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DEPARTMENT OF THE AIR FORCE
377TH AIR BASE WING (AFGSC)

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NMED
Hazardous Waste

Colonel Eric H. Froehlich
Commander
377th Air Base Wing
2000 Wyoming Blvd SE
Kirtland Air Force Base NM 87117

Mr. John Kieling
Hazardous Waste Bureau Chief
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe NM 87505-6303

Dear Mr. Kieling

Attached please find two hard copies of the replacement pages for the report entitled *Resource Conservation and Recovery Act* (RCRA) *Facility Investigation* (RFI) *Report for the Bulk Fuels Facility Release Solid Waste Management Unit* (SWMU) *ST-106/SS-111, January 2017* submitted to NMED on January 31, 2017. These replacement pages correct the following information:

1. Replacement page 4-27 corrects the amount of soil removed during the 2014 excavation at the Bulk Fuels Facility from 3,648 tons to 3,684 tons.
2. Replacement Figures ES-12 through ES-14, and 7-8, 7-10, and 7-11 more accurately display the Conceptual Site Model.
3. Replacement pages have been added to discuss soil vapor ethylene dibromide (EDB) results analyzed by Environmental Protection Agency (EPA) method TO-15 due to issues with the California Air Resources Board (CARB) 422 analysis identified in the summary memo submitted on April 6, 2017. The following replacement pages include results for EDB in soil vapor by TO-15:
    a. Page 4-19
    b. Figures 4-9 through 4-11 and 4-29 through 4-36
    c. Table 4-9
    d. Ten pages in Appendix J

If you have any questions or concerns, please contact Mr. Scott Clark at (505) 846-9017 or at scott.clark@us.af.mil, or Holly O'Grady at (505) 853-3484 or at holly.ogrady@us.af.mil.

Sincerely

ERIC H. FROEHLICH, Colonel, USAF
Commander

Attachment:
RCRA Facility Investigation Report Bulk Fuels Facility Release Solid Waste Management Unit ST-106/SS-111, January 2017; (2) Replacement Pages (2) Replacement CDs

KAFB4516

cc:
NMED (Borrego) letter
NMED-GWQB (Agnew) letter and CD
EPA Region 6 (King, Ellinger), letter and CD
SAF-IEE (Lynnes), electronic only
AFCEC/CZ (Bodour, Clark, O'Grady), electronic only
USACE-ABQ District Office (Simpler, Phaneuf, Dreeland, Sanchez, Salazar), electronic only
Public Info Repository, Administrative Record/Information Repository (AR/IR) and File

There is no soil SL currently promulgated by NMED for TPH; however, concentrations of BTEX constituents were all below the 2015 NMED industrial/construction worker SSLs. The largest concentration of BTEX components was total xylenes, detected at 35 mg/kg, which is below the NMED 2015 SSL of 4,280 mg/kg. This was the first interim measure performed following the discovery of the release at the Site and was followed by the source area investigation in 2000.

4.6.1.2 2010 Pipeline Removal

In 2010, the remaining underground fuel pipelines were replaced along with aboveground infrastructure. The decommissioned pipelines from the FFOR to the pump house (AOI 1) were removed and soil around these pipelines was excavated. In the Fall of 2010, approximately 611 cy (1,018 tons) of soil was removed from the surface to the underground fuel pipelines. Following excavation, the soil was removed from the Site, properly characterized, and delivered to Keers Hydrocarbon Soil Land Farm (14 miles south of Highway 55 from Mountainair, NM), which is permitted by NMED SWB (Permit No. DP-1012). The removed fueling infrastructure was replaced with a state-of-the-art facility with leak detection as described in Section 2. This removal activity was not previously reported; however, removal manifests are included in Appendix L. Six composite soil samples were collected from the excavated soil and analyzed for:

- TPH (DRO and GRO; Method not reported)
    - TPH DRO concentrations ranged from nondetect to 590 mg/kg
    - TPH GRO concentrations ranged from nondetect to 53 mg/kg.

One sample was additionally analyzed for the following for waste disposal purposes:

- SVOCs (napthalene and 2-methylnapthalene) by EPA Method SW846-8270C
    - Napthalene: 1.4 mg/kg
    - 2-Methylnapthalene: 2.8 mg/kg.

NMED does not currently promulgate a SSL for TPH or 2-methylnapthalene; however, napthalene, detected at 1.4 mg/kg, is below the 2015 NMED industrial/construction worker SSL of 159 mg/kg.

4.6.1.3 2014 Excavation Following FFOR Shallow Soil Investigation

The former pipeline source area investigation performed from 2011 to 2014 delineated shallow soil contamination in AOIs 1 and 4 to 20 feet bgs. In 2014, based on exceedances of the 2012 NMED residential SSLs detected in samples from the former pipeline investigation, approximately 2,340 cy (3,684 tons) of soil was removed and transported off-Site for disposal at Valencia Regional Landfill in Los Lunas, NM, which is permitted by NMED SWB (Permit No. SWM-013229; USACE, 2015a). Soil was removed to a depth of 20 feet bgs. This work was performed in accordance with the *Interim Measures Work Plan* (USACE, 2011a). The final excavation boundaries can be viewed in Figures 4-38 and 4-39.

Figure ES-12. Groundwater Conceptual Model ~1980s

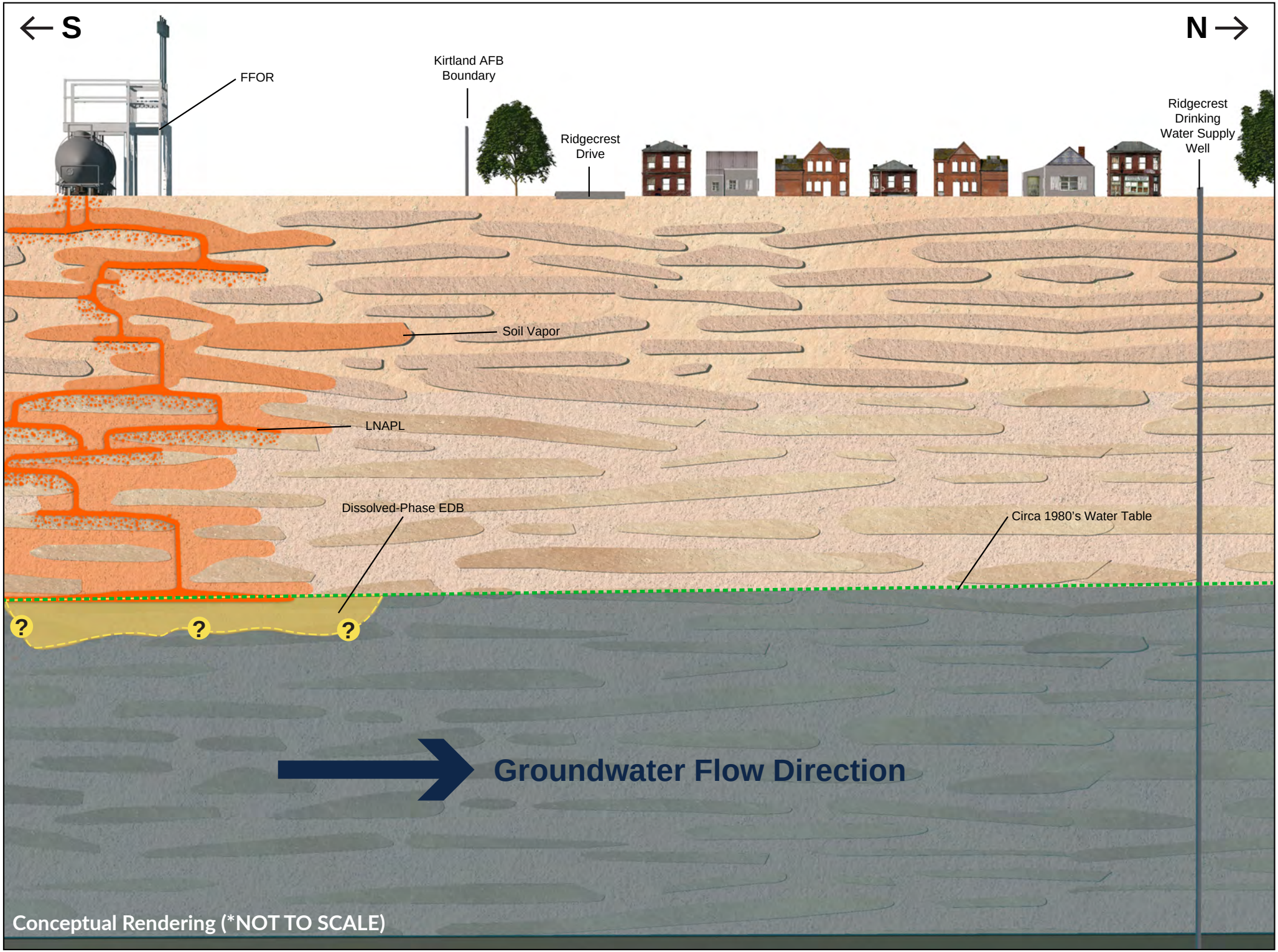


Figure ES-13. Groundwater Conceptual Model 2009

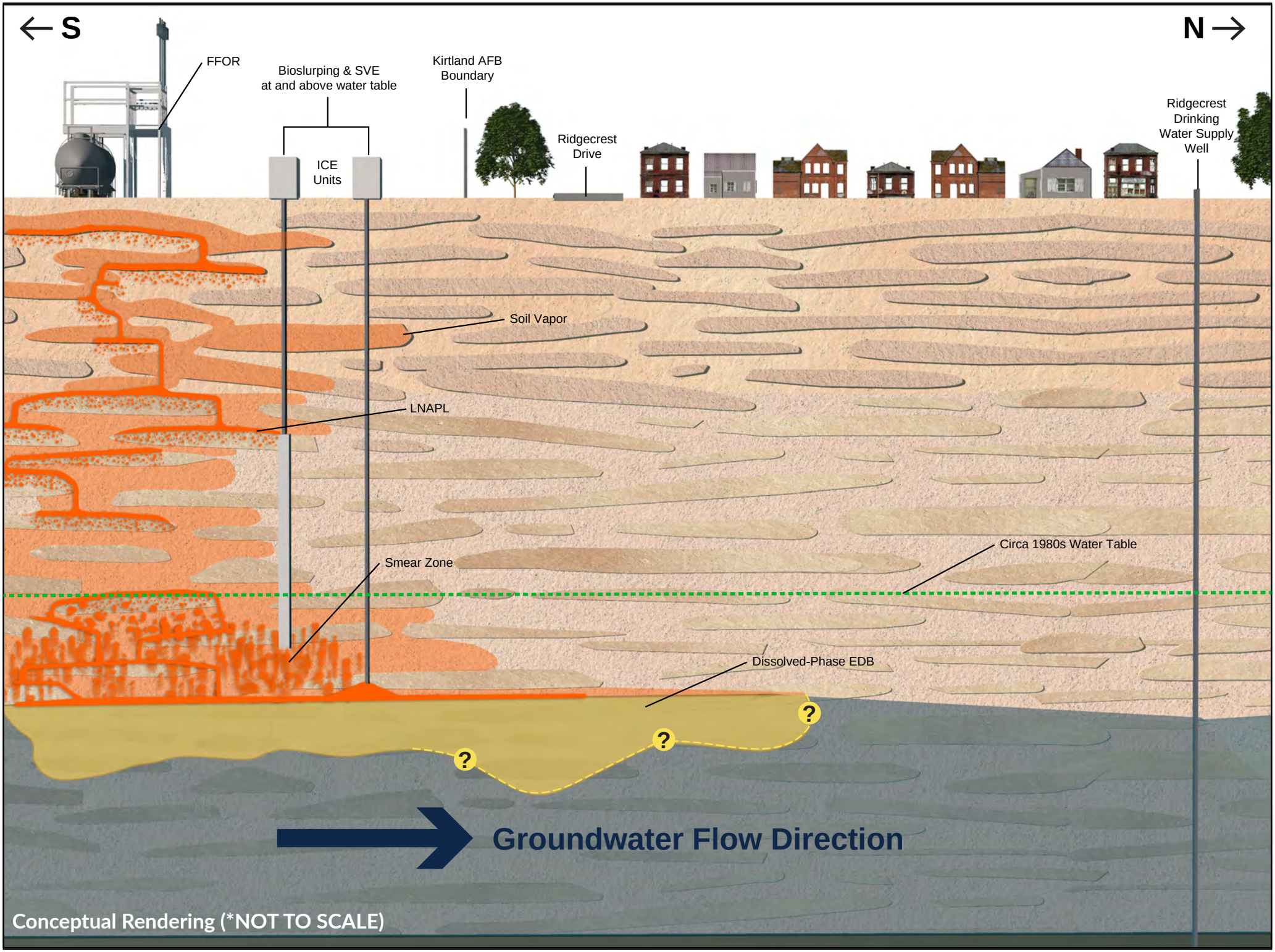
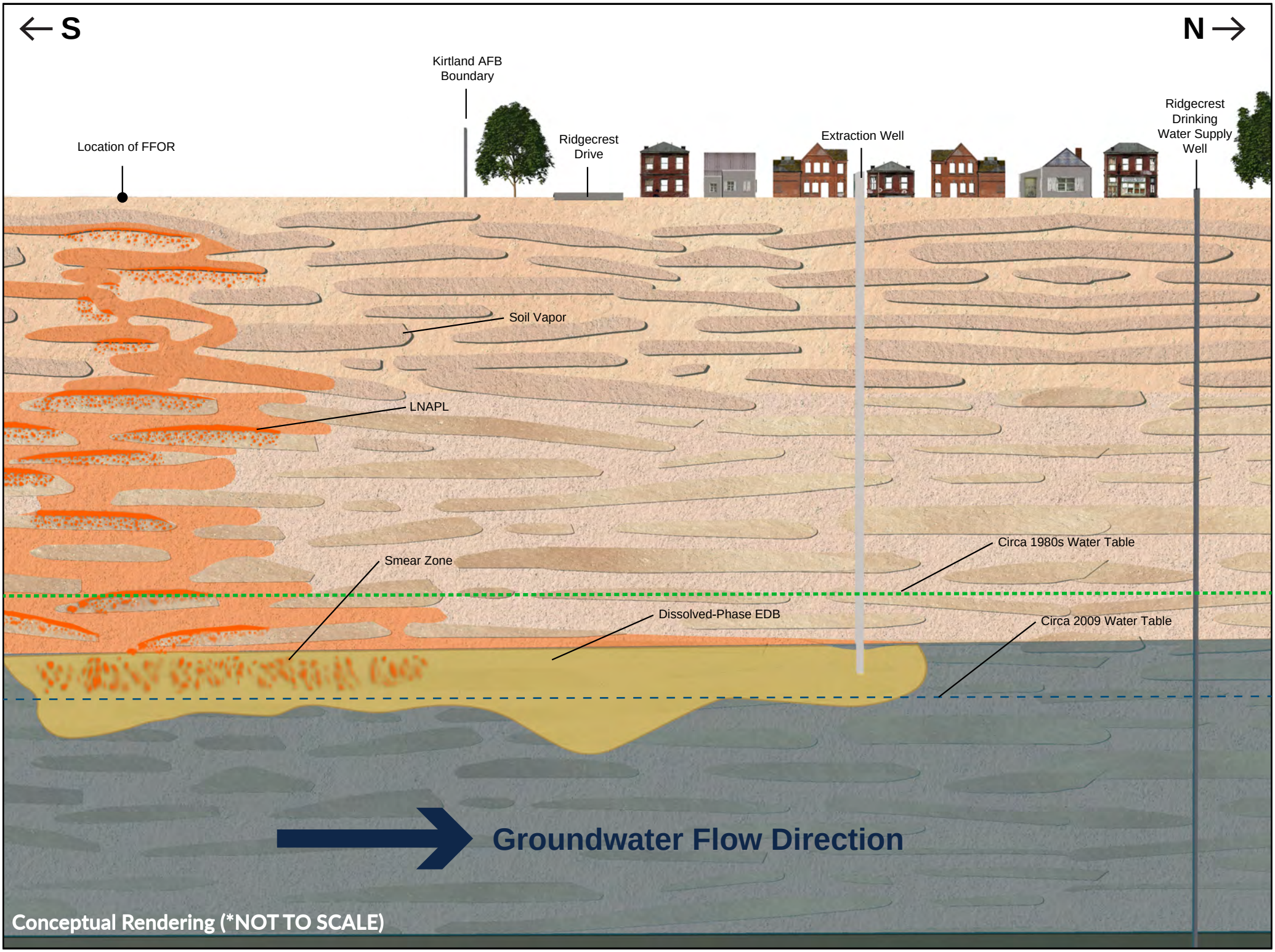
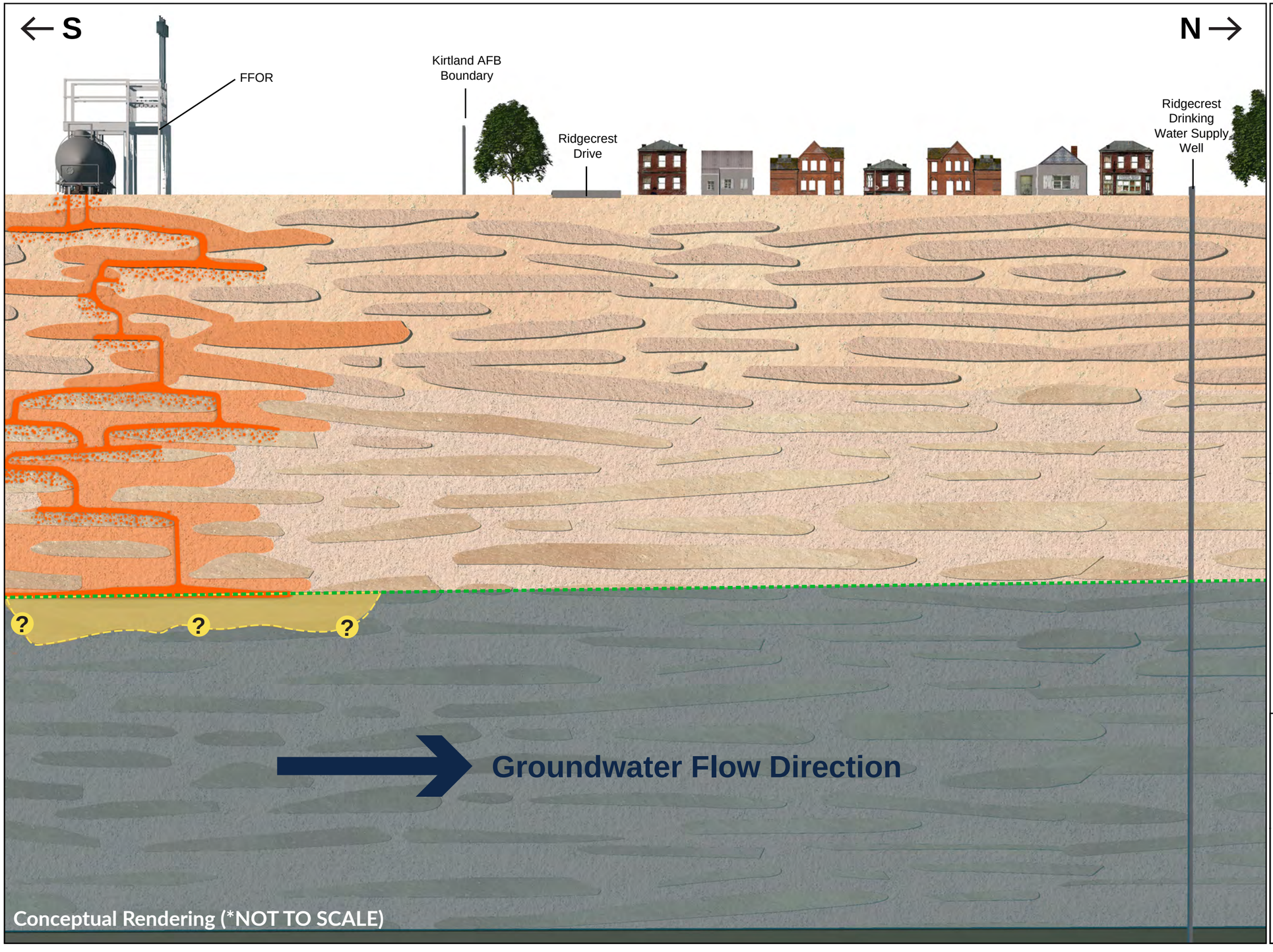


Figure ES-14. Groundwater Conceptual Model 2015





Legend

- LNAPL (conceptual transport pathway)
- Soil Vapor within Vadose Zone (conceptual transport mechanism or pathway)
- Dissolved-Phase EDB (conceptual transport pathway)
- Alluvial Fan Sediments Lower Permeability
- Alluvial Fan Sediments Higher Permeability
- Ancestral Rio Grande Sediments Permeable
- Ancestral Rio Grande Sediments Less Permeable
- A1 Dominantly Fine-Grained Deposits
- Water Table

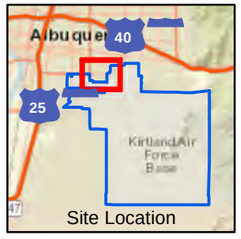


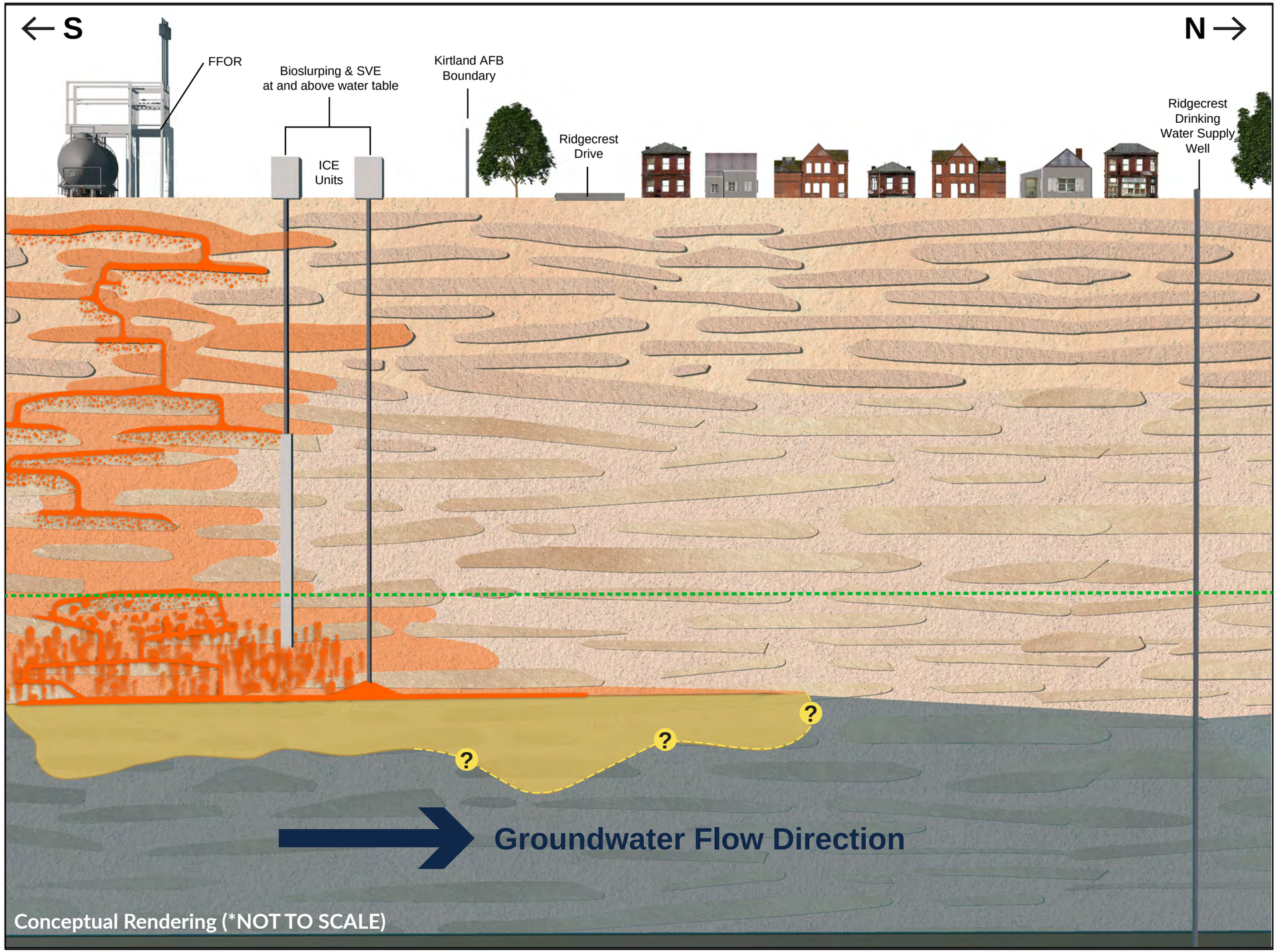
Figure 7-8

Groundwater Conceptual Site Model
Circa 1980

RCRA Facility Investigation Report
SWMU ST-106/SS-111

Bulk Fuels Facility
Kirtland Air Force Base, New Mexico

Last Revised: 2016-10-04



Legend

- LNAPL (conceptual transport pathway)
- Soil Vapor within Vadose Zone (conceptual transport mechanism or pathway)
- Dissolved-Phase EDB (conceptual transport pathway)
- Alluvial Fan Sediments Lower Permeability
- Alluvial Fan Sediments Higher Permeability
- Ancestral Rio Grande Sediments Permeable
- Ancestral Rio Grande Sediments Less Permeable
- A1 Dominantly Fine-Grained Deposits
- Water Table
- Circa 1980s Water Table

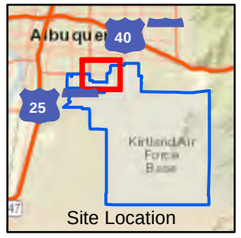


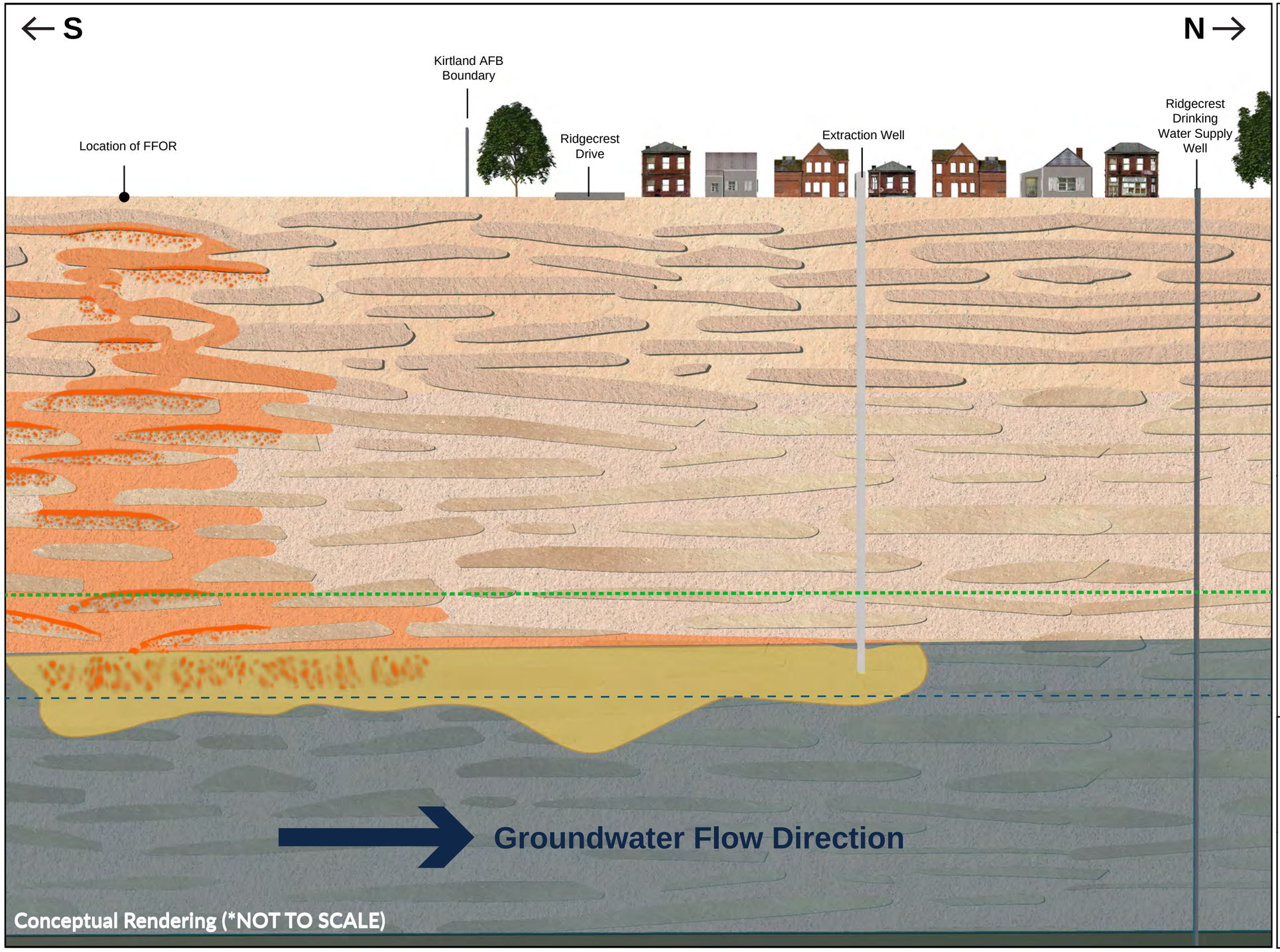
Figure 7-10

Groundwater Conceptual Site Model
2009

RCRA Facility Investigation Report
SWMU ST-106/SS-111

Bulk Fuels Facility
Kirtland Air Force Base, New Mexico

Last Revised: 2016-10-04



Legend

- LNAPL (conceptual transport pathway)
- Soil Vapor within Vadose Zone (conceptual transport mechanism or pathway)
- Dissolved-Phase EDB (conceptual transport pathway)
- Alluvial Fan Sediments Lower Permeability
- Alluvial Fan Sediments Higher Permeability
- Ancestral Rio Grande Sediments Permeable
- Ancestral Rio Grande Sediments Less Permeable
- A1 Dominantly Fine-Grained Deposits
- Water Table
- Circa 1980s Water Table
- Circa 2009 Water Table

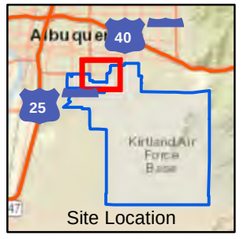


Figure 7-11

Groundwater Conceptual Site Model 2015

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SWMU ST-106/SS-111

Bulk Fuels Facility
Kirtland Air Force Base, New Mexico

Last Revised: 2016-10-04

4.5.3 2015 SVM Results

This section presents the results of quarterly SVM in 2015, including Q1, Q3, and Q4 2015. Sample results are discussed by AOI. The changes to the SVM protocol, and sampling setup prior to Q1 2015 ensured that the data obtained during sampling were representative and of sufficient quality to assess rebound and to measure in-situ respiration. The vadose zone returned to an equilibrium state after removal of the SVE system in Q2 2015, which means natural low-energy flow patterns, including diffusion and barometric-pumping-driven advection. In 2015, Q3 and Q4 SVM events provided the first complete soil vapor data sets that were not under the influence of SVE and are therefore considered most representative of current soil vapor conditions.

Although there are no SLs for soil vapor, analytical results in this section are compared to comparison concentrations of 0.5 ppmv for EDB, 1 ppmv for benzene, and 1,000 ppmv for HC. These comparison concentrations illustrate areas of relative higher or lower analytical results. Soil vapor time series graphs for each SVMP are included in Appendix J. Table 4-9 summarizes soil vapor analytical results from Q1, Q3, and Q4 2015 for each FRA. Table 4-10 lists the field parameters for each quarter that sampling was performed in 2015. Figures 4-9 through 4-14 illustrate the concentrations of EDB and benzene in Q4 2015 in AOIs 5, 6, and 7. Graphs of soil vapor FRA results in each AOI are included in Appendix K. Figures 4-15 through 4-35 illustrate concentrations of EDB, benzene, and HC from Q1, Q3, and Q4 2015 at individual sample depths.

4.5.3.1 AOI 5 SVM Results

Laboratory analytical results from 2015 indicate that the maximum soil vapor concentrations of FRAs are located in AOI 5 (FFOR area on-Base). The maximum detected concentrations of all FRAs but naphthalene were located in AOI 5 between 100 and 300 feet bgs (Table 4-9). The maximum benzene and EDB concentrations in AOI 5 were measured from 50 to 325 feet bgs in 2015 (Figures 4-9 and 4-12, and Figures 4-22 through 4-35). In Q4 2015, 11 SVMPs in AOI 5 (34%) had EDB concentrations greater than 0.5 ppmv, and 27 SVMPs in AOI 5 (84%) had benzene concentrations greater than 1 ppmv. The maximum benzene concentration at the Site in 2015 was measured in AOI 5 in Q4 2015, and was 840 ppmv at SVMW-11-100 (Table 4-9). The maximum EDB concentration in 2015 was measured in AOI 5 in Q1 2015, and was 8.3 ppmv at SVMW-11-100 (Table 4-9).

Field parameter results for HC, O_2, and CO_2 correspond with the laboratory analytical results for AOI 5. Twenty-three out of 32 SVMPs in AOI 5 (72%) had HC concentrations greater than 1,000 ppmv in Q4 2015. The highest number of SVM locations with HC concentrations greater than 1000 ppmv (Figures 4-15 through 4-21) are located in AOI 5 at approximately 250 feet bgs.

Percent O_2 was depleted in AOI 5 with respect to atmospheric levels (Table 4-10). In Q4 2015, 18 SVMPs in AOI 5 (56%) had O_2 concentrations less than 5%. In Q1, Q3, and Q4 2015, the lowest O_2 concentrations were 7.93% at SVEW-07-160, 0.77% at SVEW-02-060, and 0.13% at SVMW-11-250, respectively. The lowest O_2 concentration in Q1 2015, was higher than those in Q3 and Q4 2015 due to the SVE system remaining operational in Q1 2015, and the active vacuum extraction oxygenated the vadose zone. O_2 concentrations below atmospheric levels indicate that aerobic microorganisms are utilizing O_2 while degrading the HC in AOI 5. Rate-limiting levels below 5% indicate that aerobic biodegradation is limited at these particular SVMPs in AOI 5.

Figure 4-9. EDB Concentration with Depth in AOI 5 (Q4 2015)
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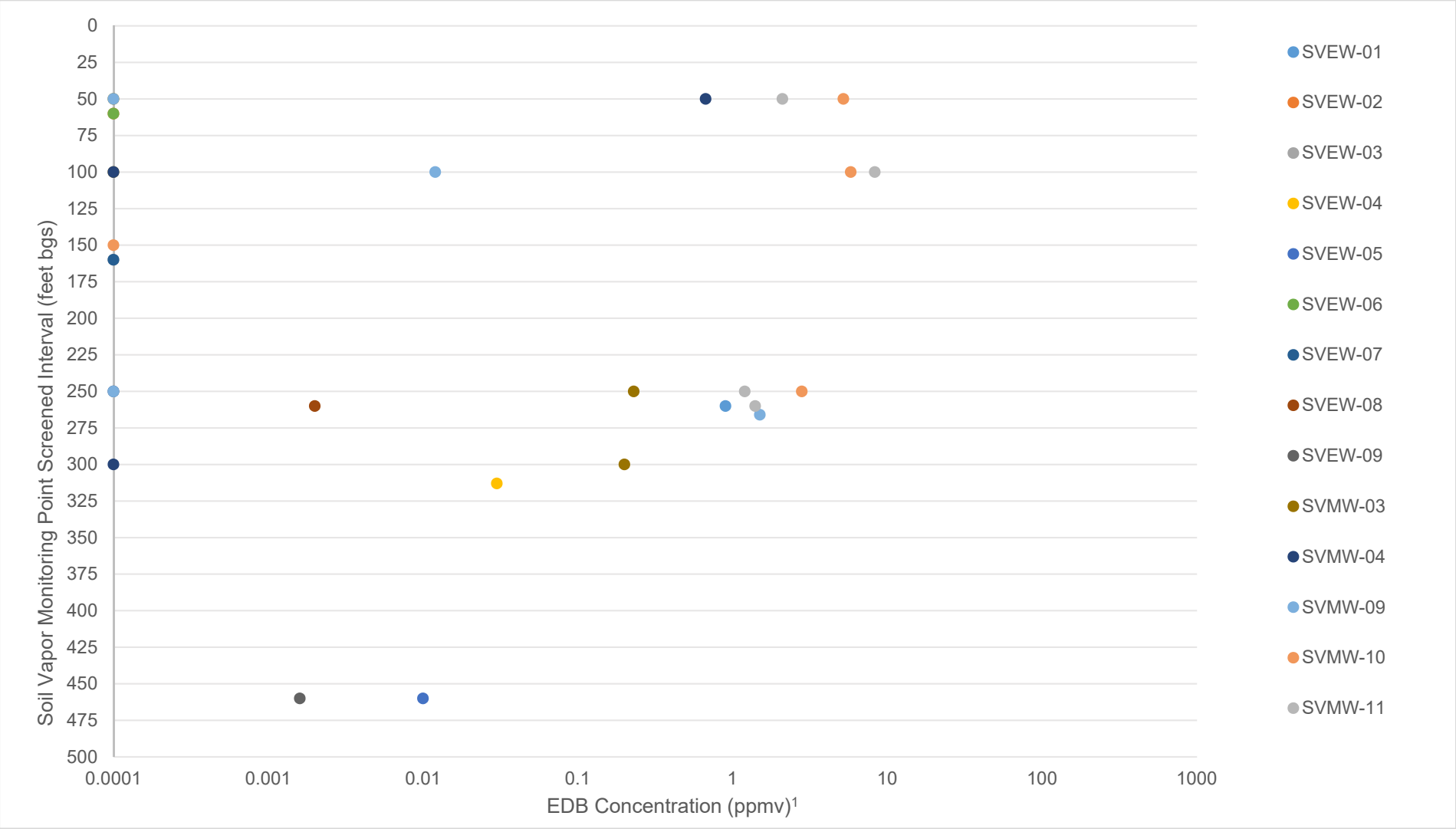
Bulk Fuels Facility, SWMU ST-106/SS-111

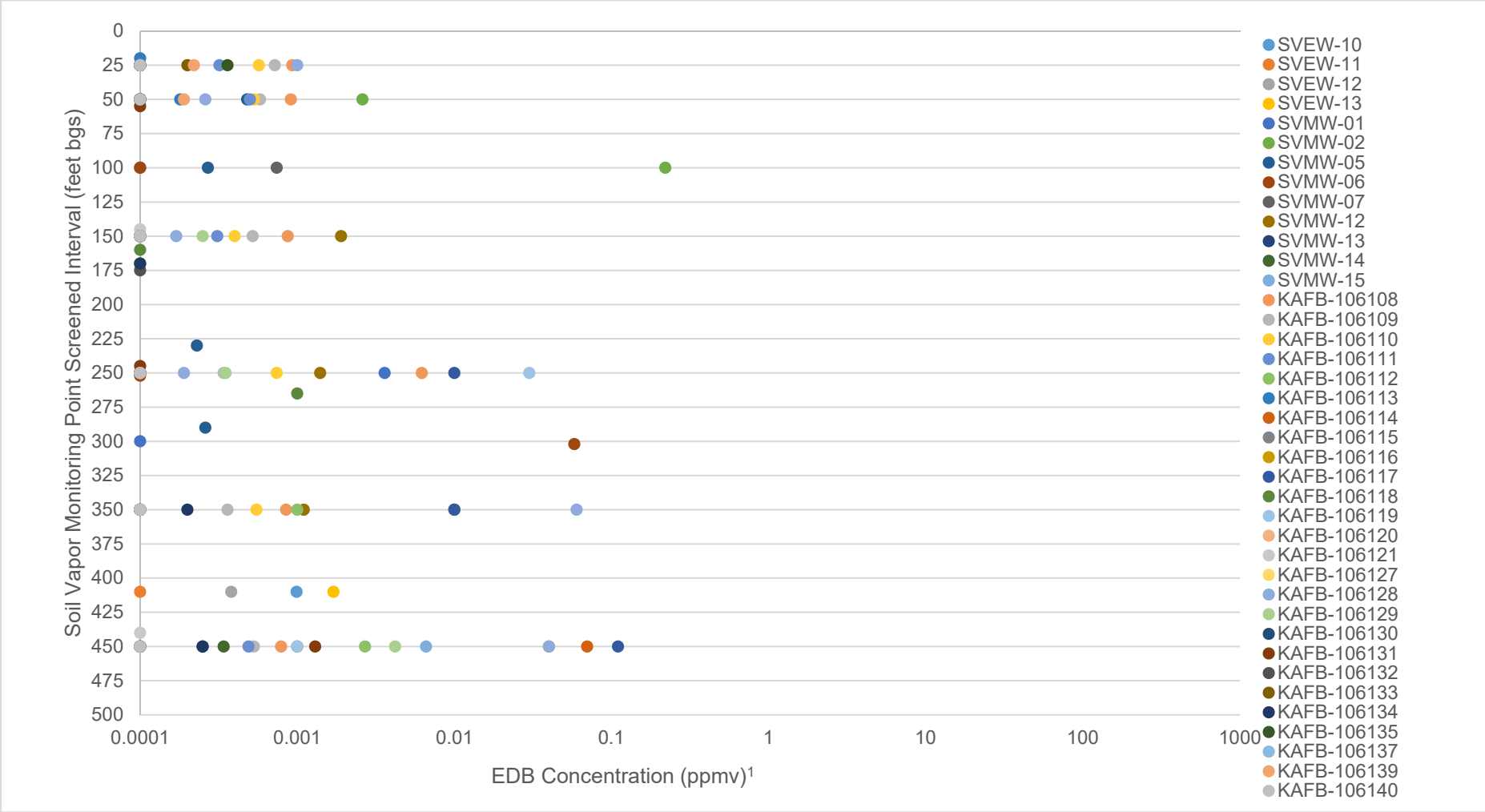


Acronyms and Abbreviations:

AOI	Area of Interest
bgs	below ground surface
EDB	ethylene dibromide
ppmv	parts per million by volume
Q	Quarter
SVEW	soil vapor extraction well
SVMW	soil vapor monitoring well

[1] Nondetect concentrations are shown intersecting the y axis.

Figure 4-10. EDB Concentration with Depth in AOI 6 (Q4 2015)
RCRA Facility Investigation Report
Bulk Fuels Facility, SWMU ST-106/SS-111

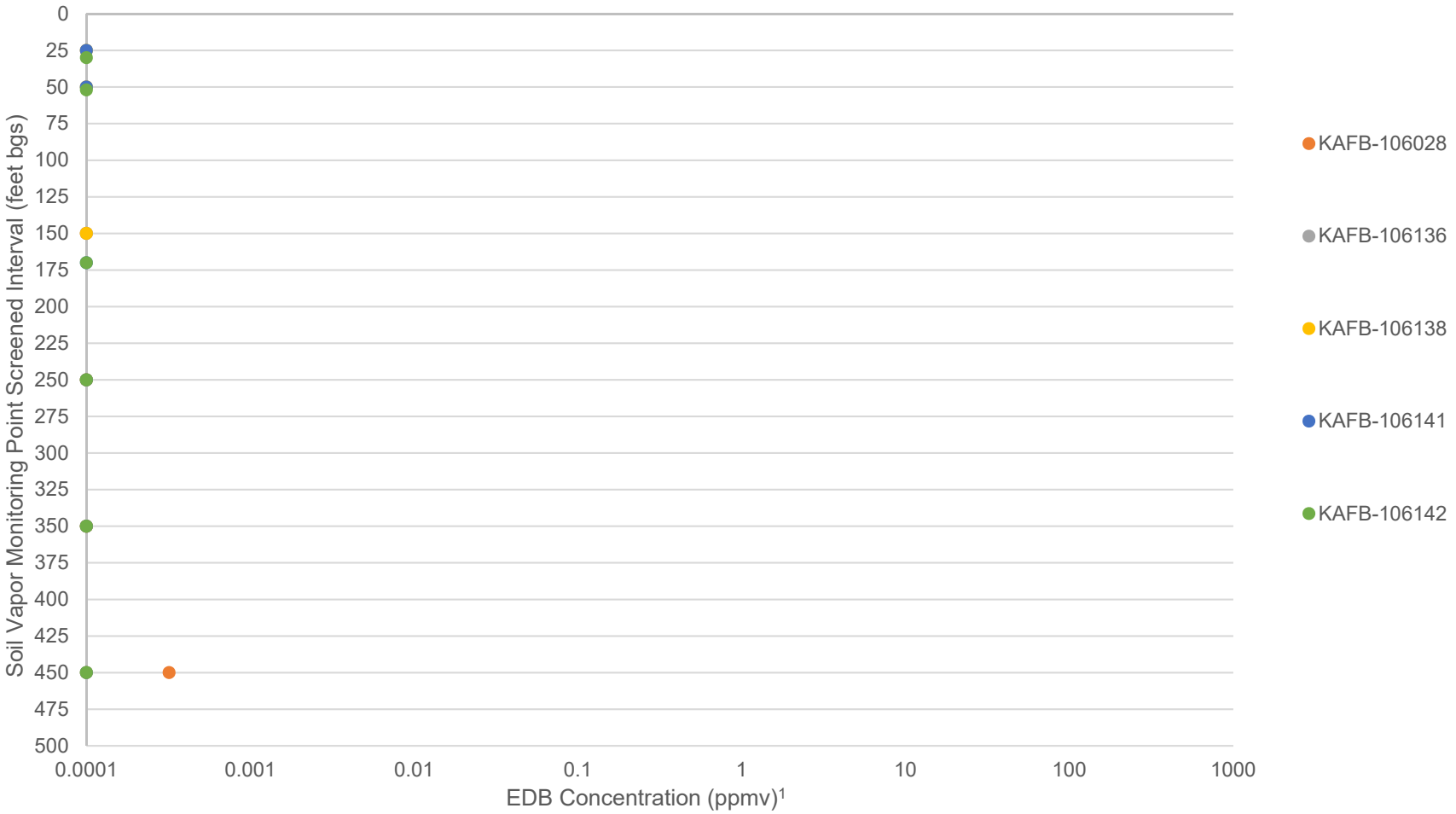


Acronyms and Abbreviations:

AOI	Area of Interest
bgs	below ground surface
EDB	ethylene dibromide
KAFB	Kirtland Air Force Base
ppmv	parts per million by volume
Q	Quarter
SVEW	soil vapor extraction well
SVMW	soil vapor monitoring well

[1] Nondetect concentrations are shown intersecting the y axis.

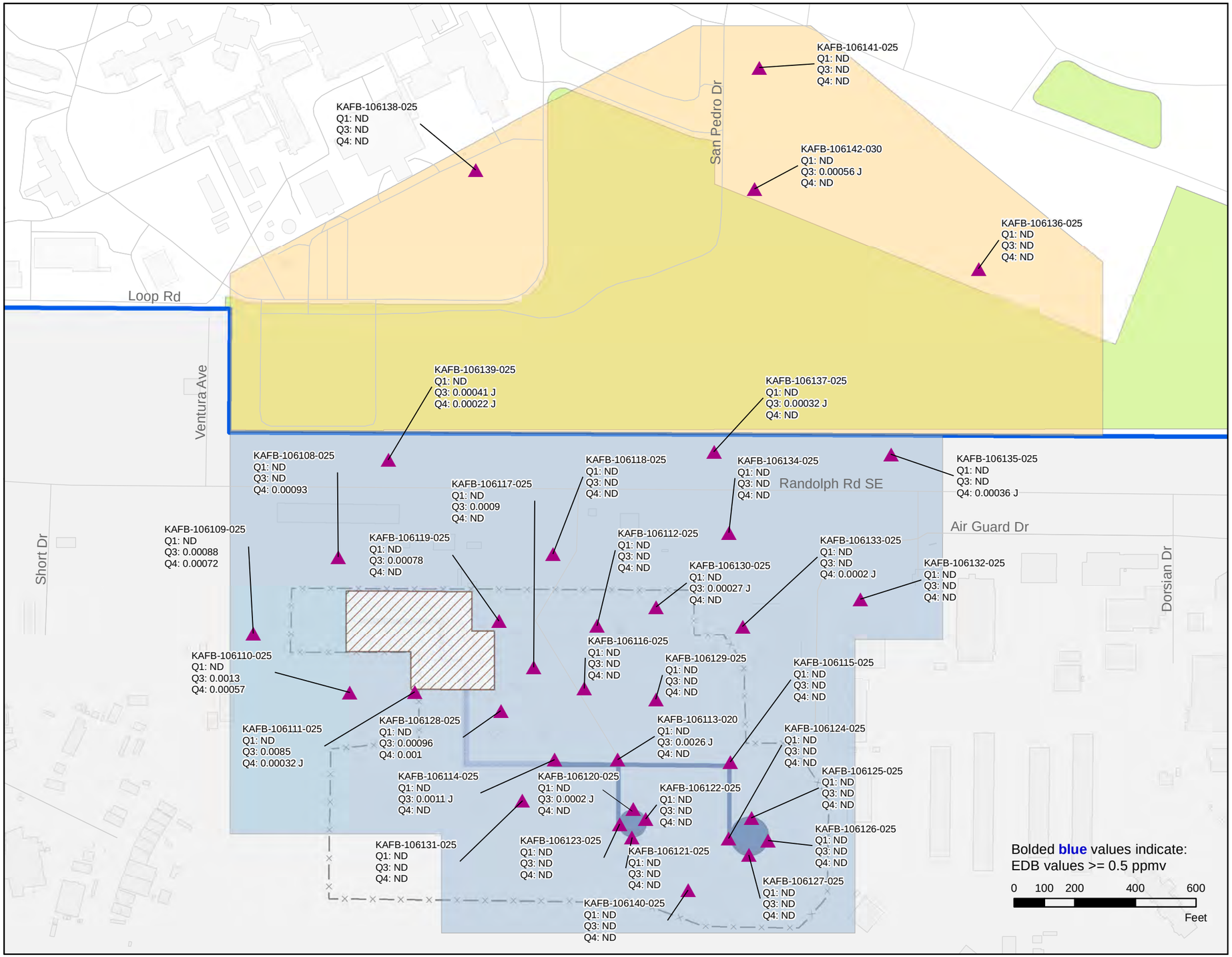
Figure 4-11. EDB Concentration with Depth in AOI 7 (Q4 2015)
RCRA Facility Investigation Report
Bulk Fuels Facility, SWMU ST-106/SS-111



Acronyms and Abbreviations:

AOI	Area of Interest
bgs	below ground surface
EDB	ethylene dibromide
KAFB	Kirtland Air Force Base
ppmv	parts per million by volume
Q	Quarter

[1] Nondetect concentrations are shown intersecting the y axis.

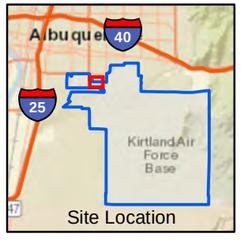


Legend

- Kirtland Air Force Base Installation Area
- Bulk Fuels Facility Area
- City of Albuquerque Parks
- Area of Interest 5
- Area of Interest 6
- Area of Interest 7
- Buildings
- Former Buried Fuel Transfer Lines
- Former Aboveground Fuel Transfer Lines
- Former Aboveground Storage Tanks
- EDB Concentration at 25 ft for Q1, Q3 and Q4 in ppmv

Note: No soil vapor sampling was performed in Q2 2015 due to ongoing soil vapor rebound and respiration pilot test.

N



Credits: City of Albuquerque, KAFB, Sundance, Inc.

Coordinate System:
NAD 1927 StatePlane New Mexico Central FIPS 3002 Feet

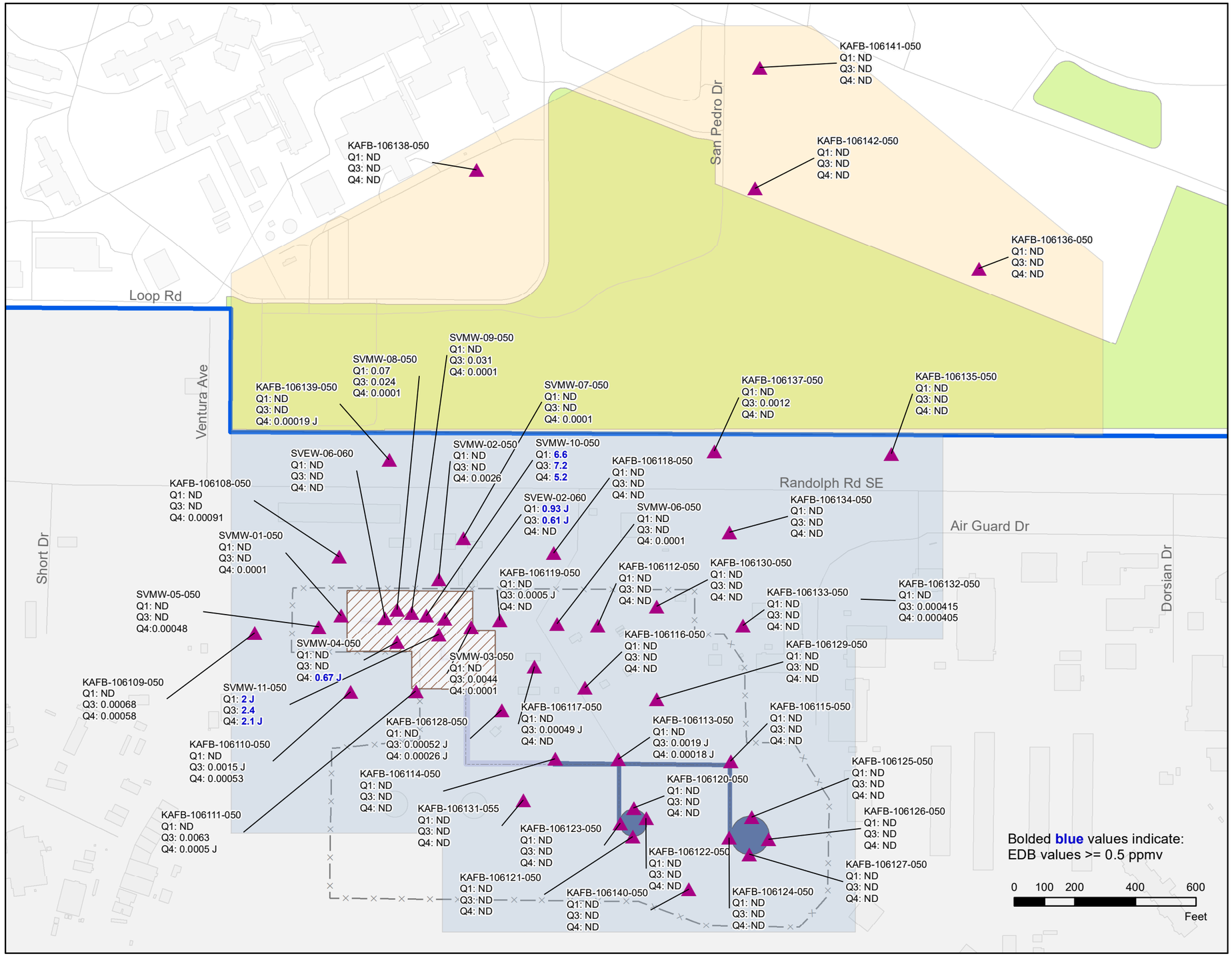
Figure 4-29

EDB Concentrations in Soil Vapor at 25 Feet in 2015

RCRA Facility Investigation Report
SWMV ST-106/SS-111

Bulk Fuels Facility
Kirtland Air Force Base, New Mexico

Last Revised: 4/18/2017



Legend

- Kirtland Air Force Base Installation
- Bulk Fuels Facility Area
- City of Albuquerque
- Area of Interest 5
- Area of Interest 6
- Area of Interest 7
- Buildings
- Roads
- Former Buried Fuel Transfer Lines
- Former Aboveground Fuel Transfer Lines
- Former Aboveground Storage
- EDB Concentration at 50 ft for Q1, Q3, Q4 of 2015 in ppmv

Note: No soil vapor sampling was performed in Q2 2015 due to ongoing soil vapor rebound and respiration pilot test.

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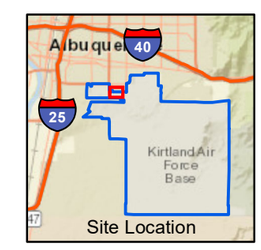


Credits: City of Albuquerque, KAFB, Sundance, Inc.

Coordinate System:
NAD 1927 StatePlane New Mexico Central FIPS 3002 Feet

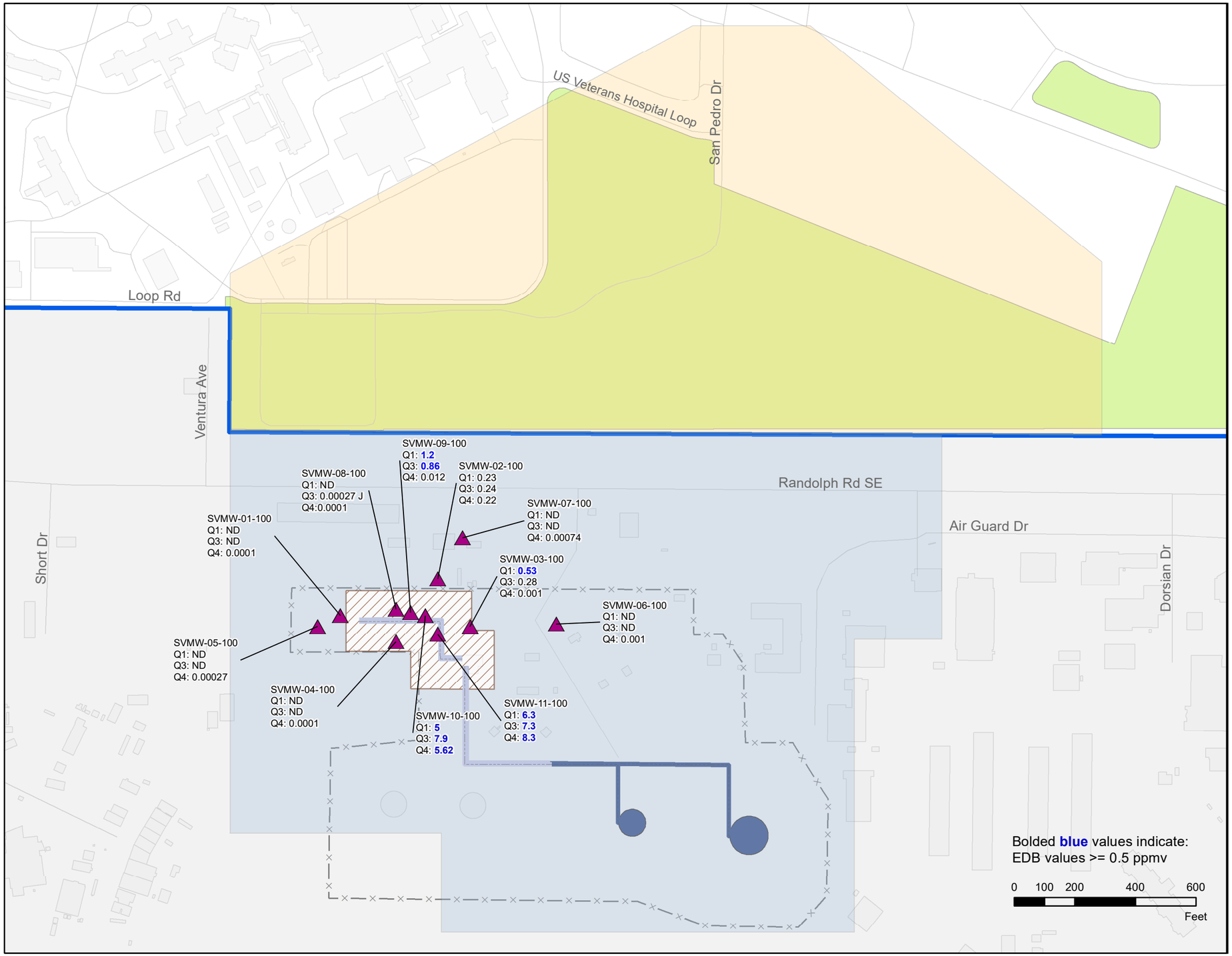
Figure 4-30

EDB Concentrations in Soil Vapor at 50 Feet in 2015

RCRA Facility Investigation Report
SWMV ST-106/SS-111

Bulk Fuels Facility
Kirtland Air Force Base, New Mexico

Last Revised: 4/26/2017

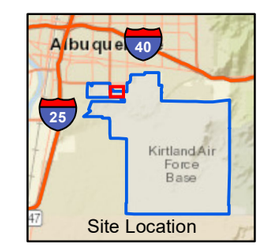


Legend

- Kirtland Air Force Base Installation Area
- Bulk Fuels Facility Area
- City of Albuquerque Parks
- Area of Interest 5
- Area of Interest 6
- Area of Interest 7
- Buildings
- Roads
- Former Aboveground Fuel Transfer Lines
- Former Aboveground Storage Tanks
- EDB Concentration at 100 ft for Q1, Q3, Q4 of 2015 in ppmv

Note: No soil vapor sampling was performed in Q2 2015 due to ongoing soil vapor rebound and respiration pilot test.

N



Credits: City of Albuquerque, KAFB, Sundance, Inc.

Coordinate System:
NAD 1927 StatePlane New Mexico Central FIPS 3002 Feet

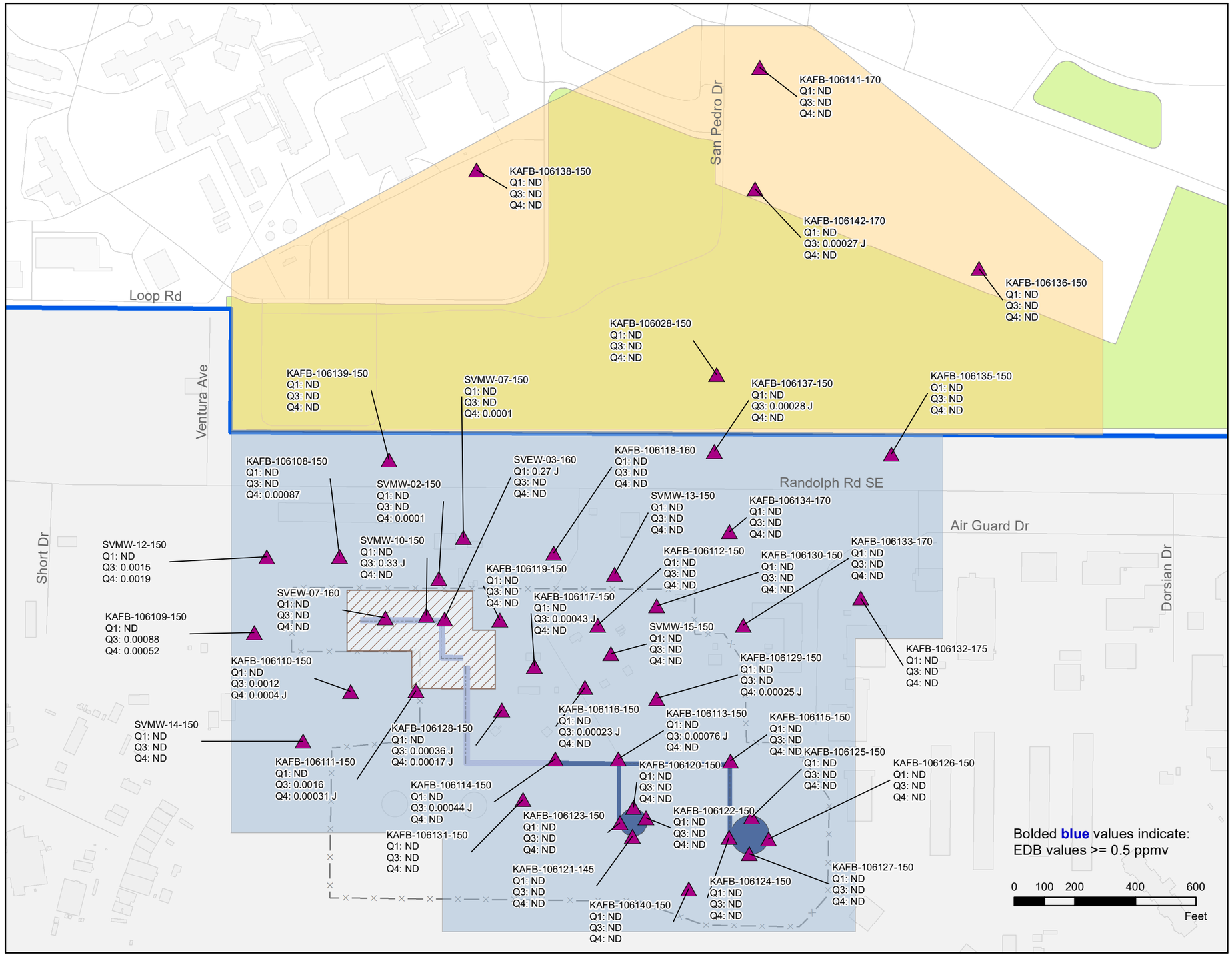
Figure 4-31

EDB Concentrations in Soil Vapor at 100 Feet in 2015

RCRA Facility Investigation Report
SWMU ST-106/SS-111

Bulk Fuels Facility
Kirtland Air Force Base, New Mexico

Last Revised: 4/26/2017



Legend

- Kirtland Air Force Base Installation Area
- Bulk Fuels Facility
- City of Albuquerque Parks
- Buildings
- Roads
- Former Buried Fuel Transfer Lines
- Former Aboveground Fuel Transfer Lines
- Former Aboveground Storage Tanks
- EDB Concentration at 150 ft for Q1, Q3, Q4 of 2015 in ppmv

Note: No soil vapor sampling was performed in Q2 2015 due to ongoing soil vapor rebound and respiration pilot test.

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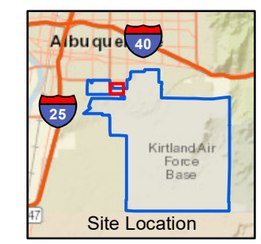


Credits: City of Albuquerque, KAFB, Sundance, Inc.

Coordinate System:
NAD 1927 StatePlane New Mexico Central FIPS 3002 Feet

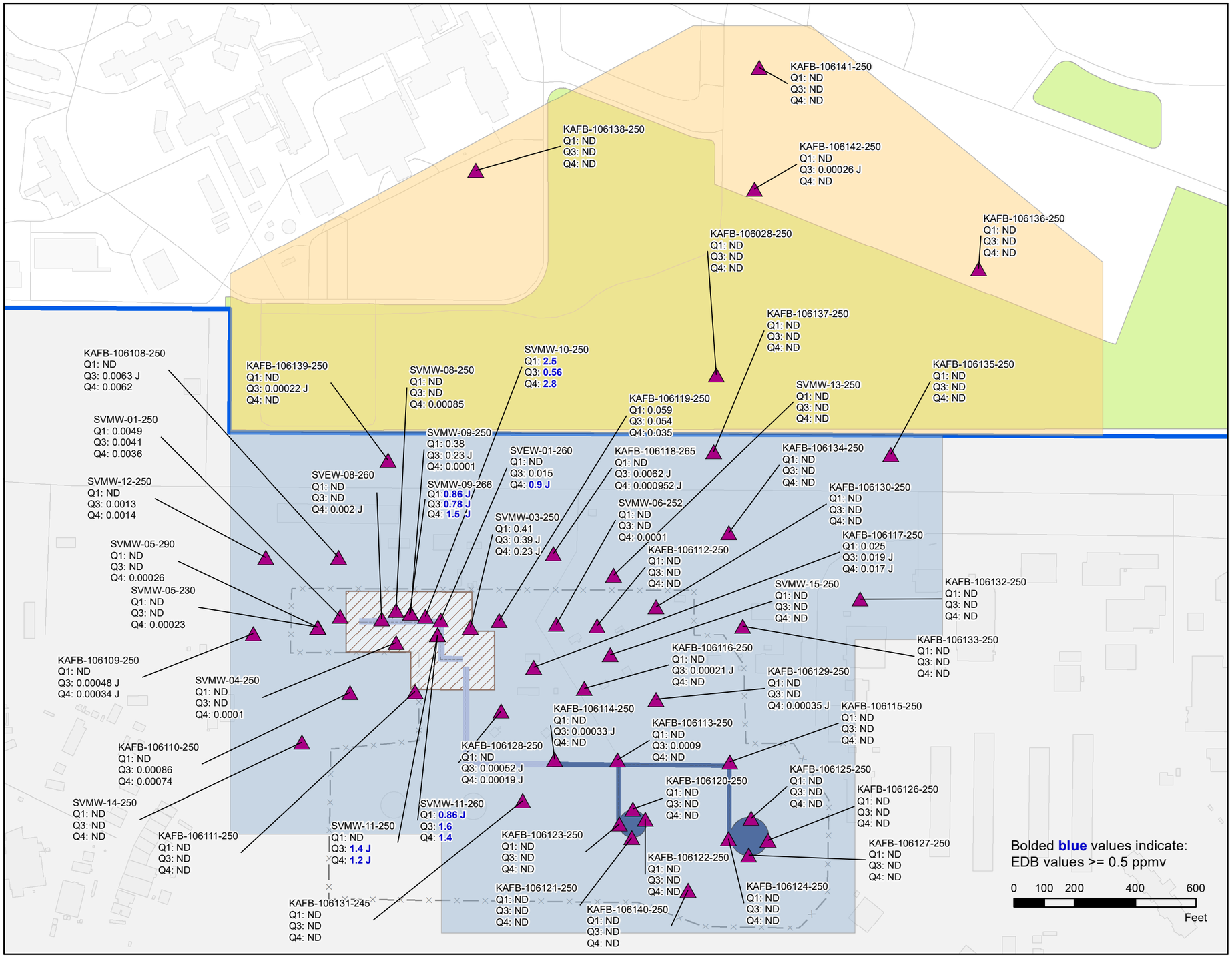
Figure 4-32

EDB Concentrations in Soil Vapor at 150 Feet in 2015

RCRA Facility Investigation Report
SWMU ST-106/SS-111

Bulk Fuels Facility
Kirtland Air Force Base, New Mexico

Last Revised: 4/26/2017

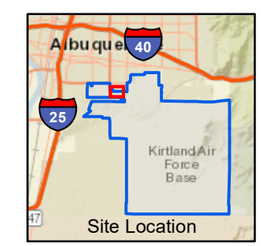


Legend

- Kirtland Air Force Base Installation Area
- Bulk Fuels Facility Area
- City of Albuquerque Parks
- Buildings
- Roads
- Former Buried Fuel Transfer Lines
- Former Aboveground Fuel Transfer Lines
- Former Aboveground Storage Tanks
- EDB Concentration at 250 ft for Q1, Q3, Q4 of 2015 in ppmv

Note: No soil vapor sampling was performed in Q2 2015 due to ongoing soil vapor rebound and respiration pilot test.

N



Credits: City of Albuquerque

Coordinate System:
NAD 1927 StatePlane New Mexico Central FIPS 3002 Feet

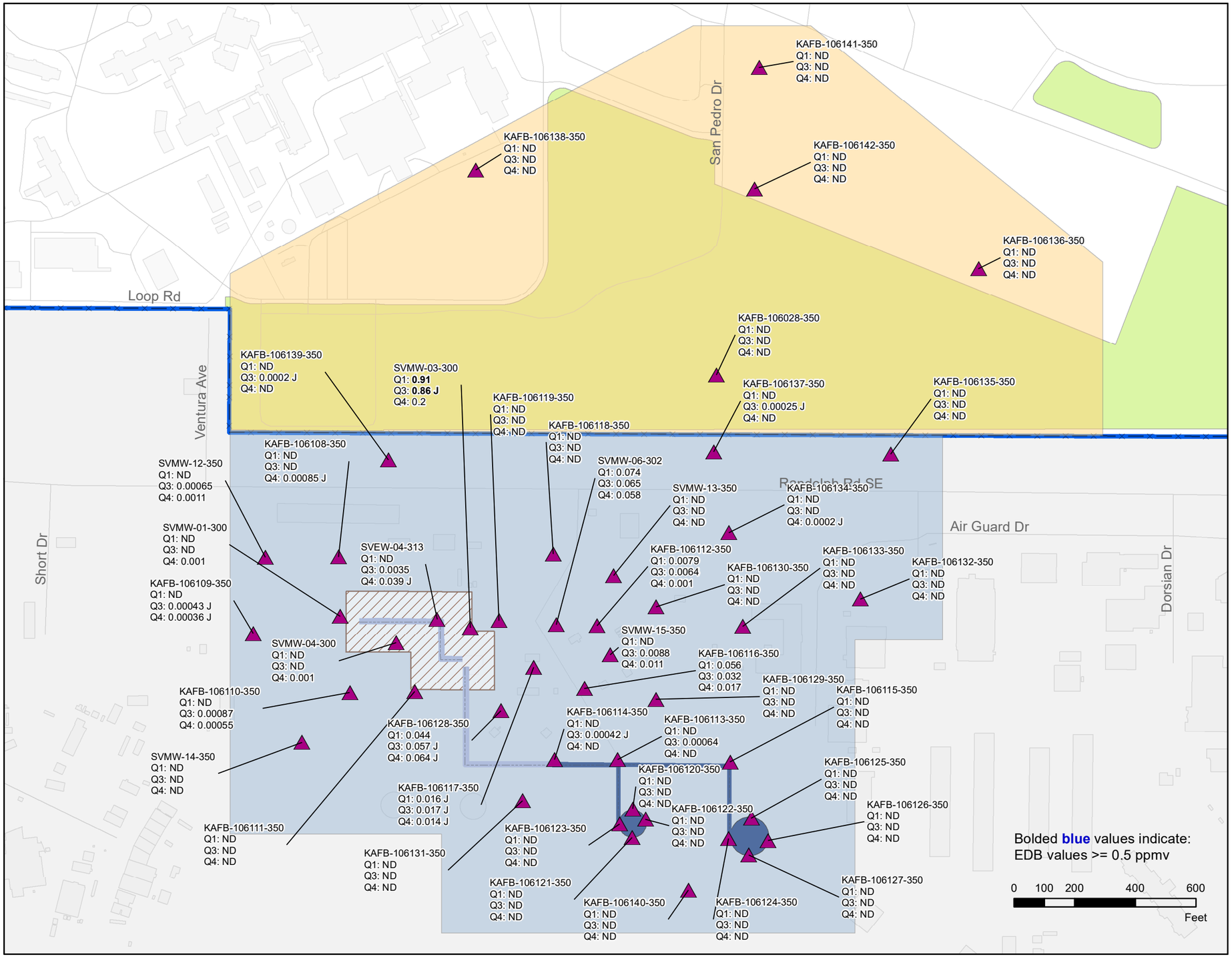
Figure 4-33

EDB Concentrations in Soil Vapor at 250 Feet in 2015

RCRA Facility Investigation Report
SWMU ST-106/SS-111

Bulk Fuels Facility
Kirtland Air Force Base, New Mexico

Last Revised: 4/26/2017

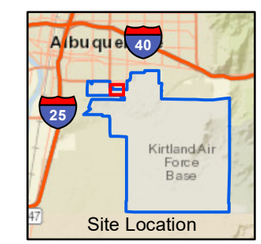


Legend

- Kirtland Air Force Base Installation Area
- Bulk Fuels Facility Area
- City of Albuquerque Parks
- Buildings
- Roads
- Former Buried Fuel Transfer Lines
- Former Aboveground Fuel Transfer Lines
- Former Aboveground Storage Tanks
- EDB Concentration at 350 ft for Q1, Q3, Q4 of 2015 in ppmv

Note: No soil vapor sampling was performed in Q2 2015 due to ongoing soil vapor rebound and respiration pilot test.

N



Credits: City of Albuquerque, KAFB, Sundance Inc.

Coordinate System:
NAD 1927 StatePlane New Mexico Central FIPS 3002 Feet

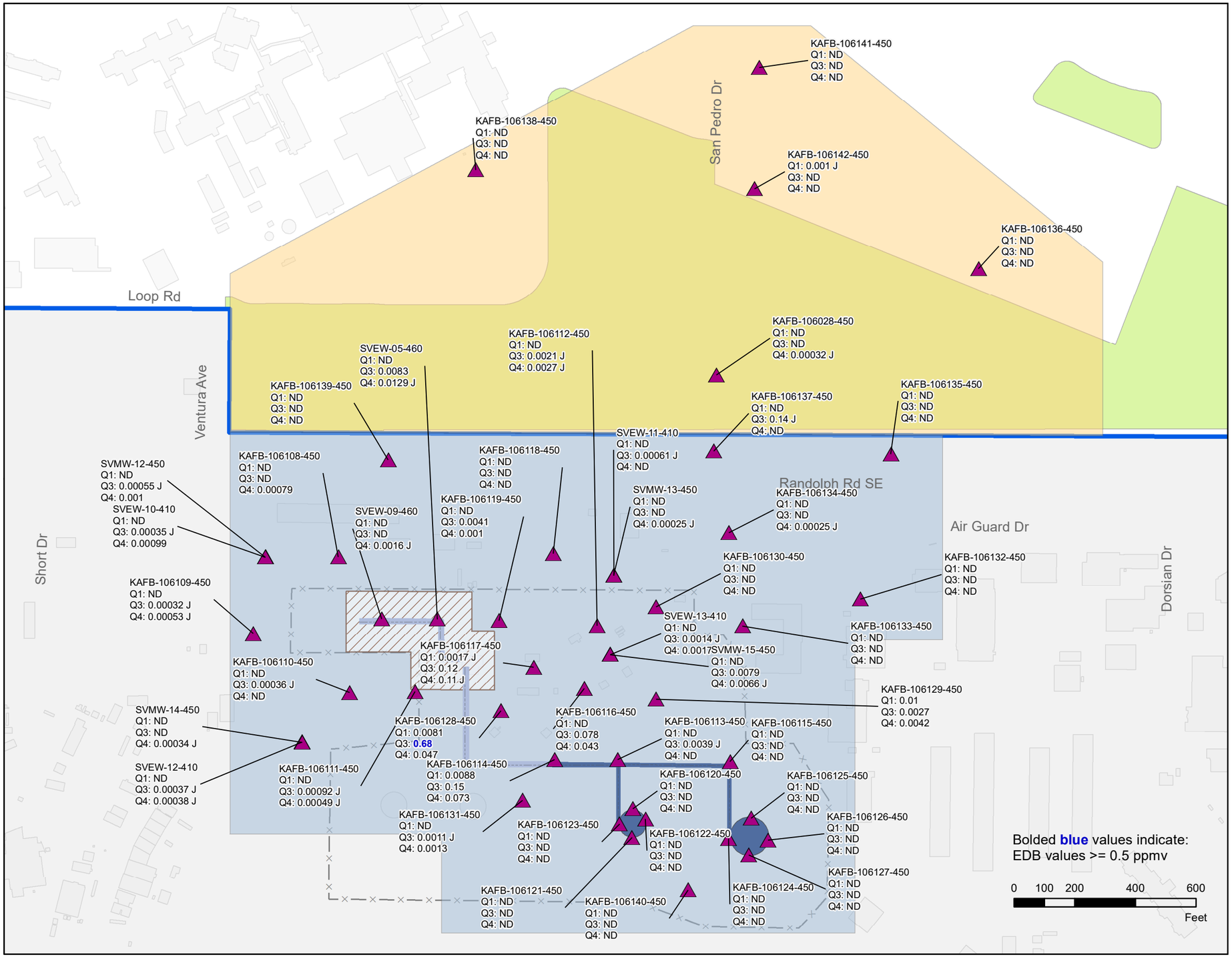
Figure 4-34

EDB Concentrations in Soil Vapor at 350 Feet in 2015

RCRA Facility Investigation Report
SWMU ST-106/SS-111

Bulk Fuels Facility
Kirtland Air Force Base, New Mexico

Last Revised: 4/26/2017

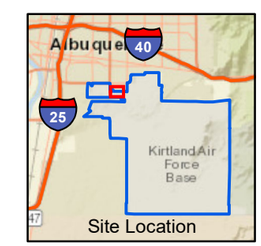


Legend

- Kirtland Air Force Base Installation Area
- Bulk Fuels Facility Area
- City of Albuquerque Parks
- Area of Interest 5
- Area of Interest 6
- Area of Interest 7
- Buildings
- Roads
- Former Aboveground Fuel Transfer Lines
- Former Aboveground Storage Tanks
- EDB Concentration at 450 ft for Q1, Q3, Q4 of 2015 in ppmv

Note: No soil vapor sampling was performed in Q2 2015 due to ongoing soil vapor rebound and respiration pilot test.

N



Credits: City of Albuquerque

Coordinate System:
NAD 1927 StatePlane New Mexico Central FIPS 3002 Feet

Figure 4-35

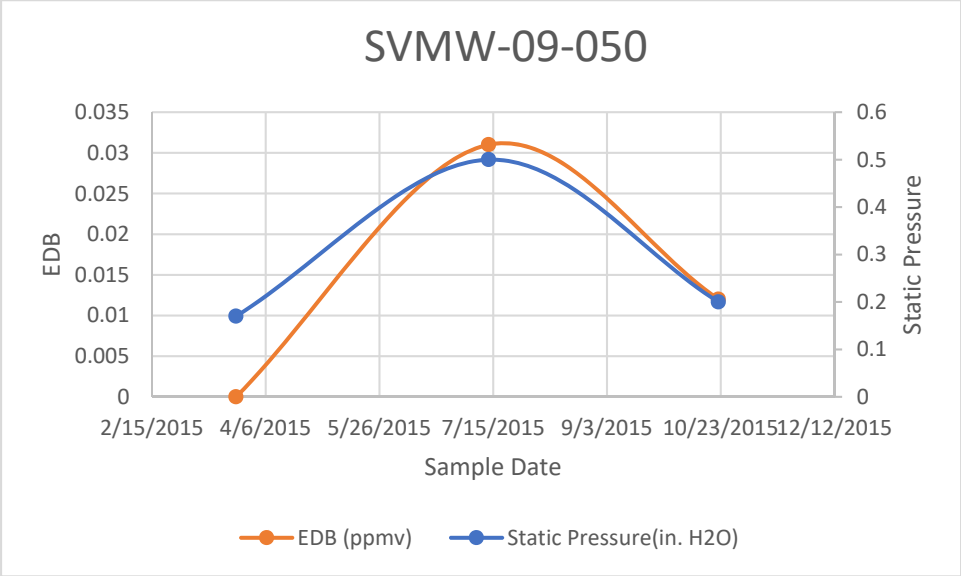
EDB Concentrations in Soil Vapor at 450 Feet in 2015

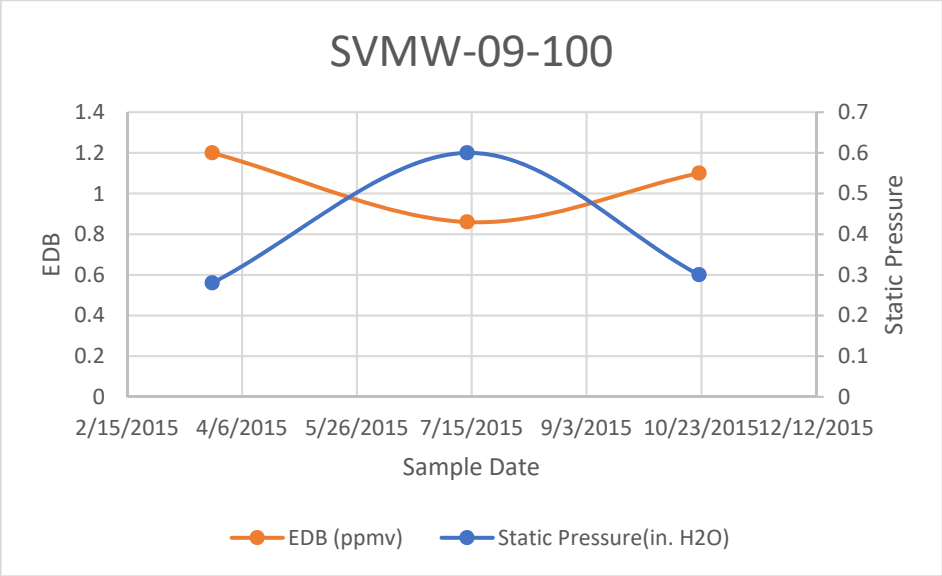
RCRA Facility Investigation Report
SWMU ST-106/SS-111

Bulk Fuels Facility
Kirtland Air Force Base, New Mexico

Last Revised: 4/17/2017

Figure 4-36. Comparison of 2015 EDB Soil Vapor Concentrations to Static Pressure in Selected SVMPs





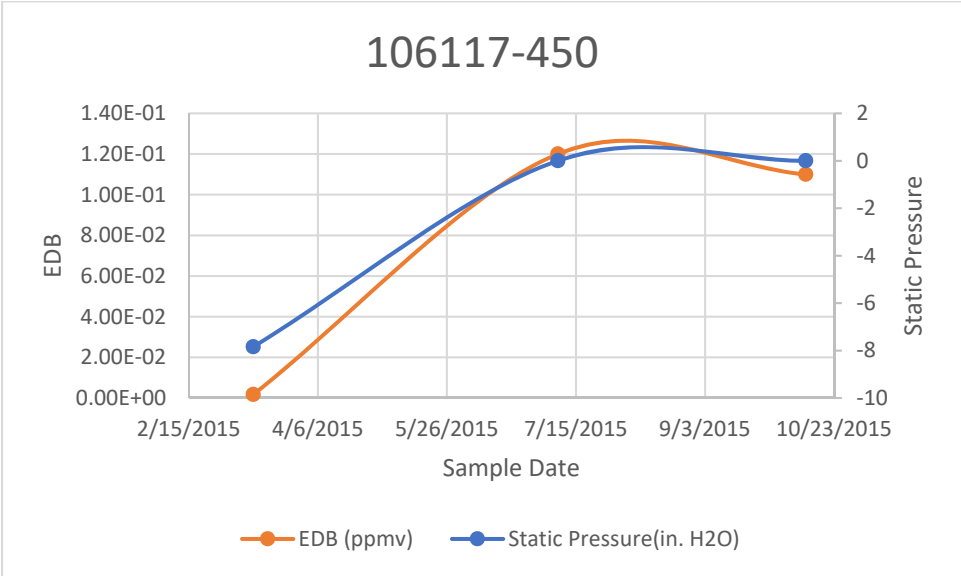
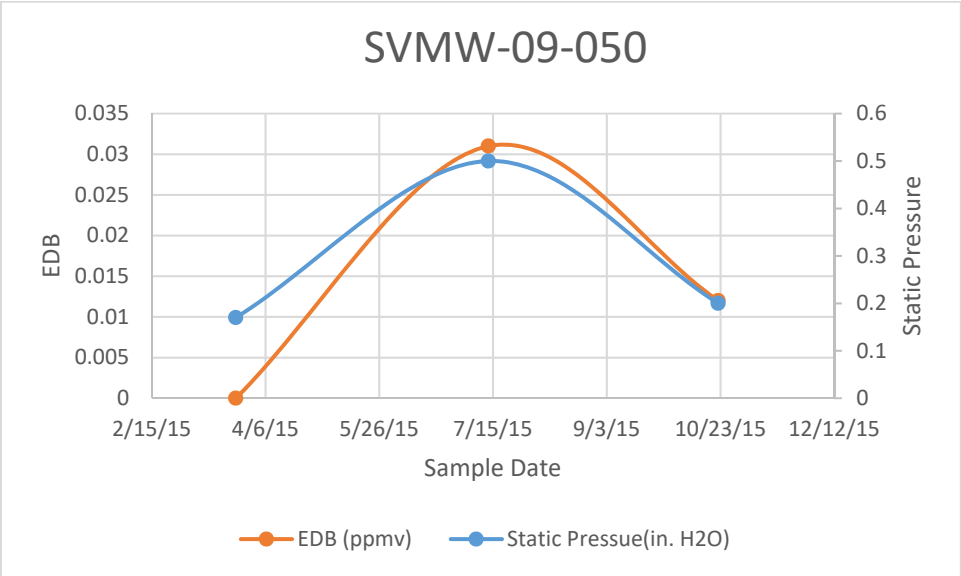


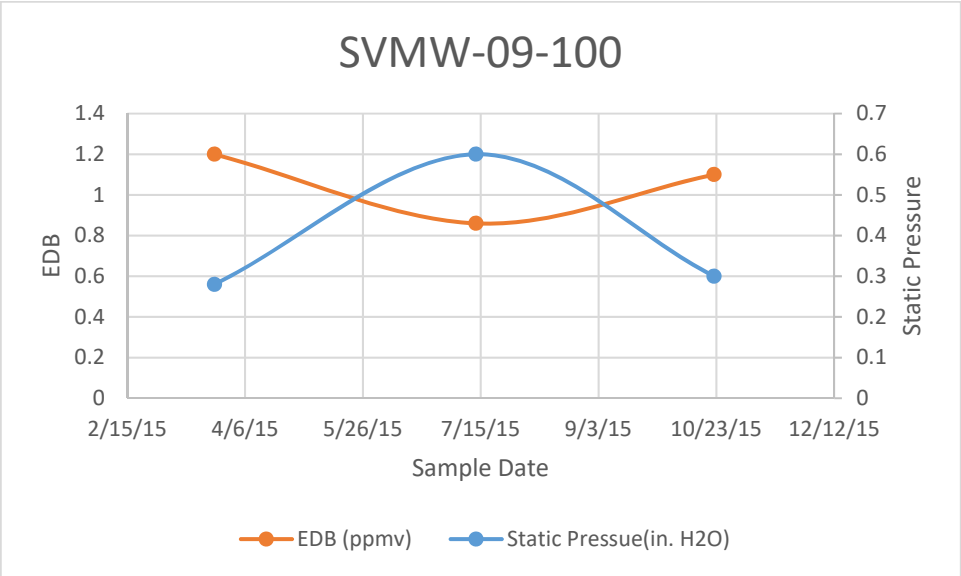
Table 4-9. Soil Vapor Fuel-related Analyte Summary 2015
RCRA Facility Investigation Report
Bulk Fuels Facility, SWMU ST-106/SS-111
Kirtland Air Force Base, New Mexico

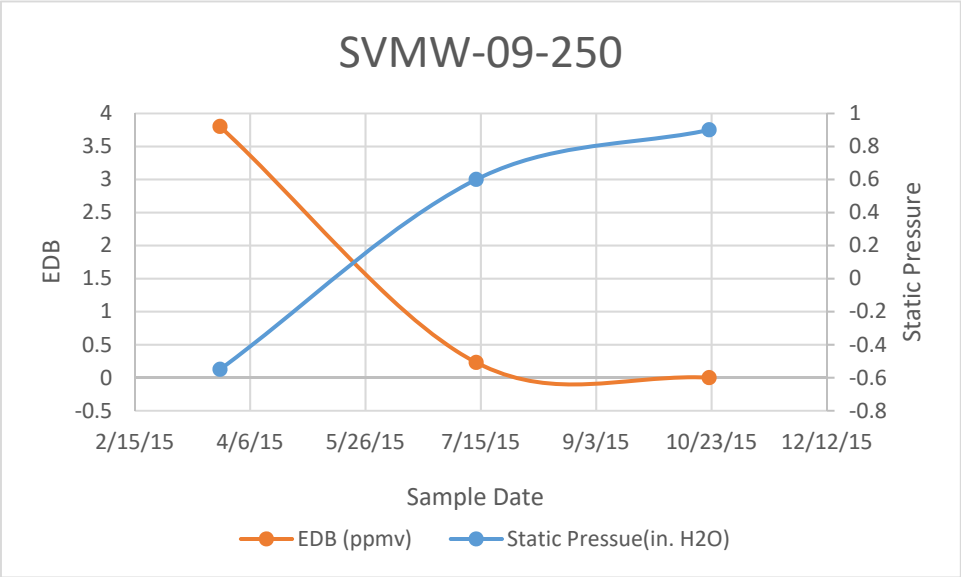
Analytical Method	Fuel-related Analyte	Number of Samples	Number of Detections	Maximum Detection (ppmv)	Maximum Detection Depth (feet bgs)	Maximum Detection Borehole Location	Date	AOI Where Maximum Detection Located
EPA method TO-15	1,2-Dibromoethane (ethylene dibromide)	856	219	8.3	100	SVMW-11	10/22/2015	5
	1,2,4-Trimethylbenzene	856	467	23	250	SVMW-11	7/14/2015	5
	1,2-Dichloroethane	856	51	1.9	300	SVMW-03	3/19/2015	5
	Benzene	856	653	840	100	SVMW-11	10/22/2015	5
	Cyclohexane	856	452	2100	100	SVMW-11	3/17/2015	5
	Ethylbenzene	856	490	89	100	SVMW-11	10/22/2015	5
	m & p-Xylenes	856	557	220	250	SVMW-11	7/14/2015	5
	MTBE (Methyl tert-butyl ether)	856	0	NA	NA	NA	NA	NA
	n-Heptane	856	486	2400	250	SVMW-11	3/18/2015	5
	n-Hexane	856	469	2900	160	SVEW-07	3/16/2015	5
	Naphthalene	856	305	0.22	350	KAFB-106117	7/8/2015	6
	o-Xylene	856	538	72	250	SVMW-11	7/14/2015	5
	Toluene	856	722	1700	100	SVMW-11	3/18/2015	5
	Xylenes (total)	856	565	290	250	SVMW-11	7/14/2015	5

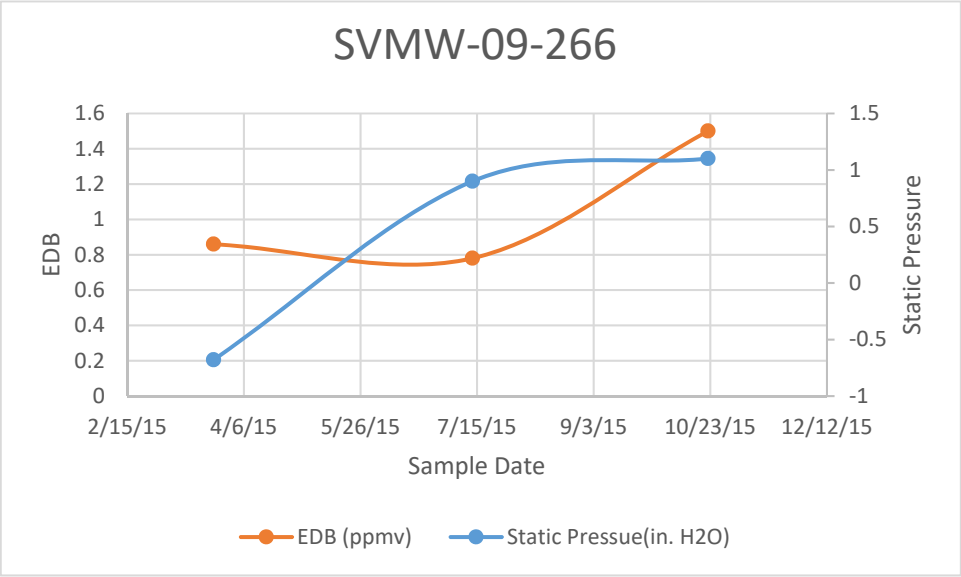
AOI	area of interest
bgs	below ground surface
CARB	California Air Resources Board
NA	not applicable
ppmv	parts per million by volume
TO	toxic organic compound

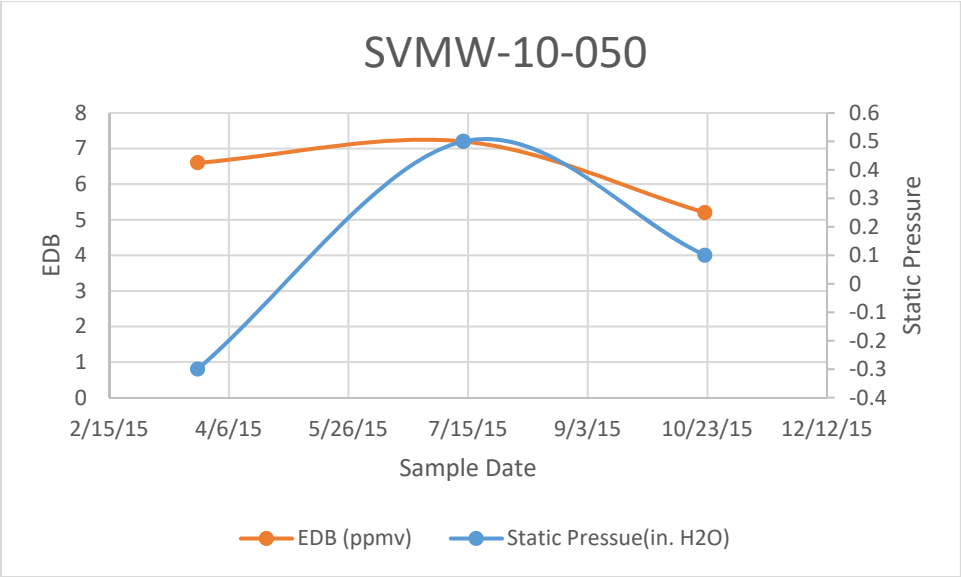
Soil Vapor EDB Concentrations vs Static Pressure in 2015 in AOI 5

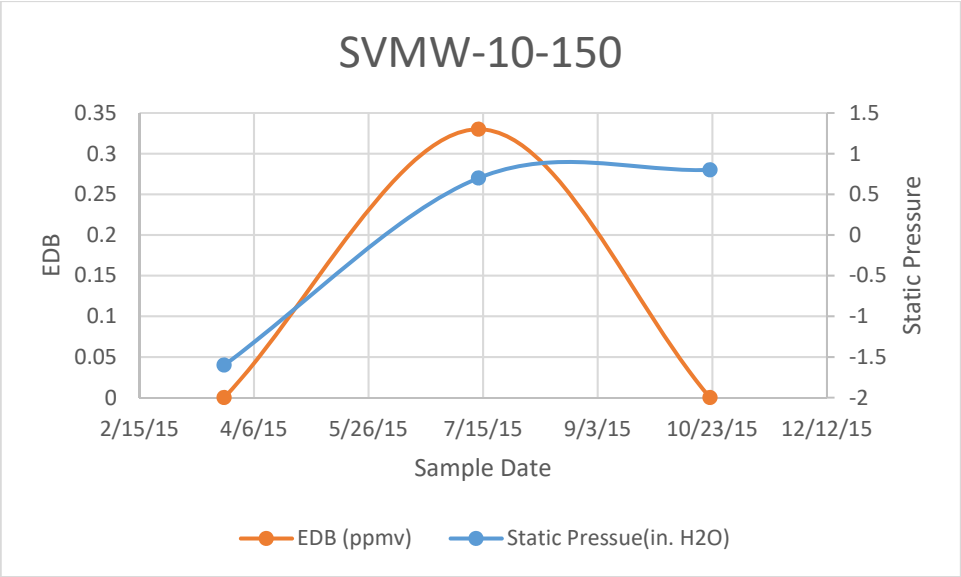


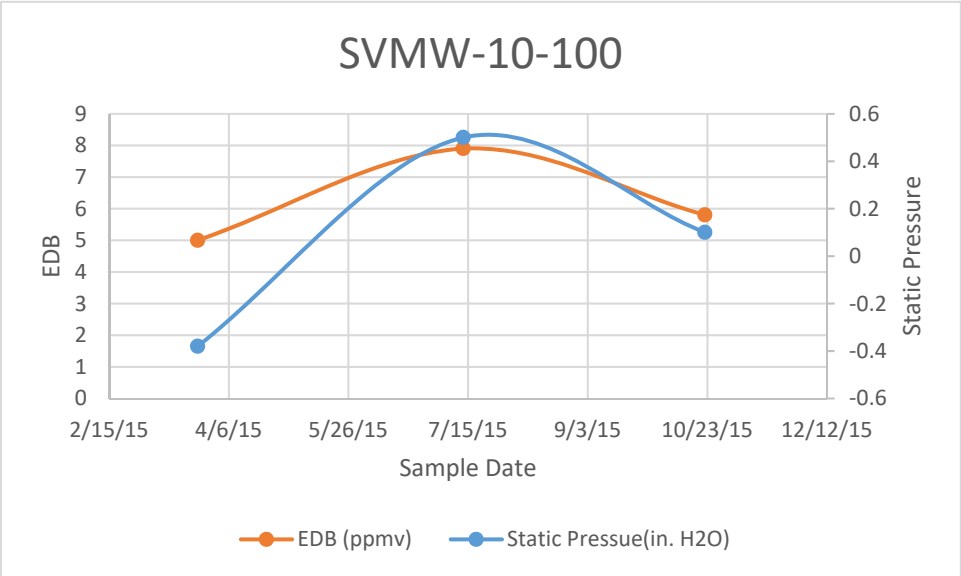


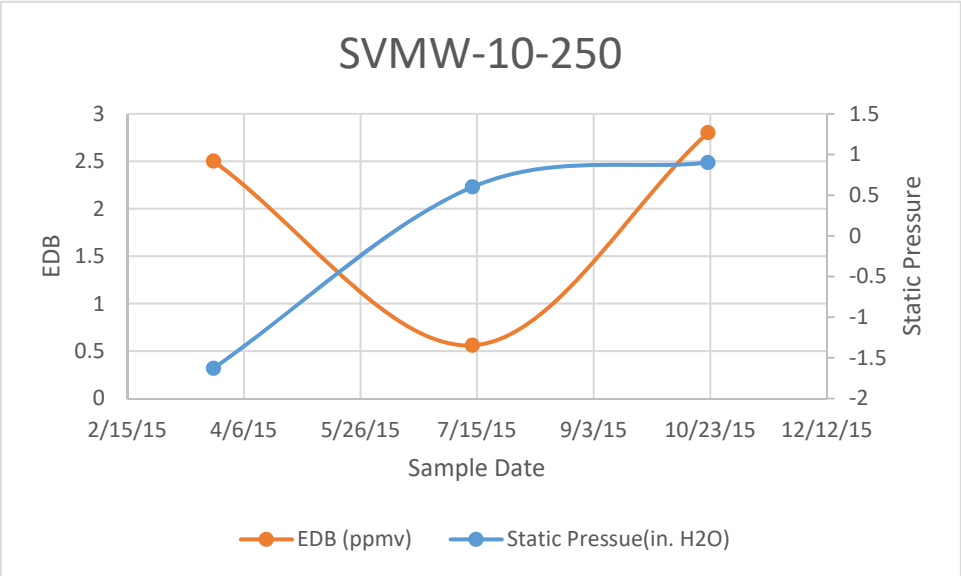




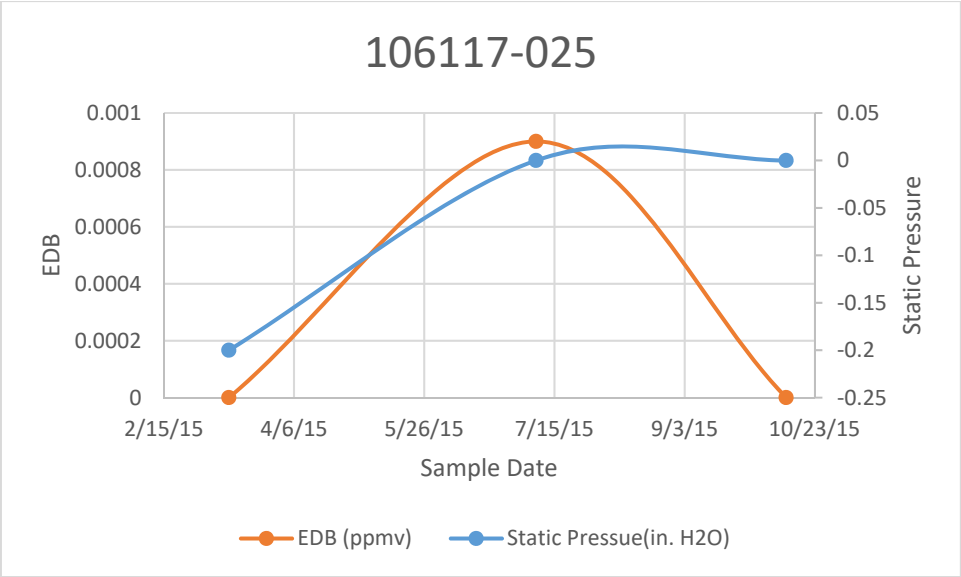

SVMW-10-050
EDB
Static Pressure
Sample Date
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
EDB (ppmv)
Static Pressue(in. H2O)

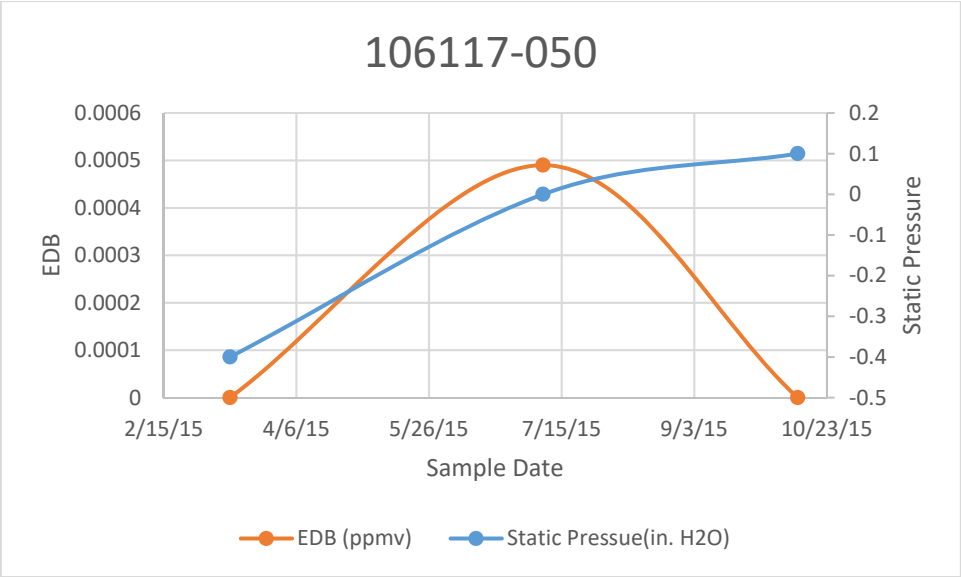

SVMW-10-150
EDB
Static Pressure
Sample Date
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
EDB (ppmv)
Static Pressue(in. H2O)

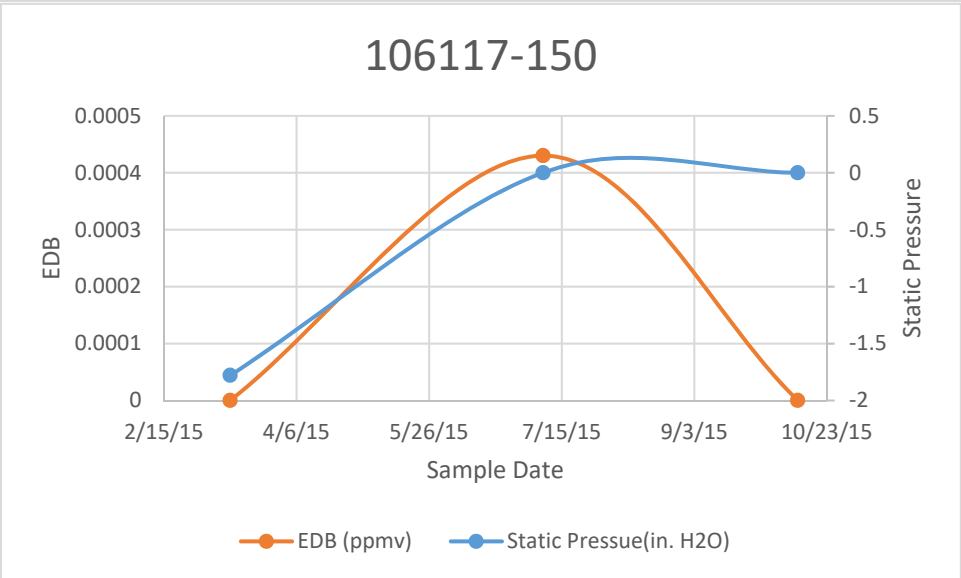

SVMW-10-100
EDB
Static Pressure
Sample Date
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
EDB (ppmv)
Static Pressue(in. H2O)

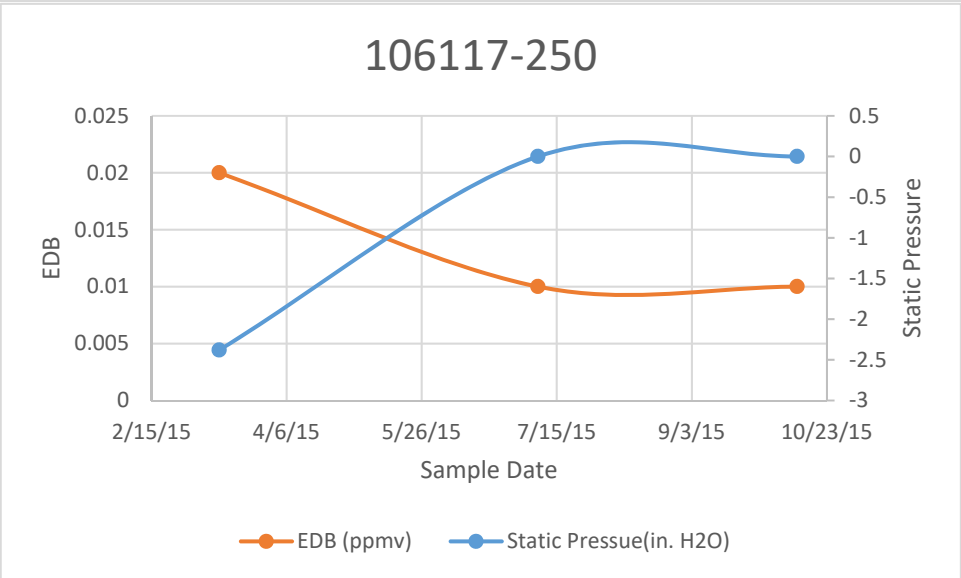

SVMW-10-250
EDB
Static Pressure
Sample Date
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
EDB (ppmv)
Static Pressue(in. H2O)

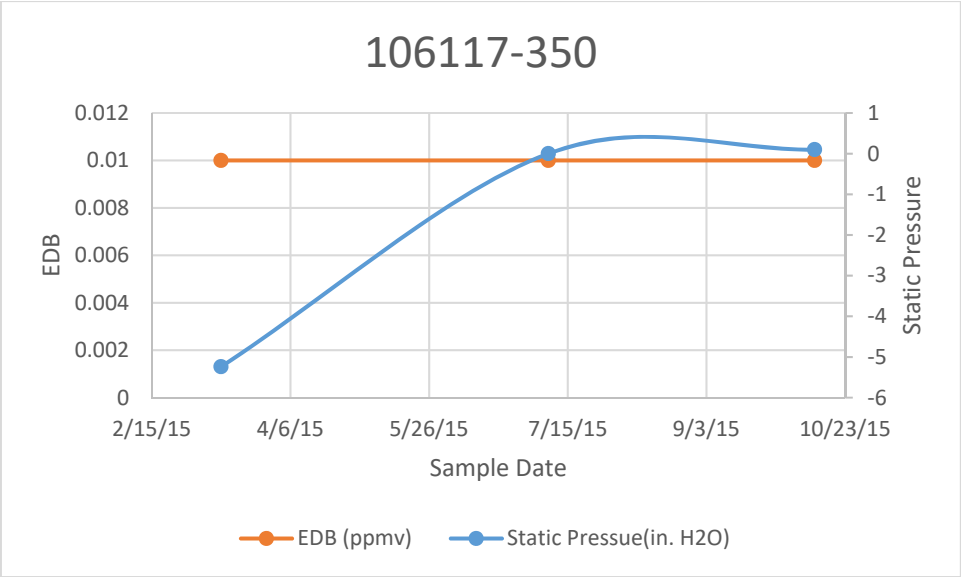
Soil Vapor EDB Concentrations vs Static Pressure in 2015 in AOI 6

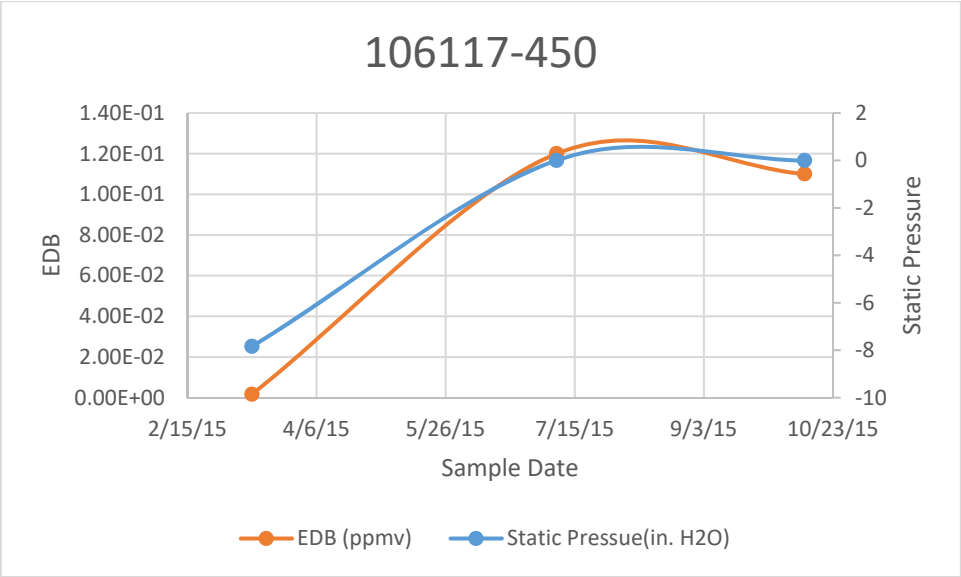


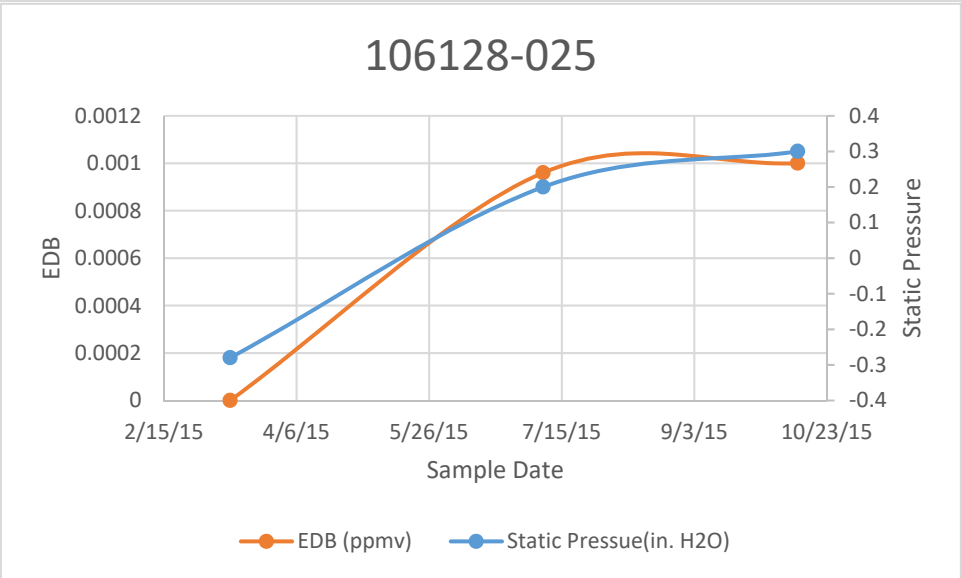


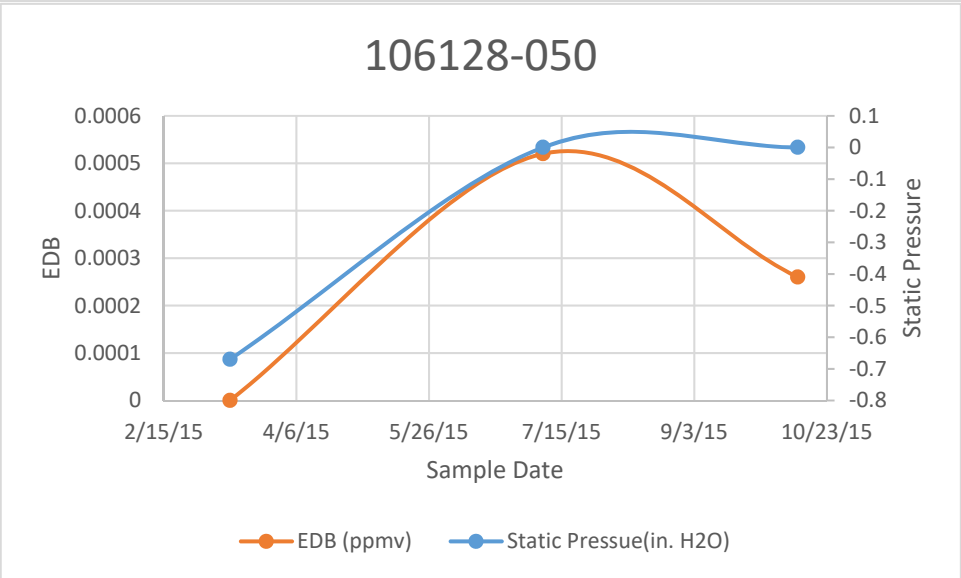


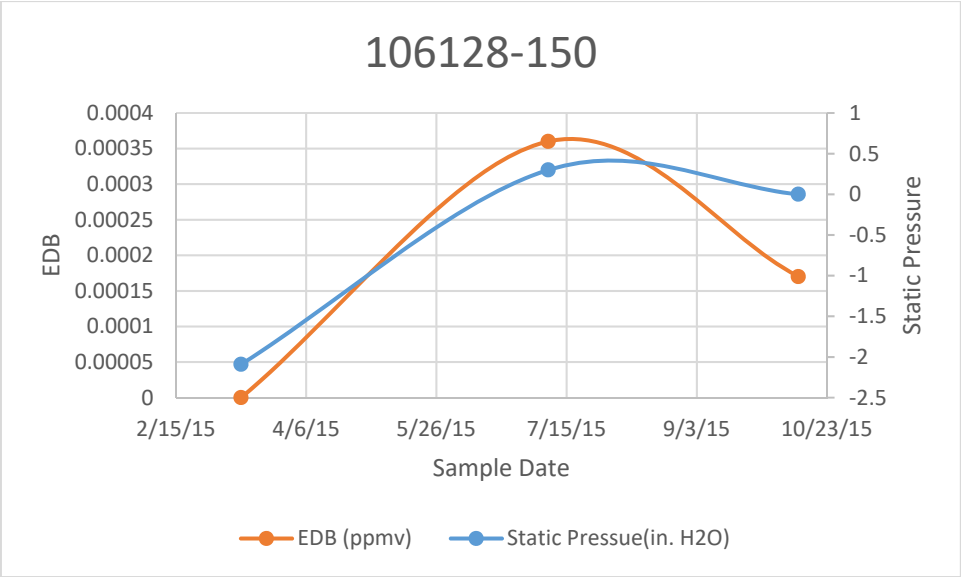


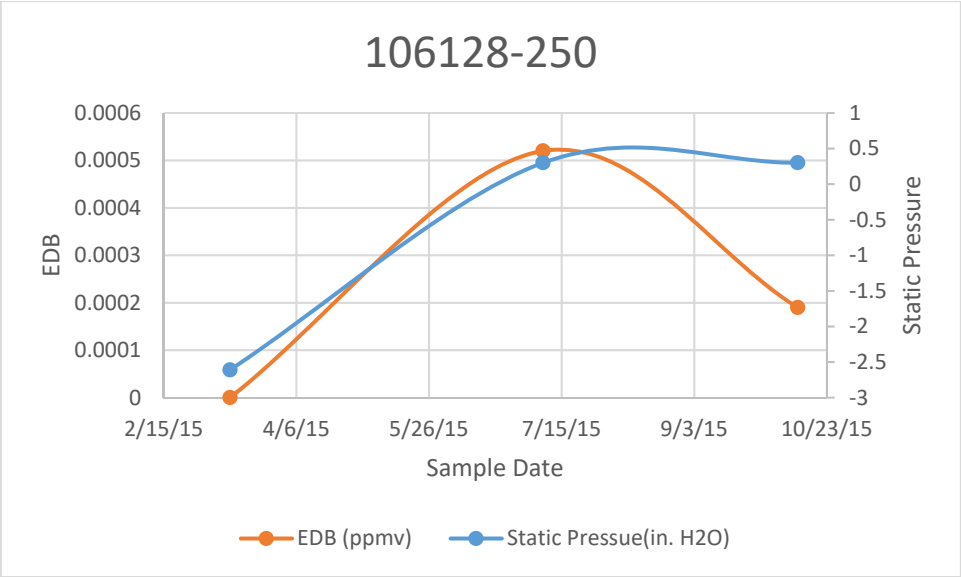

106117-350
0.012
0.01
0.008
0.006
0.004
0.002
0
EDB
1
0
-1
-2
-3
-4
-5
-6
Static Pressure
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

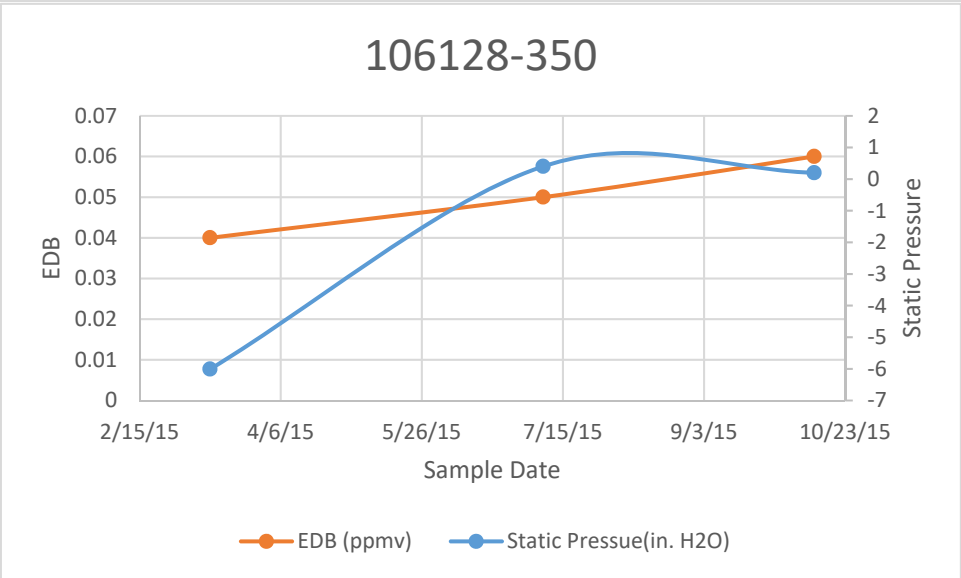

106117-450
1.40E-01
1.20E-01
1.00E-01
8.00E-02
6.00E-02
4.00E-02
2.00E-02
0.00E+00
EDB
2
0
-2
-4
-6
-8
-10
Static Pressure
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

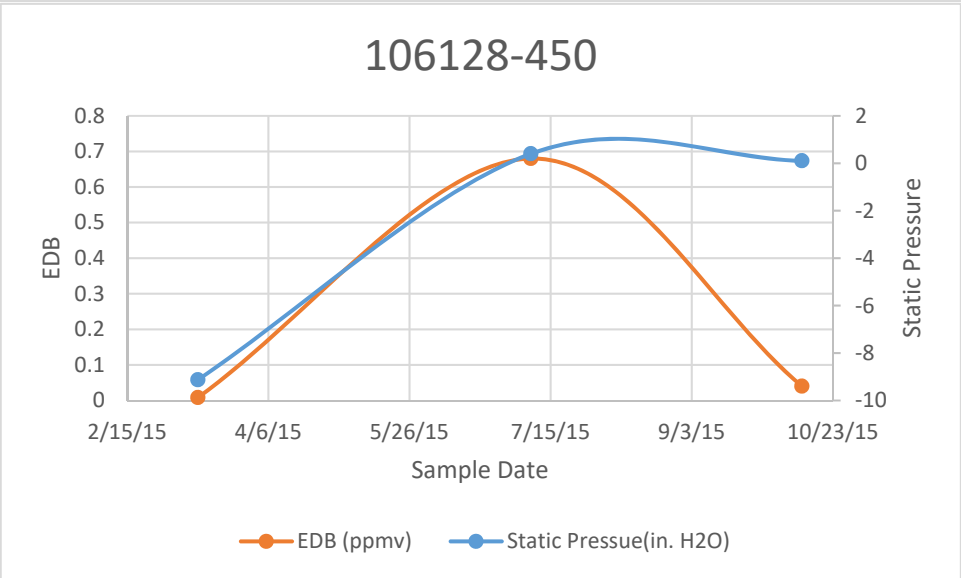

106128-025
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
EDB
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
Static Pressure
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

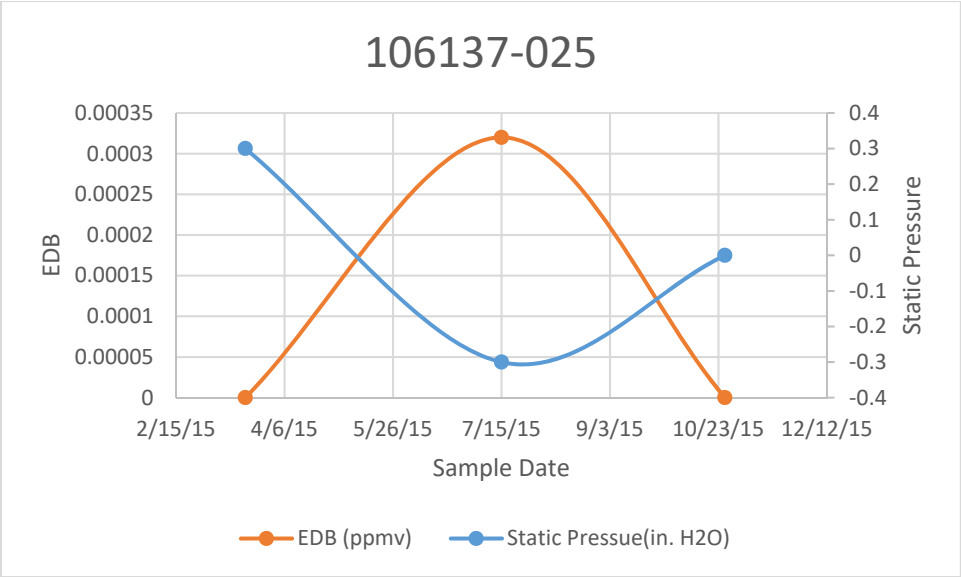

106128-050
0.0006
0.0005
0.0004
0.0003
0.0002
0.0001
0
EDB
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
Static Pressure
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

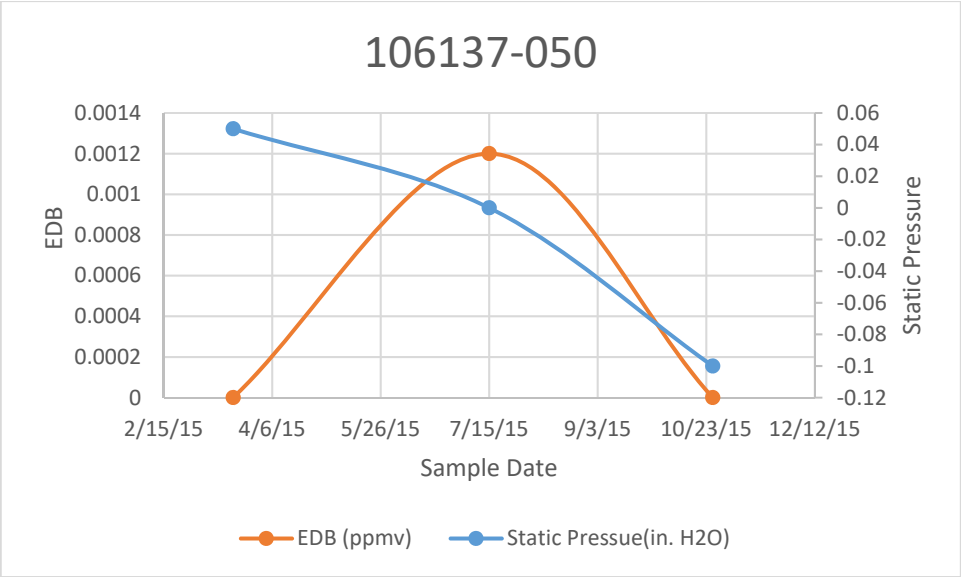

106128-150
EDB
0.0004
0.00035
0.0003
0.00025
0.0002
0.00015
0.0001
0.00005
0
Static Pressure
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

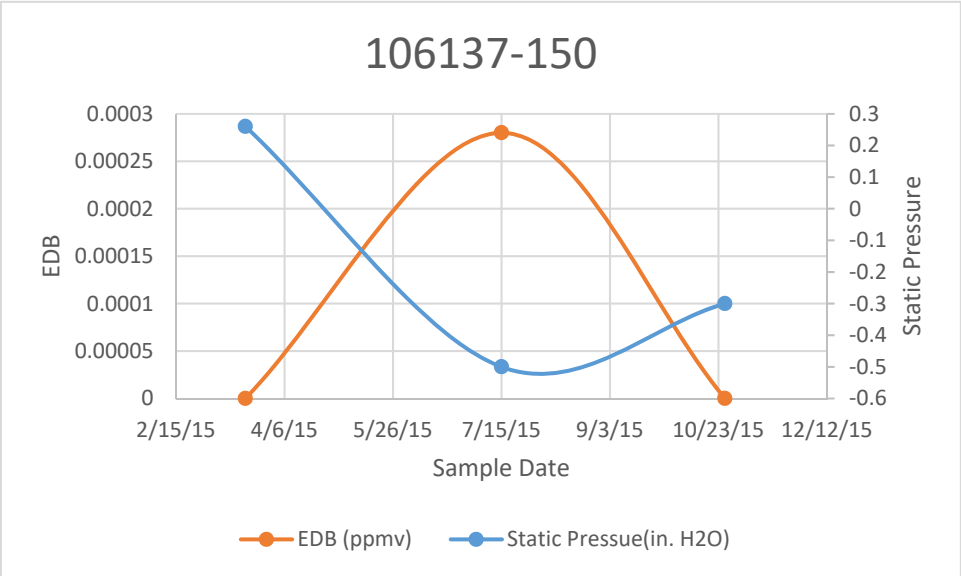

106128-250
EDB
0.0006
0.0005
0.0004
0.0003
0.0002
0.0001
0
Static Pressure
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

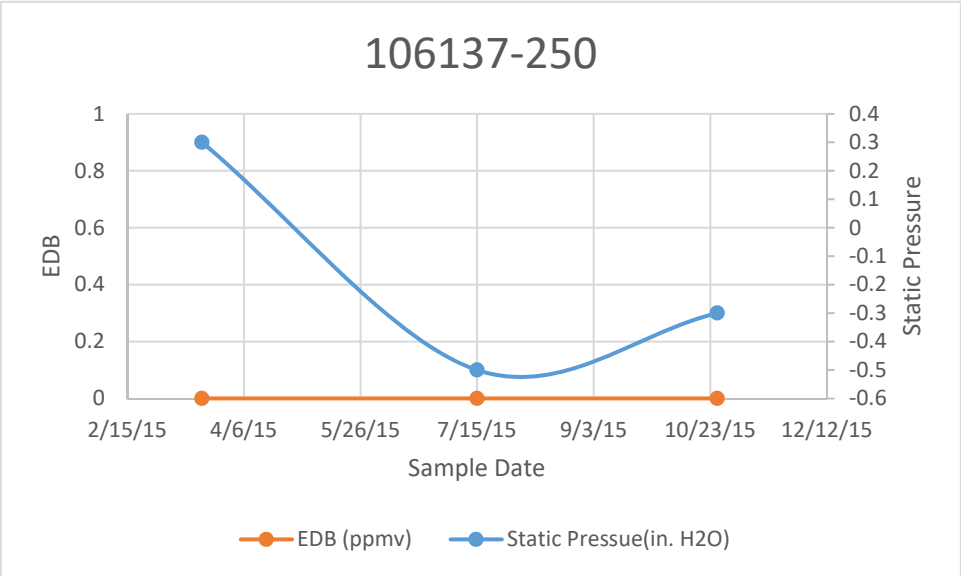

106128-350
EDB
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
Static Pressure
2
1
0
-1
-2
-3
-4
-5
-6
-7
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

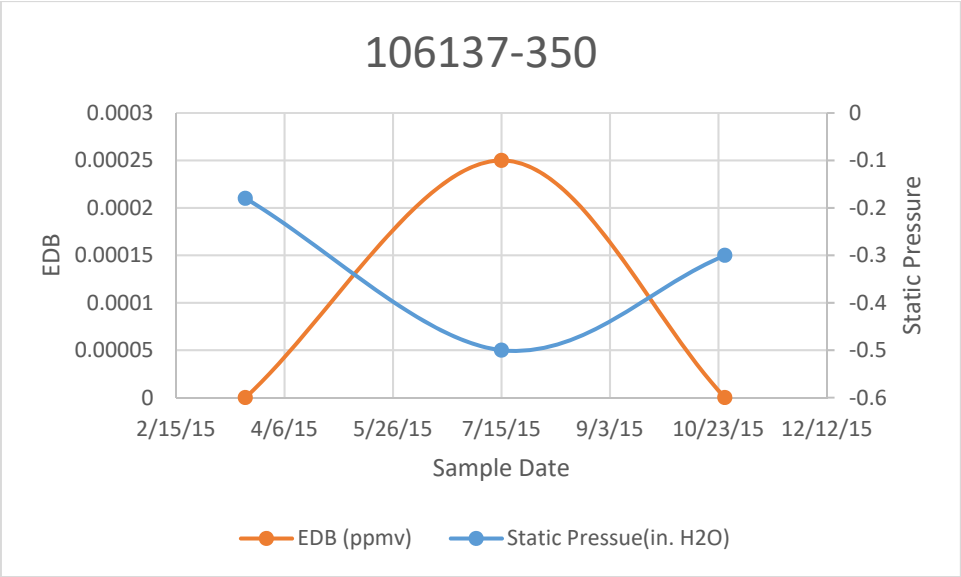

106128-450
EDB
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Static Pressure
2
0
-2
-4
-6
-8
-10
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

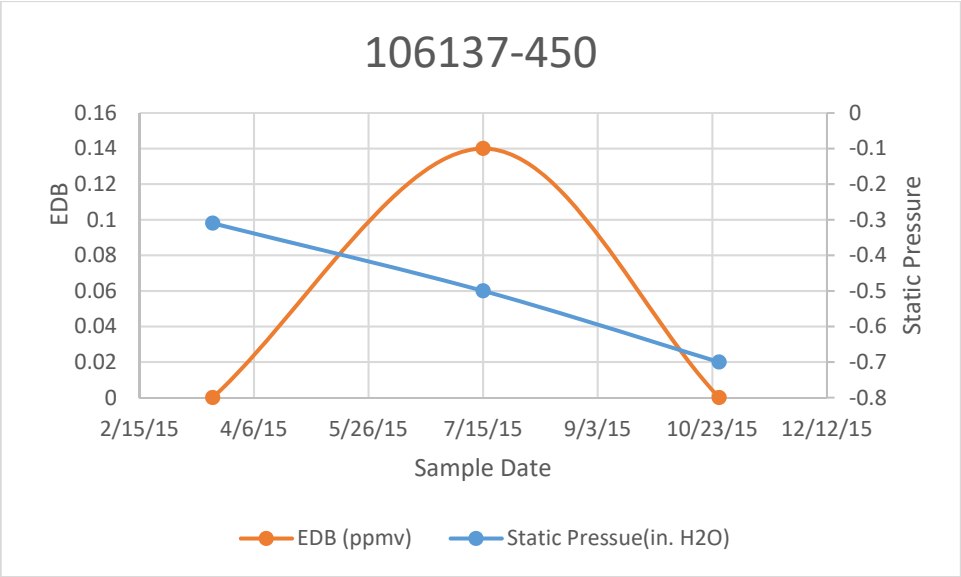

106137-025
EDB
0.00035
0.0003
0.00025
0.0002
0.00015
0.0001
0.00005
0
Static Pressure
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)


106137-050
EDB
0.0014
0.0012
0.001
0.0008
0.0006
0.0004
0.0002
0
Static Pressure
0.06
0.04
0.02
0
-0.02
-0.04
-0.06
-0.08
-0.1
-0.12
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

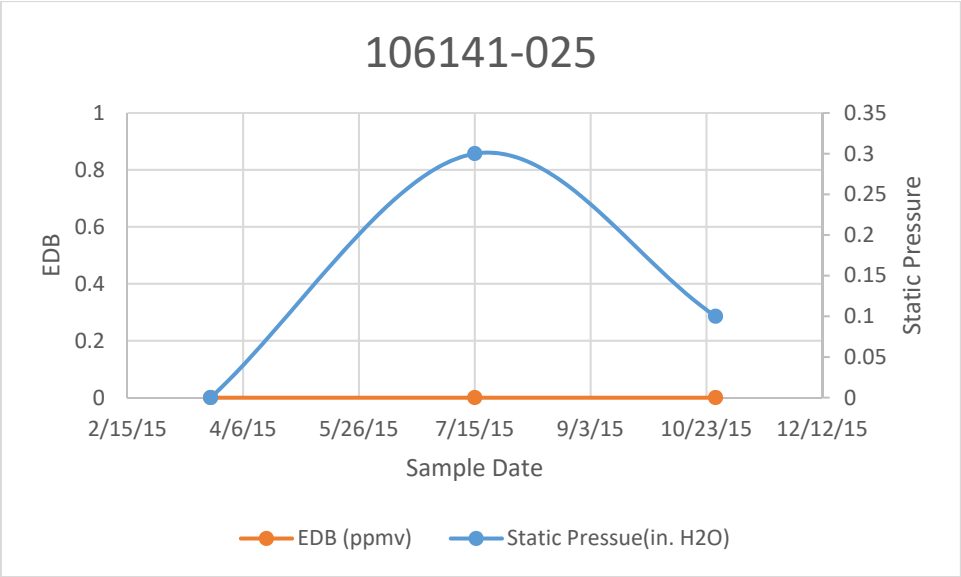

106137-150
EDB
0.0003
0.00025
0.0002
0.00015
0.0001
0.00005
0
Static Pressure
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

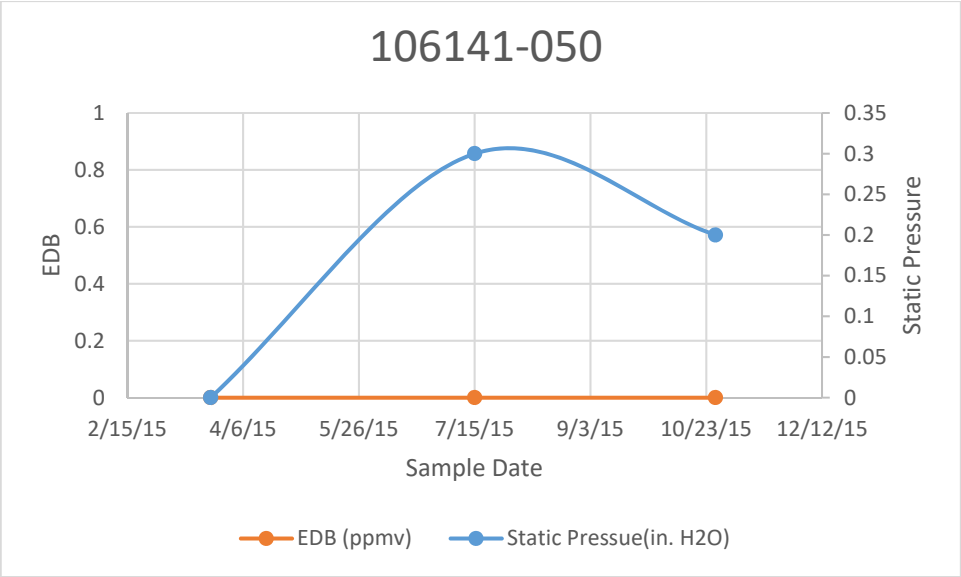

106137-250
EDB
1
0.8
0.6
0.4
0.2
0
Static Pressure
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

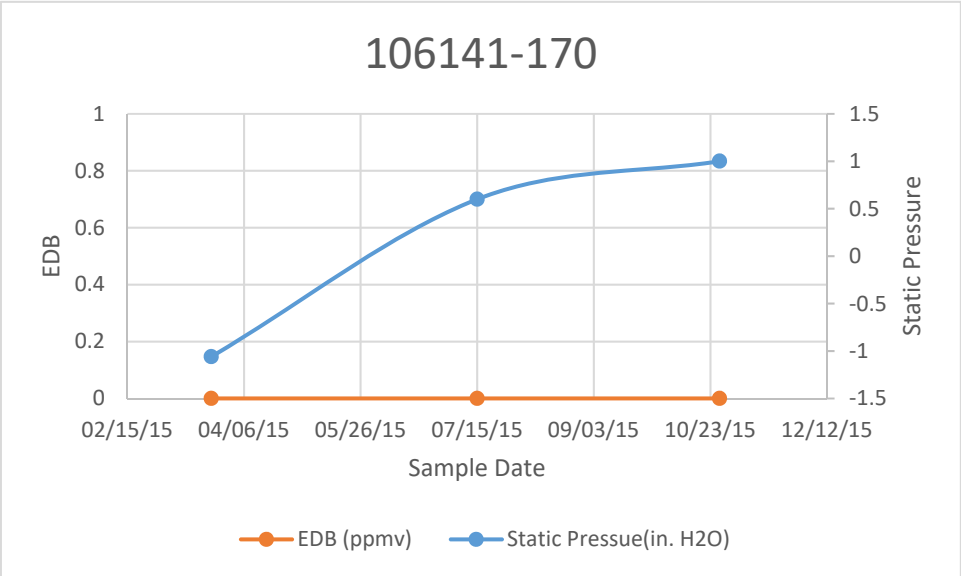

106137-350
0.0003
0.00025
0.0002
0.00015
0.0001
0.00005
0
EDB
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
Static Pressure
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

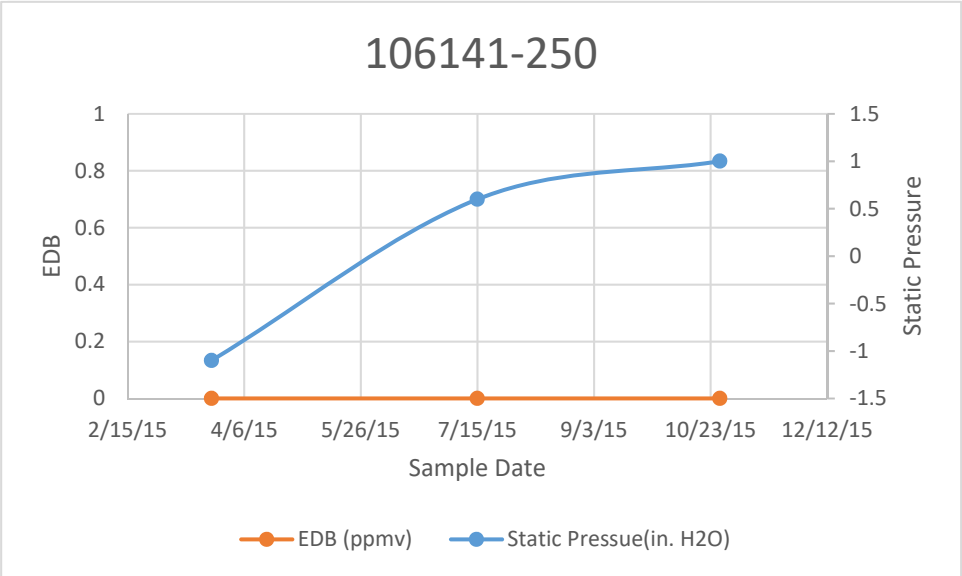

106137-450
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
EDB
0
-0.1
-0.2
-0.3
-0.4
-0.5
-0.6
-0.7
-0.8
Static Pressure
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

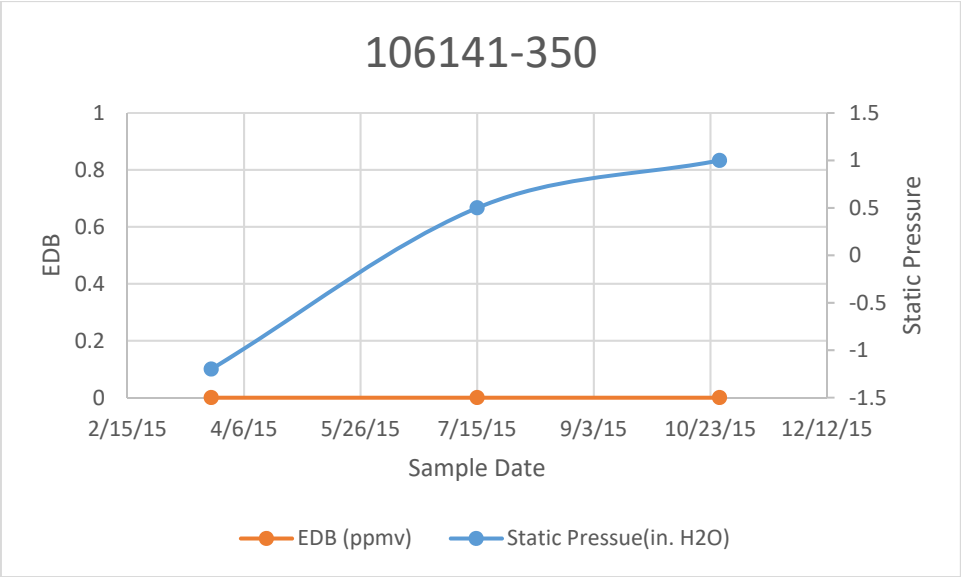
Soil Vapor EDB Concentrations vs Static Pressure in 2015 in AOI 7

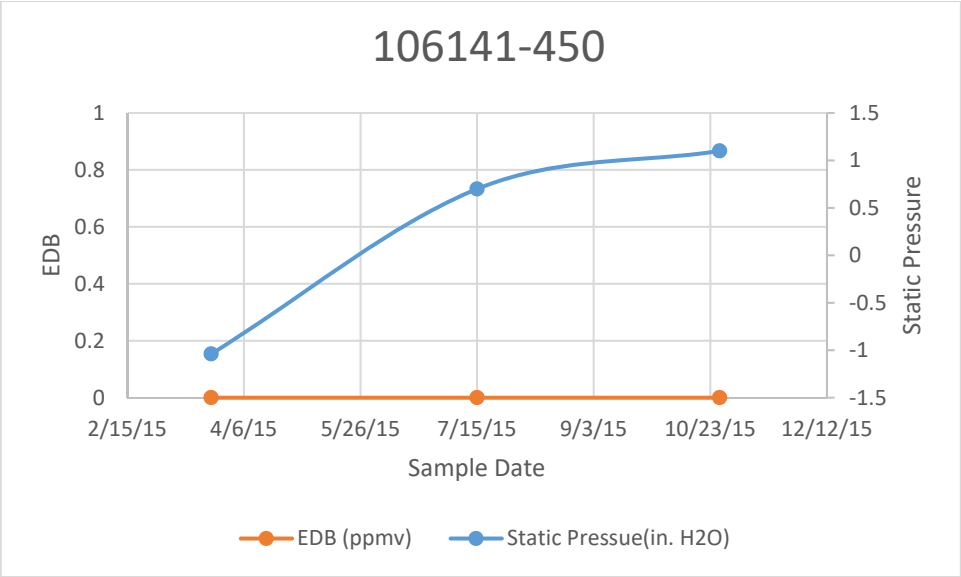


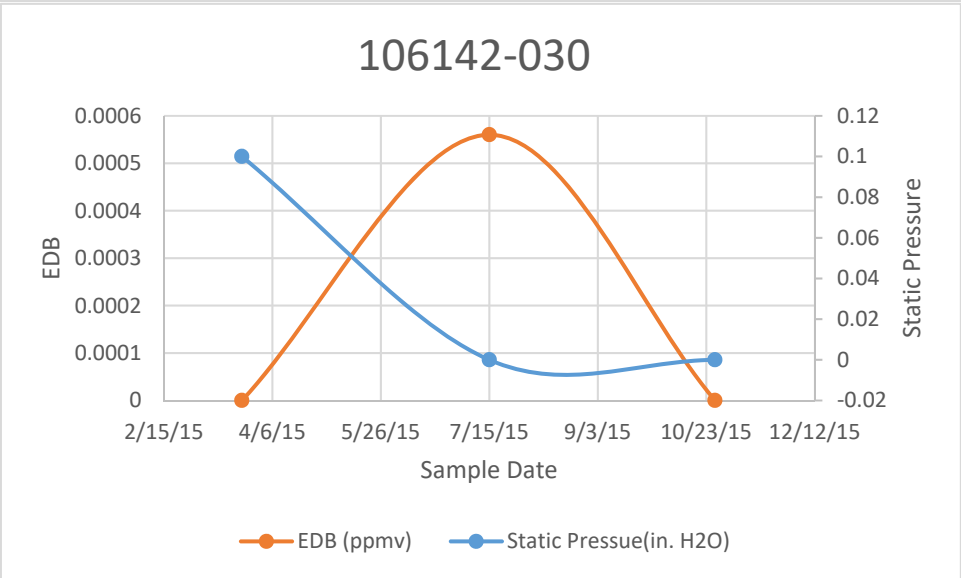


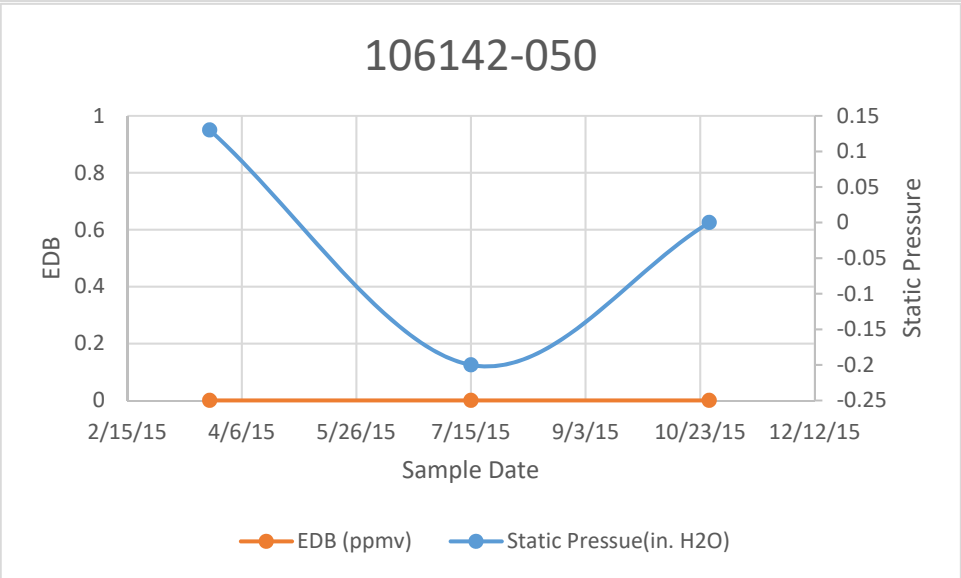


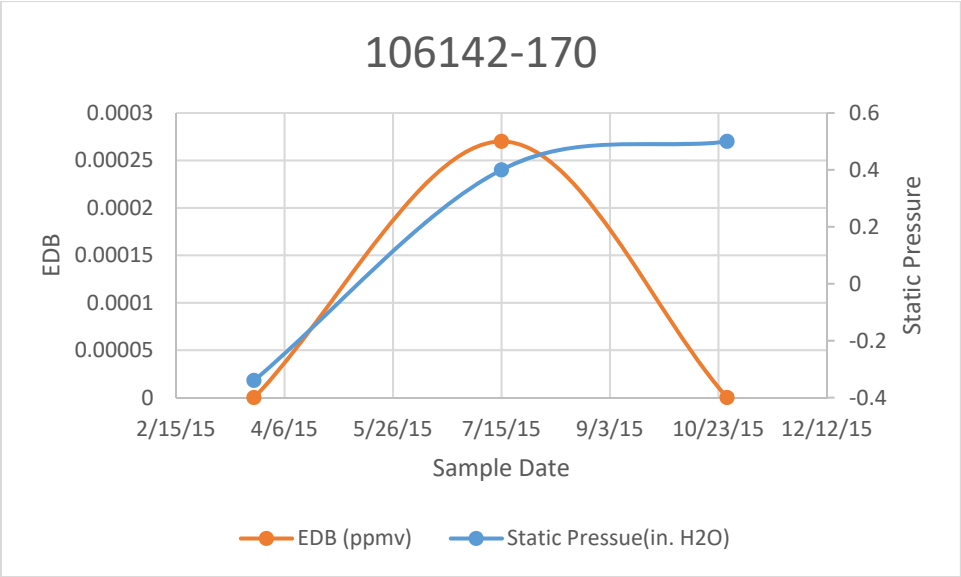


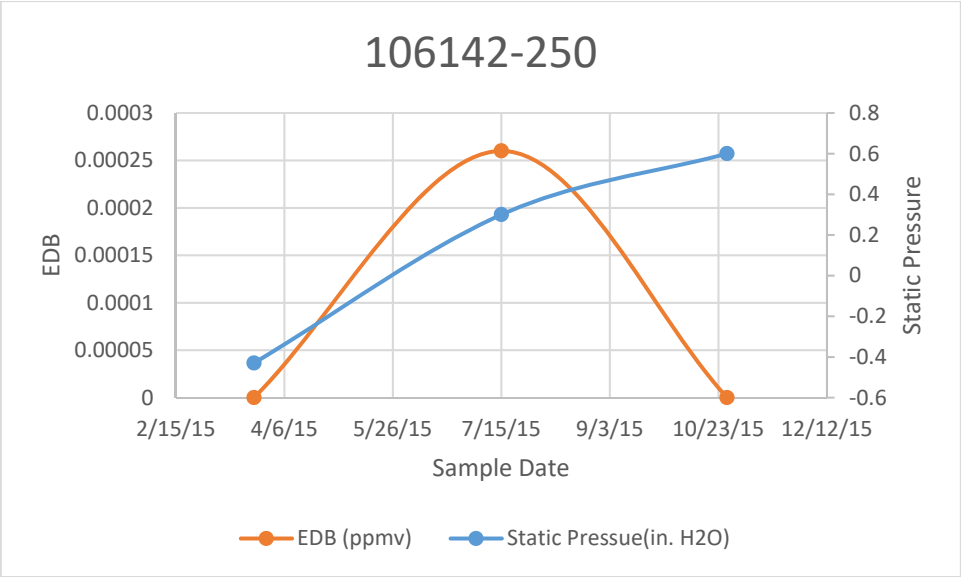

106141-350
EDB
Static Pressure
1
0.8
0.6
0.4
0.2
0
1.5
1
0.5
0
-0.5
-1
-1.5
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

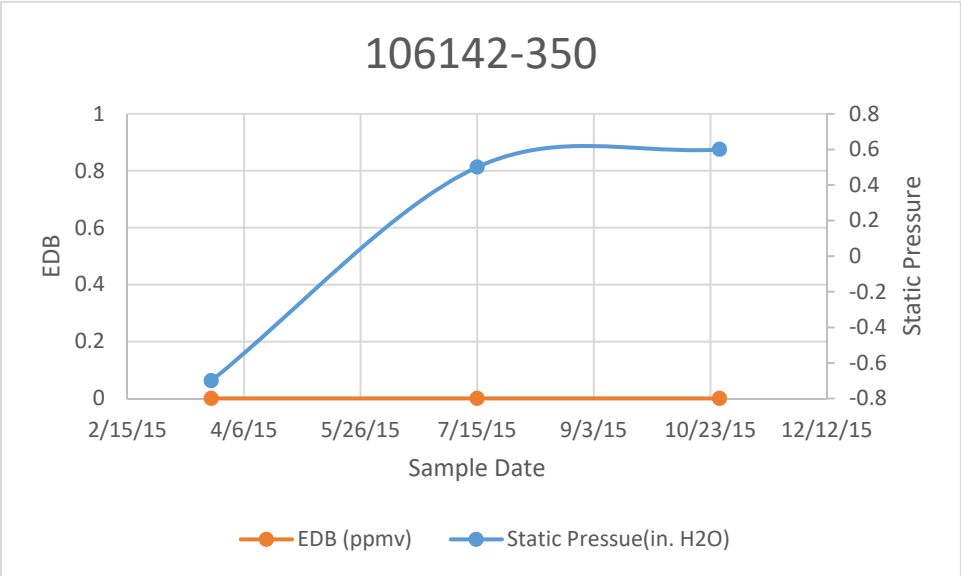

106141-450
EDB
Static Pressure
1
0.8
0.6
0.4
0.2
0
1.5
1
0.5
0
-0.5
-1
-1.5
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)

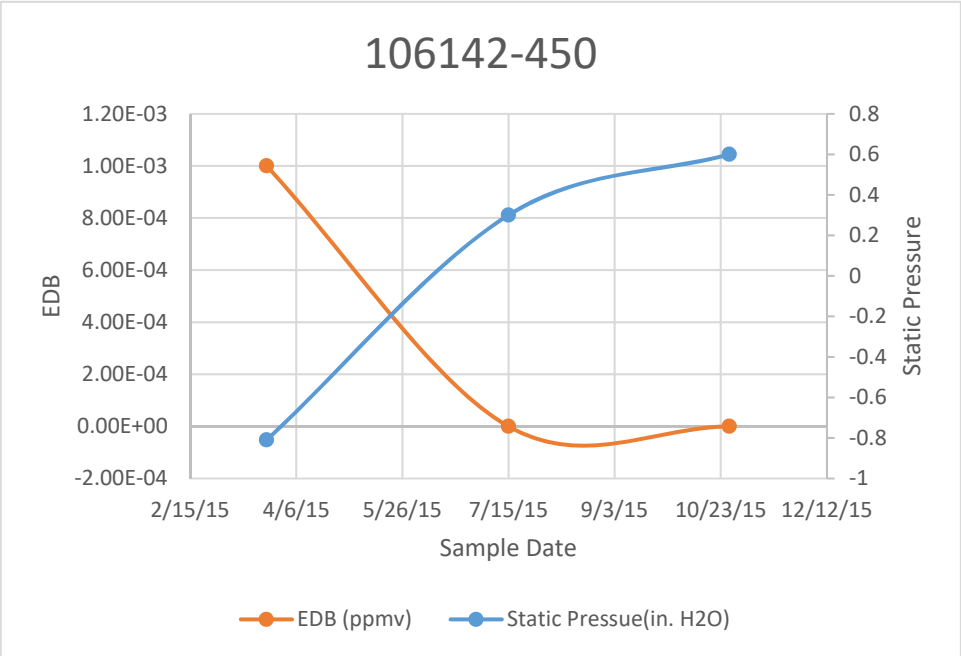

106142-030
EDB
Static Pressure
0.0006
0.0005
0.0004
0.0003
0.0002
0.0001
0
0.12
0.1
0.08
0.06
0.04
0.02
0
-0.02
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)


106142-050
EDB
Static Pressure
1
0.8
0.6
0.4
0.2
0
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)


106142-170
0.0003
0.00025
0.0002
0.00015
0.0001
0.00005
0
EDB
0.6
0.4
0.2
0
-0.2
-0.4
Static Pressure
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)


106142-250
0.0003
0.00025
0.0002
0.00015
0.0001
0.00005
0
EDB
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
Static Pressure
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)


106142-350
1
0.8
0.6
0.4
0.2
0
EDB
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
Static Pressure
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)


106142-450
1.20E-03
1.00E-03
8.00E-04
6.00E-04
4.00E-04
2.00E-04
0.00E+00
-2.00E-04
EDB
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
Static Pressure
2/15/15
4/6/15
5/26/15
7/15/15
9/3/15
10/23/15
12/12/15
Sample Date
EDB (ppmv)
Static Pressue(in. H2O)