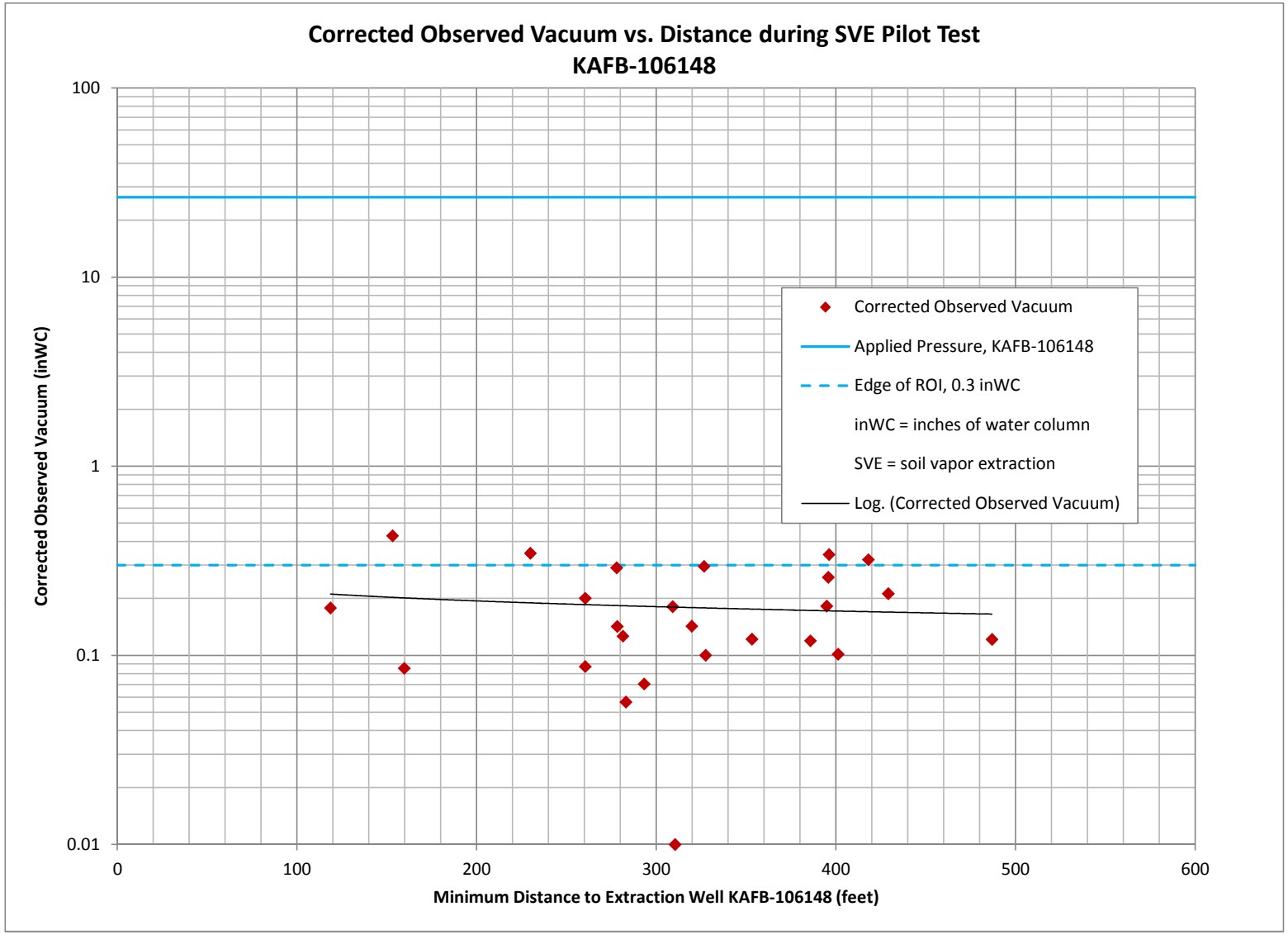
	250		0.84	11/1/2013 16:34	-410.669	0	0			
	150		0.67	11/1/2013 16:34	-410.669	0	0			
	50		0	11/1/2013 16:34	-410.669	0	0			
106119	450	1659	0.97	11/1/2013 17:01	-410.73	0	-410.725	0.180906	0.083172
	350		1.12	11/1/2013 17:01	-410.73	0	0		
	250		1.4	11/1/2013 17:01	-410.73	0	0		
	150		1.17	11/1/2013 17:01	-410.73	0	0		
	50		0.18	11/1/2013 17:01	-410.73	0	0		
106111	450	1650	0.97	11/1/2013 17:01	-410.73	0	-410.705	0.244985	0.147251
	350		1.08	11/1/2013 17:01	-410.73	0	0		
	250		1.16	11/1/2013 17:01	-410.73	0	0		
	150		1.06	11/1/2013 17:01	-410.73	0	0		
	50		0.24	11/1/2013 17:01	-410.73	0	0		
106117	450	1702	0.91	11/1/2013 17:01	-410.73	-410.732	0	0.319547	0.221813
	350		1.04	11/1/2013 17:01	-410.73	0	0		
	250		1.06	11/1/2013 17:01	-410.73	0	0		
	150		0.93	11/1/2013 17:01	-410.73	0	0		
	50		0.32	11/1/2013 17:01	-410.73	0	0		
106128	450	1709	0.91	11/1/2013 17:01	-410.73	-410.748	0	0.276375	0.17864
	350		1.01	11/1/2013 17:01	-410.73	0	0		
	250		1.1	11/1/2013 17:01	-410.73	0	0		
	150		0.94	11/1/2013 17:01	-410.73	0	0		
	50		0.28	11/1/2013 17:01	-410.73	0	0		
106118	450	1655	1.02	11/1/2013 17:01	-410.73	0	-410.716	0.162719	0.064985
	350		1.04	11/1/2013 17:01	-410.73	0	0		
	250		1.03	11/1/2013 17:01	-410.73	0	0		
	150		0.98	11/1/2013 17:01	-410.73	0	0		
	50		0.16	11/1/2013 17:01	-410.73	0	0		
106113	450	1706	0.96	11/1/2013 17:01	-410.73	-410.741	0	0.097734	0
	350		1.02	11/1/2013 17:01	-410.73	0	0		
	250		0.95	11/1/2013 17:01	-410.73	0	0		
	150		0.83	11/1/2013 17:01	-410.73	0	0		
	50		0.1	11/1/2013 17:01	-410.73	0	0		
106119	450	1729	1.01	11/1/2013 17:31	-410.798	0	-410.793	0.170906	0.123172
	350		1.14	11/1/2013 17:31	-410.798	0	0		
	250		1.45	11/1/2013 17:31	-410.798	0	0		
	150		1.21	11/1/2013 17:31	-410.798	0	0		
	50		0.17	11/1/2013 17:31	-410.798	0	0		
106111	450	1720	1.05	11/1/2013 17:31	-410.798	0	-410.773	0.264985	0.217251
	350		1.18	11/1/2013 17:31	-410.798	0	0		
	250		1.21	11/1/2013 17:31	-410.798	0	0		
	150		1.12	11/1/2013 17:31	-410.798	0	0		
	50		0.26	11/1/2013 17:31	-410.798	0	0		
106117	450	1732	0.95	11/1/2013 17:31	-410.798	-410.8	0	0.299547	0.251813
	350		1.06	11/1/2013 17:31	-410.798	0	0		
	250		1.13	11/1/2013 17:31	-410.798	0	0		
	150		0.94	11/1/2013 17:31	-410.798	0	0		

	50			0.3	11/1/2013 17:31	-410.798	0	0		
106128	450		1740	0.96	11/1/2013 17:31	-410.798	-410.818	0	0.295921	0.248187
	350			1.05	11/1/2013 17:31	-410.798	0	0		
	250			1.15	11/1/2013 17:31	-410.798	0	0		
	150			0.98	11/1/2013 17:31	-410.798	0	0		
	50			0.3	11/1/2013 17:31	-410.798	0	0		
106118	450		1724	1.05	11/1/2013 17:31	-410.798	0	-410.782	0.153172	0.105438
	350			1.1	11/1/2013 17:31	-410.798	0	0		
	250			1.09	11/1/2013 17:31	-410.798	0	0		
	150			1.01	11/1/2013 17:31	-410.798	0	0		
	50			0.15	11/1/2013 17:31	-410.798	0	0		
106113	450		1736	0.98	11/1/2013 17:31	-410.798	-410.809	0	0.047734	0
	350			1.04	11/1/2013 17:31	-410.798	0	0		
	250			0.97	11/1/2013 17:31	-410.798	0	0		
	150			0.85	11/1/2013 17:31	-410.798	0	0		
	50			0.05	11/1/2013 17:31	-410.798	0	0		

Well ID	Monitorin	10/4/2013_Time	Value	106113-450 measured	Applied Pressure
106148	1	0952	25	1.54	23.46
106148	2	1022	28	1.8	26.2
106148	3	1052	28	1.78	26.22
106148	4	1122	28	1.7	26.3
106148	5	1152	28	1.6	26.4
106148	6	1222	28	1.46	26.54
106148	7	1252	28	1.2	26.8
106148	8	1322	28	1.08	26.92
106148	9	1352	27	0.88	26.12
106148	10	1422	27.5	0.9	26.6
106148	11	1452	28	0.83	27.17
106148	12	1522	27	0.84	26.16
106148	13	1552	27	0.81	26.19
106148	14	1622	28	0.84	27.16
106148	15	1652	28	0.96	27.04
106148	16	1522	27	0.98	26.02

	106119	106111	106117	106128	106118	106113	106119	106111	106117	106128	106118	106113	106119	106111	106117	106128	106118	106113	106119
depth	450	450	450	450	450	450	350	350	350	350	350	350	250	250	250	250	250	250	150
Distance to 106148	159.7287	281.450103	283.1046	310.456	401.247	671.5955	118.6307	260.4988	260.4385	293.2284	385.8227	662.8595	153.2098	277.9561	278.2646	309.1649	394.8559	669.9145	229.9418
11/1/2013 8:34																			
11/1/2013 10:31	-0.06	-0.02	-0.1	-0.14	0.03		0.04	0.09	-0.04	-0.04	0.01		0.26	0.12	-0.02	0.05	0.02		0.1
11/1/2013 11:07	0.011752	-0.0352264	-0.0026	-0.04912	-0.04912		0.081752	0.044774	-0.0126	-0.03912	0.009124		0.302689	0.091118	0.010151	0.046344	-0.06634		0.114275
11/1/2013 11:32	-0.04523	0.0730216	-0.0587	-0.1113	0.083898		0.054774	0.133022	-0.0387	-0.0513	0.053898		0.311118	0.218429	0.024925	0.035075	0.084774		0.120008
11/1/2013 12:06	-0.0626	0.0547736	-0.05912	-0.06347	0.071299		0.027402	0.124774	-0.04912	-0.02347	0.051299		0.270151	0.181118	-0.00366	0.053807	0.044925		0.12142
11/1/2013 12:30	-0.05523	0.067372	-0.04653	-0.1613	-0.0661		0.074774	0.147372	-0.01653	-0.0213	0.063898		-0.15888	0.230967	0.026193	0.105075	0.094774		0.160008
11/1/2013 13:11	0.040906	0.0416928	0.024803	-0.0826	-0.1022		0.110906	0.091693	0.024803	-0.0026	0.047795		0.185528	0.204321	-0.0797	0.090151	0.099547		0.269969
11/1/2013 13:32	0.080906	0.0390944	0.003504	-0.0439	0.055197		0.150906	0.099094	0.033504	0.016102	0.045197		0.465528	0.194472	0.075377	0.085226	0.549698		0.349969
11/1/2013 14:07	0.02	0.12	-0.01	-0.04	0.06		0.12	0.22	0.01	0.04	0.09		0.42	0.3	0.08	0.15	0.13		0.33
11/1/2013 14:37	0.01	0.05	0.01	-0.08	0.02		0.11	0.14	0.07	-0.03	0.07		0.44	0.26	0.14	0.08	0.1		0.33
11/1/2013 15:07	0.057402	0.0347736	0.023051	-0.01347	0.041299		0.157402	0.084774	0.063051	0.026526	0.041299		0.470151	0.211118	0.117613	0.153807	0.094925		0.36142
11/1/2013 15:36	-0.01305	0.0295472	-0.04653	-0.03347	0.018248		0.086949	0.109547	-0.02653	0.026526	0.028248		0.452387	0.272236	0.106193	0.163807	0.117311		0.361435
11/1/2013 16:00	0.033051	0.0604528	-0.00347	-0.0587	-0.04526		0.143051	0.130453	0.026526	0.011299	-0.03526		0.447613	0.237764	0.083807	0.104925	-0.05807		0.318565
11/1/2013 16:34	0.034774	0.0730512	0.019124	-0.04653	0.066526		0.124774	0.163051	0.049124	0.003474	0.026526		0.461118	0.187613	0.133656	0.116193	0.133807		0.390008
11/1/2013 17:01	0.025226	0.0448032	-0.0413	-0.05653	0.083927		0.115226	0.094803	0.028701	-0.01653	0.043927		0.458882	0.230302	0.115075	0.146193	0.093958		0.349992
11/1/2013 17:31	0.045226	0.1048032	-0.0213	-0.0287	0.096102		0.115226	0.174803	0.028701	0.001299	0.086102		0.488882	0.260302	0.165075	0.174925	0.135226		0.369992
																			0.269804
	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

106111	106117	106128	106118	106113	106119	106111	106117	106128	106118	106113	
150	150	150	150	150	50	50	50	50	50	50	
326.5878	327.4591	353.2533	429.1843	691.7951	319.8019	395.7962	396.1432	418.0705	486.8923	726.7602	applied
											23.46
0.07	-0.1	-0.09	0.08		0	0.13	0.3	0.31	0.03		26.2
0.050008	-0.07858	-0.05286	0.022863		-0.04547	0.136828	0.293625	0.292266	0.007734		26.22
0.165733	-0.10571	-0.05429	0.11287		-0.00317	0.242296	0.308187	0.291813	0.054562		26.3
0.170008	-0.05286	-0.01572	0.07429		-0.02637	0.206828	0.292266	0.30136	0.028187		26.4
0.218588	-0.05428	0.02571	0.14287		0.006828	0.243202	0.27864	0.311813	0.044562		26.54
0.198611	-0.00716	0.02142	0.115741		0.082689	0.193686	0.307251	0.273625	0.049124		26.8
0.240031	0.06855	0.06713	0.20716		0.142689	0.197311	0.299063	0.265438	0.042749		26.92
0.33	0.07	0.14	0.19		0.11	0.2	0.27	0.29	0.01		26.12
0.27	0.07	0.01	0.16		0.1	0.19	0.25	0.15	0.05		26.6
0.220008	0.108565	0.104282	0.15429		0.123625	0.116828	0.242719	0.181359	0.038187		27.17
0.300015	0.075718	0.134282	0.185725		0.107281	0.193656	0.18864	0.23136	0.055468		26.16
0.229985	0.014282	0.04429	0.067176		0.082719	0.146344	0.22136	0.168187	0.046405		26.19
0.268565	0.132863	0.105718	0.154282		0.096828	0.162719	0.237734	0.158641	0.03136		27.16
0.25284	0.10571	0.105718	0.165702		0.083172	0.147251	0.221813	0.17864	0.064985		27.04
0.29284	0.09571	0.12429	0.17713		0.123172	0.217251	0.251813	0.248187	0.105438		26.02
0.218482	0.022853	0.044665	0.134007	#DIV/0!	0.065599	0.181613	0.264207	0.243513	0.043917	#DIV/0!	
x	x	x	x	x	x	x	x	x	x	x	x


Corrected Observed Vacuum vs. Distance during SVE Pilot Test
KAFB-106148
Corrected Observed Vacuum (inWC)
100
10
1
0.1
0.01
0
100
200
300
400
500
600
Minimum Distance to Extraction Well KAFB-106148 (feet)
Corrected Observed Vacuum
Applied Pressure, KAFB-106148
Edge of ROI, 0.3 inWC
inWC = inches of water column
SVE = soil vapor extraction
Log. (Corrected Observed Vacuum)

	Depth	Distance to 106148 (ft)	Avg. Diff from Null	Corrected Avg. Diff from Null
106119	450	159.7287	0.008209	0.085482
106111	450	281.4501	0.049211	0.126484
106117	450	283.1046	-0.0206	0.056669
106128	450	310.456	-0.06727	0.01
106118	450	401.247	0.024254	0.101527
106119	350	118.6307	0.100876	0.178149
106111	350	260.4988	0.123211	0.200484
106117	350	260.4385	0.010062	0.087335
106128	350	293.2284	-0.00661	0.070667
106118	350	385.8227	0.042137	0.11941
106119	250	153.2098	0.351678	0.428951
106111	250	277.9561	0.213317	0.29059
106117	250	278.2646	0.064981	0.142254
106128	250	309.1649	0.103702	0.180975
106118	250	394.8559	0.104969	0.182242
106119	150	229.9418	0.269804	0.347077
106111	150	326.5878	0.218482	0.295755
106117	150	327.4591	0.022853	0.100126
106128	150	353.2533	0.044665	0.121938
106118	150	429.1843	0.134768	0.212041
106119	50	319.8019	0.065599	0.142872
106111	50	395.7962	0.181613	0.258886
106117	50	396.1432	0.264207	0.34148
106128	50	418.0705	0.243513	0.320786
106118	50	486.8923	0.044159	0.121432

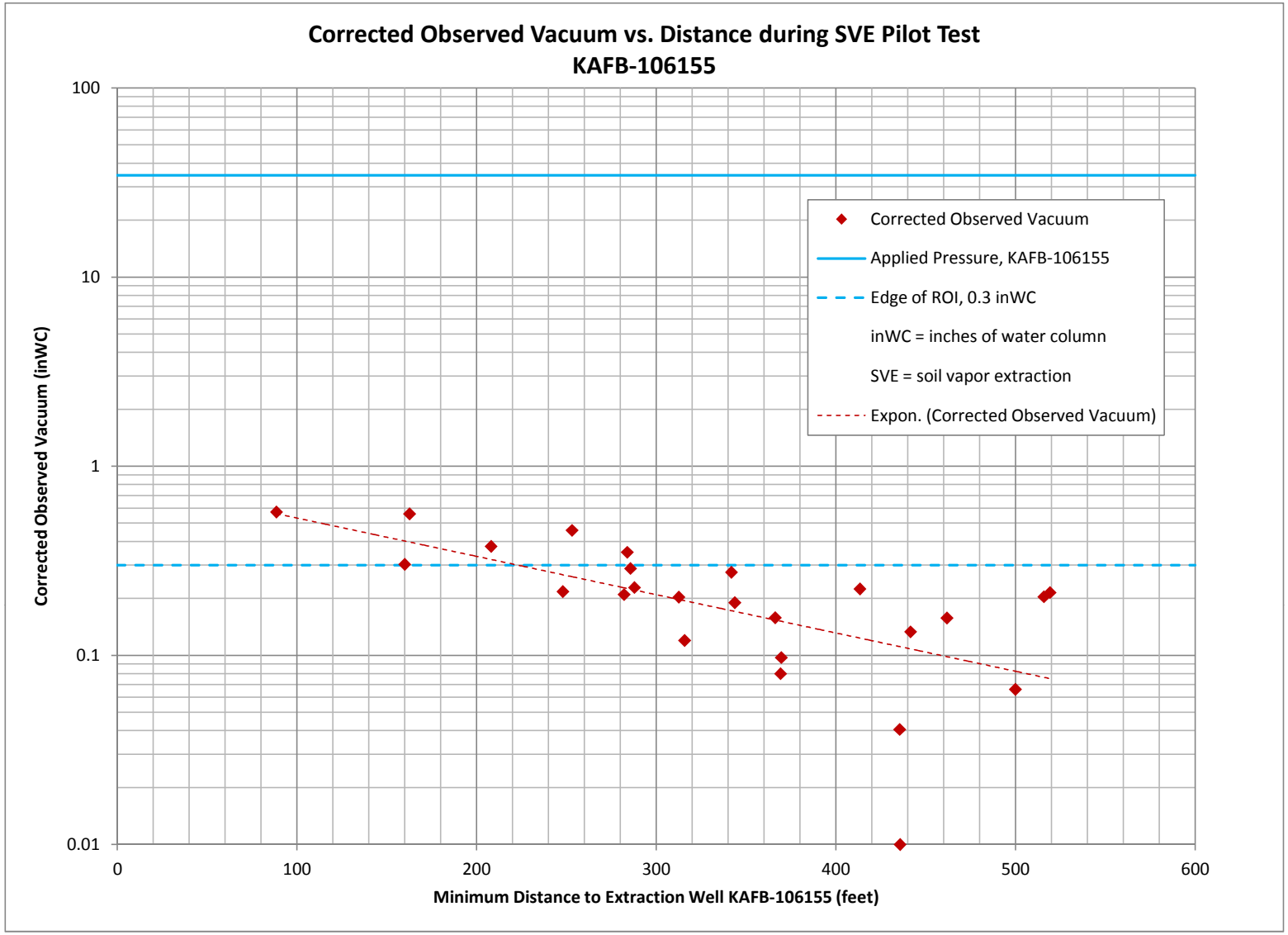
0	26.33125	26.40852
600	26.33125	26.40852
0	0.789938	0.792256
600	0.789938	0.792256

0.3
0.3

	Depth	Distance to 106148 (ft)	Avg. Diff fr	Corrected Avg. Diff from Null
106119	250	153.2098	0.351678	0.428951
106111	250	277.9561	0.213317	0.29059
106117	250	278.2646	0.064981	0.142254
106128	250	309.1649	0.103702	0.180975
106118	250	394.8559	0.104969	0.182242
106119	150	229.9418	0.269804	0.347077
106111	150	326.5878	0.218482	0.295755
106117	150	327.4591	0.022853	0.100126
106128	150	353.2533	0.044665	0.121938
106118	150	429.1843	0.134768	0.212041
106119	50	319.8019	0.065599	0.142872
106111	50	395.7962	0.181613	0.258886
106117	50	396.1432	0.264207	0.34148
106128	50	418.0705	0.243513	0.320786
106118	50	486.8923	0.044159	0.121432

0	26.33125	26.40852
600	26.33125	26.40852
0	0.789938	0.792256
600	0.789938	0.792256

0.3
0.3


Corrected Observed Vacuum vs. Distance during SVE Pilot Test
KAFB-106155
Corrected Observed Vacuum (inWC)
100
10
1
0.1
0.01
0
100
200
300
400
500
600
Minimum Distance to Extraction Well KAFB-106155 (feet)
Corrected Observed Vacuum
Applied Pressure, KAFB-106155
Edge of ROI, 0.3 inWC
inWC = inches of water column
SVE = soil vapor extraction
Expon. (Corrected Observed Vacuum)

KAFB BFF Pilot Testing

P-log well 106155, Long Term Test performed on 11/4/13

Well ID	Screen Interval	Time	Vacuum (in WC)	Diff. Pressure (in WC)	Flow Rate (scfm)	Temp. (˚F)	Relative Humidity (%)	Total HC (ppm)	CO2%	CO%	O2%	H2S%	LEL%
106155	484	0742	38	1.79	274.5	43.9	80.8	802	0.72	NR	18.56	0	8
106155	484	0812	37.5	1.75	272.4	48.7	58.4	897	0.76	0	18.35	0	8
106155	484	0842	37	1.67	266.4	50.7	55.7	983	0.78	0	18.77	0	11
106155	484	0912	37	1.83	279.8	54.7	48	1051	0.8	0	18.32	0	9
106155	484	0942	37	1.81	278.7	56.6	45.4	1099	0.86	0	18.42	0	12
106155	484	1012	37	1.75	274.2	56.7	42	1137	0.82	0	18.2	0	11
106155	484	1042	36.5	1.77	275.8	57.4	41.8	1162	0.86	0	18.93	0	13
106155	484	1112	36.5	1.83	281.0	59.4	36.2	1188	0.84	0	18.12	0	12
106155	484	1142	36	1.62	264.3	60.4	34.9	1210	0.84	0	18.25	0	14
106155	484	1212	36	1.85	283.1	62.6	32.5	1223	0.84	0	18.07	0	13
106155	484	1242	36	1.69	270.9	63.3	31.8	1247	0.9	0	18.35	0	13
106155	484	1312	36	1.82	282.0	65.1	30.2	1255	0.88	0	17.93	0	13
106155	484	1342	35	1.71	272.3	63.5	30.7	1260	0.86	0	17.91	0	14
106155	484	1412	35.5	1.77	278.4	66.6	28.6	1277	0.86	0	17.78	0	14
106155	484	1442	35.5	1.68	270.6	64.8	32.2	1283	0.88	0	17.91	0	16
106155	484	1512	35	1.72	274.4	66.6	30.3	1290	0.86	0	18.1	0	16
106155	484	1542	34	1.76	277.4	67.6	29.2	1296	0.88	0	17.87	0	14
	Averaged parameters:		**36**	**1.75**	**275.1**	**59.3**	**41**	**1156**	**0.8**	**0**	**18.2**	**0**	**12**

Date and time	Barometric Pressure (inHg)	inWC	-inWC
11-4-2013 0:15 MST	29.93	406.8984	-406.898
11-4-2013 0:35 MST	29.93	406.8984	-406.898
11-4-2013 0:55 MST	29.93	406.8984	-406.898
11-4-2013 1:15 MST	29.93	406.8984	-406.898
11-4-2013 1:35 MST	29.93	406.8984	-406.898
11-4-2013 1:55 MST	29.92	406.7624	-406.762
11-4-2013 2:15 MST	29.93	406.8984	-406.898
11-4-2013 2:35 MST	29.93	406.8984	-406.898
11-4-2013 2:55 MST	29.93	406.8984	-406.898
11-4-2013 3:15 MST	29.92	406.7624	-406.762
11-4-2013 3:35 MST	29.93	406.8984	-406.898
11-4-2013 3:55 MST	29.93	406.8984	-406.898
11-4-2013 4:15 MST	29.94	407.0343	-407.034
11-4-2013 4:35 MST	29.94	407.0343	-407.034
11-4-2013 6:50 MST	29.96	407.3062	-407.306
11-4-2013 7:50 MST	29.99	407.7141	-407.714
11-4-2013 9:50 MST	30	407.85	-407.85
11-4-2013 10:50 MST	29.99	407.7141	-407.714
11-4-2013 11:50 MST	29.96	407.3062	-407.306
11-4-2013 12:50 MST	29.93	406.8984	-406.898
11-4-2013 13:50 MST	29.9	406.4905	-406.491
11-4-2013 14:50 MST	29.88	406.2186	-406.219
11-4-2013 15:50 MST	29.87	406.0827	-406.083
11-4-2013 16:50 MST	29.85	405.8108	-405.811
11-4-2013 17:52 MST	29.85	405.8108	-405.811
11-4-2013 18:49 MST	29.87	406.0827	-406.083
11-4-2013 19:49 MST	29.88	406.2186	-406.219
11-4-2013 20:49 MST	29.89	406.3546	-406.355
11-4-2013 21:15 MST	29.89	406.3546	-406.355
11-4-2013 21:35 MST	29.88	406.2186	-406.219
11-4-2013 21:50 MST	29.88	406.2186	-406.219
11-4-2013 21:55 MST	29.88	406.2186	-406.219
11-4-2013 22:15 MST	29.88	406.2186	-406.219
11-4-2013 22:35 MST	29.87	406.0827	-406.083
11-4-2013 22:55 MST	29.87	406.0827	-406.083
11-4-2013 23:15 MST	29.87	406.0827	-406.083
11-4-2013 23:35 MST	29.87	406.0827	-406.083
11-4-2013 23:55 MST	29.9	406.4905	-406.491

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
106120	450	1.28		11/4/2013	718	11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517		718				0	0	-407.306	-407.714	-0.0068	28	-407.497
	350	1.29		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	250	1.12		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	150	1.13		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	50	-0.13		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
106115	450	1.46		11/4/2013	724	11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517			724	-407.306	-407.714	-0.0068	34	-407.537			0		0
	350	1.41		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	250	1.26		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	150	0.99		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	50	-0.15		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
106113	450	1.44		11/4/2013	713	11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517		713				0	0	-407.306	-407.714	-0.0068	23	-407.463
	350	1.49		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	250	1.25		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	150	1.02		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	50	-0.1		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
106129	450	1.32		11/4/2013	737	11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517			737	-407.306	-407.714	-0.0068	47	-407.626			0		0
	350	1.32		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	250	1.02		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	150	0.74		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	50	-0.12		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
106116	450	1.16		11/4/2013	732	11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517			732	-407.306	-407.714	-0.0068	42	-407.592			0		0
	350	1.27		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	250	1.03		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	150	0.77		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	50	-0.05		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
106118	450	1.56		11/4/2013	657	11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517		657				0	0	-407.306	-407.714	-0.0068	7	-407.354
	350	1.53		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	250	1.39		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	150	1.18		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
	50	-0.01		11/4/2013		11/4/2013 7:21	-407.306	-407.714	-0.0068	31	-407.517						0	0			0		0
106120	450	0.99		11/4/2013	817	11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784		817				0	0	-407.714	-407.85	-0.00227	27	-407.775
	350	1.05		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	250	0.86		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	150	0.7		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	50	-0.3		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
106115	450	1.05		11/4/2013	814	11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784		814				0	0	-407.714	-407.85	-0.00227	24	-407.768
	350	1.07		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	250	0.96		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	150	0.67		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	50	-0.27		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
106113	450	0.73		11/4/2013	820	11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784		820				0	0	-407.714	-407.85	-0.00227	30	-407.782
	350	0.87		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	250	0.79		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	150	0.58		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	50	-0.26		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
106129	450	0.68		11/4/2013	828	11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784			828	-407.714	-407.85	-0.00227	38	-407.8			0		0
	350	0.87		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	250	0.75		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	150	0.47		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	50	-0.19		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
106116	450	0.62		11/4/2013	822	11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784			822	-407.714	-407.85	-0.00227	32	-407.787			0		0
	350	0.82		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	250	0.69		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	150	0.42		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
	50	-0.19		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0
106118	450	1.04		11/4/2013	830	11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784			830	-407.714	-407.85	-0.00227	40	-407.805			0		0
	350	1		11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784						0	0			0		0

	250	0.88	11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784					0	0			0	0
	150	0.69	11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784					0	0			0	0
	50	-0.1	11/4/2013		11/4/2013 8:21	-407.714	-407.85	-0.00227	31	-407.784					0	0			0	0
106120	450	0.91	11/4/2013	847	11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855	847				0	0	-407.714	-407.85	-0.00227	57 -407.843
	350	0.97	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	250	0.82	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	150	0.68	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	50	-0.2	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
106115	450	0.96	11/4/2013	842	11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855	842				0	0	-407.714	-407.85	-0.00227	52 -407.832
	350	1.05	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	250	0.92	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	150	0.66	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	50	-0.2	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
106113	450	0.64	11/4/2013	850	11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855	850				0	0	-407.714	-407.85	-0.00227	60 -407.85
	350	0.77	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	250	0.76	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	150	0.59	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	50	-0.18	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
106129	450	0.58	11/4/2013	856	11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855		856	-407.714	-407.85	-0.00227	66 -407.864			0	0
	350	0.83	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	250	0.77	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	150	0.48	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	50	-0.12	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
106116	450	0.68	11/4/2013	853	11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855		853	-407.714	-407.85	-0.00227	63 -407.857			0	0
	350	0.8	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	250	0.7	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	150	0.46	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	50	-0.1	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
106118	450	0.99	11/4/2013	900	11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855		900	-407.714	-407.85	-0.00227	70 -407.873			0	0
	350	0.98	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	250	0.86	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	150	0.69	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
	50	-0.09	11/4/2013		11/4/2013 8:52	-407.714	-407.85	-0.00227	62	-407.855					0	0			0	0
106120	450	0.85	11/4/2013	913	11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911	913				0	0	-407.714	-407.85	-0.00227	83 -407.902
	350	0.96	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	250	0.84	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	150	0.71	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	50	-0.12	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0	-407.714	-407.85	-0.00227	79 -407.893
106115	450	0.91	11/4/2013	909	11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911	909				0	0			0	0
	350	1.04	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	250	0.92	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	150	0.66	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	50	-0.13	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
106113	450	0.62	11/4/2013	915	11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911	915				0	0	-407.714	-407.85	-0.00227	85 -407.907
	350	0.77	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	250	0.79	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	150	0.61	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	50	-0.09	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
106129	450	0.62	11/4/2013	921	11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911		921	-407.714	-407.85	-0.00227	91 -407.92			0	0
	350	0.87	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	250	0.81	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	150	0.55	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	50	-0.02	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
106116	450	0.8	11/4/2013	918	11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911		918	-407.714	-407.85	-0.00227	88 -407.913			0	0
	350	0.83	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	250	0.75	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	150	0.51	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	50	0	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
106118	450	1.08	11/4/2013	925	11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911		925	-407.714	-407.85	-0.00227	95 -407.929			0	0
	350	1.04	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0

	250	0.92	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	150	0.75	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
	50	0.01	11/4/2013		11/4/2013 9:17	-407.714	-407.85	-0.00227	87	-407.911					0	0			0	0
106120	450	0.93	11/4/2013	945	11/4/2013 9:50	-407.85	-407.85	0	0	-407.85	945				0	0	-407.714	-407.85	-0.00227	115	-407.975
	350	0.99	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	250	0.9	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	150	0.77	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	50	-0.05	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
106115	450	0.93	11/4/2013	940	11/4/2013 9:50	-407.85	-407.85	0	0	-407.85	940				0	0	-407.714	-407.85	-0.00227	110	-407.963
	350	1.02	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	250	0.95	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	150	0.74	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	50	-0.05	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
106113	450	0.67	11/4/2013	948	11/4/2013 9:50	-407.85	-407.85	0	0	-407.85	948				0	0	-407.714	-407.85	-0.00227	118	-407.981
	350	0.8	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	250	0.86	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	150	0.71	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	50	0	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
106129	450	0.64	11/4/2013	955	11/4/2013 9:50	-407.85	-407.85	0	0	-407.85		955	-407.85	-407.714	0.002266	5 -407.839			0	0
	350	0.9	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	250	0.84	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	150	0.65	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	50	0.03	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
106116	450	0.84	11/4/2013	952	11/4/2013 9:50	-407.85	-407.85	0	0	-407.85		952	-407.85	-407.714	0.002266	2 -407.845			0	0
	350	0.88	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	250	0.81	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	150	0.6	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	50	0.07	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
106118	450	1.11	11/4/2013	1000	11/4/2013 9:50	-407.85	-407.85	0	0	-407.85		1000	-407.85	-407.714	0.002266	10 -407.827			0	0
	350	1.07	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	250	0.97	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	150	0.82	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
	50	0.05	11/4/2013		11/4/2013 9:50	-407.85	-407.85	0	0	-407.85					0	0			0	0
106120	450	1.01	11/4/2013	1016	11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782	1016				0	0	-407.85	-407.714	0.002266	26	-407.791
	350	1.05	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	250	1	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	150	0.85	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	50	0.02	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
106115	450	1.02	11/4/2013	1013	11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782	1013				0	0	-407.85	-407.714	0.002266	23	-407.798
	350	1.14	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	250	1.08	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	150	0.83	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	50	0.02	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
106113	450	0.7	11/4/2013	1019	11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782	1019				0	0	-407.85	-407.714	0.002266	29	-407.784
	350	0.86	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	250	0.93	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	150	0.77	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	50	0.06	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
106129	450	0.71	11/4/2013	1032	11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782		1032	-407.85	-407.714	0.002266	42 -407.755			0	0
	350	0.97	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	250	0.97	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	150	0.64	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	50	0.08	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
106116	450	0.91	11/4/2013	1021	11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782		1021	-407.85	-407.714	0.002266	31 -407.78			0	0
	350	0.92	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	250	0.88	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	150	0.68	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	50	0.1	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
106118	450	1.19	11/4/2013	1027	11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782		1027	-407.85	-407.714	0.002266	37 -407.766			0	0
	350	1.17	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0

	250	1.06	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	150	-0.91	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
	50	0.12	11/4/2013		11/4/2013 10:20	-407.85	-407.714	0.002266	30	-407.782					0	0			0	0
106120	450	1.07	11/4/2013	1045	11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707	1045				0	0	-407.85	-407.714	0.002266	55 -407.725
	350	1.14	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	250	1.11	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	150	0.98	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	50	0.1	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
106115	450	1.09	11/4/2013	1040	11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707	1040				0	0	-407.85	-407.714	0.002266	50 -407.737
	350	1.22	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	250	1.15	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	150	0.93	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	50	0.06	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
106113	450	0.79	11/4/2013	1049	11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707	1049				0	0	-407.85	-407.714	0.002266	59 -407.716
	350	0.95	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	250	1.06	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	150	0.91	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	50	0.13	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
106129	450	0.81	11/4/2013	1056	11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707		1056	-407.714	-407.306	0.006797	6 -407.673			0	0
	350	1.08	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	250	1.09	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	150	0.88	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	50	0.16	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
106116	450	1.01	11/4/2013	1052	11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707		1052	-407.714	-407.306	0.006797	2 -407.7			0	0
	350	1.06	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	250	1.03	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	150	0.84	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	50	0.22	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
106118	450	1.32	11/4/2013	1100	11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707		1100	-407.714	-407.306	0.006797	10 -407.646			0	0
	350	1.3	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	250	1.22	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	150	1.07	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
	50	0.22	11/4/2013		11/4/2013 10:51	-407.714	-407.306	0.006797	1	-407.707					0	0			0	0
106120	450	1.18	11/4/2013	1114	11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503	1114				0	0	-407.714	-407.306	0.006797	24 -407.551
	350	1.23	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	250	1.21	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	150	1.07	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	50	0.16	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
106115	450	1.21	11/4/2013	1110	11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503	1110				0	0	-407.714	-407.306	0.006797	20 -407.578
	350	1.34	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	250	1.27	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	150	1.05	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	50	0.14	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
106113	450	0.89	11/4/2013	1117	11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503	1117				0	0	-407.714	-407.306	0.006797	27 -407.531
	350	1.06	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	250	1.18	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	150	1.04	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	50	0.2	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
106129	450	0.94	11/4/2013	1126	11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503		1126	-407.714	-407.306	0.006797	36 -407.469			0	0
	350	1.21	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	250	1.22	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	150	1.02	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	50	0.23	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
106116	450	1.14	11/4/2013	1124	11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503		1124	-407.714	-407.306	0.006797	34 -407.483			0	0
	350	1.18	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	250	1.19	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	150	0.99	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
	50	0.3	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0
106118	450	1.49	11/4/2013	1130	11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503		1130	-407.714	-407.306	0.006797	40 -407.442			0	0
	350	1.46	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503					0	0			0	0

	250	1.33	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503						0	0			0	0
	150	1.2	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503						0	0			0	0
	50	0.27	11/4/2013		11/4/2013 11:21	-407.714	-407.306	0.006797	31	-407.503						0	0			0	0
106120	450	1.39	11/4/2013	1147	11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293	1147					0	0	-407.714	-407.306	0.006797	57	-407.327
	350	1.45	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	250	1.45	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	150	1.34	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	50	0.27	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
106115	450	1.4	11/4/2013	1142	11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293	1142					0	0	-407.714	-407.306	0.006797	52	-407.361
	350	1.49	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	250	1.5	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	150	1.28	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	50	0.25	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
106113	450	1.17	11/4/2013	1150	11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293	1150					0	0	-407.306	-407.306	0	0	-407.306
	350	1.31	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	250	1.44	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	150	1.31	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	50	0.33	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
106129	450	1.16	11/4/2013	1158	11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293		1158	-407.306	-406.898	0.006797	8	-407.252			0	0
	350	1.44	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	250	1.5	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	150	1.29	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	50	0.38	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
106116	450	1.36	11/4/2013	1154	11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293		1154	-407.306	-406.898	0.006797	4	-407.279			0	0
	350	1.39	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	250	1.41	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	150	1.24	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	50	0.42	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
106118	450	1.73	11/4/2013	1203	11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293		1203	-407.306	-406.898	0.006797	13	-407.218			0	0
	350	1.71	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	250	1.63	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	150	1.49	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
	50	0.4	11/4/2013		11/4/2013 11:52	-407.306	-406.898	0.006797	2	-407.293						0	0			0	0
106120	450	1.64	11/4/2013	1216	11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102	1216					0	0	-407.306	-406.898	0.006797	26	-407.129
	350	1.73	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	250	1.7	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	150	1.57	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	50	0.37	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
106115	450	1.6	11/4/2013	1212	11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102	1212					0	0	-407.306	-406.898	0.006797	22	-407.157
	350	1.78	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	250	1.75	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	150	1.52	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	50	0.32	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
106113	450	1.31	11/4/2013	1219	11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102	1219					0	0	-407.306	-406.898	0.006797	29	-407.109
	350	1.52	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	250	1.66	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	150	1.52	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	50	0.42	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
106129	450	1.42	11/4/2013	1223	11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102		1223	-407.306	-406.898	0.006797	33	-407.082			0	0
	350	1.69	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	250	1.73	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	150	1.5	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	50	0.45	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
106116	450	1.56	11/4/2013	1221	11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102		1221	-407.306	-406.898	0.006797	31	-407.095			0	0
	350	1.62	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	250	1.65	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	150	1.44	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
	50	0.52	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0
106118	450	1.92	11/4/2013	1227	11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102		1227	-407.306	-406.898	0.006797	37	-407.055			0	0
	350	1.91	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102						0	0			0	0

	250	1.8	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102					0	0			0	0
	150	1.65	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102					0	0			0	0
	50	0.46	11/4/2013		11/4/2013 12:20	-407.306	-406.898	0.006797	30	-407.102					0	0			0	0
106120	450	1.85	11/4/2013	1247	11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878	1247				0	0	-407.306	-406.898	0.006797	57	-406.919
	350	1.93	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	250	1.96	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	150	1.82	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	50	0.44	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
106115	450	1.86	11/4/2013	1243	11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878	1243				0	0	-407.306	-406.898	0.006797	53	-406.946
	350	1.97	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	250	2.02	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	150	1.77	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	50	0.42	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
106113	450	1.53	11/4/2013	1251	11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878	1251				0	0	-406.898	-406.491	0.006797	1	-406.892
	350	1.78	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	250	1.91	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	150	1.8	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	50	0.49	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
106129	450	1.56	11/4/2013	1257	11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878		1257	-406.898	-406.491	0.006797	7	-406.851		0	0
	350	1.83	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	250	1.89	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	150	1.69	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	50	0.46	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
106116	450	1.75	11/4/2013	1254	11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878		1254	-406.898	-406.491	0.006797	4	-406.871		0	0
	350	1.8	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	250	1.83	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	150	1.64	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	50	0.54	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
106118	450	2.13	11/4/2013	1302	11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878		1302	-406.898	-406.491	0.006797	12	-406.817		0	0
	350	2.11	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	250	2.03	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	150	1.86	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
	50	0.49	11/4/2013		11/4/2013 12:53	-406.898	-406.491	0.006797	3	-406.878					0	0			0	0
106120	450	1.94	11/4/2013	1317	11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694	1317				0	0	-406.898	-406.491	0.006797	27	-406.715
	350	2.01	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	250	2.04	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	150	1.9	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	50	0.36	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
106115	450	1.97	11/4/2013	1314	11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694	1314				0	0	-406.898	-406.491	0.006797	24	-406.735
	350	2.1	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	250	2.09	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	150	1.85	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	50	0.33	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
106113	450	1.59	11/4/2013	1319	11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694	1319				0	0	-406.898	-406.491	0.006797	29	-406.701
	350	1.82	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	250	1.96	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	150	1.82	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	50	0.42	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
106129	450	1.68	11/4/2013	1328	11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694		1328	-406.898	-406.491	0.006797	38	-406.64		0	0
	350	1.96	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	250	2.01	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	150	1.79	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	50	0.43	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
106116	450	1.87	11/4/2013	1321	11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694		1321	-406.898	-406.491	0.006797	31	-406.688		0	0
	350	1.9	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	250	1.91	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	150	1.67	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	50	0.53	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
106118	450	2.14	11/4/2013	1324	11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694		1324	-406.898	-406.491	0.006797	34	-406.667		0	0
	350	2.16	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0

	250	2.06	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	150	1.91	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
	50	0.43	11/4/2013		11/4/2013 13:20	-406.898	-406.491	0.006797	30	-406.694					0	0			0	0
106120	450	2.11	11/4/2013	1345	11/4/2013 13:50	-406.491	-406.491	0	0	-406.491	1345				0	0	-406.898	-406.491	0.006797	55 -406.524
	350	2.18	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	250	2.22	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	150	2.11	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	50	0.43	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
106115	450	2.1	11/4/2013	1341	11/4/2013 13:50	-406.491	-406.491	0	0	-406.491	1341				0	0	-406.898	-406.491	0.006797	51 -406.552
	350	2.18	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	250	2.19	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	150	2.04	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	50	0.4	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
106113	450	1.8	11/4/2013	1348	11/4/2013 13:50	-406.491	-406.491	0	0	-406.491	1348				0	0	-406.898	-406.491	0.006797	58 -406.504
	350	2	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	250	2.15	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	150	2	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	50	0.48	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
106129	450	1.85	11/4/2013	1356	11/4/2013 13:50	-406.491	-406.491	0	0	-406.491		1356	-406.491	-406.219	0.004532	6 -406.463			0	0
	350	2.12	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	250	2.17	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	150	1.95	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	50	0.5	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
106116	450	1.99	11/4/2013	1352	11/4/2013 13:50	-406.491	-406.491	0	0	-406.491		1352	-406.491	-406.219	0.004532	2 -406.481			0	0
	350	2.09	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	250	2.12	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	150	1.89	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	50	0.6	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
106118	450	2.33	11/4/2013	1401	11/4/2013 13:50	-406.491	-406.491	0	0	-406.491		1401	-406.491	-406.219	0.004532	11 -406.441			0	0
	350	2.37	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	250	2.29	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	150	2.14	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
	50	0.51	11/4/2013		11/4/2013 13:50	-406.491	-406.491	0	0	-406.491					0	0			0	0
106120	450	2.2	11/4/2013	1415	11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359	1415				0	0	-406.491	-406.219	0.004532	25 -406.377
	350	2.29	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	250	2.32	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	150	2.15	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	50	0.39	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
106115	450	2.27	11/4/2013	1412	11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359	1412				0	0	-406.491	-406.219	0.004532	22 -406.391
	350	2.39	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	250	2.42	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	150	2.14	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	50	0.37	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
106113	450	1.88	11/4/2013	1417	11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359	1417				0	0	-406.491	-406.219	0.004532	27 -406.368
	350	2.1	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	250	2.26	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	150	2.09	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	50	0.45	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
106129	450	1.93	11/4/2013	1423	11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359		1423	-406.491	-406.219	0.004532	33 -406.341			0	0
	350	2.23	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	250	2.28	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	150	2.01	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	50	0.47	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
106116	450	1.87	11/4/2013	1420	11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359		1420	-406.491	-406.219	0.004532	30 -406.355			0	0
	350	2.1	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	250	2.19	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	150	1.95	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	50	0.58	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
106118	450	2.48	11/4/2013	1427	11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359		1427	-406.491	-406.219	0.004532	37 -406.323			0	0
	350	2.46	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0

	250	2.36	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	150	2.19	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
	50	0.49	11/4/2013		11/4/2013 14:19	-406.491	-406.219	0.004532	29	-406.359					0	0			0	0
106120	450	2.31	11/4/2013	1445	11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216	1445				0	0	-406.491	-406.219	0.004532	55 -406.241
	350	2.39	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	250	2.45	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	150	2.34	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	50	0.4	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
106115	450	2.37	11/4/2013	1440	11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216	1440				0	0	-406.491	-406.219	0.004532	50 -406.264
	350	2.45	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	250	2.5	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	150	2.25	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	50	0.4	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
106113	450	2.07	11/4/2013	1448	11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216	1448				0	0	-406.491	-406.219	0.004532	58 -406.228
	350	2.18	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	250	2.37	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	150	2.2	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	50	0.47	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
106129	450	1.99	11/4/2013	1457	11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216		1457	-406.219	-406.083	0.002266	7 -406.203			0	0
	350	2.31	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	250	2.38	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	150	2.12	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	50	0.5	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
106116	450	1.88	11/4/2013	1453	11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216		1453	-406.219	-406.083	0.002266	3 -406.212			0	0
	350	2.18	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	250	2.33	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	150	2.11	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	50	0.62	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
106118	450	2.54	11/4/2013	1501	11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216		1501	-406.219	-406.083	0.002266	11 -406.194			0	0
	350	2.56	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	250	2.48	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	150	2.29	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
	50	0.46	11/4/2013		11/4/2013 14:51	-406.219	-406.083	0.002266	1	-406.216					0	0			0	0
106120	450	2.31	11/4/2013	1516	11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151	1516				0	0	-406.219	-406.083	0.002266	26 -406.16
	350	2.44	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	250	2.5	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	150	2.32	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	50	0.35	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
106115	450	2.45	11/4/2013	1513	11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151	1513				0	0	-406.219	-406.083	0.002266	23 -406.166
	350	2.52	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	250	2.6	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	150	2.28	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	50	0.31	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
106113	450	1.99	11/4/2013	1518	11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151	1518				0	0	-406.219	-406.083	0.002266	28 -406.155
	350	2.24	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	250	2.43	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	150	2.23	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	50	0.42	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
106129	450	2.07	11/4/2013	1524	11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151		1524	-406.219	-406.083	0.002266	34 -406.142			0	0
	350	2.4	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	250	2.45	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	150	2.17	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	50	0.45	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
106116	450	2.15	11/4/2013	1521	11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151		1521	-406.219	-406.083	0.002266	31 -406.148			0	0
	350	2.28	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	250	2.36	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	150	2.12	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	50	0.56	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
106118	450	2.62	11/4/2013	1528	11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151		1528	-406.219	-406.083	0.002266	38 -406.132			0	0
	350	2.62	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0

	250	2.53	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	150	2.34	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
	50	0.43	11/4/2013		11/4/2013 15:20	-406.219	-406.083	0.002266	30	-406.151					0	0			0	0
106120	450	2.44	11/4/2013	1547	11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069	1547				0	0	-406.219	-406.083	0.002266	57	-406.089
	350	2.52	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	250	2.58	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	150	2.45	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	50	0.34	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
106115	450	2.45	11/4/2013	1540	11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069	1540				0	0	-406.219	-406.083	0.002266	50	-406.105
	350	2.61	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	250	2.64	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	150	2.37	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	50	0.33	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
106113	450	2.14	11/4/2013	1551	11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069	1551				0	0	-406.083	-405.811	0.004532	1	-406.078
	350	232	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	250	2.51	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	150	2.32	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	50	0.42	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
106129	450	2.14	11/4/2013	1555	11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069		1555	-406.083	-405.811	0.004532	5 -406.06			0	0
	350	2.44	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	250	2.51	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	150	2.23	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	50	0.46	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
106116	450	2.32	11/4/2013	1559	11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069		1559	-406.083	-405.811	0.004532	9 -406.042			0	0
	350	2.39	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	250	2.44	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	150	2.17	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	50	0.54	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
106118	450	2.68	11/4/2013	1603	11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069		1603	-406.083	-405.811	0.004532	13 -406.024			0	0
	350	2.67	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	250	2.59	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	150	2.4	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0
	50	0.42	11/4/2013		11/4/2013 15:53	-406.083	-405.811	0.004532	3	-406.069					0	0			0	0

Well ID	Depth	Minimum distance to extraction well	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106120	450			718	-1.28	11/4/2013 7:21	-407.517	0	-407.497	-1.26042	0.1429624			
	350				-1.29	11/4/2013 7:21	-407.517	0	0					
	250				-1.12	11/4/2013 7:21	-407.517	0	0					
	150				-1.13	11/4/2013 7:21	-407.517	0	0					
	50				0.13	11/4/2013 7:21	-407.517	0	0					
106115	450			724	-1.46	11/4/2013 7:21	-407.517	-407.537	0	-1.47958	-0.0761912			
	350				-1.41	11/4/2013 7:21	-407.517	0	0					
	250				-1.26	11/4/2013 7:21	-407.517	0	0					
	150				-0.99	11/4/2013 7:21	-407.517	0	0					
	50				0.15	11/4/2013 7:21	-407.517	0	0					
106113	450			713	-1.44	11/4/2013 7:21	-407.517	0	-407.463	-1.3878	0.0155904			
	350				-1.49	11/4/2013 7:21	-407.517	0	0					
	250				-1.25	11/4/2013 7:21	-407.517	0	0					
	150				-1.02	11/4/2013 7:21	-407.517	0	0					
	50				0.1	11/4/2013 7:21	-407.517	0	0					
106129	450			737	-1.32	11/4/2013 7:21	-407.517	-407.626	0	-1.42441	-0.021024			
	350				-1.32	11/4/2013 7:21	-407.517	0	0					
	250				-1.02	11/4/2013 7:21	-407.517	0	0					
	150				-0.74	11/4/2013 7:21	-407.517	0	0					
	50				0.12	11/4/2013 7:21	-407.517	0	0					
106116	450			732	-1.16	11/4/2013 7:21	-407.517	-407.592	0	-1.23178	0.171604			
	350				-1.27	11/4/2013 7:21	-407.517	0	0					
	250				-1.03	11/4/2013 7:21	-407.517	0	0					
	150				-0.77	11/4/2013 7:21	-407.517	0	0					
	50				0.05	11/4/2013 7:21	-407.517	0	0					
106118	450			657	-1.56	11/4/2013 7:21	-407.517	0	-407.354	-1.40339	0			
	350				-1.53	11/4/2013 7:21	-407.517	0	0					
	250				-1.39	11/4/2013 7:21	-407.517	0	0					
	150				-1.18	11/4/2013 7:21	-407.517	0	0					
	50				0.01	11/4/2013 7:21	-407.517	0	0					
106120	450			817	-0.99	11/4/2013 8:21	-407.784	0	-407.775	-0.9813	0.0782776			
	350				-1.05	11/4/2013 8:21	-407.784	0	0					
	250				-0.86	11/4/2013 8:21	-407.784	0	0					
	150				-0.7	11/4/2013 8:21	-407.784	0	0					
	50				0.3	11/4/2013 8:21	-407.784	0	0					
106115	450			814	-1.05	11/4/2013 8:21	-407.784	0	-407.768	-1.03477	0.0248032			
	350				-1.07	11/4/2013 8:21	-407.784	0	0					
	250				-0.96	11/4/2013 8:21	-407.784	0	0					
	150				-0.67	11/4/2013 8:21	-407.784	0	0					
	50				0.27	11/4/2013 8:21	-407.784	0	0					
106113	450			820	-0.73	11/4/2013 8:21	-407.784	0	-407.782	-0.72782	0.331752			
	350				-0.87	11/4/2013 8:21	-407.784	0	0					
	250				-0.79	11/4/2013 8:21	-407.784	0	0					
	150				-0.58	11/4/2013 8:21	-407.784	0	0					
	50				0.26	11/4/2013 8:21	-407.784	0	0					

106129	450	828	-0.68	11/4/2013 8:21	-407.784	-407.8	0	-0.69523	0.3643504	
	350		-0.87	11/4/2013 8:21	-407.784	0	0			
	250		-0.75	11/4/2013 8:21	-407.784	0	0			
	150		-0.47	11/4/2013 8:21	-407.784	0	0			
	50		0.19	11/4/2013 8:21	-407.784	0	0			
106116	450	822	-0.62	11/4/2013 8:21	-407.784	-407.787	0	-0.62218	0.4374016	
	350		-0.82	11/4/2013 8:21	-407.784	0	0			
	250		-0.69	11/4/2013 8:21	-407.784	0	0			
	150		-0.42	11/4/2013 8:21	-407.784	0	0			
	50		0.19	11/4/2013 8:21	-407.784	0	0			
106118	450	830	-1.04	11/4/2013 8:21	-407.784	-407.805	0	-1.05958	0	
	350		-1	11/4/2013 8:21	-407.784	0	0			
	250		-0.88	11/4/2013 8:21	-407.784	0	0			
	150		-0.69	11/4/2013 8:21	-407.784	0	0			
	50		0.1	11/4/2013 8:21	-407.784	0	0			
106120	450	847	-0.91	11/4/2013 8:52	-407.855	0	-407.843	-0.89912	0.1082776	
	350		-0.97	11/4/2013 8:52	-407.855	0	0			
	250		-0.82	11/4/2013 8:52	-407.855	0	0			
	150		-0.68	11/4/2013 8:52	-407.855	0	0			
	50		0.2	11/4/2013 8:52	-407.855	0	0			
106115	450	842	-0.96	11/4/2013 8:52	-407.855	0	-407.832	-0.93825	0.0691536	
	350		-1.05	11/4/2013 8:52	-407.855	0	0			
	250		-0.92	11/4/2013 8:52	-407.855	0	0			
	150		-0.66	11/4/2013 8:52	-407.855	0	0			
	50		0.2	11/4/2013 8:52	-407.855	0	0			
106113	450	850	-0.64	11/4/2013 8:52	-407.855	0	-407.85	-0.63565	0.371752	
	350		-0.77	11/4/2013 8:52	-407.855	0	0			
	250		-0.76	11/4/2013 8:52	-407.855	0	0			
	150		-0.59	11/4/2013 8:52	-407.855	0	0			
	50		0.18	11/4/2013 8:52	-407.855	0	0			
106129	450	856	-0.58	11/4/2013 8:52	-407.855	-407.864	0	-0.5887	0.4187008	
	350		-0.83	11/4/2013 8:52	-407.855	0	0			
	250		-0.77	11/4/2013 8:52	-407.855	0	0			
	150		-0.48	11/4/2013 8:52	-407.855	0	0			
	50		0.12	11/4/2013 8:52	-407.855	0	0			
106116	450	853	-0.68	11/4/2013 8:52	-407.855	-407.857	0	-0.68218	0.3252264	
	350		-0.8	11/4/2013 8:52	-407.855	0	0			
	250		-0.7	11/4/2013 8:52	-407.855	0	0			
	150		-0.46	11/4/2013 8:52	-407.855	0	0			
	50		0.1	11/4/2013 8:52	-407.855	0	0			
106118	450	900	-0.99	11/4/2013 8:52	-407.855	-407.873	0	-1.0074	0	
	350		-0.98	11/4/2013 8:52	-407.855	0	0			
	250		-0.86	11/4/2013 8:52	-407.855	0	0			
	150		-0.69	11/4/2013 8:52	-407.855	0	0			
	50		0.09	11/4/2013 8:52	-407.855	0	0			
106120	450	913	-0.85	11/4/2013 9:17	-407.911	0	-407.902	-0.8413	0.2561024	
	350		-0.96	11/4/2013 9:17	-407.911	0	0			

	250		-0.84	11/4/2013 9:17	-407.911	0	0				
	150		-0.71	11/4/2013 9:17	-407.911	0	0				
	50		0.12	11/4/2013 9:17	-407.911	0	-407.893	0.137402	1.2348032		
106115	450	909	-0.91	11/4/2013 9:17	-407.911	0	0				
	350		-1.04	11/4/2013 9:17	-407.911	0	0				
	250		-0.92	11/4/2013 9:17	-407.911	0	0				
	150		-0.66	11/4/2013 9:17	-407.911	0	0				
	50		0.13	11/4/2013 9:17	-407.911	0	0				
106113	450	915	-0.62	11/4/2013 9:17	-407.911	0	-407.907	-0.61565	0.481752		
	350		-0.77	11/4/2013 9:17	-407.911	0	0				
	250		-0.79	11/4/2013 9:17	-407.911	0	0				
	150		-0.61	11/4/2013 9:17	-407.911	0	0				
	50		0.09	11/4/2013 9:17	-407.911	0	0				
106129	450	921	-0.62	11/4/2013 9:17	-407.911	-407.92	0	-0.6287	0.4687008		
	350		-0.87	11/4/2013 9:17	-407.911	0	0				
	250		-0.81	11/4/2013 9:17	-407.911	0	0				
	150		-0.55	11/4/2013 9:17	-407.911	0	0				
	50		0.02	11/4/2013 9:17	-407.911	0	0				
106116	450	918	-0.8	11/4/2013 9:17	-407.911	-407.913	0	-0.80218	0.2952264		
	350		-0.83	11/4/2013 9:17	-407.911	0	0				
	250		-0.75	11/4/2013 9:17	-407.911	0	0				
	150		-0.51	11/4/2013 9:17	-407.911	0	0				
	50		0	11/4/2013 9:17	-407.911	0	0				
106118	450	925	-1.08	11/4/2013 9:17	-407.911	-407.929	0	-1.0974	0		
	350		-1.04	11/4/2013 9:17	-407.911	0	0				
	250		-0.92	11/4/2013 9:17	-407.911	0	0				
	150		-0.75	11/4/2013 9:17	-407.911	0	0				
	50		-0.01	11/4/2013 9:17	-407.911	0	0				
106120	450	945	-0.93	11/4/2013 9:50	-407.85	0	-407.975	-1.04964	0.038612		
	350		-0.99	11/4/2013 9:50	-407.85	0	0				
	250		-0.9	11/4/2013 9:50	-407.85	0	0				
	150		-0.77	11/4/2013 9:50	-407.85	0	0				
	50		0.05	11/4/2013 9:50	-407.85	0	0				
106115	450	940	-0.93	11/4/2013 9:50	-407.85	0	-407.963	-1.03876	0.049488		
	350		-1.02	11/4/2013 9:50	-407.85	0	0				
	250		-0.95	11/4/2013 9:50	-407.85	0	0				
	150		-0.74	11/4/2013 9:50	-407.85	0	0				
	50		0.05	11/4/2013 9:50	-407.85	0	0				
106113	450	948	-0.67	11/4/2013 9:50	-407.85	0	-407.981	-0.79616	0.2920864		
	350		-0.8	11/4/2013 9:50	-407.85	0	0				
	250		-0.86	11/4/2013 9:50	-407.85	0	0				
	150		-0.71	11/4/2013 9:50	-407.85	0	0				
	50		0	11/4/2013 9:50	-407.85	0	0				
106129	450	955	-0.64	11/4/2013 9:50	-407.85	-407.839	0	-0.62912	0.459124		
	350		-0.9	11/4/2013 9:50	-407.85	0	0				
	250		-0.84	11/4/2013 9:50	-407.85	0	0				
	150		-0.65	11/4/2013 9:50	-407.85	0	0				

	50			-0.03	11/4/2013 9:50	-407.85	0	0			
106116	450		952	-0.84	11/4/2013 9:50	-407.85	-407.845	0	-0.83565	0.2525984	
	350			-0.88	11/4/2013 9:50	-407.85	0	0			
	250			-0.81	11/4/2013 9:50	-407.85	0	0			
	150			-0.6	11/4/2013 9:50	-407.85	0	0			
	50			-0.07	11/4/2013 9:50	-407.85	0	0			
106118	450		1000	-1.11	11/4/2013 9:50	-407.85	-407.827	0	-1.08825	0	
	350			-1.07	11/4/2013 9:50	-407.85	0	0			
	250			-0.97	11/4/2013 9:50	-407.85	0	0			
	150			-0.82	11/4/2013 9:50	-407.85	0	0			
	50			-0.05	11/4/2013 9:50	-407.85	0	0			
106120	450		1016	-1.01	11/4/2013 10:20	-407.782	0	-407.791	-1.0187	0.1560728	
	350			-1.05	11/4/2013 10:20	-407.782	0	0			
	250			-1	11/4/2013 10:20	-407.782	0	0			
	150			-0.85	11/4/2013 10:20	-407.782	0	0			
	50			-0.02	11/4/2013 10:20	-407.782	0	0			
106115	450		1013	-1.02	11/4/2013 10:20	-407.782	0	-407.798	-1.03523	0.1395472	
	350			-1.14	11/4/2013 10:20	-407.782	0	0			
	250			-1.08	11/4/2013 10:20	-407.782	0	0			
	150			-0.83	11/4/2013 10:20	-407.782	0	0			
	50			-0.02	11/4/2013 10:20	-407.782	0	0			
106113	450		1019	-0.7	11/4/2013 10:20	-407.782	0	-407.784	-0.70218	0.4725984	
	350			-0.86	11/4/2013 10:20	-407.782	0	0			
	250			-0.93	11/4/2013 10:20	-407.782	0	0			
	150			-0.77	11/4/2013 10:20	-407.782	0	0			
	50			-0.06	11/4/2013 10:20	-407.782	0	0			
106129	450		1032	-0.71	11/4/2013 10:20	-407.782	-407.755	0	-0.6839	0.490876	
	350			-0.97	11/4/2013 10:20	-407.782	0	0			
	250			-0.97	11/4/2013 10:20	-407.782	0	0			
	150			-0.64	11/4/2013 10:20	-407.782	0	0			
	50			-0.08	11/4/2013 10:20	-407.782	0	0			
106116	450		1021	-0.91	11/4/2013 10:20	-407.782	-407.78	0	-0.90782	0.2669488	
	350			-0.92	11/4/2013 10:20	-407.782	0	0			
	250			-0.88	11/4/2013 10:20	-407.782	0	0			
	150			-0.68	11/4/2013 10:20	-407.782	0	0			
	50			-0.1	11/4/2013 10:20	-407.782	0	0			
106118	450		1027	-1.19	11/4/2013 10:20	-407.782	-407.766	0	-1.17477	0	
	350			-1.17	11/4/2013 10:20	-407.782	0	0			
	250			-1.06	11/4/2013 10:20	-407.782	0	0			
	150			0.91	11/4/2013 10:20	-407.782	0	0			
	50			-0.12	11/4/2013 10:20	-407.782	0	0			
106120	450		1045	-1.07	11/4/2013 10:51	-407.707	0	-407.725	-1.0874	0.173868	
	350			-1.14	11/4/2013 10:51	-407.707	0	0			
	250			-1.11	11/4/2013 10:51	-407.707	0	0			
	150			-0.98	11/4/2013 10:51	-407.707	0	0			
	50			-0.1	11/4/2013 10:51	-407.707	0	0			
106115	450		1040	-1.09	11/4/2013 10:51	-407.707	0	-407.737	-1.11828	0.142992	

	350		-1.22	11/4/2013 10:51	-407.707	0	0				
	250		-1.15	11/4/2013 10:51	-407.707	0	0				
	150		-0.93	11/4/2013 10:51	-407.707	0	0				
	50		-0.06	11/4/2013 10:51	-407.707	0	0				
106113	450	1049	-0.79	11/4/2013 10:51	-407.707	0	-407.716	-0.7987	0.4625688		
	350		-0.95	11/4/2013 10:51	-407.707	0	0				
	250		-1.06	11/4/2013 10:51	-407.707	0	0				
	150		-0.91	11/4/2013 10:51	-407.707	0	0				
	50		-0.13	11/4/2013 10:51	-407.707	0	0				
106129	450	1056	-0.81	11/4/2013 10:51	-407.707	-407.673	0	-0.77737	0.4838976		
	350		-1.08	11/4/2013 10:51	-407.707	0	0				
	250		-1.09	11/4/2013 10:51	-407.707	0	0				
	150		-0.88	11/4/2013 10:51	-407.707	0	0				
	50		-0.16	11/4/2013 10:51	-407.707	0	0				
106116	450	1052	-1.01	11/4/2013 10:51	-407.707	-407.7	0	-1.00347	0.2577952		
	350		-1.06	11/4/2013 10:51	-407.707	0	0				
	250		-1.03	11/4/2013 10:51	-407.707	0	0				
	150		-0.84	11/4/2013 10:51	-407.707	0	0				
	50		-0.22	11/4/2013 10:51	-407.707	0	0				
106118	450	1100	-1.32	11/4/2013 10:51	-407.707	-407.646	0	-1.26127	0		
	350		-1.3	11/4/2013 10:51	-407.707	0	0				
	250		-1.22	11/4/2013 10:51	-407.707	0	0				
	150		-1.07	11/4/2013 10:51	-407.707	0	0				
	50		-0.22	11/4/2013 10:51	-407.707	0	0				
106120	450	1114	-1.18	11/4/2013 11:21	-407.503	0	-407.551	-1.22568	0.2055904		
	350		-1.23	11/4/2013 11:21	-407.503	0	0				
	250		-1.21	11/4/2013 11:21	-407.503	0	0				
	150		-1.07	11/4/2013 11:21	-407.503	0	0				
	50		-0.16	11/4/2013 11:21	-407.503	0	0				
106115	450	1110	-1.21	11/4/2013 11:21	-407.503	0	-407.578	-1.28178	0.149488		
	350		-1.34	11/4/2013 11:21	-407.503	0	0				
	250		-1.27	11/4/2013 11:21	-407.503	0	0				
	150		-1.05	11/4/2013 11:21	-407.503	0	0				
	50		-0.14	11/4/2013 11:21	-407.503	0	0				
106113	450	1117	-0.89	11/4/2013 11:21	-407.503	0	-407.531	-0.9161	0.5151672		
	350		-1.06	11/4/2013 11:21	-407.503	0	0				
	250		-1.18	11/4/2013 11:21	-407.503	0	0				
	150		-1.04	11/4/2013 11:21	-407.503	0	0				
	50		-0.2	11/4/2013 11:21	-407.503	0	0				
106129	450	1126	-0.94	11/4/2013 11:21	-407.503	-407.469	0	-0.90737	0.5238976		
	350		-1.21	11/4/2013 11:21	-407.503	0	0				
	250		-1.22	11/4/2013 11:21	-407.503	0	0				
	150		-1.02	11/4/2013 11:21	-407.503	0	0				
	50		-0.23	11/4/2013 11:21	-407.503	0	0				
106116	450	1124	-1.14	11/4/2013 11:21	-407.503	-407.483	0	-1.12042	0.3108464		
	350		-1.18	11/4/2013 11:21	-407.503	0	0				
	250		-1.19	11/4/2013 11:21	-407.503	0	0				

	150			-0.99	11/4/2013 11:21	-407.503	0	0		
	50			-0.3	11/4/2013 11:21	-407.503	0	0		
106118	450		1130	-1.49	11/4/2013 11:21	-407.503	-407.442	0	-1.43127	0
	350			-1.46	11/4/2013 11:21	-407.503	0	0		
	250			-1.33	11/4/2013 11:21	-407.503	0	0		
	150			-1.2	11/4/2013 11:21	-407.503	0	0		
	50			-0.27	11/4/2013 11:21	-407.503	0	0		
106120	450		1147	-1.39	11/4/2013 11:52	-407.293	0	-407.327	-1.42263	0.2355904
	350			-1.45	11/4/2013 11:52	-407.293	0	0		
	250			-1.45	11/4/2013 11:52	-407.293	0	0		
	150			-1.34	11/4/2013 11:52	-407.293	0	0		
	50			-0.27	11/4/2013 11:52	-407.293	0	0		
106115	450		1142	-1.4	11/4/2013 11:52	-407.293	0	-407.361	-1.46526	0.1929624
	350			-1.49	11/4/2013 11:52	-407.293	0	0		
	250			-1.5	11/4/2013 11:52	-407.293	0	0		
	150			-1.28	11/4/2013 11:52	-407.293	0	0		
	50			-0.25	11/4/2013 11:52	-407.293	0	0		
106113	450		1150	-1.17	11/4/2013 11:52	-407.293	0	-407.306	-1.18305	0.4751672
	350			-1.31	11/4/2013 11:52	-407.293	0	0		
	250			-1.44	11/4/2013 11:52	-407.293	0	0		
	150			-1.31	11/4/2013 11:52	-407.293	0	0		
	50			-0.33	11/4/2013 11:52	-407.293	0	0		
106129	450		1158	-1.16	11/4/2013 11:52	-407.293	-407.252	0	-1.12085	0.537372
	350			-1.44	11/4/2013 11:52	-407.293	0	0		
	250			-1.5	11/4/2013 11:52	-407.293	0	0		
	150			-1.29	11/4/2013 11:52	-407.293	0	0		
	50			-0.38	11/4/2013 11:52	-407.293	0	0		
106116	450		1154	-1.36	11/4/2013 11:52	-407.293	-407.279	0	-1.34695	0.3112696
	350			-1.39	11/4/2013 11:52	-407.293	0	0		
	250			-1.41	11/4/2013 11:52	-407.293	0	0		
	150			-1.24	11/4/2013 11:52	-407.293	0	0		
	50			-0.42	11/4/2013 11:52	-407.293	0	0		
106118	450		1203	-1.73	11/4/2013 11:52	-407.293	-407.218	0	-1.65822	0
	350			-1.71	11/4/2013 11:52	-407.293	0	0		
	250			-1.63	11/4/2013 11:52	-407.293	0	0		
	150			-1.49	11/4/2013 11:52	-407.293	0	0		
	50			-0.4	11/4/2013 11:52	-407.293	0	0		
106120	450		1216	-1.64	11/4/2013 12:20	-407.102	0	-407.129	-1.6661	0.2082184
	350			-1.73	11/4/2013 12:20	-407.102	0	0		
	250			-1.7	11/4/2013 12:20	-407.102	0	0		
	150			-1.57	11/4/2013 12:20	-407.102	0	0		
	50			-0.37	11/4/2013 12:20	-407.102	0	0		
106115	450		1212	-1.6	11/4/2013 12:20	-407.102	0	-407.157	-1.6522	0.222116
	350			-1.78	11/4/2013 12:20	-407.102	0	0		
	250			-1.75	11/4/2013 12:20	-407.102	0	0		
	150			-1.52	11/4/2013 12:20	-407.102	0	0		
	50			-0.32	11/4/2013 12:20	-407.102	0	0		

106113	450	1219	-1.31	11/4/2013 12:20	-407.102	0	-407.109	-1.31653	0.5577952
	350		-1.52	11/4/2013 12:20	-407.102	0	0		
	250		-1.66	11/4/2013 12:20	-407.102	0	0		
	150		-1.52	11/4/2013 12:20	-407.102	0	0		
	50		-0.42	11/4/2013 12:20	-407.102	0	0		
106129	450	1223	-1.42	11/4/2013 12:20	-407.102	-407.082	0	-1.40042	0.4738976
	350		-1.69	11/4/2013 12:20	-407.102	0	0		
	250		-1.73	11/4/2013 12:20	-407.102	0	0		
	150		-1.5	11/4/2013 12:20	-407.102	0	0		
	50		-0.45	11/4/2013 12:20	-407.102	0	0		
106116	450	1221	-1.56	11/4/2013 12:20	-407.102	-407.095	0	-1.55347	0.3208464
	350		-1.62	11/4/2013 12:20	-407.102	0	0		
	250		-1.65	11/4/2013 12:20	-407.102	0	0		
	150		-1.44	11/4/2013 12:20	-407.102	0	0		
	50		-0.52	11/4/2013 12:20	-407.102	0	0		
106118	450	1227	-1.92	11/4/2013 12:20	-407.102	-407.055	0	-1.87432	0
	350		-1.91	11/4/2013 12:20	-407.102	0	0		
	250		-1.8	11/4/2013 12:20	-407.102	0	0		
	150		-1.65	11/4/2013 12:20	-407.102	0	0		
	50		-0.46	11/4/2013 12:20	-407.102	0	0		
106120	450	1247	-1.85	11/4/2013 12:53	-406.878	0	-406.919	-1.88915	0.182116
	350		-1.93	11/4/2013 12:53	-406.878	0	0		
	250		-1.96	11/4/2013 12:53	-406.878	0	0		
	150		-1.82	11/4/2013 12:53	-406.878	0	0		
	50		-0.44	11/4/2013 12:53	-406.878	0	0		
106115	450	1243	-1.86	11/4/2013 12:53	-406.878	0	-406.946	-1.92526	0.1460136
	350		-1.97	11/4/2013 12:53	-406.878	0	0		
	250		-2.02	11/4/2013 12:53	-406.878	0	0		
	150		-1.77	11/4/2013 12:53	-406.878	0	0		
	50		-0.42	11/4/2013 12:53	-406.878	0	0		
106113	450	1251	-1.53	11/4/2013 12:53	-406.878	0	-406.892	-1.54305	0.5282184
	350		-1.78	11/4/2013 12:53	-406.878	0	0		
	250		-1.91	11/4/2013 12:53	-406.878	0	0		
	150		-1.8	11/4/2013 12:53	-406.878	0	0		
	50		-0.49	11/4/2013 12:53	-406.878	0	0		
106129	450	1257	-1.56	11/4/2013 12:53	-406.878	-406.851	0	-1.5339	0.537372
	350		-1.83	11/4/2013 12:53	-406.878	0	0		
	250		-1.89	11/4/2013 12:53	-406.878	0	0		
	150		-1.69	11/4/2013 12:53	-406.878	0	0		
	50		-0.46	11/4/2013 12:53	-406.878	0	0		
106116	450	1254	-1.75	11/4/2013 12:53	-406.878	-406.871	0	-1.74347	0.3277952
	350		-1.8	11/4/2013 12:53	-406.878	0	0		
	250		-1.83	11/4/2013 12:53	-406.878	0	0		
	150		-1.64	11/4/2013 12:53	-406.878	0	0		
	50		-0.54	11/4/2013 12:53	-406.878	0	0		
106118	450	1302	-2.13	11/4/2013 12:53	-406.878	-406.817	0	-2.07127	0
	350		-2.11	11/4/2013 12:53	-406.878	0	0		

	250		-2.03	11/4/2013 12:53	-406.878	0	0		
	150		-1.86	11/4/2013 12:53	-406.878	0	0		
	50		-0.49	11/4/2013 12:53	-406.878	0	0		
106120	450	1317	-1.94	11/4/2013 13:20	-406.694	0	-406.715	-1.95958	0.1543208
	350		-2.01	11/4/2013 13:20	-406.694	0	0		
	250		-2.04	11/4/2013 13:20	-406.694	0	0		
	150		-1.9	11/4/2013 13:20	-406.694	0	0		
	50		-0.36	11/4/2013 13:20	-406.694	0	0		
106115	450	1314	-1.97	11/4/2013 13:20	-406.694	0	-406.735	-2.00915	0.104744
	350		-2.1	11/4/2013 13:20	-406.694	0	0		
	250		-2.09	11/4/2013 13:20	-406.694	0	0		
	150		-1.85	11/4/2013 13:20	-406.694	0	0		
	50		-0.33	11/4/2013 13:20	-406.694	0	0		
106113	450	1319	-1.59	11/4/2013 13:20	-406.694	0	-406.701	-1.59653	0.517372
	350		-1.82	11/4/2013 13:20	-406.694	0	0		
	250		-1.96	11/4/2013 13:20	-406.694	0	0		
	150		-1.82	11/4/2013 13:20	-406.694	0	0		
	50		-0.42	11/4/2013 13:20	-406.694	0	0		
106129	450	1328	-1.68	11/4/2013 13:20	-406.694	-406.64	0	-1.6278	0.4861024
	350		-1.96	11/4/2013 13:20	-406.694	0	0		
	250		-2.01	11/4/2013 13:20	-406.694	0	0		
	150		-1.79	11/4/2013 13:20	-406.694	0	0		
	50		-0.43	11/4/2013 13:20	-406.694	0	0		
106116	450	1321	-1.87	11/4/2013 13:20	-406.694	-406.688	0	-1.86347	0.2504232
	350		-1.9	11/4/2013 13:20	-406.694	0	0		
	250		-1.91	11/4/2013 13:20	-406.694	0	0		
	150		-1.67	11/4/2013 13:20	-406.694	0	0		
	50		-0.53	11/4/2013 13:20	-406.694	0	0		
106118	450	1324	-2.14	11/4/2013 13:20	-406.694	-406.667	0	-2.1139	0
	350		-2.16	11/4/2013 13:20	-406.694	0	0		
	250		-2.06	11/4/2013 13:20	-406.694	0	0		
	150		-1.91	11/4/2013 13:20	-406.694	0	0		
	50		-0.43	11/4/2013 13:20	-406.694	0	0		
106120	450	1345	-2.11	11/4/2013 13:50	-406.491	0	-406.524	-2.14263	0.1395176
	350		-2.18	11/4/2013 13:50	-406.491	0	0		
	250		-2.22	11/4/2013 13:50	-406.491	0	0		
	150		-2.11	11/4/2013 13:50	-406.491	0	0		
	50		-0.43	11/4/2013 13:50	-406.491	0	0		
106115	450	1341	-2.1	11/4/2013 13:50	-406.491	0	-406.552	-2.15873	0.1234152
	350		-2.18	11/4/2013 13:50	-406.491	0	0		
	250		-2.19	11/4/2013 13:50	-406.491	0	0		
	150		-2.04	11/4/2013 13:50	-406.491	0	0		
	50		-0.4	11/4/2013 13:50	-406.491	0	0		
106113	450	1348	-1.8	11/4/2013 13:50	-406.491	0	-406.504	-1.81305	0.4690944
	350		-2	11/4/2013 13:50	-406.491	0	0		
	250		-2.15	11/4/2013 13:50	-406.491	0	0		
	150		-2	11/4/2013 13:50	-406.491	0	0		

	50		-0.48	11/4/2013 13:50	-406.491	0	0		
106129	450	1356	-1.85	11/4/2013 13:50	-406.491	-406.463	0	-1.8239	0.458248
	350		-2.12	11/4/2013 13:50	-406.491	0	0		
	250		-2.17	11/4/2013 13:50	-406.491	0	0		
	150		-1.95	11/4/2013 13:50	-406.491	0	0		
	50		-0.5	11/4/2013 13:50	-406.491	0	0		
106116	450	1352	-1.99	11/4/2013 13:50	-406.491	-406.481	0	-1.9813	0.3008464
	350		-2.09	11/4/2013 13:50	-406.491	0	0		
	250		-2.12	11/4/2013 13:50	-406.491	0	0		
	150		-1.89	11/4/2013 13:50	-406.491	0	0		
	50		-0.6	11/4/2013 13:50	-406.491	0	0		
106118	450	1401	-2.33	11/4/2013 13:50	-406.491	-406.441	0	-2.28215	0
	350		-2.37	11/4/2013 13:50	-406.491	0	0		
	250		-2.29	11/4/2013 13:50	-406.491	0	0		
	150		-2.14	11/4/2013 13:50	-406.491	0	0		
	50		-0.51	11/4/2013 13:50	-406.491	0	0		
106120	450	1415	-2.2	11/4/2013 14:19	-406.359	0	-406.377	-2.2174	0.2277952
	350		-2.29	11/4/2013 14:19	-406.359	0	0		
	250		-2.32	11/4/2013 14:19	-406.359	0	0		
	150		-2.15	11/4/2013 14:19	-406.359	0	0		
	50		-0.39	11/4/2013 14:19	-406.359	0	0		
106115	450	1412	-2.27	11/4/2013 14:19	-406.359	0	-406.391	-2.30045	0.144744
	350		-2.39	11/4/2013 14:19	-406.359	0	0		
	250		-2.42	11/4/2013 14:19	-406.359	0	0		
	150		-2.14	11/4/2013 14:19	-406.359	0	0		
	50		-0.37	11/4/2013 14:19	-406.359	0	0		
106113	450	1417	-1.88	11/4/2013 14:19	-406.359	0	-406.368	-1.8887	0.556496
	350		-2.1	11/4/2013 14:19	-406.359	0	0		
	250		-2.26	11/4/2013 14:19	-406.359	0	0		
	150		-2.09	11/4/2013 14:19	-406.359	0	0		
	50		-0.45	11/4/2013 14:19	-406.359	0	0		
106129	450	1423	-1.93	11/4/2013 14:19	-406.359	-406.341	0	-1.9126	0.5325984
	350		-2.23	11/4/2013 14:19	-406.359	0	0		
	250		-2.28	11/4/2013 14:19	-406.359	0	0		
	150		-2.01	11/4/2013 14:19	-406.359	0	0		
	50		-0.47	11/4/2013 14:19	-406.359	0	0		
106116	450	1420	-1.87	11/4/2013 14:19	-406.359	-406.355	0	-1.86565	0.5795472
	350		-2.1	11/4/2013 14:19	-406.359	0	0		
	250		-2.19	11/4/2013 14:19	-406.359	0	0		
	150		-1.95	11/4/2013 14:19	-406.359	0	0		
	50		-0.58	11/4/2013 14:19	-406.359	0	0		
106118	450	1427	-2.48	11/4/2013 14:19	-406.359	-406.323	0	-2.4452	0
	350		-2.46	11/4/2013 14:19	-406.359	0	0		
	250		-2.36	11/4/2013 14:19	-406.359	0	0		
	150		-2.19	11/4/2013 14:19	-406.359	0	0		
	50		-0.49	11/4/2013 14:19	-406.359	0	0		
106120	450	1445	-2.31	11/4/2013 14:51	-406.216	0	-406.241	-2.33393	0.1843208

	350			-2.39	11/4/2013 14:51	-406.216	0	0		
	250			-2.45	11/4/2013 14:51	-406.216	0	0		
	150			-2.34	11/4/2013 14:51	-406.216	0	0		
	50			-0.4	11/4/2013 14:51	-406.216	0	0		
106115	450		1440	-2.37	11/4/2013 14:51	-406.216	0	-406.264	-2.41568	0.1025688
	350			-2.45	11/4/2013 14:51	-406.216	0	0		
	250			-2.5	11/4/2013 14:51	-406.216	0	0		
	150			-2.25	11/4/2013 14:51	-406.216	0	0		
	50			-0.4	11/4/2013 14:51	-406.216	0	0		
106113	450		1448	-2.07	11/4/2013 14:51	-406.216	0	-406.228	-2.08088	0.437372
	350			-2.18	11/4/2013 14:51	-406.216	0	0		
	250			-2.37	11/4/2013 14:51	-406.216	0	0		
	150			-2.2	11/4/2013 14:51	-406.216	0	0		
	50			-0.47	11/4/2013 14:51	-406.216	0	0		
106129	450		1457	-1.99	11/4/2013 14:51	-406.216	-406.203	0	-1.97695	0.5412992
	350			-2.31	11/4/2013 14:51	-406.216	0	0		
	250			-2.38	11/4/2013 14:51	-406.216	0	0		
	150			-2.12	11/4/2013 14:51	-406.216	0	0		
	50			-0.5	11/4/2013 14:51	-406.216	0	0		
106116	450		1453	-1.88	11/4/2013 14:51	-406.216	-406.212	0	-1.87565	0.6425984
	350			-2.18	11/4/2013 14:51	-406.216	0	0		
	250			-2.33	11/4/2013 14:51	-406.216	0	0		
	150			-2.11	11/4/2013 14:51	-406.216	0	0		
	50			-0.62	11/4/2013 14:51	-406.216	0	0		
106118	450		1501	-2.54	11/4/2013 14:51	-406.216	-406.194	0	-2.51825	0
	350			-2.56	11/4/2013 14:51	-406.216	0	0		
	250			-2.48	11/4/2013 14:51	-406.216	0	0		
	150			-2.29	11/4/2013 14:51	-406.216	0	0		
	50			-0.46	11/4/2013 14:51	-406.216	0	0		
106120	450		1516	-2.31	11/4/2013 15:20	-406.151	0	-406.16	-2.3187	0.2838976
	350			-2.44	11/4/2013 15:20	-406.151	0	0		
	250			-2.5	11/4/2013 15:20	-406.151	0	0		
	150			-2.32	11/4/2013 15:20	-406.151	0	0		
	50			-0.35	11/4/2013 15:20	-406.151	0	0		
106115	450		1513	-2.45	11/4/2013 15:20	-406.151	0	-406.166	-2.46523	0.137372
	350			-2.52	11/4/2013 15:20	-406.151	0	0		
	250			-2.6	11/4/2013 15:20	-406.151	0	0		
	150			-2.28	11/4/2013 15:20	-406.151	0	0		
	50			-0.31	11/4/2013 15:20	-406.151	0	0		
106113	450		1518	-1.99	11/4/2013 15:20	-406.151	0	-406.155	-1.99435	0.608248
	350			-2.24	11/4/2013 15:20	-406.151	0	0		
	250			-2.43	11/4/2013 15:20	-406.151	0	0		
	150			-2.23	11/4/2013 15:20	-406.151	0	0		
	50			-0.42	11/4/2013 15:20	-406.151	0	0		
106129	450		1524	-2.07	11/4/2013 15:20	-406.151	-406.142	0	-2.0613	0.5412992
	350			-2.4	11/4/2013 15:20	-406.151	0	0		
	250			-2.45	11/4/2013 15:20	-406.151	0	0		

	150		-2.17	11/4/2013 15:20	-406.151	0	0			
	50		-0.45	11/4/2013 15:20	-406.151	0	0			
106116	450	1521	-2.15	11/4/2013 15:20	-406.151	-406.148	0	-2.14782	0.4547736	
	350		-2.28	11/4/2013 15:20	-406.151	0	0			
	250		-2.36	11/4/2013 15:20	-406.151	0	0			
	150		-2.12	11/4/2013 15:20	-406.151	0	0			
	50		-0.56	11/4/2013 15:20	-406.151	0	0			
106118	450	1528	-2.62	11/4/2013 15:20	-406.151	-406.132	0	-2.6026	0	
	350		-2.62	11/4/2013 15:20	-406.151	0	0			
	250		-2.53	11/4/2013 15:20	-406.151	0	0			
	150		-2.34	11/4/2013 15:20	-406.151	0	0			
	50		-0.43	11/4/2013 15:20	-406.151	0	0			
106120	450	1547	-2.44	11/4/2013 15:53	-406.069	0	-406.089	-2.45958	0.1769192	
	350		-2.52	11/4/2013 15:53	-406.069	0	0			
	250		-2.58	11/4/2013 15:53	-406.069	0	0			
	150		-2.45	11/4/2013 15:53	-406.069	0	0			
	50		-0.34	11/4/2013 15:53	-406.069	0	0			
106115	450	1540	-2.45	11/4/2013 15:53	-406.069	0	-406.105	-2.4848	0.1516928	
	350		-2.61	11/4/2013 15:53	-406.069	0	0			
	250		-2.64	11/4/2013 15:53	-406.069	0	0			
	150		-2.37	11/4/2013 15:53	-406.069	0	0			
	50		-0.33	11/4/2013 15:53	-406.069	0	0			
106113	450	1551	-2.14	11/4/2013 15:53	-406.069	0	-406.078	-2.1487	0.4877952	
	350		-2.32	11/4/2013 15:53	-406.069	0	0			
	250		-2.51	11/4/2013 15:53	-406.069	0	0			
	150		-2.32	11/4/2013 15:53	-406.069	0	0			
	50		-0.42	11/4/2013 15:53	-406.069	0	0			
106129	450	1555	-2.14	11/4/2013 15:53	-406.069	-406.06	0	-2.1313	0.5051968	
	350		-2.44	11/4/2013 15:53	-406.069	0	0			
	250		-2.51	11/4/2013 15:53	-406.069	0	0			
	150		-2.23	11/4/2013 15:53	-406.069	0	0			
	50		-0.46	11/4/2013 15:53	-406.069	0	0			
106116	450	1559	-2.32	11/4/2013 15:53	-406.069	-406.042	0	-2.2939	0.3425984	
	350		-2.39	11/4/2013 15:53	-406.069	0	0			
	250		-2.44	11/4/2013 15:53	-406.069	0	0			
	150		-2.17	11/4/2013 15:53	-406.069	0	0			
	50		-0.54	11/4/2013 15:53	-406.069	0	0			
106118	450	1603	-2.68	11/4/2013 15:53	-406.069	-406.024	0	-2.6365	0	
	350		-2.67	11/4/2013 15:53	-406.069	0	0			
	250		-2.59	11/4/2013 15:53	-406.069	0	0			
	150		-2.4	11/4/2013 15:53	-406.069	0	0			
	50		-0.42	11/4/2013 15:53	-406.069	0	0			

Well ID	Depth	Minimum distance to extraction well	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106120	450			718	-1.28	11/4/2013 7:21	-407.517	0	-407.497	-1.27042	0.1029624			
	350				-1.29	11/4/2013 7:21	-407.517	0	0					
	250				-1.12	11/4/2013 7:21	-407.517	0	0					
	150				-1.13	11/4/2013 7:21	-407.517	0	0					
	50				0.13	11/4/2013 7:21	-407.517	0	0					
106115	450			724	-1.46	11/4/2013 7:21	-407.517	-407.537	0	-1.42958	-0.0561912			
	350				-1.41	11/4/2013 7:21	-407.517	0	0					
	250				-1.26	11/4/2013 7:21	-407.517	0	0					
	150				-0.99	11/4/2013 7:21	-407.517	0	0					
	50				0.15	11/4/2013 7:21	-407.517	0	0					
106113	450			713	-1.44	11/4/2013 7:21	-407.517	0	-407.463	-1.4378	-0.0644096			
	350				-1.49	11/4/2013 7:21	-407.517	0	0					
	250				-1.25	11/4/2013 7:21	-407.517	0	0					
	150				-1.02	11/4/2013 7:21	-407.517	0	0					
	50				0.1	11/4/2013 7:21	-407.517	0	0					
106129	450			737	-1.32	11/4/2013 7:21	-407.517	-407.626	0	-1.42441	-0.051024			
	350				-1.32	11/4/2013 7:21	-407.517	0	0					
	250				-1.02	11/4/2013 7:21	-407.517	0	0					
	150				-0.74	11/4/2013 7:21	-407.517	0	0					
	50				0.12	11/4/2013 7:21	-407.517	0	0					
106116	450			732	-1.16	11/4/2013 7:21	-407.517	-407.592	0	-1.34178	0.031604			
	350				-1.27	11/4/2013 7:21	-407.517	0	0					
	250				-1.03	11/4/2013 7:21	-407.517	0	0					
	150				-0.77	11/4/2013 7:21	-407.517	0	0					
	50				0.05	11/4/2013 7:21	-407.517	0	0					
106118	450			657	-1.56	11/4/2013 7:21	-407.517	0	-407.354	-1.37339	0			
	350				-1.53	11/4/2013 7:21	-407.517	0	0					
	250				-1.39	11/4/2013 7:21	-407.517	0	0					
	150				-1.18	11/4/2013 7:21	-407.517	0	0					
	50				0.01	11/4/2013 7:21	-407.517	0	0					
106120	450			817	-0.99	11/4/2013 8:21	-407.784	0	-407.775	-1.0413	-0.0217224			
	350				-1.05	11/4/2013 8:21	-407.784	0	0					
	250				-0.86	11/4/2013 8:21	-407.784	0	0					
	150				-0.7	11/4/2013 8:21	-407.784	0	0					
	50				0.3	11/4/2013 8:21	-407.784	0	0					
106115	450			814	-1.05	11/4/2013 8:21	-407.784	0	-407.768	-1.05477	-0.0351968			
	350				-1.07	11/4/2013 8:21	-407.784	0	0					
	250				-0.96	11/4/2013 8:21	-407.784	0	0					
	150				-0.67	11/4/2013 8:21	-407.784	0	0					
	50				0.27	11/4/2013 8:21	-407.784	0	0					
106113	450			820	-0.73	11/4/2013 8:21	-407.784	0	-407.782	-0.86782	0.151752			
	350				-0.87	11/4/2013 8:21	-407.784	0	0					
	250				-0.79	11/4/2013 8:21	-407.784	0	0					
	150				-0.58	11/4/2013 8:21	-407.784	0	0					

	50		0.26	11/4/2013 8:21	-407.784	0	0				
106129	450	828	-0.68	11/4/2013 8:21	-407.784	-407.8	0	-0.88523	0.1343504		
	350		-0.87	11/4/2013 8:21	-407.784	0	0				
	250		-0.75	11/4/2013 8:21	-407.784	0	0				
	150		-0.47	11/4/2013 8:21	-407.784	0	0				
	50		0.19	11/4/2013 8:21	-407.784	0	0				
106116	450	822	-0.62	11/4/2013 8:21	-407.784	-407.787	0	-0.82218	0.1974016		
	350		-0.82	11/4/2013 8:21	-407.784	0	0				
	250		-0.69	11/4/2013 8:21	-407.784	0	0				
	150		-0.42	11/4/2013 8:21	-407.784	0	0				
	50		0.19	11/4/2013 8:21	-407.784	0	0				
106118	450	830	-1.04	11/4/2013 8:21	-407.784	-407.805	0	-1.01958	0		
	350		-1	11/4/2013 8:21	-407.784	0	0				
	250		-0.88	11/4/2013 8:21	-407.784	0	0				
	150		-0.69	11/4/2013 8:21	-407.784	0	0				
	50		0.1	11/4/2013 8:21	-407.784	0	0				
106120	450	847	-0.91	11/4/2013 8:52	-407.855	0	-407.843	-0.95912	0.0382776		
	350		-0.97	11/4/2013 8:52	-407.855	0	0				
	250		-0.82	11/4/2013 8:52	-407.855	0	0				
	150		-0.68	11/4/2013 8:52	-407.855	0	0				
	50		0.2	11/4/2013 8:52	-407.855	0	0				
106115	450	842	-0.96	11/4/2013 8:52	-407.855	0	-407.832	-1.02825	-0.0308464		
	350		-1.05	11/4/2013 8:52	-407.855	0	0				
	250		-0.92	11/4/2013 8:52	-407.855	0	0				
	150		-0.66	11/4/2013 8:52	-407.855	0	0				
	50		0.2	11/4/2013 8:52	-407.855	0	0				
106113	450	850	-0.64	11/4/2013 8:52	-407.855	0	-407.85	-0.76565	0.231752		
	350		-0.77	11/4/2013 8:52	-407.855	0	0				
	250		-0.76	11/4/2013 8:52	-407.855	0	0				
	150		-0.59	11/4/2013 8:52	-407.855	0	0				
	50		0.18	11/4/2013 8:52	-407.855	0	0				
106129	450	856	-0.58	11/4/2013 8:52	-407.855	-407.864	0	-0.8387	0.1587008		
	350		-0.83	11/4/2013 8:52	-407.855	0	0				
	250		-0.77	11/4/2013 8:52	-407.855	0	0				
	150		-0.48	11/4/2013 8:52	-407.855	0	0				
	50		0.12	11/4/2013 8:52	-407.855	0	0				
106116	450	853	-0.68	11/4/2013 8:52	-407.855	-407.857	0	-0.80218	0.1952264		
	350		-0.8	11/4/2013 8:52	-407.855	0	0				
	250		-0.7	11/4/2013 8:52	-407.855	0	0				
	150		-0.46	11/4/2013 8:52	-407.855	0	0				
	50		0.1	11/4/2013 8:52	-407.855	0	0				
106118	450	900	-0.99	11/4/2013 8:52	-407.855	-407.873	0	-0.9974	0		
	350		-0.98	11/4/2013 8:52	-407.855	0	0				
	250		-0.86	11/4/2013 8:52	-407.855	0	0				
	150		-0.69	11/4/2013 8:52	-407.855	0	0				
	50		0.09	11/4/2013 8:52	-407.855	0	0				
106120	450	913	-0.85	11/4/2013 9:17	-407.911	0	-407.902	-0.9513	0.1061024		

	350		-0.96	11/4/2013 9:17	-407.911	0	0			
	250		-0.84	11/4/2013 9:17	-407.911	0	0			
	150		-0.71	11/4/2013 9:17	-407.911	0	0			
	50		0.12	11/4/2013 9:17	-407.911	0	-407.893	-0.8926	0.1648032	
106115	450	909	-0.91	11/4/2013 9:17	-407.911	0	0			
	350		-1.04	11/4/2013 9:17	-407.911	0	0			
	250		-0.92	11/4/2013 9:17	-407.911	0	0			
	150		-0.66	11/4/2013 9:17	-407.911	0	0			
	50		0.13	11/4/2013 9:17	-407.911	0	0			
106113	450	915	-0.62	11/4/2013 9:17	-407.911	0	-407.907	-0.76565	0.291752	
	350		-0.77	11/4/2013 9:17	-407.911	0	0			
	250		-0.79	11/4/2013 9:17	-407.911	0	0			
	150		-0.61	11/4/2013 9:17	-407.911	0	0			
	50		0.09	11/4/2013 9:17	-407.911	0	0			
106129	450	921	-0.62	11/4/2013 9:17	-407.911	-407.92	0	-0.8787	0.1787008	
	350		-0.87	11/4/2013 9:17	-407.911	0	0			
	250		-0.81	11/4/2013 9:17	-407.911	0	0			
	150		-0.55	11/4/2013 9:17	-407.911	0	0			
	50		0.02	11/4/2013 9:17	-407.911	0	0			
106116	450	918	-0.8	11/4/2013 9:17	-407.911	-407.913	0	-0.83218	0.2252264	
	350		-0.83	11/4/2013 9:17	-407.911	0	0			
	250		-0.75	11/4/2013 9:17	-407.911	0	0			
	150		-0.51	11/4/2013 9:17	-407.911	0	0			
	50		0	11/4/2013 9:17	-407.911	0	0			
106118	450	925	-1.08	11/4/2013 9:17	-407.911	-407.929	0	-1.0574	0	
	350		-1.04	11/4/2013 9:17	-407.911	0	0			
	250		-0.92	11/4/2013 9:17	-407.911	0	0			
	150		-0.75	11/4/2013 9:17	-407.911	0	0			
	50		-0.01	11/4/2013 9:17	-407.911	0	0			
106120	450	945	-0.93	11/4/2013 9:50	-407.85	0	-407.975	-1.10964	-0.061388	
	350		-0.99	11/4/2013 9:50	-407.85	0	0			
	250		-0.9	11/4/2013 9:50	-407.85	0	0			
	150		-0.77	11/4/2013 9:50	-407.85	0	0			
	50		0.05	11/4/2013 9:50	-407.85	0	0			
106115	450	940	-0.93	11/4/2013 9:50	-407.85	0	-407.963	-1.12876	-0.080512	
	350		-1.02	11/4/2013 9:50	-407.85	0	0			
	250		-0.95	11/4/2013 9:50	-407.85	0	0			
	150		-0.74	11/4/2013 9:50	-407.85	0	0			
	50		0.05	11/4/2013 9:50	-407.85	0	0			
106113	450	948	-0.67	11/4/2013 9:50	-407.85	0	-407.981	-0.92616	0.1220864	
	350		-0.8	11/4/2013 9:50	-407.85	0	0			
	250		-0.86	11/4/2013 9:50	-407.85	0	0			
	150		-0.71	11/4/2013 9:50	-407.85	0	0			
	50		0	11/4/2013 9:50	-407.85	0	0			
106129	450	955	-0.64	11/4/2013 9:50	-407.85	-407.839	0	-0.88912	0.159124	
	350		-0.9	11/4/2013 9:50	-407.85	0	0			
	250		-0.84	11/4/2013 9:50	-407.85	0	0			

	150		-0.65	11/4/2013 9:50	-407.85	0	0			
	50		-0.03	11/4/2013 9:50	-407.85	0	0			
106116	450	952	-0.84	11/4/2013 9:50	-407.85	-407.845	0	-0.87565	0.1725984	
	350		-0.88	11/4/2013 9:50	-407.85	0	0			
	250		-0.81	11/4/2013 9:50	-407.85	0	0			
	150		-0.6	11/4/2013 9:50	-407.85	0	0			
	50		-0.07	11/4/2013 9:50	-407.85	0	0			
106118	450	1000	-1.11	11/4/2013 9:50	-407.85	-407.827	0	-1.04825	0	
	350		-1.07	11/4/2013 9:50	-407.85	0	0			
	250		-0.97	11/4/2013 9:50	-407.85	0	0			
	150		-0.82	11/4/2013 9:50	-407.85	0	0			
	50		-0.05	11/4/2013 9:50	-407.85	0	0			
106120	450	1016	-1.01	11/4/2013 10:20	-407.782	0	-407.791	-1.0587	0.0960728	
	350		-1.05	11/4/2013 10:20	-407.782	0	0			
	250		-1	11/4/2013 10:20	-407.782	0	0			
	150		-0.85	11/4/2013 10:20	-407.782	0	0			
	50		-0.02	11/4/2013 10:20	-407.782	0	0			
106115	450	1013	-1.02	11/4/2013 10:20	-407.782	0	-407.798	-1.15523	-0.0004528	
	350		-1.14	11/4/2013 10:20	-407.782	0	0			
	250		-1.08	11/4/2013 10:20	-407.782	0	0			
	150		-0.83	11/4/2013 10:20	-407.782	0	0			
	50		-0.02	11/4/2013 10:20	-407.782	0	0			
106113	450	1019	-0.7	11/4/2013 10:20	-407.782	0	-407.784	-0.86218	0.2925984	
	350		-0.86	11/4/2013 10:20	-407.782	0	0			
	250		-0.93	11/4/2013 10:20	-407.782	0	0			
	150		-0.77	11/4/2013 10:20	-407.782	0	0			
	50		-0.06	11/4/2013 10:20	-407.782	0	0			
106129	450	1032	-0.71	11/4/2013 10:20	-407.782	-407.755	0	-0.9439	0.210876	
	350		-0.97	11/4/2013 10:20	-407.782	0	0			
	250		-0.97	11/4/2013 10:20	-407.782	0	0			
	150		-0.64	11/4/2013 10:20	-407.782	0	0			
	50		-0.08	11/4/2013 10:20	-407.782	0	0			
106116	450	1021	-0.91	11/4/2013 10:20	-407.782	-407.78	0	-0.91782	0.2369488	
	350		-0.92	11/4/2013 10:20	-407.782	0	0			
	250		-0.88	11/4/2013 10:20	-407.782	0	0			
	150		-0.68	11/4/2013 10:20	-407.782	0	0			
	50		-0.1	11/4/2013 10:20	-407.782	0	0			
106118	450	1027	-1.19	11/4/2013 10:20	-407.782	-407.766	0	-1.15477	0	
	350		-1.17	11/4/2013 10:20	-407.782	0	0			
	250		-1.06	11/4/2013 10:20	-407.782	0	0			
	150		0.91	11/4/2013 10:20	-407.782	0	0			
	50		-0.12	11/4/2013 10:20	-407.782	0	0			
106120	450	1045	-1.07	11/4/2013 10:51	-407.707	0	-407.725	-1.1574	0.083868	
	350		-1.14	11/4/2013 10:51	-407.707	0	0			
	250		-1.11	11/4/2013 10:51	-407.707	0	0			
	150		-0.98	11/4/2013 10:51	-407.707	0	0			
	50		-0.1	11/4/2013 10:51	-407.707	0	0			

106115	450	1040	-1.09	11/4/2013 10:51	-407.707	0	-407.737	-1.24828	-0.007008	
	350		-1.22	11/4/2013 10:51	-407.707	0	0			
	250		-1.15	11/4/2013 10:51	-407.707	0	0			
	150		-0.93	11/4/2013 10:51	-407.707	0	0			
	50		-0.06	11/4/2013 10:51	-407.707	0	0			
106113	450	1049	-0.79	11/4/2013 10:51	-407.707	0	-407.716	-0.9587	0.2825688	
	350		-0.95	11/4/2013 10:51	-407.707	0	0			
	250		-1.06	11/4/2013 10:51	-407.707	0	0			
	150		-0.91	11/4/2013 10:51	-407.707	0	0			
	50		-0.13	11/4/2013 10:51	-407.707	0	0			
106129	450	1056	-0.81	11/4/2013 10:51	-407.707	-407.673	0	-1.04737	0.1938976	
	350		-1.08	11/4/2013 10:51	-407.707	0	0			
	250		-1.09	11/4/2013 10:51	-407.707	0	0			
	150		-0.88	11/4/2013 10:51	-407.707	0	0			
	50		-0.16	11/4/2013 10:51	-407.707	0	0			
106116	450	1052	-1.01	11/4/2013 10:51	-407.707	-407.7	0	-1.05347	0.1877952	
	350		-1.06	11/4/2013 10:51	-407.707	0	0			
	250		-1.03	11/4/2013 10:51	-407.707	0	0			
	150		-0.84	11/4/2013 10:51	-407.707	0	0			
	50		-0.22	11/4/2013 10:51	-407.707	0	0			
106118	450	1100	-1.32	11/4/2013 10:51	-407.707	-407.646	0	-1.24127	0	
	350		-1.3	11/4/2013 10:51	-407.707	0	0			
	250		-1.22	11/4/2013 10:51	-407.707	0	0			
	150		-1.07	11/4/2013 10:51	-407.707	0	0			
	50		-0.22	11/4/2013 10:51	-407.707	0	0			
106120	450	1114	-1.18	11/4/2013 11:21	-407.503	0	-407.551	-1.27568	0.1255904	
	350		-1.23	11/4/2013 11:21	-407.503	0	0			
	250		-1.21	11/4/2013 11:21	-407.503	0	0			
	150		-1.07	11/4/2013 11:21	-407.503	0	0			
	50		-0.16	11/4/2013 11:21	-407.503	0	0			
106115	450	1110	-1.21	11/4/2013 11:21	-407.503	0	-407.578	-1.41178	-0.010512	
	350		-1.34	11/4/2013 11:21	-407.503	0	0			
	250		-1.27	11/4/2013 11:21	-407.503	0	0			
	150		-1.05	11/4/2013 11:21	-407.503	0	0			
	50		-0.14	11/4/2013 11:21	-407.503	0	0			
106113	450	1117	-0.89	11/4/2013 11:21	-407.503	0	-407.531	-1.0861	0.3151672	
	350		-1.06	11/4/2013 11:21	-407.503	0	0			
	250		-1.18	11/4/2013 11:21	-407.503	0	0			
	150		-1.04	11/4/2013 11:21	-407.503	0	0			
	50		-0.2	11/4/2013 11:21	-407.503	0	0			
106129	450	1126	-0.94	11/4/2013 11:21	-407.503	-407.469	0	-1.17737	0.2238976	
	350		-1.21	11/4/2013 11:21	-407.503	0	0			
	250		-1.22	11/4/2013 11:21	-407.503	0	0			
	150		-1.02	11/4/2013 11:21	-407.503	0	0			
	50		-0.23	11/4/2013 11:21	-407.503	0	0			
106116	450	1124	-1.14	11/4/2013 11:21	-407.503	-407.483	0	-1.16042	0.2408464	
	350		-1.18	11/4/2013 11:21	-407.503	0	0			

	250		-1.19	11/4/2013 11:21	-407.503	0	0		
	150		-0.99	11/4/2013 11:21	-407.503	0	0		
	50		-0.3	11/4/2013 11:21	-407.503	0	0		
106118	450	1130	-1.49	11/4/2013 11:21	-407.503	-407.442	0	-1.40127	0
	350		-1.46	11/4/2013 11:21	-407.503	0	0		
	250		-1.33	11/4/2013 11:21	-407.503	0	0		
	150		-1.2	11/4/2013 11:21	-407.503	0	0		
	50		-0.27	11/4/2013 11:21	-407.503	0	0		
106120	450	1147	-1.39	11/4/2013 11:52	-407.293	0	-407.327	-1.48263	0.1555904
	350		-1.45	11/4/2013 11:52	-407.293	0	0		
	250		-1.45	11/4/2013 11:52	-407.293	0	0		
	150		-1.34	11/4/2013 11:52	-407.293	0	0		
	50		-0.27	11/4/2013 11:52	-407.293	0	0		
106115	450	1142	-1.4	11/4/2013 11:52	-407.293	0	-407.361	-1.55526	0.0829624
	350		-1.49	11/4/2013 11:52	-407.293	0	0		
	250		-1.5	11/4/2013 11:52	-407.293	0	0		
	150		-1.28	11/4/2013 11:52	-407.293	0	0		
	50		-0.25	11/4/2013 11:52	-407.293	0	0		
106113	450	1150	-1.17	11/4/2013 11:52	-407.293	0	-407.306	-1.32305	0.3151672
	350		-1.31	11/4/2013 11:52	-407.293	0	0		
	250		-1.44	11/4/2013 11:52	-407.293	0	0		
	150		-1.31	11/4/2013 11:52	-407.293	0	0		
	50		-0.33	11/4/2013 11:52	-407.293	0	0		
106129	450	1158	-1.16	11/4/2013 11:52	-407.293	-407.252	0	-1.40085	0.237372
	350		-1.44	11/4/2013 11:52	-407.293	0	0		
	250		-1.5	11/4/2013 11:52	-407.293	0	0		
	150		-1.29	11/4/2013 11:52	-407.293	0	0		
	50		-0.38	11/4/2013 11:52	-407.293	0	0		
106116	450	1154	-1.36	11/4/2013 11:52	-407.293	-407.279	0	-1.37695	0.2612696
	350		-1.39	11/4/2013 11:52	-407.293	0	0		
	250		-1.41	11/4/2013 11:52	-407.293	0	0		
	150		-1.24	11/4/2013 11:52	-407.293	0	0		
	50		-0.42	11/4/2013 11:52	-407.293	0	0		
106118	450	1203	-1.73	11/4/2013 11:52	-407.293	-407.218	0	-1.63822	0
	350		-1.71	11/4/2013 11:52	-407.293	0	0		
	250		-1.63	11/4/2013 11:52	-407.293	0	0		
	150		-1.49	11/4/2013 11:52	-407.293	0	0		
	50		-0.4	11/4/2013 11:52	-407.293	0	0		
106120	450	1216	-1.64	11/4/2013 12:20	-407.102	0	-407.129	-1.7561	0.1082184
	350		-1.73	11/4/2013 12:20	-407.102	0	0		
	250		-1.7	11/4/2013 12:20	-407.102	0	0		
	150		-1.57	11/4/2013 12:20	-407.102	0	0		
	50		-0.37	11/4/2013 12:20	-407.102	0	0		
106115	450	1212	-1.6	11/4/2013 12:20	-407.102	0	-407.157	-1.8322	0.032116
	350		-1.78	11/4/2013 12:20	-407.102	0	0		
	250		-1.75	11/4/2013 12:20	-407.102	0	0		
	150		-1.52	11/4/2013 12:20	-407.102	0	0		

	50		-0.32	11/4/2013 12:20	-407.102	0	0		
106113	450	1219	-1.31	11/4/2013 12:20	-407.102	0	-407.109	-1.52653	0.3377952
	350		-1.52	11/4/2013 12:20	-407.102	0	0		
	250		-1.66	11/4/2013 12:20	-407.102	0	0		
	150		-1.52	11/4/2013 12:20	-407.102	0	0		
	50		-0.42	11/4/2013 12:20	-407.102	0	0		
106129	450	1223	-1.42	11/4/2013 12:20	-407.102	-407.082	0	-1.67042	0.1938976
	350		-1.69	11/4/2013 12:20	-407.102	0	0		
	250		-1.73	11/4/2013 12:20	-407.102	0	0		
	150		-1.5	11/4/2013 12:20	-407.102	0	0		
	50		-0.45	11/4/2013 12:20	-407.102	0	0		
106116	450	1221	-1.56	11/4/2013 12:20	-407.102	-407.095	0	-1.61347	0.2508464
	350		-1.62	11/4/2013 12:20	-407.102	0	0		
	250		-1.65	11/4/2013 12:20	-407.102	0	0		
	150		-1.44	11/4/2013 12:20	-407.102	0	0		
	50		-0.52	11/4/2013 12:20	-407.102	0	0		
106118	450	1227	-1.92	11/4/2013 12:20	-407.102	-407.055	0	-1.86432	0
	350		-1.91	11/4/2013 12:20	-407.102	0	0		
	250		-1.8	11/4/2013 12:20	-407.102	0	0		
	150		-1.65	11/4/2013 12:20	-407.102	0	0		
	50		-0.46	11/4/2013 12:20	-407.102	0	0		
106120	450	1247	-1.85	11/4/2013 12:53	-406.878	0	-406.919	-1.96915	0.082116
	350		-1.93	11/4/2013 12:53	-406.878	0	0		
	250		-1.96	11/4/2013 12:53	-406.878	0	0		
	150		-1.82	11/4/2013 12:53	-406.878	0	0		
	50		-0.44	11/4/2013 12:53	-406.878	0	0		
106115	450	1243	-1.86	11/4/2013 12:53	-406.878	0	-406.946	-2.03526	0.0160136
	350		-1.97	11/4/2013 12:53	-406.878	0	0		
	250		-2.02	11/4/2013 12:53	-406.878	0	0		
	150		-1.77	11/4/2013 12:53	-406.878	0	0		
	50		-0.42	11/4/2013 12:53	-406.878	0	0		
106113	450	1251	-1.53	11/4/2013 12:53	-406.878	0	-406.892	-1.79305	0.2582184
	350		-1.78	11/4/2013 12:53	-406.878	0	0		
	250		-1.91	11/4/2013 12:53	-406.878	0	0		
	150		-1.8	11/4/2013 12:53	-406.878	0	0		
	50		-0.49	11/4/2013 12:53	-406.878	0	0		
106129	450	1257	-1.56	11/4/2013 12:53	-406.878	-406.851	0	-1.8039	0.247372
	350		-1.83	11/4/2013 12:53	-406.878	0	0		
	250		-1.89	11/4/2013 12:53	-406.878	0	0		
	150		-1.69	11/4/2013 12:53	-406.878	0	0		
	50		-0.46	11/4/2013 12:53	-406.878	0	0		
106116	450	1254	-1.75	11/4/2013 12:53	-406.878	-406.871	0	-1.79347	0.2577952
	350		-1.8	11/4/2013 12:53	-406.878	0	0		
	250		-1.83	11/4/2013 12:53	-406.878	0	0		
	150		-1.64	11/4/2013 12:53	-406.878	0	0		
	50		-0.54	11/4/2013 12:53	-406.878	0	0		
106118	450	1302	-2.13	11/4/2013 12:53	-406.878	-406.817	0	-2.05127	0

	350		-2.11	11/4/2013 12:53	-406.878	0	0		
	250		-2.03	11/4/2013 12:53	-406.878	0	0		
	150		-1.86	11/4/2013 12:53	-406.878	0	0		
	50		-0.49	11/4/2013 12:53	-406.878	0	0		
106120	450	1317	-1.94	11/4/2013 13:20	-406.694	0	-406.715	-2.02958	0.1043208
	350		-2.01	11/4/2013 13:20	-406.694	0	0		
	250		-2.04	11/4/2013 13:20	-406.694	0	0		
	150		-1.9	11/4/2013 13:20	-406.694	0	0		
	50		-0.36	11/4/2013 13:20	-406.694	0	0		
106115	450	1314	-1.97	11/4/2013 13:20	-406.694	0	-406.735	-2.13915	-0.005256
	350		-2.1	11/4/2013 13:20	-406.694	0	0		
	250		-2.09	11/4/2013 13:20	-406.694	0	0		
	150		-1.85	11/4/2013 13:20	-406.694	0	0		
	50		-0.33	11/4/2013 13:20	-406.694	0	0		
106113	450	1319	-1.59	11/4/2013 13:20	-406.694	0	-406.701	-1.82653	0.307372
	350		-1.82	11/4/2013 13:20	-406.694	0	0		
	250		-1.96	11/4/2013 13:20	-406.694	0	0		
	150		-1.82	11/4/2013 13:20	-406.694	0	0		
	50		-0.42	11/4/2013 13:20	-406.694	0	0		
106129	450	1328	-1.68	11/4/2013 13:20	-406.694	-406.64	0	-1.9078	0.2261024
	350		-1.96	11/4/2013 13:20	-406.694	0	0		
	250		-2.01	11/4/2013 13:20	-406.694	0	0		
	150		-1.79	11/4/2013 13:20	-406.694	0	0		
	50		-0.43	11/4/2013 13:20	-406.694	0	0		
106116	450	1321	-1.87	11/4/2013 13:20	-406.694	-406.688	0	-1.89347	0.2404232
	350		-1.9	11/4/2013 13:20	-406.694	0	0		
	250		-1.91	11/4/2013 13:20	-406.694	0	0		
	150		-1.67	11/4/2013 13:20	-406.694	0	0		
	50		-0.53	11/4/2013 13:20	-406.694	0	0		
106118	450	1324	-2.14	11/4/2013 13:20	-406.694	-406.667	0	-2.1339	0
	350		-2.16	11/4/2013 13:20	-406.694	0	0		
	250		-2.06	11/4/2013 13:20	-406.694	0	0		
	150		-1.91	11/4/2013 13:20	-406.694	0	0		
	50		-0.43	11/4/2013 13:20	-406.694	0	0		
106120	450	1345	-2.11	11/4/2013 13:50	-406.491	0	-406.524	-2.21263	0.1095176
	350		-2.18	11/4/2013 13:50	-406.491	0	0		
	250		-2.22	11/4/2013 13:50	-406.491	0	0		
	150		-2.11	11/4/2013 13:50	-406.491	0	0		
	50		-0.43	11/4/2013 13:50	-406.491	0	0		
106115	450	1341	-2.1	11/4/2013 13:50	-406.491	0	-406.552	-2.23873	0.0834152
	350		-2.18	11/4/2013 13:50	-406.491	0	0		
	250		-2.19	11/4/2013 13:50	-406.491	0	0		
	150		-2.04	11/4/2013 13:50	-406.491	0	0		
	50		-0.4	11/4/2013 13:50	-406.491	0	0		
106113	450	1348	-1.8	11/4/2013 13:50	-406.491	0	-406.504	-2.01305	0.3090944
	350		-2	11/4/2013 13:50	-406.491	0	0		
	250		-2.15	11/4/2013 13:50	-406.491	0	0		

	150		-2	11/4/2013 13:50	-406.491	0	0		
	50		-0.48	11/4/2013 13:50	-406.491	0	0		
106129	450	1356	-1.85	11/4/2013 13:50	-406.491	-406.463	0	-2.0939	0.228248
	350		-2.12	11/4/2013 13:50	-406.491	0	0		
	250		-2.17	11/4/2013 13:50	-406.491	0	0		
	150		-1.95	11/4/2013 13:50	-406.491	0	0		
	50		-0.5	11/4/2013 13:50	-406.491	0	0		
106116	450	1352	-1.99	11/4/2013 13:50	-406.491	-406.481	0	-2.0813	0.2408464
	350		-2.09	11/4/2013 13:50	-406.491	0	0		
	250		-2.12	11/4/2013 13:50	-406.491	0	0		
	150		-1.89	11/4/2013 13:50	-406.491	0	0		
	50		-0.6	11/4/2013 13:50	-406.491	0	0		
106118	450	1401	-2.33	11/4/2013 13:50	-406.491	-406.441	0	-2.32215	0
	350		-2.37	11/4/2013 13:50	-406.491	0	0		
	250		-2.29	11/4/2013 13:50	-406.491	0	0		
	150		-2.14	11/4/2013 13:50	-406.491	0	0		
	50		-0.51	11/4/2013 13:50	-406.491	0	0		
106120	450	1415	-2.2	11/4/2013 14:19	-406.359	0	-406.377	-2.3074	0.1177952
	350		-2.29	11/4/2013 14:19	-406.359	0	0		
	250		-2.32	11/4/2013 14:19	-406.359	0	0		
	150		-2.15	11/4/2013 14:19	-406.359	0	0		
	50		-0.39	11/4/2013 14:19	-406.359	0	0		
106115	450	1412	-2.27	11/4/2013 14:19	-406.359	0	-406.391	-2.42045	0.004744
	350		-2.39	11/4/2013 14:19	-406.359	0	0		
	250		-2.42	11/4/2013 14:19	-406.359	0	0		
	150		-2.14	11/4/2013 14:19	-406.359	0	0		
	50		-0.37	11/4/2013 14:19	-406.359	0	0		
106113	450	1417	-1.88	11/4/2013 14:19	-406.359	0	-406.368	-2.1087	0.316496
	350		-2.1	11/4/2013 14:19	-406.359	0	0		
	250		-2.26	11/4/2013 14:19	-406.359	0	0		
	150		-2.09	11/4/2013 14:19	-406.359	0	0		
	50		-0.45	11/4/2013 14:19	-406.359	0	0		
106129	450	1423	-1.93	11/4/2013 14:19	-406.359	-406.341	0	-2.2126	0.2125984
	350		-2.23	11/4/2013 14:19	-406.359	0	0		
	250		-2.28	11/4/2013 14:19	-406.359	0	0		
	150		-2.01	11/4/2013 14:19	-406.359	0	0		
	50		-0.47	11/4/2013 14:19	-406.359	0	0		
106116	450	1420	-1.87	11/4/2013 14:19	-406.359	-406.355	0	-2.09565	0.3295472
	350		-2.1	11/4/2013 14:19	-406.359	0	0		
	250		-2.19	11/4/2013 14:19	-406.359	0	0		
	150		-1.95	11/4/2013 14:19	-406.359	0	0		
	50		-0.58	11/4/2013 14:19	-406.359	0	0		
106118	450	1427	-2.48	11/4/2013 14:19	-406.359	-406.323	0	-2.4252	0
	350		-2.46	11/4/2013 14:19	-406.359	0	0		
	250		-2.36	11/4/2013 14:19	-406.359	0	0		
	150		-2.19	11/4/2013 14:19	-406.359	0	0		
	50		-0.49	11/4/2013 14:19	-406.359	0	0		

106120	450	1445	-2.31	11/4/2013 14:51	-406.216	0	-406.241	-2.41393	0.1243208
	350		-2.39	11/4/2013 14:51	-406.216	0	0		
	250		-2.45	11/4/2013 14:51	-406.216	0	0		
	150		-2.34	11/4/2013 14:51	-406.216	0	0		
	50		-0.4	11/4/2013 14:51	-406.216	0	0		
106115	450	1440	-2.37	11/4/2013 14:51	-406.216	0	-406.264	-2.49568	0.0425688
	350		-2.45	11/4/2013 14:51	-406.216	0	0		
	250		-2.5	11/4/2013 14:51	-406.216	0	0		
	150		-2.25	11/4/2013 14:51	-406.216	0	0		
	50		-0.4	11/4/2013 14:51	-406.216	0	0		
106113	450	1448	-2.07	11/4/2013 14:51	-406.216	0	-406.228	-2.19088	0.347372
	350		-2.18	11/4/2013 14:51	-406.216	0	0		
	250		-2.37	11/4/2013 14:51	-406.216	0	0		
	150		-2.2	11/4/2013 14:51	-406.216	0	0		
	50		-0.47	11/4/2013 14:51	-406.216	0	0		
106129	450	1457	-1.99	11/4/2013 14:51	-406.216	-406.203	0	-2.29695	0.2412992
	350		-2.31	11/4/2013 14:51	-406.216	0	0		
	250		-2.38	11/4/2013 14:51	-406.216	0	0		
	150		-2.12	11/4/2013 14:51	-406.216	0	0		
	50		-0.5	11/4/2013 14:51	-406.216	0	0		
106116	450	1453	-1.88	11/4/2013 14:51	-406.216	-406.212	0	-2.17565	0.3625984
	350		-2.18	11/4/2013 14:51	-406.216	0	0		
	250		-2.33	11/4/2013 14:51	-406.216	0	0		
	150		-2.11	11/4/2013 14:51	-406.216	0	0		
	50		-0.62	11/4/2013 14:51	-406.216	0	0		
106118	450	1501	-2.54	11/4/2013 14:51	-406.216	-406.194	0	-2.53825	0
	350		-2.56	11/4/2013 14:51	-406.216	0	0		
	250		-2.48	11/4/2013 14:51	-406.216	0	0		
	150		-2.29	11/4/2013 14:51	-406.216	0	0		
	50		-0.46	11/4/2013 14:51	-406.216	0	0		
106120	450	1516	-2.31	11/4/2013 15:20	-406.151	0	-406.16	-2.4487	0.1538976
	350		-2.44	11/4/2013 15:20	-406.151	0	0		
	250		-2.5	11/4/2013 15:20	-406.151	0	0		
	150		-2.32	11/4/2013 15:20	-406.151	0	0		
	50		-0.35	11/4/2013 15:20	-406.151	0	0		
106115	450	1513	-2.45	11/4/2013 15:20	-406.151	0	-406.166	-2.53523	0.067372
	350		-2.52	11/4/2013 15:20	-406.151	0	0		
	250		-2.6	11/4/2013 15:20	-406.151	0	0		
	150		-2.28	11/4/2013 15:20	-406.151	0	0		
	50		-0.31	11/4/2013 15:20	-406.151	0	0		
106113	450	1518	-1.99	11/4/2013 15:20	-406.151	0	-406.155	-2.24435	0.358248
	350		-2.24	11/4/2013 15:20	-406.151	0	0		
	250		-2.43	11/4/2013 15:20	-406.151	0	0		
	150		-2.23	11/4/2013 15:20	-406.151	0	0		
	50		-0.42	11/4/2013 15:20	-406.151	0	0		
106129	450	1524	-2.07	11/4/2013 15:20	-406.151	-406.142	0	-2.3913	0.2112992
	350		-2.4	11/4/2013 15:20	-406.151	0	0		

	250		-2.45	11/4/2013 15:20	-406.151	0	0		
	150		-2.17	11/4/2013 15:20	-406.151	0	0		
	50		-0.45	11/4/2013 15:20	-406.151	0	0		
106116	450	1521	-2.15	11/4/2013 15:20	-406.151	-406.148	0	-2.27782	0.3247736
	350		-2.28	11/4/2013 15:20	-406.151	0	0		
	250		-2.36	11/4/2013 15:20	-406.151	0	0		
	150		-2.12	11/4/2013 15:20	-406.151	0	0		
	50		-0.56	11/4/2013 15:20	-406.151	0	0		
106118	450	1528	-2.62	11/4/2013 15:20	-406.151	-406.132	0	-2.6026	0
	350		-2.62	11/4/2013 15:20	-406.151	0	0		
	250		-2.53	11/4/2013 15:20	-406.151	0	0		
	150		-2.34	11/4/2013 15:20	-406.151	0	0		
	50		-0.43	11/4/2013 15:20	-406.151	0	0		
106120	450	1547	-2.44	11/4/2013 15:53	-406.069	0	-406.089	-2.53958	0.0869192
	350		-2.52	11/4/2013 15:53	-406.069	0	0		
	250		-2.58	11/4/2013 15:53	-406.069	0	0		
	150		-2.45	11/4/2013 15:53	-406.069	0	0		
	50		-0.34	11/4/2013 15:53	-406.069	0	0		
106115	450	1540	-2.45	11/4/2013 15:53	-406.069	0	-406.105	-2.6448	-0.0183072
	350		-2.61	11/4/2013 15:53	-406.069	0	0		
	250		-2.64	11/4/2013 15:53	-406.069	0	0		
	150		-2.37	11/4/2013 15:53	-406.069	0	0		
	50		-0.33	11/4/2013 15:53	-406.069	0	0		
106113	450	1551	-2.14	11/4/2013 15:53	-406.069	0	-406.078	-2.3287	0.2977952
	350		-2.32	11/4/2013 15:53	-406.069	0	0		
	250		-2.51	11/4/2013 15:53	-406.069	0	0		
	150		-2.32	11/4/2013 15:53	-406.069	0	0		
	50		-0.42	11/4/2013 15:53	-406.069	0	0		
106129	450	1555	-2.14	11/4/2013 15:53	-406.069	-406.06	0	-2.4313	0.1951968
	350		-2.44	11/4/2013 15:53	-406.069	0	0		
	250		-2.51	11/4/2013 15:53	-406.069	0	0		
	150		-2.23	11/4/2013 15:53	-406.069	0	0		
	50		-0.46	11/4/2013 15:53	-406.069	0	0		
106116	450	1559	-2.32	11/4/2013 15:53	-406.069	-406.042	0	-2.3639	0.2625984
	350		-2.39	11/4/2013 15:53	-406.069	0	0		
	250		-2.44	11/4/2013 15:53	-406.069	0	0		
	150		-2.17	11/4/2013 15:53	-406.069	0	0		
	50		-0.54	11/4/2013 15:53	-406.069	0	0		
106118	450	1603	-2.68	11/4/2013 15:53	-406.069	-406.024	0	-2.6265	0
	350		-2.67	11/4/2013 15:53	-406.069	0	0		
	250		-2.59	11/4/2013 15:53	-406.069	0	0		
	150		-2.4	11/4/2013 15:53	-406.069	0	0		
	50		-0.42	11/4/2013 15:53	-406.069	0	0		

Well ID	Depth	Minimum distance to extraction well	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106120	450			718	-1.28	11/4/2013 7:21	-407.517	0	-407.497	-1.10858	0.1900614			
	350				-1.29	11/4/2013 7:21	-407.517	0	0					
	250				-1.12	11/4/2013 7:21	-407.517	0	0					
	150				-1.13	11/4/2013 7:21	-407.517	0	0					
	50				0.13	11/4/2013 7:21	-407.517	0	0					
106115	450			724	-1.46	11/4/2013 7:21	-407.517	-407.537	0	-1.27142	0.0272218			
	350				-1.41	11/4/2013 7:21	-407.517	0	0					
	250				-1.26	11/4/2013 7:21	-407.517	0	0					
	150				-0.99	11/4/2013 7:21	-407.517	0	0					
	50				0.15	11/4/2013 7:21	-407.517	0	0					
106113	450			713	-1.44	11/4/2013 7:21	-407.517	0	-407.463	-1.21955	0.0790944			
	350				-1.49	11/4/2013 7:21	-407.517	0	0					
	250				-1.25	11/4/2013 7:21	-407.517	0	0					
	150				-1.02	11/4/2013 7:21	-407.517	0	0					
	50				0.1	11/4/2013 7:21	-407.517	0	0					
106129	450			737	-1.32	11/4/2013 7:21	-407.517	-407.626	0	-1.08091	0.217736			
	350				-1.32	11/4/2013 7:21	-407.517	0	0					
	250				-1.02	11/4/2013 7:21	-407.517	0	0					
	150				-0.74	11/4/2013 7:21	-407.517	0	0					
	50				0.12	11/4/2013 7:21	-407.517	0	0					
106116	450			732	-1.16	11/4/2013 7:21	-407.517	-407.592	0	-1.07187	0.226769			
	350				-1.27	11/4/2013 7:21	-407.517	0	0					
	250				-1.03	11/4/2013 7:21	-407.517	0	0					
	150				-0.77	11/4/2013 7:21	-407.517	0	0					
	50				0.05	11/4/2013 7:21	-407.517	0	0					
106118	450			657	-1.56	11/4/2013 7:21	-407.517	0	-407.354	-1.29864	0			
	350				-1.53	11/4/2013 7:21	-407.517	0	0					
	250				-1.39	11/4/2013 7:21	-407.517	0	0					
	150				-1.18	11/4/2013 7:21	-407.517	0	0					
	50				0.01	11/4/2013 7:21	-407.517	0	0					
106120	450			817	-0.99	11/4/2013 8:21	-407.784	0	-407.775	-0.85492	0.036495267			
	350				-1.05	11/4/2013 8:21	-407.784	0	0					
	250				-0.86	11/4/2013 8:21	-407.784	0	0					
	150				-0.7	11/4/2013 8:21	-407.784	0	0					
	50				0.3	11/4/2013 8:21	-407.784	0	0					
106115	450			814	-1.05	11/4/2013 8:21	-407.784	0	-407.768	-0.95112	-0.059698133			
	350				-1.07	11/4/2013 8:21	-407.784	0	0					
	250				-0.96	11/4/2013 8:21	-407.784	0	0					
	150				-0.67	11/4/2013 8:21	-407.784	0	0					
	50				0.27	11/4/2013 8:21	-407.784	0	0					
106113	450			820	-0.73	11/4/2013 8:21	-407.784	0	-407.782	-0.78873	0.102688667			
	350				-0.87	11/4/2013 8:21	-407.784	0	0					
	250				-0.79	11/4/2013 8:21	-407.784	0	0					
	150				-0.58	11/4/2013 8:21	-407.784	0	0					

	50		0.26	11/4/2013 8:21	-407.784	0	0			
106129	450	828	-0.68	11/4/2013 8:21	-407.784	-407.8	0	-0.75888	0.132537733	
	350		-0.87	11/4/2013 8:21	-407.784	0	0			
	250		-0.75	11/4/2013 8:21	-407.784	0	0			
	150		-0.47	11/4/2013 8:21	-407.784	0	0			
	50		0.19	11/4/2013 8:21	-407.784	0	0			
106116	450	822	-0.62	11/4/2013 8:21	-407.784	-407.787	0	-0.69127	0.200150933	
	350		-0.82	11/4/2013 8:21	-407.784	0	0			
	250		-0.69	11/4/2013 8:21	-407.784	0	0			
	150		-0.42	11/4/2013 8:21	-407.784	0	0			
	50		0.19	11/4/2013 8:21	-407.784	0	0			
106118	450	830	-1.04	11/4/2013 8:21	-407.784	-407.805	0	-0.89142	0	
	350		-1	11/4/2013 8:21	-407.784	0	0			
	250		-0.88	11/4/2013 8:21	-407.784	0	0			
	150		-0.69	11/4/2013 8:21	-407.784	0	0			
	50		0.1	11/4/2013 8:21	-407.784	0	0			
106120	450	847	-0.91	11/4/2013 8:52	-407.855	0	-407.843	-0.81366	0.056495267	
	350		-0.97	11/4/2013 8:52	-407.855	0	0			
	250		-0.82	11/4/2013 8:52	-407.855	0	0			
	150		-0.68	11/4/2013 8:52	-407.855	0	0			
	50		0.2	11/4/2013 8:52	-407.855	0	0			
106115	450	842	-0.96	11/4/2013 8:52	-407.855	0	-407.832	-0.90731	-0.0371604	
	350		-1.05	11/4/2013 8:52	-407.855	0	0			
	250		-0.92	11/4/2013 8:52	-407.855	0	0			
	150		-0.66	11/4/2013 8:52	-407.855	0	0			
	50		0.2	11/4/2013 8:52	-407.855	0	0			
106113	450	850	-0.64	11/4/2013 8:52	-407.855	0	-407.85	-0.75746	0.112688667	
	350		-0.77	11/4/2013 8:52	-407.855	0	0			
	250		-0.76	11/4/2013 8:52	-407.855	0	0			
	150		-0.59	11/4/2013 8:52	-407.855	0	0			
	50		0.18	11/4/2013 8:52	-407.855	0	0			
106129	450	856	-0.58	11/4/2013 8:52	-407.855	-407.864	0	-0.77508	0.095075467	
	350		-0.83	11/4/2013 8:52	-407.855	0	0			
	250		-0.77	11/4/2013 8:52	-407.855	0	0			
	150		-0.48	11/4/2013 8:52	-407.855	0	0			
	50		0.12	11/4/2013 8:52	-407.855	0	0			
106116	450	853	-0.68	11/4/2013 8:52	-407.855	-407.857	0	-0.70127	0.168882067	
	350		-0.8	11/4/2013 8:52	-407.855	0	0			
	250		-0.7	11/4/2013 8:52	-407.855	0	0			
	150		-0.46	11/4/2013 8:52	-407.855	0	0			
	50		0.1	11/4/2013 8:52	-407.855	0	0			
106118	450	900	-0.99	11/4/2013 8:52	-407.855	-407.873	0	-0.87015	0	
	350		-0.98	11/4/2013 8:52	-407.855	0	0			
	250		-0.86	11/4/2013 8:52	-407.855	0	0			
	150		-0.69	11/4/2013 8:52	-407.855	0	0			
	50		0.09	11/4/2013 8:52	-407.855	0	0			
106120	450	913	-0.85	11/4/2013 9:17	-407.911	0	-407.902	-0.83492	0.0952264	

	350		-0.96	11/4/2013 9:17	-407.911	0	0			
	250		-0.84	11/4/2013 9:17	-407.911	0	0			
	150		-0.71	11/4/2013 9:17	-407.911	0	0			
	50		0.12	11/4/2013 9:17	-407.911	0	-407.893	-1.02985	-0.099698133	
106115	450	909	-0.91	11/4/2013 9:17	-407.911	0	0			
	350		-1.04	11/4/2013 9:17	-407.911	0	0			
	250		-0.92	11/4/2013 9:17	-407.911	0	0			
	150		-0.66	11/4/2013 9:17	-407.911	0	0			
	50		0.13	11/4/2013 9:17	-407.911	0	0			
106113	450	915	-0.62	11/4/2013 9:17	-407.911	0	-407.907	-0.78746	0.142688667	
	350		-0.77	11/4/2013 9:17	-407.911	0	0			
	250		-0.79	11/4/2013 9:17	-407.911	0	0			
	150		-0.61	11/4/2013 9:17	-407.911	0	0			
	50		0.09	11/4/2013 9:17	-407.911	0	0			
106129	450	921	-0.62	11/4/2013 9:17	-407.911	-407.92	0	-0.81508	0.115075467	
	350		-0.87	11/4/2013 9:17	-407.911	0	0			
	250		-0.81	11/4/2013 9:17	-407.911	0	0			
	150		-0.55	11/4/2013 9:17	-407.911	0	0			
	50		0.02	11/4/2013 9:17	-407.911	0	0			
106116	450	918	-0.8	11/4/2013 9:17	-407.911	-407.913	0	-0.75127	0.178882067	
	350		-0.83	11/4/2013 9:17	-407.911	0	0			
	250		-0.75	11/4/2013 9:17	-407.911	0	0			
	150		-0.51	11/4/2013 9:17	-407.911	0	0			
	50		0	11/4/2013 9:17	-407.911	0	0			
106118	450	925	-1.08	11/4/2013 9:17	-407.911	-407.929	0	-0.93015	0	
	350		-1.04	11/4/2013 9:17	-407.911	0	0			
	250		-0.92	11/4/2013 9:17	-407.911	0	0			
	150		-0.75	11/4/2013 9:17	-407.911	0	0			
	50		-0.01	11/4/2013 9:17	-407.911	0	0			
106120	450	945	-0.93	11/4/2013 9:50	-407.85	0	-407.975	-0.96979	-0.012476333	
	350		-0.99	11/4/2013 9:50	-407.85	0	0			
	250		-0.9	11/4/2013 9:50	-407.85	0	0			
	150		-0.77	11/4/2013 9:50	-407.85	0	0			
	50		0.05	11/4/2013 9:50	-407.85	0	0			
106115	450	940	-0.93	11/4/2013 9:50	-407.85	0	-407.963	-1.01344	-0.056132	
	350		-1.02	11/4/2013 9:50	-407.85	0	0			
	250		-0.95	11/4/2013 9:50	-407.85	0	0			
	150		-0.74	11/4/2013 9:50	-407.85	0	0			
	50		0.05	11/4/2013 9:50	-407.85	0	0			
106113	450	948	-0.67	11/4/2013 9:50	-407.85	0	-407.981	-0.93359	0.023717067	
	350		-0.8	11/4/2013 9:50	-407.85	0	0			
	250		-0.86	11/4/2013 9:50	-407.85	0	0			
	150		-0.71	11/4/2013 9:50	-407.85	0	0			
	50		0	11/4/2013 9:50	-407.85	0	0			
106129	450	955	-0.64	11/4/2013 9:50	-407.85	-407.839	0	-0.83366	0.123655667	
	350		-0.9	11/4/2013 9:50	-407.85	0	0			
	250		-0.84	11/4/2013 9:50	-407.85	0	0			

	150		-0.65	11/4/2013 9:50	-407.85	0	0			
	50		-0.03	11/4/2013 9:50	-407.85	0	0			
106116	450	952	-0.84	11/4/2013 9:50	-407.85	-407.845	0	-0.80746	0.149849067	
	350		-0.88	11/4/2013 9:50	-407.85	0	0			
	250		-0.81	11/4/2013 9:50	-407.85	0	0			
	150		-0.6	11/4/2013 9:50	-407.85	0	0			
	50		-0.07	11/4/2013 9:50	-407.85	0	0			
106118	450	1000	-1.11	11/4/2013 9:50	-407.85	-407.827	0	-0.95731	0	
	350		-1.07	11/4/2013 9:50	-407.85	0	0			
	250		-0.97	11/4/2013 9:50	-407.85	0	0			
	150		-0.82	11/4/2013 9:50	-407.85	0	0			
	50		-0.05	11/4/2013 9:50	-407.85	0	0			
106120	450	1016	-1.01	11/4/2013 10:20	-407.782	0	-407.791	-1.00508	0.046042467	
	350		-1.05	11/4/2013 10:20	-407.782	0	0			
	250		-1	11/4/2013 10:20	-407.782	0	0			
	150		-0.85	11/4/2013 10:20	-407.782	0	0			
	50		-0.02	11/4/2013 10:20	-407.782	0	0			
106115	450	1013	-1.02	11/4/2013 10:20	-407.782	0	-407.798	-1.08888	-0.037764133	
	350		-1.14	11/4/2013 10:20	-407.782	0	0			
	250		-1.08	11/4/2013 10:20	-407.782	0	0			
	150		-0.83	11/4/2013 10:20	-407.782	0	0			
	50		-0.02	11/4/2013 10:20	-407.782	0	0			
106113	450	1019	-0.7	11/4/2013 10:20	-407.782	0	-407.784	-0.93127	0.119849067	
	350		-0.86	11/4/2013 10:20	-407.782	0	0			
	250		-0.93	11/4/2013 10:20	-407.782	0	0			
	150		-0.77	11/4/2013 10:20	-407.782	0	0			
	50		-0.06	11/4/2013 10:20	-407.782	0	0			
106129	450	1032	-0.71	11/4/2013 10:20	-407.782	-407.755	0	-0.95477	0.096344333	
	350		-0.97	11/4/2013 10:20	-407.782	0	0			
	250		-0.97	11/4/2013 10:20	-407.782	0	0			
	150		-0.64	11/4/2013 10:20	-407.782	0	0			
	50		-0.08	11/4/2013 10:20	-407.782	0	0			
106116	450	1021	-0.91	11/4/2013 10:20	-407.782	-407.78	0	-0.87873	0.1723868	
	350		-0.92	11/4/2013 10:20	-407.782	0	0			
	250		-0.88	11/4/2013 10:20	-407.782	0	0			
	150		-0.68	11/4/2013 10:20	-407.782	0	0			
	50		-0.1	11/4/2013 10:20	-407.782	0	0			
106118	450	1027	-1.19	11/4/2013 10:20	-407.782	-407.766	0	-1.05112	0	
	350		-1.17	11/4/2013 10:20	-407.782	0	0			
	250		-1.06	11/4/2013 10:20	-407.782	0	0			
	150		0.91	11/4/2013 10:20	-407.782	0	0			
	50		-0.12	11/4/2013 10:20	-407.782	0	0			
106120	450	1045	-1.07	11/4/2013 10:51	-407.707	0	-407.725	-1.12015	0.065589667	
	350		-1.14	11/4/2013 10:51	-407.707	0	0			
	250		-1.11	11/4/2013 10:51	-407.707	0	0			
	150		-0.98	11/4/2013 10:51	-407.707	0	0			
	50		-0.1	11/4/2013 10:51	-407.707	0	0			

106115	450	1040	-1.09	11/4/2013 10:51	-407.707	0	-407.737	-1.1665	0.019245333	
	350		-1.22	11/4/2013 10:51	-407.707	0	0			
	250		-1.15	11/4/2013 10:51	-407.707	0	0			
	150		-0.93	11/4/2013 10:51	-407.707	0	0			
	50		-0.06	11/4/2013 10:51	-407.707	0	0			
106113	450	1049	-0.79	11/4/2013 10:51	-407.707	0	-407.716	-1.06508	0.120665133	
	350		-0.95	11/4/2013 10:51	-407.707	0	0			
	250		-1.06	11/4/2013 10:51	-407.707	0	0			
	150		-0.91	11/4/2013 10:51	-407.707	0	0			
	50		-0.13	11/4/2013 10:51	-407.707	0	0			
106129	450	1056	-0.81	11/4/2013 10:51	-407.707	-407.673	0	-1.07097	0.1147736	
	350		-1.08	11/4/2013 10:51	-407.707	0	0			
	250		-1.09	11/4/2013 10:51	-407.707	0	0			
	150		-0.88	11/4/2013 10:51	-407.707	0	0			
	50		-0.16	11/4/2013 10:51	-407.707	0	0			
106116	450	1052	-1.01	11/4/2013 10:51	-407.707	-407.7	0	-1.02619	0.1595472	
	350		-1.06	11/4/2013 10:51	-407.707	0	0			
	250		-1.03	11/4/2013 10:51	-407.707	0	0			
	150		-0.84	11/4/2013 10:51	-407.707	0	0			
	50		-0.22	11/4/2013 10:51	-407.707	0	0			
106118	450	1100	-1.32	11/4/2013 10:51	-407.707	-407.646	0	-1.18574	0	
	350		-1.3	11/4/2013 10:51	-407.707	0	0			
	250		-1.22	11/4/2013 10:51	-407.707	0	0			
	150		-1.07	11/4/2013 10:51	-407.707	0	0			
	50		-0.22	11/4/2013 10:51	-407.707	0	0			
106120	450	1114	-1.18	11/4/2013 11:21	-407.503	0	-407.551	-1.23665	0.0590944	
	350		-1.23	11/4/2013 11:21	-407.503	0	0			
	250		-1.21	11/4/2013 11:21	-407.503	0	0			
	150		-1.07	11/4/2013 11:21	-407.503	0	0			
	50		-0.16	11/4/2013 11:21	-407.503	0	0			
106115	450	1110	-1.21	11/4/2013 11:21	-407.503	0	-407.578	-1.31187	-0.016132	
	350		-1.34	11/4/2013 11:21	-407.503	0	0			
	250		-1.27	11/4/2013 11:21	-407.503	0	0			
	150		-1.05	11/4/2013 11:21	-407.503	0	0			
	50		-0.14	11/4/2013 11:21	-407.503	0	0			
106113	450	1117	-0.89	11/4/2013 11:21	-407.503	0	-407.531	-1.19523	0.1005142	
	350		-1.06	11/4/2013 11:21	-407.503	0	0			
	250		-1.18	11/4/2013 11:21	-407.503	0	0			
	150		-1.04	11/4/2013 11:21	-407.503	0	0			
	50		-0.2	11/4/2013 11:21	-407.503	0	0			
106129	450	1126	-0.94	11/4/2013 11:21	-407.503	-407.469	0	-1.20097	0.0947736	
	350		-1.21	11/4/2013 11:21	-407.503	0	0			
	250		-1.22	11/4/2013 11:21	-407.503	0	0			
	150		-1.02	11/4/2013 11:21	-407.503	0	0			
	50		-0.23	11/4/2013 11:21	-407.503	0	0			
106116	450	1124	-1.14	11/4/2013 11:21	-407.503	-407.483	0	-1.17858	0.1171604	
	350		-1.18	11/4/2013 11:21	-407.503	0	0			

	250		-1.19	11/4/2013 11:21	-407.503	0	0		
	150		-0.99	11/4/2013 11:21	-407.503	0	0		
	50		-0.3	11/4/2013 11:21	-407.503	0	0		
106118	450	1130	-1.49	11/4/2013 11:21	-407.503	-407.442	0	-1.29574	0
	350		-1.46	11/4/2013 11:21	-407.503	0	0		
	250		-1.33	11/4/2013 11:21	-407.503	0	0		
	150		-1.2	11/4/2013 11:21	-407.503	0	0		
	50		-0.27	11/4/2013 11:21	-407.503	0	0		
106120	450	1147	-1.39	11/4/2013 11:52	-407.293	0	-407.327	-1.46903	0.1190944
	350		-1.45	11/4/2013 11:52	-407.293	0	0		
	250		-1.45	11/4/2013 11:52	-407.293	0	0		
	150		-1.34	11/4/2013 11:52	-407.293	0	0		
	50		-0.27	11/4/2013 11:52	-407.293	0	0		
106115	450	1142	-1.4	11/4/2013 11:52	-407.293	0	-407.361	-1.53807	0.0500614
	350		-1.49	11/4/2013 11:52	-407.293	0	0		
	250		-1.5	11/4/2013 11:52	-407.293	0	0		
	150		-1.28	11/4/2013 11:52	-407.293	0	0		
	50		-0.25	11/4/2013 11:52	-407.293	0	0		
106113	450	1150	-1.17	11/4/2013 11:52	-407.293	0	-407.306	-1.44761	0.1405142
	350		-1.31	11/4/2013 11:52	-407.293	0	0		
	250		-1.44	11/4/2013 11:52	-407.293	0	0		
	150		-1.31	11/4/2013 11:52	-407.293	0	0		
	50		-0.33	11/4/2013 11:52	-407.293	0	0		
106129	450	1158	-1.16	11/4/2013 11:52	-407.293	-407.252	0	-1.47716	0.110967
	350		-1.44	11/4/2013 11:52	-407.293	0	0		
	250		-1.5	11/4/2013 11:52	-407.293	0	0		
	150		-1.29	11/4/2013 11:52	-407.293	0	0		
	50		-0.38	11/4/2013 11:52	-407.293	0	0		
106116	450	1154	-1.36	11/4/2013 11:52	-407.293	-407.279	0	-1.40239	0.1857406
	350		-1.39	11/4/2013 11:52	-407.293	0	0		
	250		-1.41	11/4/2013 11:52	-407.293	0	0		
	150		-1.24	11/4/2013 11:52	-407.293	0	0		
	50		-0.42	11/4/2013 11:52	-407.293	0	0		
106118	450	1203	-1.73	11/4/2013 11:52	-407.293	-407.218	0	-1.58813	0
	350		-1.71	11/4/2013 11:52	-407.293	0	0		
	250		-1.63	11/4/2013 11:52	-407.293	0	0		
	150		-1.49	11/4/2013 11:52	-407.293	0	0		
	50		-0.4	11/4/2013 11:52	-407.293	0	0		
106120	450	1216	-1.64	11/4/2013 12:20	-407.102	0	-407.129	-1.71523	0.0581274
	350		-1.73	11/4/2013 12:20	-407.102	0	0		
	250		-1.7	11/4/2013 12:20	-407.102	0	0		
	150		-1.57	11/4/2013 12:20	-407.102	0	0		
	50		-0.37	11/4/2013 12:20	-407.102	0	0		
106115	450	1212	-1.6	11/4/2013 12:20	-407.102	0	-407.157	-1.78045	-0.007099
	350		-1.78	11/4/2013 12:20	-407.102	0	0		
	250		-1.75	11/4/2013 12:20	-407.102	0	0		
	150		-1.52	11/4/2013 12:20	-407.102	0	0		

	50		-0.32	11/4/2013 12:20	-407.102	0	0		
106113	450	1219	-1.31	11/4/2013 12:20	-407.102	0	-407.109	-1.66381	0.1095472
	350		-1.52	11/4/2013 12:20	-407.102	0	0		
	250		-1.66	11/4/2013 12:20	-407.102	0	0		
	150		-1.52	11/4/2013 12:20	-407.102	0	0		
	50		-0.42	11/4/2013 12:20	-407.102	0	0		
106129	450	1223	-1.42	11/4/2013 12:20	-407.102	-407.082	0	-1.71858	0.0547736
	350		-1.69	11/4/2013 12:20	-407.102	0	0		
	250		-1.73	11/4/2013 12:20	-407.102	0	0		
	150		-1.5	11/4/2013 12:20	-407.102	0	0		
	50		-0.45	11/4/2013 12:20	-407.102	0	0		
106116	450	1221	-1.56	11/4/2013 12:20	-407.102	-407.095	0	-1.64619	0.1271604
	350		-1.62	11/4/2013 12:20	-407.102	0	0		
	250		-1.65	11/4/2013 12:20	-407.102	0	0		
	150		-1.44	11/4/2013 12:20	-407.102	0	0		
	50		-0.52	11/4/2013 12:20	-407.102	0	0		
106118	450	1227	-1.92	11/4/2013 12:20	-407.102	-407.055	0	-1.77335	0
	350		-1.91	11/4/2013 12:20	-407.102	0	0		
	250		-1.8	11/4/2013 12:20	-407.102	0	0		
	150		-1.65	11/4/2013 12:20	-407.102	0	0		
	50		-0.46	11/4/2013 12:20	-407.102	0	0		
106120	450	1247	-1.85	11/4/2013 12:53	-406.878	0	-406.919	-1.98284	0.012901
	350		-1.93	11/4/2013 12:53	-406.878	0	0		
	250		-1.96	11/4/2013 12:53	-406.878	0	0		
	150		-1.82	11/4/2013 12:53	-406.878	0	0		
	50		-0.44	11/4/2013 12:53	-406.878	0	0		
106115	450	1243	-1.86	11/4/2013 12:53	-406.878	0	-406.946	-2.05807	-0.0623254
	350		-1.97	11/4/2013 12:53	-406.878	0	0		
	250		-2.02	11/4/2013 12:53	-406.878	0	0		
	150		-1.77	11/4/2013 12:53	-406.878	0	0		
	50		-0.42	11/4/2013 12:53	-406.878	0	0		
106113	450	1251	-1.53	11/4/2013 12:53	-406.878	0	-406.892	-1.91761	0.0781274
	350		-1.78	11/4/2013 12:53	-406.878	0	0		
	250		-1.91	11/4/2013 12:53	-406.878	0	0		
	150		-1.8	11/4/2013 12:53	-406.878	0	0		
	50		-0.49	11/4/2013 12:53	-406.878	0	0		
106129	450	1257	-1.56	11/4/2013 12:53	-406.878	-406.851	0	-1.87477	0.120967
	350		-1.83	11/4/2013 12:53	-406.878	0	0		
	250		-1.89	11/4/2013 12:53	-406.878	0	0		
	150		-1.69	11/4/2013 12:53	-406.878	0	0		
	50		-0.46	11/4/2013 12:53	-406.878	0	0		
106116	450	1254	-1.75	11/4/2013 12:53	-406.878	-406.871	0	-1.82619	0.1695472
	350		-1.8	11/4/2013 12:53	-406.878	0	0		
	250		-1.83	11/4/2013 12:53	-406.878	0	0		
	150		-1.64	11/4/2013 12:53	-406.878	0	0		
	50		-0.54	11/4/2013 12:53	-406.878	0	0		
106118	450	1302	-2.13	11/4/2013 12:53	-406.878	-406.817	0	-1.99574	0

	350		-2.11	11/4/2013 12:53	-406.878	0	0		
	250		-2.03	11/4/2013 12:53	-406.878	0	0		
	150		-1.86	11/4/2013 12:53	-406.878	0	0		
	50		-0.49	11/4/2013 12:53	-406.878	0	0		
106120	450	1317	-1.94	11/4/2013 13:20	-406.694	0	-406.715	-2.05142	-0.0066462
	350		-2.01	11/4/2013 13:20	-406.694	0	0		
	250		-2.04	11/4/2013 13:20	-406.694	0	0		
	150		-1.9	11/4/2013 13:20	-406.694	0	0		
	50		-0.36	11/4/2013 13:20	-406.694	0	0		
106115	450	1314	-1.97	11/4/2013 13:20	-406.694	0	-406.735	-2.11284	-0.068066
	350		-2.1	11/4/2013 13:20	-406.694	0	0		
	250		-2.09	11/4/2013 13:20	-406.694	0	0		
	150		-1.85	11/4/2013 13:20	-406.694	0	0		
	50		-0.33	11/4/2013 13:20	-406.694	0	0		
106113	450	1319	-1.59	11/4/2013 13:20	-406.694	0	-406.701	-1.96381	0.080967
	350		-1.82	11/4/2013 13:20	-406.694	0	0		
	250		-1.96	11/4/2013 13:20	-406.694	0	0		
	150		-1.82	11/4/2013 13:20	-406.694	0	0		
	50		-0.42	11/4/2013 13:20	-406.694	0	0		
106129	450	1328	-1.68	11/4/2013 13:20	-406.694	-406.64	0	-1.97955	0.0652264
	350		-1.96	11/4/2013 13:20	-406.694	0	0		
	250		-2.01	11/4/2013 13:20	-406.694	0	0		
	150		-1.79	11/4/2013 13:20	-406.694	0	0		
	50		-0.43	11/4/2013 13:20	-406.694	0	0		
106116	450	1321	-1.87	11/4/2013 13:20	-406.694	-406.688	0	-1.90619	0.1385802
	350		-1.9	11/4/2013 13:20	-406.694	0	0		
	250		-1.91	11/4/2013 13:20	-406.694	0	0		
	150		-1.67	11/4/2013 13:20	-406.694	0	0		
	50		-0.53	11/4/2013 13:20	-406.694	0	0		
106118	450	1324	-2.14	11/4/2013 13:20	-406.694	-406.667	0	-2.04477	0
	350		-2.16	11/4/2013 13:20	-406.694	0	0		
	250		-2.06	11/4/2013 13:20	-406.694	0	0		
	150		-1.91	11/4/2013 13:20	-406.694	0	0		
	50		-0.43	11/4/2013 13:20	-406.694	0	0		
106120	450	1345	-2.11	11/4/2013 13:50	-406.491	0	-406.524	-2.23903	0.023051933
	350		-2.18	11/4/2013 13:50	-406.491	0	0		
	250		-2.22	11/4/2013 13:50	-406.491	0	0		
	150		-2.11	11/4/2013 13:50	-406.491	0	0		
	50		-0.43	11/4/2013 13:50	-406.491	0	0		
106115	450	1341	-2.1	11/4/2013 13:50	-406.491	0	-406.552	-2.22426	0.037825533
	350		-2.18	11/4/2013 13:50	-406.491	0	0		
	250		-2.19	11/4/2013 13:50	-406.491	0	0		
	150		-2.04	11/4/2013 13:50	-406.491	0	0		
	50		-0.4	11/4/2013 13:50	-406.491	0	0		
106113	450	1348	-1.8	11/4/2013 13:50	-406.491	0	-406.504	-2.15761	0.104471733
	350		-2	11/4/2013 13:50	-406.491	0	0		
	250		-2.15	11/4/2013 13:50	-406.491	0	0		

	150		-2	11/4/2013 13:50	-406.491	0	0			
	50		-0.48	11/4/2013 13:50	-406.491	0	0			
106129	450	1356	-1.85	11/4/2013 13:50	-406.491	-406.463	0	-2.15477	0.107311333	
	350		-2.12	11/4/2013 13:50	-406.491	0	0			
	250		-2.17	11/4/2013 13:50	-406.491	0	0			
	150		-1.95	11/4/2013 13:50	-406.491	0	0			
	50		-0.5	11/4/2013 13:50	-406.491	0	0			
106116	450	1352	-1.99	11/4/2013 13:50	-406.491	-406.481	0	-2.11492	0.1471604	
	350		-2.09	11/4/2013 13:50	-406.491	0	0			
	250		-2.12	11/4/2013 13:50	-406.491	0	0			
	150		-1.89	11/4/2013 13:50	-406.491	0	0			
	50		-0.6	11/4/2013 13:50	-406.491	0	0			
106118	450	1401	-2.33	11/4/2013 13:50	-406.491	-406.441	0	-2.26208	0	
	350		-2.37	11/4/2013 13:50	-406.491	0	0			
	250		-2.29	11/4/2013 13:50	-406.491	0	0			
	150		-2.14	11/4/2013 13:50	-406.491	0	0			
	50		-0.51	11/4/2013 13:50	-406.491	0	0			
106120	450	1415	-2.2	11/4/2013 14:19	-406.359	0	-406.377	-2.33015	0.0095472	
	350		-2.29	11/4/2013 14:19	-406.359	0	0			
	250		-2.32	11/4/2013 14:19	-406.359	0	0			
	150		-2.15	11/4/2013 14:19	-406.359	0	0			
	50		-0.39	11/4/2013 14:19	-406.359	0	0			
106115	450	1412	-2.27	11/4/2013 14:19	-406.359	0	-406.391	-2.43776	-0.098066	
	350		-2.39	11/4/2013 14:19	-406.359	0	0			
	250		-2.42	11/4/2013 14:19	-406.359	0	0			
	150		-2.14	11/4/2013 14:19	-406.359	0	0			
	50		-0.37	11/4/2013 14:19	-406.359	0	0			
106113	450	1417	-1.88	11/4/2013 14:19	-406.359	0	-406.368	-2.26508	0.074622667	
	350		-2.1	11/4/2013 14:19	-406.359	0	0			
	250		-2.26	11/4/2013 14:19	-406.359	0	0			
	150		-2.09	11/4/2013 14:19	-406.359	0	0			
	50		-0.45	11/4/2013 14:19	-406.359	0	0			
106129	450	1423	-1.93	11/4/2013 14:19	-406.359	-406.341	0	-2.26985	0.069849067	
	350		-2.23	11/4/2013 14:19	-406.359	0	0			
	250		-2.28	11/4/2013 14:19	-406.359	0	0			
	150		-2.01	11/4/2013 14:19	-406.359	0	0			
	50		-0.47	11/4/2013 14:19	-406.359	0	0			
106116	450	1420	-1.87	11/4/2013 14:19	-406.359	-406.355	0	-2.18746	0.152235867	
	350		-2.1	11/4/2013 14:19	-406.359	0	0			
	250		-2.19	11/4/2013 14:19	-406.359	0	0			
	150		-1.95	11/4/2013 14:19	-406.359	0	0			
	50		-0.58	11/4/2013 14:19	-406.359	0	0			
106118	450	1427	-2.48	11/4/2013 14:19	-406.359	-406.323	0	-2.3397	0	
	350		-2.46	11/4/2013 14:19	-406.359	0	0			
	250		-2.36	11/4/2013 14:19	-406.359	0	0			
	150		-2.19	11/4/2013 14:19	-406.359	0	0			
	50		-0.49	11/4/2013 14:19	-406.359	0	0			

106120	450	1445	-2.31	11/4/2013 14:51	-406.216	0	-406.241	-2.46396	0.0033538
	350		-2.39	11/4/2013 14:51	-406.216	0	0		
	250		-2.45	11/4/2013 14:51	-406.216	0	0		
	150		-2.34	11/4/2013 14:51	-406.216	0	0		
	50		-0.4	11/4/2013 14:51	-406.216	0	0		
106115	450	1440	-2.37	11/4/2013 14:51	-406.216	0	-406.264	-2.52665	-0.059334867
	350		-2.45	11/4/2013 14:51	-406.216	0	0		
	250		-2.5	11/4/2013 14:51	-406.216	0	0		
	150		-2.25	11/4/2013 14:51	-406.216	0	0		
	50		-0.4	11/4/2013 14:51	-406.216	0	0		
106113	450	1448	-2.07	11/4/2013 14:51	-406.216	0	-406.228	-2.37634	0.090967
	350		-2.18	11/4/2013 14:51	-406.216	0	0		
	250		-2.37	11/4/2013 14:51	-406.216	0	0		
	150		-2.2	11/4/2013 14:51	-406.216	0	0		
	50		-0.47	11/4/2013 14:51	-406.216	0	0		
106129	450	1457	-1.99	11/4/2013 14:51	-406.216	-406.203	0	-2.37239	0.094924533
	350		-2.31	11/4/2013 14:51	-406.216	0	0		
	250		-2.38	11/4/2013 14:51	-406.216	0	0		
	150		-2.12	11/4/2013 14:51	-406.216	0	0		
	50		-0.5	11/4/2013 14:51	-406.216	0	0		
106116	450	1453	-1.88	11/4/2013 14:51	-406.216	-406.212	0	-2.32746	0.139849067
	350		-2.18	11/4/2013 14:51	-406.216	0	0		
	250		-2.33	11/4/2013 14:51	-406.216	0	0		
	150		-2.11	11/4/2013 14:51	-406.216	0	0		
	50		-0.62	11/4/2013 14:51	-406.216	0	0		
106118	450	1501	-2.54	11/4/2013 14:51	-406.216	-406.194	0	-2.46731	0
	350		-2.56	11/4/2013 14:51	-406.216	0	0		
	250		-2.48	11/4/2013 14:51	-406.216	0	0		
	150		-2.29	11/4/2013 14:51	-406.216	0	0		
	50		-0.46	11/4/2013 14:51	-406.216	0	0		
106120	450	1516	-2.31	11/4/2013 15:20	-406.151	0	-406.16	-2.50508	0.0147736
	350		-2.44	11/4/2013 15:20	-406.151	0	0		
	250		-2.5	11/4/2013 15:20	-406.151	0	0		
	150		-2.32	11/4/2013 15:20	-406.151	0	0		
	50		-0.35	11/4/2013 15:20	-406.151	0	0		
106115	450	1513	-2.45	11/4/2013 15:20	-406.151	0	-406.166	-2.60888	-0.089033
	350		-2.52	11/4/2013 15:20	-406.151	0	0		
	250		-2.6	11/4/2013 15:20	-406.151	0	0		
	150		-2.28	11/4/2013 15:20	-406.151	0	0		
	50		-0.31	11/4/2013 15:20	-406.151	0	0		
106113	450	1518	-1.99	11/4/2013 15:20	-406.151	0	-406.155	-2.43254	0.087311333
	350		-2.24	11/4/2013 15:20	-406.151	0	0		
	250		-2.43	11/4/2013 15:20	-406.151	0	0		
	150		-2.23	11/4/2013 15:20	-406.151	0	0		
	50		-0.42	11/4/2013 15:20	-406.151	0	0		
106129	450	1524	-2.07	11/4/2013 15:20	-406.151	-406.142	0	-2.44492	0.074924533
	350		-2.4	11/4/2013 15:20	-406.151	0	0		

	250		-2.45	11/4/2013 15:20	-406.151	0	0		
	150		-2.17	11/4/2013 15:20	-406.151	0	0		
	50		-0.45	11/4/2013 15:20	-406.151	0	0		
106116	450	1521	-2.15	11/4/2013 15:20	-406.151	-406.148	0	-2.35873	0.161117933
	350		-2.28	11/4/2013 15:20	-406.151	0	0		
	250		-2.36	11/4/2013 15:20	-406.151	0	0		
	150		-2.12	11/4/2013 15:20	-406.151	0	0		
	50		-0.56	11/4/2013 15:20	-406.151	0	0		
106118	450	1528	-2.62	11/4/2013 15:20	-406.151	-406.132	0	-2.51985	0
	350		-2.62	11/4/2013 15:20	-406.151	0	0		
	250		-2.53	11/4/2013 15:20	-406.151	0	0		
	150		-2.34	11/4/2013 15:20	-406.151	0	0		
	50		-0.43	11/4/2013 15:20	-406.151	0	0		
106120	450	1547	-2.44	11/4/2013 15:53	-406.069	0	-406.089	-2.59142	-0.026797133
	350		-2.52	11/4/2013 15:53	-406.069	0	0		
	250		-2.58	11/4/2013 15:53	-406.069	0	0		
	150		-2.45	11/4/2013 15:53	-406.069	0	0		
	50		-0.34	11/4/2013 15:53	-406.069	0	0		
106115	450	1540	-2.45	11/4/2013 15:53	-406.069	0	-406.105	-2.6603	-0.0956792
	350		-2.61	11/4/2013 15:53	-406.069	0	0		
	250		-2.64	11/4/2013 15:53	-406.069	0	0		
	150		-2.37	11/4/2013 15:53	-406.069	0	0		
	50		-0.33	11/4/2013 15:53	-406.069	0	0		
106113	450	1551	-2.14	11/4/2013 15:53	-406.069	0	-406.078	-2.51508	0.0495472
	350		-2.32	11/4/2013 15:53	-406.069	0	0		
	250		-2.51	11/4/2013 15:53	-406.069	0	0		
	150		-2.32	11/4/2013 15:53	-406.069	0	0		
	50		-0.42	11/4/2013 15:53	-406.069	0	0		
106129	450	1555	-2.14	11/4/2013 15:53	-406.069	-406.06	0	-2.50492	0.059698133
	350		-2.44	11/4/2013 15:53	-406.069	0	0		
	250		-2.51	11/4/2013 15:53	-406.069	0	0		
	150		-2.23	11/4/2013 15:53	-406.069	0	0		
	50		-0.46	11/4/2013 15:53	-406.069	0	0		
106116	450	1559	-2.32	11/4/2013 15:53	-406.069	-406.042	0	-2.42477	0.139849067
	350		-2.39	11/4/2013 15:53	-406.069	0	0		
	250		-2.44	11/4/2013 15:53	-406.069	0	0		
	150		-2.17	11/4/2013 15:53	-406.069	0	0		
	50		-0.54	11/4/2013 15:53	-406.069	0	0		
106118	450	1603	-2.68	11/4/2013 15:53	-406.069	-406.024	0	-2.56462	0
	350		-2.67	11/4/2013 15:53	-406.069	0	0		
	250		-2.59	11/4/2013 15:53	-406.069	0	0		
	150		-2.4	11/4/2013 15:53	-406.069	0	0		
	50		-0.42	11/4/2013 15:53	-406.069	0	0		

Well ID	Depth	Minimum distance to extraction well	Monitoring round	Time	Vacuum (in	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences
106120	450			718	-1.28	11/4/2013 7:21	-407.517	0	-407.497	-1.11715	-0.03993
	350				-1.29	11/4/2013 7:21	-407.517	0	0		
	250				-1.12	11/4/2013 7:21	-407.517	0	0		
	150				-1.13	11/4/2013 7:21	-407.517	0	0		
	50				0.13	11/4/2013 7:21	-407.517	0	0		
106115	450			724	-1.46	11/4/2013 7:21	-407.517	-407.537	0	-1.00285	0.074375
	350				-1.41	11/4/2013 7:21	-407.517	0	0		
	250				-1.26	11/4/2013 7:21	-407.517	0	0		
	150				-0.99	11/4/2013 7:21	-407.517	0	0		
	50				0.15	11/4/2013 7:21	-407.517	0	0		
106113	450			713	-1.44	11/4/2013 7:21	-407.517	0	-407.463	-0.98574	0.091481
	350				-1.49	11/4/2013 7:21	-407.517	0	0		
	250				-1.25	11/4/2013 7:21	-407.517	0	0		
	150				-1.02	11/4/2013 7:21	-407.517	0	0		
	50				0.1	11/4/2013 7:21	-407.517	0	0		
106129	450			737	-1.32	11/4/2013 7:21	-407.517	-407.626	0	-0.80852	0.268703
	350				-1.32	11/4/2013 7:21	-407.517	0	0		
	250				-1.02	11/4/2013 7:21	-407.517	0	0		
	150				-0.74	11/4/2013 7:21	-407.517	0	0		
	50				0.12	11/4/2013 7:21	-407.517	0	0		
106116	450			732	-1.16	11/4/2013 7:21	-407.517	-407.592	0	-0.81711	0.260115
	350				-1.27	11/4/2013 7:21	-407.517	0	0		
	250				-1.03	11/4/2013 7:21	-407.517	0	0		
	150				-0.77	11/4/2013 7:21	-407.517	0	0		
	50				0.05	11/4/2013 7:21	-407.517	0	0		
106118	450			657	-1.56	11/4/2013 7:21	-407.517	0	-407.354	-1.07722	0
	350				-1.53	11/4/2013 7:21	-407.517	0	0		
	250				-1.39	11/4/2013 7:21	-407.517	0	0		
	150				-1.18	11/4/2013 7:21	-407.517	0	0		
	50				0.01	11/4/2013 7:21	-407.517	0	0		
106120	450			817	-0.99	11/4/2013 8:21	-407.784	0	-407.775	-0.69429	0.008557
	350				-1.05	11/4/2013 8:21	-407.784	0	0		
	250				-0.86	11/4/2013 8:21	-407.784	0	0		
	150				-0.7	11/4/2013 8:21	-407.784	0	0		
	50				0.3	11/4/2013 8:21	-407.784	0	0		
106115	450			814	-1.05	11/4/2013 8:21	-407.784	0	-407.768	-0.66001	0.04284
	350				-1.07	11/4/2013 8:21	-407.784	0	0		
	250				-0.96	11/4/2013 8:21	-407.784	0	0		
	150				-0.67	11/4/2013 8:21	-407.784	0	0		
	50				0.27	11/4/2013 8:21	-407.784	0	0		

106113	450	820	-0.73	11/4/2013 8:21	-407.784	0	-407.782	-0.57857	0.124275
	350		-0.87	11/4/2013 8:21	-407.784	0	0		
	250		-0.79	11/4/2013 8:21	-407.784	0	0		
	150		-0.58	11/4/2013 8:21	-407.784	0	0		
	50		0.26	11/4/2013 8:21	-407.784	0	0		
106129	450	828	-0.68	11/4/2013 8:21	-407.784	-407.8	0	-0.47999	0.222855
	350		-0.87	11/4/2013 8:21	-407.784	0	0		
	250		-0.75	11/4/2013 8:21	-407.784	0	0		
	150		-0.47	11/4/2013 8:21	-407.784	0	0		
	50		0.19	11/4/2013 8:21	-407.784	0	0		
106116	450	822	-0.62	11/4/2013 8:21	-407.784	-407.787	0	-0.42143	0.28142
	350		-0.82	11/4/2013 8:21	-407.784	0	0		
	250		-0.69	11/4/2013 8:21	-407.784	0	0		
	150		-0.42	11/4/2013 8:21	-407.784	0	0		
	50		0.19	11/4/2013 8:21	-407.784	0	0		
106118	450	830	-1.04	11/4/2013 8:21	-407.784	-407.805	0	-0.70285	0
	350		-1	11/4/2013 8:21	-407.784	0	0		
	250		-0.88	11/4/2013 8:21	-407.784	0	0		
	150		-0.69	11/4/2013 8:21	-407.784	0	0		
	50		0.1	11/4/2013 8:21	-407.784	0	0		
106120	450	847	-0.91	11/4/2013 8:52	-407.855	0	-407.843	-0.67286	0.028557
	350		-0.97	11/4/2013 8:52	-407.855	0	0		
	250		-0.82	11/4/2013 8:52	-407.855	0	0		
	150		-0.68	11/4/2013 8:52	-407.855	0	0		
	50		0.2	11/4/2013 8:52	-407.855	0	0		
106115	450	842	-0.96	11/4/2013 8:52	-407.855	0	-407.832	-0.64573	0.055695
	350		-1.05	11/4/2013 8:52	-407.855	0	0		
	250		-0.92	11/4/2013 8:52	-407.855	0	0		
	150		-0.66	11/4/2013 8:52	-407.855	0	0		
	50		0.2	11/4/2013 8:52	-407.855	0	0		
106113	450	850	-0.64	11/4/2013 8:52	-407.855	0	-407.85	-0.58715	0.114275
	350		-0.77	11/4/2013 8:52	-407.855	0	0		
	250		-0.76	11/4/2013 8:52	-407.855	0	0		
	150		-0.59	11/4/2013 8:52	-407.855	0	0		
	50		0.18	11/4/2013 8:52	-407.855	0	0		
106129	450	856	-0.58	11/4/2013 8:52	-407.855	-407.864	0	-0.48571	0.21571
	350		-0.83	11/4/2013 8:52	-407.855	0	0		
	250		-0.77	11/4/2013 8:52	-407.855	0	0		
	150		-0.48	11/4/2013 8:52	-407.855	0	0		
	50		0.12	11/4/2013 8:52	-407.855	0	0		
106116	450	853	-0.68	11/4/2013 8:52	-407.855	-407.857	0	-0.46143	0.239992
	350		-0.8	11/4/2013 8:52	-407.855	0	0		
	250		-0.7	11/4/2013 8:52	-407.855	0	0		
	150		-0.46	11/4/2013 8:52	-407.855	0	0		
	50		0.1	11/4/2013 8:52	-407.855	0	0		
106118	450	900	-0.99	11/4/2013 8:52	-407.855	-407.873	0	-0.70142	0

	350		-0.98	11/4/2013 8:52	-407.855	0	0		
	250		-0.86	11/4/2013 8:52	-407.855	0	0		
	150		-0.69	11/4/2013 8:52	-407.855	0	0		
	50		0.09	11/4/2013 8:52	-407.855	0	0		
106120	450	913	-0.85	11/4/2013 9:17	-407.911	0	-407.902	-0.70429	0.05713
	350		-0.96	11/4/2013 9:17	-407.911	0	0		
	250		-0.84	11/4/2013 9:17	-407.911	0	0		
	150		-0.71	11/4/2013 9:17	-407.911	0	0		
	50		0.12	11/4/2013 9:17	-407.911	0	-407.893	-0.90858	-0.14716
106115	450	909	-0.91	11/4/2013 9:17	-407.911	0	0		
	350		-1.04	11/4/2013 9:17	-407.911	0	0		
	250		-0.92	11/4/2013 9:17	-407.911	0	0		
	150		-0.66	11/4/2013 9:17	-407.911	0	0		
	50		0.13	11/4/2013 9:17	-407.911	0	0		
106113	450	915	-0.62	11/4/2013 9:17	-407.911	0	-407.907	-0.60715	0.154275
	350		-0.77	11/4/2013 9:17	-407.911	0	0		
	250		-0.79	11/4/2013 9:17	-407.911	0	0		
	150		-0.61	11/4/2013 9:17	-407.911	0	0		
	50		0.09	11/4/2013 9:17	-407.911	0	0		
106129	450	921	-0.62	11/4/2013 9:17	-407.911	-407.92	0	-0.55571	0.20571
	350		-0.87	11/4/2013 9:17	-407.911	0	0		
	250		-0.81	11/4/2013 9:17	-407.911	0	0		
	150		-0.55	11/4/2013 9:17	-407.911	0	0		
	50		0.02	11/4/2013 9:17	-407.911	0	0		
106116	450	918	-0.8	11/4/2013 9:17	-407.911	-407.913	0	-0.51143	0.249992
	350		-0.83	11/4/2013 9:17	-407.911	0	0		
	250		-0.75	11/4/2013 9:17	-407.911	0	0		
	150		-0.51	11/4/2013 9:17	-407.911	0	0		
	50		0	11/4/2013 9:17	-407.911	0	0		
106118	450	925	-1.08	11/4/2013 9:17	-407.911	-407.929	0	-0.76142	0
	350		-1.04	11/4/2013 9:17	-407.911	0	0		
	250		-0.92	11/4/2013 9:17	-407.911	0	0		
	150		-0.75	11/4/2013 9:17	-407.911	0	0		
	50		-0.01	11/4/2013 9:17	-407.911	0	0		
106120	450	945	-0.93	11/4/2013 9:50	-407.85	0	-407.975	-0.84851	-0.04279
	350		-0.99	11/4/2013 9:50	-407.85	0	0		
	250		-0.9	11/4/2013 9:50	-407.85	0	0		
	150		-0.77	11/4/2013 9:50	-407.85	0	0		
	50		0.05	11/4/2013 9:50	-407.85	0	0		
106115	450	940	-0.93	11/4/2013 9:50	-407.85	0	-407.963	-0.81137	-0.00565
	350		-1.02	11/4/2013 9:50	-407.85	0	0		
	250		-0.95	11/4/2013 9:50	-407.85	0	0		
	150		-0.74	11/4/2013 9:50	-407.85	0	0		
	50		0.05	11/4/2013 9:50	-407.85	0	0		
106113	450	948	-0.67	11/4/2013 9:50	-407.85	0	-407.981	-0.79279	0.012932
	350		-0.8	11/4/2013 9:50	-407.85	0	0		

	250		-0.86	11/4/2013 9:50	-407.85	0	0		
	150		-0.71	11/4/2013 9:50	-407.85	0	0		
	50		0	11/4/2013 9:50	-407.85	0	0		
106129	450	955	-0.64	11/4/2013 9:50	-407.85	-407.839	0	-0.64286	0.162863
	350		-0.9	11/4/2013 9:50	-407.85	0	0		
	250		-0.84	11/4/2013 9:50	-407.85	0	0		
	150		-0.65	11/4/2013 9:50	-407.85	0	0		
	50		-0.03	11/4/2013 9:50	-407.85	0	0		
106116	450	952	-0.84	11/4/2013 9:50	-407.85	-407.845	0	-0.59715	0.20858
	350		-0.88	11/4/2013 9:50	-407.85	0	0		
	250		-0.81	11/4/2013 9:50	-407.85	0	0		
	150		-0.6	11/4/2013 9:50	-407.85	0	0		
	50		-0.07	11/4/2013 9:50	-407.85	0	0		
106118	450	1000	-1.11	11/4/2013 9:50	-407.85	-407.827	0	-0.80573	0
	350		-1.07	11/4/2013 9:50	-407.85	0	0		
	250		-0.97	11/4/2013 9:50	-407.85	0	0		
	150		-0.82	11/4/2013 9:50	-407.85	0	0		
	50		-0.05	11/4/2013 9:50	-407.85	0	0		
106120	450	1016	-1.01	11/4/2013 10:20	-407.782	0	-407.791	-0.85571	-1.7757
	350		-1.05	11/4/2013 10:20	-407.782	0	0		
	250		-1	11/4/2013 10:20	-407.782	0	0		
	150		-0.85	11/4/2013 10:20	-407.782	0	0		
	50		-0.02	11/4/2013 10:20	-407.782	0	0		
106115	450	1013	-1.02	11/4/2013 10:20	-407.782	0	-407.798	-0.83999	-1.75998
	350		-1.14	11/4/2013 10:20	-407.782	0	0		
	250		-1.08	11/4/2013 10:20	-407.782	0	0		
	150		-0.83	11/4/2013 10:20	-407.782	0	0		
	50		-0.02	11/4/2013 10:20	-407.782	0	0		
106113	450	1019	-0.7	11/4/2013 10:20	-407.782	0	-407.784	-0.77143	-1.69142
	350		-0.86	11/4/2013 10:20	-407.782	0	0		
	250		-0.93	11/4/2013 10:20	-407.782	0	0		
	150		-0.77	11/4/2013 10:20	-407.782	0	0		
	50		-0.06	11/4/2013 10:20	-407.782	0	0		
106129	450	1032	-0.71	11/4/2013 10:20	-407.782	-407.755	0	-0.62287	-1.54286
	350		-0.97	11/4/2013 10:20	-407.782	0	0		
	250		-0.97	11/4/2013 10:20	-407.782	0	0		
	150		-0.64	11/4/2013 10:20	-407.782	0	0		
	50		-0.08	11/4/2013 10:20	-407.782	0	0		
106116	450	1021	-0.91	11/4/2013 10:20	-407.782	-407.78	0	-0.67857	-1.59856
	350		-0.92	11/4/2013 10:20	-407.782	0	0		
	250		-0.88	11/4/2013 10:20	-407.782	0	0		
	150		-0.68	11/4/2013 10:20	-407.782	0	0		
	50		-0.1	11/4/2013 10:20	-407.782	0	0		
106118	450	1027	-1.19	11/4/2013 10:20	-407.782	-407.766	0	0.919992	0
	350		-1.17	11/4/2013 10:20	-407.782	0	0		
	250		-1.06	11/4/2013 10:20	-407.782	0	0		

	150		0.91	11/4/2013 10:20	-407.782	0	0		
	50		-0.12	11/4/2013 10:20	-407.782	0	0		
106120	450	1045	-1.07	11/4/2013 10:51	-407.707	0	-407.725	-0.99142	0.040038
	350		-1.14	11/4/2013 10:51	-407.707	0	0		
	250		-1.11	11/4/2013 10:51	-407.707	0	0		
	150		-0.98	11/4/2013 10:51	-407.707	0	0		
	50		-0.1	11/4/2013 10:51	-407.707	0	0		
106115	450	1040	-1.09	11/4/2013 10:51	-407.707	0	-407.737	-0.94856	0.082901
	350		-1.22	11/4/2013 10:51	-407.707	0	0		
	250		-1.15	11/4/2013 10:51	-407.707	0	0		
	150		-0.93	11/4/2013 10:51	-407.707	0	0		
	50		-0.06	11/4/2013 10:51	-407.707	0	0		
106113	450	1049	-0.79	11/4/2013 10:51	-407.707	0	-407.716	-0.91571	0.115748
	350		-0.95	11/4/2013 10:51	-407.707	0	0		
	250		-1.06	11/4/2013 10:51	-407.707	0	0		
	150		-0.91	11/4/2013 10:51	-407.707	0	0		
	50		-0.13	11/4/2013 10:51	-407.707	0	0		
106129	450	1056	-0.81	11/4/2013 10:51	-407.707	-407.673	0	-0.85859	0.17287
	350		-1.08	11/4/2013 10:51	-407.707	0	0		
	250		-1.09	11/4/2013 10:51	-407.707	0	0		
	150		-0.88	11/4/2013 10:51	-407.707	0	0		
	50		-0.16	11/4/2013 10:51	-407.707	0	0		
106116	450	1052	-1.01	11/4/2013 10:51	-407.707	-407.7	0	-0.83572	0.195741
	350		-1.06	11/4/2013 10:51	-407.707	0	0		
	250		-1.03	11/4/2013 10:51	-407.707	0	0		
	150		-0.84	11/4/2013 10:51	-407.707	0	0		
	50		-0.22	11/4/2013 10:51	-407.707	0	0		
106118	450	1100	-1.32	11/4/2013 10:51	-407.707	-407.646	0	-1.03146	0
	350		-1.3	11/4/2013 10:51	-407.707	0	0		
	250		-1.22	11/4/2013 10:51	-407.707	0	0		
	150		-1.07	11/4/2013 10:51	-407.707	0	0		
	50		-0.22	11/4/2013 10:51	-407.707	0	0		
106120	450	1114	-1.18	11/4/2013 11:21	-407.503	0	-407.551	-1.09998	0.061481
	350		-1.23	11/4/2013 11:21	-407.503	0	0		
	250		-1.21	11/4/2013 11:21	-407.503	0	0		
	150		-1.07	11/4/2013 11:21	-407.503	0	0		
	50		-0.16	11/4/2013 11:21	-407.503	0	0		
106115	450	1110	-1.21	11/4/2013 11:21	-407.503	0	-407.578	-1.09711	0.064351
	350		-1.34	11/4/2013 11:21	-407.503	0	0		
	250		-1.27	11/4/2013 11:21	-407.503	0	0		
	150		-1.05	11/4/2013 11:21	-407.503	0	0		
	50		-0.14	11/4/2013 11:21	-407.503	0	0		
106113	450	1117	-0.89	11/4/2013 11:21	-407.503	0	-407.531	-1.05713	0.104328
	350		-1.06	11/4/2013 11:21	-407.503	0	0		
	250		-1.18	11/4/2013 11:21	-407.503	0	0		
	150		-1.04	11/4/2013 11:21	-407.503	0	0		

	50		-0.2	11/4/2013 11:21	-407.503	0	0		
106129	450	1126	-0.94	11/4/2013 11:21	-407.503	-407.469	0	-0.99859	0.16287
	350		-1.21	11/4/2013 11:21	-407.503	0	0		
	250		-1.22	11/4/2013 11:21	-407.503	0	0		
	150		-1.02	11/4/2013 11:21	-407.503	0	0		
	50		-0.23	11/4/2013 11:21	-407.503	0	0		
106116	450	1124	-1.14	11/4/2013 11:21	-407.503	-407.483	0	-0.97715	0.184305
	350		-1.18	11/4/2013 11:21	-407.503	0	0		
	250		-1.19	11/4/2013 11:21	-407.503	0	0		
	150		-0.99	11/4/2013 11:21	-407.503	0	0		
	50		-0.3	11/4/2013 11:21	-407.503	0	0		
106118	450	1130	-1.49	11/4/2013 11:21	-407.503	-407.442	0	-1.16146	0
	350		-1.46	11/4/2013 11:21	-407.503	0	0		
	250		-1.33	11/4/2013 11:21	-407.503	0	0		
	150		-1.2	11/4/2013 11:21	-407.503	0	0		
	50		-0.27	11/4/2013 11:21	-407.503	0	0		
106120	450	1147	-1.39	11/4/2013 11:52	-407.293	0	-407.327	-1.36141	0.081481
	350		-1.45	11/4/2013 11:52	-407.293	0	0		
	250		-1.45	11/4/2013 11:52	-407.293	0	0		
	150		-1.34	11/4/2013 11:52	-407.293	0	0		
	50		-0.27	11/4/2013 11:52	-407.293	0	0		
106115	450	1142	-1.4	11/4/2013 11:52	-407.293	0	-407.361	-1.32282	0.120069
	350		-1.49	11/4/2013 11:52	-407.293	0	0		
	250		-1.5	11/4/2013 11:52	-407.293	0	0		
	150		-1.28	11/4/2013 11:52	-407.293	0	0		
	50		-0.25	11/4/2013 11:52	-407.293	0	0		
106113	450	1150	-1.17	11/4/2013 11:52	-407.293	0	-407.306	-1.31856	0.124328
	350		-1.31	11/4/2013 11:52	-407.293	0	0		
	250		-1.44	11/4/2013 11:52	-407.293	0	0		
	150		-1.31	11/4/2013 11:52	-407.293	0	0		
	50		-0.33	11/4/2013 11:52	-407.293	0	0		
106129	450	1158	-1.16	11/4/2013 11:52	-407.293	-407.252	0	-1.26431	0.178588
	350		-1.44	11/4/2013 11:52	-407.293	0	0		
	250		-1.5	11/4/2013 11:52	-407.293	0	0		
	150		-1.29	11/4/2013 11:52	-407.293	0	0		
	50		-0.38	11/4/2013 11:52	-407.293	0	0		
106116	450	1154	-1.36	11/4/2013 11:52	-407.293	-407.279	0	-1.23144	0.211458
	350		-1.39	11/4/2013 11:52	-407.293	0	0		
	250		-1.41	11/4/2013 11:52	-407.293	0	0		
	150		-1.24	11/4/2013 11:52	-407.293	0	0		
	50		-0.42	11/4/2013 11:52	-407.293	0	0		
106118	450	1203	-1.73	11/4/2013 11:52	-407.293	-407.218	0	-1.44289	0
	350		-1.71	11/4/2013 11:52	-407.293	0	0		
	250		-1.63	11/4/2013 11:52	-407.293	0	0		
	150		-1.49	11/4/2013 11:52	-407.293	0	0		
	50		-0.4	11/4/2013 11:52	-407.293	0	0		

106120	450	1216	-1.64	11/4/2013 12:20	-407.102	0	-407.129	-1.58713	0.032893
	350		-1.73	11/4/2013 12:20	-407.102	0	0		
	250		-1.7	11/4/2013 12:20	-407.102	0	0		
	150		-1.57	11/4/2013 12:20	-407.102	0	0		
	50		-0.37	11/4/2013 12:20	-407.102	0	0		
106115	450	1212	-1.6	11/4/2013 12:20	-407.102	0	-407.157	-1.55426	0.065764
	350		-1.78	11/4/2013 12:20	-407.102	0	0		
	250		-1.75	11/4/2013 12:20	-407.102	0	0		
	150		-1.52	11/4/2013 12:20	-407.102	0	0		
	50		-0.32	11/4/2013 12:20	-407.102	0	0		
106113	450	1219	-1.31	11/4/2013 12:20	-407.102	0	-407.109	-1.52428	0.095741
	350		-1.52	11/4/2013 12:20	-407.102	0	0		
	250		-1.66	11/4/2013 12:20	-407.102	0	0		
	150		-1.52	11/4/2013 12:20	-407.102	0	0		
	50		-0.42	11/4/2013 12:20	-407.102	0	0		
106129	450	1223	-1.42	11/4/2013 12:20	-407.102	-407.082	0	-1.48715	0.13287
	350		-1.69	11/4/2013 12:20	-407.102	0	0		
	250		-1.73	11/4/2013 12:20	-407.102	0	0		
	150		-1.5	11/4/2013 12:20	-407.102	0	0		
	50		-0.45	11/4/2013 12:20	-407.102	0	0		
106116	450	1221	-1.56	11/4/2013 12:20	-407.102	-407.095	0	-1.43572	0.184305
	350		-1.62	11/4/2013 12:20	-407.102	0	0		
	250		-1.65	11/4/2013 12:20	-407.102	0	0		
	150		-1.44	11/4/2013 12:20	-407.102	0	0		
	50		-0.52	11/4/2013 12:20	-407.102	0	0		
106118	450	1227	-1.92	11/4/2013 12:20	-407.102	-407.055	0	-1.62002	0
	350		-1.91	11/4/2013 12:20	-407.102	0	0		
	250		-1.8	11/4/2013 12:20	-407.102	0	0		
	150		-1.65	11/4/2013 12:20	-407.102	0	0		
	50		-0.46	11/4/2013 12:20	-407.102	0	0		
106120	450	1247	-1.85	11/4/2013 12:53	-406.878	0	-406.919	-1.84569	-0.02424
	350		-1.93	11/4/2013 12:53	-406.878	0	0		
	250		-1.96	11/4/2013 12:53	-406.878	0	0		
	150		-1.82	11/4/2013 12:53	-406.878	0	0		
	50		-0.44	11/4/2013 12:53	-406.878	0	0		
106115	450	1243	-1.86	11/4/2013 12:53	-406.878	0	-406.946	-1.81282	0.008634
	350		-1.97	11/4/2013 12:53	-406.878	0	0		
	250		-2.02	11/4/2013 12:53	-406.878	0	0		
	150		-1.77	11/4/2013 12:53	-406.878	0	0		
	50		-0.42	11/4/2013 12:53	-406.878	0	0		
106113	450	1251	-1.53	11/4/2013 12:53	-406.878	0	-406.892	-1.80856	0.012893
	350		-1.78	11/4/2013 12:53	-406.878	0	0		
	250		-1.91	11/4/2013 12:53	-406.878	0	0		
	150		-1.8	11/4/2013 12:53	-406.878	0	0		
	50		-0.49	11/4/2013 12:53	-406.878	0	0		
106129	450	1257	-1.56	11/4/2013 12:53	-406.878	-406.851	0	-1.67287	0.148588

	350		-1.83	11/4/2013 12:53	-406.878	0	0		
	250		-1.89	11/4/2013 12:53	-406.878	0	0		
	150		-1.69	11/4/2013 12:53	-406.878	0	0		
	50		-0.46	11/4/2013 12:53	-406.878	0	0		
106116	450	1254	-1.75	11/4/2013 12:53	-406.878	-406.871	0	-1.63572	0.185741
	350		-1.8	11/4/2013 12:53	-406.878	0	0		
	250		-1.83	11/4/2013 12:53	-406.878	0	0		
	150		-1.64	11/4/2013 12:53	-406.878	0	0		
	50		-0.54	11/4/2013 12:53	-406.878	0	0		
106118	450	1302	-2.13	11/4/2013 12:53	-406.878	-406.817	0	-1.82146	0
	350		-2.11	11/4/2013 12:53	-406.878	0	0		
	250		-2.03	11/4/2013 12:53	-406.878	0	0		
	150		-1.86	11/4/2013 12:53	-406.878	0	0		
	50		-0.49	11/4/2013 12:53	-406.878	0	0		
106120	450	1317	-1.94	11/4/2013 13:20	-406.694	0	-406.715	-1.91285	-0.01998
	350		-2.01	11/4/2013 13:20	-406.694	0	0		
	250		-2.04	11/4/2013 13:20	-406.694	0	0		
	150		-1.9	11/4/2013 13:20	-406.694	0	0		
	50		-0.36	11/4/2013 13:20	-406.694	0	0		
106115	450	1314	-1.97	11/4/2013 13:20	-406.694	0	-406.735	-1.87569	0.017176
	350		-2.1	11/4/2013 13:20	-406.694	0	0		
	250		-2.09	11/4/2013 13:20	-406.694	0	0		
	150		-1.85	11/4/2013 13:20	-406.694	0	0		
	50		-0.33	11/4/2013 13:20	-406.694	0	0		
106113	450	1319	-1.59	11/4/2013 13:20	-406.694	0	-406.701	-1.82428	0.068588
	350		-1.82	11/4/2013 13:20	-406.694	0	0		
	250		-1.96	11/4/2013 13:20	-406.694	0	0		
	150		-1.82	11/4/2013 13:20	-406.694	0	0		
	50		-0.42	11/4/2013 13:20	-406.694	0	0		
106129	450	1328	-1.68	11/4/2013 13:20	-406.694	-406.64	0	-1.75574	0.13713
	350		-1.96	11/4/2013 13:20	-406.694	0	0		
	250		-2.01	11/4/2013 13:20	-406.694	0	0		
	150		-1.79	11/4/2013 13:20	-406.694	0	0		
	50		-0.43	11/4/2013 13:20	-406.694	0	0		
106116	450	1321	-1.87	11/4/2013 13:20	-406.694	-406.688	0	-1.66572	0.227153
	350		-1.9	11/4/2013 13:20	-406.694	0	0		
	250		-1.91	11/4/2013 13:20	-406.694	0	0		
	150		-1.67	11/4/2013 13:20	-406.694	0	0		
	50		-0.53	11/4/2013 13:20	-406.694	0	0		
106118	450	1324	-2.14	11/4/2013 13:20	-406.694	-406.667	0	-1.89287	0
	350		-2.16	11/4/2013 13:20	-406.694	0	0		
	250		-2.06	11/4/2013 13:20	-406.694	0	0		
	150		-1.91	11/4/2013 13:20	-406.694	0	0		
	50		-0.43	11/4/2013 13:20	-406.694	0	0		
106120	450	1345	-2.11	11/4/2013 13:50	-406.491	0	-406.524	-2.13141	-0.02282
	350		-2.18	11/4/2013 13:50	-406.491	0	0		

	250		-2.22	11/4/2013 13:50	-406.491	0	0		
	150		-2.11	11/4/2013 13:50	-406.491	0	0		
	50		-0.43	11/4/2013 13:50	-406.491	0	0		
106115	450	1341	-2.1	11/4/2013 13:50	-406.491	0	-406.552	-2.07854	0.030054
	350		-2.18	11/4/2013 13:50	-406.491	0	0		
	250		-2.19	11/4/2013 13:50	-406.491	0	0		
	150		-2.04	11/4/2013 13:50	-406.491	0	0		
	50		-0.4	11/4/2013 13:50	-406.491	0	0		
106113	450	1348	-1.8	11/4/2013 13:50	-406.491	0	-406.504	-2.00856	0.100031
	350		-2	11/4/2013 13:50	-406.491	0	0		
	250		-2.15	11/4/2013 13:50	-406.491	0	0		
	150		-2	11/4/2013 13:50	-406.491	0	0		
	50		-0.48	11/4/2013 13:50	-406.491	0	0		
106129	450	1356	-1.85	11/4/2013 13:50	-406.491	-406.463	0	-1.93287	0.175725
	350		-2.12	11/4/2013 13:50	-406.491	0	0		
	250		-2.17	11/4/2013 13:50	-406.491	0	0		
	150		-1.95	11/4/2013 13:50	-406.491	0	0		
	50		-0.5	11/4/2013 13:50	-406.491	0	0		
106116	450	1352	-1.99	11/4/2013 13:50	-406.491	-406.481	0	-1.88429	0.224305
	350		-2.09	11/4/2013 13:50	-406.491	0	0		
	250		-2.12	11/4/2013 13:50	-406.491	0	0		
	150		-1.89	11/4/2013 13:50	-406.491	0	0		
	50		-0.6	11/4/2013 13:50	-406.491	0	0		
106118	450	1401	-2.33	11/4/2013 13:50	-406.491	-406.441	0	-2.1086	0
	350		-2.37	11/4/2013 13:50	-406.491	0	0		
	250		-2.29	11/4/2013 13:50	-406.491	0	0		
	150		-2.14	11/4/2013 13:50	-406.491	0	0		
	50		-0.51	11/4/2013 13:50	-406.491	0	0		
106120	450	1415	-2.2	11/4/2013 14:19	-406.359	0	-406.377	-2.16142	0.005741
	350		-2.29	11/4/2013 14:19	-406.359	0	0		
	250		-2.32	11/4/2013 14:19	-406.359	0	0		
	150		-2.15	11/4/2013 14:19	-406.359	0	0		
	50		-0.39	11/4/2013 14:19	-406.359	0	0		
106115	450	1412	-2.27	11/4/2013 14:19	-406.359	0	-406.391	-2.15998	0.007176
	350		-2.39	11/4/2013 14:19	-406.359	0	0		
	250		-2.42	11/4/2013 14:19	-406.359	0	0		
	150		-2.14	11/4/2013 14:19	-406.359	0	0		
	50		-0.37	11/4/2013 14:19	-406.359	0	0		
106113	450	1417	-1.88	11/4/2013 14:19	-406.359	0	-406.368	-2.09571	0.071451
	350		-2.1	11/4/2013 14:19	-406.359	0	0		
	250		-2.26	11/4/2013 14:19	-406.359	0	0		
	150		-2.09	11/4/2013 14:19	-406.359	0	0		
	50		-0.45	11/4/2013 14:19	-406.359	0	0		
106129	450	1423	-1.93	11/4/2013 14:19	-406.359	-406.341	0	-1.99858	0.16858
	350		-2.23	11/4/2013 14:19	-406.359	0	0		
	250		-2.28	11/4/2013 14:19	-406.359	0	0		

	150		-2.01	11/4/2013 14:19	-406.359	0	0		
	50		-0.47	11/4/2013 14:19	-406.359	0	0		
106116	450	1420	-1.87	11/4/2013 14:19	-406.359	-406.355	0	-1.94715	0.220015
	350		-2.1	11/4/2013 14:19	-406.359	0	0		
	250		-2.19	11/4/2013 14:19	-406.359	0	0		
	150		-1.95	11/4/2013 14:19	-406.359	0	0		
	50		-0.58	11/4/2013 14:19	-406.359	0	0		
106118	450	1427	-2.48	11/4/2013 14:19	-406.359	-406.323	0	-2.16716	0
	350		-2.46	11/4/2013 14:19	-406.359	0	0		
	250		-2.36	11/4/2013 14:19	-406.359	0	0		
	150		-2.19	11/4/2013 14:19	-406.359	0	0		
	50		-0.49	11/4/2013 14:19	-406.359	0	0		
106120	450	1445	-2.31	11/4/2013 14:51	-406.216	0	-406.241	-2.3557	-0.07998
	350		-2.39	11/4/2013 14:51	-406.216	0	0		
	250		-2.45	11/4/2013 14:51	-406.216	0	0		
	150		-2.34	11/4/2013 14:51	-406.216	0	0		
	50		-0.4	11/4/2013 14:51	-406.216	0	0		
106115	450	1440	-2.37	11/4/2013 14:51	-406.216	0	-406.264	-2.27998	-0.00425
	350		-2.45	11/4/2013 14:51	-406.216	0	0		
	250		-2.5	11/4/2013 14:51	-406.216	0	0		
	150		-2.25	11/4/2013 14:51	-406.216	0	0		
	50		-0.4	11/4/2013 14:51	-406.216	0	0		
106113	450	1448	-2.07	11/4/2013 14:51	-406.216	0	-406.228	-2.20714	0.068588
	350		-2.18	11/4/2013 14:51	-406.216	0	0		
	250		-2.37	11/4/2013 14:51	-406.216	0	0		
	150		-2.2	11/4/2013 14:51	-406.216	0	0		
	50		-0.47	11/4/2013 14:51	-406.216	0	0		
106129	450	1457	-1.99	11/4/2013 14:51	-406.216	-406.203	0	-2.11144	0.16429
	350		-2.31	11/4/2013 14:51	-406.216	0	0		
	250		-2.38	11/4/2013 14:51	-406.216	0	0		
	150		-2.12	11/4/2013 14:51	-406.216	0	0		
	50		-0.5	11/4/2013 14:51	-406.216	0	0		
106116	450	1453	-1.88	11/4/2013 14:51	-406.216	-406.212	0	-2.10715	0.16858
	350		-2.18	11/4/2013 14:51	-406.216	0	0		
	250		-2.33	11/4/2013 14:51	-406.216	0	0		
	150		-2.11	11/4/2013 14:51	-406.216	0	0		
	50		-0.62	11/4/2013 14:51	-406.216	0	0		
106118	450	1501	-2.54	11/4/2013 14:51	-406.216	-406.194	0	-2.27573	0
	350		-2.56	11/4/2013 14:51	-406.216	0	0		
	250		-2.48	11/4/2013 14:51	-406.216	0	0		
	150		-2.29	11/4/2013 14:51	-406.216	0	0		
	50		-0.46	11/4/2013 14:51	-406.216	0	0		
106120	450	1516	-2.31	11/4/2013 15:20	-406.151	0	-406.16	-2.32571	0.00287
	350		-2.44	11/4/2013 15:20	-406.151	0	0		
	250		-2.5	11/4/2013 15:20	-406.151	0	0		
	150		-2.32	11/4/2013 15:20	-406.151	0	0		

	50		-0.35	11/4/2013 15:20	-406.151	0	0		
106115	450	1513	-2.45	11/4/2013 15:20	-406.151	0	-406.166	-2.28999	0.038588
	350		-2.52	11/4/2013 15:20	-406.151	0	0		
	250		-2.6	11/4/2013 15:20	-406.151	0	0		
	150		-2.28	11/4/2013 15:20	-406.151	0	0		
	50		-0.31	11/4/2013 15:20	-406.151	0	0		
106113	450	1518	-1.99	11/4/2013 15:20	-406.151	0	-406.155	-2.23285	0.095725
	350		-2.24	11/4/2013 15:20	-406.151	0	0		
	250		-2.43	11/4/2013 15:20	-406.151	0	0		
	150		-2.23	11/4/2013 15:20	-406.151	0	0		
	50		-0.42	11/4/2013 15:20	-406.151	0	0		
106129	450	1524	-2.07	11/4/2013 15:20	-406.151	-406.142	0	-2.16429	0.16429
	350		-2.4	11/4/2013 15:20	-406.151	0	0		
	250		-2.45	11/4/2013 15:20	-406.151	0	0		
	150		-2.17	11/4/2013 15:20	-406.151	0	0		
	50		-0.45	11/4/2013 15:20	-406.151	0	0		
106116	450	1521	-2.15	11/4/2013 15:20	-406.151	-406.148	0	-2.11857	0.210008
	350		-2.28	11/4/2013 15:20	-406.151	0	0		
	250		-2.36	11/4/2013 15:20	-406.151	0	0		
	150		-2.12	11/4/2013 15:20	-406.151	0	0		
	50		-0.56	11/4/2013 15:20	-406.151	0	0		
106118	450	1528	-2.62	11/4/2013 15:20	-406.151	-406.132	0	-2.32858	0
	350		-2.62	11/4/2013 15:20	-406.151	0	0		
	250		-2.53	11/4/2013 15:20	-406.151	0	0		
	150		-2.34	11/4/2013 15:20	-406.151	0	0		
	50		-0.43	11/4/2013 15:20	-406.151	0	0		
106120	450	1547	-2.44	11/4/2013 15:53	-406.069	0	-406.089	-2.46285	-0.0914
	350		-2.52	11/4/2013 15:53	-406.069	0	0		
	250		-2.58	11/4/2013 15:53	-406.069	0	0		
	150		-2.45	11/4/2013 15:53	-406.069	0	0		
	50		-0.34	11/4/2013 15:53	-406.069	0	0		
106115	450	1540	-2.45	11/4/2013 15:53	-406.069	0	-406.105	-2.39284	-0.02139
	350		-2.61	11/4/2013 15:53	-406.069	0	0		
	250		-2.64	11/4/2013 15:53	-406.069	0	0		
	150		-2.37	11/4/2013 15:53	-406.069	0	0		
	50		-0.33	11/4/2013 15:53	-406.069	0	0		
106113	450	1551	-2.14	11/4/2013 15:53	-406.069	0	-406.078	-2.32571	0.045741
	350		-2.32	11/4/2013 15:53	-406.069	0	0		
	250		-2.51	11/4/2013 15:53	-406.069	0	0		
	150		-2.32	11/4/2013 15:53	-406.069	0	0		
	50		-0.42	11/4/2013 15:53	-406.069	0	0		
106129	450	1555	-2.14	11/4/2013 15:53	-406.069	-406.06	0	-2.22429	0.14716
	350		-2.44	11/4/2013 15:53	-406.069	0	0		
	250		-2.51	11/4/2013 15:53	-406.069	0	0		
	150		-2.23	11/4/2013 15:53	-406.069	0	0		
	50		-0.46	11/4/2013 15:53	-406.069	0	0		

106116	450		1559	-2.32	11/4/2013 15:53	-406.069	-406.042	0	-2.15287	0.21858
	350			-2.39	11/4/2013 15:53	-406.069	0	0		
	250			-2.44	11/4/2013 15:53	-406.069	0	0		
	150			-2.17	11/4/2013 15:53	-406.069	0	0		
	50			-0.54	11/4/2013 15:53	-406.069	0	0		
106118	450		1603	-2.68	11/4/2013 15:53	-406.069	-406.024	0	-2.37145	0
	350			-2.67	11/4/2013 15:53	-406.069	0	0		
	250			-2.59	11/4/2013 15:53	-406.069	0	0		
	150			-2.4	11/4/2013 15:53	-406.069	0	0		
	50			-0.42	11/4/2013 15:53	-406.069	0	0		

Well ID	Depth	Minimum distance to extraction well	Monitoring round	Time	Vacuum (in	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences
106120	450			718	-1.28	11/4/2013 7:21	-407.517	0	-407.497	0.134079	0.091451
	350				-1.29	11/4/2013 7:21	-407.517	0	0		
	250				-1.12	11/4/2013 7:21	-407.517	0	0		
	150				-1.13	11/4/2013 7:21	-407.517	0	0		
	50				0.13	11/4/2013 7:21	-407.517	0	0		
106115	450			724	-1.46	11/4/2013 7:21	-407.517	-407.537	0	0.145921	0.103293
	350				-1.41	11/4/2013 7:21	-407.517	0	0		
	250				-1.26	11/4/2013 7:21	-407.517	0	0		
	150				-0.99	11/4/2013 7:21	-407.517	0	0		
	50				0.15	11/4/2013 7:21	-407.517	0	0		
106113	450			713	-1.44	11/4/2013 7:21	-407.517	0	-407.463	0.110876	0.068248
	350				-1.49	11/4/2013 7:21	-407.517	0	0		
	250				-1.25	11/4/2013 7:21	-407.517	0	0		
	150				-1.02	11/4/2013 7:21	-407.517	0	0		
	50				0.1	11/4/2013 7:21	-407.517	0	0		
106129	450			737	-1.32	11/4/2013 7:21	-407.517	-407.626	0	0.098248	0.05562
	350				-1.32	11/4/2013 7:21	-407.517	0	0		
	250				-1.02	11/4/2013 7:21	-407.517	0	0		
	150				-0.74	11/4/2013 7:21	-407.517	0	0		
	50				0.12	11/4/2013 7:21	-407.517	0	0		
106116	450			732	-1.16	11/4/2013 7:21	-407.517	-407.592	0	0.035046	-0.00758
	350				-1.27	11/4/2013 7:21	-407.517	0	0		
	250				-1.03	11/4/2013 7:21	-407.517	0	0		
	150				-0.77	11/4/2013 7:21	-407.517	0	0		
	50				0.05	11/4/2013 7:21	-407.517	0	0		
106118	450			657	-1.56	11/4/2013 7:21	-407.517	0	-407.354	0.042628	0
	350				-1.53	11/4/2013 7:21	-407.517	0	0		
	250				-1.39	11/4/2013 7:21	-407.517	0	0		
	150				-1.18	11/4/2013 7:21	-407.517	0	0		
	50				0.01	11/4/2013 7:21	-407.517	0	0		
106120	450			817	-0.99	11/4/2013 8:21	-407.784	0	-407.775	0.301813	0.205891
	350				-1.05	11/4/2013 8:21	-407.784	0	0		
	250				-0.86	11/4/2013 8:21	-407.784	0	0		
	150				-0.7	11/4/2013 8:21	-407.784	0	0		
	50				0.3	11/4/2013 8:21	-407.784	0	0		
106115	450			814	-1.05	11/4/2013 8:21	-407.784	0	-407.768	0.273172	0.177251
	350				-1.07	11/4/2013 8:21	-407.784	0	0		
	250				-0.96	11/4/2013 8:21	-407.784	0	0		
	150				-0.67	11/4/2013 8:21	-407.784	0	0		
	50				0.27	11/4/2013 8:21	-407.784	0	0		

106113	450	820	-0.73	11/4/2013 8:21	-407.784	0	-407.782	0.260453	0.164532
	350		-0.87	11/4/2013 8:21	-407.784	0	0		
	250		-0.79	11/4/2013 8:21	-407.784	0	0		
	150		-0.58	11/4/2013 8:21	-407.784	0	0		
	50		0.26	11/4/2013 8:21	-407.784	0	0		
106129	450	828	-0.68	11/4/2013 8:21	-407.784	-407.8	0	0.186828	0.090906
	350		-0.87	11/4/2013 8:21	-407.784	0	0		
	250		-0.75	11/4/2013 8:21	-407.784	0	0		
	150		-0.47	11/4/2013 8:21	-407.784	0	0		
	50		0.19	11/4/2013 8:21	-407.784	0	0		
106116	450	822	-0.62	11/4/2013 8:21	-407.784	-407.787	0	0.189547	0.093625
	350		-0.82	11/4/2013 8:21	-407.784	0	0		
	250		-0.69	11/4/2013 8:21	-407.784	0	0		
	150		-0.42	11/4/2013 8:21	-407.784	0	0		
	50		0.19	11/4/2013 8:21	-407.784	0	0		
106118	450	830	-1.04	11/4/2013 8:21	-407.784	-407.805	0	0.095921	0
	350		-1	11/4/2013 8:21	-407.784	0	0		
	250		-0.88	11/4/2013 8:21	-407.784	0	0		
	150		-0.69	11/4/2013 8:21	-407.784	0	0		
	50		0.1	11/4/2013 8:21	-407.784	0	0		
106120	450	847	-0.91	11/4/2013 8:52	-407.855	0	-407.843	0.202266	0.115891
	350		-0.97	11/4/2013 8:52	-407.855	0	0		
	250		-0.82	11/4/2013 8:52	-407.855	0	0		
	150		-0.68	11/4/2013 8:52	-407.855	0	0		
	50		0.2	11/4/2013 8:52	-407.855	0	0		
106115	450	842	-0.96	11/4/2013 8:52	-407.855	0	-407.832	0.204532	0.118157
	350		-1.05	11/4/2013 8:52	-407.855	0	0		
	250		-0.92	11/4/2013 8:52	-407.855	0	0		
	150		-0.66	11/4/2013 8:52	-407.855	0	0		
	50		0.2	11/4/2013 8:52	-407.855	0	0		
106113	450	850	-0.64	11/4/2013 8:52	-407.855	0	-407.85	0.180906	0.094532
	350		-0.77	11/4/2013 8:52	-407.855	0	0		
	250		-0.76	11/4/2013 8:52	-407.855	0	0		
	150		-0.59	11/4/2013 8:52	-407.855	0	0		
	50		0.18	11/4/2013 8:52	-407.855	0	0		
106129	450	856	-0.58	11/4/2013 8:52	-407.855	-407.864	0	0.118187	0.031813
	350		-0.83	11/4/2013 8:52	-407.855	0	0		
	250		-0.77	11/4/2013 8:52	-407.855	0	0		
	150		-0.48	11/4/2013 8:52	-407.855	0	0		
	50		0.12	11/4/2013 8:52	-407.855	0	0		
106116	450	853	-0.68	11/4/2013 8:52	-407.855	-407.857	0	0.099547	0.013172
	350		-0.8	11/4/2013 8:52	-407.855	0	0		
	250		-0.7	11/4/2013 8:52	-407.855	0	0		
	150		-0.46	11/4/2013 8:52	-407.855	0	0		
	50		0.1	11/4/2013 8:52	-407.855	0	0		
106118	450	900	-0.99	11/4/2013 8:52	-407.855	-407.873	0	0.086375	0

	350		-0.98	11/4/2013 8:52	-407.855	0	0		
	250		-0.86	11/4/2013 8:52	-407.855	0	0		
	150		-0.69	11/4/2013 8:52	-407.855	0	0		
	50		0.09	11/4/2013 8:52	-407.855	0	0		
106120	450	913	-0.85	11/4/2013 9:17	-407.911	0	-407.902	0.121813	0.135438
	350		-0.96	11/4/2013 9:17	-407.911	0	0		
	250		-0.84	11/4/2013 9:17	-407.911	0	0		
	150		-0.71	11/4/2013 9:17	-407.911	0	0		
	50		0.12	11/4/2013 9:17	-407.911	0	-407.893	-0.65637	-0.64275
106115	450	909	-0.91	11/4/2013 9:17	-407.911	0	0		
	350		-1.04	11/4/2013 9:17	-407.911	0	0		
	250		-0.92	11/4/2013 9:17	-407.911	0	0		
	150		-0.66	11/4/2013 9:17	-407.911	0	0		
	50		0.13	11/4/2013 9:17	-407.911	0	0		
106113	450	915	-0.62	11/4/2013 9:17	-407.911	0	-407.907	0.090906	0.104532
	350		-0.77	11/4/2013 9:17	-407.911	0	0		
	250		-0.79	11/4/2013 9:17	-407.911	0	0		
	150		-0.61	11/4/2013 9:17	-407.911	0	0		
	50		0.09	11/4/2013 9:17	-407.911	0	0		
106129	450	921	-0.62	11/4/2013 9:17	-407.911	-407.92	0	0.018187	0.031813
	350		-0.87	11/4/2013 9:17	-407.911	0	0		
	250		-0.81	11/4/2013 9:17	-407.911	0	0		
	150		-0.55	11/4/2013 9:17	-407.911	0	0		
	50		0.02	11/4/2013 9:17	-407.911	0	0		
106116	450	918	-0.8	11/4/2013 9:17	-407.911	-407.913	0	-0.00045	0.013172
	350		-0.83	11/4/2013 9:17	-407.911	0	0		
	250		-0.75	11/4/2013 9:17	-407.911	0	0		
	150		-0.51	11/4/2013 9:17	-407.911	0	0		
	50		0	11/4/2013 9:17	-407.911	0	0		
106118	450	925	-1.08	11/4/2013 9:17	-407.911	-407.929	0	-0.01363	0
	350		-1.04	11/4/2013 9:17	-407.911	0	0		
	250		-0.92	11/4/2013 9:17	-407.911	0	0		
	150		-0.75	11/4/2013 9:17	-407.911	0	0		
	50		-0.01	11/4/2013 9:17	-407.911	0	0		
106120	450	945	-0.93	11/4/2013 9:50	-407.85	0	-407.975	0.025076	0.070544
	350		-0.99	11/4/2013 9:50	-407.85	0	0		
	250		-0.9	11/4/2013 9:50	-407.85	0	0		
	150		-0.77	11/4/2013 9:50	-407.85	0	0		
	50		0.05	11/4/2013 9:50	-407.85	0	0		
106115	450	940	-0.93	11/4/2013 9:50	-407.85	0	-407.963	0.027342	0.07281
	350		-1.02	11/4/2013 9:50	-407.85	0	0		
	250		-0.95	11/4/2013 9:50	-407.85	0	0		
	150		-0.74	11/4/2013 9:50	-407.85	0	0		
	50		0.05	11/4/2013 9:50	-407.85	0	0		
106113	450	948	-0.67	11/4/2013 9:50	-407.85	0	-407.981	-0.02628	0.019185
	350		-0.8	11/4/2013 9:50	-407.85	0	0		

	250		-0.86	11/4/2013 9:50	-407.85	0	0		
	150		-0.71	11/4/2013 9:50	-407.85	0	0		
	50		0	11/4/2013 9:50	-407.85	0	0		
106129	450	955	-0.64	11/4/2013 9:50	-407.85	-407.839	0	-0.02773	0.017734
	350		-0.9	11/4/2013 9:50	-407.85	0	0		
	250		-0.84	11/4/2013 9:50	-407.85	0	0		
	150		-0.65	11/4/2013 9:50	-407.85	0	0		
	50		-0.03	11/4/2013 9:50	-407.85	0	0		
106116	450	952	-0.84	11/4/2013 9:50	-407.85	-407.845	0	-0.06909	-0.02363
	350		-0.88	11/4/2013 9:50	-407.85	0	0		
	250		-0.81	11/4/2013 9:50	-407.85	0	0		
	150		-0.6	11/4/2013 9:50	-407.85	0	0		
	50		-0.07	11/4/2013 9:50	-407.85	0	0		
106118	450	1000	-1.11	11/4/2013 9:50	-407.85	-407.827	0	-0.04547	0
	350		-1.07	11/4/2013 9:50	-407.85	0	0		
	250		-0.97	11/4/2013 9:50	-407.85	0	0		
	150		-0.82	11/4/2013 9:50	-407.85	0	0		
	50		-0.05	11/4/2013 9:50	-407.85	0	0		
106120	450	1016	-1.01	11/4/2013 10:20	-407.782	0	-407.791	-0.02181	0.095015
	350		-1.05	11/4/2013 10:20	-407.782	0	0		
	250		-1	11/4/2013 10:20	-407.782	0	0		
	150		-0.85	11/4/2013 10:20	-407.782	0	0		
	50		-0.02	11/4/2013 10:20	-407.782	0	0		
106115	450	1013	-1.02	11/4/2013 10:20	-407.782	0	-407.798	-0.02317	0.093656
	350		-1.14	11/4/2013 10:20	-407.782	0	0		
	250		-1.08	11/4/2013 10:20	-407.782	0	0		
	150		-0.83	11/4/2013 10:20	-407.782	0	0		
	50		-0.02	11/4/2013 10:20	-407.782	0	0		
106113	450	1019	-0.7	11/4/2013 10:20	-407.782	0	-407.784	-0.06045	0.056375
	350		-0.86	11/4/2013 10:20	-407.782	0	0		
	250		-0.93	11/4/2013 10:20	-407.782	0	0		
	150		-0.77	11/4/2013 10:20	-407.782	0	0		
	50		-0.06	11/4/2013 10:20	-407.782	0	0		
106129	450	1032	-0.71	11/4/2013 10:20	-407.782	-407.755	0	-0.07456	0.042266
	350		-0.97	11/4/2013 10:20	-407.782	0	0		
	250		-0.97	11/4/2013 10:20	-407.782	0	0		
	150		-0.64	11/4/2013 10:20	-407.782	0	0		
	50		-0.08	11/4/2013 10:20	-407.782	0	0		
106116	450	1021	-0.91	11/4/2013 10:20	-407.782	-407.78	0	-0.09955	0.017281
	350		-0.92	11/4/2013 10:20	-407.782	0	0		
	250		-0.88	11/4/2013 10:20	-407.782	0	0		
	150		-0.68	11/4/2013 10:20	-407.782	0	0		
	50		-0.1	11/4/2013 10:20	-407.782	0	0		
106118	450	1027	-1.19	11/4/2013 10:20	-407.782	-407.766	0	-0.11683	0
	350		-1.17	11/4/2013 10:20	-407.782	0	0		
	250		-1.06	11/4/2013 10:20	-407.782	0	0		

	150		0.91	11/4/2013 10:20	-407.782	0	0		
	50		-0.12	11/4/2013 10:20	-407.782	0	0		
106120	450	1045	-1.07	11/4/2013 10:51	-407.707	0	-407.725	-0.10363	0.104139
	350		-1.14	11/4/2013 10:51	-407.707	0	0		
	250		-1.11	11/4/2013 10:51	-407.707	0	0		
	150		-0.98	11/4/2013 10:51	-407.707	0	0		
	50		-0.1	11/4/2013 10:51	-407.707	0	0		
106115	450	1040	-1.09	11/4/2013 10:51	-407.707	0	-407.737	-0.06589	0.141873
	350		-1.22	11/4/2013 10:51	-407.707	0	0		
	250		-1.15	11/4/2013 10:51	-407.707	0	0		
	150		-0.93	11/4/2013 10:51	-407.707	0	0		
	50		-0.06	11/4/2013 10:51	-407.707	0	0		
106113	450	1049	-0.79	11/4/2013 10:51	-407.707	0	-407.716	-0.13181	0.075952
	350		-0.95	11/4/2013 10:51	-407.707	0	0		
	250		-1.06	11/4/2013 10:51	-407.707	0	0		
	150		-0.91	11/4/2013 10:51	-407.707	0	0		
	50		-0.13	11/4/2013 10:51	-407.707	0	0		
106129	450	1056	-0.81	11/4/2013 10:51	-407.707	-407.673	0	-0.1532	0.054562
	350		-1.08	11/4/2013 10:51	-407.707	0	0		
	250		-1.09	11/4/2013 10:51	-407.707	0	0		
	150		-0.88	11/4/2013 10:51	-407.707	0	0		
	50		-0.16	11/4/2013 10:51	-407.707	0	0		
106116	450	1052	-1.01	11/4/2013 10:51	-407.707	-407.7	0	-0.21864	-0.01088
	350		-1.06	11/4/2013 10:51	-407.707	0	0		
	250		-1.03	11/4/2013 10:51	-407.707	0	0		
	150		-0.84	11/4/2013 10:51	-407.707	0	0		
	50		-0.22	11/4/2013 10:51	-407.707	0	0		
106118	450	1100	-1.32	11/4/2013 10:51	-407.707	-407.646	0	-0.20776	0
	350		-1.3	11/4/2013 10:51	-407.707	0	0		
	250		-1.22	11/4/2013 10:51	-407.707	0	0		
	150		-1.07	11/4/2013 10:51	-407.707	0	0		
	50		-0.22	11/4/2013 10:51	-407.707	0	0		
106120	450	1114	-1.18	11/4/2013 11:21	-407.503	0	-407.551	-0.16952	0.088248
	350		-1.23	11/4/2013 11:21	-407.503	0	0		
	250		-1.21	11/4/2013 11:21	-407.503	0	0		
	150		-1.07	11/4/2013 11:21	-407.503	0	0		
	50		-0.16	11/4/2013 11:21	-407.503	0	0		
106115	450	1110	-1.21	11/4/2013 11:21	-407.503	0	-407.578	-0.15495	0.10281
	350		-1.34	11/4/2013 11:21	-407.503	0	0		
	250		-1.27	11/4/2013 11:21	-407.503	0	0		
	150		-1.05	11/4/2013 11:21	-407.503	0	0		
	50		-0.14	11/4/2013 11:21	-407.503	0	0		
106113	450	1117	-0.89	11/4/2013 11:21	-407.503	0	-407.531	-0.20544	0.052326
	350		-1.06	11/4/2013 11:21	-407.503	0	0		
	250		-1.18	11/4/2013 11:21	-407.503	0	0		
	150		-1.04	11/4/2013 11:21	-407.503	0	0		

	50		-0.2	11/4/2013 11:21	-407.503	0	0		
106129	450	1126	-0.94	11/4/2013 11:21	-407.503	-407.469	0	-0.2232	0.034562
	350		-1.21	11/4/2013 11:21	-407.503	0	0		
	250		-1.22	11/4/2013 11:21	-407.503	0	0		
	150		-1.02	11/4/2013 11:21	-407.503	0	0		
	50		-0.23	11/4/2013 11:21	-407.503	0	0		
106116	450	1124	-1.14	11/4/2013 11:21	-407.503	-407.483	0	-0.29592	-0.03816
	350		-1.18	11/4/2013 11:21	-407.503	0	0		
	250		-1.19	11/4/2013 11:21	-407.503	0	0		
	150		-0.99	11/4/2013 11:21	-407.503	0	0		
	50		-0.3	11/4/2013 11:21	-407.503	0	0		
106118	450	1130	-1.49	11/4/2013 11:21	-407.503	-407.442	0	-0.25776	0
	350		-1.46	11/4/2013 11:21	-407.503	0	0		
	250		-1.33	11/4/2013 11:21	-407.503	0	0		
	150		-1.2	11/4/2013 11:21	-407.503	0	0		
	50		-0.27	11/4/2013 11:21	-407.503	0	0		
106120	450	1147	-1.39	11/4/2013 11:52	-407.293	0	-407.327	-0.2768	0.108248
	350		-1.45	11/4/2013 11:52	-407.293	0	0		
	250		-1.45	11/4/2013 11:52	-407.293	0	0		
	150		-1.34	11/4/2013 11:52	-407.293	0	0		
	50		-0.27	11/4/2013 11:52	-407.293	0	0		
106115	450	1142	-1.4	11/4/2013 11:52	-407.293	0	-407.361	-0.26359	0.121451
	350		-1.49	11/4/2013 11:52	-407.293	0	0		
	250		-1.5	11/4/2013 11:52	-407.293	0	0		
	150		-1.28	11/4/2013 11:52	-407.293	0	0		
	50		-0.25	11/4/2013 11:52	-407.293	0	0		
106113	450	1150	-1.17	11/4/2013 11:52	-407.293	0	-407.306	-0.33272	0.052326
	350		-1.31	11/4/2013 11:52	-407.293	0	0		
	250		-1.44	11/4/2013 11:52	-407.293	0	0		
	150		-1.31	11/4/2013 11:52	-407.293	0	0		
	50		-0.33	11/4/2013 11:52	-407.293	0	0		
106129	450	1158	-1.16	11/4/2013 11:52	-407.293	-407.252	0	-0.37184	0.013202
	350		-1.44	11/4/2013 11:52	-407.293	0	0		
	250		-1.5	11/4/2013 11:52	-407.293	0	0		
	150		-1.29	11/4/2013 11:52	-407.293	0	0		
	50		-0.38	11/4/2013 11:52	-407.293	0	0		
106116	450	1154	-1.36	11/4/2013 11:52	-407.293	-407.279	0	-0.41728	-0.03224
	350		-1.39	11/4/2013 11:52	-407.293	0	0		
	250		-1.41	11/4/2013 11:52	-407.293	0	0		
	150		-1.24	11/4/2013 11:52	-407.293	0	0		
	50		-0.42	11/4/2013 11:52	-407.293	0	0		
106118	450	1203	-1.73	11/4/2013 11:52	-407.293	-407.218	0	-0.38505	0
	350		-1.71	11/4/2013 11:52	-407.293	0	0		
	250		-1.63	11/4/2013 11:52	-407.293	0	0		
	150		-1.49	11/4/2013 11:52	-407.293	0	0		
	50		-0.4	11/4/2013 11:52	-407.293	0	0		

106120	450	1216	-1.64	11/4/2013 12:20	-407.102	0	-407.129	-0.37544	0.075046
	350		-1.73	11/4/2013 12:20	-407.102	0	0		
	250		-1.7	11/4/2013 12:20	-407.102	0	0		
	150		-1.57	11/4/2013 12:20	-407.102	0	0		
	50		-0.37	11/4/2013 12:20	-407.102	0	0		
106115	450	1212	-1.6	11/4/2013 12:20	-407.102	0	-407.157	-0.33088	0.119607
	350		-1.78	11/4/2013 12:20	-407.102	0	0		
	250		-1.75	11/4/2013 12:20	-407.102	0	0		
	150		-1.52	11/4/2013 12:20	-407.102	0	0		
	50		-0.32	11/4/2013 12:20	-407.102	0	0		
106113	450	1219	-1.31	11/4/2013 12:20	-407.102	0	-407.109	-0.42136	0.029124
	350		-1.52	11/4/2013 12:20	-407.102	0	0		
	250		-1.66	11/4/2013 12:20	-407.102	0	0		
	150		-1.52	11/4/2013 12:20	-407.102	0	0		
	50		-0.42	11/4/2013 12:20	-407.102	0	0		
106129	450	1223	-1.42	11/4/2013 12:20	-407.102	-407.082	0	-0.44592	0.004562
	350		-1.69	11/4/2013 12:20	-407.102	0	0		
	250		-1.73	11/4/2013 12:20	-407.102	0	0		
	150		-1.5	11/4/2013 12:20	-407.102	0	0		
	50		-0.45	11/4/2013 12:20	-407.102	0	0		
106116	450	1221	-1.56	11/4/2013 12:20	-407.102	-407.095	0	-0.51864	-0.06816
	350		-1.62	11/4/2013 12:20	-407.102	0	0		
	250		-1.65	11/4/2013 12:20	-407.102	0	0		
	150		-1.44	11/4/2013 12:20	-407.102	0	0		
	50		-0.52	11/4/2013 12:20	-407.102	0	0		
106118	450	1227	-1.92	11/4/2013 12:20	-407.102	-407.055	0	-0.45048	0
	350		-1.91	11/4/2013 12:20	-407.102	0	0		
	250		-1.8	11/4/2013 12:20	-407.102	0	0		
	150		-1.65	11/4/2013 12:20	-407.102	0	0		
	50		-0.46	11/4/2013 12:20	-407.102	0	0		
106120	450	1247	-1.85	11/4/2013 12:53	-406.878	0	-406.919	-0.44816	0.029607
	350		-1.93	11/4/2013 12:53	-406.878	0	0		
	250		-1.96	11/4/2013 12:53	-406.878	0	0		
	150		-1.82	11/4/2013 12:53	-406.878	0	0		
	50		-0.44	11/4/2013 12:53	-406.878	0	0		
106115	450	1243	-1.86	11/4/2013 12:53	-406.878	0	-406.946	-0.43359	0.04417
	350		-1.97	11/4/2013 12:53	-406.878	0	0		
	250		-2.02	11/4/2013 12:53	-406.878	0	0		
	150		-1.77	11/4/2013 12:53	-406.878	0	0		
	50		-0.42	11/4/2013 12:53	-406.878	0	0		
106113	450	1251	-1.53	11/4/2013 12:53	-406.878	0	-406.892	-0.49272	-0.01495
	350		-1.78	11/4/2013 12:53	-406.878	0	0		
	250		-1.91	11/4/2013 12:53	-406.878	0	0		
	150		-1.8	11/4/2013 12:53	-406.878	0	0		
	50		-0.49	11/4/2013 12:53	-406.878	0	0		
106129	450	1257	-1.56	11/4/2013 12:53	-406.878	-406.851	0	-0.45456	0.023202

	350		-1.83	11/4/2013 12:53	-406.878	0	0		
	250		-1.89	11/4/2013 12:53	-406.878	0	0		
	150		-1.69	11/4/2013 12:53	-406.878	0	0		
	50		-0.46	11/4/2013 12:53	-406.878	0	0		
106116	450	1254	-1.75	11/4/2013 12:53	-406.878	-406.871	0	-0.53864	-0.06088
	350		-1.8	11/4/2013 12:53	-406.878	0	0		
	250		-1.83	11/4/2013 12:53	-406.878	0	0		
	150		-1.64	11/4/2013 12:53	-406.878	0	0		
	50		-0.54	11/4/2013 12:53	-406.878	0	0		
106118	450	1302	-2.13	11/4/2013 12:53	-406.878	-406.817	0	-0.47776	0
	350		-2.11	11/4/2013 12:53	-406.878	0	0		
	250		-2.03	11/4/2013 12:53	-406.878	0	0		
	150		-1.86	11/4/2013 12:53	-406.878	0	0		
	50		-0.49	11/4/2013 12:53	-406.878	0	0		
106120	450	1317	-1.94	11/4/2013 13:20	-406.694	0	-406.715	-0.36408	0.060484
	350		-2.01	11/4/2013 13:20	-406.694	0	0		
	250		-2.04	11/4/2013 13:20	-406.694	0	0		
	150		-1.9	11/4/2013 13:20	-406.694	0	0		
	50		-0.36	11/4/2013 13:20	-406.694	0	0		
106115	450	1314	-1.97	11/4/2013 13:20	-406.694	0	-406.735	-0.33816	0.086405
	350		-2.1	11/4/2013 13:20	-406.694	0	0		
	250		-2.09	11/4/2013 13:20	-406.694	0	0		
	150		-1.85	11/4/2013 13:20	-406.694	0	0		
	50		-0.33	11/4/2013 13:20	-406.694	0	0		
106113	450	1319	-1.59	11/4/2013 13:20	-406.694	0	-406.701	-0.42136	0.003203
	350		-1.82	11/4/2013 13:20	-406.694	0	0		
	250		-1.96	11/4/2013 13:20	-406.694	0	0		
	150		-1.82	11/4/2013 13:20	-406.694	0	0		
	50		-0.42	11/4/2013 13:20	-406.694	0	0		
106129	450	1328	-1.68	11/4/2013 13:20	-406.694	-406.64	0	-0.41912	0.005438
	350		-1.96	11/4/2013 13:20	-406.694	0	0		
	250		-2.01	11/4/2013 13:20	-406.694	0	0		
	150		-1.79	11/4/2013 13:20	-406.694	0	0		
	50		-0.43	11/4/2013 13:20	-406.694	0	0		
106116	450	1321	-1.87	11/4/2013 13:20	-406.694	-406.688	0	-0.52864	-0.10408
	350		-1.9	11/4/2013 13:20	-406.694	0	0		
	250		-1.91	11/4/2013 13:20	-406.694	0	0		
	150		-1.67	11/4/2013 13:20	-406.694	0	0		
	50		-0.53	11/4/2013 13:20	-406.694	0	0		
106118	450	1324	-2.14	11/4/2013 13:20	-406.694	-406.667	0	-0.42456	0
	350		-2.16	11/4/2013 13:20	-406.694	0	0		
	250		-2.06	11/4/2013 13:20	-406.694	0	0		
	150		-1.91	11/4/2013 13:20	-406.694	0	0		
	50		-0.43	11/4/2013 13:20	-406.694	0	0		
106120	450	1345	-2.11	11/4/2013 13:50	-406.491	0	-406.524	-0.4368	0.063233
	350		-2.18	11/4/2013 13:50	-406.491	0	0		

	250		-2.22	11/4/2013 13:50	-406.491	0	0		
	150		-2.11	11/4/2013 13:50	-406.491	0	0		
	50		-0.43	11/4/2013 13:50	-406.491	0	0		
106115	450	1341	-2.1	11/4/2013 13:50	-406.491	0	-406.552	-0.41224	0.087795
	350		-2.18	11/4/2013 13:50	-406.491	0	0		
	250		-2.19	11/4/2013 13:50	-406.491	0	0		
	150		-2.04	11/4/2013 13:50	-406.491	0	0		
	50		-0.4	11/4/2013 13:50	-406.491	0	0		
106113	450	1348	-1.8	11/4/2013 13:50	-406.491	0	-406.504	-0.48272	0.017311
	350		-2	11/4/2013 13:50	-406.491	0	0		
	250		-2.15	11/4/2013 13:50	-406.491	0	0		
	150		-2	11/4/2013 13:50	-406.491	0	0		
	50		-0.48	11/4/2013 13:50	-406.491	0	0		
106129	450	1356	-1.85	11/4/2013 13:50	-406.491	-406.463	0	-0.49456	0.005468
	350		-2.12	11/4/2013 13:50	-406.491	0	0		
	250		-2.17	11/4/2013 13:50	-406.491	0	0		
	150		-1.95	11/4/2013 13:50	-406.491	0	0		
	50		-0.5	11/4/2013 13:50	-406.491	0	0		
106116	450	1352	-1.99	11/4/2013 13:50	-406.491	-406.481	0	-0.59819	-0.09816
	350		-2.09	11/4/2013 13:50	-406.491	0	0		
	250		-2.12	11/4/2013 13:50	-406.491	0	0		
	150		-1.89	11/4/2013 13:50	-406.491	0	0		
	50		-0.6	11/4/2013 13:50	-406.491	0	0		
106118	450	1401	-2.33	11/4/2013 13:50	-406.491	-406.441	0	-0.50003	0
	350		-2.37	11/4/2013 13:50	-406.491	0	0		
	250		-2.29	11/4/2013 13:50	-406.491	0	0		
	150		-2.14	11/4/2013 13:50	-406.491	0	0		
	50		-0.51	11/4/2013 13:50	-406.491	0	0		
106120	450	1415	-2.2	11/4/2013 14:19	-406.359	0	-406.377	-0.39363	0.089124
	350		-2.29	11/4/2013 14:19	-406.359	0	0		
	250		-2.32	11/4/2013 14:19	-406.359	0	0		
	150		-2.15	11/4/2013 14:19	-406.359	0	0		
	50		-0.39	11/4/2013 14:19	-406.359	0	0		
106115	450	1412	-2.27	11/4/2013 14:19	-406.359	0	-406.391	-0.37634	0.106405
	350		-2.39	11/4/2013 14:19	-406.359	0	0		
	250		-2.42	11/4/2013 14:19	-406.359	0	0		
	150		-2.14	11/4/2013 14:19	-406.359	0	0		
	50		-0.37	11/4/2013 14:19	-406.359	0	0		
106113	450	1417	-1.88	11/4/2013 14:19	-406.359	0	-406.368	-0.45181	0.030937
	350		-2.1	11/4/2013 14:19	-406.359	0	0		
	250		-2.26	11/4/2013 14:19	-406.359	0	0		
	150		-2.09	11/4/2013 14:19	-406.359	0	0		
	50		-0.45	11/4/2013 14:19	-406.359	0	0		
106129	450	1423	-1.93	11/4/2013 14:19	-406.359	-406.341	0	-0.46637	0.016375
	350		-2.23	11/4/2013 14:19	-406.359	0	0		
	250		-2.28	11/4/2013 14:19	-406.359	0	0		

	150		-2.01	11/4/2013 14:19	-406.359	0	0		
	50		-0.47	11/4/2013 14:19	-406.359	0	0		
106116	450	1420	-1.87	11/4/2013 14:19	-406.359	-406.355	0	-0.57909	-0.09634
	350		-2.1	11/4/2013 14:19	-406.359	0	0		
	250		-2.19	11/4/2013 14:19	-406.359	0	0		
	150		-1.95	11/4/2013 14:19	-406.359	0	0		
	50		-0.58	11/4/2013 14:19	-406.359	0	0		
106118	450	1427	-2.48	11/4/2013 14:19	-406.359	-406.323	0	-0.48275	0
	350		-2.46	11/4/2013 14:19	-406.359	0	0		
	250		-2.36	11/4/2013 14:19	-406.359	0	0		
	150		-2.19	11/4/2013 14:19	-406.359	0	0		
	50		-0.49	11/4/2013 14:19	-406.359	0	0		
106120	450	1445	-2.31	11/4/2013 14:51	-406.216	0	-406.241	-0.40498	0.050484
	350		-2.39	11/4/2013 14:51	-406.216	0	0		
	250		-2.45	11/4/2013 14:51	-406.216	0	0		
	150		-2.34	11/4/2013 14:51	-406.216	0	0		
	50		-0.4	11/4/2013 14:51	-406.216	0	0		
106115	450	1440	-2.37	11/4/2013 14:51	-406.216	0	-406.264	-0.40952	0.045952
	350		-2.45	11/4/2013 14:51	-406.216	0	0		
	250		-2.5	11/4/2013 14:51	-406.216	0	0		
	150		-2.25	11/4/2013 14:51	-406.216	0	0		
	50		-0.4	11/4/2013 14:51	-406.216	0	0		
106113	450	1448	-2.07	11/4/2013 14:51	-406.216	0	-406.228	-0.47227	-0.0168
	350		-2.18	11/4/2013 14:51	-406.216	0	0		
	250		-2.37	11/4/2013 14:51	-406.216	0	0		
	150		-2.2	11/4/2013 14:51	-406.216	0	0		
	50		-0.47	11/4/2013 14:51	-406.216	0	0		
106129	450	1457	-1.99	11/4/2013 14:51	-406.216	-406.203	0	-0.49728	-0.04181
	350		-2.31	11/4/2013 14:51	-406.216	0	0		
	250		-2.38	11/4/2013 14:51	-406.216	0	0		
	150		-2.12	11/4/2013 14:51	-406.216	0	0		
	50		-0.5	11/4/2013 14:51	-406.216	0	0		
106116	450	1453	-1.88	11/4/2013 14:51	-406.216	-406.212	0	-0.61909	-0.16363
	350		-2.18	11/4/2013 14:51	-406.216	0	0		
	250		-2.33	11/4/2013 14:51	-406.216	0	0		
	150		-2.11	11/4/2013 14:51	-406.216	0	0		
	50		-0.62	11/4/2013 14:51	-406.216	0	0		
106118	450	1501	-2.54	11/4/2013 14:51	-406.216	-406.194	0	-0.45547	0
	350		-2.56	11/4/2013 14:51	-406.216	0	0		
	250		-2.48	11/4/2013 14:51	-406.216	0	0		
	150		-2.29	11/4/2013 14:51	-406.216	0	0		
	50		-0.46	11/4/2013 14:51	-406.216	0	0		
106120	450	1516	-2.31	11/4/2013 15:20	-406.151	0	-406.16	-0.35181	0.074562
	350		-2.44	11/4/2013 15:20	-406.151	0	0		
	250		-2.5	11/4/2013 15:20	-406.151	0	0		
	150		-2.32	11/4/2013 15:20	-406.151	0	0		

	50		-0.35	11/4/2013 15:20	-406.151	0	0		
106115	450	1513	-2.45	11/4/2013 15:20	-406.151	0	-406.166	-0.31317	0.113203
	350		-2.52	11/4/2013 15:20	-406.151	0	0		
	250		-2.6	11/4/2013 15:20	-406.151	0	0		
	150		-2.28	11/4/2013 15:20	-406.151	0	0		
	50		-0.31	11/4/2013 15:20	-406.151	0	0		
106113	450	1518	-1.99	11/4/2013 15:20	-406.151	0	-406.155	-0.42091	0.005468
	350		-2.24	11/4/2013 15:20	-406.151	0	0		
	250		-2.43	11/4/2013 15:20	-406.151	0	0		
	150		-2.23	11/4/2013 15:20	-406.151	0	0		
	50		-0.42	11/4/2013 15:20	-406.151	0	0		
106129	450	1524	-2.07	11/4/2013 15:20	-406.151	-406.142	0	-0.44819	-0.02181
	350		-2.4	11/4/2013 15:20	-406.151	0	0		
	250		-2.45	11/4/2013 15:20	-406.151	0	0		
	150		-2.17	11/4/2013 15:20	-406.151	0	0		
	50		-0.45	11/4/2013 15:20	-406.151	0	0		
106116	450	1521	-2.15	11/4/2013 15:20	-406.151	-406.148	0	-0.55955	-0.13317
	350		-2.28	11/4/2013 15:20	-406.151	0	0		
	250		-2.36	11/4/2013 15:20	-406.151	0	0		
	150		-2.12	11/4/2013 15:20	-406.151	0	0		
	50		-0.56	11/4/2013 15:20	-406.151	0	0		
106118	450	1528	-2.62	11/4/2013 15:20	-406.151	-406.132	0	-0.42637	0
	350		-2.62	11/4/2013 15:20	-406.151	0	0		
	250		-2.53	11/4/2013 15:20	-406.151	0	0		
	150		-2.34	11/4/2013 15:20	-406.151	0	0		
	50		-0.43	11/4/2013 15:20	-406.151	0	0		
106120	450	1547	-2.44	11/4/2013 15:53	-406.069	0	-406.089	-0.34408	0.066858
	350		-2.52	11/4/2013 15:53	-406.069	0	0		
	250		-2.58	11/4/2013 15:53	-406.069	0	0		
	150		-2.45	11/4/2013 15:53	-406.069	0	0		
	50		-0.34	11/4/2013 15:53	-406.069	0	0		
106115	450	1540	-2.45	11/4/2013 15:53	-406.069	0	-406.105	-0.33725	0.073686
	350		-2.61	11/4/2013 15:53	-406.069	0	0		
	250		-2.64	11/4/2013 15:53	-406.069	0	0		
	150		-2.37	11/4/2013 15:53	-406.069	0	0		
	50		-0.33	11/4/2013 15:53	-406.069	0	0		
106113	450	1551	-2.14	11/4/2013 15:53	-406.069	0	-406.078	-0.42181	-0.01088
	350		-2.32	11/4/2013 15:53	-406.069	0	0		
	250		-2.51	11/4/2013 15:53	-406.069	0	0		
	150		-2.32	11/4/2013 15:53	-406.069	0	0		
	50		-0.42	11/4/2013 15:53	-406.069	0	0		
106129	450	1555	-2.14	11/4/2013 15:53	-406.069	-406.06	0	-0.45819	-0.04725
	350		-2.44	11/4/2013 15:53	-406.069	0	0		
	250		-2.51	11/4/2013 15:53	-406.069	0	0		
	150		-2.23	11/4/2013 15:53	-406.069	0	0		
	50		-0.46	11/4/2013 15:53	-406.069	0	0		

106116	450	1559	-2.32	11/4/2013 15:53	-406.069	-406.042	0	-0.53456	-0.12363
	350		-2.39	11/4/2013 15:53	-406.069	0	0		
	250		-2.44	11/4/2013 15:53	-406.069	0	0		
	150		-2.17	11/4/2013 15:53	-406.069	0	0		
	50		-0.54	11/4/2013 15:53	-406.069	0	0		
106118	450	1603	-2.68	11/4/2013 15:53	-406.069	-406.024	0	-0.41094	0
	350		-2.67	11/4/2013 15:53	-406.069	0	0		
	250		-2.59	11/4/2013 15:53	-406.069	0	0		
	150		-2.4	11/4/2013 15:53	-406.069	0	0		
	50		-0.42	11/4/2013 15:53	-406.069	0	0		

Well ID	Monitoring	10/4/2013_Time	Value	106118-450 measured	Applied Pressure
106155	1	0742	38	1.56	36.44
106155	2	0812	37.5	1.04	36.46
106155	3	0842	37	0.99	36.01
106155	4	0912	37	1.08	35.92
106155	5	0942	37	1.11	35.89
106155	6	1012	37	1.19	35.81
106155	7	1042	36.5	1.32	35.18
106155	8	1112	36.5	1.49	35.01
106155	9	1142	36	1.73	34.27
106155	10	1212	36	1.92	34.08
106155	11	1242	36	2.13	33.87
106155	12	1312	36	2.14	33.86
106155	13	1342	35	2.33	32.67
106155	14	1412	35.5	2.48	33.02
106155	15	1442	35.5	2.54	32.96
106155	16	1512	35	2.62	32.38
106155	17	1542	34	2.68	31.32

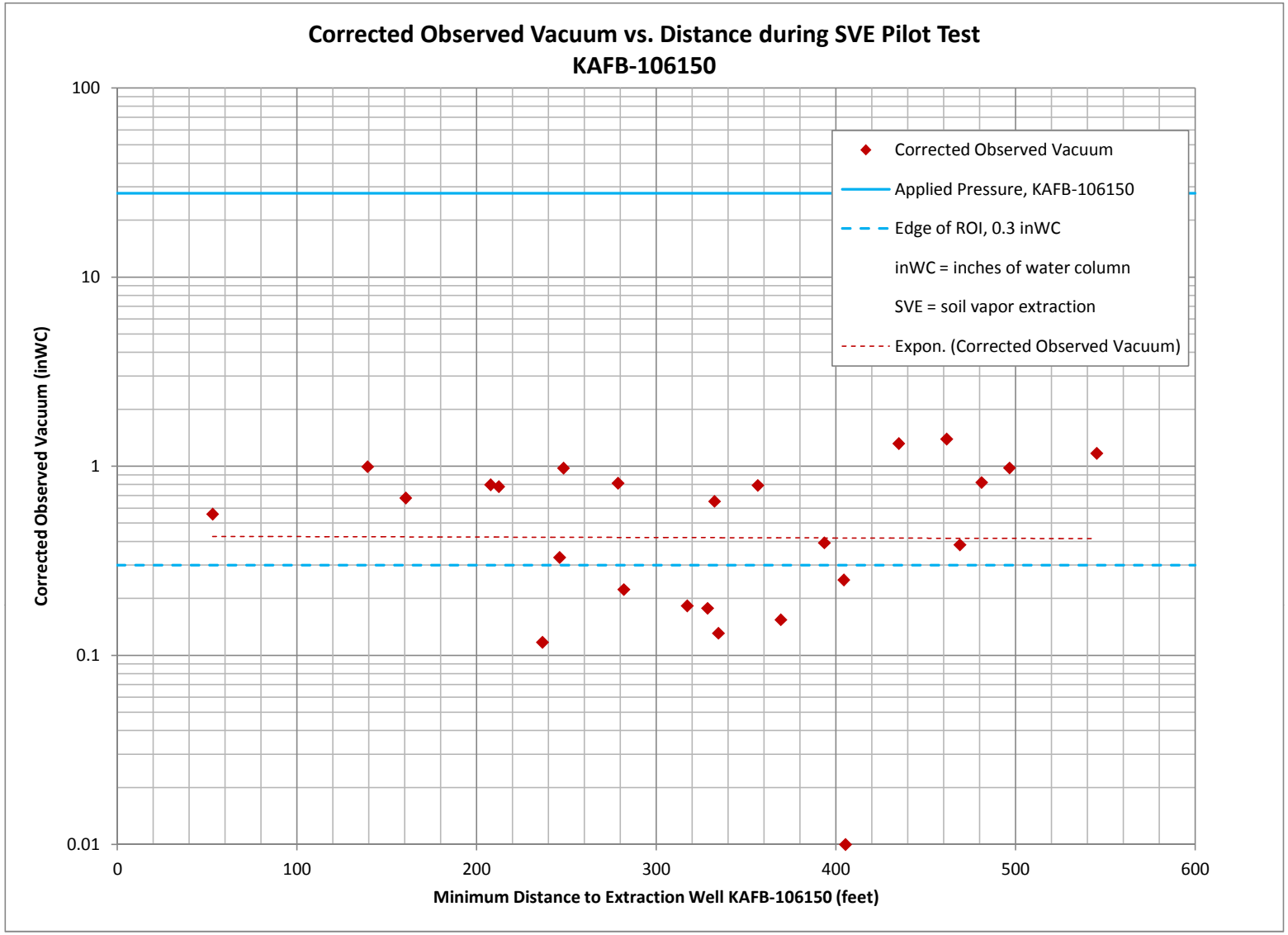
	106120	106115	106113	106129	106116	106118	106120	106115	106113	106129	106116	106118	106120	106115	106113	106129	106116	106118	106120
depth	450	450	450	450	450	450	350	350	350	350	350	350	250	250	250	250	250	250	150
Distance to 106160	285.6743	287.877642	162.6775	88.60261	253.1123	650.8347	312.5725	315.7872	208.0654	159.9552	283.8557	663.8221	366.1988	369.2175	282.062	248.021	341.8685	686.2447	435.7047
11/4/2013 7:21	0.142962	-0.0761912	0.01559	-0.02102	0.171604		0.102962	-0.05619	-0.06441	-0.05102	0.031604		0.190061	0.027222	0.079094	0.217736	0.226769		-0.03993
11/4/2013 8:21	0.078278	0.0248032	0.331752	0.36435	0.437402		-0.02172	-0.0352	0.151752	0.13435	0.197402		0.036495	-0.0597	0.102689	0.132538	0.200151		0.008557
11/4/2013 8:52	0.108278	0.0691536	0.371752	0.418701	0.325226		0.038278	-0.03085	0.231752	0.158701	0.195226		0.056495	-0.03716	0.112689	0.095075	0.168882		0.028557
11/4/2013 9:17	0.256102		0.481752	0.468701	0.295226		0.106102		0.291752	0.178701	0.225226		0.095226		0.142689	0.115075	0.178882		0.05713
11/4/2013 9:50	0.038612	0.049488	0.292086	0.459124	0.252598		-0.06139	-0.08051	0.122086	0.159124	0.172598		-0.01248	-0.05613	0.023717	0.123656	0.149849		-0.04279
11/4/2013 10:20	0.156073	0.1395472	0.472598	0.490876	0.266949		0.096073	-0.00045	0.292598	0.210876	0.236949		0.046042	-0.03776	0.119849	0.096344	0.172387		-1.7757
11/4/2013 10:51	0.173868	0.142992	0.462569	0.483898	0.257795		0.083868	-0.00701	0.282569	0.193898	0.187795		0.06559	0.019245	0.120665	0.114774	0.159547		0.040038
11/4/2013 11:21	0.20559	0.149488	0.515167	0.523898	0.310846		0.12559	-0.01051	0.315167	0.223898	0.240846		0.059094	-0.01613	0.100514	0.094774	0.11716		0.061481
11/4/2013 11:52	0.23559	0.1929624	0.475167	0.537372	0.31127		0.15559	0.082962	0.315167	0.237372	0.26127		0.119094	0.050061	0.140514	0.110967	0.185741		0.081481
11/4/2013 12:20	0.208218	0.222116	0.557795	0.473898	0.320846		0.108218	0.032116	0.337795	0.193898	0.250846		0.058127	-0.0071	0.109547	0.054774	0.12716		0.032893
11/4/2013 12:53	0.182116	0.1460136	0.528218	0.537372	0.327795		0.082116	0.016014	0.258218	0.247372	0.257795		0.012901	-0.06233	0.078127	0.120967	0.169547		-0.02424
11/4/2013 13:20	0.154321	0.104744	0.517372	0.486102	0.250423		0.104321	-0.00526	0.307372	0.226102	0.240423		-0.00665	-0.06807	0.080967	0.065226	0.13858		-0.01998
11/4/2013 13:50	0.139518	0.1234152	0.469094	0.458248	0.300846		0.109518	0.083415	0.309094	0.228248	0.240846		0.023052	0.037826	0.104472	0.107311	0.14716		-0.02282
11/4/2013 14:19	0.227795	0.144744	0.556496	0.532598	0.579547		0.117795	0.004744	0.316496	0.212598	0.329547		0.009547	-0.09807	0.074623	0.069849	0.152236		0.005741
11/4/2013 14:51	0.184321	0.1025688	0.437372	0.541299	0.642598		0.124321	0.042569	0.347372	0.241299	0.362598		0.003354	-0.05933	0.090967	0.094925	0.139849		-0.07998
11/4/2013 15:20	0.283898	0.137372	0.608248	0.541299	0.454774		0.153898	0.067372	0.358248	0.211299	0.324774		0.014774	-0.08903	0.087311	0.074925	0.161118		0.00287
11/4/2013 15:53	0.176919	0.1516928	0.487795	0.505197	0.342598		0.086919	-0.01831	0.297795	0.195197	0.262598		-0.0268	-0.09568	0.049547	0.059698	0.139849		-0.0914
	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

106115	106113	106129	106116	106118	106120	106115	106113	106129	106116	106118	
150	150	150	150	150	50	50	50	50	50	50	
435.4498	369.6268	343.6778	413.3592	726.1541	515.7893	519.1546	461.7618	441.559	499.9058	780.7655	
0.074375	0.091481	0.268703	0.260115		0.091451	0.103293	0.068248	0.05562	-0.00758		36.44
0.04284	0.124275	0.222855	0.28142		0.205891	0.177251	0.164532	0.090906	0.093625		36.46
0.055695	0.114275	0.21571	0.239992		0.115891	0.118157	0.094532	0.031813	0.013172		36.01
	0.154275	0.20571	0.249992		0.135438		0.104532	0.031813	0.013172		35.92
-0.00565	0.012932	0.162863	0.20858		0.070544	0.07281	0.019185	0.017734	-0.02363		35.89
-1.75998	-1.69142	-1.54286	-1.59856		0.095015	0.093656	0.056375	0.042266	0.017281		35.81
0.082901	0.115748	0.17287	0.195741		0.104139	0.141873	0.075952	0.054562	-0.01088		35.18
0.064351	0.104328	0.16287	0.184305		0.088248	0.10281	0.052326	0.034562	-0.03816		35.01
0.120069	0.124328	0.178588	0.211458		0.108248	0.121451	0.052326	0.013202	-0.03224		34.27
0.065764	0.095741	0.13287	0.184305		0.075046	0.119607	0.029124	0.004562	-0.06816		34.08
0.008634	0.012893	0.148588	0.185741		0.029607	0.04417	-0.01495	0.023202	-0.06088		33.87
0.017176	0.068588	0.13713	0.227153		0.060484	0.086405	0.003203	0.005438	-0.10408		33.86
0.030054	0.100031	0.175725	0.224305		0.063233	0.087795	0.017311	0.005468	-0.09816		32.67
0.007176	0.071451	0.16858	0.220015		0.089124	0.106405	0.030937	0.016375	-0.09634		33.02
-0.00425	0.068588	0.16429	0.16858		0.050484	0.045952	-0.0168	-0.04181	-0.16363		32.96
0.038588	0.095725	0.16429	0.210008		0.074562	0.113203	0.005468	-0.02181	-0.13317		32.38
-0.02139	0.045741	0.14716	0.21858		0.066858	0.073686	-0.01088	-0.04725	-0.12363		31.32
x	x	x	x	x	x	x	x	x	x	x	x

well	depth	distance	average	corrected average
106120	450	285.6743	0.173674	0.288267
106115	450	287.8776	0.114057	0.228649
106113	450	162.6775	0.445931	0.560523
106129	450	88.60261	0.458936	0.573528
106116	450	253.1123	0.34402	0.458613
106120	350	312.5725	0.088968	0.203561
106115	350	315.7872	0.005307	0.119899
106113	350	208.0654	0.26299	0.377582
106129	350	159.9552	0.188348	0.30294
106116	350	283.8557	0.236373	0.350966
106120	250	366.1988	0.043761	0.158353
106115	250	369.2175	-0.03451	0.080084
106113	250	282.062	0.095175	0.209768
106129	250	248.021	0.10286	0.217452
106116	250	341.8685	0.160875	0.275467
106120	150	435.7047	-0.10459	0.01
106115	150	435.4498	-0.07398	0.040614
106113	150	369.6268	-0.01712	0.097474
106129	150	343.6778	0.075644	0.190236
106116	150	413.3592	0.110102	0.224694
106120	50	515.7893	0.089662	0.204255
106115	50	519.1546	0.100533	0.215125
106113	50	461.7618	0.043025	0.157617
106129	50	441.559	0.018626	0.133219
106116	50	499.9058	-0.04843	0.066165
106118	50	780.7655		

0		
600	34.42059	34.53518
0	34.42059	34.53518
600	1.032618	1.036055
	1.032618	1.036055

0.3
0.3


Corrected Observed Vacuum vs. Distance during SVE Pilot Test
KAFB-106150
Corrected Observed Vacuum (inWC)
100
10
1
0.1
0.01
0
100
200
300
400
500
600
Minimum Distance to Extraction Well KAFB-106150 (feet)
Corrected Observed Vacuum
Applied Pressure, KAFB-106150
Edge of ROI, 0.3 inWC
inWC = inches of water column
SVE = soil vapor extraction
Expon. (Corrected Observed Vacuum)

KAFB BFF Pilot Testing

P-log well 106150, Long Term Test and Step Flow Test performed on 11/7/13

Well ID	Screen	Time	Vacuum	Diff.	Flow	Temp. (˚F)	Relative	Total HC	CO2%	CO%	O2%	H2S%	LEL%	
106150	484	0830	38	1.49	248.1	47.8	39	>10000	2.04	0	17.89	NR	NR	
106150	484	NR	24	0.62	156.5	48	38.3	>10000	2	0	17.80	NR	NR	
106150	484	NR	12	0.17	80.5	48.4	38.3	>10000	2.02	0	17.80	NR	NR	
106150	349	0838	34	1.71	264.2	48.5	43.4	351	2.68	0	18.55	NR	NR	Step Flow
106150	349	NR	22	0.95	194.3	49.1	39.2	370	2.72	0	18.73	NR	NR	Test
106150	349	NR	10	0.11	64.6	49.1	38.2	397	2.76	0	18.75	NR	NR	
106150	200	0846	22	2.66	323.8	49.1	52.9	0	2.18	0	19.64	NR	NR	
106150	200	NR	11	1.04	198.9	49.3	43.8	1	2.28	0	19.91	NR	NR	
	Averaged parameters:		**22**	**1.09**	**191.4**	**48.7**	**41.6**	**224**	**2.3**	**0**	**18.63**	**ND**	**ND**	
106150	484	0854	36.5	1.49	247.9	49.5	37.4	>10000	1.98	0	18.83	0	75	
106150	484	0924	38	1.45	245.9	52.9	31.7	>10000	2.08	0	17.74	0	72	
106150	484	954	37	1.22	224.8	51.1	39.1	>10000	2.16	0	17.28	0	76	
106150	484	1024	37	1.47	247.8	55	32.1	>10000	2.22	0	17.12	0	91	
106150	484	1054	37	1.4	242.3	56.7	31.8	>10000	2.3	0.01	17.06	0	100	
106150	484	1124	31	1.15	218.0	58.8	28	>10000	2.24	0	17.00	0	NR	
106150	484	1154	31.5	1.17	219.9	58.1	28.5	>10000	2.36	0.01	17.64	0	88	
106150	484	1224	27.5	0.93	195.2	59.7	26.6	>10000	2.2	0	16.86	0	79	
106150	484	1254	27.5	0.9	191.7	57.4	29.1	>10000	2.42	0	16.56	0	81	Long Test
106150	484	1324	28	0.99	201.0	55.6	30.5	>10000	2.42	0	17.47	0	84	
106150	484	1354	28	0.86	187.7	57.4	29.6	>10000	2.5	0	16.52	0	85	
106150	484	1424	27.5	1.02	205.2	61.7	23.4	>10000	2.46	0	16.82	0	83	
106150	484	1454	27.5	0.83	185.1	61.7	23.3	>10000	2.6	0	16.21	0	80	
106150	484	1524	28	0.98	200.8	58.8	25.5	>10000	2.56	0	16.47	0	81	
106150	484	1554	28	1.06	209.1	60.1	25.2	>10000	2.68	0	16.05	0	78	
106150	484	1624	27.5	1.01	203.7	59	26.1	>10000	2.74	0	15.94	0	79	
106150	484	1654	27.5	1.01	203.2	56.1	32.8	>10000	2.68	0	15.94	NR	NR	
	Averaged parameters:		**31**	**1.1**	**213.5**	**57.0**	**29**	**10000**	**2.4**	**0**	**16.91**	**0**	**82**	

Date and time	Barometric Pressure (inHg)	inWC	-inWC
11-7-2013 0:15 MST	30.45	413.9678	-413.968
11-7-2013 0:55 MST	30.46	414.1037	-414.104
11-7-2013 1:15 MST	30.47	414.2397	-414.24
11-7-2013 1:35 MST	30.47	414.2397	-414.24
11-7-2013 1:55 MST	30.47	414.2397	-414.24
11-7-2013 2:15 MST	30.47	414.2397	-414.24
11-7-2013 2:35 MST	30.47	414.2397	-414.24
11-7-2013 2:55 MST	30.47	414.2397	-414.24
11-7-2013 3:15 MST	30.46	414.1037	-414.104
11-7-2013 3:35 MST	30.46	414.1037	-414.104
11-7-2013 3:55 MST	30.46	414.1037	-414.104
11-7-2013 4:15 MST	30.45	413.9678	-413.968
11-7-2013 4:35 MST	30.46	414.1037	-414.104
11-7-2013 5:50 MST	30.46	414.1037	-414.104
11-7-2013 6:50 MST	30.48	414.3756	-414.376
11-7-2013 7:50 MST	30.49	414.5116	-414.512
11-7-2013 8:50 MST	30.51	414.7835	-414.783
11-7-2013 9:50 MST	30.5	414.6475	-414.648
11-7-2013 10:50 MST	30.49	414.5116	-414.512
11-7-2013 11:50 MST	30.46	414.1037	-414.104
11-7-2013 12:50 MST	30.41	413.424	-413.424
11-7-2013 13:50 MST	30.38	413.0161	-413.016
11-7-2013 14:50 MST	30.37	412.8802	-412.88
11-7-2013 15:50 MST	30.35	412.6083	-412.608
11-7-2013 16:50 MST	30.34	412.4723	-412.472
11-7-2013 17:50 MST	30.34	412.4723	-412.472
11-7-2013 18:50 MST	30.34	412.4723	-412.472
11-7-2013 19:50 MST	30.34	412.4723	-412.472
11-7-2013 20:50 MST	30.34	412.4723	-412.472
11-7-2013 21:15 MST	30.34	412.4723	-412.472
11-7-2013 21:35 MST	30.34	412.4723	-412.472
11-7-2013 21:50 MST	30.34	412.4723	-412.472
11-7-2013 21:55 MST	30.34	412.4723	-412.472
11-7-2013 22:15 MST	30.33	412.3364	-412.336
11-7-2013 22:35 MST	30.33	412.3364	-412.336
11-7-2013 22:55 MST	30.32	412.2004	-412.2
11-7-2013 23:15 MST	30.32	412.2004	-412.2
11-7-2013 23:35 MST	30.31	412.0645	-412.064
11-7-2013 23:55 MST	30.31	412.0645	-412.064

Well ID	Depth	Vacuum (inWC)	Monitoring Round	Date	Time	Mid-Round Time	Pbt0	Pbt1	Slope	Time since Pbt0	Btm	t0	t1	Bt1-1	Bt1+1	Slope	Time since Bt1-1	Bt1	Bt0-1	Bt0+1	Slope	Time since Bt0-1	Bt0
106128	450	5.33		11/7/2013	823	11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584		823	-414.512	-414.783	-0.00453	33	-414.661			0		0
	350	5.23		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	250	4.06		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	150	3.55		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	50	1.09		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
106117	450	5.7		11/7/2013	802	11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584		802			0		0	-414.512	-414.783	-0.00453	12	-414.566
	350	5.29		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	250	4.04		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	150	3.41		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	50	1.11		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
106114	450	5.64		11/7/2013	818	11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584		818	-414.512	-414.783	-0.00453	28	-414.638			0		0
	350	5.5		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	250	4.18		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	150	3.89		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	50	0.49		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
106116	450	5.03		11/7/2013	809	11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584		809	-414.512	-414.783	-0.00453	19	-414.598			0		0
	350	5.41		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	250	4		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	150	3.37		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	50	0.59		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
106111	450	5.44		11/7/2013	738	11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584		738			0		0	-414.376	-414.512	-0.00227	48	-414.484
	350	5.12		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	250	4.08		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	150	3.7		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	50	0.79		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
106109	450	4.83		11/7/2013	751	11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584		751			0		0	-414.512	-414.783	-0.00453	1	-414.516
	350	4.78		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	250	4.53		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	150	4.05		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
	50	0.09		11/7/2013		11/7/2013 8:06	-414.512	-414.783	-0.00453	16	-414.584					0		0			0		0
106128	450	5.03		11/7/2013	944	11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679		944	-414.783	-414.648	0.002266	54	-414.661			0		0
	350	5.28		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	250	4.02		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	150	3.48		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	50	0.97		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
106117	450	5.05		11/7/2013	934	11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679		934			0		0	-414.783	-414.648	0.002266	44	-414.684
	350	4.76		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	250	4.04		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	150	3.43		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	50	0.99		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
106114	450	5.27		11/7/2013	941	11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679		941	-414.783	-414.648	0.002266	51	-414.668			0		0
	350	5.24		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	250	4.09		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	150	3.81		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	50	0.33		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
106116	450	4.6		11/7/2013	937	11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679		937	-414.783	-414.648	0.002266	47	-414.677			0		0
	350	5		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	250	3.99		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	150	3.33		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	50	0.56		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
106111	450	5.22		11/7/2013	929	11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679		929			0		0	-414.783	-414.648	0.002266	39	-414.695
	350	5.05		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	250	4.19		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	150	3.78		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
	50	0.76		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0
106109	450	5.08		11/7/2013	924	11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679		924			0		0	-414.783	-414.648	0.002266	34	-414.706
	350	4.88		11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0		0			0		0

	250	4.64	11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0	0				0	0
	150	4.15	11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0	0				0	0
	50	0.07	11/7/2013		11/7/2013 9:36	-414.783	-414.648	0.002266	46	-414.679					0	0				0	0
106128	450	4.96	11/7/2013	1009	11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616		1009	-414.648	-414.512	0.002266	19	-414.604			0	0
	350	5.22	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	250	3.97	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	150	3.4	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	50	0.93	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
106117	450	4.92	11/7/2013	1003	11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616	1003				0	0	-414.648	-414.512	0.002266	13	-414.618
	350	4.83	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	250	3.95	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	150	3.33	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	50	0.97	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
106114	450	5.22	11/7/2013	1007	11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616		1007	-414.648	-414.512	0.002266	17	-414.609			0	0
	350	5.17	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	250	4.03	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	150	3.75	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	50	0.3	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
106116	450	4.51	11/7/2013	1005	11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616		1005	-414.648	-414.512	0.002266	15	-414.614			0	0
	350	4.91	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	250	3.9	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	150	3.21	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	50	0.51	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
106111	450	5.1	11/7/2013	957	11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616	957				0	0	-414.648	-414.512	0.002266	7	-414.632
	350	4.98	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	250	4.12	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	150	3.69	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	50	0.72	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
106109	450	5	11/7/2013	959	11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616	959				0	0	-414.648	-414.512	0.002266	9	-414.627
	350	4.8	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	250	4.55	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	150	4.06	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
	50	0.02	11/7/2013		11/7/2013 10:04	-414.648	-414.512	0.002266	14	-414.616					0	0				0	0
106128	450	4.73	11/7/2013	1045	11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541	1045				0	0	-414.648	-414.512	0.002266	55	-414.523
	350	5.01	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	250	3.8	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	150	3.25	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	50	0.82	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
106117	450	4.76	11/7/2013	1035	11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541		1035	-414.648	-414.512	0.002266	45	-414.546			0	0
	350	4.69	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	250	3.82	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	150	3.23	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	50	0.9	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
106114	450	4.89	11/7/2013	1041	11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541	1041				0	0	-414.648	-414.512	0.002266	51	-414.532
	350	4.99	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	250	3.89	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	150	3.6	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	50	0.2	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
106116	450	4.34	11/7/2013	1038	11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541	1038				0	0	-414.648	-414.512	0.002266	48	-414.539
	350	4.73	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	250	3.79	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	150	3.1	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	50	0.41	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
106111	450	4.92	11/7/2013	1030	11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541		1030	-414.648	-414.512	0.002266	40	-414.557			0	0
	350	4.83	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	250	3.99	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	150	3.59	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
	50	0.63	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0
106109	450	4.96	11/7/2013	1024	11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541		1024	-414.648	-414.512	0.002266	34	-414.57			0	0
	350	4.72	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0				0	0

	250	4.47	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0			0	0
	150	4	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0			0	0
	50	-0.02	11/7/2013		11/7/2013 10:37	-414.648	-414.512	0.002266	47	-414.541					0	0			0	0
106128	450	4.62	11/7/2013	1109	11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423		1109	-414.512	-414.104	0.006797	19	-414.382		0	0
	350	4.89	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	250	3.66	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	150	3.11	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	50	0.74	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
106117	450	4.61	11/7/2013	1102	11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423	1102				0	0	-414.512	-414.104	0.006797	12	-414.43
	350	4.54	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	250	3.7	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	150	3.1	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	50	0.84	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
106114	450	4.89	11/7/2013	1107	11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423		1107	-414.512	-414.104	0.006797	17	-414.396		0	0
	350	4.85	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	250	3.76	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	150	3.45	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	50	0.15	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
106116	450	4.21	11/7/2013	1104	11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423		1104	-414.512	-414.104	0.006797	14	-414.416		0	0
	350	4.57	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	250	3.65	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	150	2.98	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	50	0.36	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
106111	450	4.73	11/7/2013	1058	11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423	1058				0	0	-414.512	-414.104	0.006797	8	-414.457
	350	4.65	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	250	3.83	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	150	3.43	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	50	0.53	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
106109	450	4.77	11/7/2013	1055	11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423	1055				0	0	-414.512	-414.104	0.006797	5	-414.478
	350	4.57	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	250	4.31	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	150	3.82	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
	50	-0.07	11/7/2013		11/7/2013 11:03	-414.512	-414.104	0.006797	13	-414.423					0	0			0	0
106128	450	4.3	11/7/2013	1142	11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226	1142				0	0	-414.512	-414.104	0.006797	52	-414.158
	350	4.55	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	250	3.39	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	150	2.88	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	50	0.59	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
106117	450	4.24	11/7/2013	1133	11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226	1133				0	0	-414.512	-414.104	0.006797	43	-414.219
	350	4.24	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	250	3.43	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	150	2.84	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	50	0.67	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
106114	450	4.59	11/7/2013	1139	11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226	1139				0	0	-414.512	-414.104	0.006797	49	-414.178
	350	4.55	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	250	3.5	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	150	3.21	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	50	0.02	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
106116	450	3.95	11/7/2013	1130	11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226		1130	-414.512	-414.104	0.006797	40	-414.24		0	0
	350	4.3	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	250	3.42	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	150	2.76	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	50	0.23	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
106111	450	4.48	11/7/2013	1128	11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226		1128	-414.512	-414.104	0.006797	38	-414.253		0	0
	350	4.44	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	250	3.62	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	150	3.23	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	50	0.46	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
106109	450	4.53	11/7/2013	1124	11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226		1124	-414.512	-414.104	0.006797	34	-414.28		0	0
	350	4.34	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0

	250	4.08	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	150	3.61	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
	50	-0.17	11/7/2013		11/7/2013 11:32	-414.512	-414.104	0.006797	42	-414.226					0	0			0	0
106128	450	3.5	11/7/2013	1215	11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934		1215	-414.104	-413.424	0.011329	25	-413.82		0	0
	350	4.24	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	250	3.1	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	150	2.59	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	50	0.48	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
106117	450	4.04	11/7/2013	1203	11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934	1203				0	0	-414.104	-413.424	0.011329	13	-413.956
	350	3.99	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	250	3.25	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	150	2.59	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	50	0.54	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
106114	450	4.3	11/7/2013	1210	11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934		1210	-414.104	-413.424	0.011329	20	-413.877		0	0
	350	4.27	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	250	3.21	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	150	2.92	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	50	-0.08	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
106116	450	3.66	11/7/2013	1207	11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934		1207	-414.104	-413.424	0.011329	17	-413.911		0	0
	350	3.81	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	250	3.09	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	150	2.4	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	50	0.1	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
106111	450	4.26	11/7/2013	1154	11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934	1154				0	0	-414.104	-413.424	0.011329	4	-414.058
	350	4.21	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	250	3.4	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	150	3.02	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	50	0.35	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
106109	450	4.31	11/7/2013	1158	11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934	1158				0	0	-414.104	-413.424	0.011329	8	-414.013
	350	4.09	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	250	3.84	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	150	3.38	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
	50	-0.19	11/7/2013		11/7/2013 12:05	-414.104	-413.424	0.011329	15	-413.934					0	0			0	0
106128	450	3.65	11/7/2013	1243	11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571		1243	-414.104	-413.424	0.011329	53	-413.503		0	0
	350	3.88	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	250	2.8	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	150	2.3	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	50	0.3	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
106117	450	3.69	11/7/2013	1235	11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571	1235				0	0	-414.104	-413.424	0.011329	45	-413.594
	350	3.66	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	250	2.87	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	150	2.31	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	50	0.42	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
106114	450	3.93	11/7/2013	1241	11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571		1241	-414.104	-413.424	0.011329	51	-413.526		0	0
	350	3.89	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	250	2.85	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	150	2.55	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	50	-0.21	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
106116	450	3.33	11/7/2013	1238	11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571		1238	-414.104	-413.424	0.011329	48	-413.56		0	0
	350	3.68	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	250	2.86	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	150	2.12	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	50	0	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
106111	450	3.94	11/7/2013	1224	11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571	1224				0	0	-414.104	-413.424	0.011329	34	-413.719
	350	3.91	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	250	3.13	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	150	2.74	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	50	0.27	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
106109	450	4.01	11/7/2013	1231	11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571	1231				0	0	-414.104	-413.424	0.011329	41	-413.639
	350	3.73	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0

	250	3.56	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	150	3.08	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
	50	-0.21	11/7/2013		11/7/2013 12:37	-414.104	-413.424	0.011329	47	-413.571					0	0			0	0
106128	450	3.46	11/7/2013	1309	11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336		1309	-413.424	-413.016	0.006797	19	-413.295		0	0
	350	3.69	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	250	2.63	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	150	2.13	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	50	0.27	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
106117	450	3.45	11/7/2013	1302	11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336	1302				0	0	-413.424	-413.016	0.006797	12	-413.342
	350	3.4	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	250	2.65	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	150	2.12	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	50	0.36	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
106114	450	3.71	11/7/2013	1307	11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336		1307	-413.424	-413.016	0.006797	17	-413.308		0	0
	350	3.7	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	250	2.7	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	150	2.42	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	50	-0.21	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
106116	450	3.14	11/7/2013	1304	11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336		1304	-413.424	-413.016	0.006797	14	-413.329		0	0
	350	3.44	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	250	2.62	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	150	1.94	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	50	-0.05	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
106111	450	3.61	11/7/2013	1258	11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336	1258				0	0	-413.424	-413.016	0.006797	8	-413.37
	350	3.58	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	250	2.82	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	150	2.46	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	50	0.16	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
106109	450	3.74	11/7/2013	1255	11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336	1255				0	0	-413.424	-413.016	0.006797	5	-413.39
	350	3.54	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	250	3.28	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	150	2.81	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
	50	-0.3	11/7/2013		11/7/2013 13:03	-413.424	-413.016	0.006797	13	-413.336					0	0			0	0
106128	450	3.26	11/7/2013	1344	11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104		1344	-413.424	-413.016	0.006797	54	-413.057		0	0
	350	3.5	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	250	2.45	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	150	2.01	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	50	0.29	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
106117	450	3.23	11/7/2013	1335	11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104	1335				0	0	-413.424	-413.016	0.006797	45	-413.118
	350	3.2	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	250	2.47	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	150	1.97	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	50	0.36	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
106114	450	3.51	11/7/2013	1341	11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104		1341	-413.424	-413.016	0.006797	51	-413.077		0	0
	350	3.5	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	250	2.53	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	150	2.27	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	50	-0.18	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
106116	450	2.93	11/7/2013	1338	11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104		1338	-413.424	-413.016	0.006797	48	-413.098		0	0
	350	3.25	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	250	2.42	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	150	1.8	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	50	-0.04	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
106111	450	3.37	11/7/2013	1330	11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104	1330				0	0	-413.424	-413.016	0.006797	40	-413.152
	350	3.34	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	250	2.6	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	150	2.27	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	50	0.14	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
106109	450	3.5	11/7/2013	1324	11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104	1324				0	0	-413.424	-413.016	0.006797	34	-413.193
	350	3.3	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0

	250	3.05	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	150	2.59	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
	50	-0.29	11/7/2013		11/7/2013 13:37	-413.424	-413.016	0.006797	47	-413.104					0	0			0	0
106128	450	3.14	11/7/2013	1411	11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98		1411	-413.016	-412.88	0.002266	21 -412.969			0	0
	350	3.34	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	250	2.3	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	150	1.87	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	50	0.26	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
106117	450	3.08	11/7/2013	1405	11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98	1405				0	0	-413.016	-412.88	0.002266	15 -412.982
	350	3.04	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	250	2.34	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	150	1.84	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	50	0.32	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
106114	450	3.34	11/7/2013	1409	11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98		1409	-413.016	-412.88	0.002266	19 -412.973			0	0
	350	3.31	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	250	2.37	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	150	2.1	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	50	-0.19	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
106116	450	2.8	11/7/2013	1407	11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98		1407	-413.016	-412.88	0.002266	17 -412.978			0	0
	350	3.07	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	250	2.27	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	150	1.67	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	50	-0.04	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
106111	450	3.21	11/7/2013	1401	11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98	1401				0	0	-413.016	-412.88	0.002266	11 -412.991
	350	3.2	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	250	2.46	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	150	2.14	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	50	0.15	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
106109	450	3.36	11/7/2013	1358	11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98	1358				0	0	-413.016	-412.88	0.002266	8 -412.998
	350	3.16	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	250	2.91	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	150	2.43	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
	50	-0.21	11/7/2013		11/7/2013 14:06	-413.016	-412.88	0.002266	16	-412.98					0	0			0	0
106128	450	2.97	11/7/2013	1442	11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916		1442	-413.016	-412.88	0.002266	52 -412.898			0	0
	350	3.17	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	250	2.15	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	150	1.75	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	50	0.24	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
106117	450	2.93	11/7/2013	1432	11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916	1432				0	0	-413.016	-412.88	0.002266	42 -412.921
	350	2.89	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	250	2.17	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	150	1.72	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	50	0.29	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
106114	450	3.16	11/7/2013	1438	11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916		1438	-413.016	-412.88	0.002266	48 -412.907			0	0
	350	3.14	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	250	2.21	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	150	1.98	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	50	-0.2	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
106116	450	2.64	11/7/2013	1435	11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916		1435	-413.016	-412.88	0.002266	45 -412.914			0	0
	350	2.91	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	250	2.12	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	150	1.56	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	50	-0.07	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
106111	450	3.06	11/7/2013	1427	11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916	1427				0	0	-413.016	-412.88	0.002266	37 -412.932
	350	3.05	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	250	2.32	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	150	2.02	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	50	0.13	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
106109	450	3.23	11/7/2013	1424	11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916	1424				0	0	-413.016	-412.88	0.002266	34 -412.939
	350	3	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0

	250	2.76	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	150	2.3	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
	50	-0.23	11/7/2013		11/7/2013 14:34	-413.016	-412.88	0.002266	44	-412.916					0	0			0	0
106128	450	2.87	11/7/2013	1510	11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812		1510	-412.88	-412.608	0.004532	20	-412.79		0	0
	350	3.06	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	250	2.04	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	150	1.65	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	50	0.23	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
106117	450	2.79	11/7/2013	1504	11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812	1504				0	0	-412.88	-412.608	0.004532	14 -412.817
	350	2.74	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	250	2.04	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	150	1.61	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	50	0.28	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
106114	450	3.05	11/7/2013	1508	11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812		1508	-412.88	-412.608	0.004532	18	-412.799		0	0
	350	3.02	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	250	2.1	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	150	1.84	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	50	-0.18	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
106116	450	2.52	11/7/2013	1506	11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812		1506	-412.88	-412.608	0.004532	16	-412.808		0	0
	350	2.76	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	250	2.02	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	150	1.45	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	50	-0.05	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
106111	450	2.9	11/7/2013	1459	11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812	1459				0	0	-412.88	-412.608	0.004532	9 -412.839
	350	2.87	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	250	2.19	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	150	1.89	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	50	0.12	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
106109	450	3.05	11/7/2013	1457	11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812	1457				0	0	-412.88	-412.608	0.004532	7 -412.848
	350	2.84	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	250	2.59	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	150	2.13	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
	50	-0.21	11/7/2013		11/7/2013 15:05	-412.88	-412.608	0.004532	15	-412.812					0	0			0	0
106128	450	2.79	11/7/2013	1541	11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681		1541	-412.88	-412.608	0.004532	51	-412.649		0	0
	350	3	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	250	2.01	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	150	1.64	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	50	0.28	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
106117	450	2.75	11/7/2013	1532	11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681	1532				0	0	-412.88	-412.608	0.004532	42 -412.69
	350	2.7	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	250	2.04	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	150	1.61	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	50	0.34	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
106114	450	2.99	11/7/2013	1538	11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681		1538	-412.88	-412.608	0.004532	48	-412.663		0	0
	350	2.95	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	250	2.06	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	150	1.83	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	50	-0.13	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
106116	450	2.48	11/7/2013	1535	11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681		1535	-412.88	-412.608	0.004532	45	-412.676		0	0
	350	2.75	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	250	1.99	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	150	1.44	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	50	0	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
106111	450	2.85	11/7/2013	1527	11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681	1527				0	0	-412.88	-412.608	0.004532	37 -412.712
	350	2.81	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	250	2.12	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	150	1.86	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	50	0.18	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
106109	450	2.95	11/7/2013	1524	11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681	1524				0	0	-412.88	-412.608	0.004532	34 -412.726
	350	2.78	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0

	250	2.54	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	150	2.09	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
	50	-0.15	11/7/2013		11/7/2013 15:34	-412.88	-412.608	0.004532	44	-412.681					0	0			0	0
106128	450	2.75	11/7/2013	1608	11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581		1608	-412.608	-412.472	0.002266	18	-412.567		0	0
	350	2.92	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	250	1.97	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	150	1.55	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	50	0.27	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
106117	450	2.67	11/7/2013	1601	11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581	1601				0	0	-412.608	-412.472	0.002266	11	-412.583
	350	2.64	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	250	1.97	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	150	1.56	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	50	0.33	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
106114	450	2.93	11/7/2013	1606	11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581		1606	-412.608	-412.472	0.002266	16	-412.572		0	0
	350	2.9	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	250	2.01	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	150	1.79	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	50	-0.09	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
106116	450	2.41	11/7/2013	1603	11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581		1603	-412.608	-412.472	0.002266	13	-412.579		0	0
	350	2.06	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	250	1.92	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	150	1.42	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	50	0.03	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
106111	450	2.75	11/7/2013	1557	11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581	1557				0	0	-412.608	-412.472	0.002266	7	-412.592
	350	2.73	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	250	2.06	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	150	1.8	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	50	0.18	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
106109	450	2.92	11/7/2013	1554	11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581	1554				0	0	-412.608	-412.472	0.002266	4	-412.599
	350	2.69	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	250	2.44	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	150	2	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
	50	-0.12	11/7/2013		11/7/2013 16:02	-412.608	-412.472	0.002266	12	-412.581					0	0			0	0
106128	450	2.64	11/7/2013	1637	11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515		1637	-412.608	-412.472	0.002266	47	-412.502		0	0
	350	2.8	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	250	1.83	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	150	1.48	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	50	0.22	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
106117	450	4.83	11/7/2013	1630	11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515	1630				0	0	-412.608	-412.472	0.002266	40	-412.518
	350	4.75	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	250	3.53	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	150	2.78	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	50	0.59	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
106114	450	2.79	11/7/2013	1635	11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515		1635	-412.608	-412.472	0.002266	45	-412.506		0	0
	350	2.76	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	250	1.89	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	150	1.67	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	50	-0.11	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
106116	450	4.31	11/7/2013	1632	11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515		1632	-412.608	-412.472	0.002266	42	-412.513		0	0
	350	4.76	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	250	3.42	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	150	2.48	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	50	0	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
106111	450	2.68	11/7/2013	1626	11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515	1626				0	0	-412.608	-412.472	0.002266	36	-412.527
	350	2.65	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	250	1.97	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	150	1.73	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
	50	0.19	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0
106109	450	2.83	11/7/2013	1624	11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515	1624				0	0	-412.608	-412.472	0.002266	34	-412.531
	350	2.62	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0

	250	2.38	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0	
	150	1.93	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0	
	50	-0.12	11/7/2013		11/7/2013 16:31	-412.608	-412.472	0.002266	41	-412.515					0	0			0	0	
106128	450	2.5	11/7/2013	1706	11/7/2013 17:08	-412.472	-412.472	0	18	-412.472	1706				0	0	-412.472	-412.472	0	16	-412.472
	350	2.67	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	250	1.73	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	150	1.4	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	50	0.21	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
106117	450	2.35	11/7/2013	1715	11/7/2013 17:08	-412.472	-412.472	0	18	-412.472		1715	-412.472	-412.472	0	25	-412.472		0	0	
	350	2.27	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	250	1.7	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	150	1.33	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	50	0.27	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
106114	450	2.24	11/7/2013	1709	11/7/2013 17:08	-412.472	-412.472	0	18	-412.472		1709	-412.472	-412.472	0	19	-412.472		0	0	
	350	2.6	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	250	1.75	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	150	1.55	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	50	-0.14	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
106116	450	2.14	11/7/2013	1712	11/7/2013 17:08	-412.472	-412.472	0	18	-412.472		1712	-412.472	-412.472	0	22	-412.472		0	0	
	350	2.36	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	250	1.68	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	150	1.21	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	50	-0.02	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
106111	450	2.48	11/7/2013	1658	11/7/2013 17:08	-412.472	-412.472	0	18	-412.472	1658				0	0	-412.472	-412.472	0	8	-412.472
	350	2.48	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	250	1.8	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	150	1.58	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	50	0.12	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
106109	450	2.66	11/7/2013	1654	11/7/2013 17:08	-412.472	-412.472	0	18	-412.472	1654				0	0	-412.472	-412.472	0	4	-412.472
	350	2.42	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	250	2.3	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	150	1.77	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	
	50	-0.16	11/7/2013		11/7/2013 17:08	-412.472	-412.472	0	18	-412.472					0	0			0	0	

Well ID	Depth	Minimum distance to extraction well	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106128	450			823	5.33	11/7/2013 8:06	-414.584	-414.661	0	5.256043	0.3607872			
	350				5.23	11/7/2013 8:06	-414.584	0	0					
	250				4.06	11/7/2013 8:06	-414.584	0	0					
	150				3.55	11/7/2013 8:06	-414.584	0	0					
	50				1.09	11/7/2013 8:06	-414.584	0	0					
106117	450			802	5.7	11/7/2013 8:06	-414.584	0	-414.566	5.717402	0.8221456			
	350				5.29	11/7/2013 8:06	-414.584	0	0					
	250				4.04	11/7/2013 8:06	-414.584	0	0					
	150				3.41	11/7/2013 8:06	-414.584	0	0					
	50				1.11	11/7/2013 8:06	-414.584	0	0					
106114	450			818	5.64	11/7/2013 8:06	-414.584	-414.638	0	5.587795	0.6925392			
	350				5.5	11/7/2013 8:06	-414.584	0	0					
	250				4.18	11/7/2013 8:06	-414.584	0	0					
	150				3.89	11/7/2013 8:06	-414.584	0	0					
	50				0.49	11/7/2013 8:06	-414.584	0	0					
106116	450			809	5.03	11/7/2013 8:06	-414.584	-414.598	0	5.016949	0.1216928			
	350				5.41	11/7/2013 8:06	-414.584	0	0					
	250				4	11/7/2013 8:06	-414.584	0	0					
	150				3.37	11/7/2013 8:06	-414.584	0	0					
	50				0.59	11/7/2013 8:06	-414.584	0	0					
106111	450			738	5.44	11/7/2013 8:06	-414.584	0	-414.484	5.535709	0.6404528			
	350				5.12	11/7/2013 8:06	-414.584	0	0					
	250				4.08	11/7/2013 8:06	-414.584	0	0					
	150				3.7	11/7/2013 8:06	-414.584	0	0					
	50				0.79	11/7/2013 8:06	-414.584	0	0					
106109	450			751	4.83	11/7/2013 8:06	-414.584	0	-414.516	4.895256	0			
	350				4.78	11/7/2013 8:06	-414.584	0	0					
	250				4.53	11/7/2013 8:06	-414.584	0	0					
	150				4.05	11/7/2013 8:06	-414.584	0	0					
	50				0.09	11/7/2013 8:06	-414.584	0	0					
106128	450			944	5.03	11/7/2013 9:36	-414.679	-414.661	0	5.047402	-0.006496			
	350				5.28	11/7/2013 9:36	-414.679	0	0					
	250				4.02	11/7/2013 9:36	-414.679	0	0					
	150				3.48	11/7/2013 9:36	-414.679	0	0					
	50				0.97	11/7/2013 9:36	-414.679	0	0					
106117	450			934	5.05	11/7/2013 9:36	-414.679	0	-414.684	5.04565	-0.008248			
	350				4.76	11/7/2013 9:36	-414.679	0	0					
	250				4.04	11/7/2013 9:36	-414.679	0	0					
	150				3.43	11/7/2013 9:36	-414.679	0	0					
	50				0.99	11/7/2013 9:36	-414.679	0	0					
106114	450			941	5.27	11/7/2013 9:36	-414.679	-414.668	0	5.280876	0.2269784			
	350				5.24	11/7/2013 9:36	-414.679	0	0					
	250				4.09	11/7/2013 9:36	-414.679	0	0					
	150				3.81	11/7/2013 9:36	-414.679	0	0					
	50				0.33	11/7/2013 9:36	-414.679	0	0					

106116	450	937	4.6	11/7/2013 9:36	-414.679	-414.677	0	4.602175	-0.4517224	
	350		5	11/7/2013 9:36	-414.679	0	0			
	250		3.99	11/7/2013 9:36	-414.679	0	0			
	150		3.33	11/7/2013 9:36	-414.679	0	0			
	50		0.56	11/7/2013 9:36	-414.679	0	0			
106111	450	929	5.22	11/7/2013 9:36	-414.679	0	-414.695	5.204774	0.150876	
	350		5.05	11/7/2013 9:36	-414.679	0	0			
	250		4.19	11/7/2013 9:36	-414.679	0	0			
	150		3.78	11/7/2013 9:36	-414.679	0	0			
	50		0.76	11/7/2013 9:36	-414.679	0	0			
106109	450	924	5.08	11/7/2013 9:36	-414.679	0	-414.706	5.053898	0	
	350		4.88	11/7/2013 9:36	-414.679	0	0			
	250		4.64	11/7/2013 9:36	-414.679	0	0			
	150		4.15	11/7/2013 9:36	-414.679	0	0			
	50		0.07	11/7/2013 9:36	-414.679	0	0			
106128	450	1009	4.96	11/7/2013 10:04	-414.616	-414.604	0	4.970876	-0.018248	
	350		5.22	11/7/2013 10:04	-414.616	0	0			
	250		3.97	11/7/2013 10:04	-414.616	0	0			
	150		3.4	11/7/2013 10:04	-414.616	0	0			
	50		0.93	11/7/2013 10:04	-414.616	0	0			
106117	450	1003	4.92	11/7/2013 10:04	-414.616	0	-414.618	4.917825	-0.0712992	
	350		4.83	11/7/2013 10:04	-414.616	0	0			
	250		3.95	11/7/2013 10:04	-414.616	0	0			
	150		3.33	11/7/2013 10:04	-414.616	0	0			
	50		0.97	11/7/2013 10:04	-414.616	0	0			
106114	450	1007	5.22	11/7/2013 10:04	-414.616	-414.609	0	5.226526	0.2374016	
	350		5.17	11/7/2013 10:04	-414.616	0	0			
	250		4.03	11/7/2013 10:04	-414.616	0	0			
	150		3.75	11/7/2013 10:04	-414.616	0	0			
	50		0.3	11/7/2013 10:04	-414.616	0	0			
106116	450	1005	4.51	11/7/2013 10:04	-414.616	-414.614	0	4.512175	-0.4769488	
	350		4.91	11/7/2013 10:04	-414.616	0	0			
	250		3.9	11/7/2013 10:04	-414.616	0	0			
	150		3.21	11/7/2013 10:04	-414.616	0	0			
	50		0.51	11/7/2013 10:04	-414.616	0	0			
106111	450	957	5.1	11/7/2013 10:04	-414.616	0	-414.632	5.084774	0.0956496	
	350		4.98	11/7/2013 10:04	-414.616	0	0			
	250		4.12	11/7/2013 10:04	-414.616	0	0			
	150		3.69	11/7/2013 10:04	-414.616	0	0			
	50		0.72	11/7/2013 10:04	-414.616	0	0			
106109	450	959	5	11/7/2013 10:04	-414.616	0	-414.627	4.989124	0	
	350		4.8	11/7/2013 10:04	-414.616	0	0			
	250		4.55	11/7/2013 10:04	-414.616	0	0			
	150		4.06	11/7/2013 10:04	-414.616	0	0			
	50		0.02	11/7/2013 10:04	-414.616	0	0			
106128	450	1045	4.73	11/7/2013 10:37	-414.541	0	-414.523	4.747402	-0.1843208	
	350		5.01	11/7/2013 10:37	-414.541	0	0			

	250		3.8	11/7/2013 10:37	-414.541	0	0			
	150		3.25	11/7/2013 10:37	-414.541	0	0			
	50		0.82	11/7/2013 10:37	-414.541	0	0			
106117	450	1035	4.76	11/7/2013 10:37	-414.541	-414.546	0	4.75565	-0.1760728	
	350		4.69	11/7/2013 10:37	-414.541	0	0			
	250		3.82	11/7/2013 10:37	-414.541	0	0			
	150		3.23	11/7/2013 10:37	-414.541	0	0			
	50		0.9	11/7/2013 10:37	-414.541	0	0			
106114	450	1041	4.89	11/7/2013 10:37	-414.541	0	-414.532	4.898701	-0.0330216	
	350		4.99	11/7/2013 10:37	-414.541	0	0			
	250		3.89	11/7/2013 10:37	-414.541	0	0			
	150		3.6	11/7/2013 10:37	-414.541	0	0			
	50		0.2	11/7/2013 10:37	-414.541	0	0			
106116	450	1038	4.34	11/7/2013 10:37	-414.541	0	-414.539	4.342175	-0.5895472	
	350		4.73	11/7/2013 10:37	-414.541	0	0			
	250		3.79	11/7/2013 10:37	-414.541	0	0			
	150		3.1	11/7/2013 10:37	-414.541	0	0			
	50		0.41	11/7/2013 10:37	-414.541	0	0			
106111	450	1030	4.92	11/7/2013 10:37	-414.541	-414.557	0	4.904774	-0.0269488	
	350		4.83	11/7/2013 10:37	-414.541	0	0			
	250		3.99	11/7/2013 10:37	-414.541	0	0			
	150		3.59	11/7/2013 10:37	-414.541	0	0			
	50		0.63	11/7/2013 10:37	-414.541	0	0			
106109	450	1024	4.96	11/7/2013 10:37	-414.541	-414.57	0	4.931722	0	
	350		4.72	11/7/2013 10:37	-414.541	0	0			
	250		4.47	11/7/2013 10:37	-414.541	0	0			
	150		4	11/7/2013 10:37	-414.541	0	0			
	50		-0.02	11/7/2013 10:37	-414.541	0	0			
106128	450	1109	4.62	11/7/2013 11:03	-414.423	-414.382	0	4.659154	-0.0586416	
	350		4.89	11/7/2013 11:03	-414.423	0	0			
	250		3.66	11/7/2013 11:03	-414.423	0	0			
	150		3.11	11/7/2013 11:03	-414.423	0	0			
	50		0.74	11/7/2013 11:03	-414.423	0	0			
106117	450	1102	4.61	11/7/2013 11:03	-414.423	0	-414.43	4.603474	-0.1143208	
	350		4.54	11/7/2013 11:03	-414.423	0	0			
	250		3.7	11/7/2013 11:03	-414.423	0	0			
	150		3.1	11/7/2013 11:03	-414.423	0	0			
	50		0.84	11/7/2013 11:03	-414.423	0	0			
106114	450	1107	4.89	11/7/2013 11:03	-414.423	-414.396	0	4.916102	0.1983072	
	350		4.85	11/7/2013 11:03	-414.423	0	0			
	250		3.76	11/7/2013 11:03	-414.423	0	0			
	150		3.45	11/7/2013 11:03	-414.423	0	0			
	50		0.15	11/7/2013 11:03	-414.423	0	0			
106116	450	1104	4.21	11/7/2013 11:03	-414.423	-414.416	0	4.216526	-0.5012696	
	350		4.57	11/7/2013 11:03	-414.423	0	0			
	250		3.65	11/7/2013 11:03	-414.423	0	0			
	150		2.98	11/7/2013 11:03	-414.423	0	0			

	50		0.36	11/7/2013 11:03	-414.423	0	0			
106111	450	1058	4.73	11/7/2013 11:03	-414.423	0	-414.457	4.697372	-0.0204232	
	350		4.65	11/7/2013 11:03	-414.423	0	0			
	250		3.83	11/7/2013 11:03	-414.423	0	0			
	150		3.43	11/7/2013 11:03	-414.423	0	0			
	50		0.53	11/7/2013 11:03	-414.423	0	0			
106109	450	1055	4.77	11/7/2013 11:03	-414.423	0	-414.478	4.717795	0	
	350		4.57	11/7/2013 11:03	-414.423	0	0			
	250		4.31	11/7/2013 11:03	-414.423	0	0			
	150		3.82	11/7/2013 11:03	-414.423	0	0			
	50		-0.07	11/7/2013 11:03	-414.423	0	0			
106128	450	1142	4.3	11/7/2013 11:32	-414.226	0	-414.158	4.365256	-0.1125392	
	350		4.55	11/7/2013 11:32	-414.226	0	0			
	250		3.39	11/7/2013 11:32	-414.226	0	0			
	150		2.88	11/7/2013 11:32	-414.226	0	0			
	50		0.59	11/7/2013 11:32	-414.226	0	0			
106117	450	1133	4.24	11/7/2013 11:32	-414.226	0	-414.219	4.246526	-0.2312696	
	350		4.24	11/7/2013 11:32	-414.226	0	0			
	250		3.43	11/7/2013 11:32	-414.226	0	0			
	150		2.84	11/7/2013 11:32	-414.226	0	0			
	50		0.67	11/7/2013 11:32	-414.226	0	0			
106114	450	1139	4.59	11/7/2013 11:32	-414.226	0	-414.178	4.635679	0.157884	
	350		4.55	11/7/2013 11:32	-414.226	0	0			
	250		3.5	11/7/2013 11:32	-414.226	0	0			
	150		3.21	11/7/2013 11:32	-414.226	0	0			
	50		0.02	11/7/2013 11:32	-414.226	0	0			
106116	450	1130	3.95	11/7/2013 11:32	-414.226	-414.24	0	3.936949	-0.5408464	
	350		4.3	11/7/2013 11:32	-414.226	0	0			
	250		3.42	11/7/2013 11:32	-414.226	0	0			
	150		2.76	11/7/2013 11:32	-414.226	0	0			
	50		0.23	11/7/2013 11:32	-414.226	0	0			
106111	450	1128	4.48	11/7/2013 11:32	-414.226	-414.253	0	4.453898	-0.0238976	
	350		4.44	11/7/2013 11:32	-414.226	0	0			
	250		3.62	11/7/2013 11:32	-414.226	0	0			
	150		3.23	11/7/2013 11:32	-414.226	0	0			
	50		0.46	11/7/2013 11:32	-414.226	0	0			
106109	450	1124	4.53	11/7/2013 11:32	-414.226	-414.28	0	4.477795	0	
	350		4.34	11/7/2013 11:32	-414.226	0	0			
	250		4.08	11/7/2013 11:32	-414.226	0	0			
	150		3.61	11/7/2013 11:32	-414.226	0	0			
	50		-0.17	11/7/2013 11:32	-414.226	0	0			
106128	450	1215	3.5	11/7/2013 12:05	-413.934	-413.82	0	3.60876	-0.625108	
	350		4.24	11/7/2013 12:05	-413.934	0	0			
	250		3.1	11/7/2013 12:05	-413.934	0	0			
	150		2.59	11/7/2013 12:05	-413.934	0	0			
	50		0.48	11/7/2013 12:05	-413.934	0	0			
106117	450	1203	4.04	11/7/2013 12:05	-413.934	0	-413.956	4.018248	-0.21562	

	350			3.99	11/7/2013 12:05	-413.934	0	0				
	250			3.25	11/7/2013 12:05	-413.934	0	0				
	150			2.59	11/7/2013 12:05	-413.934	0	0				
	50			0.54	11/7/2013 12:05	-413.934	0	0				
106114	450		1210	4.3	11/7/2013 12:05	-413.934	-413.877	0	4.35438	0.120512		
	350			4.27	11/7/2013 12:05	-413.934	0	0				
	250			3.21	11/7/2013 12:05	-413.934	0	0				
	150			2.92	11/7/2013 12:05	-413.934	0	0				
	50			-0.08	11/7/2013 12:05	-413.934	0	0				
106116	450		1207	3.66	11/7/2013 12:05	-413.934	-413.911	0	3.681752	-0.552116		
	350			3.81	11/7/2013 12:05	-413.934	0	0				
	250			3.09	11/7/2013 12:05	-413.934	0	0				
	150			2.4	11/7/2013 12:05	-413.934	0	0				
	50			0.1	11/7/2013 12:05	-413.934	0	0				
106111	450		1154	4.26	11/7/2013 12:05	-413.934	0	-414.058	4.140364	-0.093504		
	350			4.21	11/7/2013 12:05	-413.934	0	0				
	250			3.4	11/7/2013 12:05	-413.934	0	0				
	150			3.02	11/7/2013 12:05	-413.934	0	0				
	50			0.35	11/7/2013 12:05	-413.934	0	0				
106109	450		1158	4.31	11/7/2013 12:05	-413.934	0	-414.013	4.233868	0		
	350			4.09	11/7/2013 12:05	-413.934	0	0				
	250			3.84	11/7/2013 12:05	-413.934	0	0				
	150			3.38	11/7/2013 12:05	-413.934	0	0				
	50			-0.19	11/7/2013 12:05	-413.934	0	0				
106128	450		1243	3.65	11/7/2013 12:37	-413.571	-413.503	0	3.715256	-0.229488		
	350			3.88	11/7/2013 12:37	-413.571	0	0				
	250			2.8	11/7/2013 12:37	-413.571	0	0				
	150			2.3	11/7/2013 12:37	-413.571	0	0				
	50			0.3	11/7/2013 12:37	-413.571	0	0				
106117	450		1235	3.69	11/7/2013 12:37	-413.571	0	-413.594	3.668248	-0.276496		
	350			3.66	11/7/2013 12:37	-413.571	0	0				
	250			2.87	11/7/2013 12:37	-413.571	0	0				
	150			2.31	11/7/2013 12:37	-413.571	0	0				
	50			0.42	11/7/2013 12:37	-413.571	0	0				
106114	450		1241	3.93	11/7/2013 12:37	-413.571	-413.526	0	3.973504	0.02876		
	350			3.89	11/7/2013 12:37	-413.571	0	0				
	250			2.85	11/7/2013 12:37	-413.571	0	0				
	150			2.55	11/7/2013 12:37	-413.571	0	0				
	50			-0.21	11/7/2013 12:37	-413.571	0	0				
106116	450		1238	3.33	11/7/2013 12:37	-413.571	-413.56	0	3.340876	-0.603868		
	350			3.68	11/7/2013 12:37	-413.571	0	0				
	250			2.86	11/7/2013 12:37	-413.571	0	0				
	150			2.12	11/7/2013 12:37	-413.571	0	0				
	50			0	11/7/2013 12:37	-413.571	0	0				
106111	450		1224	3.94	11/7/2013 12:37	-413.571	0	-413.719	3.798612	-0.146132		
	350			3.91	11/7/2013 12:37	-413.571	0	0				
	250			3.13	11/7/2013 12:37	-413.571	0	0				

	150			2.74	11/7/2013 12:37	-413.571	0	0		
	50			0.27	11/7/2013 12:37	-413.571	0	0		
106109	450		1231	4.01	11/7/2013 12:37	-413.571	0	-413.639	3.944744	0
	350			3.73	11/7/2013 12:37	-413.571	0	0		
	250			3.56	11/7/2013 12:37	-413.571	0	0		
	150			3.08	11/7/2013 12:37	-413.571	0	0		
	50			-0.21	11/7/2013 12:37	-413.571	0	0		
106128	450		1309	3.46	11/7/2013 13:03	-413.336	-413.295	0	3.499154	-0.1886416
	350			3.69	11/7/2013 13:03	-413.336	0	0		
	250			2.63	11/7/2013 13:03	-413.336	0	0		
	150			2.13	11/7/2013 13:03	-413.336	0	0		
	50			0.27	11/7/2013 13:03	-413.336	0	0		
106117	450		1302	3.45	11/7/2013 13:03	-413.336	0	-413.342	3.443474	-0.2443208
	350			3.4	11/7/2013 13:03	-413.336	0	0		
	250			2.65	11/7/2013 13:03	-413.336	0	0		
	150			2.12	11/7/2013 13:03	-413.336	0	0		
	50			0.36	11/7/2013 13:03	-413.336	0	0		
106114	450		1307	3.71	11/7/2013 13:03	-413.336	-413.308	0	3.736102	0.0483072
	350			3.7	11/7/2013 13:03	-413.336	0	0		
	250			2.7	11/7/2013 13:03	-413.336	0	0		
	150			2.42	11/7/2013 13:03	-413.336	0	0		
	50			-0.21	11/7/2013 13:03	-413.336	0	0		
106116	450		1304	3.14	11/7/2013 13:03	-413.336	-413.329	0	3.146526	-0.5412696
	350			3.44	11/7/2013 13:03	-413.336	0	0		
	250			2.62	11/7/2013 13:03	-413.336	0	0		
	150			1.94	11/7/2013 13:03	-413.336	0	0		
	50			-0.05	11/7/2013 13:03	-413.336	0	0		
106111	450		1258	3.61	11/7/2013 13:03	-413.336	0	-413.37	3.577372	-0.1104232
	350			3.58	11/7/2013 13:03	-413.336	0	0		
	250			2.82	11/7/2013 13:03	-413.336	0	0		
	150			2.46	11/7/2013 13:03	-413.336	0	0		
	50			0.16	11/7/2013 13:03	-413.336	0	0		
106109	450		1255	3.74	11/7/2013 13:03	-413.336	0	-413.39	3.687795	0
	350			3.54	11/7/2013 13:03	-413.336	0	0		
	250			3.28	11/7/2013 13:03	-413.336	0	0		
	150			2.81	11/7/2013 13:03	-413.336	0	0		
	50			-0.3	11/7/2013 13:03	-413.336	0	0		
106128	450		1344	3.26	11/7/2013 13:37	-413.104	-413.057	0	3.305679	-0.109488
	350			3.5	11/7/2013 13:37	-413.104	0	0		
	250			2.45	11/7/2013 13:37	-413.104	0	0		
	150			2.01	11/7/2013 13:37	-413.104	0	0		
	50			0.29	11/7/2013 13:37	-413.104	0	0		
106117	450		1335	3.23	11/7/2013 13:37	-413.104	0	-413.118	3.216949	-0.1982184
	350			3.2	11/7/2013 13:37	-413.104	0	0		
	250			2.47	11/7/2013 13:37	-413.104	0	0		
	150			1.97	11/7/2013 13:37	-413.104	0	0		
	50			0.36	11/7/2013 13:37	-413.104	0	0		

106114	450	1341	3.51	11/7/2013 13:37	-413.104	-413.077	0	3.536102	0.1209352
	350		3.5	11/7/2013 13:37	-413.104	0	0		
	250		2.53	11/7/2013 13:37	-413.104	0	0		
	150		2.27	11/7/2013 13:37	-413.104	0	0		
	50		-0.18	11/7/2013 13:37	-413.104	0	0		
106116	450	1338	2.93	11/7/2013 13:37	-413.104	-413.098	0	2.936526	-0.4786416
	350		3.25	11/7/2013 13:37	-413.104	0	0		
	250		2.42	11/7/2013 13:37	-413.104	0	0		
	150		1.8	11/7/2013 13:37	-413.104	0	0		
	50		-0.04	11/7/2013 13:37	-413.104	0	0		
106111	450	1330	3.37	11/7/2013 13:37	-413.104	0	-413.152	3.324321	-0.0908464
	350		3.34	11/7/2013 13:37	-413.104	0	0		
	250		2.6	11/7/2013 13:37	-413.104	0	0		
	150		2.27	11/7/2013 13:37	-413.104	0	0		
	50		0.14	11/7/2013 13:37	-413.104	0	0		
106109	450	1324	3.5	11/7/2013 13:37	-413.104	0	-413.193	3.415167	0
	350		3.3	11/7/2013 13:37	-413.104	0	0		
	250		3.05	11/7/2013 13:37	-413.104	0	0		
	150		2.59	11/7/2013 13:37	-413.104	0	0		
	50		-0.29	11/7/2013 13:37	-413.104	0	0		
106128	450	1411	3.14	11/7/2013 14:06	-412.98	-412.969	0	3.150876	-0.1917224
	350		3.34	11/7/2013 14:06	-412.98	0	0		
	250		2.3	11/7/2013 14:06	-412.98	0	0		
	150		1.87	11/7/2013 14:06	-412.98	0	0		
	50		0.26	11/7/2013 14:06	-412.98	0	0		
106117	450	1405	3.08	11/7/2013 14:06	-412.98	0	-412.982	3.077825	-0.2647736
	350		3.04	11/7/2013 14:06	-412.98	0	0		
	250		2.34	11/7/2013 14:06	-412.98	0	0		
	150		1.84	11/7/2013 14:06	-412.98	0	0		
	50		0.32	11/7/2013 14:06	-412.98	0	0		
106114	450	1409	3.34	11/7/2013 14:06	-412.98	-412.973	0	3.346526	0.0039272
	350		3.31	11/7/2013 14:06	-412.98	0	0		
	250		2.37	11/7/2013 14:06	-412.98	0	0		
	150		2.1	11/7/2013 14:06	-412.98	0	0		
	50		-0.19	11/7/2013 14:06	-412.98	0	0		
106116	450	1407	2.8	11/7/2013 14:06	-412.98	-412.978	0	2.802175	-0.5404232
	350		3.07	11/7/2013 14:06	-412.98	0	0		
	250		2.27	11/7/2013 14:06	-412.98	0	0		
	150		1.67	11/7/2013 14:06	-412.98	0	0		
	50		-0.04	11/7/2013 14:06	-412.98	0	0		
106111	450	1401	3.21	11/7/2013 14:06	-412.98	0	-412.991	3.199124	-0.1434744
	350		3.2	11/7/2013 14:06	-412.98	0	0		
	250		2.46	11/7/2013 14:06	-412.98	0	0		
	150		2.14	11/7/2013 14:06	-412.98	0	0		
	50		0.15	11/7/2013 14:06	-412.98	0	0		
106109	450	1358	3.36	11/7/2013 14:06	-412.98	0	-412.998	3.342598	0
	350		3.16	11/7/2013 14:06	-412.98	0	0		

	250		2.91	11/7/2013 14:06	-412.98	0	0		
	150		2.43	11/7/2013 14:06	-412.98	0	0		
	50		-0.21	11/7/2013 14:06	-412.98	0	0		
106128	450	1442	2.97	11/7/2013 14:34	-412.916	-412.898	0	2.987402	-0.2208464
	350		3.17	11/7/2013 14:34	-412.916	0	0		
	250		2.15	11/7/2013 14:34	-412.916	0	0		
	150		1.75	11/7/2013 14:34	-412.916	0	0		
	50		0.24	11/7/2013 14:34	-412.916	0	0		
106117	450	1432	2.93	11/7/2013 14:34	-412.916	0	-412.921	2.92565	-0.2825984
	350		2.89	11/7/2013 14:34	-412.916	0	0		
	250		2.17	11/7/2013 14:34	-412.916	0	0		
	150		1.72	11/7/2013 14:34	-412.916	0	0		
	50		0.29	11/7/2013 14:34	-412.916	0	0		
106114	450	1438	3.16	11/7/2013 14:34	-412.916	-412.907	0	3.168701	-0.0395472
	350		3.14	11/7/2013 14:34	-412.916	0	0		
	250		2.21	11/7/2013 14:34	-412.916	0	0		
	150		1.98	11/7/2013 14:34	-412.916	0	0		
	50		-0.2	11/7/2013 14:34	-412.916	0	0		
106116	450	1435	2.64	11/7/2013 14:34	-412.916	-412.914	0	2.642175	-0.5660728
	350		2.91	11/7/2013 14:34	-412.916	0	0		
	250		2.12	11/7/2013 14:34	-412.916	0	0		
	150		1.56	11/7/2013 14:34	-412.916	0	0		
	50		-0.07	11/7/2013 14:34	-412.916	0	0		
106111	450	1427	3.06	11/7/2013 14:34	-412.916	0	-412.932	3.044774	-0.1634744
	350		3.05	11/7/2013 14:34	-412.916	0	0		
	250		2.32	11/7/2013 14:34	-412.916	0	0		
	150		2.02	11/7/2013 14:34	-412.916	0	0		
	50		0.13	11/7/2013 14:34	-412.916	0	0		
106109	450	1424	3.23	11/7/2013 14:34	-412.916	0	-412.939	3.208248	0
	350		3	11/7/2013 14:34	-412.916	0	0		
	250		2.76	11/7/2013 14:34	-412.916	0	0		
	150		2.3	11/7/2013 14:34	-412.916	0	0		
	50		-0.23	11/7/2013 14:34	-412.916	0	0		
106128	450	1510	2.87	11/7/2013 15:05	-412.812	-412.79	0	2.891752	-0.1234448
	350		3.06	11/7/2013 15:05	-412.812	0	0		
	250		2.04	11/7/2013 15:05	-412.812	0	0		
	150		1.65	11/7/2013 15:05	-412.812	0	0		
	50		0.23	11/7/2013 15:05	-412.812	0	0		
106117	450	1504	2.79	11/7/2013 15:05	-412.812	0	-412.817	2.78565	-0.2295472
	350		2.74	11/7/2013 15:05	-412.812	0	0		
	250		2.04	11/7/2013 15:05	-412.812	0	0		
	150		1.61	11/7/2013 15:05	-412.812	0	0		
	50		0.28	11/7/2013 15:05	-412.812	0	0		
106114	450	1508	3.05	11/7/2013 15:05	-412.812	-412.799	0	3.063051	0.0478544
	350		3.02	11/7/2013 15:05	-412.812	0	0		
	250		2.1	11/7/2013 15:05	-412.812	0	0		
	150		1.84	11/7/2013 15:05	-412.812	0	0		

	50		-0.18	11/7/2013 15:05	-412.812	0	0		
106116	450	1506	2.52	11/7/2013 15:05	-412.812	-412.808	0	2.52435	-0.4908464
	350		2.76	11/7/2013 15:05	-412.812	0	0		
	250		2.02	11/7/2013 15:05	-412.812	0	0		
	150		1.45	11/7/2013 15:05	-412.812	0	0		
	50		-0.05	11/7/2013 15:05	-412.812	0	0		
106111	450	1459	2.9	11/7/2013 15:05	-412.812	0	-412.839	2.873898	-0.1412992
	350		2.87	11/7/2013 15:05	-412.812	0	0		
	250		2.19	11/7/2013 15:05	-412.812	0	0		
	150		1.89	11/7/2013 15:05	-412.812	0	0		
	50		0.12	11/7/2013 15:05	-412.812	0	0		
106109	450	1457	3.05	11/7/2013 15:05	-412.812	0	-412.848	3.015197	0
	350		2.84	11/7/2013 15:05	-412.812	0	0		
	250		2.59	11/7/2013 15:05	-412.812	0	0		
	150		2.13	11/7/2013 15:05	-412.812	0	0		
	50		-0.21	11/7/2013 15:05	-412.812	0	0		
106128	450	1541	2.79	11/7/2013 15:34	-412.681	-412.649	0	2.820453	-0.0860432
	350		3	11/7/2013 15:34	-412.681	0	0		
	250		2.01	11/7/2013 15:34	-412.681	0	0		
	150		1.64	11/7/2013 15:34	-412.681	0	0		
	50		0.28	11/7/2013 15:34	-412.681	0	0		
106117	450	1532	2.75	11/7/2013 15:34	-412.681	0	-412.69	2.741299	-0.1651968
	350		2.7	11/7/2013 15:34	-412.681	0	0		
	250		2.04	11/7/2013 15:34	-412.681	0	0		
	150		1.61	11/7/2013 15:34	-412.681	0	0		
	50		0.34	11/7/2013 15:34	-412.681	0	0		
106114	450	1538	2.99	11/7/2013 15:34	-412.681	-412.663	0	3.007402	0.1009056
	350		2.95	11/7/2013 15:34	-412.681	0	0		
	250		2.06	11/7/2013 15:34	-412.681	0	0		
	150		1.83	11/7/2013 15:34	-412.681	0	0		
	50		-0.13	11/7/2013 15:34	-412.681	0	0		
106116	450	1535	2.48	11/7/2013 15:34	-412.681	-412.676	0	2.48435	-0.4221456
	350		2.75	11/7/2013 15:34	-412.681	0	0		
	250		1.99	11/7/2013 15:34	-412.681	0	0		
	150		1.44	11/7/2013 15:34	-412.681	0	0		
	50		0	11/7/2013 15:34	-412.681	0	0		
106111	450	1527	2.85	11/7/2013 15:34	-412.681	0	-412.712	2.819547	-0.0869488
	350		2.81	11/7/2013 15:34	-412.681	0	0		
	250		2.12	11/7/2013 15:34	-412.681	0	0		
	150		1.86	11/7/2013 15:34	-412.681	0	0		
	50		0.18	11/7/2013 15:34	-412.681	0	0		
106109	450	1524	2.95	11/7/2013 15:34	-412.681	0	-412.726	2.906496	0
	350		2.78	11/7/2013 15:34	-412.681	0	0		
	250		2.54	11/7/2013 15:34	-412.681	0	0		
	150		2.09	11/7/2013 15:34	-412.681	0	0		
	50		-0.15	11/7/2013 15:34	-412.681	0	0		
106128	450	1608	2.75	11/7/2013 16:02	-412.581	-412.567	0	2.763051	-0.1395472

	350		2.92	11/7/2013 16:02	-412.581	0	0		
	250		1.97	11/7/2013 16:02	-412.581	0	0		
	150		1.55	11/7/2013 16:02	-412.581	0	0		
	50		0.27	11/7/2013 16:02	-412.581	0	0		
106117	450	1601	2.67	11/7/2013 16:02	-412.581	0	-412.583	2.667825	-0.2347736
	350		2.64	11/7/2013 16:02	-412.581	0	0		
	250		1.97	11/7/2013 16:02	-412.581	0	0		
	150		1.56	11/7/2013 16:02	-412.581	0	0		
	50		0.33	11/7/2013 16:02	-412.581	0	0		
106114	450	1606	2.93	11/7/2013 16:02	-412.581	-412.572	0	2.938701	0.0361024
	350		2.9	11/7/2013 16:02	-412.581	0	0		
	250		2.01	11/7/2013 16:02	-412.581	0	0		
	150		1.79	11/7/2013 16:02	-412.581	0	0		
	50		-0.09	11/7/2013 16:02	-412.581	0	0		
106116	450	1603	2.41	11/7/2013 16:02	-412.581	-412.579	0	2.412175	-0.4904232
	350		2.06	11/7/2013 16:02	-412.581	0	0		
	250		1.92	11/7/2013 16:02	-412.581	0	0		
	150		1.42	11/7/2013 16:02	-412.581	0	0		
	50		0.03	11/7/2013 16:02	-412.581	0	0		
106111	450	1557	2.75	11/7/2013 16:02	-412.581	0	-412.592	2.739124	-0.1634744
	350		2.73	11/7/2013 16:02	-412.581	0	0		
	250		2.06	11/7/2013 16:02	-412.581	0	0		
	150		1.8	11/7/2013 16:02	-412.581	0	0		
	50		0.18	11/7/2013 16:02	-412.581	0	0		
106109	450	1554	2.92	11/7/2013 16:02	-412.581	0	-412.599	2.902598	0
	350		2.69	11/7/2013 16:02	-412.581	0	0		
	250		2.44	11/7/2013 16:02	-412.581	0	0		
	150		2	11/7/2013 16:02	-412.581	0	0		
	50		-0.12	11/7/2013 16:02	-412.581	0	0		
106128	450	1637	2.64	11/7/2013 16:31	-412.515	-412.502	0	2.653051	-0.1617224
	350		2.8	11/7/2013 16:31	-412.515	0	0		
	250		1.83	11/7/2013 16:31	-412.515	0	0		
	150		1.48	11/7/2013 16:31	-412.515	0	0		
	50		0.22	11/7/2013 16:31	-412.515	0	0		
106117	450	1630	4.83	11/7/2013 16:31	-412.515	0	-412.518	4.827825	2.0130512
	350		4.75	11/7/2013 16:31	-412.515	0	0		
	250		3.53	11/7/2013 16:31	-412.515	0	0		
	150		2.78	11/7/2013 16:31	-412.515	0	0		
	50		0.59	11/7/2013 16:31	-412.515	0	0		
106114	450	1635	2.79	11/7/2013 16:31	-412.515	-412.506	0	2.798701	-0.0160728
	350		2.76	11/7/2013 16:31	-412.515	0	0		
	250		1.89	11/7/2013 16:31	-412.515	0	0		
	150		1.67	11/7/2013 16:31	-412.515	0	0		
	50		-0.11	11/7/2013 16:31	-412.515	0	0		
106116	450	1632	4.31	11/7/2013 16:31	-412.515	-412.513	0	4.312175	1.4974016
	350		4.76	11/7/2013 16:31	-412.515	0	0		
	250		3.42	11/7/2013 16:31	-412.515	0	0		

	150		2.48	11/7/2013 16:31	-412.515	0	0		
	50		0	11/7/2013 16:31	-412.515	0	0		
106111	450	1626	2.68	11/7/2013 16:31	-412.515	0	-412.527	2.669124	-0.1456496
	350		2.65	11/7/2013 16:31	-412.515	0	0		
	250		1.97	11/7/2013 16:31	-412.515	0	0		
	150		1.73	11/7/2013 16:31	-412.515	0	0		
	50		0.19	11/7/2013 16:31	-412.515	0	0		
106109	450	1624	2.83	11/7/2013 16:31	-412.515	0	-412.531	2.814774	0
	350		2.62	11/7/2013 16:31	-412.515	0	0		
	250		2.38	11/7/2013 16:31	-412.515	0	0		
	150		1.93	11/7/2013 16:31	-412.515	0	0		
	50		-0.12	11/7/2013 16:31	-412.515	0	0		
106128	450	1706	2.5	11/7/2013 17:08	-412.472	0	-412.472	2.5	-0.16
	350		2.67	11/7/2013 17:08	-412.472	0	0		
	250		1.73	11/7/2013 17:08	-412.472	0	0		
	150		1.4	11/7/2013 17:08	-412.472	0	0		
	50		0.21	11/7/2013 17:08	-412.472	0	0		
106117	450	1715	2.35	11/7/2013 17:08	-412.472	-412.472	0	2.35	-0.31
	350		2.27	11/7/2013 17:08	-412.472	0	0		
	250		1.7	11/7/2013 17:08	-412.472	0	0		
	150		1.33	11/7/2013 17:08	-412.472	0	0		
	50		0.27	11/7/2013 17:08	-412.472	0	0		
106114	450	1709	2.24	11/7/2013 17:08	-412.472	-412.472	0	2.24	-0.42
	350		2.6	11/7/2013 17:08	-412.472	0	0		
	250		1.75	11/7/2013 17:08	-412.472	0	0		
	150		1.55	11/7/2013 17:08	-412.472	0	0		
	50		-0.14	11/7/2013 17:08	-412.472	0	0		
106116	450	1712	2.14	11/7/2013 17:08	-412.472	-412.472	0	2.14	-0.52
	350		2.36	11/7/2013 17:08	-412.472	0	0		
	250		1.68	11/7/2013 17:08	-412.472	0	0		
	150		1.21	11/7/2013 17:08	-412.472	0	0		
	50		-0.02	11/7/2013 17:08	-412.472	0	0		
106111	450	1658	2.48	11/7/2013 17:08	-412.472	0	-412.472	2.48	-0.18
	350		2.48	11/7/2013 17:08	-412.472	0	0		
	250		1.8	11/7/2013 17:08	-412.472	0	0		
	150		1.58	11/7/2013 17:08	-412.472	0	0		
	50		0.12	11/7/2013 17:08	-412.472	0	0		
106109	450	1654	2.66	11/7/2013 17:08	-412.472	0	-412.472	2.66	0
	350		2.42	11/7/2013 17:08	-412.472	0	0		
	250		2.3	11/7/2013 17:08	-412.472	0	0		
	150		1.77	11/7/2013 17:08	-412.472	0	0		
	50		-0.16	11/7/2013 17:08	-412.472	0	0		

Well ID	Depth	Minimum distance to extraction well	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics	Range	Count
106128	450			823	5.33	11/7/2013 8:06	-414.5840567	-414.661095	0	5.1560432	0.3107872			
	350				5.23	11/7/2013 8:06	-414.5840567	0	0					
	250				4.06	11/7/2013 8:06	-414.5840567	0	0					
	150				3.55	11/7/2013 8:06	-414.5840567	0	0					
	50				1.09	11/7/2013 8:06	-414.5840567	0	0					
106117	450			802	5.7	11/7/2013 8:06	-414.5840567	0	-414.56593	5.3074016	0.4621456			
	350				5.29	11/7/2013 8:06	-414.5840567	0	0					
	250				4.04	11/7/2013 8:06	-414.5840567	0	0					
	150				3.41	11/7/2013 8:06	-414.5840567	0	0					
	50				1.11	11/7/2013 8:06	-414.5840567	0	0					
106114	450			818	5.64	11/7/2013 8:06	-414.5840567	-414.6384367	0	5.4477952	0.6025392			
	350				5.5	11/7/2013 8:06	-414.5840567	0	0					
	250				4.18	11/7/2013 8:06	-414.5840567	0	0					
	150				3.89	11/7/2013 8:06	-414.5840567	0	0					
	50				0.49	11/7/2013 8:06	-414.5840567	0	0					
106116	450			809	5.03	11/7/2013 8:06	-414.5840567	-414.5976517	0	5.3969488	0.5516928			
	350				5.41	11/7/2013 8:06	-414.5840567	0	0					
	250				4	11/7/2013 8:06	-414.5840567	0	0					
	150				3.37	11/7/2013 8:06	-414.5840567	0	0					
	50				0.59	11/7/2013 8:06	-414.5840567	0	0					
106111	450			738	5.44	11/7/2013 8:06	-414.5840567	0	-414.48436	5.2157088	0.3704528			
	350				5.12	11/7/2013 8:06	-414.5840567	0	0					
	250				4.08	11/7/2013 8:06	-414.5840567	0	0					
	150				3.7	11/7/2013 8:06	-414.5840567	0	0					
	50				0.79	11/7/2013 8:06	-414.5840567	0	0					
106109	450			751	4.83	11/7/2013 8:06	-414.5840567	0	-414.5160817	4.845256	0			
	350				4.78	11/7/2013 8:06	-414.5840567	0	0					
	250				4.53	11/7/2013 8:06	-414.5840567	0	0					
	150				4.05	11/7/2013 8:06	-414.5840567	0	0					
	50				0.09	11/7/2013 8:06	-414.5840567	0	0					
106128	450			944	5.03	11/7/2013 9:36	-414.6792217	-414.661095	0	5.2974016	0.443504			
	350				5.28	11/7/2013 9:36	-414.6792217	0	0					
	250				4.02	11/7/2013 9:36	-414.6792217	0	0					
	150				3.48	11/7/2013 9:36	-414.6792217	0	0					
	50				0.97	11/7/2013 9:36	-414.6792217	0	0					
106117	450			934	5.05	11/7/2013 9:36	-414.6792217	0	-414.6837533	4.7556496	-0.098248			
	350				4.76	11/7/2013 9:36	-414.6792217	0	0					
	250				4.04	11/7/2013 9:36	-414.6792217	0	0					
	150				3.43	11/7/2013 9:36	-414.6792217	0	0					
	50				0.99	11/7/2013 9:36	-414.6792217	0	0					
106114	450			941	5.27	11/7/2013 9:36	-414.6792217	-414.6678925	0	5.250876	0.3969784			
	350				5.24	11/7/2013 9:36	-414.6792217	0	0					
	250				4.09	11/7/2013 9:36	-414.6792217	0	0					
	150				3.81	11/7/2013 9:36	-414.6792217	0	0					
	50				0.33	11/7/2013 9:36	-414.6792217	0	0					
106116	450			937	4.6	11/7/2013 9:36	-414.6792217	-414.6769558	0	5.0021752	0.1482776			
	350				5	11/7/2013 9:36	-414.6792217	0	0					

	250		3.99	11/7/2013 9:36	-414.6792217	0	0			
	150		3.33	11/7/2013 9:36	-414.6792217	0	0			
	50		0.56	11/7/2013 9:36	-414.6792217	0	0			
106111	450	929	5.22	11/7/2013 9:36	-414.6792217	0	-414.6950825	5.0347736	0.180876	
	350		5.05	11/7/2013 9:36	-414.6792217	0	0			
	250		4.19	11/7/2013 9:36	-414.6792217	0	0			
	150		3.78	11/7/2013 9:36	-414.6792217	0	0			
	50		0.76	11/7/2013 9:36	-414.6792217	0	0			
106109	450	924	5.08	11/7/2013 9:36	-414.6792217	0	-414.7064117	4.8538976	0	
	350		4.88	11/7/2013 9:36	-414.6792217	0	0			
	250		4.64	11/7/2013 9:36	-414.6792217	0	0			
	150		4.15	11/7/2013 9:36	-414.6792217	0	0			
	50		0.07	11/7/2013 9:36	-414.6792217	0	0			
106128	450	1009	4.96	11/7/2013 10:04	-414.6157783	-414.6044492	0	5.230876	0.441752	
	350		5.22	11/7/2013 10:04	-414.6157783	0	0			
	250		3.97	11/7/2013 10:04	-414.6157783	0	0			
	150		3.4	11/7/2013 10:04	-414.6157783	0	0			
	50		0.93	11/7/2013 10:04	-414.6157783	0	0			
106117	450	1003	4.92	11/7/2013 10:04	-414.6157783	0	-414.6180442	4.8278248	0.0387008	
	350		4.83	11/7/2013 10:04	-414.6157783	0	0			
	250		3.95	11/7/2013 10:04	-414.6157783	0	0			
	150		3.33	11/7/2013 10:04	-414.6157783	0	0			
	50		0.97	11/7/2013 10:04	-414.6157783	0	0			
106114	450	1007	5.22	11/7/2013 10:04	-414.6157783	-414.6089808	0	5.1765256	0.3874016	
	350		5.17	11/7/2013 10:04	-414.6157783	0	0			
	250		4.03	11/7/2013 10:04	-414.6157783	0	0			
	150		3.75	11/7/2013 10:04	-414.6157783	0	0			
	50		0.3	11/7/2013 10:04	-414.6157783	0	0			
106116	450	1005	4.51	11/7/2013 10:04	-414.6157783	-414.6135125	0	4.9121752	0.1230512	
	350		4.91	11/7/2013 10:04	-414.6157783	0	0			
	250		3.9	11/7/2013 10:04	-414.6157783	0	0			
	150		3.21	11/7/2013 10:04	-414.6157783	0	0			
	50		0.51	11/7/2013 10:04	-414.6157783	0	0			
106111	450	957	5.1	11/7/2013 10:04	-414.6157783	0	-414.6316392	4.9647736	0.1756496	
	350		4.98	11/7/2013 10:04	-414.6157783	0	0			
	250		4.12	11/7/2013 10:04	-414.6157783	0	0			
	150		3.69	11/7/2013 10:04	-414.6157783	0	0			
	50		0.72	11/7/2013 10:04	-414.6157783	0	0			
106109	450	959	5	11/7/2013 10:04	-414.6157783	0	-414.6271075	4.789124	0	
	350		4.8	11/7/2013 10:04	-414.6157783	0	0			
	250		4.55	11/7/2013 10:04	-414.6157783	0	0			
	150		4.06	11/7/2013 10:04	-414.6157783	0	0			
	50		0.02	11/7/2013 10:04	-414.6157783	0	0			
106128	450	1045	4.73	11/7/2013 10:37	-414.5410058	0	-414.5228792	5.0274016	0.3356792	
	350		5.01	11/7/2013 10:37	-414.5410058	0	0			
	250		3.8	11/7/2013 10:37	-414.5410058	0	0			
	150		3.25	11/7/2013 10:37	-414.5410058	0	0			
	50		0.82	11/7/2013 10:37	-414.5410058	0	0			
106117	450	1035	4.76	11/7/2013 10:37	-414.5410058	-414.5455375	0	4.6856496	-0.0060728	
	350		4.69	11/7/2013 10:37	-414.5410058	0	0			

	250		3.82	11/7/2013 10:37	-414.5410058	0	0			
	150		3.23	11/7/2013 10:37	-414.5410058	0	0			
	50		0.9	11/7/2013 10:37	-414.5410058	0	0			
106114	450	1041	4.89	11/7/2013 10:37	-414.5410058	0	-414.5319425	4.9987008	0.3069784	
	350		4.99	11/7/2013 10:37	-414.5410058	0	0			
	250		3.89	11/7/2013 10:37	-414.5410058	0	0			
	150		3.6	11/7/2013 10:37	-414.5410058	0	0			
	50		0.2	11/7/2013 10:37	-414.5410058	0	0			
106116	450	1038	4.34	11/7/2013 10:37	-414.5410058	0	-414.53874	4.7321752	0.0404528	
	350		4.73	11/7/2013 10:37	-414.5410058	0	0			
	250		3.79	11/7/2013 10:37	-414.5410058	0	0			
	150		3.1	11/7/2013 10:37	-414.5410058	0	0			
	50		0.41	11/7/2013 10:37	-414.5410058	0	0			
106111	450	1030	4.92	11/7/2013 10:37	-414.5410058	-414.5568667	0	4.8147736	0.1230512	
	350		4.83	11/7/2013 10:37	-414.5410058	0	0			
	250		3.99	11/7/2013 10:37	-414.5410058	0	0			
	150		3.59	11/7/2013 10:37	-414.5410058	0	0			
	50		0.63	11/7/2013 10:37	-414.5410058	0	0			
106109	450	1024	4.96	11/7/2013 10:37	-414.5410058	-414.5704617	0	4.6917224	0	
	350		4.72	11/7/2013 10:37	-414.5410058	0	0			
	250		4.47	11/7/2013 10:37	-414.5410058	0	0			
	150		4	11/7/2013 10:37	-414.5410058	0	0			
	50		-0.02	11/7/2013 10:37	-414.5410058	0	0			
106128	450	1109	4.62	11/7/2013 11:03	-414.4231825	-414.3823975	0	4.9291536	0.4113584	
	350		4.89	11/7/2013 11:03	-414.4231825	0	0			
	250		3.66	11/7/2013 11:03	-414.4231825	0	0			
	150		3.11	11/7/2013 11:03	-414.4231825	0	0			
	50		0.74	11/7/2013 11:03	-414.4231825	0	0			
106117	450	1102	4.61	11/7/2013 11:03	-414.4231825	0	-414.42998	4.5334744	0.0156792	
	350		4.54	11/7/2013 11:03	-414.4231825	0	0			
	250		3.7	11/7/2013 11:03	-414.4231825	0	0			
	150		3.1	11/7/2013 11:03	-414.4231825	0	0			
	50		0.84	11/7/2013 11:03	-414.4231825	0	0			
106114	450	1107	4.89	11/7/2013 11:03	-414.4231825	-414.3959925	0	4.8761024	0.3583072	
	350		4.85	11/7/2013 11:03	-414.4231825	0	0			
	250		3.76	11/7/2013 11:03	-414.4231825	0	0			
	150		3.45	11/7/2013 11:03	-414.4231825	0	0			
	50		0.15	11/7/2013 11:03	-414.4231825	0	0			
106116	450	1104	4.21	11/7/2013 11:03	-414.4231825	-414.416385	0	4.5765256	0.0587304	
	350		4.57	11/7/2013 11:03	-414.4231825	0	0			
	250		3.65	11/7/2013 11:03	-414.4231825	0	0			
	150		2.98	11/7/2013 11:03	-414.4231825	0	0			
	50		0.36	11/7/2013 11:03	-414.4231825	0	0			
106111	450	1058	4.73	11/7/2013 11:03	-414.4231825	0	-414.45717	4.617372	0.0995768	
	350		4.65	11/7/2013 11:03	-414.4231825	0	0			
	250		3.83	11/7/2013 11:03	-414.4231825	0	0			
	150		3.43	11/7/2013 11:03	-414.4231825	0	0			
	50		0.53	11/7/2013 11:03	-414.4231825	0	0			
106109	450	1055	4.77	11/7/2013 11:03	-414.4231825	0	-414.4775625	4.5177952	0	
	350		4.57	11/7/2013 11:03	-414.4231825	0	0			

	250		4.31	11/7/2013 11:03	-414.4231825	0	0		
	150		3.82	11/7/2013 11:03	-414.4231825	0	0		
	50		-0.07	11/7/2013 11:03	-414.4231825	0	0		
106128	450	1142	4.3	11/7/2013 11:32	-414.226055	0	-414.15808	4.615256	0.3274608
	350		4.55	11/7/2013 11:32	-414.226055	0	0		
	250		3.39	11/7/2013 11:32	-414.226055	0	0		
	150		2.88	11/7/2013 11:32	-414.226055	0	0		
	50		0.59	11/7/2013 11:32	-414.226055	0	0		
106117	450	1133	4.24	11/7/2013 11:32	-414.226055	0	-414.2192575	4.2465256	-0.0412696
	350		4.24	11/7/2013 11:32	-414.226055	0	0		
	250		3.43	11/7/2013 11:32	-414.226055	0	0		
	150		2.84	11/7/2013 11:32	-414.226055	0	0		
	50		0.67	11/7/2013 11:32	-414.226055	0	0		
106114	450	1139	4.59	11/7/2013 11:32	-414.226055	0	-414.1784725	4.5956792	0.307884
	350		4.55	11/7/2013 11:32	-414.226055	0	0		
	250		3.5	11/7/2013 11:32	-414.226055	0	0		
	150		3.21	11/7/2013 11:32	-414.226055	0	0		
	50		0.02	11/7/2013 11:32	-414.226055	0	0		
106116	450	1130	3.95	11/7/2013 11:32	-414.226055	-414.23965	0	4.2869488	-0.0008464
	350		4.3	11/7/2013 11:32	-414.226055	0	0		
	250		3.42	11/7/2013 11:32	-414.226055	0	0		
	150		2.76	11/7/2013 11:32	-414.226055	0	0		
	50		0.23	11/7/2013 11:32	-414.226055	0	0		
106111	450	1128	4.48	11/7/2013 11:32	-414.226055	-414.253245	0	4.4138976	0.1261024
	350		4.44	11/7/2013 11:32	-414.226055	0	0		
	250		3.62	11/7/2013 11:32	-414.226055	0	0		
	150		3.23	11/7/2013 11:32	-414.226055	0	0		
	50		0.46	11/7/2013 11:32	-414.226055	0	0		
106109	450	1124	4.53	11/7/2013 11:32	-414.226055	-414.280435	0	4.2877952	0
	350		4.34	11/7/2013 11:32	-414.226055	0	0		
	250		4.08	11/7/2013 11:32	-414.226055	0	0		
	150		3.61	11/7/2013 11:32	-414.226055	0	0		
	50		-0.17	11/7/2013 11:32	-414.226055	0	0		
106128	450	1215	3.5	11/7/2013 12:05	-413.9337625	-413.8204708	0	4.34876	0.334892
	350		4.24	11/7/2013 12:05	-413.9337625	0	0		
	250		3.1	11/7/2013 12:05	-413.9337625	0	0		
	150		2.59	11/7/2013 12:05	-413.9337625	0	0		
	50		0.48	11/7/2013 12:05	-413.9337625	0	0		
106117	450	1203	4.04	11/7/2013 12:05	-413.9337625	0	-413.9564208	3.968248	-0.04562
	350		3.99	11/7/2013 12:05	-413.9337625	0	0		
	250		3.25	11/7/2013 12:05	-413.9337625	0	0		
	150		2.59	11/7/2013 12:05	-413.9337625	0	0		
	50		0.54	11/7/2013 12:05	-413.9337625	0	0		
106114	450	1210	4.3	11/7/2013 12:05	-413.9337625	-413.8771167	0	4.32438	0.310512
	350		4.27	11/7/2013 12:05	-413.9337625	0	0		
	250		3.21	11/7/2013 12:05	-413.9337625	0	0		
	150		2.92	11/7/2013 12:05	-413.9337625	0	0		
	50		-0.08	11/7/2013 12:05	-413.9337625	0	0		
106116	450	1207	3.66	11/7/2013 12:05	-413.9337625	-413.9111042	0	3.831752	-0.182116
	350		3.81	11/7/2013 12:05	-413.9337625	0	0		

	250		3.09	11/7/2013 12:05	-413.9337625	0	0			
	150		2.4	11/7/2013 12:05	-413.9337625	0	0			
	50		0.1	11/7/2013 12:05	-413.9337625	0	0			
106111	450	1154	4.26	11/7/2013 12:05	-413.9337625	0	-414.0583833	4.090364	0.076496	
	350		4.21	11/7/2013 12:05	-413.9337625	0	0			
	250		3.4	11/7/2013 12:05	-413.9337625	0	0			
	150		3.02	11/7/2013 12:05	-413.9337625	0	0			
	50		0.35	11/7/2013 12:05	-413.9337625	0	0			
106109	450	1158	4.31	11/7/2013 12:05	-413.9337625	0	-414.0130667	4.013868	0	
	350		4.09	11/7/2013 12:05	-413.9337625	0	0			
	250		3.84	11/7/2013 12:05	-413.9337625	0	0			
	150		3.38	11/7/2013 12:05	-413.9337625	0	0			
	50		-0.19	11/7/2013 12:05	-413.9337625	0	0			
106128	450	1243	3.65	11/7/2013 12:37	-413.5712292	-413.5032542	0	3.945256	0.280512	
	350		3.88	11/7/2013 12:37	-413.5712292	0	0			
	250		2.8	11/7/2013 12:37	-413.5712292	0	0			
	150		2.3	11/7/2013 12:37	-413.5712292	0	0			
	50		0.3	11/7/2013 12:37	-413.5712292	0	0			
106117	450	1235	3.69	11/7/2013 12:37	-413.5712292	0	-413.5938875	3.638248	-0.026496	
	350		3.66	11/7/2013 12:37	-413.5712292	0	0			
	250		2.87	11/7/2013 12:37	-413.5712292	0	0			
	150		2.31	11/7/2013 12:37	-413.5712292	0	0			
	50		0.42	11/7/2013 12:37	-413.5712292	0	0			
106114	450	1241	3.93	11/7/2013 12:37	-413.5712292	-413.5259125	0	3.933504	0.26876	
	350		3.89	11/7/2013 12:37	-413.5712292	0	0			
	250		2.85	11/7/2013 12:37	-413.5712292	0	0			
	150		2.55	11/7/2013 12:37	-413.5712292	0	0			
	50		-0.21	11/7/2013 12:37	-413.5712292	0	0			
106116	450	1238	3.33	11/7/2013 12:37	-413.5712292	-413.5599	0	3.690876	0.026132	
	350		3.68	11/7/2013 12:37	-413.5712292	0	0			
	250		2.86	11/7/2013 12:37	-413.5712292	0	0			
	150		2.12	11/7/2013 12:37	-413.5712292	0	0			
	50		0	11/7/2013 12:37	-413.5712292	0	0			
106111	450	1224	3.94	11/7/2013 12:37	-413.5712292	0	-413.7185083	3.768612	0.103868	
	350		3.91	11/7/2013 12:37	-413.5712292	0	0			
	250		3.13	11/7/2013 12:37	-413.5712292	0	0			
	150		2.74	11/7/2013 12:37	-413.5712292	0	0			
	50		0.27	11/7/2013 12:37	-413.5712292	0	0			
106109	450	1231	4.01	11/7/2013 12:37	-413.5712292	0	-413.6392042	3.664744	0	
	350		3.73	11/7/2013 12:37	-413.5712292	0	0			
	250		3.56	11/7/2013 12:37	-413.5712292	0	0			
	150		3.08	11/7/2013 12:37	-413.5712292	0	0			
	50		-0.21	11/7/2013 12:37	-413.5712292	0	0			
106128	450	1309	3.46	11/7/2013 13:03	-413.3355825	-413.2947975	0	3.7291536	0.2413584	
	350		3.69	11/7/2013 13:03	-413.3355825	0	0			
	250		2.63	11/7/2013 13:03	-413.3355825	0	0			
	150		2.13	11/7/2013 13:03	-413.3355825	0	0			
	50		0.27	11/7/2013 13:03	-413.3355825	0	0			
106117	450	1302	3.45	11/7/2013 13:03	-413.3355825	0	-413.34238	3.3934744	-0.0943208	
	350		3.4	11/7/2013 13:03	-413.3355825	0	0			

	250			2.65	11/7/2013 13:03	-413.3355825	0	0		
	150			2.12	11/7/2013 13:03	-413.3355825	0	0		
	50			0.36	11/7/2013 13:03	-413.3355825	0	0		
106114	450		1307	3.71	11/7/2013 13:03	-413.3355825	-413.3083925	0	3.7261024	0.2383072
	350			3.7	11/7/2013 13:03	-413.3355825	0	0		
	250			2.7	11/7/2013 13:03	-413.3355825	0	0		
	150			2.42	11/7/2013 13:03	-413.3355825	0	0		
	50			-0.21	11/7/2013 13:03	-413.3355825	0	0		
106116	450		1304	3.14	11/7/2013 13:03	-413.3355825	-413.328785	0	3.4465256	-0.0412696
	350			3.44	11/7/2013 13:03	-413.3355825	0	0		
	250			2.62	11/7/2013 13:03	-413.3355825	0	0		
	150			1.94	11/7/2013 13:03	-413.3355825	0	0		
	50			-0.05	11/7/2013 13:03	-413.3355825	0	0		
106111	450		1258	3.61	11/7/2013 13:03	-413.3355825	0	-413.36957	3.547372	0.0595768
	350			3.58	11/7/2013 13:03	-413.3355825	0	0		
	250			2.82	11/7/2013 13:03	-413.3355825	0	0		
	150			2.46	11/7/2013 13:03	-413.3355825	0	0		
	50			0.16	11/7/2013 13:03	-413.3355825	0	0		
106109	450		1255	3.74	11/7/2013 13:03	-413.3355825	0	-413.3899625	3.4877952	0
	350			3.54	11/7/2013 13:03	-413.3355825	0	0		
	250			3.28	11/7/2013 13:03	-413.3355825	0	0		
	150			2.81	11/7/2013 13:03	-413.3355825	0	0		
	50			-0.3	11/7/2013 13:03	-413.3355825	0	0		
106128	450		1344	3.26	11/7/2013 13:37	-413.1044675	-413.056885	0	3.5456792	0.330512
	350			3.5	11/7/2013 13:37	-413.1044675	0	0		
	250			2.45	11/7/2013 13:37	-413.1044675	0	0		
	150			2.01	11/7/2013 13:37	-413.1044675	0	0		
	50			0.29	11/7/2013 13:37	-413.1044675	0	0		
106117	450		1335	3.23	11/7/2013 13:37	-413.1044675	0	-413.1180625	3.1869488	-0.0282184
	350			3.2	11/7/2013 13:37	-413.1044675	0	0		
	250			2.47	11/7/2013 13:37	-413.1044675	0	0		
	150			1.97	11/7/2013 13:37	-413.1044675	0	0		
	50			0.36	11/7/2013 13:37	-413.1044675	0	0		
106114	450		1341	3.51	11/7/2013 13:37	-413.1044675	-413.0772775	0	3.5261024	0.3109352
	350			3.5	11/7/2013 13:37	-413.1044675	0	0		
	250			2.53	11/7/2013 13:37	-413.1044675	0	0		
	150			2.27	11/7/2013 13:37	-413.1044675	0	0		
	50			-0.18	11/7/2013 13:37	-413.1044675	0	0		
106116	450		1338	2.93	11/7/2013 13:37	-413.1044675	-413.09767	0	3.2565256	0.0413584
	350			3.25	11/7/2013 13:37	-413.1044675	0	0		
	250			2.42	11/7/2013 13:37	-413.1044675	0	0		
	150			1.8	11/7/2013 13:37	-413.1044675	0	0		
	50			-0.04	11/7/2013 13:37	-413.1044675	0	0		
106111	450		1330	3.37	11/7/2013 13:37	-413.1044675	0	-413.15205	3.2943208	0.0791536
	350			3.34	11/7/2013 13:37	-413.1044675	0	0		
	250			2.6	11/7/2013 13:37	-413.1044675	0	0		
	150			2.27	11/7/2013 13:37	-413.1044675	0	0		
	50			0.14	11/7/2013 13:37	-413.1044675	0	0		
106109	450		1324	3.5	11/7/2013 13:37	-413.1044675	0	-413.192835	3.2151672	0
	350			3.3	11/7/2013 13:37	-413.1044675	0	0		

	250		3.05	11/7/2013 13:37	-413.1044675	0	0			
	150		2.59	11/7/2013 13:37	-413.1044675	0	0			
	50		-0.29	11/7/2013 13:37	-413.1044675	0	0			
106128	450	1411	3.14	11/7/2013 14:06	-412.9798467	-412.9685175	0	3.350876	0.2082776
	350		3.34	11/7/2013 14:06	-412.9798467	0	0		
	250		2.3	11/7/2013 14:06	-412.9798467	0	0		
	150		1.87	11/7/2013 14:06	-412.9798467	0	0		
	50		0.26	11/7/2013 14:06	-412.9798467	0	0		
106117	450	1405	3.08	11/7/2013 14:06	-412.9798467	0	-412.9821125	3.0378248	-0.1047736
	350		3.04	11/7/2013 14:06	-412.9798467	0	0		
	250		2.34	11/7/2013 14:06	-412.9798467	0	0		
	150		1.84	11/7/2013 14:06	-412.9798467	0	0		
	50		0.32	11/7/2013 14:06	-412.9798467	0	0		
106114	450	1409	3.34	11/7/2013 14:06	-412.9798467	-412.9730492	0	3.3165256	0.1739272
	350		3.31	11/7/2013 14:06	-412.9798467	0	0		
	250		2.37	11/7/2013 14:06	-412.9798467	0	0		
	150		2.1	11/7/2013 14:06	-412.9798467	0	0		
	50		-0.19	11/7/2013 14:06	-412.9798467	0	0		
106116	450	1407	2.8	11/7/2013 14:06	-412.9798467	-412.9775808	0	3.0721752	-0.0704232
	350		3.07	11/7/2013 14:06	-412.9798467	0	0		
	250		2.27	11/7/2013 14:06	-412.9798467	0	0		
	150		1.67	11/7/2013 14:06	-412.9798467	0	0		
	50		-0.04	11/7/2013 14:06	-412.9798467	0	0		
106111	450	1401	3.21	11/7/2013 14:06	-412.9798467	0	-412.9911758	3.189124	0.0465256
	350		3.2	11/7/2013 14:06	-412.9798467	0	0		
	250		2.46	11/7/2013 14:06	-412.9798467	0	0		
	150		2.14	11/7/2013 14:06	-412.9798467	0	0		
	50		0.15	11/7/2013 14:06	-412.9798467	0	0		
106109	450	1358	3.36	11/7/2013 14:06	-412.9798467	0	-412.9979733	3.1425984	0
	350		3.16	11/7/2013 14:06	-412.9798467	0	0		
	250		2.91	11/7/2013 14:06	-412.9798467	0	0		
	150		2.43	11/7/2013 14:06	-412.9798467	0	0		
	50		-0.21	11/7/2013 14:06	-412.9798467	0	0		
106128	450	1442	2.97	11/7/2013 14:34	-412.9164033	-412.8982767	0	3.1874016	0.2091536
	350		3.17	11/7/2013 14:34	-412.9164033	0	0		
	250		2.15	11/7/2013 14:34	-412.9164033	0	0		
	150		1.75	11/7/2013 14:34	-412.9164033	0	0		
	50		0.24	11/7/2013 14:34	-412.9164033	0	0		
106117	450	1432	2.93	11/7/2013 14:34	-412.9164033	0	-412.920935	2.8856496	-0.0925984
	350		2.89	11/7/2013 14:34	-412.9164033	0	0		
	250		2.17	11/7/2013 14:34	-412.9164033	0	0		
	150		1.72	11/7/2013 14:34	-412.9164033	0	0		
	50		0.29	11/7/2013 14:34	-412.9164033	0	0		
106114	450	1438	3.16	11/7/2013 14:34	-412.9164033	-412.90734	0	3.1487008	0.1704528
	350		3.14	11/7/2013 14:34	-412.9164033	0	0		
	250		2.21	11/7/2013 14:34	-412.9164033	0	0		
	150		1.98	11/7/2013 14:34	-412.9164033	0	0		
	50		-0.2	11/7/2013 14:34	-412.9164033	0	0		
106116	450	1435	2.64	11/7/2013 14:34	-412.9164033	-412.9141375	0	2.9121752	-0.0660728
	350		2.91	11/7/2013 14:34	-412.9164033	0	0		

	250			2.12	11/7/2013 14:34	-412.9164033	0	0		
	150			1.56	11/7/2013 14:34	-412.9164033	0	0		
	50			-0.07	11/7/2013 14:34	-412.9164033	0	0		
106111	450		1427	3.06	11/7/2013 14:34	-412.9164033	0	-412.9322642	3.0347736	0.0565256
	350			3.05	11/7/2013 14:34	-412.9164033	0	0		
	250			2.32	11/7/2013 14:34	-412.9164033	0	0		
	150			2.02	11/7/2013 14:34	-412.9164033	0	0		
	50			0.13	11/7/2013 14:34	-412.9164033	0	0		
106109	450		1424	3.23	11/7/2013 14:34	-412.9164033	0	-412.9390617	2.978248	0
	350			3	11/7/2013 14:34	-412.9164033	0	0		
	250			2.76	11/7/2013 14:34	-412.9164033	0	0		
	150			2.3	11/7/2013 14:34	-412.9164033	0	0		
	50			-0.23	11/7/2013 14:34	-412.9164033	0	0		
106128	450		1510	2.87	11/7/2013 15:05	-412.812175	-412.7895167	0	3.081752	0.2765552
	350			3.06	11/7/2013 15:05	-412.812175	0	0		
	250			2.04	11/7/2013 15:05	-412.812175	0	0		
	150			1.65	11/7/2013 15:05	-412.812175	0	0		
	50			0.23	11/7/2013 15:05	-412.812175	0	0		
106117	450		1504	2.79	11/7/2013 15:05	-412.812175	0	-412.8167067	2.7356496	-0.0695472
	350			2.74	11/7/2013 15:05	-412.812175	0	0		
	250			2.04	11/7/2013 15:05	-412.812175	0	0		
	150			1.61	11/7/2013 15:05	-412.812175	0	0		
	50			0.28	11/7/2013 15:05	-412.812175	0	0		
106114	450		1508	3.05	11/7/2013 15:05	-412.812175	-412.79858	0	3.0330512	0.2278544
	350			3.02	11/7/2013 15:05	-412.812175	0	0		
	250			2.1	11/7/2013 15:05	-412.812175	0	0		
	150			1.84	11/7/2013 15:05	-412.812175	0	0		
	50			-0.18	11/7/2013 15:05	-412.812175	0	0		
106116	450		1506	2.52	11/7/2013 15:05	-412.812175	-412.8076433	0	2.7643504	-0.0408464
	350			2.76	11/7/2013 15:05	-412.812175	0	0		
	250			2.02	11/7/2013 15:05	-412.812175	0	0		
	150			1.45	11/7/2013 15:05	-412.812175	0	0		
	50			-0.05	11/7/2013 15:05	-412.812175	0	0		
106111	450		1459	2.9	11/7/2013 15:05	-412.812175	0	-412.839365	2.8438976	0.0387008
	350			2.87	11/7/2013 15:05	-412.812175	0	0		
	250			2.19	11/7/2013 15:05	-412.812175	0	0		
	150			1.89	11/7/2013 15:05	-412.812175	0	0		
	50			0.12	11/7/2013 15:05	-412.812175	0	0		
106109	450		1457	3.05	11/7/2013 15:05	-412.812175	0	-412.8484283	2.8051968	0
	350			2.84	11/7/2013 15:05	-412.812175	0	0		
	250			2.59	11/7/2013 15:05	-412.812175	0	0		
	150			2.13	11/7/2013 15:05	-412.812175	0	0		
	50			-0.21	11/7/2013 15:05	-412.812175	0	0		
106128	450		1541	2.79	11/7/2013 15:34	-412.6807567	-412.649035	0	3.0304528	0.2939568
	350			3	11/7/2013 15:34	-412.6807567	0	0		
	250			2.01	11/7/2013 15:34	-412.6807567	0	0		
	150			1.64	11/7/2013 15:34	-412.6807567	0	0		
	50			0.28	11/7/2013 15:34	-412.6807567	0	0		
106117	450		1532	2.75	11/7/2013 15:34	-412.6807567	0	-412.68982	2.6912992	-0.0451968
	350			2.7	11/7/2013 15:34	-412.6807567	0	0		

	250		2.04	11/7/2013 15:34	-412.6807567	0	0		
	150		1.61	11/7/2013 15:34	-412.6807567	0	0		
	50		0.34	11/7/2013 15:34	-412.6807567	0	0		
106114	450	1538	2.99	11/7/2013 15:34	-412.6807567	-412.66263	0	2.9674016	0.2309056
	350		2.95	11/7/2013 15:34	-412.6807567	0	0		
	250		2.06	11/7/2013 15:34	-412.6807567	0	0		
	150		1.83	11/7/2013 15:34	-412.6807567	0	0		
	50		-0.13	11/7/2013 15:34	-412.6807567	0	0		
106116	450	1535	2.48	11/7/2013 15:34	-412.6807567	-412.676225	0	2.7543504	0.0178544
	350		2.75	11/7/2013 15:34	-412.6807567	0	0		
	250		1.99	11/7/2013 15:34	-412.6807567	0	0		
	150		1.44	11/7/2013 15:34	-412.6807567	0	0		
	50		0	11/7/2013 15:34	-412.6807567	0	0		
106111	450	1527	2.85	11/7/2013 15:34	-412.6807567	0	-412.7124783	2.7795472	0.0430512
	350		2.81	11/7/2013 15:34	-412.6807567	0	0		
	250		2.12	11/7/2013 15:34	-412.6807567	0	0		
	150		1.86	11/7/2013 15:34	-412.6807567	0	0		
	50		0.18	11/7/2013 15:34	-412.6807567	0	0		
106109	450	1524	2.95	11/7/2013 15:34	-412.6807567	0	-412.7260733	2.736496	0
	350		2.78	11/7/2013 15:34	-412.6807567	0	0		
	250		2.54	11/7/2013 15:34	-412.6807567	0	0		
	150		2.09	11/7/2013 15:34	-412.6807567	0	0		
	50		-0.15	11/7/2013 15:34	-412.6807567	0	0		
106128	450	1608	2.75	11/7/2013 16:02	-412.58106	-412.567465	0	2.9330512	0.2604528
	350		2.92	11/7/2013 16:02	-412.58106	0	0		
	250		1.97	11/7/2013 16:02	-412.58106	0	0		
	150		1.55	11/7/2013 16:02	-412.58106	0	0		
	50		0.27	11/7/2013 16:02	-412.58106	0	0		
106117	450	1601	2.67	11/7/2013 16:02	-412.58106	0	-412.5833258	2.6378248	-0.0347736
	350		2.64	11/7/2013 16:02	-412.58106	0	0		
	250		1.97	11/7/2013 16:02	-412.58106	0	0		
	150		1.56	11/7/2013 16:02	-412.58106	0	0		
	50		0.33	11/7/2013 16:02	-412.58106	0	0		
106114	450	1606	2.93	11/7/2013 16:02	-412.58106	-412.5719967	0	2.9087008	0.2361024
	350		2.9	11/7/2013 16:02	-412.58106	0	0		
	250		2.01	11/7/2013 16:02	-412.58106	0	0		
	150		1.79	11/7/2013 16:02	-412.58106	0	0		
	50		-0.09	11/7/2013 16:02	-412.58106	0	0		
106116	450	1603	2.41	11/7/2013 16:02	-412.58106	-412.5787942	0	2.0621752	-0.6104232
	350		2.06	11/7/2013 16:02	-412.58106	0	0		
	250		1.92	11/7/2013 16:02	-412.58106	0	0		
	150		1.42	11/7/2013 16:02	-412.58106	0	0		
	50		0.03	11/7/2013 16:02	-412.58106	0	0		
106111	450	1557	2.75	11/7/2013 16:02	-412.58106	0	-412.5923892	2.719124	0.0465256
	350		2.73	11/7/2013 16:02	-412.58106	0	0		
	250		2.06	11/7/2013 16:02	-412.58106	0	0		
	150		1.8	11/7/2013 16:02	-412.58106	0	0		
	50		0.18	11/7/2013 16:02	-412.58106	0	0		
106109	450	1554	2.92	11/7/2013 16:02	-412.58106	0	-412.5991867	2.6725984	0
	350		2.69	11/7/2013 16:02	-412.58106	0	0		

	250		2.44	11/7/2013 16:02	-412.58106	0	0		
	150		2	11/7/2013 16:02	-412.58106	0	0		
	50		-0.12	11/7/2013 16:02	-412.58106	0	0		
106128	450	1637	2.64	11/7/2013 16:31	-412.5153508	-412.5017558	0	2.8130512	0.2082776
	350		2.8	11/7/2013 16:31	-412.5153508	0	0		
	250		1.83	11/7/2013 16:31	-412.5153508	0	0		
	150		1.48	11/7/2013 16:31	-412.5153508	0	0		
	50		0.22	11/7/2013 16:31	-412.5153508	0	0		
106117	450	1630	4.83	11/7/2013 16:31	-412.5153508	0	-412.5176167	4.7478248	2.1430512
	350		4.75	11/7/2013 16:31	-412.5153508	0	0		
	250		3.53	11/7/2013 16:31	-412.5153508	0	0		
	150		2.78	11/7/2013 16:31	-412.5153508	0	0		
	50		0.59	11/7/2013 16:31	-412.5153508	0	0		
106114	450	1635	2.79	11/7/2013 16:31	-412.5153508	-412.5062875	0	2.7687008	0.1639272
	350		2.76	11/7/2013 16:31	-412.5153508	0	0		
	250		1.89	11/7/2013 16:31	-412.5153508	0	0		
	150		1.67	11/7/2013 16:31	-412.5153508	0	0		
	50		-0.11	11/7/2013 16:31	-412.5153508	0	0		
106116	450	1632	4.31	11/7/2013 16:31	-412.5153508	-412.513085	0	4.7621752	2.1574016
	350		4.76	11/7/2013 16:31	-412.5153508	0	0		
	250		3.42	11/7/2013 16:31	-412.5153508	0	0		
	150		2.48	11/7/2013 16:31	-412.5153508	0	0		
	50		0	11/7/2013 16:31	-412.5153508	0	0		
106111	450	1626	2.68	11/7/2013 16:31	-412.5153508	0	-412.52668	2.639124	0.0343504
	350		2.65	11/7/2013 16:31	-412.5153508	0	0		
	250		1.97	11/7/2013 16:31	-412.5153508	0	0		
	150		1.73	11/7/2013 16:31	-412.5153508	0	0		
	50		0.19	11/7/2013 16:31	-412.5153508	0	0		
106109	450	1624	2.83	11/7/2013 16:31	-412.5153508	0	-412.5312117	2.6047736	0
	350		2.62	11/7/2013 16:31	-412.5153508	0	0		
	250		2.38	11/7/2013 16:31	-412.5153508	0	0		
	150		1.93	11/7/2013 16:31	-412.5153508	0	0		
	50		-0.12	11/7/2013 16:31	-412.5153508	0	0		
106128	450	1706	2.5	11/7/2013 17:08	-412.4723	0	-412.4723	2.67	0.25
	350		2.67	11/7/2013 17:08	-412.4723	0	0		
	250		1.73	11/7/2013 17:08	-412.4723	0	0		
	150		1.4	11/7/2013 17:08	-412.4723	0	0		
	50		0.21	11/7/2013 17:08	-412.4723	0	0		
106117	450	1715	2.35	11/7/2013 17:08	-412.4723	-412.4723	0	2.27	-0.15
	350		2.27	11/7/2013 17:08	-412.4723	0	0		
	250		1.7	11/7/2013 17:08	-412.4723	0	0		
	150		1.33	11/7/2013 17:08	-412.4723	0	0		
	50		0.27	11/7/2013 17:08	-412.4723	0	0		
106114	450	1709	2.24	11/7/2013 17:08	-412.4723	-412.4723	0	2.6	0.18
	350		2.6	11/7/2013 17:08	-412.4723	0	0		
	250		1.75	11/7/2013 17:08	-412.4723	0	0		
	150		1.55	11/7/2013 17:08	-412.4723	0	0		
	50		-0.14	11/7/2013 17:08	-412.4723	0	0		
106116	450	1712	2.14	11/7/2013 17:08	-412.4723	-412.4723	0	2.36	-0.06
	350		2.36	11/7/2013 17:08	-412.4723	0	0		

	250		1.68	11/7/2013 17:08	-412.4723	0	0		
	150		1.21	11/7/2013 17:08	-412.4723	0	0		
	50		-0.02	11/7/2013 17:08	-412.4723	0	0		
106111	450	1658	2.48	11/7/2013 17:08	-412.4723	0	-412.4723	2.48	0.06
	350		2.48	11/7/2013 17:08	-412.4723	0	0		
	250		1.8	11/7/2013 17:08	-412.4723	0	0		
	150		1.58	11/7/2013 17:08	-412.4723	0	0		
	50		0.12	11/7/2013 17:08	-412.4723	0	0		
106109	450	1654	2.66	11/7/2013 17:08	-412.4723	0	-412.4723	2.42	0
	350		2.42	11/7/2013 17:08	-412.4723	0	0		
	250		2.3	11/7/2013 17:08	-412.4723	0	0		
	150		1.77	11/7/2013 17:08	-412.4723	0	0		
	50		-0.16	11/7/2013 17:08	-412.4723	0	0		

Well ID	Depth	Minimum distance to extraction well	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences	Basic statistics		Range	Count
106128	450			823	5.33	11/7/2013 8:06	-414.5840567	-414.661095	0	4.016858533	-0.551207467				
	350				5.23	11/7/2013 8:06	-414.5840567	0	0						
	250				4.06	11/7/2013 8:06	-414.5840567	0	0						
	150				3.55	11/7/2013 8:06	-414.5840567	0	0						
	50				1.09	11/7/2013 8:06	-414.5840567	0	0						
106117	450			802	5.7	11/7/2013 8:06	-414.5840567	0	-414.56593	4.050150933	-0.517915067				
	350				5.29	11/7/2013 8:06	-414.5840567	0	0						
	250				4.04	11/7/2013 8:06	-414.5840567	0	0						
	150				3.41	11/7/2013 8:06	-414.5840567	0	0						
	50				1.11	11/7/2013 8:06	-414.5840567	0	0						
106114	450			818	5.64	11/7/2013 8:06	-414.5840567	-414.6384367	0	4.1495472	-0.4185188				
	350				5.5	11/7/2013 8:06	-414.5840567	0	0						
	250				4.18	11/7/2013 8:06	-414.5840567	0	0						
	150				3.89	11/7/2013 8:06	-414.5840567	0	0						
	50				0.49	11/7/2013 8:06	-414.5840567	0	0						
106116	450			809	5.03	11/7/2013 8:06	-414.5840567	-414.5976517	0	3.9923868	-0.5756792				
	350				5.41	11/7/2013 8:06	-414.5840567	0	0						
	250				4	11/7/2013 8:06	-414.5840567	0	0						
	150				3.37	11/7/2013 8:06	-414.5840567	0	0						
	50				0.59	11/7/2013 8:06	-414.5840567	0	0						
106111	450			738	5.44	11/7/2013 8:06	-414.5840567	0	-414.48436	4.135830133	-0.432235867				
	350				5.12	11/7/2013 8:06	-414.5840567	0	0						
	250				4.08	11/7/2013 8:06	-414.5840567	0	0						
	150				3.7	11/7/2013 8:06	-414.5840567	0	0						
	50				0.79	11/7/2013 8:06	-414.5840567	0	0						
106109	450			751	4.83	11/7/2013 8:06	-414.5840567	0	-414.5160817	4.568066	0				
	350				4.78	11/7/2013 8:06	-414.5840567	0	0						
	250				4.53	11/7/2013 8:06	-414.5840567	0	0						
	150				4.05	11/7/2013 8:06	-414.5840567	0	0						
	50				0.09	11/7/2013 8:06	-414.5840567	0	0						
106128	450			944	5.03	11/7/2013 9:36	-414.6792217	-414.661095	0	4.030150933	-0.594622667				
	350				5.28	11/7/2013 9:36	-414.6792217	0	0						
	250				4.02	11/7/2013 9:36	-414.6792217	0	0						
	150				3.48	11/7/2013 9:36	-414.6792217	0	0						
	50				0.97	11/7/2013 9:36	-414.6792217	0	0						
106117	450			934	5.05	11/7/2013 9:36	-414.6792217	0	-414.6837533	4.037462267	-0.587311333				
	350				4.76	11/7/2013 9:36	-414.6792217	0	0						
	250				4.04	11/7/2013 9:36	-414.6792217	0	0						
	150				3.43	11/7/2013 9:36	-414.6792217	0	0						
	50				0.99	11/7/2013 9:36	-414.6792217	0	0						
106114	450			941	5.27	11/7/2013 9:36	-414.6792217	-414.6678925	0	4.096344333	-0.528429267				
	350				5.24	11/7/2013 9:36	-414.6792217	0	0						
	250				4.09	11/7/2013 9:36	-414.6792217	0	0						
	150				3.81	11/7/2013 9:36	-414.6792217	0	0						
	50				0.33	11/7/2013 9:36	-414.6792217	0	0						
106116	450			937	4.6	11/7/2013 9:36	-414.6792217	-414.6769558	0	3.991268867	-0.633504733				
	350				5	11/7/2013 9:36	-414.6792217	0	0						
	250				3.99	11/7/2013 9:36	-414.6792217	0	0						

	150		3.33	11/7/2013 9:36	-414.6792217	0	0		
	50		0.56	11/7/2013 9:36	-414.6792217	0	0		
106111	450	929	5.22	11/7/2013 9:36	-414.6792217	0	-414.6950825	4.181117933	-0.443655667
	350		5.05	11/7/2013 9:36	-414.6792217	0	0		
	250		4.19	11/7/2013 9:36	-414.6792217	0	0		
	150		3.78	11/7/2013 9:36	-414.6792217	0	0		
	50		0.76	11/7/2013 9:36	-414.6792217	0	0		
106109	450	924	5.08	11/7/2013 9:36	-414.6792217	0	-414.7064117	4.6247736	0
	350		4.88	11/7/2013 9:36	-414.6792217	0	0		
	250		4.64	11/7/2013 9:36	-414.6792217	0	0		
	150		4.15	11/7/2013 9:36	-414.6792217	0	0		
	50		0.07	11/7/2013 9:36	-414.6792217	0	0		
106128	450	1009	4.96	11/7/2013 10:04	-414.6157783	-414.6044492	0	3.976344333	-0.567311333
	350		5.22	11/7/2013 10:04	-414.6157783	0	0		
	250		3.97	11/7/2013 10:04	-414.6157783	0	0		
	150		3.4	11/7/2013 10:04	-414.6157783	0	0		
	50		0.93	11/7/2013 10:04	-414.6157783	0	0		
106117	450	1003	4.92	11/7/2013 10:04	-414.6157783	0	-414.6180442	3.948731133	-0.594924533
	350		4.83	11/7/2013 10:04	-414.6157783	0	0		
	250		3.95	11/7/2013 10:04	-414.6157783	0	0		
	150		3.33	11/7/2013 10:04	-414.6157783	0	0		
	50		0.97	11/7/2013 10:04	-414.6157783	0	0		
106114	450	1007	5.22	11/7/2013 10:04	-414.6157783	-414.6089808	0	4.0338066	-0.509849067
	350		5.17	11/7/2013 10:04	-414.6157783	0	0		
	250		4.03	11/7/2013 10:04	-414.6157783	0	0		
	150		3.75	11/7/2013 10:04	-414.6157783	0	0		
	50		0.3	11/7/2013 10:04	-414.6157783	0	0		
106116	450	1005	4.51	11/7/2013 10:04	-414.6157783	-414.6135125	0	3.901268867	-0.6423868
	350		4.91	11/7/2013 10:04	-414.6157783	0	0		
	250		3.9	11/7/2013 10:04	-414.6157783	0	0		
	150		3.21	11/7/2013 10:04	-414.6157783	0	0		
	50		0.51	11/7/2013 10:04	-414.6157783	0	0		
106111	450	957	5.1	11/7/2013 10:04	-414.6157783	0	-414.6316392	4.111117933	-0.432537733
	350		4.98	11/7/2013 10:04	-414.6157783	0	0		
	250		4.12	11/7/2013 10:04	-414.6157783	0	0		
	150		3.69	11/7/2013 10:04	-414.6157783	0	0		
	50		0.72	11/7/2013 10:04	-414.6157783	0	0		
106109	450	959	5	11/7/2013 10:04	-414.6157783	0	-414.6271075	4.543655667	0
	350		4.8	11/7/2013 10:04	-414.6157783	0	0		
	250		4.55	11/7/2013 10:04	-414.6157783	0	0		
	150		4.06	11/7/2013 10:04	-414.6157783	0	0		
	50		0.02	11/7/2013 10:04	-414.6157783	0	0		
106128	450	1045	4.73	11/7/2013 10:37	-414.5410058	0	-414.5228792	3.810150933	-0.6433538
	350		5.01	11/7/2013 10:37	-414.5410058	0	0		
	250		3.8	11/7/2013 10:37	-414.5410058	0	0		
	150		3.25	11/7/2013 10:37	-414.5410058	0	0		
	50		0.82	11/7/2013 10:37	-414.5410058	0	0		
106117	450	1035	4.76	11/7/2013 10:37	-414.5410058	-414.5455375	0	3.817462267	-0.636042467
	350		4.69	11/7/2013 10:37	-414.5410058	0	0		
	250		3.82	11/7/2013 10:37	-414.5410058	0	0		
	150		3.23	11/7/2013 10:37	-414.5410058	0	0		

	50		0.9	11/7/2013 10:37	-414.5410058	0	0			
106114	450	1041	4.89	11/7/2013 10:37	-414.5410058	0	-414.5319425	3.895075467	-0.558429267	
	350		4.99	11/7/2013 10:37	-414.5410058	0	0			
	250		3.89	11/7/2013 10:37	-414.5410058	0	0			
	150		3.6	11/7/2013 10:37	-414.5410058	0	0			
	50		0.2	11/7/2013 10:37	-414.5410058	0	0			
106116	450	1038	4.34	11/7/2013 10:37	-414.5410058	0	-414.53874	3.791268867	-0.662235867	
	350		4.73	11/7/2013 10:37	-414.5410058	0	0			
	250		3.79	11/7/2013 10:37	-414.5410058	0	0			
	150		3.1	11/7/2013 10:37	-414.5410058	0	0			
	50		0.41	11/7/2013 10:37	-414.5410058	0	0			
106111	450	1030	4.92	11/7/2013 10:37	-414.5410058	-414.5568667	0	3.981117933	-0.4723868	
	350		4.83	11/7/2013 10:37	-414.5410058	0	0			
	250		3.99	11/7/2013 10:37	-414.5410058	0	0			
	150		3.59	11/7/2013 10:37	-414.5410058	0	0			
	50		0.63	11/7/2013 10:37	-414.5410058	0	0			
106109	450	1024	4.96	11/7/2013 10:37	-414.5410058	-414.5704617	0	4.453504733	0	
	350		4.72	11/7/2013 10:37	-414.5410058	0	0			
	250		4.47	11/7/2013 10:37	-414.5410058	0	0			
	150		4	11/7/2013 10:37	-414.5410058	0	0			
	50		-0.02	11/7/2013 10:37	-414.5410058	0	0			
106128	450	1109	4.62	11/7/2013 11:03	-414.4231825	-414.3823975	0	3.6828396	-0.5967076	
	350		4.89	11/7/2013 11:03	-414.4231825	0	0			
	250		3.66	11/7/2013 11:03	-414.4231825	0	0			
	150		3.11	11/7/2013 11:03	-414.4231825	0	0			
	50		0.74	11/7/2013 11:03	-414.4231825	0	0			
106117	450	1102	4.61	11/7/2013 11:03	-414.4231825	0	-414.42998	3.6961934	-0.5833538	
	350		4.54	11/7/2013 11:03	-414.4231825	0	0			
	250		3.7	11/7/2013 11:03	-414.4231825	0	0			
	150		3.1	11/7/2013 11:03	-414.4231825	0	0			
	50		0.84	11/7/2013 11:03	-414.4231825	0	0			
106114	450	1107	4.89	11/7/2013 11:03	-414.4231825	-414.3959925	0	3.7752264	-0.5043208	
	350		4.85	11/7/2013 11:03	-414.4231825	0	0			
	250		3.76	11/7/2013 11:03	-414.4231825	0	0			
	150		3.45	11/7/2013 11:03	-414.4231825	0	0			
	50		0.15	11/7/2013 11:03	-414.4231825	0	0			
106116	450	1104	4.21	11/7/2013 11:03	-414.4231825	-414.416385	0	3.6538066	-0.6257406	
	350		4.57	11/7/2013 11:03	-414.4231825	0	0			
	250		3.65	11/7/2013 11:03	-414.4231825	0	0			
	150		2.98	11/7/2013 11:03	-414.4231825	0	0			
	50		0.36	11/7/2013 11:03	-414.4231825	0	0			
106111	450	1058	4.73	11/7/2013 11:03	-414.4231825	0	-414.45717	3.810967	-0.4685802	
	350		4.65	11/7/2013 11:03	-414.4231825	0	0			
	250		3.83	11/7/2013 11:03	-414.4231825	0	0			
	150		3.43	11/7/2013 11:03	-414.4231825	0	0			
	50		0.53	11/7/2013 11:03	-414.4231825	0	0			
106109	450	1055	4.77	11/7/2013 11:03	-414.4231825	0	-414.4775625	4.2795472	0	
	350		4.57	11/7/2013 11:03	-414.4231825	0	0			
	250		4.31	11/7/2013 11:03	-414.4231825	0	0			
	150		3.82	11/7/2013 11:03	-414.4231825	0	0			
	50		-0.07	11/7/2013 11:03	-414.4231825	0	0			

106128	450	1142	4.3	11/7/2013 11:32	-414.226055	0	-414.15808	3.428066	-0.6214812	
	350		4.55	11/7/2013 11:32	-414.226055	0	0			
	250		3.39	11/7/2013 11:32	-414.226055	0	0			
	150		2.88	11/7/2013 11:32	-414.226055	0	0			
	50		0.59	11/7/2013 11:32	-414.226055	0	0			
106117	450	1133	4.24	11/7/2013 11:32	-414.226055	0	-414.2192575	3.4338066	-0.6157406	
	350		4.24	11/7/2013 11:32	-414.226055	0	0			
	250		3.43	11/7/2013 11:32	-414.226055	0	0			
	150		2.84	11/7/2013 11:32	-414.226055	0	0			
	50		0.67	11/7/2013 11:32	-414.226055	0	0			
106114	450	1139	4.59	11/7/2013 11:32	-414.226055	0	-414.1784725	3.5266462	-0.522901	
	350		4.55	11/7/2013 11:32	-414.226055	0	0			
	250		3.5	11/7/2013 11:32	-414.226055	0	0			
	150		3.21	11/7/2013 11:32	-414.226055	0	0			
	50		0.02	11/7/2013 11:32	-414.226055	0	0			
106116	450	1130	3.95	11/7/2013 11:32	-414.226055	-414.23965	0	3.4123868	-0.6371604	
	350		4.3	11/7/2013 11:32	-414.226055	0	0			
	250		3.42	11/7/2013 11:32	-414.226055	0	0			
	150		2.76	11/7/2013 11:32	-414.226055	0	0			
	50		0.23	11/7/2013 11:32	-414.226055	0	0			
106111	450	1128	4.48	11/7/2013 11:32	-414.226055	-414.253245	0	3.6047736	-0.4447736	
	350		4.44	11/7/2013 11:32	-414.226055	0	0			
	250		3.62	11/7/2013 11:32	-414.226055	0	0			
	150		3.23	11/7/2013 11:32	-414.226055	0	0			
	50		0.46	11/7/2013 11:32	-414.226055	0	0			
106109	450	1124	4.53	11/7/2013 11:32	-414.226055	-414.280435	0	4.0495472	0	
	350		4.34	11/7/2013 11:32	-414.226055	0	0			
	250		4.08	11/7/2013 11:32	-414.226055	0	0			
	150		3.61	11/7/2013 11:32	-414.226055	0	0			
	50		-0.17	11/7/2013 11:32	-414.226055	0	0			
106128	450	1215	3.5	11/7/2013 12:05	-413.9337625	-413.8204708	0	3.163443333	-0.632146333	
	350		4.24	11/7/2013 12:05	-413.9337625	0	0			
	250		3.1	11/7/2013 12:05	-413.9337625	0	0			
	150		2.59	11/7/2013 12:05	-413.9337625	0	0			
	50		0.48	11/7/2013 12:05	-413.9337625	0	0			
106117	450	1203	4.04	11/7/2013 12:05	-413.9337625	0	-413.9564208	3.237311333	-0.558278333	
	350		3.99	11/7/2013 12:05	-413.9337625	0	0			
	250		3.25	11/7/2013 12:05	-413.9337625	0	0			
	150		2.59	11/7/2013 12:05	-413.9337625	0	0			
	50		0.54	11/7/2013 12:05	-413.9337625	0	0			
106114	450	1210	4.3	11/7/2013 12:05	-413.9337625	-413.8771167	0	3.241721667	-0.553868	
	350		4.27	11/7/2013 12:05	-413.9337625	0	0			
	250		3.21	11/7/2013 12:05	-413.9337625	0	0			
	150		2.92	11/7/2013 12:05	-413.9337625	0	0			
	50		-0.08	11/7/2013 12:05	-413.9337625	0	0			
106116	450	1207	3.66	11/7/2013 12:05	-413.9337625	-413.9111042	0	3.102688667	-0.692901	
	350		3.81	11/7/2013 12:05	-413.9337625	0	0			
	250		3.09	11/7/2013 12:05	-413.9337625	0	0			
	150		2.4	11/7/2013 12:05	-413.9337625	0	0			
	50		0.1	11/7/2013 12:05	-413.9337625	0	0			
106111	450	1154	4.26	11/7/2013 12:05	-413.9337625	0	-414.0583833	3.330212333	-0.465377333	

	350		4.21	11/7/2013 12:05	-413.9337625	0	0			
	250		3.4	11/7/2013 12:05	-413.9337625	0	0			
	150		3.02	11/7/2013 12:05	-413.9337625	0	0			
	50		0.35	11/7/2013 12:05	-413.9337625	0	0			
106109	450	1158	4.31	11/7/2013 12:05	-413.9337625	0	-414.0130667	3.795589667	0	
	350		4.09	11/7/2013 12:05	-413.9337625	0	0			
	250		3.84	11/7/2013 12:05	-413.9337625	0	0			
	150		3.38	11/7/2013 12:05	-413.9337625	0	0			
	50		-0.19	11/7/2013 12:05	-413.9337625	0	0			
106128	450	1243	3.65	11/7/2013 12:37	-413.5712292	-413.5032542	0	2.838066	-0.683868	
	350		3.88	11/7/2013 12:37	-413.5712292	0	0			
	250		2.8	11/7/2013 12:37	-413.5712292	0	0			
	150		2.3	11/7/2013 12:37	-413.5712292	0	0			
	50		0.3	11/7/2013 12:37	-413.5712292	0	0			
106117	450	1235	3.69	11/7/2013 12:37	-413.5712292	0	-413.5938875	2.857311333	-0.664622667	
	350		3.66	11/7/2013 12:37	-413.5712292	0	0			
	250		2.87	11/7/2013 12:37	-413.5712292	0	0			
	150		2.31	11/7/2013 12:37	-413.5712292	0	0			
	50		0.42	11/7/2013 12:37	-413.5712292	0	0			
106114	450	1241	3.93	11/7/2013 12:37	-413.5712292	-413.5259125	0	2.875377333	-0.646556667	
	350		3.89	11/7/2013 12:37	-413.5712292	0	0			
	250		2.85	11/7/2013 12:37	-413.5712292	0	0			
	150		2.55	11/7/2013 12:37	-413.5712292	0	0			
	50		-0.21	11/7/2013 12:37	-413.5712292	0	0			
106116	450	1238	3.33	11/7/2013 12:37	-413.5712292	-413.5599	0	2.866344333	-0.655589667	
	350		3.68	11/7/2013 12:37	-413.5712292	0	0			
	250		2.86	11/7/2013 12:37	-413.5712292	0	0			
	150		2.12	11/7/2013 12:37	-413.5712292	0	0			
	50		0	11/7/2013 12:37	-413.5712292	0	0			
106111	450	1224	3.94	11/7/2013 12:37	-413.5712292	0	-413.7185083	3.047523667	-0.474410333	
	350		3.91	11/7/2013 12:37	-413.5712292	0	0			
	250		3.13	11/7/2013 12:37	-413.5712292	0	0			
	150		2.74	11/7/2013 12:37	-413.5712292	0	0			
	50		0.27	11/7/2013 12:37	-413.5712292	0	0			
106109	450	1231	4.01	11/7/2013 12:37	-413.5712292	0	-413.6392042	3.521934	0	
	350		3.73	11/7/2013 12:37	-413.5712292	0	0			
	250		3.56	11/7/2013 12:37	-413.5712292	0	0			
	150		3.08	11/7/2013 12:37	-413.5712292	0	0			
	50		-0.21	11/7/2013 12:37	-413.5712292	0	0			
106128	450	1309	3.46	11/7/2013 13:03	-413.3355825	-413.2947975	0	2.6528396	-0.5967076	
	350		3.69	11/7/2013 13:03	-413.3355825	0	0			
	250		2.63	11/7/2013 13:03	-413.3355825	0	0			
	150		2.13	11/7/2013 13:03	-413.3355825	0	0			
	50		0.27	11/7/2013 13:03	-413.3355825	0	0			
106117	450	1302	3.45	11/7/2013 13:03	-413.3355825	0	-413.34238	2.6461934	-0.6033538	
	350		3.4	11/7/2013 13:03	-413.3355825	0	0			
	250		2.65	11/7/2013 13:03	-413.3355825	0	0			
	150		2.12	11/7/2013 13:03	-413.3355825	0	0			
	50		0.36	11/7/2013 13:03	-413.3355825	0	0			
106114	450	1307	3.71	11/7/2013 13:03	-413.3355825	-413.3083925	0	2.7152264	-0.5343208	
	350		3.7	11/7/2013 13:03	-413.3355825	0	0			

	250		2.7	11/7/2013 13:03	-413.3355825	0	0		
	150		2.42	11/7/2013 13:03	-413.3355825	0	0		
	50		-0.21	11/7/2013 13:03	-413.3355825	0	0		
106116	450	1304	3.14	11/7/2013 13:03	-413.3355825	-413.328785	0	2.6238066	-0.6257406
	350		3.44	11/7/2013 13:03	-413.3355825	0	0		
	250		2.62	11/7/2013 13:03	-413.3355825	0	0		
	150		1.94	11/7/2013 13:03	-413.3355825	0	0		
	50		-0.05	11/7/2013 13:03	-413.3355825	0	0		
106111	450	1258	3.61	11/7/2013 13:03	-413.3355825	0	-413.36957	2.800967	-0.4485802
	350		3.58	11/7/2013 13:03	-413.3355825	0	0		
	250		2.82	11/7/2013 13:03	-413.3355825	0	0		
	150		2.46	11/7/2013 13:03	-413.3355825	0	0		
	50		0.16	11/7/2013 13:03	-413.3355825	0	0		
106109	450	1255	3.74	11/7/2013 13:03	-413.3355825	0	-413.3899625	3.2495472	0
	350		3.54	11/7/2013 13:03	-413.3355825	0	0		
	250		3.28	11/7/2013 13:03	-413.3355825	0	0		
	150		2.81	11/7/2013 13:03	-413.3355825	0	0		
	50		-0.3	11/7/2013 13:03	-413.3355825	0	0		
106128	450	1344	3.26	11/7/2013 13:37	-413.1044675	-413.056885	0	2.4766462	-0.523868
	350		3.5	11/7/2013 13:37	-413.1044675	0	0		
	250		2.45	11/7/2013 13:37	-413.1044675	0	0		
	150		2.01	11/7/2013 13:37	-413.1044675	0	0		
	50		0.29	11/7/2013 13:37	-413.1044675	0	0		
106117	450	1335	3.23	11/7/2013 13:37	-413.1044675	0	-413.1180625	2.4623868	-0.5381274
	350		3.2	11/7/2013 13:37	-413.1044675	0	0		
	250		2.47	11/7/2013 13:37	-413.1044675	0	0		
	150		1.97	11/7/2013 13:37	-413.1044675	0	0		
	50		0.36	11/7/2013 13:37	-413.1044675	0	0		
106114	450	1341	3.51	11/7/2013 13:37	-413.1044675	-413.0772775	0	2.5452264	-0.4552878
	350		3.5	11/7/2013 13:37	-413.1044675	0	0		
	250		2.53	11/7/2013 13:37	-413.1044675	0	0		
	150		2.27	11/7/2013 13:37	-413.1044675	0	0		
	50		-0.18	11/7/2013 13:37	-413.1044675	0	0		
106116	450	1338	2.93	11/7/2013 13:37	-413.1044675	-413.09767	0	2.4238066	-0.5767076
	350		3.25	11/7/2013 13:37	-413.1044675	0	0		
	250		2.42	11/7/2013 13:37	-413.1044675	0	0		
	150		1.8	11/7/2013 13:37	-413.1044675	0	0		
	50		-0.04	11/7/2013 13:37	-413.1044675	0	0		
106111	450	1330	3.37	11/7/2013 13:37	-413.1044675	0	-413.15205	2.5733538	-0.4271604
	350		3.34	11/7/2013 13:37	-413.1044675	0	0		
	250		2.6	11/7/2013 13:37	-413.1044675	0	0		
	150		2.27	11/7/2013 13:37	-413.1044675	0	0		
	50		0.14	11/7/2013 13:37	-413.1044675	0	0		
106109	450	1324	3.5	11/7/2013 13:37	-413.1044675	0	-413.192835	3.0005142	0
	350		3.3	11/7/2013 13:37	-413.1044675	0	0		
	250		3.05	11/7/2013 13:37	-413.1044675	0	0		
	150		2.59	11/7/2013 13:37	-413.1044675	0	0		
	50		-0.29	11/7/2013 13:37	-413.1044675	0	0		
106128	450	1411	3.14	11/7/2013 14:06	-412.9798467	-412.9685175	0	2.306344333	-0.593504733
	350		3.34	11/7/2013 14:06	-412.9798467	0	0		
	250		2.3	11/7/2013 14:06	-412.9798467	0	0		

	150		1.87	11/7/2013 14:06	-412.9798467	0	0		
	50		0.26	11/7/2013 14:06	-412.9798467	0	0		
106117	450	1405	3.08	11/7/2013 14:06	-412.9798467	0	-412.9821125	2.338731133	-0.561117933
	350		3.04	11/7/2013 14:06	-412.9798467	0	0		
	250		2.34	11/7/2013 14:06	-412.9798467	0	0		
	150		1.84	11/7/2013 14:06	-412.9798467	0	0		
	50		0.32	11/7/2013 14:06	-412.9798467	0	0		
106114	450	1409	3.34	11/7/2013 14:06	-412.9798467	-412.9730492	0	2.3738066	-0.526042467
	350		3.31	11/7/2013 14:06	-412.9798467	0	0		
	250		2.37	11/7/2013 14:06	-412.9798467	0	0		
	150		2.1	11/7/2013 14:06	-412.9798467	0	0		
	50		-0.19	11/7/2013 14:06	-412.9798467	0	0		
106116	450	1407	2.8	11/7/2013 14:06	-412.9798467	-412.9775808	0	2.271268867	-0.6285802
	350		3.07	11/7/2013 14:06	-412.9798467	0	0		
	250		2.27	11/7/2013 14:06	-412.9798467	0	0		
	150		1.67	11/7/2013 14:06	-412.9798467	0	0		
	50		-0.04	11/7/2013 14:06	-412.9798467	0	0		
106111	450	1401	3.21	11/7/2013 14:06	-412.9798467	0	-412.9911758	2.453655667	-0.4461934
	350		3.2	11/7/2013 14:06	-412.9798467	0	0		
	250		2.46	11/7/2013 14:06	-412.9798467	0	0		
	150		2.14	11/7/2013 14:06	-412.9798467	0	0		
	50		0.15	11/7/2013 14:06	-412.9798467	0	0		
106109	450	1358	3.36	11/7/2013 14:06	-412.9798467	0	-412.9979733	2.899849067	0
	350		3.16	11/7/2013 14:06	-412.9798467	0	0		
	250		2.91	11/7/2013 14:06	-412.9798467	0	0		
	150		2.43	11/7/2013 14:06	-412.9798467	0	0		
	50		-0.21	11/7/2013 14:06	-412.9798467	0	0		
106128	450	1442	2.97	11/7/2013 14:34	-412.9164033	-412.8982767	0	2.160150933	-0.5871604
	350		3.17	11/7/2013 14:34	-412.9164033	0	0		
	250		2.15	11/7/2013 14:34	-412.9164033	0	0		
	150		1.75	11/7/2013 14:34	-412.9164033	0	0		
	50		0.24	11/7/2013 14:34	-412.9164033	0	0		
106117	450	1432	2.93	11/7/2013 14:34	-412.9164033	0	-412.920935	2.167462267	-0.579849067
	350		2.89	11/7/2013 14:34	-412.9164033	0	0		
	250		2.17	11/7/2013 14:34	-412.9164033	0	0		
	150		1.72	11/7/2013 14:34	-412.9164033	0	0		
	50		0.29	11/7/2013 14:34	-412.9164033	0	0		
106114	450	1438	3.16	11/7/2013 14:34	-412.9164033	-412.90734	0	2.215075467	-0.532235867
	350		3.14	11/7/2013 14:34	-412.9164033	0	0		
	250		2.21	11/7/2013 14:34	-412.9164033	0	0		
	150		1.98	11/7/2013 14:34	-412.9164033	0	0		
	50		-0.2	11/7/2013 14:34	-412.9164033	0	0		
106116	450	1435	2.64	11/7/2013 14:34	-412.9164033	-412.9141375	0	2.121268867	-0.626042467
	350		2.91	11/7/2013 14:34	-412.9164033	0	0		
	250		2.12	11/7/2013 14:34	-412.9164033	0	0		
	150		1.56	11/7/2013 14:34	-412.9164033	0	0		
	50		-0.07	11/7/2013 14:34	-412.9164033	0	0		
106111	450	1427	3.06	11/7/2013 14:34	-412.9164033	0	-412.9322642	2.311117933	-0.4361934
	350		3.05	11/7/2013 14:34	-412.9164033	0	0		
	250		2.32	11/7/2013 14:34	-412.9164033	0	0		
	150		2.02	11/7/2013 14:34	-412.9164033	0	0		

	50		0.13	11/7/2013 14:34	-412.9164033	0	0		
106109	450	1424	3.23	11/7/2013 14:34	-412.9164033	0	-412.9390617	2.747311333	0
	350		3	11/7/2013 14:34	-412.9164033	0	0		
	250		2.76	11/7/2013 14:34	-412.9164033	0	0		
	150		2.3	11/7/2013 14:34	-412.9164033	0	0		
	50		-0.23	11/7/2013 14:34	-412.9164033	0	0		
106128	450	1510	2.87	11/7/2013 15:05	-412.812175	-412.7895167	0	2.052688667	-0.517009467
	350		3.06	11/7/2013 15:05	-412.812175	0	0		
	250		2.04	11/7/2013 15:05	-412.812175	0	0		
	150		1.65	11/7/2013 15:05	-412.812175	0	0		
	50		0.23	11/7/2013 15:05	-412.812175	0	0		
106117	450	1504	2.79	11/7/2013 15:05	-412.812175	0	-412.8167067	2.037462267	-0.532235867
	350		2.74	11/7/2013 15:05	-412.812175	0	0		
	250		2.04	11/7/2013 15:05	-412.812175	0	0		
	150		1.61	11/7/2013 15:05	-412.812175	0	0		
	50		0.28	11/7/2013 15:05	-412.812175	0	0		
106114	450	1508	3.05	11/7/2013 15:05	-412.812175	-412.79858	0	2.1076132	-0.462084933
	350		3.02	11/7/2013 15:05	-412.812175	0	0		
	250		2.1	11/7/2013 15:05	-412.812175	0	0		
	150		1.84	11/7/2013 15:05	-412.812175	0	0		
	50		-0.18	11/7/2013 15:05	-412.812175	0	0		
106116	450	1506	2.52	11/7/2013 15:05	-412.812175	-412.8076433	0	2.022537733	-0.5471604
	350		2.76	11/7/2013 15:05	-412.812175	0	0		
	250		2.02	11/7/2013 15:05	-412.812175	0	0		
	150		1.45	11/7/2013 15:05	-412.812175	0	0		
	50		-0.05	11/7/2013 15:05	-412.812175	0	0		
106111	450	1459	2.9	11/7/2013 15:05	-412.812175	0	-412.839365	2.1747736	-0.394924533
	350		2.87	11/7/2013 15:05	-412.812175	0	0		
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	150		1.89	11/7/2013 15:05	-412.812175	0	0		
	50		0.12	11/7/2013 15:05	-412.812175	0	0		
106109	450	1457	3.05	11/7/2013 15:05	-412.812175	0	-412.8484283	2.569698133	0
	350		2.84	11/7/2013 15:05	-412.812175	0	0		
	250		2.59	11/7/2013 15:05	-412.812175	0	0		
	150		2.13	11/7/2013 15:05	-412.812175	0	0		
	50		-0.21	11/7/2013 15:05	-412.812175	0	0		
106128	450	1541	2.79	11/7/2013 15:34	-412.6807567	-412.649035	0	2.027764133	-0.486858533
	350		3	11/7/2013 15:34	-412.6807567	0	0		
	250		2.01	11/7/2013 15:34	-412.6807567	0	0		
	150		1.64	11/7/2013 15:34	-412.6807567	0	0		
	50		0.28	11/7/2013 15:34	-412.6807567	0	0		
106117	450	1532	2.75	11/7/2013 15:34	-412.6807567	0	-412.68982	2.034924533	-0.479698133
	350		2.7	11/7/2013 15:34	-412.6807567	0	0		
	250		2.04	11/7/2013 15:34	-412.6807567	0	0		
	150		1.61	11/7/2013 15:34	-412.6807567	0	0		
	50		0.34	11/7/2013 15:34	-412.6807567	0	0		
106114	450	1538	2.99	11/7/2013 15:34	-412.6807567	-412.66263	0	2.070150933	-0.444471733
	350		2.95	11/7/2013 15:34	-412.6807567	0	0		
	250		2.06	11/7/2013 15:34	-412.6807567	0	0		
	150		1.83	11/7/2013 15:34	-412.6807567	0	0		
	50		-0.13	11/7/2013 15:34	-412.6807567	0	0		

106116	450	1535	2.48	11/7/2013 15:34	-412.6807567	-412.676225	0	1.992537733	-0.522084933
	350		2.75	11/7/2013 15:34	-412.6807567	0	0		
	250		1.99	11/7/2013 15:34	-412.6807567	0	0		
	150		1.44	11/7/2013 15:34	-412.6807567	0	0		
	50		0	11/7/2013 15:34	-412.6807567	0	0		
106111	450	1527	2.85	11/7/2013 15:34	-412.6807567	0	-412.7124783	2.102235867	-0.4123868
	350		2.81	11/7/2013 15:34	-412.6807567	0	0		
	250		2.12	11/7/2013 15:34	-412.6807567	0	0		
	150		1.86	11/7/2013 15:34	-412.6807567	0	0		
	50		0.18	11/7/2013 15:34	-412.6807567	0	0		
106109	450	1524	2.95	11/7/2013 15:34	-412.6807567	0	-412.7260733	2.514622667	0
	350		2.78	11/7/2013 15:34	-412.6807567	0	0		
	250		2.54	11/7/2013 15:34	-412.6807567	0	0		
	150		2.09	11/7/2013 15:34	-412.6807567	0	0		
	50		-0.15	11/7/2013 15:34	-412.6807567	0	0		
106128	450	1608	2.75	11/7/2013 16:02	-412.58106	-412.567465	0	1.9776132	-0.452235867
	350		2.92	11/7/2013 16:02	-412.58106	0	0		
	250		1.97	11/7/2013 16:02	-412.58106	0	0		
	150		1.55	11/7/2013 16:02	-412.58106	0	0		
	50		0.27	11/7/2013 16:02	-412.58106	0	0		
106117	450	1601	2.67	11/7/2013 16:02	-412.58106	0	-412.5833258	1.968731133	-0.461117933
	350		2.64	11/7/2013 16:02	-412.58106	0	0		
	250		1.97	11/7/2013 16:02	-412.58106	0	0		
	150		1.56	11/7/2013 16:02	-412.58106	0	0		
	50		0.33	11/7/2013 16:02	-412.58106	0	0		
106114	450	1606	2.93	11/7/2013 16:02	-412.58106	-412.5719967	0	2.015075467	-0.4147736
	350		2.9	11/7/2013 16:02	-412.58106	0	0		
	250		2.01	11/7/2013 16:02	-412.58106	0	0		
	150		1.79	11/7/2013 16:02	-412.58106	0	0		
	50		-0.09	11/7/2013 16:02	-412.58106	0	0		
106116	450	1603	2.41	11/7/2013 16:02	-412.58106	-412.5787942	0	1.921268867	-0.5085802
	350		2.06	11/7/2013 16:02	-412.58106	0	0		
	250		1.92	11/7/2013 16:02	-412.58106	0	0		
	150		1.42	11/7/2013 16:02	-412.58106	0	0		
	50		0.03	11/7/2013 16:02	-412.58106	0	0		
106111	450	1557	2.75	11/7/2013 16:02	-412.58106	0	-412.5923892	2.053655667	-0.3761934
	350		2.73	11/7/2013 16:02	-412.58106	0	0		
	250		2.06	11/7/2013 16:02	-412.58106	0	0		
	150		1.8	11/7/2013 16:02	-412.58106	0	0		
	50		0.18	11/7/2013 16:02	-412.58106	0	0		
106109	450	1554	2.92	11/7/2013 16:02	-412.58106	0	-412.5991867	2.429849067	0
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	250		2.44	11/7/2013 16:02	-412.58106	0	0		
	150		2	11/7/2013 16:02	-412.58106	0	0		
	50		-0.12	11/7/2013 16:02	-412.58106	0	0		
106128	450	1637	2.64	11/7/2013 16:31	-412.5153508	-412.5017558	0	1.8376132	-0.533504733
	350		2.8	11/7/2013 16:31	-412.5153508	0	0		
	250		1.83	11/7/2013 16:31	-412.5153508	0	0		
	150		1.48	11/7/2013 16:31	-412.5153508	0	0		
	50		0.22	11/7/2013 16:31	-412.5153508	0	0		
106117	450	1630	4.83	11/7/2013 16:31	-412.5153508	0	-412.5176167	3.528731133	1.1576132

	350		4.75	11/7/2013 16:31	-412.5153508	0	0		
	250		3.53	11/7/2013 16:31	-412.5153508	0	0		
	150		2.78	11/7/2013 16:31	-412.5153508	0	0		
	50		0.59	11/7/2013 16:31	-412.5153508	0	0		
106114	450	1635	2.79	11/7/2013 16:31	-412.5153508	-412.5062875	0	1.895075467	-0.476042467
	350		2.76	11/7/2013 16:31	-412.5153508	0	0		
	250		1.89	11/7/2013 16:31	-412.5153508	0	0		
	150		1.67	11/7/2013 16:31	-412.5153508	0	0		
	50		-0.11	11/7/2013 16:31	-412.5153508	0	0		
106116	450	1632	4.31	11/7/2013 16:31	-412.5153508	-412.513085	0	3.421268867	1.050150933
	350		4.76	11/7/2013 16:31	-412.5153508	0	0		
	250		3.42	11/7/2013 16:31	-412.5153508	0	0		
	150		2.48	11/7/2013 16:31	-412.5153508	0	0		
	50		0	11/7/2013 16:31	-412.5153508	0	0		
106111	450	1626	2.68	11/7/2013 16:31	-412.5153508	0	-412.52668	1.963655667	-0.407462267
	350		2.65	11/7/2013 16:31	-412.5153508	0	0		
	250		1.97	11/7/2013 16:31	-412.5153508	0	0		
	150		1.73	11/7/2013 16:31	-412.5153508	0	0		
	50		0.19	11/7/2013 16:31	-412.5153508	0	0		
106109	450	1624	2.83	11/7/2013 16:31	-412.5153508	0	-412.5312117	2.371117933	0
	350		2.62	11/7/2013 16:31	-412.5153508	0	0		
	250		2.38	11/7/2013 16:31	-412.5153508	0	0		
	150		1.93	11/7/2013 16:31	-412.5153508	0	0		
	50		-0.12	11/7/2013 16:31	-412.5153508	0	0		
106128	450	1706	2.5	11/7/2013 17:08	-412.4723	0	-412.4723	1.73	-0.57
	350		2.67	11/7/2013 17:08	-412.4723	0	0		
	250		1.73	11/7/2013 17:08	-412.4723	0	0		
	150		1.4	11/7/2013 17:08	-412.4723	0	0		
	50		0.21	11/7/2013 17:08	-412.4723	0	0		
106117	450	1715	2.35	11/7/2013 17:08	-412.4723	-412.4723	0	1.7	-0.6
	350		2.27	11/7/2013 17:08	-412.4723	0	0		
	250		1.7	11/7/2013 17:08	-412.4723	0	0		
	150		1.33	11/7/2013 17:08	-412.4723	0	0		
	50		0.27	11/7/2013 17:08	-412.4723	0	0		
106114	450	1709	2.24	11/7/2013 17:08	-412.4723	-412.4723	0	1.75	-0.55
	350		2.6	11/7/2013 17:08	-412.4723	0	0		
	250		1.75	11/7/2013 17:08	-412.4723	0	0		
	150		1.55	11/7/2013 17:08	-412.4723	0	0		
	50		-0.14	11/7/2013 17:08	-412.4723	0	0		
106116	450	1712	2.14	11/7/2013 17:08	-412.4723	-412.4723	0	1.68	-0.62
	350		2.36	11/7/2013 17:08	-412.4723	0	0		
	250		1.68	11/7/2013 17:08	-412.4723	0	0		
	150		1.21	11/7/2013 17:08	-412.4723	0	0		
	50		-0.02	11/7/2013 17:08	-412.4723	0	0		
106111	450	1658	2.48	11/7/2013 17:08	-412.4723	0	-412.4723	1.8	-0.5
	350		2.48	11/7/2013 17:08	-412.4723	0	0		
	250		1.8	11/7/2013 17:08	-412.4723	0	0		
	150		1.58	11/7/2013 17:08	-412.4723	0	0		
	50		0.12	11/7/2013 17:08	-412.4723	0	0		
106109	450	1654	2.66	11/7/2013 17:08	-412.4723	0	-412.4723	2.3	0
	350		2.42	11/7/2013 17:08	-412.4723	0	0		

250	2.3	11/7/2013 17:08	-412.4723	0	0	
150	1.77	11/7/2013 17:08	-412.4723	0	0	
50	-0.16	11/7/2013 17:08	-412.4723	0	0	

Well ID	Depth	Minimum distance to extraction well	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences
106128	450			823	5.33	11/7/2013 8:06	-414.5840567	-414.661095	0	3.50146585	-0.5913584
	350				5.23	11/7/2013 8:06	-414.5840567	0	0		
	250				4.06	11/7/2013 8:06	-414.5840567	0	0		
	150				3.55	11/7/2013 8:06	-414.5840567	0	0		
	50				1.09	11/7/2013 8:06	-414.5840567	0	0		
106117	450			802	5.7	11/7/2013 8:06	-414.5840567	0	-414.56593	3.4214198	-0.67140445
	350				5.29	11/7/2013 8:06	-414.5840567	0	0		
	250				4.04	11/7/2013 8:06	-414.5840567	0	0		
	150				3.41	11/7/2013 8:06	-414.5840567	0	0		
	50				1.11	11/7/2013 8:06	-414.5840567	0	0		
106114	450			818	5.64	11/7/2013 8:06	-414.5840567	-414.6384367	0	3.8557406	-0.23708365
	350				5.5	11/7/2013 8:06	-414.5840567	0	0		
	250				4.18	11/7/2013 8:06	-414.5840567	0	0		
	150				3.89	11/7/2013 8:06	-414.5840567	0	0		
	50				0.49	11/7/2013 8:06	-414.5840567	0	0		
106116	450			809	5.03	11/7/2013 8:06	-414.5840567	-414.5976517	0	3.36143515	-0.7313891
	350				5.41	11/7/2013 8:06	-414.5840567	0	0		
	250				4	11/7/2013 8:06	-414.5840567	0	0		
	150				3.37	11/7/2013 8:06	-414.5840567	0	0		
	50				0.59	11/7/2013 8:06	-414.5840567	0	0		
106111	450			738	5.44	11/7/2013 8:06	-414.5840567	0	-414.48436	3.7628089	-0.33001535
	350				5.12	11/7/2013 8:06	-414.5840567	0	0		
	250				4.08	11/7/2013 8:06	-414.5840567	0	0		
	150				3.7	11/7/2013 8:06	-414.5840567	0	0		
	50				0.79	11/7/2013 8:06	-414.5840567	0	0		
106109	450			751	4.83	11/7/2013 8:06	-414.5840567	0	-414.5160817	4.09282425	0
	350				4.78	11/7/2013 8:06	-414.5840567	0	0		
	250				4.53	11/7/2013 8:06	-414.5840567	0	0		
	150				4.05	11/7/2013 8:06	-414.5840567	0	0		
	50				0.09	11/7/2013 8:06	-414.5840567	0	0		
106128	450			944	5.03	11/7/2013 9:36	-414.6792217	-414.661095	0	3.4914198	-0.6414505
	350				5.28	11/7/2013 9:36	-414.6792217	0	0		
	250				4.02	11/7/2013 9:36	-414.6792217	0	0		
	150				3.48	11/7/2013 9:36	-414.6792217	0	0		
	50				0.97	11/7/2013 9:36	-414.6792217	0	0		
106117	450			934	5.05	11/7/2013 9:36	-414.6792217	0	-414.6837533	3.42714505	-0.70572525
	350				4.76	11/7/2013 9:36	-414.6792217	0	0		
	250				4.04	11/7/2013 9:36	-414.6792217	0	0		
	150				3.43	11/7/2013 9:36	-414.6792217	0	0		
	50				0.99	11/7/2013 9:36	-414.6792217	0	0		
106114	450			941	5.27	11/7/2013 9:36	-414.6792217	-414.6678925	0	3.817137375	-0.315732925

	350		5.24	11/7/2013 9:36	-414.6792217	0	0		
	250		4.09	11/7/2013 9:36	-414.6792217	0	0		
	150		3.81	11/7/2013 9:36	-414.6792217	0	0		
	50		0.33	11/7/2013 9:36	-414.6792217	0	0		
106116	450	937	4.6	11/7/2013 9:36	-414.6792217	-414.6769558	0	3.331427475	-0.801442825
	350		5	11/7/2013 9:36	-414.6792217	0	0		
	250		3.99	11/7/2013 9:36	-414.6792217	0	0		
	150		3.33	11/7/2013 9:36	-414.6792217	0	0		
	50		0.56	11/7/2013 9:36	-414.6792217	0	0		
106111	450	929	5.22	11/7/2013 9:36	-414.6792217	0	-414.6950825	3.770007675	-0.362862625
	350		5.05	11/7/2013 9:36	-414.6792217	0	0		
	250		4.19	11/7/2013 9:36	-414.6792217	0	0		
	150		3.78	11/7/2013 9:36	-414.6792217	0	0		
	50		0.76	11/7/2013 9:36	-414.6792217	0	0		
106109	450	924	5.08	11/7/2013 9:36	-414.6792217	0	-414.7064117	4.1328703	0
	350		4.88	11/7/2013 9:36	-414.6792217	0	0		
	250		4.64	11/7/2013 9:36	-414.6792217	0	0		
	150		4.15	11/7/2013 9:36	-414.6792217	0	0		
	50		0.07	11/7/2013 9:36	-414.6792217	0	0		
106128	450	1009	4.96	11/7/2013 10:04	-414.6157783	-414.6044492	0	3.407137375	-0.64572525
	350		5.22	11/7/2013 10:04	-414.6157783	0	0		
	250		3.97	11/7/2013 10:04	-414.6157783	0	0		
	150		3.4	11/7/2013 10:04	-414.6157783	0	0		
	50		0.93	11/7/2013 10:04	-414.6157783	0	0		
106117	450	1003	4.92	11/7/2013 10:04	-414.6157783	0	-414.6180442	3.328572525	-0.7242901
	350		4.83	11/7/2013 10:04	-414.6157783	0	0		
	250		3.95	11/7/2013 10:04	-414.6157783	0	0		
	150		3.33	11/7/2013 10:04	-414.6157783	0	0		
	50		0.97	11/7/2013 10:04	-414.6157783	0	0		
106114	450	1007	5.22	11/7/2013 10:04	-414.6157783	-414.6089808	0	3.754282425	-0.2985802
	350		5.17	11/7/2013 10:04	-414.6157783	0	0		
	250		4.03	11/7/2013 10:04	-414.6157783	0	0		
	150		3.75	11/7/2013 10:04	-414.6157783	0	0		
	50		0.3	11/7/2013 10:04	-414.6157783	0	0		
106116	450	1005	4.51	11/7/2013 10:04	-414.6157783	-414.6135125	0	3.211427475	-0.84143515
	350		4.91	11/7/2013 10:04	-414.6157783	0	0		
	250		3.9	11/7/2013 10:04	-414.6157783	0	0		
	150		3.21	11/7/2013 10:04	-414.6157783	0	0		
	50		0.51	11/7/2013 10:04	-414.6157783	0	0		
106111	450	957	5.1	11/7/2013 10:04	-414.6157783	0	-414.6316392	3.680007675	-0.37285495
	350		4.98	11/7/2013 10:04	-414.6157783	0	0		
	250		4.12	11/7/2013 10:04	-414.6157783	0	0		
	150		3.69	11/7/2013 10:04	-414.6157783	0	0		
	50		0.72	11/7/2013 10:04	-414.6157783	0	0		
106109	450	959	5	11/7/2013 10:04	-414.6157783	0	-414.6271075	4.052862625	0
	350		4.8	11/7/2013 10:04	-414.6157783	0	0		
	250		4.55	11/7/2013 10:04	-414.6157783	0	0		

	150		4.06	11/7/2013 10:04	-414.6157783	0	0		
	50		0.02	11/7/2013 10:04	-414.6157783	0	0		
106128	450	1045	4.73	11/7/2013 10:37	-414.5410058	0	-414.5228792	3.2614198	-0.720023025
	350		5.01	11/7/2013 10:37	-414.5410058	0	0		
	250		3.8	11/7/2013 10:37	-414.5410058	0	0		
	150		3.25	11/7/2013 10:37	-414.5410058	0	0		
	50		0.82	11/7/2013 10:37	-414.5410058	0	0		
106117	450	1035	4.76	11/7/2013 10:37	-414.5410058	-414.5455375	0	3.22714505	-0.754297775
	350		4.69	11/7/2013 10:37	-414.5410058	0	0		
	250		3.82	11/7/2013 10:37	-414.5410058	0	0		
	150		3.23	11/7/2013 10:37	-414.5410058	0	0		
	50		0.9	11/7/2013 10:37	-414.5410058	0	0		
106114	450	1041	4.89	11/7/2013 10:37	-414.5410058	0	-414.5319425	3.6057099	-0.375732925
	350		4.99	11/7/2013 10:37	-414.5410058	0	0		
	250		3.89	11/7/2013 10:37	-414.5410058	0	0		
	150		3.6	11/7/2013 10:37	-414.5410058	0	0		
	50		0.2	11/7/2013 10:37	-414.5410058	0	0		
106116	450	1038	4.34	11/7/2013 10:37	-414.5410058	0	-414.53874	3.101427475	-0.88001535
	350		4.73	11/7/2013 10:37	-414.5410058	0	0		
	250		3.79	11/7/2013 10:37	-414.5410058	0	0		
	150		3.1	11/7/2013 10:37	-414.5410058	0	0		
	50		0.41	11/7/2013 10:37	-414.5410058	0	0		
106111	450	1030	4.92	11/7/2013 10:37	-414.5410058	-414.5568667	0	3.580007675	-0.40143515
	350		4.83	11/7/2013 10:37	-414.5410058	0	0		
	250		3.99	11/7/2013 10:37	-414.5410058	0	0		
	150		3.59	11/7/2013 10:37	-414.5410058	0	0		
	50		0.63	11/7/2013 10:37	-414.5410058	0	0		
106109	450	1024	4.96	11/7/2013 10:37	-414.5410058	-414.5704617	0	3.981442825	0
	350		4.72	11/7/2013 10:37	-414.5410058	0	0		
	250		4.47	11/7/2013 10:37	-414.5410058	0	0		
	150		4	11/7/2013 10:37	-414.5410058	0	0		
	50		-0.02	11/7/2013 10:37	-414.5410058	0	0		
106128	450	1109	4.62	11/7/2013 11:03	-414.4231825	-414.3823975	0	3.13569455	-0.65004605
	350		4.89	11/7/2013 11:03	-414.4231825	0	0		
	250		3.66	11/7/2013 11:03	-414.4231825	0	0		
	150		3.11	11/7/2013 11:03	-414.4231825	0	0		
	50		0.74	11/7/2013 11:03	-414.4231825	0	0		
106117	450	1102	4.61	11/7/2013 11:03	-414.4231825	0	-414.42998	3.095717575	-0.690023025
	350		4.54	11/7/2013 11:03	-414.4231825	0	0		
	250		3.7	11/7/2013 11:03	-414.4231825	0	0		
	150		3.1	11/7/2013 11:03	-414.4231825	0	0		
	50		0.84	11/7/2013 11:03	-414.4231825	0	0		
106114	450	1107	4.89	11/7/2013 11:03	-414.4231825	-414.3959925	0	3.4671297	-0.3186109
	350		4.85	11/7/2013 11:03	-414.4231825	0	0		
	250		3.76	11/7/2013 11:03	-414.4231825	0	0		
	150		3.45	11/7/2013 11:03	-414.4231825	0	0		
	50		0.15	11/7/2013 11:03	-414.4231825	0	0		

106116	450	1104	4.21	11/7/2013 11:03	-414.4231825	-414.416385	0	2.984282425	-0.801458175
	350		4.57	11/7/2013 11:03	-414.4231825	0	0		
	250		3.65	11/7/2013 11:03	-414.4231825	0	0		
	150		2.98	11/7/2013 11:03	-414.4231825	0	0		
	50		0.36	11/7/2013 11:03	-414.4231825	0	0		
106111	450	1058	4.73	11/7/2013 11:03	-414.4231825	0	-414.45717	3.408587875	-0.377152725
	350		4.65	11/7/2013 11:03	-414.4231825	0	0		
	250		3.83	11/7/2013 11:03	-414.4231825	0	0		
	150		3.43	11/7/2013 11:03	-414.4231825	0	0		
	50		0.53	11/7/2013 11:03	-414.4231825	0	0		
106109	450	1055	4.77	11/7/2013 11:03	-414.4231825	0	-414.4775625	3.7857406	0
	350		4.57	11/7/2013 11:03	-414.4231825	0	0		
	250		4.31	11/7/2013 11:03	-414.4231825	0	0		
	150		3.82	11/7/2013 11:03	-414.4231825	0	0		
	50		-0.07	11/7/2013 11:03	-414.4231825	0	0		
106128	450	1142	4.3	11/7/2013 11:32	-414.226055	0	-414.15808	2.92282425	-0.65291635
	350		4.55	11/7/2013 11:32	-414.226055	0	0		
	250		3.39	11/7/2013 11:32	-414.226055	0	0		
	150		2.88	11/7/2013 11:32	-414.226055	0	0		
	50		0.59	11/7/2013 11:32	-414.226055	0	0		
106117	450	1133	4.24	11/7/2013 11:32	-414.226055	0	-414.2192575	2.844282425	-0.731458175
	350		4.24	11/7/2013 11:32	-414.226055	0	0		
	250		3.43	11/7/2013 11:32	-414.226055	0	0		
	150		2.84	11/7/2013 11:32	-414.226055	0	0		
	50		0.67	11/7/2013 11:32	-414.226055	0	0		
106114	450	1139	4.59	11/7/2013 11:32	-414.226055	0	-414.1784725	3.239976975	-0.335763625
	350		4.55	11/7/2013 11:32	-414.226055	0	0		
	250		3.5	11/7/2013 11:32	-414.226055	0	0		
	150		3.21	11/7/2013 11:32	-414.226055	0	0		
	50		0.02	11/7/2013 11:32	-414.226055	0	0		
106116	450	1130	3.95	11/7/2013 11:32	-414.226055	-414.23965	0	2.75143515	-0.82430545
	350		4.3	11/7/2013 11:32	-414.226055	0	0		
	250		3.42	11/7/2013 11:32	-414.226055	0	0		
	150		2.76	11/7/2013 11:32	-414.226055	0	0		
	50		0.23	11/7/2013 11:32	-414.226055	0	0		
106111	450	1128	4.48	11/7/2013 11:32	-414.226055	-414.253245	0	3.2128703	-0.3628703
	350		4.44	11/7/2013 11:32	-414.226055	0	0		
	250		3.62	11/7/2013 11:32	-414.226055	0	0		
	150		3.23	11/7/2013 11:32	-414.226055	0	0		
	50		0.46	11/7/2013 11:32	-414.226055	0	0		
106109	450	1124	4.53	11/7/2013 11:32	-414.226055	-414.280435	0	3.5757406	0
	350		4.34	11/7/2013 11:32	-414.226055	0	0		
	250		4.08	11/7/2013 11:32	-414.226055	0	0		
	150		3.61	11/7/2013 11:32	-414.226055	0	0		
	50		-0.17	11/7/2013 11:32	-414.226055	0	0		
106128	450	1215	3.5	11/7/2013 12:05	-413.9337625	-413.8204708	0	2.66137375	-0.668664625
	350		4.24	11/7/2013 12:05	-413.9337625	0	0		

	250		3.1	11/7/2013 12:05	-413.9337625	0	0		
	150		2.59	11/7/2013 12:05	-413.9337625	0	0		
	50		0.48	11/7/2013 12:05	-413.9337625	0	0		
106117	450	1203	4.04	11/7/2013 12:05	-413.9337625	0	-413.9564208	2.57572525	-0.754313125
	350		3.99	11/7/2013 12:05	-413.9337625	0	0		
	250		3.25	11/7/2013 12:05	-413.9337625	0	0		
	150		2.59	11/7/2013 12:05	-413.9337625	0	0		
	50		0.54	11/7/2013 12:05	-413.9337625	0	0		
106114	450	1210	4.3	11/7/2013 12:05	-413.9337625	-413.8771167	0	2.955686875	-0.3743515
	350		4.27	11/7/2013 12:05	-413.9337625	0	0		
	250		3.21	11/7/2013 12:05	-413.9337625	0	0		
	150		2.92	11/7/2013 12:05	-413.9337625	0	0		
	50		-0.08	11/7/2013 12:05	-413.9337625	0	0		
106116	450	1207	3.66	11/7/2013 12:05	-413.9337625	-413.9111042	0	2.41427475	-0.915763625
	350		3.81	11/7/2013 12:05	-413.9337625	0	0		
	250		3.09	11/7/2013 12:05	-413.9337625	0	0		
	150		2.4	11/7/2013 12:05	-413.9337625	0	0		
	50		0.1	11/7/2013 12:05	-413.9337625	0	0		
106111	450	1154	4.26	11/7/2013 12:05	-413.9337625	0	-414.0583833	2.941488875	-0.3885495
	350		4.21	11/7/2013 12:05	-413.9337625	0	0		
	250		3.4	11/7/2013 12:05	-413.9337625	0	0		
	150		3.02	11/7/2013 12:05	-413.9337625	0	0		
	50		0.35	11/7/2013 12:05	-413.9337625	0	0		
106109	450	1158	4.31	11/7/2013 12:05	-413.9337625	0	-414.0130667	3.330038375	0
	350		4.09	11/7/2013 12:05	-413.9337625	0	0		
	250		3.84	11/7/2013 12:05	-413.9337625	0	0		
	150		3.38	11/7/2013 12:05	-413.9337625	0	0		
	50		-0.19	11/7/2013 12:05	-413.9337625	0	0		
106128	450	1243	3.65	11/7/2013 12:37	-413.5712292	-413.5032542	0	2.34282425	-0.6943515
	350		3.88	11/7/2013 12:37	-413.5712292	0	0		
	250		2.8	11/7/2013 12:37	-413.5712292	0	0		
	150		2.3	11/7/2013 12:37	-413.5712292	0	0		
	50		0.3	11/7/2013 12:37	-413.5712292	0	0		
106117	450	1235	3.69	11/7/2013 12:37	-413.5712292	0	-413.5938875	2.29572525	-0.7414505
	350		3.66	11/7/2013 12:37	-413.5712292	0	0		
	250		2.87	11/7/2013 12:37	-413.5712292	0	0		
	150		2.31	11/7/2013 12:37	-413.5712292	0	0		
	50		0.42	11/7/2013 12:37	-413.5712292	0	0		
106114	450	1241	3.93	11/7/2013 12:37	-413.5712292	-413.5259125	0	2.5785495	-0.45862625
	350		3.89	11/7/2013 12:37	-413.5712292	0	0		
	250		2.85	11/7/2013 12:37	-413.5712292	0	0		
	150		2.55	11/7/2013 12:37	-413.5712292	0	0		
	50		-0.21	11/7/2013 12:37	-413.5712292	0	0		
106116	450	1238	3.33	11/7/2013 12:37	-413.5712292	-413.5599	0	2.127137375	-0.910038375
	350		3.68	11/7/2013 12:37	-413.5712292	0	0		
	250		2.86	11/7/2013 12:37	-413.5712292	0	0		
	150		2.12	11/7/2013 12:37	-413.5712292	0	0		

	50		0	11/7/2013 12:37	-413.5712292	0	0		
106111	450	1224	3.94	11/7/2013 12:37	-413.5712292	0	-413.7185083	2.647214125	-0.389961625
	350		3.91	11/7/2013 12:37	-413.5712292	0	0		
	250		3.13	11/7/2013 12:37	-413.5712292	0	0		
	150		2.74	11/7/2013 12:37	-413.5712292	0	0		
	50		0.27	11/7/2013 12:37	-413.5712292	0	0		
106109	450	1231	4.01	11/7/2013 12:37	-413.5712292	0	-413.6392042	3.03717575	0
	350		3.73	11/7/2013 12:37	-413.5712292	0	0		
	250		3.56	11/7/2013 12:37	-413.5712292	0	0		
	150		3.08	11/7/2013 12:37	-413.5712292	0	0		
	50		-0.21	11/7/2013 12:37	-413.5712292	0	0		
106128	450	1309	3.46	11/7/2013 13:03	-413.3355825	-413.2947975	0	2.15569455	-0.62004605
	350		3.69	11/7/2013 13:03	-413.3355825	0	0		
	250		2.63	11/7/2013 13:03	-413.3355825	0	0		
	150		2.13	11/7/2013 13:03	-413.3355825	0	0		
	50		0.27	11/7/2013 13:03	-413.3355825	0	0		
106117	450	1302	3.45	11/7/2013 13:03	-413.3355825	0	-413.34238	2.115717575	-0.660023025
	350		3.4	11/7/2013 13:03	-413.3355825	0	0		
	250		2.65	11/7/2013 13:03	-413.3355825	0	0		
	150		2.12	11/7/2013 13:03	-413.3355825	0	0		
	50		0.36	11/7/2013 13:03	-413.3355825	0	0		
106114	450	1307	3.71	11/7/2013 13:03	-413.3355825	-413.3083925	0	2.4371297	-0.3386109
	350		3.7	11/7/2013 13:03	-413.3355825	0	0		
	250		2.7	11/7/2013 13:03	-413.3355825	0	0		
	150		2.42	11/7/2013 13:03	-413.3355825	0	0		
	50		-0.21	11/7/2013 13:03	-413.3355825	0	0		
106116	450	1304	3.14	11/7/2013 13:03	-413.3355825	-413.328785	0	1.944282425	-0.831458175
	350		3.44	11/7/2013 13:03	-413.3355825	0	0		
	250		2.62	11/7/2013 13:03	-413.3355825	0	0		
	150		1.94	11/7/2013 13:03	-413.3355825	0	0		
	50		-0.05	11/7/2013 13:03	-413.3355825	0	0		
106111	450	1258	3.61	11/7/2013 13:03	-413.3355825	0	-413.36957	2.438587875	-0.337152725
	350		3.58	11/7/2013 13:03	-413.3355825	0	0		
	250		2.82	11/7/2013 13:03	-413.3355825	0	0		
	150		2.46	11/7/2013 13:03	-413.3355825	0	0		
	50		0.16	11/7/2013 13:03	-413.3355825	0	0		
106109	450	1255	3.74	11/7/2013 13:03	-413.3355825	0	-413.3899625	2.7757406	0
	350		3.54	11/7/2013 13:03	-413.3355825	0	0		
	250		3.28	11/7/2013 13:03	-413.3355825	0	0		
	150		2.81	11/7/2013 13:03	-413.3355825	0	0		
	50		-0.3	11/7/2013 13:03	-413.3355825	0	0		
106128	450	1344	3.26	11/7/2013 13:37	-413.1044675	-413.056885	0	2.039976975	-0.4943515
	350		3.5	11/7/2013 13:37	-413.1044675	0	0		
	250		2.45	11/7/2013 13:37	-413.1044675	0	0		
	150		2.01	11/7/2013 13:37	-413.1044675	0	0		
	50		0.29	11/7/2013 13:37	-413.1044675	0	0		
106117	450	1335	3.23	11/7/2013 13:37	-413.1044675	0	-413.1180625	1.96143515	-0.572893325

	350			3.2	11/7/2013 13:37	-413.1044675	0	0		
	250			2.47	11/7/2013 13:37	-413.1044675	0	0		
	150			1.97	11/7/2013 13:37	-413.1044675	0	0		
	50			0.36	11/7/2013 13:37	-413.1044675	0	0		
106114	450		1341	3.51	11/7/2013 13:37	-413.1044675	-413.0772775	0	2.2871297	-0.247198775
	350			3.5	11/7/2013 13:37	-413.1044675	0	0		
	250			2.53	11/7/2013 13:37	-413.1044675	0	0		
	150			2.27	11/7/2013 13:37	-413.1044675	0	0		
	50			-0.18	11/7/2013 13:37	-413.1044675	0	0		
106116	450		1338	2.93	11/7/2013 13:37	-413.1044675	-413.09767	0	1.804282425	-0.73004605
	350			3.25	11/7/2013 13:37	-413.1044675	0	0		
	250			2.42	11/7/2013 13:37	-413.1044675	0	0		
	150			1.8	11/7/2013 13:37	-413.1044675	0	0		
	50			-0.04	11/7/2013 13:37	-413.1044675	0	0		
106111	450		1330	3.37	11/7/2013 13:37	-413.1044675	0	-413.15205	2.240023025	-0.29430545
	350			3.34	11/7/2013 13:37	-413.1044675	0	0		
	250			2.6	11/7/2013 13:37	-413.1044675	0	0		
	150			2.27	11/7/2013 13:37	-413.1044675	0	0		
	50			0.14	11/7/2013 13:37	-413.1044675	0	0		
106109	450		1324	3.5	11/7/2013 13:37	-413.1044675	0	-413.192835	2.534328475	0
	350			3.3	11/7/2013 13:37	-413.1044675	0	0		
	250			3.05	11/7/2013 13:37	-413.1044675	0	0		
	150			2.59	11/7/2013 13:37	-413.1044675	0	0		
	50			-0.29	11/7/2013 13:37	-413.1044675	0	0		
106128	450		1411	3.14	11/7/2013 14:06	-412.9798467	-412.9685175	0	1.877137375	-0.541442825
	350			3.34	11/7/2013 14:06	-412.9798467	0	0		
	250			2.3	11/7/2013 14:06	-412.9798467	0	0		
	150			1.87	11/7/2013 14:06	-412.9798467	0	0		
	50			0.26	11/7/2013 14:06	-412.9798467	0	0		
106117	450		1405	3.08	11/7/2013 14:06	-412.9798467	0	-412.9821125	1.838572525	-0.580007675
	350			3.04	11/7/2013 14:06	-412.9798467	0	0		
	250			2.34	11/7/2013 14:06	-412.9798467	0	0		
	150			1.84	11/7/2013 14:06	-412.9798467	0	0		
	50			0.32	11/7/2013 14:06	-412.9798467	0	0		
106114	450		1409	3.34	11/7/2013 14:06	-412.9798467	-412.9730492	0	2.104282425	-0.314297775
	350			3.31	11/7/2013 14:06	-412.9798467	0	0		
	250			2.37	11/7/2013 14:06	-412.9798467	0	0		
	150			2.1	11/7/2013 14:06	-412.9798467	0	0		
	50			-0.19	11/7/2013 14:06	-412.9798467	0	0		
106116	450		1407	2.8	11/7/2013 14:06	-412.9798467	-412.9775808	0	1.671427475	-0.747152725
	350			3.07	11/7/2013 14:06	-412.9798467	0	0		
	250			2.27	11/7/2013 14:06	-412.9798467	0	0		
	150			1.67	11/7/2013 14:06	-412.9798467	0	0		
	50			-0.04	11/7/2013 14:06	-412.9798467	0	0		
106111	450		1401	3.21	11/7/2013 14:06	-412.9798467	0	-412.9911758	2.132862625	-0.285717575
	350			3.2	11/7/2013 14:06	-412.9798467	0	0		
	250			2.46	11/7/2013 14:06	-412.9798467	0	0		

	150		2.14	11/7/2013 14:06	-412.9798467	0	0		
	50		0.15	11/7/2013 14:06	-412.9798467	0	0		
106109	450	1358	3.36	11/7/2013 14:06	-412.9798467	0	-412.9979733	2.4185802	0
	350		3.16	11/7/2013 14:06	-412.9798467	0	0		
	250		2.91	11/7/2013 14:06	-412.9798467	0	0		
	150		2.43	11/7/2013 14:06	-412.9798467	0	0		
	50		-0.21	11/7/2013 14:06	-412.9798467	0	0		
106128	450	1442	2.97	11/7/2013 14:34	-412.9164033	-412.8982767	0	1.7614198	-0.52430545
	350		3.17	11/7/2013 14:34	-412.9164033	0	0		
	250		2.15	11/7/2013 14:34	-412.9164033	0	0		
	150		1.75	11/7/2013 14:34	-412.9164033	0	0		
	50		0.24	11/7/2013 14:34	-412.9164033	0	0		
106117	450	1432	2.93	11/7/2013 14:34	-412.9164033	0	-412.920935	1.71714505	-0.5685802
	350		2.89	11/7/2013 14:34	-412.9164033	0	0		
	250		2.17	11/7/2013 14:34	-412.9164033	0	0		
	150		1.72	11/7/2013 14:34	-412.9164033	0	0		
	50		0.29	11/7/2013 14:34	-412.9164033	0	0		
106114	450	1438	3.16	11/7/2013 14:34	-412.9164033	-412.90734	0	1.9857099	-0.30001535
	350		3.14	11/7/2013 14:34	-412.9164033	0	0		
	250		2.21	11/7/2013 14:34	-412.9164033	0	0		
	150		1.98	11/7/2013 14:34	-412.9164033	0	0		
	50		-0.2	11/7/2013 14:34	-412.9164033	0	0		
106116	450	1435	2.64	11/7/2013 14:34	-412.9164033	-412.9141375	0	1.561427475	-0.724297775
	350		2.91	11/7/2013 14:34	-412.9164033	0	0		
	250		2.12	11/7/2013 14:34	-412.9164033	0	0		
	150		1.56	11/7/2013 14:34	-412.9164033	0	0		
	50		-0.07	11/7/2013 14:34	-412.9164033	0	0		
106111	450	1427	3.06	11/7/2013 14:34	-412.9164033	0	-412.9322642	2.010007675	-0.275717575
	350		3.05	11/7/2013 14:34	-412.9164033	0	0		
	250		2.32	11/7/2013 14:34	-412.9164033	0	0		
	150		2.02	11/7/2013 14:34	-412.9164033	0	0		
	50		0.13	11/7/2013 14:34	-412.9164033	0	0		
106109	450	1424	3.23	11/7/2013 14:34	-412.9164033	0	-412.9390617	2.28572525	0
	350		3	11/7/2013 14:34	-412.9164033	0	0		
	250		2.76	11/7/2013 14:34	-412.9164033	0	0		
	150		2.3	11/7/2013 14:34	-412.9164033	0	0		
	50		-0.23	11/7/2013 14:34	-412.9164033	0	0		
106128	450	1510	2.87	11/7/2013 15:05	-412.812175	-412.7895167	0	1.66427475	-0.44288565
	350		3.06	11/7/2013 15:05	-412.812175	0	0		
	250		2.04	11/7/2013 15:05	-412.812175	0	0		
	150		1.65	11/7/2013 15:05	-412.812175	0	0		
	50		0.23	11/7/2013 15:05	-412.812175	0	0		
106117	450	1504	2.79	11/7/2013 15:05	-412.812175	0	-412.8167067	1.60714505	-0.50001535
	350		2.74	11/7/2013 15:05	-412.812175	0	0		
	250		2.04	11/7/2013 15:05	-412.812175	0	0		
	150		1.61	11/7/2013 15:05	-412.812175	0	0		
	50		0.28	11/7/2013 15:05	-412.812175	0	0		

106114	450	1508	3.05	11/7/2013 15:05	-412.812175	-412.79858	0	1.84856485	-0.25859555
	350		3.02	11/7/2013 15:05	-412.812175	0	0		
	250		2.1	11/7/2013 15:05	-412.812175	0	0		
	150		1.84	11/7/2013 15:05	-412.812175	0	0		
	50		-0.18	11/7/2013 15:05	-412.812175	0	0		
106116	450	1506	2.52	11/7/2013 15:05	-412.812175	-412.8076433	0	1.45285495	-0.65430545
	350		2.76	11/7/2013 15:05	-412.812175	0	0		
	250		2.02	11/7/2013 15:05	-412.812175	0	0		
	150		1.45	11/7/2013 15:05	-412.812175	0	0		
	50		-0.05	11/7/2013 15:05	-412.812175	0	0		
106111	450	1459	2.9	11/7/2013 15:05	-412.812175	0	-412.839365	1.8728703	-0.2342901
	350		2.87	11/7/2013 15:05	-412.812175	0	0		
	250		2.19	11/7/2013 15:05	-412.812175	0	0		
	150		1.89	11/7/2013 15:05	-412.812175	0	0		
	50		0.12	11/7/2013 15:05	-412.812175	0	0		
106109	450	1457	3.05	11/7/2013 15:05	-412.812175	0	-412.8484283	2.1071604	0
	350		2.84	11/7/2013 15:05	-412.812175	0	0		
	250		2.59	11/7/2013 15:05	-412.812175	0	0		
	150		2.13	11/7/2013 15:05	-412.812175	0	0		
	50		-0.21	11/7/2013 15:05	-412.812175	0	0		
106128	450	1541	2.79	11/7/2013 15:34	-412.6807567	-412.649035	0	1.65998465	-0.40146585
	350		3	11/7/2013 15:34	-412.6807567	0	0		
	250		2.01	11/7/2013 15:34	-412.6807567	0	0		
	150		1.64	11/7/2013 15:34	-412.6807567	0	0		
	50		0.28	11/7/2013 15:34	-412.6807567	0	0		
106117	450	1532	2.75	11/7/2013 15:34	-412.6807567	0	-412.68982	1.6042901	-0.4571604
	350		2.7	11/7/2013 15:34	-412.6807567	0	0		
	250		2.04	11/7/2013 15:34	-412.6807567	0	0		
	150		1.61	11/7/2013 15:34	-412.6807567	0	0		
	50		0.34	11/7/2013 15:34	-412.6807567	0	0		
106114	450	1538	2.99	11/7/2013 15:34	-412.6807567	-412.66263	0	1.8414198	-0.2200307
	350		2.95	11/7/2013 15:34	-412.6807567	0	0		
	250		2.06	11/7/2013 15:34	-412.6807567	0	0		
	150		1.83	11/7/2013 15:34	-412.6807567	0	0		
	50		-0.13	11/7/2013 15:34	-412.6807567	0	0		
106116	450	1535	2.48	11/7/2013 15:34	-412.6807567	-412.676225	0	1.44285495	-0.61859555
	350		2.75	11/7/2013 15:34	-412.6807567	0	0		
	250		1.99	11/7/2013 15:34	-412.6807567	0	0		
	150		1.44	11/7/2013 15:34	-412.6807567	0	0		
	50		0	11/7/2013 15:34	-412.6807567	0	0		
106111	450	1527	2.85	11/7/2013 15:34	-412.6807567	0	-412.7124783	1.84001535	-0.22143515
	350		2.81	11/7/2013 15:34	-412.6807567	0	0		
	250		2.12	11/7/2013 15:34	-412.6807567	0	0		
	150		1.86	11/7/2013 15:34	-412.6807567	0	0		
	50		0.18	11/7/2013 15:34	-412.6807567	0	0		
106109	450	1524	2.95	11/7/2013 15:34	-412.6807567	0	-412.7260733	2.0614505	0
	350		2.78	11/7/2013 15:34	-412.6807567	0	0		

	250		2.54	11/7/2013 15:34	-412.6807567	0	0		
	150		2.09	11/7/2013 15:34	-412.6807567	0	0		
	50		-0.15	11/7/2013 15:34	-412.6807567	0	0		
106128	450	1608	2.75	11/7/2013 16:02	-412.58106	-412.567465	0	1.55856485	-0.43001535
	350		2.92	11/7/2013 16:02	-412.58106	0	0		
	250		1.97	11/7/2013 16:02	-412.58106	0	0		
	150		1.55	11/7/2013 16:02	-412.58106	0	0		
	50		0.27	11/7/2013 16:02	-412.58106	0	0		
106117	450	1601	2.67	11/7/2013 16:02	-412.58106	0	-412.5833258	1.558572525	-0.430007675
	350		2.64	11/7/2013 16:02	-412.58106	0	0		
	250		1.97	11/7/2013 16:02	-412.58106	0	0		
	150		1.56	11/7/2013 16:02	-412.58106	0	0		
	50		0.33	11/7/2013 16:02	-412.58106	0	0		
106114	450	1606	2.93	11/7/2013 16:02	-412.58106	-412.5719967	0	1.7957099	-0.1928703
	350		2.9	11/7/2013 16:02	-412.58106	0	0		
	250		2.01	11/7/2013 16:02	-412.58106	0	0		
	150		1.79	11/7/2013 16:02	-412.58106	0	0		
	50		-0.09	11/7/2013 16:02	-412.58106	0	0		
106116	450	1603	2.41	11/7/2013 16:02	-412.58106	-412.5787942	0	1.421427475	-0.567152725
	350		2.06	11/7/2013 16:02	-412.58106	0	0		
	250		1.92	11/7/2013 16:02	-412.58106	0	0		
	150		1.42	11/7/2013 16:02	-412.58106	0	0		
	50		0.03	11/7/2013 16:02	-412.58106	0	0		
106111	450	1557	2.75	11/7/2013 16:02	-412.58106	0	-412.5923892	1.792862625	-0.195717575
	350		2.73	11/7/2013 16:02	-412.58106	0	0		
	250		2.06	11/7/2013 16:02	-412.58106	0	0		
	150		1.8	11/7/2013 16:02	-412.58106	0	0		
	50		0.18	11/7/2013 16:02	-412.58106	0	0		
106109	450	1554	2.92	11/7/2013 16:02	-412.58106	0	-412.5991867	1.9885802	0
	350		2.69	11/7/2013 16:02	-412.58106	0	0		
	250		2.44	11/7/2013 16:02	-412.58106	0	0		
	150		2	11/7/2013 16:02	-412.58106	0	0		
	50		-0.12	11/7/2013 16:02	-412.58106	0	0		
106128	450	1637	2.64	11/7/2013 16:31	-412.5153508	-412.5017558	0	1.48856485	-0.431442825
	350		2.8	11/7/2013 16:31	-412.5153508	0	0		
	250		1.83	11/7/2013 16:31	-412.5153508	0	0		
	150		1.48	11/7/2013 16:31	-412.5153508	0	0		
	50		0.22	11/7/2013 16:31	-412.5153508	0	0		
106117	450	1630	4.83	11/7/2013 16:31	-412.5153508	0	-412.5176167	2.778572525	0.85856485
	350		4.75	11/7/2013 16:31	-412.5153508	0	0		
	250		3.53	11/7/2013 16:31	-412.5153508	0	0		
	150		2.78	11/7/2013 16:31	-412.5153508	0	0		
	50		0.59	11/7/2013 16:31	-412.5153508	0	0		
106114	450	1635	2.79	11/7/2013 16:31	-412.5153508	-412.5062875	0	1.6757099	-0.244297775
	350		2.76	11/7/2013 16:31	-412.5153508	0	0		
	250		1.89	11/7/2013 16:31	-412.5153508	0	0		
	150		1.67	11/7/2013 16:31	-412.5153508	0	0		

	50		-0.11	11/7/2013 16:31	-412.5153508	0	0		
106116	450	1632	4.31	11/7/2013 16:31	-412.5153508	-412.513085	0	2.481427475	0.5614198
	350		4.76	11/7/2013 16:31	-412.5153508	0	0		
	250		3.42	11/7/2013 16:31	-412.5153508	0	0		
	150		2.48	11/7/2013 16:31	-412.5153508	0	0		
	50		0	11/7/2013 16:31	-412.5153508	0	0		
106111	450	1626	2.68	11/7/2013 16:31	-412.5153508	0	-412.52668	1.722862625	-0.19714505
	350		2.65	11/7/2013 16:31	-412.5153508	0	0		
	250		1.97	11/7/2013 16:31	-412.5153508	0	0		
	150		1.73	11/7/2013 16:31	-412.5153508	0	0		
	50		0.19	11/7/2013 16:31	-412.5153508	0	0		
106109	450	1624	2.83	11/7/2013 16:31	-412.5153508	0	-412.5312117	1.920007675	0
	350		2.62	11/7/2013 16:31	-412.5153508	0	0		
	250		2.38	11/7/2013 16:31	-412.5153508	0	0		
	150		1.93	11/7/2013 16:31	-412.5153508	0	0		
	50		-0.12	11/7/2013 16:31	-412.5153508	0	0		
106128	450	1706	2.5	11/7/2013 17:08	-412.4723	0	-412.4723	1.4	-0.37
	350		2.67	11/7/2013 17:08	-412.4723	0	0		
	250		1.73	11/7/2013 17:08	-412.4723	0	0		
	150		1.4	11/7/2013 17:08	-412.4723	0	0		
	50		0.21	11/7/2013 17:08	-412.4723	0	0		
106117	450	1715	2.35	11/7/2013 17:08	-412.4723	-412.4723	0	1.33	-0.44
	350		2.27	11/7/2013 17:08	-412.4723	0	0		
	250		1.7	11/7/2013 17:08	-412.4723	0	0		
	150		1.33	11/7/2013 17:08	-412.4723	0	0		
	50		0.27	11/7/2013 17:08	-412.4723	0	0		
106114	450	1709	2.24	11/7/2013 17:08	-412.4723	-412.4723	0	1.55	-0.22
	350		2.6	11/7/2013 17:08	-412.4723	0	0		
	250		1.75	11/7/2013 17:08	-412.4723	0	0		
	150		1.55	11/7/2013 17:08	-412.4723	0	0		
	50		-0.14	11/7/2013 17:08	-412.4723	0	0		
106116	450	1712	2.14	11/7/2013 17:08	-412.4723	-412.4723	0	1.21	-0.56
	350		2.36	11/7/2013 17:08	-412.4723	0	0		
	250		1.68	11/7/2013 17:08	-412.4723	0	0		
	150		1.21	11/7/2013 17:08	-412.4723	0	0		
	50		-0.02	11/7/2013 17:08	-412.4723	0	0		
106111	450	1658	2.48	11/7/2013 17:08	-412.4723	0	-412.4723	1.58	-0.19
	350		2.48	11/7/2013 17:08	-412.4723	0	0		
	250		1.8	11/7/2013 17:08	-412.4723	0	0		
	150		1.58	11/7/2013 17:08	-412.4723	0	0		
	50		0.12	11/7/2013 17:08	-412.4723	0	0		
106109	450	1654	2.66	11/7/2013 17:08	-412.4723	0	-412.4723	1.77	0
	350		2.42	11/7/2013 17:08	-412.4723	0	0		
	250		2.3	11/7/2013 17:08	-412.4723	0	0		
	150		1.77	11/7/2013 17:08	-412.4723	0	0		
	50		-0.16	11/7/2013 17:08	-412.4723	0	0		

Well ID	Depth	Minimum distance to extraction well	Monitoring round	Time	Vacuum (inWC)	Mid-Round Time	Btm	Bt1	Bt0	Ptm	Differences
106128	450			823	5.33	11/7/2013 8:06	-414.5840567	-414.661095	0	1.074592333	0.970997333
	350				5.23	11/7/2013 8:06	-414.5840567	0	0		
	250				4.06	11/7/2013 8:06	-414.5840567	0	0		
	150				3.55	11/7/2013 8:06	-414.5840567	0	0		
	50				1.09	11/7/2013 8:06	-414.5840567	0	0		
106117	450			802	5.7	11/7/2013 8:06	-414.5840567	0	-414.56593	1.113625333	1.010030333
	350				5.29	11/7/2013 8:06	-414.5840567	0	0		
	250				4.04	11/7/2013 8:06	-414.5840567	0	0		
	150				3.41	11/7/2013 8:06	-414.5840567	0	0		
	50				1.11	11/7/2013 8:06	-414.5840567	0	0		
106114	450			818	5.64	11/7/2013 8:06	-414.5840567	-414.6384367	0	0.479124	0.375529
	350				5.5	11/7/2013 8:06	-414.5840567	0	0		
	250				4.18	11/7/2013 8:06	-414.5840567	0	0		
	150				3.89	11/7/2013 8:06	-414.5840567	0	0		
	50				0.49	11/7/2013 8:06	-414.5840567	0	0		
106116	450			809	5.03	11/7/2013 8:06	-414.5840567	-414.5976517	0	0.587281	0.483686
	350				5.41	11/7/2013 8:06	-414.5840567	0	0		
	250				4	11/7/2013 8:06	-414.5840567	0	0		
	150				3.37	11/7/2013 8:06	-414.5840567	0	0		
	50				0.59	11/7/2013 8:06	-414.5840567	0	0		
106111	450			738	5.44	11/7/2013 8:06	-414.5840567	0	-414.48436	0.809939333	0.706344333
	350				5.12	11/7/2013 8:06	-414.5840567	0	0		
	250				4.08	11/7/2013 8:06	-414.5840567	0	0		
	150				3.7	11/7/2013 8:06	-414.5840567	0	0		
	50				0.79	11/7/2013 8:06	-414.5840567	0	0		
106109	450			751	4.83	11/7/2013 8:06	-414.5840567	0	-414.5160817	0.103595	0
	350				4.78	11/7/2013 8:06	-414.5840567	0	0		
	250				4.53	11/7/2013 8:06	-414.5840567	0	0		
	150				4.05	11/7/2013 8:06	-414.5840567	0	0		
	50				0.09	11/7/2013 8:06	-414.5840567	0	0		
106128	450			944	5.03	11/7/2013 9:36	-414.6792217	-414.661095	0	0.973625333	0.909063333
	350				5.28	11/7/2013 9:36	-414.6792217	0	0		
	250				4.02	11/7/2013 9:36	-414.6792217	0	0		
	150				3.48	11/7/2013 9:36	-414.6792217	0	0		
	50				0.97	11/7/2013 9:36	-414.6792217	0	0		
106117	450			934	5.05	11/7/2013 9:36	-414.6792217	0	-414.6837533	0.989093667	0.924531667
	350				4.76	11/7/2013 9:36	-414.6792217	0	0		
	250				4.04	11/7/2013 9:36	-414.6792217	0	0		
	150				3.43	11/7/2013 9:36	-414.6792217	0	0		
	50				0.99	11/7/2013 9:36	-414.6792217	0	0		
106114	450			941	5.27	11/7/2013 9:36	-414.6792217	-414.6678925	0	0.332265833	0.267703833
	350				5.24	11/7/2013 9:36	-414.6792217	0	0		
	250				4.09	11/7/2013 9:36	-414.6792217	0	0		

	150			3.81	11/7/2013 9:36	-414.6792217	0	0		
	50			0.33	11/7/2013 9:36	-414.6792217	0	0		
106116	450		937	4.6	11/7/2013 9:36	-414.6792217	-414.6769558	0	0.560453167	0.495891167
	350			5	11/7/2013 9:36	-414.6792217	0	0		
	250			3.99	11/7/2013 9:36	-414.6792217	0	0		
	150			3.33	11/7/2013 9:36	-414.6792217	0	0		
	50			0.56	11/7/2013 9:36	-414.6792217	0	0		
106111	450		929	5.22	11/7/2013 9:36	-414.6792217	0	-414.6950825	0.756827833	0.692265833
	350			5.05	11/7/2013 9:36	-414.6792217	0	0		
	250			4.19	11/7/2013 9:36	-414.6792217	0	0		
	150			3.78	11/7/2013 9:36	-414.6792217	0	0		
	50			0.76	11/7/2013 9:36	-414.6792217	0	0		
106109	450		924	5.08	11/7/2013 9:36	-414.6792217	0	-414.7064117	0.064562	0
	350			4.88	11/7/2013 9:36	-414.6792217	0	0		
	250			4.64	11/7/2013 9:36	-414.6792217	0	0		
	150			4.15	11/7/2013 9:36	-414.6792217	0	0		
	50			0.07	11/7/2013 9:36	-414.6792217	0	0		
106128	450		1009	4.96	11/7/2013 10:04	-414.6157783	-414.6044492	0	0.932265833	0.914531667
	350			5.22	11/7/2013 10:04	-414.6157783	0	0		
	250			3.97	11/7/2013 10:04	-414.6157783	0	0		
	150			3.4	11/7/2013 10:04	-414.6157783	0	0		
	50			0.93	11/7/2013 10:04	-414.6157783	0	0		
106117	450		1003	4.92	11/7/2013 10:04	-414.6157783	0	-414.6180442	0.969546833	0.951812667
	350			4.83	11/7/2013 10:04	-414.6157783	0	0		
	250			3.95	11/7/2013 10:04	-414.6157783	0	0		
	150			3.33	11/7/2013 10:04	-414.6157783	0	0		
	50			0.97	11/7/2013 10:04	-414.6157783	0	0		
106114	450		1007	5.22	11/7/2013 10:04	-414.6157783	-414.6089808	0	0.3013595	0.283625333
	350			5.17	11/7/2013 10:04	-414.6157783	0	0		
	250			4.03	11/7/2013 10:04	-414.6157783	0	0		
	150			3.75	11/7/2013 10:04	-414.6157783	0	0		
	50			0.3	11/7/2013 10:04	-414.6157783	0	0		
106116	450		1005	4.51	11/7/2013 10:04	-414.6157783	-414.6135125	0	0.510453167	0.492719
	350			4.91	11/7/2013 10:04	-414.6157783	0	0		
	250			3.9	11/7/2013 10:04	-414.6157783	0	0		
	150			3.21	11/7/2013 10:04	-414.6157783	0	0		
	50			0.51	11/7/2013 10:04	-414.6157783	0	0		
106111	450		957	5.1	11/7/2013 10:04	-414.6157783	0	-414.6316392	0.716827833	0.699093667
	350			4.98	11/7/2013 10:04	-414.6157783	0	0		
	250			4.12	11/7/2013 10:04	-414.6157783	0	0		
	150			3.69	11/7/2013 10:04	-414.6157783	0	0		
	50			0.72	11/7/2013 10:04	-414.6157783	0	0		
106109	450		959	5	11/7/2013 10:04	-414.6157783	0	-414.6271075	0.017734167	0
	350			4.8	11/7/2013 10:04	-414.6157783	0	0		
	250			4.55	11/7/2013 10:04	-414.6157783	0	0		
	150			4.06	11/7/2013 10:04	-414.6157783	0	0		
	50			0.02	11/7/2013 10:04	-414.6157783	0	0		

106128	450	1045	4.73	11/7/2013 10:37	-414.5410058	0	-414.5228792	0.823625333	0.8495165
	350		5.01	11/7/2013 10:37	-414.5410058	0	0		
	250		3.8	11/7/2013 10:37	-414.5410058	0	0		
	150		3.25	11/7/2013 10:37	-414.5410058	0	0		
	50		0.82	11/7/2013 10:37	-414.5410058	0	0		
106117	450	1035	4.76	11/7/2013 10:37	-414.5410058	-414.5455375	0	0.899093667	0.924984833
	350		4.69	11/7/2013 10:37	-414.5410058	0	0		
	250		3.82	11/7/2013 10:37	-414.5410058	0	0		
	150		3.23	11/7/2013 10:37	-414.5410058	0	0		
	50		0.9	11/7/2013 10:37	-414.5410058	0	0		
106114	450	1041	4.89	11/7/2013 10:37	-414.5410058	0	-414.5319425	0.201812667	0.227703833
	350		4.99	11/7/2013 10:37	-414.5410058	0	0		
	250		3.89	11/7/2013 10:37	-414.5410058	0	0		
	150		3.6	11/7/2013 10:37	-414.5410058	0	0		
	50		0.2	11/7/2013 10:37	-414.5410058	0	0		
106116	450	1038	4.34	11/7/2013 10:37	-414.5410058	0	-414.53874	0.410453167	0.436344333
	350		4.73	11/7/2013 10:37	-414.5410058	0	0		
	250		3.79	11/7/2013 10:37	-414.5410058	0	0		
	150		3.1	11/7/2013 10:37	-414.5410058	0	0		
	50		0.41	11/7/2013 10:37	-414.5410058	0	0		
106111	450	1030	4.92	11/7/2013 10:37	-414.5410058	-414.5568667	0	0.626827833	0.652719
	350		4.83	11/7/2013 10:37	-414.5410058	0	0		
	250		3.99	11/7/2013 10:37	-414.5410058	0	0		
	150		3.59	11/7/2013 10:37	-414.5410058	0	0		
	50		0.63	11/7/2013 10:37	-414.5410058	0	0		
106109	450	1024	4.96	11/7/2013 10:37	-414.5410058	-414.5704617	0	-0.025891167	0
	350		4.72	11/7/2013 10:37	-414.5410058	0	0		
	250		4.47	11/7/2013 10:37	-414.5410058	0	0		
	150		4	11/7/2013 10:37	-414.5410058	0	0		
	50		-0.02	11/7/2013 10:37	-414.5410058	0	0		
106128	450	1109	4.62	11/7/2013 11:03	-414.4231825	-414.3823975	0	0.748157	0.829033
	350		4.89	11/7/2013 11:03	-414.4231825	0	0		
	250		3.66	11/7/2013 11:03	-414.4231825	0	0		
	150		3.11	11/7/2013 11:03	-414.4231825	0	0		
	50		0.74	11/7/2013 11:03	-414.4231825	0	0		
106117	450	1102	4.61	11/7/2013 11:03	-414.4231825	0	-414.42998	0.8386405	0.9195165
	350		4.54	11/7/2013 11:03	-414.4231825	0	0		
	250		3.7	11/7/2013 11:03	-414.4231825	0	0		
	150		3.1	11/7/2013 11:03	-414.4231825	0	0		
	50		0.84	11/7/2013 11:03	-414.4231825	0	0		
106114	450	1107	4.89	11/7/2013 11:03	-414.4231825	-414.3959925	0	0.155438	0.236314
	350		4.85	11/7/2013 11:03	-414.4231825	0	0		
	250		3.76	11/7/2013 11:03	-414.4231825	0	0		
	150		3.45	11/7/2013 11:03	-414.4231825	0	0		
	50		0.15	11/7/2013 11:03	-414.4231825	0	0		
106116	450	1104	4.21	11/7/2013 11:03	-414.4231825	-414.416385	0	0.3613595	0.4422355
	350		4.57	11/7/2013 11:03	-414.4231825	0	0		

	250			3.65	11/7/2013 11:03	-414.4231825	0	0		
	150			2.98	11/7/2013 11:03	-414.4231825	0	0		
	50			0.36	11/7/2013 11:03	-414.4231825	0	0		
106111	450		1058	4.73	11/7/2013 11:03	-414.4231825	0	-414.45717	0.5232025	0.6040785
	350			4.65	11/7/2013 11:03	-414.4231825	0	0		
	250			3.83	11/7/2013 11:03	-414.4231825	0	0		
	150			3.43	11/7/2013 11:03	-414.4231825	0	0		
	50			0.53	11/7/2013 11:03	-414.4231825	0	0		
106109	450		1055	4.77	11/7/2013 11:03	-414.4231825	0	-414.4775625	-0.080876	0
	350			4.57	11/7/2013 11:03	-414.4231825	0	0		
	250			4.31	11/7/2013 11:03	-414.4231825	0	0		
	150			3.82	11/7/2013 11:03	-414.4231825	0	0		
	50			-0.07	11/7/2013 11:03	-414.4231825	0	0		
106128	450		1142	4.3	11/7/2013 11:32	-414.226055	0	-414.15808	0.603595	0.784471
	350			4.55	11/7/2013 11:32	-414.226055	0	0		
	250			3.39	11/7/2013 11:32	-414.226055	0	0		
	150			2.88	11/7/2013 11:32	-414.226055	0	0		
	50			0.59	11/7/2013 11:32	-414.226055	0	0		
106117	450		1133	4.24	11/7/2013 11:32	-414.226055	0	-414.2192575	0.6713595	0.8522355
	350			4.24	11/7/2013 11:32	-414.226055	0	0		
	250			3.43	11/7/2013 11:32	-414.226055	0	0		
	150			2.84	11/7/2013 11:32	-414.226055	0	0		
	50			0.67	11/7/2013 11:32	-414.226055	0	0		
106114	450		1139	4.59	11/7/2013 11:32	-414.226055	0	-414.1784725	0.0295165	0.2103925
	350			4.55	11/7/2013 11:32	-414.226055	0	0		
	250			3.5	11/7/2013 11:32	-414.226055	0	0		
	150			3.21	11/7/2013 11:32	-414.226055	0	0		
	50			0.02	11/7/2013 11:32	-414.226055	0	0		
106116	450		1130	3.95	11/7/2013 11:32	-414.226055	-414.23965	0	0.227281	0.408157
	350			4.3	11/7/2013 11:32	-414.226055	0	0		
	250			3.42	11/7/2013 11:32	-414.226055	0	0		
	150			2.76	11/7/2013 11:32	-414.226055	0	0		
	50			0.23	11/7/2013 11:32	-414.226055	0	0		
106111	450		1128	4.48	11/7/2013 11:32	-414.226055	-414.253245	0	0.454562	0.635438
	350			4.44	11/7/2013 11:32	-414.226055	0	0		
	250			3.62	11/7/2013 11:32	-414.226055	0	0		
	150			3.23	11/7/2013 11:32	-414.226055	0	0		
	50			0.46	11/7/2013 11:32	-414.226055	0	0		
106109	450		1124	4.53	11/7/2013 11:32	-414.226055	-414.280435	0	-0.180876	0
	350			4.34	11/7/2013 11:32	-414.226055	0	0		
	250			4.08	11/7/2013 11:32	-414.226055	0	0		
	150			3.61	11/7/2013 11:32	-414.226055	0	0		
	50			-0.17	11/7/2013 11:32	-414.226055	0	0		
106128	450		1215	3.5	11/7/2013 12:05	-413.9337625	-413.8204708	0	0.502658333	0.708519167
	350			4.24	11/7/2013 12:05	-413.9337625	0	0		
	250			3.1	11/7/2013 12:05	-413.9337625	0	0		
	150			2.59	11/7/2013 12:05	-413.9337625	0	0		

	50			0.48	11/7/2013 12:05	-413.9337625	0	0		
106117	450		1203	4.04	11/7/2013 12:05	-413.9337625	0	-413.9564208	0.535468333	0.741329167
	350			3.99	11/7/2013 12:05	-413.9337625	0	0		
	250			3.25	11/7/2013 12:05	-413.9337625	0	0		
	150			2.59	11/7/2013 12:05	-413.9337625	0	0		
	50			0.54	11/7/2013 12:05	-413.9337625	0	0		
106114	450		1210	4.3	11/7/2013 12:05	-413.9337625	-413.8771167	0	-0.068670833	0.13719
	350			4.27	11/7/2013 12:05	-413.9337625	0	0		
	250			3.21	11/7/2013 12:05	-413.9337625	0	0		
	150			2.92	11/7/2013 12:05	-413.9337625	0	0		
	50			-0.08	11/7/2013 12:05	-413.9337625	0	0		
106116	450		1207	3.66	11/7/2013 12:05	-413.9337625	-413.9111042	0	0.104531667	0.3103925
	350			3.81	11/7/2013 12:05	-413.9337625	0	0		
	250			3.09	11/7/2013 12:05	-413.9337625	0	0		
	150			2.4	11/7/2013 12:05	-413.9337625	0	0		
	50			0.1	11/7/2013 12:05	-413.9337625	0	0		
106111	450		1154	4.26	11/7/2013 12:05	-413.9337625	0	-414.0583833	0.325075833	0.530936667
	350			4.21	11/7/2013 12:05	-413.9337625	0	0		
	250			3.4	11/7/2013 12:05	-413.9337625	0	0		
	150			3.02	11/7/2013 12:05	-413.9337625	0	0		
	50			0.35	11/7/2013 12:05	-413.9337625	0	0		
106109	450		1158	4.31	11/7/2013 12:05	-413.9337625	0	-414.0130667	-0.205860833	0
	350			4.09	11/7/2013 12:05	-413.9337625	0	0		
	250			3.84	11/7/2013 12:05	-413.9337625	0	0		
	150			3.38	11/7/2013 12:05	-413.9337625	0	0		
	50			-0.19	11/7/2013 12:05	-413.9337625	0	0		
106128	450		1243	3.65	11/7/2013 12:37	-413.5712292	-413.5032542	0	0.313595	0.53719
	350			3.88	11/7/2013 12:37	-413.5712292	0	0		
	250			2.8	11/7/2013 12:37	-413.5712292	0	0		
	150			2.3	11/7/2013 12:37	-413.5712292	0	0		
	50			0.3	11/7/2013 12:37	-413.5712292	0	0		
106117	450		1235	3.69	11/7/2013 12:37	-413.5712292	0	-413.5938875	0.415468333	0.639063333
	350			3.66	11/7/2013 12:37	-413.5712292	0	0		
	250			2.87	11/7/2013 12:37	-413.5712292	0	0		
	150			2.31	11/7/2013 12:37	-413.5712292	0	0		
	50			0.42	11/7/2013 12:37	-413.5712292	0	0		
106114	450		1241	3.93	11/7/2013 12:37	-413.5712292	-413.5259125	0	-0.200936667	0.022658333
	350			3.89	11/7/2013 12:37	-413.5712292	0	0		
	250			2.85	11/7/2013 12:37	-413.5712292	0	0		
	150			2.55	11/7/2013 12:37	-413.5712292	0	0		
	50			-0.21	11/7/2013 12:37	-413.5712292	0	0		
106116	450		1238	3.33	11/7/2013 12:37	-413.5712292	-413.5599	0	0.002265833	0.225860833
	350			3.68	11/7/2013 12:37	-413.5712292	0	0		
	250			2.86	11/7/2013 12:37	-413.5712292	0	0		
	150			2.12	11/7/2013 12:37	-413.5712292	0	0		
	50			0	11/7/2013 12:37	-413.5712292	0	0		
106111	450		1224	3.94	11/7/2013 12:37	-413.5712292	0	-413.7185083	0.240544167	0.464139167

	350			3.91	11/7/2013 12:37	-413.5712292	0	0		
	250			3.13	11/7/2013 12:37	-413.5712292	0	0		
	150			2.74	11/7/2013 12:37	-413.5712292	0	0		
	50			0.27	11/7/2013 12:37	-413.5712292	0	0		
106109	450		1231	4.01	11/7/2013 12:37	-413.5712292	0	-413.6392042	-0.223595	0
	350			3.73	11/7/2013 12:37	-413.5712292	0	0		
	250			3.56	11/7/2013 12:37	-413.5712292	0	0		
	150			3.08	11/7/2013 12:37	-413.5712292	0	0		
	50			-0.21	11/7/2013 12:37	-413.5712292	0	0		
106128	450		1309	3.46	11/7/2013 13:03	-413.3355825	-413.2947975	0	0.278157	0.589033
	350			3.69	11/7/2013 13:03	-413.3355825	0	0		
	250			2.63	11/7/2013 13:03	-413.3355825	0	0		
	150			2.13	11/7/2013 13:03	-413.3355825	0	0		
	50			0.27	11/7/2013 13:03	-413.3355825	0	0		
106117	450		1302	3.45	11/7/2013 13:03	-413.3355825	0	-413.34238	0.3586405	0.6695165
	350			3.4	11/7/2013 13:03	-413.3355825	0	0		
	250			2.65	11/7/2013 13:03	-413.3355825	0	0		
	150			2.12	11/7/2013 13:03	-413.3355825	0	0		
	50			0.36	11/7/2013 13:03	-413.3355825	0	0		
106114	450		1307	3.71	11/7/2013 13:03	-413.3355825	-413.3083925	0	-0.204562	0.106314
	350			3.7	11/7/2013 13:03	-413.3355825	0	0		
	250			2.7	11/7/2013 13:03	-413.3355825	0	0		
	150			2.42	11/7/2013 13:03	-413.3355825	0	0		
	50			-0.21	11/7/2013 13:03	-413.3355825	0	0		
106116	450		1304	3.14	11/7/2013 13:03	-413.3355825	-413.328785	0	-0.0486405	0.2622355
	350			3.44	11/7/2013 13:03	-413.3355825	0	0		
	250			2.62	11/7/2013 13:03	-413.3355825	0	0		
	150			1.94	11/7/2013 13:03	-413.3355825	0	0		
	50			-0.05	11/7/2013 13:03	-413.3355825	0	0		
106111	450		1258	3.61	11/7/2013 13:03	-413.3355825	0	-413.36957	0.1532025	0.4640785
	350			3.58	11/7/2013 13:03	-413.3355825	0	0		
	250			2.82	11/7/2013 13:03	-413.3355825	0	0		
	150			2.46	11/7/2013 13:03	-413.3355825	0	0		
	50			0.16	11/7/2013 13:03	-413.3355825	0	0		
106109	450		1255	3.74	11/7/2013 13:03	-413.3355825	0	-413.3899625	-0.310876	0
	350			3.54	11/7/2013 13:03	-413.3355825	0	0		
	250			3.28	11/7/2013 13:03	-413.3355825	0	0		
	150			2.81	11/7/2013 13:03	-413.3355825	0	0		
	50			-0.3	11/7/2013 13:03	-413.3355825	0	0		
106128	450		1344	3.26	11/7/2013 13:37	-413.1044675	-413.056885	0	0.2995165	0.60719
	350			3.5	11/7/2013 13:37	-413.1044675	0	0		
	250			2.45	11/7/2013 13:37	-413.1044675	0	0		
	150			2.01	11/7/2013 13:37	-413.1044675	0	0		
	50			0.29	11/7/2013 13:37	-413.1044675	0	0		
106117	450		1335	3.23	11/7/2013 13:37	-413.1044675	0	-413.1180625	0.357281	0.6649545
	350			3.2	11/7/2013 13:37	-413.1044675	0	0		
	250			2.47	11/7/2013 13:37	-413.1044675	0	0		

	150			1.97	11/7/2013 13:37	-413.1044675	0	0		
	50			0.36	11/7/2013 13:37	-413.1044675	0	0		
106114	450		1341	3.51	11/7/2013 13:37	-413.1044675	-413.0772775	0	-0.174562	0.1331115
	350			3.5	11/7/2013 13:37	-413.1044675	0	0		
	250			2.53	11/7/2013 13:37	-413.1044675	0	0		
	150			2.27	11/7/2013 13:37	-413.1044675	0	0		
	50			-0.18	11/7/2013 13:37	-413.1044675	0	0		
106116	450		1338	2.93	11/7/2013 13:37	-413.1044675	-413.09767	0	-0.0386405	0.269033
	350			3.25	11/7/2013 13:37	-413.1044675	0	0		
	250			2.42	11/7/2013 13:37	-413.1044675	0	0		
	150			1.8	11/7/2013 13:37	-413.1044675	0	0		
	50			-0.04	11/7/2013 13:37	-413.1044675	0	0		
106111	450		1330	3.37	11/7/2013 13:37	-413.1044675	0	-413.15205	0.1304835	0.438157
	350			3.34	11/7/2013 13:37	-413.1044675	0	0		
	250			2.6	11/7/2013 13:37	-413.1044675	0	0		
	150			2.27	11/7/2013 13:37	-413.1044675	0	0		
	50			0.14	11/7/2013 13:37	-413.1044675	0	0		
106109	450		1324	3.5	11/7/2013 13:37	-413.1044675	0	-413.192835	-0.3076735	0
	350			3.3	11/7/2013 13:37	-413.1044675	0	0		
	250			3.05	11/7/2013 13:37	-413.1044675	0	0		
	150			2.59	11/7/2013 13:37	-413.1044675	0	0		
	50			-0.29	11/7/2013 13:37	-413.1044675	0	0		
106128	450		1411	3.14	11/7/2013 14:06	-412.9798467	-412.9685175	0	0.262265833	0.475891167
	350			3.34	11/7/2013 14:06	-412.9798467	0	0		
	250			2.3	11/7/2013 14:06	-412.9798467	0	0		
	150			1.87	11/7/2013 14:06	-412.9798467	0	0		
	50			0.26	11/7/2013 14:06	-412.9798467	0	0		
106117	450		1405	3.08	11/7/2013 14:06	-412.9798467	0	-412.9821125	0.319546833	0.533172167
	350			3.04	11/7/2013 14:06	-412.9798467	0	0		
	250			2.34	11/7/2013 14:06	-412.9798467	0	0		
	150			1.84	11/7/2013 14:06	-412.9798467	0	0		
	50			0.32	11/7/2013 14:06	-412.9798467	0	0		
106114	450		1409	3.34	11/7/2013 14:06	-412.9798467	-412.9730492	0	-0.1886405	0.024984833
	350			3.31	11/7/2013 14:06	-412.9798467	0	0		
	250			2.37	11/7/2013 14:06	-412.9798467	0	0		
	150			2.1	11/7/2013 14:06	-412.9798467	0	0		
	50			-0.19	11/7/2013 14:06	-412.9798467	0	0		
106116	450		1407	2.8	11/7/2013 14:06	-412.9798467	-412.9775808	0	-0.039546833	0.1740785
	350			3.07	11/7/2013 14:06	-412.9798467	0	0		
	250			2.27	11/7/2013 14:06	-412.9798467	0	0		
	150			1.67	11/7/2013 14:06	-412.9798467	0	0		
	50			-0.04	11/7/2013 14:06	-412.9798467	0	0		
106111	450		1401	3.21	11/7/2013 14:06	-412.9798467	0	-412.9911758	0.147734167	0.3613595
	350			3.2	11/7/2013 14:06	-412.9798467	0	0		
	250			2.46	11/7/2013 14:06	-412.9798467	0	0		
	150			2.14	11/7/2013 14:06	-412.9798467	0	0		
	50			0.15	11/7/2013 14:06	-412.9798467	0	0		

106109	450	1358	3.36	11/7/2013 14:06	-412.9798467	0	-412.9979733	-0.213625333	0
	350		3.16	11/7/2013 14:06	-412.9798467	0	0		
	250		2.91	11/7/2013 14:06	-412.9798467	0	0		
	150		2.43	11/7/2013 14:06	-412.9798467	0	0		
	50		-0.21	11/7/2013 14:06	-412.9798467	0	0		
106128	450	1442	2.97	11/7/2013 14:34	-412.9164033	-412.8982767	0	0.243625333	0.478157
	350		3.17	11/7/2013 14:34	-412.9164033	0	0		
	250		2.15	11/7/2013 14:34	-412.9164033	0	0		
	150		1.75	11/7/2013 14:34	-412.9164033	0	0		
	50		0.24	11/7/2013 14:34	-412.9164033	0	0		
106117	450	1432	2.93	11/7/2013 14:34	-412.9164033	0	-412.920935	0.289093667	0.523625333
	350		2.89	11/7/2013 14:34	-412.9164033	0	0		
	250		2.17	11/7/2013 14:34	-412.9164033	0	0		
	150		1.72	11/7/2013 14:34	-412.9164033	0	0		
	50		0.29	11/7/2013 14:34	-412.9164033	0	0		
106114	450	1438	3.16	11/7/2013 14:34	-412.9164033	-412.90734	0	-0.198187333	0.036344333
	350		3.14	11/7/2013 14:34	-412.9164033	0	0		
	250		2.21	11/7/2013 14:34	-412.9164033	0	0		
	150		1.98	11/7/2013 14:34	-412.9164033	0	0		
	50		-0.2	11/7/2013 14:34	-412.9164033	0	0		
106116	450	1435	2.64	11/7/2013 14:34	-412.9164033	-412.9141375	0	-0.069546833	0.164984833
	350		2.91	11/7/2013 14:34	-412.9164033	0	0		
	250		2.12	11/7/2013 14:34	-412.9164033	0	0		
	150		1.56	11/7/2013 14:34	-412.9164033	0	0		
	50		-0.07	11/7/2013 14:34	-412.9164033	0	0		
106111	450	1427	3.06	11/7/2013 14:34	-412.9164033	0	-412.9322642	0.126827833	0.3613595
	350		3.05	11/7/2013 14:34	-412.9164033	0	0		
	250		2.32	11/7/2013 14:34	-412.9164033	0	0		
	150		2.02	11/7/2013 14:34	-412.9164033	0	0		
	50		0.13	11/7/2013 14:34	-412.9164033	0	0		
106109	450	1424	3.23	11/7/2013 14:34	-412.9164033	0	-412.9390617	-0.234531667	0
	350		3	11/7/2013 14:34	-412.9164033	0	0		
	250		2.76	11/7/2013 14:34	-412.9164033	0	0		
	150		2.3	11/7/2013 14:34	-412.9164033	0	0		
	50		-0.23	11/7/2013 14:34	-412.9164033	0	0		
106128	450	1510	2.87	11/7/2013 15:05	-412.812175	-412.7895167	0	0.234531667	0.451782333
	350		3.06	11/7/2013 15:05	-412.812175	0	0		
	250		2.04	11/7/2013 15:05	-412.812175	0	0		
	150		1.65	11/7/2013 15:05	-412.812175	0	0		
	50		0.23	11/7/2013 15:05	-412.812175	0	0		
106117	450	1504	2.79	11/7/2013 15:05	-412.812175	0	-412.8167067	0.279093667	0.496344333
	350		2.74	11/7/2013 15:05	-412.812175	0	0		
	250		2.04	11/7/2013 15:05	-412.812175	0	0		
	150		1.61	11/7/2013 15:05	-412.812175	0	0		
	50		0.28	11/7/2013 15:05	-412.812175	0	0		
106114	450	1508	3.05	11/7/2013 15:05	-412.812175	-412.79858	0	-0.177281	0.039969667
	350		3.02	11/7/2013 15:05	-412.812175	0	0		

	250			2.1	11/7/2013 15:05	-412.812175	0	0		
	150			1.84	11/7/2013 15:05	-412.812175	0	0		
	50			-0.18	11/7/2013 15:05	-412.812175	0	0		
106116	450		1506	2.52	11/7/2013 15:05	-412.812175	-412.8076433	0	-0.049093667	0.168157
	350			2.76	11/7/2013 15:05	-412.812175	0	0		
	250			2.02	11/7/2013 15:05	-412.812175	0	0		
	150			1.45	11/7/2013 15:05	-412.812175	0	0		
	50			-0.05	11/7/2013 15:05	-412.812175	0	0		
106111	450		1459	2.9	11/7/2013 15:05	-412.812175	0	-412.839365	0.114562	0.331812667
	350			2.87	11/7/2013 15:05	-412.812175	0	0		
	250			2.19	11/7/2013 15:05	-412.812175	0	0		
	150			1.89	11/7/2013 15:05	-412.812175	0	0		
	50			0.12	11/7/2013 15:05	-412.812175	0	0		
106109	450		1457	3.05	11/7/2013 15:05	-412.812175	0	-412.8484283	-0.217250667	0
	350			2.84	11/7/2013 15:05	-412.812175	0	0		
	250			2.59	11/7/2013 15:05	-412.812175	0	0		
	150			2.13	11/7/2013 15:05	-412.812175	0	0		
	50			-0.21	11/7/2013 15:05	-412.812175	0	0		
106128	450		1541	2.79	11/7/2013 15:34	-412.6807567	-412.649035	0	0.286344333	0.445407667
	350			3	11/7/2013 15:34	-412.6807567	0	0		
	250			2.01	11/7/2013 15:34	-412.6807567	0	0		
	150			1.64	11/7/2013 15:34	-412.6807567	0	0		
	50			0.28	11/7/2013 15:34	-412.6807567	0	0		
106117	450		1532	2.75	11/7/2013 15:34	-412.6807567	0	-412.68982	0.338187333	0.497250667
	350			2.7	11/7/2013 15:34	-412.6807567	0	0		
	250			2.04	11/7/2013 15:34	-412.6807567	0	0		
	150			1.61	11/7/2013 15:34	-412.6807567	0	0		
	50			0.34	11/7/2013 15:34	-412.6807567	0	0		
106114	450		1538	2.99	11/7/2013 15:34	-412.6807567	-412.66263	0	-0.126374667	0.032688667
	350			2.95	11/7/2013 15:34	-412.6807567	0	0		
	250			2.06	11/7/2013 15:34	-412.6807567	0	0		
	150			1.83	11/7/2013 15:34	-412.6807567	0	0		
	50			-0.13	11/7/2013 15:34	-412.6807567	0	0		
106116	450		1535	2.48	11/7/2013 15:34	-412.6807567	-412.676225	0	0.000906333	0.159969667
	350			2.75	11/7/2013 15:34	-412.6807567	0	0		
	250			1.99	11/7/2013 15:34	-412.6807567	0	0		
	150			1.44	11/7/2013 15:34	-412.6807567	0	0		
	50			0	11/7/2013 15:34	-412.6807567	0	0		
106111	450		1527	2.85	11/7/2013 15:34	-412.6807567	0	-412.7124783	0.173655667	0.332719
	350			2.81	11/7/2013 15:34	-412.6807567	0	0		
	250			2.12	11/7/2013 15:34	-412.6807567	0	0		
	150			1.86	11/7/2013 15:34	-412.6807567	0	0		
	50			0.18	11/7/2013 15:34	-412.6807567	0	0		
106109	450		1524	2.95	11/7/2013 15:34	-412.6807567	0	-412.7260733	-0.159063333	0
	350			2.78	11/7/2013 15:34	-412.6807567	0	0		
	250			2.54	11/7/2013 15:34	-412.6807567	0	0		
	150			2.09	11/7/2013 15:34	-412.6807567	0	0		

	50		-0.15	11/7/2013 15:34	-412.6807567	0	0		
106128	450	1608	2.75	11/7/2013 16:02	-412.58106	-412.567465	0	0.272719	0.396344333
	350		2.92	11/7/2013 16:02	-412.58106	0	0		
	250		1.97	11/7/2013 16:02	-412.58106	0	0		
	150		1.55	11/7/2013 16:02	-412.58106	0	0		
	50		0.27	11/7/2013 16:02	-412.58106	0	0		
106117	450	1601	2.67	11/7/2013 16:02	-412.58106	0	-412.5833258	0.329546833	0.453172167
	350		2.64	11/7/2013 16:02	-412.58106	0	0		
	250		1.97	11/7/2013 16:02	-412.58106	0	0		
	150		1.56	11/7/2013 16:02	-412.58106	0	0		
	50		0.33	11/7/2013 16:02	-412.58106	0	0		
106114	450	1606	2.93	11/7/2013 16:02	-412.58106	-412.5719967	0	-0.088187333	0.035438
	350		2.9	11/7/2013 16:02	-412.58106	0	0		
	250		2.01	11/7/2013 16:02	-412.58106	0	0		
	150		1.79	11/7/2013 16:02	-412.58106	0	0		
	50		-0.09	11/7/2013 16:02	-412.58106	0	0		
106116	450	1603	2.41	11/7/2013 16:02	-412.58106	-412.5787942	0	0.030453167	0.1540785
	350		2.06	11/7/2013 16:02	-412.58106	0	0		
	250		1.92	11/7/2013 16:02	-412.58106	0	0		
	150		1.42	11/7/2013 16:02	-412.58106	0	0		
	50		0.03	11/7/2013 16:02	-412.58106	0	0		
106111	450	1557	2.75	11/7/2013 16:02	-412.58106	0	-412.5923892	0.177734167	0.3013595
	350		2.73	11/7/2013 16:02	-412.58106	0	0		
	250		2.06	11/7/2013 16:02	-412.58106	0	0		
	150		1.8	11/7/2013 16:02	-412.58106	0	0		
	50		0.18	11/7/2013 16:02	-412.58106	0	0		
106109	450	1554	2.92	11/7/2013 16:02	-412.58106	0	-412.5991867	-0.123625333	0
	350		2.69	11/7/2013 16:02	-412.58106	0	0		
	250		2.44	11/7/2013 16:02	-412.58106	0	0		
	150		2	11/7/2013 16:02	-412.58106	0	0		
	50		-0.12	11/7/2013 16:02	-412.58106	0	0		
106128	450	1637	2.64	11/7/2013 16:31	-412.5153508	-412.5017558	0	0.222719	0.345891167
	350		2.8	11/7/2013 16:31	-412.5153508	0	0		
	250		1.83	11/7/2013 16:31	-412.5153508	0	0		
	150		1.48	11/7/2013 16:31	-412.5153508	0	0		
	50		0.22	11/7/2013 16:31	-412.5153508	0	0		
106117	450	1630	4.83	11/7/2013 16:31	-412.5153508	0	-412.5176167	0.589546833	0.712719
	350		4.75	11/7/2013 16:31	-412.5153508	0	0		
	250		3.53	11/7/2013 16:31	-412.5153508	0	0		
	150		2.78	11/7/2013 16:31	-412.5153508	0	0		
	50		0.59	11/7/2013 16:31	-412.5153508	0	0		
106114	450	1635	2.79	11/7/2013 16:31	-412.5153508	-412.5062875	0	-0.108187333	0.014984833
	350		2.76	11/7/2013 16:31	-412.5153508	0	0		
	250		1.89	11/7/2013 16:31	-412.5153508	0	0		
	150		1.67	11/7/2013 16:31	-412.5153508	0	0		
	50		-0.11	11/7/2013 16:31	-412.5153508	0	0		
106116	450	1632	4.31	11/7/2013 16:31	-412.5153508	-412.513085	0	0.000453167	0.123625333

	350		4.76	11/7/2013 16:31	-412.5153508	0	0		
	250		3.42	11/7/2013 16:31	-412.5153508	0	0		
	150		2.48	11/7/2013 16:31	-412.5153508	0	0		
	50		0	11/7/2013 16:31	-412.5153508	0	0		
106111	450	1626	2.68	11/7/2013 16:31	-412.5153508	0	-412.52668	0.187734167	0.310906333
	350		2.65	11/7/2013 16:31	-412.5153508	0	0		
	250		1.97	11/7/2013 16:31	-412.5153508	0	0		
	150		1.73	11/7/2013 16:31	-412.5153508	0	0		
	50		0.19	11/7/2013 16:31	-412.5153508	0	0		
106109	450	1624	2.83	11/7/2013 16:31	-412.5153508	0	-412.5312117	-0.123172167	0
	350		2.62	11/7/2013 16:31	-412.5153508	0	0		
	250		2.38	11/7/2013 16:31	-412.5153508	0	0		
	150		1.93	11/7/2013 16:31	-412.5153508	0	0		
	50		-0.12	11/7/2013 16:31	-412.5153508	0	0		
106128	450	1706	2.5	11/7/2013 17:08	-412.4723	0	-412.4723	0.21	0.37
	350		2.67	11/7/2013 17:08	-412.4723	0	0		
	250		1.73	11/7/2013 17:08	-412.4723	0	0		
	150		1.4	11/7/2013 17:08	-412.4723	0	0		
	50		0.21	11/7/2013 17:08	-412.4723	0	0		
106117	450	1715	2.35	11/7/2013 17:08	-412.4723	-412.4723	0	0.27	0.43
	350		2.27	11/7/2013 17:08	-412.4723	0	0		
	250		1.7	11/7/2013 17:08	-412.4723	0	0		
	150		1.33	11/7/2013 17:08	-412.4723	0	0		
	50		0.27	11/7/2013 17:08	-412.4723	0	0		
106114	450	1709	2.24	11/7/2013 17:08	-412.4723	-412.4723	0	-0.14	0.02
	350		2.6	11/7/2013 17:08	-412.4723	0	0		
	250		1.75	11/7/2013 17:08	-412.4723	0	0		
	150		1.55	11/7/2013 17:08	-412.4723	0	0		
	50		-0.14	11/7/2013 17:08	-412.4723	0	0		
106116	450	1712	2.14	11/7/2013 17:08	-412.4723	-412.4723	0	-0.02	0.14
	350		2.36	11/7/2013 17:08	-412.4723	0	0		
	250		1.68	11/7/2013 17:08	-412.4723	0	0		
	150		1.21	11/7/2013 17:08	-412.4723	0	0		
	50		-0.02	11/7/2013 17:08	-412.4723	0	0		
106111	450	1658	2.48	11/7/2013 17:08	-412.4723	0	-412.4723	0.12	0.28
	350		2.48	11/7/2013 17:08	-412.4723	0	0		
	250		1.8	11/7/2013 17:08	-412.4723	0	0		
	150		1.58	11/7/2013 17:08	-412.4723	0	0		
	50		0.12	11/7/2013 17:08	-412.4723	0	0		
106109	450	1654	2.66	11/7/2013 17:08	-412.4723	0	-412.4723	-0.16	0
	350		2.42	11/7/2013 17:08	-412.4723	0	0		
	250		2.3	11/7/2013 17:08	-412.4723	0	0		
	150		1.77	11/7/2013 17:08	-412.4723	0	0		
	50		-0.16	11/7/2013 17:08	-412.4723	0	0		

Well ID	Monitoring	10/4/2013_Time	Value	106109-450 measured	Applied Pressure
106150	1	0854	36.5	4.83	31.67
106150	2	0924	38	5.08	32.92
106150	3	954	37	5	32
106150	4	1024	37	4.96	32.04
106150	5	1054	37	4.77	32.23
106150	6	1124	31	4.53	26.47
106150	7	1154	31.5	4.31	27.19
106150	8	1224	27.5	4.01	23.49
106150	9	1254	27.5	3.74	23.76
106150	10	1324	28	3.5	24.5
106150	11	1354	28	3.36	24.64
106150	12	1424	27.5	3.23	24.27
106150	13	1454	27.5	3.05	24.45
106150	14	1524	28	2.95	25.05
106150	15	1554	28	2.92	25.08
106150	16	1624	27.5	2.83	24.67
106150	17	1654	27.5	2.66	24.84
					27.01588

	106114	106111	106117	106128	106116	106109	106114	106111	106117	106128	106116	106109	106114	106111	106117	106128	106116	106109	106114
depth	450	450	450	450	450	450	350	350	350	350	350	350	250	250	250	250	250	250	150
Distance to 106155	212.3237	332.451763	160.5536	53.05616	246.1885	895.2448	248.3573	356.5692	207.7438	139.3376	278.7162	904.5941	317.2323	404.4028	281.9405	236.6748	328.5646	924.4232	393.5497
11/7/2013 8:06	0.692539	0.6404528	0.822146	0.360787	0.121693		0.602539	0.370453	0.462146	0.310787	0.551693		-0.41852	-0.43224	-0.51792	-0.55121	-0.57568		-0.23708
11/7/2013 9:36	0.226978	0.150876	-0.00825	-0.0065	-0.45172		0.396978	0.180876	-0.09825	0.443504	0.148278		-0.52843	-0.44366	-0.58731	-0.59462	-0.6335		-0.31573
11/7/2013 10:01	0.237402	0.0956496	-0.0713	-0.01825	-0.47695		0.387402	0.17565	0.038701	0.441752	0.123051		-0.50985	-0.43254	-0.59492	-0.56731	-0.64239		-0.29858
11/7/2013 10:37	-0.03302	-0.0269488	-0.17607	-0.18432	-0.58955		0.306978	0.123051	-0.00607	0.335679	0.040453		-0.55843	-0.47239	-0.63604	-0.64335	-0.66224		-0.37573
11/7/2013 11:08	0.198307	-0.0204232	-0.11432	-0.05864	-0.50127		0.358307	0.099577	0.015679	0.411358	0.05873		-0.50432	-0.46858	-0.58335	-0.59671	-0.62574		-0.31861
11/7/2013 11:32	0.157884	-0.0238976	-0.23127	-0.11254	-0.54085		0.307884	0.126102	-0.04127	0.327461	-0.00085		-0.5229	-0.44477	-0.61574	-0.62148	-0.63716		-0.33576
11/7/2013 12:01	0.120512	-0.093504	-0.21562	-0.62511	-0.55212		0.310512	0.076496	-0.04562	0.334892	-0.18212		-0.55387	-0.46538	-0.55828	-0.63215	-0.6929		-0.37435
11/7/2013 12:37	0.02876	-0.146132	-0.2765	-0.22949	-0.60387		0.26876	0.103868	-0.0265	0.280512	0.026132		-0.64656	-0.47441	-0.66462	-0.68387	-0.65559		-0.45863
11/7/2013 13:00	0.048307	-0.1104232	-0.24432	-0.18864	-0.54127		0.238307	0.059577	-0.09432	0.241358	-0.04127		-0.53432	-0.44858	-0.60335	-0.59671	-0.62574		-0.33861
11/7/2013 13:37	0.120935	-0.0908464	-0.19822	-0.10949	-0.47864		0.310935	0.079154	-0.02822	0.330512	0.041358		-0.45529	-0.42716	-0.53813	-0.52387	-0.57671		-0.2472
11/7/2013 14:06	0.003927	-0.1434744	-0.26477	-0.19172	-0.54042		0.173927	0.046526	-0.10477	0.208278	-0.07042		-0.52604	-0.44619	-0.56112	-0.5935	-0.62858		-0.3143
11/7/2013 14:34	-0.03955	-0.1634744	-0.2826	-0.22085	-0.56607		0.170453	0.056526	-0.0926	0.209154	-0.06607		-0.53224	-0.43619	-0.57985	-0.58716	-0.62604		-0.30002
11/7/2013 15:05	0.047854	-0.1412992	-0.22955	-0.12344	-0.49085		0.227854	0.038701	-0.06955	0.276555	-0.04085		-0.46208	-0.39492	-0.53224	-0.51701	-0.54716		-0.2586
11/7/2013 15:34	0.100906	-0.0869488	-0.1652	-0.08604	-0.42215		0.230906	0.043051	-0.0452	0.293957	0.017854		-0.44447	-0.41239	-0.4797	-0.48686	-0.52208		-0.22003
11/7/2013 16:02	0.036102	-0.1634744	-0.23477	-0.13955	-0.49042		0.236102	0.046526	-0.03477	0.260453	-0.61042		-0.41477	-0.37619	-0.46112	-0.45224	-0.50858		-0.19287
11/7/2013 16:31	-0.01607	-0.1456496	2.013051	-0.16172	1.497402		0.163927	0.03435	2.143051	0.208278	2.157402		-0.47604	-0.40746	1.157613	-0.5335	1.050151		-0.2443
11/7/2013 17:08	-0.42	-0.18	-0.31	-0.16	-0.52		0.18	0.06	-0.15	0.25	-0.06		-0.55	-0.5	-0.6	-0.57	-0.62		-0.22
	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

update values after corrections have been made on previous tabs

106111	106117	106128	106116	106109	106114	106111	106117	106128	106116	106109	
150	150	150	150	150	50	50	50	50	50	50	
468.9793	369.3558	334.5892	405.3674	954.7897	481.1251	545.1666	461.6532	434.9885	496.6062	994.0942	
-0.33002	-0.6714	-0.59136	-0.73139		0.375529	0.706344	1.01003	0.970997	0.483686		31.67
-0.36286	-0.70573	-0.64145	-0.80144		0.267704	0.692266	0.924532	0.909063	0.495891		32.92
-0.37285	-0.72429	-0.64573	-0.84144		0.283625	0.699094	0.951813	0.914532	0.492719		32
-0.40144	-0.7543	-0.72002	-0.88002		0.227704	0.652719	0.924985	0.849516	0.436344		32.04
-0.37715	-0.69002	-0.65005	-0.80146		0.236314	0.604078	0.919516	0.829033	0.442235		32.23
-0.36287	-0.73146	-0.65292	-0.82431		0.210393	0.635438	0.852235	0.784471	0.408157		26.47
-0.38855	-0.75431	-0.66866	-0.91576		0.13719	0.530937	0.741329	0.708519	0.310392		27.19
-0.38996	-0.74145	-0.69435	-0.91004		0.022658	0.464139	0.639063	0.53719	0.225861		23.49
-0.33715	-0.66002	-0.62005	-0.83146		0.106314	0.464078	0.669516	0.589033	0.262235		23.76
-0.29431	-0.57289	-0.49435	-0.73005		0.133112	0.438157	0.664954	0.60719	0.269033		24.5
-0.28572	-0.58001	-0.54144	-0.74715		0.024985	0.36136	0.533172	0.475891	0.174079		24.64
-0.27572	-0.56858	-0.52431	-0.7243		0.036344	0.361359	0.523625	0.478157	0.164985		24.27
-0.23429	-0.50002	-0.44289	-0.65431		0.03997	0.331813	0.496344	0.451782	0.168157		24.45
-0.22144	-0.45716	-0.40147	-0.6186		0.032689	0.332719	0.497251	0.445408	0.15997		25.05
-0.19572	-0.43001	-0.43002	-0.56715		0.035438	0.301359	0.453172	0.396344	0.154078		25.08
-0.19715	0.858565	-0.43144	0.56142		0.014985	0.310906	0.712719	0.345891	0.123625		24.67
-0.19	-0.44	-0.37	-0.56		0.02	0.28	0.43	0.37	0.14		24.84
x	x	x	x	x	x	x	x	x	x	x	x

well	depth	distance	average va	corrected vacuum because of negative
106114	450	212.3237	0.088928	0.779953
106111	450	332.4518	-0.03821	0.652819
106117	450	160.5536	-0.01103	0.679993
106128	450	53.05616	-0.13268	0.558349
106116	450	246.1885	-0.36159	0.329435
106114	350	248.3573	0.286575	0.977601
106111	350	356.5692	0.101205	0.792231
106117	350	207.7438	0.107202	0.798228
106128	350	139.3376	0.303794	0.994819
106116	350	278.7162	0.123115	0.814141
106114	250	317.2323	-0.50813	0.1829
106111	250	404.4028	-0.44018	0.250846
106117	250	281.9405	-0.468	0.223021
106128	250	236.6748	-0.57362	0.117405
106116	250	328.5646	-0.51353	0.1775
106114	150	393.5497	-0.29708	0.393943
106111	150	468.9793	-0.30689	0.384133
106117	150	369.3558	-0.53665	0.154374
106128	150	334.5892	-0.56003	0.130997
106116	150	405.3674	-0.68103	0.01
106114	50	481.1251	0.129703	0.820729
106111	50	545.1666	0.480398	1.171424
106117	50	461.6532	0.702603	1.393629
106128	50	434.9885	0.627236	1.318262
106116	50	496.6062	0.288909	0.979934
106109	50	994.0942		
		0	27.01588	27.70691
		600	27.01588	27.70691
		0	0.810476	0.831207
		600	0.810476	0.831207
changes have been made				
				0.3
				0.3

APPENDIX D

Data Quality Report

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ACRONYMS AND ABBREVIATIONS

%	percent
CARB	California Air Resources Board
CCV	continuing calibration verification
DoD	U.S. Department of Defense
EDB	ethylene dibromide
EPA	U.S. Environmental Protection Agency
KAFB	Kirtland Air Force Base
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LOQ	limit of quantitation
QAPjP	Quality Assurance Project Plan
QC	quality control
QSM	Quality Systems Manual
RPD	relative percent difference
SDG	sample delivery group
SVE	soil-vapor extraction
USACE	U.S. Army Corps of Engineers
VOC	volatile organic compound

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D. DATA QUALITY EVALUATION REPORT – FOURTH QUARTER 2013 SVE PILOT TEST SOIL VAPOR MONITORING EVENT

1. LABORATORY DATA QUALITY SUMMARY

This laboratory data quality summary describes the findings of the data review for the Fourth Quarter 2013 Soil-Vapor Extraction (SVE) Pilot Test soil vapor monitoring event and is provided to document the quality of the analytical data used in the *Soil-Vapor Extraction System Pilot Test Report, Bulk Fuels Facility Spill, Solid Waste Management Units ST-106 and SS-111*. Sampling procedures and overall quality control (QC) and quality assurance protocols for the Fourth Quarter 2013 SVE Pilot Test soil vapor monitoring event are presented in the *Quality Assurance Project Plan, Bulk Fuels Facility Spill, Solid Waste Management Units ST-106 and SS-111, Kirtland Air Force Base, Albuquerque, New Mexico* (U. S. Army Corps of Engineers [USACE], 2011).

During the period from October 3 through November 7, 2013, 14 soil vapor samples and one field duplicate were collected and submitted to ALS Laboratories, Inc. in Simi Valley, California, for the following analyses:

- Volatile Organic Compounds (VOCs) – U. S. Environmental Protection Agency (EPA) Method TO15; and
- Ethylene dibromide (EDB) – California Air Resources Board (CARB) Method 422

The laboratory holds a current U. S. Department of Defense (DoD) Environmental Laboratory Accreditation Program certification to perform the VOC analysis.

All analytical results for the Fourth Quarter 2013 SVE Pilot Test soil vapor monitoring event were submitted in three sample delivery groups (SDGs). Appendix D – Table 1 (provided at the end of this report) summarizes sample locations; sample dates, sample numbers; and SDG numbers. An EPA Level III data review was performed on the analytical results for the three SDGs for the Fourth Quarter 2013 SVE Pilot Test soil vapor monitoring event. The review was performed in accordance with the guidelines and control criteria specified in the following documents:

- The site-specific Bulk Fuels Facility Spill Quality Assurance Project Plan (QAPjP) (USACE, 2011);
- *DoD Quality Systems Manual for Environmental Laboratories, Version 4. 2* (DoD, 2010);
- *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air; Compendium of Method TO-15, Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially - Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)* (EPA, 1999);
- *Method 422. Determination of Volatile Organic Compounds in Emissions from Stationary Sources* (CARB, 1991)
- *Environmental Quality – Guidance for Evaluating Performance-Based Chemical Data,* EM 200-1-10, (USACE, 2005); and
- *USEPA Contract Laboratory Program, National Functional Guidelines for Superfund Organic Methods Data Review* (EPA, 2008).

The following QC elements were included in the EPA Level III data review:

- Sample conditions and analysis holding times;
- Laboratory method blanks;
- Surrogate recoveries;
- Laboratory control sample (LCS)/laboratory control sample duplicate (LCSD) recoveries;
- Relative percent differences (RPDs);
- Initial calibration;
- Continuing calibration verifications (CCVs);
- Trip blanks;
- SUMMA canister certification; and
- Field duplicates.

Analytical data were reviewed in terms of precision, bias, representativeness, comparability, and completeness as follows:

- *Bias* is demonstrated by recovery of target analytes from fortified blank LCS/LCSDs. For organic methods, bias is also demonstrated through recovery of surrogates from each field and QC sample. The recovery of target analytes from fortified samples is compared with the acceptance criteria defined in the QAPjP (USACE, 2011) and DoD Quality Systems Manual (QSM) (DoD, 2010). When the acceptance criteria are not available in the QAPjP or DoD QSM, the results are compared with the laboratory in-house control limits. When these criteria are not met, the data are qualified accordingly.
- *Precision* is expressed as the RPD between the results of replicate sample analyses, that is, sample duplicates and LCSDs. When analyte RPDs exceed the acceptance criteria, the data are qualified accordingly.
- *Representativeness* of the samples submitted for analysis is ensured by adherence to standard sampling techniques and protocols.
- *Comparability* of sample results is ensured through the use of approved sampling and analysis methods.
- *Completeness* is expressed as a ratio of the number of usable data to the total number of analytical results.

The following sections present the EPA Level III data review findings. The discussion focuses on soil vapor sample results that are used for project decisions.

1.1 Reason Codes

1.1.1 Sample Conditions and Analysis Holding Times (Reason Code H)

During the Fourth Quarter 2013 SVE Pilot Test soil vapor monitoring event, samples for VOC and EDB analyses were collected in 6 L SUMMA canisters. Sample conditions were verified upon sample receipt at the laboratory. As documented on the laboratory sample receipt forms, all SUMMA canisters were received intact at the laboratory. Vacuum for each SUMMA canister was also measured and recorded by the laboratory and found to be acceptable.

Sample holding times were evaluated by comparing the sample collection dates to the sample analysis dates. Analysis holding times were reviewed for all samples to determine the validity of the sample results. All samples for the VOC and EDB analyses met the 30 - day analysis holding time requirement.

1.1.2 Laboratory Method Blanks (Reason Code B1)

The field sample results were evaluated with respect to the laboratory method blank prepared and analyzed for each analytical batch and for each analytical method. Positive detections of VOCs and EDB were observed in two laboratory method blanks. Specific laboratory contaminants, detected levels and their limits of quantitation (LOQs) are presented below:

Analytical Method	Laboratory QC Batch #	Contaminant	Contaminant Level (ppbv)	LOQ (ppbv)
EPA TO15	P131015-MB	Naphthalene	0.039	0.095
		Hexachlorobutadiene	0.026	0.047
CARB 422	P1305066-MB	EDB	0.11	0.5

ppbv parts per billion by volume

Based on the DoD QSM requirements (2010), laboratory method blank concentrations are considered acceptable when contaminant levels in the blank are less than one-half the LOQ for target analytes and less than the LOQ for common laboratory contaminants, such as acetone and methylene chloride. As indicated in the preceding table, the laboratory method blank levels for the analytes naphthalene and EDB were below one-half the LOQ and thus acceptable, while the blank level for the analyte hexachlorobutadiene was marginally above the acceptance criteria.

The analytes naphthalene, hexachlorobutadiene, and EDB in vapor samples processed with the blanks were either not detected or their concentrations in samples far exceeded five times the level reported in the corresponding laboratory method blank, and therefore the data quality of the sample results is not

affected by the laboratory method blank detections, and no data qualification is warranted. Except where noted, all other laboratory method blanks were free of VOCs and EDB.

1.1.3 Surrogate Recoveries (Reason Code S)

Surrogate standards are organic compounds added to field and laboratory QC samples for organic analysis to evaluate matrix effect and method performance on an individual sample basis. Prior to sample analysis, surrogates 1,2-dichloroethane-d4, toluene-d8, and bromofluorobenzene were spiked into soil vapor samples for the VOC analyses. The recoveries of the surrogates in all VOCs samples were within the accuracy specifications indicating effective sample preparation procedures. No surrogates were spiked into any samples analyzed for the EDB, as surrogate spike is not a CARB Method 422 requirement. The bias of the EDB analysis is assessed through LCS recoveries.

1.1.4 Laboratory Control Sample/Laboratory Control Sample Duplicate Recoveries and Precisions (Reason Codes L and D1)

The LCS is an aliquot of analyte-free matrix spiked with target analytes that is prepared with each analytical batch for each analytical method. The recovery of target analytes from the LCS analysis is a measurement of method performance in an interference-free sample matrix. The LCS results meet the established accuracy requirements for the VOC and EDB analyses for all laboratory QC batches for the Fourth Quarter 2013 SVE Pilot Test soil vapor monitoring event.

In addition to the LCS analysis, the laboratory performed a sample duplicate analysis on project-specific soil vapor samples to assess method precision. The laboratory duplicate analysis was performed on a rate of one per 20 soil gas samples for every laboratory QC batch for the VOC and EDB analyses. The laboratory precision requirement was achieved for VOCs and EDB target analytes for all laboratory duplicate samples.

1.1.5 Initial Calibration (Reason Code G)

Instrument calibration is performed for VOC and EDB analyses according to the method requirements. The linear analytical range is established for each method by analysis of standards prepared at increasing concentrations that cover the expected sample concentrations. The acceptability of the initial calibration is determined by calculation of a percent relative standard deviation or coefficient. The initial calibration results were acceptable for all VOC and EDB target analytes.

Immediately after the initial calibration, an initial calibration verification was performed at the mid-point of the instrument calibration range by using a second source standard to verify the accuracy of the initial calibration. The initial calibration verification results meet the acceptance criteria for all VOC and EDB target analytes.

1.1.6 Continuing Calibration Verification (Reason Code C)

Routinely during sample analysis, the stability of the analytical system is monitored by analysis of continuing calibration standards at concentrations near the mid-point of the instrument calibration range. The acceptability of the continuing calibration verifications (CCVs) is assessed by comparing the reported concentrations to the spiked concentrations. All CCV results meet the established control criteria for VOC and EDB analyses for the Fourth Quarter 2013 SVE Pilot Test soil vapor monitoring event.

1.1.7 Trip Blanks (Reason Codes K3)

Trip blanks are prepared by the laboratory and stored with the soil vapor samples collected for VOCs analysis. No trip blanks were submitted with any soil vapor samples during the Fourth Quarter 2013 SVE Pilot Test soil vapor monitoring event.

Trip blanks have been consistently submitted in each shipment with VOC soil vapor samples for the quarterly soil gas monitoring program. Based on the historical trip blank results, low level trip blank

detections have been reported, however the majority of the VOC results in the associated soil vapor samples have not been affected by the blank detections. The trip blank results demonstrate acceptable sample storage and shipping procedures.

1.1.8 SUMMA Canister Certification

Since SUMMA canisters are to be reused, the laboratory follows all cleaning procedures in accordance with laboratory standard operating procedures and industry standards to remove any VOC residue from prior use. Following the cleaning procedures, one SUMMA canister from a batch of 10 SUMMA canisters is to be tested for VOC. VOC results are acceptable when detected results are less than one-half the LOQ for target analytes and less than LOQ for common laboratory contaminants such as acetone and methylene chloride. For the Fourth Quarter 2013 SVE Pilot Test soil gas monitoring event, VOC testing results were evaluated and found to be acceptable. Therefore SUMMA canisters were deemed acceptable for the Fourth Quarter 2013 SVE Pilot Test soil gas sample collection.

1.2 Field Duplicates

In accordance with the site-specific Bulk Fuels Facility Spill QAPjP requirements (USACE, 2011), field duplicate samples are to be collected at a minimum rate of 10 percent (%) of the total number of soil vapor samples. Field duplicate sample results are evaluated by calculating the RPD between the sample and the duplicate sample. The RPD is calculated using the following equation:

$$RPD = |(S-D)/[(S+D)/2]| \times 100$$

where:

S = sample result
D = duplicate result

Acceptable precision control criteria are established at less than or equal 50% for soil vapor samples. The RPD is calculated between the field sample and the field duplicate sample when both results are reported at or above the LOQ. Appendix D – Table 2 presents field duplicate sample results and precision results.

One duplicate sample was collected during the Fourth Quarter 2013 SVE Pilot Test soil vapor monitoring event. The 10% field duplicate goal was missed. The primary sample and its duplicate sample from location Kirtland Air Force Base (KAFB)-106154 were analyzed for VOC and EDB.

One field duplicate precision outlier was observed for EDB by CARB Method 422 summarized as follows:

- CARB Method 422 – the RPD for EDB is 54.5% exceeding the 50% field precision goal.

Analytes benzene, cyclohexane, ethylbenzene, m,p-xylenes, n-heptane, n-hexane, o-xylene, toluene, and total xylenes were detected above their respective LOQ in the duplicate pair. The RPDs results for the listed VOCs are between 4.9 and 22.2% and meet the precision requirement. Of the 10 calculable field duplicate results, 1 field duplicate result was found outside the precision limit, therefore 90% of the field duplicate results meet the precision goal.

1.3 Completeness

The following sections present a discussion of contractual, analytical, and technical completeness for the Fourth Quarter 2013 SVE Pilot Test soil vapor monitoring event. Completeness calculations were performed only for the soil vapor samples that are used for project decisions. For informational purposes, completeness results are provided for field QC samples. Appendix D – Table 3 presents technical completeness results.

1.3.1 Contractual Completeness

Contractual completeness is a quantitative determination of the number of unqualified results compared to the total number of sample results expressed as a percentage, based on data qualified for QC outliers related to method performance. These include data qualified for calibration or preparation blank contamination, missed holding times, and non-compliant LCS recovery and/or precision. The contractual completeness goal is 95% for the project. Contractual completeness is calculated as follows:

$$\% \text{ Contractual Completeness} = \frac{\text{Number of Unqualified Results}}{\text{Total Number of Results}} \times 100$$

For the Fourth Quarter 2013 SVE Pilot Test soil vapor monitoring event, the contractual completeness was achieved as follows:

- VOC by EPA Method TO15 – 100%
- EDB by CARB Method 422 – 100%

As shown above, the 95% contractual completeness goal was met for both methods.

1.3.2 Analytical Completeness

Analytical completeness is a quantitative measure of the number of unqualified data results compared to the total number of results expressed as a percentage, based on target analytes qualified for exceedances of QC requirements based on calibration, LCS, surrogate, method precision, and laboratory method blank contamination results. The analytical completeness goal is 90% for the project. Analytical completeness is calculated as follows:

$$\% \text{ Analytical Completeness} = \frac{\text{Number of Unqualified Results}}{\text{Total Number of Results}} \times 100$$

For the Fourth Quarter 2013 SVE Pilot Test soil vapor monitoring event, analytical completeness was achieved as follows:

- VOC by EPA Method TO15 – 100%
- EDB by CARB Method 422 – 100%

As indicated above, the 90% analytical completeness goal was exceeded for both methods.

1.3.3 Technical Completeness

Technical completeness is a quantitative measure of the data usability based on the number of rejected data compared to the total number of sample results. The technical completeness goal for each method is equal to or greater than 95%. The technical completeness calculation considers all data that are not rejected to be usable. The technical completeness is calculated as follows:

$$\% \text{ Technical Completeness} = \frac{\text{Number of Usable Results}}{\text{Total Number of Results}} \times 100$$

The technical completeness was 100% for both methods exceeding the 95% technical completeness requirement. Therefore, the project data quality objectives were achieved for the Fourth Quarter 2013 SVE Pilot Test soil vapor monitoring event.

1.4 Summary

The analytical data reported for the Fourth Quarter 2013 SVE Pilot Test 2013 soil vapor monitoring event have been reviewed for bias, precision, representativeness, comparability, and completeness. With the exception of the low level laboratory method blank detections, all other reviewed QC elements met the established bias and precision control requirements. The low level laboratory method blank detections did not result in any data qualification as analytes in samples were either not detected or their concentrations were well above the level reported in the blank. In conclusion, the analytical data reported for the Fourth Quarter 2013 SVE Pilot Test soil vapor monitoring event exceeds the 95% technical completeness requirement for both methods. All data are usable for their intended purposes.

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EPA. 2008. *USEPA Contract Laboratory Program, National Functional Guidelines for Superfund Organic Methods Data Review, Final.* Office of Superfund Remediation and Technology Innovation, OSWER 9240. 1-48 and EPA-540-R-08-01. June.

EPA. 1999. *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Compendium Method TO-15 Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS),* 2nd ed. January.

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USACE. 2005. *Environmental Quality – Guidance for Evaluating Performance-Based Chemical Data,* EM 200-1-10. June 30.

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TABLES

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List of Appendix D Tables

Appendix D – Table 1: Soil Vapor Sample Deliverable Group

Appendix D – Table 2: Field Duplicate Summary

Appendix D – Table 3: Technical Completeness

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Appendix D – Table 1. Soil Vapor Sample Delivery Group
Fourth Quarter 2013 SVE Pilot Test Soil Gas Monitoring Event

Location	Sample Date	Sample Number	SDG	Type
KAFB-106148	11/1/2013	KAFB-106148-PT-001	P1305066	VAPOR
KAFB-106148	11/1/2013	KAFB-106148-PT-002	P1305066	VAPOR
KAFB-106149	10/16/2013	KAFB-106149-PT-001	P1304756	VAPOR
KAFB-106149	10/16/2013	KAFB-106149-PT-002	P1304756	VAPOR
KAFB-106150	11/7/2013	KAFB-106150-PT-001	P1305066	VAPOR
KAFB-106150	11/7/2013	KAFB-106150-PT-002	P1305066	VAPOR
KAFB-106154	10/18/2013	KAFB-106154-PT-001	P1304756	VAPOR
KAFB-106154	10/18/2013	KAFB-106154-PT-002	P1304756	VAPOR
KAFB-106154	10/18/2013	KAFB-106154-PT-003	P1304756	VAPOR
KAFB-106155	11/4/2013	KAFB-106155-PT-001	P1305066	VAPOR
KAFB-106155	11/4/2013	KAFB-106155-PT-002	P1305066	VAPOR
KAFB-106160	10/4/2013	KAFB-106160-PT-001	P1304496	VAPOR
KAFB-106160	10/4/2013	KAFB-106160-PT-002	P1304496	VAPOR
KAFB-106161	10/3/2013	KAFB-106161-PT-001	P1304496	VAPOR
KAFB-106161	10/3/2013	KAFB-106161-PT-002	P1304496	VAPOR

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Appendix D - Table 2
Field Duplicate Summary
Soil Gas Pilot Test, Fourth Quarter 2013
Kirtland Air Force Base

Well ID/Method	Analyte	Sample Date	Normal Sample Result	Normal Sample LOQ	Duplicate Sample Result	Duplicate Sample LOQ	Units	RPD %	RPD Goal of 50% Met
KAFB-106154									
CARB422Mod	1,2-Dibromoethane	10/18/2013	42	0.88	24	0.91	ppbv	54.5	No
EPA TO15	1,1,1-Trichloroethane (TCA)		ND	110	ND	110	ppbv	--	--
	1,1,2,2-Tetrachloroethane		ND	85	ND	88	ppbv	--	--
	1,1,2-Trichloroethane		ND	110	ND	110	ppbv	--	--
	1,1,2-Trichlorotrifluoroethane		ND	77	ND	79	ppbv	--	--
	1,1-Dichloroethane (1,1-DCA)		ND	150	ND	150	ppbv	--	--
	1,1-Dichloroethene (1,1-DCE)		ND	150	ND	150	ppbv	--	--
	1,2,4-Trichlorobenzene		ND	79	ND	81	ppbv	--	--
	1,2,4-Trimethylbenzene		ND	120	ND	120	ppbv	--	--
	1,2-Dibromoethane		ND	76	ND	79	ppbv	--	--
	1,2-Dichlorobenzene		ND	98	ND	100	ppbv	--	--
	1,2-Dichloroethane		ND	150	ND	150	ppbv	--	--
	1,2-Dichloropropane		ND	130	ND	130	ppbv	--	--
	1,3,5-Trimethylbenzene		ND	120	ND	120	ppbv	--	--
	1,3-Butadiene		ND	270	ND	270	ppbv	--	--
	1,3-Dichlorobenzene		ND	98	ND	100	ppbv	--	--
	1,4-Dichlorobenzene		ND	98	ND	100	ppbv	--	--
	2-Butanone (MEK)		ND	2000	ND	2000	ppbv	--	--
	2-Hexanone		ND	140	ND	150	ppbv	--	--
	4-Methyl-2-pentanone		ND	140	ND	150	ppbv	--	--
	Acetone		ND	2500	ND	2500	ppbv	--	--
	Benzene		19000	180	21000	190	ppbv	10	Yes
	Benzyl Chloride		ND	110	ND	120	ppbv	--	--
	Bromodichloromethane		ND	88	ND	90	ppbv	--	--
	Bromoform		ND	57	ND	58	ppbv	--	--
	Bromomethane		ND	150	ND	160	ppbv	--	--
	Carbon Disulfide		ND	1900	ND	1900	ppbv	--	--
	Carbon Tetrachloride		ND	93	ND	96	ppbv	--	--
	Chlorobenzene		ND	130	ND	130	ppbv	--	--
	Chloroethane		ND	220	ND	230	ppbv	--	--
	Chloroform		ND	120	ND	120	ppbv	--	--
	Chloromethane		ND	280	ND	290	ppbv	--	--
	cis-1,2-Dichloroethene		ND	150	ND	150	ppbv	--	--
	cis-1,3-Dichloropropene		ND	130	ND	130	ppbv	--	--
	Cyclohexane		5100	340	5400	350	ppbv	5.7	Yes
	Dibromochloromethane		ND	69	ND	71	ppbv	--	--
	Dichlorodifluoromethane (CFC 12)		ND	120	ND	120	ppbv	--	--

Appendix D - Table 2
Field Duplicate Summary
Soil Gas Pilot Test, Fourth Quarter 2013
Kirtland Air Force Base

Well ID/Method	Analyte	Sample Date	Normal Sample Result	Normal Sample LOQ	Duplicate Sample Result	Duplicate Sample LOQ	Units	RPD %	RPD Goal of 50% Met
KAFB-106154									
EPA TO15	Dichloromethane (Methylene Chloride)	10/18/2013	ND	170	ND	170	ppbv	--	--
	Ethyl Acetate		ND	330	ND	330	ppbv	--	--
	Ethylbenzene		660	140	780	140	ppbv	16.7	Yes
	Hexachlorobutadiene		ND	55	ND	57	ppbv	--	--
	m,p-Xylenes		1200	270	1500	280	ppbv	22.2	Yes
	Methyl tert-Butyl Ether		ND	160	ND	170	ppbv	--	--
	Naphthalene		ND	110	ND	120	ppbv	--	--
	n-Heptane		2000	140	2100	150	ppbv	4.9	Yes
	n-Hexane		6000	170	6400	170	ppbv	6.5	Yes
	o-Xylene		300	140	370	140	ppbv	20.9	Yes
	Propene		220 J	340	230 J	350	ppbv	--	--
	Styrene		ND	140	ND	140	ppbv	--	--
	Tetrachloroethene		ND	87	ND	89	ppbv	--	--
	Tetrahydrofuran (THF)		240	200	110 J	200	ppbv	--	--
	Toluene		26000	160	30000	160	ppbv	14.3	Yes
	trans-1,2-Dichloroethene		ND	150	ND	150	ppbv	--	--
	trans-1,3-Dichloropropene		ND	130	ND	130	ppbv	--	--
	Trichloroethene (TCE)		ND	110	ND	110	ppbv	--	--
	Trichlorofluoromethane (CFC 11)		ND	100	ND	110	ppbv	--	--
	Vinyl Acetate		ND	1700	ND	1700	ppbv	--	--
	Vinyl Chloride		ND	230	ND	240	ppbv	--	--
	Xylenes, Total		1500	270	1800	280	ppbv	18.2	Yes

Notes:

LOQ limit of quantitation
RPD relative percent difference
ND not detected at the LOQ
ppbv parts per billion volume

RPD formula = 100 x |Primary Result - Duplicate Result| / ((Primary Result + Duplicate Result) / 2)

-- Not applicable since RPD not calculated. RPD is only calculated when the analyte is detected at or above the LOQ in both the normal sample and the duplicate sample.

Appendix D - Table 3
Technical Completeness
Soil Gas Pilot Test, Fourth Quarter 2013
Kirtland Air Force Base

Analytical Method	Number of Analytes	Number of Samples	Number of Results	Number of Useable Results	Technical Completeness [Goal = 95 percent]
Environmental Samples					
CARB422Mod	1	15	15	15	100.0
EPA TO15	58	15	870	870	100.0

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LABORATORY REPORT

October 31, 2013

Susan Huang
CB&I
4005 Port Chicago Highway
Concord, CA 94520

RE: Kirtland AFB / 140705

Dear Susan:

Enclosed are the results of the samples submitted to our laboratory on October 10, 2013. For your reference, these analyses have been assigned our service request number P1304496.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Kate Aguilera at 10:12 am, Oct 31, 2013

Kate Aguilera
Project Manager

CLIENT: CB&I

ALS PROJECT ID.: P1304496
PROJECT NAME: Kirtland AFB
PROJECT NUMBER: 140705

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Client: CB&I
Project: Kirtland AFB / 140705

Service Request No: P1304496

CASE NARRATIVE

The samples were received intact under chain of custody on October 10, 2013 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

1,2-Dibromoethane Analysis

The samples were analyzed for 1,2-Dibromoethane according to modified CARB Method 422 using a gas chromatograph equipped with an electron capture detector (ECD). This method is not included on the laboratory's NELAP, DoD-ELAP, or AIHA-LAP scope of accreditation.

Manual integrations were performed on the following sample(s) and analyte(s). Refer to the raw data for additional information.

Sample Identification(s)	Analyte(s)
P1304496-002	1,2-dibromoethane
P1304496-004	1,2-dibromoethane

Volatile Organic Compound Analysis

The samples were also analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is not included on the laboratory's AIHA-LAP scope of accreditation. Any analytes flagged with an X are not included on the laboratory's NELAP or DoD-ELAP scope of accreditation.

The Summa canisters were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The client has requested the laboratory report a total xylene isomer result. The laboratory performs method detection studies and limit of detection verifications for m&p-xylenes and o-xylene separately. In order to comply with the client's request the laboratory will use the higher of the two MDLs, LOQs and LODs for the total xylene result. The individual MDLs, LOQs and LODs are included.

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Client: CB&I
Project: Kirtland AFB / 140705

Service Request No: P1304496

CASE NARRATIVE

Manual integrations were performed on the following sample(s) and analyte(s). Refer to the raw data for additional information.

Sample Identification(s)	Analyte(s)
P1304496-002	acetone

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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ALS Environmental – Simi Valley

Certifications, Accreditations, and Registrations

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L11-203
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2012039
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	581572
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	CA200007
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-13-4
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272013-3
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: CB&I

Service Request: P1304496

Project ID: Kirtland AFB / 140705

Date Received: 10/10/2013

Time Received: 11:00

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	None - MISC_SVG1	TO-15 - VOC Cans
KAFB-106161-PT-001	P1304496-001	Air	10/3/2013	08:40	SC00305	-3.40	3.50	X	X
KAFB-106161-PT-002	P1304496-002	Air	10/3/2013	16:30	SC01669	-3.60	3.62	X	X
KAFB-106160-PT-001	P1304496-003	Air	10/4/2013	08:25	SSC00142	-2.60	3.52	X	X
KAFB-106160-PT-002	P1304496-004	Air	10/4/2013	16:00	SC00302	-3.02	3.60	X	X

Shaw Environmental and Infrastructure Inc., a CB&I Co.

CHAIN OF CUSTODY

Reference Document # 140705-SG TBC1

Page 1 of 1

Project Number: 140705
Project Name / Location: Kirtland AFB
Purchase Order #: 860167
Shipment Date: 10/7/13
UPS ~~FedEx~~ Number: 1Z 103 35T 03 4343 7635
MCB

Project Manager: Tom Cooper
Send Report To: Susan Huang
Phone/Fax Number: 925-288-2099
Address: 4005 Port Chicago Hwy
City: Concord, CA 94520
susan.huang@cbifederalservices.com

Lab Destination: ALS - Simi Valley
Mon-Sat DELIVERY
2655 Park Center Drive, Suite A
Simi Valley, CA 93065 USA
Lab Contact Name: Kate Kaneko Aguilera
Phone #: 805-577-2089

Sampler's Name(s):

Analyses Requested

	Sample ID Number	Location	Date	Time	Method	Matrix	# of containers	Preservative / Container	VOCs: TO-15	EDB: CARB 422				MS/MSD
								Preservative	none					
								Container	1x6 L Summa Canister					
1	KAFB-106161-PT-001	KAFB-106161	10-3-13	0840	G	SG	1		X	X				
2	KAFB-106161-PT-002	KAFB-106161	10-3-13	1630	G	SG	1		X	X				
3	KAFB-106160-PT-001	KAFB-106160	10-4-13	0825	G	SG	1		X	X				
4	KAFB-106160-PT-002	KAFB-106160	10-4-13	1600	G	SG	1		X	X				

Special Instructions:

Turnaround Time: ■ Standard 21-day ☐ 24-hr ☐ 48-hr ☐ 3-day ☐ 5-day

Level Of QC Required: I II (III) IV Project Specific: unless IV requested

Relinquished By: Megan Bat Date: 10-7-13 ~~10-8-13~~ MCB Time: 1530

Received By: Date: Time:

Relinquished By: Date: Time:

Received By: Date: Time:

Method Codes
CS = Composite
G = Grab

Matrix Codes
SG = Soil Gas

ALS Environmental
Sample Acceptance Check Form

Client: CB&I Work order: P1304496

Project: Kirtland AFB / 140705

Sample(s) received on: 10/10/13 Date opened: 10/10/13 by: RMARTENIES

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by ALS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
6	Was **sample volume** received adequate for analysis?	☒	☐	☐
7	Are samples within specified holding times?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
9	Was a **trip blank** received?	☐	☒	☐
10	Were **custody seals** on outside of cooler/Box?	☒	☐	☐
	Location of seal(s)? _____ Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
11	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
12	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
13	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1304496-001.01	6.0 L Source Can					
P1304496-002.01	6.0 L Source Can					
P1304496-003.01	6.0 L Silonite Can					
P1304496-004.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304496

1,2-Dibromoethane

Test Code: CARB 422 Modified
Instrument ID: HP5890/GC3/ECD
Analyst: Madeleine Dangazyan
Sample Type: 6.0 L Summa Canister(s)
Test Notes:

Date(s) Collected: 10/3 - 10/4/13
Date Received: 10/10/13
Date Analyzed: 10/22/13

Client Sample ID	ALS Sample ID	Injection Volume ml(s)	Canister Dilution Factor	**Result µg/m³**	MRL µg/m³	MDL µg/m³	**Result ppbV**	MRL ppbV	MDL ppbV	Data Qualifier
KAFB-106161-PT-001	P1304496-001	0.10	1.61	**5,600**	62	12	**730**	8.1	1.6	
KAFB-106161-PT-002	P1304496-002	0.10	1.65	**6,700**	63	13	**870**	8.3	1.7	
KAFB-106160-PT-001	P1304496-003	0.10	1.51	**6,100**	58	12	**790**	7.6	1.5	
KAFB-106160-PT-002	P1304496-004	0.10	1.57	**7,700**	60	12	**1,000**	7.9	1.6	
Method Blank	P131022-MB	1.00	1.00	3.8	3.8	0.77	0.50	0.50	0.10	**U**

U = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304496
ALS Sample ID: P131022-LCS

Test Code: CARB 422 Modified
Instrument ID: HP5890/GC3/ECD
Analyst: Madeleine Dangazyan
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 10/22/13
Volume(s) Analyzed: NA ml

CAS #	**Compound**	Spike Amount ppbV	**Result ppbV**	**% Recovery**	ALS Acceptance Limits	Data Qualifier
106-93-4	1,2-Dibromoethane	50.0	**53.1**	**106**	70-130	

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **CB&I**
Client Sample ID: **KAFB-106160-PT-001**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304496
ALS Sample ID: P1304496-003DUP

Test Code: CARB 422 Modified
Instrument ID: HP5890/GC3/ECD
Analyst: Madeleine Dangazyan
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SSC00142

Date Collected: 10/4/13
Date Received: 10/10/13
Date Analyzed: 10/22/13
Volume(s) Analyzed: 0.10 ml

Initial Pressure (psig): -2.60 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.51

CAS #	Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average	% RPD	RPD Limit	Data Qualifier
106-93-4	1,2-Dibromoethane	**790**	**705**	747.5	**11**	15	

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Project ID: **Kirtland AFB / 140705** ALS Project ID: P1304496

Method Blank Summary

Test Code: CARB 422 Modified
Instrument ID: HP5890/GC3/ECD Lab File ID: 10221315.D
Analyst: Madeleine Dangazyan Date Analyzed: 10/22/13
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 11:33
Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P131022-LCS	10221303.D	08:56
Duplicate Lab Control Sample	P131022-DLCS	10221304.D	09:06
KAFB-106161-PT-001	P1304496-001	10221317.D	11:33
KAFB-106161-PT-002	P1304496-002	10221318.D	11:41
KAFB-106160-PT-001	P1304496-003	10221320.D	12:02
KAFB-106160-PT-001 (Lab Duplicate)	P1304496-003DUP	10221321.D	12:12
KAFB-106160-PT-002	P1304496-004	10221322.D	12:33

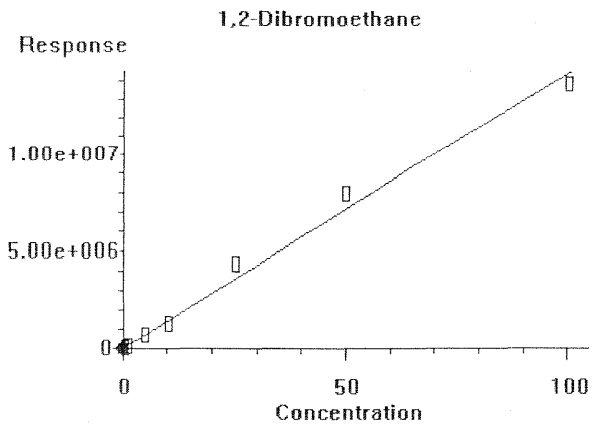
Edit Compounds

Search by Retention Time | Find Compound

- Compound Database
- External Standard Compour
  - 1,2-Dibromoethane

Identification | Calibration | User Defined | Advanced | Reporting

Lvl ID	Conc	Response	Lvl ID	Conc	Response
0.5	0.500000	77172.312782			
1.0	1.000000	150332.591058			
5.0	5.000000	716501.656498			
10	10.000000	1362947.622544			
25	25.000000	4357278.923830			
50	50.000000	7975158.272491			
100	100.000000	13755703.12768			



Quadratic term:	0.000e+000
Linear term:	1.434e+005
Constant term:	0.000e+000
Coef of Det	0.991273

OK | Cancel | Help | Print Calibration Curve | Copy Calibration Curve

Evaluate Continuing Calibration Report

Data Path : J:\GC03\DATA\ECD\CARB\2013_10\21\
Data File : 10211314.D
Signal(s) : ECD1B.CH
Acq On : 21-Oct-2013, 14:18
Operator : MD
Sample : 50ppb 0.5mL ICV
Misc : S28-10211308
ALS Vial : 2 Sample Multiplier: 1

Integration File: events.e
Quant Time: Oct 22 09:15:26 2013
Quant Method : J:\GC03\METHODS\CARB_12DBE_102113E.M
Quant Title : GC#3 GC/ECD CARB422
QLast Update : Tue Oct 22 09:10:31 2013
Response via : Initial Calibration
DataAcq Meth:CARB.M

Volume Inj. : 0.5mL
Signal Phase : RTX-1
Signal Info : 60m x 0.53mm x 5um

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	50.000	64.628	-29.3	116	0.00

Evaluate Continuing Calibration Report - Not Founds

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CCV

S28-10211306	44.39
(ACTUAL)	50.00
%DIFFERENCE	11.2%
LCS S28-10211308	53.12
(ACTUAL)	50.00
%RECOVERY	106.2%
LCSD S28-10211308	54.06
(ACTUAL)	50.00
%RECOVERY	108.1%
% RPD	**1.8%**
MID STD	50.19
(ACTUAL)	50.00
%DIFFERENCE	0.4%
END STD	50.46
(ACTUAL)	50.00
%DIFFERENCE	0.9%

Molecular Weight

1,2-Dibromoethane	187.88

Columbia Analytical Services™

SAMPLE RUN LOG, GC 03

ID: HP5890 ECD/FID

Carb 422

DATE : 10 / 21 / 13 TYPE OF ANALYSIS: 1, 2- Dibromoethane

CLIENT: ICAL

HP AUTOINJECTOR 7673 USED : ☐ Y ☑ N SOLVENT : NA INJECTION VOLUME : 1.0ml (default)

INJECTOR : A. PACKED COLUMN _____ B. SPLIT/SPLITLESS

INJECTOR TEMP.: 150 °C SPLIT RATIO : _____ /1, N/A

COLUMN ID : RTX-1 60m x 0.53mm x 5µm

TEMPERATURE PROGRAMMING : CARRIER GAS : He _____ ml/min

INITIAL AT 100 °C FOR 0 min

RAMP RATE 10 °C/min TO 150 °C HOLD FOR 1.0 min

RAMP RATE ~~10~~ (MR) °C/min TO _____ °C HOLD FOR _____ min

FINAL AT _____ °C FOR _____ min

HP = 20 psi

Signal ≈ 70

DETECTOR INFORMATION :

HP ECD #03 : 280 °C N2 Make-up 50 ml/min

HP FID #03 : ____ °C

DATA SYSTEM : HP Chemstation DATA PATHWAY: J:\GC03\DATA\ECD\CARB\2013_10\21

EXCEL REPORT FILE: METHOD FILE NAME : J:\GC03\METHODS\CARB\CARB_12DBE_1021BE.M

01	Syst. blank test		21		
02	1, 2- Dibromoethane test		22		
03	1000 ppb 1,2-DBE		23		
04	N_2 blank		24		
05	N_2 blank 1.0ml		25		
06	0.5 ppb 1,2-DBE	50µl	~~26~~	S28-10211307	
07	1.0	100µl	27		
08	5	500µl	28		
09	10	1.0ml	29		
Not used. X 10	25	250µl	30	S28-10211306	
11	50	500µl	31		
12	100	1.0ml	32		(MR) 10/21/13
(MR) 10/21/13 13	~~250 ICV~~	~~250µl~~ (MR) 10/21/13	33	S28-10211308	Re-inject
14	50 ICV	500µl	34	S28-10211308	
15			35		
16			36		
17			37		
18			38		
19			39		
20			40		

Columbia Analytical Services™

SAMPLE RUN LOG, GC 03

ID: HP5890 ECD/FID

Carb 422

DATE : 10 / 22 / 13 TYPE OF ANALYSIS: 1,2-Dibromoethane

CLIENT: CB+I & MDL

HP AUTOINJECTOR 7673 USED : ☐ Y ☑ N SOLVENT : NA INJECTION VOLUME : 1.0 ml default

INJECTOR : A. PACKED COLUMN _____ B. SPLIT/SPLITLESS

INJECTOR TEMP.: _____ °C SPLIT RATIO : _____ /1, N/A

COLUMN ID : See p.62

TEMPERATURE PROGRAMMING : CARRIER GAS : He _____ ml/min

INITIAL AT _____ °C FOR _____ min

RAMP RATE _____ °C/min TO _____ °C HOLD FOR _____ min

RAMP RATE _____ °C/min TO _____ °C HOLD FOR _____ min

FINAL AT _____ °C FOR _____ min

DETECTOR INFORMATION :

HP ECD #03 : ____ °C N2 Make-up 50 ml/min

HP FID #03 : ____ °C

DATA SYSTEM : HP Chemstation DATA PATHWAY: J:\GC03\DATA\ECD\CARB\2013-10\22

EXCEL REPORT FILE: METHOD FILE NAME : J:\GC03\METHODS\CARB\CARB.12DBE-102113E.M

01	CCV 50ppb 0.5mL S28-10211306	21	P1304496-003 dup 0.1 ml
02	N2 blank 1.0 ml	22	↓ -004 ↓
03	LCS 50ppb 0.5mL S28-10211308	23	50 ppb end std 0.5 ml
04	LCSD ↓	24	
05	MDL-1 0.5ppb 50µl S28-10211307	25	
06	-2	26	
07	-3	27	
08	-4	28	
09	-5	29	
10	-6	30	
11	-7	31	
12	-8	32	
13	LOD 0.25 ppb 25 µl	33	
14	CCV 50 ppb 0.5mL	34	
15	N2 blank 1.0 ml	35	
16	P1304496-001 1.0 ml	36	
17	-001 0.1 ml	37	
18	-002	38	
X-19	-002 dup	39	
20	-003	40	

10/22/13

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106161-PT-001** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304496-001

Test Code: EPA TO-15 Modified Date Collected: 10/3/13
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/10/13
Analyst: Simon Cao Date Analyzed: 10/16/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00010 Liter(s)
Test Notes:
Container ID: SC00305

Initial Pressure (psig): -3.40 Final Pressure (psig): 3.50

Canister Dilution Factor: 1.61

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	4,700	4,700	2,900	1,300	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	1,600	1,600	1,000	550	**U**
74-87-3	Chloromethane	3,900	3,900	2,300	1,200	**U**
75-01-4	Vinyl Chloride	3,200	3,200	1,900	1,100	**U**
106-99-0	1,3-Butadiene	3,600	3,600	2,700	1,600	**U**
74-83-9	Bromomethane	2,100	2,100	1,200	790	**U**
75-00-3	Chloroethane	3,100	3,100	1,800	1,000	**U**
67-64-1	Acetone	34,000	34,000	11,000	5,200	**U**
75-69-4	Trichlorofluoromethane	1,400	1,400	890	490	**U**
75-35-4	1,1-Dichloroethene	2,000	2,000	1,300	690	**U**
75-09-2	Methylene Chloride	2,300	2,300	1,500	790	**U**
76-13-1	Trichlorotrifluoroethane	1,100	1,100	670	360	**U**
75-15-0	Carbon Disulfide	26,000	26,000	1,600	780	**U**
156-60-5	trans-1,2-Dichloroethene	2,000	2,000	1,300	770	**U**
75-34-3	1,1-Dichloroethane	2,000	2,000	1,200	640	**U**
1634-04-4	Methyl tert-Butyl Ether	2,200	2,200	1,400	760	**U**
108-05-4	Vinyl Acetate	23,000	23,000	6,900	3,000	**U**
78-93-3	2-Butanone (MEK)	**6,900**	27,000	1,800	1,100	**J**
156-59-2	cis-1,2-Dichloroethene	2,000	2,000	1,300	650	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106161-PT-001** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304496-001

Test Code: EPA TO-15 Modified Date Collected: 10/3/13
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/10/13
Analyst: Simon Cao Date Analyzed: 10/16/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00010 Liter(s)
Test Notes:
Container ID: SC00305

Initial Pressure (psig): -3.40 Final Pressure (psig): 3.50

Canister Dilution Factor: 1.61

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	4,500	4,500	2,900	1,600	**U**
110-54-3	n-Hexane	**120,000**	2,300	1,500	690	
67-66-3	Chloroform	1,600	1,600	1,100	560	**U**
109-99-9	Tetrahydrofuran (THF)	2,700	2,700	1,800	1,100	**U**
107-06-2	1,2-Dichloroethane	2,000	2,000	1,300	640	**U**
71-55-6	1,1,1-Trichloroethane	1,500	1,500	920	500	**U**
71-43-2	Benzene	**43,000**	2,500	1,700	810	
56-23-5	Carbon Tetrachloride	1,300	1,300	840	380	**U**
110-82-7	Cyclohexane	**150,000**	4,700	2,900	1,400	
78-87-5	1,2-Dichloropropane	1,700	1,700	1,100	560	**U**
75-27-4	Bromodichloromethane	1,200	1,200	770	360	**U**
79-01-6	Trichloroethene	1,500	1,500	930	420	**U**
142-82-5	n-Heptane	**200,000**	2,000	1,300	670	
10061-01-5	cis-1,3-Dichloropropene	1,800	1,800	1,100	500	**U**
108-10-1	4-Methyl-2-pentanone	**690**	2,000	1,300	630	**J**
10061-02-6	trans-1,3-Dichloropropene	1,800	1,800	1,200	570	**U**
79-00-5	1,1,2-Trichloroethane	1,500	1,500	920	470	**U**
108-88-3	Toluene	**180,000**	2,100	1,400	730	
591-78-6	2-Hexanone	2,000	2,000	1,400	630	**U**
124-48-1	Dibromochloromethane	950	950	640	300	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106161-PT-001**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304496
ALS Sample ID: P1304496-001

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC00305

Date Collected: 10/3/13
Date Received: 10/10/13
Date Analyzed: 10/16/13
Volume(s) Analyzed: 0.00010 Liter(s)

Initial Pressure (psig): -3.40 Final Pressure (psig): 3.50

Canister Dilution Factor: 1.61

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	**440**	1,000	670	340	**J**
127-18-4	Tetrachloroethene	1,200	1,200	690	330	**U**
108-90-7	Chlorobenzene	1,700	1,700	1,100	560	**U**
100-41-4	Ethylbenzene	**10,000**	1,900	1,100	590	
179601-23-1	m,p-Xylenes	**27,000**	3,700	2,300	1,100	
75-25-2	Bromoform	780	780	500	230	**U**
100-42-5	Styrene	1,900	1,900	1,200	570	**U**
95-47-6	o-Xylene	**7,300**	1,900	1,100	560	
79-34-5	1,1,2,2-Tetrachloroethane	1,200	1,200	680	350	**U**
108-67-8	1,3,5-Trimethylbenzene	**740**	1,600	1,000	520	**J**
95-63-6	1,2,4-Trimethylbenzene	**1,400**	1,600	1,000	490	**J**
100-44-7	Benzyl Chloride	1,600	1,600	1,000	340	**U**
541-73-1	1,3-Dichlorobenzene	1,300	1,300	860	400	**U**
106-46-7	1,4-Dichlorobenzene	1,300	1,300	860	380	**U**
95-50-1	1,2-Dichlorobenzene	1,300	1,300	830	400	**U**
120-82-1	1,2,4-Trichlorobenzene	1,100	1,100	690	350	**U**
91-20-3	Naphthalene	1,500	1,500	890	550	**U**
87-68-3	Hexachlorobutadiene	750	750	480	210	**U**
1330-20-7	Xylenes, Total	**34,000**	3,700	2,300	1,100	

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106161-PT-002** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304496-002

Test Code: EPA TO-15 Modified Date Collected: 10/3/13
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/10/13
Analyst: Simon Cao Date Analyzed: 10/16/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: SC01669

Initial Pressure (psig): -3.60 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.65

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	3,200	3,200	2,000	900	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	1,100	1,100	690	380	**U**
74-87-3	Chloromethane	2,700	2,700	1,600	800	**U**
75-01-4	Vinyl Chloride	2,200	2,200	1,300	730	**U**
106-99-0	1,3-Butadiene	2,500	2,500	1,800	1,100	**U**
74-83-9	Bromomethane	1,400	1,400	850	540	**U**
75-00-3	Chloroethane	2,100	2,100	1,300	710	**U**
67-64-1	Acetone	**16,000**	23,000	7,400	3,600	**J**
75-69-4	Trichlorofluoromethane	980	980	610	330	**U**
75-35-4	1,1-Dichloroethene	1,400	1,400	920	470	**U**
75-09-2	Methylene Chloride	1,600	1,600	1,000	540	**U**
76-13-1	Trichlorotrifluoroethane	720	720	460	240	**U**
75-15-0	Carbon Disulfide	18,000	18,000	1,100	530	**U**
156-60-5	trans-1,2-Dichloroethene	1,400	1,400	890	530	**U**
75-34-3	1,1-Dichloroethane	1,400	1,400	840	440	**U**
1634-04-4	Methyl tert-Butyl Ether	1,500	1,500	980	520	**U**
108-05-4	Vinyl Acetate	16,000	16,000	4,700	2,000	**U**
78-93-3	2-Butanone (MEK)	**8,200**	19,000	1,200	780	**J**
156-59-2	cis-1,2-Dichloroethene	1,400	1,400	890	440	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106161-PT-002** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304496-002

Test Code: EPA TO-15 Modified Date Collected: 10/3/13
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/10/13
Analyst: Simon Cao Date Analyzed: 10/16/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: SC01669

Initial Pressure (psig): -3.60 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.65

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	3,100	3,100	2,000	1,100	**U**
110-54-3	n-Hexane	**150,000**	1,600	1,000	470	
67-66-3	Chloroform	1,100	1,100	720	380	**U**
109-99-9	Tetrahydrofuran (THF)	1,900	1,900	1,200	750	**U**
107-06-2	1,2-Dichloroethane	1,400	1,400	870	440	**U**
71-55-6	1,1,1-Trichloroethane	1,000	1,000	630	340	**U**
71-43-2	Benzene	**52,000**	1,700	1,100	550	
56-23-5	Carbon Tetrachloride	870	870	580	260	**U**
110-82-7	Cyclohexane	**190,000**	3,200	2,000	930	
78-87-5	1,2-Dichloropropane	1,200	1,200	740	380	**U**
75-27-4	Bromodichloromethane	820	820	530	250	**U**
79-01-6	Trichloroethene	1,000	1,000	630	290	**U**
142-82-5	n-Heptane	**240,000**	1,300	860	460	
10061-01-5	cis-1,3-Dichloropropene	1,200	1,200	730	340	**U**
108-10-1	4-Methyl-2-pentanone	**920**	1,300	890	430	**J**
10061-02-6	trans-1,3-Dichloropropene	1,200	1,200	800	390	**U**
79-00-5	1,1,2-Trichloroethane	1,000	1,000	630	320	**U**
108-88-3	Toluene	**220,000**	1,500	930	500	
591-78-6	2-Hexanone	1,300	1,300	970	430	**U**
124-48-1	Dibromochloromethane	650	650	440	210	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106161-PT-002**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304496
ALS Sample ID: P1304496-002

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC01669

Date Collected: 10/3/13
Date Received: 10/10/13
Date Analyzed: 10/16/13
Volume(s) Analyzed: 0.00015 Liter(s)

Initial Pressure (psig): -3.60 Final Pressure (psig): 3.62

Canister Dilution Factor: 1.65

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	**630**	720	460	230	**J**
127-18-4	Tetrachloroethene	810	810	470	230	**U**
108-90-7	Chlorobenzene	1,200	1,200	760	380	**U**
100-41-4	Ethylbenzene	**14,000**	1,300	790	410	
179601-23-1	m,p-Xylenes	**38,000**	2,500	1,500	760	
75-25-2	Bromoform	530	530	340	160	**U**
100-42-5	Styrene	1,300	1,300	830	390	**U**
95-47-6	o-Xylene	**10,000**	1,300	760	380	
79-34-5	1,1,2,2-Tetrachloroethane	800	800	460	240	**U**
108-67-8	1,3,5-Trimethylbenzene	**940**	1,100	720	360	**J**
95-63-6	1,2,4-Trimethylbenzene	**1,700**	1,100	720	340	
100-44-7	Benzyl Chloride	1,100	1,100	680	230	**U**
541-73-1	1,3-Dichlorobenzene	920	920	590	270	**U**
106-46-7	1,4-Dichlorobenzene	920	920	590	260	**U**
95-50-1	1,2-Dichlorobenzene	920	920	570	270	**U**
120-82-1	1,2,4-Trichlorobenzene	740	740	470	240	**U**
91-20-3	Naphthalene	1,000	1,000	610	380	**U**
87-68-3	Hexachlorobutadiene	520	520	330	140	**U**
1330-20-7	Xylenes, Total	**49,000**	2,500	1,500	760	

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106160-PT-001** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304496-003

Test Code: EPA TO-15 Modified Date Collected: 10/4/13
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/10/13
Analyst: Simon Cao Date Analyzed: 10/16/13
Sampling Media: 6.0 L Silonite Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: SSC00142

Initial Pressure (psig): -2.60 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.51

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1,000**	2,900	1,800	820	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	1,000	1,000	630	350	**U**
74-87-3	Chloromethane	2,400	2,400	1,500	730	**U**
75-01-4	Vinyl Chloride	2,000	2,000	1,200	670	**U**
106-99-0	1,3-Butadiene	2,300	2,300	1,700	1,000	**U**
74-83-9	Bromomethane	1,300	1,300	780	490	**U**
75-00-3	Chloroethane	1,900	1,900	1,100	650	**U**
67-64-1	Acetone	**46,000**	21,000	6,800	3,300	
75-69-4	Trichlorofluoromethane	900	900	560	300	**U**
75-35-4	1,1-Dichloroethene	1,300	1,300	840	430	**U**
75-09-2	Methylene Chloride	1,400	1,400	930	490	**U**
76-13-1	Trichlorotrifluoroethane	660	660	420	220	**U**
75-15-0	Carbon Disulfide	16,000	16,000	1,000	490	**U**
156-60-5	trans-1,2-Dichloroethene	1,300	1,300	810	480	**U**
75-34-3	1,1-Dichloroethane	1,200	1,200	770	400	**U**
1634-04-4	Methyl tert-Butyl Ether	1,400	1,400	890	470	**U**
108-05-4	Vinyl Acetate	14,000	14,000	4,300	1,900	**U**
78-93-3	2-Butanone (MEK)	**11,000**	17,000	1,100	720	**J**
156-59-2	cis-1,2-Dichloroethene	1,300	1,300	810	410	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106160-PT-001** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304496-003

Test Code: EPA TO-15 Modified Date Collected: 10/4/13
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/10/13
Analyst: Simon Cao Date Analyzed: 10/16/13
Sampling Media: 6.0 L Silonite Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: SSC00142

Initial Pressure (psig): -2.60 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.51

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	2,800	2,800	1,800	980	**U**
110-54-3	n-Hexane	**120,000**	1,400	910	430	
67-66-3	Chloroform	1,000	1,000	660	350	**U**
109-99-9	Tetrahydrofuran (THF)	1,700	1,700	1,100	680	**U**
107-06-2	1,2-Dichloroethane	1,200	1,200	800	400	**U**
71-55-6	1,1,1-Trichloroethane	920	920	570	310	**U**
71-43-2	Benzene	**51,000**	1,600	1,000	500	
56-23-5	Carbon Tetrachloride	800	800	530	240	**U**
110-82-7	Cyclohexane	**140,000**	2,900	1,800	850	
78-87-5	1,2-Dichloropropane	1,100	1,100	680	350	**U**
75-27-4	Bromodichloromethane	750	750	480	230	**U**
79-01-6	Trichloroethene	940	940	580	260	**U**
142-82-5	n-Heptane	**150,000**	1,200	790	420	
10061-01-5	cis-1,3-Dichloropropene	1,100	1,100	670	310	**U**
108-10-1	4-Methyl-2-pentanone	**660**	1,200	810	390	**J**
10061-02-6	trans-1,3-Dichloropropene	1,100	1,100	730	350	**U**
79-00-5	1,1,2-Trichloroethane	920	920	570	300	**U**
108-88-3	Toluene	**110,000**	1,300	860	450	
591-78-6	2-Hexanone	1,200	1,200	890	390	**U**
124-48-1	Dibromochloromethane	590	590	400	190	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106160-PT-001**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304496
ALS Sample ID: P1304496-003

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sampling Media: 6.0 L Silonite Canister
Test Notes:
Container ID: SSC00142

Date Collected: 10/4/13
Date Received: 10/10/13
Date Analyzed: 10/16/13
Volume(s) Analyzed: 0.00015 Liter(s)

Initial Pressure (psig): -2.60 Final Pressure (psig): 3.52

Canister Dilution Factor: 1.51

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	**290**	660	420	210	**J**
127-18-4	Tetrachloroethene	740	740	430	210	**U**
108-90-7	Chlorobenzene	1,100	1,100	700	350	**U**
100-41-4	Ethylbenzene	**3,800**	1,200	720	370	
179601-23-1	m,p-Xylenes	**13,000**	2,300	1,400	700	
75-25-2	Bromoform	490	490	310	150	**U**
100-42-5	Styrene	1,200	1,200	760	350	**U**
95-47-6	o-Xylene	**3,300**	1,200	700	350	
79-34-5	1,1,2,2-Tetrachloroethane	730	730	430	220	**U**
108-67-8	1,3,5-Trimethylbenzene	**450**	1,000	660	330	**J**
95-63-6	1,2,4-Trimethylbenzene	**880**	1,000	660	310	**J**
100-44-7	Benzyl Chloride	970	970	620	210	**U**
541-73-1	1,3-Dichlorobenzene	840	840	540	250	**U**
106-46-7	1,4-Dichlorobenzene	840	840	540	230	**U**
95-50-1	1,2-Dichlorobenzene	840	840	520	250	**U**
120-82-1	1,2,4-Trichlorobenzene	680	680	430	220	**U**
91-20-3	Naphthalene	960	960	560	350	**U**
87-68-3	Hexachlorobutadiene	**150**	470	300	130	**J**
1330-20-7	Xylenes, Total	**16,000**	2,300	1,400	700	

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106160-PT-002** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304496-004

Test Code: EPA TO-15 Modified Date Collected: 10/4/13
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/10/13
Analyst: Simon Cao Date Analyzed: 10/17/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: SC00302

Initial Pressure (psig): -3.02 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.57

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**850**	2,300	1,400	640	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	790	790	490	270	**U**
74-87-3	Chloromethane	1,900	1,900	1,100	570	**U**
75-01-4	Vinyl Chloride	1,500	1,500	920	520	**U**
106-99-0	1,3-Butadiene	1,800	1,800	1,300	780	**U**
74-83-9	Bromomethane	1,000	1,000	610	380	**U**
75-00-3	Chloroethane	1,500	1,500	890	510	**U**
67-64-1	Acetone	**58,000**	17,000	5,300	2,500	
75-69-4	Trichlorofluoromethane	700	700	430	240	**U**
75-35-4	1,1-Dichloroethene	990	990	650	340	**U**
75-09-2	Methylene Chloride	1,100	1,100	720	380	**U**
76-13-1	Trichlorotrifluoroethane	510	510	330	170	**U**
75-15-0	Carbon Disulfide	13,000	13,000	780	380	**U**
156-60-5	trans-1,2-Dichloroethene	990	990	630	380	**U**
75-34-3	1,1-Dichloroethane	970	970	600	310	**U**
1634-04-4	Methyl tert-Butyl Ether	1,100	1,100	700	370	**U**
108-05-4	Vinyl Acetate	11,000	11,000	3,300	1,400	**U**
78-93-3	2-Butanone (MEK)	**16,000**	13,000	880	560	
156-59-2	cis-1,2-Dichloroethene	990	990	630	320	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106160-PT-002** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304496-004

Test Code: EPA TO-15 Modified Date Collected: 10/4/13
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: 10/10/13
Analyst: Simon Cao Date Analyzed: 10/17/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes: 0.00010 Liter(s)
Container ID: SC00302

Initial Pressure (psig): -3.02 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.57

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	2,200	2,200	1,400	760	**U**
110-54-3	n-Hexane	**180,000**	1,100	710	330	
67-66-3	Chloroform	800	800	510	270	**U**
109-99-9	Tetrahydrofuran (THF)	1,300	1,300	880	530	**U**
107-06-2	1,2-Dichloroethane	970	970	620	310	**U**
71-55-6	1,1,1-Trichloroethane	720	720	450	240	**U**
71-43-2	Benzene	**82,000**	1,200	810	390	
56-23-5	Carbon Tetrachloride	620	620	410	190	**U**
110-82-7	Cyclohexane	**220,000**	2,300	1,400	660	
78-87-5	1,2-Dichloropropane	850	850	530	270	**U**
75-27-4	Bromodichloromethane	590	590	380	180	**U**
79-01-6	Trichloroethene	730	730	450	200	**U**
142-82-5	n-Heptane	**240,000**	1,900	1,200	650	**D**
10061-01-5	cis-1,3-Dichloropropene	860	860	520	240	**U**
108-10-1	4-Methyl-2-pentanone	**1,200**	960	630	310	
10061-02-6	trans-1,3-Dichloropropene	860	860	570	280	**U**
79-00-5	1,1,2-Trichloroethane	720	720	450	230	**U**
108-88-3	Toluene	**210,000**	1,000	670	350	
591-78-6	2-Hexanone	960	960	690	310	**U**
124-48-1	Dibromochloromethane	460	460	310	150	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
D = The reported result is from a dilution.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106160-PT-002**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304496
ALS Sample ID: P1304496-004

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC00302

Date Collected: 10/4/13
Date Received: 10/10/13
Date Analyzed: 10/17/13
Volume(s) Analyzed: 0.00020 Liter(s)
0.00010 Liter(s)

Initial Pressure (psig): -3.02 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.57

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	**670**	510	330	160	
127-18-4	Tetrachloroethene	580	580	340	160	**U**
108-90-7	Chlorobenzene	850	850	550	270	**U**
100-41-4	Ethylbenzene	**9,700**	900	560	290	
179601-23-1	m,p-Xylenes	**32,000**	1,800	1,100	540	
75-25-2	Bromoform	380	380	240	110	**U**
100-42-5	Styrene	920	920	590	280	**U**
95-47-6	o-Xylene	**7,800**	900	540	270	
79-34-5	1,1,2,2-Tetrachloroethane	570	570	330	170	**U**
108-67-8	1,3,5-Trimethylbenzene	**760**	800	510	260	**J**
95-63-6	1,2,4-Trimethylbenzene	**1,300**	800	510	240	
100-44-7	Benzyl Chloride	760	760	490	170	**U**
541-73-1	1,3-Dichlorobenzene	650	650	420	200	**U**
106-46-7	1,4-Dichlorobenzene	650	650	420	180	**U**
95-50-1	1,2-Dichlorobenzene	650	650	400	200	**U**
120-82-1	1,2,4-Trichlorobenzene	530	530	340	170	**U**
91-20-3	Naphthalene	750	750	430	270	**U**
87-68-3	Hexachlorobutadiene	370	370	240	100	**U**
1330-20-7	Xylenes, Total	**40,000**	1,800	1,100	540	

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131015-MB

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 10/15/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.29	0.29	0.18	0.081	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.10	0.10	0.063	0.034	**U**
74-87-3	Chloromethane	0.24	0.24	0.15	0.073	**U**
75-01-4	Vinyl Chloride	0.20	0.20	0.12	0.067	**U**
106-99-0	1,3-Butadiene	0.23	0.23	0.17	0.099	**U**
74-83-9	Bromomethane	0.13	0.13	0.077	0.049	**U**
75-00-3	Chloroethane	0.19	0.19	0.11	0.064	**U**
67-64-1	Acetone	2.1	2.1	0.67	0.32	**U**
75-69-4	Trichlorofluoromethane	0.089	0.089	0.055	0.030	**U**
75-35-4	1,1-Dichloroethene	0.13	0.13	0.083	0.043	**U**
75-09-2	Methylene Chloride	0.14	0.14	0.092	0.049	**U**
76-13-1	Trichlorotrifluoroethane	0.065	0.065	0.042	0.022	**U**
75-15-0	Carbon Disulfide	1.6	1.6	0.10	0.048	**U**
156-60-5	trans-1,2-Dichloroethene	0.13	0.13	0.081	0.048	**U**
75-34-3	1,1-Dichloroethane	0.12	0.12	0.077	0.040	**U**
1634-04-4	Methyl tert-Butyl Ether	0.14	0.14	0.089	0.047	**U**
108-05-4	Vinyl Acetate	1.4	1.4	0.43	0.18	**U**
78-93-3	2-Butanone (MEK)	1.7	1.7	0.11	0.071	**U**
156-59-2	cis-1,2-Dichloroethene	0.13	0.13	0.081	0.040	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131015-MB

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 10/15/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	0.28	0.28	0.18	0.097	U
110-54-3	n-Hexane	0.14	0.14	0.091	0.043	U
67-66-3	Chloroform	0.10	0.10	0.066	0.035	U
109-99-9	Tetrahydrofuran (THF)	0.17	0.17	0.11	0.068	U
107-06-2	1,2-Dichloroethane	0.12	0.12	0.079	0.040	U
71-55-6	1,1,1-Trichloroethane	0.092	0.092	0.057	0.031	U
71-43-2	Benzene	0.16	0.16	0.10	0.050	U
56-23-5	Carbon Tetrachloride	0.080	0.080	0.052	0.024	U
110-82-7	Cyclohexane	0.29	0.29	0.18	0.084	U
78-87-5	1,2-Dichloropropane	0.11	0.11	0.067	0.035	U
75-27-4	Bromodichloromethane	0.075	0.075	0.048	0.022	U
79-01-6	Trichloroethene	0.093	0.093	0.058	0.026	U
142-82-5	n-Heptane	0.12	0.12	0.078	0.041	U
10061-01-5	cis-1,3-Dichloropropene	0.11	0.11	0.066	0.031	U
108-10-1	4-Methyl-2-pentanone	0.12	0.12	0.081	0.039	U
10061-02-6	trans-1,3-Dichloropropene	0.11	0.11	0.073	0.035	U
79-00-5	1,1,2-Trichloroethane	0.092	0.092	0.057	0.029	U
108-88-3	Toluene	0.13	0.13	0.085	0.045	U
591-78-6	2-Hexanone	0.12	0.12	0.088	0.039	U
124-48-1	Dibromochloromethane	0.059	0.059	0.040	0.019	U

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304496
ALS Sample ID: P131015-MB

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 10/15/13
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	0.065	0.065	0.042	0.021	**U**
127-18-4	Tetrachloroethene	0.074	0.074	0.043	0.021	**U**
108-90-7	Chlorobenzene	0.11	0.11	0.070	0.035	**U**
100-41-4	Ethylbenzene	0.12	0.12	0.071	0.037	**U**
179601-23-1	m,p-Xylenes	0.23	0.23	0.14	0.069	**U**
75-25-2	Bromoform	0.048	0.048	0.031	0.015	**U**
100-42-5	Styrene	0.12	0.12	0.075	0.035	**U**
95-47-6	o-Xylene	0.12	0.12	0.069	0.035	**U**
79-34-5	1,1,2,2-Tetrachloroethane	0.073	0.073	0.042	0.022	**U**
108-67-8	1,3,5-Trimethylbenzene	0.10	0.10	0.065	0.033	**U**
95-63-6	1,2,4-Trimethylbenzene	0.10	0.10	0.065	0.031	**U**
100-44-7	Benzyl Chloride	0.097	0.097	0.062	0.021	**U**
541-73-1	1,3-Dichlorobenzene	0.083	0.083	0.053	0.025	**U**
106-46-7	1,4-Dichlorobenzene	0.083	0.083	0.053	0.023	**U**
95-50-1	1,2-Dichlorobenzene	0.083	0.083	0.052	0.025	**U**
120-82-1	1,2,4-Trichlorobenzene	0.067	0.067	0.043	0.022	**U**
91-20-3	Naphthalene	**0.039**	0.095	0.055	0.034	**J**
87-68-3	Hexachlorobutadiene	**0.026**	0.047	0.030	0.013	**J**
1330-20-7	Xylenes, Total	0.23	0.23	0.14	0.069	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131016-MB

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 10/16/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.29	0.29	0.18	0.081	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	0.10	0.10	0.063	0.034	**U**
74-87-3	Chloromethane	0.24	0.24	0.15	0.073	**U**
75-01-4	Vinyl Chloride	0.20	0.20	0.12	0.067	**U**
106-99-0	1,3-Butadiene	0.23	0.23	0.17	0.099	**U**
74-83-9	Bromomethane	0.13	0.13	0.077	0.049	**U**
75-00-3	Chloroethane	0.19	0.19	0.11	0.064	**U**
67-64-1	Acetone	2.1	2.1	0.67	0.32	**U**
75-69-4	Trichlorofluoromethane	0.089	0.089	0.055	0.030	**U**
75-35-4	1,1-Dichloroethene	0.13	0.13	0.083	0.043	**U**
75-09-2	Methylene Chloride	0.14	0.14	0.092	0.049	**U**
76-13-1	Trichlorotrifluoroethane	0.065	0.065	0.042	0.022	**U**
75-15-0	Carbon Disulfide	1.6	1.6	0.10	0.048	**U**
156-60-5	trans-1,2-Dichloroethene	0.13	0.13	0.081	0.048	**U**
75-34-3	1,1-Dichloroethane	0.12	0.12	0.077	0.040	**U**
1634-04-4	Methyl tert-Butyl Ether	0.14	0.14	0.089	0.047	**U**
108-05-4	Vinyl Acetate	1.4	1.4	0.43	0.18	**U**
78-93-3	2-Butanone (MEK)	1.7	1.7	0.11	0.071	**U**
156-59-2	cis-1,2-Dichloroethene	0.13	0.13	0.081	0.040	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131016-MB

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 10/16/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	0.28	0.28	0.18	0.097	U
110-54-3	n-Hexane	0.14	0.14	0.091	0.043	U
67-66-3	Chloroform	0.10	0.10	0.066	0.035	U
109-99-9	Tetrahydrofuran (THF)	0.17	0.17	0.11	0.068	U
107-06-2	1,2-Dichloroethane	0.12	0.12	0.079	0.040	U
71-55-6	1,1,1-Trichloroethane	0.092	0.092	0.057	0.031	U
71-43-2	Benzene	0.16	0.16	0.10	0.050	U
56-23-5	Carbon Tetrachloride	0.080	0.080	0.052	0.024	U
110-82-7	Cyclohexane	0.29	0.29	0.18	0.084	U
78-87-5	1,2-Dichloropropane	0.11	0.11	0.067	0.035	U
75-27-4	Bromodichloromethane	0.075	0.075	0.048	0.022	U
79-01-6	Trichloroethene	0.093	0.093	0.058	0.026	U
142-82-5	n-Heptane	0.12	0.12	0.078	0.041	U
10061-01-5	cis-1,3-Dichloropropene	0.11	0.11	0.066	0.031	U
108-10-1	4-Methyl-2-pentanone	0.12	0.12	0.081	0.039	U
10061-02-6	trans-1,3-Dichloropropene	0.11	0.11	0.073	0.035	U
79-00-5	1,1,2-Trichloroethane	0.092	0.092	0.057	0.029	U
108-88-3	Toluene	0.13	0.13	0.085	0.045	U
591-78-6	2-Hexanone	0.12	0.12	0.088	0.039	U
124-48-1	Dibromochloromethane	0.059	0.059	0.040	0.019	U

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304496
ALS Sample ID: P131016-MB

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9
Analyst: Simon Cao
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 10/16/13
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	0.065	0.065	0.042	0.021	**U**
127-18-4	Tetrachloroethene	0.074	0.074	0.043	0.021	**U**
108-90-7	Chlorobenzene	0.11	0.11	0.070	0.035	**U**
100-41-4	Ethylbenzene	0.12	0.12	0.071	0.037	**U**
179601-23-1	m,p-Xylenes	0.23	0.23	0.14	0.069	**U**
75-25-2	Bromoform	0.048	0.048	0.031	0.015	**U**
100-42-5	Styrene	0.12	0.12	0.075	0.035	**U**
95-47-6	o-Xylene	0.12	0.12	0.069	0.035	**U**
79-34-5	1,1,2,2-Tetrachloroethane	0.073	0.073	0.042	0.022	**U**
108-67-8	1,3,5-Trimethylbenzene	0.10	0.10	0.065	0.033	**U**
95-63-6	1,2,4-Trimethylbenzene	0.10	0.10	0.065	0.031	**U**
100-44-7	Benzyl Chloride	0.097	0.097	0.062	0.021	**U**
541-73-1	1,3-Dichlorobenzene	0.083	0.083	0.053	0.025	**U**
106-46-7	1,4-Dichlorobenzene	0.083	0.083	0.053	0.023	**U**
95-50-1	1,2-Dichlorobenzene	0.083	0.083	0.052	0.025	**U**
120-82-1	1,2,4-Trichlorobenzene	0.067	0.067	0.043	0.022	**U**
91-20-3	Naphthalene	0.095	0.095	0.055	0.034	**U**
87-68-3	Hexachlorobutadiene	0.047	0.047	0.030	0.013	**U**
1330-20-7	Xylenes, Total	0.23	0.23	0.14	0.069	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **CB&I**
Client Project ID: **Kirtland AFB / 140705** ALS Project ID: P1304496

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date(s) Collected: 10/3 - 10/4/13
Analyst: Simon Cao Date(s) Received: 10/10/13
Sampling Media: 6.0 L Summa Canister(s) Date(s) Analyzed: 10/15 - 10/17/13
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P131015-MB	**100**	**100**	**100**	70-130	
Method Blank	P131016-MB	**99**	**101**	**99**	70-130	
Lab Control Sample	P131015-LCS	**100**	**101**	**100**	70-130	
Lab Control Sample	P131016-LCS	**100**	**100**	**99**	70-130	
KAFB-106161-PT-001	P1304496-001	**99**	**98**	**98**	70-130	
KAFB-106161-PT-002	P1304496-002	**99**	**97**	**95**	70-130	
KAFB-106160-PT-001	P1304496-003	**99**	**99**	**99**	70-130	
KAFB-106160-PT-002	P1304496-004	**99**	**96**	**95**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131015-LCS

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 10/15/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	116	**92.6**	**80**	57-136	
75-71-8	Dichlorodifluoromethane (CFC 12)	41.3	**35.0**	**85**	59-128	
74-87-3	Chloromethane	95.9	**97.5**	**102**	59-132	
75-01-4	Vinyl Chloride	78.3	**76.8**	**98**	64-127	
106-99-0	1,3-Butadiene	95.9	**97.3**	**101**	66-134	
74-83-9	Bromomethane	51.5	**52.2**	**101**	63-134	
75-00-3	Chloroethane	76.6	**74.8**	**98**	63-127	
67-64-1	Acetone	453	**426**	**94**	58-128	
75-69-4	Trichlorofluoromethane	35.2	**32.6**	**93**	62-126	
75-35-4	1,1-Dichloroethene	54.0	**52.7**	**98**	61-133	
75-09-2	Methylene Chloride	62.2	**54.3**	**87**	62-115	
76-13-1	Trichlorotrifluoroethane	27.9	**26.8**	**96**	66-126	
75-15-0	Carbon Disulfide	63.0	**59.6**	**95**	57-134	
156-60-5	trans-1,2-Dichloroethene	53.5	**53.9**	**101**	67-124	
75-34-3	1,1-Dichloroethane	51.4	**49.4**	**96**	68-126	
1634-04-4	Methyl tert-Butyl Ether	58.8	**59.3**	**101**	66-126	
108-05-4	Vinyl Acetate	291	**292**	**100**	56-139	
78-93-3	2-Butanone (MEK)	73.9	**70.6**	**96**	67-130	
156-59-2	cis-1,2-Dichloroethene	54.0	**53.7**	**99**	70-121	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131015-LCS

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 10/15/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
141-78-6	Ethyl Acetate	118	**119**	**101**	65-128	
110-54-3	n-Hexane	59.6	**57.6**	**97**	63-120	
67-66-3	Chloroform	43.8	**41.2**	**94**	68-123	
109-99-9	Tetrahydrofuran (THF)	69.9	**66.8**	**96**	64-123	
107-06-2	1,2-Dichloroethane	51.9	**50.8**	**98**	65-128	
71-55-6	1,1,1-Trichloroethane	37.8	**36.6**	**97**	68-125	
71-43-2	Benzene	68.9	**63.5**	**92**	69-119	
56-23-5	Carbon Tetrachloride	33.4	**33.0**	**99**	68-132	
110-82-7	Cyclohexane	122	**118**	**97**	70-117	
78-87-5	1,2-Dichloropropane	45.9	**44.5**	**97**	69-123	
75-27-4	Bromodichloromethane	32.0	**33.1**	**103**	72-128	
79-01-6	Trichloroethene	38.7	**38.3**	**99**	71-123	
142-82-5	n-Heptane	52.2	**49.9**	**96**	69-123	
10061-01-5	cis-1,3-Dichloropropene	49.8	**51.0**	**102**	70-128	
108-10-1	4-Methyl-2-pentanone	53.2	**56.8**	**107**	67-130	
10061-02-6	trans-1,3-Dichloropropene	47.6	**49.6**	**104**	75-133	
79-00-5	1,1,2-Trichloroethane	38.5	**38.0**	**99**	73-119	
108-88-3	Toluene	55.7	**50.7**	**91**	66-119	
591-78-6	2-Hexanone	54.2	**56.2**	**104**	62-128	
124-48-1	Dibromochloromethane	25.8	**27.2**	**105**	70-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131015-LCS

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 10/15/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
106-93-4	1,2-Dibromoethane	28.1	**28.1**	**100**	74-122	
127-18-4	Tetrachloroethene	28.9	**28.4**	**98**	66-124	
108-90-7	Chlorobenzene	46.9	**44.7**	**95**	70-119	
100-41-4	Ethylbenzene	48.8	**47.7**	**98**	70-124	
179601-23-1	m,p-Xylenes	96.7	**94.5**	**98**	61-134	
75-25-2	Bromoform	20.9	**23.9**	**114**	66-139	
100-42-5	Styrene	51.2	**50.9**	**99**	73-127	
95-47-6	o-Xylene	47.4	**46.4**	**98**	67-125	
79-34-5	1,1,2,2-Tetrachloroethane	29.4	**28.7**	**98**	65-127	
108-67-8	1,3,5-Trimethylbenzene	43.1	**42.5**	**99**	67-130	
95-63-6	1,2,4-Trimethylbenzene	43.1	**41.3**	**96**	66-132	
100-44-7	Benzyl Chloride	42.9	**48.4**	**113**	50-147	
541-73-1	1,3-Dichlorobenzene	36.9	**34.1**	**92**	65-130	
106-46-7	1,4-Dichlorobenzene	35.6	**33.3**	**94**	60-131	
95-50-1	1,2-Dichlorobenzene	36.3	**34.0**	**94**	63-129	
120-82-1	1,2,4-Trichlorobenzene	29.6	**27.6**	**93**	55-142	
91-20-3	Naphthalene	38.9	**42.5**	**109**	57-138	
87-68-3	Hexachlorobutadiene	20.4	**20.5**	**100**	56-138	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131016-LCS

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 10/16/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	116	**114**	**98**	57-136	
75-71-8	Dichlorodifluoromethane (CFC 12)	41.3	**39.5**	**96**	59-128	
74-87-3	Chloromethane	95.9	**72.1**	**75**	59-132	
75-01-4	Vinyl Chloride	78.3	**74.1**	**95**	64-127	
106-99-0	1,3-Butadiene	95.9	**98.2**	**102**	66-134	
74-83-9	Bromomethane	51.5	**50.9**	**99**	63-134	
75-00-3	Chloroethane	76.6	**73.3**	**96**	63-127	
67-64-1	Acetone	453	**414**	**91**	58-128	
75-69-4	Trichlorofluoromethane	35.2	**31.5**	**89**	62-126	
75-35-4	1,1-Dichloroethene	54.0	**51.1**	**95**	61-133	
75-09-2	Methylene Chloride	62.2	**52.8**	**85**	62-115	
76-13-1	Trichlorotrifluoroethane	27.9	**25.9**	**93**	66-126	
75-15-0	Carbon Disulfide	63.0	**57.8**	**92**	57-134	
156-60-5	trans-1,2-Dichloroethene	53.5	**52.6**	**98**	67-124	
75-34-3	1,1-Dichloroethane	51.4	**48.2**	**94**	68-126	
1634-04-4	Methyl tert-Butyl Ether	58.8	**57.9**	**98**	66-126	
108-05-4	Vinyl Acetate	291	**281**	**97**	56-139	
78-93-3	2-Butanone (MEK)	73.9	**68.5**	**93**	67-130	
156-59-2	cis-1,2-Dichloroethene	54.0	**52.1**	**96**	70-121	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
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ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131016-LCS

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 10/16/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
141-78-6	Ethyl Acetate	118	**117**	**99**	65-128	
110-54-3	n-Hexane	59.6	**56.1**	**94**	63-120	
67-66-3	Chloroform	43.8	**40.0**	**91**	68-123	
109-99-9	Tetrahydrofuran (THF)	69.9	**65.1**	**93**	64-123	
107-06-2	1,2-Dichloroethane	51.9	**48.8**	**94**	65-128	
71-55-6	1,1,1-Trichloroethane	37.8	**35.3**	**93**	68-125	
71-43-2	Benzene	68.9	**61.7**	**90**	69-119	
56-23-5	Carbon Tetrachloride	33.4	**31.8**	**95**	68-132	
110-82-7	Cyclohexane	122	**115**	**94**	70-117	
78-87-5	1,2-Dichloropropane	45.9	**43.2**	**94**	69-123	
75-27-4	Bromodichloromethane	32.0	**32.1**	**100**	72-128	
79-01-6	Trichloroethene	38.7	**37.0**	**96**	71-123	
142-82-5	n-Heptane	52.2	**48.5**	**93**	69-123	
10061-01-5	cis-1,3-Dichloropropene	49.8	**49.5**	**99**	70-128	
108-10-1	4-Methyl-2-pentanone	53.2	**55.6**	**105**	67-130	
10061-02-6	trans-1,3-Dichloropropene	47.6	**48.0**	**101**	75-133	
79-00-5	1,1,2-Trichloroethane	38.5	**37.0**	**96**	73-119	
108-88-3	Toluene	55.7	**48.6**	**87**	66-119	
591-78-6	2-Hexanone	54.2	**54.5**	**101**	62-128	
124-48-1	Dibromochloromethane	25.8	**25.9**	**100**	70-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
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ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1304496
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131016-LCS

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Date Received: NA
Analyst: Simon Cao Date Analyzed: 10/16/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
106-93-4	1,2-Dibromoethane	28.1	**27.0**	**96**	74-122	
127-18-4	Tetrachloroethene	28.9	**27.2**	**94**	66-124	
108-90-7	Chlorobenzene	46.9	**43.0**	**92**	70-119	
100-41-4	Ethylbenzene	48.8	**46.2**	**95**	70-124	
179601-23-1	m,p-Xylenes	96.7	**91.3**	**94**	61-134	
75-25-2	Bromoform	20.9	**23.1**	**111**	66-139	
100-42-5	Styrene	51.2	**49.1**	**96**	73-127	
95-47-6	o-Xylene	47.4	**44.8**	**95**	67-125	
79-34-5	1,1,2,2-Tetrachloroethane	29.4	**27.9**	**95**	65-127	
108-67-8	1,3,5-Trimethylbenzene	43.1	**40.7**	**94**	67-130	
95-63-6	1,2,4-Trimethylbenzene	43.1	**39.7**	**92**	66-132	
100-44-7	Benzyl Chloride	42.9	**46.7**	**109**	50-147	
541-73-1	1,3-Dichlorobenzene	36.9	**32.8**	**89**	65-130	
106-46-7	1,4-Dichlorobenzene	35.6	**32.0**	**90**	60-131	
95-50-1	1,2-Dichlorobenzene	36.3	**32.7**	**90**	63-129	
120-82-1	1,2,4-Trichlorobenzene	29.6	**26.2**	**89**	55-142	
91-20-3	Naphthalene	38.9	**40.6**	**104**	57-138	
87-68-3	Hexachlorobutadiene	20.4	**19.4**	**95**	56-138	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I** ALS Project ID: P1304496

Client Project ID: **Kirtland AFB / 140705**

Method Blank Summary

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 10151305.D

Analyst: Simon Cao Date Analyzed: 10/15/13

Sampling Media: 6.0 L Summa Canister(s) Time Analyzed: 12:58

Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P131015-LCS	10151310.D	16:20
KAFB-106161-PT-001	P1304496-001	10151324.D	09:59
KAFB-106161-PT-002	P1304496-002	10151326.D	11:09

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I** ALS Project ID: P1304496

Client Project ID: **Kirtland AFB / 140705**

Method Blank Summary

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5973inert/6890N/MS9 Lab File ID: 10161303.D

Analyst: Simon Cao Date Analyzed: 10/16/13

Sampling Media: 6.0 L Summa Canister(s) Time Analyzed: 14:18

Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P131016-LCS	10161305.D	15:35
KAFB-106160-PT-001	P1304496-003	10161307.D	17:13
KAFB-106160-PT-002	P1304496-004	10161325.D	09:26
KAFB-106160-PT-002 (Dilution)	P1304496-004	10161327.D	10:34

Response Factor Report MS09

Method Path : J:\MS09\Methods\
Method File : R9101413.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Tue Oct 15 08:48:10 2013
Response Via : Initial Calibration

Calibration Files
0.08=10141327.D 0.10=10141328.D 0.20=10141317.D 0.40=10141318.D 1.0 =10141319.D 5.0 =10141320.D
25 =10141321.D 50 =10141322.D 100 =10141323.D

		Compound	0.08	0.10	0.20	0.40	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------										
2)	T	Propene			1.657	1.336	1.162	0.977	0.961	1.046	1.427	1.224	21.30
3)	T	Dichlorodifluo...	3.433	2.884	3.119	2.833	2.869	2.840	2.906	2.779	2.947	2.957	6.86
4)	T	Chloromethane	2.412	2.209	2.050	1.841	2.374	1.996	2.083	1.334	1.640	1.993	17.38
5)	T	1,2-Dichloro-1...	1.757	1.674	1.612	1.616	1.764	1.749	1.684	1.274	1.523	1.628	9.51
6)	T	Vinyl Chloride	1.635	1.534	1.471	1.499	1.983	1.652	1.569	1.485	2.115	1.660	13.93
7)	T	1,3-Butadiene	1.266	1.122	0.834	0.819	0.941	0.866	0.944	0.903	1.185	0.987	16.53
8)	T	Bromomethane			1.463	1.232	1.413	1.249	1.241	1.151	0.996	1.249	12.50
9)	T	Chloroethane	0.982	0.995	0.923	0.916	0.955	0.897	0.882	0.842	0.804	0.911	6.89
10)	T	Ethanol			0.773	0.727	0.849	0.738	0.711	0.662	0.618	0.725	10.32
11)	T	Acetonitrile			2.688	2.310	2.227	1.956	1.859	1.757	1.703	2.071	17.12
12)	T	Acrolein			0.969	0.807	0.774	0.686	0.649	0.609	0.592	0.726	18.38
13)	T	Acetone			1.058	0.931	0.887	0.840	0.757	0.678	0.616	0.824	18.51
14)	T	Trichlorofluor...	2.696	2.652	2.479	2.384	2.396	2.286	2.211	2.130	2.079	2.368	9.12
15)	T	2-Propanol (Is...	3.080	2.882	2.686	2.555	2.761	2.670	2.657	2.504	1.757	2.617	13.98
16)	T	Acrylonitrile	1.533	1.555	1.405	1.465	1.596	1.471	1.426	1.360	1.324	1.460	6.21
17)	T	1,1-Dichloroet...	1.333	1.265	1.242	1.187	1.284	1.206	1.208	1.160	1.128	1.224	5.23
18)	T	2-Methyl-2-Pro...	3.197	3.099	2.852	2.852	3.029	2.903	2.918	2.831	2.619	2.922	5.79
19)	T	Methylene Chlo...				1.649	1.547	1.342	1.292	1.236	1.188	1.375	13.29
20)	T	3-Chloro-1-pro...	1.519	1.455	1.334	1.404	1.457	1.428	1.410	1.348	1.310	1.407	4.76
21)	T	Trichlorotrifl...	1.332	1.240	1.270	1.215	1.214	1.143	1.140	1.100	1.069	1.191	7.14
22)	T	Carbon Disulfide	6.768	5.653	5.039	4.718	5.104	4.725	4.583	4.360	4.108	5.006	15.95
23)	T	trans-1,2-Dich...	1.712	1.732	1.711	1.711	1.806	1.735	1.694	1.624	1.570	1.699	3.98
24)	T	1,1-Dichloroet...	2.387	2.389	2.221	2.187	2.198	2.091	2.051	1.962	1.895	2.153	7.96
25)	T	Methyl tert-Bu...	3.918	3.786	3.560	3.528	3.591	3.589	3.567	3.446	3.354	3.593	4.70
26)	T	Vinyl Acetate	0.296	0.304	0.290	0.301	0.296	0.289	0.284	0.267	0.247	0.286	6.38
27)	T	2-Butanone (MEK)	0.937	0.780	0.804	0.814	0.850	0.784	0.756	0.727	0.706	0.795	8.68
28)	T	cis-1,2-Dichlo...	1.599	1.680	1.623	1.614	1.667	1.575	1.558	1.492	1.442	1.583	4.89
29)	T	Diisopropyl Ether		1.242	1.234	1.269	1.256	0.995	0.957	0.892	0.817	1.083	17.23
30)	T	Ethyl Acetate	0.431	0.414	0.407	0.425	0.433	0.414	0.389	0.355	0.316	0.398	9.81
31)	T	n-Hexane			1.962	2.068	1.897	1.790	1.636	1.482	1.329	1.738	15.41

Method Path : J:\MS09\Methods\
Method File : R9101413.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

32)	T	Chloroform	2.456	2.418	2.197	2.206	2.242	2.101	2.088	2.008	1.953	2.185	7.82
33)	S	1,2-Dichloroet...	1.377	1.376	1.362	1.381	1.367	1.368	1.376	1.391	1.393	1.377	0.75
34)	T	Tetrahydrofura...	0.966	0.938	0.828	0.789	0.791	0.752	0.760	0.734	0.713	0.808	10.97
35)	T	Ethyl tert-But...	1.512	1.460	1.436	1.458	1.486	1.440	1.458	1.410	1.367	1.448	2.89
36)	T	1,2-Dichloroet...	1.653	1.651	1.600	1.585	1.657	1.537	1.534	1.498	1.466	1.575	4.50
37)	IR	1,4-Difluorobenzen...	----------ISTD----------										
38)	T	1,1,1-Trichlor...	0.427	0.425	0.407	0.392	0.396	0.379	0.381	0.368	0.357	0.392	6.14
39)	T	Isopropyl Acetate	0.132	0.152	0.137	0.137	0.143	0.137	0.130	0.119	0.108	0.133	9.64
40)	T	1-Butanol			0.210	0.217	0.218	0.215	0.213	0.197	0.182	0.207	6.46
41)	T	Benzene				1.257	1.135	0.959	0.909	0.855	0.809	0.987	17.57
42)	T	Carbon Tetrach...	0.355	0.367	0.340	0.337	0.344	0.334	0.342	0.331	0.322	0.341	3.89
43)	T	Cyclohexane	0.423	0.426	0.403	0.392	0.396	0.378	0.367	0.341	0.312	0.382	9.82
44)	T	tert-Amyl Meth...	0.772	0.751	0.710	0.686	0.710	0.695	0.689	0.661	0.628	0.700	6.22
45)	T	1,2-Dichloropr...	0.240	0.266	0.243	0.236	0.244	0.231	0.225	0.213	0.202	0.233	7.94
46)	T	Bromodichlorom...	0.340	0.332	0.320	0.310	0.335	0.322	0.326	0.314	0.301	0.322	3.92
47)	T	Trichloroethene	0.321	0.294	0.294	0.297	0.304	0.283	0.284	0.272	0.260	0.290	6.07
48)	T	1,4-Dioxane	0.246	0.230	0.230	0.207	0.214	0.199	0.199	0.189	0.177	0.210	10.57
49)	T	2,2,4-Trimethy...	1.126	1.108	1.041	1.019	1.035	0.984	0.952	0.890	0.823	0.997	9.82
50)	T	Methyl Methacr...	0.094	0.107	0.100	0.103	0.111	0.107	0.107	0.101	0.095	0.103	5.52
51)	T	n-Heptane	0.272	0.258	0.245	0.249	0.241	0.230	0.222	0.211	0.199	0.236	9.77
52)	T	cis-1,3-Dichlo...	0.391	0.395	0.381	0.381	0.397	0.388	0.389	0.372	0.354	0.383	3.50
53)	T	4-Methyl-2-pen...	0.190	0.178	0.192	0.192	0.211	0.207	0.204	0.193	0.181	0.194	5.74
54)	T	trans-1,3-Dich...	0.342	0.367	0.340	0.334	0.368	0.356	0.362	0.349	0.338	0.351	3.72
55)	T	1,1,2-Trichlor...	0.271	0.265	0.254	0.258	0.267	0.249	0.244	0.233	0.222	0.251	6.38
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------										
57)	S	Toluene-d8 (SS2)	2.716	2.706	2.677	2.667	2.687	2.672	2.663	2.685	2.691	2.685	0.65
58)	T	Toluene	3.759	3.647	3.141	2.958	2.885	2.718	2.605	2.495	2.311	2.946	16.84
59)	T	2-Hexanone	1.230	1.210	1.108	1.092	1.158	1.138	1.105	1.046	0.981	1.118	6.91
60)	T	Dibromochlorom...	0.767	0.741	0.715	0.698	0.747	0.728	0.738	0.724	0.697	0.728	3.16
61)	T	1,2-Dibromoethane	0.798	0.804	0.732	0.712	0.769	0.727	0.720	0.700	0.667	0.737	6.19
62)	T	n-Butyl Acetate	1.248	1.283	1.175	1.177	1.260	1.256	1.242	1.181	1.105	1.214	4.72
63)	T	n-Octane	0.550	0.567	0.507	0.496	0.527	0.505	0.487	0.464	0.428	0.503	8.39
64)	T	Tetrachloroethene	0.918	0.973	0.928	0.887	0.901	0.847	0.841	0.816	0.777	0.877	6.99
65)	T	Chlorobenzene	2.181	2.093	1.925	1.882	1.940	1.815	1.749	1.674	1.576	1.871	10.31
66)	T	Ethylbenzene	3.543	3.447	3.120	2.983	3.133	3.039	2.916	2.786	2.592	3.062	9.75
67)	T	m- & p-Xylenes	2.871	2.725	2.466	2.464	2.591	2.474	2.372	2.252	2.078	2.477	9.58
68)	T	Bromoform	0.601	0.595	0.599	0.580	0.622	0.621	0.652	0.646	0.630	0.616	3.90
69)	T	Styrene	2.186	2.203	1.934	1.808	1.916	1.838	1.835	1.758	1.640	1.902	9.83
70)	T	o-Xylene	2.952	2.848	2.519	2.491	2.638	2.510	2.448	2.333	2.165	2.545	9.52

Method Path : J:\MS09\Methods\
Method File : R9101413.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

71)	T	n-Nonane	1.273	1.198	1.092	1.079	1.138	1.067	1.013	0.943	0.853	1.073	11.84
72)	T	1,1,2,2-Tetrac...	1.323	1.278	1.222	1.175	1.208	1.142	1.100	1.048	0.962	1.162	9.73
73)	S	Bromofluoroben...	1.041	1.034	1.041	1.048	1.034	1.038	1.046	1.055	1.056	1.044	0.80
74)	T	Cumene	3.805	3.617	3.404	3.279	3.417	3.269	3.154	2.991	2.755	3.299	9.56
75)	T	alpha-Pinene	1.804	1.759	1.599	1.564	1.603	1.566	1.539	1.468	1.358	1.584	8.55
76)	T	n-Propylbenzene	4.689	4.433	4.017	3.884	4.103	3.908	3.696	3.494	3.207	3.937	11.49
77)	T	3-Ethyltoluene	3.613	3.569	3.195	3.180	3.368	3.186	3.006	2.961	2.622	3.189	9.69
78)	T	4-Ethyltoluene	3.346	3.380	3.067	2.960	3.152	2.981	2.933	2.673	2.559	3.006	9.11
79)	T	1,3,5-Trimethy...	2.965	2.882	2.710	2.649	2.744	2.595	2.527	2.412	2.234	2.635	8.60
80)	T	alpha-Methylst...	1.492	1.428	1.298	1.345	1.298	1.298	1.353	1.301	1.202	1.335	6.30
81)	T	2-Ethyltoluene	3.588	3.441	3.151	3.089	3.229	2.997	2.885	2.747	2.531	3.073	10.75
82)	T	1,2,4-Trimethy...	3.039	3.007	2.761	2.699	2.787	2.643	2.535	2.366	2.111	2.661	11.09
83)	T	n-Decane	1.440	1.299	1.343	1.313	1.354	1.247	1.154	1.050	0.928	1.236	13.21
84)	T	Benzyl Chloride	2.092	2.035	1.807	1.810	1.980	2.042	2.134	2.041	1.863	1.978	6.17
85)	T	1,3-Dichlorobe...	1.913	1.870	1.718	1.651	1.661	1.531	1.488	1.427	1.313	1.619	12.30
86)	T	1,4-Dichlorobe...	2.016	1.975	1.718	1.659	1.719	1.587	1.546	1.487	1.384	1.677	12.55
87)	T	sec-Butylbenzene	3.849	3.801	3.569	3.481	3.621	3.371	3.239	3.057	2.789	3.420	10.14
88)	T	4-Isopropyltol...	3.823	3.691	3.452	3.435	3.543	3.311	3.131	2.887	2.517	3.310	12.36
89)	T	1,2,3-Trimethy...	3.215	3.055	2.828	2.764	2.836	2.650	2.540	2.369	2.109	2.707	12.50
90)	T	1,2-Dichlorobe...	1.821	1.873	1.613	1.569	1.616	1.493	1.445	1.381	1.259	1.563	12.64
91)	T	d-Limonene	0.950	0.876	0.867	0.904	0.890	0.843	0.857	0.799	0.717	0.856	7.80
92)	T	1,2-Dibromo-3-...	0.632	0.599	0.525	0.534	0.542	0.529	0.557	0.548	0.527	0.555	6.67
93)	T	n-Undecane	1.538	1.405	1.381	1.341	1.381	1.312	1.269	1.184	1.060	1.319	10.43
94)	T	1,2,4-Trichlor...	1.819	1.483	1.226	1.160	1.197	1.143	1.186	1.145	1.076	1.271	18.50
95)	T	Naphthalene			3.722	3.701	3.832	3.667	3.875	3.687	3.351	3.691	4.58
96)	T	n-Dodecane	1.404	1.351	1.295	1.288	1.310	1.240	1.258	1.169	1.041	1.262	8.41
97)	T	Hexachlorobuta...			0.814	0.756	0.749	0.720	0.728	0.713	0.679	0.737	5.77
98)	T	Cyclohexanone	1.002	0.885	0.786	0.756	0.777	0.761	0.763	0.736	0.696	0.796	11.60
99)	T	tert-Butylbenzene	2.929	2.953	2.639	2.590	2.666	2.514	2.384	2.209	1.953	2.537	12.69
100)	T	n-Butylbenzene	3.084	2.990	2.790	2.647	2.744	2.618	2.518	2.373	2.172	2.659	10.75

(#) = Out of Range

INTIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: **10141330.D**
Data File Path: **I:\MS09\Data\2013_10\14**
Operator: **WA**
Date Acquired: **10/15/2013** **8:45**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO-15 ICV STD (125mL)**
Misc Info: **S25-10071302/S25-09301301 (**
Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	AZ Check 70-130%
2)	Propene	3.76	20.0	25.00	80	70	130	*	*
3)	Dichlorodifluoromethane (CFC 1	3.87	22.0	25.50	86	70	130	*	*
4)	Chloromethane	4.08	25.9	24.75	105	70	130	*	*
5)	1,2-Dichloro-1,1,2,2-tetrafluoroetl	4.24	24.5	25.50	96	70	130	*	*
6)	Vinyl Chloride	4.35	24.6	25.00	98	70	130	*	*
7)	1,3-Butadiene	4.53	26.2	26.50	99	70	130	*	*
8)	Bromomethane	4.84	25.9	25.00	104	70	130	*	*
9)	Chloroethane	5.05	25.5	25.25	101	70	130	*	*
10)	Ethanol	5.28	133	127.75	104	70	130	*	*
11)	Acetonitrile	5.47	23.9	25.25	95	70	130	*	*
12)	Acrolein	5.60	25.4	26.75	95	70	130	*	*
13)	Acetone	5.74	128	134.50	95	70	130	*	*
14)	Trichlorofluoromethane	5.93	23.4	24.75	95	70	130	*	*
15)	2-Propanol (Isopropanol)	6.07	55.1	52.50	105	70	130	*	*
16)	Acrylonitrile	6.28	26.6	26.00	102	70	130	*	*
17)	1,1-Dichloroethene	6.62	26.6	26.75	99	70	130	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	6.71	54.1	52.25	104	70	130	*	*
19)	Methylene Chloride	6.77	24.0	27.00	89	70	130	*	*
20)	3-Chloro-1-propene (Allyl Chlorid	6.90	28.3	27.00	105	70	130	*	*
21)	Trichlorotrifluoroethane	7.09	26.3	26.75	98	70	130	*	*
22)	Carbon Disulfide	7.05	23.5	24.50	96	70	130	*	*
23)	trans-1,2-Dichloroethene	7.80	27.1	26.50	102	70	130	*	*
24)	1,1-Dichloroethane	8.01	25.5	26.00	98	70	130	*	*
25)	Methyl tert-Butyl Ether	8.08	27.0	26.50	102	70	130	*	*
26)	Vinyl Acetate	8.19	130	128.00	102	70	130	*	*
27)	2-Butanone (MEK)	8.42	26.4	27.25	97	70	130	*	*
28)	cis-1,2-Dichloroethene	8.89	27.1	26.75	101	70	130	*	*
29)	Diisopropyl Ether	9.12	25.1	27.25	92	70	130	*	*
30)	Ethyl Acetate	9.12	54.3	53.25	102	70	130	*	*
31)	n-Hexane	9.13	26.1	26.25	99	70	130	*	*
32)	Chloroform	9.20	25.7	26.75	96	70	130	*	*
34)	Tetrahydrofuran (THF)	9.58	25.0	25.75	97	70	130	*	*
35)	Ethyl tert-Butyl Ether	9.67	27.3	26.50	103	70	130	*	*
36)	1,2-Dichloroethane	9.94	26.1	26.25	99	70	130	*	*
38)	1,1,1-Trichloroethane	10.21	25.5	25.75	99	70	130	*	*
39)	Isopropyl Acetate	10.58	55.6	54.50	102	70	130	*	*
40)	1-Butanol	10.59	60.6	54.75	111	70	130	*	*
41)	Benzene	10.67	25.8	27.50	94	70	130	*	*
42)	Carbon Tetrachloride	10.82	26.6	26.25	101	70	130	*	*
43)	Cyclohexane	10.95	51.5	52.50	98	70	130	*	*
44)	tert-Amyl Methyl Ether	11.27	26.4	26.25	101	70	130	*	*
45)	1,2-Dichloropropane	11.49	26.0	26.50	98	70	130	*	*
46)	Bromodichloromethane	11.67	28.3	26.75	106	70	130	*	*
47)	Trichloroethene	11.73	26.2	26.00	101	70	130	*	*
48)	1,4-Dioxane	11.69	26.5	27.25	97	70	130	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	11.79	25.3	26.00	97	70	130	*	*

10/15/13

INTIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: **10141330.D**
Data File Path: **I:\MS09\Data\2013_10\14**
Operator: **WA**
Date Acquired: **10/15/2013** **8:45**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO-15 ICV STD (125mL)**
Misc Info: **S25-10071302/S25-09301301 (**
Instrument Name: **MS09**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	AZ Check 70-130%
50)	**Methyl Methacrylate**	**11.91**	**56.4**	**52.50**	107	**70**	**130**	*	*
51)	**n-Heptane**	**12.05**	**26.3**	**26.75**	98	**70**	**130**	*	*
52)	**cis-1,3-Dichloropropene**	**12.58**	**29.4**	**28.25**	104	**70**	**130**	*	*
53)	**4-Methyl-2-pentanone**	**12.61**	**29.6**	**27.25**	109	**70**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**13.09**	**28.6**	**27.00**	106	**70**	**130**	*	*
55)	**1,1,2-Trichloroethane**	**13.27**	**26.3**	**26.25**	100	**70**	**130**	*	*
58)	**Toluene**	**13.57**	**24.9**	**26.25**	95	**70**	**130**	*	*
59)	**2-Hexanone**	**13.81**	**29.8**	**27.75**	107	**70**	**130**	*	*
60)	**Dibromochloromethane**	**13.98**	**30.1**	**27.50**	109	**70**	**130**	*	*
61)	**1,2-Dibromoethane**	**14.24**	**28.0**	**27.00**	104	**70**	**130**	*	*
62)	**n-Butyl Acetate**	**14.46**	**30.6**	**28.00**	109	**70**	**130**	*	*
63)	**n-Octane**	**14.59**	**27.2**	**26.00**	105	**70**	**130**	*	*
64)	**Tetrachloroethene**	**14.73**	**25.2**	**24.50**	103	**70**	**130**	*	*
65)	**Chlorobenzene**	**15.43**	**26.8**	**27.00**	99	**70**	**130**	*	*
66)	**Ethylbenzene**	**15.83**	**27.0**	**26.50**	102	**70**	**130**	*	*
67)	**m- & p-Xylenes**	**16.02**	**53.5**	**52.50**	102	**70**	**130**	*	*
68)	**Bromoform**	**16.08**	**32.4**	**27.00**	120	**70**	**130**	*	*
69)	**Styrene**	**16.40**	**28.3**	**27.25**	104	**70**	**130**	*	*
70)	**o-Xylene**	**16.52**	**26.3**	**25.75**	102	**70**	**130**	*	*
71)	**n-Nonane**	**16.75**	**26.1**	**25.75**	101	**70**	**130**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**16.48**	**25.5**	**25.25**	101	**70**	**130**	*	*
74)	**Cumene**	**17.13**	**25.8**	**25.50**	101	**70**	**130**	*	*
75)	**alpha-Pinene**	**17.54**	**26.9**	**26.00**	103	**70**	**130**	*	*
76)	**n-Propylbenzene**	**17.66**	**25.3**	**25.25**	100	**70**	**130**	*	*
77)	3-Ethyltoluene	17.77	27.7	26.50	105	**70**	**130**	*	*
78)	**4-Ethyltoluene**	**17.82**	**26.5**	**26.50**	**100**	**70**	**130**	*	*
79)	**1,3,5-Trimethylbenzene**	**17.89**	**27.2**	**26.50**	**103**	**70**	**130**	*	*
80)	alpha-Methylstyrene	18.05	29.1	26.00	**112**	**70**	**130**	*	*
81)	2-Ethyltoluene	18.09	26.3	26.25	**100**	**70**	**130**	*	*
82)	**1,2,4-Trimethylbenzene**	**18.32**	**26.5**	**26.50**	**100**	**70**	**130**	*	*
83)	n-Decane	18.44	25.8	25.75	**100**	**70**	**130**	*	*
84)	**Benzyl Chloride**	**18.46**	**32.7**	**27.75**	**118**	**70**	**130**	*	*
85)	**1,3-Dichlorobenzene**	**18.48**	**26.8**	**27.75**	**97**	**70**	**130**	*	*
86)	**1,4-Dichlorobenzene**	**18.55**	**26.2**	**26.75**	**98**	**70**	**130**	*	*
87)	sec-Butylbenzene	18.61	27.3	27.00	**101**	**70**	**130**	*	*
88)	4-Isopropyltoluene (p-Cymene)	18.78	25.6	25.25	**101**	**70**	**130**	*	*
89)	1,2,3-Trimethylbenzene	18.77	26.9	26.50	**102**	**70**	**130**	*	*
90)	**1,2-Dichlorobenzene**	**18.91**	**26.7**	**27.25**	**98**	**70**	**130**	*	*
91)	**d-Limonene**	**18.93**	**28.8**	**26.25**	**110**	**70**	**130**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**19.37**	**28.5**	**26.50**	**108**	**70**	**130**	*	*
93)	n-Undecane	19.77	26.5	25.75	**103**	**70**	**130**	*	*
94)	**1,2,4-Trichlorobenzene**	**20.72**	**26.4**	**27.50**	**96**	**70**	**130**	*	*
95)	**Naphthalene**	**20.83**	**28.6**	**25.50**	**112**	**70**	**130**	*	*
96)	n-Dodecane	20.87	28.1	26.00	**108**	**70**	**130**	*	*
97)	**Hexachlorobutadiene**	**21.20**	**28.5**	**27.25**	**105**	**70**	**130**	*	*
98)	Cyclohexanone	16.17	28.7	27.50	104	**70**	**130**	*	*
99)	tert-Butylbenzene	18.32	26.9	26.75	101	**70**	**130**	*	*
100)	n-Butylbenzene	19.22	28.0	27.50	102	**70**	**130**	*	*

Bold = 75 Compound List
*** = Pass**

Evaluate Continuing Calibration Report

Data Path : I:\MS09\Data\2013_10\15\
Data File : 10151304.D
Acq On : 15 Oct 2013 12:00
Operator : SC
Sample : 25ng TO-15 CCV STD
Misc : S25-10071302/S25-10101301 (11/8)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 15 12:29:49 2013
Quant Method : J:\MS09\Methods\R9101413.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Oct 15 08:48:10 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	103	0.00
2	T	Propene	1.224	1.055	13.8	113	0.00
3	T	Dichlorodifluoromethane (CF	2.957	2.785	5.8	99	0.00
4	T	Chloromethane	1.993	1.901	4.6	94	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.628	1.548	4.9	95	0.00
6	T	Vinyl Chloride	1.660	1.584	4.6	104	0.00
7	T	1,3-Butadiene	0.987	0.989	-0.2	108	0.00
8	T	Bromomethane	1.249	1.227	1.8	102	0.00
9	T	Chloroethane	0.911	0.869	4.6	102	0.00
10	T	Ethanol	0.725	0.700	3.4	101	0.00
11	T	Acetonitrile	2.071	1.796	13.3	100	0.00
12	T	Acrolein	0.726	0.641	11.7	102	0.00
13	T	Acetone	0.824	0.749	9.1	102	0.00
14	T	Trichlorofluoromethane	2.368	2.163	8.7	101	0.00
15	T	2-Propanol (Isopropanol)	2.617	2.635	-0.7	102	0.00
16	T	Acrylonitrile	1.460	1.402	4.0	101	0.00
17	T	1,1-Dichloroethene	1.224	1.200	2.0	102	0.00
18	T	2-Methyl-2-Propanol (tert-B	2.922	2.933	-0.4	104	0.00
19	T	Methylene Chloride	1.375	1.270	7.6	101	0.00
20	T	3-Chloro-1-propene (Allyl C	1.407	1.406	0.1	103	0.00
21	T	Trichlorotrifluoroethane	1.191	1.128	5.3	102	0.00
22	T	Carbon Disulfide	5.006	4.529	9.5	102	0.00
23	T	trans-1,2-Dichloroethene	1.699	1.675	1.4	102	0.00
24	T	1,1-Dichloroethane	2.153	2.035	5.5	102	0.00
25	T	Methyl tert-Butyl Ether	3.593	3.535	1.6	102	0.00
26	T	Vinyl Acetate	0.286	0.284	0.7	103	0.00
27	T	2-Butanone (MEK)	0.795	0.751	5.5	102	0.00
28	T	cis-1,2-Dichloroethene	1.583	1.546	2.3	102	0.00
29	T	Diisopropyl Ether	1.083	0.952	12.1	102	0.00
30	T	Ethyl Acetate	0.398	0.391	1.8	103	0.00
31	T	n-Hexane	1.738	1.649	5.1	104	0.00
32	T	Chloroform	2.185	2.064	5.5	102	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.377	1.381	-0.3	103	0.00
34	T	Tetrahydrofuran (THF)	0.808	0.756	6.4	102	0.00
35	T	Ethyl tert-Butyl Ether	1.448	1.454	-0.4	103	0.00
36	T	1,2-Dichloroethane	1.575	1.522	3.4	102	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	104	0.00
38	T	1,1,1-Trichloroethane	0.392	0.374	4.6	102	0.00

Evaluate Continuing Calibration Report

Data Path : I:\MS09\Data\2013_10\15\
Data File : 10151304.D
Acq On : 15 Oct 2013 12:00
Operator : SC
Sample : 25ng TO-15 CCV STD
Misc : S25-10071302/S25-10101301 (11/8)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 15 12:29:49 2013
Quant Method : J:\MS09\Methods\R9101413.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Oct 15 08:48:10 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
39	T	Isopropyl Acetate	0.133	0.130	2.3	104	0.00
40	T	1-Butanol	0.207	0.208	-0.5	102	0.00
41	T	Benzene	0.987	0.900	8.8	103	0.00
42	T	Carbon Tetrachloride	0.341	0.336	1.5	102	0.00
43	T	Cyclohexane	0.382	0.362	5.2	103	0.00
44	T	tert-Amyl Methyl Ether	0.700	0.686	2.0	104	0.00
45	T	1,2-Dichloropropane	0.233	0.222	4.7	102	0.00
46	T	Bromodichloromethane	0.322	0.321	0.3	102	0.00
47	T	Trichloroethene	0.290	0.282	2.8	103	0.00
48	T	1,4-Dioxane	0.210	0.196	6.7	102	0.00
49	T	2,2,4-Trimethylpentane (Iso	0.997	0.942	5.5	103	0.00
50	T	Methyl Methacrylate	0.103	0.106	-2.9	103	0.00
51	T	n-Heptane	0.236	0.224	5.1	105	0.00
52	T	cis-1,3-Dichloropropene	0.383	0.384	-0.3	103	0.00
53	T	4-Methyl-2-pentanone	0.194	0.204	-5.2	104	0.00
54	T	trans-1,3-Dichloropropene	0.351	0.358	-2.0	103	0.00
55	T	1,1,2-Trichloroethane	0.251	0.242	3.6	103	0.00
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	102	0.00
57	S	Toluene-d8 (SS2)	2.685	2.709	-0.9	104	0.00
58	T	Toluene	2.946	2.637	10.5	103	0.00
59	T	2-Hexanone	1.118	1.111	0.6	103	0.00
60	T	Dibromochloromethane	0.728	0.741	-1.8	103	0.00
61	T	1,2-Dibromoethane	0.737	0.721	2.2	102	0.00
62	T	n-Butyl Acetate	1.214	1.256	-3.5	103	0.00
63	T	n-Octane	0.503	0.497	1.2	104	0.00
64	T	Tetrachloroethene	0.877	0.849	3.2	103	0.00
65	T	Chlorobenzene	1.871	1.759	6.0	103	0.00
66	T	Ethylbenzene	3.062	2.942	3.9	103	0.00
67	T	m- & p-Xylenes	2.477	2.382	3.8	103	0.00
68	T	Bromoform	0.616	0.650	-5.5	102	0.00
69	T	Styrene	1.902	1.853	2.6	103	0.00
70	T	o-Xylene	2.545	2.451	3.7	102	0.00
71	T	n-Nonane	1.073	1.032	3.8	104	0.00
72	T	1,1,2,2-Tetrachloroethane	1.162	1.101	5.2	102	0.00
73	S	Bromofluorobenzene (SS3)	1.044	1.046	-0.2	102	0.00
74	T	Cumene	3.299	3.179	3.6	103	0.00
75	T	alpha-Pinene	1.584	1.547	2.3	103	0.00
76	T	n-Propylbenzene	3.937	3.717	5.6	103	0.00

Evaluate Continuing Calibration Report

Data Path : I:\MS09\Data\2013_10\15\
Data File : 10151304.D
Acq On : 15 Oct 2013 12:00
Operator : SC
Sample : 25ng TO-15 CCV STD
Misc : S25-10071302/S25-10101301 (11/8)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 15 12:29:49 2013
Quant Method : J:\MS09\Methods\R9101413.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Oct 15 08:48:10 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
77	T	3-Ethyltoluene	3.189	2.966	7.0	101	0.00
78	T	4-Ethyltoluene	3.006	2.988	0.6	104	0.00
79	T	1,3,5-Trimethylbenzene	2.635	2.539	3.6	103	0.00
80	T	alpha-Methylstyrene	1.335	1.401	-4.9	106	0.00
81	T	2-Ethyltoluene	3.073	2.896	5.8	103	0.00
82	T	1,2,4-Trimethylbenzene	2.661	2.547	4.3	103	0.00
83	T	n-Decane	1.236	1.173	5.1	104	0.00
84	T	Benzyl Chloride	1.978	2.148	-8.6	103	0.00
85	T	1,3-Dichlorobenzene	1.619	1.495	7.7	103	0.00
86	T	1,4-Dichlorobenzene	1.677	1.545	7.9	102	0.00
87	T	sec-Butylbenzene	3.420	3.255	4.8	103	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.310	3.163	4.4	103	0.00
89	T	1,2,3-Trimethylbenzene	2.707	2.557	5.5	103	0.00
90	T	1,2-Dichlorobenzene	1.563	1.447	7.4	102	0.00
91	T	d-Limonene	0.856	0.876	-2.3	104	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.555	0.551	0.7	101	0.00
93	T	n-Undecane	1.319	1.279	3.0	103	0.00
94	T	1,2,4-Trichlorobenzene	1.271	1.151	9.4	99	0.00
95	T	Naphthalene	3.691	3.761	-1.9	99	0.00
96	T	n-Dodecane	1.262	1.238	1.9	101	0.00
97	T	Hexachlorobutadiene	0.737	0.714	3.1	100	0.00
98	T	Cyclohexanone	0.796	0.767	3.6	103	0.00
99	T	tert-Butylbenzene	2.537	2.388	5.9	102	0.00
100	T	n-Butylbenzene	2.659	2.523	5.1	102	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data Path : I:\MS09\Data\2013_10\16\
Data File : 10161301.D
Acq On : 16 Oct 2013 12:23
Operator : SC
Sample : 25ng TO-15 CCV STD
Misc : S25-10071302/S25-10101301 (11/8)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 16 13:07:08 2013
Quant Method : J:\MS09\Methods\R9101413.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Oct 15 08:48:10 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	107	0.00
2	T	Propene	1.224	1.277	-4.3	142	0.00
3	T	Dichlorodifluoromethane (CF	2.957	2.957	0.0	109	0.01
4	T	Chloromethane	1.993	2.088	-4.8	107	0.00
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.628	1.571	3.5	100	0.00
6	T	Vinyl Chloride	1.660	1.643	1.0	112	0.01
7	T	1,3-Butadiene	0.987	1.017	-3.0	115	0.00
8	T	Bromomethane	1.249	1.240	0.7	107	0.00
9	T	Chloroethane	0.911	0.888	2.5	108	0.00
10	T	Ethanol	0.725	0.722	0.4	109	0.01
11	T	Acetonitrile	2.071	1.855	10.4	107	0.01
12	T	Acrolein	0.726	0.658	9.4	109	0.01
13	T	Acetone	0.824	0.767	6.9	108	0.01
14	T	Trichlorofluoromethane	2.368	2.151	9.2	104	0.01
15	T	2-Propanol (Isopropanol)	2.617	2.674	-2.2	108	0.02
16	T	Acrylonitrile	1.460	1.429	2.1	107	0.01
17	T	1,1-Dichloroethene	1.224	1.210	1.1	107	0.01
18	T	2-Methyl-2-Propanol (tert-B	2.922	2.962	-1.4	109	0.02
19	T	Methylene Chloride	1.375	1.287	6.4	107	0.01
20	T	3-Chloro-1-propene (Allyl C	1.407	1.418	-0.8	108	0.00
21	T	Trichlorotrifluoroethane	1.191	1.123	5.7	106	0.01
22	T	Carbon Disulfide	5.006	4.589	8.3	107	0.00
23	T	trans-1,2-Dichloroethene	1.699	1.687	0.7	107	0.00
24	T	1,1-Dichloroethane	2.153	2.043	5.1	107	0.00
25	T	Methyl tert-Butyl Ether	3.593	3.536	1.6	106	0.00
26	T	Vinyl Acetate	0.286	0.281	1.7	106	0.01
27	T	2-Butanone (MEK)	0.795	0.749	5.8	106	0.00
28	T	cis-1,2-Dichloroethene	1.583	1.554	1.8	107	0.01
29	T	Diisopropyl Ether	1.083	0.946	12.7	106	0.00
30	T	Ethyl Acetate	0.398	0.391	1.8	108	0.00
31	T	n-Hexane	1.738	1.607	7.5	105	0.00
32	T	Chloroform	2.185	2.059	5.8	106	0.00
33	S	1,2-Dichloroethane-d4(SS1)	1.377	1.369	0.6	107	0.00
34	T	Tetrahydrofuran (THF)	0.808	0.756	6.4	107	0.00
35	T	Ethyl tert-Butyl Ether	1.448	1.451	-0.2	107	0.00
36	T	1,2-Dichloroethane	1.575	1.509	4.2	105	0.00
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	107	0.00
38	T	1,1,1-Trichloroethane	0.392	0.373	4.8	105	0.00

10/16/13

Evaluate Continuing Calibration Report

Data Path : I:\MS09\Data\2013_10\16\
Data File : 10161301.D
Acq On : 16 Oct 2013 12:23
Operator : SC
Sample : 25ng TO-15 CCV STD
Misc : S25-10071302/S25-10101301 (11/8)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 16 13:07:08 2013
Quant Method : J:\MS09\Methods\R9101413.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Oct 15 08:48:10 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
39	T	Isopropyl Acetate	0.133	0.130	2.3	108	0.00
40	T	1-Butanol	0.207	0.215	-3.9	108	0.00
41	T	Benzene	0.987	0.900	8.8	106	0.00
42	T	Carbon Tetrachloride	0.341	0.335	1.8	105	0.00
43	T	Cyclohexane	0.382	0.364	4.7	106	0.00
44	T	tert-Amyl Methyl Ether	0.700	0.690	1.4	107	0.00
45	T	1,2-Dichloropropane	0.233	0.225	3.4	107	0.00
46	T	Bromodichloromethane	0.322	0.321	0.3	106	0.00
47	T	Trichloroethene	0.290	0.281	3.1	106	0.00
48	T	1,4-Dioxane	0.210	0.197	6.2	106	0.00
49	T	2,2,4-Trimethylpentane (Iso	0.997	0.956	4.1	108	0.00
50	T	Methyl Methacrylate	0.103	0.106	-2.9	107	0.00
51	T	n-Heptane	0.236	0.219	7.2	106	0.00
52	T	cis-1,3-Dichloropropene	0.383	0.385	-0.5	106	0.00
53	T	4-Methyl-2-pentanone	0.194	0.204	-5.2	107	0.00
54	T	trans-1,3-Dichloropropene	0.351	0.359	-2.3	106	0.00
55	T	1,1,2-Trichloroethane	0.251	0.242	3.6	106	0.00
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	106	0.00
57	S	Toluene-d8 (SS2)	2.685	2.688	-0.1	107	0.00
58	T	Toluene	2.946	2.613	11.3	107	0.00
59	T	2-Hexanone	1.118	1.113	0.4	107	0.00
60	T	Dibromochloromethane	0.728	0.736	-1.1	106	0.00
61	T	1,2-Dibromoethane	0.737	0.714	3.1	105	0.00
62	T	n-Butyl Acetate	1.214	1.262	-4.0	108	0.00
63	T	n-Octane	0.503	0.490	2.6	107	0.00
64	T	Tetrachloroethene	0.877	0.835	4.8	105	0.00
65	T	Chlorobenzene	1.871	1.739	7.1	106	0.00
66	T	Ethylbenzene	3.062	2.920	4.6	106	0.00
67	T	m- & p-Xylenes	2.477	2.372	4.2	106	0.00
68	T	Bromoform	0.616	0.649	-5.4	106	0.00
69	T	Styrene	1.902	1.844	3.0	107	0.00
70	T	o-Xylene	2.545	2.444	4.0	106	0.00
71	T	n-Nonane	1.073	1.030	4.0	108	0.00
72	T	1,1,2,2-Tetrachloroethane	1.162	1.111	4.4	107	0.00
73	S	Bromofluorobenzene (SS3)	1.044	1.049	-0.5	107	0.00
74	T	Cumene	3.299	3.154	4.4	106	0.00
75	T	alpha-Pinene	1.584	1.538	2.9	106	0.00
76	T	n-Propylbenzene	3.937	3.705	5.9	107	0.00

Evaluate Continuing Calibration Report

Data Path : I:\MS09\Data\2013_10\16\
Data File : 10161301.D
Acq On : 16 Oct 2013 12:23
Operator : SC
Sample : 25ng TO-15 CCV STD
Misc : S25-10071302/S25-10101301 (11/8)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 16 13:07:08 2013
Quant Method : J:\MS09\Methods\R9101413.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Tue Oct 15 08:48:10 2013
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
77	T	3-Ethyltoluene	3.189	2.954	7.4	104	0.00
78	T	4-Ethyltoluene	3.006	2.984	0.7	108	0.00
79	T	1,3,5-Trimethylbenzene	2.635	2.526	4.1	106	0.00
80	T	alpha-Methylstyrene	1.335	1.392	-4.3	109	0.00
81	T	2-Ethyltoluene	3.073	2.881	6.2	106	0.00
82	T	1,2,4-Trimethylbenzene	2.661	2.536	4.7	106	0.00
83	T	n-Decane	1.236	1.173	5.1	108	0.00
84	T	Benzyl Chloride	1.978	2.145	-8.4	107	0.00
85	T	1,3-Dichlorobenzene	1.619	1.483	8.4	106	0.00
86	T	1,4-Dichlorobenzene	1.677	1.541	8.1	106	0.00
87	T	sec-Butylbenzene	3.420	3.247	5.1	107	0.00
88	T	4-Isopropyltoluene (p-Cymen	3.310	3.144	5.0	107	0.00
89	T	1,2,3-Trimethylbenzene	2.707	2.554	5.7	107	0.00
90	T	1,2-Dichlorobenzene	1.563	1.446	7.5	106	0.00
91	T	d-Limonene	0.856	0.880	-2.8	109	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.555	0.555	0.0	106	0.00
93	T	n-Undecane	1.319	1.294	1.9	108	0.00
94	T	1,2,4-Trichlorobenzene	1.271	1.173	7.7	105	0.00
95	T	Naphthalene	3.691	3.870	-4.8	106	0.00
96	T	n-Dodecane	1.262	1.275	-1.0	108	0.00
97	T	Hexachlorobutadiene	0.737	0.722	2.0	105	0.00
98	T	Cyclohexanone	0.796	0.773	2.9	108	0.00
99	T	tert-Butylbenzene	2.537	2.366	6.7	105	0.00
100	T	n-Butylbenzene	2.659	2.527	5.0	107	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
14	10/14/13 19:36	10141314.D	12.5ng TO-15 BFB STD	S25-10071302	WA	4	*Pass*
15	10/14/13 20:10	10141315.D	0.08ng TO-15 ICAL STD	S25-10071302/S25-10141302 (11/12)	WA	9	*CF-rerun*
16	10/14/13 20:43	10141316.D	0.10ng TO-15 ICAL STD	S25-10071302/S25-10141302 (11/12)	WA	9	*CF-rerun*
17	10/14/13 21:17	10141317.D	0.20ng TO-15 ICAL STD	S25-10071302/S25-10141302 (11/12)	WA	9	
18	10/14/13 21:51	10141318.D	0.40ng TO-15 ICAL STD	S25-10071302/S25-10141302 (11/12)	WA	9	
19	10/14/13 22:25	10141319.D	1.0ng TO-15 ICAL STD	S25-10071302/S25-10021304 (11/1)	WA	9	
20	10/14/13 22:59	10141320.D	5.0ng TO-15 ICAL STD	S25-10071302/S25-10021304 (11/1)	WA	15	
21	10/14/13 23:33	10141321.D	25ng TO-15 ICAL STD	S25-10071302/S25-09231303 (10/21)	WA	15	
22	10/15/13 0:07	10141322.D	50ng TO-15 ICAL STD	S25-10071302/S25-09231303 (10/21)	WA	13	
23	10/15/13 0:41	10141323.D	100ng TO-15 ICAL STD	S25-10071302/S25-09231303 (10/21)	WA	13	
24	10/15/13 1:15	10141324.D	25ng TO-15 ICV STD	S25-10071302/S25-09301301 (10/28)	WA	13	
25	10/15/13 1:49	10141325.D	25ng TO-15 ICV STD (125mL)	S25-10071302/S25-09301301 (10/28)	WA	4	*CF-rerun*
26	10/15/13 2:23	10141326.D	Blank	S25-10071302	WA	4	
27	10/15/13 7:27	10141327.D	0.08ng TO-15 ICAL STD	S25-10071302/S25-10141302 (11/12)	WA	9	
28	10/15/13 8:01	10141328.D	0.10ng TO-15 ICAL STD	S25-10071302/S25-10141302 (11/12)	WA	9	
29	10/15/13 8:45	10141330.D	25ng TO-15 ICV STD (125mL)	S25-10071302/S25-09301301 (10/28)	WA	4	*Pass all cmpds*
	Saved as R9101413.M: good from 0.4ng ---> 100ng for all compounds.						

26	10/15/2013 2:23	10141326.D	Blank	S25-10071302	WA	4	
27	10/15/2013 7:27	10141327.D	0.08ng TO-15 ICAL STD	S25-10071302/S25-10141302 (11/12)	WA	9	
28	10/15/2013 8:01	10141328.D	0.10ng TO-15 ICAL STD	S25-10071302/S25-10141302 (11/12)	WA	9	
29	10/15/2013 8:45	10141330.D	25ng TO-15 ICV STD (125mL)	S25-10071302/S25-09301301 (10/28)	WA	4	pass

MS09 TO-15 ICal RS10413.M Spiked 0.4ng/L – 100ng/L all Compounds not good for Low level.

10/15/13

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	10/15/2013 9:26	10151301.D	25ng TO-15 CCV STD	S25-10071302/S25-09231303 (10/21)	SC	13	cf
2	10/15/2013 10:14	10151302.D	25ng TO-15 STD Check	S25-10071302/S25-09231303 (10/21)	SC	13	cf
3	10/15/2013 11:09	10151303.D	5ng TO-15 STD Check	S25-10071302/S25-10021304 (10/29)	SC	15	cf
4	10/15/2013 12:00	10151304.D	25ng TO-15 CCV STD	S25-10071302/S25-10101301 (11/8)	SC	1	pass
5	10/15/2013 12:58	10151305.D	TO-15 Method Blank (1000ml)	S25-10071302	SC	4	pass
6	10/15/2013 13:42	10151306.D	25ng TO-15 LCS STD (125ml)	S25-10071302/S25-09301301 (10/29)	SC	4	cf
7	10/15/2013 14:38	10151307.D	P1304522-001 (400ml)	S25-10071302	SC	3	
8	10/15/2013 15:12	10151308.D	P1304411-001 Dil(25ml)	S25-10071302	SC	2	
9	10/15/2013 15:45	10151309.D	P1304411-001DUP Dil(25ml)	S25-10071302	SC	2	cf
10	10/15/2013 16:20	10151310.D	25ng TO-15 LCS STD (125ml)	S25-10071302/S25-09301301 (10/29)	SC	4	pass
11	10/15/2013 16:53	10151311.D	25ng TO-15 LCSD STD (125ml)	S25-10071302/S25-09301301 (10/29)	SC	4	cf
12	10/15/2013 17:27	10151312.D	Blank (100ml)	S25-10071302	SC	4	
13	10/15/2013 18:01	10151313.D	P1304523-001 (400ml)	S25-10071302	SC	6	
14	10/15/2013 18:35	10151314.D	P1304523-002 (400ml)	S25-10071302	SC	7	
15	10/15/2013 19:09	10151315.D	P1304524-001 (400ml)	S25-10071302	SC	8	
16	10/15/2013 19:43	10151316.D	P1304524-002 (400ml)	S25-10071302	SC	9	
17	10/15/2013 20:16	10151317.D	P1304525-001 (400ml)	S25-10071302	SC	10	
18	10/15/2013 20:50	10151318.D	P1304525-002 (400ml)	S25-10071302	SC	11	
19	10/15/2013 21:24	10151319.D	P1304526-001 (400ml)	S25-10071302	SC	12	
20	10/15/2013 21:58	10151320.D	P1304526-002 (400ml)	S25-10071302	SC	13	
21	10/15/2013 22:32	10151321.D	P1304411-001DUP Dil(25ml)	S25-10071302	SC	2	cf
22	10/15/2013 23:05	10151322.D	25ng TO-15 LCSD STD (125ml)	S25-10071302/S25-09301301 (10/29)	SC	4	pass
23	10/16/2013 8:54	10151323.D	P1304524-001 Dup (400ml)	S25-10071302	SC	8	pass
24	10/16/2013 9:59	10151324.D	P1304496-001 (0.1ml)	S25-10071302	SC	5	
25	10/16/2013 10:32	10151325.D	P1304524-002 Dil(40ml)	S25-10071302	SC	9	
26	10/16/2013 11:09	10151326.D	P1304496-002 (0.15ml)	S25-10071302	SC	5	
27	10/16/2013 11:43	10151327.D	P1304526-002 Dil(40ml)	S25-10071302	SC	13	

10/17/13

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	10/16/2013 12:23	10161301.D	25ng TO-15 CCV STD	S25-10071302/S25-10101301 (11/8)	SC	1	*pass*
2	10/16/2013 13:25	10161302.D	5ng TO-15 AC&F CCV STD	S25-10071302/S25-09201304 (10/19)	SC	4	*pass*
3	10/16/2013 14:18	10161303.D	TO-15 Method Blank (1000ml)	S25-10071302	SC	4	*pass*
4	10/16/2013 15:01	10161304.D	P1304586-001 (25ml)	S25-10071302	SC	3	
5	10/16/2013 15:35	10161305.D	25ng TO-15 LCS STD (125ml)	S25-10071302/S25-09301301 (10/29)	SC	4	*pass*
6	10/16/2013 16:09	10161306.D	25ng TO-15 LCSD STD (125ml)	S25-10071302/S25-09301301 (10/29)	SC	4	*pass*
7	10/16/2013 17:13	10161307.D	P1304496-003 (0.15ml)	S25-10071302	SC	5	
8	10/16/2013 17:47	10161308.D	P1304587-001 Dil(20ml)	S25-10071302	SC	2	
9	10/16/2013 18:21	10161309.D	P1304586-001 (20ml)	S25-10071302	SC	3	
10	10/16/2013 18:55	10161310.D	P1304533-001 (1000ml)	S25-10071302	SC	6	
11	10/16/2013 19:29	10161311.D	P1304533-002 (1000ml)	S25-10071302	SC	7	
12	10/16/2013 20:04	10161312.D	P1304533-003 (1000ml)	S25-10071302	SC	8	
13	10/16/2013 20:38	10161313.D	P1304533-004 (1000ml)	S25-10071302	SC	9	
14	10/16/2013 21:12	10161314.D	P1304533-005 (1000ml)	S25-10071302	SC	10	
15	10/16/2013 21:46	10161315.D	P1304533-006 (1000ml)	S25-10071302	SC	11	
16	10/16/2013 22:20	10161316.D	P1304532-001 (1000ml)	S25-10071302	SC	12	
17	10/16/2013 22:54	10161317.D	P1304532-002 (1000ml)	S25-10071302	SC	13	
18	10/16/2013 23:28	10161318.D	P1304532-003 (1000ml)	S25-10071302	SC	14	
19	10/17/2013 0:03	10161319.D	P1304532-004 (1000ml)	S25-10071302	SC	15	
20	10/17/2013 0:37	10161320.D	P1304532-005 (1000ml)	S25-10071302	SC	16	
21	10/17/2013 1:10	10161321.D	P1304532-006 (1000ml)	S25-10071302	SC	1	
22	10/17/2013 1:44	10161322.D	P1304532-006 DUP(1000ml)	S25-10071302	SC	1	*pass*
23	10/17/2013 2:19	10161323.D	25ng TO-15 AC&F LCS STD (125ml)	S25-10071302/S25-09201307 (10/19)	SC	4	*pass*
24	10/17/2013 2:53	10161324.D	25ng TO-15 AC&F LCSD STD (125ml)	S25-10071302/S25-09201307 (10/19)	SC	4	*pass*
25	10/17/2013 9:26	10161325.D	P1304496-004 (0.20ml)	S25-10071302	SC	5	
26	10/17/2013 10:00	10161326.D	P1304587-001 (50ml)	S25-10071302	SC	2	
27	10/17/2013 10:34	10161327.D	P1304496-004 Dil(0.10ml)	S25-10071302	SC	5	

10/17/13

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	10/17/2013 11:21	10171301.D	25ng TO-15 CCV STD	S25-10071302/S25-10101301 (11/8)	SC	2	*std check*
2	10/17/2013 11:55	10171302.D	5ng TO-15 AC&F CCV STD	S25-10071302/S25-09201305 (10/19)	SC	3	*pass*
3	10/17/2013 12:29	10171303.D	5ng TO-15 CCV STD	S25-10071302/S25-10101305 (11/8)	SC	2	*pass*
4	10/17/2013 13:25	10171304.D	TO-15 Method Blank (1000ml)	S25-10071302	SC	4	*pass*
5	10/17/2013 14:09	10171305.D	P1304533-005 Dil(50ml)	S25-10071302	SC	10	
6	10/17/2013 14:43	10171306.D	25ng TO-15 LCS STD (125ml)	S25-10071302/S25-09301301 (10/29)	SC	4	*pass*
7	10/17/2013 15:17	10171307.D	25ng TO-15 LCSD STD (125ml)	S25-10071302/S25-09301301 (10/29)	SC	4	*cf*
8	10/17/2013 15:51	10171308.D	P1304609-001 (25ml)	S25-10071302	SC	6	
9	10/17/2013 16:25	10171309.D	J1306154-001 (100ml)	S25-10071302	SC	7	
10	10/17/2013 17:36	10171310.D	P1304552-001 (1000ml)	S25-10071302	SC	1	
11	10/17/2013 18:10	10171311.D	P1304552-002 (1000ml)	S25-10071302	SC	2	

10/18/13

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LABORATORY REPORT

December 4, 2013

Susan Huang
CB&I
4005 Port Chicago Highway
Concord, CA 94520

RE: Kirtland AFB / 140705

Dear Susan:

Your report number P1304756 has been amended for the samples submitted to our laboratory on October 24, 2013. The CARB 422 result page did not include a "J" flag on the method blank result and "B" flags on the sample results. The corrected page has the "Revised Page" footer on the lower right of each page.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Aguilera

By Kate Aguilera at 2:42 pm, Dec 04, 2013

Kate Aguilera
Project Manager

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Client: CB&I
Project: Kirtland AFB / 140705

Service Request No: P1304756

CASE NARRATIVE

The samples were received intact under chain of custody on October 24, 2013 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

1,2-Dibromoethane Analysis

The samples were analyzed for 1,2-Dibromoethane according to modified CARB Method 422 using a gas chromatograph equipped with an electron capture detector (ECD). This method is not included on the laboratory's NELAP, DoD-ELAP, or AIHA-LAP scope of accreditation.

Volatile Organic Compound Analysis

The samples were also analyzed for selected volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is not included on the laboratory's AIHA-LAP scope of accreditation. Any analytes flagged with an X are not included on the laboratory's NELAP or DoD-ELAP scope of accreditation.

Manual integrations were performed on the following sample(s) and analyte(s). Refer to the raw data for additional information.

Sample Identification(s)	Analyte(s)
P1304756-002, 004, 005	Propene

The Summa canisters were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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ALS Environmental – Simi Valley

Certifications, Accreditations, and Registrations

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L11-203
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2012039
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	581572
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	CA200007
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-13-4
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272013-3
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS Environmental – Simi Valley

Certifications, Accreditations, and Registrations

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L11-203
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2012039
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	581572
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	CA200007
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-13-4
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272013-3
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: CB&I

Project ID: Kirtland AFB / 140705

Service Request: P1304756

Date Received: 10/24/2013

Time Received: 09:55

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	None - MISC_SVG1	TO-15 - VOC Cans
KAFB-106154-PT-001	P1304756-001	Air	10/18/2013	08:44	SC01565	-4.95	3.65	X	X
KAFB-106154-PT-002	P1304756-002	Air	10/18/2013	16:45	SC00301	-4.22	3.70	X	X
KAFB-106154-PT-003	P1304756-003	Air	10/18/2013	16:45	SC01597	-4.58	3.65	X	X
KAFB-106149-PT-001	P1304756-004	Air	10/16/2013	12:00	SC00163	-4.55	3.66	X	X
KAFB-106149-PT-002	P1304756-005	Air	10/16/2013	18:50	SC01058	-4.89	3.70	X	X

Shaw Environmental and Infrastructure Inc., a CB&I Co.

CHAIN OF CUSTODY

Reference Document # 140705-SG TB02

Page 1 of 1

P1304756

Project Number: 140705
Project Name / Location: Kirtland AFB
Purchase Order #: 860167
Shipment Date: 10/21/13
UPS ~~FedEx~~ Number: 1Z 103 35E 03 4515 8442

Project Manager: Tom Cooper
Send Report To: Susan Huang
Phone/Fax Number: 925-288-2099
Address: 4005 Port Chicago Hwy
City: Concord, CA 94520
susan.huang@cbifederalservices.com

Lab Destination: ALS - Simi Valley
Mon-Sat DELIVERY
2655 Park Center Drive, Suite A
Simi Valley, CA 93065 USA
Lab Contact Name: Kate Kaneko Aguilera
Phone #: 805-577-2089

Sampler's Name(s): V. Bracht, G. Peacock

Analyses Requested

	Sample ID Number	Location	Date	Time	Method	Matrix	# of containers	Preservative / Container	VOCs: TO-15	EDB: CARB 422	QC'd by TNuoga 10/21/13			MS/MSD	
								Preservative	none						
								Container	1x6 L Summa Canister						
1	KAFB-106154-PT-001	KAFB-106154-349	10/18/13	0844	G	SG	1	NA	X	X	✓				-4.43
2	KAFB-106154-PT-002	KAFB-106154-349	10/18/13	1645	G	SG	1	NA	X	X	✓				-4.56
3	KAFB-106154-PT-003	KAFB-106154-349	10/18/13	1645	G	SG	1	NA	X	X	✓				-4.10
4	KAFB-106149-PT-001	KAFB-106149-349	10/16/13	1200	G	SG	1	NA	X	X	✓				-4.54
5	KAFB-106149-PT-002	KAFB-106149-349	10/16/13	1850	G	SG	1	NA	X	X	✓				-4.84

Special Instructions:

Turnaround Time: ■ Standard 21-day ☐ 24-hr ☐ 48-hr ☐ 3-day ☐ 5-day

Level Of QC Required: I II (III) IV Project Specific: unless IV requested

Relinquished By: V. Bracht Date: 10/21/13 Time: 1600

Received By: [signature] Date: 10/24/13 Time: 0456

Relinquished By: Date: Time:

Received By: Date: Time:

Method Codes
CS = Composite
G = Grab

Matrix Codes
SG = Soil Gas

CS ok

ALS Environmental
Sample Acceptance Check Form

Client: CB&I Work order: P1304756

Project: Kirtland AFB / 140705

Sample(s) received on: 10/24/13 Date opened: 10/24/13 by: MZAMORA

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by ALS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
6	Was **sample volume** received adequate for analysis?	☒	☐	☐
7	Are samples within specified holding times?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
9	Was a **trip blank** received?	☐	☒	☐
10	Were **custody seals** on outside of cooler/Box?	☒	☐	☐
	Location of seal(s)? Top of box, covering opening. Sealing Lid?	☒	☐	☐
	Were signature and date included?	☒	☐	☐
	Were seals intact?	☒	☐	☐
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
11	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
12	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
13	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1304756-001.01	6.0 L Source Can					
P1304756-002.01	6.0 L Source Can					
P1304756-003.01	6.0 L Source Can					
P1304756-004.01	6.0 L Source Can					
P1304756-005.01	6.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304756

1,2-Dibromoethane

Test Code: CARB 422 Modified
Instrument ID: HP5890/GC3/ECD
Analyst: Madeleine Dangazyan
Sample Type: 6.0 L Summa Canister(s)
Test Notes:

Date(s) Collected: 10/16 - 10/18/13
Date Received: 10/24/13
Date Analyzed: 10/29/13

Client Sample ID	ALS Sample ID	Injection Volume ml(s)	Canister Dilution Factor	**Result µg/m³**	MRL µg/m³	MDL µg/m³	**Result ppbV**	MRL ppbV	MDL ppbV	Data Qualifier
KAFB-106154-PT-001	P1304756-001	1.0	1.88	**210**	7.2	1.5	**27**	0.94	0.19	**B**
KAFB-106154-PT-002	P1304756-002	1.0	1.76	**320**	6.8	1.4	**42**	0.88	0.18	**B**
KAFB-106154-PT-003	P1304756-003	1.0	1.81	**190**	7.0	1.4	**24**	0.91	0.18	**B**
KAFB-106149-PT-001	P1304756-004	1.0	1.81	**260**	7.0	1.4	**33**	0.91	0.18	**B**
KAFB-106149-PT-002	P1304756-005	1.0	1.88	**480**	7.2	1.5	**63**	0.94	0.19	**B**
Method Blank	P131029-MB	1.00	1.00	**2.4**	3.8	0.77	**0.32**	0.50	0.10	**J**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE / DUPLICATE LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Duplicate Lab Control Sample**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304756
ALS Sample ID: P131029-DLCS

Test Code: CARB 422 Modified
Instrument ID: HP5890/GC3/ECD
Analyst: Madeleine Dangazyan
Sample Type: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 10/29/13
Volume(s) Analyzed: NA ml

CAS #	Compound	Spike Amount LCS / DLCS ppbV	Result LCS ppbV	Result DLCS ppbV	% Recovery LCS	% Recovery DLCS	ALS Acceptance Limits	RPD	RPD Limit	Data Qualifier
106-93-4	1,2-Dibromoethane	50.0	49.7	53.0	**99**	**106**	70-130	7	15	

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **CB&I**
Client Sample ID: **KAFB-106154-PT-001**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304756
ALS Sample ID: P1304756-001DUP

Test Code: CARB 422 Modified
Instrument ID: HP5890/GC3/ECD
Analyst: Madeleine Dangazyan
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC01565

Date Collected: 10/18/13
Date Received: 10/24/13
Date Analyzed: 10/29/13
Volume(s) Analyzed: 1.0 ml

Initial Pressure (psig): -4.95 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.88

CAS #	Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average	% RPD	RPD Limit	Data Qualifier
106-93-4	1,2-Dibromoethane	**26.9**	**27.5**	27.2	**2**	15	**B**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **CB&I**
Client Sample ID: **KAFB-106149-PT-002**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304756
ALS Sample ID: P1304756-005DUP

Test Code: CARB 422 Modified
Instrument ID: HP5890/GC3/ECD
Analyst: Madeleine Dangazyan
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC01058

Date Collected: 10/16/13
Date Received: 10/24/13
Date Analyzed: 10/29/13
Volume(s) Analyzed: 1.0 ml

Initial Pressure (psig): -4.89 Final Pressure (psig): 3.70

Canister Dilution Factor: 1.88

CAS #	Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average	% RPD	RPD Limit	Data Qualifier
106-93-4	1,2-Dibromoethane	**63.1**	**56.4**	59.75	**11**	15	**B**

U = Compound was analyzed for, but not detected above the laboratory detection limit.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Project ID: **Kirtland AFB / 140705** ALS Project ID: P1304756

Method Blank Summary

Test Code: CARB 422 Modified
Instrument ID: HP5890/GC3/ECD Lab File ID: 10291304.D
Analyst: Madeleine Dangazyan Date Analyzed: 10/29/13
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 10:21
Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P131029-LCS	10291305.D	10:33
Duplicate Lab Control Sample	P131029-DLCS	10291306.D	10:44
KAFB-106154-PT-001	P1304756-001	10291308.D	11:25
KAFB-106154-PT-001 (Lab Duplicate)	P1304756-001DUP	10291309.D	11:39
KAFB-106154-PT-002	P1304756-002	10291310.D	11:50
KAFB-106154-PT-003	P1304756-003	10291311.D	12:02
KAFB-106149-PT-001	P1304756-004	10291312.D	12:24
KAFB-106149-PT-002	P1304756-005	10291313.D	12:35
KAFB-106149-PT-002 (Lab Duplicate)	P1304756-005DUP	10291314.D	12:47

Method Path : J:\GC03\METHODS\
Method File : CARB_12DBE_102113E.M
Title : GC#3 GC/ECD CARB422
Last Update : Tue Oct 22 09:10:31 2013
Response Via : Initial Calibration

Calibration Files
0.5 =10211306.D 1.0 =10211307.D 5.0 =10211308.D
10 =10211309.D 25 =10211313.D 50 =10211311.D

	Compound	0.5	1.0	5.0	10	25	50	Avg	%RSD
1)	1,2-Dibromoet...	1.543	1.503	1.433	1.363	1.743	1.595	1.508 E5	8.91

(#) = Out of Range ### Number of calibration levels exceeded format ###

linear Regression

1,2-Dibromoethane.

(Carb 422)

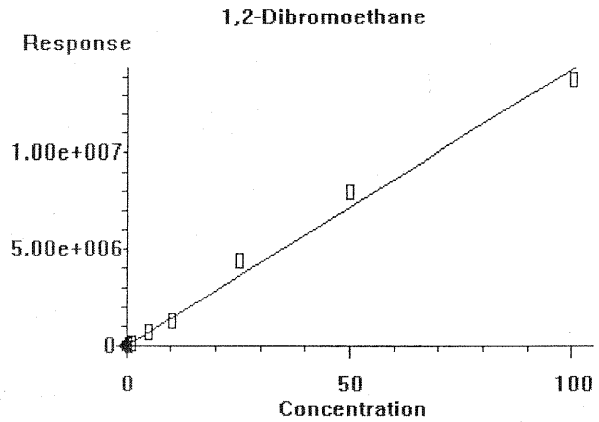
Edit Compounds

Search by Retention Time | Find Compound

- Compound Database
- External Standard Compour
  - 1,2-Dibromoethane

Identification | Calibration | User Defined | Advanced | Reporting

Lvl ID	Conc	Response	Lvl ID	Conc	Response
0.5	0.500000	77172.312782			
1.0	1.000000	150332.591058			
5.0	5.000000	716501.656498			
10	10.000000	1362947.622544			
25	25.000000	4357278.923830			
50	50.000000	7975158.272491			
100	100.000000	13755703.12768			



Quadratic term:	0.000e+000
Linear term:	1.434e+005
Constant term:	0.000e+000
Coef of Det	0.991273

OK | Cancel | Help | Print Calibration Curve | Copy Calibration Curve

Evaluate Continuing Calibration Report

Data Path : J:\GC03\DATA\ECD\CARB\2013_10\21\
Data File : 10211314.D
Signal(s) : ECD1B.CH
Acq On : 21-Oct-2013, 14:18
Operator : MD
Sample : 50ppb 0.5mL ICV
Misc : S28-10211308
ALS Vial : 2 Sample Multiplier: 1

Integration File: events.e
Quant Time: Oct 22 09:15:26 2013
Quant Method : J:\GC03\METHODS\CARB_12DBE_102113E.M
Quant Title : GC#3 GC/ECD CARB422
QLast Update : Tue Oct 22 09:10:31 2013
Response via : Initial Calibration
DataAcq Meth:CARB.M

Volume Inj. : 0.5mL
Signal Phase : RTX-1
Signal Info : 60m x 0.53mm x 5um

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	50.000	64.628	-29.3	116	0.00

Evaluate Continuing Calibration Report - Not Founds

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CARB 422 QC

CCV

S28-10291304	56.01
(ACTUAL)	50.00
%DIFFERENCE	12.0%
LCS S28-10291305	49.67
(ACTUAL)	50.00
%RECOVERY	99.3%
LCSD S28-10291305	52.96
(ACTUAL)	50.00
%RECOVERY	105.9%
% RPD	**6.4%**
END STD	48.22
(ACTUAL)	50.00
%DIFFERENCE	3.6%

Molecular Weight

1,2-Dibromoethane	187.88

Injection Log

Directory: J:\GC03\DATA\ECD\CARB\2013_10\21

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	10211301.d	1.	sys blk		21-Oct-2013 22:08
2	1	10211302.d	1.	1,2-dirbomoethan		21-Oct-2013 22:18
3	1	10211303.d	1.	1000ppb		21-Oct-2013 22:24
4	1	10211304.d	1.	n2 blank		21-Oct-2013 23:09
5	1	10211305.d	1.	N2 blk 1.0mL		21-Oct-2013 12:09
6	2	10211306.d	1.	0.5ppb 50uL	S28-10211307	21-Oct-2013 12:19
7	2	10211307.d	1.	1ppb 100uL	s28-10211307	21-Oct-2013 12:51
8	2	10211308.d	1.	5ppb 0.5mL	S28-10211307	21-Oct-2013 12:58
9	2	10211309.d	1.	10ppb 1mL	S28-10211307	21-Oct-2013 25:06
10	2	10211310.d	1.	25ppb 0.25mL	S28-10211306	21-Oct-2013 25:15
11	2	10211311.d	1.	50ppb 0.5mL	S28-10211306	21-Oct-2013 25:23
12	2	10211312.d	1.	100ppb 1.0mL	S28-10211306	21-Oct-2013 25:31
13	2	10211313.d	1.	25ppb 0.25mL	S28-10211306 re-i...	21-Oct-2013 25:54
14	2	10211314.d	1.	50ppb 0.5mL ICV	S28-10211308	21-Oct-2013 26:18

Columbia Analytical Services™

SAMPLE RUN LOG, GC 03

ID: HP5890 ECD/FID

Carb 422

DATE : 10 / 29 / 13 TYPE OF ANALYSIS: 1,2-Dibromoethane

CLIENT: CB & I

HP AUTOINJECTOR 7673 USED : ☐ Y ☑ N SOLVENT : NA INJECTION VOLUME : 1.0 ml

INJECTOR : A. PACKED COLUMN _____ B. SPLIT/SPLITLESS

INJECTOR TEMP.: _____ °C SPLIT RATIO : _____ /1, N/A

COLUMN ID : See p. 62

TEMPERATURE PROGRAMMING : CARRIER GAS : He _____ ml/min

INITIAL AT _____ °C FOR _____ min

RAMP RATE _____ °C/min TO _____ °C HOLD FOR _____ min

RAMP RATE _____ °C/min TO _____ °C HOLD FOR _____ min

FINAL AT _____ °C FOR _____ min

ECD signal ~89

DETECTOR INFORMATION :

HP ECD #03 : ____ °C N2 Make-up 50 ml/min

HP FID #03 : ____ °C

DATA SYSTEM : HP Chemstation DATA PATHWAY: J:\GC03\DATA\ECD\CARB\2013-10\29

EXCEL REPORT FILE: METHOD FILE NAME : J:\GC03\METHODS\CARB\CARB-12DBE-102113E.M

01	Prime		
02	50 ppb CCV 0.5 ml S28-10291304		
X- 03	N_2 blank 1.0 ml		
04	N_2 blank 1.0 ml		
05	LCS 50 ppb 0.5 ml S28-10291305		
06	LCSD		
-X- 07	P1304756-001	0.1 ml	
08	-001	1.0 ml	
09	-001	1.0 ml dup	
10	-002	1.0 ml	
11	-003		
12	-004		
13	-005		
14	-005 dup		
15	End std 50 ppb 0.5 mL		
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MM 10/29/13

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106154-PT-001** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304756-001

Test Code: EPA TO-15 Date Collected: 10/18/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/24/13
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: SC01565

Initial Pressure (psig): -4.95 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**180**	270	170	76	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	95	95	59	32	**U**
74-87-3	Chloromethane	230	230	140	68	**U**
75-01-4	Vinyl Chloride	180	180	110	63	**U**
106-99-0	1,3-Butadiene	210	210	160	94	**U**
74-83-9	Bromomethane	120	120	73	46	**U**
75-00-3	Chloroethane	180	180	110	61	**U**
67-64-1	Acetone	2,000	2,000	630	300	**U**
75-69-4	Trichlorofluoromethane	84	84	52	28	**U**
75-35-4	1,1-Dichloroethene	120	120	78	40	**U**
75-09-2	Methylene Chloride	140	140	87	46	**U**
76-13-1	Trichlorotrifluoroethane	61	61	39	21	**U**
75-15-0	Carbon Disulfide	1,500	1,500	94	45	**U**
156-60-5	trans-1,2-Dichloroethene	120	120	76	45	**U**
75-34-3	1,1-Dichloroethane	120	120	72	37	**U**
1634-04-4	Methyl tert-Butyl Ether	130	130	83	44	**U**
108-05-4	Vinyl Acetate	1,300	1,300	400	170	**U**
78-93-3	2-Butanone (MEK)	1,600	1,600	110	67	**U**
156-59-2	cis-1,2-Dichloroethene	120	120	76	38	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106154-PT-001** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304756-001

Test Code: EPA TO-15 Date Collected: 10/18/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/24/13
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: SC01565

Initial Pressure (psig): -4.95 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	260	260	170	91	**U**
110-54-3	n-Hexane	**3,700**	130	85	40	
67-66-3	Chloroform	96	96	62	33	**U**
109-99-9	Tetrahydrofuran (THF)	**750**	160	110	64	
107-06-2	1,2-Dichloroethane	120	120	74	37	**U**
71-55-6	1,1,1-Trichloroethane	86	86	53	29	**U**
71-43-2	Benzene	**13,000**	150	97	47	
56-23-5	Carbon Tetrachloride	75	75	49	22	**U**
110-82-7	Cyclohexane	**3,500**	270	170	79	
78-87-5	1,2-Dichloropropane	100	100	63	33	**U**
75-27-4	Bromodichloromethane	70	70	45	21	**U**
79-01-6	Trichloroethene	87	87	54	24	**U**
142-82-5	n-Heptane	**530**	110	73	39	
10061-01-5	cis-1,3-Dichloropropene	100	100	62	29	**U**
108-10-1	4-Methyl-2-pentanone	110	110	76	37	**U**
10061-02-6	trans-1,3-Dichloropropene	100	100	68	33	**U**
79-00-5	1,1,2-Trichloroethane	86	86	53	28	**U**
108-88-3	Toluene	**16,000**	120	80	42	
591-78-6	2-Hexanone	110	110	83	37	**U**
124-48-1	Dibromochloromethane	55	55	38	18	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106154-PT-001**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304756
ALS Sample ID: P1304756-001

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC01565

Date Collected: 10/18/13
Date Received: 10/24/13
Date Analyzed: 11/4/13
Volume(s) Analyzed: 0.0020 Liter(s)

Initial Pressure (psig): -4.95 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	61	61	39	20	**U**
127-18-4	Tetrachloroethene	69	69	40	19	**U**
108-90-7	Chlorobenzene	100	100	65	33	**U**
100-41-4	Ethylbenzene	**400**	110	67	35	
179601-23-1	m,p-Xylenes	**730**	220	130	65	
75-25-2	Bromoform	45	45	29	14	**U**
100-42-5	Styrene	110	110	71	33	**U**
95-47-6	o-Xylene	**200**	110	65	32	
79-34-5	1,1,2,2-Tetrachloroethane	68	68	40	21	**U**
108-67-8	1,3,5-Trimethylbenzene	96	96	61	31	**U**
95-63-6	1,2,4-Trimethylbenzene	96	96	61	29	**U**
100-44-7	Benzyl Chloride	91	91	58	20	**U**
541-73-1	1,3-Dichlorobenzene	78	78	50	23	**U**
106-46-7	1,4-Dichlorobenzene	78	78	50	22	**U**
95-50-1	1,2-Dichlorobenzene	78	78	48	23	**U**
120-82-1	1,2,4-Trichlorobenzene	63	63	41	20	**U**
91-20-3	Naphthalene	90	90	52	32	**U**
87-68-3	Hexachlorobutadiene	44	44	28	12	**U**
1330-20-7	Xylenes, Total	**920**	220	130	65	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106154-PT-002** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304756-002

Test Code: EPA TO-15 Date Collected: 10/18/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/24/13
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: SC00301

Initial Pressure (psig): -4.22 Final Pressure (psig): 3.70

Canister Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**220**	340	210	95	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	120	120	74	40	**U**
74-87-3	Chloromethane	280	280	170	85	**U**
75-01-4	Vinyl Chloride	230	230	140	78	**U**
106-99-0	1,3-Butadiene	270	270	200	120	**U**
74-83-9	Bromomethane	150	150	91	57	**U**
75-00-3	Chloroethane	220	220	130	76	**U**
67-64-1	Acetone	2,500	2,500	790	380	**U**
75-69-4	Trichlorofluoromethane	100	100	65	36	**U**
75-35-4	1,1-Dichloroethene	150	150	98	50	**U**
75-09-2	Methylene Chloride	170	170	110	57	**U**
76-13-1	Trichlorotrifluoroethane	77	77	49	26	**U**
75-15-0	Carbon Disulfide	1,900	1,900	120	57	**U**
156-60-5	trans-1,2-Dichloroethene	150	150	95	56	**U**
75-34-3	1,1-Dichloroethane	150	150	90	46	**U**
1634-04-4	Methyl tert-Butyl Ether	160	160	100	55	**U**
108-05-4	Vinyl Acetate	1,700	1,700	500	220	**U**
78-93-3	2-Butanone (MEK)	2,000	2,000	130	84	**U**
156-59-2	cis-1,2-Dichloroethene	150	150	95	47	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106154-PT-002** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304756-002

Test Code: EPA TO-15 Date Collected: 10/18/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/24/13
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: SC00301

Initial Pressure (psig): -4.22 Final Pressure (psig): 3.70

Canister Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	330	330	210	110	**U**
110-54-3	n-Hexane	**6,000**	170	110	50	
67-66-3	Chloroform	120	120	77	41	**U**
109-99-9	Tetrahydrofuran (THF)	**240**	200	130	80	
107-06-2	1,2-Dichloroethane	150	150	93	46	**U**
71-55-6	1,1,1-Trichloroethane	110	110	67	37	**U**
71-43-2	Benzene	**19,000**	180	120	59	
56-23-5	Carbon Tetrachloride	93	93	62	28	**U**
110-82-7	Cyclohexane	**5,100**	340	210	99	
78-87-5	1,2-Dichloropropane	130	130	79	41	**U**
75-27-4	Bromodichloromethane	88	88	56	26	**U**
79-01-6	Trichloroethene	110	110	68	31	**U**
142-82-5	n-Heptane	**2,000**	140	92	49	
10061-01-5	cis-1,3-Dichloropropene	130	130	78	36	**U**
108-10-1	4-Methyl-2-pentanone	140	140	95	46	**U**
10061-02-6	trans-1,3-Dichloropropene	130	130	85	41	**U**
79-00-5	1,1,2-Trichloroethane	110	110	67	34	**U**
108-88-3	Toluene	**26,000**	160	100	53	
591-78-6	2-Hexanone	140	140	100	46	**U**
124-48-1	Dibromochloromethane	69	69	47	22	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106154-PT-002**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304756
ALS Sample ID: P1304756-002

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC00301

Date Collected: 10/18/13
Date Received: 10/24/13
Date Analyzed: 11/4/13
Volume(s) Analyzed: 0.0015 Liter(s)

Initial Pressure (psig): -4.22 Final Pressure (psig): 3.70

Canister Dilution Factor: 1.76

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	76	76	49	24	**U**
127-18-4	Tetrachloroethene	87	87	50	24	**U**
108-90-7	Chlorobenzene	130	130	82	41	**U**
100-41-4	Ethylbenzene	**660**	140	84	43	
179601-23-1	m,p-Xylenes	**1,200**	270	160	81	
75-25-2	Bromoform	57	57	36	17	**U**
100-42-5	Styrene	140	140	88	41	**U**
95-47-6	o-Xylene	**300**	140	81	41	
79-34-5	1,1,2,2-Tetrachloroethane	85	85	50	26	**U**
108-67-8	1,3,5-Trimethylbenzene	120	120	76	38	**U**
95-63-6	1,2,4-Trimethylbenzene	120	120	76	36	**U**
100-44-7	Benzyl Chloride	110	110	73	25	**U**
541-73-1	1,3-Dichlorobenzene	98	98	62	29	**U**
106-46-7	1,4-Dichlorobenzene	98	98	62	27	**U**
95-50-1	1,2-Dichlorobenzene	98	98	61	29	**U**
120-82-1	1,2,4-Trichlorobenzene	79	79	51	25	**U**
91-20-3	Naphthalene	110	110	65	40	**U**
87-68-3	Hexachlorobutadiene	55	55	35	15	**U**
1330-20-7	Xylenes, Total	**1,500**	270	160	81	

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106154-PT-003** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304756-003

Test Code: EPA TO-15 Date Collected: 10/18/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/24/13
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: SC01597

Initial Pressure (psig): -4.58 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**230**	350	220	98	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	120	120	76	42	**U**
74-87-3	Chloromethane	290	290	180	88	**U**
75-01-4	Vinyl Chloride	240	240	140	80	**U**
106-99-0	1,3-Butadiene	270	270	200	120	**U**
74-83-9	Bromomethane	160	160	93	59	**U**
75-00-3	Chloroethane	230	230	140	78	**U**
67-64-1	Acetone	2,500	2,500	810	390	**U**
75-69-4	Trichlorofluoromethane	110	110	67	37	**U**
75-35-4	1,1-Dichloroethene	150	150	100	52	**U**
75-09-2	Methylene Chloride	170	170	110	59	**U**
76-13-1	Trichlorotrifluoroethane	79	79	50	27	**U**
75-15-0	Carbon Disulfide	1,900	1,900	120	58	**U**
156-60-5	trans-1,2-Dichloroethene	150	150	97	58	**U**
75-34-3	1,1-Dichloroethane	150	150	92	48	**U**
1634-04-4	Methyl tert-Butyl Ether	170	170	110	57	**U**
108-05-4	Vinyl Acetate	1,700	1,700	510	220	**U**
78-93-3	2-Butanone (MEK)	2,000	2,000	140	86	**U**
156-59-2	cis-1,2-Dichloroethene	150	150	97	49	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106154-PT-003** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304756-003

Test Code: EPA TO-15 Date Collected: 10/18/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/24/13
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: SC01597

Initial Pressure (psig): -4.58 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	330	330	210	120	**U**
110-54-3	n-Hexane	**6,400**	170	110	51	
67-66-3	Chloroform	120	120	79	42	**U**
109-99-9	Tetrahydrofuran (THF)	**110**	200	140	82	**J**
107-06-2	1,2-Dichloroethane	150	150	95	48	**U**
71-55-6	1,1,1-Trichloroethane	110	110	69	38	**U**
71-43-2	Benzene	**21,000**	190	120	60	
56-23-5	Carbon Tetrachloride	96	96	63	29	**U**
110-82-7	Cyclohexane	**5,400**	350	220	100	
78-87-5	1,2-Dichloropropane	130	130	81	42	**U**
75-27-4	Bromodichloromethane	90	90	58	27	**U**
79-01-6	Trichloroethene	110	110	70	31	**U**
142-82-5	n-Heptane	**2,100**	150	94	50	
10061-01-5	cis-1,3-Dichloropropene	130	130	80	37	**U**
108-10-1	4-Methyl-2-pentanone	150	150	97	47	**U**
10061-02-6	trans-1,3-Dichloropropene	130	130	88	43	**U**
79-00-5	1,1,2-Trichloroethane	110	110	69	35	**U**
108-88-3	Toluene	**30,000**	160	100	54	
591-78-6	2-Hexanone	150	150	110	47	**U**
124-48-1	Dibromochloromethane	71	71	48	23	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106154-PT-003**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304756
ALS Sample ID: P1304756-003

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC01597

Date Collected: 10/18/13
Date Received: 10/24/13
Date Analyzed: 11/4/13
Volume(s) Analyzed: 0.0015 Liter(s)

Initial Pressure (psig): -4.58 Final Pressure (psig): 3.65

Canister Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	79	79	50	25	**U**
127-18-4	Tetrachloroethene	89	89	52	25	**U**
108-90-7	Chlorobenzene	130	130	84	42	**U**
100-41-4	Ethylbenzene	**780**	140	86	44	
179601-23-1	m,p-Xylenes	**1,500**	280	170	83	
75-25-2	Bromoform	58	58	37	18	**U**
100-42-5	Styrene	140	140	91	43	**U**
95-47-6	o-Xylene	**370**	140	83	42	
79-34-5	1,1,2,2-Tetrachloroethane	88	88	51	26	**U**
108-67-8	1,3,5-Trimethylbenzene	120	120	79	39	**U**
95-63-6	1,2,4-Trimethylbenzene	120	120	79	37	**U**
100-44-7	Benzyl Chloride	120	120	75	26	**U**
541-73-1	1,3-Dichlorobenzene	100	100	64	30	**U**
106-46-7	1,4-Dichlorobenzene	100	100	64	28	**U**
95-50-1	1,2-Dichlorobenzene	100	100	62	30	**U**
120-82-1	1,2,4-Trichlorobenzene	81	81	52	26	**U**
91-20-3	Naphthalene	120	120	67	41	**U**
87-68-3	Hexachlorobutadiene	57	57	36	16	**U**
1330-20-7	Xylenes, Total	**1,800**	280	170	83	

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106149-PT-001** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304756-004

Test Code: EPA TO-15 Date Collected: 10/16/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/24/13
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: SC00163

Initial Pressure (psig): -4.55 Final Pressure (psig): 3.66

Canister Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**63**	180	110	49	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	61	61	38	21	**U**
74-87-3	Chloromethane	150	150	88	44	**U**
75-01-4	Vinyl Chloride	120	120	71	40	**U**
106-99-0	1,3-Butadiene	140	140	100	60	**U**
74-83-9	Bromomethane	78	78	47	30	**U**
75-00-3	Chloroethane	110	110	69	39	**U**
67-64-1	Acetone	1,300	1,300	410	200	**U**
75-69-4	Trichlorofluoromethane	54	54	33	18	**U**
75-35-4	1,1-Dichloroethene	76	76	50	26	**U**
75-09-2	Methylene Chloride	87	87	56	30	**U**
76-13-1	Trichlorotrifluoroethane	39	39	25	13	**U**
75-15-0	Carbon Disulfide	970	970	60	29	**U**
156-60-5	trans-1,2-Dichloroethene	76	76	49	29	**U**
75-34-3	1,1-Dichloroethane	75	75	46	24	**U**
1634-04-4	Methyl tert-Butyl Ether	84	84	54	28	**U**
108-05-4	Vinyl Acetate	860	860	260	110	**U**
78-93-3	2-Butanone (MEK)	**44**	1,000	68	43	**J**
156-59-2	cis-1,2-Dichloroethene	76	76	49	24	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106149-PT-001** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304756-004

Test Code: EPA TO-15 Date Collected: 10/16/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/24/13
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.0030 Liter(s)
Test Notes:
Container ID: SC00163

Initial Pressure (psig): -4.55 Final Pressure (psig): 3.66

Canister Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	170	170	110	59	**U**
110-54-3	n-Hexane	**17,000**	86	55	26	
67-66-3	Chloroform	62	62	40	21	**U**
109-99-9	Tetrahydrofuran (THF)	**170**	100	68	41	
107-06-2	1,2-Dichloroethane	75	75	48	24	**U**
71-55-6	1,1,1-Trichloroethane	55	55	34	19	**U**
71-43-2	Benzene	**11,000**	94	62	30	
56-23-5	Carbon Tetrachloride	48	48	32	14	**U**
110-82-7	Cyclohexane	**14,000**	180	110	51	
78-87-5	1,2-Dichloropropane	65	65	40	21	**U**
75-27-4	Bromodichloromethane	45	45	29	14	**U**
79-01-6	Trichloroethene	56	56	35	16	**U**
142-82-5	n-Heptane	**11,000**	74	47	25	
10061-01-5	cis-1,3-Dichloropropene	66	66	40	19	**U**
108-10-1	4-Methyl-2-pentanone	74	74	49	24	**U**
10061-02-6	trans-1,3-Dichloropropene	66	66	44	21	**U**
79-00-5	1,1,2-Trichloroethane	55	55	34	18	**U**
108-88-3	Toluene	**14,000**	80	51	27	
591-78-6	2-Hexanone	74	74	53	24	**U**
124-48-1	Dibromochloromethane	35	35	24	11	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106149-PT-001**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304756
ALS Sample ID: P1304756-004

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC00163

Date Collected: 10/16/13
Date Received: 10/24/13
Date Analyzed: 11/4/13
Volume(s) Analyzed: 0.0030 Liter(s)

Initial Pressure (psig): -4.55 Final Pressure (psig): 3.66

Canister Dilution Factor: 1.81

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	**18**	39	25	13	**J**
127-18-4	Tetrachloroethene	45	45	26	12	**U**
108-90-7	Chlorobenzene	66	66	42	21	**U**
100-41-4	Ethylbenzene	**610**	69	43	22	
179601-23-1	m,p-Xylenes	**1,400**	140	85	42	
75-25-2	Bromoform	29	29	19	8.8	**U**
100-42-5	Styrene	71	71	45	21	**U**
95-47-6	o-Xylene	**380**	69	42	21	
79-34-5	1,1,2,2-Tetrachloroethane	44	44	25	13	**U**
108-67-8	1,3,5-Trimethylbenzene	**34**	61	39	20	**J**
95-63-6	1,2,4-Trimethylbenzene	**49**	61	39	18	**J**
100-44-7	Benzyl Chloride	58	58	37	13	**U**
541-73-1	1,3-Dichlorobenzene	50	50	32	15	**U**
106-46-7	1,4-Dichlorobenzene	50	50	32	14	**U**
95-50-1	1,2-Dichlorobenzene	50	50	31	15	**U**
120-82-1	1,2,4-Trichlorobenzene	41	41	26	13	**U**
91-20-3	Naphthalene	58	58	33	21	**U**
87-68-3	Hexachlorobutadiene	28	28	18	7.9	**U**
1330-20-7	Xylenes, Total	**1,800**	140	85	42	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106149-PT-002** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304756-005

Test Code: EPA TO-15 Date Collected: 10/16/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/24/13
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: SC01058

Initial Pressure (psig): -4.89 Final Pressure (psig): 3.70

Canister Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**150**	360	230	100	**J**
75-71-8	Dichlorodifluoromethane (CFC 12)	130	130	79	43	**U**
74-87-3	Chloromethane	300	300	180	91	**U**
75-01-4	Vinyl Chloride	250	250	150	83	**U**
106-99-0	1,3-Butadiene	280	280	210	120	**U**
74-83-9	Bromomethane	160	160	97	61	**U**
75-00-3	Chloroethane	240	240	140	81	**U**
67-64-1	Acetone	2,600	2,600	840	410	**U**
75-69-4	Trichlorofluoromethane	110	110	69	38	**U**
75-35-4	1,1-Dichloroethene	160	160	100	54	**U**
75-09-2	Methylene Chloride	180	180	120	61	**U**
76-13-1	Trichlorotrifluoroethane	82	82	52	28	**U**
75-15-0	Carbon Disulfide	2,000	2,000	120	60	**U**
156-60-5	trans-1,2-Dichloroethene	160	160	100	60	**U**
75-34-3	1,1-Dichloroethane	150	150	96	50	**U**
1634-04-4	Methyl tert-Butyl Ether	170	170	110	59	**U**
108-05-4	Vinyl Acetate	1,800	1,800	530	230	**U**
78-93-3	2-Butanone (MEK)	2,100	2,100	140	89	**U**
156-59-2	cis-1,2-Dichloroethene	160	160	100	51	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106149-PT-002** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P1304756-005

Test Code: EPA TO-15 Date Collected: 10/16/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: 10/24/13
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.0015 Liter(s)
Test Notes:
Container ID: SC01058

Initial Pressure (psig): -4.89 Final Pressure (psig): 3.70

Canister Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	350	350	220	120	**U**
110-54-3	n-Hexane	**29,000**	180	110	53	
67-66-3	Chloroform	130	130	82	44	**U**
109-99-9	Tetrahydrofuran (THF)	210	210	140	85	**U**
107-06-2	1,2-Dichloroethane	150	150	99	50	**U**
71-55-6	1,1,1-Trichloroethane	110	110	71	39	**U**
71-43-2	Benzene	**16,000**	200	130	63	
56-23-5	Carbon Tetrachloride	100	100	66	30	**U**
110-82-7	Cyclohexane	**25,000**	360	230	110	
78-87-5	1,2-Dichloropropane	140	140	84	43	**U**
75-27-4	Bromodichloromethane	94	94	60	28	**U**
79-01-6	Trichloroethene	120	120	72	33	**U**
142-82-5	n-Heptane	**20,000**	150	98	52	
10061-01-5	cis-1,3-Dichloropropene	140	140	83	39	**U**
108-10-1	4-Methyl-2-pentanone	150	150	100	49	**U**
10061-02-6	trans-1,3-Dichloropropene	140	140	91	44	**U**
79-00-5	1,1,2-Trichloroethane	110	110	71	37	**U**
108-88-3	Toluene	**22,000**	170	110	57	
591-78-6	2-Hexanone	150	150	110	49	**U**
124-48-1	Dibromochloromethane	74	74	50	24	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106149-PT-002**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304756
ALS Sample ID: P1304756-005

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC01058

Date Collected: 10/16/13
Date Received: 10/24/13
Date Analyzed: 11/4/13
Volume(s) Analyzed: 0.0015 Liter(s)

Initial Pressure (psig): -4.89 Final Pressure (psig): 3.70

Canister Dilution Factor: 1.88

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	**30**	82	52	26	**J**
127-18-4	Tetrachloroethene	92	92	54	26	**U**
108-90-7	Chlorobenzene	140	140	87	44	**U**
100-41-4	Ethylbenzene	**1,000**	140	89	46	
179601-23-1	m,p-Xylenes	**2,300**	290	180	87	
75-25-2	Bromoform	61	61	39	18	**U**
100-42-5	Styrene	150	150	94	44	**U**
95-47-6	o-Xylene	**610**	140	87	43	
79-34-5	1,1,2,2-Tetrachloroethane	91	91	53	27	**U**
108-67-8	1,3,5-Trimethylbenzene	**71**	130	82	41	**J**
95-63-6	1,2,4-Trimethylbenzene	**79**	130	82	38	**J**
100-44-7	Benzyl Chloride	120	120	77	27	**U**
541-73-1	1,3-Dichlorobenzene	100	100	67	31	**U**
106-46-7	1,4-Dichlorobenzene	100	100	67	29	**U**
95-50-1	1,2-Dichlorobenzene	100	100	65	31	**U**
120-82-1	1,2,4-Trichlorobenzene	84	84	54	27	**U**
91-20-3	Naphthalene	120	120	69	43	**U**
87-68-3	Hexachlorobutadiene	59	59	38	16	**U**
1330-20-7	Xylenes, Total	**3,000**	290	180	87	

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131104-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.29	0.29	0.18	0.081	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.10	0.10	0.063	0.034	U
74-87-3	Chloromethane	0.24	0.24	0.15	0.073	U
75-01-4	Vinyl Chloride	0.20	0.20	0.12	0.067	U
106-99-0	1,3-Butadiene	0.23	0.23	0.17	0.099	U
74-83-9	Bromomethane	0.13	0.13	0.077	0.049	U
75-00-3	Chloroethane	0.19	0.19	0.11	0.064	U
67-64-1	Acetone	2.1	2.1	0.67	0.32	U
75-69-4	Trichlorofluoromethane	0.089	0.089	0.055	0.030	U
75-35-4	1,1-Dichloroethene	0.13	0.13	0.083	0.043	U
75-09-2	Methylene Chloride	0.14	0.14	0.092	0.049	U
76-13-1	Trichlorotrifluoroethane	0.065	0.065	0.042	0.022	U
75-15-0	Carbon Disulfide	1.6	1.6	0.10	0.048	U
156-60-5	trans-1,2-Dichloroethene	0.13	0.13	0.081	0.048	U
75-34-3	1,1-Dichloroethane	0.12	0.12	0.077	0.040	U
1634-04-4	Methyl tert-Butyl Ether	0.14	0.14	0.089	0.047	U
108-05-4	Vinyl Acetate	1.4	1.4	0.43	0.18	U
78-93-3	2-Butanone (MEK)	1.7	1.7	0.11	0.071	U
156-59-2	cis-1,2-Dichloroethene	0.13	0.13	0.081	0.040	U

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131104-MB

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	0.28	0.28	0.18	0.097	**U**
110-54-3	n-Hexane	0.14	0.14	0.091	0.043	**U**
67-66-3	Chloroform	0.10	0.10	0.066	0.035	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.17	0.11	0.068	**U**
107-06-2	1,2-Dichloroethane	0.12	0.12	0.079	0.040	**U**
71-55-6	1,1,1-Trichloroethane	0.092	0.092	0.057	0.031	**U**
71-43-2	Benzene	0.16	0.16	0.10	0.050	**U**
56-23-5	Carbon Tetrachloride	0.080	0.080	0.052	0.024	**U**
110-82-7	Cyclohexane	0.29	0.29	0.18	0.084	**U**
78-87-5	1,2-Dichloropropane	0.11	0.11	0.067	0.035	**U**
75-27-4	Bromodichloromethane	0.075	0.075	0.048	0.022	**U**
79-01-6	Trichloroethene	0.093	0.093	0.058	0.026	**U**
142-82-5	n-Heptane	0.12	0.12	0.078	0.041	**U**
10061-01-5	cis-1,3-Dichloropropene	0.11	0.11	0.066	0.031	**U**
108-10-1	4-Methyl-2-pentanone	0.12	0.12	0.081	0.039	**U**
10061-02-6	trans-1,3-Dichloropropene	0.11	0.11	0.073	0.035	**U**
79-00-5	1,1,2-Trichloroethane	0.092	0.092	0.057	0.029	**U**
108-88-3	Toluene	0.13	0.13	0.085	0.045	**U**
591-78-6	2-Hexanone	0.12	0.12	0.088	0.039	**U**
124-48-1	Dibromochloromethane	0.059	0.059	0.040	0.019	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank**
Client Project ID: **Kirtland AFB / 140705**

ALS Project ID: P1304756
ALS Sample ID: P131104-MB

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16
Analyst: Lusine Hakobyan
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 11/4/13
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	0.065	0.065	0.042	0.021	**U**
127-18-4	Tetrachloroethene	0.074	0.074	0.043	0.021	**U**
108-90-7	Chlorobenzene	0.11	0.11	0.070	0.035	**U**
100-41-4	Ethylbenzene	0.12	0.12	0.071	0.037	**U**
179601-23-1	m,p-Xylenes	0.23	0.23	0.14	0.069	**U**
75-25-2	Bromoform	0.048	0.048	0.031	0.015	**U**
100-42-5	Styrene	0.12	0.12	0.075	0.035	**U**
95-47-6	o-Xylene	0.12	0.12	0.069	0.035	**U**
79-34-5	1,1,2,2-Tetrachloroethane	0.073	0.073	0.042	0.022	**U**
108-67-8	1,3,5-Trimethylbenzene	0.10	0.10	0.065	0.033	**U**
95-63-6	1,2,4-Trimethylbenzene	0.10	0.10	0.065	0.031	**U**
100-44-7	Benzyl Chloride	0.097	0.097	0.062	0.021	**U**
541-73-1	1,3-Dichlorobenzene	0.083	0.083	0.053	0.025	**U**
106-46-7	1,4-Dichlorobenzene	0.083	0.083	0.053	0.023	**U**
95-50-1	1,2-Dichlorobenzene	0.083	0.083	0.052	0.025	**U**
120-82-1	1,2,4-Trichlorobenzene	0.067	0.067	0.043	0.022	**U**
91-20-3	Naphthalene	0.095	0.095	0.055	0.034	**U**
87-68-3	Hexachlorobutadiene	0.047	0.047	0.030	0.013	**U**
1330-20-7	Xylenes, Total	0.23	0.23	0.14	0.069	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **CB&I**
Client Project ID: **Kirtland AFB / 140705** ALS Project ID: P1304756

Test Code: EPA TO-15
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date(s) Collected: 10/16 - 10/18/13
Analyst: Lusine Hakobyan Date(s) Received: 10/24/13
Sampling Media: 6.0 L Summa Canister(s) Date(s) Analyzed: 11/4/13
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P131104-MB	**108**	**107**	**93**	70-130	
Lab Control Sample	P131104-LCS	**103**	**96**	**100**	70-130	
KAFB-106154-PT-001	P1304756-001	**118**	**96**	**95**	70-130	
KAFB-106154-PT-002	P1304756-002	**113**	**97**	**93**	70-130	
KAFB-106154-PT-003	P1304756-003	**111**	**99**	**96**	70-130	
KAFB-106149-PT-001	P1304756-004	**113**	**97**	**94**	70-130	
KAFB-106149-PT-002	P1304756-005	**113**	**94**	**98**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131104-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	116	**129**	**111**	57-136	
75-71-8	Dichlorodifluoromethane (CFC 12)	41.3	**41.4**	**100**	59-128	
74-87-3	Chloromethane	95.9	**108**	**113**	59-132	
75-01-4	Vinyl Chloride	78.3	**84.1**	**107**	64-127	
106-99-0	1,3-Butadiene	95.9	**96.9**	**101**	66-134	
74-83-9	Bromomethane	51.5	**46.8**	**91**	63-134	
75-00-3	Chloroethane	76.6	**73.3**	**96**	63-127	
67-64-1	Acetone	453	**427**	**94**	58-128	
75-69-4	Trichlorofluoromethane	35.2	**30.1**	**86**	62-126	
75-35-4	1,1-Dichloroethene	54.0	**49.3**	**91**	61-133	
75-09-2	Methylene Chloride	62.2	**55.1**	**89**	62-115	
76-13-1	Trichlorotrifluoroethane	27.9	**25.5**	**91**	66-126	
75-15-0	Carbon Disulfide	63.0	**61.5**	**98**	57-134	
156-60-5	trans-1,2-Dichloroethene	53.5	**54.7**	**102**	67-124	
75-34-3	1,1-Dichloroethane	51.4	**49.9**	**97**	68-126	
1634-04-4	Methyl tert-Butyl Ether	58.8	**58.9**	**100**	66-126	
108-05-4	Vinyl Acetate	291	**292**	**100**	56-139	
78-93-3	2-Butanone (MEK)	73.9	**76.3**	**103**	67-130	
156-59-2	cis-1,2-Dichloroethene	54.0	**54.0**	**100**	70-121	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131104-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
141-78-6	Ethyl Acetate	118	**130**	**110**	65-128	
110-54-3	n-Hexane	59.6	**56.3**	**94**	63-120	
67-66-3	Chloroform	43.8	**40.9**	**93**	68-123	
109-99-9	Tetrahydrofuran (THF)	69.9	**71.4**	**102**	64-123	
107-06-2	1,2-Dichloroethane	51.9	**50.4**	**97**	65-128	
71-55-6	1,1,1-Trichloroethane	37.8	**37.4**	**99**	68-125	
71-43-2	Benzene	68.9	**61.2**	**89**	69-119	
56-23-5	Carbon Tetrachloride	33.4	**34.0**	**102**	68-132	
110-82-7	Cyclohexane	122	**121**	**99**	70-117	
78-87-5	1,2-Dichloropropane	45.9	**46.4**	**101**	69-123	
75-27-4	Bromodichloromethane	32.0	**32.3**	**101**	72-128	
79-01-6	Trichloroethene	38.7	**35.6**	**92**	71-123	
142-82-5	n-Heptane	52.2	**47.7**	**91**	69-123	
10061-01-5	cis-1,3-Dichloropropene	49.8	**51.3**	**103**	70-128	
108-10-1	4-Methyl-2-pentanone	53.2	**55.9**	**105**	67-130	
10061-02-6	trans-1,3-Dichloropropene	47.6	**50.1**	**105**	75-133	
79-00-5	1,1,2-Trichloroethane	38.5	**37.5**	**97**	73-119	
108-88-3	Toluene	55.7	**49.6**	**89**	66-119	
591-78-6	2-Hexanone	54.2	**56.1**	**104**	62-128	
124-48-1	Dibromochloromethane	25.8	**26.0**	**101**	70-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1304756
Client Project ID: **Kirtland AFB / 140705** ALS Sample ID: P131104-LCS

Test Code: EPA TO-15 Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Date Received: NA
Analyst: Lusine Hakobyan Date Analyzed: 11/4/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
106-93-4	1,2-Dibromoethane	28.1	**26.6**	**95**	74-122	
127-18-4	Tetrachloroethene	28.9	**25.3**	**88**	66-124	
108-90-7	Chlorobenzene	46.9	**43.3**	**92**	70-119	
100-41-4	Ethylbenzene	48.8	**48.3**	**99**	70-124	
179601-23-1	m,p-Xylenes	96.7	**95.2**	**98**	61-134	
75-25-2	Bromoform	20.9	**24.3**	**116**	66-139	
100-42-5	Styrene	51.2	**51.5**	**101**	73-127	
95-47-6	o-Xylene	47.4	**46.8**	**99**	67-125	
79-34-5	1,1,2,2-Tetrachloroethane	29.4	**30.4**	**103**	65-127	
108-67-8	1,3,5-Trimethylbenzene	43.1	**41.8**	**97**	67-130	
95-63-6	1,2,4-Trimethylbenzene	43.1	**42.0**	**97**	66-132	
100-44-7	Benzyl Chloride	42.9	**45.4**	**106**	50-147	
541-73-1	1,3-Dichlorobenzene	36.9	**34.2**	**93**	65-130	
106-46-7	1,4-Dichlorobenzene	35.6	**33.3**	**94**	60-131	
95-50-1	1,2-Dichlorobenzene	36.3	**33.5**	**92**	63-129	
120-82-1	1,2,4-Trichlorobenzene	29.6	**28.6**	**97**	55-142	
91-20-3	Naphthalene	38.9	**40.2**	**103**	57-138	
87-68-3	Hexachlorobutadiene	20.4	**19.9**	**98**	56-138	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I** ALS Project ID: P1304756

Client Project ID: **Kirtland AFB / 140705**

Method Blank Summary

Test Code: EPA TO-15

Instrument ID: Tekmar AUTOCAN/Agilent 5975Cinert/6890N/MS16 Lab File ID: 11041304.D

Analyst: Lusine Hakobyan Date Analyzed: 11/4/13

Sampling Media: 6.0 L Summa Canister(s) Time Analyzed: 10:08

Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P131104-LCS	11041305.D	10:41
KAFB-106154-PT-001	P1304756-001	11041311.D	14:37
KAFB-106154-PT-002	P1304756-002	11041312.D	15:11
KAFB-106154-PT-003	P1304756-003	11041313.D	15:44
KAFB-106149-PT-001	P1304756-004	11041314.D	16:18
KAFB-106149-PT-002	P1304756-005	11041315.D	16:52

Response Factor Report GCMS-16

Method Path : I:\MS16\METHODS\
Method File : R16092013.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Sat Sep 21 09:05:23 2013
Response Via : Initial Calibration

Calibration Files
0.08=09201325.D 0.10=09201326.D 0.20=09201327.D 0.40=09201328.D 1.0 =09201329.D 5.0 =09201330.D
25 =09201331.D 50 =09201332.D 100 =09201333.D

		Compound	0.08	0.10	0.20	0.40	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------										
2)	T	Propene			1.636	1.455	1.679	1.544	1.559	1.400	1.317	1.513	8.53
3)	T	Dichlorodifluo...	3.119	3.189	3.035	2.743	3.158	3.149	2.999	2.740	2.701	2.981	6.69
4)	T	Chloromethane	2.779	2.733	2.519	2.044	2.619	2.454	2.444	2.250	2.177	2.447	10.23
5)	T	1,2-Dichloro-1...	1.549	1.672	1.600	1.447	1.600	1.566	1.519	1.454	1.457	1.540	5.07
6)	T	Vinyl Chloride	2.344	2.423	2.283	2.073	2.383	2.319	2.317	2.221	2.215	2.286	4.59
7)	T	1,3-Butadiene	1.901	1.891	1.634	1.181	1.984	1.724	1.811	1.592	1.333	1.672	16.15
8)	T	Bromomethane			1.901	1.499	1.591	1.452	1.439	1.404	1.334	1.517	12.34
9)	T	Chloroethane	1.289	1.290	1.232	1.179	1.266	1.217	1.157	1.168	1.105	1.212	5.29
10)	T	Ethanol	1.535	1.344	1.122	0.891	1.247	1.147	1.065	0.960	0.887	1.133	19.05
11)	T	Acetonitrile				3.218	3.367	3.126	2.959	2.794	2.680	3.024	8.64
12)	T	Acrolein	1.511	1.337	1.096	1.070	1.055	1.004	0.937	0.890	0.816	1.080	20.33
13)	T	Acetone		1.543	1.300	1.203	1.235	1.143	1.057	1.008	0.931	1.178	16.31
14)	T	Trichlorofluor...	2.631	2.863	2.638	2.559	2.639	2.535	2.252	2.299	2.239	2.517	8.42
15)	T	2-Propanol (Is...	4.585	4.552	4.414	3.922	4.147	4.155	3.909	3.718	3.460	4.096	9.33
16)	T	Acrylonitrile	2.024	2.129	2.012	1.906	2.154	2.069	2.038	1.911	1.856	2.011	5.08
17)	T	1,1-Dichloroet...	1.494	1.450	1.417	1.385	1.454	1.425	1.359	1.370	1.327	1.409	3.78
18)	T	2-Methyl-2-Pro...	3.889	3.988	3.808	3.566	3.971	3.946	3.757	3.635	3.475	3.782	4.95
19)	T	Methylene Chlo...				1.851	1.735	1.623	1.513	1.470	1.437	1.605	10.13
20)	T	3-Chloro-1-pro...	2.298	2.488	2.241	2.097	2.171	2.219	2.130	2.047	2.019	2.190	6.59
21)	T	Trichlorotrifl...	1.170	1.210	1.146	1.124	1.169	1.168	1.122	1.092	1.084	1.143	3.57
22)	T	Carbon Disulfide			6.202	5.719	6.224	6.090	5.691	5.714	5.263	5.843	5.95
23)	T	trans-1,2-Dich...	2.204	2.223	2.158	2.141	2.227	2.189	2.068	2.041	2.059	2.146	3.41
24)	T	1,1-Dichloroet...	2.731	2.790	2.669	2.680	2.758	2.577	2.473	2.430	2.459	2.619	5.26
25)	T	Methyl tert-Bu...	4.573	4.563	4.247	3.961	4.570	4.331	4.141	4.053	3.971	4.268	5.98
26)	T	Vinyl Acetate	0.287	0.297	0.314	0.312	0.357	0.350	0.354	0.335	0.341	0.327	7.88
27)	T	2-Butanone (MEK)	0.679	0.823	0.851	0.809	0.997	0.975	0.912	0.855	0.864	0.863	10.95
28)	T	cis-1,2-Dichlo...	2.110	2.121	2.045	2.013	2.102	1.996	1.992	1.898	1.896	2.019	4.20
29)	T	Diisopropyl Ether	1.109	1.131	1.094	1.019	1.187	1.106	1.106	1.063	1.045	1.096	4.52
30)	T	Ethyl Acetate	0.367	0.398	0.483	0.443	0.545	0.550	0.533	0.496	0.479	0.477	13.48
31)	T	n-Hexane				2.700	2.372	2.061	1.892	1.733	1.791	2.091	18.00

ll 9/25/13

Method Path : I:\MS16\METHODS\
Method File : R16092013.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

32)	T	Chloroform	2.683	2.722	2.564	2.434	2.608	2.461	2.441	2.291	2.284	2.498	6.30
33)	S	1,2-Dichloroet...	1.611	1.648	1.612	1.573	1.577	1.654	1.582	1.575	1.599	1.604	1.93
34)	T	Tetrahydrofura...	0.877	0.908	0.879	0.850	0.973	0.937	0.928	0.881	0.890	0.902	4.17
35)	T	Ethyl tert-But...	1.583	1.675	1.620	1.470	1.773	1.687	1.682	1.602	1.590	1.631	5.26
36)	T	1,2-Dichloroet...	1.792	2.006	1.880	1.809	1.977	1.923	1.858	1.750	1.753	1.861	5.03
37)	IR	1,4-Difluorobenzen...	----------ISTD----------										
38)	T	1,1,1-Trichlor...	0.433	0.430	0.422	0.444	0.466	0.414	0.439	0.422	0.410	0.431	3.98
39)	T	Isopropyl Acetate	0.162	0.162	0.170	0.170	0.187	0.182	0.186	0.176	0.170	0.174	5.31
40)	T	1-Butanol	0.283	0.278	0.274	0.274	0.294	0.296	0.303	0.295	0.278	0.286	3.82
41)	T	Benzene	1.420	1.391	1.187	1.196	1.210	1.052	1.090	1.017	0.973	1.171	13.39
42)	T	Carbon Tetrach...	0.345	0.351	0.340	0.363	0.370	0.334	0.364	0.357	0.353	0.353	3.34
43)	T	Cyclohexane	0.510	0.495	0.472	0.477	0.479	0.431	0.434	0.429	0.415	0.460	7.32
44)	T	tert-Amyl Meth...	0.861	0.863	0.859	0.784	0.903	0.846	0.865	0.821	0.780	0.842	4.77
45)	T	1,2-Dichloropr...	0.316	0.308	0.293	0.281	0.315	0.298	0.299	0.286	0.281	0.297	4.50
46)	T	Bromodichlorom...	0.371	0.366	0.356	0.344	0.391	0.375	0.390	0.384	0.374	0.372	4.14
47)	T	Trichloroethene	0.300	0.292	0.295	0.285	0.308	0.285	0.300	0.286	0.289	0.293	2.81
48)	T	1,4-Dioxane	0.279	0.265	0.278	0.265	0.242	0.232	0.236	0.233	0.229	0.251	8.18
49)	T	2,2,4-Trimethy...	1.343	1.354	1.266	1.248	1.378	1.226	1.271	1.224	1.135	1.272	6.02
50)	T	Methyl Methacr...	0.090	0.093	0.107	0.111	0.128	0.124	0.127	0.124	0.123	0.114	12.74
51)	T	n-Heptane	0.301	0.295	0.282	0.282	0.296	0.258	0.271	0.252	0.255	0.277	6.74
52)	T	cis-1,3-Dichlo...	0.404	0.407	0.426	0.423	0.482	0.464	0.482	0.472	0.463	0.447	7.12
53)	T	4-Methyl-2-pen...	0.257	0.264	0.253	0.275	0.293	0.276	0.280	0.276	0.265	0.271	4.54
54)	T	trans-1,3-Dich...	0.342	0.364	0.392	0.377	0.429	0.423	0.442	0.438	0.430	0.404	9.01
55)	T	1,1,2-Trichlor...	0.262	0.266	0.284	0.270	0.293	0.276	0.279	0.277	0.271	0.275	3.41
56)	IR	Chlorobenzene-d5 (...	----------ISTD----------										
57)	S	Toluene-d8 (SS2)	2.514	2.446	2.368	2.309	2.432	2.473	2.472	2.431	2.457	2.434	2.52
58)	T	Toluene	3.015	2.848	2.582	2.425	2.783	2.640	2.639	2.449	2.332	2.635	8.33
59)	T	2-Hexanone	1.819	1.389	1.510	1.336	1.536	1.512	1.495	1.397	1.341	1.482	9.99
60)	T	Dibromochlorom...	0.574	0.553	0.551	0.540	0.609	0.618	0.669	0.657	0.663	0.604	8.51
61)	T	1,2-Dibromoethane	0.651	0.636	0.643	0.627	0.720	0.700	0.716	0.688	0.689	0.674	5.28
62)	T	n-Butyl Acetate	1.646	1.480	1.453	1.541	1.725	1.688	1.709	1.599	1.537	1.598	6.29
63)	T	n-Octane	0.670	0.605	0.590	0.571	0.617	0.580	0.585	0.541	0.543	0.589	6.71
64)	T	Tetrachloroethene	0.741	0.769	0.681	0.650	0.749	0.721	0.737	0.703	0.716	0.719	5.07
65)	T	Chlorobenzene	1.740	1.748	1.647	1.605	1.754	1.634	1.666	1.607	1.604	1.667	3.81
66)	T	Ethylbenzene	3.155	3.041	2.822	2.845	3.105	2.973	2.996	2.836	2.560	2.926	6.22
67)	T	m- & p-Xylenes	2.474	2.369	2.211	2.246	2.465	2.317	2.331	2.195	1.967	2.286	6.81
68)	T	Bromoform	0.413	0.410	0.372	0.404	0.443	0.469	0.542	0.531	0.536	0.458	14.11
69)	T	Styrene	1.770	1.728	1.584	1.676	1.854	1.817	1.880	1.765	1.680	1.751	5.39
70)	T	o-Xylene	2.530	2.502	2.325	2.378	2.584	2.445	2.487	2.325	2.146	2.414	5.59

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Method Path : I:\MS16\METHODS\
Method File : R16092013.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

71)	T	n-Nonane	1.551	1.467	1.366	1.423	1.511	1.419	1.399	1.284	1.190	1.401	7.95
72)	T	1,1,2,2-Tetrac...	1.251	1.195	1.100	1.107	1.245	1.208	1.233	1.178	1.131	1.183	4.93
73)	S	Bromofluoroben...	0.933	0.899	0.876	0.902	0.897	0.905	0.927	0.895	0.863	0.900	2.43
74)	T	Cumene	3.259	3.168	2.942	2.934	3.248	3.118	3.171	2.945	2.591	3.042	7.00
75)	T	alpha-Pinene	1.543	1.512	1.418	1.490	1.611	1.547	1.598	1.516	1.453	1.521	4.13
76)	T	n-Propylbenzene	3.860	3.747	3.522	3.560	4.076	3.907	3.903	3.569	2.930	3.675	9.17
77)	T	3-Ethyltoluene	2.942	2.937	2.668	2.763	3.165	2.907	3.066	2.800	2.533	2.865	6.84
78)	T	4-Ethyltoluene	2.852	2.781	2.565	2.591	2.909	2.928	2.862	2.707	2.287	2.720	7.68
79)	T	1,3,5-Trimethy...	2.510	2.391	2.212	2.197	2.568	2.423	2.471	2.304	2.077	2.350	6.95
80)	T	alpha-Methylst...	1.170	1.149	1.083	1.102	1.345	1.332	1.407	1.323	1.247	1.240	9.51
81)	T	2-Ethyltoluene	2.899	2.757	2.617	2.685	3.035	2.860	2.880	2.664	2.345	2.749	7.35
82)	T	1,2,4-Trimethy...	2.401	2.438	2.215	2.225	2.628	2.488	2.613	2.394	2.045	2.383	8.06
83)	T	n-Decane	1.543	1.427	1.341	1.351	1.531	1.420	1.439	1.306	1.202	1.396	7.77
84)	T	Benzyl Chloride	1.862	1.691	1.596	1.634	1.980	2.041	2.253	2.109	1.939	1.900	11.83
85)	T	1,3-Dichlorobe...	1.383	1.331	1.214	1.228	1.393	1.327	1.389	1.306	1.233	1.312	5.47
86)	T	1,4-Dichlorobe...	1.451	1.355	1.263	1.258	1.432	1.359	1.440	1.332	1.273	1.351	5.70
87)	T	sec-Butylbenzene	3.259	3.093	2.978	2.937	3.392	3.196	3.286	2.958	2.494	3.066	8.73
88)	T	4-Isopropyltol...	3.031	2.970	2.737	2.782	3.213	3.023	3.174	2.888	2.414	2.915	8.45
89)	T	1,2,3-Trimethy...	2.716	2.581	2.318	2.331	2.653	2.478	2.586	2.358	2.071	2.455	8.29
90)	T	1,2-Dichlorobe...	1.383	1.268	1.184	1.186	1.347	1.277	1.345	1.254	1.176	1.269	6.10
91)	T	d-Limonene	0.927	0.928	0.848	0.828	1.073	1.032	1.062	0.970	0.890	0.951	9.48
92)	T	1,2-Dibromo-3-...	0.399	0.358	0.365	0.373	0.416	0.425	0.478	0.477	0.460	0.417	11.30
93)	T	n-Undecane	1.620	1.481	1.340	1.379	1.514	1.435	1.548	1.442	1.310	1.452	6.90
94)	T	1,2,4-Trichlor...	0.964	0.922	0.828	0.831	0.884	0.872	0.990	0.968	0.947	0.912	6.63
95)	T	Naphthalene	3.885	3.418	2.995	2.969	3.141	3.141	3.538	3.300	2.765	3.239	10.46
96)	T	n-Dodecane	1.420	1.296	1.196	1.187	1.349	1.340	1.542	1.436	1.321	1.343	8.44
97)	T	Hexachlorobuta...	0.506	0.510	0.471	0.486	0.507	0.486	0.556	0.543	0.536	0.511	5.58
98)	T	Cyclohexanone	1.349	1.120	0.985	0.913	0.987	0.929	0.929	0.885	0.843	0.993	15.57
99)	T	tert-Butylbenzene	2.350	2.241	2.143	2.096	2.420	2.306	2.406	2.203	1.901	2.229	7.47
100)	T	n-Butylbenzene	2.637	2.437	2.361	2.355	2.765	2.576	2.631	2.433	2.079	2.475	8.23

(#) = Out of Range

LM 9/25/13

INTIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: **09201334.D**
Data File Path: **I:\MS16\DATA\2013_09\20**
Operator: **LH**
Date Acquired: **9/21/13** **6:44**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO-15 ICV STD**
Misc Info: **S25-09091301/S25-09111304 (**
Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	AZ Check 70-130%
2)	Propene	4.36	24.2	25.00	97	70	130	*	*
3)	Dichlorodifluoromethane (CFC 1	4.54	24.7	25.50	97	70	130	*	*
4)	Chloromethane	4.87	24.6	24.75	99	70	130	*	*
5)	1,2-Dichloro-1,1,2,2-tetrafluoroet	5.15	26.4	25.50	104	70	130	*	*
6)	Vinyl Chloride	5.34	26.3	25.00	105	70	130	*	*
7)	1,3-Butadiene	5.63	30.1	26.50	114	70	130	*	*
8)	Bromomethane	6.11	25.4	25.00	102	70	130	*	*
9)	Chloroethane	6.46	25.9	25.25	103	70	130	*	*
10)	Ethanol	6.81	134	127.75	105	70	130	*	*
11)	Acetonitrile	7.10	25.2	25.25	100	70	130	*	*
12)	Acrolein	7.30	24.1	26.75	90	70	130	*	*
13)	Acetone	7.51	123	134.50	91	70	130	*	*
14)	Trichlorofluoromethane	7.78	23.4	24.75	95	70	130	*	*
15)	2-Propanol (Isopropanol)	7.96	52.9	52.50	101	70	130	*	*
16)	Acrylonitrile	8.25	26.2	26.00	101	70	130	*	*
17)	1,1-Dichloroethene	8.70	25.8	26.75	96	70	130	*	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.81	55.3	52.25	106	70	130	*	*
19)	Methylene Chloride	8.89	24.2	27.00	90	70	130	*	*
20)	3-Chloro-1-propene (Allyl Chlorid	9.05	25.9	27.00	96	70	130	*	*
21)	Trichlorotrifluoroethane	9.27	26.2	26.75	98	70	130	*	*
22)	Carbon Disulfide	9.21	25.5	24.50	104	70	130	*	*
23)	trans-1,2-Dichloroethene	10.09	26.2	26.50	99	70	130	*	*
24)	1,1-Dichloroethane	10.33	24.8	26.00	95	70	130	*	*
25)	Methyl tert-Butyl Ether	10.40	26.8	26.50	101	70	130	*	*
26)	Vinyl Acetate	10.52	134	128.00	105	70	130	*	*
27)	2-Butanone (MEK)	10.77	28.7	27.25	105	70	130	*	*
28)	cis-1,2-Dichloroethene	11.28	25.8	26.75	96	70	130	*	*
29)	Diisopropyl Ether	11.51	26.8	27.25	98	70	130	*	*
30)	Ethyl Acetate	11.51	58.5	53.25	110	70	130	*	*
31)	n-Hexane	11.52	22.2	26.25	85	70	130	*	*
32)	Chloroform	11.59	25.2	26.75	94	70	130	*	*
34)	Tetrahydrofuran (THF)	11.98	25.8	25.75	100	70	130	*	*
35)	Ethyl tert-Butyl Ether	12.07	26.7	26.50	101	70	130	*	*
36)	1,2-Dichloroethane	12.36	26.2	26.25	100	70	130	*	*
38)	1,1,1-Trichloroethane	12.63	24.9	25.75	97	70	130	*	*
39)	Isopropyl Acetate	12.96	58.4	54.50	107	70	130	*	*
40)	1-Butanol	12.97	63.0	54.75	115	70	130	*	*
41)	Benzene	13.10	23.5	27.50	85	70	130	*	*
42)	Carbon Tetrachloride	13.25	26.2	26.25	100	70	130	*	*
43)	Cyclohexane	13.38	49.4	52.50	94	70	130	*	*
44)	tert-Amyl Methyl Ether	13.66	26.3	26.25	100	70	130	*	*
45)	1,2-Dichloropropane	13.90	26.0	26.50	98	70	130	*	*
46)	Bromodichloromethane	14.07	29.5	26.75	110	70	130	*	*
47)	Trichloroethene	14.13	25.3	26.00	97	70	130	*	*
48)	1,4-Dioxane	14.08	26.5	27.25	97	70	130	*	*
49)	2,2,4-Trimethylpentane (Isooctane)	14.18	24.5	26.00	94	70	130	*	*

VH 9/25/13

INTIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: **09201334.D** Acq. Method File: **TO15.M**
Data File Path: **I:\MS16\DATA\2013_09\20** Sample Name: **25ng TO-15 ICV STD**
Operator: **LH** Misc Info: **S25-09091301/S25-09111304 (**
Date Acquired: **9/21/13** **6:44** Instrument Name: **GCMS-16**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail	AZ Check 70-130%
50)	**Methyl Methacrylate**	**14.27**	**59.4**	**52.50**	113	**70**	**130**	*	*
51)	**n-Heptane**	**14.40**	**23.7**	**26.75**	89	**70**	**130**	*	*
52)	**cis-1,3-Dichloropropene**	**14.94**	**31.0**	**28.25**	110	**70**	**130**	*	*
53)	**4-Methyl-2-pentanone**	**14.95**	**28.8**	**27.25**	106	**70**	**130**	*	*
54)	**trans-1,3-Dichloropropene**	**15.44**	**30.2**	**27.00**	112	**70**	**130**	*	*
55)	**1,1,2-Trichloroethane**	**15.63**	**27.3**	**26.25**	104	**70**	**130**	*	*
58)	**Toluene**	**15.92**	**26.4**	**26.25**	101	**70**	**130**	*	*
59)	**2-Hexanone**	**16.11**	**28.7**	**27.75**	103	**70**	**130**	*	*
60)	**Dibromochloromethane**	**16.33**	**31.4**	**27.50**	114	**70**	**130**	*	*
61)	**1,2-Dibromoethane**	**16.58**	**28.8**	**27.00**	107	**70**	**130**	*	*
62)	**n-Butyl Acetate**	**16.69**	**30.0**	**28.00**	107	**70**	**130**	*	*
63)	**n-Octane**	**16.83**	**25.5**	**26.00**	98	**70**	**130**	*	*
64)	**Tetrachloroethene**	**17.01**	**25.1**	**24.50**	102	**70**	**130**	*	*
65)	**Chlorobenzene**	**17.63**	**27.0**	**27.00**	100	**70**	**130**	*	*
66)	**Ethylbenzene**	**17.96**	**27.2**	**26.50**	103	**70**	**130**	*	*
67)	**m- & p-Xylenes**	**18.12**	**53.3**	**52.50**	102	**70**	**130**	*	*
68)	**Bromoform**	**18.20**	**33.5**	**27.00**	124	**70**	**130**	*	*
69)	**Styrene**	**18.44**	**28.2**	**27.25**	103	**70**	**130**	*	*
70)	**o-Xylene**	**18.54**	**25.9**	**25.75**	101	**70**	**130**	*	*
71)	**n-Nonane**	**18.69**	**25.1**	**25.75**	97	**70**	**130**	*	*
72)	**1,1,2,2-Tetrachloroethane**	**18.51**	**25.8**	**25.25**	102	**70**	**130**	*	*
74)	**Cumene**	**19.06**	**25.5**	**25.50**	100	**70**	**130**	*	*
75)	**alpha-Pinene**	**19.42**	**26.4**	**26.00**	102	**70**	**130**	*	*
76)	**n-Propylbenzene**	**19.51**	**25.8**	**25.25**	102	**70**	**130**	*	*
77)	3-Ethyltoluene	19.60	27.4	26.50	103	**70**	**130**	*	*
78)	**4-Ethyltoluene**	**19.64**	**27.3**	**26.50**	**103**	**70**	**130**	*	*
79)	**1,3,5-Trimethylbenzene**	**19.71**	**27.4**	**26.50**	**103**	**70**	**130**	*	*
80)	alpha-Methylstyrene	19.85	28.2	26.00	**108**	**70**	**130**	*	*
81)	2-Ethyltoluene	19.89	27.0	26.25	**103**	**70**	**130**	*	*
82)	**1,2,4-Trimethylbenzene**	**20.09**	**27.9**	**26.50**	**105**	**70**	**130**	*	*
83)	n-Decane	20.15	25.6	25.75	**99**	**70**	**130**	*	*
84)	**Benzyl Chloride**	**20.22**	**32.8**	**27.75**	**118**	**70**	**130**	*	*
85)	**1,3-Dichlorobenzene**	**20.25**	**28.2**	**27.75**	**102**	**70**	**130**	*	*
86)	**1,4-Dichlorobenzene**	**20.31**	**27.7**	**26.75**	**104**	**70**	**130**	*	*
87)	sec-Butylbenzene	20.34	28.2	27.00	**104**	**70**	**130**	*	*
88)	4-Isopropyltoluene (p-Cymene)	20.48	26.9	25.25	**107**	**70**	**130**	*	*
89)	1,2,3-Trimethylbenzene	20.49	27.7	26.50	**105**	**70**	**130**	*	*
90)	**1,2-Dichlorobenzene**	**20.63**	**28.0**	**27.25**	**103**	**70**	**130**	*	*
91)	**d-Limonene**	**20.61**	**28.3**	**26.25**	**108**	**70**	**130**	*	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.04**	**30.5**	**26.50**	**115**	**70**	**130**	*	*
93)	n-Undecane	21.32	26.1	25.75	**101**	**70**	**130**	*	*
94)	**1,2,4-Trichlorobenzene**	**22.28**	**28.4**	**27.50**	**103**	**70**	**130**	*	*
95)	**Naphthalene**	**22.41**	**27.6**	**25.50**	**108**	**70**	**130**	*	*
96)	n-Dodecane	22.33	28.5	26.00	**110**	**70**	**130**	*	*
97)	**Hexachlorobutadiene**	**22.75**	**28.9**	**27.25**	**106**	**70**	**130**	*	*
98)	Cyclohexanone	18.26	26.7	27.50	97	**70**	**130**	*	*
99)	tert-Butylbenzene	20.09	28.3	26.75	106	**70**	**130**	*	*
100)	n-Butylbenzene	20.87	28.9	27.50	105	**70**	**130**	*	*

Bold = 75 Compound List
*** = Pass**

LH 9/25/13

Evaluate Continuing Calibration Report

Data File: I:\MS16\DATA\2013_11\04\11041302.D
Acq On : 4 Nov 2013 8:59 Operator: LH
Sample : 25ng TO-15 CCV STD (125mL)
Misc : S25-10071301/S25-10241305 (11/22)
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 04 09:55:34 2013
Quant Method : I:\MS16\METHODS\R16092013.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Sat Sep 21 09:05:23 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	97	-0.01
2	T	Propene	1.513	1.731	-14.4	108	0.00
3	T	Dichlorodifluoromethane (CF	2.981	3.118	-4.6	101	-0.01
4	T	Chloromethane	2.447	2.813	-15.0	112	-0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.540	1.519	1.4	97	0.00
6	T	Vinyl Chloride	2.286	2.595	-13.5	109	-0.02
7	T	1,3-Butadiene	1.672	1.867	-11.7	100	-0.02
8	T	Bromomethane	1.517	1.461	3.7	99	-0.02
9	T	Chloroethane	1.212	1.261	-4.0	106	-0.01
10	T	Ethanol	1.133	1.144	-1.0	104	-0.07
11	T	Acetonitrile	3.024	3.277	-8.4	107	-0.04
12	T	Acrolein	1.080	1.015	6.0	105	-0.03
13	T	Acetone	1.178	1.184	-0.5	109	-0.04
14	T	Trichlorofluoromethane	2.517	2.356	6.4	101	0.00
15	T	2-Propanol (Isopropanol)	4.096	4.365	-6.6	108	-0.04
16	T	Acrylonitrile	2.011	2.195	-9.1	105	-0.03
17	T	1,1-Dichloroethene	1.409	1.396	0.9	100	-0.01
18	T	2-Methyl-2-Propanol (tert-B	3.782	4.174	-10.4	108	-0.04
19	T	Methylene Chloride	1.605	1.642	-2.3	105	-0.02
20	T	3-Chloro-1-propene (Allyl C	2.190	2.308	-5.4	105	-0.02
21	T	Trichlorotrifluoroethane	1.143	1.054	7.8	91	-0.01
22	T	Carbon Disulfide	5.843	5.963	-2.1	102	-0.01
23	T	trans-1,2-Dichloroethene	2.146	2.315	-7.9	109	-0.02
24	T	1,1-Dichloroethane	2.619	2.708	-3.4	106	-0.01
25	T	Methyl tert-Butyl Ether	4.268	4.571	-7.1	107	-0.01
26	T	Vinyl Acetate	0.327	0.345	-5.5	95	-0.03
27	T	2-Butanone (MEK)	0.863	0.940	-8.9	100	-0.02
28	T	cis-1,2-Dichloroethene	2.019	2.249	-11.4	110	-0.01
29	T	Diisopropyl Ether	1.096	1.202	-9.7	105	-0.01
30	T	Ethyl Acetate	0.477	0.580	-21.6	105	-0.02
31	T	n-Hexane	2.091	2.210	-5.7	113	-0.01
32	T	Chloroform	2.498	2.605	-4.3	104	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.604	1.708	-6.5	105	-0.01
34	T	Tetrahydrofuran (THF)	0.902	1.011	-12.1	106	-0.01
35	T	Ethyl tert-Butyl Ether	1.631	1.829	-12.1	105	-0.01
36	T	1,2-Dichloroethane	1.861	2.018	-8.4	105	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	93	0.00
38	T	1,1,1-Trichloroethane	0.431	0.489	-13.5	103	-0.01
39	T	Isopropyl Acetate	0.174	0.200	-14.9	100	-0.01

11/4/13

Evaluate Continuing Calibration Report

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ALS Vial : 1 Sample Multiplier: 1

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Quant Method : I:\MS16\METHODS\R16092013.M
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Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
40	T	1-Butanol	0.286	0.340	-18.9	104	-0.03
41	T	Benzene	1.171	1.144	2.3	97	0.00
42	T	Carbon Tetrachloride	0.353	0.386	-9.3	98	-0.01
43	T	Cyclohexane	0.460	0.498	-8.3	106	-0.01
44	T	tert-Amyl Methyl Ether	0.842	0.940	-11.6	101	-0.01
45	T	1,2-Dichloropropane	0.297	0.324	-9.1	101	0.00
46	T	Bromodichloromethane	0.372	0.413	-11.0	98	-0.01
47	T	Trichloroethene	0.293	0.298	-1.7	92	-0.01
48	T	1,4-Dioxane	0.251	0.255	-1.6	101	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.272	1.490	-17.1	109	-0.01
50	T	Methyl Methacrylate	0.114	0.131	-14.9	96	-0.01
51	T	n-Heptane	0.277	0.285	-2.9	98	0.00
52	T	cis-1,3-Dichloropropene	0.447	0.517	-15.7	100	0.00
53	T	4-Methyl-2-pentanone	0.271	0.325	-19.9	108	-0.02
54	T	trans-1,3-Dichloropropene	0.404	0.489	-21.0	103	-0.01
55	T	1,1,2-Trichloroethane	0.275	0.308	-12.0	102	0.00
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	104	0.00
57	S	Toluene-d8 (SS2)	2.434	2.314	4.9	97	0.00
58	T	Toluene	2.635	2.469	6.3	97	-0.01
59	T	2-Hexanone	1.482	1.549	-4.5	107	-0.01
60	T	Dibromochloromethane	0.604	0.651	-7.8	101	0.00
61	T	1,2-Dibromoethane	0.674	0.697	-3.4	101	0.00
62	T	n-Butyl Acetate	1.598	1.749	-9.4	106	-0.01
63	T	n-Octane	0.589	0.578	1.9	102	-0.01
64	T	Tetrachloroethene	0.719	0.673	6.4	95	0.00
65	T	Chlorobenzene	1.667	1.645	1.3	102	0.00
66	T	Ethylbenzene	2.926	2.947	-0.7	102	0.00
67	T	m- & p-Xylenes	2.286	2.293	-0.3	102	-0.01
68	T	Bromoform	0.458	0.505	-10.3	97	0.00
69	T	Styrene	1.751	1.748	0.2	96	0.00
70	T	o-Xylene	2.414	2.369	1.9	99	0.00
71	T	n-Nonane	1.401	1.470	-4.9	109	0.00
72	T	1,1,2,2-Tetrachloroethane	1.183	1.256	-6.2	106	-0.01
73	S	Bromofluorobenzene (SS3)	0.900	0.867	3.7	97	0.00
74	T	Cumene	3.042	2.961	2.7	97	0.00
75	T	alpha-Pinene	1.521	1.500	1.4	97	0.00
76	T	n-Propylbenzene	3.675	3.771	-2.6	100	0.00
77	T	3-Ethyltoluene	2.865	2.841	0.8	96	0.00
78	T	4-Ethyltoluene	2.720	2.835	-4.2	103	0.00

ㅁ 11/4/13

Evaluate Continuing Calibration Report

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DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
79	T	1,3,5-Trimethylbenzene	2.350	2.359	-0.4	99	0.00
80	T	alpha-Methylstyrene	1.240	1.270	-2.4	94	-0.01
81	T	2-Ethyltoluene	2.749	2.758	-0.3	99	-0.01
82	T	1,2,4-Trimethylbenzene	2.383	2.467	-3.5	98	-0.01
83	T	n-Decane	1.396	1.509	-8.1	109	-0.01
84	T	Benzyl Chloride	1.900	2.167	-14.1	100	-0.01
85	T	1,3-Dichlorobenzene	1.312	1.313	-0.1	98	-0.01
86	T	1,4-Dichlorobenzene	1.351	1.349	0.1	97	-0.01
87	T	sec-Butylbenzene	3.066	3.192	-4.1	101	0.00
88	T	4-Isopropyltoluene (p-Cymen	2.915	3.059	-4.9	100	-0.01
89	T	1,2,3-Trimethylbenzene	2.455	2.537	-3.3	102	-0.01
90	T	1,2-Dichlorobenzene	1.269	1.259	0.8	97	-0.01
91	T	d-Limonene	0.951	1.086	-14.2	106	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.417	0.454	-8.9	99	0.00
93	T	n-Undecane	1.452	1.692	-16.5	113	0.00
94	T	1,2,4-Trichlorobenzene	0.912	0.906	0.7	95	-0.01
95	T	Naphthalene	3.239	3.295	-1.7	97	0.00
96	T	n-Dodecane	1.343	1.637	-21.9	110	0.00
97	T	Hexachlorobutadiene	0.511	0.510	0.2	95	0.00
98	T	Cyclohexanone	0.993	0.959	3.4	107	-0.01
99	T	tert-Butylbenzene	2.229	2.255	-1.2	97	0.00
100	T	n-Butylbenzene	2.475	2.683	-8.4	106	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

LH 11/4/13

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
24	9/21/13 0:45	09201324.D	12.5ng TO-15 BFB	S25-09091301	LH	1	passed
25	9/21/13 1:19	09201325.D	0.08ng TO-15 ICAL STD	S25-09091301/S25-09071306 (10/6)	LH	16	
26	9/21/13 2:02	09201326.D	0.1ng TO-15 ICAL STD	S25-09091301/S25-09071306 (10/6)	LH	16	
27	9/21/13 2:36	09201327.D	0.2ng TO-15 ICAL STD	S25-09091301/S25-09071306 (10/6)	LH	16	
28	9/21/13 3:10	09201328.D	0.4ng TO-15 ICAL STD	S25-09091301/S25-09071306 (10/6)	LH	16	
29	9/21/13 3:44	09201329.D	1.0ng TO-15 ICAL STD	S25-09091301/S25-09201311 (10/19)	LH	15	
30	9/21/13 4:28	09201330.D	5.0ng TO-15 ICAL STD	S25-09091301/S25-09201311 (10/19)	LH	15	
31	9/21/13 5:02	09201331.D	25ng TO-15 ICAL STD	S25-09091301/S25-09201310 (10/19)	LH	1	R16092013.M
32	9/21/13 5:36	09201332.D	50ng TO-15 ICAL STD	S25-09091301/S25-09201310 (10/19)	LH	1	
33	9/21/13 6:10	09201333.D	100ng TO-15 ICAL STD	S25-09091301/S25-09201310 (10/19)	LH	1	
34	9/21/13 6:44	09201334.D	25ng TO-15 ICV STD	S25-09091301/S25-09111304 (10/10)	LH	1	passed

ICAL R16092013.M PASSED. FOR ALL COMPOUNDS 0.08ng-100 ng, EXCEPT:
PROPENE, BROMOMETHANE, CARBON DISULFIDE 0.2ng - 100 ng, ACETONE 0.5ng - 500ng,
ACETONITRILE, METHYLENE CHLORIDE, HEXANE 0.4ng - 100ng. MI 9/23/13

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment	
14	11/2/13 13:17	11021314.D	P1304743-001 (30mL)	S25-10071301	LH	6		
15	11/2/13 13:51	11021315.D	P1304743-001 dup (30mL)	S25-10071301	LH	6	passed	
16	11/2/13 14:36	11021316.D	P1304744-001 (400mL)	S25-10071301	LH	7		
17	11/2/13 15:09	11021317.D	P1304744-002 (400mL)	S25-10071301	LH	8		
18	11/2/13 15:43	11021318.D	P1304747-001 (400mL)	S25-10071301	LH	9		
19	11/2/13 16:17	11021319.D	P1304747-002 (400mL)	S25-10071301	LH	10		
20	11/2/13 16:50	11021320.D	P1304747-003 (400mL)	S25-10071301	LH	11		
21	11/2/13 17:24	11021321.D	P1304747-004 (400mL)	S25-10071301	LH	12		
22	11/2/13 17:58	11021322.D	P1304746-001 (400mL)	S25-10071301	LH	13		
23	11/2/13 18:32	11021323.D	P1304746-002 (400mL)	S25-10071301	LH	14		
24	11/2/13 19:05	11021324.D	P1304746-003 (400mL)	S25-10071301	LH	15		
25	11/2/13 19:39	11021325.D	P1304746-003 dil (40mL)	S25-10071301	LH	15		
26	11/2/13 20:24	11021326.D	P1304780-001 (400mL)	S25-10071301	LH	16		LH 11/4/13

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment	
1	11/4/13 8:26	11041301.D	25ng Custom CCV STD (125mL)	S25-10071301/S25-10211303 (11/19)	LH	2	passed	
2	11/4/13 8:59	11041302.D	25ng TO-15 CCV STD (125mL)	S25-10071301/S25-10241305 (11/22)	LH	1	passed	
3	11/4/13 9:33	11041303.D	25ng MAPH CCV STD (125mL)	S25-10071301/S25-10041303 (12/1)	LH	4	passed	
4	11/4/13 10:08	11041304.D	TO-15 Method Blank (1000mL)	S25-10071301	LH	1	passed	
5	11/4/13 10:41	11041305.D	25ng TO-15 LCS STD (125mL)	S25-10071301/S25-10081301 (11/6)	LH	1	passed	
6	11/4/13 11:14	11041306.D	25ng TO-15 LCSD STD (125mL)	S25-10071301/S25-10081301 (11/6)	LH	1	passed	
7	11/4/13 11:56	11041307.D	P1304888-001 (1000mL)	S25-10071301	LH	5		
8	11/4/13 12:30	11041308.D	P1304888-002 (1000mL)	S25-10071301	LH	6		
9	11/4/13 13:06	11041309.D	P1304888-002 dup (1000mL)	S25-10071301	LH	6	passed	
10	11/4/13 13:42	11041310.D	P1304888-003 (1000mL)	S25-10071301	LH	7		
11	11/4/13 14:37	11041311.D	P1304756-001 (2.0mL)	S25-10071301	LH	1		
12	11/4/13 15:11	11041312.D	P1304756-002 (1.5mL)	S25-10071301	LH	1		
13	11/4/13 15:44	11041313.D	P1304756-003 (1.5mL)	S25-10071301	LH	1		
14	11/4/13 16:18	11041314.D	P1304756-004 (3.0mL)	S25-10071301	LH	1		
15	11/4/13 16:52	11041315.D	P1304756-005 (1.5mL)	S25-10071301	LH	1		
16	11/4/13 17:35	11041316.D	P1304812-001 (1000mL)	S25-10071301	LH	8		
17	11/4/13 18:10	11041317.D	P1304812-002 (1000mL)	S25-10071301	LH	9		
18	11/4/13 18:44	11041318.D	P1304812-003 (1000mL)	S25-10071301	LH	10		
19	11/4/13 19:19	11041319.D	P1304812-004 (1000mL)	S25-10071301	LH	11		
20	11/4/13 19:54	11041320.D	P1304812-005 (1000mL)	S25-10071301	LH	12		
21	11/4/13 20:28	11041321.D	P1304812-006 (1000mL)	S25-10071301	LH	13		
22	11/4/13 21:03	11041322.D	P1304812-007 (1000mL)	S25-10071301	LH	14		
23	11/4/13 21:37	11041323.D	P1304812-007 dil (100mL)	S25-10071301	LH	14	case file	NOT NEEDED
24	11/4/13 22:26	11041324.D	P1304812-008 (1000mL)	S25-10071301	LH	15		
25	11/4/13 23:01	11041325.D	P1304812-009 (1000mL)	S25-10071301	LH	16		
26	11/4/13 23:36	11041326.D	P1304812-010 (1000mL)	S25-10071301	LH	5		LH 11/5/13

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LABORATORY REPORT

December 4, 2013

Susan Huang
CB&I
4005 Port Chicago Highway
Concord, CA 94520

RE: KAFB-BFF Albuquerque NM / 140705

Dear Susan:

Enclosed are the results of the samples submitted to our laboratory on November 13, 2013. For your reference, these analyses have been assigned our service request number P1305066.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

Kate Aguilera

By Kate Aguilera at 4:21 pm, Dec 04, 2013

Kate Aguilera
Project Manager

CLIENT: CB&I

ALS PROJECT ID.: P1305066
PROJECT NAME: KAFB-BFF Albuquerque NM
PROJECT NUMBER: 140705

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www.alsglobal.com

Client: CB&I
Project: KAFB-BFF Albuquerque NM / 140705

Service Request No: P1305066

CASE NARRATIVE

The samples were received intact under chain of custody on November 13, 2013 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

1,2-Dibromoethane Analysis

The samples were analyzed for 1,2-Dibromoethane according to modified CARB Method 422 using a gas chromatograph equipped with an electron capture detector (ECD). This method is not included on the laboratory's NELAP, DoD-ELAP, or AIHA-LAP scope of accreditation.

Volatile Organic Compound Analysis

The samples were also analyzed for volatile organic compounds in accordance with EPA Method TO-15 from the Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition (EPA/625/R-96/010b), January, 1999. This procedure is described in laboratory SOP VOA-TO15. The analytical system was comprised of a gas chromatograph / mass spectrometer (GC/MS) interfaced to a whole-air preconcentrator. This method is not included on the laboratory's AIHA-LAP scope of accreditation. Any analytes flagged with an X are not included on the laboratory's NELAP or DoD-ELAP scope of accreditation.

The Summa canisters were cleaned, prior to sampling, down to the method reporting limit (MRL) reported for this project. Please note, projects which require reporting below the MRL could have results between the MRL and method detection limit (MDL) that are biased high.

Manual integrations were performed on the following sample(s) and analyte(s). Refer to the raw data for additional information.

Sample Identification(s)	Analyte(s)
P1305066-005	propene

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

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F: +1 805 526 7270
www.alsglobal.com

ALS Environmental – Simi Valley

Certifications, Accreditations, and Registrations

Agency	Web Site	Number
AIHA	http://www.aihaaccreditedlabs.org	101661
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0694
DoD ELAP	http://www.pjlabs.com/search-accredited-labs	L11-203
Florida DOH (NELAP)	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E871020
Maine DHHS	http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/labcert.htm	2012039
Minnesota DOH (NELAP)	http://www.health.state.mn.us/accreditation	581572
New Jersey DEP (NELAP)	http://www.nj.gov/dep/oqa/	CA009
New York DOH (NELAP)	http://www.wadsworth.org/labcert/elap/elap.html	11221
Oregon PHD (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	CA200007
Pennsylvania DEP	http://www.depweb.state.pa.us/labs	68-03307 (Registration)
Texas CEQ (NELAP)	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704413-13-4
Utah DOH (NELAP)	http://www.health.utah.gov/lab/labimp/certification/index.html	CA016272013-3
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C946

Analyses were performed according to our laboratory's NELAP and DoD-ELAP approved quality assurance program. A complete listing of specific NELAP and DoD-ELAP certified analytes can be found in the certifications section at www.alsglobal.com, or at the accreditation body's website.

Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact the laboratory for information corresponding to a particular certification.

ALS ENVIRONMENTAL

DETAIL SUMMARY REPORT

Client: CB&I

Service Request: P1305066

Project ID: KAFB-BFF Albuquerque NM / 140705

Date Received: 11/13/2013

Time Received: 10:25

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pf1 (psig)	None - MISC_SVG1	TO-15 - VOC Cans
KAFB-106148-PT-001	P1305066-001	Air	11/1/2013	10:30	SC00567	-3.03	3.54	X	X
KAFB-106148-PT-002	P1305066-002	Air	11/1/2013	17:30	SC01673	-2.81	3.55	X	X
KAFB-106150-PT-001	P1305066-003	Air	11/7/2013	09:30	SC01042	-3.33	3.60	X	X
KAFB-106150-PT-002	P1305066-004	Air	11/7/2013	17:00	SC01700	-2.72	3.61	X	X
KAFB-106155-PT-001	P1305066-005	Air	11/4/2013	08:12	SC01086	-3.23	3.60	X	X
KAFB-106155-PT-002	P1305066-006	Air	11/4/2013	15:50	SSC00179	-3.50	3.60	X	X

P1305066

Shaw® Shaw E & I

FS003.1_0

Ref. Document # 140705-PT001

Page 1 of 1

Form 3. Shaw E & I Chain of Custody Form

Project Number: 140705

Project Name / Location: KAFB-BFF Albuquerque NM

Purchase Order #:

Shipment Date: 11/8/13

Waybill/Airbill Number: 6155 7132 00

Lab Destination: ALS

Lab Contact Name / ph. #: Kate Aguilera 805-526-7161

Project Contact: Susan Huang 925-288-2099 (Name & phone #)

Send Report To: Susan Huang

Phone/Fax Number: 925-288-2099

Address: 4005 Port Chicago Hwy.

City: Concord CA 94520

Sampler's Name(s): Greg Peacock

	Sample ID Number	Sample Description	Collection Information Date	Time	G/C	Matrix	# of containers	Container type	HCL	NaOH	HNO_3	H_2SO_4	Ice		TO-15 (VOCs)	Carbon 422 (EDB)								Turn Around Time Requested
-2.93 (1)	KAFB-106148-PT-001	VAPOR	11-1-13	10:30	G	AS	1	6LS							X	X								
-2.72 (2)	KAFB-106148-PT-002	VAPOR	11-1-13	17:30	G	AS	1	6LS							X	X								
-3.20 (3)	KAFB-106150-PT-001	VAPOR	11-7-13	09:30	G	AS	1	6LS							X	X								
-2.75 (4)	KAFB-106150-PT-002	VAPOR	11-7-13	17:00	G	AS	1	6LS							X	X								
-3.12 (5)	KAFB-106155-PT-001	VAPOR	11-4-13	08:12	G	AS	1	6LS							X	X								
-3.40 (6)	KAFB-106155-PT-002	VAPOR	11-4-13	15:50	G	AS	1	6LS							X	X								

Special Instructions:

QC/Date Package Level Required: I II III IV/Project Specific:

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
T Nagy / Shaw	11/8/13	10:00	[illegible]	11/13/13	1025

G/C Codes

C = Composite G = Grab

Matrix Codes

DW = Drinking Water SO = Soil

GW = Ground Water SL = Sludge

WW = Waste Water CP = Chip Samples

SW = Surface Water WP = Wipe Samples

LIQ = Other Liquid SOL = Other Solid

AS = Air Sample SED = Sediment

ALS Environmental
Sample Acceptance Check Form

Client: CB&I Work order: P1305066

Project: KAFB-BFF Albuquerque NM / 140705

Sample(s) received on: 11/13/13 Date opened: 11/13/13 by: RMARTENIES

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by ALS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
6	Was **sample volume** received adequate for analysis?	☒	☐	☐
7	Are samples within specified holding times?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
9	Was a **trip blank** received?	☐	☒	☐
10	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
11	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
12	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
13	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1305066-001.01	6.0 L Source Can					
P1305066-002.01	6.0 L Source Can					
P1305066-003.01	6.0 L Source Can					
P1305066-004.01	6.0 L Source Can					
P1305066-005.01	6.0 L Source Can					
P1305066-006.01	6.0 L Silonite Can					

Explain any discrepancies: (include lab sample ID numbers):

Chain of Custody is missing container ID

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**

Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Project ID: P1305066

1,2-Dibromoethane

Test Code: CARB 422 Modified
Instrument ID: HP5890/GC3/ECD
Analyst: Madeleine Dangazyan
Sample Type: 6.0 L Summa Canister(s) / 6.0 L Silonite Canister(s)
Test Notes:

Date(s) Collected: 11/1 - 11/7/13
Date Received: 11/13/13
Date Analyzed: 11/22/13

Client Sample ID	ALS Sample ID	Injection Volume ml(s)	Canister Dilution Factor	**Result µg/m³**	MRL µg/m³	MDL µg/m³	**Result ppbV**	MRL ppbV	MDL ppbV	Data Qualifier
KAFB-106148-PT-001	P1305066-001	0.10	1.56	**5,000**	60	12	**650**	7.8	1.6	**B**
KAFB-106148-PT-002	P1305066-002	0.10	1.53	**5,200**	59	12	**680**	7.7	1.5	**B**
KAFB-106150-PT-001	P1305066-003	0.10	1.61	**9,100**	62	12	**1,200**	8.1	1.6	**B**
KAFB-106150-PT-002	P1305066-004	0.10	1.53	**10,000**	59	12	**1,300**	7.7	1.5	**B**
KAFB-106155-PT-001	P1305066-005	1.0	1.60	**180**	6.1	1.2	**24**	0.80	0.16	**B**
KAFB-106155-PT-002	P1305066-006	1.0	1.63	**320**	6.3	1.2	**42**	0.82	0.16	**B**
Method Blank	P131122-MB	1.0	1.00	**0.81**	3.8	0.77	**0.11**	0.50	0.10	**J**

U = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
B = Analyte detected in both the sample and associated method blank.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample**
Client Project ID: **KAFB-BFF Albuquerque NM / 140705**

ALS Project ID: P1305066
ALS Sample ID: P131122-LCS

Test Code: CARB 422 Modified
Instrument ID: HP5890/GC3/ECD
Analyst: Madeleine Dangazyan
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID:

Date Collected: NA
Date Received: NA
Date Analyzed: 11/22/13
Volume(s) Analyzed: NA ml

CAS #	**Compound**	Spike Amount ppbV	**Result ppbV**	**% Recovery**	ALS Acceptance Limits	Data Qualifier
106-93-4	1,2-Dibromoethane	50.0	**48.0**	**96**	70-130	

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **CB&I**
Client Sample ID: **KAFB-106150-PT-001** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-003DUP

Test Code: CARB 422 Modified
Instrument ID: HP5890/GC3/ECD
Analyst: Madeleine Dangazyan
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC01042

Date Collected: 11/7/13
Date Received: 11/13/13
Date Analyzed: 11/22/13
Volume(s) Analyzed: 0.10 ml

Initial Pressure (psig): -3.33 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.61

CAS #	Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average	% RPD	RPD Limit	Data Qualifier
106-93-4	1,2-Dibromoethane	**1,180**	**1,150**	1165	**3**	15	**B**

ND = Compound was analyzed for, but not detected.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **CB&I**
Client Sample ID: **KAFB-106150-PT-002** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-004DUP

Test Code: CARB 422 Modified
Instrument ID: HP5890/GC3/ECD
Analyst: Madeleine Dangazyan
Sample Type: 6.0 L Summa Canister
Test Notes:
Container ID: SC01700

Date Collected: 11/7/13
Date Received: 11/13/13
Date Analyzed: 11/22/13
Volume(s) Analyzed: 0.10 ml

Initial Pressure (psig): -2.72 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.53

CAS #	Compound	Sample Result ppbV	Duplicate Sample Result ppbV	Average	% RPD	RPD Limit	Data Qualifier
106-93-4	1,2-Dibromoethane	**1,330**	**1,400**	1365	**5**	15	**B**

ND = Compound was analyzed for, but not detected.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Project ID: P1305066

Method Blank Summary

Test Code: CARB 422 Modified
Instrument ID: HP5890/GC3/ECD Lab File ID: 11221302.D
Analyst: Madeleine Dangazyan Date Analyzed: 11/22/13
Sample Type: 6.0 L Summa Canister(s) Time Analyzed: 09:52
Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P131122-LCS	11221303.D	10:02
KAFB-106148-PT-001	P1305066-001	11221307.D	10:49
KAFB-106148-PT-002	P1305066-002	11221308.D	10:59
KAFB-106150-PT-001 (Lab Duplicate)	P1305066-003DUP	11221310.D	11:16
KAFB-106150-PT-001	P1305066-003	11221311.D	11:24
KAFB-106150-PT-002	P1305066-004	11221312.D	11:33
KAFB-106150-PT-002 (Lab Duplicate)	P1305066-004DUP	11221313.D	11:43
KAFB-106155-PT-001	P1305066-005	11221317.D	12:37
KAFB-106155-PT-002	P1305066-006	11221318.D	12:50

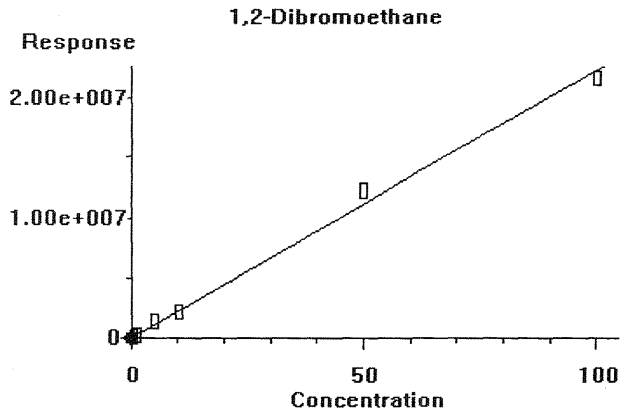
Edit Compounds

Search by Retention Time | Find Compound

- Compound Database
- External Standard Compour
  - 1,2-Dibromoethane

Identification | Calibration | User Defined | Advanced | Reporting

Lvl ID	Conc	Response	Lvl ID	Conc	Response
0.5	0.500000	134473.149062			
1.0	1.000000	268605.295989			
5	5.000000	1437348.217966			
10	10.000000	2258143.117438			
50	50.000000	12273475.53714:			
100	100.000000	21565365.28664!			



Quadratic term:	0.000e+000
Linear term:	2.218e+005
Constant term:	0.000e+000
Coef of Det	0.995765

OK | Cancel | Help | Print Calibration Curve | Copy Calibration Curve

Evaluate Continuing Calibration Report

Data Path : J:\GC03\DATA\ECD\CARB\2013_11\21\
Data File : 11211316.D
Signal(s) : ECD1B.CH
Acq On : 21-Nov-2013, 16:51
Operator : MD
Sample : ~~MB~~ ICV 50ppb 200ul S28-11211304
Misc : incorrect name this is ICV 50ppb
ALS Vial : 1 Sample Multiplier: 1

TP 11/22/13

Integration File: events.e
Quant Time: Nov 22 09:02:49 2013
Quant Method : J:\GC03\METHODS\CARB_12DBE_112113E.M
Quant Title : GC#3 GC/ECD CARB422
QLast Update : Fri Nov 22 09:00:57 2013
Response via : Initial Calibration
DataAcq Meth:CARB.M

Volume Inj. : 0.5mL
Signal Phase : RTX-1
Signal Info : 60m x 0.53mm x 5um

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	50.000	62.065	-24.1	112	-0.03

Evaluate Continuing Calibration Report - Not Founds

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CARB 422 QC

CCV

S28-11211303	46.24
(ACTUAL)	50.00
%DIFFERENCE	7.5%
LCS S28-11211304	48.02
(ACTUAL)	50.00
%RECOVERY	96.0%
LCSD S28-11211304	46.79
(ACTUAL)	50.00
%RECOVERY	93.6%
% RPD	**2.6%**
MID STD	46.09
(ACTUAL)	50.00
%DIFFERENCE	7.8%
END STD	43.39
(ACTUAL)	50.00
%DIFFERENCE	13.2%

Molecular Weight

1,2-Dibromoethane	187.88

Columbia Analytical Services™

SAMPLE RUN LOG, GC 03

ID: HP5890 ECD/FID

DATE : 11 / 21 / 13 TYPE OF ANALYSIS: Carb 422 - 1,2-Dibromo ethane

CLIENT: ICAL

HP AUTOINJECTOR 7673 USED : ☐ Y ☑ N SOLVENT : NA INJECTION VOLUME : 1 ml (default)

INJECTOR: A. PACKED COLUMN _____ B. SPLIT/SPLITLESS

INJECTOR TEMP.: _____ °C SPLIT RATIO : _____ /1, N/A

COLUMN ID : See p. 62

TEMPERATURE PROGRAMMING : CARRIER GAS : He _____ ml/min

INITIAL AT _____ °C FOR _____ min

RAMP RATE _____ °C/min TO _____ °C HOLD FOR _____ min

RAMP RATE _____ °C/min TO _____ °C HOLD FOR _____ min

FINAL AT _____ °C FOR _____ min

HP = 20 psi
Signal ~ 80

DETECTOR INFORMATION :

HP ECD #03 : 280 °C N2 Make-up 50 ml/min

HP FID #03 : ____ °C

DATA SYSTEM : HP Chemstation DATA PATHWAY: J:\GC03\DATA\ECD\CARB\2013-11\21

EXCEL REPORT FILE: METHOD FILE NAME : J:\GC03\METHODS\CARB\CARB_12DBE-112113E.M

	01	Test				21
	02	N2 blank				22
	03	↓				23
	04	System blank				24
	05	Syringe test				25
	06	N2 blank				26
X-	07	0.5 ppb	50 µl	S28-11211305		27
X-	08	1.0	100 ul	↓		28
	09	5	500 ul	↓		29
	10	10	1 ml	↓		30
	11	50	500 µl	S28-11211303		31
	12	100	1 mL	↓		32
Rerun	13	0.5	50 µl	S28-11211305		33
✓	14	50 ICV	500 ul	S28-11211304		34
Rerun	15	1.0	100 ul	S28-11211305		35
✓	16	50 ICV	500 ul	S28-11211304		36
	17	Blank				37
	18					38
	19					39
	20					40

11/21/13

Both ICVs pass. However injected ICV @ file #16 again because [illegible]

Columbia Analytical Services™

SAMPLE RUN LOG, GC 03

ID: HP5890 ECD/FID

Carb 422

DATE : 11 / 22 / 13 TYPE OF ANALYSIS: 1,2-Dibromoethane

CLIENT: CB & I

HP AUTOINJECTOR 7673 USED : ☐ Y ☑ N SOLVENT : NA INJECTION VOLUME : 1 ml (default)

INJECTOR : A. PACKED COLUMN _____ B. SPLIT/SPLITLESS

INJECTOR TEMP.: _____ °C SPLIT RATIO : _____ /1, N/A

COLUMN ID : See p. 65

TEMPERATURE PROGRAMMING : CARRIER GAS : He _____ ml/min

INITIAL AT _____ °C FOR _____ min

RAMP RATE _____ °C/min TO _____ °C HOLD FOR _____ min

RAMP RATE _____ °C/min TO _____ °C HOLD FOR _____ min

FINAL AT _____ °C FOR _____ min

DETECTOR INFORMATION :

HP ECD #03 : ____ °C N2 Make-up 50 ml/min

HP FID #03 : ____ °C

DATA SYSTEM : HP Chemstation DATA PATHWAY: J:\GC03\DATA\ECD\2013-11\22

EXCEL REPORT FILE: METHOD FILE NAME :J:\GC03\METHODS\CARB/CARB-12DBE_112113E.M

	01	CCV 50 ppb 500ul S28-11211303		21
	02	N2 blank 1.0 ml		22
	03	LCS 50 ppb 500ul S28-11211304		23
	04	LCSD ↓ ↓		24
	05	P1305066-001 1.0 ml		25
	06	-002 ↓		26
	07	-001 100ul	CP 11/22/13	27
	08	-002		28
X-	09	-003		29
	10	-003		30
	11	-003 dup		31
	12	-004		32
	13	-004 dup		33
	14	CCV 50 ppb 0.5 ml		34
X-	15	P1305066-005 100 ul		35
X-	16	-006 ↓		36
	17	-005 1.0 ml		37
	18	-006 1.0 ml		38
	19	End std 50 ppb		39
	20			40

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106148-PT-001** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-001

Test Code: EPA TO-15 Modified Date Collected: 11/1/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/18/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: SC00567

Initial Pressure (psig): -3.03 Final Pressure (psig): 3.54

Canister Dilution Factor: 1.56

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**2,700**	2,300	1,800	630	
75-71-8	Dichlorodifluoromethane (CFC 12)	790	790	630	270	**U**
74-87-3	Chloromethane	1,900	1,900	1,400	570	**U**
75-01-4	Vinyl Chloride	1,500	1,500	1,200	520	**U**
106-99-0	1,3-Butadiene	1,800	1,800	1,700	780	**U**
74-83-9	Bromomethane	1,000	1,000	780	380	**U**
75-00-3	Chloroethane	1,500	1,500	1,200	500	**U**
67-64-1	Acetone	**71,000**	16,000	6,900	2,500	
75-69-4	Trichlorofluoromethane	690	690	560	240	**U**
75-35-4	1,1-Dichloroethene	980	980	830	330	**U**
75-09-2	Methylene Chloride	1,100	1,100	900	380	**U**
76-13-1	Trichlorotrifluoroethane	510	510	440	170	**U**
75-15-0	Carbon Disulfide	13,000	13,000	980	380	**U**
156-60-5	trans-1,2-Dichloroethene	980	980	830	370	**U**
75-34-3	1,1-Dichloroethane	960	960	810	310	**U**
1634-04-4	Methyl tert-Butyl Ether	1,100	1,100	910	370	**U**
108-05-4	Vinyl Acetate	11,000	11,000	4,400	1,400	**U**
78-93-3	2-Butanone (MEK)	**10,000**	13,000	1,100	560	**J**
156-59-2	cis-1,2-Dichloroethene	980	980	850	310	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106148-PT-001** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-001

Test Code: EPA TO-15 Modified Date Collected: 11/1/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/18/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00020 Liter(s)
Test Notes:
Container ID: SC00567

Initial Pressure (psig): -3.03 Final Pressure (psig): 3.54

Canister Dilution Factor: 1.56

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	2,200	2,200	1,800	760	**U**
110-54-3	n-Hexane	**130,000**	1,100	910	330	
67-66-3	Chloroform	800	800	670	270	**U**
109-99-9	Tetrahydrofuran (THF)	1,300	1,300	1,100	530	**U**
107-06-2	1,2-Dichloroethane	960	960	810	310	**U**
71-55-6	1,1,1-Trichloroethane	720	720	590	240	**U**
71-43-2	Benzene	**52,000**	1,200	1,100	390	
56-23-5	Carbon Tetrachloride	620	620	520	190	**U**
110-82-7	Cyclohexane	**190,000**	2,300	1,900	660	
78-87-5	1,2-Dichloropropane	840	840	710	270	**U**
75-27-4	Bromodichloromethane	580	580	500	170	**U**
79-01-6	Trichloroethene	730	730	610	200	**U**
142-82-5	n-Heptane	**180,000**	950	800	320	
10061-01-5	cis-1,3-Dichloropropene	860	860	700	240	**U**
108-10-1	4-Methyl-2-pentanone	**840**	950	820	300	**J**
10061-02-6	trans-1,3-Dichloropropene	860	860	700	280	**U**
79-00-5	1,1,2-Trichloroethane	720	720	600	230	**U**
108-88-3	Toluene	**170,000**	1,000	870	350	
591-78-6	2-Hexanone	950	950	840	300	**U**
124-48-1	Dibromochloromethane	460	460	390	150	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106148-PT-001**
Client Project ID: **KAFB-BFF Albuquerque NM / 140705**

ALS Project ID: P1305066
ALS Sample ID: P1305066-001

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC00567

Date Collected: 11/1/13
Date Received: 11/13/13
Date Analyzed: 11/18/13
Volume(s) Analyzed: 0.00020 Liter(s)

Initial Pressure (psig): -3.03 Final Pressure (psig): 3.54

Canister Dilution Factor: 1.56

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	**530**	510	440	160	
127-18-4	Tetrachloroethene	580	580	450	160	**U**
108-90-7	Chlorobenzene	850	850	730	270	**U**
100-41-4	Ethylbenzene	**14,000**	900	770	290	
179601-23-1	m,p-Xylenes	**34,000**	1,800	1,500	540	
75-25-2	Bromoform	380	380	320	110	**U**
100-42-5	Styrene	920	920	810	270	**U**
95-47-6	o-Xylene	**10,000**	900	740	270	
79-34-5	1,1,2,2-Tetrachloroethane	570	570	450	170	**U**
108-67-8	1,3,5-Trimethylbenzene	**1,300**	790	670	250	
95-63-6	1,2,4-Trimethylbenzene	**2,400**	790	670	240	
100-44-7	Benzyl Chloride	750	750	660	170	**U**
541-73-1	1,3-Dichlorobenzene	650	650	570	190	**U**
106-46-7	1,4-Dichlorobenzene	650	650	550	180	**U**
95-50-1	1,2-Dichlorobenzene	650	650	560	190	**U**
120-82-1	1,2,4-Trichlorobenzene	530	530	460	170	**U**
91-20-3	Naphthalene	740	740	610	270	**U**
87-68-3	Hexachlorobutadiene	370	370	320	100	**U**
1330-20-7	Xylenes, Total	**44,000**	1,800	1,500	540	

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106148-PT-002** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-002

Test Code: EPA TO-15 Modified Date Collected: 11/1/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/18/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: SC01673

Initial Pressure (psig): -2.81 Final Pressure (psig): 3.55

Canister Dilution Factor: 1.53

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**3,300**	3,000	2,300	830	
75-71-8	Dichlorodifluoromethane (CFC 12)	1,000	1,000	830	350	**U**
74-87-3	Chloromethane	2,500	2,500	1,900	740	**U**
75-01-4	Vinyl Chloride	2,000	2,000	1,600	680	**U**
106-99-0	1,3-Butadiene	2,300	2,300	2,200	1,000	**U**
74-83-9	Bromomethane	1,300	1,300	1,000	500	**U**
75-00-3	Chloroethane	1,900	1,900	1,500	660	**U**
67-64-1	Acetone	**83,000**	21,000	9,000	3,300	
75-69-4	Trichlorofluoromethane	910	910	730	310	**U**
75-35-4	1,1-Dichloroethene	1,300	1,300	1,100	440	**U**
75-09-2	Methylene Chloride	1,500	1,500	1,200	500	**U**
76-13-1	Trichlorotrifluoroethane	670	670	570	230	**U**
75-15-0	Carbon Disulfide	16,000	16,000	1,300	490	**U**
156-60-5	trans-1,2-Dichloroethene	1,300	1,300	1,100	490	**U**
75-34-3	1,1-Dichloroethane	1,300	1,300	1,100	400	**U**
1634-04-4	Methyl tert-Butyl Ether	1,400	1,400	1,200	480	**U**
108-05-4	Vinyl Acetate	14,000	14,000	5,800	1,900	**U**
78-93-3	2-Butanone (MEK)	**12,000**	17,000	1,500	730	**J**
156-59-2	cis-1,2-Dichloroethene	1,300	1,300	1,100	410	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106148-PT-002** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-002

Test Code: EPA TO-15 Modified Date Collected: 11/1/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/18/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00015 Liter(s)
Test Notes:
Container ID: SC01673

Initial Pressure (psig): -2.81 Final Pressure (psig): 3.55

Canister Dilution Factor: 1.53

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	2,800	2,800	2,400	990	**U**
110-54-3	n-Hexane	**150,000**	1,400	1,200	430	
67-66-3	Chloroform	1,000	1,000	880	360	**U**
109-99-9	Tetrahydrofuran (THF)	1,700	1,700	1,500	690	**U**
107-06-2	1,2-Dichloroethane	1,300	1,300	1,100	400	**U**
71-55-6	1,1,1-Trichloroethane	940	940	770	320	**U**
71-43-2	Benzene	**54,000**	1,600	1,400	510	
56-23-5	Carbon Tetrachloride	810	810	680	240	**U**
110-82-7	Cyclohexane	**200,000**	3,000	2,400	860	
78-87-5	1,2-Dichloropropane	1,100	1,100	930	350	**U**
75-27-4	Bromodichloromethane	760	760	650	230	**U**
79-01-6	Trichloroethene	950	950	800	270	**U**
142-82-5	n-Heptane	**200,000**	1,200	1,000	420	
10061-01-5	cis-1,3-Dichloropropene	1,100	1,100	920	310	**U**
108-10-1	4-Methyl-2-pentanone	**1,000**	1,200	1,100	400	**J**
10061-02-6	trans-1,3-Dichloropropene	1,100	1,100	920	360	**U**
79-00-5	1,1,2-Trichloroethane	940	940	790	300	**U**
108-88-3	Toluene	**190,000**	1,400	1,100	460	
591-78-6	2-Hexanone	1,200	1,200	1,100	400	**U**
124-48-1	Dibromochloromethane	600	600	520	190	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106148-PT-002**
Client Project ID: **KAFB-BFF Albuquerque NM / 140705**

ALS Project ID: P1305066
ALS Sample ID: P1305066-002

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC01673

Date Collected: 11/1/13
Date Received: 11/13/13
Date Analyzed: 11/18/13
Volume(s) Analyzed: 0.00015 Liter(s)

Initial Pressure (psig): -2.81 Final Pressure (psig): 3.55

Canister Dilution Factor: 1.53

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	**530**	660	570	210	**J**
127-18-4	Tetrachloroethene	750	750	590	210	**U**
108-90-7	Chlorobenzene	1,100	1,100	950	350	**U**
100-41-4	Ethylbenzene	**17,000**	1,200	1,000	380	
179601-23-1	m,p-Xylenes	**41,000**	2,300	2,000	700	
75-25-2	Bromoform	490	490	420	150	**U**
100-42-5	Styrene	1,200	1,200	1,100	360	**U**
95-47-6	o-Xylene	**12,000**	1,200	960	350	
79-34-5	1,1,2,2-Tetrachloroethane	740	740	590	220	**U**
108-67-8	1,3,5-Trimethylbenzene	**1,500**	1,000	870	330	
95-63-6	1,2,4-Trimethylbenzene	**2,600**	1,000	870	310	
100-44-7	Benzyl Chloride	990	990	870	220	**U**
541-73-1	1,3-Dichlorobenzene	850	850	750	250	**U**
106-46-7	1,4-Dichlorobenzene	850	850	710	240	**U**
95-50-1	1,2-Dichlorobenzene	850	850	730	250	**U**
120-82-1	1,2,4-Trichlorobenzene	690	690	600	220	**U**
91-20-3	Naphthalene	970	970	800	350	**U**
87-68-3	Hexachlorobutadiene	480	480	420	130	**U**
1330-20-7	Xylenes, Total	**53,000**	2,300	2,000	700	

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J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106150-PT-001** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-003

Test Code: EPA TO-15 Modified Date Collected: 11/7/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/18/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00012 Liter(s)
Test Notes:
Container ID: SC01042

Initial Pressure (psig): -3.33 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.61

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	3,900	3,900	3,000	1,100	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	1,400	1,400	1,100	460	**U**
74-87-3	Chloromethane	3,200	3,200	2,500	970	**U**
75-01-4	Vinyl Chloride	2,600	2,600	2,000	890	**U**
106-99-0	1,3-Butadiene	3,000	3,000	2,900	1,300	**U**
74-83-9	Bromomethane	1,700	1,700	1,300	660	**U**
75-00-3	Chloroethane	2,500	2,500	2,000	860	**U**
67-64-1	Acetone	**55,000**	28,000	12,000	4,400	
75-69-4	Trichlorofluoromethane	1,200	1,200	960	410	**U**
75-35-4	1,1-Dichloroethene	1,700	1,700	1,400	580	**U**
75-09-2	Methylene Chloride	1,900	1,900	1,500	660	**U**
76-13-1	Trichlorotrifluoroethane	880	880	750	300	**U**
75-15-0	Carbon Disulfide	22,000	22,000	1,700	650	**U**
156-60-5	trans-1,2-Dichloroethene	1,700	1,700	1,400	640	**U**
75-34-3	1,1-Dichloroethane	1,700	1,700	1,400	530	**U**
1634-04-4	Methyl tert-Butyl Ether	1,900	1,900	1,600	630	**U**
108-05-4	Vinyl Acetate	19,000	19,000	7,600	2,500	**U**
78-93-3	2-Butanone (MEK)	**20,000**	23,000	2,000	960	**J**
156-59-2	cis-1,2-Dichloroethene	1,700	1,700	1,500	540	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106150-PT-001** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-003

Test Code: EPA TO-15 Modified Date Collected: 11/7/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/18/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00012 Liter(s)
Test Notes:
Container ID: SC01042

Initial Pressure (psig): -3.33 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.61

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	3,700	3,700	3,100	1,300	**U**
110-54-3	n-Hexane	**180,000**	1,900	1,600	570	
67-66-3	Chloroform	1,400	1,400	1,200	470	**U**
109-99-9	Tetrahydrofuran (THF)	2,300	2,300	2,000	910	**U**
107-06-2	1,2-Dichloroethane	1,700	1,700	1,400	530	**U**
71-55-6	1,1,1-Trichloroethane	1,200	1,200	1,000	420	**U**
71-43-2	Benzene	**94,000**	2,100	1,800	670	
56-23-5	Carbon Tetrachloride	1,100	1,100	900	320	**U**
110-82-7	Cyclohexane	**280,000**	3,900	3,200	1,100	
78-87-5	1,2-Dichloropropane	1,500	1,500	1,200	460	**U**
75-27-4	Bromodichloromethane	1,000	1,000	860	300	**U**
79-01-6	Trichloroethene	1,200	1,200	1,000	350	**U**
142-82-5	n-Heptane	**280,000**	1,600	1,400	560	
10061-01-5	cis-1,3-Dichloropropene	1,500	1,500	1,200	410	**U**
108-10-1	4-Methyl-2-pentanone	**2,100**	1,600	1,400	520	
10061-02-6	trans-1,3-Dichloropropene	1,500	1,500	1,200	470	**U**
79-00-5	1,1,2-Trichloroethane	1,200	1,200	1,000	390	**U**
108-88-3	Toluene	**260,000**	1,800	1,500	610	
591-78-6	2-Hexanone	1,600	1,600	1,400	520	**U**
124-48-1	Dibromochloromethane	790	790	680	250	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106150-PT-001**
Client Project ID: **KAFB-BFF Albuquerque NM / 140705**

ALS Project ID: P1305066
ALS Sample ID: P1305066-003

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC01042

Date Collected: 11/7/13
Date Received: 11/13/13
Date Analyzed: 11/18/13
Volume(s) Analyzed: 0.00012 Liter(s)

Initial Pressure (psig): -3.33 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.61

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	**990**	870	750	280	
127-18-4	Tetrachloroethene	990	990	770	280	**U**
108-90-7	Chlorobenzene	1,500	1,500	1,300	470	**U**
100-41-4	Ethylbenzene	**8,600**	1,500	1,300	490	
179601-23-1	m,p-Xylenes	**27,000**	3,100	2,600	930	
75-25-2	Bromoform	650	650	560	190	**U**
100-42-5	Styrene	1,600	1,600	1,400	470	**U**
95-47-6	o-Xylene	**6,200**	1,500	1,300	460	
79-34-5	1,1,2,2-Tetrachloroethane	980	980	780	290	**U**
108-67-8	1,3,5-Trimethylbenzene	**450**	1,400	1,100	440	**J**
95-63-6	1,2,4-Trimethylbenzene	**630**	1,400	1,100	410	**J**
100-44-7	Benzyl Chloride	1,300	1,300	1,100	290	**U**
541-73-1	1,3-Dichlorobenzene	1,100	1,100	980	330	**U**
106-46-7	1,4-Dichlorobenzene	1,100	1,100	940	310	**U**
95-50-1	1,2-Dichlorobenzene	1,100	1,100	960	330	**U**
120-82-1	1,2,4-Trichlorobenzene	900	900	800	290	**U**
91-20-3	Naphthalene	1,300	1,300	1,000	460	**U**
87-68-3	Hexachlorobutadiene	630	630	550	180	**U**
1330-20-7	Xylenes, Total	**33,000**	3,100	2,600	930	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106150-PT-002** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-004

Test Code: EPA TO-15 Modified Date Collected: 11/7/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/19/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00012 Liter(s)
Test Notes:
Container ID: SC01700

Initial Pressure (psig): -2.72 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.53

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	3,700	3,700	2,900	1,000	**U**
75-71-8	Dichlorodifluoromethane (CFC 12)	1,300	1,300	1,000	440	**U**
74-87-3	Chloromethane	3,100	3,100	2,300	930	**U**
75-01-4	Vinyl Chloride	2,500	2,500	1,900	850	**U**
106-99-0	1,3-Butadiene	2,900	2,900	2,700	1,300	**U**
74-83-9	Bromomethane	1,600	1,600	1,300	620	**U**
75-00-3	Chloroethane	2,400	2,400	1,900	820	**U**
67-64-1	Acetone	**73,000**	27,000	11,000	4,100	
75-69-4	Trichlorofluoromethane	1,100	1,100	910	390	**U**
75-35-4	1,1-Dichloroethene	1,600	1,600	1,400	550	**U**
75-09-2	Methylene Chloride	1,800	1,800	1,500	620	**U**
76-13-1	Trichlorotrifluoroethane	830	830	720	280	**U**
75-15-0	Carbon Disulfide	20,000	20,000	1,600	610	**U**
156-60-5	trans-1,2-Dichloroethene	1,600	1,600	1,400	610	**U**
75-34-3	1,1-Dichloroethane	1,600	1,600	1,300	500	**U**
1634-04-4	Methyl tert-Butyl Ether	1,800	1,800	1,500	600	**U**
108-05-4	Vinyl Acetate	18,000	18,000	7,200	2,400	**U**
78-93-3	2-Butanone (MEK)	**24,000**	22,000	1,900	910	
156-59-2	cis-1,2-Dichloroethene	1,600	1,600	1,400	510	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106150-PT-002** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-004

Test Code: EPA TO-15 Modified Date Collected: 11/7/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/19/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00012 Liter(s)
Test Notes:
Container ID: SC01700

Initial Pressure (psig): -2.72 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.53

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	3,500	3,500	3,000	1,200	**U**
110-54-3	n-Hexane	**180,000**	1,800	1,500	540	
67-66-3	Chloroform	1,300	1,300	1,100	440	**U**
109-99-9	Tetrahydrofuran (THF)	2,200	2,200	1,900	860	**U**
107-06-2	1,2-Dichloroethane	1,600	1,600	1,300	500	**U**
71-55-6	1,1,1-Trichloroethane	1,200	1,200	960	400	**U**
71-43-2	Benzene	**100,000**	2,000	1,800	640	
56-23-5	Carbon Tetrachloride	1,000	1,000	850	300	**U**
110-82-7	Cyclohexane	**280,000**	3,700	3,000	1,100	
78-87-5	1,2-Dichloropropane	1,400	1,400	1,200	440	**U**
75-27-4	Bromodichloromethane	950	950	820	290	**U**
79-01-6	Trichloroethene	1,200	1,200	1,000	330	**U**
142-82-5	n-Heptane	**300,000**	1,600	1,300	530	
10061-01-5	cis-1,3-Dichloropropene	1,400	1,400	1,200	390	**U**
108-10-1	4-Methyl-2-pentanone	**2,600**	1,600	1,300	500	
10061-02-6	trans-1,3-Dichloropropene	1,400	1,400	1,200	450	**U**
79-00-5	1,1,2-Trichloroethane	1,200	1,200	980	370	**U**
108-88-3	Toluene	**290,000**	1,700	1,400	580	
591-78-6	2-Hexanone	1,600	1,600	1,400	500	**U**
124-48-1	Dibromochloromethane	750	750	640	240	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106150-PT-002**
Client Project ID: **KAFB-BFF Albuquerque NM / 140705**

ALS Project ID: P1305066
ALS Sample ID: P1305066-004

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC01700

Date Collected: 11/7/13
Date Received: 11/13/13
Date Analyzed: 11/19/13
Volume(s) Analyzed: 0.00012 Liter(s)

Initial Pressure (psig): -2.72 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.53

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	**1,200**	830	710	270	
127-18-4	Tetrachloroethene	940	940	730	260	**U**
108-90-7	Chlorobenzene	1,400	1,400	1,200	440	**U**
100-41-4	Ethylbenzene	**10,000**	1,500	1,300	470	
179601-23-1	m,p-Xylenes	**35,000**	2,900	2,500	880	
75-25-2	Bromoform	620	620	530	190	**U**
100-42-5	Styrene	1,500	1,500	1,300	450	**U**
95-47-6	o-Xylene	**8,000**	1,500	1,200	440	
79-34-5	1,1,2,2-Tetrachloroethane	930	930	740	280	**U**
108-67-8	1,3,5-Trimethylbenzene	**590**	1,300	1,100	420	**J**
95-63-6	1,2,4-Trimethylbenzene	**850**	1,300	1,100	390	**J**
100-44-7	Benzyl Chloride	1,200	1,200	1,100	270	**U**
541-73-1	1,3-Dichlorobenzene	1,100	1,100	930	320	**U**
106-46-7	1,4-Dichlorobenzene	1,100	1,100	890	300	**U**
95-50-1	1,2-Dichlorobenzene	1,100	1,100	910	320	**U**
120-82-1	1,2,4-Trichlorobenzene	860	860	760	270	**U**
91-20-3	Naphthalene	1,200	1,200	1,000	440	**U**
87-68-3	Hexachlorobutadiene	600	600	530	170	**U**
1330-20-7	Xylenes, Total	**43,000**	2,900	2,500	880	

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106155-PT-001** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-005

Test Code: EPA TO-15 Modified Date Collected: 11/4/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/19/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.0025 Liter(s)
Test Notes:
Container ID: SC01086

Initial Pressure (psig): -3.23 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.60

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**540**	190	150	52	
75-71-8	Dichlorodifluoromethane (CFC 12)	65	65	52	22	**U**
74-87-3	Chloromethane	160	160	120	47	**U**
75-01-4	Vinyl Chloride	130	130	98	43	**U**
106-99-0	1,3-Butadiene	140	140	140	64	**U**
74-83-9	Bromomethane	82	82	64	31	**U**
75-00-3	Chloroethane	120	120	95	41	**U**
67-64-1	Acetone	1,300	1,300	570	210	**U**
75-69-4	Trichlorofluoromethane	57	57	46	19	**U**
75-35-4	1,1-Dichloroethene	81	81	68	27	**U**
75-09-2	Methylene Chloride	92	92	74	31	**U**
76-13-1	Trichlorotrifluoroethane	42	42	36	14	**U**
75-15-0	Carbon Disulfide	1,000	1,000	80	31	**U**
156-60-5	trans-1,2-Dichloroethene	81	81	68	31	**U**
75-34-3	1,1-Dichloroethane	79	79	66	25	**U**
1634-04-4	Methyl tert-Butyl Ether	89	89	75	30	**U**
108-05-4	Vinyl Acetate	910	910	360	120	**U**
78-93-3	2-Butanone (MEK)	1,100	1,100	93	46	**U**
156-59-2	cis-1,2-Dichloroethene	81	81	69	26	**U**

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106155-PT-001** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-005

Test Code: EPA TO-15 Modified Date Collected: 11/4/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/19/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.0025 Liter(s)
Test Notes:
Container ID: SC01086

Initial Pressure (psig): -3.23 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.60

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	180	180	150	62	**U**
110-54-3	n-Hexane	**4,300**	91	74	27	
67-66-3	Chloroform	66	66	55	22	**U**
109-99-9	Tetrahydrofuran (THF)	110	110	93	43	**U**
107-06-2	1,2-Dichloroethane	79	79	66	25	**U**
71-55-6	1,1,1-Trichloroethane	59	59	48	20	**U**
71-43-2	Benzene	**1,700**	100	88	32	
56-23-5	Carbon Tetrachloride	51	51	43	15	**U**
110-82-7	Cyclohexane	**3,300**	190	150	54	
78-87-5	1,2-Dichloropropane	69	69	58	22	**U**
75-27-4	Bromodichloromethane	48	48	41	14	**U**
79-01-6	Trichloroethene	60	60	50	17	**U**
142-82-5	n-Heptane	**960**	78	66	27	
10061-01-5	cis-1,3-Dichloropropene	71	71	58	20	**U**
108-10-1	4-Methyl-2-pentanone	78	78	67	25	**U**
10061-02-6	trans-1,3-Dichloropropene	71	71	58	23	**U**
79-00-5	1,1,2-Trichloroethane	59	59	49	19	**U**
108-88-3	Toluene	**4,600**	85	71	29	
591-78-6	2-Hexanone	78	78	69	25	**U**
124-48-1	Dibromochloromethane	38	38	32	12	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106155-PT-001**
Client Project ID: **KAFB-BFF Albuquerque NM / 140705**

ALS Project ID: P1305066
ALS Sample ID: P1305066-005

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:
Container ID: SC01086

Date Collected: 11/4/13
Date Received: 11/13/13
Date Analyzed: 11/19/13
Volume(s) Analyzed: 0.0025 Liter(s)

Initial Pressure (psig): -3.23 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.60

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	**15**	42	36	13	**J**
127-18-4	Tetrachloroethene	47	47	37	13	**U**
108-90-7	Chlorobenzene	70	70	60	22	**U**
100-41-4	Ethylbenzene	**350**	74	63	24	
179601-23-1	m,p-Xylenes	**1,000**	150	120	44	
75-25-2	Bromoform	31	31	27	9.3	**U**
100-42-5	Styrene	75	75	66	23	**U**
95-47-6	o-Xylene	**280**	74	60	22	
79-34-5	1,1,2,2-Tetrachloroethane	47	47	37	14	**U**
108-67-8	1,3,5-Trimethylbenzene	**25**	65	55	21	**J**
95-63-6	1,2,4-Trimethylbenzene	**36**	65	55	20	**J**
100-44-7	Benzyl Chloride	62	62	54	14	**U**
541-73-1	1,3-Dichlorobenzene	53	53	47	16	**U**
106-46-7	1,4-Dichlorobenzene	53	53	45	15	**U**
95-50-1	1,2-Dichlorobenzene	53	53	46	16	**U**
120-82-1	1,2,4-Trichlorobenzene	43	43	38	14	**U**
91-20-3	Naphthalene	61	61	50	22	**U**
87-68-3	Hexachlorobutadiene	30	30	26	8.4	**U**
1330-20-7	Xylenes, Total	**1,300**	150	120	44	

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LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106155-PT-002** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-006

Test Code: EPA TO-15 Modified Date Collected: 11/4/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/19/13
Sampling Media: 6.0 L Silonite Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: SSC00179

Initial Pressure (psig): -3.50 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.63

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	**1,100**	240	180	66	
75-71-8	Dichlorodifluoromethane (CFC 12)	82	82	66	28	**U**
74-87-3	Chloromethane	200	200	150	59	**U**
75-01-4	Vinyl Chloride	160	160	120	54	**U**
106-99-0	1,3-Butadiene	180	180	170	81	**U**
74-83-9	Bromomethane	100	100	82	40	**U**
75-00-3	Chloroethane	150	150	120	53	**U**
67-64-1	Acetone	1,700	1,700	720	260	**U**
75-69-4	Trichlorofluoromethane	73	73	58	25	**U**
75-35-4	1,1-Dichloroethene	100	100	86	35	**U**
75-09-2	Methylene Chloride	120	120	94	40	**U**
76-13-1	Trichlorotrifluoroethane	53	53	46	18	**U**
75-15-0	Carbon Disulfide	1,300	1,300	100	39	**U**
156-60-5	trans-1,2-Dichloroethene	100	100	86	39	**U**
75-34-3	1,1-Dichloroethane	100	100	85	32	**U**
1634-04-4	Methyl tert-Butyl Ether	110	110	95	38	**U**
108-05-4	Vinyl Acetate	1,200	1,200	460	150	**U**
78-93-3	2-Butanone (MEK)	1,400	1,400	120	58	**U**
156-59-2	cis-1,2-Dichloroethene	100	100	88	33	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106155-PT-002** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-006

Test Code: EPA TO-15 Modified Date Collected: 11/4/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/19/13
Sampling Media: 6.0 L Silonite Canister Volume(s) Analyzed: 0.0020 Liter(s)
Test Notes:
Container ID: SSC00179

Initial Pressure (psig): -3.50 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.63

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	230	230	190	79	**U**
110-54-3	n-Hexane	**6,200**	120	95	35	
67-66-3	Chloroform	83	83	70	28	**U**
109-99-9	Tetrahydrofuran (THF)	140	140	120	55	**U**
107-06-2	1,2-Dichloroethane	100	100	85	32	**U**
71-55-6	1,1,1-Trichloroethane	75	75	61	25	**U**
71-43-2	Benzene	**2,500**	130	110	41	
56-23-5	Carbon Tetrachloride	65	65	54	19	**U**
110-82-7	Cyclohexane	**4,800**	240	190	69	
78-87-5	1,2-Dichloropropane	88	88	74	28	**U**
75-27-4	Bromodichloromethane	61	61	52	18	**U**
79-01-6	Trichloroethene	76	76	64	21	**U**
142-82-5	n-Heptane	**1,400**	99	84	34	
10061-01-5	cis-1,3-Dichloropropene	90	90	74	25	**U**
108-10-1	4-Methyl-2-pentanone	99	99	86	32	**U**
10061-02-6	trans-1,3-Dichloropropene	90	90	74	29	**U**
79-00-5	1,1,2-Trichloroethane	75	75	63	24	**U**
108-88-3	Toluene	**8,100**	110	91	37	
591-78-6	2-Hexanone	100	100	88	32	**U**
124-48-1	Dibromochloromethane	48	48	41	15	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **KAFB-106155-PT-002**
Client Project ID: **KAFB-BFF Albuquerque NM / 140705**

ALS Project ID: P1305066
ALS Sample ID: P1305066-006

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Silonite Canister
Test Notes:
Container ID: SSC00179

Date Collected: 11/4/13
Date Received: 11/13/13
Date Analyzed: 11/19/13
Volume(s) Analyzed: 0.0020 Liter(s)

Initial Pressure (psig): -3.50 Final Pressure (psig): 3.60

Canister Dilution Factor: 1.63

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	**36**	53	46	17	**J**
127-18-4	Tetrachloroethene	60	60	47	17	**U**
108-90-7	Chlorobenzene	89	89	76	28	**U**
100-41-4	Ethylbenzene	**860**	94	81	30	
179601-23-1	m,p-Xylenes	**2,900**	190	160	56	
75-25-2	Bromoform	39	39	34	12	**U**
100-42-5	Styrene	96	96	84	29	**U**
95-47-6	o-Xylene	**830**	94	77	28	
79-34-5	1,1,2,2-Tetrachloroethane	59	59	47	18	**U**
108-67-8	1,3,5-Trimethylbenzene	**78**	83	70	27	**J**
95-63-6	1,2,4-Trimethylbenzene	**110**	83	70	25	
100-44-7	Benzyl Chloride	79	79	69	17	**U**
541-73-1	1,3-Dichlorobenzene	68	68	60	20	**U**
106-46-7	1,4-Dichlorobenzene	68	68	57	19	**U**
95-50-1	1,2-Dichlorobenzene	68	68	58	20	**U**
120-82-1	1,2,4-Trichlorobenzene	55	55	48	18	**U**
91-20-3	Naphthalene	78	78	64	28	**U**
87-68-3	Hexachlorobutadiene	38	38	34	11	**U**
1330-20-7	Xylenes, Total	**3,800**	190	160	56	

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P131118-MB

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Elsa Moctezuma Date Analyzed: 11/18/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.29	0.29	0.23	0.081	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.10	0.10	0.081	0.034	U
74-87-3	Chloromethane	0.24	0.24	0.18	0.073	U
75-01-4	Vinyl Chloride	0.20	0.20	0.15	0.067	U
106-99-0	1,3-Butadiene	0.23	0.23	0.21	0.099	U
74-83-9	Bromomethane	0.13	0.13	0.10	0.049	U
75-00-3	Chloroethane	0.19	0.19	0.15	0.064	U
67-64-1	Acetone	2.1	2.1	0.88	0.32	U
75-69-4	Trichlorofluoromethane	0.089	0.089	0.071	0.030	U
75-35-4	1,1-Dichloroethene	0.13	0.13	0.11	0.043	U
75-09-2	Methylene Chloride	0.14	0.14	0.12	0.049	U
76-13-1	Trichlorotrifluoroethane	0.065	0.065	0.056	0.022	U
75-15-0	Carbon Disulfide	1.6	1.6	0.13	0.048	U
156-60-5	trans-1,2-Dichloroethene	0.13	0.13	0.11	0.048	U
75-34-3	1,1-Dichloroethane	0.12	0.12	0.10	0.040	U
1634-04-4	Methyl tert-Butyl Ether	0.14	0.14	0.12	0.047	U
108-05-4	Vinyl Acetate	1.4	1.4	0.57	0.18	U
78-93-3	2-Butanone (MEK)	1.7	1.7	0.15	0.071	U
156-59-2	cis-1,2-Dichloroethene	0.13	0.13	0.11	0.040	U

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P131118-MB

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Elsa Moctezuma Date Analyzed: 11/18/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	0.28	0.28	0.23	0.097	**U**
110-54-3	n-Hexane	0.14	0.14	0.12	0.043	**U**
67-66-3	Chloroform	0.10	0.10	0.086	0.035	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.17	0.15	0.068	**U**
107-06-2	1,2-Dichloroethane	0.12	0.12	0.10	0.040	**U**
71-55-6	1,1,1-Trichloroethane	0.092	0.092	0.075	0.031	**U**
71-43-2	Benzene	0.16	0.16	0.14	0.050	**U**
56-23-5	Carbon Tetrachloride	0.080	0.080	0.067	0.024	**U**
110-82-7	Cyclohexane	0.29	0.29	0.24	0.084	**U**
78-87-5	1,2-Dichloropropane	0.11	0.11	0.091	0.035	**U**
75-27-4	Bromodichloromethane	0.075	0.075	0.064	0.022	**U**
79-01-6	Trichloroethene	0.093	0.093	0.078	0.026	**U**
142-82-5	n-Heptane	0.12	0.12	0.10	0.041	**U**
10061-01-5	cis-1,3-Dichloropropene	0.11	0.11	0.090	0.031	**U**
108-10-1	4-Methyl-2-pentanone	0.12	0.12	0.10	0.039	**U**
10061-02-6	trans-1,3-Dichloropropene	0.11	0.11	0.090	0.035	**U**
79-00-5	1,1,2-Trichloroethane	0.092	0.092	0.077	0.029	**U**
108-88-3	Toluene	0.13	0.13	0.11	0.045	**U**
591-78-6	2-Hexanone	0.12	0.12	0.11	0.039	**U**
124-48-1	Dibromochloromethane	0.059	0.059	0.050	0.019	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank**
Client Project ID: **KAFB-BFF Albuquerque NM / 140705**

ALS Project ID: P1305066
ALS Sample ID: P131118-MB

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 11/18/13
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	0.065	0.065	0.056	0.021	**U**
127-18-4	Tetrachloroethene	0.074	0.074	0.058	0.021	**U**
108-90-7	Chlorobenzene	0.11	0.11	0.093	0.035	**U**
100-41-4	Ethylbenzene	0.12	0.12	0.099	0.037	**U**
179601-23-1	m,p-Xylenes	0.23	0.23	0.19	0.069	**U**
75-25-2	Bromoform	0.048	0.048	0.042	0.015	**U**
100-42-5	Styrene	0.12	0.12	0.10	0.035	**U**
95-47-6	o-Xylene	0.12	0.12	0.094	0.035	**U**
79-34-5	1,1,2,2-Tetrachloroethane	0.073	0.073	0.058	0.022	**U**
108-67-8	1,3,5-Trimethylbenzene	0.10	0.10	0.085	0.033	**U**
95-63-6	1,2,4-Trimethylbenzene	0.10	0.10	0.085	0.031	**U**
100-44-7	Benzyl Chloride	0.097	0.097	0.085	0.021	**U**
541-73-1	1,3-Dichlorobenzene	0.083	0.083	0.073	0.025	**U**
106-46-7	1,4-Dichlorobenzene	0.083	0.083	0.070	0.023	**U**
95-50-1	1,2-Dichlorobenzene	0.083	0.083	0.072	0.025	**U**
120-82-1	1,2,4-Trichlorobenzene	0.067	0.067	0.059	0.022	**U**
91-20-3	Naphthalene	0.095	0.095	0.078	0.034	**U**
87-68-3	Hexachlorobutadiene	0.047	0.047	0.041	0.013	**U**
1330-20-7	Xylenes, Total	0.23	0.23	0.19	0.069	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P131119-MB

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Elsa Moctezuma Date Analyzed: 11/19/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
115-07-1	Propene	0.29	0.29	0.23	0.081	U
75-71-8	Dichlorodifluoromethane (CFC 12)	0.10	0.10	0.081	0.034	U
74-87-3	Chloromethane	0.24	0.24	0.18	0.073	U
75-01-4	Vinyl Chloride	0.20	0.20	0.15	0.067	U
106-99-0	1,3-Butadiene	0.23	0.23	0.21	0.099	U
74-83-9	Bromomethane	0.13	0.13	0.10	0.049	U
75-00-3	Chloroethane	0.19	0.19	0.15	0.064	U
67-64-1	Acetone	2.1	2.1	0.88	0.32	U
75-69-4	Trichlorofluoromethane	0.089	0.089	0.071	0.030	U
75-35-4	1,1-Dichloroethene	0.13	0.13	0.11	0.043	U
75-09-2	Methylene Chloride	0.14	0.14	0.12	0.049	U
76-13-1	Trichlorotrifluoroethane	0.065	0.065	0.056	0.022	U
75-15-0	Carbon Disulfide	1.6	1.6	0.13	0.048	U
156-60-5	trans-1,2-Dichloroethene	0.13	0.13	0.11	0.048	U
75-34-3	1,1-Dichloroethane	0.12	0.12	0.10	0.040	U
1634-04-4	Methyl tert-Butyl Ether	0.14	0.14	0.12	0.047	U
108-05-4	Vinyl Acetate	1.4	1.4	0.57	0.18	U
78-93-3	2-Butanone (MEK)	1.7	1.7	0.15	0.071	U
156-59-2	cis-1,2-Dichloroethene	0.13	0.13	0.11	0.040	U

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P131119-MB

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Elsa Moctezuma Date Analyzed: 11/19/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 1.00 Liter(s)
Test Notes:

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
141-78-6	Ethyl Acetate	0.28	0.28	0.23	0.097	**U**
110-54-3	n-Hexane	0.14	0.14	0.12	0.043	**U**
67-66-3	Chloroform	0.10	0.10	0.086	0.035	**U**
109-99-9	Tetrahydrofuran (THF)	0.17	0.17	0.15	0.068	**U**
107-06-2	1,2-Dichloroethane	0.12	0.12	0.10	0.040	**U**
71-55-6	1,1,1-Trichloroethane	0.092	0.092	0.075	0.031	**U**
71-43-2	Benzene	0.16	0.16	0.14	0.050	**U**
56-23-5	Carbon Tetrachloride	0.080	0.080	0.067	0.024	**U**
110-82-7	Cyclohexane	0.29	0.29	0.24	0.084	**U**
78-87-5	1,2-Dichloropropane	0.11	0.11	0.091	0.035	**U**
75-27-4	Bromodichloromethane	0.075	0.075	0.064	0.022	**U**
79-01-6	Trichloroethene	0.093	0.093	0.078	0.026	**U**
142-82-5	n-Heptane	0.12	0.12	0.10	0.041	**U**
10061-01-5	cis-1,3-Dichloropropene	0.11	0.11	0.090	0.031	**U**
108-10-1	4-Methyl-2-pentanone	0.12	0.12	0.10	0.039	**U**
10061-02-6	trans-1,3-Dichloropropene	0.11	0.11	0.090	0.035	**U**
79-00-5	1,1,2-Trichloroethane	0.092	0.092	0.077	0.029	**U**
108-88-3	Toluene	0.13	0.13	0.11	0.045	**U**
591-78-6	2-Hexanone	0.12	0.12	0.11	0.039	**U**
124-48-1	Dibromochloromethane	0.059	0.059	0.050	0.019	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I**
Client Sample ID: **Method Blank**
Client Project ID: **KAFB-BFF Albuquerque NM / 140705**

ALS Project ID: P1305066
ALS Sample ID: P131119-MB

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13
Analyst: Elsa Moctezuma
Sampling Media: 6.0 L Summa Canister
Test Notes:

Date Collected: NA
Date Received: NA
Date Analyzed: 11/19/13
Volume(s) Analyzed: 1.00 Liter(s)

Canister Dilution Factor: 1.00

CAS #	Compound	Result ppbV	LOQ ppbV	LOD ppbV	MDL ppbV	Data Qualifier
106-93-4	1,2-Dibromoethane	0.065	0.065	0.056	0.021	**U**
127-18-4	Tetrachloroethene	0.074	0.074	0.058	0.021	**U**
108-90-7	Chlorobenzene	0.11	0.11	0.093	0.035	**U**
100-41-4	Ethylbenzene	0.12	0.12	0.099	0.037	**U**
179601-23-1	m,p-Xylenes	0.23	0.23	0.19	0.069	**U**
75-25-2	Bromoform	0.048	0.048	0.042	0.015	**U**
100-42-5	Styrene	0.12	0.12	0.10	0.035	**U**
95-47-6	o-Xylene	0.12	0.12	0.094	0.035	**U**
79-34-5	1,1,2,2-Tetrachloroethane	0.073	0.073	0.058	0.022	**U**
108-67-8	1,3,5-Trimethylbenzene	0.10	0.10	0.085	0.033	**U**
95-63-6	1,2,4-Trimethylbenzene	0.10	0.10	0.085	0.031	**U**
100-44-7	Benzyl Chloride	0.097	0.097	0.085	0.021	**U**
541-73-1	1,3-Dichlorobenzene	0.083	0.083	0.073	0.025	**U**
106-46-7	1,4-Dichlorobenzene	0.083	0.083	0.070	0.023	**U**
95-50-1	1,2-Dichlorobenzene	0.083	0.083	0.072	0.025	**U**
120-82-1	1,2,4-Trichlorobenzene	0.067	0.067	0.059	0.022	**U**
91-20-3	Naphthalene	0.095	0.095	0.078	0.034	**U**
87-68-3	Hexachlorobutadiene	0.047	0.047	0.041	0.013	**U**
1330-20-7	Xylenes, Total	0.23	0.23	0.19	0.069	**U**

U = Undetected: The associated data value is the limit of quantitation, adjusted by any dilution factor used in the analysis.
LOQ = Limit of Quantitation - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

ALS ENVIRONMENTAL

SURROGATE SPIKE RECOVERY RESULTS

Client: **CB&I**
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Project ID: P1305066

Test Code: EPA TO-15 Modified
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date(s) Collected: 11/1 - 11/7/13
Analyst: Elsa Moctezuma Date(s) Received: 11/13/13
Sampling Media: 6.0 L Summa Canister(s) Date(s) Analyzed: 11/18 - 11/19/13
Test Notes:

Client Sample ID	ALS Sample ID	1,2-Dichloroethane-d4 Percent Recovered	Toluene-d8 Percent Recovered	Bromofluorobenzene Percent Recovered	Acceptance Limits	Data Qualifier
Method Blank	P131118-MB	**102**	**98**	**106**	70-130	
Method Blank	P131119-MB	**102**	**98**	**108**	70-130	
Lab Control Sample	P131118-LCS	**99**	**97**	**110**	70-130	
Lab Control Sample	P131119-LCS	**98**	**84**	**106**	70-130	
KAFB-106148-PT-001	P1305066-001	**101**	**91**	**102**	70-130	
KAFB-106148-PT-002	P1305066-002	**100**	**92**	**103**	70-130	
KAFB-106150-PT-001	P1305066-003	**100**	**95**	**106**	70-130	
KAFB-106150-PT-002	P1305066-004	**101**	**94**	**102**	70-130	
KAFB-106150-PT-002	P1305066-004DUP	**100**	**98**	**109**	70-130	
KAFB-106155-PT-001	P1305066-005	**103**	**105**	**105**	70-130	
KAFB-106155-PT-002	P1305066-006	**102**	**105**	**103**	70-130	

Surrogate percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly from the on-column percent recovery.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P131118-LCS

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Elsa Moctezuma Date Analyzed: 11/18/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	116	**91.6**	**79**	57-136	
75-71-8	Dichlorodifluoromethane (CFC 12)	41.3	**37.2**	**90**	59-128	
74-87-3	Chloromethane	95.9	**77.3**	**81**	59-132	
75-01-4	Vinyl Chloride	78.3	**66.3**	**85**	64-127	
106-99-0	1,3-Butadiene	95.9	**90.3**	**94**	66-134	
74-83-9	Bromomethane	51.5	**46.2**	**90**	63-134	
75-00-3	Chloroethane	76.6	**65.2**	**85**	63-127	
67-64-1	Acetone	453	**364**	**80**	58-128	
75-69-4	Trichlorofluoromethane	35.2	**31.6**	**90**	62-126	
75-35-4	1,1-Dichloroethene	54.0	**48.4**	**90**	61-133	
75-09-2	Methylene Chloride	62.2	**49.9**	**80**	62-115	
76-13-1	Trichlorotrifluoroethane	27.9	**26.1**	**94**	66-126	
75-15-0	Carbon Disulfide	63.0	**57.0**	**90**	57-134	
156-60-5	trans-1,2-Dichloroethene	53.5	**49.8**	**93**	67-124	
75-34-3	1,1-Dichloroethane	51.4	**43.8**	**85**	68-126	
1634-04-4	Methyl tert-Butyl Ether	58.8	**53.2**	**90**	66-126	
108-05-4	Vinyl Acetate	291	**289**	**99**	56-139	
78-93-3	2-Butanone (MEK)	73.9	**69.3**	**94**	67-130	
156-59-2	cis-1,2-Dichloroethene	54.0	**48.8**	**90**	70-121	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P131118-LCS

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Elsa Moctezuma Date Analyzed: 11/18/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
141-78-6	Ethyl Acetate	118	**104**	**88**	65-128	
110-54-3	n-Hexane	59.6	**46.5**	**78**	63-120	
67-66-3	Chloroform	43.8	**38.9**	**89**	68-123	
109-99-9	Tetrahydrofuran (THF)	69.9	**64.0**	**92**	64-123	
107-06-2	1,2-Dichloroethane	51.9	**47.1**	**91**	65-128	
71-55-6	1,1,1-Trichloroethane	37.8	**36.6**	**97**	68-125	
71-43-2	Benzene	68.9	**54.9**	**80**	69-119	
56-23-5	Carbon Tetrachloride	33.4	**34.0**	**102**	68-132	
110-82-7	Cyclohexane	122	**111**	**91**	70-117	
78-87-5	1,2-Dichloropropane	45.9	**39.6**	**86**	69-123	
75-27-4	Bromodichloromethane	32.0	**31.6**	**99**	72-128	
79-01-6	Trichloroethene	38.7	**36.2**	**94**	71-123	
142-82-5	n-Heptane	52.2	**44.9**	**86**	69-123	
10061-01-5	cis-1,3-Dichloropropene	49.8	**49.5**	**99**	70-128	
108-10-1	4-Methyl-2-pentanone	53.2	**51.2**	**96**	67-130	
10061-02-6	trans-1,3-Dichloropropene	47.6	**50.9**	**107**	75-133	
79-00-5	1,1,2-Trichloroethane	38.5	**36.5**	**95**	73-119	
108-88-3	Toluene	55.7	**48.8**	**88**	66-119	
591-78-6	2-Hexanone	54.2	**52.8**	**97**	62-128	
124-48-1	Dibromochloromethane	25.8	**27.2**	**105**	70-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P131118-LCS

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Elsa Moctezuma Date Analyzed: 11/18/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
106-93-4	1,2-Dibromoethane	28.1	**27.1**	**96**	74-122	
127-18-4	Tetrachloroethene	28.9	**27.6**	**96**	66-124	
108-90-7	Chlorobenzene	46.9	**43.1**	**92**	70-119	
100-41-4	Ethylbenzene	48.8	**45.2**	**93**	70-124	
179601-23-1	m,p-Xylenes	96.7	**89.7**	**93**	61-134	
75-25-2	Bromoform	20.9	**25.2**	**121**	66-139	
100-42-5	Styrene	51.2	**50.3**	**98**	73-127	
95-47-6	o-Xylene	47.4	**44.4**	**94**	67-125	
79-34-5	1,1,2,2-Tetrachloroethane	29.4	**27.9**	**95**	65-127	
108-67-8	1,3,5-Trimethylbenzene	43.1	**41.0**	**95**	67-130	
95-63-6	1,2,4-Trimethylbenzene	43.1	**40.3**	**94**	66-132	
100-44-7	Benzyl Chloride	42.9	**49.1**	**114**	50-147	
541-73-1	1,3-Dichlorobenzene	36.9	**34.9**	**95**	65-130	
106-46-7	1,4-Dichlorobenzene	35.6	**34.3**	**96**	60-131	
95-50-1	1,2-Dichlorobenzene	36.3	**35.1**	**97**	63-129	
120-82-1	1,2,4-Trichlorobenzene	29.6	**31.0**	**105**	55-142	
91-20-3	Naphthalene	38.9	**39.4**	**101**	57-138	
87-68-3	Hexachlorobutadiene	20.4	**20.8**	**102**	56-138	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P131119-LCS

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Elsa Moctezuma Date Analyzed: 11/19/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
115-07-1	Propene	116	**104**	**90**	57-136	
75-71-8	Dichlorodifluoromethane (CFC 12)	41.3	**39.0**	**94**	59-128	
74-87-3	Chloromethane	95.9	**83.0**	**87**	59-132	
75-01-4	Vinyl Chloride	78.3	**71.0**	**91**	64-127	
106-99-0	1,3-Butadiene	95.9	**92.5**	**96**	66-134	
74-83-9	Bromomethane	51.5	**45.8**	**89**	63-134	
75-00-3	Chloroethane	76.6	**65.0**	**85**	63-127	
67-64-1	Acetone	453	**329**	**73**	58-128	
75-69-4	Trichlorofluoromethane	35.2	**28.6**	**81**	62-126	
75-35-4	1,1-Dichloroethene	54.0	**43.6**	**81**	61-133	
75-09-2	Methylene Chloride	62.2	**44.8**	**72**	62-115	
76-13-1	Trichlorotrifluoroethane	27.9	**23.4**	**84**	66-126	
75-15-0	Carbon Disulfide	63.0	**51.3**	**81**	57-134	
156-60-5	trans-1,2-Dichloroethene	53.5	**45.1**	**84**	67-124	
75-34-3	1,1-Dichloroethane	51.4	**39.7**	**77**	68-126	
1634-04-4	Methyl tert-Butyl Ether	58.8	**48.1**	**82**	66-126	
108-05-4	Vinyl Acetate	291	**261**	**90**	56-139	
78-93-3	2-Butanone (MEK)	73.9	**70.8**	**96**	67-130	
156-59-2	cis-1,2-Dichloroethene	54.0	**51.5**	**95**	70-121	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P131119-LCS

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Elsa Moctezuma Date Analyzed: 11/19/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
141-78-6	Ethyl Acetate	118	**107**	**91**	65-128	
110-54-3	n-Hexane	59.6	**49.4**	**83**	63-120	
67-66-3	Chloroform	43.8	**38.7**	**88**	68-123	
109-99-9	Tetrahydrofuran (THF)	69.9	**63.9**	**91**	64-123	
107-06-2	1,2-Dichloroethane	51.9	**43.4**	**84**	65-128	
71-55-6	1,1,1-Trichloroethane	37.8	**36.5**	**97**	68-125	
71-43-2	Benzene	68.9	**54.7**	**79**	69-119	
56-23-5	Carbon Tetrachloride	33.4	**33.8**	**101**	68-132	
110-82-7	Cyclohexane	122	**110**	**90**	70-117	
78-87-5	1,2-Dichloropropane	45.9	**39.4**	**86**	69-123	
75-27-4	Bromodichloromethane	32.0	**31.3**	**98**	72-128	
79-01-6	Trichloroethene	38.7	**36.0**	**93**	71-123	
142-82-5	n-Heptane	52.2	**44.7**	**86**	69-123	
10061-01-5	cis-1,3-Dichloropropene	49.8	**49.2**	**99**	70-128	
108-10-1	4-Methyl-2-pentanone	53.2	**50.6**	**95**	67-130	
10061-02-6	trans-1,3-Dichloropropene	47.6	**50.4**	**106**	75-133	
79-00-5	1,1,2-Trichloroethane	38.5	**36.0**	**94**	73-119	
108-88-3	Toluene	55.7	**41.5**	**75**	66-119	
591-78-6	2-Hexanone	54.2	**45.4**	**84**	62-128	
124-48-1	Dibromochloromethane	25.8	**23.0**	**89**	70-130	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY CONTROL SAMPLE SUMMARY

Client: **CB&I**
Client Sample ID: **Lab Control Sample** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P131119-LCS

Test Code: EPA TO-15 Modified Date Collected: NA
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: NA
Analyst: Elsa Moctezuma Date Analyzed: 11/19/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.125 Liter(s)
Test Notes:

CAS #	Compound	Spike Amount ppbV	Result ppbV	% Recovery	ALS Acceptance Limits	Data Qualifier
106-93-4	1,2-Dibromoethane	28.1	**23.0**	**82**	74-122	
127-18-4	Tetrachloroethene	28.9	**24.9**	**86**	66-124	
108-90-7	Chlorobenzene	46.9	**41.4**	**88**	70-119	
100-41-4	Ethylbenzene	48.8	**42.6**	**87**	70-124	
179601-23-1	m,p-Xylenes	96.7	**84.1**	**87**	61-134	
75-25-2	Bromoform	20.9	**23.0**	**110**	66-139	
100-42-5	Styrene	51.2	**49.9**	**97**	73-127	
95-47-6	o-Xylene	47.4	**43.6**	**92**	67-125	
79-34-5	1,1,2,2-Tetrachloroethane	29.4	**27.7**	**94**	65-127	
108-67-8	1,3,5-Trimethylbenzene	43.1	**41.7**	**97**	67-130	
95-63-6	1,2,4-Trimethylbenzene	43.1	**40.9**	**95**	66-132	
100-44-7	Benzyl Chloride	42.9	**50.8**	**118**	50-147	
541-73-1	1,3-Dichlorobenzene	36.9	**34.7**	**94**	65-130	
106-46-7	1,4-Dichlorobenzene	35.6	**33.9**	**95**	60-131	
95-50-1	1,2-Dichlorobenzene	36.3	**35.0**	**96**	63-129	
120-82-1	1,2,4-Trichlorobenzene	29.6	**30.2**	**102**	55-142	
91-20-3	Naphthalene	38.9	**39.5**	**102**	57-138	
87-68-3	Hexachlorobutadiene	20.4	**19.8**	**97**	56-138	

Laboratory Control Sample percent recovery is verified and accepted based on the on-column result.
Reported results are shown in concentration units and as a result of the calculation, may vary slightly.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **CB&I**
Client Sample ID: **KAFB-106150-PT-002** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-004DUP

Test Code: EPA TO-15 Modified Date Collected: 11/7/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/19/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00012 Liter(s)
Test Notes:
Container ID: SC01700

Initial Pressure (psig): -2.72 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.53

Compound	Sample Result ppbV	**Duplicate Sample Result** ppbV	Average ppbV	**% RPD**	RPD Limit	**Data Qualifier**
Propene	ND	ND	-	-	25	
Dichlorodifluoromethane (CFC 12)	ND	ND	-	-	25	
Chloromethane	ND	ND	-	-	25	
Vinyl Chloride	ND	ND	-	-	25	
1,3-Butadiene	ND	ND	-	-	25	
Bromomethane	ND	ND	-	-	25	
Chloroethane	ND	ND	-	-	25	
Acetone	73,500	68,800	71150	**7**	25	
Trichlorofluoromethane	ND	ND	-	-	25	
1,1-Dichloroethene	ND	ND	-	-	25	
Methylene Chloride	ND	ND	-	-	25	
Trichlorotrifluoroethane	ND	ND	-	-	25	
Carbon Disulfide	ND	ND	-	-	25	
trans-1,2-Dichloroethene	ND	ND	-	-	25	
1,1-Dichloroethane	ND	ND	-	-	25	
Methyl tert-Butyl Ether	ND	ND	-	-	25	
Vinyl Acetate	ND	ND	-	-	25	
2-Butanone (MEK)	23,600	21,400	22500	**10**	25	**J**
cis-1,2-Dichloroethene	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **CB&I**
Client Sample ID: **KAFB-106150-PT-002** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-004DUP

Test Code: EPA TO-15 Modified Date Collected: 11/7/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/19/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00012 Liter(s)
Test Notes:
Container ID: SC01700

Initial Pressure (psig): -2.72 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.53

Compound	Sample Result ppbV	**Duplicate Sample Result** ppbV	Average ppbV	**% RPD**	RPD Limit	**Data Qualifier**
Ethyl Acetate	ND	ND	-	-	25	
n-Hexane	179,000	162,000	170500	**10**	25	
Chloroform	ND	ND	-	-	25	
Tetrahydrofuran (THF)	ND	ND	-	-	25	
1,2-Dichloroethane	ND	ND	-	-	25	
1,1,1-Trichloroethane	ND	ND	-	-	25	
Benzene	100,000	88,100	94050	**13**	25	
Carbon Tetrachloride	ND	ND	-	-	25	
Cyclohexane	276,000	246,000	261000	**11**	25	
1,2-Dichloropropane	ND	ND	-	-	25	
Bromodichloromethane	ND	ND	-	-	25	
Trichloroethene	ND	ND	-	-	25	
n-Heptane	299,000	279,000	289000	**7**	25	
cis-1,3-Dichloropropene	ND	ND	-	-	25	
4-Methyl-2-pentanone	2,640	2,590	2615	**2**	25	
trans-1,3-Dichloropropene	ND	ND	-	-	25	
1,1,2-Trichloroethane	ND	ND	-	-	25	
Toluene	289,000	261,000	275000	**10**	25	
2-Hexanone	ND	ND	-	-	25	
Dibromochloromethane	ND	ND	-	-	25	

ND = Compound was analyzed for, but not detected.

ALS ENVIRONMENTAL

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **CB&I**
Client Sample ID: **KAFB-106150-PT-002** ALS Project ID: P1305066
Client Project ID: **KAFB-BFF Albuquerque NM / 140705** ALS Sample ID: P1305066-004DUP

Test Code: EPA TO-15 Modified Date Collected: 11/7/13
Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Date Received: 11/13/13
Analyst: Elsa Moctezuma Date Analyzed: 11/19/13
Sampling Media: 6.0 L Summa Canister Volume(s) Analyzed: 0.00012 Liter(s)
Test Notes:
Container ID: SC01700

Initial Pressure (psig): -2.72 Final Pressure (psig): 3.61

Canister Dilution Factor: 1.53

Compound	Sample Result ppbV	**Duplicate Sample Result** ppbV	Average ppbV	**% RPD**	RPD Limit	**Data Qualifier**
1,2-Dibromoethane	1,230	1,040	1135	**17**	25	
Tetrachloroethene	ND	ND	-	-	25	
Chlorobenzene	ND	ND	-	-	25	
Ethylbenzene	10,400	9,260	9830	**12**	25	
m,p-Xylenes	35,000	31,000	33000	**12**	25	
Bromoform	ND	ND	-	-	25	
Styrene	ND	ND	-	-	25	
o-Xylene	7,970	7,350	7660	**8**	25	
1,1,2,2-Tetrachloroethane	ND	ND	-	-	25	
1,3,5-Trimethylbenzene	586	545	565.5	**7**	25	**J**
1,2,4-Trimethylbenzene	854	765	809.5	**11**	25	**J**
Benzyl Chloride	ND	ND	-	-	25	
1,3-Dichlorobenzene	ND	ND	-	-	25	
1,4-Dichlorobenzene	ND	ND	-	-	25	
1,2-Dichlorobenzene	ND	ND	-	-	25	
1,2,4-Trichlorobenzene	ND	ND	-	-	25	
Naphthalene	ND	ND	-	-	25	
Hexachlorobutadiene	ND	ND	-	-	25	
Xylenes, Total	42970	38350	40660	**11**	25	

ND = Compound was analyzed for, but not detected.
J = The result is an estimated concentration that is less than the LOQ but greater than or equal to the MDL.

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I** ALS Project ID: P1305066

Client Project ID: **KAFB-BFF Albuquerque NM / 140705**

Method Blank Summary

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Lab File ID: 11181303.D

Analyst: Elsa Moctezuma Date Analyzed: 11/18/13

Sampling Media: 6.0 L Summa Canister(s) Time Analyzed: 10:17

Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
Lab Control Sample	P131118-LCS	11181305.D	11:38
KAFB-106148-PT-001	P1305066-001	11181311.D	15:26
KAFB-106150-PT-001	P1305066-003	11181313.D	16:35
KAFB-106148-PT-002	P1305066-002	11181314.D	17:28

ALS ENVIRONMENTAL

RESULTS OF ANALYSIS

Client: **CB&I** ALS Project ID: P1305066

Client Project ID: **KAFB-BFF Albuquerque NM / 140705**

Method Blank Summary

Test Code: EPA TO-15 Modified

Instrument ID: Tekmar AUTOCAN/Agilent 5975Binert/6890N/MS13 Lab File ID: 11191303.D

Analyst: Elsa Moctezuma Date Analyzed: 11/19/13

Sampling Media: 6.0 L Summa Canister(s) Time Analyzed: 01:37

Test Notes:

Client Sample ID	ALS Sample ID	Lab File ID	Time Analyzed
KAFB-106150-PT-002	P1305066-004	11191304.D	08:09
KAFB-106150-PT-002 (Lab Duplicate)	P1305066-004DUP	11191305.D	08:43
KAFB-106155-PT-001	P1305066-005	11191307.D	10:05
KAFB-106155-PT-002	P1305066-006	11191308.D	10:45
Lab Control Sample	P131119-LCS	11191309.D	11:19

Response Factor Report GCMS13

Method Path : I:\MS13\METHODS\
Method File : R13102413.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
Last Update : Fri Oct 25 08:58:51 2013
Response Via : Initial Calibration

Calibration Files
0.08=10241318.D 0.10=10241319.D 0.20=10241320.D 0.40=10241321.D 1.0 =10241322.D 5.0 =10241323.D
25 =10241324.D 50 =10241325.D 100 =10241326.D

		Compound	0.08	0.10	0.20	0.40	1.0	5.0	25	50	100	Avg	%RSD
1)	IR	Bromochloromethane...	----------ISTD----------										
2)	T	Propene	1.403	1.425	1.289	1.301	1.242	1.158	1.196	1.111	1.155	1.253	8.83
3)	T	Dichlorodifluo...	3.066	3.443	3.254	3.071	3.203	2.972	3.053	2.850	2.678	3.066	7.32
4)	T	Chloromethane	1.988	2.155	2.022	1.943	2.133	1.950	2.007	1.736	1.613	1.950	8.97
5)	T	1,2-Dichloro-1...	1.936	2.046	1.980	2.010	2.006	1.883	1.925	1.763	1.684	1.915	6.31
6)	T	Vinyl Chloride	2.049	2.259	2.091	2.055	2.216	2.065	2.100	1.894	1.747	2.053	7.54
7)	T	1,3-Butadiene	1.273	1.363	1.215	1.234	1.450	1.389	1.493	1.312	1.196	1.325	7.97
8)	T	Bromomethane			1.844	1.576	1.637	1.413	1.509	1.389	1.255	1.518	12.63
9)	T	Chloroethane	1.012	1.207	1.135	1.091	1.152	1.080	1.070	1.003	0.937	1.076	7.74
10)	T	Ethanol	1.058	1.018	0.953	0.888	0.943	0.897	0.897	0.807	0.734	0.911	10.89
11)	T	Acetonitrile	2.688	2.586	2.534	2.440	2.374	2.250	2.326	2.172	2.081	2.383	8.35
12)	T	Acrolein	0.809	0.716	0.764	0.741	0.815	0.807	0.832	0.773	0.736	0.777	5.23
13)	T	Acetone	1.106	1.174	1.074	1.021	1.012	0.938	0.908	0.792	0.692	0.969	15.89
14)	T	Trichlorofluor...	2.869	3.119	2.910	2.726	2.801	2.677	2.651	2.517	2.433	2.745	7.61
15)	T	2-Propanol (Is...	3.175	3.337	3.140	2.898	3.174	3.076	3.187	2.893	2.416	3.033	8.94
16)	T	Acrylonitrile	1.463	1.431	1.511	1.663	1.712	1.683	1.765	1.655	1.567	1.605	7.31
17)	T	1,1-Dichloroet...	1.395	1.466	1.474	1.440	1.493	1.422	1.462	1.377	1.316	1.427	3.94
18)	T	2-Methyl-2-Pro...	3.061	3.284	3.135	2.878	3.316	3.178	3.326	2.984	2.375	3.060	9.77
19)	T	Methylene Chlo...				1.787	1.681	1.523	1.532	1.425	1.332	1.547	10.72
20)	T	3-Chloro-1-pro...	1.328	1.444	1.501	1.463	1.620	1.596	1.716	1.614	1.513	1.533	7.56
21)	T	Trichlorotrifl...	1.619	1.715	1.633	1.567	1.612	1.525	1.535	1.455	1.410	1.564	6.02
22)	T	Carbon Disulfide				5.566	5.719	5.238	5.451	5.070	4.773	5.303	6.56
23)	T	trans-1,2-Dich...	1.692	1.874	1.808	1.852	1.912	1.896	1.967	1.838	1.741	1.842	4.64
24)	T	1,1-Dichloroet...	2.514	2.622	2.563	2.448	2.490	2.389	2.359	2.226	2.114	2.414	6.74
25)	T	Methyl tert-Bu...	4.209	4.474	4.288	4.084	4.230	4.056	4.088	3.837	3.623	4.099	6.12
26)	T	Vinyl Acetate	0.217	0.270	0.253	0.288	0.313	0.327	0.322	0.297	0.276	0.285	12.44
27)	T	2-Butanone (MEK)	0.785	0.661	0.738	0.888	0.889	0.892	0.883	0.835	0.796	0.818	9.90
28)	T	cis-1,2-Dichlo...	1.599	1.823	1.858	1.762	1.867	1.793	1.805	1.700	1.603	1.757	5.76
29)	T	Diisopropyl Ether	1.219	1.323	1.422	1.426	1.446	1.355	1.302	1.008	0.902	1.267	15.19
30)	T	Ethyl Acetate	0.433	0.427	0.433	0.447	0.494	0.463	0.426	0.381	0.335	0.427	10.74
31)	T	n-Hexane			2.324	2.219	2.010	1.859	1.580	1.445	1.352	1.827	20.80
32)	T	Chloroform	2.369	2.678	2.456	2.373	2.465	2.338	2.353	2.216	2.114	2.373	6.69
33)	S	1,2-Dichloroet...	1.213	1.226	1.233	1.230	1.198	1.210	1.191	1.191	1.202	1.211	1.34
34)	T	Tetrahydrofura...	0.740	0.875	0.827	0.861	0.931	0.873	0.882	0.831	0.800	0.847	6.51
35)	T	Ethyl tert-But...	1.519	1.758	1.782	1.673	1.748	1.673	1.696	1.593	1.513	1.662	6.01
36)	T	1,2-Dichloroet...	1.771	1.811	1.660	1.739	1.710	1.646	1.646	1.564	1.530	1.675	5.52
37)	IR	1,4-Difluorobenzen...	----------ISTD----------										
38)	T	1,1,1-Trichlor...	0.426	0.475	0.443	0.425	0.458	0.434	0.452	0.422	0.404	0.438	4.93

Method Path : I:\MS13\METHODS\
Method File : R13102413.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

39)	T	Isopropyl Acetate	0.142	0.158	0.162	0.156	0.168	0.160	0.155	0.136	0.121	0.151	9.88
40)	T	1-Butanol	0.170	0.175	0.169	0.185	0.228	0.237	0.249	0.217	0.190	0.202	15.35
41)	T	Benzene	1.541	1.572	1.240	1.163	1.161	1.066	1.039	0.936	0.825	1.171	21.46
42)	T	Carbon Tetrach...	0.365	0.386	0.385	0.366	0.406	0.392	0.421	0.397	0.382	0.389	4.62
43)	T	Cyclohexane	0.453	0.473	0.464	0.432	0.463	0.432	0.435	0.387	0.350	0.432	9.31
44)	T	tert-Amyl Meth...	0.758	0.839	0.761	0.777	0.820	0.797	0.834	0.766	0.712	0.785	5.28
45)	T	1,2-Dichloropr...	0.257	0.289	0.281	0.265	0.281	0.261	0.263	0.244	0.230	0.263	7.19
46)	T	Bromodichlorom...	0.349	0.363	0.362	0.352	0.377	0.363	0.379	0.354	0.338	0.360	3.64
47)	T	Trichloroethene	0.382	0.396	0.363	0.356	0.374	0.351	0.356	0.335	0.320	0.359	6.44
48)	T	1,4-Dioxane	0.194	0.217	0.218	0.213	0.248	0.236	0.241	0.220	0.205	0.221	7.80
49)	T	2,2,4-Trimethy...	1.132	1.223	1.139	1.129	1.214	1.115	1.137	1.016	0.906	1.112	8.80
50)	T	Methyl Methacr...	0.113	0.110	0.114	0.113	0.130	0.127	0.129	0.119	0.111	0.118	7.07
51)	T	n-Heptane	0.279	0.281	0.272	0.261	0.267	0.249	0.242	0.223	0.209	0.254	9.95
52)	T	cis-1,3-Dichlo...	0.371	0.370	0.396	0.393	0.435	0.431	0.456	0.424	0.401	0.409	7.29
53)	T	4-Methyl-2-pen...	0.196	0.203	0.203	0.212	0.241	0.235	0.243	0.219	0.202	0.217	8.36
54)	T	trans-1,3-Dich...	0.288	0.314	0.322	0.318	0.381	0.387	0.421	0.395	0.378	0.356	12.86
55)	T	1,1,2-Trichlor...	0.297	0.304	0.285	0.272	0.305	0.284	0.295	0.273	0.259	0.286	5.52
56)	IR	Chlorobenzene-d5 ...	----------ISTD----------										
57)	S	Toluene-d8 (SS2)	2.776	2.776	2.777	2.773	2.730	2.747	2.691	2.724	2.730	2.747	1.12
58)	T	Toluene	3.668	3.842	3.548	3.368	3.495	3.292	3.226	3.032	2.791	3.362	9.60
59)	T	2-Hexanone	1.082	1.114	1.142	1.157	1.484	1.421	1.415	1.309	1.192	1.257	12.09
60)	T	Dibromochlorom...	0.794	0.821	0.862	0.873	0.953	0.953	0.996	0.964	0.922	0.904	7.71
61)	T	1,2-Dibromoethane	0.782	0.902	0.864	0.868	0.945	0.911	0.936	0.896	0.849	0.884	5.64
62)	T	n-Butyl Acetate	1.099	1.197	1.237	1.302	1.598	1.571	1.594	1.478	1.337	1.379	13.58
63)	T	n-Octane	0.642	0.619	0.620	0.618	0.634	0.600	0.588	0.540	0.487	0.594	8.48
64)	T	Tetrachloroethene	1.230	1.323	1.270	1.186	1.262	1.186	1.200	1.151	1.105	1.213	5.46
65)	T	Chlorobenzene	2.409	2.502	2.389	2.303	2.421	2.309	2.297	2.173	2.001	2.312	6.48
66)	T	Ethylbenzene	3.800	4.090	3.632	3.580	3.857	3.686	3.681	3.420	3.080	3.647	7.78
67)	T	m- & p-Xylenes	3.134	3.164	3.000	2.930	3.161	3.023	2.985	2.750	2.444	2.954	7.84
68)	T	Bromoform	0.714	0.745	0.752	0.735	0.875	0.900	0.983	0.956	0.914	0.841	12.44
69)	T	Styrene	2.196	2.258	2.228	2.151	2.466	2.426	2.465	2.295	2.089	2.286	6.06
70)	T	o-Xylene	3.140	3.228	3.083	3.003	3.269	3.100	3.100	2.867	2.569	3.040	6.98
71)	T	n-Nonane	1.461	1.475	1.401	1.303	1.424	1.349	1.292	1.157	0.996	1.318	11.85
72)	T	1,1,2,2-Tetrac...	1.242	1.350	1.374	1.371	1.512	1.446	1.455	1.334	1.197	1.365	7.35
73)	S	Bromofluoroben...	1.315	1.305	1.288	1.285	1.293	1.292	1.293	1.293	1.287	1.294	0.75
74)	T	Cumene	4.288	4.371	4.148	3.946	4.340	4.128	4.148	3.817	3.396	4.065	7.58
75)	T	alpha-Pinene	1.797	1.914	1.961	1.874	2.030	1.990	1.996	1.864	1.691	1.902	5.72
76)	T	n-Propylbenzene	4.816	4.971	4.757	4.650	5.092	4.865	4.806	4.399	3.834	4.688	7.99
77)	T	3-Ethyltoluene	3.847	4.135	3.928	3.910	4.311	4.114	4.012	3.612	3.282	3.906	7.85
78)	T	4-Ethyltoluene	3.764	3.907	3.731	3.617	4.016	3.758	3.817	3.615	3.089	3.702	7.09
79)	T	1,3,5-Trimethy...	3.381	3.367	3.288	3.244	3.555	3.330	3.349	3.088	2.761	3.263	6.90
80)	T	alpha-Methylst...	1.673	1.625	1.600	1.662	1.957	1.922	1.941	1.814	1.641	1.759	8.43
81)	T	2-Ethyltoluene	3.906	4.184	3.847	3.870	4.186	3.895	3.870	3.558	3.145	3.829	8.31
82)	T	1,2,4-Trimethy...	3.400	3.505	3.279	3.274	3.654	3.407	3.349	3.032	2.625	3.281	9.12
83)	T	n-Decane	1.529	1.613	1.571	1.569	1.708	1.580	1.508	1.333	1.127	1.504	11.51
84)	T	Benzyl Chloride			1.560	1.633	2.162	2.455	2.734	2.554	2.286	2.198	20.48
85)	T	1,3-Dichlorobe...	2.231	2.229	2.114	2.027	2.280	2.139	2.168	2.023	1.844	2.117	6.41
86)	T	1,4-Dichlorobe...	2.330	2.266	2.141	2.067	2.359	2.205	2.227	2.106	1.942	2.183	6.09

Method Path : I:\MS13\METHODS\
Method File : R13102413.M
Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)

87)	T	sec-Butylbenzene	4.208	4.508	4.405	4.272	4.674	4.397	4.356	3.971	3.446	4.249	8.44
88)	T	4-Isopropyltol...	4.325	4.618	4.248	4.262	4.686	4.377	4.289	3.848	3.228	4.209	10.42
89)	T	1,2,3-Trimethy...	3.310	3.529	3.375	3.324	3.700	3.456	3.394	3.063	2.637	3.310	9.23
90)	T	1,2-Dichlorobe...	2.105	2.127	1.999	2.003	2.217	2.086	2.096	1.953	1.747	2.037	6.61
91)	T	d-Limonene	1.006	1.065	0.961	1.023	1.206	1.175	1.141	1.010	0.848	1.048	10.75
92)	T	1,2-Dibromo-3-...	0.573	0.570	0.626	0.628	0.757	0.779	0.839	0.810	0.769	0.706	14.95
93)	T	n-Undecane	1.590	1.533	1.568	1.575	1.787	1.707	1.636	1.456	1.236	1.565	10.02
94)	T	1,2,4-Trichlor...	1.634	1.525	1.550	1.475	1.861	1.821	1.868	1.783	1.657	1.686	8.99
95)	T	Naphthalene				4.779	5.466	5.334	5.249	4.806	4.052	4.948	10.54
96)	T	n-Dodecane	1.447	1.405	1.413	1.456	1.741	1.710	1.535	1.314	1.070	1.454	13.87
97)	T	Hexachlorobuta...	1.171	1.243	1.204	1.142	1.262	1.174	1.227	1.185	1.116	1.192	3.96
98)	T	Cyclohexanone	0.771	0.798	0.757	0.773	0.976	0.980	0.987	0.911	0.829	0.865	11.35
99)	T	tert-Butylbenzene	3.391	3.529	3.392	3.275	3.535	3.312	3.250	2.941	2.549	3.242	9.69
100)	T	n-Butylbenzene	3.151	3.213	3.166	3.125	3.555	3.382	3.338	3.051	2.669	3.183	7.77

(#) = Out of Range

INITIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: **10241327.D**
Data File Path: **I:\MS13\DATA\2013_10\24**
Operator: **EM**
Date Acquired: **10/25/2013 2:18**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO-15 ICV STD (125ml)**
Misc Info: **S25-10241311/S25-10081302 (**
Instrument Name: **GCMS13**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail
2)	Propene	4.00	21.2	25.00	85	70	130	*
3)	Dichlorodifluoromethane (CFC 1	4.16	22.3	25.50	87	70	130	*
4)	Chloromethane	4.44	21.1	24.75	85	70	130	*
5)	1,2-Dichloro-1,1,2,2-tetrafluoroetl	4.71	22.2	25.50	87	70	130	*
6)	Vinyl Chloride	4.85	21.4	25.00	86	70	130	*
7)	1,3-Butadiene	5.12	25.1	26.50	95	70	130	*
8)	Bromomethane	5.55	22.1	25.00	88	70	130	*
9)	Chloroethane	5.88	22.1	25.25	88	70	130	*
10)	Ethanol	6.26	118	127.75	92	70	130	*
11)	Acetonitrile	6.51	22.6	25.25	90	70	130	*
12)	Acrolein	6.68	25.6	26.75	96	70	130	*
13)	Acetone	6.89	113	134.50	84	70	130	*
14)	Trichlorofluoromethane	7.13	21.2	24.75	86	70	130	*
15)	2-Propanol (Isopropanol)	7.39	49.4	52.50	94	70	130	*
16)	Acrylonitrile	7.64	25.9	26.00	100	70	130	*
17)	1,1-Dichloroethene	8.09	23.9	26.75	89	70	130	*
18)	2-Methyl-2-Propanol (tert-Butyl Alc	8.25	51.3	52.25	98	70	130	*
19)	Methylene Chloride	8.32	21.7	27.00	80	70	130	*
20)	3-Chloro-1-propene (Allyl Chlorid	8.48	27.2	27.00	101	70	130	*
21)	Trichlorotrifluoroethane	8.73	23.7	26.75	89	70	130	*
22)	Carbon Disulfide	8.58	22.7	24.50	93	70	130	*
23)	trans-1,2-Dichloroethene	9.60	24.9	26.50	94	70	130	*
24)	1,1-Dichloroethane	9.85	22.6	26.00	87	70	130	*
25)	Methyl tert-Butyl Ether	9.94	23.8	26.50	90	70	130	*
26)	Vinyl Acetate	10.11	132	128.00	103	70	130	*
27)	2-Butanone (MEK)	10.35	26.3	27.25	97	70	130	*
28)	cis-1,2-Dichloroethene	10.87	24.5	26.75	92	70	130	*
29)	Diisopropyl Ether	11.17	25.5	27.25	94	70	130	*
30)	Ethyl Acetate	11.17	49.0	53.25	92	70	130	*
31)	n-Hexane	11.15	21.5	26.25	82	70	130	*
32)	Chloroform	11.21	23.3	26.75	87	70	130	*
34)	Tetrahydrofuran (THF)	11.61	24.2	25.75	94	70	130	*
35)	Ethyl tert-Butyl Ether	11.76	24.3	26.50	92	70	130	*
36)	1,2-Dichloroethane	12.01	23.2	26.25	88	70	130	*
38)	1,1,1-Trichloroethane	12.29	23.6	25.75	92	70	130	*
39)	Isopropyl Acetate	12.72	50.4	54.50	92	70	130	*
40)	1-Butanol	12.74	63.1	54.75	115	70	130	*
41)	Benzene	12.77	21.8	27.50	79	70	130	*
42)	Carbon Tetrachloride	12.93	25.1	26.25	96	70	130	*
43)	Cyclohexane	13.06	46.9	52.50	89	70	130	*
44)	tert-Amyl Methyl Ether	13.41	24.6	26.25	94	70	130	*
45)	1,2-Dichloropropane	13.62	23.5	26.50	89	70	130	*
46)	Bromodichloromethane	13.81	25.5	26.75	95	70	130	*
47)	Trichloroethene	13.87	23.3	26.00	90	70	130	*
48)	1,4-Dioxane	13.84	26.6	27.25	98	70	130	*
49)	2,2,4-Trimethylpentane (Isooctane)	13.94	23.3	26.00	90	70	130	*

EM 10/25/13

INITIAL CALIBRATION VERIFICATION CHECK SHEET

Data File Name: **10241327.D**
Data File Path: **I:\MS13\DATA\2013_10\24**
Operator: **EM**
Date Acquired: **10/25/2013** **2:18**

Acq. Method File: **TO15.M**
Sample Name: **25ng TO-15 ICV STD (125ml)**
Misc Info: **S25-10241311/S25-10081302 (**
Instrument Name: **GCMS13**

#	Compound Name	Ret. Time	Amt. (ng)	Spike Amt.(ng)	% Rec.	Lower Limit	Upper Limit	* OR Fail
50)	**Methyl Methacrylate**	**14.07**	**51.7**	**52.50**	98	**70**	**130**	*
51)	**n-Heptane**	**14.21**	**23.4**	**26.75**	87	**70**	**130**	*
52)	**cis-1,3-Dichloropropene**	**14.73**	**27.9**	**28.25**	99	**70**	**130**	*
53)	**4-Methyl-2-pentanone**	**14.77**	**26.9**	**27.25**	99	**70**	**130**	*
54)	**trans-1,3-Dichloropropene**	**15.25**	**28.2**	**27.00**	104	**70**	**130**	*
55)	**1,1,2-Trichloroethane**	**15.42**	**24.3**	**26.25**	93	**70**	**130**	*
58)	**Toluene**	**15.72**	**22.8**	**26.25**	87	**70**	**130**	*
59)	**2-Hexanone**	**15.95**	**28.6**	**27.75**	103	**70**	**130**	*
60)	**Dibromochloromethane**	**16.12**	**27.7**	**27.50**	101	**70**	**130**	*
61)	**1,2-Dibromoethane**	**16.37**	**25.7**	**27.00**	95	**70**	**130**	*
62)	**n-Butyl Acetate**	**16.59**	**28.9**	**28.00**	103	**70**	**130**	*
63)	**n-Octane**	**16.73**	**23.2**	**26.00**	89	**70**	**130**	*
64)	**Tetrachloroethene**	**16.85**	**22.0**	**24.50**	90	**70**	**130**	*
65)	**Chlorobenzene**	**17.53**	**24.1**	**27.00**	89	**70**	**130**	*
66)	**Ethylbenzene**	**17.91**	**24.2**	**26.50**	91	**70**	**130**	*
67)	**m- & p-Xylenes**	**18.08**	**47.8**	**52.50**	91	**70**	**130**	*
68)	**Bromoform**	**18.14**	**30.2**	**27.00**	112	**70**	**130**	*
69)	**Styrene**	**18.42**	**25.9**	**27.25**	95	**70**	**130**	*
70)	**o-Xylene**	**18.53**	**23.7**	**25.75**	92	**70**	**130**	*
71)	**n-Nonane**	**18.74**	**22.7**	**25.75**	88	**70**	**130**	*
72)	**1,1,2,2-Tetrachloroethane**	**18.50**	**24.2**	**25.25**	96	**70**	**130**	*
74)	**Cumene**	**19.09**	**23.3**	**25.50**	91	**70**	**130**	*
75)	**alpha-Pinene**	**19.46**	**23.8**	**26.00**	92	**70**	**130**	*
76)	**n-Propylbenzene**	**19.57**	**23.2**	**25.25**	92	**70**	**130**	*
77)	3-Ethyltoluene	19.67	24.6	26.50	93	**70**	**130**	*
78)	**4-Ethyltoluene**	**19.71**	**24.8**	**26.50**	**94**	**70**	**130**	*
79)	**1,3,5-Trimethylbenzene**	**19.78**	**24.4**	**26.50**	**92**	**70**	**130**	*
80)	alpha-Methylstyrene	19.93	24.8	26.00	**95**	**70**	**130**	*
81)	2-Ethyltoluene	19.97	24.0	26.25	**91**	**70**	**130**	*
82)	**1,2,4-Trimethylbenzene**	**20.18**	**24.0**	**26.50**	**91**	**70**	**130**	*
83)	n-Decane	20.28	23.3	25.75	**90**	**70**	**130**	*
84)	**Benzyl Chloride**	**20.31**	**30.7**	**27.75**	**111**	**70**	**130**	*
85)	**1,3-Dichlorobenzene**	**20.33**	**25.1**	**27.75**	**90**	**70**	**130**	*
86)	**1,4-Dichlorobenzene**	**20.39**	**24.6**	**26.75**	**92**	**70**	**130**	*
87)	sec-Butylbenzene	20.44	24.8	27.00	**92**	**70**	**130**	*
88)	4-Isopropyltoluene (p-Cymene)	20.60	23.4	25.25	**93**	**70**	**130**	*
89)	1,2,3-Trimethylbenzene	20.59	24.7	26.50	**93**	**70**	**130**	*
90)	**1,2-Dichlorobenzene**	**20.72**	**25.2**	**27.25**	**92**	**70**	**130**	*
91)	**d-Limonene**	**20.74**	**24.5**	**26.25**	**93**	**70**	**130**	*
92)	**1,2-Dibromo-3-Chloropropane**	**21.15**	**28.9**	**26.50**	**109**	**70**	**130**	*
93)	n-Undecane	21.51	23.9	25.75	**93**	**70**	**130**	*
94)	**1,2,4-Trichlorobenzene**	**22.41**	**27.2**	**27.50**	**99**	**70**	**130**	*
95)	**Naphthalene**	**22.52**	**25.3**	**25.50**	**99**	**70**	**130**	*
96)	n-Dodecane	22.53	25.2	26.00	**97**	**70**	**130**	*
97)	**Hexachlorobutadiene**	**22.86**	**25.4**	**27.25**	**93**	**70**	**130**	*
98)	Cyclohexanone	18.21	28.0	27.50	102	**70**	**130**	*
99)	tert-Butylbenzene	20.18	24.4	26.75	91	**70**	**130**	*
100)	n-Butylbenzene	21.00	26.1	27.50	95	**70**	**130**	*

Bold = 75 Compound List
*** = Pass**

EM 10/25/13

I:\MS13\0-Instrument Info\0-Security Certificates\ICV_07081301.CRT

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2013_11\18\11181301.D Vial: 13
Acq On : 18 Nov 2013 8:45 Operator: EM
Sample : 25ng TO-15 CCV STD Inst : GCMS13
Misc : S25-11111301/S25-10241304 (11/22)

Quant Time: Nov 18 09:14:17 2013
Quant Method : I:\MS13\METHODS\R13102413.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Oct 25 08:58:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	96	-0.02
2	T	Propene	1.253	1.223	2.4	99	-0.01
3	T	Dichlorodifluoromethane (CF	3.066	3.129	-2.1	99	-0.02
4	T	Chloromethane	1.950	1.746	10.5	84	-0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.915	1.937	-1.1	97	-0.02
6	T	Vinyl Chloride	2.053	1.929	6.0	89	-0.02
7	T	1,3-Butadiene	1.325	1.386	-4.6	90	-0.02
8	T	Bromomethane	1.518	1.486	2.1	95	-0.02
9	T	Chloroethane	1.076	1.038	3.5	94	-0.02
10	T	Ethanol	0.911	0.848	6.9	91	-0.06
11	T	Acetonitrile	2.383	2.227	6.5	92	-0.04
12	T	Acrolein	0.777	0.740	4.8	86	-0.02
13	T	Acetone	0.969	0.875	9.7	93	-0.04
14	T	Trichlorofluoromethane	2.745	2.754	-0.3	100	-0.02
15	T	2-Propanol (Isopropanol)	3.033	2.893	4.6	88	-0.04
16	T	Acrylonitrile	1.605	1.658	-3.3	91	-0.03
17	T	1,1-Dichloroethene	1.427	1.458	-2.2	96	-0.02
18	T	2-Methyl-2-Propanol (tert-B	3.060	3.036	0.8	88	-0.04
19	T	Methylene Chloride	1.547	1.500	3.0	94	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.533	1.625	-6.0	91	-0.02
21	T	Trichlorotrifluoroethane	1.564	1.597	-2.1	100	-0.01
22	T	Carbon Disulfide	5.303	5.299	0.1	94	-0.02
23	T	trans-1,2-Dichloroethene	1.842	1.918	-4.1	94	-0.02
24	T	1,1-Dichloroethane	2.414	2.307	4.4	94	-0.01
25	T	Methyl tert-Butyl Ether	4.099	4.097	0.0	97	-0.01
26	T	Vinyl Acetate	0.285	0.317	-11.2	95	-0.03
27	T	2-Butanone (MEK)	0.818	0.863	-5.5	94	-0.02
28	T	cis-1,2-Dichloroethene	1.757	1.766	-0.5	94	-0.02
29	T	Diisopropyl Ether	1.267	1.321	-4.3	98	-0.01
30	T	Ethyl Acetate	0.427	0.418	2.1	95	-0.02
31	T	n-Hexane	1.827	1.639	10.3	100	-0.01
32	T	Chloroform	2.373	2.392	-0.8	98	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.211	1.214	-0.2	98	-0.02
34	T	Tetrahydrofuran (THF)	0.847	0.868	-2.5	95	-0.01
35	T	Ethyl tert-Butyl Ether	1.662	1.711	-2.9	97	-0.01
36	T	1,2-Dichloroethane	1.675	1.714	-2.3	100	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	97	-0.01
38	T	1,1,1-Trichloroethane	0.438	0.472	-7.8	101	0.00
39	T	Isopropyl Acetate	0.151	0.150	0.7	94	-0.01
40	T	1-Butanol	0.202	0.228	-12.9	88	-0.03
41	T	Benzene	1.171	1.050	10.3	98	-0.01
42	T	Carbon Tetrachloride	0.389	0.440	-13.1	101	-0.01
43	T	Cyclohexane	0.432	0.433	-0.2	96	-0.01
44	T	tert-Amyl Methyl Ether	0.785	0.824	-5.0	96	-0.01
45	T	1,2-Dichloropropane	0.263	0.257	2.3	94	-0.01
46	T	Bromodichloromethane	0.360	0.389	-8.1	99	-0.01
47	T	Trichloroethene	0.359	0.369	-2.8	100	-0.01
48	T	1,4-Dioxane	0.221	0.240	-8.6	97	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.112	1.085	2.4	92	-0.01
50	T	Methyl Methacrylate	0.118	0.130	-10.2	98	-0.02
51	T	n-Heptane	0.254	0.246	3.1	98	-0.01

EM 11/18/13

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2013_11\18\11181301.D Vial: 13
Acq On : 18 Nov 2013 8:45 Operator: EM
Sample : 25ng TO-15 CCV STD Inst : GCMS13
Misc : S25-11111301/S25-10241304 (11/22)

Quant Time: Nov 18 09:14:17 2013
Quant Method : I:\MS13\METHODS\R13102413.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Oct 25 08:58:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52	T	cis-1,3-Dichloropropene	0.409	0.454	-11.0	96	0.00
53	T	4-Methyl-2-pentanone	0.217	0.231	-6.5	92	-0.01
54	T	trans-1,3-Dichloropropene	0.356	0.422	-18.5	97	0.00
55	T	1,1,2-Trichloroethane	0.286	0.295	-3.1	97	0.00
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	96	0.00
57	S	Toluene-d8 (SS2)	2.747	2.689	2.1	96	0.00
58	T	Toluene	3.362	3.286	2.3	98	-0.01
59	T	2-Hexanone	1.257	1.345	-7.0	92	-0.01
60	T	Dibromochloromethane	0.904	1.048	-15.9	101	-0.01
61	T	1,2-Dibromoethane	0.884	0.945	-6.9	97	-0.01
62	T	n-Butyl Acetate	1.379	1.485	-7.7	90	-0.01
63	T	n-Octane	0.594	0.573	3.5	94	0.00
64	T	Tetrachloroethene	1.213	1.277	-5.3	102	0.00
65	T	Chlorobenzene	2.312	2.354	-1.8	99	0.00
66	T	Ethylbenzene	3.647	3.756	-3.0	98	0.00
67	T	m- & p-Xylenes	2.954	3.049	-3.2	98	-0.01
68	T	Bromoform	0.841	1.056	-25.6	103	0.00
69	T	Styrene	2.286	2.415	-5.6	94	-0.01
70	T	o-Xylene	3.040	3.158	-3.9	98	-0.01
71	T	n-Nonane	1.318	1.240	5.9	92	0.00
72	T	1,1,2,2-Tetrachloroethane	1.365	1.429	-4.7	95	0.00
73	S	Bromofluorobenzene (SS3)	1.294	1.373	-6.1	102	0.00
74	T	Cumene	4.065	4.241	-4.3	98	0.00
75	T	alpha-Pinene	1.902	1.984	-4.3	96	0.00
76	T	n-Propylbenzene	4.688	4.856	-3.6	97	0.00
77	T	3-Ethyltoluene	3.906	4.070	-4.2	98	0.00
78	T	4-Ethyltoluene	3.702	3.935	-6.3	99	0.00
79	T	1,3,5-Trimethylbenzene	3.263	3.417	-4.7	98	0.00
80	T	alpha-Methylstyrene	1.759	1.739	1.1	86	-0.01
81	T	2-Ethyltoluene	3.829	3.939	-2.9	98	-0.01
82	T	1,2,4-Trimethylbenzene	3.281	3.443	-4.9	99	0.00
83	T	n-Decane	1.504	1.452	3.5	93	0.00
84	T	Benzyl Chloride	2.198	2.698	-22.7	95	0.00
85	T	1,3-Dichlorobenzene	2.117	2.238	-5.7	99	0.00
86	T	1,4-Dichlorobenzene	2.183	2.307	-5.7	100	0.00
87	T	sec-Butylbenzene	4.249	4.418	-4.0	98	0.00
88	T	4-Isopropyltoluene (p-Cymen	4.209	4.439	-5.5	100	0.00
89	T	1,2,3-Trimethylbenzene	3.310	3.470	-4.8	98	0.00
90	T	1,2-Dichlorobenzene	2.037	2.181	-7.1	100	0.00
91	T	d-Limonene	1.048	1.028	1.9	87	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.706	0.884	-25.2	102	0.00
93	T	n-Undecane	1.565	1.559	0.4	92	0.00
94	T	1,2,4-Trichlorobenzene	1.686	1.936	-14.8	100	0.00
95	T	Naphthalene	4.948	5.297	-7.1	97	0.00
96	T	n-Dodecane	1.454	1.465	-0.8	92	0.00
97	T	Hexachlorobutadiene	1.192	1.313	-10.2	103	0.00
98	T	Cyclohexanone	0.865	0.873	-0.9	85	-0.01
99	T	tert-Butylbenzene	3.242	3.367	-3.9	100	0.00
100	T	n-Butylbenzene	3.183	3.343	-5.0	96	0.00

 EM 11/18/13

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2013_11\18\11181301.D Vial: 13
Acq On : 18 Nov 2013 8:45 Operator: EM
Sample : 25ng TO-15 CCV STD Inst : GCMS13
Misc : S25-11111301/S25-10241304 (11/22)

Quant Time: Nov 18 09:14:17 2013
Quant Method : I:\MS13\METHODS\R13102413.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Oct 25 08:58:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2013_11\19\11191301.D Vial: 13
Acq On : 19 Nov 2013 00:27 Operator: EM
Sample : 25ng TO-15 CCV STD Inst : GCMS13
Misc : S25-11111301/S25-10241304 (11/22)

Quant Time: Nov 19 07:52:33 2013
Quant Method : I:\MS13\METHODS\R13102413.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
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Response via : Initial Calibration
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Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	IR	Bromochloromethane (IS1)	1.000	1.000	0.0	90	-0.02
2	T	Propene	1.253	1.060	15.4	80	-0.02
3	T	Dichlorodifluoromethane (CF	3.066	2.881	6.0	85	-0.02
4	T	Chloromethane	1.950	1.653	15.2	74	-0.02
5	T	1,2-Dichloro-1,1,2,2-tetraf	1.915	1.837	4.1	86	-0.02
6	T	Vinyl Chloride	2.053	1.879	8.5	80	-0.02
7	T	1,3-Butadiene	1.325	1.287	2.9	78	-0.03
8	T	Bromomethane	1.518	1.316	13.3	78	-0.02
9	T	Chloroethane	1.076	0.905	15.9	76	-0.02
10	T	Ethanol	0.911	0.745	18.2	75	-0.07
11	T	Acetonitrile	2.383	1.905	20.1	74	-0.05
12	T	Acrolein	0.777	0.638	17.9	69	-0.03
13	T	Acetone	0.969	0.764	21.2	76	-0.04
14	T	Trichlorofluoromethane	2.745	2.471	10.0	84	-0.02
15	T	2-Propanol (Isopropanol)	3.033	2.668	12.0	75	-0.05
16	T	Acrylonitrile	1.605	1.462	8.9	75	-0.04
17	T	1,1-Dichloroethene	1.427	1.282	10.2	79	-0.02
18	T	2-Methyl-2-Propanol (tert-B	3.060	2.895	5.4	78	-0.05
19	T	Methylene Chloride	1.547	1.317	14.9	77	-0.02
20	T	3-Chloro-1-propene (Allyl C	1.533	1.413	7.8	74	-0.02
21	T	Trichlorotrifluoroethane	1.564	1.422	9.1	83	-0.01
22	T	Carbon Disulfide	5.303	4.646	12.4	77	-0.02
23	T	trans-1,2-Dichloroethene	1.842	1.689	8.3	77	-0.01
24	T	1,1-Dichloroethane	2.414	2.042	15.4	78	-0.02
25	T	Methyl tert-Butyl Ether	4.099	3.665	10.6	81	-0.01
26	T	Vinyl Acetate	0.285	0.279	2.1	78	-0.03
27	T	2-Butanone (MEK)	0.818	0.759	7.2	77	-0.02
28	T	cis-1,2-Dichloroethene	1.757	1.564	11.0	78	-0.02
29	T	Diisopropyl Ether	1.267	1.174	7.3	81	-0.01
30	T	Ethyl Acetate	0.427	0.366	14.3	77	-0.02
31	T	n-Hexane	1.827	1.399	23.4	80	0.00
32	T	Chloroform	2.373	2.105	11.3	80	-0.02
33	S	1,2-Dichloroethane-d4(SS1)	1.211	1.216	-0.4	92	-0.02
34	T	Tetrahydrofuran (THF)	0.847	0.764	9.8	78	-0.01
35	T	Ethyl tert-Butyl Ether	1.662	1.523	8.4	81	-0.01
36	T	1,2-Dichloroethane	1.675	1.520	9.3	83	-0.01
37	IR	1,4-Difluorobenzene (IS2)	1.000	1.000	0.0	89	0.00
38	T	1,1,1-Trichloroethane	0.438	0.421	3.9	83	0.00
39	T	Isopropyl Acetate	0.151	0.133	11.9	77	-0.01
40	T	1-Butanol	0.202	0.203	-0.5	73	-0.04
41	T	Benzene	1.171	0.926	20.9	80	0.00
42	T	Carbon Tetrachloride	0.389	0.396	-1.8	84	-0.01
43	T	Cyclohexane	0.432	0.388	10.2	80	-0.01
44	T	tert-Amyl Methyl Ether	0.785	0.738	6.0	79	-0.01
45	T	1,2-Dichloropropane	0.263	0.228	13.3	77	-0.01
46	T	Bromodichloromethane	0.360	0.345	4.2	82	0.00
47	T	Trichloroethene	0.359	0.330	8.1	83	-0.01
48	T	1,4-Dioxane	0.221	0.215	2.7	80	-0.01
49	T	2,2,4-Trimethylpentane (Iso	1.112	0.976	12.2	77	-0.01
50	T	Methyl Methacrylate	0.118	0.116	1.7	80	-0.01
51	T	n-Heptane	0.254	0.215	15.4	80	0.00

EM 11/19/13

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2013_11\19\11191301.D Vial: 13
Acq On : 19 Nov 2013 00:27 Operator: EM
Sample : 25ng TO-15 CCV STD Inst : GCMS13
Misc : S25-11111301/S25-10241304 (11/22)

Quant Time: Nov 19 07:52:33 2013
Quant Method : I:\MS13\METHODS\R13102413.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Oct 25 08:58:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
52	T	cis-1,3-Dichloropropene	0.409	0.400	2.2	78	0.00
53	T	4-Methyl-2-pentanone	0.217	0.205	5.5	75	-0.01
54	T	trans-1,3-Dichloropropene	0.356	0.376	-5.6	80	0.00
55	T	1,1,2-Trichloroethane	0.286	0.264	7.7	80	0.00
56	IR	Chlorobenzene-d5 (IS3)	1.000	1.000	0.0	91	0.00
57	S	Toluene-d8 (SS2)	2.747	2.653	3.4	89	0.00
58	T	Toluene	3.362	2.876	14.5	81	0.00
59	T	2-Hexanone	1.257	1.181	6.0	76	0.00
60	T	Dibromochloromethane	0.904	0.915	-1.2	83	0.00
61	T	1,2-Dibromoethane	0.884	0.828	6.3	80	-0.01
62	T	n-Butyl Acetate	1.379	1.312	4.9	74	-0.01
63	T	n-Octane	0.594	0.500	15.8	77	0.00
64	T	Tetrachloroethene	1.213	1.121	7.6	85	0.00
65	T	Chlorobenzene	2.312	2.058	11.0	81	0.00
66	T	Ethylbenzene	3.647	3.294	9.7	81	0.00
67	T	m- & p-Xylenes	2.954	2.683	9.2	81	-0.01
68	T	Bromoform	0.841	0.920	-9.4	85	0.00
69	T	Styrene	2.286	2.125	7.0	78	-0.01
70	T	o-Xylene	3.040	2.772	8.8	81	-0.01
71	T	n-Nonane	1.318	1.089	17.4	76	0.00
72	T	1,1,2,2-Tetrachloroethane	1.365	1.253	8.2	78	0.00
73	S	Bromofluorobenzene (SS3)	1.294	1.411	-9.0	99	0.00
74	T	Cumene	4.065	3.749	7.8	82	0.00
75	T	alpha-Pinene	1.902	1.737	8.7	79	0.00
76	T	n-Propylbenzene	4.688	4.284	8.6	81	0.00
77	T	3-Ethyltoluene	3.906	3.633	7.0	82	0.00
78	T	4-Ethyltoluene	3.702	3.407	8.0	81	0.00
79	T	1,3,5-Trimethylbenzene	3.263	3.009	7.8	81	0.00
80	T	alpha-Methylstyrene	1.759	1.520	13.6	71	-0.01
81	T	2-Ethyltoluene	3.829	3.468	9.4	81	-0.01
82	T	1,2,4-Trimethylbenzene	3.281	3.104	5.4	84	0.00
83	T	n-Decane	1.504	1.317	12.4	79	-0.01
84	T	Benzyl Chloride	2.198	2.408	-9.6	80	-0.01
85	T	1,3-Dichlorobenzene	2.117	2.002	5.4	84	0.00
86	T	1,4-Dichlorobenzene	2.183	2.050	6.1	83	-0.01
87	T	sec-Butylbenzene	4.249	3.900	8.2	81	0.00
88	T	4-Isopropyltoluene (p-Cymen	4.209	3.939	6.4	83	-0.01
89	T	1,2,3-Trimethylbenzene	3.310	3.074	7.1	82	0.00
90	T	1,2-Dichlorobenzene	2.037	1.921	5.7	83	0.00
91	T	d-Limonene	1.048	0.913	12.9	72	0.00
92	T	1,2-Dibromo-3-Chloropropane	0.706	0.777	-10.1	84	0.00
93	T	n-Undecane	1.565	1.369	12.5	76	0.00
94	T	1,2,4-Trichlorobenzene	1.686	1.729	-2.6	84	0.00
95	T	Naphthalene	4.948	4.737	4.3	82	0.00
96	T	n-Dodecane	1.454	1.338	8.0	79	0.00
97	T	Hexachlorobutadiene	1.192	1.171	1.8	86	0.00
98	T	Cyclohexanone	0.865	0.761	12.0	70	-0.01
99	T	tert-Butylbenzene	3.242	3.040	6.2	85	-0.01
100	T	n-Butylbenzene	3.183	2.938	7.7	80	0.00

 Em 11/19/13

Evaluate Continuing Calibration Report

Data File : I:\MS13\DATA\2013_11\19\11191301.D Vial: 13
Acq On : 19 Nov 2013 00:27 Operator: EM
Sample : 25ng TO-15 CCV STD Inst : GCMS13
Misc : S25-11111301/S25-10241304 (11/22)

Quant Time: Nov 19 07:52:33 2013
Quant Method : I:\MS13\METHODS\R13102413.M
Quant Title : EPA TO-15 per SOP VOA-TO15 (CASS TO-15/GC-MS)
QLast Update : Fri Oct 25 08:58:51 2013
Response via : Initial Calibration
DataAcq Meth:TO15.M

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.33min
Max. RRF Dev : 30% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)

(#) = Out of Range SPCC's out = 0 CCC's out = 0

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
17	10/24/2013 20:31	10241317.D	12.5ng TO-15 BFB	S25-10241311	EM	5	***Passed***
18	10/24/2013 21:06	10241318.D	0.08ng TO-15 ICAL STD	S25-10241311/S25-10141301 (11/12)	EM	1	
19	10/24/2013 21:41	10241319.D	0.1ng TO-15 ICAL STD	S25-10241311/S25-10141301 (11/12)	EM	1	
20	10/24/2013 22:15	10241320.D	0.2ng TO-15 ICAL STD	S25-10241311/S25-10141301 (11/12)	EM	1	
21	10/24/2013 22:49	10241321.D	0.4ng TO-15 ICAL STD	S25-10241311/S25-10141301 (11/12)	EM	1	***ICAL***
22	10/24/2013 23:24	10241322.D	1.0ng TO-15 ICAL STD	S25-10241311/S25-10241307 (11/22)	EM	2	***R13102413.M***
23	10/24/2013 23:59	10241323.D	5.0ng TO-15 ICAL STD	S25-10241311/S25-10241307 (11/22)	EM	2	
24	10/25/2013 0:34	10241324.D	25ng TO-15 ICAL STD	S25-10241311/S25-10241304 (11/22)	EM	3	
25	10/25/2013 1:09	10241325.D	50ng TO-15 ICAL STD	S25-10241311/S25-10241304 (11/22)	EM	3	
26	10/25/2013 1:44	10241326.D	100ng TO-15 ICAL STD	S25-10241311/S25-10241304 (11/22)	EM	3	
27	10/25/2013 2:18	10241327.D	25ng TO-15 ICV STD (125ml)	S25-10241311/S25-10081302 (11/6)	EM	16	***Passed***

EM
10/25/13

ICAL R13102413.M Ranges: 0.2-100ng: Bromomethane, n-Hexane, Benzyl Chloride
0.4-100ng: $MeCl_2$, CS_2, Naphthalene
0.1-100ng: Rest of compounds.

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	11/18/2013 8:45	11181301.D	25ng TO-15 CCV STD	S25-11111301/S25-10241304 (11/22)	EM	13	*Passed*
2	11/18/2013 9:42	11181302.D	25ng Custom CCV STD	S25-11111301/S25-10211301 (11/19)	EM	14	*CF, not used*
3	11/18/2013 10:17	11181303.D	TO-15 Method Blank (1000ml)	S25-11111301	EM	8	*Passed*
4	11/18/2013 11:03	11181304.D	P1304987-001 (10ml)		EM	4	
5	11/18/2013 11:38	11181305.D	25ng TO-15 LCS STD (125ml)	S25-11111301/S25-10301303 (11/28)	EM	16	*Passed*
6	11/18/2013 12:19	11181306.D	P1305105-001 (0.8ml)		EM	4	
7	11/18/2013 12:53	11181307.D	P1305105-001 dil (0.4ml)		EM	4	
8	11/18/2013 13:39	11181308.D	P1305105-002 (8.5ml)		EM	4	
9	11/18/2013 14:13	11181309.D	P1305105-002 dup (8.5ml)		EM	4	*Passed*
10	11/18/2013 14:48	11181310.D	P1305066-001 (0.1ml)		EM	4	*CF, over dil.*
11	11/18/2013 15:26	11181311.D	P1305066-001 (0.2ml)		EM	4	
12	11/18/2013 16:01	11181312.D	P1305066-002 (0.2ml)		EM	44	*CF, over max cal.*
13	11/18/2013 16:35	11181313.D	P1305066-003 (0.12ml)		EM	4	
14	11/18/2013 17:28	11181314.D	P1305066-002 (0.15ml)		EM	4	
15	11/18/2013 18:03	11181315.D	Blank (100ml)	S25-11111301	EM	8	
16	11/18/2013 18:38	11181316.D	P1305088-001 (1000ml)		EM	1	
17	11/18/2013 19:13	11181317.D	P1305088-002 (1000ml)		EM	2	
18	11/18/2013 19:48	11181318.D	P1305088-003 (1000ml)		EM	3	
19	11/18/2013 20:23	11181319.D	P1305088-004 (1000ml)		EM	5	
20	11/18/2013 20:57	11181320.D	P1305088-005 (1000ml)		EM	6	
21	11/18/2013 21:32	11181321.D	P1305083-001 (1000ml)		EM	7	
22	11/18/2013 22:07	11181322.D	P1305087-001 (400ml)		EM	9	
23	11/18/2013 22:42	11181323.D	P1305087-002 (400ml)		EM	10	
24	11/18/2013 23:16	11181324.D	P1305087-003 (400ml)		EM	11	
25	11/18/2013 23:51	11181325.D	25ng TO-15 LCSD STD (125ml)	S25-11111301/S25-10301303 (11/28)	EM	16	*Passed*

EM 11/19/13

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
1	11/19/2013 0:27	11191301.D	25ng TO-15 CCV STD	S25-11111301/S25-10241304 (11/22)	EM	13	*Passed*
2	11/19/2013 1:02	11191302.D	25ng Custom CCV STD	S25-11111301/S25-11141305 (12/13)	EM	4	*CF, not used*
3	11/19/2013 1:37	11191303.D	TO-15 Method Blank (1000ml)	S25-11111301	EM	8	*Passed*
4	11/19/2013 8:09	11191304.D	P1305066-004 (0.12ml)		EM	4	
5	11/19/2013 8:43	11191305.D	P1305066-004 dup (0.12ml)		EM	4	*Passed*
6	11/19/2013 9:26	11191306.D	5066-005 (0.8ml)	Screen	EM	4	
7	11/19/2013 10:05	11191307.D	P1305066-005 (2.5ml)		EM	4	
8	11/19/2013 10:45	11191308.D	P1305066-006 (2ml)		EM	4	
9	11/19/2013 11:19	11191309.D	25ng TO-15 LCS STD (125ml)	S25-11111301/S25-10301303 (11/28)	EM	16	*Passed*
10	11/19/2013 11:58	11191310.D	P1305067-001 (1000ml)		EM	1	
11	11/19/2013 12:33	11191311.D	P1305067-002 (1000ml)		EM	2	
12	11/19/2013 13:08	11191312.D	P1305132-001 (0.25ml)		EM	4	
13	11/19/2013 13:48	11191313.D	P1305132-001 dil (0.07ml)		EM	4	
14	11/19/2013 14:23	11191314.D	P1305132-002 (3ml)		EM	4	
15	11/19/2013 14:58	11191315.D	5132-003 (14ml)	Screen	EM	4	

EM 11/20/13

	Date/Time	File Name	Sample ID	Misc Info	Operator	Vial	Comment
16	11/19/2013 16:16	11191316.D	P1305132-003 (20ml)		EM	11	
17	11/19/2013 16:51	11191317.D	P1305132-004 (40ml)		EM	12	*CF, over max cal.*
18	11/19/2013 17:25	11191318.D	P1305132-004 (20ml)		EM	12	*Passed*
19	11/19/2013 18:00	11191319.D	25ng TO-15 LCSD STD (125ml)	S25-11111301/S25-10301303 (11/28)	EM	16	
20	11/19/2013 18:35	11191320.D	P1305067-003 (1000ml)		EM	3	
21	11/19/2013 19:10	11191321.D	P1305067-004 (1000ml)		EM	5	
22	11/19/2013 19:44	11191322.D	P1305067-005 (1000ml)		EM	6	
23	11/19/2013 20:19	11191323.D	P1305067-006 (1000ml)		EM	7	
24	11/19/2013 20:54	11191324.D	P1305067-007 (1000ml)		EM	9	
25	11/19/2013 21:29	11191325.D	P1305067-008 (1000ml)		EM	10	
26	11/19/2013 22:04	11191326.D	P1305067-009 (1000ml)		EM	1	
27	11/19/2013 22:39	11191327.D	P1305067-010 (1000ml)		EM	2	
28	11/19/2013 23:14	11191328.D	25ng TO-15 Custom LCS (125ml)	S25-11111301/S25-11141303 (12/13)	EM	4	*CF, not used*

EM 11/20/13

APPENDIX E

Wells Identified for Immediate Addition to the SVE System

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ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
CATOX	catalytic oxidizer
EDB	ethylene dibromide
KAFB	Kirtland Air Force Base
ppbv	parts per billion by volume
ROI	radius of influence
SVE	soil-vapor extraction
THC	total hydrocarbon

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E. WELLS IDENTIFIED FOR IMMEDIATE ADDITION TO THE SVE SYSTEM

The soil-vapor extraction (SVE) pilot testing generated data on the soil gas composition and flow rates versus applied vacuum for the individual wells that were tested. Radius of influence (ROI) calculations were performed for seven of the wells tested. Based on this data, the following three Pneulog® wells will be permanently piped into the existing SVE treatment system (Figure E-1):

- Kirtland Air Force Base (KAFB)-106149 (middle screened interval, 200 feet to 350 feet below ground surface [bgs]) – replaces ambient dilution air and increases ROI at 350 foot level of vadose zone.
- KAFB-106150 (bottom screened interval, 350 feet to 480 feet bgs) – produces soil vapor with high ethylene dibromide (EDB) concentrations, and will increase the radius of influence at this depth.
- KAFB-106154 (middle screened interval, 200 feet to 350 feet bgs) – replaces ambient dilution air and increases ROI at 350 foot level of vadose zone.

These three wells will be piped into the currently operating SVE system along with KAFB-106160 and KAFB-106161 for a total of 5 wells. The vacuum applied to the individual wells will be adjusted to achieve two objectives. The first objective is to apply a high enough vacuum that the catalytic oxidizer (CATOX) system is always operating at its maximum practical thermal loading. This will ensure optimal soil vapor flowrate and total hydrocarbon (THC) concentration for the CATOX system. The second objective is to adjust the flow ratio between the 5 wells so that the mass removal of EDB, and to a lesser extent, benzene is maximized.

The SVE Pilot Test work plan indicated that the existing SVE well manifold located near the old loading rack would be connected to the SVE system. Based on the pilot test results, this will not be done at this time. The soil vapor analysis results show that the highest concentrations of EDB were in the two existing SVE wells and in the bottom screened interval of KAFB 106150. These wells also had the

highest ratio of EDB to THC. Using these wells will result in higher mass removal of EDB without overloading the thermal capacity limit of the CATOX system.

KAFB-106149, KAFB-106150, and KAFB-106154 are Pneulog® wells, which contain three well casings that are screened at three different depths within the vadose zone. For KAFB 106149 and 106154 the existing wellhead piping has all three screened intervals plumbed to a common manifold at the well head with isolation valves, so one or any combination of the three depths can be used allowing a range of depths to be available for remediation. Current plans are to use the middle screened interval of these two wells.

Both KAFB-106149 and KAFB-106154 are located in the footprint of the current treatment system radius of influence. These wells were selected because of their relatively low THC levels at shallower depths. Since these wells will produce air that is relatively low in THC but contains benzene and EDB, the air from these wells will replace atmospheric dilution air that is currently pulled into the SVE manifold at the wellheads of the existing SVE wells. By adding these wells into the current treatment system we will be able to treat a shallower portion of the vadose zone. Extracting air from the 350 foot interval of these wells will increase the ROI of the combined system at the 350 foot contour, and will also increase the vacuum in the soil between the 350 foot and 450 foot level, thereby increasing the ROI at this depth. The magnitude of this effect will be quantified once actual data are available following startup of the expanded system.

The wellhead piping installed at KAFB-106150 will be similar to that at the other two Pneulog® wells. Current plans are to use only the lower screened interval of this well. This will increase the current radius of influence at the 450 foot contour and produce soil vapor with high concentrations of EDB, benzene and THC. As with the 350 foot wells, the magnitude of this effect will be quantified once actual data are available following startup of the expanded system. Analytical data collected during pilot testing show

that KAFB-106150 had the highest EDB concentrations, detected at 1,200 ppbv at the beginning of the test, and at 1,300 ppbv at the end of the test. Benzene concentrations in this well are also elevated, measuring . 94,000 ppbv at the beginning and 100,000 ppbv at the conclusion of pilot testing. KAFB-106150 will be utilized in tandem with wells KAFB-106160 and KAFB-106161, to increase the zone of influence, as well as to target the high EDB and benzene concentrations in this well observed during pilot testing and quarterly monitoring.

There are two Pneulog® wells that were included in the long-test phase of the SVE pilot test that were not selected for the SVE expansion at this stage. These are wells KAFB-106148 and KAFB-106155. KAFB-106148 has high total volatile organic compound concentrations but significantly lower EDB and benzene concentrations in comparison with KAFB-106150. EDB concentrations at KAFB-106148 and KAFB-106150 were measured at 680 ppbv and 1300 ppbv respectively, while benzene concentrations were measured at 54,000 ppbv and 100,000 ppbv – i.e., concentrations of EDB and benzene at KAFB-106150 are almost twice as high as at KAFB-106148. KAFB-106155 was not selected because it has lower concentrations of EDB and benzene (detected at 42 ppbv and 2500 ppbv respectively) than the other wells.

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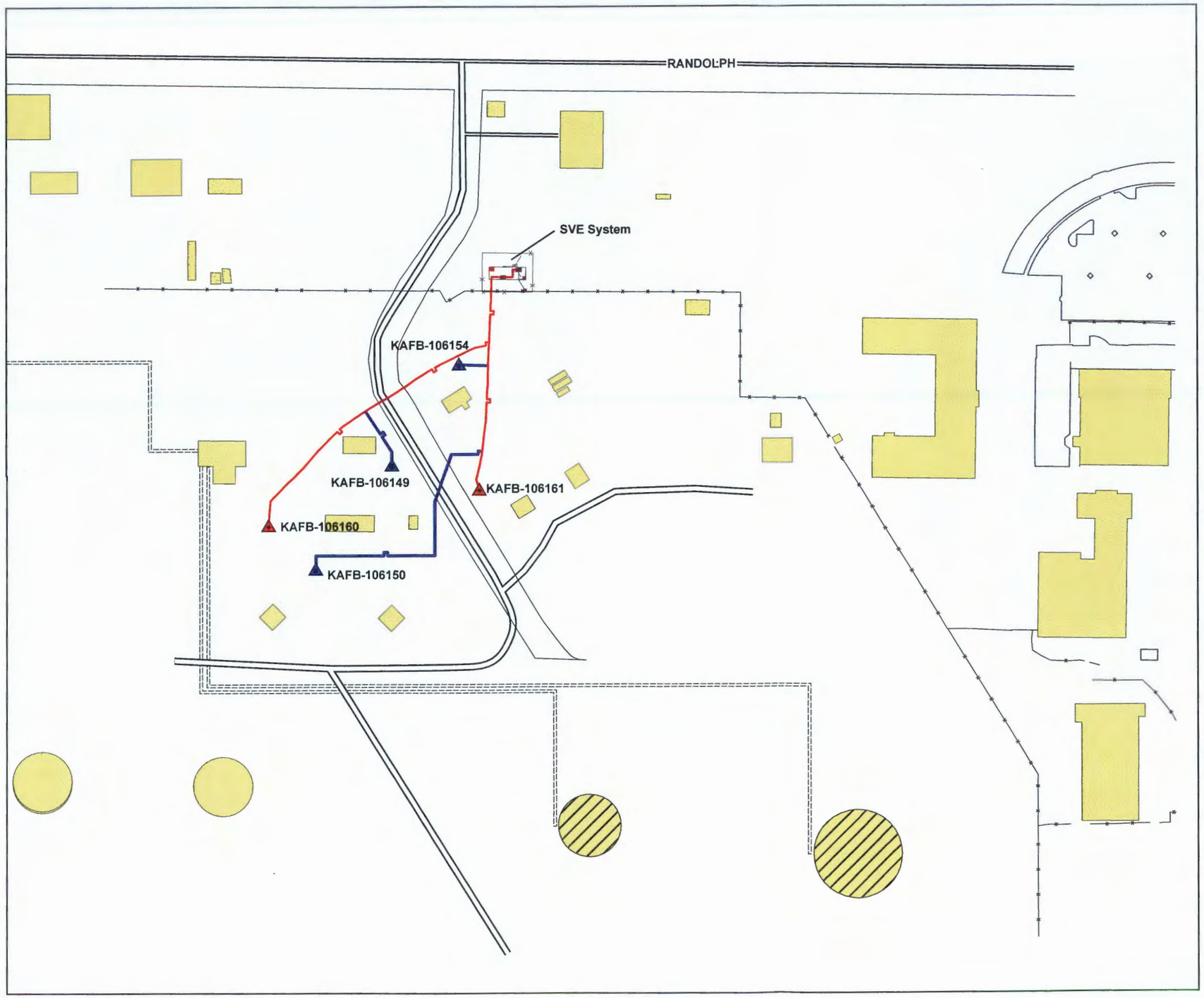


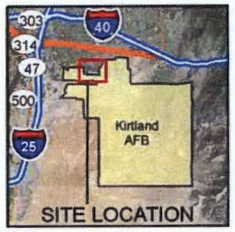
LEGEND

- Currently Operational SVE Wells
- Proposed SVE Wells
- Existing Pipeline
- Proposed Pipeline
- Former Fuel Pipeline
- Previously Existing Structure
- KAFB Bulk Fuels Facility Boundary

0 75 150 300

Feet
1 inch = 150 feet

N



SOIL VAPOR EXTRACTION PILOT TEST REPORT
BULK FUELS FACILITY
KIRTLAND AIR FORCE BASE, NEW MEXICO

FIGURE E-1

PROPOSED WELLS FOR SVE EXPANSION

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