WSMR OC

DEPARTMENT OF THE ARMY
U.S. ARMY WHITE SANDS MISSILE RANGE
100 Headquarters Avenue
WHITE SANDS MISSILE RANGE, NEW MEXICO 88002-5000

JUL 3 1 2006

RECEIVED
AUG 2006
NMED Hazardous Waste Bureau

REPLY TO
ATTENTION OF
Directorate of Public Works

Ms. Cheryl Frishkorn
State of New Mexico Environment Department - HWB
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Subject: Voluntary Corrective Action Completion Report, Former Diesel Aboveground Storage Tank (AST), Denver Site (SWMU 166), White Sands Missile Range

Dear Ms. Frishkorn:

The subject report is enclosed. Site remediation goals for Total Petroleum Hydrocarbons (TPH) and petroleum related contaminants were screened as listed for Residential Direct Exposure in the *New Mexico Environment Department TPH Screening Guidelines* published November 2005.

Site excavation removed approximately 98 percent of the contaminated soil. Due to constraints encountered during excavation, the site has a minor amount of diesel contamination left in place. An estimated amount of five to nine cubic yards remains at the site. It was left in place due to the proximity of a paved road as discussed in the site assessment.

The remaining contamination is unlikely to migrate due to the small quantity present; low precipitation at the site; the impervious nature of the paved road surface, which will further limit infiltration; and the lack of receptors should warrants no further action at this site.

Please contact Mr. Javier Mendoza of our office at (505) 678-1007 if you have any questions regarding this matter.

Sincerely,

Thomas A. Ladd

Thomas A. Ladd
Director, Public Works

WSMR-
06-007

WSMR Environmental Document ES-EC-TO-011-06-130

FINAL

VOLUNTARY CORRECTIVE ACTION COMPLETION REPORT

Former Diesel AST
Denver Site (SWMU 166)

WHITE SANDS MISSILE RANGE

June 2006

White Sands Missile Range
Environment and Safety Directorate
White Sands Missile Range, New Mexico 88002
EPA ID# NM 2750211235

WTS
WHITE SANDS TECHNICAL SERVICES

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Service, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.
PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.

1. REPORT DATE *(DD-MM-YYYY)* June 2006	**2. REPORT TYPE** FINAL	**3. DATES COVERED** *(From - To)*
4. TITLE AND SUBTITLE Voluntary Corrective Action Completion Report Former Diesel AST at Denver Site (SWMU 166) White Sands Missile Range Facility ID NM2750211235		**5a. CONTRACT NUMBER** W9124Q-04-D-0012 **5b. GRANT NUMBER** **5c. PROGRAM ELEMENT NUMBER** TO11
6. AUTHOR(S) James J. Thompson, P.E., Task Coordinator, WTS		**5d. PROJECT NUMBER** **5e. TASK NUMBER** TO11
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) White Sands Technical Services, LLC P.O. Box 363 WSMR, NM 88002		**5f. WORK UNIT NUMBER** **8. PERFORMING ORGANIZATION REPORT NUMBER** ES-EC-TO-011-06-130
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Department of the Army U.S. Army White Sands Missile Range 100 Headquarters Avenue ATTN: IMSW-WSM-PW-E-EC (Javier Mendoza) White Sands Missile Range, NM 88002		**10. SPONSOR/MONITOR'S ACRONYM(S)** **11. SPONSORING/MONITORING AGENCY REPORT NUMBER** ES-EC-TO-011-06-130

12. DISTRIBUTION AVAILABILITY STATEMENT

13. SUPPLEMENTARY NOTES

14. ABSTRACT

This report summarizes the activities that took place during the voluntary corrective action at the Denver Site on White Sands Missile Range. Approximately 420 cubic yards of contaminated soil were excavated and disposed of at an appropriate off-site facility. Confirmation samples were taken and the excavated areas backfilled with clean material. Three monitoring wells and four piezometers were also abandoned as part of this effort.

15. SUBJECT TERMS

Voluntary Corrective Action, Solid Waste Management Unit, SWMU 166, Denver, diesel contamination, monitoring well, piezometer, Aboveground Storage Tank

16. SECURITY CLASSIFICATION OF:			**17. LIMITATION OF ABSTRACT**	**18. NUMBER OF PAGES**	**19a. NAME OF RESPONSIBLE PERSON**
a. REPORT unclassified	**b. ABSTRACT** unclassified	**c. THIS PAGE** unclassified		18	**19b. TELEPHONE NUMBER** (*Include area code*)

VOLUNTARY CORRECTIVE ACTION COMPLETION REPORT

FORMER DIESEL AST AT DENVER SITE (SWMU 166)
WHITE SANDS MISSILE RANGE
FACILITY ID NM2750211235

Submitted to:

U.S. Army
White Sands Missile Range
Directorate of Public Works - Environment Division
White Sands Missile Range, New Mexico 88002-5048

June 2006

Submitted by:

White Sands Technical Services, LLC
Building 126
White Sands Missile Range, New Mexico 88002

THIS PAGE INTENTIONALLY LEFT BLANK

EXECUTIVE SUMMARY

White Sands Missile Range (WSMR) has carried out a voluntary corrective action (VCA) at the former site of a leaking aboveground storage tank (AST) located at the Denver Site on WSMR. The New Mexico Environment Department – Hazardous Waste Bureau (NMED-HWB) designated this location as solid waste management unit (SWMU) 166. Past investigations had detected concentrations of diesel fuel components in soil at the former location of the AST and also the equipment rack where at least one generator was located. This VCA was carried out as recommended in the *Final Work Plan Voluntary Corrective Action at the Denver Site on White Sands Missile Range* (BAE Systems, 2004).

Prior to commencing this VCA, the abandoned structure at the Denver Site was demolished and removed (December 2005) under a separate contract. The removal action for this VCA relied on the conservative guideline for removal of contaminated soils demonstrating diesel #2, or equivalent, which exceeded a concentration of 880 milligrams per kilogram. A secondary goal was to properly abandon the unnecessary piezometers and monitoring wells at the site. Once the majority of contamination was removed, further groundwater monitoring at the site would be unnecessary. Thus, with abandonment, the potential that the piezometers or wells may serve as a conduit for future contaminant migration is limited. One up gradient monitoring well was left in place to aid in future regional monitoring of the water table at WSMR.

Following the Work Plan guidance, approximately 420 cubic yards of contaminated soil were excavated and removed from the Denver Site. Once excavation dimensions had reached the approximate limits given in the Work Plan, confirmation samples were collected from the side-walls and floor of each excavation. Initial samples were transported to the White Sands Applied Environments Test Branch Chemistry Laboratory for analysis by EPA 418.1 (infrared spectroscopy) for total petroleum hydrocarbons - diesel range organics (TPH-DRO). The WSMR Lab was able to analyze the samples within 24 hours, thus allowing decisions regarding the extent of excavations to be made in a timely fashion.

Excavation volume included sufficient over-excavation such that the majority of confirmation samples did not demonstrate TPH-DRO concentrations above 30 parts per million. One confirmation sample did reveal diesel contamination above the remediation goal. The confirmation sample taken from the north side-wall of the excavation at the former equipment rack demonstrated a TPH-DRO concentration of 8,650 milligrams per kilogram. As directed by the Work Plan, additional soil was excavated from this sidewall (an approximate section two feet in thickness) and another confirmation sample was taken. Due to the proximity of an active paved road surface, it was decided excavation should cease at that point to avoid damage or road closure. The initial confirmation samples and the re-sample were sent to Trace Analysis for the complete analytical schedule as shown in the Work Plan. The second confirmation sample did reveal a reduction in the TPH-DRO concentration to 7,320 milligrams per kilogram. However, this is still above the 880 milligrams per kilogram remediation goal.

Analytical results from the confirmation samples did not detect significant concentrations of VOCs and SVOCs known to exist at the site from prior investigations. The confirmation samples indicate either the concentration contours developed in prior investigations (and relied on as Figures 3 and 4 in this report) are overly conservative or a significant amount of biodegradation of the diesel contamination has taken place since the prior investigation (MEVATEC, 1999).

An estimate of the remaining contaminated soil was made based on the confirmation samples and the estimated plume concentration contours from previous investigations (see Figures 3 and 4). Using this data, the remaining volume of contaminated soil, located north of the equipment rack excavation extending under the edge of the road, is approximately five to nine cubic yards. This corresponds to a removal of approximately 98 percent of the contaminated soil.

While this site has not been completely remediated to a point where no contamination remains above remediation goals, it is WSMR's assertion that the majority of the contamination was removed and thus warrants no further action at this site considering that additional excavation would result in pavement damage and road closure. The remaining contamination is unlikely to migrate due to the small quantity present, low precipitation at the site, the impervious nature of the paved road surface, and the lack of viable receptors.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

EXECUTIVE SUMMARY III

LIST OF ACRONYMS VII

1.0 INTRODUCTION 1

1.1 Applicable Regulations & VCA Purpose 1
1.2 Site Background 3

2.0 PREVIOUS INVESTIGATIONS 4

2.1 Source Removal and Initial Investigation (1999) 4
2.2 Soil and Preliminary Groundwater Investigation (February – May 1999) 5
2.3 Additional Soil Borings (February 2001) 5
2.3 RCRA Facility Investigation (February - April 2002) 6
2.4 Site Conceptual Model 7
2.4.1 Site Geological Profile 7
2.4.2 Site Hydrological Profile 7
2.5.3 Nature and Extent of Contamination 8
2.6.4 Environmental Fate 10

3.0 RESULTS OF CORRECTIVE ACTION 10

3.1 Approach and Implementation 10
3.2 Deviations from Work Plan 10
3.2 Materials Removed 13
3.3 Final Disposal of Contaminated Materials 13
3.4 Results of Confirmation Sampling 13
3.5 Backfill of the Excavations 14
3.6 Monitoring Well & Piezometer Abandonment 16

4.0 SITE ASSESSMENTS 17

5.0 NO FURTHER ACTION PETITION 17

5.1 Rationale 17
5.2 Criterion 17

REFERENCES 18

List of Figures

Figure 1. Project Location 2
Figure 2. Site Layout with Inferred Groundwater Direction & Gradient 3
Figure 3. Estimated Vertical Extent of Contamination on North-South Cross-section 8
Figure 4. Estimated Horizontal Extent of Contamination 9

List of Photographs

Photograph 1. Denver Site with Equipment Rack in Foreground (Feb 1999) 1
Photograph 2. Limited Traffic Control During Excavation Effort 11
Photograph 3. Completed Excavation at the Former AST Location 11
Photograph 4. South Wall of Excavation at the Former Equipment Rack Location 12
Photograph 5. Excavation at the Former Equipment Rack Location 12
Photograph 6. Backfilling the Excavation at the Former Equipment Rack 15
Photograph 7. Completed Backfill of Excavations 16
Photograph 8. Abandonment of Monitoring Wells 2, 3, & 4 16

TABLE OF CONTENTS concluded

List of Tables

Table 1. Initial TPH-DRO Detections at Denver 4
Table 2. Well and Piezometer Construction Details 5
Table 3. RFI Organic Detections at Denver updated with 2004 NMED SSL 6
Table 4. Soil Lithology at the Denver Site (Soil Boring 4) 7
Table 5. Initial Confirmation Sampling 14
Table 6. Detections from Confirmation Sampling 15

APPENDIX A NMED TPH SCREENING GUIDELINES

APPENDIX B MANIFEST DOCUMENTATION

APPENDIX C LABORATORY ANALYTICAL RESULTS

LIST OF ACRONYMS

AST	Aboveground storage tank
AWWA	America Water Works Association
bgs	Below ground surface
bTOC	Below top of (well) casing
DAF	Dilution attenuation factor
DRO	Diesel range organics
EPA	Environmental Protection Agency
GPS	Global positioning system
GWQB	Ground Water Quality Bureau
HSWA	Hazardous and Solid Waste Amendments
HWB	Hazardous Waste Bureau
MCL	Maximum contaminant level
mg/kg	Milligrams per kilogram
mg/L	Milligrams per liter
MTBE	Methyl tert butyl ether
MW	Monitoring Well
NAD83	North American Datum 1983
NAVD88	North America Vertical Datum 1988
NFA	No further action
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMWQCC	New Mexico Water Quality Control Commission
OCD	Oil Conservation Division
PPM	Parts per million
PQL	Practical quantitation limit
QA	Quality Assurance
QC	Quality Control
RBDMP	Risk-Based Decision Making Process
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RL	Reporting limit
SDL	Sample detection limit
SM	Standard Methods
SSL	Soil screening level
SVOCs	Semi-volatile Organic Compounds
SW-846	EPA publication – *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*
SWMU	Solid Waste Management Unit
TPH	Total petroleum hydrocarbons
TPH-DRO	Total petroleum hydrocarbons – diesel range organics
UTM	Universal Transverse Mercator Coordinate System
VCA	Voluntary corrective action
VOA	Volatile organic analyte
VOCs	Volatile Organic Compounds
WSMR	White Sands Missile Range
WTS	White Sands Technical Services, LLC

THIS PAGE INTENTIONALLY LEFT BLANK

VOLUNTARY CORRECTIVE ACTION COMPLETION REPORT
FORMER DIESEL AST AT DENVER SITE (SWMU 166)

1.0 INTRODUCTION

White Sands Missile Range (WSMR) has carried out a voluntary corrective action (VCA) at the former site of a leaking aboveground storage tank (AST) located at the Denver Site on WSMR. The New Mexico Environment Department – Hazardous Waste Bureau (NMED-HWB) designated this location as solid waste management unit (SWMU) 166. Past investigations had detected concentrations of diesel fuel components in soil at the former location of the AST and also the equipment rack where at least one generator was located (Photograph 1). This VCA was carried out as recommended in the *Final Work Plan Voluntary Corrective Action at the Denver Site on White Sands Missile Range* (BAE Systems, 2004).

PHOTOGRAPH 1. DENVER SITE WITH EQUIPMENT RACK IN FOREGROUND (FEB 1999)

1.1 Applicable Regulations & VCA Purpose

The initial reporting and investigation at the Denver Site followed regulatory guidance set forth by New Mexico Water Quality Control Commission (20.6.2 NMAC). However, once the site was designated a SWMU and placed on the Hazardous and Solid Waste Amendments (HSWA) corrective action module of WSMR's Hazardous Waste Permit (NM2750211235), action at the site was driven by the Permit and at a larger level, the Resource and Conservation Recovery Act (RCRA). Since the site is contaminated with diesel fuel, NMED's guidance on total petroleum hydrocarbon (TPH) screening guidelines is also applicable. The RCRA Facility Investigation (RFI), discussed in Section 2.3, was completed to meet the requirements of the Permit, specifically Module VIII, Section S, Task III. Due to characteristics of the site and contamination, WSMR opted to perform a VCA rather than proceed with the Corrective Measures process, as specified by the Permit. The VCA and remediation goals were recommended by NMED via correspondence, dated 12 January 2004.

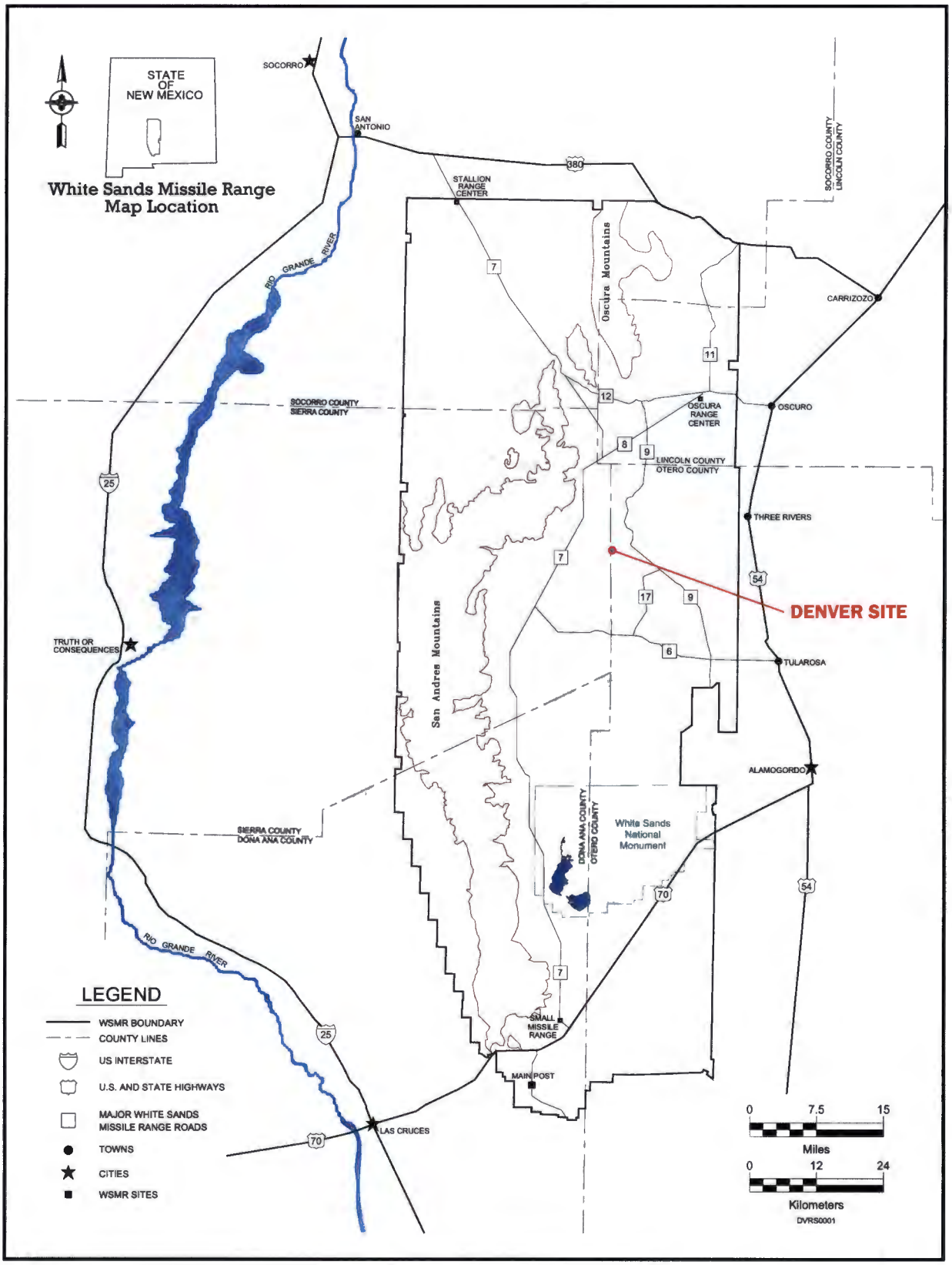

FIGURE 1. PROJECT LOCATION

The primary reason WSMR has performed this VCA is to remove soil at the Denver Site that is contaminated with diesel fuel to a level below what is considered protective of human health and the environment, as identified by NMED guidance on TPH contamination. At the time when the VCA work plan was prepared, NMED stipulated that the direct exposure limit for diesel #2 in a residential scenario was 880 milligrams per kilogram (NMED, 2003). NMED has since updated this guidance with a November 2005 publication. The updated guidance does not directly address the situation at the Denver Site due to lack of potential impact on potable water sources or nearby structures. Copies of the 2003 and 2005 TPH guidance documents are included with this report as Appendix A.

The removal action for this VCA relied on the conservative guideline for removal of soils contaminated with diesel #2, or equivalent, which exceeded a concentration of 880 milligrams per kilogram TPH-DRO. A secondary goal was to properly abandon the unnecessary piezometers and monitoring wells at the site. With the majority of contamination removed, further groundwater monitoring at the site is unnecessary. Thus, with abandonment, the potential that the piezometers or wells may serve as a conduit for future contaminant migration is greatly diminished. One up gradient monitoring well was left in place (outside the RCRA program) to aid in future regional monitoring of the water table at WSMR.

1.2 Site Background

The Denver Site is an abandoned telemetry station located south of WSMR Route 316 approximately 60 miles north of Main Post (see Figure 1). Power was generated on site by at least one generator supplied with diesel fuel by an AST located north of Route 316. Figure 2 shows the approximate locations of the generator and AST. Records indicate the AST was removed in 1998 and was approximately 1,800 gallons in capacity. The site has been inactive in excess of ten years (MEVATEC, 2002).

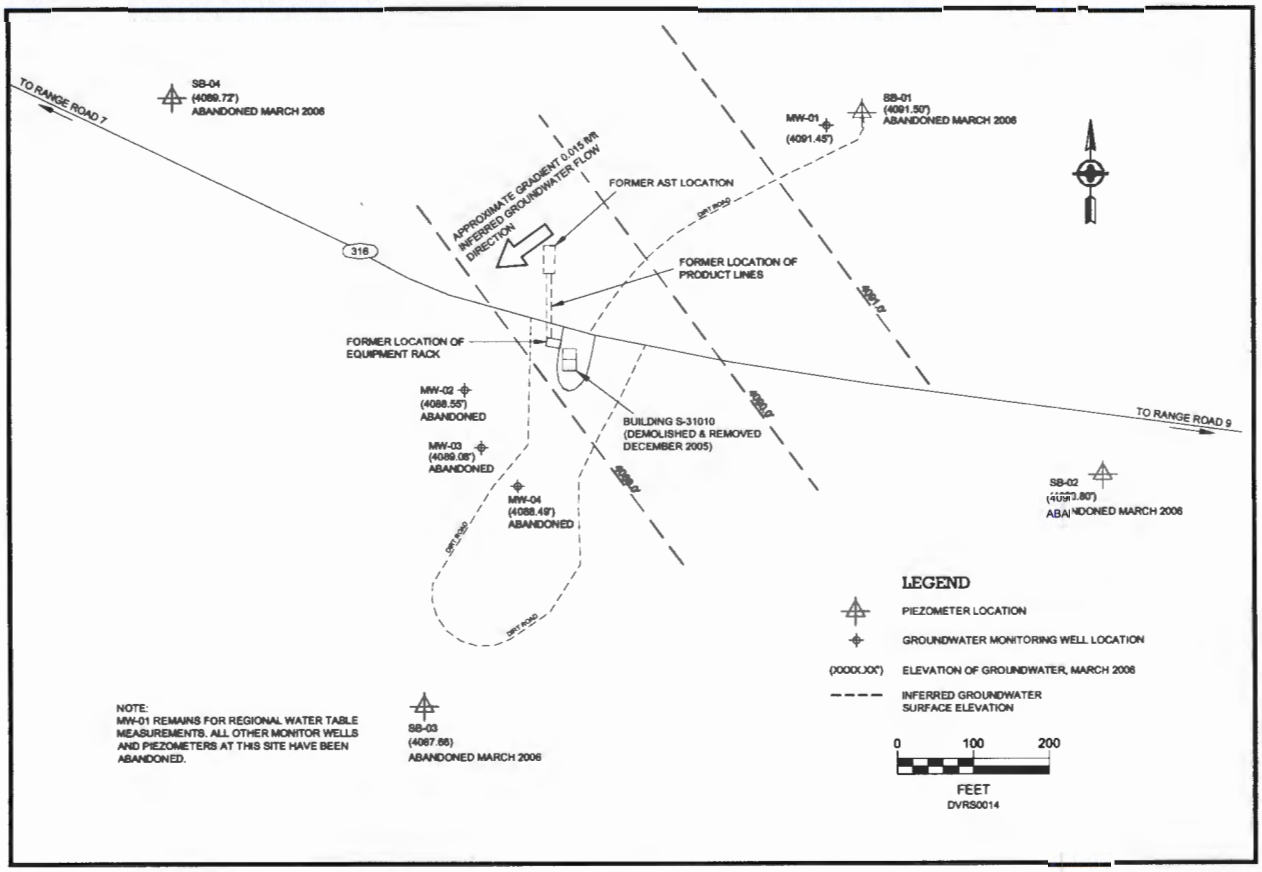

FIGURE 2.
SITE LAYOUT WITH INFERRED GROUNDWATER DIRECTION & GRADIENT

In June 2000, NMED-HWB added the former diesel AST at Denver Site to the WSMR Hazardous and Solid Waste Amendments corrective action module of the RCRA Permit as SWMU 166. This placed the Denver fuel spill under RCRA regulations. WSMR was then required to perform additional sampling and risk analysis in the form of a RFI. The RFI Report was submitted to NMED-HWB under a cover letter dated 24 July 2002.

2.0 PREVIOUS INVESTIGATIONS

2.1 Source Removal and Initial Investigation (1999)

According to WSMR records, the AST at Denver site was removed from service in 1998. During a range wide AST survey, surface staining was noted at the Denver AST location. As directed by 20.6.2.1203 NMAC, once the site was identified as a fuel spill, WSMR notified the Chief of the Ground Water Quality Bureau (GWQB) at NMED. To fulfill requirements given by GWQB, WSMR conducted soil and groundwater sampling in April 1999 and submitted a report discussing the nature and extent of contamination and remediation options. The amount of fuel which leaked to the soil is unknown. An initial investigation of the site was conducted in early February of 1999 when five borings in the immediate vicinity of the AST, two angled borings underneath the roadway, and eight borings in the vicinity of the equipment rack were accomplished using a hand auger. The deepest of these borings, reached a depth of 25 feet below ground surface. The majority of the borings reached depths of 10 to 15 feet below ground surface. At intervals of approximately five feet, soil samples were collected from the boreholes and submitted to the White Sands Applied Environments Test Branch Chemistry Laboratory (WSMR Lab) for hydrocarbon analysis. The highest TPH-DRO detections are noted in the following table.

TABLE 1. INITIAL TPH-DRO DETECTIONS AT DENVER (1999)

Soil Boring	Sample date	Depth (ft, bgs)	TPH-DRO (ppm)	Notes
Former AST location				
Center	4 Feb 99	4.5 – 5.0	14,500	Highest detection in this location
Center	4 Feb 99	19.5 – 20.0	38	Detection at greatest depth, detection limit – 5 ppm
Center	4 Feb 99	24.5 – 25.0	ND	Sample at greatest depth
Product lines				
316 North	18 Feb 99	All depths	ND	Total depth – 10 ft
ER-N	22 Feb 99	4.5 – 5.0	10	Highest detection in this location
ER-N	22 Feb 99	9.5 – 10.0	5	Sample at greatest depth, detection limit – 5 ppm
Former equipment rack location				
ER-C	18 Feb 99	9.5 -10.0	44,400	Highest detection in this location
ER-C	18 Feb 99	23.5 – 24.0	9,640	Sample at greatest depth
Notes: ND – non detect. ER-N and 316 North were angled borings which collected samples from beneath the road surface.				

The product lines which ran from the AST to the equipment rack were removed in February 1999, except for the portion of the lines located underneath the paved surface of Route 316. The two angled soil borings (316 North and ER-N) were located so as to collect samples beneath the paved road surface where the product lines passed (see Figure 3 and 4). These angled borings collected samples from a depth of 10 feet beneath the road surface. The boring to the north of the roadway did not detect contamination. Minor detections of TPH-DRO were found in samples from the boring located south of the roadway. The investigation is discussed in the report titled *Soil and Preliminary Groundwater Investigation at Denver Site* (MEVATEC, 1999).

2.2 Soil and Preliminary Groundwater Investigation (February – May 1999)

Analytical results demonstrated that sufficient depth could not be attained at some of the sample locations with the hand auger equipment. Data was also lacking concerning the area water table and geologic profile. Thus, a hollow stem auger was mobilized to extend boreholes at the equipment rack and to install groundwater monitoring equipment. Four piezometers were initially installed. Based on the findings of the piezometers, four monitoring wells were installed; one located up-gradient and three down-gradient from the release areas. Construction details are given in Table 2. Location of boreholes, piezometers, and monitoring wells are shown in Figure 2. The highest TPH-DRO concentration at the equipment rack location was 38,000 ppm at 9.5 to 10 feet below ground surface at SB-05. Contamination was noted at 700 milligrams per kilogram from a sample collected at 29.5 to 30.0 feet below ground surface in SB-05. This preliminary effort completed the delineation of the contaminated areas at the former location of the AST and the equipment rack.

TABLE 2. WELL AND PIEZOMETER CONSTRUCTION DETAILS

Well / piezometer name	Location		Elevation (feet)	Total depth (feet, bgs)	Elevation of groundwater (feet)
	Northing	Easting			
Piezometers (location & elevation of "V" notch at the top of piezometer)					
31010-PZ-01	3679900.876	375616.360	4113.80	35.0	4092.20
31010-PZ-02	3679755.501	375711.191	4112.78	30.0	4091.28
31010-PZ-03	3679660.391	375439.153	4112.96	32.5	4088.34
31010-PZ-04	3679908.173	375337.406	4107.49	38.0	4090.48
Monitoring wells (location & elevation of brass cap set in pad)					
31010-MW-01	3679898.452	375607.078	4112.54	40.0	4092.13
31010-MW-02	3679789.930	375455.339	4115.74	45.0	4089.12
31010-MW-03	3679766.790	375461.849	4116.15	45.0	4089.65
31010-MW-04	3679751.051	375476.556	4115.04	44.0	4089.01

Note: Locations based on UTM, Zone 13, NAD83. Elevations based on NAVD88.
Elevation of groundwater determined from piezometer and monitoring well measurements taken in August 2001.

Based on samples collected from monitoring wells, the groundwater below the site has a total dissolved solids concentration significantly above 10,000 milligrams per liter, and therefore groundwater protection regulations from the New Mexico Water Quality Control Commission or EPA Region VI MCLs do not necessarily apply. Once the wells were installed, groundwater samples were collected in May 1999. No petroleum products were detected in the monitoring wells. The investigation is detailed in the report titled *Soil and Preliminary Groundwater Investigation at Denver Site* (MEVATEC, 1999).

2.3 Additional Soil Borings (February 2001)

To follow-up the preliminary investigation, three additional borings (SB-14, 15, and 16) were completed in early 2001. NMED requested that analytical results from soil samples be compared to the appropriate Soil Screening Level (SSL) adjusted for a Dilution Attenuation Factor (DAF) of 20. The DAF 20 is a SSL which considers migration of a contaminant to groundwater. This conservative SSL is intended "to account for natural processes that reduce contaminant concentration in the subsurface" (NMED, 2004).

Based on the applicable DAF 20 guidance at the time, only naphthalene was detected in concentrations above the DAF 20 value of 0.2 milligrams per kilogram. The naphthalene detection of 12 milligrams per kilogram was located at the former in SB-14 at 9 feet below ground surface. Phenanthrene, a component of diesel fuel, was detected in concentrations (16 milligrams per kilogram) below the applicable DAF 20 value at the time (80,000 milligrams per kilogram). Total xylenes were also detected in concentrations (8.9 milligrams per kilogram) below the applicable DAF 20 value at the time (100 milligrams per kilogram).

2.3 RCRA Facility Investigation (February - April 2002)

NMED required that each SWMU be accessed with a RFI. NMED further specified that soil and groundwater be analyzed for methyl tert-butyl ether (MTBE) and lead. During February through April 2002, ten additional soil borings (SB-17 through SB-26) were advanced to 25 feet below the ground surface at both the AST and equipment rack locations. Boring locations were purposely placed alongside prior sampling locations. Each of the monitoring wells was sampled in early April 2002. Analytes included VOCs, SVOCs, MTBE, and RCRA metals.

The results of the RFI indicate diesel is the only petroleum product present in the subsurface. MTBE was not detected in any of the samples. Concentrations of lead in the soil were higher where there was little or no diesel contamination, thus indicating the lead was naturally occurring and not a result of the diesel spill. Detections of contaminants in soil samples were compared to NMED's DAF 20 levels as given in NMED guidance from December 2000. Detected concentrations of lead were above the 2000 DAF 20 level (0.2 milligrams per kilogram), but are not associated with the diesel spill. It should be noted that NMED issued updated SSL guidance in February 2004. The updated SSL guidance includes a raised DAF 20 level for lead of 9.17 milligrams per kilogram. At this new value, lead at the Denver site no longer exceeds the DAF 20 level. Naphthalene, detected above the 2000 DAF 20 level of 0.2 milligrams per kilogram, also exceeds the updated value of 0.393 milligrams per kilogram. The distribution of contamination at SWMU 166 was consistent with previous investigations. The details of this effort are discussed in the *RCRA Facility Investigation Report, Denver and Malpais Sites* (MEVATEC, 2002). The RFI recommended remediation of the site where TPH concentrations exceeded 5000 parts per million. The assessment of risk developed for the RFI report is further discussed in Section 2.6.4.

TABLE 3.
RFI ORGANIC DETECTIONS AT DENVER UPDATED WITH 2004 NMED SSL

Soil Boring	Sample date	Depth (ft, bgs)	Analyte	Concentration	Notes
Former AST location					
18	Feb 02	4.0 – 6.0	TPH-DRO	28,000 ppm	Highest detection in this location
18	Feb 02	4.0 – 6.0	Acenaphthene	3.9 mg/kg	Only detection in this location. DAF 20 level 79.8 mg/kg (NMED, 2004)
18	Feb 02	4.0 – 6.0	Fluoranthene	0.870 mg/kg	Highest detection. DAF 20 level 4820 mg/kg (NMED, 2004)
18	Feb 02	4.0 – 6.0	Naphthalene	**1.2 mg/kg**	Highest detection in this location. DAF 20 level 0.393 mg/kg (NMED, 2004)
18	Feb 02	4.0 – 6.0	Pyrene	1.3 mg/kg	Highest detection in this location. DAF 20 level 568 mg/kg (NMED, 2004)
Former equipment rack location					
26	Feb 02	24.0 – 26.0	TPH-DRO	5200 ppm	Highest concentration at depth
26	Feb 02	9.0 – 11.0	TPH-DRO	38,000 ppm	Highest detection in this location
26	Feb 02	9.0 – 11.0	Acenaphthene	4.9 mg/kg	Highest detection in this location. DAF 20 level 79.8 mg/kg (NMED, 2004)
26	Feb 02	14.0 – 16.0	Ethylbenzene	1.0 mg/kg	Highest detection. DAF 20 level 8 mg/kg (NMED, 2004)
25	Feb 02	9.0 – 11.0	Fluorene	12.0 mg/kg	Highest detection. DAF 20 level 100 mg/kg (NMED, 2004)
26	Feb 02	9.0 – 11.0	Naphthalene	**18.0 mg/kg**	Highest detection in this location. Analysis exceeded the linear range of instrument and should be considered an estimate. DAF 20 level 0.393 mg/kg (NMED, 2004)
26	Feb 02	9.0 – 11.0	Phenanthrene	20.0 mg/kg	Highest detection. DAF 20 level 80,000 mg/kg (NMED, 2004)
26	Feb 02	9.0 – 11.0	Pyrene	1.5 mg/kg	Highest detection in this location. DAF 20 level 568 mg/kg (NMED, 2004)
26	Feb 02	14.0 – 16.0	Toluene	0.820 mg/kg	Highest detection. DAF 20 level 6.8 mg/kg (NMED, 2004)
26	Feb 02	14.0 – 16.0	Xylene (total)	8.30 mg/kg	Highest detection. Analysis exceeded the linear range of instrument and should be considered an estimate. DAF 20 level 10.1 mg/kg (NMED, 2004)

2.4 Site Conceptual Model

2.4.1 Site Geological Profile

The site is located in the Tularosa Basin approximately 11 miles east of Salinas Peak and approximately 60 miles north of the Main Post. The basin has thick alluvial and bolson-fill deposits which are comprised of silt, sand, gypsum, and clay layers eroded from the San Andres Mountains to the west and the Sacramento Mountains to the east.

Soil at the Denver Site is described as Yesum-Holloman association. This unit is comprised of 35 percent Yesum very fine sandy loam, 30 percent Holloman very fine sandy loam, and 20 percent Gypsum land, hummocky (Neher, R. E., and O. F. Baily, 1976). This association typically consists of level to gently sloping land with undulating dune-like areas. The site geology can be further described as noted in Soil Boring 4, completed during the 1999 investigation (see Table 4); taken as typical of the site.

TABLE 4. SOIL LITHOLOGY AT THE DENVER SITE (SOIL BORING 4)

Depth below ground surface (feet)	Description
0 – 6	Fine grained sand, well sorted, loose, white – pink
6 – 7	Poorly sorted silts, sand, tan, white, black, 40% gypsum, 20% silt
7 - 10	Fine grained sand, well sorted, gypsum, loose, white – pink, increasing silt
10 – 12.5	Silty sand, tan, well consolidated, cement, increasing fines
12.5 – 15	Clayey silt, dark brown, some moisture, poorly sorted, 30-40% sand
15 – 18	Silty clay, dark brown, secondary selenite (gypsum), increasing sand, decreasing gypsum
18 – 23	Poorly sorted, silty fine grained sand, well consolidated
23 – 25	Fine grained sand, gray to red
25 – 26	Medium to fine grained sand, saturated, minor silt, poorly sorted, dark brown
26 – 31	Clayey silt, with secondary gypsum, red-brown with white mottles
31 – 32	Silty clay with secondary gypsum, medium stiffness, red-brown with white (selenite)
32 – 35	Silty fine grained sand, saturated 34' - 34.5', very soft, red-brown
35 – 37	Clayey sandy silt, moist, stiff 35' – 36', soft to 37.5'
37 – 39	Fine grained sand with cobbles, saturated
39 – 45	Sandy clayey silt, saturated, red-brown
45 – 52	Medium to fine grained sand with silt, poorly sorted, saturated, black-gray-brown
52 – 52.5	Silty sand, dense, saturated
52.5 – 55	Sandy silt, dry, secondary gypsum, medium stiff, red with white secondary gypsum
55 – 65	Sandy silt, fine grained, saturated, medium stiff, brown

Note: Soil boring 4, drilled during the 1999 investigation, reached the greatest depth of any borehole completed at the Denver site during either the 1999 and 2002 investigations. Other boreholes demonstrated similar lithology. Description reproduced from soil boring log, Appendix E (MEVATEC, 1999).

2.4.2 Site Hydrological Profile

Despite the dry climate, there are several instances of surface water in the area surrounding the site. Salt Creek and Malpais Spring are located approximately three miles west and northeast from the site, respectively. Several playas are also located to the southwest. Groundwater beneath the Denver Site is considered saline since samples taken from the monitor wells demonstrated total dissolved solid concentrations of approximately 40,000 milligrams per liter.

Based on measurements taken when the monitoring wells were sampled in 2002, groundwater exists approximately 15 to 25 feet below the ground surface. Prior to abandoning the wells and piezometers, as part of this work effort, depth to groundwater was again measured. Locations of the wells and piezometers including the most recent groundwater measurement results are shown in Figure 2.

2.5.3 Nature and Extent of Contamination

Past investigations at the Denver Site have determined that the nature of contamination is diesel fuel, which leaked from an AST and associated piping. The spill produced two impacted areas: one at the former location of the AST, and the second at the former location of the equipment rack. These investigations confirmed the presence of diesel fuel and no other hazardous substances. Thus the contaminated soil is classified as diesel impacted soil and can be excavated and disposed of as non-hazardous material based on analytical results from prior investigations and according to NMED regulations (NMAC 20.9.1.708).

The extent of contamination was documented in past investigation reports. It was estimated that contamination had reached an approximate depth of 10 feet at the AST and approximately 25 feet at the equipment rack. Since the angle borings (ER-N and 316-North) completed under the road surface in 1999 detected only minor contamination (10 ppm), it was assumed soil beneath the road surface was not heavily contaminated and did not pose a threat to human health or the environment. Analytical results from the groundwater sampling events did not indicate contamination had reached any of the down-gradient monitoring wells. Thus, it was not anticipated that contamination had entered the local groundwater. NMED specifically requested samples to be analyzed for MTBE, which was a common fuel additive beginning in the mid 1980s and has been associated with other fuel spills as it is somewhat water soluble (AWWA, 1999). Samples collected during the RFI were analyzed for MTBE and other compounds. MTBE was not detected in any of the soil or groundwater samples and thus does not further complicate the contamination at the Denver Site.

Based on the results of past investigations, it was estimated that approximately 35 cubic yards of contaminated soil would need to be excavated from the former AST location and 450 cubic yards from the former equipment rack location. Figures 3 and 4 display the estimated extent of contamination based on analytical results from past investigations.

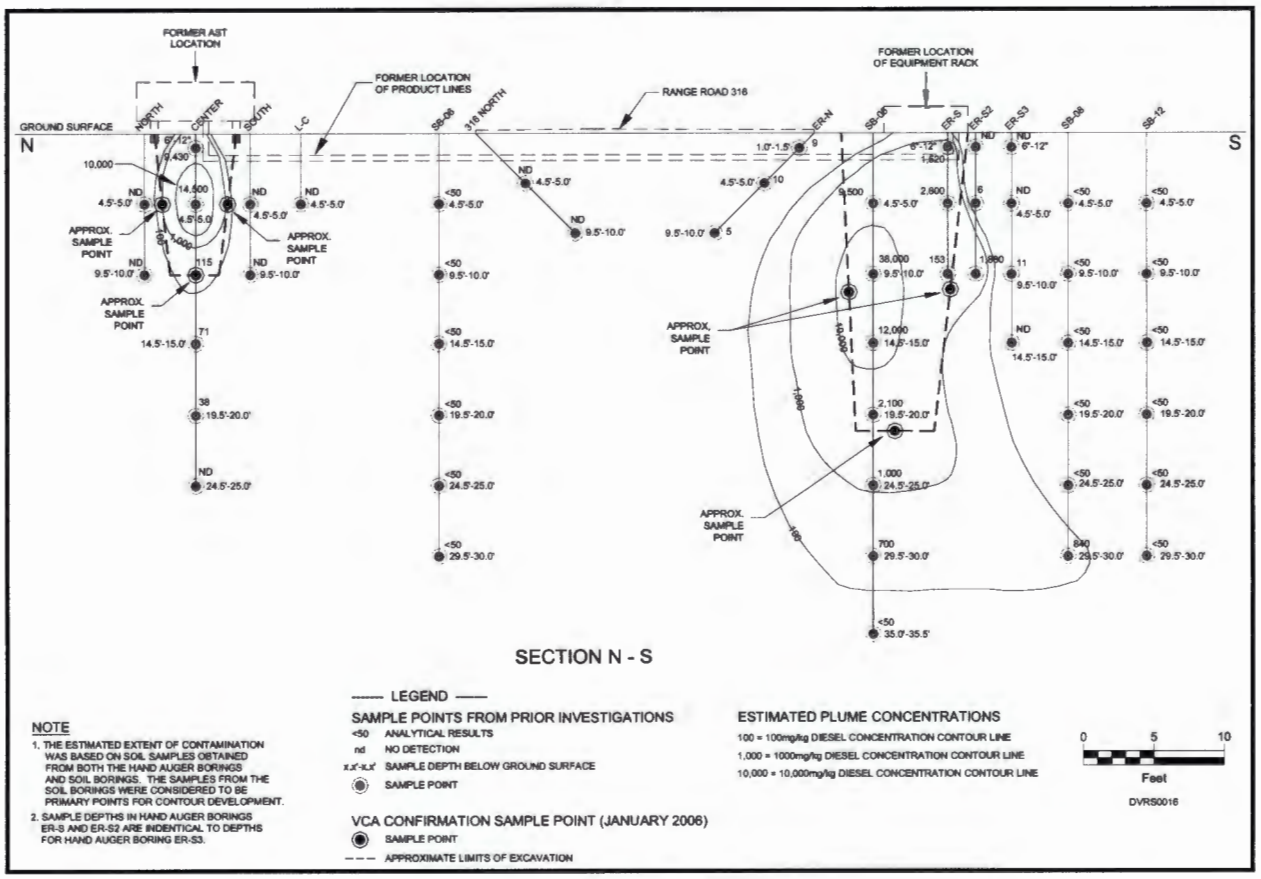

FIGURE 3.
ESTIMATED VERTICAL EXTENT OF CONTAMINATION ON NORTH-SOUTH CROSS-SECTION

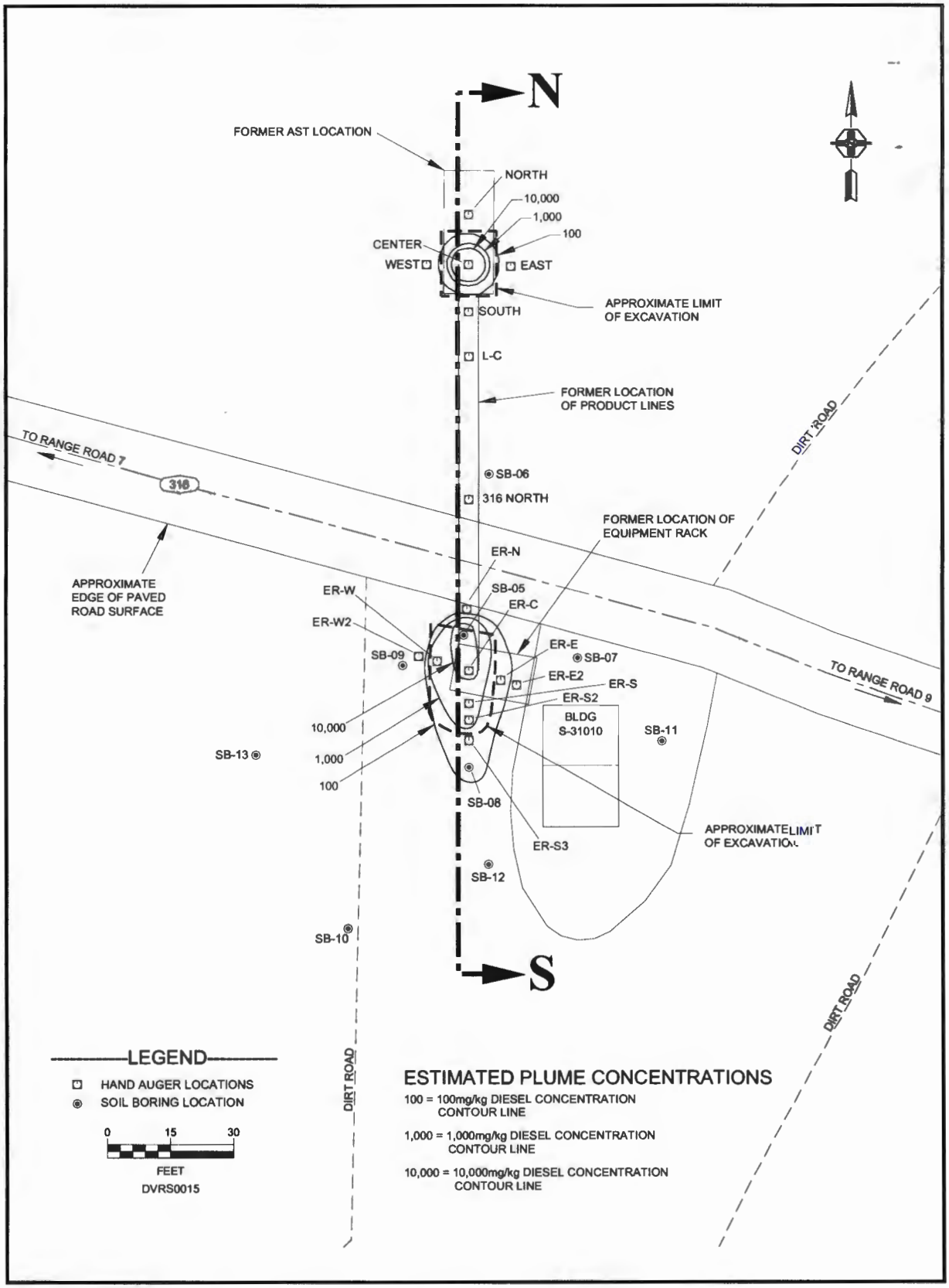

FIGURE 4. ESTIMATED HORIZONTAL EXTENT OF CONTAMINATION

2.6.4 Environmental Fate

As part of the RFI, a Tier 1 risk assessment was performed to identify potential environmental pathways and receptors as well as to determine the need for remediation and applicable cleanup targets at the Denver Site. The risk assessment was carried out according to NMED guidance regarding Risk-Based Decision Making Process (RBDMP) for petroleum releases (NMED, 2000).

The RBDMP Assessment determined that the exposure pathway for construction workers during remediation activities was complete. The assessment determined that the potential for detrimental impact to potential ecological receptors did not exist. The RBDMP Assessment determined that remediation was not necessary based on the remoteness of the site, controlled access to WSMR, high TDS in area groundwater, distance to occurrences of viable water sources, and incomplete exposure pathways. NMED-HWB directed WSMR to use guidance issued in 1993 by the New Mexico Oil Conservation Division (OCD). Based on the OCD guidance (included in Appendix A of this report) the RFI recommended a remediation level of 5000 parts per million TPH be utilized. Details of this RBDMP Assessment are located in Section 4.0 of the RFI (MEVATEC, 2002).

3.0 RESULTS OF CORRECTIVE ACTION

3.1 Approach and Implementation

Remediation efforts carried out during this VCA were based on the *Final Work Plan Voluntary Corrective Action at the Denver Site on White Sands Missile Range* (BAE Systems, 2004). This Work Plan details excavation, confirmation sampling, disposal, backfill, and well abandonment efforts associated with remediation of the Denver Site. Any deviations from the Work Plan are noted in the following section. NMED has issued updated guidance regarding SSLs and TPH screening guidelines since the development and publication of the Work Plan. As in previous sections of this VCA Report, differences are noted where updated guidance and prior guidance vary.

WTS subcontracted Rhino Environmental Services, Inc. (Rhino) to excavate and dispose of the contaminated soil located at the Denver Site. Rhino also provided clean backfill material to complete the project. Raba-Kistner Consultants, Inc. (Raba) was subcontracted to abandon the monitoring wells and piezometers. Prior to excavation, the abandoned telemetry structure was demolished and removed under a separate contract.

The areas of excavation were delineated based on borehole locations still visible from past investigations and GPS coordinates obtained from a handheld GPS unit. Stockpile areas were designated and traffic control established. Excavation, disposal, sampling, and backfill took place 16 through 21 January 2006. Well abandonment activities were carried out 6 through 7 March 2006.

3.2 Deviations from Work Plan

Site Detour: The Work Plan required that traffic on Route 316 be detoured around the south side of the work zone. Once on site, it was determined that truck access would be most feasible through the area intended for the detour. Further examination revealed that a full detour would be unnecessary due to the limited traffic volume and small work zones. Traffic cones were utilized to limit traffic to one lane with sufficient sight distance to avoid conflicts (Photograph 2). WTS personnel were on site to assist in traffic control as necessary.

Field Analysis: Rather than use a field kit for rapid confirmation samples as stipulated by the Work Plan, confirmation samples were first sent to the WSMR Lab for TPH-DRO analysis by EPA 418.1 (infrared spectroscopy). The WSMR Lab was able to analyze the samples within 24 hours, thus allowing decisions regarding the extent of excavations to be made in a timely fashion. Analytical results from the WSMR Lab are also believed to be more accurate and precise than analysis from commercially available field kits.

PHOTOGRAPH 2. LIMITED TRAFFIC CONTROL DURING EXCAVATION EFFORT

Slope Layback: Based on experience from the excavation at the nearby Malpais Site and per the opinion of a WTS Professional Engineer; it was determined that laying back the slopes of the excavations as noted in the Work Plan would be unnecessary. As directed by the Work Plan, personnel would not be entering the excavation. Side slopes were near vertical and benching was utilized where necessary to reach intended excavation depth. Shoring, sheet piles, or a trench box were not determined to be necessary to maintain excavation stability (Photographs 3, 4, and 5).

PHOTOGRAPH 3. COMPLETED EXCAVATION AT THE FORMER AST LOCATION

PHOTOGRAPH 4.
SOUTH WALL OF EXCAVATION AT THE FORMER EQUIPMENT RACK LOCATION

PHOTOGRAPH 5.
EXCAVATION AT THE FORMER EQUIPMENT RACK LOCATION

Soil Stockpile Locations: Based on several factors including the estimated size of the excavations, truck access, and the anticipated speed of the work effort; it was determined, in the field, that the planned locations for stockpiling material were impractical. Clean backfill was stockpiled south of the excavation at the former equipment rack. Excavated contaminated soil was stockpiled south of the excavation at the former AST and west of the excavation at the former equipment rack.

Contaminated Soil Stockpiling: The Work Plan stipulated contaminated soil would be placed in roll off boxes immediately after excavation. Due to the speed of the excavation process, this was determined not to be practical. Contaminated soil was temporarily staged near the excavation and then transferred to a transport vehicle for removal shortly thereafter.

Confirmation Sampling and Excavation Limits: Initial excavation limits were given in the Work Plan. Once the excavations had reached the initial limits, confirmation samples were collected from the walls and floor of each excavation. Three 4-oz samples jars were filled with soil collected from a particular sample point using the excavator bucket. No personnel entered the excavations. One sample jar from each of the sample locations was submitted to the WSMR Lab for TPH-DRO analysis within a 24 hour period. The WSMR Lab was not equipped to perform TPH analysis by SW-846 8015 modified for DRO and thus relied on the comparable EPA Method 418.1. Results from the WSMR Lab indicated additional excavation along the north side-wall at the former equipment rack location was warranted. An additional two feet of contaminated soil was removed from the entire face of the north side-wall. Due to the proximity of the road surface and potential damage resulting from sloughing in the excavation, it was decided to cease excavation at this point, collect an additional confirmation sample from the north side-wall, and begin backfilling the excavation. Based on the findings of prior investigations, it was assumed the vast majority of the concentrated contamination had been removed.

3.2 Materials Removed

The VCA Work Plan for the Denver Site specified that contaminated soil demonstrating concentrations of TPH exceeding 880 milligrams per kilogram would be excavated and removed from the site. This was based on screening guidelines issued by NMED in February 2003 for residential direct exposure. More recent guidance regarding TPH was issued by NMED in November 2005. This updated guidance stipulates screening guidelines based on either potential impact to groundwater or vapor migration. When sites with potable groundwater are considered, the residential direct exposure screening level is 520 milligrams per kilogram (Table 2a, NMED, 2005). When the inhalation scenario is considered, the residential direct exposure screening level is 880 milligrams per kilogram (Table 2b, NMED, 2005). The groundwater at this site is not potable and has a TDS concentration of approximately 40,000 milligrams per liter. There are no structures located at the Denver Site.

Approximately 420 cubic yards of contaminated soil was removed during the VCA at the Denver Site. The excavation at the former location of the AST reached a depth of 10 feet while the excavation at the former equipment rack reached a depth of approximately 21 feet. No free product was encountered during excavation. Contaminated soil was loaded onto 20 cubic yard tractor trailers and transported from the site. Figures 3 and 4 graphically demonstrate the majority of the contaminated soil was removed during the VCA.

3.3 Final Disposal of Contaminated Materials

Rhino transported the contaminated soil to their treatment facility on Highway 54 in Otero County, New Mexico. This treatment facility is located 1.7 miles north of the New Mexico and Texas state line and operates under Discharge Permit 1051. Copies of the manifest documents are included in Appendix B.

3.4 Results of Confirmation Sampling

As discussed in the Work Plan, once excavation had reached the appropriate dimensions, samples were collected from each of the sidewalls, at approximately mid-depth, and from the floor of the excavation. Due to safety concerns, the excavator bucket was utilized to collect approximately 0.5 cubic feet of soil for each sample. No personnel entered the excavations. For each sample location, three 4-oz. sample jars

were filled with soil composited from the excavator bucket. Thus, a total of 30 sample jars were filled from 10 sample locations, five in each excavation. Trip blank VOAs accompanied the samples while in the field and in transit. Samples were placed on ice with appropriate chain of custody forms (copies are included in Appendix C) immediately after collecting. Once work was completed for the day, samples were transported to the WTS office and placed in cold storage to await transport to the laboratory. One 4-oz. sample was taken to the WSMR Lab for initial TPH analysis to determine if the excavations had removed sufficient contamination. Results from this initial analysis are given in Table 5.

Confirmation sampling was carried out at each of the excavation sites on 17 January 2006. Sample identification is as follows:

- *SWMU-166* – NMED designation for the Denver Site;
- *AST* or *GEN* – Above-ground Storage Tank and equipment rack location, respectively;
- *1XX* – samples sent to the WSMR Lab;
- *0XX* – samples sent to TraceAnalysis, Inc.;
- *XX1* – sample from the north side-wall, sampling proceeded in a clockwise fashion (i.e. *XX2* for east side-wall, *XX3* for south side-wall, and *XX4* west side-wall);
- *XX5* – sample from the excavation floor; and
- *X1X* – resample from any given location.

TABLE 5. INITIAL CONFIRMATION SAMPLING

Sample ID	Sample Date	Analyte	Concentration (mg/kg)
SWMU-166-AST-101	1-17-06	TPH-DRO (EPA 418.1)	ND
SWMU-166-AST-102	1-17-06	TPH-DRO (EPA 418.1)	ND
SWMU-166-AST-103	1-17-06	TPH-DRO (EPA 418.1)	ND
SWMU-166-AST-104	1-17-06	TPH-DRO (EPA 418.1)	ND
SWMU-166-AST-105	1-17-06	TPH-DRO (EPA 418.1)	ND
SWMU-166-GEN-101	1-17-06	TPH-DRO (EPA 418.1)	8,650
SWMU-166-GEN-102	1-17-06	TPH-DRO (EPA 418.1)	26
SWMU-166-GEN-103	1-17-06	TPH-DRO (EPA 418.1)	10
SWMU-166-GEN-104	1-17-06	TPH-DRO (EPA 418.1)	ND
SWMU-166-GEN-105	1-17-06	TPH-DRO (EPA 418.1)	ND
Note: Detection limit is 10 mg/kg.			

The north sidewall of the excavation at the former location of the equipment rack was re-sampled on 20 January 2006, after additional contaminated soil had been removed. Table 6 lists detections from the samples sent to TraceAnalysis Laboratories for VOC, SVOC, and TPH-DRO analysis.

3.5 Backfill of the Excavations

Once results from confirmation sampling demonstrated sufficient contaminated soil had been removed, clean soil was used to fill the excavations. Rhino provided the necessary clean fill material from off site. Prior to commencing work, Rhino provided WTS with analytical results to demonstrate the fill material was non-hazardous. Non-potable water from a WSMR well located near the Tularosa Gate was used during the back fill process to aid in compaction. Backfill operations were completed 21 January 2006 (Photographs 6 and 7).

TABLE 6. DETECTIONS FROM CONFIRMATION SAMPLING

Analyte		Analytical Results			NMED Guidance	
		Detection (mg/kg)	PQL (mg/kg)	RL (mg/kg)	Residential SSL (mg/kg)	DAF 20 (mg/kg)
Sample: SWMU-166-AST-003 (Sample date 17 January 2006)						
SVOCs	Di-n-octylphthalate	0.558	0.25	0.25	NA	NA
Sample: SWMU-166-AST-005 (Sample date 17 January 2006)						
SVOCs	Anthracene	0.351	0.25	0.25	23,500	1600
Sample: SWMU-166-GEN-011 (Sample date 20 January 2006)						
SVOCs	Naphthalene	**2.71**	0.25	0.25	71.9	0.393
	1-Methylnaphthalene	27.2	0.25	0.25	NA	NA
	2-Methylnaphthalene	27.6	0.25	0.25	NA	NA
	Pronamide	2.74	0.25	0.25	NA	NA
	Phenanthrene	11.2	0.25	0.25	1800	76.2
	Pyrene	0.684	0.25	0.25	2300	568
TPH	DRO	**7320**	50.0	50.0	520	NA
VOCs	m,p-Xylene	0.101	0.001	0.001	m: 80 p: 124	163 158
	o-Xylene	0.0501	0.001	0.001	98.6	147.0
	1,3,5-Trimethylbenzene	0.852	0.001	0.001	22.3	0.344
	1,2,4-Trimethylbenzene	0.888	0.001	0.001	52.2	1.38
	p-Isopropyltoluene	0.598	0.001	0.001	NA	NA
	Naphthalene	**1.620**	0.005	0.005	71.9	0.393

Note: PQL is the Practical Quantitation Limit drawn from the test method and normally represents the SDL multiplied by a matrix specific factor. Some analytes do not have an associated SSL or DAF 20 value. These are noted by NA in the respective column.

PHOTOGRAPH 6. BACKFILLING THE EXCAVATION AT THE FORMER EQUIPMENT RACK

PHOTOGRAPH 7. COMPLETED BACKFILL OF EXCAVATIONS

3.6 Monitoring Well & Piezometer Abandonment

Since the accessible contamination has been removed from the site and the potential for migration of diesel fuel is unlikely, as dictated by the Work Plan, the down-gradient monitoring wells and all the piezometers were abandoned by a licensed well driller. The up-gradient monitoring well was left in place to serve as a measuring point for the regional water table. Raba-Kistner abandoned the monitoring wells and piezometers on 6 and 7 March 2006. Prior to abandonment, an interface probe was used to measure each well and piezometer and check for any free product which may have been found on the water surface. The probe did not indicate the presence of any product at the Denver Site. All surface appurtenances were removed, the casing was cut below the ground surface, and the remaining casing was filled with cement bentonite grout (Photograph 8). The disturbed areas were graded to match the surrounding ground surface. Figure 2 displays the final groundwater measurements and site layout.

PHOTOGRAPH 8. ABANDONMENT OF MONITORING WELLS 2, 3, & 4

4.0 SITE ASSESSMENTS

Based on prior investigations, the Work Plan estimated 485 cubic yards of contaminated soil would be removed from the Denver Site to satisfy the remediation goal. Actual excavation volume was 420 cubic yards and included sufficient over-excavation such that the majority of confirmation samples did not demonstrate TPH-DRO concentrations above 30 parts per million (see Table 5). These same confirmation samples did not detect significant concentrations of VOCs and SVOCs known to exist at the site. These confirmation samples indicate either the concentration contours developed in previous investigations (and relied on as Figures 3 and 4 in this report) were overly conservative or a significant amount of biodegradation of the diesel contamination has taken place since the prior investigation.

Due to constraints encountered during excavation, the site still has diesel contamination above the remediation goal as evidenced by the confirmation sample taken from the north side-wall of the excavation at the former equipment rack. The initial confirmation sample demonstrated a TPH-DRO concentration of 8,650 milligrams per kilogram. As directed by the Work Plan, additional soil was excavated from this sidewall (an approximate section two feet in thickness) and another confirmation sample was taken. While the second confirmation sample revealed a reduction in the TPH-DRO concentration of 1,330 milligrams per kilogram to 7320 milligrams per kilogram, it was still above the 880 milligrams per kilogram remediation goal. As noted in prior sections, excavation was ceased due to the proximity of the paved road surface and the anticipation that additional excavation would require full closure of the adjacent roadway and result in damage to the paved surface. Naphthalene was detected in the north side-wall confirmation sample below the residential SSL but above the DAF 20 groundwater protection value (see Table 6).

An estimate of the remaining contaminated soil was made based on the confirmation samples and the estimated plume concentration contours from previous investigations (see Figures 3 and 4). Thus, the remaining volume of contaminated soil, located north of the equipment rack excavation extending under the edge of the road, was estimated to be approximately five to nine cubic yards. This corresponds to a removal of approximately 98 percent of the contaminated soil.

While this site has not been completely remediated to a point where no contamination remains above remediation goals, it is WSMR's assertion that the majority of the contamination was removed and thus warrants no further action at this site considering that further excavation would result in pavement damage and road closure. The remaining contamination is unlikely to migrate due to the small quantity present; low precipitation at the site; the impervious nature of the paved road surface, which will further limit infiltration; and the lack of viable receptors. The location of the Denver Site is near several missile impact areas and thus no future structures are likely to be located at the site.

5.0 NO FURTHER ACTION PETITION

5.1 Rationale

Upon acceptance of this report by NMED, WSMR will issue a petition to NMED for a NFA determination and Class 3 modification to remove SWMU 166 from its permit.

5.2 Criterion

WSMR proposes NFA criterion 5 for SWMU 166. As stated in Section II.B.a.(4),(b) of NMED guidance (HRMB, 1998), "The SWMU has been characterized or remediated in accordance with current applicable state or federal regulations, and the available data indicate that contaminants pose an acceptable level of risk under current and projected future land use."

REFERENCES

AWWA, 1999. *Water Quality & Treatment, A Handbook of Community Water Supplies*, Fifth Edition; American Water Works Association, New York.

BAE Systems, 2005. *Final Work Plan Voluntary Corrective Action at the Denver Site on White Sands Missile Range*; WSMR, NM. Report WS-ES-EC-0411.

MEVATEC, 1999. *Soil and Preliminary Groundwater Investigation at Denver Site*, MEVATEC Corporation; WSMR, NM. Report 300GG/99/009F.

MEVATEC, 2001. *Work Plan for the RCRA Facility Investigation at the Denver and Malpais Sites on White Sands Missile Range*; MEVATEC Corporation, WSMR, NM. Report No. 700B5/01/001F.

MEVATEC, 2002. *RCRA Facility Investigation Report, Denver and Malpais Sites, White Sands Missile Range*; MEVATEC Corporation, WSMR, NM. Report 900PP/02/001F.

Neher, R. E., and O. F. Baily, 1976. *Soil Survey of White Sands Missile Range, New Mexico; Parts of Dona Ana, Lincoln, Otero, Sierra, and Socorro Counties*; U. S. Dept. of Agriculture, Soil Conservation Service, Washington, D.C.

NMED, 12 January 2004, Correspondence – Cheryl Frischkorn to Thomas A. Ladd, Subject: RCRA Facility Investigation Report for the Denver & Malpais Sites, WSMR, EPA ID No. NM2750211235, HWB-WSMR-02-009.

NMED, 2000. Risk Based Evaluation of Petroleum Releases (20.5.1200 NMAC), *New Mexico Underground Storage Tank Bureau: Guidelines for Corrective Action*. New Mexico Environment Department, Santa Fe, NM.

NMED, 2004. *Appendix A, State of New Mexico Soil Screening Levels, Revision 2.0*; New Mexico Environment Department – Hazardous Waste Bureau and Ground Water Quality Bureau Voluntary Remediation Program, Santa Fe, NM.

NMED, 2003. *New Mexico Environment Department TPH Screening Guidelines*; New Mexico Environment Department, Santa Fe, NM.

NMED, 2005. *New Mexico Environment Department TPH Screening Guidelines – November 2005*; New Mexico Environment Department, Santa Fe, NM.

NMED, 2000. *Risk Based Evaluation of Petroleum Releases*, New Mexico Underground Storage Tank Bureau: Guidelines for Corrective Action. New Mexico Environment Department, Santa Fe, NM.

New Mexico Oil Conservation Division, 1993. *Guidelines for Remediation of Leaks, Spills and Releases,* New Mexico Oil Conservation Division.

APPENDIX A

NMED TPH Screening Guidelines &
Guidance for Remediation of Leaks, Spills and Releases

NEW MEXICO ENVIRONMENT DEPARTMENT TPH SCREENING GUIDELINES
November 2005

In some instances, it may be practical to assess areas of soil contamination that are the result of releases of petroleum products such as jet fuel and diesel, using total petroleum hydrocarbon (TPH) analyses. TPH results may be used to delineate the extent of petroleum-related contamination at these sites and ascertain if the residual level of petroleum products in soil represents an unacceptable risk to future users of the site. Petroleum hydrocarbons represent complex mixtures of compounds, some of which are regulated constituents and some compounds that are not regulated. In addition, the amount and types of the constituent compounds in a petroleum hydrocarbon release differ widely depending on what type of product was spilled and how the spill has weathered. This variability makes it difficult to determine the toxicity of weathered petroleum products in soil solely from TPH results; however, these results can be used to approximate risk in some cases, depending upon the nature of the petroleum product, the release scenario, how well the site has been characterized, and anticipated potential future land uses. In some cases, site clean up cannot be based solely on results of TPH sampling. The New Mexico Environment Department (NMED) will make these determinations on a case by case basis. If NMED determines that additional data are necessary, these TPH guidelines must be used in conjunction with the screening guidelines for individual petroleum-related contaminants in Table 3 and other contaminants, as applicable.

The screening levels for each petroleum carbon range from the Massachusetts Department of Environmental Protection (MADEP) Volatile Petroleum Hydrocarbons/Extractable Petroleum Hydrocarbons (VPH/EPH) approach and the percent composition table below were used to generate screening levels corresponding to total TPH. Except for waste oil, the information in the compositional assumptions table was obtained from the Massachusetts Department of Environmental Protection guidance document *Implementation of the MADEP VPH/EPH Approach* (October 31, 2002). TPH toxicity was based only on the weighted sum of the toxicity of the hydrocarbon fractions listed in Table 1.

Table 1. TPH Compositional Assumptions in Soil

Petroleum Product	C11-C22 Aromatics	C9-C18 Aliphatics	C19-C36 Aliphatics
Diesel #2/ new crankcase oil	60%	40%	0%
#3 and #6 Fuel Oil	70%	30%	0%
Kerosene and jet fuel	30%	70%	0%
Mineral oil dielectric fluid	20%	40%	40%
Unknown oil[a]	100%	0%	0%
Waste Oil[b]	0%	0%	100%

[a] Sites with oil from unknown sources must be tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs) to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

[b] Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

A TPH screening guideline was calculated for each of the types of petroleum product based on the assumed composition from Table 1 for petroleum products and the direct soil standards incorporating ceiling concentrations given in the MADEP VPH/EPH Excel spreadsheet for each of the carbon fractions. Groundwater concentrations are based on the weighted sum of the noncarcinogenic toxicity of the petroleum fractions.

Method 1 from the MADEP VPH/EPH document was applied, which represents generic cleanup standards for soil and groundwater. Method 1 applies if contamination exists in only soil and groundwater. The MADEP VPH/EPH further divides groundwater into standards. Standard GW-1 applies when groundwater may be used for drinking water purposes. GW-1 standards are based upon ingestion and use of groundwater as a potable water supply. The TPH screening guidelines for sites with potable groundwater are presented in Table 2a.

Table 2a. TPH Screening Guidelines for Potable Groundwater (GW-1)

TPH			Concentration in Groundwater (mg/L)
Petroleum Product	**Residential Direct Exposure (mg/kg)**	**Industrial Direct Exposure (mg/kg)**	
Diesel #2/crankcase oil	520	1120	1.72
#3 and #6 Fuel Oil	440	890	1.34
Kerosene and jet fuel	760	1810	2.86
Mineral oil dielectric fluid	1440	3040	3.64
Unknown oil [a]	200	200	0.2
Waste Oil [b]	2500	5000	Petroleum-Related Contaminants
Gasoline	Not applicable	Not applicable	Petroleum-Related Contaminants

[a] Sites with oil from unknown sources must be tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs) to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

[b] Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

The second standard is GW-2, which is applicable for sites where the depth to groundwater is less than 15 feet from the ground surface <u>and</u> within 30 feet of an occupied structure. The structure may be either residential or industrial. GW-2 standards are based upon "inhalation exposures that could occur to occupants of the building impacted by volatile compounds, which partition from the groundwater" (MADEP 2001). The GW-2 screening guidelines ONLY apply for the evaluation of inhalation exposures. If potential ingestion or contact with contaminated soil and/or

groundwater could occur, then the screening guidelines provided in Table 2.a should be applied. Table 2.b lists the TPH screening guidelines for the inhalation scenario.

Table 2b. TPH Screening Guidelines – Vapor Migration and Inhalation of Groundwater (GW-2)

TPH			Concentration in Groundwater (mg/L)
Petroleum Product	**Residential Direct Exposure (mg/kg)**	**Industrial Direct Exposure (mg/kg)**	
Diesel #2/crankcase oil	880	2200	30.4
#3 and #6 Fuel Oil	860	2150	35.3
Kerosene and jet fuel	940	2350	15.7
Mineral oil dielectric fluid	1560	3400	10.4
Unknown oil[a]	800	2000	50.0
Waste Oil[b]	2500	5000	Petroleum-Related Contaminants
Gasoline	Not applicable	Not applicable	Petroleum-Related Contaminants

[a] Sites with oil from unknown sources must be tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs) to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

[b] Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

Mineral oil based hydraulic fluids can be evaluated for petroleum fraction toxicity using the screening guidelines from Tables 2a and 2b specified for waste oil, because this type of hydraulic fluid is composed of approximately the same range of carbon fractions as waste oil. However, these hydraulic fluids often contain proprietary additives that may be significantly more toxic than the oil itself; these additives must be considered on a site- and product-specific basis (see ATSDR hydraulic fluids profile reference). **Use of alternate screening guideline values requires prior written approval from the New Mexico Environment Department.** TPH screening guidelines in Tables 2a and 2b must be used in conjunction with the screening levels for petroleum-related contaminants given in Table 3 because the TPH screening levels are NOT designed to be protective of exposure to these individual petroleum-related contaminants. Table 3 petroleum-related contaminants screening levels are based on the New Mexico Environment Department soil screening levels (SSLs) released in February 2004.

The list of petroleum-related contaminants does not include polyaromatic hydrocarbons (PAHs) with individual screening levels that would exceed the total TPH screening levels (acenaphthene, anthracene, flouranthene, flourene, and pyrene). In addition, these TPH screening guidelines are based solely on human health, not ecological risk considerations, protection of surface water, or

potential indoor air impacts from soil vapors. Potential soil vapor impacts to structures or utilities are not addressed by these guidelines. Site-specific investigations for potential soil vapor impacts to structures or utilities must be done to assure that screenings are consistently protective of human health, welfare or use of the property. NMED believes that use of these screening guidelines will allow more efficient screenings of petroleum release sites at sites while protecting human health and the environment. Copies of the references cited below are available on the MADEP website at http://www.state.ma.us/dep/bwsc/vph_eph.htm and the NMED website at http://www.nmenv.state.nm.us/HWB/guidance.html.

Table 3. Petroleum-Related Contaminants Screening Guidelines

Petroleum-Related Contaminants	Values for Direct Exposure to Soil		NMED DAF[a] 20 GW protection (mg/kg in soil)	NMED DAF[b] 1 GW protection (mg/kg in soil)
	NMED residential SSL (mg/kg)	NMED Industrial SSL (mg/kg)		
Benzene	2.70E+01	7.36E+01	2.83E-02	1.41E-03
Toluene	2.48E+02	2.48E+02	6.80E+00	3.40E-01
Ethyl benzene	1.06E+04	2.54E+04	1.05E+01	5.25E-01
Xylene[c]	1.32E+02	1.32E+02	1.01E+01	5.07E-01
Naphthalene	7.19E+01	9.83E+01	3.93E-01	1.97E-02
2-methyl naphthalene	1.00E+03[d]	2.50E+03[d]	---[d]	---[d]
Benzo(a)anthracene	6.21E+00	2.34E+01	1.10E+00	5.49E-02
Benzo(b)fluoranthene	6.21E+00	2.34E+01	3.40E+00	1.7E-01
Benzo(k)fluoranthene	6.21E+01	2.34E+02	3.40E+01	1.70E+00
Benzo(a)pyrene	6.21E-01	2.34E+00	6.12E+00	3.06E-01
Chrysene	6.21E+02	2.34E+03	1.10E+02	5.49E+00
Dibenz(a,h) anthracene	6.21E-01	2.34E+00	1.05E+00	5.24E-02
Indeno(1,2,3-c,d) pyrene	6.21E+00	2.34E+01	9.58E+00	4.79E-01

[a] DAF – Dilution Attenuation Factor
[b] For contaminated soil in contact with groundwater
[c] Based upon total xylenes
[d] No NMED value available, value taken from MADEP 2002

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1997. Toxicological Profile for Hydraulic fluids.

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 1994. "Background Documentation for the Development of the MCP Numerical Standards."

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 2002. "Characterizing Risks Posed by Petroleum Contaminated Sites: Implementation of the MADEP VPH/EPH Approach," Policy, October 31, 2002.

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 2003. "Updated Petroleum Hydrocarbon Fraction Toxicity Values for the VPH/EPH/APH Methodology." November 2003.

New Mexico Environment Department, Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. 2004. "Technical Background Document for Development of Soil Screening Levels." February 2004. Revision 2.0.

NEW MEXICO ENVIRONMENT DEPARTMENT TPH SCREENING GUIDELINES
June 24, 2003

In some instances, it may be practical to assess areas of soil contamination that are the result of releases of petroleum products such as jet fuel and diesel, using total petroleum hydrocarbon (TPH) analyses. TPH results may be used to delineate the extent of petroleum-related contamination at these sites and ascertain if the residual level of petroleum products in soil represents an unacceptable risk to future users of the site. Petroleum hydrocarbons represent complex mixtures of compounds, some of which are regulated constituents and some compounds that are not regulated. In addition, the amount and types of the constituent compounds in a petroleum hydrocarbon release differ widely depending on what type of product was spilled and how the spill has weathered. This variability makes it difficult to determine the toxicity of weathered petroleum products in soil solely from TPH results; however, these results can be used to approximate risk in some cases, depending upon the nature of the petroleum product, the release scenario, how well the site has been characterized, and anticipated potential future land uses. In some cases, site clean up cannot be based solely on results of TPH sampling. NMED will make these determinations on a case by case basis, If NMED determines that additional data are necessary, then these TPH guidelines must be used in conjunction with the screening guidelines for individual petroleum-related contaminants in Table 3 and other contaminants, as applicable.

The screening levels for each petroleum carbon range from the Massachusetts Department of Environmental Protection (MADEP) Volatile Petroleum Hydrocarbons/Extractable Petroleum Hydrocarbons (VPH/EPH) approach and the percent composition table below were used to generate screening levels corresponding to total TPH. Except for waste oil, the information in the compositional assumptions table was obtained from Table 5-1 of the Massachusetts Department of Environmental Protection guidance document *Implementation of the MADEP VPH/EPH Approach Final Draft June 2001*. TPH toxicity was based only on the weighted sum of the toxicity of the hydrocarbon fractions listed in Table 1.

Table 1: TPH Compositional Assumptions in Soil

Petroleum Product	C11-C22 Aromatics	C9-C18 Aliphatics	C19-C36 Aliphatics
Diesel #2/ new crankcase oil	60%	40%	0%
#3 and #6 Fuel Oil	70%	30%	0%
Kerosene and jet fuel	30%	70%	0%
Mineral oil dielectric fluid	20%	40%	40%
Unknown oil [a]	100%	0%	0%
Waste Oil[b]	0%	0%	100%

[a] Sites with oil from unknown sources must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of

exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

[b] Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

A TPH screening guideline was calculated for each of the types of petroleum product based on the assumed composition from the above table for petroleum products and the direct soil standards incorporating ceiling concentrations given in the MADEP VPH/EPH Excel spreadsheet for each of the carbon fractions. Ground water concentrations are based on the weighted sum of the noncarcinogenic toxicity of the petroleum fractions assuming the water is drinking water.

Table 2: TPH Screening Guidelines

	TPH		
Petroleum Product	Residential Direct Exposure (mg/kg)	Industrial Direct Exposure (mg/kg)	Concentration in Ground Water (mg/L)
Diesel #2/crankcase oil	880	2200	1.8
#3 and #6 Fuel Oil	860	2150	1.4
Kerosene and jet fuel	940	2350	3.0
Mineral oil dielectric fluid	1560	3400	3.7
Unknown oil [a]	800	2000	2.3
Waste Oil[b]	2500	5000	Petroleum-Related Contaminants
Gasoline	Not applicable	Not applicable	Petroleum-Related Contaminants

Mineral oil based hydraulic fluids can be evaluated for petroleum fraction toxicity using the screening guidelines from Table 2 specified for waste oil, because this type of hydraulic fluid is composed of approximately the same range of carbon fractions as waste oil. However, these hydraulic fluids often contain proprietary additives that may be significantly more toxic than the oil itself; these additives must be considered on a site- and product-specific basis (see ATSDR hydraulic fluids profile reference). **Use of alternate screening guideline values requires prior written approval from the New Mexico Environment Department.** TPH screening guidelines in Table 2 must be used in conjunction with the screening levels for petroleum-related contaminants given in Table 3 because the TPH screening levels are NOT designed to be protective of exposure to these individual petroleum-related contaminants. Table 3 petroleum-related contaminants screening levels are based on the New Mexico Environment Department soil screening levels (NMED SSLs) released in December of 2000.

The list of petroleum-related contaminants does not include PAHs with individual screening levels that would exceed the total TPH screening levels (acenaphthene, anthracene, flouranthene, flourene, and pyrene). In addition, these TPH screening guidelines are based solely on human health, not ecological risk considerations, protection of surface water, or potential indoor air impacts from soil vapors. Potential soil vapor impacts to structures or utilities are not addressed by these guidelines. Site-specific investigations for potential soil vapor impacts to structures or utilities must be done to assure that screenings are consistently protective of human health, welfare or use of the property. NMED believes that use of these screening guidelines will allow more efficient screenings of petroleum release sites at sites while protecting human health and the environment. Copies of the references cited below are available on the MADEP website at http://www.state.ma.us/dep/bwsc/vph_eph.htm and the NMED website at http://www.nmenv.state.nm.us/HWB/guidance.html.

Table 3. Petroleum-Related Contaminants Screening Guidelines

Petroleum-Related Contaminants	Values for Direct Exposure to Soil		NMED DAF 20 GW protection (mg/kg in soil)	NMED DAF 1[f] GW protection (mg/kg in soil)
	NMED residential SSL (mg/kg)	NMED Indus. SSL (mg/kg)		
Benzene	6	14	0.06	0.003
Toluene	180	180	5	0.2
Ethyl benzene	68	68	8	0.4
Xylene	63	63	100	5
Naphthalene	53	180	0.2	0.01
2-methyl naphthalene	1000[e]	2500[e]	---[e]	---[e]
Benzo(a)anthracene	6.2	26	40	2
Benzo(b)fluoranthene	6.2	26	20	0.8
Benzo(k)fluoranthene	62	260	200	8
Benzo(a)pyrene	0.62	2.6	100	6
Chrysene	610	2500	1000	50
Dibenz(a,h) anthracene	0.62	2.6	9	0.5
Indeno(1,2,3-c,d) pyrene	6.2	26	40	2

[e] no NMED value available, value taken from MADEP paper
[f] for contaminated soil in contact with ground water

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1997. Toxicological Profile for Hydraulic fluids.

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 1994. "Background Documentation for the Development of the MCP Numerical Standards."

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 2001. "Characterizing Risks Posed by Petroleum Contaminated Sites: Implementation of the MADEP VPH/EPH Approach Final Draft June 2001."

New Mexico Environment Department, Hazardous Waste Bureau and Ground Water Quality Bureau Voluntary Remediation Program. 2000. "Technical Background Document for Development of Soil Screening Levels." Document # NMED-00-008.

GUIDELINES

FOR

REMEDIATION

OF

LEAKS, SPILLS AND RELEASES

(AUGUST 13, 1993)

New Mexico Oil Conservation Division
1220 S. ST. FRANCIS DR.
Santa Fe, New Mexico 87505

TABLE OF CONTENTS

INTRODUCTION

I. NOTICE OF LEAK, SPILL OR RELEASE
- A. RESPONSIBLE PARTY AND LOCAL CONTACT
- B. FACILITY
- C. TIME OF INCIDENT
- D. DISCHARGE EVENT
- E. TYPE OF DISCHARGE
- F. QUANTITY
- G. SITE CHARACTERISTICS
- H. IMMEDIATE CORRECTIVE ACTIONS

II. INITIAL RESPONSE ACTIONS
- A. SOURCE ELIMINATION AND SITE SECURITY
- B. CONTAINMENT
- C. SITE STABILIZATION

III. SITE ASSESSMENT
- A. GENERAL SITE CHARACTERISTICS
  - 1. Depth To Ground Water
  - 2. Wellhead Protection Area
  - 3. Distance To Nearest Surface Water Body
- B. SOIL/WASTE CHARACTERISTICS
  - 1. Highly Contaminated/Saturated Soils
  - 2. Unsaturated Contaminated Soils
- C. GROUND WATER QUALITY

IV. SOIL AND WATER REMEDIATION ACTION LEVELS
- A. SOILS
  - 1. Highly Contaminated/Saturated Soils
  - 2. Unsaturated Contaminated Soils
    - a. Ranking Criteria
    - b. Recommended Remediation Level
- B. GROUND WATER

V. SOIL AND WATER SAMPLING PROCEDURES

A. HIGHLY CONTAMINATED OR SATURATED SOILS

1. Physical Observations

B. UNSATURATED CONTAMINATED SOILS

1. Soil Sampling Procedures for Headspace Analysis

2. Soil Sampling Procedures For Laboratory Analysis

a. Sampling Procedures

b. Analytical methods

C. GROUND WATER SAMPLING

1. Monitor Well Installation/Location

2. Monitor Well Construction

3. Monitor Well Development

4. Sampling Procedures

5. Ground Water laboratory Analysis

a. Analytical Methods

VI. REMEDIATION

A. SOIL REMEDIATION

1. Contaminated Soils

2. Soil Management Options

a. Disposal

b. Soil Treatment and Remediation Techniques

i. Landfarming

ii. Insitu Soil Treatment

iii. Alternate Methods

B. GROUND WATER REMEDIATION

1. Remediation Requirements

a. Free Phase Contamination

b. Dissolved Phase Contamination

c. Alternate Methods

VII. TERMINATION OF REMEDIAL ACTION

A. SOIL

B. GROUND WATER

VIII. FINAL CLOSURE

IX. FINAL REPORT

INTRODUCTION

The following document is to be used as a **guide** on all federal, state and fee lands when remediating contaminants resulting from leaks, spills and releases of oilfield wastes or products. The New Mexico Oil Conservation Division (OCD) requires that corrective actions be taken for leaks, spills or releases of any material which has a reasonable probability to injure or be detrimental to public health, fresh waters, animal or plant life, or property or unreasonably interfere with the public welfare or use of the property. These guidelines are intended to provide direction for remediation of soils and fresh waters contaminated as a result of leaks, spills or releases of oilfield wastes and products in a manner that assures protection of fresh waters, public health and the environment.

Fresh waters (to be protected) includes the water in lakes, playas, surface waters of all streams regardless of the quality of the water within any given reach, and all underground waters containing 10,000 milligrams per liter (mg/l) or less of total dissolved solids (TDS) except for which, after notice and hearing, it is found that there is no present or reasonably foreseeable beneficial use which would be impaired by contamination of such waters. The water in lakes and playas shall be protected from contamination even though it may contain more than 10,000 mg/l of TDS unless it can be shown that hydrologically connected fresh ground water will not be adversely affected.

Procedures may deviate from the following guidelines if it can be shown that the proposed procedure will either remediate, remove, isolate or control contaminants in such a manner that fresh waters, public health and the environment will not be impacted. Specific constituents and/or requirements for soil and ground water analysis and/or remediation may vary depending on site specific conditions. Deviations from approved plans will require OCD notification and approval.

****** Note:** **Notification to OCD of leaks, spills and releases does not relieve an operator of responsibility for compliance with any other federal, state or local law and/or regulation regarding the incident. Other agencies (ie. BLM, Indian Tribes, etc) may also have guidelines or requirements for remediation of leaks spills and releases.**

I. NOTIFICATION OF LEAK, SPILL OR RELEASE

Leaks, spills and releases of any wastes or products from oilfield operations are required to be reported to the OCD pursuant to OCD Rule 116 (Appendix A) or New Mexico Water Quality Control Commission (WQCC) Regulation 1-203 (Appendix B). Appendix C contains the phone numbers and addresses for reporting incidents to the OCD district and Santa Fe offices. Notification will include all information required under the respective rule or regulation. Below is a description of some of the information required:

A. RESPONSIBLE PARTY AND LOCAL CONTACT

The name, address and telephone number of the person/persons in charge of the facility/operation as well as the owner and/or operator of the facility/operation and a local contact.

B. FACILITY

The name and address of the facility or operation where the incident took place and the legal location listed by quarter-quarter, section, township and range, and by distance and direction from the nearest town or prominent landmark so that the exact site location can be readily located on the ground.

C. TIME OF INCIDENT

The date, time and duration of the incident.

D. DISCHARGE EVENT

A description of the source and cause of the incident.

E. TYPE OF DISCHARGE

A description of the nature or type of discharge. If the material leaked, spilled or released is anything other than crude oil, condensate or produced water include its chemical composition and physical characteristics.

F. QUANTITY

The known or estimated volume of the discharge.

G. SITE CHARACTERISTICS

The relevant general conditions prevailing at the site including precipitation, wind conditions, temperature, soil type, distance to nearest residence and population centers and proximity of fresh water wells or watercourse (ie. any river, lake, stream, playa, arroyo, draw, wash, gully or natural or man-made channel through which water flows or has flowed).

H. IMMEDIATE CORRECTIVE ACTIONS

Any initial response actions taken to mitigate immediate threats to fresh waters, public health and the environment.

II. INITIAL RESPONSE ACTIONS

Upon learning of a leak, spill or release of any material which has a reasonable probability to injure or be detrimental to public health, fresh waters, animal or plant life, or property or unreasonably interfere with the public welfare or use of the property, the responsible party (RP) should take the following immediate actions unless the actions could create a safety hazard which would result in a threat to personal or public injury:

A. SOURCE ELIMINATION AND SITE SECURITY

The RP should take the appropriate measures to stop the source of the leak, spill or release and limit access to the site as necessary to reduce the possibility of public exposure.

B. CONTAINMENT

Once the site is secure, the RP should take steps to contain the materials leaked, spilled or released by construction of berms or dikes, the use of absorbent pads or other containment actions to limit the area impacted by the event and prevent potential fresh water contaminants from migrating to watercourses or areas which could pose a threat to public health and safety.

C. SITE STABILIZATION

After containment, the RP should recover any products or wastes which can be physically removed from the surface within the containment area. The disposition of all wastes or products removed from the site must be approved by the OCD.

III. SITE ASSESSMENT

Prior to final closure (Section VIII), soils into which nonrecoverable products or wastes have infiltrated and which have a reasonable probability to injure or be detrimental to public health, fresh waters, animal or plant life, or property or unreasonably interfere with the public welfare or use of the property should be assessed for their potential environmental impacts and remediated according to the procedures contained in the following sections. Assessment results form the basis of any required remediation. Sites will be assessed for severity of contamination and potential environmental and public health threats using a risk based ranking system.

The following characteristics should be determined in order to evaluate a sites potential risks, the need for remedial action and, if necessary, the level of cleanup required at the site:

A. GENERAL SITE CHARACTERISTICS

1. Depth To Ground Water

The operator should determine the depth to ground water at each site. The depth to ground water is defined as the vertical distance from the lowermost contaminants to the seasonal high water elevation of the ground water. If the exact depth to ground water is unknown, the ground water depth can be estimated using either local water well information, published regional ground water information, data on file with the New Mexico State Engineer Office or the vertical distance from adjacent ground water or surface water.

2. Wellhead Protection Area

The operator should determine the horizontal distance from all water sources including private and domestic water sources. Water sources are defined as wells, springs or other sources of fresh water extraction. Private and domestic water sources are those water sources used by less than five households for domestic or stock purposes.

3. Distance To Nearest Surface Water Body

The operator should determine the horizontal distance to all downgradient surface water bodies. Surface water bodies are defined as perennial rivers, streams, creeks, irrigation canals and ditches, lakes, ponds and playas.

B. SOIL/WASTE CHARACTERISTICS

Soils/wastes within and beneath the area of the leak, spill or release should be evaluated to determine the type and extent of contamination at the site. In order to assess the level of contamination, observations should be made of the soils at the surface and samples of the impacted soils should be taken in the leak, spill or release area. Observations should note whether previous leaks, spills or releases have occurred at the site. Additional samples may be required to completely define the lateral and vertical extent of contamination. Soil samples should be obtained according to the sampling procedures in Sections V.A. and V.B. This may be accomplished using a backhoe, drill rig, hand auger, shovel or other means.

Initial assessment of soil contaminant levels is not required if an operator proposes to determine the final soil contaminant concentrations after a soil removal or remediation pursuant to section VI.A.

Varying degrees of contamination described below may co-exist at an individual site. The following sections describe the degrees of contamination that should be documented during the

assessment of the level of soil contamination:

1. Highly Contaminated/Saturated Soils

Highly contaminated/saturated soils are defined as those soils which contain a free liquid phase or exhibit gross staining.

2. Unsaturated Contaminated Soils

Unsaturated contaminated soils are defined as soils which are not highly contaminated/saturated, as described above, but contain benzene, toluene, ethylbenzene and xylenes (BTEX) and total petroleum hydrocarbons (TPH) or other potential fresh water contaminants unique to the leak, spill or release. Action levels and sampling and analytical methods for determining contaminant concentrations are described in detail in Sections IV. and V.

**** **(NOTE: Soils contaminated as a result of spills, leaks or releases of non-exempt wastes must be evaluated for all RCRA Subtitle C hazardous waste characteristics. The above definitions apply only to oilfield contaminated soils which are exempt from federal RCRA Subtitle C hazardous waste provisions and nonexempt oilfield contaminated soils which are characteristically nonhazardous according to RCRA Subtitle C regulations. Any nonexempt contaminated soils which are determined to be characteristically hazardous cannot be remediated using this guidance document and will be referred to the New Mexico Environment Department Hazardous Waste Program.)**

C. GROUND WATER QUALITY

If ground water is encountered during the soil/waste characterization of the impacted soils, a sample should be obtained to assess the incidents potential impact on ground water quality. Ground water samples should be obtained using the sampling procedures in Section V.C. Monitor wells may be required to assess potential impacts on ground water and the extent of ground water contamination, if there is a reasonable probability of ground water contamination based upon the extent and magnitude of soil contamination defined during remedial activities.

IV. SOIL AND WATER REMEDIATION ACTION LEVELS

A. SOILS

The sections below describe the OCD's recommended remediation action levels for soils contaminated with petroleum hydrocarbons. Soils contaminated with substances other than petroleum hydrocarbons may be required to be remediated based

upon the nature of the contaminant and it's potential to impact fresh waters, public health and the environment.

1. Highly Contaminated/Saturated Soils

All highly contaminated/saturated soils should be remediated insitu or excavated to the maximum extent practicable. These soils should be remediated using techniques described in Section VI.A to the contaminant specific level listed in Section IV.A.2.b.

2. Unsaturated Contaminated Soils

The general site characteristics obtained during the site assessment (Section III.A.) will be used to determine the appropriate soil remediation action levels using a risk based approach. Soils which are contaminated by petroleum constituents will be scored according to the ranking criteria below to determine their relative threat to public health, fresh waters and the environment.

a. Ranking Criteria

Depth To Ground Water	Ranking Score
<50 feet	20
50 - 99	10
>100	0

Wellhead Protection Area

<1000 feet from a water source,or;	
<200 feet from private domestic water source	
Yes	20
No	0

Distance To Surface Water Body

<200 horizontal feet	20
200 - 1000 horizontal feet	10
>1000 horizontal feet	0

b. Recommended Remediation Action Level

The total ranking score determines the degree of remediation that may be required at any given site. The total ranking score is the sum of all four individual ranking criteria listed in Section IV.A.2.a. The table below lists the remediation action level that may be required for the appropriate total ranking score.

(NOTE: The OCD retains the right to require remediation to more stringent levels than those proposed below if warranted by site specific conditions (ie. native soil type, location relative to population centers and future use of the site or other appropriate site specific conditions.)

	Total Ranking Score		
	>19	10 - 19	0 - 9
Benzene(ppm)*	10	10	10
BTEX(ppm)*	50	50	50
TPH(ppm)**	100	1000	5000

* A field soil vapor headspace measurement (Section V.B.1) of 100 ppm may be substituted for a laboratory analysis of the Benzene and BTEX concentration limits.

** The contaminant concentration for TPH is the concentration above background levels.

B. GROUND WATER

Contaminated ground water is defined as ground water of a present or foreseeable beneficial use which contains free phase products, dissolved phase volatile organic constituents or other dissolved constituents in excess of the natural background water quality. Ground water contaminated in excess of the WQCC ground water standards or natural background water quality will require remediation.

V. SOIL AND WATER SAMPLING PROCEDURES

Below are the sampling procedures for soil and ground water contaminant investigations of leaks, spills or releases of RCRA Subtitle C exempt oil field petroleum hydrocarbon wastes. Leaks, spills or releases of non-exempt RCRA wastes must be tested to demonstrate that the wastes are not characteristically hazardous according to RCRA regulations. Sampling for additional constituents may be required based upon the nature of the contaminant which was leaked, spilled or released.

A. HIGHLY CONTAMINATED OR SATURATED SOILS

The following method is used to determine if soils are highly contaminated or saturated:

1. Physical Observations

Study a representative sample of the soil for observable free petroleum hydrocarbons or immiscible phases and gross staining. The immiscible phase may range from a free hydrocarbon to a sheen on any associated aqueous phase. A soil exhibiting any of these characteristics is considered highly contaminated or saturated.

B. UNSATURATED CONTAMINATED SOILS

The following methods may be used for determining the magnitude of contamination in unsaturated soils:

1. Soil Sampling Procedures for Headspace Analysis

A headspace analysis may be used to determine the total volatile organic vapor concentrations in soils (ie. in lieu of a laboratory analysis for benzene and BTEX but not in lieu of a TPH analysis). Headspace analysis procedures should be conducted according to OCD approved industry standards or other OCD-approved procedures. Accepted OCD procedures are as follows:

a) Fill a 0.5 liter or larger jar half full of sample and seal the top tightly with aluminum foil or fill

a one quart zip-lock bag one-half full of sample and seal the top of the bag leaving the remainder of the bag filled with air.

b) Ensure that the sample temperature is between 15 to 25 degrees Celsius (59-77 degrees Fahrenheit).

c) Allow aromatic hydrocarbon vapors to develop within the headspace of the sample jar or bag for 5 to 10 minutes. During this period, the sample jar should be shaken vigorously for 1 minute or the contents of the bag should be gently massaged to break up soil clods.

d) If using a jar, pierce the aluminum foil seal with the probe of either a PID or FID organic vapor meter (OVM), and then record the highest (peak) measurement. If using a bag, carefully open one end of the bag and insert the probe of the OVM into the bag and re-seal the bag around the probe as much as possible to prevent vapors from escaping. Record the peak measurement. The OVM must be calibrated to assume a benzene response factor.

2. Soil Sampling Procedures For Laboratory Analysis

a. Sampling Procedures

Soil sampling for laboratory analysis should be conducted according to OCD approved industry standards or other OCD-approved procedures. Accepted OCD soil sampling procedures and laboratory analytical methods are as follows:

i) Collect samples in clean, air-tight glass jars supplied by the laboratory which will conduct the analysis or from a reliable laboratory equipment supplier.

ii) Label the samples with a unique code for each sample.

iii) Cool and store samples with cold packs or on ice.

iv) Promptly ship sample to the lab for analysis following chain of custody procedures.

v) All samples must be analyzed within the holding times for the laboratory analytical method specified by EPA.

b. Analytical Methods

All soil samples must be analyzed using EPA methods, or by other OCD approved methods and must

be analyzed within the holding time specified by the method. Below are laboratory analytical methods commonly accepted by OCD for analysis of soil samples analyzed for petroleum related constituents. Additional analyses may be required if the substance leaked, spilled or released has been anything other than petroleum based fluids or wastes.

i) Benzene, toluene, ethylbenzene and xylene

- EPA Method 602/8020

ii) Total Petroleum Hydrocarbons

- EPA Method 418.1, or;
- EPA Method Modified 8015

C. GROUND WATER SAMPLING

If an investigation of ground water quality is deemed necessary, it should be conducted according to OCD approved industry standards or other OCD-approved procedures. The following methods are standard OCD accepted methods which should be used to sample and analyze ground water at RCRA Subtitle C exempt sites (Note: The installation of monitor wells may not be required if the OCD approves of an alternate ground water investigation or sampling technique):

1. Monitor Well Installation/Location

One monitor well should be installed adjacent to and hydrologically down-gradient from the area of the leak, spill or release to determine if protectable fresh water has been impacted by the disposal activities. Additional monitor wells, located up-gradient and down-gradient of the leak, spill or release, may be required to delineate the full extent of ground water contamination if ground water underlying the leak, spill or release has been found to be contaminated.

2. Monitor Well Construction

a) Monitor well construction materials should be:

i) selected according to industry standards;

ii) chemically resistant to the contaminants to be monitored; and

iii) installed without the use of glues/adhesives.

b) Monitor wells should be constructed according to OCD approved industry standards to prevent migration of contaminants along the well casing. Monitor wells should be constructed with a minimum of fifteen

(15) feet of well screen. At least five (5) feet of the well screen should be above the water table to accommodate seasonal fluctuations in the static water table.

3. Monitor Well Development

When ground water is collected for analysis from monitoring wells, the wells should be developed prior to sampling. The objective of monitor well development is to repair damage done to the formation by the drilling operation so that the natural hydraulic properties of the formation are restored and to remove any fluids introduced into the formation that could compromise the integrity of the sample. Monitoring well development is accomplished by purging fluid from the well until the pH and specific conductivity have stabilized and turbidity has been reduced to the greatest extent possible.

4. Sampling Procedures

Ground water should be sampled according to OCD accepted standards or other OCD approved methods. Samples should be collected in clean containers supplied by the laboratory which will conduct the analysis or from a reliable laboratory equipment supplier. Samples for different analyses require specific types of containers. The laboratory can provide information on the types of containers and preservatives required for sample collection. The following procedures are accepted by OCD as standard sampling procedures:

a) Monitor wells should be purged of a minimum of three well volumes of ground water using a clean bailer prior to sampling to ensure that the sample represents the quality of the ground water in the formation and not stagnant water in the well bore.

b) Collect samples in appropriate sample containers containing the appropriate preservative for the analysis required. No bubbles or headspace should remain in the sample container.

c) Label the sample containers with a unique code for each sample.

d) Cool and store samples with cold packs or on ice.

e) Promptly ship sample to the lab for analysis following chain of custody procedures.

f) All samples must be analyzed within the holding times for the laboratory analytical method specified by EPA.

5. Ground Water Laboratory Analysis

Samples should be analyzed for potential ground water contaminants contained in the waste stream, as defined by the WQCC Regulations. All ground water samples must be analyzed using EPA methods, or by other OCD approved methods and must be analyzed within the holding time specified by the method. Below are OCD accepted laboratory analytical methods for analysis of ground water samples analyzed for petroleum related constituents. Additional analyses may be required if the substance leaked, spilled or release has been anything other than a petroleum based fluid or waste.

a. Analytical Methods

i.) Benzene, Toluene, Ethylbenzene and Xylene

- EPA Method 602/8020

ii.) Major Cations and Anions

- Various EPA or standard methods

iii.) Heavy Metals

- EPA Method 6010, or;
- Various EPA 7000 series methods

iv.) Polynuclear Aromatic Hydrocarbons

- EPA Method 8100

VI. REMEDIATION

The following discussion summarizes recommended techniques for remediation of contaminated soil and ground water as defined in Section IV.A. and IV.B. OCD approval for remediation of an individual leak, spill or release site is not required if the company is operating under an OCD approved spill containment plan. All procedures which deviate from the companies spill containment plan must be approved by OCD.

A. SOIL REMEDIATION

When RCRA Subtitle C exempt or RCRA nonhazardous petroleum contaminated soil requires remediation, it should be remediated and managed according to the criteria described below or by other OCD approved procedures which will remove, treat, or isolate contaminants in order to protect fresh waters, public health and the environment.

In lieu of remediation, OCD may accept an assessment of risk which demonstrates that the remaining contaminants will not pose a threat to present or foreseeable beneficial use of fresh waters, public health and the environment.

1. Contaminated Soils

Highly contaminated/saturated soils and unsaturated contaminated soils exceeding the standards described in Section IV.A. should be either:

a) Excavated from the ground until a representative sample from the walls and bottom of the excavation is below the contaminant specific remediation level listed in Section IV.A.2.b or an alternate approved remediation level, or;

b) Excavated to the maximum depth and horizontal extent practicable. Upon reaching this limit a sample should be taken from the walls and bottom of the excavation to determine the remaining levels of soil contaminants, or;

c) Treated in place, as described in Section VI.A.2.b.ii. - Treatment of Soil in Place, until a representative sample is below the contaminant specific remediation level listed in Section IV.A.2.b, or an alternate approved remediation level, or;

d) Managed according to an approved alternate method.

2. Soil Management Options

All soil management options must be approved by OCD. The following is a list of options for either on-site

treatment or off-site treatment and/or disposal of contaminated soils:

a. Disposal

Excavated soils may be disposed of at an off-site OCD approved or permitted facility.

b. Soil Treatment and Remediation Techniques

i. Landfarming

Onetime applications of contaminated soils may be landfarmed on location by spreading the soil in an approximately six inch lift within a bermed area. Only soils which do not contain free liquids can be landfarmed. The soils should be disced regularly to enhance biodegradation of the contaminants. If necessary, upon approval by OCD, moisture and nutrients may be added to the soil to enhance aerobic biodegradation.

In some high risk areas an impermeable liner may be required to prevent leaching of contaminants into the underlying soil.

Landfarming sites that will receive soils from more than one location are considered centralized sites and must be approved separately by the OCD prior to operation.

ii. Insitu Soil Treatment

Insitu treatment may be accomplished using vapor venting, bioremediation or other approved treatment systems.

iii. Alternate Methods

The OCD encourages alternate methods of soil remediation including, but not limited to, active soil aeration, composting, bioremediation, solidification, and thermal treatment.

B. GROUND WATER REMEDIATION

1. Remediation Requirements

Ground water remediation activities will be reviewed and approved by OCD on a case by case basis prior to commencement of remedial activities. When contaminated ground water exceeds WQCC ground water standards, it

should be remediated according to the criteria described below.

a. Free Phase Contamination

Free phase floating product should be removed from ground water through the use of skimming devices, total-fluid type pumps, or other OCD-approved methods.

b. Dissolved Phase Contamination

Ground water contaminated with dissolved phase constituents in excess of WQCC ground water standards can be remediated by either removing and treating the ground water, or treating the ground water in place. If treated waters are to be disposed of onto or below the ground surface, a discharge plan must be submitted and approved by OCD.

c. Alternate Methods

The OCD encourages other methods of ground water remediation including, but not limited to, air sparging and bioremediation. Use of alternate methods must be approved by OCD prior to implementation.

VII. TERMINATION OF REMEDIAL ACTION

Remedial action may be terminated when the criteria described below have been met:

A. SOIL

Contaminated soils requiring remediation should be remediated so that residual contaminant concentrations are below the recommended soil remediation action level for a particular site as specified in Section IV.A.2.b.

If soil action levels cannot practicably be attained, an evaluation of risk may be performed and provided to OCD for approval showing that the remaining contaminants will not pose a threat to present or foreseeable beneficial use of fresh water, public health and the environment.

B. GROUND WATER

A ground water remedial action may be terminated if all recoverable free phase product has been removed, and the concentration of the remaining dissolved phase contaminants in the ground water does not exceed New Mexico WQCC water quality standards or background levels. Termination of remedial action will be approved by OCD upon a demonstration of completion of remediation as described in above.

VIII. FINAL CLOSURE

Upon termination of any required remedial actions (Section VII.) the area of a leak, spill or release may be closed by backfilling any excavated areas, contouring to provide drainage away from the site, revegetating the area or other OCD approved methods.

IX. FINAL REPORT

Upon completion of remedial activities a final report summarizing all actions taken to mitigate environmental damage related to the leak, spill or release will be provided to OCD for approval.

APPENDIX A

APPENDIX B

APPENDIX C

APPENDIX B

Manifest Documentation

Please print or type
Form designed for use on elite (12-pitch) typewriter

DEN-001

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. EPA # NM2750211235
Manifest Doc. No. ~~SW21-19~~
2. Page 1 of 1
White Sands Tech

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-IS
White Sands Missle Range, NM 88002

4. Generator's Phone (505) 678-1007

SWMU ~~21 Site~~ 166 Denver Site
~~Corner of Headquarters Ave and Martin Luther King Ave.~~
White Sands Missle Range, NM 88002

5. Transporter 1 Company Name
Rhino Environmental Services, Inc.
6. US EPA ID Number NA
A. Transporter's Phone (915) 886-4355 or (800) 762-0241

7. Transporter 2 Company Name NA
8. US EPA ID Number NA
B. Transporter's Phone NA

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM
10. US EPA ID Number NA
C. Facility's Phone
(915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Oil Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell E

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Jose A. Gallegos
Signature:
Month 01 Day 16 Year 06

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: 524 Gustavo Espana
Signature:
Month 01 Day 16 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

19. Discrepancy Indication Space
Line 5 address: PO Box 310, Canutillo, TX 79835
1. Manifest Doc No. DEN-001
3. SWMU 166 Denver Site

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jose Ojeda
Signature:
Month 1 Day 16 Year 06

GENERATOR — TRANSPORTER — FACILITY

Printed by J. J. KELLER & ASSOCIATES, INC. Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

12-BLS-C5 Rev. 12/98

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

DEN-002

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. EPA # NM2750211235	Manifest Doc. No. ~~SW21-20~~	2. Page 1 of 1	White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address: White Sands Missile Range, IMSW-WSM-IS, White Sands Missle Range, NM 88002

4. Generator's Phone (505) 678-1007

SWMU ~~21 Site~~ 166 Denver Site ~~Corner of Headquarters Ave and Martin Luther King Ave~~ White Sands Missle Range, NM 88002

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Rhino Environmental Services, Inc.	NA	(915) 886-4355 or (800) 762-0241
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
NA	NA	NA
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Rhino's DP 1051 1.7 mls N of NM/TX state line Hwy 54, Otero County, NM	NA	(915) 886-4355 or (800) 762-0241 Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd^3
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above: Non-Hazardous Diesel Oil Impacted Soil

E. Handling Codes for Wastes Listed Above:

15. Special Handling Instructions and Additional Information: Cell E

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Jose A. Gallegos		01	16	06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Jenny Rivera		1	16	06

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

Line 5 address: PO Box 310, Canutillo, TX 79835

1. Manifest Doc No. DEN-002
3. SWMU 166 Denver Site

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Jose Gallegos		1	16	06

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-015
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-IS PW
White Sands Missle Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

TRANSPORTER

5. Transporter 1 Company Name: Rhino Environmental Services, Inc.
6. US EPA ID Number: NA
A. Transporter's Phone: (915) 886-4355 or (800) 762-0241

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

FACILITY

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM
10. US EPA ID Number: NA
C. Facility's Phone
(915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Jose A. Gallegos
Signature:
Month 01 Day 17 Year 06

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Jerry Rivero
Signature:
Month 1 Day 17 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

19. Discrepancy Indication Space
Line 3: IMSW-WSM-PW
Line 5 address: PO Box 310, Canutillo, TX 79835

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name:
Signature:
Month 1 Day 17 Year 06

Printed by J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-014
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-~~IS~~ PW
White Sands Missle Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

5. Transporter 1 Company Name: Rhino Environmental Services, Inc.
6. US EPA ID Number: NA
A. Transporter's Phone: (915) 886-4355 or (800) 762-0241

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM
10. US EPA ID Number: NA
C. Facility's Phone
(915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd^3
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Jose A. Gallegos
Signature:
Month 01 Day 17 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: 524 Gustavo Esparza
Signature: Gustavo Esparza
Month 01 Day 17 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

FACILITY

19. Discrepancy Indication Space
Line 3: IMSW-WSM-PW
Line 5 address: PO Box 310
Canutillo, TX 79835

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Jose Gallegos
Signature:
Month 01 Day 17 Year 06

Printed by J.J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-9388

ORIGINAL – RETURN TO GENERATOR

Please print or type.
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-025
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-~~IS~~ PW
White Sands Missile Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

TRANSPORTER

5. Transporter 1 Company Name: J. Gomez Trucking
6. US EPA ID Number: NA
A. Transporter's Phone: (915) 478-2121 or (505) 589-2107

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

FACILITY

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM
10. US EPA ID Number: NA
C. Facility's Phone
(915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Jose A. Gallegos
Signature:
Month 01 Day 17 Year 06

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Javier Velo
Signature:
Month 1 Day 17 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

19. Discrepancy Indication Space
Line 3: IMSW-WSM-PW
Line 5 address: PO Box 371
Sunland Park, NM 88063

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Gene Rive 20
Signature:
Month 1 Day 17 Year 06

Printed by: J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

12-BLS-C5 Rev. 12/98

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-026
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-~~IS~~ PW
White Sands Missle Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

TRANSPORTER

5. Transporter 1 Company Name: J. Gomez Trucking
6. US EPA ID Number: NA
A. Transporter's Phone: (915) 478-2121 or (505) 589-2107

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

FACILITY

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM

10. US EPA ID Number: NA
C. Facility's Phone
(915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: José A. Gallegos
Signature:
Month 01 Day 17 Year 06

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Ismael Lopez
Signature:
Month 01 Day 17 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

19. Discrepancy Indication Space
Line 3: IMSW-WSM-PW
Line 5 address: PO Box 371
Sunland Park, NM 88063

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jerry Rivera
Signature:
Month 01 Day 17 Year 06

Printed by J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-027
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-~~JS~~ PW
White Sands Missle Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

5. Transporter 1 Company Name: J. Gomez Trucking
6. US EPA ID Number: NA
A. Transporter's Phone: (915) 478-2121 or (505) 589-2107

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM

10. US EPA ID Number: NA
C. Facility's Phone: (915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Jose A. Vallegos
Signature:
Month 01 Day 17 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Juan C. Rojas
Signature:
Month 01 Day 17 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

FACILITY

19. Discrepancy Indication Space
Line 3: IMSW-WSM-PW
Line 5 address: PO Box 371
Sunland Park, NM 88063

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Cherry Rivera
Signature:
Month 01 Day 17 Year 06

Printed by J.J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

12-BLS-C5 Rev. 12/98

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-035
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-~~IS~~ PW
White Sands Missle Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

5. Transporter 1 Company Name: D-n-J Trucking
6. US EPA ID Number: NA
A. Transporter's Phone: (505) 437-4136 or (505) 430-2455

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM
10. US EPA ID Number: NA
C. Facility's Phone
(915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Jose A. Gallegos
Signature:
Month 01 Day 17 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Robert Sanchez
Signature:
Month 01 Day 17 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

FACILITY

19. Discrepancy Indication Space
Line 3: IMSW-WSM-PW
Line 5 address: PO Box 1433, Alamogordo, NM 88311

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jose Gallegos
Signature:
Month 01 Day 17 Year 06

Printed by J.J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. EPA # 2750211235	Manifest Doc. No. DEN-011	2. Page 1 of 1	White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address: White Sands Missile Range, IMSW-WSM-~~JS~~ PW, White Sands Missile Range, NM 88002

SWMU 166, Denver Site, White Sands Missile Range, NM 88002

4. Generator's Phone (505 678-1007

5. Transporter 1 Company Name: Rhino Environmental Services, Inc.

6. US EPA ID Number: NA

A. Transporter's Phone: (915) 886-4355 or (800) 762-0241

7. Transporter 2 Company Name: NA

8. US EPA ID Number: NA

B. Transporter's Phone: NA

9. Designated Facility Name and Site Address: Rhino's DP 1051, 1.7 mls N of NM/TX state line, Hwy 54, Otero County, NM

10. US EPA ID Number: NA

C. Facility's Phone: (915) 886-4355 or (800) 762-0241, Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above: Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above:

15. Special Handling Instructions and Additional Information: Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: José A. Gallegos — Signature: [signature] — Month 01 Day 18 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Jenny Rivera — Signature: [signature] — Month 1 Day 18 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: — Signature: — Month Day Year

FACILITY

19. Discrepancy Indication Space: Line 3: IMSW-WSM-PW

Line 5 address: PO Box 310, Canutillo, TX 79835

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: José [illegible] — Signature: [signature] — Month 1 Day 18 Year 06

Printed by J. J. KELLER & ASSOCIATES, INC. Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

Please print or type.
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-012
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Malling Address
White Sands Missile Range
IMSW-WSM-IS PW
White Sands Missle Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

5. Transporter 1 Company Name: Rhino Environmental Services, Inc.
6. US EPA ID Number: NA
A. Transporter's Phone: (915) 886-4355 or (800) 762-0241

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM
10. US EPA ID Number: NA
C. Facility's Phone
(915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd^3
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Jose A. Gallegos
Signature
Month 01 Day 18 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Jerry Rivera
Signature
Month 1 Day 18 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space
Line 3: IMSW-WSM-PW
Line 5 address: PO Box 310
Canutillo, TX 79835

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name
Signature
Month 1 Day 18 Year 06

Printed by J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

12-BLS-C5 Rev. 12/98

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. EPA # 2750211235
Manifest Doc. No. DEN-013
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-~~JS~~ PW
White Sands Missle Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

5. Transporter 1 Company Name: Rhino Environmental Services, Inc.
6. US EPA ID Number: NA
A. Transporter's Phone: (915) 886-4355 or (800) 762-0241

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM
10. US EPA ID Number: NA
C. Facility's Phone
(915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd^3
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: José D. Gallegos
Signature:
Month 01 Day 18 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: 524 Gustavo Esparza
Signature: Gustavo Esparza
Month 01 Day 18 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

FACILITY

19. Discrepancy Indication Space
Line 3: IMSW-WSM-PW
Line 5 address: PO Box 310
Canutillo, TX 79835

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name:
Signature:
Month Day Year

Printed by J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-020
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-~~IS~~ PW
White Sands Missle Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

5. Transporter 1 Company Name: J. Gomez Trucking
6. US EPA ID Number: NA
A. Transporter's Phone: (915) 478-2121 or (505) 589-2107

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM

10. US EPA ID Number: NA
C. Facility's Phone
(915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: José A. Gallego
Signature
Month 01 Day 18 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Juan C. Rojas
Signature
Month 01 Day 18 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

FACILITY

19. Discrepancy Indication Space
Line 5 address: PO Box 371, Sunland Park, NM 88063
Line 3: IMSW-WSM-PW

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jerry River
Signature
Month 1 Day 18 Year 06

Printed by J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

12-BLS-C5 Rev. 12/98

Please print or type
Form designed for use on elite (12 pitch) typewriter.

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-022
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-IS PW
White Sands Missle Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

5. Transporter 1 Company Name: J. Gomez Trucking
6. US EPA ID Number: NA
A. Transporter's Phone: (915) 478-2121 or (505) 589-2107

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM
10. US EPA ID Number: NA
C. Facility's Phone
(915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Jose A. Gallegos
Signature:
Month 01 Day 18 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Juan C. Rojas
Signature:
Month 01 Day 18 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

FACILITY

19. Discrepancy Indication Space
Line 3: IMSW-WSM-PW
Line 5 address: PO Box 371
Sunland Park, NM 88063

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name:
Signature:
Month 1 Day 18 Year 06

Printed by JUNKFILER & ASSOCIATES, INC.
Neenah, WI 54957-0868

ORIGINAL – RETURN TO GENERATOR

12-BLS-C5 Rev. 12/98

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. EPA # 2750211235	Manifest Doc. No. DEN-023	2. Page 1 of 1	White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address: White Sands Missile Range, IMSW-WSM-IS-PW, White Sands Missile Range, NM 88002

SWMU 166, Denver Site, White Sands Missile Range, NM 88002

4. Generator's Phone (505 678-1007

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
J. Gomez Trucking	NA	(915) 478-2121 or (505) 589-2107
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
NA	NA	NA
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Rhino's DP 1051, 1.7 mls N of NM/TX state line, Hwy 54, Otero County, NM	NA	(915) 886-4355 or (800) 762-0241, Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd^3
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above: Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above:

15. Special Handling Instructions and Additional Information: Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Jose A. Gallegos | Signature: [signature] | Month 01 Day 18 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: [illegible] | Signature: Ismael Ponce | Month 1 Day 18 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: | Signature: | Month Day Year

FACILITY

19. Discrepancy Indication Space: Line 3: IMSW-WSM-PW

Line 5 address: PO Box 371, Sunland Park, NM 88063

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Danny Herrera | Signature: Danny Herrera | Month 1 Day 18 Year 06

Printed by J. J. KELLER & ASSOCIATES, INC. Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

12-BLS-C5 Rev. 12/98

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-021
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-~~IS~~ PW
White Sands Missle Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

5. Transporter 1 Company Name: J. Gomez Trucking
6. US EPA ID Number: NA
A. Transporter's Phone: (915) 478-2121 or (505) 589-2107

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM

10. US EPA ID Number: NA
C. Facility's Phone
(915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: José A. Gallegos
Signature:
Month 01 Day 18 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Jaime Velo
Signature:
Month 1 Day 18 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

FACILITY

19. Discrepancy Indication Space
Line 3: IMSW-WSM-PW
Line 5 address: PO Box 371
Sunland Park, NM 88063

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Jerry Rivera
Signature:
Month 1 Day 18 Year 06

Printed by J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

12-BLS-C5 Rev. 12/98

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-024
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-~~JS~~ PW
White Sands Missle Range, NM 88002

4. Generator's Phone (505) 678-1007

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

5. Transporter 1 Company Name: J. Gomez Trucking
6. US EPA ID Number: NA
A. Transporter's Phone: (915) 478-2121 or (505) 589-2107

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM

10. US EPA ID Number: NA
C. Facility's Phone: (915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Jose A. Gallegos
Signature:
Month 01 Day 18 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Javier Velo
Signature:
Month 1 Day 18 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

FACILITY

19. Discrepancy Indication Space
Line 3: IMSW-WSM-PW
Line 5 address: PO Box 371
Sunland Park, NM 88063

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name:
Signature:
Month 1 Day 18 Year 06

Printed by J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-034
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-~~IS~~ PW
White Sands Missile Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

5. Transporter 1 Company Name: D-n-J Trucking
6. US EPA ID Number: NA
A. Transporter's Phone: (505) 437-4136 or (505) 430-2455

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM
10. US EPA ID Number: NA
C. Facility's Phone: (915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Jose A. Gallegos
Signature:
Month 01 Day 18 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: —
Signature: —
Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: Robert Sanchez
Signature:
Month 01 Day 18 Year 06

FACILITY

19. Discrepancy Indication Space
Line 3: IMSW-WSM-PW
Line 5 address: PO Box 1433
Alamogordo, NM 88311

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Jose
Signature:
Month 01 Day 18 Year 06

Printed by J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-017
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-~~JS~~ PW
White Sands Missle Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

5. Transporter 1 Company Name: J. Gomez Trucking
6. US EPA ID Number: NA
A. Transporter's Phone: (915) 478-2121 or (505) 589-2107

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM
10. US EPA ID Number: NA
C. Facility's Phone: (915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Jose A. Gallegos
Signature:
Month 01 Day 20 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Juan C. Rojas
Signature:
Month 01 Day 20 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

FACILITY

19. Discrepancy Indication Space
Line 5 address: PO Box 371
Sunland Park, NM 88063
Line 3: IMSW-WSM-PW

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: SANTOS GOMEZ
Signature:
Month 1 Day 20 Year 06

Printed by J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. EPA # 2750211235	Manifest Doc. No. DEN-018	2. Page 1 of 1	White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address: White Sands Missile Range, IMSW-WSM-~~IS~~ PW, White Sands Missle Range, NM 88002

SWMU 166, Denver Site, White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
J. Gomez Trucking	NA	(915) 478-2121 or (505) 589-2107
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
NA	NA	NA
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Rhino's DP 1051, 1.7 mls N of NM/TX state line, Hwy 54, Otero County, NM	NA	(915) 886-4355 or (800) 762-0241, Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above: Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above:

15. Special Handling Instructions and Additional Information: Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: Jose A. Gallegos — Signature: [signature] — Month 01 Day 20 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: ISRAEL JONES — Signature: [signature] — Month 01 Day 20 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: — Signature: — Month Day Year

FACILITY

19. Discrepancy Indication Space: Line 3: IMSW-WSM-PW

Line 5 address: PO Box 371, Sunland Park, NM 88063

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Santos Gomez — Signature: [signature] — Month 1 Day 20 Year 06

Printed by J. J. KELLER & ASSOCIATES, INC. Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-019
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-~~IS~~ PW
White Sands Missle Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

5. Transporter 1 Company Name: J. Gomez Trucking
6. US EPA ID Number: NA
A. Transporter's Phone: (915) 478-2121 or (505) 589-2107

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM
10. US EPA ID Number: NA
C. Facility's Phone: (915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd^3
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Jose A. Gallegos
Signature:
Month 01 Day 20 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Javier Velo
Signature:
Month 1 Day 20 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

FACILITY

19. Discrepancy Indication Space
Line 3: IMSW-WSM-PW
Line 5 address: PO Box 371
Sunland Park, NM 88063

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Santos Gomez
Signature:
Month 1 Day 20 Year 06

Printed by J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

12-BLS-C5 Rev. 12/98

Please print or type
(Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: EPA # 2750211235
Manifest Doc. No.: DEN-032
2. Page 1 of 1
White Sands Tech

GENERATOR

3. Generator's Name and Mailing Address
White Sands Missile Range
IMSW-WSM-~~IS~~ PW
White Sands Missle Range, NM 88002

SWMU 166
Denver Site
White Sands Missile Range, NM 88002

4. Generator's Phone (505) 678-1007

TRANSPORTER

5. Transporter 1 Company Name: D-n-J Trucking
6. US EPA ID Number: NA
A. Transporter's Phone: (505) 437-4136 or (505) 430-2455

7. Transporter 2 Company Name: NA
8. US EPA ID Number: NA
B. Transporter's Phone: NA

FACILITY

9. Designated Facility Name and Site Address
Rhino's DP 1051
1.7 mls N of NM/TX state line
Hwy 54, Otero County, NM

10. US EPA ID Number: NA
C. Facility's Phone: (915) 886-4355 or (800) 762-0241
Fax: (915) 886-4358

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Hydrocarbon Impacted Soil	1	Dump	20	yd³
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Non-Hazardous Diesel Impacted Soil

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Cell D

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: Jose A. Gallegos
Signature:
Month 01 Day 20 Year 06

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Robert Sanchez
Signature:
Month 01 Day 20 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

19. Discrepancy Indication Space
Line 3: IMSW-WSM-PW
Line 5 address: PO Box 1433, Alamogordo, NM 88311

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Jose Ceda-Ger.
Signature:
Month 1 Day 20 Year 06

Printed by J. J. KELLER & ASSOCIATES, INC. Neenah, WI 54957-0368

ORIGINAL – RETURN TO GENERATOR

12-BLS-C5 Rev. 12/98

APPENDIX C

Laboratory Analytical Results

CSTE-DTC-WS-MT-AA

JAN 25 2006

MEMORANDUM FOR ES-EC, ATTN: Mr. Gallegos

SUBJECT: Analysis Support

1. In response to the verbal request of Mr. Davis, WTS, the Applied Environments Test Branch Chemistry Laboratory analyzed 10 soil samples for their diesel fuel content.

2. Results. This data appears in Table 1, Encl 1.

3. The samples were obtained by WTS personnel and were delivered to the Chemistry Laboratory on 18 Jan 06. The analysis was completed on the same day.

4. Point of contact is Mr. Eduardo A. Gomez at 678-8574.

ANDRUS GARAY
Chief, Applied Envr Test Branch

Encl
as

CF:
WTS, P. O. Box 363, ATTN: Mr. Bradley Davis, WSMR, NM 88002

TABLE 1

A. Sample Identification

Chem 11-06: Soil, SWMU-166-AST-101
Chem 12-06: Soil, SWMU-166-AST-102
Chem 13-06: Soil, SWMU-166-AST-103
Chem 14-06: Soil, SWMU-166-AST-104
Chem 15-06: Soil, SWMU-166-AST-105
Chem 16-06: Soil, SWMU-166-GEN-101
Chem 17-06: Soil, SWMU-166-GEN-102
Chem 18-06: Soil, SWMU-166-GEN-103
Chem 19-06: Soil, SWMU-166-GEN-104
Chem 20-06: Soil, SWMU-166-GEN-105

B. Diesel Fuel Content

Sample Identification	Diesel Fuel (milligrams/kilogram)
Chem 11-06	ND*
Chem 12-06	ND
Chem 13-06	ND
Chem 14-06	ND
Chem 15-06	ND
Chem 16-06	8,650
Chem 17-06	26
Chem 18-06	10
Chem 19-06	ND
Chem 20-06	ND

* ND = None Detected (detection limit = 10 milligrams/kilogram)

P.O. BOX 363, Bldg 126, 3rd Floor, WSMR, NM 88002
Office: (505) 678-0263 Fax: (505) 678-6096

401

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NO.: TO-011
PROJECT NAME: Denver Site
SAMPLER'S SIGNATURE: James Thompson

DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	TPH-DRO 8015	REMARKS
1-17-06	1555	SWMU-166-AST-101	soil		1	X	24 hr turnaround
1-17-06	1550	SWMU-166-AST-102			1	X	
1-17-06	1540	SWMU-166-AST-103			1	X	
1-17-06	1545	SWMU-166-AST-104			1	X	
1-17-06	1600	SWMU-166-AST-105			1	X	
1-17-06	1440	SWMU-166-GEN-101	soil		1	X	24 hr turn around
	1455	SWMU-166-GEN-102			1	X	
	1450	SWMU-166-GEN-103			1	X	
	1445	SWMU-166-GEN-104			1	X	
	1505	SWMU-166-GEN-105			1	X	

PROJECT INFORMATION	SAMPLES RECEIVED		1. RELINQUISHED BY: (SIGNATURE)	2. RELINQUISHED BY: (SIGNATURE)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER: Fred Bourger	TOTAL NO. OF CONTAINERS		(PRINTED NAME) J. Thompson	(PRINTED NAME)	(PRINTED NAME) E. Gomez
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS		RECEIVED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	(COMPANY) WSMR Chem lab
	GOOD CONDITION/CHILLED		(TIME/DATE)	(TIME/DATE)	(TIME/DATE) 8:10 AM Jan 18, 2006
VIA:	CONFORMS TO RECORD		SPECIAL INSTRUCTIONS / COMMENTS: 678-3397		

PLEASE USE BALL POINT PEN

DISTRIBUTION: WHITE - PROJECT FILES; YELLOW - LAB; PINK - FIELD COPY

Analytical and Quality Control Report

Fred Bourger
WTS
P.O. Box 363
Building 126 3RD Floor
WSMR, NM, 88002

Report Date: February 7, 2006

Work Order: 6012406

Project Name: Denver Site
Project Number: TO-011

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
82901	SWMU-166-AST-001	soil	2006-01-17	15:55	2006-01-24
82902	SWMU-166-AST-002	soil	2006-01-17	15:50	2006-01-24
82903	SWMU-166-AST-003	soil	2006-01-17	15:40	2006-01-24
82904	SWMU-166-AST-004	soil	2006-01-17	15:45	2006-01-24
82905	SWMU-166-AST-005	soil	2006-01-17	16:00	2006-01-24
82906	SWMU-166-GEN-002	soil	2006-01-17	14:55	2006-01-24
82907	SWMU-166-GEN-003	soil	2006-01-17	14:50	2006-01-24
82908	SWMU-166-GEN-004	soil	2006-01-17	14:45	2006-01-24
82909	SWMU-166-GEN-005	soil	2006-01-17	15:05	2006-01-24
82910	SWMU-166-GEN-011	soil	2006-01-20	09:10	2006-01-24
82911	Trip Blank	water	2006-01-20	00:00	2006-01-24

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 55 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael Abel

Dr. Blair Leftwich, Director

Analytical Report

Sample: 82901 - SWMU-166-AST-001

Analysis:	Semivolatiles	Analytical Method:	S 8270C	Prep Method:	S 3550
QC Batch:	24262	Date Analyzed:	2006-01-26	Analyzed By:	AG
Prep Batch:	21285	Sample Preparation:	2006-01-25	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.250	mg/Kg	1	0.250
n-Nitrosodimethylamine		<0.250	mg/Kg	1	0.250
2-Picoline		<0.250	mg/Kg	1	0.250
Methyl methanesulfonate		<0.250	mg/Kg	1	0.250
Ethyl methanesulfonate		<0.250	mg/Kg	1	0.250
Phenol		<0.250	mg/Kg	1	0.250
Aniline		<0.250	mg/Kg	1	0.250
bis(2-chloroethyl)ether		<0.250	mg/Kg	1	0.250
2-Chlorophenol		<0.250	mg/Kg	1	0.250
1,3-Dichlorobenzene (meta)		<0.250	mg/Kg	1	0.250
1,4-Dichlorobenzene (para)		<0.250	mg/Kg	1	0.250
Benzyl alcohol		<0.250	mg/Kg	1	0.250
1,2-Dichlorobenzene (ortho)		<0.250	mg/Kg	1	0.250
2-Methylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroisopropyl)ether		<0.250	mg/Kg	1	0.250
4-Methylphenol / 3-Methylphenol		<0.250	mg/Kg	1	0.250
Acetophenone		<0.250	mg/Kg	1	0.250
n-Nitrosodi-n-propylamine		<0.250	mg/Kg	1	0.250
Hexachloroethane		<0.250	mg/Kg	1	0.250
Nitrobenzene		<0.250	mg/Kg	1	0.250
n-Nitrosopiperidine		<0.250	mg/Kg	1	0.250
Isophorone		<0.250	mg/Kg	1	0.250
2-Nitrophenol		<0.250	mg/Kg	1	0.250
2,4-Dimethylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroethoxy)methane		<0.250	mg/Kg	1	0.250
Benzoic acid		<0.250	mg/Kg	1	0.250
2,4-Dichlorophenol		<0.250	mg/Kg	1	0.250
1,2,4-Trichlorobenzene		<0.250	mg/Kg	1	0.250
a,a-Dimethylphenethylamine		<0.250	mg/Kg	1	0.250
Naphthalene		<0.250	mg/Kg	1	0.250
4-Chloroaniline		<0.250	mg/Kg	1	0.250
2,6-Dichlorophenol		<0.250	mg/Kg	1	0.250
Hexachlorobutadiene		<0.250	mg/Kg	1	0.250
n-Nitroso-di-n-butylamine		<0.250	mg/Kg	1	0.250
4-Chloro-3-methylphenol		<0.250	mg/Kg	1	0.250
1-Methylnaphthalene		<0.250	mg/Kg	1	0.250
2-Methylnaphthalene		<0.250	mg/Kg	1	0.250
1,2,4,5-Tetrachlorobenzene		<0.250	mg/Kg	1	0.250
Hexachlorocyclopentadiene		<0.250	mg/Kg	1	0.250
2,4,6-Trichlorophenol		<0.250	mg/Kg	1	0.250
2,4,5-Trichlorophenol		<0.250	mg/Kg	1	0.250
2-Chloronaphthalene		<0.250	mg/Kg	1	0.250
1-Chloronaphthalene		<0.250	mg/Kg	1	0.250
2-Nitroaniline		<0.250	mg/Kg	1	0.250

continued ...

sample 82901 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Dimethylphthalate		<0.250	mg/Kg	1	0.250
Acenaphthylene		<0.250	mg/Kg	1	0.250
2,6-Dinitrotoluene		<0.250	mg/Kg	1	0.250
3-Nitroaniline		<0.250	mg/Kg	1	0.250
Acenaphthene		<0.250	mg/Kg	1	0.250
2,4-Dinitrophenol		<0.250	mg/Kg	1	0.250
Dibenzofuran		<0.250	mg/Kg	1	0.250
Pentachlorobenzene		<0.250	mg/Kg	1	0.250
4-Nitrophenol		<0.250	mg/Kg	1	0.250
1-Naphthylamine		<0.250	mg/Kg	1	0.250
2,4-Dinitrotoluene		<0.250	mg/Kg	1	0.250
2-Naphthylamine		<0.250	mg/Kg	1	0.250
2,3,4,6-Tetrachlorophenol		<0.250	mg/Kg	1	0.250
Fluorene		<0.250	mg/Kg	1	0.250
Diethylphthalate		<0.250	mg/Kg	1	0.250
4-Chlorophenyl-phenylether		<0.250	mg/Kg	1	0.250
4-Nitroaniline		<0.250	mg/Kg	1	0.250
4,6-Dinitro-2-methylphenol		<0.250	mg/Kg	1	0.250
Diphenylamine		<0.250	mg/Kg	1	0.250
Diphenylhydrazine		<0.250	mg/Kg	1	0.250
4-Bromophenyl-phenylether		<0.250	mg/Kg	1	0.250
Phenacetin		<0.250	mg/Kg	1	0.250
Hexachlorobenzene		<0.250	mg/Kg	1	0.250
4-Aminobiphenyl		<0.250	mg/Kg	1	0.250
Pentachlorophenol		<0.250	mg/Kg	1	0.250
Pentachloronitrobenzene		<0.250	mg/Kg	1	0.250
Pronamide		<0.250	mg/Kg	1	0.250
Phenanthrene		<0.250	mg/Kg	1	0.250
Anthracene		<0.250	mg/Kg	1	0.250
Di-n-butylphthalate		<0.250	mg/Kg	1	0.250
Fluoranthene		<0.250	mg/Kg	1	0.250
Benzidine		<0.250	mg/Kg	1	0.250
Pyrene		<0.250	mg/Kg	1	0.250
p-Dimethylaminoazobenzene		<0.250	mg/Kg	1	0.250
Butylbenzylphthalate		<0.250	mg/Kg	1	0.250
Benzo(a)anthracene		<0.250	mg/Kg	1	0.250
3,3-Dichlorobenzidine		<0.250	mg/Kg	1	0.250
Chrysene		<0.250	mg/Kg	1	0.250
bis(2-ethylhexyl)phthalate		<0.250	mg/Kg	1	0.250
Di-n-octylphthalate		<0.250	mg/Kg	1	0.250
Benzo(b)fluoranthene		<0.250	mg/Kg	1	0.250
7,12-Dimethylbenz(a)anthracene		<0.250	mg/Kg	1	0.250
Benzo(k)fluoranthene		<0.250	mg/Kg	1	0.250
Benzo(a)pyrene		<0.250	mg/Kg	1	0.250
3-Methylcholanthrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,j)acridine		<0.250	mg/Kg	1	0.250
Indeno(1,2,3-cd)pyrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,h)anthracene		<0.250	mg/Kg	1	0.250
Benzo(g,h,i)perylene		<0.250	mg/Kg	1	0.250

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		1.40	mg/Kg	1	2.67	52	8.6 - 115
Phenol-d5		1.57	mg/Kg	1	2.67	59	6.3 - 124
Nitrobenzene-d5		1.70	mg/Kg	1	2.67	64	11.3 - 116
2-Fluorobiphenyl		1.91	mg/Kg	1	2.67	72	14.6 - 122
2,4,6-Tribromophenol		1.85	mg/Kg	1	2.67	69	13.8 - 123
Terphenyl-d14		2.06	mg/Kg	1	2.67	77	30.8 - 134

Sample: 82901 - SWMU-166-AST-001

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	24173	Date Analyzed:	2006-01-24	Analyzed By:	JL
Prep Batch:	21245	Sample Preparation:	2006-01-24	Prepared By:	JL

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		136	mg/Kg	1	150	90	50 - 150

Sample: 82901 - SWMU-166-AST-001

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	24265	Date Analyzed:	2006-01-27	Analyzed By:	JG
Prep Batch:	21321	Sample Preparation:	2006-01-27	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<10.0	µg/Kg	10	1.00
Dichlorodifluoromethane		<10.0	µg/Kg	10	1.00
Chloromethane (methyl chloride)		<10.0	µg/Kg	10	1.00
Vinyl Chloride		<10.0	µg/Kg	10	1.00
Bromomethane (methyl bromide)		<50.0	µg/Kg	10	5.00
Chloroethane		<10.0	µg/Kg	10	1.00
Trichlorofluoromethane		<10.0	µg/Kg	10	1.00
Acetone		<100	µg/Kg	10	10.0
Iodomethane (methyl iodide)		<50.0	µg/Kg	10	5.00
Carbon Disulfide		<10.0	µg/Kg	10	1.00
Acrylonitrile		<10.0	µg/Kg	10	1.00
2-Butanone (MEK)		<50.0	µg/Kg	10	5.00
4-Methyl-2-pentanone (MIBK)		<50.0	µg/Kg	10	5.00
2-Hexanone		<50.0	µg/Kg	10	5.00
trans 1,4-Dichloro-2-butene		<100	µg/Kg	10	10.0
1,1-Dichloroethene		<10.0	µg/Kg	10	1.00
Methylene chloride		<50.0	µg/Kg	10	5.00
MTBE		<10.0	µg/Kg	10	1.00
trans-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
1,1-Dichloroethane		<10.0	µg/Kg	10	1.00

continued . . .

sample 82901 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
cis-1,2-Dichloroethene		<10.0	μg/Kg	10	1.00
2,2-Dichloropropane		<10.0	μg/Kg	10	1.00
1,2-Dichloroethane (EDC)		<10.0	μg/Kg	10	1.00
Chloroform		<10.0	μg/Kg	10	1.00
1,1,1-Trichloroethane		<10.0	μg/Kg	10	1.00
1,1-Dichloropropene		<10.0	μg/Kg	10	1.00
Benzene		<10.0	μg/Kg	10	1.00
Carbon Tetrachloride		<10.0	μg/Kg	10	1.00
1,2-Dichloropropane		<10.0	μg/Kg	10	1.00
Trichloroethene (TCE)		<10.0	μg/Kg	10	1.00
Dibromomethane (methylene bromide)		<10.0	μg/Kg	10	1.00
Bromodichloromethane		<10.0	μg/Kg	10	1.00
2-Chloroethyl vinyl ether		<50.0	μg/Kg	10	5.00
cis-1,3-Dichloropropene		<10.0	μg/Kg	10	1.00
trans-1,3-Dichloropropene		<10.0	μg/Kg	10	1.00
Toluene		<10.0	μg/Kg	10	1.00
1,1,2-Trichloroethane		<10.0	μg/Kg	10	1.00
1,3-Dichloropropane		<10.0	μg/Kg	10	1.00
Dibromochloromethane		<10.0	μg/Kg	10	1.00
1,2-Dibromoethane (EDB)		<10.0	μg/Kg	10	1.00
Tetrachloroethene (PCE)		<10.0	μg/Kg	10	1.00
Chlorobenzene		<10.0	μg/Kg	10	1.00
1,1,1,2-Tetrachloroethane		<10.0	μg/Kg	10	1.00
Ethylbenzene		<10.0	μg/Kg	10	1.00
m,p-Xylene		<10.0	μg/Kg	10	1.00
Bromoform		<10.0	μg/Kg	10	1.00
Styrene		<10.0	μg/Kg	10	1.00
o-Xylene		<10.0	μg/Kg	10	1.00
1,1,2,2-Tetrachloroethane		<10.0	μg/Kg	10	1.00
2-Chlorotoluene		<10.0	μg/Kg	10	1.00
1,2,3-Trichloropropane		<10.0	μg/Kg	10	1.00
Isopropylbenzene		<10.0	μg/Kg	10	1.00
Bromobenzene		<10.0	μg/Kg	10	1.00
n-Propylbenzene		<10.0	μg/Kg	10	1.00
1,3,5-Trimethylbenzene		<10.0	μg/Kg	10	1.00
tert-Butylbenzene		<10.0	μg/Kg	10	1.00
1,2,4-Trimethylbenzene		<10.0	μg/Kg	10	1.00
1,4-Dichlorobenzene (para)		<10.0	μg/Kg	10	1.00
sec-Butylbenzene		<10.0	μg/Kg	10	1.00
1,3-Dichlorobenzene (meta)		<10.0	μg/Kg	10	1.00
p-Isopropyltoluene		<10.0	μg/Kg	10	1.00
4-Chlorotoluene		<10.0	μg/Kg	10	1.00
1,2-Dichlorobenzene (ortho)		<10.0	μg/Kg	10	1.00
n-Butylbenzene		<10.0	μg/Kg	10	1.00
1,2-Dibromo-3-chloropropane		<50.0	μg/Kg	10	5.00
1,2,3-Trichlorobenzene		<50.0	μg/Kg	10	5.00
1,2,4-Trichlorobenzene		<50.0	μg/Kg	10	5.00
Naphthalene		<50.0	μg/Kg	10	5.00
Hexachlorobutadiene		<50.0	μg/Kg	10	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		437	µg/Kg	10	50.0	87	42 - 129
Toluene-d8		500	µg/Kg	10	50.0	100	93 - 107
4-Bromofluorobenzene (4-BFB)		488	µg/Kg	10	50.0	98	78 - 120

Sample: 82902 - SWMU-166-AST-002

Analysis:	Semivolatiles	Analytical Method:	S 8270C	Prep Method:	S 3550
QC Batch:	24262	Date Analyzed:	2006-01-26	Analyzed By:	AG
Prep Batch:	21285	Sample Preparation:	2006-01-25	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.250	mg/Kg	1	0.250
n-Nitrosodimethylamine		<0.250	mg/Kg	1	0.250
2-Picoline		<0.250	mg/Kg	1	0.250
Methyl methanesulfonate		<0.250	mg/Kg	1	0.250
Ethyl methanesulfonate		<0.250	mg/Kg	1	0.250
Phenol		<0.250	mg/Kg	1	0.250
Aniline		<0.250	mg/Kg	1	0.250
bis(2-chloroethyl)ether		<0.250	mg/Kg	1	0.250
2-Chlorophenol		<0.250	mg/Kg	1	0.250
1,3-Dichlorobenzene (meta)		<0.250	mg/Kg	1	0.250
1,4-Dichlorobenzene (para)		<0.250	mg/Kg	1	0.250
Benzyl alcohol		<0.250	mg/Kg	1	0.250
1,2-Dichlorobenzene (ortho)		<0.250	mg/Kg	1	0.250
2-Methylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroisopropyl)ether		<0.250	mg/Kg	1	0.250
4-Methylphenol / 3-Methylphenol		<0.250	mg/Kg	1	0.250
Acetophenone		<0.250	mg/Kg	1	0.250
n-Nitrosodi-n-propylamine		<0.250	mg/Kg	1	0.250
Hexachloroethane		<0.250	mg/Kg	1	0.250
Nitrobenzene		<0.250	mg/Kg	1	0.250
n-Nitrosopiperidine		<0.250	mg/Kg	1	0.250
Isophorone		<0.250	mg/Kg	1	0.250
2-Nitrophenol		<0.250	mg/Kg	1	0.250
2,4-Dimethylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroethoxy)methane		<0.250	mg/Kg	1	0.250
Benzoic acid		<0.250	mg/Kg	1	0.250
2,4-Dichlorophenol		<0.250	mg/Kg	1	0.250
1,2,4-Trichlorobenzene		<0.250	mg/Kg	1	0.250
a,a-Dimethylphenethylamine		<0.250	mg/Kg	1	0.250
Naphthalene		<0.250	mg/Kg	1	0.250
4-Chloroaniline		<0.250	mg/Kg	1	0.250
2,6-Dichlorophenol		<0.250	mg/Kg	1	0.250
Hexachlorobutadiene		<0.250	mg/Kg	1	0.250
n-Nitroso-di-n-butylamine		<0.250	mg/Kg	1	0.250
4-Chloro-3-methylphenol		<0.250	mg/Kg	1	0.250
1-Methylnaphthalene		<0.250	mg/Kg	1	0.250
2-Methylnaphthalene		<0.250	mg/Kg	1	0.250
1,2,4,5-Tetrachlorobenzene		<0.250	mg/Kg	1	0.250

continued ...

sample 82902 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Hexachlorocyclopentadiene		<0.250	mg/Kg	1	0.250
2,4,6-Trichlorophenol		<0.250	mg/Kg	1	0.250
2,4,5-Trichlorophenol		<0.250	mg/Kg	1	0.250
2-Chloronaphthalene		<0.250	mg/Kg	1	0.250
1-Chloronaphthalene		<0.250	mg/Kg	1	0.250
2-Nitroaniline		<0.250	mg/Kg	1	0.250
Dimethylphthalate		<0.250	mg/Kg	1	0.250
Acenaphthylene		<0.250	mg/Kg	1	0.250
2,6-Dinitrotoluene		<0.250	mg/Kg	1	0.250
3-Nitroaniline		<0.250	mg/Kg	1	0.250
Acenaphthene		<0.250	mg/Kg	1	0.250
2,4-Dinitrophenol		<0.250	mg/Kg	1	0.250
Dibenzofuran		<0.250	mg/Kg	1	0.250
Pentachlorobenzene		<0.250	mg/Kg	1	0.250
4-Nitrophenol		<0.250	mg/Kg	1	0.250
1-Naphthylamine		<0.250	mg/Kg	1	0.250
2,4-Dinitrotoluene		<0.250	mg/Kg	1	0.250
2-Naphthylamine		<0.250	mg/Kg	1	0.250
2,3,4,6-Tetrachlorophenol		<0.250	mg/Kg	1	0.250
Fluorene		<0.250	mg/Kg	1	0.250
Diethylphthalate		<0.250	mg/Kg	1	0.250
4-Chlorophenyl-phenylether		<0.250	mg/Kg	1	0.250
4-Nitroaniline		<0.250	mg/Kg	1	0.250
4,6-Dinitro-2-methylphenol		<0.250	mg/Kg	1	0.250
Diphenylamine		<0.250	mg/Kg	1	0.250
Diphenylhydrazine		<0.250	mg/Kg	1	0.250
4-Bromophenyl-phenylether		<0.250	mg/Kg	1	0.250
Phenacetin		<0.250	mg/Kg	1	0.250
Hexachlorobenzene		<0.250	mg/Kg	1	0.250
4-Aminobiphenyl		<0.250	mg/Kg	1	0.250
Pentachlorophenol		<0.250	mg/Kg	1	0.250
Pentachloronitrobenzene		<0.250	mg/Kg	1	0.250
Pronamide		<0.250	mg/Kg	1	0.250
Phenanthrene		<0.250	mg/Kg	1	0.250
Anthracene		<0.250	mg/Kg	1	0.250
Di-n-butylphthalate		<0.250	mg/Kg	1	0.250
Fluoranthene		<0.250	mg/Kg	1	0.250
Benzidine		<0.250	mg/Kg	1	0.250
Pyrene		<0.250	mg/Kg	1	0.250
p-Dimethylaminoazobenzene		<0.250	mg/Kg	1	0.250
Butylbenzylphthalate		<0.250	mg/Kg	1	0.250
Benzo(a)anthracene		<0.250	mg/Kg	1	0.250
3,3-Dichlorobenzidine		<0.250	mg/Kg	1	0.250
Chrysene		<0.250	mg/Kg	1	0.250
bis(2-ethylhexyl)phthalate		<0.250	mg/Kg	1	0.250
Di-n-octylphthalate		<0.250	mg/Kg	1	0.250
Benzo(b)fluoranthene		<0.250	mg/Kg	1	0.250
7,12-Dimethylbenz(a)anthracene		<0.250	mg/Kg	1	0.250
Benzo(k)fluoranthene		<0.250	mg/Kg	1	0.250

continued . . .

sample 82902 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Benzo(a)pyrene		<0.250	mg/Kg	1	0.250
3-Methylcholanthrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,j)acridine		<0.250	mg/Kg	1	0.250
Indeno(1,2,3-cd)pyrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,h)anthracene		<0.250	mg/Kg	1	0.250
Benzo(g,h,i)perylene		<0.250	mg/Kg	1	0.250

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		1.60	mg/Kg	1	2.67	60	8.6 - 115
Phenol-d5		1.61	mg/Kg	1	2.67	60	6.3 - 124
Nitrobenzene-d5		1.75	mg/Kg	1	2.67	66	11.3 - 116
2-Fluorobiphenyl		1.97	mg/Kg	1	2.67	74	14.6 - 122
2,4,6-Tribromophenol		1.81	mg/Kg	1	2.67	68	13.8 - 123
Terphenyl-d14		2.04	mg/Kg	1	2.67	76	30.8 - 134

Sample: 82902 - SWMU-166-AST-002

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	24173	Date Analyzed:	2006-01-24	Analyzed By:	JL
Prep Batch:	21245	Sample Preparation:	2006-01-24	Prepared By:	JL

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		187	mg/Kg	1	150	124	50 - 150

Sample: 82902 - SWMU-166-AST-002

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	24265	Date Analyzed:	2006-01-27	Analyzed By:	JG
Prep Batch:	21321	Sample Preparation:	2006-01-27	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<10.0	µg/Kg	10	1.00
Dichlorodifluoromethane		<10.0	µg/Kg	10	1.00
Chloromethane (methyl chloride)		<10.0	µg/Kg	10	1.00
Vinyl Chloride		<10.0	µg/Kg	10	1.00
Bromomethane (methyl bromide)		<50.0	µg/Kg	10	5.00
Chloroethane		<10.0	µg/Kg	10	1.00
Trichlorofluoromethane		<10.0	µg/Kg	10	1.00
Acetone		<100	µg/Kg	10	10.0
Iodomethane (methyl iodide)		<50.0	µg/Kg	10	5.00

continued . . .

sample 82902 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Carbon Disulfide		<10.0	µg/Kg	10	1.00
Acrylonitrile		<10.0	µg/Kg	10	1.00
2-Butanone (MEK)		<50.0	µg/Kg	10	5.00
4-Methyl-2-pentanone (MIBK)		<50.0	µg/Kg	10	5.00
2-Hexanone		<50.0	µg/Kg	10	5.00
trans 1,4-Dichloro-2-butene		<100	µg/Kg	10	10.0
1,1-Dichloroethene		<10.0	µg/Kg	10	1.00
Methylene chloride		<50.0	µg/Kg	10	5.00
MTBE		<10.0	µg/Kg	10	1.00
trans-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
1,1-Dichloroethane		<10.0	µg/Kg	10	1.00
cis-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
2,2-Dichloropropane		<10.0	µg/Kg	10	1.00
1,2-Dichloroethane (EDC)		<10.0	µg/Kg	10	1.00
Chloroform		<10.0	µg/Kg	10	1.00
1,1,1-Trichloroethane		<10.0	µg/Kg	10	1.00
1,1-Dichloropropene		<10.0	µg/Kg	10	1.00
Benzene		<10.0	µg/Kg	10	1.00
Carbon Tetrachloride		<10.0	µg/Kg	10	1.00
1,2-Dichloropropane		<10.0	µg/Kg	10	1.00
Trichloroethene (TCE)		<10.0	µg/Kg	10	1.00
Dibromomethane (methylene bromide)		<10.0	µg/Kg	10	1.00
Bromodichloromethane		<10.0	µg/Kg	10	1.00
2-Chloroethyl vinyl ether		<50.0	µg/Kg	10	5.00
cis-1,3-Dichloropropene		<10.0	µg/Kg	10	1.00
trans-1,3-Dichloropropene		<10.0	µg/Kg	10	1.00
Toluene		<10.0	µg/Kg	10	1.00
1,1,2-Trichloroethane		<10.0	µg/Kg	10	1.00
1,3-Dichloropropane		<10.0	µg/Kg	10	1.00
Dibromochloromethane		<10.0	µg/Kg	10	1.00
1,2-Dibromoethane (EDB)		<10.0	µg/Kg	10	1.00
Tetrachloroethene (PCE)		<10.0	µg/Kg	10	1.00
Chlorobenzene		<10.0	µg/Kg	10	1.00
1,1,1,2-Tetrachloroethane		<10.0	µg/Kg	10	1.00
Ethylbenzene		<10.0	µg/Kg	10	1.00
m,p-Xylene		<10.0	µg/Kg	10	1.00
Bromoform		<10.0	µg/Kg	10	1.00
Styrene		<10.0	µg/Kg	10	1.00
o-Xylene		<10.0	µg/Kg	10	1.00
1,1,2,2-Tetrachloroethane		<10.0	µg/Kg	10	1.00
2-Chlorotoluene		<10.0	µg/Kg	10	1.00
1,2,3-Trichloropropane		<10.0	µg/Kg	10	1.00
Isopropylbenzene		<10.0	µg/Kg	10	1.00
Bromobenzene		<10.0	µg/Kg	10	1.00
n-Propylbenzene		<10.0	µg/Kg	10	1.00
1,3,5-Trimethylbenzene		<10.0	µg/Kg	10	1.00
tert-Butylbenzene		<10.0	µg/Kg	10	1.00
1,2,4-Trimethylbenzene		<10.0	µg/Kg	10	1.00
1,4-Dichlorobenzene (para)		<10.0	µg/Kg	10	1.00

continued . . .

sample 82902 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
sec-Butylbenzene		<10.0	µg/Kg	10	1.00
1,3-Dichlorobenzene (meta)		<10.0	µg/Kg	10	1.00
p-Isopropyltoluene		<10.0	µg/Kg	10	1.00
4-Chlorotoluene		<10.0	µg/Kg	10	1.00
1,2-Dichlorobenzene (ortho)		<10.0	µg/Kg	10	1.00
n-Butylbenzene		<10.0	µg/Kg	10	1.00
1,2-Dibromo-3-chloropropane		<50.0	µg/Kg	10	5.00
1,2,3-Trichlorobenzene		<50.0	µg/Kg	10	5.00
1,2,4-Trichlorobenzene		<50.0	µg/Kg	10	5.00
Naphthalene		<50.0	µg/Kg	10	5.00
Hexachlorobutadiene		<50.0	µg/Kg	10	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		448	µg/Kg	10	50.0	90	42 - 129
Toluene-d8		500	µg/Kg	10	50.0	100	93 - 107
4-Bromofluorobenzene (4-BFB)		493	µg/Kg	10	50.0	99	78 - 120

Sample: 82903 - SWMU-166-AST-003

Analysis:	Semivolatiles	Analytical Method:	S 8270C	Prep Method:	S 3550
QC Batch:	24262	Date Analyzed:	2006-01-26	Analyzed By:	AG
Prep Batch:	21285	Sample Preparation:	2006-01-25	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.250	mg/Kg	1	0.250
n-Nitrosodimethylamine		<0.250	mg/Kg	1	0.250
2-Picoline		<0.250	mg/Kg	1	0.250
Methyl methanesulfonate		<0.250	mg/Kg	1	0.250
Ethyl methanesulfonate		<0.250	mg/Kg	1	0.250
Phenol		<0.250	mg/Kg	1	0.250
Aniline		<0.250	mg/Kg	1	0.250
bis(2-chloroethyl)ether		<0.250	mg/Kg	1	0.250
2-Chlorophenol		<0.250	mg/Kg	1	0.250
1,3-Dichlorobenzene (meta)		<0.250	mg/Kg	1	0.250
1,4-Dichlorobenzene (para)		<0.250	mg/Kg	1	0.250
Benzyl alcohol		<0.250	mg/Kg	1	0.250
1,2-Dichlorobenzene (ortho)		<0.250	mg/Kg	1	0.250
2-Methylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroisopropyl)ether		<0.250	mg/Kg	1	0.250
4-Methylphenol / 3-Methylphenol		<0.250	mg/Kg	1	0.250
Acetophenone		<0.250	mg/Kg	1	0.250
n-Nitrosodi-n-propylamine		<0.250	mg/Kg	1	0.250
Hexachloroethane		<0.250	mg/Kg	1	0.250
Nitrobenzene		<0.250	mg/Kg	1	0.250
n-Nitrosopiperidine		<0.250	mg/Kg	1	0.250
Isophorone		<0.250	mg/Kg	1	0.250

continued . . .

sample 82903 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
2-Nitrophenol		<0.250	mg/Kg	1	0.250
2,4-Dimethylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroethoxy)methane		<0.250	mg/Kg	1	0.250
Benzoic acid		<0.250	mg/Kg	1	0.250
2,4-Dichlorophenol		<0.250	mg/Kg	1	0.250
1,2,4-Trichlorobenzene		<0.250	mg/Kg	1	0.250
a,a-Dimethylphenethylamine		<0.250	mg/Kg	1	0.250
Naphthalene		<0.250	mg/Kg	1	0.250
4-Chloroaniline		<0.250	mg/Kg	1	0.250
2,6-Dichlorophenol		<0.250	mg/Kg	1	0.250
Hexachlorobutadiene		<0.250	mg/Kg	1	0.250
n-Nitroso-di-n-butylamine		<0.250	mg/Kg	1	0.250
4-Chloro-3-methylphenol		<0.250	mg/Kg	1	0.250
1-Methylnaphthalene		<0.250	mg/Kg	1	0.250
2-Methylnaphthalene		<0.250	mg/Kg	1	0.250
1,2,4,5-Tetrachlorobenzene		<0.250	mg/Kg	1	0.250
Hexachlorocyclopentadiene		<0.250	mg/Kg	1	0.250
2,4,6-Trichlorophenol		<0.250	mg/Kg	1	0.250
2,4,5-Trichlorophenol		<0.250	mg/Kg	1	0.250
2-Chloronaphthalene		<0.250	mg/Kg	1	0.250
1-Chloronaphthalene		<0.250	mg/Kg	1	0.250
2-Nitroaniline		<0.250	mg/Kg	1	0.250
Dimethylphthalate		<0.250	mg/Kg	1	0.250
Acenaphthylene		<0.250	mg/Kg	1	0.250
2,6-Dinitrotoluene		<0.250	mg/Kg	1	0.250
3-Nitroaniline		<0.250	mg/Kg	1	0.250
Acenaphthene		<0.250	mg/Kg	1	0.250
2,4-Dinitrophenol		<0.250	mg/Kg	1	0.250
Dibenzofuran		<0.250	mg/Kg	1	0.250
Pentachlorobenzene		<0.250	mg/Kg	1	0.250
4-Nitrophenol		<0.250	mg/Kg	1	0.250
1-Naphthylamine		<0.250	mg/Kg	1	0.250
2,4-Dinitrotoluene		<0.250	mg/Kg	1	0.250
2-Naphthylamine		<0.250	mg/Kg	1	0.250
2,3,4,6-Tetrachlorophenol		<0.250	mg/Kg	1	0.250
Fluorene		<0.250	mg/Kg	1	0.250
Diethylphthalate		<0.250	mg/Kg	1	0.250
4-Chlorophenyl-phenylether		<0.250	mg/Kg	1	0.250
4-Nitroaniline		<0.250	mg/Kg	1	0.250
4,6-Dinitro-2-methylphenol		<0.250	mg/Kg	1	0.250
Diphenylamine		<0.250	mg/Kg	1	0.250
Diphenylhydrazine		<0.250	mg/Kg	1	0.250
4-Bromophenyl-phenylether		<0.250	mg/Kg	1	0.250
Phenacetin		<0.250	mg/Kg	1	0.250
Hexachlorobenzene		<0.250	mg/Kg	1	0.250
4-Aminobiphenyl		<0.250	mg/Kg	1	0.250
Pentachlorophenol		<0.250	mg/Kg	1	0.250
Pentachloronitrobenzene		<0.250	mg/Kg	1	0.250
Pronamide		<0.250	mg/Kg	1	0.250

continued . . .

sample 82903 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Phenanthrene		<0.250	mg/Kg	1	0.250
Anthracene		<0.250	mg/Kg	1	0.250
Di-n-butylphthalate		<0.250	mg/Kg	1	0.250
Fluoranthene		<0.250	mg/Kg	1	0.250
Benzidine		<0.250	mg/Kg	1	0.250
Pyrene		<0.250	mg/Kg	1	0.250
p-Dimethylaminoazobenzene		<0.250	mg/Kg	1	0.250
Butylbenzylphthalate		<0.250	mg/Kg	1	0.250
Benzo(a)anthracene		<0.250	mg/Kg	1	0.250
3,3-Dichlorobenzidine		<0.250	mg/Kg	1	0.250
Chrysene		<0.250	mg/Kg	1	0.250
bis(2-ethylhexyl)phthalate		<0.250	mg/Kg	1	0.250
Di-n-octylphthalate		**0.558**	mg/Kg	1	0.250
Benzo(b)fluoranthene		<0.250	mg/Kg	1	0.250
7,12-Dimethylbenz(a)anthracene		<0.250	mg/Kg	1	0.250
Benzo(k)fluoranthene		<0.250	mg/Kg	1	0.250
Benzo(a)pyrene		<0.250	mg/Kg	1	0.250
3-Methylcholanthrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,j)acridine		<0.250	mg/Kg	1	0.250
Indeno(1,2,3-cd)pyrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,h)anthracene		<0.250	mg/Kg	1	0.250
Benzo(g,h,i)perylene		<0.250	mg/Kg	1	0.250

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		1.91	mg/Kg	1	2.67	72	8.6 - 115
Phenol-d5		1.87	mg/Kg	1	2.67	70	6.3 - 124
Nitrobenzene-d5		2.00	mg/Kg	1	2.67	75	11.3 - 116
2-Fluorobiphenyl		2.24	mg/Kg	1	2.67	84	14.6 - 122
2,4,6-Tribromophenol		2.03	mg/Kg	1	2.67	76	13.8 - 123
Terphenyl-d14		2.08	mg/Kg	1	2.67	78	30.8 - 134

Sample: 82903 - SWMU-166-AST-003

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	24173	Date Analyzed:	2006-01-24	Analyzed By:	JL
Prep Batch:	21245	Sample Preparation:	2006-01-24	Prepared By:	JL

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		180	mg/Kg	1	150	120	50 - 150

Sample: 82903 - SWMU-166-AST-003

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	24265	Date Analyzed:	2006-01-27	Analyzed By:	JG
Prep Batch:	21321	Sample Preparation:	2006-01-27	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<10.0	µg/Kg	10	1.00
Dichlorodifluoromethane		<10.0	µg/Kg	10	1.00
Chloromethane (methyl chloride)		<10.0	µg/Kg	10	1.00
Vinyl Chloride		<10.0	µg/Kg	10	1.00
Bromomethane (methyl bromide)		<50.0	µg/Kg	10	5.00
Chloroethane		<10.0	µg/Kg	10	1.00
Trichlorofluoromethane		<10.0	µg/Kg	10	1.00
Acetone		<100	µg/Kg	10	10.0
Iodomethane (methyl iodide)		<50.0	µg/Kg	10	5.00
Carbon Disulfide		<10.0	µg/Kg	10	1.00
Acrylonitrile		<10.0	µg/Kg	10	1.00
2-Butanone (MEK)		<50.0	µg/Kg	10	5.00
4-Methyl-2-pentanone (MIBK)		<50.0	µg/Kg	10	5.00
2-Hexanone		<50.0	µg/Kg	10	5.00
trans 1,4-Dichloro-2-butene		<100	µg/Kg	10	10.0
1,1-Dichloroethene		<10.0	µg/Kg	10	1.00
Methylene chloride		<50.0	µg/Kg	10	5.00
MTBE		<10.0	µg/Kg	10	1.00
trans-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
1,1-Dichloroethane		<10.0	µg/Kg	10	1.00
cis-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
2,2-Dichloropropane		<10.0	µg/Kg	10	1.00
1,2-Dichloroethane (EDC)		<10.0	µg/Kg	10	1.00
Chloroform		<10.0	µg/Kg	10	1.00
1,1,1-Trichloroethane		<10.0	µg/Kg	10	1.00
1,1-Dichloropropene		<10.0	µg/Kg	10	1.00
Benzene		<10.0	µg/Kg	10	1.00
Carbon Tetrachloride		<10.0	µg/Kg	10	1.00
1,2-Dichloropropane		<10.0	µg/Kg	10	1.00
Trichloroethene (TCE)		<10.0	µg/Kg	10	1.00
Dibromomethane (methylene bromide)		<10.0	µg/Kg	10	1.00
Bromodichloromethane		<10.0	µg/Kg	10	1.00
2-Chloroethyl vinyl ether		<50.0	µg/Kg	10	5.00
cis-1,3-Dichloropropene		<10.0	µg/Kg	10	1.00
trans-1,3-Dichloropropene		<10.0	µg/Kg	10	1.00
Toluene		<10.0	µg/Kg	10	1.00
1,1,2-Trichloroethane		<10.0	µg/Kg	10	1.00
1,3-Dichloropropane		<10.0	µg/Kg	10	1.00
Dibromochloromethane		<10.0	µg/Kg	10	1.00
1,2-Dibromoethane (EDB)		<10.0	µg/Kg	10	1.00
Tetrachloroethene (PCE)		<10.0	µg/Kg	10	1.00
Chlorobenzene		<10.0	µg/Kg	10	1.00
1,1,1,2-Tetrachloroethane		<10.0	µg/Kg	10	1.00
Ethylbenzene		<10.0	µg/Kg	10	1.00
m,p-Xylene		<10.0	µg/Kg	10	1.00
Bromoform		<10.0	µg/Kg	10	1.00

continued ...

sample 82903 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Styrene		<10.0	µg/Kg	10	1.00
o-Xylene		<10.0	µg/Kg	10	1.00
1,1,2,2-Tetrachloroethane		<10.0	µg/Kg	10	1.00
2-Chlorotoluene		<10.0	µg/Kg	10	1.00
1,2,3-Trichloropropane		<10.0	µg/Kg	10	1.00
Isopropylbenzene		<10.0	µg/Kg	10	1.00
Bromobenzene		<10.0	µg/Kg	10	1.00
n-Propylbenzene		<10.0	µg/Kg	10	1.00
1,3,5-Trimethylbenzene		<10.0	µg/Kg	10	1.00
tert-Butylbenzene		<10.0	µg/Kg	10	1.00
1,2,4-Trimethylbenzene		<10.0	µg/Kg	10	1.00
1,4-Dichlorobenzene (para)		<10.0	µg/Kg	10	1.00
sec-Butylbenzene		<10.0	µg/Kg	10	1.00
1,3-Dichlorobenzene (meta)		<10.0	µg/Kg	10	1.00
p-Isopropyltoluene		<10.0	µg/Kg	10	1.00
4-Chlorotoluene		<10.0	µg/Kg	10	1.00
1,2-Dichlorobenzene (ortho)		<10.0	µg/Kg	10	1.00
n-Butylbenzene		<10.0	µg/Kg	10	1.00
1,2-Dibromo-3-chloropropane		<50.0	µg/Kg	10	5.00
1,2,3-Trichlorobenzene		<50.0	µg/Kg	10	5.00
1,2,4-Trichlorobenzene		<50.0	µg/Kg	10	5.00
Naphthalene		<50.0	µg/Kg	10	5.00
Hexachlorobutadiene		<50.0	µg/Kg	10	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		452	µg/Kg	10	50.0	90	42 - 129
Toluene-d8		501	µg/Kg	10	50.0	100	93 - 107
4-Bromofluorobenzene (4-BFB)		492	µg/Kg	10	50.0	98	78 - 120

Sample: 82904 - SWMU-166-AST-004

Analysis:	Semivolatiles	Analytical Method:	S 8270C	Prep Method:	S 3550
QC Batch:	24262	Date Analyzed:	2006-01-26	Analyzed By:	AG
Prep Batch:	21285	Sample Preparation:	2006-01-25	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.250	mg/Kg	1	0.250
n-Nitrosodimethylamine		<0.250	mg/Kg	1	0.250
2-Picoline		<0.250	mg/Kg	1	0.250
Methyl methanesulfonate		<0.250	mg/Kg	1	0.250
Ethyl methanesulfonate		<0.250	mg/Kg	1	0.250
Phenol		<0.250	mg/Kg	1	0.250
Aniline		<0.250	mg/Kg	1	0.250
bis(2-chloroethyl)ether		<0.250	mg/Kg	1	0.250
2-Chlorophenol		<0.250	mg/Kg	1	0.250
1,3-Dichlorobenzene (meta)		<0.250	mg/Kg	1	0.250

continued . . .

sample 82904 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
1,4-Dichlorobenzene (para)		<0.250	mg/Kg	1	0.250
Benzyl alcohol		<0.250	mg/Kg	1	0.250
1,2-Dichlorobenzene (ortho)		<0.250	mg/Kg	1	0.250
2-Methylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroisopropyl)ether		<0.250	mg/Kg	1	0.250
4-Methylphenol / 3-Methylphenol		<0.250	mg/Kg	1	0.250
Acetophenone		<0.250	mg/Kg	1	0.250
n-Nitrosodi-n-propylamine		<0.250	mg/Kg	1	0.250
Hexachloroethane		<0.250	mg/Kg	1	0.250
Nitrobenzene		<0.250	mg/Kg	1	0.250
n-Nitrosopiperidine		<0.250	mg/Kg	1	0.250
Isophorone		<0.250	mg/Kg	1	0.250
2-Nitrophenol		<0.250	mg/Kg	1	0.250
2,4-Dimethylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroethoxy)methane		<0.250	mg/Kg	1	0.250
Benzoic acid		<0.250	mg/Kg	1	0.250
2,4-Dichlorophenol		<0.250	mg/Kg	1	0.250
1,2,4-Trichlorobenzene		<0.250	mg/Kg	1	0.250
a,a-Dimethylphenethylamine		<0.250	mg/Kg	1	0.250
Naphthalene		<0.250	mg/Kg	1	0.250
4-Chloroaniline		<0.250	mg/Kg	1	0.250
2,6-Dichlorophenol		<0.250	mg/Kg	1	0.250
Hexachlorobutadiene		<0.250	mg/Kg	1	0.250
n-Nitroso-di-n-butylamine		<0.250	mg/Kg	1	0.250
4-Chloro-3-methylphenol		<0.250	mg/Kg	1	0.250
1-Methylnaphthalene		<0.250	mg/Kg	1	0.250
2-Methylnaphthalene		<0.250	mg/Kg	1	0.250
1,2,4,5-Tetrachlorobenzene		<0.250	mg/Kg	1	0.250
Hexachlorocyclopentadiene		<0.250	mg/Kg	1	0.250
2,4,6-Trichlorophenol		<0.250	mg/Kg	1	0.250
2,4,5-Trichlorophenol		<0.250	mg/Kg	1	0.250
2-Chloronaphthalene		<0.250	mg/Kg	1	0.250
1-Chloronaphthalene		<0.250	mg/Kg	1	0.250
2-Nitroaniline		<0.250	mg/Kg	1	0.250
Dimethylphthalate		<0.250	mg/Kg	1	0.250
Acenaphthylene		<0.250	mg/Kg	1	0.250
2,6-Dinitrotoluene		<0.250	mg/Kg	1	0.250
3-Nitroaniline		<0.250	mg/Kg	1	0.250
Acenaphthene		<0.250	mg/Kg	1	0.250
2,4-Dinitrophenol		<0.250	mg/Kg	1	0.250
Dibenzofuran		<0.250	mg/Kg	1	0.250
Pentachlorobenzene		<0.250	mg/Kg	1	0.250
4-Nitrophenol		<0.250	mg/Kg	1	0.250
1-Naphthylamine		<0.250	mg/Kg	1	0.250
2,4-Dinitrotoluene		<0.250	mg/Kg	1	0.250
2-Naphthylamine		<0.250	mg/Kg	1	0.250
2,3,4,6-Tetrachlorophenol		<0.250	mg/Kg	1	0.250
Fluorene		<0.250	mg/Kg	1	0.250
Diethylphthalate		<0.250	mg/Kg	1	0.250

continued . . .

sample 82904 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
4-Chlorophenyl-phenylether		<0.250	mg/Kg	1	0.250
4-Nitroaniline		<0.250	mg/Kg	1	0.250
4,6-Dinitro-2-methylphenol		<0.250	mg/Kg	1	0.250
Diphenylamine		<0.250	mg/Kg	1	0.250
Diphenylhydrazine		<0.250	mg/Kg	1	0.250
4-Bromophenyl-phenylether		<0.250	mg/Kg	1	0.250
Phenacetin		<0.250	mg/Kg	1	0.250
Hexachlorobenzene		<0.250	mg/Kg	1	0.250
4-Aminobiphenyl		<0.250	mg/Kg	1	0.250
Pentachlorophenol		<0.250	mg/Kg	1	0.250
Pentachloronitrobenzene		<0.250	mg/Kg	1	0.250
Pronamide		<0.250	mg/Kg	1	0.250
Phenanthrene		<0.250	mg/Kg	1	0.250
Anthracene		<0.250	mg/Kg	1	0.250
Di-n-butylphthalate		<0.250	mg/Kg	1	0.250
Fluoranthene		<0.250	mg/Kg	1	0.250
Benzidine		<0.250	mg/Kg	1	0.250
Pyrene		<0.250	mg/Kg	1	0.250
p-Dimethylaminoazobenzene		<0.250	mg/Kg	1	0.250
Butylbenzylphthalate		<0.250	mg/Kg	1	0.250
Benzo(a)anthracene		<0.250	mg/Kg	1	0.250
3,3-Dichlorobenzidine		<0.250	mg/Kg	1	0.250
Chrysene		<0.250	mg/Kg	1	0.250
bis(2-ethylhexyl)phthalate		<0.250	mg/Kg	1	0.250
Di-n-octylphthalate		<0.250	mg/Kg	1	0.250
Benzo(b)fluoranthene		<0.250	mg/Kg	1	0.250
7,12-Dimethylbenz(a)anthracene		<0.250	mg/Kg	1	0.250
Benzo(k)fluoranthene		<0.250	mg/Kg	1	0.250
Benzo(a)pyrene		<0.250	mg/Kg	1	0.250
3-Methylcholanthrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,j)acridine		<0.250	mg/Kg	1	0.250
Indeno(1,2,3-cd)pyrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,h)anthracene		<0.250	mg/Kg	1	0.250
Benzo(g,h,i)perylene		<0.250	mg/Kg	1	0.250

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		1.93	mg/Kg	1	2.67	72	8.6 - 115
Phenol-d5		2.06	mg/Kg	1	2.67	77	6.3 - 124
Nitrobenzene-d5		2.21	mg/Kg	1	2.67	83	11.3 - 116
2-Fluorobiphenyl		2.48	mg/Kg	1	2.67	93	14.6 - 122
2,4,6-Tribromophenol		2.27	mg/Kg	1	2.67	85	13.8 - 123
Terphenyl-d14		2.28	mg/Kg	1	2.67	85	30.8 - 134

Sample: 82904 - SWMU-166-AST-004

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	24173	Date Analyzed:	2006-01-24	Analyzed By:	JL
Prep Batch:	21245	Sample Preparation:	2006-01-24	Prepared By:	JL

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		162	mg/Kg	1	150	108	50 - 150

Sample: 82904 - SWMU-166-AST-004

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	24265	Date Analyzed:	2006-01-27	Analyzed By:	JG
Prep Batch:	21321	Sample Preparation:	2006-01-27	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<10.0	µg/Kg	10	1.00
Dichlorodifluoromethane		<10.0	µg/Kg	10	1.00
Chloromethane (methyl chloride)		<10.0	µg/Kg	10	1.00
Vinyl Chloride		<10.0	µg/Kg	10	1.00
Bromomethane (methyl bromide)		<50.0	µg/Kg	10	5.00
Chloroethane		<10.0	µg/Kg	10	1.00
Trichlorofluoromethane		<10.0	µg/Kg	10	1.00
Acetone		<100	µg/Kg	10	10.0
Iodomethane (methyl iodide)		<50.0	µg/Kg	10	5.00
Carbon Disulfide		<10.0	µg/Kg	10	1.00
Acrylonitrile		<10.0	µg/Kg	10	1.00
2-Butanone (MEK)		<50.0	µg/Kg	10	5.00
4-Methyl-2-pentanone (MIBK)		<50.0	µg/Kg	10	5.00
2-Hexanone		<50.0	µg/Kg	10	5.00
trans 1,4-Dichloro-2-butene		<100	µg/Kg	10	10.0
1,1-Dichloroethene		<10.0	µg/Kg	10	1.00
Methylene chloride		<50.0	µg/Kg	10	5.00
MTBE		<10.0	µg/Kg	10	1.00
trans-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
1,1-Dichloroethane		<10.0	µg/Kg	10	1.00
cis-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
2,2-Dichloropropane		<10.0	µg/Kg	10	1.00
1,2-Dichloroethane (EDC)		<10.0	µg/Kg	10	1.00
Chloroform		<10.0	µg/Kg	10	1.00
1,1,1-Trichloroethane		<10.0	µg/Kg	10	1.00
1,1-Dichloropropene		<10.0	µg/Kg	10	1.00
Benzene		<10.0	µg/Kg	10	1.00
Carbon Tetrachloride		<10.0	µg/Kg	10	1.00
1,2-Dichloropropane		<10.0	µg/Kg	10	1.00
Trichloroethene (TCE)		<10.0	µg/Kg	10	1.00
Dibromomethane (methylene bromide)		<10.0	µg/Kg	10	1.00
Bromodichloromethane		<10.0	µg/Kg	10	1.00
2-Chloroethyl vinyl ether		<50.0	µg/Kg	10	5.00
cis-1,3-Dichloropropene		<10.0	µg/Kg	10	1.00
trans-1,3-Dichloropropene		<10.0	µg/Kg	10	1.00

continued . . .

sample 82904 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Toluene		<10.0	µg/Kg	10	1.00
1,1,2-Trichloroethane		<10.0	µg/Kg	10	1.00
1,3-Dichloropropane		<10.0	µg/Kg	10	1.00
Dibromochloromethane		<10.0	µg/Kg	10	1.00
1,2-Dibromoethane (EDB)		<10.0	µg/Kg	10	1.00
Tetrachloroethene (PCE)		<10.0	µg/Kg	10	1.00
Chlorobenzene		<10.0	µg/Kg	10	1.00
1,1,1,2-Tetrachloroethane		<10.0	µg/Kg	10	1.00
Ethylbenzene		<10.0	µg/Kg	10	1.00
m,p-Xylene		<10.0	µg/Kg	10	1.00
Bromoform		<10.0	µg/Kg	10	1.00
Styrene		<10.0	µg/Kg	10	1.00
o-Xylene		<10.0	µg/Kg	10	1.00
1,1,2,2-Tetrachloroethane		<10.0	µg/Kg	10	1.00
2-Chlorotoluene		<10.0	µg/Kg	10	1.00
1,2,3-Trichloropropane		<10.0	µg/Kg	10	1.00
Isopropylbenzene		<10.0	µg/Kg	10	1.00
Bromobenzene		<10.0	µg/Kg	10	1.00
n-Propylbenzene		<10.0	µg/Kg	10	1.00
1,3,5-Trimethylbenzene		<10.0	µg/Kg	10	1.00
tert-Butylbenzene		<10.0	µg/Kg	10	1.00
1,2,4-Trimethylbenzene		<10.0	µg/Kg	10	1.00
1,4-Dichlorobenzene (para)		<10.0	µg/Kg	10	1.00
sec-Butylbenzene		<10.0	µg/Kg	10	1.00
1,3-Dichlorobenzene (meta)		<10.0	µg/Kg	10	1.00
p-Isopropyltoluene		<10.0	µg/Kg	10	1.00
4-Chlorotoluene		<10.0	µg/Kg	10	1.00
1,2-Dichlorobenzene (ortho)		<10.0	µg/Kg	10	1.00
n-Butylbenzene		<10.0	µg/Kg	10	1.00
1,2-Dibromo-3-chloropropane		<50.0	µg/Kg	10	5.00
1,2,3-Trichlorobenzene		<50.0	µg/Kg	10	5.00
1,2,4-Trichlorobenzene		<50.0	µg/Kg	10	5.00
Naphthalene		<50.0	µg/Kg	10	5.00
Hexachlorobutadiene		<50.0	µg/Kg	10	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		454	µg/Kg	10	50.0	91	42 - 129
Toluene-d8		499	µg/Kg	10	50.0	100	93 - 107
4-Bromofluorobenzene (4-BFB)		490	µg/Kg	10	50.0	98	78 - 120

Sample: 82905 - SWMU-166-AST-005

Analysis:	Semivolatiles	Analytical Method:	S 8270C	Prep Method:	S 3550
QC Batch:	24262	Date Analyzed:	2006-01-26	Analyzed By:	AG
Prep Batch:	21285	Sample Preparation:	2006-01-25	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.250	mg/Kg	1	0.250
n-Nitrosodimethylamine		<0.250	mg/Kg	1	0.250
2-Picoline		<0.250	mg/Kg	1	0.250
Methyl methanesulfonate		<0.250	mg/Kg	1	0.250
Ethyl methanesulfonate		<0.250	mg/Kg	1	0.250
Phenol		<0.250	mg/Kg	1	0.250
Aniline		<0.250	mg/Kg	1	0.250
bis(2-chloroethyl)ether		<0.250	mg/Kg	1	0.250
2-Chlorophenol		<0.250	mg/Kg	1	0.250
1,3-Dichlorobenzene (meta)		<0.250	mg/Kg	1	0.250
1,4-Dichlorobenzene (para)		<0.250	mg/Kg	1	0.250
Benzyl alcohol		<0.250	mg/Kg	1	0.250
1,2-Dichlorobenzene (ortho)		<0.250	mg/Kg	1	0.250
2-Methylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroisopropyl)ether		<0.250	mg/Kg	1	0.250
4-Methylphenol / 3-Methylphenol		<0.250	mg/Kg	1	0.250
Acetophenone		<0.250	mg/Kg	1	0.250
n-Nitrosodi-n-propylamine		<0.250	mg/Kg	1	0.250
Hexachloroethane		<0.250	mg/Kg	1	0.250
Nitrobenzene		<0.250	mg/Kg	1	0.250
n-Nitrosopiperidine		<0.250	mg/Kg	1	0.250
Isophorone		<0.250	mg/Kg	1	0.250
2-Nitrophenol		<0.250	mg/Kg	1	0.250
2,4-Dimethylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroethoxy)methane		<0.250	mg/Kg	1	0.250
Benzoic acid		<0.250	mg/Kg	1	0.250
2,4-Dichlorophenol		<0.250	mg/Kg	1	0.250
1,2,4-Trichlorobenzene		<0.250	mg/Kg	1	0.250
a,a-Dimethylphenethylamine		<0.250	mg/Kg	1	0.250
Naphthalene		<0.250	mg/Kg	1	0.250
4-Chloroaniline		<0.250	mg/Kg	1	0.250
2,6-Dichlorophenol		<0.250	mg/Kg	1	0.250
Hexachlorobutadiene		<0.250	mg/Kg	1	0.250
n-Nitroso-di-n-butylamine		<0.250	mg/Kg	1	0.250
4-Chloro-3-methylphenol		<0.250	mg/Kg	1	0.250
1-Methylnaphthalene		<0.250	mg/Kg	1	0.250
2-Methylnaphthalene		<0.250	mg/Kg	1	0.250
1,2,4,5-Tetrachlorobenzene		<0.250	mg/Kg	1	0.250
Hexachlorocyclopentadiene		<0.250	mg/Kg	1	0.250
2,4,6-Trichlorophenol		<0.250	mg/Kg	1	0.250
2,4,5-Trichlorophenol		<0.250	mg/Kg	1	0.250
2-Chloronaphthalene		<0.250	mg/Kg	1	0.250
1-Chloronaphthalene		<0.250	mg/Kg	1	0.250
2-Nitroaniline		<0.250	mg/Kg	1	0.250
Dimethylphthalate		<0.250	mg/Kg	1	0.250
Acenaphthylene		<0.250	mg/Kg	1	0.250
2,6-Dinitrotoluene		<0.250	mg/Kg	1	0.250
3-Nitroaniline		<0.250	mg/Kg	1	0.250
Acenaphthene		<0.250	mg/Kg	1	0.250
2,4-Dinitrophenol		<0.250	mg/Kg	1	0.250
Dibenzofuran		<0.250	mg/Kg	1	0.250

continued ...

sample 82905 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Pentachlorobenzene		<0.250	mg/Kg	1	0.250
4-Nitrophenol		<0.250	mg/Kg	1	0.250
1-Naphthylamine		<0.250	mg/Kg	1	0.250
2,4-Dinitrotoluene		<0.250	mg/Kg	1	0.250
2-Naphthylamine		<0.250	mg/Kg	1	0.250
2,3,4,6-Tetrachlorophenol		<0.250	mg/Kg	1	0.250
Fluorene		<0.250	mg/Kg	1	0.250
Diethylphthalate		<0.250	mg/Kg	1	0.250
4-Chlorophenyl-phenylether		<0.250	mg/Kg	1	0.250
4-Nitroaniline		<0.250	mg/Kg	1	0.250
4,6-Dinitro-2-methylphenol		<0.250	mg/Kg	1	0.250
Diphenylamine		<0.250	mg/Kg	1	0.250
Diphenylhydrazine		<0.250	mg/Kg	1	0.250
4-Bromophenyl-phenylether		<0.250	mg/Kg	1	0.250
Phenacetin		<0.250	mg/Kg	1	0.250
Hexachlorobenzene		<0.250	mg/Kg	1	0.250
4-Aminobiphenyl		<0.250	mg/Kg	1	0.250
Pentachlorophenol		<0.250	mg/Kg	1	0.250
Pentachloronitrobenzene		<0.250	mg/Kg	1	0.250
Pronamide		<0.250	mg/Kg	1	0.250
Phenanthrene		<0.250	mg/Kg	1	0.250
Anthracene		**0.351**	mg/Kg	1	0.250
Di-n-butylphthalate		<0.250	mg/Kg	1	0.250
Fluoranthene		<0.250	mg/Kg	1	0.250
Benzidine		<0.250	mg/Kg	1	0.250
Pyrene		<0.250	mg/Kg	1	0.250
p-Dimethylaminoazobenzene		<0.250	mg/Kg	1	0.250
Butylbenzylphthalate		<0.250	mg/Kg	1	0.250
Benzo(a)anthracene		<0.250	mg/Kg	1	0.250
3,3-Dichlorobenzidine		<0.250	mg/Kg	1	0.250
Chrysene		<0.250	mg/Kg	1	0.250
bis(2-ethylhexyl)phthalate		<0.250	mg/Kg	1	0.250
Di-n-octylphthalate		<0.250	mg/Kg	1	0.250
Benzo(b)fluoranthene		<0.250	mg/Kg	1	0.250
7,12-Dimethylbenz(a)anthracene		<0.250	mg/Kg	1	0.250
Benzo(k)fluoranthene		<0.250	mg/Kg	1	0.250
Benzo(a)pyrene		<0.250	mg/Kg	1	0.250
3-Methylcholanthrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,j)acridine		<0.250	mg/Kg	1	0.250
Indeno(1,2,3-cd)pyrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,h)anthracene		<0.250	mg/Kg	1	0.250
Benzo(g,h,i)perylene		<0.250	mg/Kg	1	0.250

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		1.90	mg/Kg	1	2.67	71	8.6 - 115
Phenol-d5		2.01	mg/Kg	1	2.67	75	6.3 - 124
Nitrobenzene-d5		2.22	mg/Kg	1	2.67	83	11.3 - 116
2-Fluorobiphenyl		2.32	mg/Kg	1	2.67	87	14.6 - 122

continued . . .

sample continued . . .

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2,4,6-Tribromophenol		2.72	mg/Kg	1	2.67	102	13.8 - 123
Terphenyl-d14		2.36	mg/Kg	1	2.67	88	30.8 - 134

Sample: 82905 - SWMU-166-AST-005

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	24173	Date Analyzed:	2006-01-24	Analyzed By:	JL
Prep Batch:	21245	Sample Preparation:	2006-01-24	Prepared By:	JL

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		190	mg/Kg	1	150	127	50 - 150

Sample: 82905 - SWMU-166-AST-005

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	24265	Date Analyzed:	2006-01-27	Analyzed By:	JG
Prep Batch:	21321	Sample Preparation:	2006-01-27	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<10.0	µg/Kg	10	1.00
Dichlorodifluoromethane		<10.0	µg/Kg	10	1.00
Chloromethane (methyl chloride)		<10.0	µg/Kg	10	1.00
Vinyl Chloride		<10.0	µg/Kg	10	1.00
Bromomethane (methyl bromide)		<50.0	µg/Kg	10	5.00
Chloroethane		<10.0	µg/Kg	10	1.00
Trichlorofluoromethane		<10.0	µg/Kg	10	1.00
Acetone		<100	µg/Kg	10	10.0
Iodomethane (methyl iodide)		<50.0	µg/Kg	10	5.00
Carbon Disulfide		<10.0	µg/Kg	10	1.00
Acrylonitrile		<10.0	µg/Kg	10	1.00
2-Butanone (MEK)		<50.0	µg/Kg	10	5.00
4-Methyl-2-pentanone (MIBK)		<50.0	µg/Kg	10	5.00
2-Hexanone		<50.0	µg/Kg	10	5.00
trans 1,4-Dichloro-2-butene		<100	µg/Kg	10	10.0
1,1-Dichloroethene		<10.0	µg/Kg	10	1.00
Methylene chloride		<50.0	µg/Kg	10	5.00
MTBE		<10.0	µg/Kg	10	1.00
trans-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
1,1-Dichloroethane		<10.0	µg/Kg	10	1.00
cis-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
2,2-Dichloropropane		<10.0	µg/Kg	10	1.00
1,2-Dichloroethane (EDC)		<10.0	µg/Kg	10	1.00

continued . . .

sample 82905 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Chloroform		<10.0	μg/Kg	10	1.00
1,1,1-Trichloroethane		<10.0	μg/Kg	10	1.00
1,1-Dichloropropene		<10.0	μg/Kg	10	1.00
Benzene		<10.0	μg/Kg	10	1.00
Carbon Tetrachloride		<10.0	μg/Kg	10	1.00
1,2-Dichloropropane		<10.0	μg/Kg	10	1.00
Trichloroethene (TCE)		<10.0	μg/Kg	10	1.00
Dibromomethane (methylene bromide)		<10.0	μg/Kg	10	1.00
Bromodichloromethane		<10.0	μg/Kg	10	1.00
2-Chloroethyl vinyl ether		<50.0	μg/Kg	10	5.00
cis-1,3-Dichloropropene		<10.0	μg/Kg	10	1.00
trans-1,3-Dichloropropene		<10.0	μg/Kg	10	1.00
Toluene		<10.0	μg/Kg	10	1.00
1,1,2-Trichloroethane		<10.0	μg/Kg	10	1.00
1,3-Dichloropropane		<10.0	μg/Kg	10	1.00
Dibromochloromethane		<10.0	μg/Kg	10	1.00
1,2-Dibromoethane (EDB)		<10.0	μg/Kg	10	1.00
Tetrachloroethene (PCE)		<10.0	μg/Kg	10	1.00
Chlorobenzene		<10.0	μg/Kg	10	1.00
1,1,1,2-Tetrachloroethane		<10.0	μg/Kg	10	1.00
Ethylbenzene		<10.0	μg/Kg	10	1.00
m,p-Xylene		<10.0	μg/Kg	10	1.00
Bromoform		<10.0	μg/Kg	10	1.00
Styrene		<10.0	μg/Kg	10	1.00
o-Xylene		<10.0	μg/Kg	10	1.00
1,1,2,2-Tetrachloroethane		<10.0	μg/Kg	10	1.00
2-Chlorotoluene		<10.0	μg/Kg	10	1.00
1,2,3-Trichloropropane		<10.0	μg/Kg	10	1.00
Isopropylbenzene		<10.0	μg/Kg	10	1.00
Bromobenzene		<10.0	μg/Kg	10	1.00
n-Propylbenzene		<10.0	μg/Kg	10	1.00
1,3,5-Trimethylbenzene		<10.0	μg/Kg	10	1.00
tert-Butylbenzene		<10.0	μg/Kg	10	1.00
1,2,4-Trimethylbenzene		<10.0	μg/Kg	10	1.00
1,4-Dichlorobenzene (para)		<10.0	μg/Kg	10	1.00
sec-Butylbenzene		<10.0	μg/Kg	10	1.00
1,3-Dichlorobenzene (meta)		<10.0	μg/Kg	10	1.00
p-Isopropyltoluene		<10.0	μg/Kg	10	1.00
4-Chlorotoluene		<10.0	μg/Kg	10	1.00
1,2-Dichlorobenzene (ortho)		<10.0	μg/Kg	10	1.00
n-Butylbenzene		<10.0	μg/Kg	10	1.00
1,2-Dibromo-3-chloropropane		<50.0	μg/Kg	10	5.00
1,2,3-Trichlorobenzene		<50.0	μg/Kg	10	5.00
1,2,4-Trichlorobenzene		<50.0	μg/Kg	10	5.00
Naphthalene		<50.0	μg/Kg	10	5.00
Hexachlorobutadiene		<50.0	μg/Kg	10	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		455	µg/Kg	10	50.0	91	42 - 129
Toluene-d8		502	µg/Kg	10	50.0	100	93 - 107
4-Bromofluorobenzene (4-BFB)		490	µg/Kg	10	50.0	98	78 - 120

Sample: 82906 - SWMU-166-GEN-002

Analysis:	Semivolatiles	Analytical Method:	S 8270C	Prep Method:	S 3550
QC Batch:	24262	Date Analyzed:	2006-01-26	Analyzed By:	AG
Prep Batch:	21285	Sample Preparation:	2006-01-25	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.250	mg/Kg	1	0.250
n-Nitrosodimethylamine		<0.250	mg/Kg	1	0.250
2-Picoline		<0.250	mg/Kg	1	0.250
Methyl methanesulfonate		<0.250	mg/Kg	1	0.250
Ethyl methanesulfonate		<0.250	mg/Kg	1	0.250
Phenol		<0.250	mg/Kg	1	0.250
Aniline		<0.250	mg/Kg	1	0.250
bis(2-chloroethyl)ether		<0.250	mg/Kg	1	0.250
2-Chlorophenol		<0.250	mg/Kg	1	0.250
1,3-Dichlorobenzene (meta)		<0.250	mg/Kg	1	0.250
1,4-Dichlorobenzene (para)		<0.250	mg/Kg	1	0.250
Benzyl alcohol		<0.250	mg/Kg	1	0.250
1,2-Dichlorobenzene (ortho)		<0.250	mg/Kg	1	0.250
2-Methylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroisopropyl)ether		<0.250	mg/Kg	1	0.250
4-Methylphenol / 3-Methylphenol		<0.250	mg/Kg	1	0.250
Acetophenone		<0.250	mg/Kg	1	0.250
n-Nitrosodi-n-propylamine		<0.250	mg/Kg	1	0.250
Hexachloroethane		<0.250	mg/Kg	1	0.250
Nitrobenzene		<0.250	mg/Kg	1	0.250
n-Nitrosopiperidine		<0.250	mg/Kg	1	0.250
Isophorone		<0.250	mg/Kg	1	0.250
2-Nitrophenol		<0.250	mg/Kg	1	0.250
2,4-Dimethylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroethoxy)methane		<0.250	mg/Kg	1	0.250
Benzoic acid		<0.250	mg/Kg	1	0.250
2,4-Dichlorophenol		<0.250	mg/Kg	1	0.250
1,2,4-Trichlorobenzene		<0.250	mg/Kg	1	0.250
a,a-Dimethylphenethylamine		<0.250	mg/Kg	1	0.250
Naphthalene		<0.250	mg/Kg	1	0.250
4-Chloroaniline		<0.250	mg/Kg	1	0.250
2,6-Dichlorophenol		<0.250	mg/Kg	1	0.250
Hexachlorobutadiene		<0.250	mg/Kg	1	0.250
n-Nitroso-di-n-butylamine		<0.250	mg/Kg	1	0.250
4-Chloro-3-methylphenol		<0.250	mg/Kg	1	0.250
1-Methylnaphthalene		<0.250	mg/Kg	1	0.250
2-Methylnaphthalene		<0.250	mg/Kg	1	0.250
1,2,4,5-Tetrachlorobenzene		<0.250	mg/Kg	1	0.250

continued . . .

sample 82906 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Hexachlorocyclopentadiene		<0.250	mg/Kg	1	0.250
2,4,6-Trichlorophenol		<0.250	mg/Kg	1	0.250
2,4,5-Trichlorophenol		<0.250	mg/Kg	1	0.250
2-Chloronaphthalene		<0.250	mg/Kg	1	0.250
1-Chloronaphthalene		<0.250	mg/Kg	1	0.250
2-Nitroaniline		<0.250	mg/Kg	1	0.250
Dimethylphthalate		<0.250	mg/Kg	1	0.250
Acenaphthylene		<0.250	mg/Kg	1	0.250
2,6-Dinitrotoluene		<0.250	mg/Kg	1	0.250
3-Nitroaniline		<0.250	mg/Kg	1	0.250
Acenaphthene		<0.250	mg/Kg	1	0.250
2,4-Dinitrophenol		<0.250	mg/Kg	1	0.250
Dibenzofuran		<0.250	mg/Kg	1	0.250
Pentachlorobenzene		<0.250	mg/Kg	1	0.250
4-Nitrophenol		<0.250	mg/Kg	1	0.250
1-Naphthylamine		<0.250	mg/Kg	1	0.250
2,4-Dinitrotoluene		<0.250	mg/Kg	1	0.250
2-Naphthylamine		<0.250	mg/Kg	1	0.250
2,3,4,6-Tetrachlorophenol		<0.250	mg/Kg	1	0.250
Fluorene		<0.250	mg/Kg	1	0.250
Diethylphthalate		<0.250	mg/Kg	1	0.250
4-Chlorophenyl-phenylether		<0.250	mg/Kg	1	0.250
4-Nitroaniline		<0.250	mg/Kg	1	0.250
4,6-Dinitro-2-methylphenol		<0.250	mg/Kg	1	0.250
Diphenylamine		<0.250	mg/Kg	1	0.250
Diphenylhydrazine		<0.250	mg/Kg	1	0.250
4-Bromophenyl-phenylether		<0.250	mg/Kg	1	0.250
Phenacetin		<0.250	mg/Kg	1	0.250
Hexachlorobenzene		<0.250	mg/Kg	1	0.250
4-Aminobiphenyl		<0.250	mg/Kg	1	0.250
Pentachlorophenol		<0.250	mg/Kg	1	0.250
Pentachloronitrobenzene		<0.250	mg/Kg	1	0.250
Pronamide		<0.250	mg/Kg	1	0.250
Phenanthrene		<0.250	mg/Kg	1	0.250
Anthracene		<0.250	mg/Kg	1	0.250
Di-n-butylphthalate		<0.250	mg/Kg	1	0.250
Fluoranthene		<0.250	mg/Kg	1	0.250
Benzidine		<0.250	mg/Kg	1	0.250
Pyrene		<0.250	mg/Kg	1	0.250
p-Dimethylaminoazobenzene		<0.250	mg/Kg	1	0.250
Butylbenzylphthalate		<0.250	mg/Kg	1	0.250
Benzo(a)anthracene		<0.250	mg/Kg	1	0.250
3,3-Dichlorobenzidine		<0.250	mg/Kg	1	0.250
Chrysene		<0.250	mg/Kg	1	0.250
bis(2-ethylhexyl)phthalate		<0.250	mg/Kg	1	0.250
Di-n-octylphthalate		<0.250	mg/Kg	1	0.250
Benzo(b)fluoranthene		<0.250	mg/Kg	1	0.250
7,12-Dimethylbenz(a)anthracene		<0.250	mg/Kg	1	0.250
Benzo(k)fluoranthene		<0.250	mg/Kg	1	0.250

continued . . .

sample 82906 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Benzo(a)pyrene		<0.250	mg/Kg	1	0.250
3-Methylcholanthrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,j)acridine		<0.250	mg/Kg	1	0.250
Indeno(1,2,3-cd)pyrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,h)anthracene		<0.250	mg/Kg	1	0.250
Benzo(g,h,i)perylene		<0.250	mg/Kg	1	0.250

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		2.08	mg/Kg	1	2.67	78	8.6 - 115
Phenol-d5		2.14	mg/Kg	1	2.67	80	6.3 - 124
Nitrobenzene-d5		2.19	mg/Kg	1	2.67	82	11.3 - 116
2-Fluorobiphenyl		2.40	mg/Kg	1	2.67	90	14.6 - 122
2,4,6-Tribromophenol		2.18	mg/Kg	1	2.67	82	13.8 - 123
Terphenyl-d14		2.17	mg/Kg	1	2.67	81	30.8 - 134

Sample: 82906 - SWMU-166-GEN-002

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	24173	Date Analyzed:	2006-01-24	Analyzed By:	JL
Prep Batch:	21245	Sample Preparation:	2006-01-24	Prepared By:	JL

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		191	mg/Kg	1	150	128	50 - 150

Sample: 82906 - SWMU-166-GEN-002

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	24265	Date Analyzed:	2006-01-27	Analyzed By:	JG
Prep Batch:	21321	Sample Preparation:	2006-01-27	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<10.0	µg/Kg	10	1.00
Dichlorodifluoromethane		<10.0	µg/Kg	10	1.00
Chloromethane (methyl chloride)		<10.0	µg/Kg	10	1.00
Vinyl Chloride		<10.0	µg/Kg	10	1.00
Bromomethane (methyl bromide)		<50.0	µg/Kg	10	5.00
Chloroethane		<10.0	µg/Kg	10	1.00
Trichlorofluoromethane		<10.0	µg/Kg	10	1.00
Acetone		<100	µg/Kg	10	10.0
Iodomethane (methyl iodide)		<50.0	µg/Kg	10	5.00

continued . . .

sample 82906 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Carbon Disulfide		<10.0	µg/Kg	10	1.00
Acrylonitrile		<10.0	µg/Kg	10	1.00
2-Butanone (MEK)		<50.0	µg/Kg	10	5.00
4-Methyl-2-pentanone (MIBK)		<50.0	µg/Kg	10	5.00
2-Hexanone		<50.0	µg/Kg	10	5.00
trans 1,4-Dichloro-2-butene		<100	µg/Kg	10	10.0
1,1-Dichloroethene		<10.0	µg/Kg	10	1.00
Methylene chloride		<50.0	µg/Kg	10	5.00
MTBE		<10.0	µg/Kg	10	1.00
trans-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
1,1-Dichloroethane		<10.0	µg/Kg	10	1.00
cis-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
2,2-Dichloropropane		<10.0	µg/Kg	10	1.00
1,2-Dichloroethane (EDC)		<10.0	µg/Kg	10	1.00
Chloroform		<10.0	µg/Kg	10	1.00
1,1,1-Trichloroethane		<10.0	µg/Kg	10	1.00
1,1-Dichloropropene		<10.0	µg/Kg	10	1.00
Benzene		<10.0	µg/Kg	10	1.00
Carbon Tetrachloride		<10.0	µg/Kg	10	1.00
1,2-Dichloropropane		<10.0	µg/Kg	10	1.00
Trichloroethene (TCE)		<10.0	µg/Kg	10	1.00
Dibromomethane (methylene bromide)		<10.0	µg/Kg	10	1.00
Bromodichloromethane		<10.0	µg/Kg	10	1.00
2-Chloroethyl vinyl ether		<50.0	µg/Kg	10	5.00
cis-1,3-Dichloropropene		<10.0	µg/Kg	10	1.00
trans-1,3-Dichloropropene		<10.0	µg/Kg	10	1.00
Toluene		<10.0	µg/Kg	10	1.00
1,1,2-Trichloroethane		<10.0	µg/Kg	10	1.00
1,3-Dichloropropane		<10.0	µg/Kg	10	1.00
Dibromochloromethane		<10.0	µg/Kg	10	1.00
1,2-Dibromoethane (EDB)		<10.0	µg/Kg	10	1.00
Tetrachloroethene (PCE)		<10.0	µg/Kg	10	1.00
Chlorobenzene		<10.0	µg/Kg	10	1.00
1,1,1,2-Tetrachloroethane		<10.0	µg/Kg	10	1.00
Ethylbenzene		<10.0	µg/Kg	10	1.00
m,p-Xylene		<10.0	µg/Kg	10	1.00
Bromoform		<10.0	µg/Kg	10	1.00
Styrene		<10.0	µg/Kg	10	1.00
o-Xylene		<10.0	µg/Kg	10	1.00
1,1,2,2-Tetrachloroethane		<10.0	µg/Kg	10	1.00
2-Chlorotoluene		<10.0	µg/Kg	10	1.00
1,2,3-Trichloropropane		<10.0	µg/Kg	10	1.00
Isopropylbenzene		<10.0	µg/Kg	10	1.00
Bromobenzene		<10.0	µg/Kg	10	1.00
n-Propylbenzene		<10.0	µg/Kg	10	1.00
1,3,5-Trimethylbenzene		<10.0	µg/Kg	10	1.00
tert-Butylbenzene		<10.0	µg/Kg	10	1.00
1,2,4-Trimethylbenzene		<10.0	µg/Kg	10	1.00
1,4-Dichlorobenzene (para)		<10.0	µg/Kg	10	1.00

continued . . .

sample 82906 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
sec-Butylbenzene		<10.0	µg/Kg	10	1.00
1,3-Dichlorobenzene (meta)		<10.0	µg/Kg	10	1.00
p-Isopropyltoluene		<10.0	µg/Kg	10	1.00
4-Chlorotoluene		<10.0	µg/Kg	10	1.00
1,2-Dichlorobenzene (ortho)		<10.0	µg/Kg	10	1.00
n-Butylbenzene		<10.0	µg/Kg	10	1.00
1,2-Dibromo-3-chloropropane		<50.0	µg/Kg	10	5.00
1,2,3-Trichlorobenzene		<50.0	µg/Kg	10	5.00
1,2,4-Trichlorobenzene		<50.0	µg/Kg	10	5.00
Naphthalene		<50.0	µg/Kg	10	5.00
Hexachlorobutadiene		<50.0	µg/Kg	10	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		458	µg/Kg	10	50.0	92	42 - 129
Toluene-d8		494	µg/Kg	10	50.0	99	93 - 107
4-Bromofluorobenzene (4-BFB)		479	µg/Kg	10	50.0	96	78 - 120

Sample: 82907 - SWMU-166-GEN-003

Analysis:	Semivolatiles	Analytical Method:	S 8270C	Prep Method:	S 3550
QC Batch:	24262	Date Analyzed:	2006-01-26	Analyzed By:	AG
Prep Batch:	21285	Sample Preparation:	2006-01-25	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.250	mg/Kg	1	0.250
n-Nitrosodimethylamine		<0.250	mg/Kg	1	0.250
2-Picoline		<0.250	mg/Kg	1	0.250
Methyl methanesulfonate		<0.250	mg/Kg	1	0.250
Ethyl methanesulfonate		<0.250	mg/Kg	1	0.250
Phenol		<0.250	mg/Kg	1	0.250
Aniline		<0.250	mg/Kg	1	0.250
bis(2-chloroethyl)ether		<0.250	mg/Kg	1	0.250
2-Chlorophenol		<0.250	mg/Kg	1	0.250
1,3-Dichlorobenzene (meta)		<0.250	mg/Kg	1	0.250
1,4-Dichlorobenzene (para)		<0.250	mg/Kg	1	0.250
Benzyl alcohol		<0.250	mg/Kg	1	0.250
1,2-Dichlorobenzene (ortho)		<0.250	mg/Kg	1	0.250
2-Methylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroisopropyl)ether		<0.250	mg/Kg	1	0.250
4-Methylphenol / 3-Methylphenol		<0.250	mg/Kg	1	0.250
Acetophenone		<0.250	mg/Kg	1	0.250
n-Nitrosodi-n-propylamine		<0.250	mg/Kg	1	0.250
Hexachloroethane		<0.250	mg/Kg	1	0.250
Nitrobenzene		<0.250	mg/Kg	1	0.250
n-Nitrosopiperidine		<0.250	mg/Kg	1	0.250
Isophorone		<0.250	mg/Kg	1	0.250

continued . . .

sample 82907 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
2-Nitrophenol		<0.250	mg/Kg	1	0.250
2,4-Dimethylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroethoxy)methane		<0.250	mg/Kg	1	0.250
Benzoic acid		<0.250	mg/Kg	1	0.250
2,4-Dichlorophenol		<0.250	mg/Kg	1	0.250
1,2,4-Trichlorobenzene		<0.250	mg/Kg	1	0.250
a,a-Dimethylphenethylamine		<0.250	mg/Kg	1	0.250
Naphthalene		<0.250	mg/Kg	1	0.250
4-Chloroaniline		<0.250	mg/Kg	1	0.250
2,6-Dichlorophenol		<0.250	mg/Kg	1	0.250
Hexachlorobutadiene		<0.250	mg/Kg	1	0.250
n-Nitroso-di-n-butylamine		<0.250	mg/Kg	1	0.250
4-Chloro-3-methylphenol		<0.250	mg/Kg	1	0.250
1-Methylnaphthalene		<0.250	mg/Kg	1	0.250
2-Methylnaphthalene		<0.250	mg/Kg	1	0.250
1,2,4,5-Tetrachlorobenzene		<0.250	mg/Kg	1	0.250
Hexachlorocyclopentadiene		<0.250	mg/Kg	1	0.250
2,4,6-Trichlorophenol		<0.250	mg/Kg	1	0.250
2,4,5-Trichlorophenol		<0.250	mg/Kg	1	0.250
2-Chloronaphthalene		<0.250	mg/Kg	1	0.250
1-Chloronaphthalene		<0.250	mg/Kg	1	0.250
2-Nitroaniline		<0.250	mg/Kg	1	0.250
Dimethylphthalate		<0.250	mg/Kg	1	0.250
Acenaphthylene		<0.250	mg/Kg	1	0.250
2,6-Dinitrotoluene		<0.250	mg/Kg	1	0.250
3-Nitroaniline		<0.250	mg/Kg	1	0.250
Acenaphthene		<0.250	mg/Kg	1	0.250
2,4-Dinitrophenol		<0.250	mg/Kg	1	0.250
Dibenzofuran		<0.250	mg/Kg	1	0.250
Pentachlorobenzene		<0.250	mg/Kg	1	0.250
4-Nitrophenol		<0.250	mg/Kg	1	0.250
1-Naphthylamine		<0.250	mg/Kg	1	0.250
2,4-Dinitrotoluene		<0.250	mg/Kg	1	0.250
2-Naphthylamine		<0.250	mg/Kg	1	0.250
2,3,4,6-Tetrachlorophenol		<0.250	mg/Kg	1	0.250
Fluorene		<0.250	mg/Kg	1	0.250
Diethylphthalate		<0.250	mg/Kg	1	0.250
4-Chlorophenyl-phenylether		<0.250	mg/Kg	1	0.250
4-Nitroaniline		<0.250	mg/Kg	1	0.250
4,6-Dinitro-2-methylphenol		<0.250	mg/Kg	1	0.250
Diphenylamine		<0.250	mg/Kg	1	0.250
Diphenylhydrazine		<0.250	mg/Kg	1	0.250
4-Bromophenyl-phenylether		<0.250	mg/Kg	1	0.250
Phenacetin		<0.250	mg/Kg	1	0.250
Hexachlorobenzene		<0.250	mg/Kg	1	0.250
4-Aminobiphenyl		<0.250	mg/Kg	1	0.250
Pentachlorophenol		<0.250	mg/Kg	1	0.250
Pentachloronitrobenzene		<0.250	mg/Kg	1	0.250
Pronamide		<0.250	mg/Kg	1	0.250

continued . . .

sample 82907 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Phenanthrene		<0.250	mg/Kg	1	0.250
Anthracene		<0.250	mg/Kg	1	0.250
Di-n-butylphthalate		<0.250	mg/Kg	1	0.250
Fluoranthene		<0.250	mg/Kg	1	0.250
Benzidine		<0.250	mg/Kg	1	0.250
Pyrene		<0.250	mg/Kg	1	0.250
p-Dimethylaminoazobenzene		<0.250	mg/Kg	1	0.250
Butylbenzylphthalate		<0.250	mg/Kg	1	0.250
Benzo(a)anthracene		<0.250	mg/Kg	1	0.250
3,3-Dichlorobenzidine		<0.250	mg/Kg	1	0.250
Chrysene		<0.250	mg/Kg	1	0.250
bis(2-ethylhexyl)phthalate		<0.250	mg/Kg	1	0.250
Di-n-octylphthalate		<0.250	mg/Kg	1	0.250
Benzo(b)fluoranthene		<0.250	mg/Kg	1	0.250
7,12-Dimethylbenz(a)anthracene		<0.250	mg/Kg	1	0.250
Benzo(k)fluoranthene		<0.250	mg/Kg	1	0.250
Benzo(a)pyrene		<0.250	mg/Kg	1	0.250
3-Methylcholanthrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,j)acridine		<0.250	mg/Kg	1	0.250
Indeno(1,2,3-cd)pyrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,h)anthracene		<0.250	mg/Kg	1	0.250
Benzo(g,h,i)perylene		<0.250	mg/Kg	1	0.250

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		2.09	mg/Kg	1	2.67	78	8.6 - 115
Phenol-d5		2.21	mg/Kg	1	2.67	83	6.3 - 124
Nitrobenzene-d5		2.25	mg/Kg	1	2.67	84	11.3 - 116
2-Fluorobiphenyl		2.54	mg/Kg	1	2.67	95	14.6 - 122
2,4,6-Tribromophenol		2.32	mg/Kg	1	2.67	87	13.8 - 123
Terphenyl-d14		2.30	mg/Kg	1	2.67	86	30.8 - 134

Sample: 82907 - SWMU-166-GEN-003

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	24173	Date Analyzed:	2006-01-24	Analyzed By:	JL
Prep Batch:	21245	Sample Preparation:	2006-01-24	Prepared By:	JL

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		200	mg/Kg	1	150	134	50 - 150

Sample: 82907 - SWMU-166-GEN-003

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	24265	Date Analyzed:	2006-01-27	Analyzed By:	JG
Prep Batch:	21321	Sample Preparation:	2006-01-27	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<10.0	µg/Kg	10	1.00
Dichlorodifluoromethane		<10.0	µg/Kg	10	1.00
Chloromethane (methyl chloride)		<10.0	µg/Kg	10	1.00
Vinyl Chloride		<10.0	µg/Kg	10	1.00
Bromomethane (methyl bromide)		<50.0	µg/Kg	10	5.00
Chloroethane		<10.0	µg/Kg	10	1.00
Trichlorofluoromethane		<10.0	µg/Kg	10	1.00
Acetone		<100	µg/Kg	10	10.0
Iodomethane (methyl iodide)		<50.0	µg/Kg	10	5.00
Carbon Disulfide		<10.0	µg/Kg	10	1.00
Acrylonitrile		<10.0	µg/Kg	10	1.00
2-Butanone (MEK)		<50.0	µg/Kg	10	5.00
4-Methyl-2-pentanone (MIBK)		<50.0	µg/Kg	10	5.00
2-Hexanone		<50.0	µg/Kg	10	5.00
trans 1,4-Dichloro-2-butene		<100	µg/Kg	10	10.0
1,1-Dichloroethene		<10.0	µg/Kg	10	1.00
Methylene chloride		<50.0	µg/Kg	10	5.00
MTBE		<10.0	µg/Kg	10	1.00
trans-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
1,1-Dichloroethane		<10.0	µg/Kg	10	1.00
cis-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
2,2-Dichloropropane		<10.0	µg/Kg	10	1.00
1,2-Dichloroethane (EDC)		<10.0	µg/Kg	10	1.00
Chloroform		<10.0	µg/Kg	10	1.00
1,1,1-Trichloroethane		<10.0	µg/Kg	10	1.00
1,1-Dichloropropene		<10.0	µg/Kg	10	1.00
Benzene		<10.0	µg/Kg	10	1.00
Carbon Tetrachloride		<10.0	µg/Kg	10	1.00
1,2-Dichloropropane		<10.0	µg/Kg	10	1.00
Trichloroethene (TCE)		<10.0	µg/Kg	10	1.00
Dibromomethane (methylene bromide)		<10.0	µg/Kg	10	1.00
Bromodichloromethane		<10.0	µg/Kg	10	1.00
2-Chloroethyl vinyl ether		<50.0	µg/Kg	10	5.00
cis-1,3-Dichloropropene		<10.0	µg/Kg	10	1.00
trans-1,3-Dichloropropene		<10.0	µg/Kg	10	1.00
Toluene		<10.0	µg/Kg	10	1.00
1,1,2-Trichloroethane		<10.0	µg/Kg	10	1.00
1,3-Dichloropropane		<10.0	µg/Kg	10	1.00
Dibromochloromethane		<10.0	µg/Kg	10	1.00
1,2-Dibromoethane (EDB)		<10.0	µg/Kg	10	1.00
Tetrachloroethene (PCE)		<10.0	µg/Kg	10	1.00
Chlorobenzene		<10.0	µg/Kg	10	1.00
1,1,1,2-Tetrachloroethane		<10.0	µg/Kg	10	1.00
Ethylbenzene		<10.0	µg/Kg	10	1.00
m,p-Xylene		<10.0	µg/Kg	10	1.00
Bromoform		<10.0	µg/Kg	10	1.00

continued . . .

sample 82907 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Styrene		<10.0	µg/Kg	10	1.00
o-Xylene		<10.0	µg/Kg	10	1.00
1,1,2,2-Tetrachloroethane		<10.0	µg/Kg	10	1.00
2-Chlorotoluene		<10.0	µg/Kg	10	1.00
1,2,3-Trichloropropane		<10.0	µg/Kg	10	1.00
Isopropylbenzene		<10.0	µg/Kg	10	1.00
Bromobenzene		<10.0	µg/Kg	10	1.00
n-Propylbenzene		<10.0	µg/Kg	10	1.00
1,3,5-Trimethylbenzene		<10.0	µg/Kg	10	1.00
tert-Butylbenzene		<10.0	µg/Kg	10	1.00
1,2,4-Trimethylbenzene		<10.0	µg/Kg	10	1.00
1,4-Dichlorobenzene (para)		<10.0	µg/Kg	10	1.00
sec-Butylbenzene		<10.0	µg/Kg	10	1.00
1,3-Dichlorobenzene (meta)		<10.0	µg/Kg	10	1.00
p-Isopropyltoluene		<10.0	µg/Kg	10	1.00
4-Chlorotoluene		<10.0	µg/Kg	10	1.00
1,2-Dichlorobenzene (ortho)		<10.0	µg/Kg	10	1.00
n-Butylbenzene		<10.0	µg/Kg	10	1.00
1,2-Dibromo-3-chloropropane		<50.0	µg/Kg	10	5.00
1,2,3-Trichlorobenzene		<50.0	µg/Kg	10	5.00
1,2,4-Trichlorobenzene		<50.0	µg/Kg	10	5.00
Naphthalene		<50.0	µg/Kg	10	5.00
Hexachlorobutadiene		<50.0	µg/Kg	10	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		458	µg/Kg	10	50.0	92	42 - 129
Toluene-d8		501	µg/Kg	10	50.0	100	93 - 107
4-Bromofluorobenzene (4-BFB)		489	µg/Kg	10	50.0	98	78 - 120

Sample: 82908 - SWMU-166-GEN-004

Analysis:	Semivolatiles	Analytical Method:	S 8270C	Prep Method:	S 3550
QC Batch:	24262	Date Analyzed:	2006-01-26	Analyzed By:	AG
Prep Batch:	21285	Sample Preparation:	2006-01-25	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.250	mg/Kg	1	0.250
n-Nitrosodimethylamine		<0.250	mg/Kg	1	0.250
2-Picoline		<0.250	mg/Kg	1	0.250
Methyl methanesulfonate		<0.250	mg/Kg	1	0.250
Ethyl methanesulfonate		<0.250	mg/Kg	1	0.250
Phenol		<0.250	mg/Kg	1	0.250
Aniline		<0.250	mg/Kg	1	0.250
bis(2-chloroethyl)ether		<0.250	mg/Kg	1	0.250
2-Chlorophenol		<0.250	mg/Kg	1	0.250
1,3-Dichlorobenzene (meta)		<0.250	mg/Kg	1	0.250

continued . . .

sample 82908 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
1,4-Dichlorobenzene (para)		<0.250	mg/Kg	1	0.250
Benzyl alcohol		<0.250	mg/Kg	1	0.250
1,2-Dichlorobenzene (ortho)		<0.250	mg/Kg	1	0.250
2-Methylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroisopropyl)ether		<0.250	mg/Kg	1	0.250
4-Methylphenol / 3-Methylphenol		<0.250	mg/Kg	1	0.250
Acetophenone		<0.250	mg/Kg	1	0.250
n-Nitrosodi-n-propylamine		<0.250	mg/Kg	1	0.250
Hexachloroethane		<0.250	mg/Kg	1	0.250
Nitrobenzene		<0.250	mg/Kg	1	0.250
n-Nitrosopiperidine		<0.250	mg/Kg	1	0.250
Isophorone		<0.250	mg/Kg	1	0.250
2-Nitrophenol		<0.250	mg/Kg	1	0.250
2,4-Dimethylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroethoxy)methane		<0.250	mg/Kg	1	0.250
Benzoic acid		<0.250	mg/Kg	1	0.250
2,4-Dichlorophenol		<0.250	mg/Kg	1	0.250
1,2,4-Trichlorobenzene		<0.250	mg/Kg	1	0.250
a,a-Dimethylphenethylamine		<0.250	mg/Kg	1	0.250
Naphthalene		<0.250	mg/Kg	1	0.250
4-Chloroaniline		<0.250	mg/Kg	1	0.250
2,6-Dichlorophenol		<0.250	mg/Kg	1	0.250
Hexachlorobutadiene		<0.250	mg/Kg	1	0.250
n-Nitroso-di-n-butylamine		<0.250	mg/Kg	1	0.250
4-Chloro-3-methylphenol		<0.250	mg/Kg	1	0.250
1-Methylnaphthalene		<0.250	mg/Kg	1	0.250
2-Methylnaphthalene		<0.250	mg/Kg	1	0.250
1,2,4,5-Tetrachlorobenzene		<0.250	mg/Kg	1	0.250
Hexachlorocyclopentadiene		<0.250	mg/Kg	1	0.250
2,4,6-Trichlorophenol		<0.250	mg/Kg	1	0.250
2,4,5-Trichlorophenol		<0.250	mg/Kg	1	0.250
2-Chloronaphthalene		<0.250	mg/Kg	1	0.250
1-Chloronaphthalene		<0.250	mg/Kg	1	0.250
2-Nitroaniline		<0.250	mg/Kg	1	0.250
Dimethylphthalate		<0.250	mg/Kg	1	0.250
Acenaphthylene		<0.250	mg/Kg	1	0.250
2,6-Dinitrotoluene		<0.250	mg/Kg	1	0.250
3-Nitroaniline		<0.250	mg/Kg	1	0.250
Acenaphthene		<0.250	mg/Kg	1	0.250
2,4-Dinitrophenol		<0.250	mg/Kg	1	0.250
Dibenzofuran		<0.250	mg/Kg	1	0.250
Pentachlorobenzene		<0.250	mg/Kg	1	0.250
4-Nitrophenol		<0.250	mg/Kg	1	0.250
1-Naphthylamine		<0.250	mg/Kg	1	0.250
2,4-Dinitrotoluene		<0.250	mg/Kg	1	0.250
2-Naphthylamine		<0.250	mg/Kg	1	0.250
2,3,4,6-Tetrachlorophenol		<0.250	mg/Kg	1	0.250
Fluorene		<0.250	mg/Kg	1	0.250
Diethylphthalate		<0.250	mg/Kg	1	0.250

continued . . .

sample 82908 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
4-Chlorophenyl-phenylether		<0.250	mg/Kg	1	0.250
4-Nitroaniline		<0.250	mg/Kg	1	0.250
4,6-Dinitro-2-methylphenol		<0.250	mg/Kg	1	0.250
Diphenylamine		<0.250	mg/Kg	1	0.250
Diphenylhydrazine		<0.250	mg/Kg	1	0.250
4-Bromophenyl-phenylether		<0.250	mg/Kg	1	0.250
Phenacetin		<0.250	mg/Kg	1	0.250
Hexachlorobenzene		<0.250	mg/Kg	1	0.250
4-Aminobiphenyl		<0.250	mg/Kg	1	0.250
Pentachlorophenol		<0.250	mg/Kg	1	0.250
Pentachloronitrobenzene		<0.250	mg/Kg	1	0.250
Pronamide		<0.250	mg/Kg	1	0.250
Phenanthrene		<0.250	mg/Kg	1	0.250
Anthracene		<0.250	mg/Kg	1	0.250
Di-n-butylphthalate		<0.250	mg/Kg	1	0.250
Fluoranthene		<0.250	mg/Kg	1	0.250
Benzidine		<0.250	mg/Kg	1	0.250
Pyrene		<0.250	mg/Kg	1	0.250
p-Dimethylaminoazobenzene		<0.250	mg/Kg	1	0.250
Butylbenzylphthalate		<0.250	mg/Kg	1	0.250
Benzo(a)anthracene		<0.250	mg/Kg	1	0.250
3,3-Dichlorobenzidine		<0.250	mg/Kg	1	0.250
Chrysene		<0.250	mg/Kg	1	0.250
bis(2-ethylhexyl)phthalate		<0.250	mg/Kg	1	0.250
Di-n-octylphthalate		<0.250	mg/Kg	1	0.250
Benzo(b)fluoranthene		<0.250	mg/Kg	1	0.250
7,12-Dimethylbenz(a)anthracene		<0.250	mg/Kg	1	0.250
Benzo(k)fluoranthene		<0.250	mg/Kg	1	0.250
Benzo(a)pyrene		<0.250	mg/Kg	1	0.250
3-Methylcholanthrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,j)acridine		<0.250	mg/Kg	1	0.250
Indeno(1,2,3-cd)pyrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,h)anthracene		<0.250	mg/Kg	1	0.250
Benzo(g,h,i)perylene		<0.250	mg/Kg	1	0.250

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		1.01	mg/Kg	1	2.67	38	8.6 - 115
Phenol-d5		1.14	mg/Kg	1	2.67	43	6.3 - 124
Nitrobenzene-d5		1.18	mg/Kg	1	2.67	44	11.3 - 116
2-Fluorobiphenyl		1.37	mg/Kg	1	2.67	51	14.6 - 122
2,4,6-Tribromophenol		1.52	mg/Kg	1	2.67	57	13.8 - 123
Terphenyl-d14		1.78	mg/Kg	1	2.67	67	30.8 - 134

Sample: 82908 - SWMU-166-GEN-004

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	24173	Date Analyzed:	2006-01-24	Analyzed By:	JL
Prep Batch:	21245	Sample Preparation:	2006-01-24	Prepared By:	JL

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		191	mg/Kg	1	150	128	50 - 150

Sample: 82908 - SWMU-166-GEN-004

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	24265	Date Analyzed:	2006-01-27	Analyzed By:	JG
Prep Batch:	21321	Sample Preparation:	2006-01-27	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<10.0	µg/Kg	10	1.00
Dichlorodifluoromethane		<10.0	µg/Kg	10	1.00
Chloromethane (methyl chloride)		<10.0	µg/Kg	10	1.00
Vinyl Chloride		<10.0	µg/Kg	10	1.00
Bromomethane (methyl bromide)		<50.0	µg/Kg	10	5.00
Chloroethane		<10.0	µg/Kg	10	1.00
Trichlorofluoromethane		<10.0	µg/Kg	10	1.00
Acetone		<100	µg/Kg	10	10.0
Iodomethane (methyl iodide)		<50.0	µg/Kg	10	5.00
Carbon Disulfide		<10.0	µg/Kg	10	1.00
Acrylonitrile		<10.0	µg/Kg	10	1.00
2-Butanone (MEK)		<50.0	µg/Kg	10	5.00
4-Methyl-2-pentanone (MIBK)		<50.0	µg/Kg	10	5.00
2-Hexanone		<50.0	µg/Kg	10	5.00
trans 1,4-Dichloro-2-butene		<100	µg/Kg	10	10.0
1,1-Dichloroethene		<10.0	µg/Kg	10	1.00
Methylene chloride		<50.0	µg/Kg	10	5.00
MTBE		<10.0	µg/Kg	10	1.00
trans-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
1,1-Dichloroethane		<10.0	µg/Kg	10	1.00
cis-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
2,2-Dichloropropane		<10.0	µg/Kg	10	1.00
1,2-Dichloroethane (EDC)		<10.0	µg/Kg	10	1.00
Chloroform		<10.0	µg/Kg	10	1.00
1,1,1-Trichloroethane		<10.0	µg/Kg	10	1.00
1,1-Dichloropropene		<10.0	µg/Kg	10	1.00
Benzene		<10.0	µg/Kg	10	1.00
Carbon Tetrachloride		<10.0	µg/Kg	10	1.00
1,2-Dichloropropane		<10.0	µg/Kg	10	1.00
Trichloroethene (TCE)		<10.0	µg/Kg	10	1.00
Dibromomethane (methylene bromide)		<10.0	µg/Kg	10	1.00
Bromodichloromethane		<10.0	µg/Kg	10	1.00
2-Chloroethyl vinyl ether		<50.0	µg/Kg	10	5.00
cis-1,3-Dichloropropene		<10.0	µg/Kg	10	1.00
trans-1,3-Dichloropropene		<10.0	µg/Kg	10	1.00

continued . . .

sample 82908 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Toluene		<10.0	µg/Kg	10	1.00
1,1,2-Trichloroethane		<10.0	µg/Kg	10	1.00
1,3-Dichloropropane		<10.0	µg/Kg	10	1.00
Dibromochloromethane		<10.0	µg/Kg	10	1.00
1,2-Dibromoethane (EDB)		<10.0	µg/Kg	10	1.00
Tetrachloroethene (PCE)		<10.0	µg/Kg	10	1.00
Chlorobenzene		<10.0	µg/Kg	10	1.00
1,1,1,2-Tetrachloroethane		<10.0	µg/Kg	10	1.00
Ethylbenzene		<10.0	µg/Kg	10	1.00
m,p-Xylene		<10.0	µg/Kg	10	1.00
Bromoform		<10.0	µg/Kg	10	1.00
Styrene		<10.0	µg/Kg	10	1.00
o-Xylene		<10.0	µg/Kg	10	1.00
1,1,2,2-Tetrachloroethane		<10.0	µg/Kg	10	1.00
2-Chlorotoluene		<10.0	µg/Kg	10	1.00
1,2,3-Trichloropropane		<10.0	µg/Kg	10	1.00
Isopropylbenzene		<10.0	µg/Kg	10	1.00
Bromobenzene		<10.0	µg/Kg	10	1.00
n-Propylbenzene		<10.0	µg/Kg	10	1.00
1,3,5-Trimethylbenzene		<10.0	µg/Kg	10	1.00
tert-Butylbenzene		<10.0	µg/Kg	10	1.00
1,2,4-Trimethylbenzene		<10.0	µg/Kg	10	1.00
1,4-Dichlorobenzene (para)		<10.0	µg/Kg	10	1.00
sec-Butylbenzene		<10.0	µg/Kg	10	1.00
1,3-Dichlorobenzene (meta)		<10.0	µg/Kg	10	1.00
p-Isopropyltoluene		<10.0	µg/Kg	10	1.00
4-Chlorotoluene		<10.0	µg/Kg	10	1.00
1,2-Dichlorobenzene (ortho)		<10.0	µg/Kg	10	1.00
n-Butylbenzene		<10.0	µg/Kg	10	1.00
1,2-Dibromo-3-chloropropane		<50.0	µg/Kg	10	5.00
1,2,3-Trichlorobenzene		<50.0	µg/Kg	10	5.00
1,2,4-Trichlorobenzene		<50.0	µg/Kg	10	5.00
Naphthalene		<50.0	µg/Kg	10	5.00
Hexachlorobutadiene		<50.0	µg/Kg	10	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		462	µg/Kg	10	50.0	92	42 - 129
Toluene-d8		498	µg/Kg	10	50.0	100	93 - 107
4-Bromofluorobenzene (4-BFB)		483	µg/Kg	10	50.0	97	78 - 120

Sample: 82909 - SWMU-166-GEN-005

Analysis:	Semivolatiles	Analytical Method:	S 8270C	Prep Method:	S 3550
QC Batch:	24262	Date Analyzed:	2006-01-26	Analyzed By:	AG
Prep Batch:	21285	Sample Preparation:	2006-01-25	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.250	mg/Kg	1	0.250
n-Nitrosodimethylamine		<0.250	mg/Kg	1	0.250
2-Picoline		<0.250	mg/Kg	1	0.250
Methyl methanesulfonate		<0.250	mg/Kg	1	0.250
Ethyl methanesulfonate		<0.250	mg/Kg	1	0.250
Phenol		<0.250	mg/Kg	1	0.250
Aniline		<0.250	mg/Kg	1	0.250
bis(2-chloroethyl)ether		<0.250	mg/Kg	1	0.250
2-Chlorophenol		<0.250	mg/Kg	1	0.250
1,3-Dichlorobenzene (meta)		<0.250	mg/Kg	1	0.250
1,4-Dichlorobenzene (para)		<0.250	mg/Kg	1	0.250
Benzyl alcohol		<0.250	mg/Kg	1	0.250
1,2-Dichlorobenzene (ortho)		<0.250	mg/Kg	1	0.250
2-Methylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroisopropyl)ether		<0.250	mg/Kg	1	0.250
4-Methylphenol / 3-Methylphenol		<0.250	mg/Kg	1	0.250
Acetophenone		<0.250	mg/Kg	1	0.250
n-Nitrosodi-n-propylamine		<0.250	mg/Kg	1	0.250
Hexachloroethane		<0.250	mg/Kg	1	0.250
Nitrobenzene		<0.250	mg/Kg	1	0.250
n-Nitrosopiperidine		<0.250	mg/Kg	1	0.250
Isophorone		<0.250	mg/Kg	1	0.250
2-Nitrophenol		<0.250	mg/Kg	1	0.250
2,4-Dimethylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroethoxy)methane		<0.250	mg/Kg	1	0.250
Benzoic acid		<0.250	mg/Kg	1	0.250
2,4-Dichlorophenol		<0.250	mg/Kg	1	0.250
1,2,4-Trichlorobenzene		<0.250	mg/Kg	1	0.250
a,a-Dimethylphenethylamine		<0.250	mg/Kg	1	0.250
Naphthalene		<0.250	mg/Kg	1	0.250
4-Chloroaniline		<0.250	mg/Kg	1	0.250
2,6-Dichlorophenol		<0.250	mg/Kg	1	0.250
Hexachlorobutadiene		<0.250	mg/Kg	1	0.250
n-Nitroso-di-n-butylamine		<0.250	mg/Kg	1	0.250
4-Chloro-3-methylphenol		<0.250	mg/Kg	1	0.250
1-Methylnaphthalene		<0.250	mg/Kg	1	0.250
2-Methylnaphthalene		<0.250	mg/Kg	1	0.250
1,2,4,5-Tetrachlorobenzene		<0.250	mg/Kg	1	0.250
Hexachlorocyclopentadiene		<0.250	mg/Kg	1	0.250
2,4,6-Trichlorophenol		<0.250	mg/Kg	1	0.250
2,4,5-Trichlorophenol		<0.250	mg/Kg	1	0.250
2-Chloronaphthalene		<0.250	mg/Kg	1	0.250
1-Chloronaphthalene		<0.250	mg/Kg	1	0.250
2-Nitroaniline		<0.250	mg/Kg	1	0.250
Dimethylphthalate		<0.250	mg/Kg	1	0.250
Acenaphthylene		<0.250	mg/Kg	1	0.250
2,6-Dinitrotoluene		<0.250	mg/Kg	1	0.250
3-Nitroaniline		<0.250	mg/Kg	1	0.250
Acenaphthene		<0.250	mg/Kg	1	0.250
2,4-Dinitrophenol		<0.250	mg/Kg	1	0.250
Dibenzofuran		<0.250	mg/Kg	1	0.250

continued . . .

sample 82909 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Pentachlorobenzene		<0.250	mg/Kg	1	0.250
4-Nitrophenol		<0.250	mg/Kg	1	0.250
1-Naphthylamine		<0.250	mg/Kg	1	0.250
2,4-Dinitrotoluene		<0.250	mg/Kg	1	0.250
2-Naphthylamine		<0.250	mg/Kg	1	0.250
2,3,4,6-Tetrachlorophenol		<0.250	mg/Kg	1	0.250
Fluorene		<0.250	mg/Kg	1	0.250
Diethylphthalate		<0.250	mg/Kg	1	0.250
4-Chlorophenyl-phenylether		<0.250	mg/Kg	1	0.250
4-Nitroaniline		<0.250	mg/Kg	1	0.250
4,6-Dinitro-2-methylphenol		<0.250	mg/Kg	1	0.250
Diphenylamine		<0.250	mg/Kg	1	0.250
Diphenylhydrazine		<0.250	mg/Kg	1	0.250
4-Bromophenyl-phenylether		<0.250	mg/Kg	1	0.250
Phenacetin		<0.250	mg/Kg	1	0.250
Hexachlorobenzene		<0.250	mg/Kg	1	0.250
4-Aminobiphenyl		<0.250	mg/Kg	1	0.250
Pentachlorophenol		<0.250	mg/Kg	1	0.250
Pentachloronitrobenzene		<0.250	mg/Kg	1	0.250
Pronamide		<0.250	mg/Kg	1	0.250
Phenanthrene		<0.250	mg/Kg	1	0.250
Anthracene		<0.250	mg/Kg	1	0.250
Di-n-butylphthalate		<0.250	mg/Kg	1	0.250
Fluoranthene		<0.250	mg/Kg	1	0.250
Benzidine		<0.250	mg/Kg	1	0.250
Pyrene		<0.250	mg/Kg	1	0.250
p-Dimethylaminoazobenzene		<0.250	mg/Kg	1	0.250
Butylbenzylphthalate		<0.250	mg/Kg	1	0.250
Benzo(a)anthracene		<0.250	mg/Kg	1	0.250
3,3-Dichlorobenzidine		<0.250	mg/Kg	1	0.250
Chrysene		<0.250	mg/Kg	1	0.250
bis(2-ethylhexyl)phthalate		<0.250	mg/Kg	1	0.250
Di-n-octylphthalate		<0.250	mg/Kg	1	0.250
Benzo(b)fluoranthene		<0.250	mg/Kg	1	0.250
7,12-Dimethylbenz(a)anthracene		<0.250	mg/Kg	1	0.250
Benzo(k)fluoranthene		<0.250	mg/Kg	1	0.250
Benzo(a)pyrene		<0.250	mg/Kg	1	0.250
3-Methylcholanthrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,j)acridine		<0.250	mg/Kg	1	0.250
Indeno(1,2,3-cd)pyrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,h)anthracene		<0.250	mg/Kg	1	0.250
Benzo(g,h,i)perylene		<0.250	mg/Kg	1	0.250

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		1.42	mg/Kg	1	2.67	53	8.6 - 115
Phenol-d5		1.55	mg/Kg	1	2.67	58	6.3 - 124
Nitrobenzene-d5		1.67	mg/Kg	1	2.67	62	11.3 - 116
2-Fluorobiphenyl		1.82	mg/Kg	1	2.67	68	14.6 - 122

continued . . .

sample continued . . .

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2,4,6-Tribromophenol		1.75	mg/Kg	1	2.67	66	13.8 - 123
Terphenyl-d14		2.04	mg/Kg	1	2.67	76	30.8 - 134

Sample: 82909 - SWMU-166-GEN-005

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	24173	Date Analyzed:	2006-01-24	Analyzed By:	JL
Prep Batch:	21245	Sample Preparation:	2006-01-24	Prepared By:	JL

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		<50.0	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		192	mg/Kg	1	150	128	50 - 150

Sample: 82909 - SWMU-166-GEN-005

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	24265	Date Analyzed:	2006-01-27	Analyzed By:	JG
Prep Batch:	21321	Sample Preparation:	2006-01-27	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<10.0	µg/Kg	10	1.00
Dichlorodifluoromethane		<10.0	µg/Kg	10	1.00
Chloromethane (methyl chloride)		<10.0	µg/Kg	10	1.00
Vinyl Chloride		<10.0	µg/Kg	10	1.00
Bromomethane (methyl bromide)		<50.0	µg/Kg	10	5.00
Chloroethane		<10.0	µg/Kg	10	1.00
Trichlorofluoromethane		<10.0	µg/Kg	10	1.00
Acetone		<100	µg/Kg	10	10.0
Iodomethane (methyl iodide)		<50.0	µg/Kg	10	5.00
Carbon Disulfide		<10.0	µg/Kg	10	1.00
Acrylonitrile		<10.0	µg/Kg	10	1.00
2-Butanone (MEK)		<50.0	µg/Kg	10	5.00
4-Methyl-2-pentanone (MIBK)		<50.0	µg/Kg	10	5.00
2-Hexanone		<50.0	µg/Kg	10	5.00
trans 1,4-Dichloro-2-butene		<100	µg/Kg	10	10.0
1,1-Dichloroethene		<10.0	µg/Kg	10	1.00
Methylene chloride		<50.0	µg/Kg	10	5.00
MTBE		<10.0	µg/Kg	10	1.00
trans-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
1,1-Dichloroethane		<10.0	µg/Kg	10	1.00
cis-1,2-Dichloroethene		<10.0	µg/Kg	10	1.00
2,2-Dichloropropane		<10.0	µg/Kg	10	1.00
1,2-Dichloroethane (EDC)		<10.0	µg/Kg	10	1.00

continued . . .

sample 82909 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Chloroform		<10.0	µg/Kg	10	1.00
1,1,1-Trichloroethane		<10.0	µg/Kg	10	1.00
1,1-Dichloropropene		<10.0	µg/Kg	10	1.00
Benzene		<10.0	µg/Kg	10	1.00
Carbon Tetrachloride		<10.0	µg/Kg	10	1.00
1,2-Dichloropropane		<10.0	µg/Kg	10	1.00
Trichloroethene (TCE)		<10.0	µg/Kg	10	1.00
Dibromomethane (methylene bromide)		<10.0	µg/Kg	10	1.00
Bromodichloromethane		<10.0	µg/Kg	10	1.00
2-Chloroethyl vinyl ether		<50.0	µg/Kg	10	5.00
cis-1,3-Dichloropropene		<10.0	µg/Kg	10	1.00
trans-1,3-Dichloropropene		<10.0	µg/Kg	10	1.00
Toluene		<10.0	µg/Kg	10	1.00
1,1,2-Trichloroethane		<10.0	µg/Kg	10	1.00
1,3-Dichloropropane		<10.0	µg/Kg	10	1.00
Dibromochloromethane		<10.0	µg/Kg	10	1.00
1,2-Dibromoethane (EDB)		<10.0	µg/Kg	10	1.00
Tetrachloroethene (PCE)		<10.0	µg/Kg	10	1.00
Chlorobenzene		<10.0	µg/Kg	10	1.00
1,1,1,2-Tetrachloroethane		<10.0	µg/Kg	10	1.00
Ethylbenzene		<10.0	µg/Kg	10	1.00
m,p-Xylene		<10.0	µg/Kg	10	1.00
Bromoform		<10.0	µg/Kg	10	1.00
Styrene		<10.0	µg/Kg	10	1.00
o-Xylene		<10.0	µg/Kg	10	1.00
1,1,2,2-Tetrachloroethane		<10.0	µg/Kg	10	1.00
2-Chlorotoluene		<10.0	µg/Kg	10	1.00
1,2,3-Trichloropropane		<10.0	µg/Kg	10	1.00
Isopropylbenzene		<10.0	µg/Kg	10	1.00
Bromobenzene		<10.0	µg/Kg	10	1.00
n-Propylbenzene		<10.0	µg/Kg	10	1.00
1,3,5-Trimethylbenzene		<10.0	µg/Kg	10	1.00
tert-Butylbenzene		<10.0	µg/Kg	10	1.00
1,2,4-Trimethylbenzene		<10.0	µg/Kg	10	1.00
1,4-Dichlorobenzene (para)		<10.0	µg/Kg	10	1.00
sec-Butylbenzene		<10.0	µg/Kg	10	1.00
1,3-Dichlorobenzene (meta)		<10.0	µg/Kg	10	1.00
p-Isopropyltoluene		<10.0	µg/Kg	10	1.00
4-Chlorotoluene		<10.0	µg/Kg	10	1.00
1,2-Dichlorobenzene (ortho)		<10.0	µg/Kg	10	1.00
n-Butylbenzene		<10.0	µg/Kg	10	1.00
1,2-Dibromo-3-chloropropane		<50.0	µg/Kg	10	5.00
1,2,3-Trichlorobenzene		<50.0	µg/Kg	10	5.00
1,2,4-Trichlorobenzene		<50.0	µg/Kg	10	5.00
Naphthalene		<50.0	µg/Kg	10	5.00
Hexachlorobutadiene		<50.0	µg/Kg	10	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		457	µg/Kg	10	50.0	91	42 - 129
Toluene-d8		493	µg/Kg	10	50.0	99	93 - 107
4-Bromofluorobenzene (4-BFB)		496	µg/Kg	10	50.0	99	78 - 120

Sample: 82910 - SWMU-166-GEN-011

Analysis:	Semivolatiles	Analytical Method:	S 8270C	Prep Method:	S 3550
QC Batch:	24262	Date Analyzed:	2006-01-26	Analyzed By:	AG
Prep Batch:	21285	Sample Preparation:	2006-01-25	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.250	mg/Kg	1	0.250
n-Nitrosodimethylamine		<0.250	mg/Kg	1	0.250
2-Picoline		<0.250	mg/Kg	1	0.250
Methyl methanesulfonate		<0.250	mg/Kg	1	0.250
Ethyl methanesulfonate		<0.250	mg/Kg	1	0.250
Phenol		<0.250	mg/Kg	1	0.250
Aniline		<0.250	mg/Kg	1	0.250
bis(2-chloroethyl)ether		<0.250	mg/Kg	1	0.250
2-Chlorophenol		<0.250	mg/Kg	1	0.250
1,3-Dichlorobenzene (meta)		<0.250	mg/Kg	1	0.250
1,4-Dichlorobenzene (para)		<0.250	mg/Kg	1	0.250
Benzyl alcohol		<0.250	mg/Kg	1	0.250
1,2-Dichlorobenzene (ortho)		<0.250	mg/Kg	1	0.250
2-Methylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroisopropyl)ether		<0.250	mg/Kg	1	0.250
4-Methylphenol / 3-Methylphenol		<0.250	mg/Kg	1	0.250
Acetophenone		<0.250	mg/Kg	1	0.250
n-Nitrosodi-n-propylamine		<0.250	mg/Kg	1	0.250
Hexachloroethane		<0.250	mg/Kg	1	0.250
Nitrobenzene		<0.250	mg/Kg	1	0.250
n-Nitrosopiperidine		<0.250	mg/Kg	1	0.250
Isophorone		<0.250	mg/Kg	1	0.250
2-Nitrophenol		<0.250	mg/Kg	1	0.250
2,4-Dimethylphenol		<0.250	mg/Kg	1	0.250
bis(2-chloroethoxy)methane		<0.250	mg/Kg	1	0.250
Benzoic acid		<0.250	mg/Kg	1	0.250
2,4-Dichlorophenol		<0.250	mg/Kg	1	0.250
1,2,4-Trichlorobenzene		<0.250	mg/Kg	1	0.250
a,a-Dimethylphenethylamine		<0.250	mg/Kg	1	0.250
Naphthalene		**2.71**	mg/Kg	1	0.250
4-Chloroaniline		<0.250	mg/Kg	1	0.250
2,6-Dichlorophenol		<0.250	mg/Kg	1	0.250
Hexachlorobutadiene		<0.250	mg/Kg	1	0.250
n-Nitroso-di-n-butylamine		<0.250	mg/Kg	1	0.250
4-Chloro-3-methylphenol		<0.250	mg/Kg	1	0.250
1-Methylnaphthalene	[1]	**27.2**	mg/Kg	1	0.250

continued . . .

[1] Estimated concentration value greater than standard range.

sample 82910 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
2-Methylnaphthalene	[2]	**27.6**	mg/Kg	1	0.250
1,2,4,5-Tetrachlorobenzene		<0.250	mg/Kg	1	0.250
Hexachlorocyclopentadiene		<0.250	mg/Kg	1	0.250
2,4,6-Trichlorophenol		<0.250	mg/Kg	1	0.250
2,4,5-Trichlorophenol		<0.250	mg/Kg	1	0.250
2-Chloronaphthalene		<0.250	mg/Kg	1	0.250
1-Chloronaphthalene		<0.250	mg/Kg	1	0.250
2-Nitroaniline		<0.250	mg/Kg	1	0.250
Dimethylphthalate		<0.250	mg/Kg	1	0.250
Acenaphthylene		<0.250	mg/Kg	1	0.250
2,6-Dinitrotoluene		<0.250	mg/Kg	1	0.250
3-Nitroaniline		<0.250	mg/Kg	1	0.250
Acenaphthene		<0.250	mg/Kg	1	0.250
2,4-Dinitrophenol		<0.250	mg/Kg	1	0.250
Dibenzofuran		<0.250	mg/Kg	1	0.250
Pentachlorobenzene		<0.250	mg/Kg	1	0.250
4-Nitrophenol		<0.250	mg/Kg	1	0.250
1-Naphthylamine		<0.250	mg/Kg	1	0.250
2,4-Dinitrotoluene		<0.250	mg/Kg	1	0.250
2-Naphthylamine		<0.250	mg/Kg	1	0.250
2,3,4,6-Tetrachlorophenol		<0.250	mg/Kg	1	0.250
Fluorene		<0.250	mg/Kg	1	0.250
Diethylphthalate		<0.250	mg/Kg	1	0.250
4-Chlorophenyl-phenylether		<0.250	mg/Kg	1	0.250
4-Nitroaniline		<0.250	mg/Kg	1	0.250
4,6-Dinitro-2-methylphenol		<0.250	mg/Kg	1	0.250
Diphenylamine		<0.250	mg/Kg	1	0.250
Diphenylhydrazine		<0.250	mg/Kg	1	0.250
4-Bromophenyl-phenylether		<0.250	mg/Kg	1	0.250
Phenacetin		<0.250	mg/Kg	1	0.250
Hexachlorobenzene		<0.250	mg/Kg	1	0.250
4-Aminobiphenyl		<0.250	mg/Kg	1	0.250
Pentachlorophenol		<0.250	mg/Kg	1	0.250
Pentachloronitrobenzene		<0.250	mg/Kg	1	0.250
Pronamide		**2.74**	mg/Kg	1	0.250
Phenanthrene	[3]	**11.2**	mg/Kg	1	0.250
Anthracene		<0.250	mg/Kg	1	0.250
Di-n-butylphthalate		<0.250	mg/Kg	1	0.250
Fluoranthene		<0.250	mg/Kg	1	0.250
Benzidine		<0.250	mg/Kg	1	0.250
Pyrene		**0.684**	mg/Kg	1	0.250
p-Dimethylaminoazobenzene		<0.250	mg/Kg	1	0.250
Butylbenzylphthalate		<0.250	mg/Kg	1	0.250
Benzo(a)anthracene		<0.250	mg/Kg	1	0.250
3,3-Dichlorobenzidine		<0.250	mg/Kg	1	0.250
Chrysene		<0.250	mg/Kg	1	0.250
bis(2-ethylhexyl)phthalate		<0.250	mg/Kg	1	0.250

continued . . .

[2]Estimated concentration value greater than standard range.
[3]Estimated concentration value greater than standard range.

sample 82910 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Di-n-octylphthalate		<0.250	mg/Kg	1	0.250
Benzo(b)fluoranthene		<0.250	mg/Kg	1	0.250
7,12-Dimethylbenz(a)anthracene		<0.250	mg/Kg	1	0.250
Benzo(k)fluoranthene		<0.250	mg/Kg	1	0.250
Benzo(a)pyrene		<0.250	mg/Kg	1	0.250
3-Methylcholanthrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,j)acridine		<0.250	mg/Kg	1	0.250
Indeno(1,2,3-cd)pyrene		<0.250	mg/Kg	1	0.250
Dibenzo(a,h)anthracene		<0.250	mg/Kg	1	0.250
Benzo(g,h,i)perylene		<0.250	mg/Kg	1	0.250

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		1.29	mg/Kg	1	2.67	48	8.6 - 115
Phenol-d5		1.50	mg/Kg	1	2.67	56	6.3 - 124
Nitrobenzene-d5	4	6.13	mg/Kg	1	2.67	230	11.3 - 116
2-Fluorobiphenyl		2.54	mg/Kg	1	2.67	95	14.6 - 122
2,4,6-Tribromophenol		1.76	mg/Kg	1	2.67	66	13.8 - 123
Terphenyl-d14	5	0.750	mg/Kg	1	2.67	28	30.8 - 134

Sample: 82910 - SWMU-166-GEN-011

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	Prep Method:	N/A
QC Batch:	24173	Date Analyzed:	2006-01-24	Analyzed By:	JL
Prep Batch:	21245	Sample Preparation:	2006-01-24	Prepared By:	JL

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**7320**	mg/Kg	10	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	6	256	mg/Kg	10	15.0	171	50 - 150

Sample: 82910 - SWMU-166-GEN-011

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	24265	Date Analyzed:	2006-01-27	Analyzed By:	JG
Prep Batch:	21321	Sample Preparation:	2006-01-27	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane	7	<50.0	µg/Kg	50	1.00
Dichlorodifluoromethane		<50.0	µg/Kg	50	1.00
Chloromethane (methyl chloride)		<50.0	µg/Kg	50	1.00
Vinyl Chloride		<50.0	µg/Kg	50	1.00

[4]High surrogate recovery due to peak interference.
[5]High surrogate recovery due to peak interference.
[6]High surrogate recovery due to peak interference.
[7]elevated reporting limit due to heavy hydrocarbons in sample. •

continued . . .

sample 82910 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Bromomethane (methyl bromide)		<250	µg/Kg	50	5.00
Chloroethane		<50.0	µg/Kg	50	1.00
Trichlorofluoromethane		<50.0	µg/Kg	50	1.00
Acetone		<500	µg/Kg	50	10.0
Iodomethane (methyl iodide)		<250	µg/Kg	50	5.00
Carbon Disulfide		<50.0	µg/Kg	50	1.00
Acrylonitrile		<50.0	µg/Kg	50	1.00
2-Butanone (MEK)		<250	µg/Kg	50	5.00
4-Methyl-2-pentanone (MIBK)		<250	µg/Kg	50	5.00
2-Hexanone		<250	µg/Kg	50	5.00
trans 1,4-Dichloro-2-butene		<500	µg/Kg	50	10.0
1,1-Dichloroethene		<50.0	µg/Kg	50	1.00
Methylene chloride		<250	µg/Kg	50	5.00
MTBE		<50.0	µg/Kg	50	1.00
trans-1,2-Dichloroethene		<50.0	µg/Kg	50	1.00
1,1-Dichloroethane		<50.0	µg/Kg	50	1.00
cis-1,2-Dichloroethene		<50.0	µg/Kg	50	1.00
2,2-Dichloropropane		<50.0	µg/Kg	50	1.00
1,2-Dichloroethane (EDC)		<50.0	µg/Kg	50	1.00
Chloroform		<50.0	µg/Kg	50	1.00
1,1,1-Trichloroethane		<50.0	µg/Kg	50	1.00
1,1-Dichloropropene		<50.0	µg/Kg	50	1.00
Benzene		<50.0	µg/Kg	50	1.00
Carbon Tetrachloride		<50.0	µg/Kg	50	1.00
1,2-Dichloropropane		<50.0	µg/Kg	50	1.00
Trichloroethene (TCE)		<50.0	µg/Kg	50	1.00
Dibromomethane (methylene bromide)		<50.0	µg/Kg	50	1.00
Bromodichloromethane		<50.0	µg/Kg	50	1.00
2-Chloroethyl vinyl ether		<250	µg/Kg	50	5.00
cis-1,3-Dichloropropene		<50.0	µg/Kg	50	1.00
trans-1,3-Dichloropropene		<50.0	µg/Kg	50	1.00
Toluene		<50.0	µg/Kg	50	1.00
1,1,2-Trichloroethane		<50.0	µg/Kg	50	1.00
1,3-Dichloropropane		<50.0	µg/Kg	50	1.00
Dibromochloromethane		<50.0	µg/Kg	50	1.00
1,2-Dibromoethane (EDB)		<50.0	µg/Kg	50	1.00
Tetrachloroethene (PCE)		<50.0	µg/Kg	50	1.00
Chlorobenzene		<50.0	µg/Kg	50	1.00
1,1,1,2-Tetrachloroethane		<50.0	µg/Kg	50	1.00
Ethylbenzene		<50.0	µg/Kg	50	1.00
m,p-Xylene		**101**	µg/Kg	50	1.00
Bromoform		<50.0	µg/Kg	50	1.00
Styrene		<50.0	µg/Kg	50	1.00
o-Xylene		**50.1**	µg/Kg	50	1.00
1,1,2,2-Tetrachloroethane		<50.0	µg/Kg	50	1.00
2-Chlorotoluene		<50.0	µg/Kg	50	1.00
1,2,3-Trichloropropane		<50.0	µg/Kg	50	1.00
Isopropylbenzene		<50.0	µg/Kg	50	1.00
Bromobenzene		<50.0	µg/Kg	50	1.00

continued . . .

sample 82910 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
n-Propylbenzene		<50.0	µg/Kg	50	1.00
1,3,5-Trimethylbenzene		**852**	µg/Kg	50	1.00
tert-Butylbenzene		<50.0	µg/Kg	50	1.00
1,2,4-Trimethylbenzene		**888**	µg/Kg	50	1.00
1,4-Dichlorobenzene (para)		<50.0	µg/Kg	50	1.00
sec-Butylbenzene		<50.0	µg/Kg	50	1.00
1,3-Dichlorobenzene (meta)		<50.0	µg/Kg	50	1.00
p-Isopropyltoluene		**598**	µg/Kg	50	1.00
4-Chlorotoluene		<50.0	µg/Kg	50	1.00
1,2-Dichlorobenzene (ortho)		<50.0	µg/Kg	50	1.00
n-Butylbenzene		<50.0	µg/Kg	50	1.00
1,2-Dibromo-3-chloropropane		<250	µg/Kg	50	5.00
1,2,3-Trichlorobenzene		<250	µg/Kg	50	5.00
1,2,4-Trichlorobenzene		<250	µg/Kg	50	5.00
Naphthalene		**1620**	µg/Kg	50	5.00
Hexachlorobutadiene		<250	µg/Kg	50	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		2330	µg/Kg	50	50.0	93	42 - 129
Toluene-d8		2450	µg/Kg	50	50.0	98	93 - 107
4-Bromofluorobenzene (4-BFB)		2530	µg/Kg	50	50.0	101	78 - 120

Sample: 82911 - Trip Blank

Analysis:	Volatiles	Analytical Method:	S 8260B	Prep Method:	S 5030B
QC Batch:	24266	Date Analyzed:	2006-01-27	Analyzed By:	JG
Prep Batch:	21322	Sample Preparation:	2006-01-27	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<1.00	µg/L	1	1.00
Dichlorodifluoromethane		<1.00	µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1	1.00
Vinyl Chloride		<1.00	µg/L	1	1.00
Bromomethane (methyl bromide)		<1.00	µg/L	1	1.00
Chloroethane		<1.00	µg/L	1	1.00
Trichlorofluoromethane		<1.00	µg/L	1	1.00
Acetone		**21.7**	µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	1	5.00
Carbon Disulfide		<1.00	µg/L	1	1.00
Acrylonitrile		<1.00	µg/L	1	1.00
2-Butanone (MEK)		<5.00	µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	1	5.00
2-Hexanone		<1.00	µg/L	1	1.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	1	10.0
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride		<5.00	µg/L	1	5.00

continued . . .

sample 82911 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
MTBE		<1.00	µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1	1.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1	1.00
2,2-Dichloropropane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
1,1-Dichloropropene		<1.00	µg/L	1	1.00
Benzene		<1.00	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
1,2-Dichloropropane		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1	1.00
Bromodichloromethane		<1.00	µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1	1.00
1,3-Dichloropropane		<1.00	µg/L	1	1.00
Dibromochloromethane		<1.00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Chlorobenzene		<1.00	µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
Bromoform		<1.00	µg/L	1	1.00
Styrene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1	1.00
2-Chlorotoluene		<1.00	µg/L	1	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1	1.00
Isopropylbenzene		<1.00	µg/L	1	1.00
Bromobenzene		<1.00	µg/L	1	1.00
n-Propylbenzene		<1.00	µg/L	1	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1	1.00
tert-Butylbenzene		<1.00	µg/L	1	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1	1.00
sec-Butylbenzene		<1.00	µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1	1.00
p-Isopropyltoluene		<1.00	µg/L	1	1.00
4-Chlorotoluene		<1.00	µg/L	1	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<2.00	µg/L	1	2.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00

continued . . .

sample 82911 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		48.1	µg/L	1	50.0	96	70 - 130
Toluene-d8		49.5	µg/L	1	50.0	99	70 - 130
4-Bromofluorobenzene (4-BFB)		48.3	µg/L	1	50.0	97	70 - 130

Method Blank (1) QC Batch: 24173

Parameter	Flag	MDL Result	Units	RL
DRO		<12.0	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		182	mg/Kg	1	150	121	50 - 150

Method Blank (1) QC Batch: 24262

Parameter	Flag	MDL Result	Units	RL
Pyridine		<0.0637	mg/Kg	0.25
n-Nitrosodimethylamine		<0.0307	mg/Kg	0.25
2-Picoline		<0.0698	mg/Kg	0.25
Methyl methanesulfonate		<0.0299	mg/Kg	0.25
Ethyl methanesulfonate		<0.0390	mg/Kg	0.25
Phenol		<0.0602	mg/Kg	0.25
Aniline		<0.0369	mg/Kg	0.25
bis(2-chloroethyl)ether		<0.0407	mg/Kg	0.25
2-Chlorophenol		<0.0923	mg/Kg	0.25
1,3-Dichlorobenzene (meta)		<0.0299	mg/Kg	0.25
1,4-Dichlorobenzene (para)		<0.0303	mg/Kg	0.25
Benzyl alcohol		<0.0618	mg/Kg	0.25
1,2-Dichlorobenzene (ortho)		<0.0308	mg/Kg	0.25
2-Methylphenol		<0.0504	mg/Kg	0.25
bis(2-chloroisopropyl)ether		<0.0272	mg/Kg	0.25
4-Methylphenol / 3-Methylphenol		<0.0349	mg/Kg	0.25
Acetophenone		<0.0422	mg/Kg	0.25
n-Nitrosodi-n-propylamine		<0.0480	mg/Kg	0.25
Hexachloroethane		<0.0522	mg/Kg	0.25
Nitrobenzene		<0.179	mg/Kg	0.25
n-Nitrosopiperidine		<0.0354	mg/Kg	0.25
Isophorone		<0.0802	mg/Kg	0.25

continued . . .

method blank continued . . .

Parameter	Flag	MDL Result	Units	RL
2-Nitrophenol		<0.0236	mg/Kg	0.25
2,4-Dimethylphenol		<0.0416	mg/Kg	0.25
bis(2-chloroethoxy)methane		<0.0490	mg/Kg	0.25
Benzoic acid		<0.137	mg/Kg	0.25
2,4-Dichlorophenol		<0.130	mg/Kg	0.25
1,2,4-Trichlorobenzene		<0.0297	mg/Kg	0.25
a,a-Dimethylphenethylamine		<0.0533	mg/Kg	0.25
Naphthalene		<0.0367	mg/Kg	0.25
4-Chloroaniline		<0.0492	mg/Kg	0.25
2,6-Dichlorophenol		<0.0365	mg/Kg	0.25
Hexachlorobutadiene		<0.0364	mg/Kg	0.25
n-Nitroso-di-n-butylamine		<0.0512	mg/Kg	0.25
4-Chloro-3-methylphenol		<0.0474	mg/Kg	0.25
1-Methylnaphthalene		<0.0417	mg/Kg	0.25
2-Methylnaphthalene		<0.0339	mg/Kg	0.25
1,2,4,5-Tetrachlorobenzene		<0.0300	mg/Kg	0.25
Hexachlorocyclopentadiene		<0.0352	mg/Kg	0.25
2,4,6-Trichlorophenol		<0.0336	mg/Kg	0.25
2,4,5-Trichlorophenol		<0.0403	mg/Kg	0.25
2-Chloronaphthalene		<0.0266	mg/Kg	0.25
1-Chloronaphthalene		<0.0263	mg/Kg	0.25
2-Nitroaniline		<0.0290	mg/Kg	0.25
Dimethylphthalate		<0.0290	mg/Kg	0.25
Acenaphthylene		<0.0651	mg/Kg	0.25
2,6-Dinitrotoluene		<0.0535	mg/Kg	0.25
3-Nitroaniline		<0.0421	mg/Kg	0.25
Acenaphthene		<0.0745	mg/Kg	0.25
2,4-Dinitrophenol		<0.0860	mg/Kg	0.25
Dibenzofuran		<0.0274	mg/Kg	0.25
Pentachlorobenzene		<0.0396	mg/Kg	0.25
4-Nitrophenol		<0.169	mg/Kg	0.25
1-Naphthylamine		<0.0304	mg/Kg	0.25
2,4-Dinitrotoluene		<0.0609	mg/Kg	0.25
2-Naphthylamine		<0.153	mg/Kg	0.25
2,3,4,6-Tetrachlorophenol		<0.0404	mg/Kg	0.25
Fluorene		<0.0435	mg/Kg	0.25
Diethylphthalate		<0.0402	mg/Kg	0.25
4-Chlorophenyl-phenylether		<0.0345	mg/Kg	0.25
4-Nitroaniline		<0.0176	mg/Kg	0.25
4,6-Dinitro-2-methylphenol		<0.330	mg/Kg	0.25
Diphenylamine		<0.0471	mg/Kg	0.25
Diphenylhydrazine		<0.0641	mg/Kg	0.25
4-Bromophenyl-phenylether		<0.0310	mg/Kg	0.25
Phenacetin		<0.0344	mg/Kg	0.25
Hexachlorobenzene		<0.0306	mg/Kg	0.25
4-Aminobiphenyl		<0.128	mg/Kg	0.25
Pentachlorophenol		<0.151	mg/Kg	0.25
Pentachloronitrobenzene		<0.0775	mg/Kg	0.25
Pronamide		<0.0265	mg/Kg	0.25
Phenanthrene		<0.0737	mg/Kg	0.25

continued . . .

method blank continued . . .

Parameter	Flag	MDL Result	Units	RL
Anthracene		<0.0378	mg/Kg	0.25
Di-n-butylphthalate		<0.0300	mg/Kg	0.25
Fluoranthene		<0.0346	mg/Kg	0.25
Benzidine		<1.14	mg/Kg	0.25
Pyrene		<0.151	mg/Kg	0.25
p-Dimethylaminoazobenzene		<0.0298	mg/Kg	0.25
Butylbenzylphthalate		<0.0589	mg/Kg	0.25
Benzo(a)anthracene		<0.0449	mg/Kg	0.25
3,3-Dichlorobenzidine		<0.162	mg/Kg	0.25
Chrysene		<0.0357	mg/Kg	0.25
bis(2-ethylhexyl)phthalate		<0.0805	mg/Kg	0.25
Di-n-octylphthalate		<0.0394	mg/Kg	0.25
Benzo(b)fluoranthene		<0.0644	mg/Kg	0.25
7,12-Dimethylbenz(a)anthracene		<0.0356	mg/Kg	0.25
Benzo(k)fluoranthene		<0.0464	mg/Kg	0.25
Benzo(a)pyrene		<0.0349	mg/Kg	0.25
3-Methylcholanthrene		<0.0741	mg/Kg	0.25
Dibenzo(a,j)acridine		<0.0290	mg/Kg	0.25
Indeno(1,2,3-cd)pyrene		<0.0287	mg/Kg	0.25
Dibenzo(a,h)anthracene		<0.0448	mg/Kg	0.25
Benzo(g,h,i)perylene		<0.0276	mg/Kg	0.25

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		1.62	mg/Kg	1	2.67	61	10 - 113.2
Phenol-d5		1.68	mg/Kg	1	2.67	63	10 - 124.6
Nitrobenzene-d5		1.78	mg/Kg	1	2.67	67	10 - 116.8
2-Fluorobiphenyl		1.97	mg/Kg	1	2.67	74	10 - 122.4
2,4,6-Tribromophenol		2.04	mg/Kg	1	2.67	76	10 - 133.7
Terphenyl-d14		2.60	mg/Kg	1	2.67	97	10.2 - 141

Method Blank (1) QC Batch: 24265

Parameter	Flag	MDL Result	Units	RL
Bromochloromethane		<2.41	µg/Kg	1
Dichlorodifluoromethane		<0.789	µg/Kg	1
Chloromethane (methyl chloride)		<2.29	µg/Kg	1
Vinyl Chloride		<1.42	µg/Kg	1
Bromomethane (methyl bromide)		<7.00	µg/Kg	5
Chloroethane		<1.73	µg/Kg	1
Trichlorofluoromethane		<1.20	µg/Kg	1
Acetone		<17.0	µg/Kg	10
Iodomethane (methyl iodide)		<4.88	µg/Kg	5
Carbon Disulfide		<0.947	µg/Kg	1
Acrylonitrile		<4.94	µg/Kg	1
2-Butanone (MEK)		<14.0	µg/Kg	5
4-Methyl-2-pentanone (MIBK)		<7.86	µg/Kg	5

continued . . .

method blank continued . . .

Parameter	Flag	MDL Result	Units	RL
2-Hexanone		<2.22	µg/Kg	5
trans 1,4-Dichloro-2-butene		<1.33	µg/Kg	10
1,1-Dichloroethene		<1.17	µg/Kg	1
Methylene chloride		3.84	µg/Kg	5
MTBE		<1.53	µg/Kg	1
trans-1,2-Dichloroethene		<1.54	µg/Kg	1
1,1-Dichloroethane		<0.513	µg/Kg	1
cis-1,2-Dichloroethene		<2.13	µg/Kg	1
2,2-Dichloropropane		<0.982	µg/Kg	1
1,2-Dichloroethane (EDC)		<1.98	µg/Kg	1
Chloroform		<0.486	µg/Kg	1
1,1,1-Trichloroethane		<1.01	µg/Kg	1
1,1-Dichloropropene		<1.60	µg/Kg	1
Benzene		<2.36	µg/Kg	1
Carbon Tetrachloride		<1.08	µg/Kg	1
1,2-Dichloropropane		<1.01	µg/Kg	1
Trichloroethene (TCE)		<1.95	µg/Kg	1
Dibromomethane (methylene bromide)		<1.62	µg/Kg	1
Bromodichloromethane		<0.958	µg/Kg	1
2-Chloroethyl vinyl ether		<1.31	µg/Kg	5
cis-1,3-Dichloropropene		<1.19	µg/Kg	1
trans-1,3-Dichloropropene		<0.860	µg/Kg	1
Toluene		<1.35	µg/Kg	1
1,1,2-Trichloroethane		<2.03	µg/Kg	1
1,3-Dichloropropane		<1.20	µg/Kg	1
Dibromochloromethane		<1.32	µg/Kg	1
1,2-Dibromoethane (EDB)		<1.48	µg/Kg	1
Tetrachloroethene (PCE)		<1.85	µg/Kg	1
Chlorobenzene		<1.24	µg/Kg	1
1,1,1,2-Tetrachloroethane		<1.20	µg/Kg	1
Ethylbenzene		<0.599	µg/Kg	1
m,p-Xylene		<1.75	µg/Kg	1
Bromoform		<1.80	µg/Kg	1
Styrene		<0.898	µg/Kg	1
o-Xylene		<0.991	µg/Kg	1
1,1,2,2-Tetrachloroethane		<2.56	µg/Kg	1
2-Chlorotoluene		<0.997	µg/Kg	1
1,2,3-Trichloropropane		<0.935	µg/Kg	1
Isopropylbenzene		<1.05	µg/Kg	1
Bromobenzene		<1.42	µg/Kg	1
n-Propylbenzene		<1.01	µg/Kg	1
1,3,5-Trimethylbenzene		<1.04	µg/Kg	1
tert-Butylbenzene		<1.96	µg/Kg	1
1,2,4-Trimethylbenzene		<1.48	µg/Kg	1
1,4-Dichlorobenzene (para)		<4.40	µg/Kg	1
sec-Butylbenzene		<1.13	µg/Kg	1
1,3-Dichlorobenzene (meta)		<0.924	µg/Kg	1
p-Isopropyltoluene		<1.05	µg/Kg	1
4-Chlorotoluene		<0.739	µg/Kg	1
1,2-Dichlorobenzene (ortho)		<1.09	µg/Kg	1

continued . . .

method blank continued . . .

Parameter	Flag	MDL Result	Units	RL
n-Butylbenzene		<1.16	µg/Kg	1
1,2-Dibromo-3-chloropropane		<1.92	µg/Kg	5
1,2,3-Trichlorobenzene		<11.9	µg/Kg	5
1,2,4-Trichlorobenzene		<3.11	µg/Kg	5
Naphthalene		<2.58	µg/Kg	5
Hexachlorobutadiene		8.33	µg/Kg	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		443	µg/Kg	10	50.0	89	42 - 129
Toluene-d8		496	µg/Kg	10	50.0	99	93 - 107
4-Bromofluorobenzene (4-BFB)		488	µg/Kg	10	50.0	98	78 - 120

Method Blank (1) QC Batch: 24266

Parameter	Flag	MDL Result	Units	RL
Bromochloromethane		<0.0699	µg/L	1
Dichlorodifluoromethane		<0.0598	µg/L	1
Chloromethane (methyl chloride)		<0.230	µg/L	1
Vinyl Chloride		<0.0902	µg/L	1
Bromomethane (methyl bromide)		<0.740	µg/L	5
Chloroethane		<0.195	µg/L	1
Trichlorofluoromethane		<0.160	µg/L	1
Acetone		<0.854	µg/L	10
Iodomethane (methyl iodide)		<0.112	µg/L	5
Carbon Disulfide		<0.0764	µg/L	1
Acrylonitrile		<0.184	µg/L	1
2-Butanone (MEK)		<0.394	µg/L	5
4-Methyl-2-pentanone (MIBK)		<0.484	µg/L	5
2-Hexanone		<0.0975	µg/L	5
trans 1,4-Dichloro-2-butene		<0.421	µg/L	10
1,1-Dichloroethene		<0.0736	µg/L	1
Methylene chloride		<0.689	µg/L	5
MTBE		<0.0504	µg/L	1
trans-1,2-Dichloroethene		<0.0598	µg/L	1
1,1-Dichloroethane		<0.0299	µg/L	1
cis-1,2-Dichloroethene		<0.101	µg/L	1
2,2-Dichloropropane		<0.0665	µg/L	1
1,2-Dichloroethane (EDC)		<0.0557	µg/L	1
Chloroform		<0.0475	µg/L	1
1,1,1-Trichloroethane		<0.0846	µg/L	1
1,1-Dichloropropene		<0.0423	µg/L	1
Benzene		<0.0495	µg/L	1
Carbon Tetrachloride		<0.121	µg/L	1
1,2-Dichloropropane		<0.0933	µg/L	1
Trichloroethene (TCE)		0.0600	µg/L	1
Dibromomethane (methylene bromide)		<0.0640	µg/L	1

continued . . .

method blank continued . . .

Parameter	Flag	MDL Result	Units	RL
Bromodichloromethane		<0.0651	µg/L	1
2-Chloroethyl vinyl ether		<0.0905	µg/L	5
cis-1,3-Dichloropropene		<0.0640	µg/L	1
trans-1,3-Dichloropropene		<0.0504	µg/L	1
Toluene		0.110	µg/L	1
1,1,2-Trichloroethane		<0.106	µg/L	1
1,3-Dichloropropane		<0.0625	µg/L	1
Dibromochloromethane		<0.0791	µg/L	1
1,2-Dibromoethane (EDB)		<0.0460	µg/L	1
Tetrachloroethene (PCE)		0.140	µg/L	1
Chlorobenzene		0.0400	µg/L	1
1,1,1,2-Tetrachloroethane		<0.125	µg/L	1
Ethylbenzene		<0.0566	µg/L	1
m,p-Xylene		0.120	µg/L	1
Bromoform		<0.0859	µg/L	1
Styrene		0.0400	µg/L	1
o-Xylene		<0.0504	µg/L	1
1,1,2,2-Tetrachloroethane		<0.0672	µg/L	1
2-Chlorotoluene		0.0600	µg/L	1
1,2,3-Trichloropropane		<0.0679	µg/L	1
Isopropylbenzene		0.0600	µg/L	1
Bromobenzene		<0.103	µg/L	1
n-Propylbenzene		0.0800	µg/L	1
1,3,5-Trimethylbenzene		0.0600	µg/L	1
tert-Butylbenzene		<0.0770	µg/L	1
1,2,4-Trimethylbenzene		0.0800	µg/L	1
1,4-Dichlorobenzene (para)		<0.0672	µg/L	1
sec-Butylbenzene		0.110	µg/L	1
1,3-Dichlorobenzene (meta)		<0.0672	µg/L	1
p-Isopropyltoluene		0.100	µg/L	1
4-Chlorotoluene		<0.0460	µg/L	1
1,2-Dichlorobenzene (ortho)		<0.0629	µg/L	1
n-Butylbenzene		<0.0400	µg/L	1
1,2-Dibromo-3-chloropropane		<0.538	µg/L	2
1,2,3-Trichlorobenzene		<0.504	µg/L	5
1,2,4-Trichlorobenzene		<0.166	µg/L	5
Naphthalene		<0.417	µg/L	5
Hexachlorobutadiene		0.800	µg/L	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		48.1	µg/L	1	50.0	96	70 - 130
Toluene-d8		49.8	µg/L	1	50.0	100	70 - 130
4-Bromofluorobenzene (4-BFB)		48.6	µg/L	1	50.0	97	70 - 130

Laboratory Control Spike (LCS-1) QC Batch: 24173

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
DRO	202	201	mg/Kg	1	250	<12.0	81	1	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Triacontane	186	182	mg/Kg	1	150	124	121	50 - 150

Laboratory Control Spike (LCS-1) QC Batch: 24262

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Phenol	1.41	1.34	mg/Kg	1	2.67	<0.0602	53	5	10 - 120.2	20
2-Chlorophenol	1.34	1.26	mg/Kg	1	2.67	<0.0923	50	6	10 - 123	20
1,4-Dichlorobenzene (para)	1.54	1.49	mg/Kg	1	2.67	<0.0303	58	3	10 - 130	20
n-Nitrosodi-n-propylamine	1.54	1.43	mg/Kg	1	2.67	<0.0480	58	7	10 - 152	20
1,2,4-Trichlorobenzene	1.65	1.62	mg/Kg	1	2.67	<0.0297	62	2	10 - 134.7	20
4-Chloro-3-methylphenol	1.88	1.87	mg/Kg	1	2.67	<0.0474	70	0	10 - 152.7	20
Acenaphthene	1.89	1.83	mg/Kg	1	2.67	<0.0745	71	3	10 - 158	20
4-Nitrophenol	1.40	1.27	mg/Kg	1	2.67	<0.169	52	10	10 - 162.7	20
2,4-Dinitrotoluene	2.40	2.41	mg/Kg	1	2.67	<0.0609	90	0	10 - 186.3	20
Pentachlorophenol	1.86	1.72	mg/Kg	1	2.67	<0.151	70	8	10 - 150.5	20
Pyrene	4.10	4.02	mg/Kg	1	2.67	<0.151	154	2	10 - 189.2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
2-Fluorophenol	1.39	1.33	mg/Kg	1	2.67	52	50	10 - 103.5
Phenol-d5	1.45	1.37	mg/Kg	1	2.67	54	51	10 - 109.8
Nitrobenzene-d5	1.54	1.49	mg/Kg	1	2.67	58	56	10 - 106.5
2-Fluorobiphenyl	1.78	1.71	mg/Kg	1	2.67	67	64	10 - 107.9
2,4,6-Tribromophenol	2.31	2.26	mg/Kg	1	2.67	86	85	14.4 - 134.5
Terphenyl-d14	2.93	2.86	mg/Kg	1	2.67	110	107	16.3 - 140

Laboratory Control Spike (LCS-1) QC Batch: 24265

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
1,1-Dichloroethene	506	497	µg/Kg	10	50.0	<11.7	101	2	70 - 130	20
Benzene	483	477	µg/Kg	10	50.0	<23.6	97	1	70 - 130	20
Trichloroethene (TCE)	512	506	µg/Kg	10	50.0	<19.5	102	1	70 - 130	20
Toluene	482	476	µg/Kg	10	50.0	<13.5	96	1	70 - 130	20
Chlorobenzene	510	505	µg/Kg	10	50.0	<12.4	102	1	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	475	482	µg/Kg	10	50.0	95	96	42 - 129
Toluene-d8	491	487	µg/Kg	10	50.0	98	97	93 - 107

continued . . .

control spikes continued . . .

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
4-Bromofluorobenzene (4-BFB)	497	493	µg/Kg	10	50.0	99	99	78 - 120

Laboratory Control Spike (LCS-1) QC Batch: 24266

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
1,1-Dichloroethene	48.7	49.8	µg/L	1	50.0	<0.0736	97	2	70 - 130	20
Benzene	47.0	47.6	µg/L	1	50.0	<0.0495	94	1	70 - 130	20
Trichloroethene (TCE)	56.7	57.8	µg/L	1	50.0	<0.0495	113	2	70 - 130	20
Toluene	46.6	47.3	µg/L	1	50.0	<0.0736	93	2	70 - 130	20
Chlorobenzene	49.4	50.0	µg/L	1	50.0	<0.0217	99	1	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	48.0	47.8	µg/L	1	50.0	96	96	92 - 112
Toluene-d8	49.4	49.6	µg/L	1	50.0	99	99	94 - 112
4-Bromofluorobenzene (4-BFB)	49.3	49.1	µg/L	1	50.0	99	98	88 - 116

Matrix Spike (MS-1) QC Batch: 24173 Spiked Sample: 82906

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
DRO	186	187	mg/Kg	1	250	<12.0	74	0	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Triacontane	176	178	mg/Kg	1	150	117	119	50 - 150

Matrix Spike (MS-1) QC Batch: 24262 Spiked Sample: 82901

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Phenol	1.84	1.73	mg/Kg	1	2.67	<0.0602	69	6	10 - 109.5	20
2-Chlorophenol	1.80	1.69	mg/Kg	1	2.67	<0.0923	67	6	10 - 109.9	20
1,4-Dichlorobenzene (para)	1.97	1.81	mg/Kg	1	2.67	<0.0303	74	8	10 - 114.6	20
n-Nitrosodi-n-propylamine	2.09	1.96	mg/Kg	1	2.67	<0.0480	78	6	10 - 148.4	20
1,2,4-Trichlorobenzene	2.16	2.02	mg/Kg	1	2.67	<0.0297	81	7	10 - 121.4	20
4-Chloro-3-methylphenol	2.18	2.01	mg/Kg	1	2.67	<0.0474	82	8	10 - 131	20
Acenaphthene	2.21	2.03	mg/Kg	1	2.67	<0.0745	83	8	10 - 139.4	20
4-Nitrophenol	1.24	1.27	mg/Kg	1	2.67	<0.169	46	2	10 - 136	20
2,4-Dinitrotoluene	2.23	2.08	mg/Kg	1	2.67	<0.0609	84	7	10 - 148.3	20
Pentachlorophenol	1.46	1.48	mg/Kg	1	2.67	<0.151	55	1	10 - 133.3	20
Pyrene	3.45	3.10	mg/Kg	1	2.67	<0.151	129	11	10 - 155.7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
2-Fluorophenol	1.83	1.71	mg/Kg	1	2.67	68	64	10 - 100.5
Phenol-d5	1.91	1.79	mg/Kg	1	2.67	72	67	10 - 110.8
Nitrobenzene-d5	1.94	1.84	mg/Kg	1	2.67	73	69	10 - 102.3
2-Fluorobiphenyl	2.19	2.07	mg/Kg	1	2.67	82	78	10 - 106.5
2,4,6-Tribromophenol	2.17	2.02	mg/Kg	1	2.67	81	76	10 - 131.4
Terphenyl-d14	2.39	2.19	mg/Kg	1	2.67	90	82	10 - 129.8

Matrix Spike (MS-1) QC Batch: 24265 Spiked Sample: 82901

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
1,1-Dichloroethene	484	476	µg/Kg	10	50.0	<11.7	97	2	70 - 130	20
Benzene	473	465	µg/Kg	10	50.0	<23.6	95	2	70 - 130	20
Trichloroethene (TCE)	602	590	µg/Kg	10	50.0	<19.5	120	2	70 - 130	20
Toluene	472	462	µg/Kg	10	50.0	<13.5	94	2	70 - 130	20
Chlorobenzene	486	486	µg/Kg	10	50.0	<12.4	97	0	70 - 130	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Dibromofluoromethane	474	478	µg/Kg	10	50	95	96	87 - 110
Toluene-d8	480	486	µg/Kg	10	50	96	97	94 - 110
4-Bromofluorobenzene (4-BFB)	494	493	µg/Kg	10	50	99	99	88 - 112

Standard (ICV-1) QC Batch: 24173

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	195	78	75 - 125	2006-01-24

Standard (CCV-1) QC Batch: 24173

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	199	80	75 - 125	2006-01-24

Standard (CCV-2) QC Batch: 24173

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	207	83	75 - 125	2006-01-24

Standard (CCV-1) QC Batch: 24262

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Phenol		mg/Kg	60.0	62.3	104	80 - 120	2006-01-26
1,4-Dichlorobenzene (para)		mg/Kg	60.0	64.3	107	80 - 120	2006-01-26
2-Nitrophenol		mg/Kg	60.0	61.9	103	80 - 120	2006-01-26
2,4-Dichlorophenol		mg/Kg	60.0	66.9	112	80 - 120	2006-01-26
Hexachlorobutadiene		mg/Kg	60.0	70.9	118	80 - 120	2006-01-26
4-Chloro-3-methylphenol		mg/Kg	60.0	59.8	100	80 - 120	2006-01-26
2,4,6-Trichlorophenol		mg/Kg	60.0	62.4	104	80 - 120	2006-01-26
Acenaphthene		mg/Kg	60.0	61.4	102	80 - 120	2006-01-26
Diphenylamine		mg/Kg	60.0	61.0	102	80 - 120	2006-01-26
Pentachlorophenol		mg/Kg	60.0	61.8	103	80 - 120	2006-01-26
Fluoranthene		mg/Kg	60.0	68.9	115	80 - 120	2006-01-26
Di-n-octylphthalate		mg/Kg	60.0	61.1	102	80 - 120	2006-01-26
Benzo(a)pyrene		mg/Kg	60.0	64.8	108	80 - 120	2006-01-26

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limit
2-Fluorophenol		61.5	mg/Kg	1	60.0	102	80 - 120
Phenol-d5		58.7	mg/Kg	1	60.0	98	80 - 120
Nitrobenzene-d5		63.2	mg/Kg	1	60.0	105	80 - 120
2-Fluorobiphenyl		65.7	mg/Kg	1	60.0	110	80 - 120
2,4,6-Tribromophenol		58.0	mg/Kg	1	60.0	97	80 - 120
Terphenyl-d14		62.9	mg/Kg	1	60.0	105	80 - 120

Standard (CCV-1) QC Batch: 24265

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/Kg	50.0	50.4	101	80 - 120	2006-01-27
1,1-Dichloroethene		µg/Kg	50.0	49.6	99	80 - 120	2006-01-27
Chloroform		µg/Kg	50.0	47.3	95	80 - 120	2006-01-27
1,2-Dichloropropane		µg/Kg	50.0	47.8	96	80 - 120	2006-01-27
Toluene		µg/Kg	50.0	46.7	93	80 - 120	2006-01-27
Chlorobenzene		µg/Kg	50.0	49.6	99	80 - 120	2006-01-27
Ethylbenzene		µg/Kg	50.0	47.1	94	80 - 120	2006-01-27

Standard (CCV-1) QC Batch: 24266

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Vinyl Chloride		µg/L	50.0	47.1	94	80 - 120	2006-01-27
1,1-Dichloroethene		µg/L	50.0	48.3	97	80 - 120	2006-01-27
Chloroform		µg/L	50.0	47.1	94	80 - 120	2006-01-27
1,2-Dichloropropane		µg/L	50.0	47.9	96	80 - 120	2006-01-27
Toluene		µg/L	50.0	46.2	92	80 - 120	2006-01-27
Chlorobenzene		µg/L	50.0	48.9	98	80 - 120	2006-01-27
Ethylbenzene		µg/L	50.0	46.0	92	80 - 120	2006-01-27

82901 - 11

6012406

402

P.O. BOX 363, Bldg 126, 3rd Floor, WSMR, NM 88002
Office: (505) 678-0263 Fax: (505) 678-6096

WTS

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1

PROJECT NO.: TO-011

PROJECT NAME: Denver Site

SAMPLER'S SIGNATURE: James Thompson

DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	TPH-DRO 8015	SVOC 8270	VOC 8260								REMARKS
1-17-06	1555	SWMU-166-AST-001	soil	82901	2	X	X	X								
	1550	SWMU-166-AST-002		02	2	X	X	X								
	1540	SWMU-166-AST-003		03	2	X	X	X								
	1545	SWMU-166-AST-004		04	2	X	X	X								
	1600	SWMU-166-AST-005		05	2	X	X	X								
1-17-06	~~1440~~	~~SWMU-166-GEN-001~~	soil		~~2~~	~~X~~	~~X~~	~~X~~								
	1455	SWMU-166-GEN-002		06	2	X	X	X								
	1450	SWMU-166-GEN-003		07	2	X	X	X								
	1445	SWMU-166-GEN-004		08	2	X	X	X								
	1505	SWMU-166-GEN-005		09	2	X	X	X								
1-20-06	0910	SWMU-166-GEN-011	soil	10	2	X	X	X								
		Trip Blank	water	11	2			X								

PROJECT INFORMATION			1. RELINQUISHED BY: (SIGNATURE)	2. RELINQUISHED BY: (SIGNATURE)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER: Fred Bourgor	SAMPLES RECEIVED		J. Thompson		Megan McLeod
	TOTAL NO. OF CONTAINERS		(PRINTED NAME) J. Thompson	(PRINTED NAME)	(PRINTED NAME) Megan McCord
SHIPPING ID NO.: 790295652305	CHAIN OF CUSTODY SEALS		RECEIVED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	(COMPANY) Trace Analysis
	GOOD CONDITION/CHILLED	4°	(TIME/DATE)	(TIME/DATE)	(TIME/DATE) 0940 / 1-24-06
VIA: FedEx	CONFORMS TO RECORD	JL	SPECIAL INSTRUCTIONS / COMMENTS:		

PLEASE USE BALL POINT PEN

DISTRIBUTION: WHITE - PROJECT FILES; YELLOW - LAB; PINK - FIELD COPY