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REPLY TO
ATTENTION OF

Directorate of Public Works

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

SUBJECT: Closure Report for the Liquid Propellant Evaporation / Neutralization Pits (SWMUs 92A/B through 100)

Dear Mr. Kieling;

Enclosed for review is the report submittal titled: *Closure Report for the Liquid Propellant Evaporation / Neutralization Pits SWMUs 92A/B through 100 (CCWS-71) White Sands Missile Range, New Mexico, April 2011.*

This report presents historical and current information to demonstrate that there is not an indication of a release from the hazardous waste management units and that these units meet the NMED's closure criteria. This site is listed in Table 8-1 of WSMR's December 2009 RCRA Permit requiring a Closure Plan submittal by November 15, 2013. Per conversations with Mr. Dave Cobrain of the NMED, it was confirmed that a Closure Plan is not required for sites where there is no indication of a release from the unit or for Hazardous Waste Management Units where no active remedy is required. Mr. Cobrain indicated that in this case, the permittee may submit a closure report demonstrating that the Site has met the requirements for closure.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

If you have any questions regarding this matter, please contact Mr. Benito Avalos of our Environmental Compliance Branch at (575) 678-2225.

I am forwarding this letter with enclosure (1 print copy w/CD) to Mr. Dave Cobrain, NMED-HWB; and without enclosure to Mr. Chuck Hendrickson, EPA Region VI; Ms. Laurie Rodriguez, ARACDIS-US, Inc.

Sincerely,

Thomas A. Ladd

Thomas A. Ladd
Director, Public Works

Enclosure

REPORT DOCUMENTATION PAGE

Form Approved
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14. ABSTRACT
This Closure Report presents current and historical information to demonstrate that there is not indication of a release from the hazardous waste management units and that these units meet the NMED's closure criteria. The report includes background information, a summary of conditions, a summary of current and historical soil results, and a comparison of the data to current NMED soil screening levels.

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Closure Report for Liquid Propellant Evaporation / Neutralization Pits

SWMUs 92A/B through 100 (CCWS-71)

April 2011

ARCADIS

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Closure Report for Liquid Propellant Evaporation / Neutralization Pits

SWMUs 92A/B through 100
(CCWS-71)

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List of Acronyms a

Executive Summary 1

1. Introduction 3

2. Background Information 4

2.1 Description and Operational History 4

2.2 Regulatory History 4

2.3 Environmental Setting 7

2.3.1 Topography and Surface Drainage 7

2.3.2 Geology 8

2.3.3 Hydrogeology 9

2.3.3.1 Regional Aquifer 10

2.3.3.2 Local Groundwater Conditions 10

2.3.4 Groundwater Use 10

2.4 Investigative History 11

2.4.1 RFA (A.T. Kearney, 1988) 11

2.4.2 Phase I RFI (ITC, 1992) 11

2.4.3 Phase II RFI (SEI, 1994) 13

2.5 Close Out/Removal Activities (Dow, 1996) 15

3. Supplemental Soil Sampling Activities 15

3.1 Field Activities 16

3.1.1 Utility Clearance 16

3.1.2 Soil Sample Collection and Field Screening Procedures 16

3.1.3 Decontamination Procedures 17

3.1.4 Field Quality Control Samples 18

3.1.5 Sample Handling and Shipping 18

3.1.6 Analytical Tests Requested 19

3.1.7 Abandonment of Borings 19

3.1.8 Waste Handling 19

3.1.9 Survey 20

3.2 Data Evaluation 20

3.2.1 Regulatory Criteria 20

3.2.2 Data Quality Evaluation 22

4. Supplemental Soil Sampling Results 22

4.1 Subsurface Conditions 22

4.2 Soil Sampling Field Screening Results 23

4.3 Soil Sampling Analytical Results 23

4.3.1 NDMA Analytical Results 23

4.3.2 TPH Analytical Results 23

5. Summary of Site Conditions 24

6. Conclusions and Recommendations 25

7. References 26

Tables

Table 1 Summary of Soil Sample Analytical Results

Table 2 Summary of Analytical Data for Close Out Samples

Figures

Figure 1 LPSA Site Location

Figure 2 LPSA Site Plan

Figure 3 LPSA Regional Topography

Figure 4 LPSA Site Topography

Figure 5 Phase I (1992) and Phase II (1993) RFI Soil Sampling Locations

Figure 6 LPSA Supplemental Soil Sampling Locations

Appendices

A Regulatory Correspondence

B 1996 Close Out Report

C Soil Boring Logs

D Laboratory and Data Validation Reports

E Waste Management Documentation

List of Acronyms

ASTM	American Society for Testing and Materials
AUA	Annual Unit Audit
CFR	Code of Federal Regulations
CMS	Corrective Measures Study
COC	Constituent of Concern
CCWS	Compliance Cleanup Waste Site
DAF	Dilution Attenuation Factor
DMN	dimethylnitrosamine
DoD	Department of Defense
DQO	Data Quality Objectives
DRO	Diesel Range Organics
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protective Agency
eV	electronvolt
ft amsl	Feet Above Mean Seal Level
ft bgs	Feet Below Ground Surface
gal	Gallons
GPS	Global Positioning System
GRO	Gasoline Range Organics
HELSTF	High Energy Laser Systems Test Facility
HSWA	Hazardous and Solid Waste Amendments
IDW	Investigation Derived Waste
IRFNA	Inhibited Red Fuming Nitric Acid
ITC	International Technology Corporation
L	Liters
LDS	Land Disposal Standard
LPSA	Liquid Propellant Storage Area
MCL	Maximum Contaminant Levels
mg/kg	milligrams per kilogram
MMH	monomethyl hydrazine
NDMA	N-Nitrosodimethylamine
NELAC	National Environmental Laboratory Accreditation Conference
NFA	No Further Action
NMED	New Mexico Environment Department
NMSSL	New Mexico Soil Screening Levels
NOD	Notice of Deficiency
PCB	polychlorinated biphenyls

PID	Photoionization Detector
POL	Petroleum, Oil, and Lubricants
PPE	Personal Protective Equipment
ppm	Parts per Million
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RL	Reporting Limits
SSL	Soil Screening Levels
s.u.	Standard Units
SVOC	Semi-Volatile Organic Compounds
SVS	Soil Vapor Survey
SWMU	Solid Waste Management Units
TPH	Total Petroleum Hydrocarbon
UDMH	Unsymmetrical dimethyl hydrazine
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USGS	U.S. Geological Survey
VOC	Volatile Organic Compounds
WMC	Waste Management Center
WSMR	White Sands Missile Range
WTS	White Sands Technical Services

Executive Summary

This report provides information regarding the closure of the Liquid Propellant Evaporation/Neutralization Pits, Solid Waste Management Units (SWMUs) 92A, 92B, 93, 94, 95, 96, 97, 98, 99 and 100 (92A/B through 100), located at the Liquid Propellant Storage Area (LPSA) on the White Sands Missile Range (WSMR). These units have also been referred to as WSMR-11 and compliance-related cleanup site CCWS-71. The unit closures meet the Resource Conservation and Recovery Act (RCRA) facility closure performance standards specified in 40 Code of Federal Regulations (CFR) § 265.111 and §265.114, and closure requirements for surface impoundments in 40 CFR §265.228, with no post-closure care required.

The LPSA is located approximately 2.5 to 3 miles east of the Main Post Area on Range Road 210, south of Nike Road, in Doña Ana County, New Mexico (Figure 1). The exact date of construction for the liquid propellant pits is uncertain, but historical reports and drawings document that the pits were constructed circa 1953 (USACE, 1954; ITC (International Technology Corporation), 1992; SEI, 1994). SWMUs 92A/B through 100 were located within a fenced, 63-acre field at the LPSA. They were unlined, and they each measured approximately 20 feet (ft) in diameter by 10 ft deep. The purpose of each pit was to provide secondary containment for a specific product storage area. Products stored at the Site included Inhibited Red Fuming Nitric Acid (IRFNA); petroleum, oil, and lubricants (POL); and liquid propellants such as monomethyl hydrazine (MMH), unsymmetrical dimethyl hydrazine (UDMH), and ammonia (A.T. Kearney, 1988). The pits and associated storage areas were in use until 1995 when they were closed.

SWMUs 92A/B through 100 were listed on the 1989 RCRA permit as SWMUs requiring corrective action. A Phase I RFI (RCRA Facility Investigation) was conducted in 1992 at all 10 SWMUs. With the exception of SMWU 94, no Phase II RFI was required at any of the other SWMUs due to the lack of contamination. A Phase II RFI was conducted at SWMU 94 in 1993 to address detections of benzidine and NDMA (N-Nitrosodimethylamine) in soil at that SWMU during the Phase I RFI. During the Phase II RFI at SWMU 94, groundwater was unexpectedly encountered, and elevated TPH (total petroleum hydrocarbon) concentrations were detected in shallow soils at the unit. However, no benzidine or NDMA were detected in soil at SWMU 94 during the Phase II RFI. The USEPA (United States Environmental Protection Agency) and NMED (New Mexico Environment Department) requested further investigation at SWMU 94 (Appendix A).

In 1995, the pits were closed and materials associated with the drain lines were characterized and disposed (Appendix B). The closure activities included the plugging of the existing storage shed drains leading to each of the respective unlined pits, removing the drain lines, collection of confirmatory soil samples from the pipe trenches, filling in the pipe trenches and pits with soil, and disposal of pipe materials and any impacted soils encountered during closure. Drains were plugged and sealed with concrete grout.

In December 1995, the USEPA issued a Statement of Basis/Final Determination and Response to Comments that approved the WSMR Class III permit modification request to remove 24 SWMUs, including eight of the 10 LPSA SWMUs (SWMUs 92A, 93, and 95 through 100,) from its Corrective Action Permit EPA (Environmental Protective Agency) Identification Number NM2750211235) (Appendix A). This approval did not include SWMUs 92B and 94. In a letter dated April 2000, the USEPA confirmed that these eight SWMUs had been removed from the facility's RCRA permit (Appendix A).

In June 2000, the NMED requested soil sampling for NDMA and DMN (dimethylnitrosamine) (which are identical compounds) at SWMUs 92B and 94 (Appendix A). Based on the regulatory requests following the Phase II RFI at SMWU 94 and the request in the NMED's letter in 2000, supplemental soil samples were collected at these two SWMUs in May 2010. The 2010 soil samples from SWMU 92B were analyzed for NDMA and the soil samples from SWMU 94 were analyzed for NDMA, TPH gasoline range organics (GRO), and TPH diesel range organics (DRO). There were no detections of NDMA reported in any of the soil samples from either SWMU. No TPH-GRO were detected in any of the samples, and only low, estimated concentrations of TPH-DRO were detected in the 0 to 1 ft (5.83J mg/kg) and the 9 to 10 ft (90.3J mg/kg) soil samples from SWMU 94. These TPH concentrations are well below the NMED's regulatory standard of 200 mg/kg for unknown oil. No groundwater was encountered during the 2010 supplemental sampling event.

SWMUs 92A/B through 100 were listed as SWMUs in the previous (1989) RCRA permit. In the current (2009) RCRA permit, these SWMUs are listed in Table 4-4 as Hazardous Waste Management Units requiring closure. The schedule in Table 8-1 of the RCRA permit indicates that a Closure Plan for these SWMUs is required by November 15, 2013. However, during a phone call with Dave Cobrain of the NMED in August 2010, the NMED confirmed that a Closure Plan is not required for sites where there is no indication of a release from the unit or for Hazardous Waste Management Units where no active remedy is required. The NMED indicated that in this case, the permittee may submit a closure report demonstrating that the Site has met the

requirements for closure. This report contains the documentation necessary to demonstrate conformance with the RCRA closure performance standards in 40 CFR §265.111, 40 CFR §265.114, and 40 CFR §265.228, such that no post-closure care is required.

1. Introduction

This report provides information regarding the closure of the Liquid Propellant Evaporation/Neutralization Pits, Solid Waste Management Units [SWMUs] 92A, 92B, 93, 94, 95, 96, 97, 98, 99, and 100 (92A/B through 100), located at the LPSA on the White Sands Missile Range (WSMR). These units have also been referred to as WSMR-11 and compliance-related cleanup site CCWS-71. The unit closures satisfy the requirements for a RCRA facility closure, as specified in 40 Code of Federal Regulations (CFR) § 265.111 and §265.114.

The closure performance standard in 40 CFR §265.111 requires the owner or operator of the facility to close the facility in a manner that:

- Minimizes the need for further maintenance; and,
- Controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere; and
- Complies with the closure requirements of 40 CFR §265.228 for a surface impoundment.

The regulation in 40 CFR §265.114 states that, during the partial and final closure periods, all contaminated equipment, structures and soil must be properly disposed of, or decontaminated.

The closure requirements for surface impoundments in 40 CFR §265.228 require that, at closure, the owner or operator must:

- Remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste, as applicable; or,

- Close the impoundment and provide post-closure care for a landfill.

The purpose of this report is to demonstrate that the ten SWMUs at the LPSA were closed in a manner that meets the closure performance standard in 40 CFR §265.111, the requirements for decontamination and removal of associated equipment, structures, and soil in 40 CFR §265.114, and the requirements of 40 CFR §265.228 such that no post-closure care is required.

2. Background Information

2.1 Description and Operational History

The LPSA is located approximately 2.5 to 3 miles east of the Main Post on Range Road 210, south of Nike Road, in Doña Ana County, New Mexico (Figure 1). The exact date of construction for the liquid propellant pits is uncertain. Although the RCRA Facility Assessment (RFA) conducted in 1988, stated that nine liquid propellant pits were constructed at the Site in 1958 (A.T. Kearney, 1988), there are as built drawings showing that at least six of the pits had been constructed by September 1954 (USACE, 1954). The Phase I and Phase II RFI reports published in 1992 and 1994, respectively, stated that there were ten former liquid propellant pits that were constructed and placed into operation in 1953 (ITC, 1992; SEI, 1994).

The pits were located within a fenced, 63-acre field at the LPSA. They were unlined, and they each measured approximately 5 feet (ft) wide by 15 ft long (at the base) by 10 ft deep. The sides were sloped so that the dimensions at ground surface were larger than the base. The purpose of each pit was to provide secondary containment for a specific product storage area. Products stored at the Site included IRFNA; POL; and liquid propellants such as monomethyl hydrazine (MMH), UDMH, and ammonia (A.T. Kearney, 1988). The pits and associated storage areas were in use until 1995 when they were closed. Based on visual inspections conducted by a representative of Zia Engineering and Environmental Consultants, LLC (Zia) (personal communication, B. Davis, January 27, 2011), there are no active operations at the Site with the exception of an occupied administrative building east of the former pits area and a Range Residue Accumulation Point located west of the former pits.

2.2 Regulatory History

SWMUs 92A/B through 100 were listed as SWMUs in Appendix III of the 1989 RCRA permit. All 10 SWMUs are listed as Hazardous Waste Management Units requiring

closure in Table 4-4 of the current (2009) RCRA permit. The schedule in Table 8-1 of the RCRA permit indicates that a Closure Plan for these SWMUs is required by November 15, 2013. However, in August 2010 the NMED stated that, if there is no sign of a release from the units, WSMR may submit a closure report without first submitting a Closure Plan (personal communication with D. Cobrain, August 2010).

A Phase I RFI was conducted at each of the ten SWMUs. Due to the presence of benzidine in surface soil above the proposed regulatory standard and because there was visual and olfactory evidence of a potential release to soil at SWMU 94, the report recommended a Phase II RFI at SWMU 94. In addition, the report recommended the installation of liners in the ten active pits and discontinuation of the RFI process for all of the remaining LPSA SWMUs unless a release was reported prior to installation of the liners (ITC, 1992).

The NMED issued a letter on January 22, 1993 that concurred with the recommendations in the Phase I RFI report for SWMUs 92A/B through 100 (Appendix A). The U.S. Environmental Protection Agency (USEPA) conducted a technical review of the *Final Phase I RFI Report for Appendices II, III, and IV SWMUs* and issued a Notice of Deficiency (NOD) dated March 11, 1993. On July 7, 1993, the USEPA issued a letter to address WSMR's response to that NOD (Appendix A). In this letter, the USEPA concurred with the RFI report's conclusion of No Further Action (NFA) for SWMUs 92A, 93, and 95 through 100, but required a Phase II RFI investigation for SWMUs 92B and 94. EPA issued its final approval of the Phase I RFI Report for Appendix II, III, and IV SMWUs in a letter dated October 15, 1993 (Appendix A).

In a letter dated October 12, 1993 to the USEPA, WSMR requested a Class III Permit Modification to remove the 24 SWMUs identified in the USEPA's letter of September 3, 1993 as not requiring further investigative action from the WSMR permit. These 24 SWMUs included the 10 LPSA pits (Appendix A).

A Phase II RFI was conducted between 1993 and 1994 at SWMU 94 to further evaluate potential contamination identified during the Phase I RFI. Four 15-ft deep borings were advanced at the corners of the pit, and one 30-ft boring was drilled in the center of the pit. Neither benzidine nor N-nitrosodimethylamine (NDMA) was detected above reporting limits (RLs) in any of the soil samples, but elevated TPH concentrations were detected in the upper 5 ft of soil. A saturated sand was encountered unexpectedly at 26.5 ft below ground surface (bgs) in the central 30-ft boring (0094SB05), and a water sample was collected from inside the drilling auger. Some total, unfiltered metals concentrations in the sample exceeded regulatory

standards, but no dissolved metals were detected. This method of groundwater sampling is not representative of true groundwater conditions and the data cannot be accepted as valid for purposes of evaluation. The Phase II suggested that a Corrective Measures Study (CMS) be conducted to evaluate the removal of the TPH-contaminated soil at SWMU 94, but because no dissolved metals were detected in the groundwater encountered, NFA was recommended for groundwater (SEI, 1994).

In a letter dated May 1995, the EPA stated that, based on its review of the Phase II RFI report, the contaminant concentrations in groundwater were based on total, unfiltered levels and represented a release from SWMU 94. EPA concurred with the recommendation to conduct a CMS once the extent of groundwater contamination was determined (Appendix A).

In a letter dated September 4, 1996, the NMED stated that, based on its review of the Phase II RFI report, a third phase of investigation was required to complete the nature and extent of contamination at SWMU 94 and that WSMR was required to submit an addendum to the Phase II report to respond to comments and concerns associated with SWMU 94. Specifically, the NMED wanted an explanation for why benzidine and NDMA, which were detected in soil during the Phase I RFI, were not detected during the Phase II RFI. In addition, the letter stated that the investigation of groundwater was insufficient and collection of water from the augers was not a verifiable sampling technique (Appendix A).

In June 1995, all ten pits were closed. The Close Out Report, dated August 30, 1996, stated that the drains were plugged, the drain lines and a small amount of contaminated soil were removed, soil was sampled along the pipe chases, and the pits and trenches for the former pipes were backfilled. This Close Out Report is included in Appendix B of this report. The closure activities are described in detail in Section 2.5.

In December 1995, the USEPA issued a Statement of Basis/Final Determination and Response to Comments that approved the WSMR Class III permit modification request to remove 24 SWMUs, including SWMUs 92A, 93, and 95 through 100, from its Corrective Action Permit (EPA Identification Number NM2750211235) (Appendix A). This approval did not include SWMUs 92B and 94.

On March 27, 2000, WSMR requested confirmation that the Class III Permit Modification issued by the EPA to WMSR in December 1995 removed 24 SWMUs from the Hazardous and Solid Waste Amendments (HSWA) portion of the WSMR RCRA Permit. In a letter dated April 28, 2000, the EPA confirmed that the notice of

decision to remove the 24 SWMUs from the permit was issued on November 29, 1995 and that the decision became effective on December 29, 1995. At the time that the decision document was issued, the EPA was authorized to implement HSWA. On January 1, 1996, the NMED was authorized to implement HSWA. The EPA's letter states that although the EPA removed the 24 SWMUs from the permit, that action did not preclude the NMED from initiating Class III Permit Modifications to reinstate those SWMUs back into the permit should cause exist to do so (Appendix A).

In a letter dated June 6, 2000 from the NMED regarding the 1999 Annual Unit Audit (AUA), the NMED requested confirmatory sampling for the nitrosamines NDMA and DMN at SWMUs 92B and 94 (Appendix A). It should be noted that NDMA and DMN are the same compound. Based on this request and comments received from the regulators on the Phase I and Phase II RFI reports, supplemental soil sampling was conducted at SWMUs 92B and 94 in 2010. The supplemental soil sampling activities and results are discussed in detail in Sections 3 and 4 of this report. No groundwater was encountered during this supplemental sampling effort.

2.3 Environmental Setting

2.3.1 Topography and Surface Drainage

The majority of WSMR property, including most test facilities, is located within the Tularosa Basin (U.S. Dept. of the Army, 1998). The Tularosa Basin is a north-south oriented, closed basin at an average elevation of 4,000 feet above mean sea level (ft amsl). The valley floor has minimal topographic relief and surface features consist of flat sandy areas, sand dunes, basalt flows, and playas (dry lake beds). The LPSA of WSMR is located near the Main Post at the southwestern corner of the installation, approximately 27 miles east-northeast of Las Cruces, NM and 45 miles north of El Paso, TX (Figure 1) (WTS, 2006a; ARCADIS, 2010a).

Figure 3 depicts the regional topography of the basin in the vicinity of WSMR. The Tularosa Basin is bounded on west side by the San Andres Mountains, San Augustin, and Oscura Mountains and on the east side by the Sacramento Mountains. WSMR covers an area that includes parts of Doña Ana, Socorro, Lincoln, Otero, and Sierra Counties, New Mexico. The Jarilla Mountains occur as minor topographic uplift on the southeastern side of the basin floor. Peaks on the eastern side of the basin reach elevations of nearly 12,000 ft amsl (Sierra Blanca Peak), whereas peaks on the western side of the basin reach elevations of just 9,000 ft amsl (Salinas Peak). A

topographic divide separates the Tularosa Basin from the Hueco Basin to the south (ARCADIS, 2010a).

A site-specific topographic map is provided as Figure 4. Based on this map and as-built drawings for the facility (USACE, 1954), the ground surface within the fenced area of the facility where the pits were located slopes downward to the east-northeast from an elevation of approximately 3996 to 3975 ft amsl.

The Tularosa Basin is internally drained with no surface water outlets. Ephemeral streams (arroyos) drain from the west into the Tularosa Basin and generally exhibit meaningful flow after heavy precipitation events. Perennial streams predominantly drain from the east into the Tularosa Basin. Most surface drainage is toward the center of the basin.

Very little permanent surface water exists at WSMR due to the low annual precipitation, high evapotranspiration rates, and high infiltration characteristics of the soil. During the summer season, when thunderstorm activity is most common, playas within the basin may contain standing water. Arroyos which drain the surrounding mountains usually contain water only following heavy precipitation events (ARCADIS, 2010a).

2.3.2 Geology

WSMR lies within the Mexican Highland Section of the Basin and Range Province, which is characterized by a series of tilted blocks forming longitudinal, asymmetric ridges or mountains and broad intervening basins. The geology of WSMR consists predominantly of the Tularosa Basin and surrounding mountain ranges. The Tularosa Basin contains thick sequences of Tertiary and Quaternary age alluvial and bolson-fill deposits, which are coarse- to fine-grained unconsolidated sediments. These sediments, more than 5,000-ft thick in some areas, consist mainly of silt, sand, gypsum and clay weathered from the surrounding mountain ranges (WTS, 2006).

The nature of the bolson-fill deposits varies both laterally and vertically throughout the Tularosa Basin. Coarse-grained, poorly-sorted sediments deposited near mountain fronts grade into fine-grained, well sorted sediments toward the center of the basin (Kelly, 1973). Sediments further from the mountain fronts also contain a greater percentage of clay and gypsum. Vertically, the sediments are reported to become finer-grained and more consolidated until reaching a laterally continuous clay unit at about 1,000 feet below ground surface (ft bgs) (WTS, 2006)

In general, the stratigraphy is represented by unconsolidated to partially consolidated, fine to medium-grained sand with subordinate amounts of clay. Caliche is present as discrete layers and nodules throughout the stratigraphic section. Although no faults within the basin-fill are mapped within the immediate area, Quaternary faulting is known to exist within the region. These faults are reported to occur within the unconsolidated bolson sediments, trend north to south, and are most common near the mountain fronts. The Organ Mountain Fault is located approximately 2.5 to 3 miles west and southwest of the LPSA facility, and the Artillery Range Fault is located approximately 4 to 4.5 miles south-southwest of the facility; no faults are located on-site or in the immediate vicinity of the site (WTS, 2006).

The LPSA is situated on the western edge of the Tularosa Basin on the distal portion of the alluvial fan complex extending to the west from the Organ Mountains (Figure 3). Shallow site-specific geology can be further characterized based on the soil borings advanced during the Phase I RFI (ITC, 1992) and 2010 supplemental soil sampling activities. Additional stratigraphic details regarding the local geology are characterized based on lithologic logs for two regional groundwater monitoring wells T-27 and T-28 (predecessor well to T-28A), each located approximately 560 ft south-southeast of the former liquid propellant pits (Figure 2) (USGS, 1985). Lithologic logs for the on-site shallow soil borings are included in Appendix C. Deposits encountered in the area of the LPSA are generally comprised of poorly-sorted and unconsolidated coarse to fine-grained deposits with caliche nodules and interbeds of clay, typical of alluvial fan deposits.

2.3.3 Hydrogeology

The primary aquifer systems of the Rio Grande rift region are comprised of: 1) thin Upper Quaternary fluvial deposits of the inner Rio Grande Valley (valley-fill aquifer system); and 2) the thick sedimentary fill of intermontane basins (basin-fill aquifer system). The Upper Cenozoic Santa Fe Group forms the bulk of the latter unit. The hydrogeologic framework is formed by: 1) the lithofacies and stratigraphic subdivisions of these two aquifer systems; and 2) associated rift – basin and range structures. This framework has a profound influence on groundwater and surface water flow and quality in the entire region. Valley- and basin-fill aquifer systems are locally linked with respect to both surface and subsurface flow (ARCADIS, 2010b)

The shallow subsurface (to depths up to 40 feet below ground surface) at the LPSA facility is generally characterized by soil borings advanced during Phase I RFI (ITC, 1992) and 2010 supplemental soil sampling activities. As shown on the soil boring logs

in Appendix C, sediments in the upper 40 ft at the site consist of sand, silt, and lean clay. The boring log for test well T-27 documented sediments consisting of clay and silty clay with caliche from the surface to a depth of 260 ft bgs (USGS, 1985).

2.3.3.1 Regional Aquifer

A topographic surface divide separates the Tularosa Basin from the Hueco Basin to the south along the New Mexico and Texas state line, as shown on Figure 3. However, the two basins are generally considered a continuous Regional Aquifer (Tularosa-Hueco Aquifer System) (ARCADIS, 2010a).

Groundwater flow is generally toward the basin center from the basin margins with an axial pattern of southward flow along the western, deepest side of the basin. The average linear groundwater velocity at the regional water table is highest in the northern basin (more than 25 feet per day [ft/day]), moderate along the basin margins (approximately 5 ft/day), and lowest in the basin center (less than 1 ft/day) (ARCADIS, 2010a).

2.3.3.2 Local Groundwater Conditions

On September 14, 2010, water levels in nearby Test Wells T-27 and T-28A (Figure 2) were measured at 164.20 and 157.05 ft bgs, respectively. Based on ground level elevations provided in the 1999 groundwater survey, the elevation of the potentiometric surface in the vicinity of the LPSA is approximaterly 3,811 ft amsl. The groundwater flow in the area of the LPSA is easterly to southeasterly (MEVATEC, 2000). Although groundwater was unexpectedly discovered during soil sampling activities at SWMU 94 in 1993 (SEI, 1994), no groundwater was encountered during the supplemental soil sampling activities conducted in 2010.

2.3.4 Groundwater Use

Potable water at WSMR is largely confined to alluvial fans along the mountain ranges in the basin. Water quality decreases as it moves away from the mountain fronts and mixes with slower moving brackish water at the basin interior. The LPSA, located near the Main Post Area, does not produce or utilize potable water (ARCADIS, 2010a). According to a representative of Zia (personal communication, B. Davis, January 27, 2011), potable water for the LPSA is piped from the Main Post through supply lines that run parallel along Nike Avenue to the facility and continue westward to other portions of the Range.

2.4 Investigative History

An RFA was conducted at the LPSA pits in 1988, followed by a Phase I RFI at SWMUs 92A/B-100 in 1992, and a Phase II RFI at SWMU 94 in 1993. Supplemental sampling was conducted at SWMUs 92B and 94 in 2010, as discussed in Section 4, to address the NMED's comments on the investigation results for these two SWMUs. Soil sampling locations for the Phase I and Phase II investigations are depicted on Figure 5, and the supplemental soil sampling locations are shown on Figure 6. A summary of analytical data for soil samples collected at each SWMU is provided as Table 1.

2.4.1 RFA (A.T. Kearney, 1988)

The 1988 RFA report documented three historical releases at SWMUs 92 through 100:

- In 1956, 3,420 liters (L) of IRFNA;
- In 1975, nine L of UDMH were spilled at an undisclosed location; and,
- In 1987, 12 to 15 gallons (gal) of IRFNA were spilled while filling drums from a storage tank. The spill was flushed to the containment pit, diluted, and neutralized.

In addition, the RFA stated that the pit associated with the IRFNA tanks was used occasionally to neutralize nitric acid spills. This pit was covered with a layer of lime so that any spilled acid that was collected and pumped into the pit would be neutralized as it percolated through the lime layer. It should be noted that the RFA did not provide specific information on the locations of the spills or pit used to neutralize acid. The RFA concluded there was a high potential for soil impact based on the three documented historic releases into one or more of the pits and the fact that the pits were unlined and recommended an RFI to investigate potential impacts to soil.

2.4.2 Phase I RFI (ITC, 1992)

A Phase I RFI was conducted in 1992 at SWMUs 92A/B-100 to assess any potential soil impact from routine wash-down or run-off from the associated sheds. The units were still active during the Phase I investigation. Contaminants potentially released at SWMUs 92A/B-100 include IRFNA, constituents related to POLs, and liquid propellants. Sampling locations are shown on Figure 5. A table summarizing the soil

analytical data for each SWMU is included as Table 1. Soil boring logs are included in Appendix C.

Phase I field investigation activities conducted at each SWMU consisted of;

- A five-point soil vapor survey (SVS) including one point in the center of the pit and four points around the perimeter. SVS samples were collected 5 to 7 ft bgs.
- A 30-ft soil boring in the center of the pit with samples collected at 5, 10, 15, 20, 25, and 30 ft bgs.
- A surface soil composite sample.
- Visual observations and PID (photoionization detector) readings.

A 25-ft background boring was also drilled, with samples collected at 5, 15, and 25 ft. Soil samples were analyzed for VOCs (volatile organic compounds), SVOCs (semi-volatile organic compounds), total metals, and corrosivity (pH).

Results of the Phase I RFI soil investigation were compared to the then proposed Subpart S action levels in the Phase I RFI report. With the exception of one constituent concentration at SWMU 94, none of the constituent concentrations exceeded the proposed Subpart S action levels in soil at any of the SWMUs. The Phase I reported slightly elevated carbon dioxide (CO_2) detections in the SVS results at SWMUs 95, 96, 98, and 99, and significantly elevated CO_2 detections at SWMU 94, indicating that organic constituents may have been present in the soil. However, there were no odors or visible indications of a release at any of the SWMUs except for SWMU 94 where discolored soils and odors were noted during drilling and SWMU 99 where there was a white crust on the surface soil with a pH of 9.3 standard units (s.u.). At SWMU 94, benzidine was detected at a concentration of 3.3 milligrams per kilogram (mg/kg), which was above the proposed Subpart S level of 0.003 mg/kg. A trace concentration of NDMA was also detected in one soil sample from SWMU 94. No other constituents were detected above the proposed Subpart S levels in soil from SWMU 94.

The Phase I RFI concluded that there was no significant release or threat to human health or the environment from and recommended NFA for SWMUs 92A/B, 93, and 95-100 (among other non-LPSA sites). It was recommended that a Phase II RFI be conducted at SWMU 94 to verify the Phase I RFI results, which were determined to be inconclusive. In addition, the report recommended that all ten units be upgraded by

installing liners. Further, the report stated WSMR should request a Class 3 permit mod to terminate the RFI/CMS process for these SWMUs unless a release occurred prior to installation of the liners.

In a letter dated July 7, 1993, the USEPA stated that silver and arsenic concentrations at SWMU 92B were above their respective maximum contaminant levels (MCLs) and that a Phase II RFI was required at this unit. It should be noted that only soil vapor and soil samples were collected during the Phase I RFI and, therefore, the Drinking Water Standards (MCLs) referenced by the USEPA would not apply to concentrations in soil. The USEPA also stated that, because benzidine was present in soil at SWMU 94 above the proposed Subpart S action level, a Phase II RFI was required there. The EPA concurred with the design recommendations (i.e., to line the pits), for all ten active units (Appendix A). In letters dated January 22, 1993 and October 15, 1993, the NMED and USEPA, respectively, approved the Phase I RFI report and its recommendations and findings (Morgan, 1993 and Honker, 1993b, Appendix A).

2.4.3 Phase II RFI (SEI, 1994)

A Phase II RFI was conducted between 1993 and 1994 to further evaluate potential contamination identified during the Phase I at SWMU 94 and determine if any corrective measures were necessary. As part of the Phase II RFI, a total of 22 soil samples were collected from SWMU 94. Sampling locations are shown on Figure 5. Soil boring logs are included in Appendix C. Analytical data for samples collected during the Phase II investigation are included in Table 1.

A total of five soil borings were advanced; one 30-foot boring (0094SB05) in the center of the pit sampled at 0-1, 4-5, 9-10, 14-15, 19-20, 24-25, and 28-28.5' below ground surface, and four borings (0094HA01through 0094HA04) located at each of the corners of the pit sampled at 0-1, 4-5, 9-10, and 14-15' below ground surface, with the exception of 0094HA01 which was only advanced to a depth of 10' due to auger refusal. Soil samples were analyzed for VOCs, SVOCs, TPH, pesticides, polychlorinated biphenyls (PCBs), and RCRA 8 metals.

The Phase II report concluded that five VOCs were detected: chloroform, total xylenes, 1,3 dichlorobenzene (m-dichlorobenzene), acetone, and 1,2,3-trichloropropane, all at concentrations below Subpart S action levels with the exception of 1,3-dichlorobenzene that did not have an action level. Neither benzidine nor N-nitrosodimethylamine was detected above laboratory RLs in any of the samples. TPH concentrations were detected in 17 of the 22 soil samples collected. TPH

concentrations were detected above the 1993 New Mexico Land Disposal Standard (LDS) in all of the 0 to 1 ft samples and in the 4 to 5 ft sample in the center soil boring. No other TPH concentrations exceeded the LDS. There were no pesticides or PCBs detected.

The Phase II work plan did not provide for groundwater samples to be collected at SWMU 94. However, during the advancement of the 30' boring (0094SB05), a saturated sand zone was encountered at 26.5 feet below ground surface. A borehole (grab) water sample was collected and analyzed for VOCs, SVOCs, TPH, pesticides, PCBs, and total/dissolved RCRA 8 metals. Due to the amount of suspended sediment, the samples collected for TPH and total metals could not be preserved to the proper pH. There were no detections of VOCs, SVOCs, TPH, pesticides, or PCBs. Arsenic (total and dissolved), barium (total and dissolved), and total Cd, Cr, Pb, Hg, and Ag were detected in the sample. The total, unfiltered levels of As, Cd, Cr, Pb, and Ag exceeded the 1993 Federal/State MCLs. All concentrations of dissolved metals were below the MCLs.

The Phase II report concluded that the only constituent present at a concentration above regulatory standards in any of the soil samples collected from SWMU 94 was TPH. Elevated concentrations of TPH were present in soils from approximately 0 to 5 feet below ground surface. The Phase II suggested that a CMS be conducted to evaluate the removal of the contaminated soil. The Phase II report also concluded that the presence of shallow groundwater at SWMU 94 was unexpected, there were no elevated constituents except metals in suspended solids, and recommended NFA for groundwater.

In a letter dated May 1995, the EPA stated that based on its review of the Phase II RFI report, the contaminant concentrations in groundwater were based on total, unfiltered levels and represented a release from SWMU 94. EPA concurred with the recommendation to conduct a CMS (Appendix A).

In a letter dated September 3, 1996, the NMED stated that, based on its review of the Phase II RFI report, a third phase of investigation was required to complete the nature and extent of contamination at SWMU 94 and that WSMR was required to submit an addendum to the Phase II report to respond to comments and concerns associated with SWMU 94. Specifically, the NMED wanted an explanation for why benzidine and NDMA, which were detected in soil during the Phase I RFI, were not detected during the Phase II RFI. In addition, the letter stated that the investigation of groundwater was

insufficient and collection of water from the augers was not a verifiable sampling technique (Appendix A).

2.5 Close Out/Removal Activities (Dow, 1996)

In 1995, activities were undertaken at SWMUs 92A/B through 100 to close out the units, and characterize and dispose of materials associated with them. The 1996 Close Out Report is included in its entirety with this report as Appendix B. The scope of work included the plugging of the existing storage shed drains leading to each of the respective unlined pits, removing the drain lines, collection of confirmatory soil samples from the pipe trenches, filling in the pipe trenches and pits with soil, and disposal of pipe materials and any impacted soils encountered during closure. Drains were plugged and sealed with concrete grout. Drain lines were sampled and characterized, and properly disposed of in the WSMR landfill (terra cotta pipe) or scrap yard (metal pipe). Soils excavated during the drain pipe removal were stockpiled and sampled for TPH, VOCs, and SVOCs prior to backfilling into the trenches. A summary of analytical data used to characterize the materials from each SWMU is included as Table 2. Sample locations are denoted in the Close Out Report as Figures 3-2 and 3-3 in Appendix B. A small area of soils containing TPH were identified and removed for disposal in the WSMR landfill. Soil that was not impacted and removed from the trenches and clean fill material were used to backfill the pipe trenches. Clean fill was used to fill in the pits. After backfilling was complete, all areas were bladed smooth and stabilized with mulch and native grass seed.

3. Supplemental Soil Sampling Activities

Based on historical correspondence, there was regulatory concurrence that investigations at SWMUs 92A, 93, and 95 through 100 had been completed and there was no indication of a release from these SWMUs (Appendix A). The Phase II RFI report stated that results of the investigations at SWMU 94 were inconclusive and both the NMED and EPA requested further evaluation of this SWMU. In a letter dated June 6, 2000, NMED stated that it was not in agreement with the NFA determination for SWMUs 92B and 94 and required confirmatory sampling for the nitrosamines, NDMA and DMN in soils at those SWMUs (Appendix A). It should be noted that NDMA and DMN are synonymous and represent the same compound. The purpose of the supplemental soil sampling activities described below was to address the regulatory comments related to SWMUs 92B and 94 and to achieve final closure.

3.1 Field Activities

The supplemental sampling and data collected activities were performed in 2010 and are described in this section. These methodologies only apply to the 2010 data and do not necessarily represent historical methodologies or data validation. The historical methodologies and data validation procedures were reported on and approved by the NMED and EPA in the Phase I and Phase II RFI reports.

3.1.1 Utility Clearance

Prior to any soil sampling activities, the areas around the proposed soil boring locations were cleared for any underground utilities. Historical utility construction and design plots were reviewed and personnel knowledgeable in site operations provided verification that there were no underground utilities in the vicinity of the boring locations. WSMR utility representatives (i.e., gas, water/sewer, electrical, and communications) signed off on the utility clearance form prior to the initiation of field activities.

3.1.2 Soil Sample Collection and Field Screening Procedures

In order to assess current soil conditions at SWMUs 92B and 94, soil samples were collected from one central boring at each SWMU on May 11, 2010. Sampling locations are shown on Figure 6.

Soil samples were collected using a CME-75 hollow-stem drill rig equipped with 4.25-inch inner diameter augers. Soil samples were collected by advancing five-ft long, three-inch inner diameter core barrels ahead of the hollow-stem augers. Soil cores were collected continuously to the total depth drilled at each location. The boring at SWMU 92B (92BSB001) was advanced to a total depth of 15 ft, and the boring at SWMU 94 was advanced to a total depth of 40 ft.

The soil cores were examined visually and described according to the Unified Soil Classification System, American Society for Testing and Materials (ASTM) Standard D 2487-83 (ASTM 1985). The following information was recorded on a lithologic boring log for each sampling location: the drilling and sampling methods, data and time that drilling was started and ended, the driller and geologist names, depth of each soil core, soil classifications and descriptions, sampling devices used (i.e., core barrels), amount of soil recovered, the PID readings, ambient air temperature when PID readings were taken, documentation of whether a sample was taken for laboratory analysis, and the

depth at which the sample for laboratory analysis was taken. The boring logs are provided in Appendix C.

Field screening was performed on each of the soil cores from which analytical samples were collected for laboratory analysis. The screening was performed using a MultiRAEPlus Monitor by RAE Systems with a 10.6 electronvolt (eV) lamp and a detection range of 0 to 2,000 parts per million (ppm) and 0.1 ppm resolution. The unit was calibrated, at a minimum, of once per day using a fresh air calibration to zero the unit and a single sensor calibration for VOCs using a 100 ppm isobutylene gas standard, in accordance with the manufacturer's user guide (RAE Systems, date unknown). Aliquots of soil from each soil core were placed into glass sample jars and covered with aluminum foil, and then the jars were placed in the cab of the truck with heater running and allowed to equilibrate for approximately 10 minutes. The heater in the truck was set to run on high to warm the samples. After a period of approximately 10 minutes, the foil on the top of the jar was pierced with the probe portion of a PID and the highest PID measurement from each aliquot of soil was recorded on the boring logs, along with the depth from which the aliquot was obtained. The air temperature within the truck cab at the time the PID reading was taken was recorded on the boring log.

Soil samples were collected from a separate aliquot of the soil core than that used to record headspace readings with the PID. Each aliquot of soil was placed into laboratory provided sample jars. The jars were labeled with the location, depth interval, date, time and requested analyses. Samples were then placed into a cooler with ice for later shipment to the laboratory.

A total of five soil samples (including one duplicate) were collected from the boring at SWMU 92B (LPSA-92B-SB001) at depths of 0 to1, 4 to 5, 9 to 10, and 14 to15 ft bgs. The boring at SWMU 94 (LPSA-0094-SB001) was planned to be a 35 ft deep soil boring. However, because an odor was noted in soil from the 30 to 35 ft core, the boring was advanced an additional five feet to 40 ft bgs and an additional sample was collected. A total of 10 soil samples (including one duplicate) were collected from the boring at SWMU 94 at depths of 0 to1, 4 to 5, 9 to 10, 14 to15, 19 to 20, 24 to 25, 29 to 30, 34 to 35, and 39 to 40 ft bgs.

3.1.3 Decontamination Procedures

The augers were decontaminated prior to each use using high pressure water. The augers are washed over a small stock tank, and the collected rinse water is allowed to

evaporate from the tank. All other equipment, including core barrels, sampling utensils, and other non-disposable equipment, was decontaminated between each sample with a phosphate-free detergent solution (e.g., Liquinox®) and a distilled water rinse.

3.1.4 Field Quality Control Samples

The field quality control (QC) samples collected during the May 2010 sampling event included one equipment rinsate blank (LPSA-0094-RB001(19-20)), and two field duplicate samples, one from SWMU 92B (LPSA-0092B-SB101(14-15)) and one from SWMU 94, (LPSA-0094-SB001(19-20)).

The equipment rinsate blank was collected by pouring distilled water over a core barrel that had been decontaminated and catching the rinsate in the appropriate laboratory containers. The equipment rinsate blank was analyzed for the same parameters as the primary soil samples. The results for the equipment rinsate blank are included in the laboratory report for Work Order 1005099 in Appendix D. No TPH-GRO or NDMA were detected in the equipment blank sample, and only an estimated concentration (0.0824J mg/L) of TPH-DRO was detected in the equipment blank.

Field duplicates were obtained by collecting an aliquot of soil from the same portion of the soil core as a parent sample. The field duplicate samples were analyzed for the same parameters as the parent sample. The results of the field duplicate samples are included in Table 1.

3.1.5 Sample Handling and Shipping

Samples were handled with new disposable gloves that were replaced prior to use with each sample. After each sample was placed into the appropriate container and labeled, it was placed into a cooler with ice. The ice was double-bagged using plastic zipper bags. Each sample was recorded on a chain-of-custody form with the requested analyses for that sample.

All of the soil samples collected from the soil borings at SWMUs 92B and 94 were submitted to the laboratory under proper chain-of-custody. Shipping containers were sealed with a custody seal, and then shipped to the laboratory via overnight courier. None of the custody seals had been broken upon receipt at the laboratory. Copies of the shipping labels and chain-of-custody records are included in the analytical laboratory reports in Appendix D.

3.1.6 Analytical Tests Requested

The samples were submitted to DHL Analytical of Austin Texas, a laboratory accredited by the National Environmental Laboratory Accreditation Conference (NELAC) and Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP).

Samples collected from the boring located at SWMU 92B on May 11, 2010 (Boring 92BSB001) were analyzed for NDMA by USEPA Method 8270C.

Samples collected from the boring located at SWMU 94 on May 11, 2010 (Boring 94B001) were analyzed for the following:

- TPH-GRO by USEPA Method 8015V;
- TPH-DRO by USEPA Method 8015D; and
- NDMA by USEPA Method 8270C.

The equipment rinsate blank was also analyzed for NDMA, TPH-GRO, and TPH-DRO.

3.1.7 Abandonment of Borings

The boreholes drilled on May 11, 2010 were plugged with a grout mixture composed of type III Portland cement, bentonite gel and potable water. Grout was placed into the boring using a tremie pipe set at the bottom of the borehole to ensure adequate plugging of each hole.

3.1.8 Waste Handling

Miscellaneous trash (drinking water bottles, shipping boxes, paper trash, etc.) that did not come into contact with soil or decontamination equipment was containerized and disposed of as solid waste.

Investigation derived waste (IDW) generated during the sampling events included soil cuttings, decontamination fluids, disposable gloves, plastic sheeting, aluminum foil, and other materials that came into contact with either the soil or decontamination equipment and liquids. Soil cuttings generated during the investigation activities at SWMUs 92B and 94 were containerized in a 1 cubic yard pallet box and totaled 1,320

pounds. The remaining wastes generated (a total of 3 pounds), including personal protective equipment (PPE), were containerized in a 2.5 gallon bucket. Both containers were labeled with the date, contents, and point of contact and transported to the Waste Management Center (WMC) pending characterization.

A waste characterization sample of the soil (LPSA-0094-WC001-20100511) was collected and analyzed for VOCs using USEPA Method 8260B, SVOCs using USEPA Method 8270C, and RCRA 8 metals by USEPA Method 6020 (except for mercury by USEPA Method 7471A). The results of the waste characterization sample are included in the laboratory report for Work Order No. 1005099 in Appendix D. The results of this sample were used to characterize the PPE and miscellaneous wastes, as well as the soil cuttings. There were no VOCs or SVOCs detected, and the total metals detections were below the NMED SSLs and the 20X rule for being characteristically hazardous. Therefore, the soil and PPE waste were characterized as non-hazardous wastes. The waste was managed at the WMC under waste profile numbers 2010225 and 2010226 (Appendix E).

3.1.9 Survey

Following the completion of the soil borings, the physical locations for 92BSB001 and 94SB001 were recorded with hand held global positioning system (GPS) units. Latitude/longitude measurements were collected using a Trimble GeoXT, and northings/eastings were collected using a Magellan SportTrak (Figure 6).

3.2 Data Evaluation

3.2.1 Regulatory Criteria

All soil data collected during the Phase I RFI at SWMUs 92A/B-100, the Phase II RFI at SWMU 94, and the supplemental sampling event at SWMUs 92B and 94 were evaluated using criteria established by the USEPA and NMED as follows:

- NMED. Technical Background Document for Development of Soil Screening Levels, Revision 5.0. Hazardous Waste Bureau and Groundwater Quality Bureau, Voluntary Remediation Program. August 2009 (with minor revisions December 2009); and

- USEPA. USEPA Regional Screening Levels. December 2009.

Soil data were screened as follows:

- Results for soil samples collected from the upper 10 ft were compared to the residential New Mexico Soil Screening Levels (NMSSLs). If there were no NMSSLs, the data were compared to the EPA SSLs (Soil Screening Levels). Only impacts to soil above risk-based concentrations in the upper 10 ft would represent potential risk to human or ecological receptors.

- All soil data were screened against the NMED Dilution Attenuation Factor (DAF) of 20.

The NMED guidance document for evaluation of TPH (NMED, 2006) provides several screening levels for TPH, depending on the source of the petroleum product. Because the exact nature of the fuels managed at the LPSA is unknown, the SSL for unknown oil was used for evaluation of TPH at SWMU 94. As described in previous sections, soil samples from SWMU 94 were also tested for VOCs and SVOCs, constituents that would generally constitute TPH.

The Site is located near the Main Post Area of WSMR and access to the Site is limited to personnel approved to enter the area. Although this would imply that an industrial/occupational exposure would be appropriate, the residential SSLs were used in order to provide a conservative evaluation of potential impacts.

In addition to the residential SSLs, the SSLs for protection of groundwater due to leaching were used to screen the samples. During drilling, there was no indication of groundwater to the total depth explored of 40 feet bgs. Based on the water levels collected from nearby Test Wells T-27 and T-28A (Figure 2) in September 2010, the depth to groundwater is expected to be greater than 150 feet below ground surface. Because of the expected depth to groundwater and the small (less than 0.5 acre source area for the SWMUs, a DAF of 20 was used to evaluate leaching potential.

It should be noted that historical detection limits were often above one or more of the screening standards. This is not uncommon when comparing historical data to current investigation criteria. The historical detection limits were the lowest achievable detection limits using state-of-the-art laboratory equipment and techniques available at the time.

3.2.2 Data Quality Evaluation

The historical analytical programs (Phase I and Phase II RFIs) included analyses of VOCs and SVOCs. Several of the organic compounds included in the VOC and SVOC analyses are common laboratory contaminants and their detections may not be representative of soil quality.

Acetone and methylene chloride are very common laboratory contaminants and are often reported in soil data as a result of cross-contamination that occurs in the laboratory or during field decontamination. Acetone is used as a solvent in the laboratory for rinsing glassware, and may cause airborne or residual laboratory contamination. It can also be found in isopropanol, which can be used as a solvent rinse for field equipment. Methylene chloride is used as an extraction solvent for SVOCs in the laboratory. Other common laboratory contaminants include carbon disulfide, phthalates, and dichloromethane. Although some of these constituents were detected in soil from the LPSA pits, none exceeded regulatory standards.

The primary data quality objectives (DQOs) for the 2010 supplemental sampling event were to provide representative data usable to characterize site conditions, delineate the nature and extent of affected media (if present), and to support corrective action decisions, as appropriate, at SWMUs 92B and 94. Analytical data was evaluated in accordance with applicable USEPA SW-846 method requirements, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999). The review was conducted as a Tier II data quality evaluation and included review of laboratory data package completeness. A copy of the analytical data reports and the data validation summary reports are provided in Appendix D. The data validation results indicated that all the data are usable and meet the project DQOs.

4. Supplemental Soil Sampling Results

This section provides a summary of the results for the supplemental soil sampling conducted at SWMUs 92B and 94 in May 2010.

4.1 Subsurface Conditions

The boring logs (Appendix C) indicate that the shallow subsurface sediments consist primarily of poorly graded sand with intervals of well-graded fine to medium sand, silt, and clay. Borings 92BSB001 and 94SB001 were advanced to total depths of 15 and

40 ft bgs, respectively. These borings were located in the center of each of the former pits (Figure 6).

As shown in the boring logs, the soils were dry or moist throughout the depth of the investigation. Although saturated sand was encountered at a depth of 26.5 ft bgs in the boring that was advanced in the center of SWMU 94 (94SB001) during the Phase II RFI, no groundwater was encountered during the 2010 supplemental soil sampling event, even though the boring was advanced to 40 feet to determine whether the groundwater identified during the Phase II RFI was present. As discussed in Section 2.3.3.2, the depth to groundwater in the area is expected to be approximately 160 ft bgs, based on water levels measured in nearby Test Wells T-27 and T-28A (Figure 2) in September 2010.

4.2 Soil Sampling Field Screening Results

The PID measurements made during field screening are presented in the soil boring logs (Appendix A). There was only one soil sample from 92BSB001 (14 to 15 ft bgs) where a low level of organic vapors (0.1 parts per million [ppm]) were measured by the PID. Low levels of organic vapors (0.1 to 0.4 ppm) were detected by the PID in seven of the nine sample intervals from boring 94SB001.

4.3 Soil Sampling Analytical Results

The analytical results for all soil samples collected during the previous RFIs and the supplemental sampling event are provided in Table 1. Analytical laboratory reports are provided in Appendix D.

4.3.1 NDMA Analytical Results

All of the soil samples collected from soil borings 92BSB001 and 94SB001 were analyzed for NDMA. There were no detections of NDMA reported in any of the soil samples.

4.3.2 TPH Analytical Results

All soil samples collected from boring 94SB001 were analyzed for TPH-DRO and TPH-GRO. No TPH-GRO were detected in any of the samples. Estimated concentrations of TPH-DRO were detected in the 0 to 1 ft (5.83J mg/kg) and the 9 to

10 ft (90.3J mg/kg) soil samples. These concentrations are well below the NMED's regulatory standard of 200 mg/kg for unknown oil.

5. Summary of Site Conditions

The Phase I and Phase II RFI analytical results were discussed in the RFI reports previously submitted to the USEPA and NMED. These data, in addition to the data collected during 2010 were compared to current regulatory standards (Table 1). Only arsenic, silver, benzidine, and TPH-DRO were detected in any soil samples above the regulatory standards.

The silver concentrations detected in the surface soil and 2 ft sample from SWMU 92B during the Phase I RFI in 1992 exceeded the DAF 20, but deeper samples did not contain any detectable silver, indicating that the detected silver does not represent a significant source that could potentially leach to groundwater. Silver is not known to be associated with the liquid propellants stored at the LPSA and, therefore, is not considered a constituent of concern (COC) related to the wastes stored in this SWMU.

The benzidine concentrations detected in the 0 ft and 2 ft samples from SWMU 94 during the Phase I RFI in 1992 exceeded the residential SSL and DAF 20, but deeper samples from this boring did not have detectable concentrations of benzidine. In addition, no benzidine was detected in any of the soil samples collected from SWMU 94 during the Phase II RFI in 1993, suggesting that the earlier detection was not valid or that the benzidine was no longer present during the Phase II RFI.

TPH-DRO detected in two surface soil samples and a 4 ft sample from SWMU 94 during the Phase II RFI in 1993 exceeded the residential SSL of 200 mg/kg for unknown oil. However, no TPH-related VOCs or SVOCs were detected in these same soil samples. In addition, no TPH-DRO or TPH-GRO were detected in any of the soil samples collected from SWMU 94 in 2010. This information suggests that the TPH-DRO detected in 1993 has likely degraded and is no longer present.

The only other constituent reported above the SSL and/or DAF 20 standards was arsenic. In most of the soil samples collected during the Phase I and Phase II RFIs, arsenic was not detected, but the laboratory reporting limit exceeded the SSL and/or DAF 20. Arsenic is not known to be associated with the liquid propellants stored at the LPSA and, therefore, is not considered a constituent of concern (COC) related to the wastes stored in these SWMUs. There is not a background level established for arsenic at this particular location; however, arsenic occurs naturally within the soils in

the Tularosa Basin. Arsenic is a redox sensitive constituent and it has been shown to occur at elevated concentrations in soils in the Tularosa Basin where reductive conditions exist. Based on this information, the arsenic in the soils at the LPSA site appears to be naturally occurring. Additional information on the occurrence of arsenic in soils within the Tularosa Basin is documented in the Revised Phase III RFI Report – HELSTF (High Energy Laser Systems Test Facility) Sites – Second Revision (ARCADIS, 2010).

6. Conclusions and Recommendations

This report provides information regarding the closure of the Liquid Propellant Evaporation/Neutralization Pits (WSMR-11, CCWS-71, SWMUs 92A/B through 100), located at the LPSA on the WSMR. The unit closures meet the RCRA facility closure performance standards specified in 40 CFR § 265.111 and §265.114, and closure requirements for surface impoundments in 40 CFR §265.228, with no post-closure care required.

Based on the regulatory requests following the Phase II RFI at SMWU 94 and the request in the NMED's letter in 2000, supplemental soil samples were collected at these two SWMUs in May 2010. The 2010 soil samples from SWMU 92B were analyzed for NDMA and the soil samples from SWMU 94 were analyzed for NDMA, TPH-GRO, and TPH-DRO. There were no detections of NDMA reported in any of the soil samples from either SWMU. No TPH-GRO were detected in any of the samples, and only low, estimated concentrations of TPH-DRO were detected in the 0 to 1 ft (5.83J mg/kg) and the 9 to 10 ft (90.3J mg/kg) soil samples from SWMU 94. These TPH concentrations are well below the NMED's regulatory standard of 200 mg/kg for unknown oil. No groundwater was encountered during the 2010 supplemental sampling event.

The absence of contamination detected in soil during the investigation activities, the confirmation that shallow groundwater does not exist beneath the site, and the documented closure of the units indicate that the closure criteria in 40 CFR 264.111, 264.114, and 228 have been met and that no post-closure care is required. Pursuant to communications with the NMED, since no evidence of a release of waste constituents were encountered during the investigations, a Closure Plan is not required (personal communication, D. Cobrain, August, 2010). Therefore, WSMR requests the NMED's approval for NFA and concurrence that a petition should be submitted to change the status of these units in Table 4-4 (Hazardous Waste Management Units) from Closure

Required to Closure Complete and to remove the SWMUs from Table 8-1 of the RCRA permit.

7. References

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Tables

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Table 1. Summary of Soil Sample Analytical Results - SWMU 92A
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID	92ASSORS	92ASO02	92ASO05	92ASO10	92ASO15	92ASO20	92ASO25	92ASO30
					Sample Depth (ft)	0	2	5	10	15	20	25	30
					Date Collected	3/17/1992	3/9/1992	3/9/1992	3/9/1992	3/9/1992	3/9/1992	3/9/1992	3/9/1992
Metals													
Arsenic	7440-38-2	3.9 {NMED ResSoil09}	0.262	mg/kg		***<10***	***<9.3***	***<9.9***	***12***	*<9.5*	*<10*	*<9.9*	*<9.8*
Barium	7440-39-3	15600 {NMED ResSoil09}	6030	mg/kg		25	100	160	77	62	140	37	63
Cadmium	7440-43-9	77.9 {NMED ResSoil09}	27.5	mg/kg		<0.51	<0.46	<0.5	<0.52	<0.48	0.65	<0.5	<0.49
Lead	7439-92-1	400 {NMED ResSoil09}	--	mg/kg		11	9.7	9.6	7.7	12	15	5.4	5.7
Mercury	7439-97-6	7.71 {NMED ResSoil09}	0.587	mg/kg		<0.08	<0.1	<0.1	<0.1	<0.1	<0.09	<0.1	<0.1
Selenium	7782-49-2	391 {NMED ResSoil09}	19.3	mg/kg		<0.52	<0.5	<0.5	<0.51	<0.49	<0.49	<0.5	<0.48
Silver	7440-22-4	391 {NMED ResSoil09}	31.3	mg/kg		<1	<9.3	<0.99	<1	<0.95	<1	<0.99	<0.98
Other													
pH	pH	--	--	pH units		8.0	8.3	8.4	8.2	7.8	7.7	8.6	8.7
Semi-Volatile Organic Compounds													
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil09}	0.205	mg/kg		*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil09}	652	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil09}	0.071	mg/kg		*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil09}	1.43	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil09}	2.74	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil09}	18.2	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil09}	1.05	mg/kg		*<1.7*	*<1.7*	*<1.7*	*<1.7*	*<1.7*	*<1.7*	*<1.7*	*<1.7*
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil09}	0.0312	mg/kg		*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil09}	0.533	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil09}	271	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2-Chlorophenol	95-57-8	391 {NMED ResSoil09}	3.06	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11 {NMED ResSoil09}	0.0785	mg/kg		*<1.7*	*<1.7*	*<1.7*	*<1.7*	*<1.7*	*<1.7*	*<1.7*	*<1.7*
2-Nitrophenol	88-75-5	--	--	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
3,3-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil09}	0.341	mg/kg		*<0.66*	*<0.66*	*<0.66*	*<0.66*	*<0.66*	*<0.66*	*<0.66*	*<0.66*
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120 {NMED ResSoil09}	3.69	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
4-Bromophenyl Phenyl Ether	101-55-3	--	--	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
4-Chloro-3-Methylphenol	59-50-7	--	--	mg/kg		<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950 {NMED ResSoil09}	7.58	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4-Nitrophenol	100-02-7	--	--	mg/kg		<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
Acenaphthene	83-32-9	3440 {NMED ResSoil09}	410	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Acenaphthylene	208-96-8	--	--	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Anthracene	120-12-7	17200 {NMED ResSoil09}	6,739	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzidine	92-87-5	0.0211 {NMED ResSoil09}	0.000250	mg/kg		***<1.7***	***<1.7***	***<1.7***	***<1.7***	*<1.7*	*<1.7*	*<1.7*	*<1.7*
Benzo(a)Anthracene	56-55-3	6.21 {NMED ResSoil09}	6.39	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(a)Pyrene	50-32-8	0.621 {NMED ResSoil09}	2.17	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(b)Fluoranthene	205-99-2	6.21 {NMED ResSoil09}	22.2	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(g,h,i)Perylene	191-24-2	--	--	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Benzo(k)Fluoranthene	207-08-9	62.1 {NMED ResSoil09}	217	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 92A
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	92ASSORS 0 3/17/1992	92ASO02 2 3/9/1992	92ASO05 5 3/9/1992	92ASO10 10 3/9/1992	92ASO15 15 3/9/1992	92ASO20 20 3/9/1992	92ASO25 25 3/9/1992	92ASO30 30 3/9/1992
Semi-Volatile Organic Compounds													
Benzoic Acid	65-85-0	240000 {EPA ResSoil10}	--	mg/kg		<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
Benzyl Butyl Phthalate	85-68-7	2600 {EPA ResSoil10}	--	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Bis (2-Chloroethoxy) Methane	111-91-1	180 {EPA ResSoil10}	--	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Bis(2-Chloroethyl) Ether	111-44-4	2.56 {NMED ResSoil09}	0.000465	mg/kg		*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*
Bis(2-Ethylhexyl)Phthalate	117-81-7	347 {NMED ResSoil09}	238	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Dibenz(a,h)Anthracene	53-70-3	0.621 {NMED ResSoil09}	7.24	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Diethyl Phthalate	84-66-2	48900 {NMED ResSoil09}	212	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Dimethyl Phthalate	131-11-3	611000 {NMED ResSoil09}	1,671	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Di-n-Butyl Phthalate	84-74-2	6110 {NMED ResSoil09}	173	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Di-n-Octyl Phthalate	117-84-0	--	--	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Fluoranthene	206-44-0	2290 {NMED ResSoil09}	3,108	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Fluorene	86-73-7	2290 {NMED ResSoil09}	500	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Hexachloro-1,3-Butadiene	87-68-3	{NMED ResSoil09}	0.295	mg/kg		*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*
Hexachlorobenzene	118-74-1	{NMED ResSoil09}	0.0441	mg/kg		*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil09}	12.3	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Hexachloroethane	67-72-1	61.1 {NMED ResSoil09}	0.386	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21 {NMED ResSoil09}	73.9	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
m-Dichlorobenzene	541-73-1	--	--	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954 {NMED ResSoil09}	0.0000610	mg/kg		*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*
Nitrobenzene	98-95-3	49.4 {NMED ResSoil09}	0.137	mg/kg		*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*
N-Nitrosodi-N-Propylamine	621-64-7	0.69 {EPA ResSoil10}	--	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil09}	25.8	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil09}	0.587	mg/kg		*<1.7*	*<1.7*	*<1.7*	*<1.7*	*<1.7*	*<1.7*	*<1.7*	*<1.7*
Phenanthrene	85-01-8	1830 {NMED ResSoil09}	1,669	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Phenol	108-95-2	18300 {NMED ResSoil09}	126	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Pyrene	129-00-0	1720 {NMED ResSoil09}	2,238	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Volatile Organic Compounds													
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil09}	59.5	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil09}	0.00450	mg/kg		*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil09}	0.0135	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil09}	0.122	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethylene	75-35-4	618 {NMED ResSoil09}	2.38	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil09}	0.000713	mg/kg		*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil09}	6.27	mg/kg		<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil09}	0.00730	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil09}	--	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,4 Dichloro-2-Butene	764-41-0	0.046 {NMED ResSoil09}	0.000163	mg/kg		*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*	*<0.02*
2-Butanone	78-93-3	39600 {NMED ResSoil09}	25.3	mg/kg		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

(See Notes Page for Qualifiers and Acronyms)

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White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID	92ASSORS	92ASO02	92ASO05	92ASO10	92ASO15	92ASO20	92ASO25	92ASO30
					Sample Depth (ft)	0	2	5	10	15	20	25	30
					Date Collected	3/17/1992	3/9/1992	3/9/1992	3/9/1992	3/9/1992	3/9/1992	3/9/1992	3/9/1992
Volatile Organic Compounds													
2-Chloroethyl Vinyl Ether	110-75-8	--	--	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acetone	67-64-1	67500 {NMED ResSoil09}	76.9	mg/kg		0.16	<0.1	9.2	<10	0.12	0.67	<0.1	0.19
Acrolein	107-02-8	0.646 {NMED ResSoil09}	0.000148	mg/kg		*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*	*<0.2*
Acrylonitrile	107-13-1	5.97 {NMED ResSoil09}	0.00164	mg/kg		*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*	*<0.1*
Benzene	71-43-2	15.5 {NMED ResSoil09}	0.0370	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	0.0511	mg/kg		*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*
Bromomethane	74-83-9	22.3 {NMED ResSoil09}	0.0388	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Carbon Disulfide	75-15-0	1940 {NMED ResSoil09}	5.04	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil09}	0.0148	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
CFC-11	75-69-4	2010 {NMED ResSoil09}	18.0	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
CFC-12	75-71-8	481 {NMED ResSoil09}	14.5	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chlorobenzene	108-90-7	508 {NMED ResSoil09}	1.08	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chlorodibromomethane	124-48-1	11.9 {NMED ResSoil09}	0.00675	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloroethane	75-00-3	43600 {NMED ResSoil09}	108	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chloroform	67-66-3	5.72 {NMED ResSoil09}	0.00936	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloromethane	74-87-3	35.6 {NMED ResSoil09}	0.0836	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
cis-1,3-Dichloropropene	10061-01-5	--	--	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Dibromomethane	74-95-3	782 {NMED ResSoil09}	1.55	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloromethane	75-09-2	199 {NMED ResSoil09}	0.215	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Ethanol	64-17-5	--	--	mg/kg		<1	<1	<1	<1	<1	<1	<1	<1
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil09}	13.4	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	100-41-4	69.7 {NMED ResSoil09}	0.291	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Iodomethane	74-88-4	--	--	mg/kg		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl N-Butyl Ketone	591-78-6	--	--	mg/kg		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylbenzene	108-88-3	5570 {NMED ResSoil09}	27.7	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Naphthalene	91-20-3	45 {NMED ResSoil09}	0.084	mg/kg		*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*	*<0.33*
Styrene (Monomer)	100-42-5	8970 {NMED ResSoil09}	31.2	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil09}	0.00898	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil09}	0.603	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trans-1,3-Dichloropropene	10061-02-6	--	--	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethylene	79-01-6	45.7 {NMED ResSoil09}	0.106	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vinyl Acetate	108-05-4	3650 {NMED ResSoil09}	1.53	mg/kg		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil09}	0.00576	mg/kg		*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*	*<0.01*
Xylenes	1330-20-7	1090 {NMED ResSoil09}	3.52	mg/kg		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

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Table 1. Summary of Soil Sample Analytical Results - SWMU 92B
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID / Sample Depth (ft) / Date Collected	92BSSORS 0 03/17/92	92BSO02 2 03/04/92	92BSO05 5 03/04/92	92BSO10 10 03/04/92	92BSO15 15 03/04/92	92BSO20 20 03/04/92	92BSO25 25 03/04/92	92BSO30 30 03/04/92
Metals													
Arsenic	7440-38-2	3.9 {NMED ResSoil09}	0.262	mg/kg		***<9.60***	***<10.0 [<9.80]***	***<45.0***	***<45.0***	*16.0*	*<10.0*	*11.0*	*<10.0*
Barium	7440-39-3	15600 {NMED ResSoil09}	6030	mg/kg		<19.0	51.0 [160]	240	430	170	56.0	39.0	32.0
Cadmium	7440-43-9	77.9 {NMED ResSoil09}	27.5	mg/kg		<0.480	<0.520 [<0.490]	*<2.30*	*<2.20*	<0.470	<0.500	<0.540	<0.510
Lead	7439-92-1	400 {NMED ResSoil09}	- -	mg/kg		5.10	<5.20 [<4.90]	<23.0	<22.0	12.0	5.90	15.0	<5.10
Mercury	7439-97-6	7.71 {NMED ResSoil09}	0.59	mg/kg		<0.090	<0.100 [<0.100]	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Selenium	7782-49-2	391 {NMED ResSoil09}	19.3	mg/kg		<0.450	<0.500 [<0.490]	<0.500	<0.530	<0.490	<0.460	<0.500	<0.500
Silver	7440-22-4	391 {NMED ResSoil09}	31.3	mg/kg		*37.0*	*48.0 [28.0]*	<4.50	<4.50	<0.940	<1.00	<1.10	<1.00
Other													
pH	pH	--	- -	pH Units		5.60	5.10 [4.50]	8.20	6.50	7.50	8.00	8.00	8.10
Percent Moisture	--	--	--	WT%		--	--	--	--	--	--	--	--
Semi Volatile Organic Compounds													
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil09}	0.21	mg/kg		*<0.330*	*<0.330 [<0.330]*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil09}	652	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil09}	0.0714	mg/kg		*<0.330*	*<0.330 [<0.330]*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil09}	1.43	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil09}	2.74	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil09}	18.2	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil09}	1.05	mg/kg		*<1.70*	*<1.70 [<1.70]*	*<1.70*	*<1.70*	*<1.70*	*<1.70*	*<1.70*	*<1.70*
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil09}	0.0312	mg/kg		*<0.330*	*<0.330 [<0.330]*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil09}	0.53	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil09}	271	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
2-Chlorophenol	95-57-8	391 {NMED ResSoil09}	3.06	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
2-Nitrophenol	88-75-5	--	- -	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
3,3'-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil09}	0.34	mg/kg		*<0.660*	*<0.660 [<0.660]*	*<0.660*	*<0.660*	*<0.660*	*<0.660*	*<0.660*	*<0.660*
4,6-Dinitro-2-methylphenol	534-52-1	--	0.08	mg/kg		*<1.70*	*<1.70 [<1.70]*	*<1.70*	*<1.70*	*<1.70*	*<1.70*	*<1.70*	*<1.70*
4-Bromophenyl-phenylether	101-55-3	--	- -	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
4-Chloro-3-Methylphenol	59-50-7	--	- -	mg/kg		<0.660	<0.660 [<0.660]	<0.660	<0.660	<0.660	<0.660	<0.660	<0.660
4-Chlorophenyl-phenylether	7005-72-3	--	- -	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
4-Methyl-2-pentanone	108-10-1	5950 {NMED ResSoil09}	7.58	mg/kg		<0.050	<0.050 [<0.050]	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
4-Nitrophenol	100-02-7	--	- -	mg/kg		<1.70	*<1.70 [<1.70]*	<1.70	<1.70	<1.70	<1.70	<1.70	<1.70
Acenaphthene	83-32-9	3440 {NMED ResSoil09}	410	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Acenaphthylene	208-96-8	--	- -	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Anthracene	120-12-7	17200 {NMED ResSoil09}	6740	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Benzidine	92-87-5	0.0211 {NMED ResSoil09}	0.000250	mg/kg		***<1.70***	***<1.70 [<1.70]***	***<1.70***	***<1.70***	*<1.70*	*<1.70*	*<1.70*	*<1.70*
Benzo(a)anthracene	56-55-3	6.21 {NMED ResSoil09}	6.39	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Benzo(a)pyrene	50-32-8	0.621 {NMED ResSoil09}	2.17	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Benzo(b)fluoranthene	205-99-2	6.21 {NMED ResSoil09}	22.2	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Benzo(g,h,i)perylene	191-24-2	--	- -	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Benzo(k)fluoranthene	207-08-9	62.1 {NMED ResSoil09}	217	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 92B
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	92BSSORS 0 03/17/92	92BSO02 2 03/04/92	92BSO05 5 03/04/92	92BSO10 10 03/04/92	92BSO15 15 03/04/92	92BSO20 20 03/04/92	92BSO25 25 03/04/92	92BSO30 30 03/04/92
Semi Volatile Organic Compounds													
Benzoic Acid	65-85-0	240000 {EPA ResSoil10}	- -	mg/kg		<1.70	<1.70 [<1.70]	<1.70	<1.70	<1.70	<1.70	<1.70	<1.70
bis(2-Chloroethoxy)methane	111-91-1	180 {EPA ResSoil10}	- -	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
bis(2-Chloroethyl)ether	111-44-4	2.56 {NMED ResSoil09}	0.000465	mg/kg		*<0.330*	*<0.330 [<0.330]*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*
bis(2-Ethylhexyl)phthalate	117-81-7	347 {NMED ResSoil09}	238	mg/kg		<0.330	0.940 [0.820]	0.380	0.520	<0.330	<0.330	<0.330	1.70
Butylbenzylphthalate	85-68-7	2600 {EPA ResSoil10}	- -	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Dibenzo(a,h)anthracene	53-70-3	0.621 {NMED ResSoil09}	7.24	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Diethylphthalate	84-66-2	48900 {NMED ResSoil09}	212	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Dimethylphthalate	131-11-3	611000 {NMED ResSoil09}	1670	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Di-n-Butylphthalate	84-74-2	6110 {NMED ResSoil09}	173	mg/kg		0.560	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Di-n-Octylphthalate	117-84-0	--	- -	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Fluoranthene	206-44-0	2290 {NMED ResSoil09}	3110	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Fluorene	86-73-7	2290 {NMED ResSoil09}	500	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Hexachlorobenzene	118-74-1	3.04 {NMED ResSoil09}	0.04	mg/kg		*<0.330*	*<0.330 [<0.330]*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*
Hexachlorobutadiene	87-68-3	61.1 {NMED ResSoil09}	0.295	mg/kg		*<0.330*	*<0.330 [<0.330]*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil09}	12.30	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Hexachloroethane	67-72-1	61.1 {NMED ResSoil09}	0.386	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Indeno(1,2,3-cd)pyrene	193-39-5	6.21 {NMED ResSoil09}	73.90	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Isophorone	78-59-1	5120 {NMED ResSoil09}	3.69	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
m-Dichlorobenzene	541-73-1	--	--	mg/kg		<0.33	<0.33 [<0.33]	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
Nitrobenzene	98-95-3	49.4 {NMED ResSoil09}	0.137	mg/kg		*<0.330*	*<0.330 [<0.330]*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*
N-Nitrosodimethylamine	62-75-9	0.954 {NMED ResSoil09}	0.0000608	mg/kg		*<0.330*	*<0.330 [<0.330]*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*
N-Nitroso-di-n-propylamine	621-64-7	993 {EPA ResSoil10}	- -	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil09}	25.8	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil09}	0.587	mg/kg		*<1.70*	*<1.70 [<1.70]*	*<1.70*	*<1.70*	*<1.70*	*<1.70*	*<1.70*	*<1.70*
Phenanthrene	85-01-8	1830 {NMED ResSoil09}	1670	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Phenol	108-95-2	18300 {NMED ResSoil09}	126	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Pyrene	129-00-0	1720 {NMED ResSoil09}	2240	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
Volatile Organic Compounds													
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil09}	59.5	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil09}	0.00450	mg/kg		*<0.005*	*<0.005 [<0.005]*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*	*<0.005*
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil09}	0.0135	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil09}	0.122	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,1-Dichloroethene	75-35-4	618 {NMED ResSoil09}	2.38	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil09}	0.000713	mg/kg		*<0.020*	*<0.020 [<0.020]*	*<0.020*	*<0.020*	*<0.020*	*<0.020*	*<0.020*	*<0.020*
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil09}	6.27	mg/kg		<0.330	<0.330 [<0.330]	<0.330	<0.330	<0.330	<0.330	<0.330	<0.330
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil09}	0.00730	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil09}	0.0223	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
1,4 Dichloro-2-butene	764-41-0	0.046 {NMED ResSoil09}	0.000163	mg/kg		*<0.020*	*<0.020 [<0.020]*	*<0.020*	*<0.020*	*<0.020*	*<0.020*	*<0.020*	*<0.020*
2-Butanone	78-93-3	39600 {NMED ResSoil09}	25.3	mg/kg		<0.100	<0.100 [<0.100]	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 92B
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	92BSSORS 0 03/17/92	92BSO02 2 03/04/92	92BSO05 5 03/04/92	92BSO10 10 03/04/92	92BSO15 15 03/04/92	92BSO20 20 03/04/92	92BSO25 25 03/04/92	92BSO30 30 03/04/92
Volatile Organic Compounds													
2-Chloroethylvinylether	110-75-8	--	- -	mg/kg		<0.010	<0.010 [<0.010]	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
2-Hexanone	591-78-6	--	- -	mg/kg		<0.050	<0.050 [<0.050]	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acetone	67-64-1	67500 {NMED ResSoil09}	76.89	mg/kg		0.240	0.480 [0.350]	<0.100	<0.100	0.110	<0.100	0.130	<0.100
Acrolein	107-02-8	0.646 {NMED ResSoil09}	0.000148	mg/kg		*<0.200*	*<0.200 [<0.200]*	*<0.200*	*<0.200*	*<0.200*	*<0.200*	*<0.200*	*<0.200*
Acrylonitrile	107-13-1	5.97 {NMED ResSoil09}	0.00164	mg/kg		*<0.100*	*<0.100 [<0.100]*	*<0.100*	*<0.100*	*<0.100*	*<0.100*	*<0.100*	*<0.100*
Benzene	71-43-2	15.5 {NMED ResSoil09}	0.0370	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
bis(2-Chloroisopropyl)ether	39638-32-9	--	0.0511	mg/kg		*<0.330*	*<0.330 [<0.330]*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*
Bromomethane	74-83-9	22.3 {NMED ResSoil09}	0.0388	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Carbon Disulfide	75-15-0	1940 {NMED ResSoil09}	5.04	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil09}	0.0148	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chlorobenzene	108-90-7	508 {NMED ResSoil09}	1.08	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloroethane	75-00-3	43600 {NMED ResSoil09}	108	mg/kg		<0.010	<0.010 [<0.010]	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Chloroform	67-66-3	5.72 {NMED ResSoil09}	0.00936	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chloromethane	74-87-3	35.6 {NMED ResSoil09}	0.0836	mg/kg		<0.0100	<0.0100 [<0.0100]	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100
cis-1,3-Dichloropropene	10061-01-5	--	- -	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Dibromochloromethane	124-48-1	11.9 {NMED ResSoil09}	0.00675	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Dibromomethane	74-95-3	782 {NMED ResSoil09}	1.55	mg/kg		<0.020	<0.020 [<0.020]	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Dichlorodifluoromethane	75-71-8	481 {NMED ResSoil09}	14.5	mg/kg		<0.020	<0.020 [<0.020]	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethanol	64-17-5	--	- -	mg/kg		<1.00	<1.00 [<1.00]	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil09}	13.4	mg/kg		<0.020	<0.020 [<0.020]	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethylbenzene	100-41-4	69.7 {NMED ResSoil09}	0.291	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Iodomethane	74-88-4	--	- -	mg/kg		<0.020	<0.020 [<0.020]	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Methylene Chloride	75-09-2	199 {NMED ResSoil09}	0.215	mg/kg		0.0230 B	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Naphthalene	91-20-3	45 {NMED ResSoil09}	0.0839	mg/kg		*<0.330*	*<0.330 [<0.330]*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*	*<0.330*
Styrene	100-42-5	8970 {NMED ResSoil09}	31.2	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil09}	0.00898	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Toluene	108-88-3	5570 {NMED ResSoil09}	27.7	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil09}	0.603	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
trans-1,3-Dichloropropene	10061-02-6	--	- -	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichloroethene	79-01-6	45.7 {NMED ResSoil09}	0.106	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Trichlorofluoromethane	75-69-4	2010 {NMED ResSoil09}	18.0	mg/kg		<0.010	<0.010 [<0.010]	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Vinyl Acetate	108-05-4	3650 {NMED ResSoil09}	1.53	mg/kg		<0.010	<0.010 [<0.010]	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil09}	0.00576	mg/kg		*<0.010*	*<0.010 [<0.010]*	*<0.010*	*<0.010*	*<0.010*	*<0.010*	*<0.010*	*<0.010*
Xylenes	1330-20-7	1090 {NMED ResSoil09}	3.52	mg/kg		<0.005	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 92B
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	92BSB001 0-1 05/11/10	92BSB001 4-5 05/11/10	92BSB001 9-10 05/11/10	92BSB001 14-15 05/11/10
Metals									
Arsenic	7440-38-2	3.9 {NMED ResSoil09}	0.262	mg/kg		NA	NA	NA	NA
Barium	7440-39-3	15600 {NMED ResSoil09}	6030	mg/kg		NA	NA	NA	NA
Cadmium	7440-43-9	77.9 {NMED ResSoil09}	27.5	mg/kg		NA	NA	NA	NA
Lead	7439-92-1	400 {NMED ResSoil09}	- -	mg/kg		NA	NA	NA	NA
Mercury	7439-97-6	7.71 {NMED ResSoil09}	0.59	mg/kg		NA	NA	NA	NA
Selenium	7782-49-2	391 {NMED ResSoil09}	19.3	mg/kg		NA	NA	NA	NA
Silver	7440-22-4	391 {NMED ResSoil09}	31.3	mg/kg		NA	NA	NA	NA
Other									
pH	pH	--	- -	pH Units		--	--	--	--
Percent Moisture	--	--	--	WT%		6.84	5.30	14.7	13.0 [15.2]
Semi Volatile Organic Compounds									
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil09}	0.21	mg/kg		NA	NA	NA	NA
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil09}	652	mg/kg		NA	NA	NA	NA
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil09}	0.0714	mg/kg		NA	NA	NA	NA
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil09}	1.43	mg/kg		NA	NA	NA	NA
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil09}	2.74	mg/kg		NA	NA	NA	NA
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil09}	18.2	mg/kg		NA	NA	NA	NA
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil09}	1.05	mg/kg		NA	NA	NA	NA
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil09}	0.0312	mg/kg		NA	NA	NA	NA
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil09}	0.53	mg/kg		NA	NA	NA	NA
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil09}	271	mg/kg		NA	NA	NA	NA
2-Chlorophenol	95-57-8	391 {NMED ResSoil09}	3.06	mg/kg		NA	NA	NA	NA
2-Nitrophenol	88-75-5	--	- -	mg/kg		NA	NA	NA	NA
3,3'-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil09}	0.34	mg/kg		NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	534-52-1	--	0.08	mg/kg		NA	NA	NA	NA
4-Bromophenyl-phenylether	101-55-3	--	- -	mg/kg		NA	NA	NA	NA
4-Chloro-3-Methylphenol	59-50-7	--	- -	mg/kg		NA	NA	NA	NA
4-Chlorophenyl-phenylether	7005-72-3	--	- -	mg/kg		NA	NA	NA	NA
4-Methyl-2-pentanone	108-10-1	5950 {NMED ResSoil09}	7.58	mg/kg		NA	NA	NA	NA
4-Nitrophenol	100-02-7	--	- -	mg/kg		NA	NA	NA	NA
Acenaphthene	83-32-9	3440 {NMED ResSoil09}	410	mg/kg		NA	NA	NA	NA
Acenaphthylene	208-96-8	--	- -	mg/kg		NA	NA	NA	NA
Anthracene	120-12-7	17200 {NMED ResSoil09}	6740	mg/kg		NA	NA	NA	NA
Benzidine	92-87-5	0.0211 {NMED ResSoil09}	0.000250	mg/kg		NA	NA	NA	NA
Benzo(a)anthracene	56-55-3	6.21 {NMED ResSoil09}	6.39	mg/kg		NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	0.621 {NMED ResSoil09}	2.17	mg/kg		NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	6.21 {NMED ResSoil09}	22.2	mg/kg		NA	NA	NA	NA
Benzo(g,h,i)perylene	191-24-2	--	- -	mg/kg		NA	NA	NA	NA
Benzo(k)fluoranthene	207-08-9	62.1 {NMED ResSoil09}	217	mg/kg		NA	NA	NA	NA

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 92B
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	92BSB001 0-1 05/11/10	92BSB001 4-5 05/11/10	92BSB001 9-10 05/11/10	92BSB001 14-15 05/11/10
Semi Volatile Organic Compounds									
Benzoic Acid	65-85-0	240000 {EPA ResSoil10}	- -	mg/kg		NA	NA	NA	NA
bis(2-Chloroethoxy)methane	111-91-1	180 {EPA ResSoil10}	- -	mg/kg		NA	NA	NA	NA
bis(2-Chloroethyl)ether	111-44-4	2.56 {NMED ResSoil09}	0.000465	mg/kg		NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	117-81-7	347 {NMED ResSoil09}	238	mg/kg		NA	NA	NA	NA
Butylbenzylphthalate	85-68-7	2600 {EPA ResSoil10}	- -	mg/kg		NA	NA	NA	NA
Dibenzo(a,h)anthracene	53-70-3	0.621 {NMED ResSoil09}	7.24	mg/kg		NA	NA	NA	NA
Diethylphthalate	84-66-2	48900 {NMED ResSoil09}	212	mg/kg		NA	NA	NA	NA
Dimethylphthalate	131-11-3	611000 {NMED ResSoil09}	1670	mg/kg		NA	NA	NA	NA
Di-n-Butylphthalate	84-74-2	6110 {NMED ResSoil09}	173	mg/kg		NA	NA	NA	NA
Di-n-Octylphthalate	117-84-0	--	- -	mg/kg		NA	NA	NA	NA
Fluoranthene	206-44-0	2290 {NMED ResSoil09}	3110	mg/kg		NA	NA	NA	NA
Fluorene	86-73-7	2290 {NMED ResSoil09}	500	mg/kg		NA	NA	NA	NA
Hexachlorobenzene	118-74-1	3.04 {NMED ResSoil09}	0.04	mg/kg		NA	NA	NA	NA
Hexachlorobutadiene	87-68-3	61.1 {NMED ResSoil09}	0.295	mg/kg		NA	NA	NA	NA
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil09}	12.30	mg/kg		NA	NA	NA	NA
Hexachloroethane	67-72-1	61.1 {NMED ResSoil09}	0.386	mg/kg		NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	193-39-5	6.21 {NMED ResSoil09}	73.90	mg/kg		NA	NA	NA	NA
Isophorone	78-59-1	5120 {NMED ResSoil09}	3.69	mg/kg		NA	NA	NA	NA
m-Dichlorobenzene	541-73-1	--	--	mg/kg		NA	NA	NA	NA
Nitrobenzene	98-95-3	49.4 {NMED ResSoil09}	0.137	mg/kg		NA	NA	NA	NA
N-Nitrosodimethylamine	62-75-9	0.954 {NMED ResSoil09}	0.0000608	mg/kg		*<0.00322*	*<0.00314*	*<0.00351*	*<0.00343 [<0.00353]*
N-Nitroso-di-n-propylamine	621-64-7	993 {EPA ResSoil10}	- -	mg/kg		NA	NA	NA	NA
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil09}	25.8	mg/kg		NA	NA	NA	NA
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil09}	0.587	mg/kg		NA	NA	NA	NA
Phenanthrene	85-01-8	1830 {NMED ResSoil09}	1670	mg/kg		NA	NA	NA	NA
Phenol	108-95-2	18300 {NMED ResSoil09}	126	mg/kg		NA	NA	NA	NA
Pyrene	129-00-0	1720 {NMED ResSoil09}	2240	mg/kg		NA	NA	NA	NA
Volatile Organic Compounds									
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil09}	59.5	mg/kg		NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil09}	0.00450	mg/kg		NA	NA	NA	NA
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil09}	0.0135	mg/kg		NA	NA	NA	NA
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil09}	0.122	mg/kg		NA	NA	NA	NA
1,1-Dichloroethene	75-35-4	618 {NMED ResSoil09}	2.38	mg/kg		NA	NA	NA	NA
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil09}	0.000713	mg/kg		NA	NA	NA	NA
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil09}	6.27	mg/kg		NA	NA	NA	NA
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil09}	0.00730	mg/kg		NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil09}	0.0223	mg/kg		NA	NA	NA	NA
1,4 Dichloro-2-butene	764-41-0	0.046 {NMED ResSoil09}	0.000163	mg/kg		NA	NA	NA	NA
2-Butanone	78-93-3	39600 {NMED ResSoil09}	25.3	mg/kg		NA	NA	NA	NA

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 92B
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	92BSB001 0-1 05/11/10	92BSB001 4-5 05/11/10	92BSB001 9-10 05/11/10	92BSB001 14-15 05/11/10
Volatile Organic Compounds									
2-Chloroethylvinylether	110-75-8	--	--	mg/kg		NA	NA	NA	NA
2-Hexanone	591-78-6	--	--	mg/kg		NA	NA	NA	NA
Acetone	67-64-1	67500 {NMED ResSoil09}	76.89	mg/kg		NA	NA	NA	NA
Acrolein	107-02-8	0.646 {NMED ResSoil09}	0.000148	mg/kg		NA	NA	NA	NA
Acrylonitrile	107-13-1	5.97 {NMED ResSoil09}	0.00164	mg/kg		NA	NA	NA	NA
Benzene	71-43-2	15.5 {NMED ResSoil09}	0.0370	mg/kg		NA	NA	NA	NA
bis(2-Chloroisopropyl)ether	39638-32-9	--	0.0511	mg/kg		NA	NA	NA	NA
Bromomethane	74-83-9	22.3 {NMED ResSoil09}	0.0388	mg/kg		NA	NA	NA	NA
Carbon Disulfide	75-15-0	1940 {NMED ResSoil09}	5.04	mg/kg		NA	NA	NA	NA
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil09}	0.0148	mg/kg		NA	NA	NA	NA
Chlorobenzene	108-90-7	508 {NMED ResSoil09}	1.08	mg/kg		NA	NA	NA	NA
Chloroethane	75-00-3	43600 {NMED ResSoil09}	108	mg/kg		NA	NA	NA	NA
Chloroform	67-66-3	5.72 {NMED ResSoil09}	0.00936	mg/kg		NA	NA	NA	NA
Chloromethane	74-87-3	35.6 {NMED ResSoil09}	0.0836	mg/kg		NA	NA	NA	NA
cis-1,3-Dichloropropene	10061-01-5	--	--	mg/kg		NA	NA	NA	NA
Dibromochloromethane	124-48-1	11.9 {NMED ResSoil09}	0.00675	mg/kg		NA	NA	NA	NA
Dibromomethane	74-95-3	782 {NMED ResSoil09}	1.55	mg/kg		NA	NA	NA	NA
Dichlorodifluoromethane	75-71-8	481 {NMED ResSoil09}	14.5	mg/kg		NA	NA	NA	NA
Ethanol	64-17-5	--	--	mg/kg		NA	NA	NA	NA
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil09}	13.4	mg/kg		NA	NA	NA	NA
Ethylbenzene	100-41-4	69.7 {NMED ResSoil09}	0.291	mg/kg		NA	NA	NA	NA
Iodomethane	74-88-4	--	--	mg/kg		NA	NA	NA	NA
Methylene Chloride	75-09-2	199 {NMED ResSoil09}	0.215	mg/kg		NA	NA	NA	NA
Naphthalene	91-20-3	45 {NMED ResSoil09}	0.0839	mg/kg		NA	NA	NA	NA
Styrene	100-42-5	8970 {NMED ResSoil09}	31.2	mg/kg		NA	NA	NA	NA
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil09}	0.00898	mg/kg		NA	NA	NA	NA
Toluene	108-88-3	5570 {NMED ResSoil09}	27.7	mg/kg		NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil09}	0.603	mg/kg		NA	NA	NA	NA
trans-1,3-Dichloropropene	10061-02-6	--	--	mg/kg		NA	NA	NA	NA
Trichloroethene	79-01-6	45.7 {NMED ResSoil09}	0.106	mg/kg		NA	NA	NA	NA
Trichlorofluoromethane	75-69-4	2010 {NMED ResSoil09}	18.0	mg/kg		NA	NA	NA	NA
Vinyl Acetate	108-05-4	3650 {NMED ResSoil09}	1.53	mg/kg		NA	NA	NA	NA
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil09}	0.00576	mg/kg		NA	NA	NA	NA
Xylenes	1330-20-7	1090 {NMED ResSoil09}	3.52	mg/kg		NA	NA	NA	NA

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 93
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	93SSORS 0 3/17/1992	93SO02 2 3/9/1992	93SO05 5 3/9/1992	93SO10 10 3/9/1992	93SO15 15 3/9/1992	93SO20 20 3/9/1992	93SO25 25 3/9/1992	93SO30 30 3/9/1992
Metals													
Arsenic	7440-38-2	3.9 {NMED ResSoil09}	0.262	mg/kg		***< 10***	***< 9.3***	***< 9.3***	***< 10***	*< 45*	*< 10*	*< 9.2*	*13*
Barium	7440-39-3	15600 {NMED ResSoil09}	6030	mg/kg		28	26	27	100	< 91	< 20	38	81
Cadmium	7440-43-9	77.9 {NMED ResSoil09}	27.5	mg/kg		< 0.51	< 0.47	< 0.46	< 0.5	< 2.3	< 0.51	< 0.46	< 0.5
Lead	7439-92-1	400 {NMED ResSoil09}	--	mg/kg		12	8.2	8.5	9.4	< 23	< 5.1	8.4	13
Mercury	7439-97-6	7.71 {NMED ResSoil09}	0.587	mg/kg		< 0.07	< 0.07	< 0.1	< 0.1	< 0.09	< 0.09	< 0.07	< 0.1
Selenium	7782-49-2	391 {NMED ResSoil09}	19.3	mg/kg		< 0.47	< 0.5	< 0.49	< 0.5	< 0.46	< 0.49	< 0.5	< 0.52
Silver	7440-22-4	391 {NMED ResSoil09}	31.3	mg/kg		< 1	< 0.93	< 0.93	< 1	< 4.5	< 1	< 0.92	< 0.99
Other													
pH	pH	--	--	pH units		7.6	8.0	8.6	8.5	8.5	8.4	8.1	7.9
Semi-Volatile Organic Compounds													
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil09}	0.205	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil09}	652	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil09}	0.071	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil09}	1.43	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil09}	2.74	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil09}	18.2	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil09}	1.05	mg/kg		*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil09}	0.0312	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil09}	0.533	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil09}	271	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Chlorophenol	95-57-8	391 {NMED ResSoil09}	3.06	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11 {NMED ResSoil09}	0.0785	mg/kg		*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
2-Nitrophenol	88-75-5	--	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
3,3-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil09}	0.341	mg/kg		*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120 {NMED ResSoil09}	3.69	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Bromophenyl Phenyl Ether	101-55-3	--	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Chloro-3-Methylphenol	59-50-7	--	--	mg/kg		< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950 {NMED ResSoil09}	7.58	mg/kg		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitrophenol	100-02-7	--	--	mg/kg		< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Acenaphthene	83-32-9	3440 {NMED ResSoil09}	410	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Acenaphthylene	208-96-8	--	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Anthracene	120-12-7	17200 {NMED ResSoil09}	6,739	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzidine	92-87-5	0.0211 {NMED ResSoil09}	0.000250	mg/kg		***< 1.7***	***< 1.7***	***< 1.7***	***< 1.7***	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
Benzo(a)Anthracene	56-55-3	6.21 {NMED ResSoil09}	6.39	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(a)Pyrene	50-32-8	0.621 {NMED ResSoil09}	2.17	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(b)Fluoranthene	205-99-2	6.21 {NMED ResSoil09}	22.2	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(g,h,i)Perylene	191-24-2	--	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(k)Fluoranthene	207-08-9	62.1 {NMED ResSoil09}	217	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 93
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	93SSORS 0 3/17/1992	93SO02 2 3/9/1992	93SO05 5 3/9/1992	93SO10 10 3/9/1992	93SO15 15 3/9/1992	93SO20 20 3/9/1992	93SO25 25 3/9/1992	93SO30 30 3/9/1992
Semi-Volatile Organic Compounds													
Benzoic Acid	65-85-0	240000 {EPA ResSoil10}	--	mg/kg		< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Benzyl Butyl Phthalate	85-68-7	2600 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Bis (2-Chloroethoxy) Methane	111-91-1	180 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Bis(2-Chloroethyl) Ether	111-44-4	2.56 {NMED ResSoil09}	0.000465	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Bis(2-Ethylhexyl)Phthalate	117-81-7	347 {NMED ResSoil09}	238	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Dibenz(a,h)Anthracene	53-70-3	0.621 {NMED ResSoil09}	7.24	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Diethyl Phthalate	84-66-2	48900 {NMED ResSoil09}	212	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Dimethyl Phthalate	131-11-3	611000 {NMED ResSoil09}	1,671	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Di-n-Butyl Phthalate	84-74-2	6110 {NMED ResSoil09}	173	mg/kg		0.37	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Di-n-Octyl Phthalate	117-84-0	--	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Fluoranthene	206-44-0	2290 {NMED ResSoil09}	3,108	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Fluorene	86-73-7	2290 {NMED ResSoil09}	500	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Hexachloro-1,3-Butadiene	87-68-3	{NMED ResSoil09}	0.295	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Hexachlorobenzene	118-74-1	{NMED ResSoil09}	0.0441	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil09}	12.3	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Hexachloroethane	67-72-1	61.1 {NMED ResSoil09}	0.386	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21 {NMED ResSoil09}	73.9	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
m-Dichlorobenzene	541-73-1	--	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954 {NMED ResSoil09}	0.0000610	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Nitrobenzene	98-95-3	49.4 {NMED ResSoil09}	0.137	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
N-Nitrosodi-N-Propylamine	621-64-7	0.69 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil09}	25.8	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil09}	0.587	mg/kg		*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
Phenanthrene	85-01-8	1830 {NMED ResSoil09}	1,669	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Phenol	108-95-2	18300 {NMED ResSoil09}	126	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Pyrene	129-00-0	1720 {NMED ResSoil09}	2,238	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Volatile Organic Compounds													
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil09}	59.5	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil09}	0.00450	mg/kg		*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil09}	0.0135	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil09}	0.122	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1-Dichloroethylene	75-35-4	618 {NMED ResSoil09}	2.38	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil09}	0.000713	mg/kg		*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil09}	6.27	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil09}	0.00730	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil09}	--	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,4 Dichloro-2-Butene	764-41-0	0.046 {NMED ResSoil09}	0.000163	mg/kg		*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*
2-Butanone	78-93-3	39600 {NMED ResSoil09}	25.3	mg/kg		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 93
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	93SSORS 0 3/17/1992	93SO02 2 3/9/1992	93SO05 5 3/9/1992	93SO10 10 3/9/1992	93SO15 15 3/9/1992	93SO20 20 3/9/1992	93SO25 25 3/9/1992	93SO30 30 3/9/1992
Volatile Organic Compounds													
2-Chloroethyl Vinyl Ether	110-75-8	--	--	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acetone	67-64-1	67500 {NMED ResSoil09}	76.9	mg/kg		0.11	5.8	0.96	0.83	0.38	< 0.1	< 0.1	0.12
Acrolein	107-02-8	0.646 {NMED ResSoil09}	0.000148	mg/kg		*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*
Acrylonitrile	107-13-1	5.97 {NMED ResSoil09}	0.00164	mg/kg		*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*
Benzene	71-43-2	15.5 {NMED ResSoil09}	0.0370	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	0.0511	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Bromomethane	74-83-9	22.3 {NMED ResSoil09}	0.0388	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Carbon Disulfide	75-15-0	1940 {NMED ResSoil09}	5.04	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil09}	0.0148	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
CFC-11	75-69-4	2010 {NMED ResSoil09}	18.0	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
CFC-12	75-71-8	481 {NMED ResSoil09}	14.5	mg/kg		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chlorobenzene	108-90-7	508 {NMED ResSoil09}	1.08	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chlorodibromomethane	124-48-1	11.9 {NMED ResSoil09}	0.00675	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chloroethane	75-00-3	43600 {NMED ResSoil09}	108	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	67-66-3	5.72 {NMED ResSoil09}	0.00936	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chloromethane	74-87-3	35.6 {NMED ResSoil09}	0.0836	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-Dichloropropene	10061-01-5	--	--	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Dibromomethane	74-95-3	782 {NMED ResSoil09}	1.55	mg/kg		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dichloromethane	75-09-2	199 {NMED ResSoil09}	0.215	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Ethanol	64-17-5	--	--	mg/kg		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil09}	13.4	mg/kg		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	100-41-4	69.7 {NMED ResSoil09}	0.291	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Iodomethane	74-88-4	--	--	mg/kg		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Methyl N-Butyl Ketone	591-78-6	--	--	mg/kg		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methylbenzene	108-88-3	5570 {NMED ResSoil09}	27.7	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Naphthalene	91-20-3	45 {NMED ResSoil09}	0.084	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Styrene (Monomer)	100-42-5	8970 {NMED ResSoil09}	31.2	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil09}	0.00898	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil09}	0.603	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trans-1,3-Dichloropropene	10061-02-6	--	--	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trichloroethylene	79-01-6	45.7 {NMED ResSoil09}	0.106	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vinyl Acetate	108-05-4	3650 {NMED ResSoil09}	1.53	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil09}	0.00576	mg/kg		*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Xylenes	1330-20-7	1090 {NMED ResSoil09}	3.52	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SSORS 0 03/17/92	94SO02RS 2 03/11/92	94SO05RS 5 03/11/92	94SO10RS 10 03/11/92	94SO15RS 15 03/11/92	94SO20RS 20 03/11/92
Metals											
Arsenic	7440-38-2	3.9 {NMED ResSoil 09}	0.262	mg/kg		***<10.0***	***<9.50***	***<10.0***	***<9.90***	*12.0 [<10.0]*	*<20.0*
Barium	7440-39-3	15600 {NMED ResSoil 09}	6030	mg/kg		32.0	34.0	49.0	92.0	130 [99.0]	75.0
Cadmium	7440-43-9	77.9 {NMED ResSoil 09}	27.5	mg/kg		<0.520	0.650	<0.510	<0.500	<0.500 [<0.510]	<1.00
Chromium	7440-47-3	219 {NMED ResSoil 09}	--	mg/kg		--	--	--	--	--	--
Lead	7439-92-1	400 {NMED ResSoil 09}	--	mg/kg		13.0	27.0	11.0	11.0	19.0 [9.90]	<10.0
Mercury	7439-97-6	7.71 {NMED ResSoil 09}	0.59	mg/kg		<0.100	<0.100	<0.100	<0.100	<0.080 [<0.070]	<0.0900
Selenium	7782-49-2	391 {NMED ResSoil 09}	19.3	mg/kg		<0.490	<0.490	<0.450	<0.490	<0.470 [<0.530]	<0.500
Silver	7440-22-4	391 {NMED ResSoil 09}	31.3	mg/kg		<1.00	<0.950	<1.00	<0.990	<1.00 [<1.00]	<2.00
Other											
Percent Moisture	MOIST	--	--	%		--	--	--	--	--	--
pH	pH	--	--	pH units		6.50	5.30	7.30	7.90	7.90	7.90
TPH	TPH	200 {NMED TPH	--	mg/kg		--	--	--	--	--	--
DRO	DRO	200 {NMED TPH	--	mg/kg		--	--	--	--	--	--
GRO	GRO	--	--	mg/kg		--	--	--	--	--	--
Polycyclic Biphenyls											
Aroclor-1016	12674-11-	3.93 {NMED ResSoil 09}	2.09	mg/kg		--	--	--	--	--	--
Aroclor-1221	11104-28-	1.76 {NMED ResSoil 09}	0.0213	mg/kg		--	--	--	--	--	--
Aroclor-1232	11141-16-	1.76 {NMED ResSoil 09}	0.0213	mg/kg		--	--	--	--	--	--
Aroclor-1242	53469-21-	2.22 {NMED ResSoil 09}	0.453	mg/kg		--	--	--	--	--	--
Aroclor-1248	12672-29-	2.22 {NMED ResSoil 09}	0.444	mg/kg		--	--	--	--	--	--
Aroclor-1254	11097-69-	1.12 {NMED ResSoil 09}	0.764	mg/kg		--	--	--	--	--	--
Aroclor-1260	11096-82-	2.22 {NMED ResSoil 09}	2.09	mg/kg		--	--	--	--	--	--
Pesticides/Herbicides											
4,4'-DDD	72-54-8	20.3 {NMED ResSoil 09}	12.8	mg/kg		--	--	--	--	--	--
4,4'-DDE	72-55-9	14.3 {NMED ResSoil 09}	9.05	mg/kg		--	--	--	--	--	--
4,4'-DDT	50-29-3	17.2 {NMED ResSoil 09}	13.1	mg/kg		--	--	--	--	--	--
Aldrin	309-00-2	0.284 {NMED ResSoil 09}	0.124	mg/kg		--	--	--	--	--	--
Alpha-BHC	319-84-6	0.772 {NMED ResSoil 09}	0.011	mg/kg		--	--	--	--	--	--
Beta-BHC	319-85-7	2.7 {NMED ResSoil 09}	0.039	mg/kg		--	--	--	--	--	--
Delta-BHC	319-86-8	--	--	mg/kg		--	--	--	--	--	--
Dieldrin	60-57-1	0.304 {NMED ResSoil 09}	0.014	mg/kg		--	--	--	--	--	--
Endosulfan I	959-98-8	--	--	mg/kg		--	--	--	--	--	--
Endosulfan II	33213-65-	--	--	mg/kg		--	--	--	--	--	--
Endosulfan Sulfate	1031-07-8	--	--	mg/kg		--	--	--	--	--	--
Endrin	72-20-8	18.3 {NMED ResSoil 09}	3.52	mg/kg		--	--	--	--	--	--
Endrin Aldehyde	7421-93-4	--	--	mg/kg		--	--	--	--	--	--
Gamma-BHC (Lindane)	58-89-9	5.17 {NMED ResSoil 09}	0.0641	mg/kg		--	--	--	--	--	--
Heptachlor	76-44-8	1.08 {NMED ResSoil 09}	0.235	mg/kg		--	--	--	--	--	--
Heptachlor Epoxide	1024-57-3	0.53 {EPA ResSoil 10}	--	mg/kg		--	--	--	--	--	--

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SSORS 0 03/17/92	94SO02RS 2 03/11/92	94SO05RS 5 03/11/92	94SO10RS 10 03/11/92	94SO15RS 15 03/11/92	94SO20RS 20 03/11/92
Semi-Volatile Organic Compounds											
Methoxychlor	72-43-5	310 {EPA ResSoil 10}	- -	mg/kg		- -	- -	- -	- -	- -	- -
Chlordane	57-74-9	16.2 {NMED ResSoil 09}	5.00	mg/kg		- -	- -	- -	- -	- -	- -
Toxaphene	8001-35-2	4.42 {NMED ResSoil 09}	1.82	mg/kg		- -	- -	- -	- -	- -	- -
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil 09}	0.205	mg/kg		*<0.660*	*<3.30*	*<1.70*	*<0.330*	*<0.330 [<0.330]*	*<0.330*
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil 09}	652	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
1,2-Diphenylhydrazine	122-66-7	6.08 {NMED ResSoil 09}	0.0906	mg/kg		- -	- -	- -	- -	- -	- -
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil 09}	0.0714	mg/kg		*<0.660*	*<3.30*	*<1.70*	*<0.330*	*<0.330 [<0.330]*	*<0.330*
1-Chloronaphthalene	90-13-1	--	- -	mg/kg		- -	- -	- -	- -	- -	- -
2,4,5-Trichlorophenol	95-95-4	6110 {NMED ResSoil 09}	143	mg/kg		- -	- -	- -	- -	- -	- -
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil 09}	1.43	mg/kg		<0.660	*<3.30*	*<1.70*	<0.330	<0.330 [<0.330]	<0.330
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil 09}	2.74	mg/kg		<0.660	*<3.30*	<1.70	<0.330	<0.330 [<0.330]	<0.330
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil 09}	18.2	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil 09}	1.05	mg/kg		*<3.30*	*<17.0*	*<8.50*	*<1.70*	*<1.70 [<1.70]*	*<1.70*
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil 09}	0.0312	mg/kg		*<0.660*	*<3.30*	*<1.70*	*<0.330*	*<0.330 [<0.330]*	*<0.330*
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil 09}	0.533	mg/kg		*<0.660*	*<3.30*	*<1.70*	<0.330	<0.330 [<0.330]	<0.330
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil 09}	271	mg/kg		<0.660	*<3.30*	*<1.70*	<0.330	<0.330 [<0.330]	<0.330
2-Chlorophenol	95-57-8	391 {NMED ResSoil 09}	3.06	mg/kg		<0.660	*<3.30*	<1.70	<0.330	<0.330 [<0.330]	<0.330
2-Methylnaphthalene	91-57-6	310 {EPA ResSoil 10}	- -	mg/kg		- -	- -	- -	- -	- -	- -
2-Methylphenol	95-48-7	3100 {EPA ResSoil 10}	- -	mg/kg		- -	- -	- -	- -	- -	- -
2-Nitroaniline	88-74-4	--	- -	mg/kg		- -	- -	- -	- -	- -	- -
2-Nitrophenol	88-75-5	--	- -	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
3,3'-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil 09}	0.341	mg/kg		*<1.30*	*<6.60*	*<3.40*	*<0.660*	*<0.660 [<0.660]*	*<0.660*
3-Nitroaniline	99-09-2	--	- -	mg/kg		- -	- -	- -	- -	- -	- -
4,6-Dinitro-2-methylphenol	534-52-1	6.11 {NMED ResSoil 09}	0.0785	mg/kg		*<3.30*	*<17.0*	*<8.50*	*<1.70*	*<1.70 [<1.70]*	*<1.70*
4-Bromophenyl-phenylether	101-55-3	--	- -	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
4-Chloro-3-Methylphenol	59-50-7	--	- -	mg/kg		<1.30	<6.60	<3.40	<0.660	<0.660 [<0.660]	<0.660
4-Chlorophenyl-phenylether	7005-72-3	--	- -	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
4-Methyl-2-pentanone	108-10-1	5950 {NMED ResSoil 09}	7.58	mg/kg		<0.0500	<0.0500	<0.0500	<0.0500	<0.0500 [<0.0500]	<0.0500
4-Methylphenol	106-44-5	310 {EPA ResSoil 10}	- -	mg/kg		- -	- -	- -	- -	- -	- -
4-Nitroaniline	100-01-6	240 {EPA ResSoil 10}	- -	mg/kg		- -	- -	- -	- -	- -	- -
4-Nitrophenol	100-02-7	--	- -	mg/kg		<3.30	<17.0	<8.50	<1.70	<1.70 [<1.70]	<1.70
Acenaphthene	83-32-9	3440 {NMED ResSoil 09}	410	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Acenaphthylene	208-96-8	--	- -	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Anthracene	120-12-7	17200 {NMED ResSoil 09}	6740	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Benzidine	92-87-5	0.0211 {NMED ResSoil 09}	0.000250	mg/kg		***3.30***	***17.0***	***<8.50***	***<1.70***	*<1.70 [<1.70]*	*<1.70*
Benzo(a)anthracene	56-55-3	6.21 {NMED ResSoil 09}	6.39	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Benzo(a)pyrene	50-32-8	0.621 {NMED ResSoil 09}	2.17	mg/kg		**<0.660**	***<3.30***	**<1.70**	<0.330	<0.330 [<0.330]	<0.330
Benzo(b)fluoranthene	205-99-2	6.21 {NMED ResSoil 09}	22.2	mg/kg		<0.660	*<3.30*	*<1.70*	<0.330	<0.330 [<0.330]	<0.330
Benzo(g,h,i)perylene	191-24-2	--	- -	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SSORS 0 03/17/92	94SO02RS 2 03/11/92	94SO05RS 5 03/11/92	94SO10RS 10 03/11/92	94SO15RS 15 03/11/92	94SO20RS 20 03/11/92
Semi-Volatile Organic Compounds											
Benzo(k)fluoranthene	207-08-9	62.1 {NMED ResSoil 09}	217	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Benzoic Acid	65-85-0	240000 {EPA ResSoil 10}	- -	mg/kg		<3.30	<17.0	<8.50	<1.70	<1.70 [<1.70]	<1.70
Benzyl Alcohol	100-51-6	6100 {EPA ResSoil 10}	- -	mg/kg		- -	- -	- -	- -	- -	- -
bis(2-Chloroethoxy)methane	111-91-1	180 {EPA ResSoil 10}	- -	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
bis(2-Chloroethyl)ether	111-44-4	2.56 {NMED ResSoil 09}	0.000465	mg/kg		*<0.660*	***<3.30***	*<1.70*	*<0.330*	*<0.330 [<0.330]*	*<0.330*
Bis(2-Chloroisopropyl)Ether	39638-32-	- -	- -	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
bis(2-Ethylhexyl)phthalate	117-81-7	347 {NMED ResSoil 09}	238	mg/kg		0.760	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Butylbenzylphthalate	85-68-7	2600 {EPA ResSoil 10}	- -	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Dibenzo(a,h)anthracene	53-70-3	0.621 {NMED ResSoil 09}	7.24	mg/kg		***<0.660***	***<3.30***	***<1.70***	<0.330	<0.330 [<0.330]	<0.330
Dibenzofuran	132-64-9	--	- -	mg/kg		- -	- -	- -	- -	- -	- -
Diethylphthalate	84-66-2	48900 {NMED ResSoil 09}	212	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Dimethylphthalate	131-11-3	611000 {NMED ResSoil	1670	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Di-n-Butylphthalate	84-74-2	6110 {NMED ResSoil 09}	173	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Di-n-Octylphthalate	117-84-0	--	- -	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Diphenylamine	122-39-4	1500 {EPA ResSoil 10}	- -	mg/kg		- -	- -	- -	- -	- -	- -
Fluoranthene	206-44-0	2290 {NMED ResSoil 09}	3110	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Fluorene	86-73-7	2290 {NMED ResSoil 09}	500	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Hexachlorobenzene	118-74-1	3.04 {NMED ResSoil 09}	0.0441	mg/kg		*<0.660*	***<3.30***	*<1.70*	*<0.330*	*<0.330 [<0.330]*	*<0.330*
Hexachlorobutadiene	87-68-3	61.1 {NMED ResSoil 09}	0.295	mg/kg		*<0.660*	*<3.30*	*<1.70*	*<0.330*	*<0.330 [<0.330]*	*<0.330*
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil 09}	12.3	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Hexachloroethane	67-72-1	61.1 {NMED ResSoil 09}	0.386	mg/kg		*<0.660*	*<3.30*	*<1.70*	<0.330	<0.330 [<0.330]	<0.330
Indeno(1,2,3-cd)pyrene	193-39-5	6.21 {NMED ResSoil 09}	73.9	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Isophorone	78-59-1	5120 {NMED ResSoil 09}	3.69	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
m-Dichlorobenzene	541-73-1	--	--	mg/kg		<0.66	<3.3	<1.7	<0.33	<0.33 [<0.33]	<0.33
Nitrobenzene	98-95-3	49.4 {NMED ResSoil 09}	0.137	mg/kg		*<0.660*	*<3.30*	*<1.70*	*<0.330*	*<0.330 [<0.330]*	*<0.330*
N-Nitrosodimethylamine	62-75-9	0.954 {NMED ResSoil 09}	0.0000608	mg/kg		*0.670*	***3.30***	***<1.70***	*<0.330*	*<0.330 [<0.330]*	*<0.330*
N-Nitroso-di-n-propylamine	621-64-7	0.69 {EPA ResSoil 10}	- -	mg/kg		<0.660	***<3.30***	***<1.70***	<0.330	<0.330 [<0.330]	<0.330
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil 09}	25.8	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
p-Chloroaniline	106-47-8	24 {EPA ResSoil 10}	- -	mg/kg		- -	- -	- -	- -	- -	- -
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil 09}	0.587	mg/kg		*<3.30*	*<17.0*	*<8.50*	*<1.70*	*<1.70 [<1.70]*	*<1.70*
Phenanthrene	85-01-8	1830 {NMED ResSoil 09}	1670	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Phenol	108-95-2	18300 {NMED ResSoil 09}	126	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Pyrene	129-00-0	1720 {NMED ResSoil 09}	2240	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
Volatile Organic Compounds											
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil 09}	59.5	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil 09}	0.00450	mg/kg		*<0.00500*	*<0.00500*	*<0.00500*	*<0.00500*	*<0.00500 [<0.00500]*	*<0.00500*
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil 09}	0.0135	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil 09}	0.122	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
1,1-Dichloroethene	75-35-4	618 {NMED ResSoil 09}	2.38	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SSORS 0 03/17/92	94SO02RS 2 03/11/92	94SO05RS 5 03/11/92	94SO10RS 10 03/11/92	94SO15RS 15 03/11/92	94SO20RS 20 03/11/92
Volatile Organic Compounds											
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil 09}	0.000713	mg/kg		*<0.0200*	*<0.0200*	*<0.0200*	*<0.0200*	*<0.0200 [<0.0200]*	*<0.0200*
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil 09}	6.27	mg/kg		<0.660	<3.30	<1.70	<0.330	<0.330 [<0.330]	<0.330
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil 09}	0.00730	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil 09}	0.0223	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
1,4 Dichloro-2-butene	764-41-0	0.046 {NMED ResSoil 09}	0.000163	mg/kg		*<0.0200*	*<0.0200*	*<0.0200*	*<0.0200*	*<0.0200 [<0.0200]*	*<0.0200*
2-Butanone	78-93-3	39600 {NMED ResSoil 09}	25.3	mg/kg		<0.100	<0.100	<0.100	<0.100	<0.100 [<0.100]	<0.100
2-Chloroethylvinylether	110-75-8	--	- -	mg/kg		<0.0100	<0.0100	<0.0100	<0.0100	<0.0100 [<0.0100]	<0.0100
2-Hexanone	591-78-6	--	- -	mg/kg		<0.0500	<0.0500	<0.0500	<0.0500	<0.0500 [<0.0500]	<0.0500
Acetone	67-64-1	67500 {NMED ResSoil 09}	76.9	mg/kg		<0.100	<0.100	21.0	1.70	0.450 [0.280]	0.110
Acrolein	107-02-8	0.646 {NMED ResSoil 09}	0.000148	mg/kg		*<0.200*	*<0.200*	*<0.200*	*<0.200*	*<0.200 [<0.200]*	*<0.200*
Acrylonitrile	107-13-1	5.97 {NMED ResSoil 09}	0.00164	mg/kg		*<0.100*	*<0.100*	*<0.100*	*<0.100*	*<0.100 [<0.100]*	*<0.100*
Benzene	71-43-2	15.5 {NMED ResSoil 09}	0.0370	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
bis(2-Chloroisopropyl)ether	108-60-1	--	0.0511	mg/kg		*<0.660*	*<3.30*	*<1.70*	*<0.330*	*<0.330 [<0.330]*	*<0.330*
Bromodichloromethane	75-27-4	5.25 {NMED ResSoil 09}	0.00553	mg/kg		- -	- -	- -	- -	- -	- -
Bromomethane	74-83-9	22.3 {NMED ResSoil 09}	0.0388	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
Carbon Disulfide	75-15-0	1940 {NMED ResSoil 09}	5.04	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil 09}	0.0148	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
Chlorobenzene	108-90-7	508 {NMED ResSoil 09}	1.08	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
Chloroethane	75-00-3	43600 {NMED ResSoil 09}	108	mg/kg		<0.0100	<0.0100	<0.0100	<0.0100	<0.0100 [<0.0100]	<0.0100
Chloroform	67-66-3	5.72 {NMED ResSoil 09}	0.00936	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
Chloromethane	74-87-3	35.6 {NMED ResSoil 09}	0.0836	mg/kg		<0.0100	<0.0100	<0.0100	<0.0100	<0.0100 [<0.0100]	<0.0100
cis-1,2-Dichloroethene	156-59-2	782 {NMED ResSoil 09}	1.89	mg/kg		- -	- -	- -	- -	- -	- -
cis-1,3-Dichloropropene	10061-01-	--	- -	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
Dibromochloromethane	124-48-1	11.9 {NMED ResSoil 09}	0.00675	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
Dibromomethane	74-95-3	782 {NMED ResSoil 09}	1.55	mg/kg		<0.0200	<0.0200	<0.0200	<0.0200	<0.0200 [<0.0200]	<0.0200
Dichlorodifluoromethane	75-71-8	481 {NMED ResSoil 09}	14.5	mg/kg		<0.0200	<0.0200	<0.0200	<0.0200	<0.0200 [<0.0200]	<0.0200
Ethanol	64-17-5	--	- -	mg/kg		<1.00	<1.00	<1.00	<1.00	<1.00 [<1.00]	<1.00
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil 09}	13.4	mg/kg		<0.0200	<0.0200	<0.0200	<0.0200	<0.0200 [<0.0200]	<0.0200
Ethylbenzene	100-41-4	69.7 {NMED ResSoil 09}	0.291	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
Iodomethane	74-88-4	--	- -	mg/kg		<0.0200	<0.0200	<0.0200	<0.0200	<0.0200 [<0.0200]	<0.0200
Methylene Chloride	75-09-2	199 {NMED ResSoil 09}	0.215	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
Naphthalene	91-20-3	45 {NMED ResSoil 09}	0.0839	mg/kg		*<0.660*	*<3.30*	*<1.70*	*<0.330*	*<0.330 [<0.330]*	*<0.330*
Styrene	100-42-5	8970 {NMED ResSoil 09}	31.2	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil 09}	0.00898	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
Toluene	108-88-3	5570 {NMED ResSoil 09}	27.70	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil 09}	0.603	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
trans-1,3-Dichloropropene	10061-02-	--	- -	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
Trichloroethene	79-01-6	45.7 {NMED ResSoil 09}	0.106	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500
Trichlorofluoromethane	75-69-4	2010 {NMED ResSoil 09}	18.0	mg/kg		<0.0100	<0.0100	<0.0100	<0.0100	<0.0100 [<0.0100]	<0.0100

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SSORS 0 03/17/92	94SO02RS 2 03/11/92	94SO05RS 5 03/11/92	94SO10RS 10 03/11/92	94SO15RS 15 03/11/92	94SO20RS 20 03/11/92
Volatile Organic Compounds											
Vinyl Acetate	108-05-4	3650 {NMED ResSoil 09}	1.53	mg/kg		<0.0100	<0.0100	<0.0100	<0.0100	<0.0100 [<0.0100]	<0.0100
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil 09}	0.00576	mg/kg		*<0.0100*	*<0.0100*	*<0.0100*	*<0.0100*	*<0.0100 [<0.0100]*	*<0.0100*
Xylenes	1330-20-7	1090 {NMED ResSoil 09}	3.52	mg/kg		<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 [<0.00500]	<0.00500

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SO25RS 25 03/11/92	94SO30RS 30 03/11/92	0094HA01 0 12/18/93	0094HA01 4 12/18/93	0094HA01 9 12/18/93	0094HA02 0 12/18/93	0094HA02 4 12/18/93
Metals												
Arsenic	7440-38-2	3.9 {NMED ResSoil 09}	0.262	mg/kg		*<10.0*	*<10.0*	*<2.52*	*<2.64*	*<3.03*	*<2.57*	*<2.61*
Barium	7440-39-3	15600 {NMED ResSoil 09}	6030	mg/kg		70.0	69.0	27.3 J	134 J	103 J	29.8 J	90.7 J
Cadmium	7440-43-9	77.9 {NMED ResSoil 09}	27.5	mg/kg		<0.510	<0.510	<5.05	<5.28	<6.05	<5.14	<5.21
Chromium	7440-47-3	219 {NMED ResSoil 09}	- -	mg/kg		- -	- -	<25.2	<26.4	<30.3	<25.7	<26.1
Lead	7439-92-1	400 {NMED ResSoil 09}	- -	mg/kg		5.80	6.30	8.00	10.2	13.4	9.44	9.47
Mercury	7439-97-6	7.71 {NMED ResSoil 09}	0.59	mg/kg		<0.100	<0.100	<0.0202	0.0211 J	<0.0242	<0.0206	0.0208 J
Selenium	7782-49-2	391 {NMED ResSoil 09}	19.3	mg/kg		<0.480	<0.500	<2.52	<2.64	<3.03	<2.57	<2.61
Silver	7440-22-4	391 {NMED ResSoil 09}	31.3	mg/kg		<1.00	<1.00	<25.2	<26.4	<30.3	<25.7	<26.1
Other												
Percent Moisture	MOIST	--	- -	%		- -	- -	1.00	5.40	17.4	2.80	4.10
pH	pH	--	--	pH units		8.30	8.40	8.50	--	--	--	--
TPH	TPH	200 {NMED TPH	- -	mg/kg		- -	- -	3,580	59.2	<36.3	**12,300**	181
DRO	DRO	200 {NMED TPH	--	mg/kg		--	--	--	--	--	--	--
GRO	GRO	--	--	mg/kg		--	--	--	--	--	--	--
Polycyclic Biphenyls												
Aroclor-1016	12674-11-	3.93 {NMED ResSoil 09}	2.09	mg/kg		- -	- -	<0.160	<0.167	<0.191	<0.162	<0.165
Aroclor-1221	11104-28-	1.76 {NMED ResSoil 09}	0.0213	mg/kg		- -	- -	*<0.160*	*<0.167*	*<0.191*	*<0.162*	*<0.165*
Aroclor-1232	11141-16-	1.76 {NMED ResSoil 09}	0.0213	mg/kg		- -	- -	*<0.160*	*<0.167*	*<0.191*	*<0.162*	*<0.165*
Aroclor-1242	53469-21-	2.22 {NMED ResSoil 09}	0.453	mg/kg		- -	- -	<0.160	<0.167	<0.191	<0.162	<0.165
Aroclor-1248	12672-29-	2.22 {NMED ResSoil 09}	0.444	mg/kg		- -	- -	<0.160	<0.167	<0.191	<0.162	<0.165
Aroclor-1254	11097-69-	1.12 {NMED ResSoil 09}	0.764	mg/kg		- -	- -	<0.160	<0.167	<0.191	<0.162	<0.165
Aroclor-1260	11096-82-	2.22 {NMED ResSoil 09}	2.09	mg/kg		- -	- -	<0.160	<0.167	<0.191	<0.162	<0.165
Pesticides/Herbicides												
4,4'-DDD	72-54-8	20.3 {NMED ResSoil 09}	12.8	mg/kg		- -	- -	<0.00744	<0.00779	<0.00892	<0.00758	<0.00768
4,4'-DDE	72-55-9	14.3 {NMED ResSoil 09}	9.05	mg/kg		- -	- -	<0.00271	<0.00283	<0.00324	<0.00276	<0.00279
4,4'-DDT	50-29-3	17.2 {NMED ResSoil 09}	13.1	mg/kg		- -	- -	<0.00812	<0.00850	<0.00973	<0.00827	<0.00838
Aldrin	309-00-2	0.284 {NMED ResSoil 09}	0.124	mg/kg		- -	- -	<0.00271	<0.00283	<0.00324	<0.00276	<0.00279
Alpha-BHC	319-84-6	0.772 {NMED ResSoil 09}	0.011	mg/kg		- -	- -	<0.00203	<0.00212	<0.00243	<0.00207	<0.00210
Beta-BHC	319-85-7	2.7 {NMED ResSoil 09}	0.039	mg/kg		- -	- -	<0.00406	<0.00425	<0.00487	<0.00414	<0.00419
Delta-BHC	319-86-8	--	- -	mg/kg		- -	- -	<0.00609	<0.00637	<0.00730	<0.00620	<0.00629
Dieldrin	60-57-1	0.304 {NMED ResSoil 09}	0.014	mg/kg		- -	- -	<0.00135	<0.00142	<0.00162	<0.00138	<0.00140
Endosulfan I	959-98-8	--	- -	mg/kg		- -	- -	<0.00947	<0.00992	<0.0114	<0.00965	<0.00978
Endosulfan II	33213-65-	--	- -	mg/kg		- -	- -	<0.00271	<0.00283	<0.00324	<0.00276	<0.00279
Endosulfan Sulfate	1031-07-8	--	- -	mg/kg		- -	- -	<0.0447	<0.0467	<0.0535	<0.0455	<0.0461
Endrin	72-20-8	18.3 {NMED ResSoil 09}	3.52	mg/kg		- -	- -	<0.00406	<0.00425	<0.00487	<0.00414	<0.00419
Endrin Aldehyde	7421-93-4	--	- -	mg/kg		- -	- -	<0.0156	<0.0163	<0.0186	<0.0158	<0.0161
Gamma-BHC (Lindane)	58-89-9	5.17 {NMED ResSoil 09}	0.0641	mg/kg		- -	- -	<0.00271	<0.00283	<0.00324	<0.00276	<0.00279
Heptachlor	76-44-8	1.08 {NMED ResSoil 09}	0.235	mg/kg		- -	- -	<0.00203	<0.00212	<0.00243	<0.00207	<0.00210
Heptachlor Epoxide	1024-57-3	0.53 {EPA ResSoil 10}	- -	mg/kg		- -	- -	<0.0562	<0.0588	<0.0673	<0.0572	<0.0580

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SO25RS 25 03/11/92	94SO30RS 30 03/11/92	0094HA01 0 12/18/93	0094HA01 4 12/18/93	0094HA01 9 12/18/93	0094HA02 0 12/18/93	0094HA02 4 12/18/93
Semi-Volatile Organic Compounds												
Methoxychlor	72-43-5	310 {EPA ResSoil 10}	- -	mg/kg		- -	- -	<0.119	<0.125	<0.143	<0.121	<0.123
Chlordane	57-74-9	16.2 {NMED ResSoil 09}	5.00	mg/kg		- -	- -	<0.00947	<0.00992	<0.0114	<0.00965	<0.00978
Toxaphene	8001-35-2	4.42 {NMED ResSoil 09}	1.82	mg/kg		- -	- -	<0.162	<0.170	<0.195	<0.165	<0.168
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil 09}	0.205	mg/kg		*<0.330*	*<0.330*	*<0.333*	*<0.349*	*<0.400*	*<0.340*	*<0.344*
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil 09}	652	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
1,2-Diphenylhydrazine	122-66-7	6.08 {NMED ResSoil 09}	0.0906	mg/kg		- -	- -	*<1.62*	*<1.69*	*<1.94*	*<1.65*	*<1.67*
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil 09}	0.0714	mg/kg		*<0.330*	*<0.330*	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
1-Chloronaphthalene	90-13-1	--	- -	mg/kg		- -	- -	<0.333	<0.349	<0.400	<0.340	<0.344
2,4,5-Trichlorophenol	95-95-4	6110 {NMED ResSoil 09}	143	mg/kg		- -	- -	<0.333	<0.349	<0.400	<0.340	<0.344
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil 09}	1.43	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil 09}	2.74	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil 09}	18.2	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil 09}	1.05	mg/kg		*<1.70*	*<1.70*	*<1.62*	*<1.69*	*<1.94*	*<1.65*	*<1.67*
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil 09}	0.0312	mg/kg		*<0.330*	*<0.330*	*<0.333*	*<0.349*	*<0.400*	*<0.340*	*<0.344*
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil 09}	0.533	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil 09}	271	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
2-Chlorophenol	95-57-8	391 {NMED ResSoil 09}	3.06	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
2-Methylnaphthalene	91-57-6	310 {EPA ResSoil 10}	- -	mg/kg		- -	- -	<0.333	<0.349	<0.400	<0.340	<0.344
2-Methylphenol	95-48-7	3100 {EPA ResSoil 10}	- -	mg/kg		- -	- -	<0.333	<0.349	<0.400	<0.340	<0.344
2-Nitroaniline	88-74-4	--	- -	mg/kg		- -	- -	<1.62	<1.69	<1.94	<1.65	<1.67
2-Nitrophenol	88-75-5	--	- -	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
3,3'-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil 09}	0.341	mg/kg		*<0.660*	*<0.660*	<0.333	*<0.349*	*<0.400*	*<0.340*	*<0.344*
3-Nitroaniline	99-09-2	--	- -	mg/kg		- -	- -	<1.62	<1.69	<1.94	<1.65	<1.67
4,6-Dinitro-2-methylphenol	534-52-1	6.11 {NMED ResSoil 09}	0.0785	mg/kg		*<1.70*	*<1.70*	*<1.62*	*<1.69*	*<1.94*	*<1.65*	*<1.67*
4-Bromophenyl-phenylether	101-55-3	--	- -	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
4-Chloro-3-Methylphenol	59-50-7	--	- -	mg/kg		<0.660	<0.660	<0.333	<0.349	<0.400	<0.340	<0.344
4-Chlorophenyl-phenylether	7005-72-3	--	- -	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
4-Methyl-2-pentanone	108-10-1	5950 {NMED ResSoil 09}	7.58	mg/kg		<0.0500	<0.0500	<0.0202	<0.0211	<0.0242	<0.0206	<0.0208
4-Methylphenol	106-44-5	310 {EPA ResSoil 10}	- -	mg/kg		- -	- -	<0.333	<0.349	<0.400	<0.340	<0.344
4-Nitroaniline	100-01-6	240 {EPA ResSoil 10}	- -	mg/kg		- -	- -	<1.62	<1.69	<1.94	<1.65	<1.67
4-Nitrophenol	100-02-7	--	- -	mg/kg		<1.70	<1.70	<1.62	<1.69	<1.94	<1.65	<1.67
Acenaphthene	83-32-9	3440 {NMED ResSoil 09}	410	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Acenaphthylene	208-96-8	--	- -	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Anthracene	120-12-7	17200 {NMED ResSoil 09}	6740	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Benzidine	92-87-5	0.0211 {NMED ResSoil 09}	0.000250	mg/kg		*<1.70*	*<1.70*	***<1.62***	***<1.69***	***<1.94***	***<1.65***	***<1.67***
Benzo(a)anthracene	56-55-3	6.21 {NMED ResSoil 09}	6.39	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Benzo(a)pyrene	50-32-8	0.621 {NMED ResSoil 09}	2.17	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Benzo(b)fluoranthene	205-99-2	6.21 {NMED ResSoil 09}	22.2	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Benzo(g,h,i)perylene	191-24-2	--	- -	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SO25RS 25 03/11/92	94SO30RS 30 03/11/92	0094HA01 0 12/18/93	0094HA01 4 12/18/93	0094HA01 9 12/18/93	0094HA02 0 12/18/93	0094HA02 4 12/18/93
Semi-Volatile Organic Compounds												
Benzo(k)fluoranthene	207-08-9	62.1 {NMED ResSoil 09}	217	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Benzoic Acid	65-85-0	240000 {EPA ResSoil 10}	- -	mg/kg		<1.70	<1.70	<1.62	<1.69	<1.94	<1.65	<1.67
Benzyl Alcohol	100-51-6	6100 {EPA ResSoil 10}	- -	mg/kg		- -	- -	<0.333	<0.349	<0.400	<0.340	<0.344
bis(2-Chloroethoxy)methane	111-91-1	180 {EPA ResSoil 10}	- -	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
bis(2-Chloroethyl)ether	111-44-4	2.56 {NMED ResSoil 09}	0.000465	mg/kg		*<0.330*	*<0.330*	*<0.333*	*<0.349*	*<0.400*	*<0.340*	*<0.344*
Bis(2-Chloroisopropyl)Ether	39638-32-	- -	- -	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
bis(2-Ethylhexyl)phthalate	117-81-7	347 {NMED ResSoil 09}	238	mg/kg		0.350	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Butylbenzylphthalate	85-68-7	2600 {EPA ResSoil 10}	- -	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Dibenzo(a,h)anthracene	53-70-3	0.621 {NMED ResSoil 09}	7.24	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Dibenzofuran	132-64-9	--	- -	mg/kg		- -	- -	<0.333	<0.349	<0.400	<0.340	<0.344
Diethylphthalate	84-66-2	48900 {NMED ResSoil 09}	212	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Dimethylphthalate	131-11-3	611000 {NMED ResSoil	1670	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Di-n-Butylphthalate	84-74-2	6110 {NMED ResSoil 09}	173	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Di-n-Octylphthalate	117-84-0	--	- -	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Diphenylamine	122-39-4	1500 {EPA ResSoil 10}	- -	mg/kg		- -	- -	<1.01	<1.06	<1.21	<1.03	<1.04
Fluoranthene	206-44-0	2290 {NMED ResSoil 09}	3110	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Fluorene	86-73-7	2290 {NMED ResSoil 09}	500	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Hexachlorobenzene	118-74-1	3.04 {NMED ResSoil 09}	0.0441	mg/kg		*<0.330*	*<0.330*	*<0.333*	*<0.349*	*<0.400*	*<0.340*	*<0.344*
Hexachlorobutadiene	87-68-3	61.1 {NMED ResSoil 09}	0.295	mg/kg		*<0.330*	*<0.330*	*<0.333*	*<0.349*	*<0.400*	*<0.340*	*<0.344*
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil 09}	12.3	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Hexachloroethane	67-72-1	61.1 {NMED ResSoil 09}	0.386	mg/kg		<0.330	<0.330	<0.333	<0.349	*<0.400*	<0.340	<0.344
Indeno(1,2,3-cd)pyrene	193-39-5	6.21 {NMED ResSoil 09}	73.9	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Isophorone	78-59-1	5120 {NMED ResSoil 09}	3.69	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
m-Dichlorobenzene	541-73-1	--	--	mg/kg		<0.33	<0.33	<0.333	<0.349	<0.4	<0.34	<0.344
Nitrobenzene	98-95-3	49.4 {NMED ResSoil 09}	0.137	mg/kg		*<0.330*	*<0.330*	*<0.333*	*<0.349*	*<0.400*	*<0.340*	*<0.344*
N-Nitrosodimethylamine	62-75-9	0.954 {NMED ResSoil 09}	0.0000608	mg/kg		*<0.330*	*<0.330*	ND [1]	ND [1]	ND [1]	ND [1]	ND [1]
N-Nitroso-di-n-propylamine	621-64-7	0.69 {EPA ResSoil 10}	- -	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil 09}	25.8	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
p-Chloroaniline	106-47-8	24 {EPA ResSoil 10}	- -	mg/kg		- -	- -	<0.333	<0.349	<0.400	<0.340	<0.344
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil 09}	0.587	mg/kg		*<1.70*	*<1.70*	*<1.62*	*<1.69*	*<1.94*	*<1.65*	*<1.67*
Phenanthrene	85-01-8	1830 {NMED ResSoil 09}	1670	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Phenol	108-95-2	18300 {NMED ResSoil 09}	126	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Pyrene	129-00-0	1720 {NMED ResSoil 09}	2240	mg/kg		<0.330	<0.330	<0.333	<0.349	<0.400	<0.340	<0.344
Volatile Organic Compounds												
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil 09}	59.5	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil 09}	0.00450	mg/kg		*<0.00500*	*<0.00500*	*<0.00505*	*<0.00528*	*<0.00605*	*<0.00514*	*<0.00521*
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil 09}	0.0135	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil 09}	0.122	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
1,1-Dichloroethene	75-35-4	618 {NMED ResSoil 09}	2.38	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SO25RS 25 03/11/92	94SO30RS 30 03/11/92	0094HA01 0 12/18/93	0094HA01 4 12/18/93	0094HA01 9 12/18/93	0094HA02 0 12/18/93	0094HA02 4 12/18/93
Volatile Organic Compounds												
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil 09}	0.000713	mg/kg		*<0.0200*	*<0.0200*	*<0.00505*	*<0.00528*	*<0.00605*	*<0.00514*	*<0.00521*
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil 09}	6.27	mg/kg		<0.330	<0.330	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil 09}	0.00730	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil 09}	0.0223	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
1,4 Dichloro-2-butene	764-41-0	0.046 {NMED ResSoil 09}	0.000163	mg/kg		*<0.0200*	*<0.0200*	*<0.0101*	*<0.0106*	*<0.0121*	*<0.0103*	*<0.0104*
2-Butanone	78-93-3	39600 {NMED ResSoil 09}	25.3	mg/kg		<0.100	<0.100	<0.0202	<0.0211	<0.0242	<0.0206	<0.0208
2-Chloroethylvinylether	110-75-8	--	- -	mg/kg		<0.0100	<0.0100	<0.0101	<0.0106	<0.0121	<0.0103	<0.0104
2-Hexanone	591-78-6	--	- -	mg/kg		<0.0500	<0.0500	<0.0202	<0.0211	<0.0242	<0.0206	<0.0208
Acetone	67-64-1	67500 {NMED ResSoil 09}	76.9	mg/kg		19.0	5.80	<0.0202	<0.0211	<0.0242	<0.0206	<0.0208
Acrolein	107-02-8	0.646 {NMED ResSoil 09}	0.000148	mg/kg		*<0.200*	*<0.200*	*<0.00505*	*<0.00528*	*<0.00605*	*<0.00514*	*<0.00521*
Acrylonitrile	107-13-1	5.97 {NMED ResSoil 09}	0.00164	mg/kg		*<0.100*	*<0.100*	*<0.0101*	*<0.0106*	*<0.0121*	*<0.0103*	*<0.0104*
Benzene	71-43-2	15.5 {NMED ResSoil 09}	0.0370	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
bis(2-Chloroisopropyl)ether	108-60-1	--	0.0511	mg/kg		*<0.330*	*<0.330*	*<0.333*	*<0.349*	*<0.400*	*<0.340*	*<0.344*
Bromodichloromethane	75-27-4	5.25 {NMED ResSoil 09}	0.00553	mg/kg		- -	- -	<0.00505	<0.00528	*<0.00605*	<0.00514	<0.00521
Bromomethane	74-83-9	22.3 {NMED ResSoil 09}	0.0388	mg/kg		<0.00500	<0.00500	<0.0101	<0.0106	<0.0121	<0.0103	<0.0104
Carbon Disulfide	75-15-0	1940 {NMED ResSoil 09}	5.04	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil 09}	0.0148	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
Chlorobenzene	108-90-7	508 {NMED ResSoil 09}	1.08	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
Chloroethane	75-00-3	43600 {NMED ResSoil 09}	108	mg/kg		<0.0100	<0.0100	<0.0101	<0.0106	<0.0121	<0.0103	<0.0104
Chloroform	67-66-3	5.72 {NMED ResSoil 09}	0.00936	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	*0.0222 J*	<0.00514	<0.00521
Chloromethane	74-87-3	35.6 {NMED ResSoil 09}	0.0836	mg/kg		<0.0100	<0.0100	<0.0101	<0.0106	<0.0121	<0.0103	<0.0104
cis-1,2-Dichloroethene	156-59-2	782 {NMED ResSoil 09}	1.89	mg/kg		- -	- -	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
cis-1,3-Dichloropropene	10061-01-	--	- -	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
Dibromochloromethane	124-48-1	11.9 {NMED ResSoil 09}	0.00675	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
Dibromomethane	74-95-3	782 {NMED ResSoil 09}	1.55	mg/kg		<0.0200	<0.0200	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
Dichlorodifluoromethane	75-71-8	481 {NMED ResSoil 09}	14.5	mg/kg		<0.0200	<0.0200	- -	- -	- -	- -	- -
Ethanol	64-17-5	--	- -	mg/kg		<1.00	<1.00	- -	- -	- -	- -	- -
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil 09}	13.4	mg/kg		<0.0200	<0.0200	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
Ethylbenzene	100-41-4	69.7 {NMED ResSoil 09}	0.291	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
Iodomethane	74-88-4	--	- -	mg/kg		<0.0200	<0.0200	<0.0101	<0.0106	<0.0121	<0.0103	<0.0104
Methylene Chloride	75-09-2	199 {NMED ResSoil 09}	0.215	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
Naphthalene	91-20-3	45 {NMED ResSoil 09}	0.0839	mg/kg		*<0.330*	*<0.330*	*<0.333*	*<0.349*	*<0.400*	*<0.340*	*<0.344*
Styrene	100-42-5	8970 {NMED ResSoil 09}	31.2	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil 09}	0.00898	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
Toluene	108-88-3	5570 {NMED ResSoil 09}	27.70	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil 09}	0.603	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
trans-1,3-Dichloropropene	10061-02-	--	- -	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521
Trichloroethene	79-01-6	45.7 {NMED ResSoil 09}	0.106	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	*<0.00605*	<0.00514	<0.00521
Trichlorofluoromethane	75-69-4	2010 {NMED ResSoil 09}	18.0	mg/kg		<0.0100	<0.0100	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SO25RS 25 03/11/92	94SO30RS 30 03/11/92	0094HA01 0 12/18/93	0094HA01 4 12/18/93	0094HA01 9 12/18/93	0094HA02 0 12/18/93	0094HA02 4 12/18/93
Volatile Organic Compounds												
Vinyl Acetate	108-05-4	3650 {NMED ResSoil 09}	1.53	mg/kg		<0.0100	<0.0100	<0.0202	<0.0211	<0.0242	<0.0206	<0.0208
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil 09}	0.00576	mg/kg		*<0.0100*	*<0.0100*	*<0.0101*	*<0.0106*	*<0.0121*	*<0.0103*	*<0.0104*
Xylenes	1330-20-7	1090 {NMED ResSoil 09}	3.52	mg/kg		<0.00500	<0.00500	<0.00505	<0.00528	<0.00605	<0.00514	<0.00521

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094HA02 9 12/18/93	0094HA02 14 12/18/93	0094HA03 0 12/19/93	0094HA03 4 12/19/93	0094HA03 9 12/19/93
Metals										
Arsenic	7440-38-2	3.9 {NMED ResSoil 09}	0.262	mg/kg		*<2.66 [<2.65]*	*4.38*	<2.57	*<2.74 [<2.70]*	***5.22***
Barium	7440-39-3	15600 {NMED ResSoil 09}	6030	mg/kg		76.8 J [78.5 J]	464 J	27.8 J	61.3 J [73.6 J]	94.5 J
Cadmium	7440-43-9	77.9 {NMED ResSoil 09}	27.5	mg/kg		<5.33 [<5.30]	<6.08	<5.14	<5.47 [<5.41]	<5.49
Chromium	7440-47-3	219 {NMED ResSoil 09}	- -	mg/kg		<26.6 [<26.5]	<30.4	<25.7	32.8 [40.0]	<27.5
Lead	7439-92-1	400 {NMED ResSoil 09}	- -	mg/kg		10.4 [10.8]	11.1	5.74	10.1 [11.1]	12.8
Mercury	7439-97-6	7.71 {NMED ResSoil 09}	0.59	mg/kg		0.0213 J [<0.0212]	<0.0243	<0.0206	0.0219 J [0.0216 J]	<0.0220
Selenium	7782-49-2	391 {NMED ResSoil 09}	19.3	mg/kg		<2.66 [<2.65]	<3.04	<2.57	<2.74 [<2.70]	<2.75
Silver	7440-22-4	391 {NMED ResSoil 09}	31.3	mg/kg		<26.6 [<26.5]	<30.4	<25.7	<27.4 [<27.0]	<27.5
Other										
Percent Moisture	MOIST	--	- -	%		6.20 [5.70]	17.8	2.80	8.60 [7.60]	9.00
pH	pH	--	--	pH units		--	--	--	--	--
TPH	TPH	200 {NMED TPH	- -	mg/kg		93.8 [155]	172	**3,400 J**	<32.8 [40.0]	46.2
DRO	DRO	200 {NMED TPH	--	mg/kg		--	--	--	--	--
GRO	GRO	--	--	mg/kg		--	--	--	--	--
Polycyclic Biphenyls										
Aroclor-1016	12674-11-	3.93 {NMED ResSoil 09}	2.09	mg/kg		<0.168 [<0.168]	<0.192	<0.162	<0.173 [<0.171]	<0.174
Aroclor-1221	11104-28-	1.76 {NMED ResSoil 09}	0.0213	mg/kg		*<0.168 [<0.168]*	*<0.192*	*<0.162*	*<0.173 [<0.171]*	*<0.174*
Aroclor-1232	11141-16-	1.76 {NMED ResSoil 09}	0.0213	mg/kg		*<0.168 [<0.168]*	*<0.192*	*<0.162*	*<0.173 [<0.171]*	*<0.174*
Aroclor-1242	53469-21-	2.22 {NMED ResSoil 09}	0.453	mg/kg		<0.168 [<0.168]	<0.192	<0.162	<0.173 [<0.171]	<0.174
Aroclor-1248	12672-29-	2.22 {NMED ResSoil 09}	0.444	mg/kg		<0.168 [<0.168]	<0.192	<0.162	<0.173 [<0.171]	<0.174
Aroclor-1254	11097-69-	1.12 {NMED ResSoil 09}	0.764	mg/kg		<0.168 [<0.168]	<0.192	<0.162	<0.173 [<0.171]	<0.174
Aroclor-1260	11096-82-	2.22 {NMED ResSoil 09}	2.09	mg/kg		<0.168 [<0.168]	<0.192	<0.162	<0.173 [<0.171]	<0.174
Pesticides/Herbicides										
4,4'-DDD	72-54-8	20.3 {NMED ResSoil 09}	12.8	mg/kg		<0.00786 [<0.00782]	<0.00896	<0.00758	<0.00806 [<0.00798]	<0.00810
4,4'-DDE	72-55-9	14.3 {NMED ResSoil 09}	9.05	mg/kg		<0.00286 [<0.00284]	<0.00326	<0.00276	<0.00293 [<0.00290]	<0.00294
4,4'-DDT	50-29-3	17.2 {NMED ResSoil 09}	13.1	mg/kg		<0.00857 [<0.00852]	<0.00978	<0.00827	<0.00880 [<0.00870]	<0.00884
Aldrin	309-00-2	0.284 {NMED ResSoil 09}	0.124	mg/kg		<0.00286 [<0.00284]	<0.00326	<0.00276	<0.00293 [<0.00290]	<0.00294
Alpha-BHC	319-84-6	0.772 {NMED ResSoil 09}	0.011	mg/kg		<0.00214 [<0.00213]	<0.00244	<0.00207	<0.00220 [<0.00218]	<0.00221
Beta-BHC	319-85-7	2.7 {NMED ResSoil 09}	0.039	mg/kg		<0.00428 [<0.00426]	<0.00489	<0.00414	<0.00440 [<0.00435]	<0.00442
Delta-BHC	319-86-8	--	- -	mg/kg		<0.00643 [<0.00639]	<0.00734	<0.00620	<0.00660 [<0.00652]	<0.00663
Dieldrin	60-57-1	0.304 {NMED ResSoil 09}	0.014	mg/kg		<0.00143 [<0.00142]	<0.00163	<0.00138	<0.00147 [<0.00145]	<0.00147
Endosulfan I	959-98-8	--	- -	mg/kg		<0.0100 [<0.00995]	<0.0114	<0.00965	<0.0103 [<0.0102]	<0.0103
Endosulfan II	33213-65-	--	- -	mg/kg		<0.00286 [<0.00284]	<0.00326	<0.00276	<0.00293 [<0.00290]	<0.00294
Endosulfan Sulfate	1031-07-8	--	- -	mg/kg		<0.0471 [<0.0469]	<0.0538	<0.0455	<0.0484 [<0.0478]	<0.0486
Endrin	72-20-8	18.3 {NMED ResSoil 09}	3.52	mg/kg		<0.00428 [<0.00426]	<0.00489	<0.00414	<0.00440 [<0.00435]	<0.00442
Endrin Aldehyde	7421-93-4	--	- -	mg/kg		<0.0164 [<0.0163]	<0.0187	<0.0158	<0.0168 [<0.0167]	<0.0169
Gamma-BHC (Lindane)	58-89-9	5.17 {NMED ResSoil 09}	0.0641	mg/kg		<0.00286 [<0.00284]	<0.00326	<0.00276	<0.00293 [<0.00290]	<0.00294
Heptachlor	76-44-8	1.08 {NMED ResSoil 09}	0.235	mg/kg		<0.00214 [<0.00213]	<0.00244	<0.00207	<0.00220 [<0.00218]	<0.00221
Heptachlor Epoxide	1024-57-3	0.53 {EPA ResSoil 10}	- -	mg/kg		<0.0593 [<0.0590]	<0.0676	<0.0572	<0.0608 [<0.0602]	<0.0611

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094HA029 12/18/93	0094HA0214 12/18/93	0094HA030 12/19/93	0094HA034 12/19/93	0094HA039 12/19/93
Semi-Volatile Organic Compounds										
Methoxychlor	72-43-5	310 {EPA ResSoil 10}	- -	mg/kg		<0.126 [<0.125]	<0.143	<0.121	<0.129 [<0.128]	<0.130
Chlordane	57-74-9	16.2 {NMED ResSoil 09}	5.00	mg/kg		<0.0100 [<0.00995]	<0.0114	<0.00965	<0.0103 [<0.0102]	<0.0103
Toxaphene	8001-35-2	4.42 {NMED ResSoil 09}	1.82	mg/kg		<0.171 [<0.170]	<0.196	<0.165	<0.176 [<0.174]	<0.177
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil 09}	0.205	mg/kg		*<0.352 [<0.350]*	*<0.401*	*<0.340*	*<0.361 [<0.357]*	*<0.363*
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil 09}	652	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
1,2-Diphenylhydrazine	122-66-7	6.08 {NMED ResSoil 09}	0.0906	mg/kg		*<1.70 [<1.70]*	*<1.95*	*<1.65*	*<1.75 [<1.73]*	*<1.76*
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil 09}	0.0714	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
1-Chloronaphthalene	90-13-1	--	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
2,4,5-Trichlorophenol	95-95-4	6110 {NMED ResSoil 09}	143	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil 09}	1.43	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil 09}	2.74	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil 09}	18.2	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil 09}	1.05	mg/kg		*<1.70 [<1.70]*	*<1.95*	*<1.65*	*<1.75 [<1.73]*	*<1.76*
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil 09}	0.0312	mg/kg		*<0.352 [<0.350]*	*<0.401*	*<0.340*	*<0.361 [<0.357]*	*<0.363*
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil 09}	0.533	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil 09}	271	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
2-Chlorophenol	95-57-8	391 {NMED ResSoil 09}	3.06	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
2-Methylnaphthalene	91-57-6	310 {EPA ResSoil 10}	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
2-Methylphenol	95-48-7	3100 {EPA ResSoil 10}	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
2-Nitroaniline	88-74-4	--	- -	mg/kg		<1.70 [<1.70]	<1.95	<1.65	<1.75 [<1.73]	<1.76
2-Nitrophenol	88-75-5	--	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
3,3'-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil 09}	0.341	mg/kg		*<0.352 [<0.350]*	*<0.401*	<0.340	*<0.361 [<0.357]*	*<0.363*
3-Nitroaniline	99-09-2	--	- -	mg/kg		<1.70 [<1.70]	<1.95	<1.65	<1.75 [<1.73]	<1.76
4,6-Dinitro-2-methylphenol	534-52-1	6.11 {NMED ResSoil 09}	0.0785	mg/kg		*<1.70 [<1.70]*	*<1.95*	*<1.65*	*<1.75 [<1.73]*	*<1.76*
4-Bromophenyl-phenylether	101-55-3	--	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
4-Chloro-3-Methylphenol	59-50-7	--	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
4-Chlorophenyl-phenylether	7005-72-3	--	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
4-Methyl-2-pentanone	108-10-1	5950 {NMED ResSoil 09}	7.58	mg/kg		<0.0213 [<0.0212]	<0.0243	<0.0206	<0.0219 [<0.0216]	<0.0220
4-Methylphenol	106-44-5	310 {EPA ResSoil 10}	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
4-Nitroaniline	100-01-6	240 {EPA ResSoil 10}	- -	mg/kg		<1.70 [<1.70]	<1.95	<1.65	<1.75 [<1.73]	<1.76
4-Nitrophenol	100-02-7	--	- -	mg/kg		<1.70 [<1.70]	<1.95	<1.65	<1.75 [<1.73]	<1.76
Acenaphthene	83-32-9	3440 {NMED ResSoil 09}	410	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Acenaphthylene	208-96-8	--	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Anthracene	120-12-7	17200 {NMED ResSoil 09}	6740	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Benzidine	92-87-5	0.0211 {NMED ResSoil 09}	0.000250	mg/kg		***<1.70 [<1.70]***	*<1.95*	***<1.65***	***<1.75 [<1.73]***	***<1.76***
Benzo(a)anthracene	56-55-3	6.21 {NMED ResSoil 09}	6.39	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Benzo(a)pyrene	50-32-8	0.621 {NMED ResSoil 09}	2.17	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Benzo(b)fluoranthene	205-99-2	6.21 {NMED ResSoil 09}	22.2	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Benzo(g,h,i)perylene	191-24-2	--	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094HA02 9 12/18/93	0094HA02 14 12/18/93	0094HA03 0 12/19/93	0094HA03 4 12/19/93	0094HA03 9 12/19/93
Semi-Volatile Organic Compounds										
Benzo(k)fluoranthene	207-08-9	62.1 {NMED ResSoil 09}	217	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Benzoic Acid	65-85-0	240000 {EPA ResSoil 10}	- -	mg/kg		<1.70 [<1.70]	<1.95	<1.65	<1.75 [<1.73]	<1.76
Benzyl Alcohol	100-51-6	6100 {EPA ResSoil 10}	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
bis(2-Chloroethoxy)methane	111-91-1	180 {EPA ResSoil 10}	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
bis(2-Chloroethyl)ether	111-44-4	2.56 {NMED ResSoil 09}	0.000465	mg/kg		*<0.352 [<0.350]*	*<0.401*	*<0.340*	*<0.361 [<0.357]*	*<0.363*
Bis(2-Chloroisopropyl)Ether	39638-32-	- -	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
bis(2-Ethylhexyl)phthalate	117-81-7	347 {NMED ResSoil 09}	238	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Butylbenzylphthalate	85-68-7	2600 {EPA ResSoil 10}	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Dibenzo(a,h)anthracene	53-70-3	0.621 {NMED ResSoil 09}	7.24	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Dibenzofuran	132-64-9	--	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Diethylphthalate	84-66-2	48900 {NMED ResSoil 09}	212	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Dimethylphthalate	131-11-3	611000 {NMED ResSoil	1670	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Di-n-Butylphthalate	84-74-2	6110 {NMED ResSoil 09}	173	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Di-n-Octylphthalate	117-84-0	--	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Diphenylamine	122-39-4	1500 {EPA ResSoil 10}	- -	mg/kg		<1.07 [<1.06]	<1.22	<1.03	<1.09 [<1.08]	<1.10
Fluoranthene	206-44-0	2290 {NMED ResSoil 09}	3110	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Fluorene	86-73-7	2290 {NMED ResSoil 09}	500	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Hexachlorobenzene	118-74-1	3.04 {NMED ResSoil 09}	0.0441	mg/kg		*<0.352 [<0.350]*	*<0.401*	*<0.340*	*<0.361 [<0.357]*	*<0.363*
Hexachlorobutadiene	87-68-3	61.1 {NMED ResSoil 09}	0.295	mg/kg		*<0.352 [<0.350]*	*<0.401*	*<0.340*	*<0.361 [<0.357]*	*<0.363*
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil 09}	12.3	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Hexachloroethane	67-72-1	61.1 {NMED ResSoil 09}	0.386	mg/kg		<0.352 [<0.350]	*<0.401*	<0.340	<0.361 [<0.357]	<0.363
Indeno(1,2,3-cd)pyrene	193-39-5	6.21 {NMED ResSoil 09}	73.9	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Isophorone	78-59-1	5120 {NMED ResSoil 09}	3.69	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
m-Dichlorobenzene	541-73-1	--	--	mg/kg		<0.352 [<0.35]	<0.401	<0.34	<0.361 [<0.357]	<0.363
Nitrobenzene	98-95-3	49.4 {NMED ResSoil 09}	0.137	mg/kg		*<0.352 [<0.350]*	*<0.401*	*<0.340*	*<0.361 [<0.357]*	*<0.363*
N-Nitrosodimethylamine	62-75-9	0.954 {NMED ResSoil 09}	0.0000608	mg/kg		ND [1]	ND [1]	ND [1]	ND [1]	ND [1]
N-Nitroso-di-n-propylamine	621-64-7	0.69 {EPA ResSoil 10}	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil 09}	25.8	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
p-Chloroaniline	106-47-8	24 {EPA ResSoil 10}	- -	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil 09}	0.587	mg/kg		*<1.70 [<1.70]*	*<1.95*	*<1.65*	<1.75 [<1.73]	*<1.76*
Phenanthrene	85-01-8	1830 {NMED ResSoil 09}	1670	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Phenol	108-95-2	18300 {NMED ResSoil 09}	126	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Pyrene	129-00-0	1720 {NMED ResSoil 09}	2240	mg/kg		<0.352 [<0.350]	<0.401	<0.340	<0.361 [<0.357]	<0.363
Volatile Organic Compounds										
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil 09}	59.5	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil 09}	0.00450	mg/kg		*<0.00533 [<0.00530]*	*<0.00608*	*<0.00514*	*<0.00547 [<0.00541]*	*<0.00549*
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil 09}	0.0135	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil 09}	0.122	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
1,1-Dichloroethene	75-35-4	618 {NMED ResSoil 09}	2.38	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094HA029 12/18/93	0094HA0214 12/18/93	0094HA030 12/19/93	0094HA034 12/19/93	0094HA039 12/19/93
Volatile Organic Compounds										
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil 09}	0.000713	mg/kg		*<0.00533 [<0.00530]*	*<0.00608*	*<0.00514*	*<0.00547 [<0.00541]*	*<0.00549*
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil 09}	6.27	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [- -]	<0.00549
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil 09}	0.00730	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil 09}	0.0223	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
1,4 Dichloro-2-butene	764-41-0	0.046 {NMED ResSoil 09}	0.000163	mg/kg		*<0.0107 [<0.106]*	*<0.0122*	*<0.0103*	*<0.0109 [<0.108]*	*<0.0110*
2-Butanone	78-93-3	39600 {NMED ResSoil 09}	25.3	mg/kg		<0.0213 [<0.0212]	<0.0243	<0.0206	<0.0219 [<0.0216]	<0.0220
2-Chloroethylvinylether	110-75-8	--	- -	mg/kg		<0.0107 [<0.0106]	<0.0122	<0.0103	<0.0109 [<0.0108]	<0.0110
2-Hexanone	591-78-6	--	- -	mg/kg		<0.0213 [<0.0212]	<0.0243	<0.0206	<0.0219 [<0.0216]	<0.0220
Acetone	67-64-1	67500 {NMED ResSoil 09}	76.9	mg/kg		<0.0213 [<0.0212]	<0.0243	0.0224 J	<0.0219 [<0.0216]	<0.0220
Acrolein	107-02-8	0.646 {NMED ResSoil 09}	0.000148	mg/kg		*<0.00533 [<0.00530]*	*<0.00608*	*<0.00514*	*<0.00547 [<0.00541]*	*<0.00549*
Acrylonitrile	107-13-1	5.97 {NMED ResSoil 09}	0.00164	mg/kg		*<0.0107 [<0.0106]*	*<0.0122*	*<0.0103*	*<0.0109 [<0.0108]*	*<0.0110*
Benzene	71-43-2	15.5 {NMED ResSoil 09}	0.0370	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
bis(2-Chloroisopropyl)ether	108-60-1	--	0.0511	mg/kg		*<0.352 [<0.350]*	*<0.401*	*<0.340*	*<0.361 [<0.357]*	*<0.363*
Bromodichloromethane	75-27-4	5.25 {NMED ResSoil 09}	0.00553	mg/kg		<0.00533 [<0.00530]	*<0.00608*	<0.00514	<0.00547 [<0.00541]	<0.00549
Bromomethane	74-83-9	22.3 {NMED ResSoil 09}	0.0388	mg/kg		<0.0107 [<0.0106]	<0.0122	<0.0103	<0.0109 [<0.0108]	<0.0110
Carbon Disulfide	75-15-0	1940 {NMED ResSoil 09}	5.04	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil 09}	0.0148	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
Chlorobenzene	108-90-7	508 {NMED ResSoil 09}	1.08	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
Chloroethane	75-00-3	43600 {NMED ResSoil 09}	108	mg/kg		<0.0107 [<0.0106]	<0.0122	<0.0103	<0.0109 [<0.0108]	<0.0110
Chloroform	67-66-3	5.72 {NMED ResSoil 09}	0.00936	mg/kg		<0.00533 [*0.0132J*]	0.00900	<0.00514	0.00842 [0.00844]	<0.00549
Chloromethane	74-87-3	35.6 {NMED ResSoil 09}	0.0836	mg/kg		<0.0107 [<0.0106]	<0.0122	<0.0103	<0.0109 [<0.0108]	<0.0110
cis-1,2-Dichloroethene	156-59-2	782 {NMED ResSoil 09}	1.89	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
cis-1,3-Dichloropropene	10061-01-	--	- -	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
Dibromochloromethane	124-48-1	11.9 {NMED ResSoil 09}	0.00675	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
Dibromomethane	74-95-3	782 {NMED ResSoil 09}	1.55	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
Dichlorodifluoromethane	75-71-8	481 {NMED ResSoil 09}	14.5	mg/kg		- -	- -	- -	- -	- -
Ethanol	64-17-5	--	- -	mg/kg		- -	- -	- -	- -	- -
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil 09}	13.4	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
Ethylbenzene	100-41-4	69.7 {NMED ResSoil 09}	0.291	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
Iodomethane	74-88-4	--	- -	mg/kg		<0.0107 [<0.0106]	<0.0122	<0.0103	<0.0109 [<0.0108]	<0.0110
Methylene Chloride	75-09-2	199 {NMED ResSoil 09}	0.215	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
Naphthalene	91-20-3	45 {NMED ResSoil 09}	0.0839	mg/kg		*<0.352 [<0.350]*	*<0.401*	*<0.340*	*<0.361 [<0.357]*	*<0.363*
Styrene	100-42-5	8970 {NMED ResSoil 09}	31.2	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil 09}	0.00898	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
Toluene	108-88-3	5570 {NMED ResSoil 09}	27.70	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil 09}	0.603	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
trans-1,3-Dichloropropene	10061-02-	--	- -	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
Trichloroethene	79-01-6	45.7 {NMED ResSoil 09}	0.106	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549
Trichlorofluoromethane	75-69-4	2010 {NMED ResSoil 09}	18.0	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094HA02 9 12/18/93	0094HA02 14 12/18/93	0094HA03 0 12/19/93	0094HA03 4 12/19/93	0094HA03 9 12/19/93
Volatile Organic Compounds										
Vinyl Acetate	108-05-4	3650 {NMED ResSoil 09}	1.53	mg/kg		<0.0213 [<0.0212]	<0.0243	<0.0206	<0.0219 [<0.0216]	<0.0220
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil 09}	0.00576	mg/kg		*<0.0107 [<0.0106]*	*<0.0122*	*<0.0103*	*<0.0109 [<0.0108]*	*<0.0110*
Xylenes	1330-20-7	1090 {NMED ResSoil 09}	3.52	mg/kg		<0.00533 [<0.00530]	<0.00608	<0.00514	<0.00547 [<0.00541]	<0.00549

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094HA03 14 12/19/93	0094HA04 0 12/19/93	0094HA04 4 12/19/93	0094HA04 9 12/19/93	0094HA04 14 12/19/93	0094SB05 0 12/17/93
Metals											
Arsenic	7440-38-2	3.9 {NMED ResSoil 09}	0.262	mg/kg		*7.10*	*<2.60*	***9.17***	***8.15***	*5.24*	<2.62
Barium	7440-39-3	15600 {NMED ResSoil 09}	6030	mg/kg		81.0 J	26.0 J	70.3 J	154 J	48.3 J	29.3 J
Cadmium	7440-43-9	77.9 {NMED ResSoil 09}	27.5	mg/kg		<5.26	<5.20	<5.41	<5.37	<5.49	<5.24
Chromium	7440-47-3	219 {NMED ResSoil 09}	- -	mg/kg		<26.3	<26.0	<27.0	<26.8	<27.4	<26.2
Lead	7439-92-1	400 {NMED ResSoil 09}	- -	mg/kg		3.04	12.9	11.7	9.87	7.70	20.7
Mercury	7439-97-6	7.71 {NMED ResSoil 09}	0.59	mg/kg		<0.0210	<0.0208	<0.0216	<0.0215	<0.0220	0.0209
Selenium	7782-49-2	391 {NMED ResSoil 09}	19.3	mg/kg		<2.63	<2.60	<2.70	<2.68	<2.74	<2.62
Silver	7440-22-4	391 {NMED ResSoil 09}	31.3	mg/kg		<26.3	<26.0	<27.0	<26.8	<27.4	<26.2
Other											
Percent Moisture	MOIST	--	- -	%		4.90	3.90	7.60	6.90	8.90	4.50
pH	pH	--	--	pH units		--	--	--	--	--	--
TPH	TPH	200 {NMED TPH	- -	mg/kg		51.5	**22,200**	112	122	71.4	**13,300 J**
DRO	DRO	200 {NMED TPH	--	mg/kg		--	--	--	--	--	--
GRO	GRO	--	--	mg/kg		--	--	--	--	--	--
Polycyclic Biphenyls											
Aroclor-1016	12674-11-	3.93 {NMED ResSoil 09}	2.09	mg/kg		<0.166	<0.164	<0.171	<0.170	<0.173	<0.165
Aroclor-1221	11104-28-	1.76 {NMED ResSoil 09}	0.0213	mg/kg		*<0.166*	*<0.164*	*<0.171*	*<0.170*	*<0.173*	*<0.165*
Aroclor-1232	11141-16-	1.76 {NMED ResSoil 09}	0.0213	mg/kg		*<0.166*	*<0.164*	*<0.171*	*<0.170*	*<0.173*	*<0.165*
Aroclor-1242	53469-21-	2.22 {NMED ResSoil 09}	0.453	mg/kg		<0.166	<0.164	<0.171	<0.170	<0.173	<0.165
Aroclor-1248	12672-29-	2.22 {NMED ResSoil 09}	0.444	mg/kg		<0.166	<0.164	<0.171	<0.170	<0.173	<0.165
Aroclor-1254	11097-69-	1.12 {NMED ResSoil 09}	0.764	mg/kg		<0.166	<0.164	<0.171	<0.170	<0.173	<0.165
Aroclor-1260	11096-82-	2.22 {NMED ResSoil 09}	2.09	mg/kg		<0.166	<0.164	<0.171	<0.170	<0.173	<0.165
Pesticides/Herbicides											
4,4'-DDD	72-54-8	20.3 {NMED ResSoil 09}	12.8	mg/kg		<0.00775	<0.00767	<0.00798	<0.00792	<0.00809	<0.00772
4,4'-DDE	72-55-9	14.3 {NMED ResSoil 09}	9.05	mg/kg		<0.00282	<0.00279	<0.00290	<0.00288	<0.00294	<0.00281
4,4'-DDT	50-29-3	17.2 {NMED ResSoil 09}	13.1	mg/kg		<0.00845	<0.00837	<0.00870	<0.00864	<0.00882	<0.00842
Aldrin	309-00-2	0.284 {NMED ResSoil 09}	0.124	mg/kg		<0.00282	<0.00279	<0.00290	<0.00288	<0.00294	<0.00281
Alpha-BHC	319-84-6	0.772 {NMED ResSoil 09}	0.011	mg/kg		<0.00211	<0.00209	<0.00218	<0.00216	<0.00221	<0.00210
Beta-BHC	319-85-7	2.7 {NMED ResSoil 09}	0.039	mg/kg		<0.00423	<0.00418	<0.00435	<0.00432	<0.00441	<0.00421
Delta-BHC	319-86-8	--	- -	mg/kg		<0.00634	<0.00627	<0.00652	<0.00648	<0.00662	<0.00631
Dieldrin	60-57-1	0.304 {NMED ResSoil 09}	0.014	mg/kg		<0.00141	<0.00139	<0.00145	<0.00144	<0.00147	<0.00140
Endosulfan I	959-98-8	--	- -	mg/kg		<0.00986	<0.00976	<0.0102	<0.0101	<0.0103	<0.00982
Endosulfan II	33213-65-	--	- -	mg/kg		<0.00282	<0.00279	<0.00290	<0.00288	<0.00294	<0.00281
Endosulfan Sulfate	1031-07-8	--	- -	mg/kg		<0.0465	<0.0460	<0.0478	<0.0475	<0.0485	<0.0463
Endrin	72-20-8	18.3 {NMED ResSoil 09}	3.52	mg/kg		<0.00423	<0.00418	<0.00435	<0.00432	<0.00441	<0.00421
Endrin Aldehyde	7421-93-4	--	- -	mg/kg		<0.0162	<0.0160	<0.0167	<0.0166	<0.0169	<0.0161
Gamma-BHC (Lindane)	58-89-9	5.17 {NMED ResSoil 09}	0.0641	mg/kg		<0.00282	<0.00279	<0.00290	<0.00288	<0.00294	<0.00281
Heptachlor	76-44-8	1.08 {NMED ResSoil 09}	0.235	mg/kg		<0.00211	<0.00209	<0.00218	<0.00216	<0.00221	<0.00210
Heptachlor Epoxide	1024-57-3	0.53 {EPA ResSoil 10}	- -	mg/kg		<0.0585	<0.0579	<0.0602	<0.0597	<0.0610	<0.0582

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094HA03 14 12/19/93	0094HA04 0 12/19/93	0094HA04 4 12/19/93	0094HA04 9 12/19/93	0094HA04 14 12/19/93	0094SB05 0 12/17/93
Semi-Volatile Organic Compounds											
Methoxychlor	72-43-5	310 {EPA ResSoil 10}	- -	mg/kg		<0.124	<0.123	<0.128	<0.127	<0.129	<0.123
Chlordane	57-74-9	16.2 {NMED ResSoil 09}	5.00	mg/kg		<0.00986	<0.00976	<0.0102	<0.0101	<0.0103	<0.00982
Toxaphene	8001-35-2	4.42 {NMED ResSoil 09}	1.82	mg/kg		<0.169	<0.167	<0.174	<0.173	<0.176	<0.168
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil 09}	0.205	mg/kg		*<0.347*	*<0.343*	*<0.357*	*<0.354*	*<0.362*	*<0.346*
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil 09}	652	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
1,2-Diphenylhydrazine	122-66-7	6.08 {NMED ResSoil 09}	0.0906	mg/kg		*<1.68*	*<1.66*	*<1.73*	*<1.72*	*<1.76*	*<1.68*
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil 09}	0.0714	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
1-Chloronaphthalene	90-13-1	--	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
2,4,5-Trichlorophenol	95-95-4	6110 {NMED ResSoil 09}	143	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil 09}	1.43	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil 09}	2.74	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil 09}	18.2	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil 09}	1.05	mg/kg		*<1.68*	*<1.66*	*<1.73*	*<1.72*	*<1.76*	*<1.68*
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil 09}	0.0312	mg/kg		*<0.347*	*<0.343*	*<0.357*	*<0.354*	*<0.362*	*<0.346*
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil 09}	0.533	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil 09}	271	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
2-Chlorophenol	95-57-8	391 {NMED ResSoil 09}	3.06	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
2-Methylnaphthalene	91-57-6	310 {EPA ResSoil 10}	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
2-Methylphenol	95-48-7	3100 {EPA ResSoil 10}	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
2-Nitroaniline	88-74-4	--	- -	mg/kg		<1.68	<1.66	<1.73	<1.72	<1.76	<1.68
2-Nitrophenol	88-75-5	--	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
3,3'-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil 09}	0.341	mg/kg		*<0.347*	*<0.343*	*<0.357*	*<0.354*	*<0.362*	*<0.346*
3-Nitroaniline	99-09-2	--	- -	mg/kg		<1.68	<1.66	<1.73	<1.72	<1.76	<1.68
4,6-Dinitro-2-methylphenol	534-52-1	6.11 {NMED ResSoil 09}	0.0785	mg/kg		*<1.68*	*<1.66*	*<1.73*	*<1.72*	*<1.76*	*<1.68*
4-Bromophenyl-phenylether	101-55-3	--	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
4-Chloro-3-Methylphenol	59-50-7	--	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
4-Chlorophenyl-phenylether	7005-72-3	--	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
4-Methyl-2-pentanone	108-10-1	5950 {NMED ResSoil 09}	7.58	mg/kg		<0.0210	<0.0208	<0.0216	<0.0215	<0.0220	<0.0209
4-Methylphenol	106-44-5	310 {EPA ResSoil 10}	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
4-Nitroaniline	100-01-6	240 {EPA ResSoil 10}	- -	mg/kg		<1.68	<1.66	<1.73	<1.72	<1.76	<1.68
4-Nitrophenol	100-02-7	--	- -	mg/kg		<1.68	<1.66	<1.73	<1.72	<1.76	<1.68
Acenaphthene	83-32-9	3440 {NMED ResSoil 09}	410	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Acenaphthylene	208-96-8	--	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Anthracene	120-12-7	17200 {NMED ResSoil 09}	6740	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Benzidine	92-87-5	0.0211 {NMED ResSoil 09}	0.000250	mg/kg		*<1.68*	***<1.66***	***<1.73***	***<1.72***	*<1.76*	***<1.68***
Benzo(a)anthracene	56-55-3	6.21 {NMED ResSoil 09}	6.39	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Benzo(a)pyrene	50-32-8	0.621 {NMED ResSoil 09}	2.17	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Benzo(b)fluoranthene	205-99-2	6.21 {NMED ResSoil 09}	22.2	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Benzo(g,h,i)perylene	191-24-2	--	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094HA03 14 12/19/93	0094HA04 0 12/19/93	0094HA04 4 12/19/93	0094HA04 9 12/19/93	0094HA04 14 12/19/93	0094SB05 0 12/17/93
Semi-Volatile Organic Compounds											
Benzo(k)fluoranthene	207-08-9	62.1 {NMED ResSoil 09}	217	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Benzoic Acid	65-85-0	240000 {EPA ResSoil 10}	- -	mg/kg		<1.68	<1.66	<1.73	<1.72	<1.76	<1.68
Benzyl Alcohol	100-51-6	6100 {EPA ResSoil 10}	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
bis(2-Chloroethoxy)methane	111-91-1	180 {EPA ResSoil 10}	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
bis(2-Chloroethyl)ether	111-44-4	2.56 {NMED ResSoil 09}	0.000465	mg/kg		*<0.347*	*<0.343*	*<0.357*	*<0.354*	*<0.362*	*<0.346*
Bis(2-Chloroisopropyl)Ether	39638-32-	- -	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
bis(2-Ethylhexyl)phthalate	117-81-7	347 {NMED ResSoil 09}	238	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Butylbenzylphthalate	85-68-7	2600 {EPA ResSoil 10}	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Dibenzo(a,h)anthracene	53-70-3	0.621 {NMED ResSoil 09}	7.24	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Dibenzofuran	132-64-9	--	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Diethylphthalate	84-66-2	48900 {NMED ResSoil 09}	212	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Dimethylphthalate	131-11-3	611000 {NMED ResSoil	1670	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Di-n-Butylphthalate	84-74-2	6110 {NMED ResSoil 09}	173	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Di-n-Octylphthalate	117-84-0	--	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Diphenylamine	122-39-4	1500 {EPA ResSoil 10}	- -	mg/kg		<1.05	<1.04	<1.08	<1.07	<1.10	<1.05
Fluoranthene	206-44-0	2290 {NMED ResSoil 09}	3110	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Fluorene	86-73-7	2290 {NMED ResSoil 09}	500	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Hexachlorobenzene	118-74-1	3.04 {NMED ResSoil 09}	0.0441	mg/kg		*<0.347*	*<0.343*	*<0.357*	*<0.354*	*<0.362*	*<0.346*
Hexachlorobutadiene	87-68-3	61.1 {NMED ResSoil 09}	0.295	mg/kg		*<0.347*	*<0.343*	*<0.357*	*<0.354*	*<0.362*	*<0.346*
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil 09}	12.3	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Hexachloroethane	67-72-1	61.1 {NMED ResSoil 09}	0.386	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Indeno(1,2,3-cd)pyrene	193-39-5	6.21 {NMED ResSoil 09}	73.9	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Isophorone	78-59-1	5120 {NMED ResSoil 09}	3.69	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
m-Dichlorobenzene	541-73-1	--	--	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Nitrobenzene	98-95-3	49.4 {NMED ResSoil 09}	0.137	mg/kg		*<0.347*	*<0.343*	*<0.357*	*<0.354*	*<0.362*	*<0.346*
N-Nitrosodimethylamine	62-75-9	0.954 {NMED ResSoil 09}	0.0000608	mg/kg		ND [1]	ND [1]	ND [1]	ND [1]	ND [1]	ND [1]
N-Nitroso-di-n-propylamine	621-64-7	0.69 {EPA ResSoil 10}	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil 09}	25.8	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
p-Chloroaniline	106-47-8	24 {EPA ResSoil 10}	- -	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil 09}	0.587	mg/kg		*<1.68*	*<1.66*	*<1.73*	*<1.72*	*<1.76*	*<1.68*
Phenanthrene	85-01-8	1830 {NMED ResSoil 09}	1670	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Phenol	108-95-2	18300 {NMED ResSoil 09}	126	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Pyrene	129-00-0	1720 {NMED ResSoil 09}	2240	mg/kg		<0.347	<0.343	<0.357	<0.354	<0.362	<0.346
Volatile Organic Compounds											
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil 09}	59.5	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil 09}	0.00450	mg/kg		*<0.00526*	*<0.00520*	*<0.00541*	*<0.00537*	*<0.00549*	*<0.00524*
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil 09}	0.0135	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil 09}	0.122	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
1,1-Dichloroethene	75-35-4	618 {NMED ResSoil 09}	2.38	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094HA03 14 12/19/93	0094HA04 0 12/19/93	0094HA04 4 12/19/93	0094HA04 9 12/19/93	0094HA04 14 12/19/93	0094SB05 0 12/17/93
Volatile Organic Compounds											
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil 09}	0.000713	mg/kg		*<0.00526*	*<0.00520*	*<0.00541*	*<0.00537*	*<0.00549*	*<0.00524*
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil 09}	6.27	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil 09}	0.00730	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil 09}	0.0223	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
1,4 Dichloro-2-butene	764-41-0	0.046 {NMED ResSoil 09}	0.000163	mg/kg		*<0.0105*	*<0.0104*	*<0.0108*	*<0.0107*	*<0.0110*	*<0.0105*
2-Butanone	78-93-3	39600 {NMED ResSoil 09}	25.3	mg/kg		<0.0210	<0.0208	<0.0216	<0.0215	<0.0220	<0.0209
2-Chloroethylvinylether	110-75-8	--	- -	mg/kg		<0.0105	<0.0104	<0.0108	<0.0107	<0.0110	<0.0105
2-Hexanone	591-78-6	--	- -	mg/kg		<0.0210	<0.0208	<0.0216	<0.0215	<0.0220	<0.0209
Acetone	67-64-1	67500 {NMED ResSoil 09}	76.9	mg/kg		<0.0210	<0.0208	<0.0216	<0.0215	<0.0220	<0.0209
Acrolein	107-02-8	0.646 {NMED ResSoil 09}	0.000148	mg/kg		*<0.00526*	*<0.00520*	*<0.00541*	*<0.00537*	*<0.00549*	*<0.00524*
Acrylonitrile	107-13-1	5.97 {NMED ResSoil 09}	0.00164	mg/kg		*<0.0105*	*<0.0104*	*<0.0108*	*<0.0107*	*<0.0110*	*<0.0105*
Benzene	71-43-2	15.5 {NMED ResSoil 09}	0.0370	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
bis(2-Chloroisopropyl)ether	108-60-1	--	0.0511	mg/kg		*<0.347*	*<0.343*	*<0.357*	*<0.354*	*<0.362*	*<0.346*
Bromodichloromethane	75-27-4	5.25 {NMED ResSoil 09}	0.00553	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Bromomethane	74-83-9	22.3 {NMED ResSoil 09}	0.0388	mg/kg		<0.0105	<0.0104	<0.0108	<0.0107	<0.0110	<0.0105
Carbon Disulfide	75-15-0	1940 {NMED ResSoil 09}	5.04	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil 09}	0.0148	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Chlorobenzene	108-90-7	508 {NMED ResSoil 09}	1.08	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Chloroethane	75-00-3	43600 {NMED ResSoil 09}	108	mg/kg		<0.0105	<0.0104	<0.0108	<0.0107	<0.0110	<0.0105
Chloroform	67-66-3	5.72 {NMED ResSoil 09}	0.00936	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Chloromethane	74-87-3	35.6 {NMED ResSoil 09}	0.0836	mg/kg		<0.0105	<0.0104	<0.0108	<0.0107	<0.0110	<0.0105
cis-1,2-Dichloroethene	156-59-2	782 {NMED ResSoil 09}	1.89	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
cis-1,3-Dichloropropene	10061-01-	--	- -	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Dibromochloromethane	124-48-1	11.9 {NMED ResSoil 09}	0.00675	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Dibromomethane	74-95-3	782 {NMED ResSoil 09}	1.55	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Dichlorodifluoromethane	75-71-8	481 {NMED ResSoil 09}	14.5	mg/kg		- -	- -	- -	- -	- -	- -
Ethanol	64-17-5	--	- -	mg/kg		- -	- -	- -	- -	- -	- -
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil 09}	13.4	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Ethylbenzene	100-41-4	69.7 {NMED ResSoil 09}	0.291	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Iodomethane	74-88-4	--	- -	mg/kg		<0.0105	<0.0104	<0.0108	<0.0107	<0.0110	<0.0105
Methylene Chloride	75-09-2	199 {NMED ResSoil 09}	0.215	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Naphthalene	91-20-3	45 {NMED ResSoil 09}	0.0839	mg/kg		*<0.347*	*<0.343*	*<0.357*	*<0.354*	*<0.362*	*<0.346*
Styrene	100-42-5	8970 {NMED ResSoil 09}	31.2	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil 09}	0.00898	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Toluene	108-88-3	5570 {NMED ResSoil 09}	27.70	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil 09}	0.603	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
trans-1,3-Dichloropropene	10061-02-	--	- -	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Trichloroethene	79-01-6	45.7 {NMED ResSoil 09}	0.106	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524
Trichlorofluoromethane	75-69-4	2010 {NMED ResSoil 09}	18.0	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094HA03 14 12/19/93	0094HA04 0 12/19/93	0094HA04 4 12/19/93	0094HA04 9 12/19/93	0094HA04 14 12/19/93	0094SB05 0 12/17/93
Volatile Organic Compounds											
Vinyl Acetate	108-05-4	3650 {NMED ResSoil 09}	1.53	mg/kg		<0.0210	<0.0208	<0.0216	<0.0215	<0.0220	<0.0209
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil 09}	0.00576	mg/kg		*<0.0105*	*<0.0104*	*<0.0108*	*<0.0107*	*<0.0110*	*<0.0105*
Xylenes	1330-20-7	1090 {NMED ResSoil 09}	3.52	mg/kg		<0.00526	<0.00520	<0.00541	<0.00537	<0.00549	<0.00524

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094SB05 4 12/17/93	0094SB05 9 12/17/93	0094SB05 14 12/17/93	0094SB05 19 12/17/93	0094SB05 23.5 12/17/93	0094SB05 27.5 12/17/93
Metals											
Arsenic	7440-38-2	3.9 {NMED ResSoil 09}	0.262	mg/kg		*<2.74 [<2.74]*	*<2.75*	*<2.93*	*3.26*	*3.22*	*12.5*
Barium	7440-39-3	15600 {NMED ResSoil 09}	6030	mg/kg		35.1 J [40.5 J]	83.6 J	111 J	94.4 J	80.8 J	138 J
Cadmium	7440-43-9	77.9 {NMED ResSoil 09}	27.5	mg/kg		<5.48 [<5.48]	<5.50	<5.85	<5.97	<5.77	<6.33
Chromium	7440-47-3	219 {NMED ResSoil 09}	- -	mg/kg		<27.4 [<27.4]	<27.5	<29.3	<29.9	<28.9	36.7
Lead	7439-92-1	400 {NMED ResSoil 09}	- -	mg/kg		12.4 [10.6]	7.57	9.19	9.90	8.82	22.2
Mercury	7439-97-6	7.71 {NMED ResSoil 09}	0.59	mg/kg		<0.0219 [<0.0219]	0.0220	<0.0234	<0.0239	<0.0231	<0.0253
Selenium	7782-49-2	391 {NMED ResSoil 09}	19.3	mg/kg		<2.74 [<2.74]	<2.75	<2.93	<2.99	<2.89	<3.16
Silver	7440-22-4	391 {NMED ResSoil 09}	31.3	mg/kg		<27.4 [<27.4]	<27.5	<29.3	<29.9	<28.9	*<31.6*
Other											
Percent Moisture	MOIST	--	- -	%		8.80 [8.70]	9.10	14.6	16.3	13.4	21.0
pH	pH	--	--	pH units		--	--	--	--	--	--
TPH	TPH	200 {NMED TPH	- -	mg/kg		**11,600 J [13,100]**	<33.0	<35.1 UJ	63.3 J	40.4 J	<38.0 UJ
DRO	DRO	200 {NMED TPH	--	mg/kg		--	--	--	--	--	--
GRO	GRO	--	--	mg/kg		--	--	--	--	--	--
Polycyclic Biphenyls											
Aroclor-1016	12674-11-	3.93 {NMED ResSoil 09}	2.09	mg/kg		<0.173 [<0.173]	<0.174	<0.185	<0.189	<0.182	<0.200
Aroclor-1221	11104-28-	1.76 {NMED ResSoil 09}	0.0213	mg/kg		*<0.173 [<0.173]*	*<0.174*	*<0.185*	*<0.189*	*<0.182*	*<0.200*
Aroclor-1232	11141-16-	1.76 {NMED ResSoil 09}	0.0213	mg/kg		*<0.173 [<0.173]*	*<0.174*	*<0.185*	*<0.189*	*<0.182*	*<0.200*
Aroclor-1242	53469-21-	2.22 {NMED ResSoil 09}	0.453	mg/kg		<0.173 [<0.173]	<0.174	<0.185	<0.189	<0.182	<0.200
Aroclor-1248	12672-29-	2.22 {NMED ResSoil 09}	0.444	mg/kg		<0.173 [<0.173]	<0.174	<0.185	<0.189	<0.182	<0.200
Aroclor-1254	11097-69-	1.12 {NMED ResSoil 09}	0.764	mg/kg		<0.173 [<0.173]	<0.174	<0.185	<0.189	<0.182	<0.200
Aroclor-1260	11096-82-	2.22 {NMED ResSoil 09}	2.09	mg/kg		<0.173 [<0.173]	<0.174	<0.185	<0.189	<0.182	<0.200
Pesticides/Herbicides											
4,4'-DDD	72-54-8	20.3 {NMED ResSoil 09}	12.8	mg/kg		<0.00808 [<0.00807]	<0.00811	<0.00863	<0.00880	<0.00851	<0.00933
4,4'-DDE	72-55-9	14.3 {NMED ResSoil 09}	9.05	mg/kg		<0.00294 [<0.00294]	<0.00295	<0.00314	<0.00320	<0.00309	<0.00339
4,4'-DDT	50-29-3	17.2 {NMED ResSoil 09}	13.1	mg/kg		<0.00882 [<0.00881]	<0.00884	<0.00941	<0.00960	<0.00928	<0.0102
Aldrin	309-00-2	0.284 {NMED ResSoil 09}	0.124	mg/kg		<0.00294 [<0.00294]	<0.00295	<0.00314	<0.00320	<0.00309	<0.00339
Alpha-BHC	319-84-6	0.772 {NMED ResSoil 09}	0.011	mg/kg		<0.00220 [<0.00220]	<0.00221	<0.00235	<0.00240	<0.00232	<0.00254
Beta-BHC	319-85-7	2.7 {NMED ResSoil 09}	0.039	mg/kg		<0.00441 [<0.00440]	<0.00442	<0.00471	<0.00480	<0.00464	<0.00509
Delta-BHC	319-86-8	--	- -	mg/kg		<0.00661[<0.00660]	<0.00663	<0.00706	<0.00720	<0.00696	<0.00763
Dieldrin	60-57-1	0.304 {NMED ResSoil 09}	0.014	mg/kg		<0.00147 [<0.00147]	<0.00147	<0.00157	<0.00160	<0.00155	<0.00170
Endosulfan I	959-98-8	--	- -	mg/kg		<0.0103 [<0.0103]	<0.0103	<0.0110	<0.0112	<0.0108	<0.0119
Endosulfan II	33213-65-	--	- -	mg/kg		<0.00294 [<0.00294]	<0.00295	<0.00314	<0.00320	<0.00309	<0.00339
Endosulfan Sulfate	1031-07-8	--	- -	mg/kg		<0.0485 [<0.0484]	<0.0486	<0.0518	<0.0528	<0.0511	<0.0560
Endrin	72-20-8	18.3 {NMED ResSoil 09}	3.52	mg/kg		<0.00441 [<0.00440]	<0.00442	<0.00471	<0.00480	<0.00464	<0.00509
Endrin Aldehyde	7421-93-4	--	- -	mg/kg		<0.0169 [<0.0169]	<0.0170	<0.0180	<0.0184	<0.0178	<0.0195
Gamma-BHC (Lindane)	58-89-9	5.17 {NMED ResSoil 09}	0.0641	mg/kg		<0.00294 [<0.00294]	<0.00295	<0.00314	<0.00320	<0.00309	<0.00339
Heptachlor	76-44-8	1.08 {NMED ResSoil 09}	0.235	mg/kg		<0.00220 [<0.00220]	<0.00221	<0.00235	<0.00240	<0.00232	<0.00254
Heptachlor Epoxide	1024-57-3	0.53 {EPA ResSoil 10}	- -	mg/kg		<0.0610 [<0.0609]	<0.0612	<0.0651	<0.0664	<0.0642	<0.0704

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094SB05 4 12/17/93	0094SB05 9 12/17/93	0094SB05 14 12/17/93	0094SB05 19 12/17/93	0094SB05 23.5 12/17/93	0094SB05 27.5 12/17/93
Semi-Volatile Organic Compounds											
Methoxychlor	72-43-5	310 {EPA ResSoil 10}	- -	mg/kg		<0.129 [<0.129]	<0.130	<0.138	<0.141	<0.136	<0.149
Chlordane	57-74-9	16.2 {NMED ResSoil 09}	5.00	mg/kg		<0.0103 [<0.0103]	<0.0103	<0.0110	<0.0112	<0.0108	<0.0119
Toxaphene	8001-35-2	4.42 {NMED ResSoil 09}	1.82	mg/kg		<0.176 [<0.176]	<0.177	<0.188	<0.192	<0.186	<0.204
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil 09}	0.205	mg/kg		*<0.362 [<0.361]*	*<0.363*	*<0.386*	*<0.394*	*<0.381*	*<0.418*
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil 09}	652	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
1,2-Diphenylhydrazine	122-66-7	6.08 {NMED ResSoil 09}	0.0906	mg/kg		*<1.75 [<1.75]*	*<1.76*	*<1.87*	*<1.91*	*<1.85*	*<2.02*
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil 09}	0.0714	mg/kg		<0.00548 [*8.76*]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
1-Chloronaphthalene	90-13-1	--	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
2,4,5-Trichlorophenol	95-95-4	6110 {NMED ResSoil 09}	143	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil 09}	1.43	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil 09}	2.74	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil 09}	18.2	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil 09}	1.05	mg/kg		*<1.75 [<1.75]*	*<1.76*	*<1.87*	*<1.91*	*<1.85*	*<2.02*
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil 09}	0.0312	mg/kg		*<0.362 [<0.361]*	*<0.363*	*<0.386*	*<0.394*	*<0.381*	*<0.418*
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil 09}	0.533	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil 09}	271	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
2-Chlorophenol	95-57-8	391 {NMED ResSoil 09}	3.06	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
2-Methylnaphthalene	91-57-6	310 {EPA ResSoil 10}	- -	mg/kg		<0.362 [0.853]	<0.363	<0.386	<0.394	<0.381	<0.418
2-Methylphenol	95-48-7	3100 {EPA ResSoil 10}	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
2-Nitroaniline	88-74-4	--	- -	mg/kg		<1.75 [<1.75]	<1.76	<1.87	<1.91	<1.85	<2.02
2-Nitrophenol	88-75-5	--	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
3,3'-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil 09}	0.341	mg/kg		*<0.362 [<0.361]*	*<0.363*	*<0.386*	*<0.394*	*<0.381*	*<0.418*
3-Nitroaniline	99-09-2	--	- -	mg/kg		<1.75 [<1.75]	<1.76	<1.87	<1.91	<1.85	<2.02
4,6-Dinitro-2-methylphenol	534-52-1	6.11 {NMED ResSoil 09}	0.0785	mg/kg		*<1.75 [<1.75]*	*<1.76*	*<1.87*	*<1.91*	*<1.85*	*<2.02*
4-Bromophenyl-phenylether	101-55-3	--	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
4-Chloro-3-Methylphenol	59-50-7	--	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
4-Chlorophenyl-phenylether	7005-72-3	--	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
4-Methyl-2-pentanone	108-10-1	5950 {NMED ResSoil 09}	7.58	mg/kg		<0.0219 [<0.0219]	<0.0220	<0.0234	<0.0239	<0.0231	<0.0253
4-Methylphenol	106-44-5	310 {EPA ResSoil 10}	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
4-Nitroaniline	100-01-6	240 {EPA ResSoil 10}	- -	mg/kg		<1.75 [<1.75]	<1.76	<1.87	<1.91	<1.85	<2.02
4-Nitrophenol	100-02-7	--	- -	mg/kg		<1.75 [<1.75]	<1.76	<1.87	<1.91	<1.85	<2.02
Acenaphthene	83-32-9	3440 {NMED ResSoil 09}	410	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Acenaphthylene	208-96-8	--	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Anthracene	120-12-7	17200 {NMED ResSoil 09}	6740	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Benzidine	92-87-5	0.0211 {NMED ResSoil 09}	0.000250	mg/kg		***<1.75 [<1.75]***	***<1.76***	*<1.87*	*<1.91*	*<1.85*	*<2.02*
Benzo(a)anthracene	56-55-3	6.21 {NMED ResSoil 09}	6.39	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Benzo(a)pyrene	50-32-8	0.621 {NMED ResSoil 09}	2.17	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Benzo(b)fluoranthene	205-99-2	6.21 {NMED ResSoil 09}	22.2	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Benzo(g,h,i)perylene	191-24-2	--	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094SB05 4 12/17/93	0094SB05 9 12/17/93	0094SB05 14 12/17/93	0094SB05 19 12/17/93	0094SB05 23.5 12/17/93	0094SB05 27.5 12/17/93
Semi-Volatile Organic Compounds											
Benzo(k)fluoranthene	207-08-9	62.1 {NMED ResSoil 09}	217	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Benzoic Acid	65-85-0	240000 {EPA ResSoil 10}	- -	mg/kg		<1.75 [<1.75]	<1.76	<1.87	<1.91	<1.85	<2.02
Benzyl Alcohol	100-51-6	6100 {EPA ResSoil 10}	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
bis(2-Chloroethoxy)methane	111-91-1	180 {EPA ResSoil 10}	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
bis(2-Chloroethyl)ether	111-44-4	2.56 {NMED ResSoil 09}	0.000465	mg/kg		*<0.362 [<0.361]*	*<0.363*	*<0.386*	*<0.394*	*<0.381*	*<0.418*
Bis(2-Chloroisopropyl)Ether	39638-32-	- -	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
bis(2-Ethylhexyl)phthalate	117-81-7	347 {NMED ResSoil 09}	238	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Butylbenzylphthalate	85-68-7	2600 {EPA ResSoil 10}	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Dibenzo(a,h)anthracene	53-70-3	0.621 {NMED ResSoil 09}	7.24	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Dibenzofuran	132-64-9	--	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Diethylphthalate	84-66-2	48900 {NMED ResSoil 09}	212	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Dimethylphthalate	131-11-3	611000 {NMED ResSoil	1670	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Di-n-Butylphthalate	84-74-2	6110 {NMED ResSoil 09}	173	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Di-n-Octylphthalate	117-84-0	--	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Diphenylamine	122-39-4	1500 {EPA ResSoil 10}	- -	mg/kg		<1.10 [<1.10]	<1.10	<1.17	<1.19	<1.15	<1.26
Fluoranthene	206-44-0	2290 {NMED ResSoil 09}	3110	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Fluorene	86-73-7	2290 {NMED ResSoil 09}	500	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Hexachlorobenzene	118-74-1	3.04 {NMED ResSoil 09}	0.0441	mg/kg		*<0.362 [<0.361]*	*<0.363*	*<0.386*	*<0.394*	*<0.381*	*<0.418*
Hexachlorobutadiene	87-68-3	61.1 {NMED ResSoil 09}	0.295	mg/kg		*<0.362 [<0.361]*	*<0.363*	*<0.386*	*<0.394*	*<0.381*	*<0.418*
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil 09}	12.3	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Hexachloroethane	67-72-1	61.1 {NMED ResSoil 09}	0.386	mg/kg		<0.362 [<0.361]	<0.363	<0.386	*<0.394*	<0.381	*<0.418*
Indeno(1,2,3-cd)pyrene	193-39-5	6.21 {NMED ResSoil 09}	73.9	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Isophorone	78-59-1	5120 {NMED ResSoil 09}	3.69	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
m-Dichlorobenzene	541-73-1	--	--	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Nitrobenzene	98-95-3	49.4 {NMED ResSoil 09}	0.137	mg/kg		*<0.362 [<0.361]*	*<0.363*	*<0.386*	*<0.394*	*<0.381*	*<0.418*
N-Nitrosodimethylamine	62-75-9	0.954 {NMED ResSoil 09}	0.0000608	mg/kg		ND [1]	ND [1]	ND [1]	ND [1]	ND [1]	ND [1]
N-Nitroso-di-n-propylamine	621-64-7	0.69 {EPA ResSoil 10}	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil 09}	25.8	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
p-Chloroaniline	106-47-8	24 {EPA ResSoil 10}	- -	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil 09}	0.587	mg/kg		*<1.75 [<1.75]*	*<1.76*	*<1.87*	*<1.91*	*<1.85*	*<2.02*
Phenanthrene	85-01-8	1830 {NMED ResSoil 09}	1670	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Phenol	108-95-2	18300 {NMED ResSoil 09}	126	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Pyrene	129-00-0	1720 {NMED ResSoil 09}	2240	mg/kg		<0.362 [<0.361]	<0.363	<0.386	<0.394	<0.381	<0.418
Volatile Organic Compounds											
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil 09}	59.5	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil 09}	0.00450	mg/kg		*<0.00548 [<0.00548]*	*<0.00550*	*<0.00585*	*<0.00597*	*<0.00577*	*<0.00633*
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil 09}	0.0135	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil 09}	0.122	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
1,1-Dichloroethene	75-35-4	618 {NMED ResSoil 09}	2.38	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094SB05 4 12/17/93	0094SB05 9 12/17/93	0094SB05 14 12/17/93	0094SB05 19 12/17/93	0094SB05 23.5 12/17/93	0094SB05 27.5 12/17/93
Volatile Organic Compounds											
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil 09}	0.000713	mg/kg		*0.0669 J [<0.00548W]*	*<0.00550*	*<0.00585*	*<0.00597*	*<0.00577*	*<0.00633*
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil 09}	6.27	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil 09}	0.00730	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil 09}	0.0223	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
1,4 Dichloro-2-butene	764-41-0	0.046 {NMED ResSoil 09}	0.000163	mg/kg		*<0.0110 [<0.0110]*	*<0.0110*	*<0.0117*	*<0.0119*	*<0.0115*	*<0.0126*
2-Butanone	78-93-3	39600 {NMED ResSoil 09}	25.3	mg/kg		<0.0219 [<0.0219]	<0.0220	<0.0234	<0.0239	<0.0231	<0.0253
2-Chloroethylvinylether	110-75-8	--	- -	mg/kg		<0.0110 [<0.0110]	<0.0110	<0.0117	<0.0119	<0.0115	<0.0126
2-Hexanone	591-78-6	--	- -	mg/kg		<0.0219 [<0.0219]	<0.0220	<0.0234	<0.0239	<0.0231	<0.0253
Acetone	67-64-1	67500 {NMED ResSoil 09}	76.9	mg/kg		<0.0219 [<0.0219]	<0.0220	<0.0234	<0.0239	<0.0231	<0.0253
Acrolein	107-02-8	0.646 {NMED ResSoil 09}	0.000148	mg/kg		*<0.00548 [<0.00548]*	*<0.00550*	*<0.00585*	*<0.00597*	*<0.00577*	*<0.00633*
Acrylonitrile	107-13-1	5.97 {NMED ResSoil 09}	0.00164	mg/kg		*<0.0110 [<0.0110]*	*<0.0110*	*<0.0117*	*<0.0119*	*<0.0115*	*<0.0126*
Benzene	71-43-2	15.5 {NMED ResSoil 09}	0.0370	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
bis(2-Chloroisopropyl)ether	108-60-1	--	0.0511	mg/kg		*<0.362 [<0.361]*	*<0.363*	*<0.386*	*<0.394*	*<0.381*	*<0.418*
Bromodichloromethane	75-27-4	5.25 {NMED ResSoil 09}	0.00553	mg/kg		<0.00548 [<0.00548]	<0.00550	*<0.00585*	*<0.00597*	*<0.00577*	*<0.00633*
Bromomethane	74-83-9	22.3 {NMED ResSoil 09}	0.0388	mg/kg		<0.0110 [<0.0110]	<0.0110	<0.0117	<0.0119	<0.0115	<0.0126
Carbon Disulfide	75-15-0	1940 {NMED ResSoil 09}	5.04	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil 09}	0.0148	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
Chlorobenzene	108-90-7	508 {NMED ResSoil 09}	1.08	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
Chloroethane	75-00-3	43600 {NMED ResSoil 09}	108	mg/kg		<0.0110 [<0.0110]	<0.0110	<0.0117	<0.0119	<0.0115	<0.0126
Chloroform	67-66-3	5.72 {NMED ResSoil 09}	0.00936	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
Chloromethane	74-87-3	35.6 {NMED ResSoil 09}	0.0836	mg/kg		<0.0110 [<0.0110]	<0.0110	<0.0117	<0.0119	<0.0115	<0.0126
cis-1,2-Dichloroethene	156-59-2	782 {NMED ResSoil 09}	1.89	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
cis-1,3-Dichloropropene	10061-01-	--	- -	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
Dibromochloromethane	124-48-1	11.9 {NMED ResSoil 09}	0.00675	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
Dibromomethane	74-95-3	782 {NMED ResSoil 09}	1.55	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
Dichlorodifluoromethane	75-71-8	481 {NMED ResSoil 09}	14.5	mg/kg		- -	- -	- -	- -	- -	- -
Ethanol	64-17-5	--	- -	mg/kg		- -	- -	- -	- -	- -	- -
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil 09}	13.4	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
Ethylbenzene	100-41-4	69.7 {NMED ResSoil 09}	0.291	mg/kg		<0.00548 [0.00624]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
Iodomethane	74-88-4	--	- -	mg/kg		<0.0110 [<0.0110]	<0.0110	<0.0117	<0.0119	<0.0115	<0.0126
Methylene Chloride	75-09-2	199 {NMED ResSoil 09}	0.215	mg/kg		<0.00548 [0.0253]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
Naphthalene	91-20-3	45 {NMED ResSoil 09}	0.0839	mg/kg		*<0.362 [<0.361]*	*<0.363*	*<0.386*	*<0.394*	*<0.381*	*<0.418*
Styrene	100-42-5	8970 {NMED ResSoil 09}	31.2	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil 09}	0.00898	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
Toluene	108-88-3	5570 {NMED ResSoil 09}	27.70	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil 09}	0.603	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
trans-1,3-Dichloropropene	10061-02-	--	- -	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
Trichloroethene	79-01-6	45.7 {NMED ResSoil 09}	0.106	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633
Trichlorofluoromethane	75-69-4	2010 {NMED ResSoil 09}	18.0	mg/kg		<0.00548 [<0.00548]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	0094SB05 4 12/17/93	0094SB05 9 12/17/93	0094SB05 14 12/17/93	0094SB05 19 12/17/93	0094SB05 23.5 12/17/93	0094SB05 27.5 12/17/93
Volatile Organic Compounds											
Vinyl Acetate	108-05-4	3650 {NMED ResSoil 09}	1.53	mg/kg		<0.0219 [<0.0219]	<0.0220	<0.0234	<0.0239	<0.0231	<0.0253
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil 09}	0.00576	mg/kg		*<0.0110 [<0.0110]*	*<0.0110*	*<0.0117*	*<0.0119*	*<0.0115*	*<0.0126*
Xylenes	1330-20-7	1090 {NMED ResSoil 09}	3.52	mg/kg		0.163 J [0.0916]	<0.00550	<0.00585	<0.00597	<0.00577	<0.00633

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SB001 0-1 05/11/10	94SB001 4-5 05/11/10	94SB001 9-10 05/11/10	94SB001 14-15 05/11/10	94SB001 19-20 05/11/10	94SB001 24-25 05/11/10
Metals											
Arsenic	7440-38-2	3.9 {NMED ResSoil 09}	0.262	mg/kg		--	--	--	--	--	--
Barium	7440-39-3	15600 {NMED ResSoil 09}	6030	mg/kg		--	--	--	--	--	--
Cadmium	7440-43-9	77.9 {NMED ResSoil 09}	27.5	mg/kg		--	--	--	--	--	--
Chromium	7440-47-3	219 {NMED ResSoil 09}	- -	mg/kg		--	--	--	--	--	--
Lead	7439-92-1	400 {NMED ResSoil 09}	- -	mg/kg		--	--	--	--	--	--
Mercury	7439-97-6	7.71 {NMED ResSoil 09}	0.59	mg/kg		--	--	--	--	--	--
Selenium	7782-49-2	391 {NMED ResSoil 09}	19.3	mg/kg		--	--	--	--	--	--
Silver	7440-22-4	391 {NMED ResSoil 09}	31.3	mg/kg		--	--	--	--	--	--
Other											
Percent Moisture	MOIST	--	- -	%		2.59	4.63	9.02	8.00	13.5 [17.8]	2.96
pH	pH	--	--	pH units		--	--	--	--	--	--
TPH	TPH	200 {NMED TPH	- -	mg/kg		--	--	--	--	--	--
DRO	DRO	200 {NMED TPH	--	mg/kg		5.83 J	<2.93	90.3J	<3.00	<3.28 [<3.42]	<2.92
GRO	GRO	--	--	mg/kg		<0.0684	<0.0694	<0.0535	<0.0789	<0.0695 [<0.077]	<0.0619
Polycyclic Biphenyls											
Aroclor-1016	12674-11-	3.93 {NMED ResSoil 09}	2.09	mg/kg		--	--	--	--	--	--
Aroclor-1221	11104-28-	1.76 {NMED ResSoil 09}	0.0213	mg/kg		--	--	--	--	--	--
Aroclor-1232	11141-16-	1.76 {NMED ResSoil 09}	0.0213	mg/kg		--	--	--	--	--	--
Aroclor-1242	53469-21-	2.22 {NMED ResSoil 09}	0.453	mg/kg		--	--	--	--	--	--
Aroclor-1248	12672-29-	2.22 {NMED ResSoil 09}	0.444	mg/kg		--	--	--	--	--	--
Aroclor-1254	11097-69-	1.12 {NMED ResSoil 09}	0.764	mg/kg		--	--	--	--	--	--
Aroclor-1260	11096-82-	2.22 {NMED ResSoil 09}	2.09	mg/kg		--	--	--	--	--	--
Pesticides/Herbicides											
4,4'-DDD	72-54-8	20.3 {NMED ResSoil 09}	12.8	mg/kg		--	--	--	--	--	--
4,4'-DDE	72-55-9	14.3 {NMED ResSoil 09}	9.05	mg/kg		--	--	--	--	--	--
4,4'-DDT	50-29-3	17.2 {NMED ResSoil 09}	13.1	mg/kg		--	--	--	--	--	--
Aldrin	309-00-2	0.284 {NMED ResSoil 09}	0.124	mg/kg		--	--	--	--	--	--
Alpha-BHC	319-84-6	0.772 {NMED ResSoil 09}	0.011	mg/kg		--	--	--	--	--	--
Beta-BHC	319-85-7	2.7 {NMED ResSoil 09}	0.039	mg/kg		--	--	--	--	--	--
Delta-BHC	319-86-8	--	- -	mg/kg		--	--	--	--	--	--
Dieldrin	60-57-1	0.304 {NMED ResSoil 09}	0.014	mg/kg		--	--	--	--	--	--
Endosulfan I	959-98-8	--	- -	mg/kg		--	--	--	--	--	--
Endosulfan II	33213-65-	--	- -	mg/kg		--	--	--	--	--	--
Endosulfan Sulfate	1031-07-8	--	- -	mg/kg		--	--	--	--	--	--
Endrin	72-20-8	18.3 {NMED ResSoil 09}	3.52	mg/kg		--	--	--	--	--	--
Endrin Aldehyde	7421-93-4	--	- -	mg/kg		--	--	--	--	--	--
Gamma-BHC (Lindane)	58-89-9	5.17 {NMED ResSoil 09}	0.0641	mg/kg		--	--	--	--	--	--
Heptachlor	76-44-8	1.08 {NMED ResSoil 09}	0.235	mg/kg		--	--	--	--	--	--
Heptachlor Epoxide	1024-57-3	0.53 {EPA ResSoil 10}	- -	mg/kg		--	--	--	--	--	--

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SB001 0-1 05/11/10	94SB001 4-5 05/11/10	94SB001 9-10 05/11/10	94SB001 14-15 05/11/10	94SB001 19-20 05/11/10	94SB001 24-25 05/11/10
Semi-Volatile Organic Compounds											
Methoxychlor	72-43-5	310 {EPA ResSoil 10}	- -	mg/kg		--	--	--	--	--	--
Chlordane	57-74-9	16.2 {NMED ResSoil 09}	5.00	mg/kg		--	--	--	--	--	--
Toxaphene	8001-35-2	4.42 {NMED ResSoil 09}	1.82	mg/kg		--	--	--	--	--	--
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil 09}	0.205	mg/kg		--	--	--	--	--	--
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil 09}	652	mg/kg		--	--	--	--	--	--
1,2-Diphenylhydrazine	122-66-7	6.08 {NMED ResSoil 09}	0.0906	mg/kg		--	--	--	--	--	--
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil 09}	0.0714	mg/kg		--	--	--	--	--	--
1-Chloronaphthalene	90-13-1	--	- -	mg/kg		--	--	--	--	--	--
2,4,5-Trichlorophenol	95-95-4	6110 {NMED ResSoil 09}	143	mg/kg		--	--	--	--	--	--
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil 09}	1.43	mg/kg		--	--	--	--	--	--
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil 09}	2.74	mg/kg		--	--	--	--	--	--
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil 09}	18.2	mg/kg		--	--	--	--	--	--
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil 09}	1.05	mg/kg		--	--	--	--	--	--
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil 09}	0.0312	mg/kg		--	--	--	--	--	--
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil 09}	0.533	mg/kg		--	--	--	--	--	--
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil 09}	271	mg/kg		--	--	--	--	--	--
2-Chlorophenol	95-57-8	391 {NMED ResSoil 09}	3.06	mg/kg		--	--	--	--	--	--
2-Methylnaphthalene	91-57-6	310 {EPA ResSoil 10}	- -	mg/kg		--	--	--	--	--	--
2-Methylphenol	95-48-7	3100 {EPA ResSoil 10}	- -	mg/kg		--	--	--	--	--	--
2-Nitroaniline	88-74-4	--	- -	mg/kg		--	--	--	--	--	--
2-Nitrophenol	88-75-5	--	- -	mg/kg		--	--	--	--	--	--
3,3'-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil 09}	0.341	mg/kg		--	--	--	--	--	--
3-Nitroaniline	99-09-2	--	- -	mg/kg		--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	534-52-1	6.11 {NMED ResSoil 09}	0.0785	mg/kg		--	--	--	--	--	--
4-Bromophenyl-phenylether	101-55-3	--	- -	mg/kg		--	--	--	--	--	--
4-Chloro-3-Methylphenol	59-50-7	--	- -	mg/kg		--	--	--	--	--	--
4-Chlorophenyl-phenylether	7005-72-3	--	- -	mg/kg		--	--	--	--	--	--
4-Methyl-2-pentanone	108-10-1	5950 {NMED ResSoil 09}	7.58	mg/kg		--	--	--	--	--	--
4-Methylphenol	106-44-5	310 {EPA ResSoil 10}	- -	mg/kg		--	--	--	--	--	--
4-Nitroaniline	100-01-6	240 {EPA ResSoil 10}	- -	mg/kg		--	--	--	--	--	--
4-Nitrophenol	100-02-7	--	- -	mg/kg		--	--	--	--	--	--
Acenaphthene	83-32-9	3440 {NMED ResSoil 09}	410	mg/kg		--	--	--	--	--	--
Acenaphthylene	208-96-8	--	- -	mg/kg		--	--	--	--	--	--
Anthracene	120-12-7	17200 {NMED ResSoil 09}	6740	mg/kg		--	--	--	--	--	--
Benzidine	92-87-5	0.0211 {NMED ResSoil 09}	0.000250	mg/kg		--	--	--	--	--	--
Benzo(a)anthracene	56-55-3	6.21 {NMED ResSoil 09}	6.39	mg/kg		--	--	--	--	--	--
Benzo(a)pyrene	50-32-8	0.621 {NMED ResSoil 09}	2.17	mg/kg		--	--	--	--	--	--
Benzo(b)fluoranthene	205-99-2	6.21 {NMED ResSoil 09}	22.2	mg/kg		--	--	--	--	--	--
Benzo(g,h,i)perylene	191-24-2	--	- -	mg/kg		--	--	--	--	--	--

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SB001 0-1 05/11/10	94SB001 4-5 05/11/10	94SB001 9-10 05/11/10	94SB001 14-15 05/11/10	94SB001 19-20 05/11/10	94SB001 24-25 05/11/10
Semi-Volatile Organic Compounds											
Benzo(k)fluoranthene	207-08-9	62.1 {NMED ResSoil 09}	217	mg/kg		--	--	--	--	--	--
Benzoic Acid	65-85-0	240000 {EPA ResSoil 10}	- -	mg/kg		--	--	--	--	--	--
Benzyl Alcohol	100-51-6	6100 {EPA ResSoil 10}	- -	mg/kg		--	--	--	--	--	--
bis(2-Chloroethoxy)methane	111-91-1	180 {EPA ResSoil 10}	- -	mg/kg		--	--	--	--	--	--
bis(2-Chloroethyl)ether	111-44-4	2.56 {NMED ResSoil 09}	0.000465	mg/kg		--	--	--	--	--	--
Bis(2-Chloroisopropyl)Ether	39638-32-	- -	- -	mg/kg		--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	117-81-7	347 {NMED ResSoil 09}	238	mg/kg		--	--	--	--	--	--
Butylbenzylphthalate	85-68-7	2600 {EPA ResSoil 10}	- -	mg/kg		--	--	--	--	--	--
Dibenzo(a,h)anthracene	53-70-3	0.621 {NMED ResSoil 09}	7.24	mg/kg		--	--	--	--	--	--
Dibenzofuran	132-64-9	--	- -	mg/kg		--	--	--	--	--	--
Diethylphthalate	84-66-2	48900 {NMED ResSoil 09}	212	mg/kg		--	--	--	--	--	--
Dimethylphthalate	131-11-3	611000 {NMED ResSoil	1670	mg/kg		--	--	--	--	--	--
Di-n-Butylphthalate	84-74-2	6110 {NMED ResSoil 09}	173	mg/kg		--	--	--	--	--	--
Di-n-Octylphthalate	117-84-0	--	- -	mg/kg		--	--	--	--	--	--
Diphenylamine	122-39-4	1500 {EPA ResSoil 10}	- -	mg/kg		--	--	--	--	--	--
Fluoranthene	206-44-0	2290 {NMED ResSoil 09}	3110	mg/kg		--	--	--	--	--	--
Fluorene	86-73-7	2290 {NMED ResSoil 09}	500	mg/kg		--	--	--	--	--	--
Hexachlorobenzene	118-74-1	3.04 {NMED ResSoil 09}	0.0441	mg/kg		--	--	--	--	--	--
Hexachlorobutadiene	87-68-3	61.1 {NMED ResSoil 09}	0.295	mg/kg		--	--	--	--	--	--
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil 09}	12.3	mg/kg		--	--	--	--	--	--
Hexachloroethane	67-72-1	61.1 {NMED ResSoil 09}	0.386	mg/kg		--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	193-39-5	6.21 {NMED ResSoil 09}	73.9	mg/kg		--	--	--	--	--	--
Isophorone	78-59-1	5120 {NMED ResSoil 09}	3.69	mg/kg		--	--	--	--	--	--
m-Dichlorobenzene	541-73-1	--	--	mg/kg		--	--	--	--	--	--
Nitrobenzene	98-95-3	49.4 {NMED ResSoil 09}	0.137	mg/kg		--	--	--	--	--	--
N-Nitrosodimethylamine	62-75-9	0.954 {NMED ResSoil 09}	0.0000608	mg/kg		*<0.00308*	*<0.00311*	*<0.00329*	*<0.00326*	*<0.00342 [<0.00360]*	*<0.00308*
N-Nitroso-di-n-propylamine	621-64-7	0.69 {EPA ResSoil 10}	- -	mg/kg		--	--	--	--	--	--
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil 09}	25.8	mg/kg		--	--	--	--	--	--
p-Chloroaniline	106-47-8	24 {EPA ResSoil 10}	- -	mg/kg		--	--	--	--	--	--
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil 09}	0.587	mg/kg		--	--	--	--	--	--
Phenanthrene	85-01-8	1830 {NMED ResSoil 09}	1670	mg/kg		--	--	--	--	--	--
Phenol	108-95-2	18300 {NMED ResSoil 09}	126	mg/kg		--	--	--	--	--	--
Pyrene	129-00-0	1720 {NMED ResSoil 09}	2240	mg/kg		--	--	--	--	--	--
Volatile Organic Compounds											
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil 09}	59.5	mg/kg		--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil 09}	0.00450	mg/kg		--	--	--	--	--	--
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil 09}	0.0135	mg/kg		--	--	--	--	--	--
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil 09}	0.122	mg/kg		--	--	--	--	--	--
1,1-Dichloroethene	75-35-4	618 {NMED ResSoil 09}	2.38	mg/kg		--	--	--	--	--	--

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SB001 0-1 05/11/10	94SB001 4-5 05/11/10	94SB001 9-10 05/11/10	94SB001 14-15 05/11/10	94SB001 19-20 05/11/10	94SB001 24-25 05/11/10
Volatile Organic Compounds											
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil 09}	0.000713	mg/kg		--	--	--	--	--	--
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil 09}	6.27	mg/kg		--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil 09}	0.00730	mg/kg		--	--	--	--	--	--
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil 09}	0.0223	mg/kg		--	--	--	--	--	--
1,4 Dichloro-2-butene	764-41-0	0.046 {NMED ResSoil 09}	0.000163	mg/kg		--	--	--	--	--	--
2-Butanone	78-93-3	39600 {NMED ResSoil 09}	25.3	mg/kg		--	--	--	--	--	--
2-Chloroethylvinylether	110-75-8	--	- -	mg/kg		--	--	--	--	--	--
2-Hexanone	591-78-6	--	- -	mg/kg		--	--	--	--	--	--
Acetone	67-64-1	67500 {NMED ResSoil 09}	76.9	mg/kg		--	--	--	--	--	--
Acrolein	107-02-8	0.646 {NMED ResSoil 09}	0.000148	mg/kg		--	--	--	--	--	--
Acrylonitrile	107-13-1	5.97 {NMED ResSoil 09}	0.00164	mg/kg		--	--	--	--	--	--
Benzene	71-43-2	15.5 {NMED ResSoil 09}	0.0370	mg/kg		--	--	--	--	--	--
bis(2-Chloroisopropyl)ether	108-60-1	--	0.0511	mg/kg		--	--	--	--	--	--
Bromodichloromethane	75-27-4	5.25 {NMED ResSoil 09}	0.00553	mg/kg		--	--	--	--	--	--
Bromomethane	74-83-9	22.3 {NMED ResSoil 09}	0.0388	mg/kg		--	--	--	--	--	--
Carbon Disulfide	75-15-0	1940 {NMED ResSoil 09}	5.04	mg/kg		--	--	--	--	--	--
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil 09}	0.0148	mg/kg		--	--	--	--	--	--
Chlorobenzene	108-90-7	508 {NMED ResSoil 09}	1.08	mg/kg		--	--	--	--	--	--
Chloroethane	75-00-3	43600 {NMED ResSoil 09}	108	mg/kg		--	--	--	--	--	--
Chloroform	67-66-3	5.72 {NMED ResSoil 09}	0.00936	mg/kg		--	--	--	--	--	--
Chloromethane	74-87-3	35.6 {NMED ResSoil 09}	0.0836	mg/kg		--	--	--	--	--	--
cis-1,2-Dichloroethene	156-59-2	782 {NMED ResSoil 09}	1.89	mg/kg		--	--	--	--	--	--
cis-1,3-Dichloropropene	10061-01-	--	- -	mg/kg		--	--	--	--	--	--
Dibromochloromethane	124-48-1	11.9 {NMED ResSoil 09}	0.00675	mg/kg		--	--	--	--	--	--
Dibromomethane	74-95-3	782 {NMED ResSoil 09}	1.55	mg/kg		--	--	--	--	--	--
Dichlorodifluoromethane	75-71-8	481 {NMED ResSoil 09}	14.5	mg/kg		--	--	--	--	--	--
Ethanol	64-17-5	--	- -	mg/kg		--	--	--	--	--	--
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil 09}	13.4	mg/kg		--	--	--	--	--	--
Ethylbenzene	100-41-4	69.7 {NMED ResSoil 09}	0.291	mg/kg		--	--	--	--	--	--
Iodomethane	74-88-4	--	- -	mg/kg		--	--	--	--	--	--
Methylene Chloride	75-09-2	199 {NMED ResSoil 09}	0.215	mg/kg		--	--	--	--	--	--
Naphthalene	91-20-3	45 {NMED ResSoil 09}	0.0839	mg/kg		--	--	--	--	--	--
Styrene	100-42-5	8970 {NMED ResSoil 09}	31.2	mg/kg		--	--	--	--	--	--
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil 09}	0.00898	mg/kg		--	--	--	--	--	--
Toluene	108-88-3	5570 {NMED ResSoil 09}	27.70	mg/kg		--	--	--	--	--	--
trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil 09}	0.603	mg/kg		--	--	--	--	--	--
trans-1,3-Dichloropropene	10061-02-	--	- -	mg/kg		--	--	--	--	--	--
Trichloroethene	79-01-6	45.7 {NMED ResSoil 09}	0.106	mg/kg		--	--	--	--	--	--
Trichlorofluoromethane	75-69-4	2010 {NMED ResSoil 09}	18.0	mg/kg		--	--	--	--	--	--

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SB001 0-1 05/11/10	94SB001 4-5 05/11/10	94SB001 9-10 05/11/10	94SB001 14-15 05/11/10	94SB001 19-20 05/11/10	94SB001 24-25 05/11/10
Volatile Organic Compounds											
Vinyl Acetate	108-05-4	3650 {NMED ResSoil 09}	1.53	mg/kg		--	--	--	--	--	--
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil 09}	0.00576	mg/kg		--	--	--	--	--	--
Xylenes	1330-20-7	1090 {NMED ResSoil 09}	3.52	mg/kg		--	--	--	--	--	--

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SB001 29-30 05/11/10	94SB001 34-35 05/11/10	94SB001 39-40 05/11/10
Metals								
Arsenic	7440-38-2	3.9 {NMED ResSoil 09}	0.262	mg/kg		--	--	--
Barium	7440-39-3	15600 {NMED ResSoil 09}	6030	mg/kg		--	--	--
Cadmium	7440-43-9	77.9 {NMED ResSoil 09}	27.5	mg/kg		--	--	--
Chromium	7440-47-3	219 {NMED ResSoil 09}	- -	mg/kg		--	--	--
Lead	7439-92-1	400 {NMED ResSoil 09}	- -	mg/kg		--	--	--
Mercury	7439-97-6	7.71 {NMED ResSoil 09}	0.59	mg/kg		--	--	--
Selenium	7782-49-2	391 {NMED ResSoil 09}	19.3	mg/kg		--	--	--
Silver	7440-22-4	391 {NMED ResSoil 09}	31.3	mg/kg		--	--	--
Other								
Percent Moisture	MOIST	--	- -	%		9.32	19.6	5.74
pH	pH	--	--	pH units		--	--	--
TPH	TPH	200 {NMED TPH	- -	mg/kg		--	--	--
DRO	DRO	200 {NMED TPH	--	mg/kg		<3.19	<3.53	<3.02
GRO	GRO	--	--	mg/kg		<0.0528	<0.114	<0.102
Polycyclic Biphenyls								
Aroclor-1016	12674-11-	3.93 {NMED ResSoil 09}	2.09	mg/kg		--	--	--
Aroclor-1221	11104-28-	1.76 {NMED ResSoil 09}	0.0213	mg/kg		--	--	--
Aroclor-1232	11141-16-	1.76 {NMED ResSoil 09}	0.0213	mg/kg		--	--	--
Aroclor-1242	53469-21-	2.22 {NMED ResSoil 09}	0.453	mg/kg		--	--	--
Aroclor-1248	12672-29-	2.22 {NMED ResSoil 09}	0.444	mg/kg		--	--	--
Aroclor-1254	11097-69-	1.12 {NMED ResSoil 09}	0.764	mg/kg		--	--	--
Aroclor-1260	11096-82-	2.22 {NMED ResSoil 09}	2.09	mg/kg		--	--	--
Pesticides/Herbicides								
4,4'-DDD	72-54-8	20.3 {NMED ResSoil 09}	12.8	mg/kg		--	--	--
4,4'-DDE	72-55-9	14.3 {NMED ResSoil 09}	9.05	mg/kg		--	--	--
4,4'-DDT	50-29-3	17.2 {NMED ResSoil 09}	13.1	mg/kg		--	--	--
Aldrin	309-00-2	0.284 {NMED ResSoil 09}	0.124	mg/kg		--	--	--
Alpha-BHC	319-84-6	0.772 {NMED ResSoil 09}	0.011	mg/kg		--	--	--
Beta-BHC	319-85-7	2.7 {NMED ResSoil 09}	0.039	mg/kg		--	--	--
Delta-BHC	319-86-8	--	- -	mg/kg		--	--	--
Dieldrin	60-57-1	0.304 {NMED ResSoil 09}	0.014	mg/kg		--	--	--
Endosulfan I	959-98-8	--	- -	mg/kg		--	--	--
Endosulfan II	33213-65-	--	- -	mg/kg		--	--	--
Endosulfan Sulfate	1031-07-8	--	- -	mg/kg		--	--	--
Endrin	72-20-8	18.3 {NMED ResSoil 09}	3.52	mg/kg		--	--	--
Endrin Aldehyde	7421-93-4	--	- -	mg/kg		--	--	--
Gamma-BHC (Lindane)	58-89-9	5.17 {NMED ResSoil 09}	0.0641	mg/kg		--	--	--
Heptachlor	76-44-8	1.08 {NMED ResSoil 09}	0.235	mg/kg		--	--	--
Heptachlor Epoxide	1024-57-3	0.53 {EPA ResSoil 10}	- -	mg/kg		--	--	--

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SB001 29-30 05/11/10	94SB001 34-35 05/11/10	94SB001 39-40 05/11/10
Semi-Volatile Organic Compounds								
Methoxychlor	72-43-5	310 {EPA ResSoil 10}	- -	mg/kg		--	--	--
Chlordane	57-74-9	16.2 {NMED ResSoil 09}	5.00	mg/kg		--	--	--
Toxaphene	8001-35-2	4.42 {NMED ResSoil 09}	1.82	mg/kg		--	--	--
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil 09}	0.205	mg/kg		--	--	--
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil 09}	652	mg/kg		--	--	--
1,2-Diphenylhydrazine	122-66-7	6.08 {NMED ResSoil 09}	0.0906	mg/kg		--	--	--
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil 09}	0.0714	mg/kg		--	--	--
1-Chloronaphthalene	90-13-1	--	- -	mg/kg		--	--	--
2,4,5-Trichlorophenol	95-95-4	6110 {NMED ResSoil 09}	143	mg/kg		--	--	--
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil 09}	1.43	mg/kg		--	--	--
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil 09}	2.74	mg/kg		--	--	--
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil 09}	18.2	mg/kg		--	--	--
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil 09}	1.05	mg/kg		--	--	--
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil 09}	0.0312	mg/kg		--	--	--
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil 09}	0.533	mg/kg		--	--	--
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil 09}	271	mg/kg		--	--	--
2-Chlorophenol	95-57-8	391 {NMED ResSoil 09}	3.06	mg/kg		--	--	--
2-Methylnaphthalene	91-57-6	310 {EPA ResSoil 10}	- -	mg/kg		--	--	--
2-Methylphenol	95-48-7	3100 {EPA ResSoil 10}	- -	mg/kg		--	--	--
2-Nitroaniline	88-74-4	--	- -	mg/kg		--	--	--
2-Nitrophenol	88-75-5	--	- -	mg/kg		--	--	--
3,3'-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil 09}	0.341	mg/kg		--	--	--
3-Nitroaniline	99-09-2	--	- -	mg/kg		--	--	--
4,6-Dinitro-2-methylphenol	534-52-1	6.11 {NMED ResSoil 09}	0.0785	mg/kg		--	--	--
4-Bromophenyl-phenylether	101-55-3	--	- -	mg/kg		--	--	--
4-Chloro-3-Methylphenol	59-50-7	--	- -	mg/kg		--	--	--
4-Chlorophenyl-phenylether	7005-72-3	--	- -	mg/kg		--	--	--
4-Methyl-2-pentanone	108-10-1	5950 {NMED ResSoil 09}	7.58	mg/kg		--	--	--
4-Methylphenol	106-44-5	310 {EPA ResSoil 10}	- -	mg/kg		--	--	--
4-Nitroaniline	100-01-6	240 {EPA ResSoil 10}	- -	mg/kg		--	--	--
4-Nitrophenol	100-02-7	--	- -	mg/kg		--	--	--
Acenaphthene	83-32-9	3440 {NMED ResSoil 09}	410	mg/kg		--	--	--
Acenaphthylene	208-96-8	--	- -	mg/kg		--	--	--
Anthracene	120-12-7	17200 {NMED ResSoil 09}	6740	mg/kg		--	--	--
Benzidine	92-87-5	0.0211 {NMED ResSoil 09}	0.000250	mg/kg		--	--	--
Benzo(a)anthracene	56-55-3	6.21 {NMED ResSoil 09}	6.39	mg/kg		--	--	--
Benzo(a)pyrene	50-32-8	0.621 {NMED ResSoil 09}	2.17	mg/kg		--	--	--
Benzo(b)fluoranthene	205-99-2	6.21 {NMED ResSoil 09}	22.2	mg/kg		--	--	--
Benzo(g,h,i)perylene	191-24-2	--	- -	mg/kg		--	--	--

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SB001 29-30 05/11/10	94SB001 34-35 05/11/10	94SB001 39-40 05/11/10
Semi-Volatile Organic Compounds								
Benzo(k)fluoranthene	207-08-9	62.1 {NMED ResSoil 09}	217	mg/kg		--	--	--
Benzoic Acid	65-85-0	240000 {EPA ResSoil 10}	- -	mg/kg		--	--	--
Benzyl Alcohol	100-51-6	6100 {EPA ResSoil 10}	- -	mg/kg		--	--	--
bis(2-Chloroethoxy)methane	111-91-1	180 {EPA ResSoil 10}	- -	mg/kg		--	--	--
bis(2-Chloroethyl)ether	111-44-4	2.56 {NMED ResSoil 09}	0.000465	mg/kg		--	--	--
Bis(2-Chloroisopropyl)Ether	39638-32-	- -	- -	mg/kg		--	--	--
bis(2-Ethylhexyl)phthalate	117-81-7	347 {NMED ResSoil 09}	238	mg/kg		--	--	--
Butylbenzylphthalate	85-68-7	2600 {EPA ResSoil 10}	- -	mg/kg		--	--	--
Dibenzo(a,h)anthracene	53-70-3	0.621 {NMED ResSoil 09}	7.24	mg/kg		--	--	--
Dibenzofuran	132-64-9	--	- -	mg/kg		--	--	--
Diethylphthalate	84-66-2	48900 {NMED ResSoil 09}	212	mg/kg		--	--	--
Dimethylphthalate	131-11-3	611000 {NMED ResSoil	1670	mg/kg		--	--	--
Di-n-Butylphthalate	84-74-2	6110 {NMED ResSoil 09}	173	mg/kg		--	--	--
Di-n-Octylphthalate	117-84-0	--	- -	mg/kg		--	--	--
Diphenylamine	122-39-4	1500 {EPA ResSoil 10}	- -	mg/kg		--	--	--
Fluoranthene	206-44-0	2290 {NMED ResSoil 09}	3110	mg/kg		--	--	--
Fluorene	86-73-7	2290 {NMED ResSoil 09}	500	mg/kg		--	--	--
Hexachlorobenzene	118-74-1	3.04 {NMED ResSoil 09}	0.0441	mg/kg		--	--	--
Hexachlorobutadiene	87-68-3	61.1 {NMED ResSoil 09}	0.295	mg/kg		--	--	--
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil 09}	12.3	mg/kg		--	--	--
Hexachloroethane	67-72-1	61.1 {NMED ResSoil 09}	0.386	mg/kg		--	--	--
Indeno(1,2,3-cd)pyrene	193-39-5	6.21 {NMED ResSoil 09}	73.9	mg/kg		--	--	--
Isophorone	78-59-1	5120 {NMED ResSoil 09}	3.69	mg/kg		--	--	--
m-Dichlorobenzene	541-73-1	--	--	mg/kg		--	--	--
Nitrobenzene	98-95-3	49.4 {NMED ResSoil 09}	0.137	mg/kg		--	--	--
N-Nitrosodimethylamine	62-75-9	0.954 {NMED ResSoil 09}	0.0000608	mg/kg		*<0.00330*	*<0.00373*	*<0.00317*
N-Nitroso-di-n-propylamine	621-64-7	0.69 {EPA ResSoil 10}	- -	mg/kg		--	--	--
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil 09}	25.8	mg/kg		--	--	--
p-Chloroaniline	106-47-8	24 {EPA ResSoil 10}	- -	mg/kg		--	--	--
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil 09}	0.587	mg/kg		--	--	--
Phenanthrene	85-01-8	1830 {NMED ResSoil 09}	1670	mg/kg		--	--	--
Phenol	108-95-2	18300 {NMED ResSoil 09}	126	mg/kg		--	--	--
Pyrene	129-00-0	1720 {NMED ResSoil 09}	2240	mg/kg		--	--	--
Volatile Organic Compounds								
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil 09}	59.5	mg/kg		--	--	--
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil 09}	0.00450	mg/kg		--	--	--
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil 09}	0.0135	mg/kg		--	--	--
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil 09}	0.122	mg/kg		--	--	--
1,1-Dichloroethene	75-35-4	618 {NMED ResSoil 09}	2.38	mg/kg		--	--	--

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SB001 29-30 05/11/10	94SB001 34-35 05/11/10	94SB001 39-40 05/11/10
Volatile Organic Compounds								
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil 09}	0.000713	mg/kg		--	--	--
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil 09}	6.27	mg/kg		--	--	--
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil 09}	0.00730	mg/kg		--	--	--
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil 09}	0.0223	mg/kg		--	--	--
1,4 Dichloro-2-butene	764-41-0	0.046 {NMED ResSoil 09}	0.000163	mg/kg		--	--	--
2-Butanone	78-93-3	39600 {NMED ResSoil 09}	25.3	mg/kg		--	--	--
2-Chloroethylvinylether	110-75-8	--	- -	mg/kg		--	--	--
2-Hexanone	591-78-6	--	- -	mg/kg		--	--	--
Acetone	67-64-1	67500 {NMED ResSoil 09}	76.9	mg/kg		--	--	--
Acrolein	107-02-8	0.646 {NMED ResSoil 09}	0.000148	mg/kg		--	--	--
Acrylonitrile	107-13-1	5.97 {NMED ResSoil 09}	0.00164	mg/kg		--	--	--
Benzene	71-43-2	15.5 {NMED ResSoil 09}	0.0370	mg/kg		--	--	--
bis(2-Chloroisopropyl)ether	108-60-1	--	0.0511	mg/kg		--	--	--
Bromodichloromethane	75-27-4	5.25 {NMED ResSoil 09}	0.00553	mg/kg		--	--	--
Bromomethane	74-83-9	22.3 {NMED ResSoil 09}	0.0388	mg/kg		--	--	--
Carbon Disulfide	75-15-0	1940 {NMED ResSoil 09}	5.04	mg/kg		--	--	--
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil 09}	0.0148	mg/kg		--	--	--
Chlorobenzene	108-90-7	508 {NMED ResSoil 09}	1.08	mg/kg		--	--	--
Chloroethane	75-00-3	43600 {NMED ResSoil 09}	108	mg/kg		--	--	--
Chloroform	67-66-3	5.72 {NMED ResSoil 09}	0.00936	mg/kg		--	--	--
Chloromethane	74-87-3	35.6 {NMED ResSoil 09}	0.0836	mg/kg		--	--	--
cis-1,2-Dichloroethene	156-59-2	782 {NMED ResSoil 09}	1.89	mg/kg		--	--	--
cis-1,3-Dichloropropene	10061-01-	--	- -	mg/kg		--	--	--
Dibromochloromethane	124-48-1	11.9 {NMED ResSoil 09}	0.00675	mg/kg		--	--	--
Dibromomethane	74-95-3	782 {NMED ResSoil 09}	1.55	mg/kg		--	--	--
Dichlorodifluoromethane	75-71-8	481 {NMED ResSoil 09}	14.5	mg/kg		--	--	--
Ethanol	64-17-5	--	- -	mg/kg		--	--	--
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil 09}	13.4	mg/kg		--	--	--
Ethylbenzene	100-41-4	69.7 {NMED ResSoil 09}	0.291	mg/kg		--	--	--
Iodomethane	74-88-4	--	- -	mg/kg		--	--	--
Methylene Chloride	75-09-2	199 {NMED ResSoil 09}	0.215	mg/kg		--	--	--
Naphthalene	91-20-3	45 {NMED ResSoil 09}	0.0839	mg/kg		--	--	--
Styrene	100-42-5	8970 {NMED ResSoil 09}	31.2	mg/kg		--	--	--
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil 09}	0.00898	mg/kg		--	--	--
Toluene	108-88-3	5570 {NMED ResSoil 09}	27.70	mg/kg		--	--	--
trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil 09}	0.603	mg/kg		--	--	--
trans-1,3-Dichloropropene	10061-02-	--	- -	mg/kg		--	--	--
Trichloroethene	79-01-6	45.7 {NMED ResSoil 09}	0.106	mg/kg		--	--	--
Trichlorofluoromethane	75-69-4	2010 {NMED ResSoil 09}	18.0	mg/kg		--	--	--

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 94
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	94SB001 29-30 05/11/10	94SB001 34-35 05/11/10	94SB001 39-40 05/11/10
Volatile Organic Compounds								
Vinyl Acetate	108-05-4	3650 {NMED ResSoil 09}	1.53	mg/kg		--	--	--
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil 09}	0.00576	mg/kg		--	--	--
Xylenes	1330-20-7	1090 {NMED ResSoil 09}	3.52	mg/kg		--	--	--

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Table 1. Summary of Soil Sample Analytical Results - SWMU 95
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID / Sample Depth (ft) / Date Collected	95SSORS 0 3/17/1992	95SO02 2 3/5/1992	95SO05 5 3/5/1992	95SO10 10 3/5/1992	95SO15 15 3/5/1992	95SO20 20 3/5/1992	95SO25 25 3/5/1992	95SO30 30 3/5/1992
Metals													
Arsenic	7440-38-2	3.9 {NMED ResSoil09}	0.262	mg/kg		< 9.8	< 9.2 [<9.3]	< 9.2	22	18	< 20	< 10	< 9.7
Barium	7440-39-3	15600 {NMED ResSoil09}	6030	mg/kg		22	19 [29]	30	110	44	100	87	49
Cadmium	7440-43-9	77.9 {NMED ResSoil09}	27.5	mg/kg		< 0.49	< 0.46 [<0.47]	< 0.46	< 0.5	0.55	< 1	< 0.51	< 0.49
Lead	7439-92-1	400 {NMED ResSoil09}	--	mg/kg		11	6.5 [9.4]	11	21	16	15	8.4	5.4
Mercury	7439-97-6	7.71 {NMED ResSoil09}	0.587	mg/kg		< 0.09	< 0.09 [<0.1]	< 0.1	< 0.1	< 0.09	< 0.09	< 0.1	< 0.09
Selenium	7782-49-2	391 {NMED ResSoil09}	19.3	mg/kg		< 0.5	< 0.54 [<0.45]	< 0.5	< 0.5	< 0.52	< 0.49	< 0.5	< 0.48
Silver	7440-22-4	391 {NMED ResSoil09}	31.3	mg/kg		< 0.98	< 0.92 [<0.93]	< 0.92	< 1	< 1	< 2	< 1	< 0.97
Other													
pH	pH	--	--	pH units		7.9	7.2 [7.8]	4.1	6.9	7.6	7.7	7.8	8
Semi-Volatile Organic Compounds													
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil09}	0.205	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil09}	652	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil09}	0.071	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil09}	1.43	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil09}	2.74	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil09}	18.2	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil09}	1.05	mg/kg		< 1.7	< 1.7 [<1.7]	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil09}	0.0312	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil09}	0.533	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil09}	271	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Chlorophenol	95-57-8	391 {NMED ResSoil09}	3.06	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11 {NMED ResSoil09}	0.0785	mg/kg		< 1.7	< 1.7 [<1.7]	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
2-Nitrophenol	88-75-5	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
3,3-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil09}	0.341	mg/kg		< 0.66	< 0.66 [<0.66]	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120 {NMED ResSoil09}	3.69	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Bromophenyl Phenyl Ether	101-55-3	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Chloro-3-Methylphenol	59-50-7	--	--	mg/kg		< 0.66	< 0.66 [<0.66]	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950 {NMED ResSoil09}	7.58	mg/kg		< 0.05	< 0.05 [<0.05]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitrophenol	100-02-7	--	--	mg/kg		< 1.7	< 1.7 [<1.7]	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Acenaphthene	83-32-9	3440 {NMED ResSoil09}	410	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Acenaphthylene	208-96-8	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Anthracene	120-12-7	17200 {NMED ResSoil09}	6,739	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzidine	92-87-5	0.0211 {NMED ResSoil09}	0.000250	mg/kg		< 1.7	< 1.7 [<1.7]	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Benzo(a)Anthracene	56-55-3	6.21 {NMED ResSoil09}	6.39	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(a)Pyrene	50-32-8	0.621 {NMED ResSoil09}	2.17	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(b)Fluoranthene	205-99-2	6.21 {NMED ResSoil09}	22.2	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(g,h,i)Perylene	191-24-2	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(k)Fluoranthene	207-08-9	62.1 {NMED ResSoil09}	217	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzoic Acid	65-85-0	240000 {EPA ResSoil10}	--	mg/kg		< 1.7	< 1.7 [<1.7]	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Benzyl Butyl Phthalate	85-68-7	2600 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 95
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location/ID Sample Depth (ft) Date Collected	95SSORS 0 3/17/1992	95SO02 2 3/5/1992	95SO05 5 3/5/1992	95SO10 10 3/5/1992	95SO15 15 3/5/1992	95SO20 20 3/5/1992	95SO25 25 3/5/1992	95SO30 30 3/5/1992
Semi-Volatile Organic Compounds													
Bis (2-Chloroethoxy) Methane	111-91-1	180 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Bis(2-Chloroethyl) Ether	111-44-4	2.56 {NMED ResSoil09}	0.000465	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Bis(2-Ethylhexyl)Phthalate	117-81-7	347 {NMED ResSoil09}	238	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Dibenz(a,h)Anthracene	53-70-3	0.621 {NMED ResSoil09}	7.24	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Diethyl Phthalate	84-66-2	48900 {NMED ResSoil09}	212	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Dimethyl Phthalate	131-11-3	611000 {NMED ResSoil09}	1,671	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Di-n-Butyl Phthalate	84-74-2	6110 {NMED ResSoil09}	173	mg/kg		0.7	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Di-n-Octyl Phthalate	117-84-0	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Fluoranthene	206-44-0	2290 {NMED ResSoil09}	3,108	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Fluorene	86-73-7	2290 {NMED ResSoil09}	500	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Hexachloro-1,3-Butadiene	87-68-3	{NMED ResSoil09}	0.295	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Hexachlorobenzene	118-74-1	{NMED ResSoil09}	0.0441	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil09}	12.3	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Hexachloroethane	67-72-1	61.1 {NMED ResSoil09}	0.386	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21 {NMED ResSoil09}	73.9	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
m-Dichlorobenzene	541-73-1	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954 {NMED ResSoil09}	0.0000610	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Nitrobenzene	98-95-3	49.4 {NMED ResSoil09}	0.137	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
N-Nitrosodi-N-Propylamine	621-64-7	0.69 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil09}	25.8	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil09}	0.587	mg/kg		*< 1.7*	*< 1.7 [<1.7]*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
Phenanthrene	85-01-8	1830 {NMED ResSoil09}	1,669	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Phenol	108-95-2	18300 {NMED ResSoil09}	126	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Pyrene	129-00-0	1720 {NMED ResSoil09}	2,238	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Volatile Organic Compounds													
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil09}	59.5	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil09}	0.00450	mg/kg		*< 0.005*	*< 0.005 [<0.005]*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil09}	0.0135	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil09}	0.122	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1-Dichloroethylene	75-35-4	618 {NMED ResSoil09}	2.38	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil09}	0.000713	mg/kg		*< 0.02*	*< 0.02 [<0.02]*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil09}	6.27	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil09}	0.00730	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil09}	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,4 Dichloro-2-Butene	764-41-0	0.046 {NMED ResSoil09}	0.000163	mg/kg		*< 0.02*	*< 0.02 [<0.02]*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*
2-Butanone	78-93-3	39600 {NMED ResSoil09}	25.3	mg/kg		< 0.1	< 0.1 [<0.1]	< 0.1	0.13	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloroethyl Vinyl Ether	110-75-8	--	--	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acetone	67-64-1	67500 {NMED ResSoil09}	76.9	mg/kg		0.15	< 0.1 [<0.1]	0.3	34 Z	10 Z	0.42	10	0.65
Acrolein	107-02-8	0.646 {NMED ResSoil09}	0.000148	mg/kg		*< 0.2*	*< 0.2 [<0.2]*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*
Acrylonitrile	107-13-1	5.97 {NMED ResSoil09}	0.00164	mg/kg		*< 0.1*	*< 0.1 [<0.1]*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*
Benzene	71-43-2	15.5 {NMED ResSoil09}	0.0370	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 95
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	95SSORS 0 3/17/1992	95SO02 2 3/5/1992	95SO05 5 3/5/1992	95SO10 10 3/5/1992	95SO15 15 3/5/1992	95SO20 20 3/5/1992	95SO25 25 3/5/1992	95SO30 30 3/5/1992
Volatile Organic Compounds													
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	0.0511	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Bromomethane	74-83-9	22.3 {NMED ResSoil09}	0.0388	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Carbon Disulfide	75-15-0	1940 {NMED ResSoil09}	5.04	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil09}	0.0148	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
CFC-11	75-69-4	2010 {NMED ResSoil09}	18.0	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
CFC-12	75-71-8	481 {NMED ResSoil09}	14.5	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chlorobenzene	108-90-7	508 {NMED ResSoil09}	1.08	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chlorodibromomethane	124-48-1	11.9 {NMED ResSoil09}	0.00675	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chloroethane	75-00-3	43600 {NMED ResSoil09}	108	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	67-66-3	5.72 {NMED ResSoil09}	0.00936	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chloromethane	74-87-3	35.6 {NMED ResSoil09}	0.0836	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-Dichloropropene	10061-01-5	--	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Dibromomethane	74-95-3	782 {NMED ResSoil09}	1.55	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dichloromethane	75-09-2	199 {NMED ResSoil09}	0.215	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Ethanol	64-17-5	--	--	mg/kg		< 1	< 1 [<1]	< 1	45	3.4	< 1	< 1	< 1
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil09}	13.4	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	100-41-4	69.7 {NMED ResSoil09}	0.291	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Iodomethane	74-88-4	--	--	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Methyl N-Butyl Ketone	591-78-6	--	--	mg/kg		< 0.05	< 0.05 [<0.05]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methylbenzene	108-88-3	5570 {NMED ResSoil09}	27.7	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Naphthalene	91-20-3	45 {NMED ResSoil09}	0.084	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Styrene (Monomer)	100-42-5	8970 {NMED ResSoil09}	31.2	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil09}	0.00898	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil09}	0.603	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trans-1,3-Dichloropropene	10061-02-6	--	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trichloroethylene	79-01-6	45.7 {NMED ResSoil09}	0.106	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vinyl Acetate	108-05-4	3650 {NMED ResSoil09}	1.53	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil09}	0.00576	mg/kg		*< 0.01*	*< 0.01 [<0.01]*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Xylenes	1330-20-7	1090 {NMED ResSoil09}	3.52	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 96
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID	96SSORS	96SO02	96SO05	96SO10	96SO15	96SO20	96SO025	96SO30
					Sample Depth (ft)	0	2	5	10	15	20	25	30
					Date Collected	3/17/1992	3/10/1992	3/10/1992	3/10/1992	3/10/1992	3/10/1992	3/10/1992	3/10/1992
Metals													
Arsenic	7440-38-2	3.9 {NMED ResSoil09}	0.262	mg/kg		***< 10***	***< 11***	***< 9.9***	***11***	*< 52*	*< 20*	22	*< 20*
Barium	7440-39-3	15600 {NMED ResSoil09}	6030	mg/kg		27	22	51	69	1600	< 40	110 Y	170
Cadmium	7440-43-9	77.9 {NMED ResSoil09}	27.5	mg/kg		< 0.51	< 0.53	< 0.5	< 0.53	< 2.6	< 1	< 1	1
Lead	7439-92-1	400 {NMED ResSoil09}	--	mg/kg		14	9.5	11	13	< 26	13	18	10
Mercury	7439-97-6	7.71 {NMED ResSoil09}	0.587	mg/kg		< 0.1	< 0.1	< 0.1	< 0.08	< 0.07	< 0.09	< 0.07	< 0.08
Selenium	7782-49-2	391 {NMED ResSoil09}	19.3	mg/kg		< 0.48	< 0.5	< 0.47	< 0.48	< 0.5	< 0.52	< 0.52	< 0.49Y
Silver	7440-22-4	391 {NMED ResSoil09}	31.3	mg/kg		< 1	< 1.1	< 0.99	< 1.1	< 5.2	< 2	< 2.1	< 2
Other													
pH	pH	--	--	pH units		7.4	8.3	6.9	7.5	8.3	8	7.8	7.7
Semi-Volatile Organic Compounds													
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil09}	0.205	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil09}	652	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil09}	0.071	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil09}	1.43	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil09}	2.74	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil09}	18.2	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil09}	1.05	mg/kg		*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil09}	0.0312	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil09}	0.533	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil09}	271	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Chlorophenol	95-57-8	391 {NMED ResSoil09}	3.06	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11 {NMED ResSoil09}	0.0785	mg/kg		*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
2-Nitrophenol	88-75-5	--	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
3,3-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil09}	0.341	mg/kg		*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120 {NMED ResSoil09}	3.69	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Bromophenyl Phenyl Ether	101-55-3	--	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Chloro-3-Methylphenol	59-50-7	--	--	mg/kg		< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950 {NMED ResSoil09}	7.58	mg/kg		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitrophenol	100-02-7	--	--	mg/kg		< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Acenaphthene	83-32-9	3440 {NMED ResSoil09}	410	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Acenaphthylene	208-96-8	--	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Anthracene	120-12-7	17200 {NMED ResSoil09}	6,739	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzidine	92-87-5	0.0211 {NMED ResSoil09}	0.000250	mg/kg		***< 1.7***	***< 1.7***	***< 1.7***	***< 1.7***	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
Benzo(a)Anthracene	56-55-3	6.21 {NMED ResSoil09}	6.39	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(a)Pyrene	50-32-8	0.621 {NMED ResSoil09}	2.17	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(b)Fluoranthene	205-99-2	6.21 {NMED ResSoil09}	22.2	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(g,h,i)Perylene	191-24-2	--	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(k)Fluoranthene	207-08-9	62.1 {NMED ResSoil09}	217	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 96
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	96SSORS 0 3/17/1992	96SO02 2 3/10/1992	96SO05 5 3/10/1992	96SO10 10 3/10/1992	96SO15 15 3/10/1992	96SO20 20 3/10/1992	96SO025 25 3/10/1992	96SO30 30 3/10/1992
Semi-Volatile Organic Compounds													
Benzoic Acid	65-85-0	240000 {EPA ResSoil10}	--	mg/kg		< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Benzyl Butyl Phthalate	85-68-7	2600 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Bis (2-Chloroethoxy) Methane	111-91-1	180 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Bis(2-Chloroethyl) Ether	111-44-4	2.56 {NMED ResSoil09}	0.000465	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Bis(2-Ethylhexyl)Phthalate	117-81-7	347 {NMED ResSoil09}	238	mg/kg		0.45	< 0.33	< 0.33	0.86	< 0.33	< 0.33	< 0.33	< 0.33
Dibenz(a,h)Anthracene	53-70-3	0.621 {NMED ResSoil09}	7.24	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Diethyl Phthalate	84-66-2	48900 {NMED ResSoil09}	212	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Dimethyl Phthalate	131-11-3	611000 {NMED	1,671	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Di-n-Butyl Phthalate	84-74-2	6110 {NMED ResSoil09}	173	mg/kg		0.51	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Di-n-Octyl Phthalate	117-84-0	--	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Fluoranthene	206-44-0	2290 {NMED ResSoil09}	3,108	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Fluorene	86-73-7	2290 {NMED ResSoil09}	500	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Hexachloro-1,3-Butadiene	87-68-3	{NMED ResSoil09}	0.295	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Hexachlorobenzene	118-74-1	{NMED ResSoil09}	0.0441	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil09}	12.3	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Hexachloroethane	67-72-1	61.1 {NMED ResSoil09}	0.386	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21 {NMED ResSoil09}	73.9	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
m-Dichlorobenzene	541-73-1	--	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Methanamine, N-Methyl-N-Nitrosc	62-75-9	0.954 {NMED ResSoil09}	0.0000610	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Nitrobenzene	98-95-3	49.4 {NMED ResSoil09}	0.137	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
N-Nitrosodi-N-Propylamine	621-64-7	0.69 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil09}	25.8	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil09}	0.587	mg/kg		*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
Phenanthrene	85-01-8	1830 {NMED ResSoil09}	1,669	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Phenol	108-95-2	18300 {NMED ResSoil09}	126	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Pyrene	129-00-0	1720 {NMED ResSoil09}	2,238	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Volatile Organic Compounds													
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil09}	59.5	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil09}	0.00450	mg/kg		*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil09}	0.0135	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil09}	0.122	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1-Dichloroethylene	75-35-4	618 {NMED ResSoil09}	2.38	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil09}	0.000713	mg/kg		*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil09}	6.27	mg/kg		< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil09}	0.00730	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil09}	--	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,4 Dichloro-2-Butene	764-41-0	0.046 {NMED ResSoil09}	0.000163	mg/kg		*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*
2-Butanone	78-93-3	39600 {NMED ResSoil09}	25.3	mg/kg		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 96
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	96SSORS 0 3/17/1992	96SO02 2 3/10/1992	96SO05 5 3/10/1992	96SO10 10 3/10/1992	96SO15 15 3/10/1992	96SO20 20 3/10/1992	96SO025 25 3/10/1992	96SO30 30 3/10/1992
Volatile Organic Compounds													
2-Chloroethyl Vinyl Ether	110-75-8	--	--	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acetone	67-64-1	67500 {NMED ResSoil09}	76.9	mg/kg		< 0.1	3.9	0.74	30	1.2	< 0.1	< 0.1	0.26
Acrolein	107-02-8	0.646 {NMED ResSoil09}	0.000148	mg/kg		*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*
Acrylonitrile	107-13-1	5.97 {NMED ResSoil09}	0.00164	mg/kg		*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*
Benzene	71-43-2	15.5 {NMED ResSoil09}	0.0370	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	0.0511	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Bromomethane	74-83-9	22.3 {NMED ResSoil09}	0.0388	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Carbon Disulfide	75-15-0	1940 {NMED ResSoil09}	5.04	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil09}	0.0148	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
CFC-11	75-69-4	2010 {NMED ResSoil09}	18.0	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
CFC-12	75-71-8	481 {NMED ResSoil09}	14.5	mg/kg		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chlorobenzene	108-90-7	508 {NMED ResSoil09}	1.08	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chlorodibromomethane	124-48-1	11.9 {NMED ResSoil09}	0.00675	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chloroethane	75-00-3	43600 {NMED ResSoil09}	108	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	67-66-3	5.72 {NMED ResSoil09}	0.00936	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chloromethane	74-87-3	35.6 {NMED ResSoil09}	0.0836	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-Dichloropropene	10061-01-5	--	--	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Dibromomethane	74-95-3	782 {NMED ResSoil09}	1.55	mg/kg		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dichloromethane	75-09-2	199 {NMED ResSoil09}	0.215	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Ethanol	64-17-5	--	--	mg/kg		< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil09}	13.4	mg/kg		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	100-41-4	69.7 {NMED ResSoil09}	0.291	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Iodomethane	74-88-4	--	--	mg/kg		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Methyl N-Butyl Ketone	591-78-6	--	--	mg/kg		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methylbenzene	108-88-3	5570 {NMED ResSoil09}	27.7	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Naphthalene	91-20-3	45 {NMED ResSoil09}	0.084	mg/kg		*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Styrene (Monomer)	100-42-5	8970 {NMED ResSoil09}	31.2	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil09}	0.00898	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil09}	0.603	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trans-1,3-Dichloropropene	10061-02-6	--	--	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trichloroethylene	79-01-6	45.7 {NMED ResSoil09}	0.106	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vinyl Acetate	108-05-4	3650 {NMED ResSoil09}	1.53	mg/kg		< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil09}	0.00576	mg/kg		*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Xylenes	1330-20-7	1090 {NMED ResSoil09}	3.52	mg/kg		< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 97
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	97SSORS 0 3/17/1992	97SO02 2 3/7/1992	97SO05 5 3/7/1992	97SO10 10 3/7/1992	97SO15 15 3/7/1992	97SO20 20 3/7/1992	97SO25 25 3/7/1992	97SO30 30 3/7/1992
Metals													
Arsenic	7440-38-2	3.9 {NMED ResSoil09}	0.262	mg/kg		***< 11***	***< 10 [<10]***	***< 10***	***< 10***	*< 10*	*< 19*	*< 10*	*< 9.7*
Barium	7440-39-3	15600 {NMED ResSoil09}	6030	mg/kg		24	27 [25]	41	270	130	< 38	52	29
Cadmium	7440-43-9	77.9 {NMED ResSoil09}	27.5	mg/kg		< 0.53	< 0.5 [<0.51]	< 0.5	< 0.5	< 0.5	< 0.96	< 0.52	< 0.49
Lead	7439-92-1	400 {NMED ResSoil09}	--	mg/kg		6.9	7.2 [8.1]	11	11	10	< 9.6	8.0	< 4.9
Mercury	7439-97-6	7.71 {NMED ResSoil09}	0.587	mg/kg		< 0.08	< 0.1 [<0.09]	< 0.08	< 0.1	< 0.1	< 0.1	< 0.07	< 0.07
Selenium	7782-49-2	391 {NMED ResSoil09}	19.3	mg/kg		< 0.51	< 0.51 [<0.49]	< 0.5	< 0.5	< 0.52	< 0.49	< 0.5	< 0.52
Silver	7440-22-4	391 {NMED ResSoil09}	31.3	mg/kg		< 1.1	< 1 [<1]	< 1	< 1	< 1	< 1.9	< 1	< 0.97
Other													
pH	pH	--	--	pH units		7.6	8.3 [8.2]	5.3	8.0	8.6	8.6	8	8.9
Semi-Volatile Organic Compounds													
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil09}	0.205	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil09}	652	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil09}	0.071	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil09}	1.43	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil09}	2.74	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil09}	18.2	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil09}	1.05	mg/kg		*< 1.7*	*< 1.7 [<1.7]*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil09}	0.0312	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil09}	0.533	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil09}	271	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Chlorophenol	95-57-8	391 {NMED ResSoil09}	3.06	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11 {NMED ResSoil09}	0.0785	mg/kg		*< 1.7*	*< 1.7 [<1.7]*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
2-Nitrophenol	88-75-5	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
3,3-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil09}	0.341	mg/kg		*< 0.66*	*< 0.66 [<0.66]*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120 {NMED ResSoil09}	3.69	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Bromophenyl Phenyl Ether	101-55-3	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Chloro-3-Methylphenol	59-50-7	--	--	mg/kg		< 0.66	< 0.66 [<0.66]	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950 {NMED ResSoil09}	7.58	mg/kg		< 0.05	< 0.05 [<0.05]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitrophenol	100-02-7	--	--	mg/kg		< 1.7	< 1.7 [<1.7]	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Acenaphthene	83-32-9	3440 {NMED ResSoil09}	410	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Acenaphthylene	208-96-8	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Anthracene	120-12-7	17200 {NMED ResSoil09}	6,739	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzidine	92-87-5	0.0211 {NMED ResSoil09}	0.000250	mg/kg		***< 1.7***	***< 1.7 [<1.7]***	***< 1.7***	***< 1.7***	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
Benzo(a)Anthracene	56-55-3	6.21 {NMED ResSoil09}	6.39	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(a)Pyrene	50-32-8	0.621 {NMED ResSoil09}	2.17	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(b)Fluoranthene	205-99-2	6.21 {NMED ResSoil09}	22.2	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(g,h,i)Perylene	191-24-2	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(k)Fluoranthene	207-08-9	62.1 {NMED ResSoil09}	217	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 97
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	97SSORS 0 3/17/1992	97SO02 2 3/7/1992	97SO05 5 3/7/1992	97SO10 10 3/7/1992	97SO15 15 3/7/1992	97SO20 20 3/7/1992	97SO25 25 3/7/1992	97SO30 30 3/7/1992
Semi-Volatile Organic Compounds													
Benzoic Acid	65-85-0	240000 {EPA ResSoil10}	--	mg/kg		< 1.7	< 1.7 [<1.7]	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Benzyl Butyl Phthalate	85-68-7	2600 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Bis (2-Chloroethoxy) Methane	111-91-1	180 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Bis(2-Chloroethyl) Ether	111-44-4	2.56 {NMED ResSoil09}	0.000465	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Bis(2-Ethylhexyl)Phthalate	117-81-7	347 {NMED ResSoil09}	238	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	0.91	< 0.33	0.43	< 0.33
Dibenz(a,h)Anthracene	53-70-3	0.621 {NMED ResSoil09}	7.24	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Diethyl Phthalate	84-66-2	48900 {NMED ResSoil09}	212	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Dimethyl Phthalate	131-11-3	611000 {NMED ResSoil09}	1,671	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Di-n-Butyl Phthalate	84-74-2	6110 {NMED ResSoil09}	173	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Di-n-Octyl Phthalate	117-84-0	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Fluoranthene	206-44-0	2290 {NMED ResSoil09}	3,108	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Fluorene	86-73-7	2290 {NMED ResSoil09}	500	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Hexachloro-1,3-Butadiene	87-68-3	{NMED ResSoil09}	0.295	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Hexachlorobenzene	118-74-1	{NMED ResSoil09}	0.0441	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil09}	12.3	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Hexachloroethane	67-72-1	61.1 {NMED ResSoil09}	0.386	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21 {NMED ResSoil09}	73.9	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
m-Dichlorobenzene	541-73-1	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954 {NMED ResSoil09}	0.0000610	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Nitrobenzene	98-95-3	49.4 {NMED ResSoil09}	0.137	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
N-Nitrosodi-N-Propylamine	621-64-7	0.69 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil09}	25.8	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil09}	0.587	mg/kg		*< 1.7*	*< 1.7 [<1.7]*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
Phenanthrene	85-01-8	1830 {NMED ResSoil09}	1,669	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Phenol	108-95-2	18300 {NMED ResSoil09}	126	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Pyrene	129-00-0	1720 {NMED ResSoil09}	2,238	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Volatile Organic Compounds													
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil09}	59.5	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil09}	0.00450	mg/kg		*< 0.005*	*< 0.005 [<0.005]*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil09}	0.0135	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil09}	0.122	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1-Dichloroethylene	75-35-4	618 {NMED ResSoil09}	2.38	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil09}	0.000713	mg/kg		*< 0.02*	*< 0.02 [<0.02]*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil09}	6.27	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil09}	0.00730	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil09}	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,4 Dichloro-2-Butene	764-41-0	0.046 {NMED ResSoil09}	0.000163	mg/kg		*< 0.02*	*< 0.02 [<0.02]*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*
2-Butanone	78-93-3	39600 {NMED ResSoil09}	25.3	mg/kg		< 0.1	< 0.1 [<0.1]	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 97
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	97SSORS 0 3/17/1992	97SO02 2 3/7/1992	97SO05 5 3/7/1992	97SO10 10 3/7/1992	97SO15 15 3/7/1992	97SO20 20 3/7/1992	97SO25 25 3/7/1992	97SO30 30 3/7/1992
Volatile Organic Compounds													
2-Chloroethyl Vinyl Ether	110-75-8	--	--	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acetone	67-64-1	67500 {NMED ResSoil09}	76.9	mg/kg		< 0.1	0.99 [0.79]	0.1	0.76	< 10 X	< 0.1	0.45	0.34
Acrolein	107-02-8	0.646 {NMED ResSoil09}	0.000148	mg/kg		*< 0.2*	*< 0.2 [<0.2]*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*
Acrylonitrile	107-13-1	5.97 {NMED ResSoil09}	0.00164	mg/kg		*< 0.1*	*< 0.1 [<0.1]*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*
Benzene	71-43-2	15.5 {NMED ResSoil09}	0.0370	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	0.0511	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Bromomethane	74-83-9	22.3 {NMED ResSoil09}	0.0388	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Carbon Disulfide	75-15-0	1940 {NMED ResSoil09}	5.04	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil09}	0.0148	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
CFC-11	75-69-4	2010 {NMED ResSoil09}	18.0	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
CFC-12	75-71-8	481 {NMED ResSoil09}	14.5	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chlorobenzene	108-90-7	508 {NMED ResSoil09}	1.08	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chlorodibromomethane	124-48-1	11.9 {NMED ResSoil09}	0.00675	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chloroethane	75-00-3	43600 {NMED ResSoil09}	108	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	67-66-3	5.72 {NMED ResSoil09}	0.00936	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chloromethane	74-87-3	35.6 {NMED ResSoil09}	0.0836	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-Dichloropropene	10061-01-5	--	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Dibromomethane	74-95-3	782 {NMED ResSoil09}	1.55	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dichloromethane	75-09-2	199 {NMED ResSoil09}	0.215	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Ethanol	64-17-5	--	--	mg/kg		< 1	< 1 [<1]	< 1	< 1	< 1	< 1	< 1	< 1
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil09}	13.4	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	100-41-4	69.7 {NMED ResSoil09}	0.291	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Iodomethane	74-88-4	--	--	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Methyl N-Butyl Ketone	591-78-6	--	--	mg/kg		< 0.05	< 0.05 [<0.05]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methylbenzene	108-88-3	5570 {NMED ResSoil09}	27.7	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Naphthalene	91-20-3	45 {NMED ResSoil09}	0.084	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Styrene (Monomer)	100-42-5	8970 {NMED ResSoil09}	31.2	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil09}	0.00898	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil09}	0.603	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trans-1,3-Dichloropropene	10061-02-6	--	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trichloroethylene	79-01-6	45.7 {NMED ResSoil09}	0.106	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vinyl Acetate	108-05-4	3650 {NMED ResSoil09}	1.53	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil09}	0.00576	mg/kg		*< 0.01*	*< 0.01 [<0.01]*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Xylenes	1330-20-7	1090 {NMED ResSoil09}	3.52	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 98
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	98SSORS 0 3/17/1992	98SO02 2 3/5/1992	98SO05 5 3/5/1992	98SO10 10 3/5/1992	98SO15 15 3/5/1992	98SO20 20 3/5/1992	98SO25 25 3/5/1992	98SO30 30 3/5/1992
Metals													
Arsenic	7440-38-2	3.9 {NMED ResSoil09}	0.262	mg/kg		***< 11***	***< 11 [<9.8]***	***< 9.9***	***< 10***	*< 19*	*< 10*	*< 9.9*	*< 9.9*
Barium	7440-39-3	15600 {NMED ResSoil09}	6030	mg/kg		23	< 21 [20]	65	300	64	65	58	120
Cadmium	7440-43-9	77.9 {NMED ResSoil09}	27.5	mg/kg		< 0.53	< 0.53 [<0.49]	< 0.5	< 0.51	< 0.94	< 0.51	< 0.5	< 0.5
Lead	7439-92-1	400 {NMED ResSoil09}	--	mg/kg		8.8	6.4 [7.5]	7.0	7.1	< 9.4	10	6.6	6.6
Mercury	7439-97-6	7.71 {NMED ResSoil09}	0.587	mg/kg		< 0.07	< 0.1 [<0.1]	< 0.09	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Selenium	7782-49-2	391 {NMED ResSoil09}	19.3	mg/kg		< 0.51	< 0.47 [<0.49]	< 0.49	< 0.5	< 0.48	< 0.5	< 0.48	< 0.49
Silver	7440-22-4	391 {NMED ResSoil09}	31.3	mg/kg		< 1.1	< 1.1 [<0.98]	< 0.99	< 1	< 1.9	< 1	< 0.99	< 0.99
Other													
pH	pH	--	--	pH units		7.8	8.2 [8.2]	8	7.6	7.8	8.5	8.1	7.6
Semi-Volatile Organic Compounds													
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil09}	0.205	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil09}	652	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil09}	0.071	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil09}	1.43	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil09}	2.74	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil09}	18.2	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil09}	1.05	mg/kg		*< 1.7*	*< 1.7 [<1.7]*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil09}	0.0312	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil09}	0.533	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil09}	271	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Chlorophenol	95-57-8	391 {NMED ResSoil09}	3.06	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11 {NMED ResSoil09}	0.0785	mg/kg		*< 1.7*	*< 1.7 [<1.7]*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
2-Nitrophenol	88-75-5	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
3,3-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil09}	0.341	mg/kg		*< 0.66*	*< 0.66 [<0.66]*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120 {NMED ResSoil09}	3.69	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Bromophenyl Phenyl Ether	101-55-3	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Chloro-3-Methylphenol	59-50-7	--	--	mg/kg		< 0.66	< 0.66 [<0.66]	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950 {NMED ResSoil09}	7.58	mg/kg		< 0.05	< 0.05 [<0.05]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitrophenol	100-02-7	--	--	mg/kg		< 1.7	< 1.7 [<1.7]	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Acenaphthene	83-32-9	3440 {NMED ResSoil09}	410	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Acenaphthylene	208-96-8	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Anthracene	120-12-7	17200 {NMED ResSoil09}	6,739	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzidine	92-87-5	0.0211 {NMED ResSoil09}	0.000250	mg/kg		***< 1.7***	***< 1.7 [<1.7]***	***< 1.7***	***< 1.7***	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
Benzo(a)Anthracene	56-55-3	6.21 {NMED ResSoil09}	6.39	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(a)Pyrene	50-32-8	0.621 {NMED ResSoil09}	2.17	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(b)Fluoranthene	205-99-2	6.21 {NMED ResSoil09}	22.2	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(g,h,i)Perylene	191-24-2	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(k)Fluoranthene	207-08-9	62.1 {NMED ResSoil09}	217	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzoic Acid	65-85-0	240000 {EPA ResSoil10}	--	mg/kg		< 1.7	< 1.7 [<1.7]	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Benzyl Butyl Phthalate	85-68-7	2600 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 98
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID / Sample Depth (ft) / Date Collected	98SSORS 0 3/17/1992	98SO02 2 3/5/1992	98SO05 5 3/5/1992	98SO10 10 3/5/1992	98SO15 15 3/5/1992	98SO20 20 3/5/1992	98SO25 25 3/5/1992	98SO30 30 3/5/1992
Semi-Volatile Organic Compounds													
Bis (2-Chloroethoxy) Methane	111-91-1	180 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Bis(2-Chloroethyl) Ether	111-44-4	2.56 {NMED ResSoil09}	0.000465	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Bis(2-Ethylhexyl)Phthalate	117-81-7	347 {NMED ResSoil09}	238	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Dibenz(a,h)Anthracene	53-70-3	0.621 {NMED ResSoil09}	7.24	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Diethyl Phthalate	84-66-2	48900 {NMED ResSoil09}	212	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Dimethyl Phthalate	131-11-3	611000 {NMED ResSoil09}	1,671	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Di-n-Butyl Phthalate	84-74-2	6110 {NMED ResSoil09}	173	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Di-n-Octyl Phthalate	117-84-0	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Fluoranthene	206-44-0	2290 {NMED ResSoil09}	3,108	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Fluorene	86-73-7	2290 {NMED ResSoil09}	500	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Hexachloro-1,3-Butadiene	87-68-3	{NMED ResSoil09}	0.295	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Hexachlorobenzene	118-74-1	{NMED ResSoil09}	0.0441	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil09}	12.3	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Hexachloroethane	67-72-1	61.1 {NMED ResSoil09}	0.386	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21 {NMED ResSoil09}	73.9	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
m-Dichlorobenzene	541-73-1	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954 {NMED ResSoil09}	0.0000610	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Nitrobenzene	98-95-3	49.4 {NMED ResSoil09}	0.137	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
N-Nitrosodi-N-Propylamine	621-64-7	0.69 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil09}	25.8	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil09}	0.587	mg/kg		*< 1.7*	*< 1.7 [<1.7]*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
Phenanthrene	85-01-8	1830 {NMED ResSoil09}	1,669	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Phenol	108-95-2	18300 {NMED ResSoil09}	126	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Pyrene	129-00-0	1720 {NMED ResSoil09}	2,238	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Volatile Organic Compounds													
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil09}	59.5	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil09}	0.00450	mg/kg		*< 0.005*	*< 0.005 [<0.005]*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil09}	0.0135	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil09}	0.122	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1-Dichloroethylene	75-35-4	618 {NMED ResSoil09}	2.38	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil09}	0.000713	mg/kg		*< 0.02*	*< 0.02 [<0.02]*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil09}	6.27	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil09}	0.00730	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil09}	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,4 Dichloro-2-Butene	764-41-0	0.046 {NMED ResSoil09}	0.000163	mg/kg		*< 0.02*	*< 0.02 [<0.02]*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*
2-Butanone	78-93-3	39600 {NMED ResSoil09}	25.3	mg/kg		< 0.1	< 0.1 [<0.1]	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloroethyl Vinyl Ether	110-75-8	--	--	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acetone	67-64-1	67500 {NMED ResSoil09}	76.9	mg/kg		< 0.1	< 0.1 [<0.1]	< 0.1	2.8	0.13	0.57	0.19	0.32
Acrolein	107-02-8	0.646 {NMED ResSoil09}	0.000148	mg/kg		*< 0.2*	*< 0.2 [<0.2]*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*
Acrylonitrile	107-13-1	5.97 {NMED ResSoil09}	0.00164	mg/kg		*< 0.1*	*< 0.1 [<0.1]*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*
Benzene	71-43-2	15.5 {NMED ResSoil09}	0.0370	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 98
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	98SSORS 0 3/17/1992	98SO02 2 3/5/1992	98SO05 5 3/5/1992	98SO10 10 3/5/1992	98SO15 15 3/5/1992	98SO20 20 3/5/1992	98SO25 25 3/5/1992	98SO30 30 3/5/1992
Volatile Organic Compounds													
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	0.0511	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Bromomethane	74-83-9	22.3 {NMED ResSoil09}	0.0388	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Carbon Disulfide	75-15-0	1940 {NMED ResSoil09}	5.04	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil09}	0.0148	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
CFC-11	75-69-4	2010 {NMED ResSoil09}	18.0	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
CFC-12	75-71-8	481 {NMED ResSoil09}	14.5	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chlorobenzene	108-90-7	508 {NMED ResSoil09}	1.08	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chlorodibromomethane	124-48-1	11.9 {NMED ResSoil09}	0.00675	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chloroethane	75-00-3	43600 {NMED ResSoil09}	108	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	67-66-3	5.72 {NMED ResSoil09}	0.00936	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chloromethane	74-87-3	35.6 {NMED ResSoil09}	0.0836	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-Dichloropropene	10061-01-5	--	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Dibromomethane	74-95-3	782 {NMED ResSoil09}	1.55	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dichloromethane	75-09-2	199 {NMED ResSoil09}	0.215	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Ethanol	64-17-5	--	--	mg/kg		< 1	< 1 [<1]	< 1	< 1	< 1	< 1	< 1	< 1
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil09}	13.4	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	100-41-4	69.7 {NMED ResSoil09}	0.291	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Iodomethane	74-88-4	--	--	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Methyl N-Butyl Ketone	591-78-6	--	--	mg/kg		< 0.05	< 0.05 [<0.05]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methylbenzene	108-88-3	5570 {NMED ResSoil09}	27.7	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Naphthalene	91-20-3	45 {NMED ResSoil09}	0.084	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Styrene (Monomer)	100-42-5	8970 {NMED ResSoil09}	31.2	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil09}	0.00898	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil09}	0.603	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trans-1,3-Dichloropropene	10061-02-6	--	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trichloroethylene	79-01-6	45.7 {NMED ResSoil09}	0.106	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vinyl Acetate	108-05-4	3650 {NMED ResSoil09}	1.53	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil09}	0.00576	mg/kg		*< 0.01*	*< 0.01 [<0.01]*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Xylenes	1330-20-7	1090 {NMED ResSoil09}	3.52	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 99
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	99SSORS 0 3/17/1992	99SO02RS 2 3/11/1992	99SO05RS 5 3/11/1992	99SO10RS 10 3/11/1992	99SO15RS 15 3/11/1992	99SO20RS 20 3/11/1992	99SO25RS 25 3/11/1992	99SO30RS 30 3/11/1992
Metals													
Arsenic	7440-38-2	3.9 {NMED ResSoil09}	0.262	mg/kg		***< 11***	***< 9.7 [<9.6]***	***< 9.1***	***< 10***	*< 11*	*< 10*	*< 9.4*	*< 9.7*
Barium	7440-39-3	15600 {NMED ResSoil09}	6030	mg/kg		< 21	< 19 [<19]	44	< 20	150	31	29	57
Cadmium	7440-43-9	77.9 {NMED ResSoil09}	27.5	mg/kg		< 0.53	< 0.49 [<0.48]	< 0.45	< 0.51	< 0.53	< 0.5	< 0.47	< 0.49
Lead	7439-92-1	400 {NMED ResSoil09}	--	mg/kg		6.8	< 4.9 [<4.8]	35	< 5.1	23	8.6	6.3	6.4
Mercury	7439-97-6	7.71 {NMED ResSoil09}	0.587	mg/kg		< 0.1	< 0.07 [<0.1]	< 0.1	< 0.1	< 0.09	< 0.1	< 0.09	< 0.1
Selenium	7782-49-2	391 {NMED ResSoil09}	19.3	mg/kg		< 0.52	< 0.46 [<0.46]	< 0.5	< 0.51	< 0.52	< 0.5	< 0.5	< 0.53
Silver	7440-22-4	391 {NMED ResSoil09}	31.3	mg/kg		< 1.1	< 0.97 [<0.96]	< 0.91	< 1	< 1.1	< 1	< 0.94	< 0.97
Other													
pH	pH	--	--	pH units		9.3	5.6 [5.7]	6.5	6.6	6.9	7.3	7.5	7.7
Semi-Volatile Organic Compounds													
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil09}	0.205	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil09}	652	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil09}	0.071	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil09}	1.43	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil09}	2.74	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil09}	18.2	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil09}	1.05	mg/kg		*< 1.7*	*< 1.7 [<1.7]*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil09}	0.0312	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil09}	0.533	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil09}	271	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Chlorophenol	95-57-8	391 {NMED ResSoil09}	3.06	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11 {NMED ResSoil09}	0.0785	mg/kg		*< 1.7*	*< 1.7 [<1.7]*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
2-Nitrophenol	88-75-5	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
3,3-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil09}	0.341	mg/kg		*< 0.66*	*< 0.66 [<0.66]*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*	*< 0.66*
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120 {NMED ResSoil09}	3.69	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Bromophenyl Phenyl Ether	101-55-3	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Chloro-3-Methylphenol	59-50-7	--	--	mg/kg		< 0.66	< 0.66 [<0.66]	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66	< 0.66
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950 {NMED ResSoil09}	7.58	mg/kg		< 0.05	< 0.05 [<0.05]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4-Nitrophenol	100-02-7	--	--	mg/kg		< 1.7	< 1.7 [<1.7]	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Acenaphthene	83-32-9	3440 {NMED ResSoil09}	410	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Acenaphthylene	208-96-8	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Anthracene	120-12-7	17200 {NMED ResSoil09}	6,739	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzidine	92-87-5	0.0211 {NMED ResSoil09}	0.000250	mg/kg		***< 1.7***	***< 1.7 [<1.7]***	***< 1.7***	***< 1.7***	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
Benzo(a)Anthracene	56-55-3	6.21 {NMED ResSoil09}	6.39	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(a)Pyrene	50-32-8	0.621 {NMED ResSoil09}	2.17	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(b)Fluoranthene	205-99-2	6.21 {NMED ResSoil09}	22.2	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(g,h,i)Perylene	191-24-2	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Benzo(k)Fluoranthene	207-08-9	62.1 {NMED ResSoil09}	217	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 99
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	99SSORS 0 3/17/1992	99SO02RS 2 3/11/1992	99SO05RS 5 3/11/1992	99SO10RS 10 3/11/1992	99SO15RS 15 3/11/1992	99SO20RS 20 3/11/1992	99SO25RS 25 3/11/1992	99SO30RS 30 3/11/1992
Semi-Volatile Organic Compounds													
Benzoic Acid	65-85-0	240000 {EPA ResSoil10}	--	mg/kg		< 1.7	< 1.7 [<1.7]	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7
Benzyl Butyl Phthalate	85-68-7	2600 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Bis (2-Chloroethoxy) Methane	111-91-1	180 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Bis(2-Chloroethyl) Ether	111-44-4	2.56 {NMED ResSoil09}	0.000465	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Bis(2-Ethylhexyl)Phthalate	117-81-7	347 {NMED ResSoil09}	238	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Dibenz(a,h)Anthracene	53-70-3	0.621 {NMED ResSoil09}	7.24	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Diethyl Phthalate	84-66-2	48900 {NMED ResSoil09}	212	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Dimethyl Phthalate	131-11-3	611000 {NMED	1,671	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Di-n-Butyl Phthalate	84-74-2	6110 {NMED ResSoil09}	173	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Di-n-Octyl Phthalate	117-84-0	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Fluoranthene	206-44-0	2290 {NMED ResSoil09}	3,108	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Fluorene	86-73-7	2290 {NMED ResSoil09}	500	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Hexachloro-1,3-Butadiene	87-68-3	{NMED ResSoil09}	0.295	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Hexachlorobenzene	118-74-1	{NMED ResSoil09}	0.0441	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil09}	12.3	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Hexachloroethane	67-72-1	61.1 {NMED ResSoil09}	0.386	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21 {NMED ResSoil09}	73.9	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
m-Dichlorobenzene	541-73-1	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Methanamine, N-Methyl-N-Nitrosc	62-75-9	0.954 {NMED ResSoil09}	0.0000610	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Nitrobenzene	98-95-3	49.4 {NMED ResSoil09}	0.137	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
N-Nitrosodi-N-Propylamine	621-64-7	0.69 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil09}	25.8	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil09}	0.587	mg/kg		*< 1.7*	*< 1.7 [<1.7]*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*	*< 1.7*
Phenanthrene	85-01-8	1830 {NMED ResSoil09}	1,669	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Phenol	108-95-2	18300 {NMED ResSoil09}	126	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Pyrene	129-00-0	1720 {NMED ResSoil09}	2,238	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
Volatile Organic Compounds													
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil09}	59.5	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil09}	0.00450	mg/kg		*< 0.005*	*< 0.005 [<0.005]*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*	*< 0.005*
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil09}	0.0135	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil09}	0.122	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,1-Dichloroethylene	75-35-4	618 {NMED ResSoil09}	2.38	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil09}	0.000713	mg/kg		*< 0.02*	*< 0.02 [<0.02]*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil09}	6.27	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33	< 0.33
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil09}	0.00730	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil09}	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
1,4 Dichloro-2-Butene	764-41-0	0.046 {NMED ResSoil09}	0.000163	mg/kg		*< 0.02*	*< 0.02 [<0.02]*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*	*< 0.02*
2-Butanone	78-93-3	39600 {NMED ResSoil09}	25.3	mg/kg		< 0.1	< 0.1 [<0.1]	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 99
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	99SSORS 0 3/17/1992	99SO02RS 2 3/11/1992	99SO05RS 5 3/11/1992	99SO10RS 10 3/11/1992	99SO15RS 15 3/11/1992	99SO20RS 20 3/11/1992	99SO25RS 25 3/11/1992	99SO30RS 30 3/11/1992
Volatile Organic Compounds													
2-Chloroethyl Vinyl Ether	110-75-8	--	--	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acetone	67-64-1	67500 {NMED ResSoil09}	76.9	mg/kg		< 0.1	0.21 [<0.1]	< 0.1	< 0.1	0.15	< 0.1	< 0.1	< 0.1
Acrolein	107-02-8	0.646 {NMED ResSoil09}	0.000148	mg/kg		*< 0.2*	*< 0.2 [<0.2]*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*	*< 0.2*
Acrylonitrile	107-13-1	5.97 {NMED ResSoil09}	0.00164	mg/kg		*< 0.1*	*< 0.1 [<0.1]*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*	*< 0.1*
Benzene	71-43-2	15.5 {NMED ResSoil09}	0.0370	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	0.0511	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Bromomethane	74-83-9	22.3 {NMED ResSoil09}	0.0388	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Carbon Disulfide	75-15-0	1940 {NMED ResSoil09}	5.04	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil09}	0.0148	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
CFC-11	75-69-4	2010 {NMED ResSoil09}	18.0	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
CFC-12	75-71-8	481 {NMED ResSoil09}	14.5	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chlorobenzene	108-90-7	508 {NMED ResSoil09}	1.08	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chlorodibromomethane	124-48-1	11.9 {NMED ResSoil09}	0.00675	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chloroethane	75-00-3	43600 {NMED ResSoil09}	108	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chloroform	67-66-3	5.72 {NMED ResSoil09}	0.00936	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chloromethane	74-87-3	35.6 {NMED ResSoil09}	0.0836	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
cis-1,3-Dichloropropene	10061-01-5	--	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Dibromomethane	74-95-3	782 {NMED ResSoil09}	1.55	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Dichloromethane	75-09-2	199 {NMED ResSoil09}	0.215	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Ethanol	64-17-5	--	--	mg/kg		< 1	< 1 [<1]	< 1	< 1	< 1	< 1	< 1	< 1
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil09}	13.4	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	100-41-4	69.7 {NMED ResSoil09}	0.291	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Iodomethane	74-88-4	--	--	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Methyl N-Butyl Ketone	591-78-6	--	--	mg/kg		< 0.05	< 0.05 [<0.05]	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Methylbenzene	108-88-3	5570 {NMED ResSoil09}	27.7	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Naphthalene	91-20-3	45 {NMED ResSoil09}	0.084	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*	*< 0.33*
Styrene (Monomer)	100-42-5	8970 {NMED ResSoil09}	31.2	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil09}	0.00898	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil09}	0.603	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trans-1,3-Dichloropropene	10061-02-6	--	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Trichloroethylene	79-01-6	45.7 {NMED ResSoil09}	0.106	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Vinyl Acetate	108-05-4	3650 {NMED ResSoil09}	1.53	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil09}	0.00576	mg/kg		*< 0.01*	*< 0.01 [<0.01]*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*	*< 0.01*
Xylenes	1330-20-7	1090 {NMED ResSoil09}	3.52	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 100
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	100SSORS 0 3/17/1992	100SO02 2 3/7/1992	100SO05 5 3/7/1992	100SO10 10 3/7/1992	100SO15 15 3/7/1992	100SO20 20 3/7/1992	100SO25 25 3/7/1992
Metals												
Arsenic	7440-38-2	3.9 {NMED ResSoil09}	0.262	mg/kg		***< 11***	***<10 [<10]***	***<19***	***<9.5***	*<9.5*	*<10*	ND [2]
Barium	7440-39-3	15600 {NMED ResSoil09}	6030	mg/kg		29	23 [22]	110	56	47	27	60
Cadmium	7440-43-9	77.9 {NMED ResSoil09}	27.5	mg/kg		< 0.53	<0.51 [<0.51]	<0.96	<0.48	<0.48	<0.51	ND [2]
Lead	7439-92-1	400 {NMED ResSoil09}	--	mg/kg		15	7.1 [5.8]	<9.6	7.6	6.9	7.4	6.5
Mercury	7439-97-6	7.71 {NMED ResSoil09}	0.587	mg/kg		< 0.1	<0.07 [<0.1]	<0.08	<0.1	<0.08	<0.1	ND [2]
Selenium	7782-49-2	391 {NMED ResSoil09}	19.3	mg/kg		< 0.48	<0.47 [<0.52]	<0.46	<0.50	<0.50	<0.49 Y	ND [2]
Silver	7440-22-4	391 {NMED ResSoil09}	31.3	mg/kg		< 1.1	<1.0 [<1.0]	<1.9	<0.95	<0.95	<1.0	ND [2]
Other												
pH	pH	--	--	pH units		7.9	8 [7.8]	8.3	8.9	8.6	8.4	8.3
Semi-Volatile Organic Compounds												
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil09}	0.205	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	ND [2]	ND [2]
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil09}	652	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil09}	0.071	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	ND [2]	ND [2]
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil09}	1.43	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil09}	2.74	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil09}	18.2	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil09}	1.05	mg/kg		*< 1.7*	*< 1.7 [<1.7]*	*< 1.7*	*< 1.7*	*< 1.7*	ND [2]	ND [2]
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil09}	0.0312	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	ND [2]	ND [2]
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil09}	0.533	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil09}	271	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
2-Chlorophenol	95-57-8	391 {NMED ResSoil09}	3.06	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11 {NMED ResSoil09}	0.0785	mg/kg		*< 1.7*	*< 1.7 [<1.7]*	*< 1.7*	*< 1.7*	*< 1.7*	ND [2]	ND [2]
2-Nitrophenol	88-75-5	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
3,3-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil09}	0.341	mg/kg		*< 0.66*	*< 0.66 [<0.66]*	*< 0.66*	*< 0.66*	*< 0.66*	ND [2]	ND [2]
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120 {NMED ResSoil09}	3.69	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
4-Bromophenyl Phenyl Ether	101-55-3	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
4-Chloro-3-Methylphenol	59-50-7	--	--	mg/kg		< 0.66	< 0.66 [<0.66]	< 0.66	< 0.66	< 0.66	ND [2]	ND [2]
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950 {NMED ResSoil09}	7.58	mg/kg		< 0.05	< 0.05 [<0.05]	< 0.05	< 0.05	< 0.05	ND [2]	ND [2]
4-Nitrophenol	100-02-7	--	--	mg/kg		< 1.7	< 1.7 [<1.7]	< 1.7	< 1.7	< 1.7	ND [2]	ND [2]
Acenaphthene	83-32-9	3440 {NMED ResSoil09}	410	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Acenaphthylene	208-96-8	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Anthracene	120-12-7	17200 {NMED ResSoil09}	6,739	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Benzidine	92-87-5	0.0211 {NMED ResSoil09}	0.000250	mg/kg		***< 1.7***	***< 1.7 [<1.7]***	***< 1.7***	***< 1.7***	*< 1.7*	ND [2]	ND [2]
Benzo(a)Anthracene	56-55-3	6.21 {NMED ResSoil09}	6.39	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Benzo(a)Pyrene	50-32-8	0.621 {NMED ResSoil09}	2.17	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Benzo(b)Fluoranthene	205-99-2	6.21 {NMED ResSoil09}	22.2	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Benzo(g,h,i)Perylene	191-24-2	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Benzo(k)Fluoranthene	207-08-9	62.1 {NMED ResSoil09}	217	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 100
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	100SSORS 0 3/17/1992	100SO02 2 3/7/1992	100SO05 5 3/7/1992	100SO10 10 3/7/1992	100SO15 15 3/7/1992	100SO20 20 3/7/1992	100SO25 25 3/7/1992
Semi-Volatile Organic Compounds												
Benzoic Acid	65-85-0	240000 {EPA ResSoil10}	--	mg/kg		< 1.7	< 1.7 [<1.7]	< 1.7	< 1.7	< 1.7	ND [2]	ND [2]
Benzyl Butyl Phthalate	85-68-7	2600 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Bis (2-Chloroethoxy) Methane	111-91-1	180 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Bis(2-Chloroethyl) Ether	111-44-4	2.56 {NMED ResSoil09}	0.000465	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	ND [2]	ND [2]
Bis(2-Ethylhexyl)Phthalate	117-81-7	347 {NMED ResSoil09}	238	mg/kg		< 0.33	< 0.33 [<0.33]	3.4	1.2	< 0.33	ND [2]	ND [2]
Dibenz(a,h)Anthracene	53-70-3	0.621 {NMED ResSoil09}	7.24	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Diethyl Phthalate	84-66-2	48900 {NMED ResSoil09}	212	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Dimethyl Phthalate	131-11-3	611000 {NMED ResSoil09}	1,671	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Di-n-Butyl Phthalate	84-74-2	6110 {NMED ResSoil09}	173	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Di-n-Octyl Phthalate	117-84-0	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Fluoranthene	206-44-0	2290 {NMED ResSoil09}	3,108	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Fluorene	86-73-7	2290 {NMED ResSoil09}	500	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Hexachloro-1,3-Butadiene	87-68-3	{NMED ResSoil09}	0.295	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	ND [2]	ND [2]
Hexachlorobenzene	118-74-1	{NMED ResSoil09}	0.0441	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	ND [2]	ND [2]
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil09}	12.3	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Hexachloroethane	67-72-1	61.1 {NMED ResSoil09}	0.386	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21 {NMED ResSoil09}	73.9	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
m-Dichlorobenzene	541-73-1	--	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954 {NMED ResSoil09}	0.0000610	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	ND [2]	ND [2]
Nitrobenzene	98-95-3	49.4 {NMED ResSoil09}	0.137	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	ND [2]	ND [2]
N-Nitrosodi-N-Propylamine	621-64-7	0.69 {EPA ResSoil10}	--	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil09}	25.8	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil09}	0.587	mg/kg		*< 1.7*	*< 1.7 [<1.7]*	*< 1.7*	*< 1.7*	*< 1.7*	ND [2]	ND [2]
Phenanthrene	85-01-8	1830 {NMED ResSoil09}	1,669	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Phenol	108-95-2	18300 {NMED ResSoil09}	126	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Pyrene	129-00-0	1720 {NMED ResSoil09}	2,238	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
Volatile Organic Compounds												
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil09}	59.5	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil09}	0.00450	mg/kg		*< 0.005*	*< 0.005 [<0.005]*	*< 0.005*	*< 0.005*	*< 0.005*	ND [2]	ND [2]
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil09}	0.0135	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil09}	0.122	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
1,1-Dichloroethylene	75-35-4	618 {NMED ResSoil09}	2.38	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil09}	0.000713	mg/kg		*< 0.02*	*< 0.02 [<0.02]*	*< 0.02*	*< 0.02*	*< 0.02*	ND [2]	ND [2]
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil09}	6.27	mg/kg		< 0.33	< 0.33 [<0.33]	< 0.33	< 0.33	< 0.33	ND [2]	ND [2]
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil09}	0.00730	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil09}	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
1,4 Dichloro-2-Butene	764-41-0	0.046 {NMED ResSoil09}	0.000163	mg/kg		*< 0.02*	*< 0.02 [<0.02]*	*< 0.02*	*< 0.02*	*< 0.02*	ND [2]	ND [2]
2-Butanone	78-93-3	39600 {NMED ResSoil09}	25.3	mg/kg		< 0.1	< 0.1 [<0.1]	< 0.1	< 0.1	< 0.1	ND [2]	ND [2]

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 100
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	Location ID Sample Depth (ft) Date Collected	100SSORS 0 3/17/1992	100SO02 2 3/7/1992	100SO05 5 3/7/1992	100SO10 10 3/7/1992	100SO15 15 3/7/1992	100SO20 20 3/7/1992	100SO25 25 3/7/1992
Volatile Organic Compounds												
2-Chloroethyl Vinyl Ether	110-75-8	--	--	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	ND [2]	ND [2]
Acetone	67-64-1	67500 {NMED ResSoil09}	76.9	mg/kg		< 0.1	0.21 [<0.1]	11	<20 X	<5 X	ND [2]	1.9
Acrolein	107-02-8	0.646 {NMED ResSoil09}	0.000148	mg/kg		*< 0.2*	*< 0.2 [<0.2]*	*< 0.2*	*< 0.2*	*< 0.2*	ND [2]	ND [2]
Acrylonitrile	107-13-1	5.97 {NMED ResSoil09}	0.00164	mg/kg		*< 0.1*	*< 0.1 [<0.1]*	*< 0.1*	*< 0.1*	*< 0.1*	ND [2]	ND [2]
Benzene	71-43-2	15.5 {NMED ResSoil09}	0.0370	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	0.0511	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	ND [2]	ND [2]
Bromomethane	74-83-9	22.3 {NMED ResSoil09}	0.0388	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Carbon Disulfide	75-15-0	1940 {NMED ResSoil09}	5.04	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil09}	0.0148	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
CFC-11	75-69-4	2010 {NMED ResSoil09}	18.0	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	ND [2]	ND [2]
CFC-12	75-71-8	481 {NMED ResSoil09}	14.5	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	ND [2]	ND [2]
Chlorobenzene	108-90-7	508 {NMED ResSoil09}	1.08	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Chlorodibromomethane	124-48-1	11.9 {NMED ResSoil09}	0.00675	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Chloroethane	75-00-3	43600 {NMED ResSoil09}	108	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	ND [2]	ND [2]
Chloroform	67-66-3	5.72 {NMED ResSoil09}	0.00936	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Chloromethane	74-87-3	35.6 {NMED ResSoil09}	0.0836	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	ND [2]	ND [2]
cis-1,3-Dichloropropene	10061-01-5	--	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Dibromomethane	74-95-3	782 {NMED ResSoil09}	1.55	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	ND [2]	ND [2]
Dichloromethane	75-09-2	199 {NMED ResSoil09}	0.215	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Ethanol	64-17-5	--	--	mg/kg		< 1	< 1 [<1]	< 1	< 1	< 1	ND [2]	ND [2]
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil09}	13.4	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	ND [2]	ND [2]
Ethylbenzene	100-41-4	69.7 {NMED ResSoil09}	0.291	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Iodomethane	74-88-4	--	--	mg/kg		< 0.02	< 0.02 [<0.02]	< 0.02	< 0.02	< 0.02	ND [2]	ND [2]
Methyl N-Butyl Ketone	591-78-6	--	--	mg/kg		< 0.05	< 0.05 [<0.05]	< 0.05	< 0.05	< 0.05	ND [2]	ND [2]
Methylbenzene	108-88-3	5570 {NMED ResSoil09}	27.7	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Naphthalene	91-20-3	45 {NMED ResSoil09}	0.084	mg/kg		*< 0.33*	*< 0.33 [<0.33]*	*< 0.33*	*< 0.33*	*< 0.33*	ND [2]	ND [2]
Styrene (Monomer)	100-42-5	8970 {NMED ResSoil09}	31.2	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil09}	0.00898	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil09}	0.603	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Trans-1,3-Dichloropropene	10061-02-6	--	--	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Trichloroethylene	79-01-6	45.7 {NMED ResSoil09}	0.106	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]
Vinyl Acetate	108-05-4	3650 {NMED ResSoil09}	1.53	mg/kg		< 0.01	< 0.01 [<0.01]	< 0.01	< 0.01	< 0.01	ND [2]	ND [2]
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil09}	0.00576	mg/kg		*< 0.01*	*< 0.01 [<0.01]*	*< 0.01*	*< 0.01*	*< 0.01*	ND [2]	ND [2]
Xylenes	1330-20-7	1090 {NMED ResSoil09}	3.52	mg/kg		< 0.005	< 0.005 [<0.005]	< 0.005	< 0.005	< 0.005	ND [2]	ND [2]

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 100
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	100SO3030 3/7/1992
Metals					
Arsenic	7440-38-2	3.9 {NMED ResSoil09}	0.262	mg/kg	*16*
Barium	7440-39-3	15600 {NMED ResSoil09}	6030	mg/kg	210
Cadmium	7440-43-9	77.9 {NMED ResSoil09}	27.5	mg/kg	< 0.49
Lead	7439-92-1	400 {NMED ResSoil09}	--	mg/kg	22
Mercury	7439-97-6	7.71 {NMED ResSoil09}	0.587	mg/kg	< 0.1
Selenium	7782-49-2	391 {NMED ResSoil09}	19.3	mg/kg	< 0.52
Silver	7440-22-4	391 {NMED ResSoil09}	31.3	mg/kg	< 0.98
Other					
pH	pH	--	--	pH units	8
Semi-Volatile Organic Compounds					
1,2,4-Trichlorobenzene	120-82-1	143 {NMED ResSoil09}	0.205	mg/kg	*< 0.33*
1,2-Benzphenanthracene	218-01-9	621 {NMED ResSoil09}	652	mg/kg	< 0.33
1,4-Dichlorobenzene	106-46-7	32.2 {NMED ResSoil09}	0.071	mg/kg	*< 0.33*
2,4,6-Trichlorophenol	88-06-2	61 {NMED ResSoil09}	1.43	mg/kg	< 0.33
2,4-Dichlorophenol	120-83-2	183 {NMED ResSoil09}	2.74	mg/kg	< 0.33
2,4-Dimethylphenol	105-67-9	1220 {NMED ResSoil09}	18.2	mg/kg	< 0.33
2,4-Dinitrophenol	51-28-5	122 {NMED ResSoil09}	1.05	mg/kg	*< 1.7*
2,4-Dinitrotoluene	121-14-2	15.7 {NMED ResSoil09}	0.0312	mg/kg	*< 0.33*
2,6-Dinitrotoluene	606-20-2	61.2 {NMED ResSoil09}	0.533	mg/kg	< 0.33
2-Chloronaphthalene	91-58-7	6260 {NMED ResSoil09}	271	mg/kg	< 0.33
2-Chlorophenol	95-57-8	391 {NMED ResSoil09}	3.06	mg/kg	< 0.33
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11 {NMED ResSoil09}	0.0785	mg/kg	*< 1.7*
2-Nitrophenol	88-75-5	--	--	mg/kg	< 0.33
3,3-Dichlorobenzidine	91-94-1	10.8 {NMED ResSoil09}	0.341	mg/kg	*< 0.66*
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120 {NMED ResSoil09}	3.69	mg/kg	< 0.33
4-Bromophenyl Phenyl Ether	101-55-3	--	--	mg/kg	< 0.33
4-Chloro-3-Methylphenol	59-50-7	--	--	mg/kg	< 0.66
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	mg/kg	< 0.33
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950 {NMED ResSoil09}	7.58	mg/kg	< 0.05
4-Nitrophenol	100-02-7	--	--	mg/kg	< 1.7
Acenaphthene	83-32-9	3440 {NMED ResSoil09}	410	mg/kg	< 0.33
Acenaphthylene	208-96-8	--	--	mg/kg	< 0.33
Anthracene	120-12-7	17200 {NMED ResSoil09}	6,739	mg/kg	< 0.33
Benzidine	92-87-5	0.0211 {NMED ResSoil09}	0.000250	mg/kg	*< 1.7*
Benzo(a)Anthracene	56-55-3	6.21 {NMED ResSoil09}	6.39	mg/kg	< 0.33
Benzo(a)Pyrene	50-32-8	0.621 {NMED ResSoil09}	2.17	mg/kg	< 0.33
Benzo(b)Fluoranthene	205-99-2	6.21 {NMED ResSoil09}	22.2	mg/kg	< 0.33
Benzo(g,h,i)Perylene	191-24-2	--	--	mg/kg	< 0.33
Benzo(k)Fluoranthene	207-08-9	62.1 {NMED ResSoil09}	217	mg/kg	< 0.33

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 100
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	100SO30 30 3/7/1992
Semi-Volatile Organic Compounds					
Benzoic Acid	65-85-0	240000 {EPA ResSoil10}	--	mg/kg	< 1.7
Benzyl Butyl Phthalate	85-68-7	2600 {EPA ResSoil10}	--	mg/kg	< 0.33
Bis (2-Chloroethoxy) Methane	111-91-1	180 {EPA ResSoil10}	--	mg/kg	< 0.33
Bis(2-Chloroethyl) Ether	111-44-4	2.56 {NMED ResSoil09}	0.000465	mg/kg	*< 0.33*
Bis(2-Ethylhexyl)Phthalate	117-81-7	347 {NMED ResSoil09}	238	mg/kg	< 0.33
Dibenz(a,h)Anthracene	53-70-3	0.621 {NMED ResSoil09}	7.24	mg/kg	< 0.33
Diethyl Phthalate	84-66-2	48900 {NMED ResSoil09}	212	mg/kg	< 0.33
Dimethyl Phthalate	131-11-3	611000 {NMED ResSoil09}	1,671	mg/kg	< 0.33
Di-n-Butyl Phthalate	84-74-2	6110 {NMED ResSoil09}	173	mg/kg	< 0.33
Di-n-Octyl Phthalate	117-84-0	--	--	mg/kg	< 0.33
Fluoranthene	206-44-0	2290 {NMED ResSoil09}	3,108	mg/kg	< 0.33
Fluorene	86-73-7	2290 {NMED ResSoil09}	500	mg/kg	< 0.33
Hexachloro-1,3-Butadiene	87-68-3	{NMED ResSoil09}	0.295	mg/kg	*< 0.33*
Hexachlorobenzene	118-74-1	{NMED ResSoil09}	0.0441	mg/kg	*< 0.33*
Hexachlorocyclopentadiene	77-47-4	367 {NMED ResSoil09}	12.3	mg/kg	< 0.33
Hexachloroethane	67-72-1	61.1 {NMED ResSoil09}	0.386	mg/kg	< 0.33
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21 {NMED ResSoil09}	73.9	mg/kg	< 0.33
m-Dichlorobenzene	541-73-1	--	--	mg/kg	< 0.33
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954 {NMED ResSoil09}	0.0000610	mg/kg	*< 0.33*
Nitrobenzene	98-95-3	49.4 {NMED ResSoil09}	0.137	mg/kg	*< 0.33*
N-Nitrosodi-N-Propylamine	621-64-7	0.69 {EPA ResSoil10}	--	mg/kg	< 0.33
N-Nitrosodiphenylamine	86-30-6	993 {NMED ResSoil09}	25.8	mg/kg	< 0.33
Pentachlorophenol	87-86-5	29.8 {NMED ResSoil09}	0.587	mg/kg	*< 1.7*
Phenanthrene	85-01-8	1830 {NMED ResSoil09}	1,669	mg/kg	< 0.33
Phenol	108-95-2	18300 {NMED ResSoil09}	126	mg/kg	< 0.33
Pyrene	129-00-0	1720 {NMED ResSoil09}	2,238	mg/kg	< 0.33
Volatile Organic Compounds					
1,1,1-Trichloroethane	71-55-6	21800 {NMED ResSoil09}	59.5	mg/kg	< 0.005
1,1,2,2-Tetrachloroethane	79-34-5	7.98 {NMED ResSoil09}	0.00450	mg/kg	*< 0.005*
1,1,2-Trichloroethane	79-00-5	17.2 {NMED ResSoil09}	0.0135	mg/kg	< 0.005
1,1-Dichloroethane	75-34-3	62.9 {NMED ResSoil09}	0.122	mg/kg	< 0.005
1,1-Dichloroethylene	75-35-4	618 {NMED ResSoil09}	2.38	mg/kg	< 0.005
1,2,3-Trichloropropane	96-18-4	0.915 {NMED ResSoil09}	0.000713	mg/kg	*< 0.02*
1,2-Dichlorobenzene	95-50-1	3010 {NMED ResSoil09}	6.27	mg/kg	< 0.33
1,2-Dichloroethane	107-06-2	7.74 {NMED ResSoil09}	0.00730	mg/kg	< 0.005
1,2-Dichloropropane	78-87-5	14.7 {NMED ResSoil09}	--	mg/kg	< 0.005
1,4 Dichloro-2-Butene	764-41-0	0.046 {NMED ResSoil09}	0.000163	mg/kg	*< 0.02*
2-Butanone	78-93-3	39600 {NMED ResSoil09}	25.3	mg/kg	< 0.1

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 100
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS	Soil Screening Level for Residential Soil	DAF 20	Units	100SO30 30 3/7/1992
Volatile Organic Compounds					
2-Chloroethyl Vinyl Ether	110-75-8	--	--	mg/kg	< 0.01
Acetone	67-64-1	67500 {NMED ResSoil09}	76.9	mg/kg	0.51
Acrolein	107-02-8	0.646 {NMED ResSoil09}	0.000148	mg/kg	*< 0.2*
Acrylonitrile	107-13-1	5.97 {NMED ResSoil09}	0.00164	mg/kg	*< 0.1*
Benzene	71-43-2	15.5 {NMED ResSoil09}	0.0370	mg/kg	< 0.005
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	0.0511	mg/kg	*< 0.33*
Bromomethane	74-83-9	22.3 {NMED ResSoil09}	0.0388	mg/kg	< 0.005
Carbon Disulfide	75-15-0	1940 {NMED ResSoil09}	5.04	mg/kg	< 0.005
Carbon Tetrachloride	56-23-5	4.38 {NMED ResSoil09}	0.0148	mg/kg	< 0.005
CFC-11	75-69-4	2010 {NMED ResSoil09}	18.0	mg/kg	< 0.01
CFC-12	75-71-8	481 {NMED ResSoil09}	14.5	mg/kg	< 0.02
Chlorobenzene	108-90-7	508 {NMED ResSoil09}	1.08	mg/kg	< 0.005
Chlorodibromomethane	124-48-1	11.9 {NMED ResSoil09}	0.00675	mg/kg	< 0.005
Chloroethane	75-00-3	43600 {NMED ResSoil09}	108	mg/kg	< 0.01
Chloroform	67-66-3	5.72 {NMED ResSoil09}	0.00936	mg/kg	< 0.005
Chloromethane	74-87-3	35.6 {NMED ResSoil09}	0.0836	mg/kg	< 0.01
cis-1,3-Dichloropropene	10061-01-5	--	--	mg/kg	< 0.005
Dibromomethane	74-95-3	782 {NMED ResSoil09}	1.55	mg/kg	< 0.02
Dichloromethane	75-09-2	199 {NMED ResSoil09}	0.215	mg/kg	< 0.005
Ethanol	64-17-5	--	--	mg/kg	< 1
Ethyl Methacrylate	97-63-2	7040 {NMED ResSoil09}	13.4	mg/kg	< 0.02
Ethylbenzene	100-41-4	69.7 {NMED ResSoil09}	0.291	mg/kg	< 0.005
Iodomethane	74-88-4	--	--	mg/kg	< 0.02
Methyl N-Butyl Ketone	591-78-6	--	--	mg/kg	< 0.05
Methylbenzene	108-88-3	5570 {NMED ResSoil09}	27.7	mg/kg	< 0.005
Naphthalene	91-20-3	45 {NMED ResSoil09}	0.084	mg/kg	*< 0.33*
Styrene (Monomer)	100-42-5	8970 {NMED ResSoil09}	31.2	mg/kg	< 0.005
Tetrachloroethene	127-18-4	6.99 {NMED ResSoil09}	0.00898	mg/kg	< 0.005
Trans-1,2-Dichloroethene	156-60-5	273 {NMED ResSoil09}	0.603	mg/kg	< 0.005
Trans-1,3-Dichloropropene	10061-02-6	--	--	mg/kg	< 0.005
Trichloroethylene	79-01-6	45.7 {NMED ResSoil09}	0.106	mg/kg	< 0.005
Vinyl Acetate	108-05-4	3650 {NMED ResSoil09}	1.53	mg/kg	< 0.01
Vinyl Chloride	75-01-4	0.865 {NMED ResSoil09}	0.00576	mg/kg	*< 0.01*
Xylenes	1330-20-7	1090 {NMED ResSoil09}	3.52	mg/kg	< 0.005

(See Notes Page for Qualifiers and Acronyms)

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Table 1. Summary of Soil Sample Analytical Results - SWMU 92A/B through 100
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

Lab Qualifiers	Definition
U	Constituent was not detected at the sample quantitation limit shown.
UJ	Estimated value below detection limit.
J	Analyte detected between MDL and RL
B	Constituent was detected in the laboratory blank
X	Check standard outside control criteria
Y	Mass spectrometer accuracy and/or precision outside control limit
Z	Analysis performed outside of holding time

Acronym/Note	Description
All data reported before 2009 were collected by others and the data were provided to ARCADIS by White Sands Missile Range.	
--	The sample was not tested for this constituent and/or no data were available.
1.7	Yellow highlight indicates that the reported result exceeds the published SSLs. If the result is preceded by "<", the constituent was not detected, but the reported sample quantitation limit exceeds the SSL.
1.9	Italics indicates that the reported result exceeds the NMED DAF 20 screening value. If the result is preceded by "<", constituent was not detected, but the reported sample quantitation limit exceeds the DAF 20 value.
[<0.005]	Brackets indicate that the result shown is from a duplicate field sample.
CAS	Chemical Abstract Service.
DAF 20	NMED Dilution Attenuation Factor from Table A-1, December 2009 Update to Technical Background Document for Development of Soil Screening Levels, Revision 5.0. NMED Hazardous Waste Bureau and Ground Water Quality Bureau, Voluntary Remediation Program. August 2009. DAF 20 indicates a Dilution Attenuation Factor of 20 was used.
DRO	Diesel-range organics
EPA	United States Environmental Protection Agency.
EPA ResSoil10	USEPA Residential Screening Level from *USEPA Regional Screening Levels* (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index/htm). 2010.
GRO	Gasoline-range organics
mg/kg	Milligram per kilogram.
NMED	New Mexico Environment Department.
NMED ResSoil09	NMED Residential Soil Screening Level from Table A-1, December 2009 Update to Technical Background Document for Development of Soil Screening Levels, Revision 5.0. NMED Hazardous Waste Bureau and Ground Water Quality Bureau, Voluntary Remediation Program. August 2009.
NMED TPH Guidance	NMED TPH Screening Level from October 2006 NMED TPH Screening Guidelines document. Since the type of oils managed at the LPSA pits is unknown, the standard for unknown oil is used for comparison.
SSL	Soil Screening Level
TPH	Total petroluem hydrocarbons
ND [1]	Not Detected. Detection limits not available, original data reported in the Phase II RFI report (Sverdrup, 1994)
ND [2]	Not Detected. Detection limits not available, original data reported in the Phase I RFI report (ITC, 1992)

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	Location ID Sample ID Sample Depth (ft) Date Collected	92A 92A-HA01 1.5 6/21/1995	92A 92A-PE-1 NA 6/21/1995	92A 92A-SS-1 NA 6/21/1995	92B 92B-HA01 3.0 6/21/1995	92B 92B-HA02 3.0 6/21/1995	92B 92B-HA03 3.0 6/21/1995	92B 92B-HA04 3.5 6/21/1995	92B 92B-PE-01 NA 6/21/1995
Parameters														
Total Petroleum Hydrocarbons	TPH	200	NMED	--	mg/kg		<10	<0.5	<10	<10	<10	<10	11 [<10]	10
SVOCs														
1,2,4-Trichlorobenzene	120-82-1	143	NMED	0.205	mg/kg		--	<0.00001	--	--	--	--	--	--
1,2-Benzphenanthracene	218-01-9	621	NMED	652	mg/kg		--	<0.00001	--	--	--	--	--	--
1,4-Dichlorobenzene	106-46-7	32.2	NMED	0.071	mg/kg		--	<0.00001	--	--	--	--	--	--
2,4,6-Trichlorophenol	88-06-2	61	NMED	1.43	mg/kg		--	<0.00001	--	--	--	--	--	--
2,4-Dichlorophenol	120-83-2	183	NMED	2.74	mg/kg		--	<0.00001	--	--	--	--	--	--
2,4-Dimethylphenol	105-67-9	1220	NMED	18.2	mg/kg		--	<0.00001	--	--	--	--	--	--
2,4-Dinitrophenol	51-28-5	122	NMED	1.05	mg/kg		--	<0.00001	--	--	--	--	--	--
2,4-Dinitrotoluene	121-14-2	15.7	NMED	0.0312	mg/kg		--	<0.00001	--	--	--	--	--	--
2,6-Dinitrotoluene	606-20-2	61.2	NMED	0.533	mg/kg		--	<0.00001	--	--	--	--	--	--
2-Chloronaphthalene	91-58-7	6260	NMED	271	mg/kg		--	<0.00001	--	--	--	--	--	--
2-Chlorophenol	95-57-8	391	NMED	3.06	mg/kg		--	<0.00001	--	--	--	--	--	--
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11	NMED	0.0785	mg/kg		--	<0.00001	--	--	--	--	--	--
2-Nitrophenol	88-75-5	--	--	--	mg/kg		--	<0.00001	--	--	--	--	--	--
3,3-Dichlorobenzidine	91-94-1	10.8	NMED	0.341	mg/kg		--	<0.00001	--	--	--	--	--	--
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120	NMED	3.69	mg/kg		--	<0.00001	--	--	--	--	--	--
4-Bromophenyl Phenyl Ether	101-55-3	--	--	--	mg/kg		--	<0.00001	--	--	--	--	--	--
4-Chloro-3-Methylphenol	59-50-7	--	--	--	mg/kg		--	<0.00001	--	--	--	--	--	--
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	--	mg/kg		--	<0.00001	--	--	--	--	--	--
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950	NMED	7.58	mg/kg		--	<0.00001	--	--	--	--	--	--
4-Nitrophenol	100-02-7	--	--	--	mg/kg		--	<0.00001	--	--	--	--	--	--
Acenaphthene	83-32-9	3440	NMED	410	mg/kg		--	<0.00001	--	--	--	--	--	--
Acenaphthylene	208-96-8	--	--	--	mg/kg		--	<0.00001	--	--	--	--	--	--
Anthracene	120-12-7	17200	NMED	6,739	mg/kg		--	<0.00001	--	--	--	--	--	--
Benzidine	92-87-5	0.0211	NMED	0.000250	mg/kg		--	<0.00001	--	--	--	--	--	--
Benzo(a)Anthracene	56-55-3	6.21	NMED	6.39	mg/kg		--	<0.00001	--	--	--	--	--	--
Benzo(a)Pyrene	50-32-8	0.621	NMED	2.17	mg/kg		--	<0.00001	--	--	--	--	--	--
Benzo(b)Fluoranthene	205-99-2	6.21	NMED	22.2	mg/kg		--	<0.00001	--	--	--	--	--	--
Benzo(g,h,i)Perylene	191-24-2	--	--	--	mg/kg		--	<0.00001	--	--	--	--	--	--
Benzo(k)Fluoranthene	207-08-9	62.1	NMED	217	mg/kg		--	<0.00001	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	Location ID Sample ID Sample Depth (ft) Date Collected	92A 92A-HA01 1.5 6/21/1995	92A 92A-PE-1 NA 6/21/1995	92A 92A-SS-1 NA 6/21/1995	92B 92B-HA01 3.0 6/21/1995	92B 92B-HA02 3.0 6/21/1995	92B 92B-HA03 3.0 6/21/1995	92B 92B-HA04 3.5 6/21/1995	92B 92B-PE-01 NA 6/21/1995
Benzoic Acid	65-85-0	240000	EPA	--	mg/kg		--	<0.00001	--	--	--	--	--	--
Benzyl Butyl Phthalate	85-68-7	2600	EPA	--	mg/kg		--	<0.00001	--	--	--	--	--	--
Bis (2-Chloroethoxy) Methane	111-91-1	180	EPA	--	mg/kg		--	<0.00001	--	--	--	--	--	--
Bis(2-Chloroethyl) Ether	111-44-4	2.56	NMED	0.000465	mg/kg		--	<0.00001	--	--	--	--	--	--
Bis(2-Ethylhexyl)Phthalate	117-81-7	347	NMED	238	mg/kg		--	<0.00001	--	--	--	--	--	--
Dibenz(a,h)Anthracene	53-70-3	0.621	NMED	7.24	mg/kg		--	<0.00001	--	--	--	--	--	--
Diethyl Phthalate	84-66-2	48900	NMED	212	mg/kg		--	<0.00001	--	--	--	--	--	--
Dimethyl Phthalate	131-11-3	611000	NMED	1,671	mg/kg		--	<0.00001	--	--	--	--	--	--
Di-n-Butyl Phthalate	84-74-2	6110	NMED	173	mg/kg		--	<0.00001	--	--	--	--	--	--
Di-n-Octyl Phthalate	117-84-0	--	--	--	mg/kg		--	<0.00001	--	--	--	--	--	--
Fluoranthene	206-44-0	2290	NMED	3,108	mg/kg		--	<0.00001	--	--	--	--	--	--
Fluorene	86-73-7	2290	NMED	500	mg/kg		--	<0.00001	--	--	--	--	--	--
Hexachloro-1,3-Butadiene	87-68-3	61.1	NMED	0.295	mg/kg		--	<0.00001	--	--	--	--	--	--
Hexachlorobenzene	118-74-1	3.04	NMED	0.0441	mg/kg		--	<0.00001	--	--	--	--	--	--
Hexachlorocyclopentadiene	77-47-4	367	NMED	12.3	mg/kg		--	<0.00001	--	--	--	--	--	--
Hexachloroethane	67-72-1	61.1	NMED	0.386	mg/kg		--	<0.00001	--	--	--	--	--	--
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21	NMED	73.9	mg/kg		--	<0.00001	--	--	--	--	--	--
m-Dichlorobenzene	541-73-1	--	--	--	mg/kg		--	<0.00001	--	--	--	--	--	--
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954	NMED	0.0000610	mg/kg		--	<0.00001	--	--	--	--	--	--
Nitrobenzene	98-95-3	49.4	NMED	0.137	mg/kg		--	<0.00001	--	--	--	--	--	--
N-Nitrosodi-N-Propylamine	621-64-7	0.69	EPA	--	mg/kg		--	<0.00001	--	--	--	--	--	--
N-Nitrosodiphenylamine	86-30-6	993	NMED	25.8	mg/kg		--	<0.00001	--	--	--	--	--	--
Pentachlorophenol	87-86-5	29.8	NMED	0.587	mg/kg		--	<0.00001	--	--	--	--	--	--
Phenanthrene	85-01-8	1830	NMED	1,669	mg/kg		--	<0.00001	--	--	--	--	--	--
Phenol	108-95-2	18300	NMED	126	mg/kg		--	<0.00001	--	--	--	--	--	--
Pyrene	129-00-0	1720	NMED	2,238	mg/kg		--	<0.00001	--	--	--	--	--	--
VOCs														
1,1,1-Trichloroethane	71-55-6	21800	NMED	59.5	mg/kg		--	<0.010	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	79-34-5	7.98	NMED	0.00450	mg/kg		--	*<0.010*	--	--	--	--	--	--
1,1,2-Trichloroethane	79-00-5	17.2	NMED	0.0135	mg/kg		--	<0.010	--	--	--	--	--	--
1,1-Dichloroethane	75-34-3	62.9	NMED	0.122	mg/kg		--	<0.010	--	--	--	--	--	--
1,1-Dichloroethylene	75-35-4	618	NMED	2.38	mg/kg		--	<0.010	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	Location ID Sample ID Sample Depth (ft) Date Collected	92A 92A-HA01 1.5 6/21/1995	92A 92A-PE-1 NA 6/21/1995	92A 92A-SS-1 NA 6/21/1995	92B 92B-HA01 3.0 6/21/1995	92B 92B-HA02 3.0 6/21/1995	92B 92B-HA03 3.0 6/21/1995	92B 92B-HA04 3.5 6/21/1995	92B 92B-PE-01 NA 6/21/1995
1,2,3-Trichloropropane	96-18-4	0.915	NMED	0.000713	mg/kg		--	*<0.010*	--	--	--	--	--	--
1,2-Dichlorobenzene	95-50-1	3010	NMED	6.27	mg/kg		--	<0.010	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	7.74	NMED	0.00730	mg/kg		--	*<0.010*	--	--	--	--	--	--
1,2-Dichloropropane	78-87-5	14.7	NMED	--	mg/kg		--	<0.010	--	--	--	--	--	--
1,4 Dichloro-2-Butene	764-41-0	0.046	NMED	0.000163	mg/kg		--	*<0.010*	--	--	--	--	--	--
2-Butanone	78-93-3	39600	NMED	25.3	mg/kg		--	<0.010	--	--	--	--	--	--
2-Chloroethyl Vinyl Ether	110-75-8	--	--	--	mg/kg		--	<0.010	--	--	--	--	--	--
Acetone	67-64-1	67500	NMED	76.9	mg/kg		--	<0.010	--	--	--	--	--	--
Acrolein	107-02-8	0.646	NMED	0.000148	mg/kg		--	*<0.010*	--	--	--	--	--	--
Acrylonitrile	107-13-1	5.97	NMED	0.00164	mg/kg		--	*<0.010*	--	--	--	--	--	--
Benzene	71-43-2	15.5	NMED	0.0370	mg/kg		--	<0.010	--	--	--	--	--	--
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	--	0.0511	mg/kg		--	<0.010	--	--	--	--	--	--
Bromomethane	74-83-9	22.3	NMED	0.0388	mg/kg		--	<0.010	--	--	--	--	--	--
Carbon Disulfide	75-15-0	1940	NMED	5.04	mg/kg		--	<0.010	--	--	--	--	--	--
Carbon Tetrachloride	56-23-5	4.38	NMED	0.0148	mg/kg		--	<0.010	--	--	--	--	--	--
CFC-11	75-69-4	2010	NMED	18.0	mg/kg		--	<0.010	--	--	--	--	--	--
CFC-12	75-71-8	481	NMED	14.5	mg/kg		--	<0.010	--	--	--	--	--	--
Chlorobenzene	108-90-7	508	NMED	1.08	mg/kg		--	<0.010	--	--	--	--	--	--
Chlorodibromomethane	124-48-1	11.9	NMED	0.00675	mg/kg		--	*<0.010*	--	--	--	--	--	--
Chloroethane	75-00-3	43600	NMED	108	mg/kg		--	<0.010	--	--	--	--	--	--
Chloroform	67-66-3	5.72	NMED	0.00936	mg/kg		--	*<0.010*	--	--	--	--	--	--
Chloromethane	74-87-3	35.6	NMED	0.0836	mg/kg		--	<0.010	--	--	--	--	--	--
cis-1,3-Dichloropropene	10061-01-5	--	--	--	mg/kg		--	<0.010	--	--	--	--	--	--
Dibromomethane	74-95-3	782	NMED	1.55	mg/kg		--	<0.010	--	--	--	--	--	--
Dichloromethane	75-09-2	199	NMED	0.215	mg/kg		--	<0.010	--	--	--	--	--	--
Ethanol	64-17-5	--	--	--	mg/kg		--	<0.010	--	--	--	--	--	--
Ethyl Methacrylate	97-63-2	7040	NMED	13.4	mg/kg		--	<0.010	--	--	--	--	--	--
Ethylbenzene	100-41-4	69.7	NMED	0.291	mg/kg		--	<0.010	--	--	--	--	--	--
Iodomethane	74-88-4	--	--	--	mg/kg		--	<0.010	--	--	--	--	--	--
Methyl N-Butyl Ketone	591-78-6	--	--	--	mg/kg		--	<0.010	--	--	--	--	--	--
Methylbenzene	108-88-3	5570	NMED	27.7	mg/kg		--	<0.010	--	--	--	--	--	--
Naphthalene	91-20-3	45	NMED	0.084	mg/kg		--	<0.010	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	Location ID	92A	92A	92A	92B	92B	92B	92B	92B
						Sample ID	92A-HA01	92A-PE-1	92A-SS-1	92B-HA01	92B-HA02	92B-HA03	92B-HA04	92B-PE-01
						Sample Depth (ft)	1.5	NA	NA	3.0	3.0	3.0	3.5	NA
						Date Collected	6/21/1995	6/21/1995	6/21/1995	6/21/1995	6/21/1995	6/21/1995	6/21/1995	6/21/1995
Styrene (Monomer)	100-42-5	8970	NMED	31.2	mg/kg		--	<0.010	--	--	--	--	--	--
Tetrachloroethene	127-18-4	6.99	NMED	0.00898	mg/kg		--	*<0.010*	--	--	--	--	--	--
Trans-1,2-Dichloroethene	156-60-5	273	NMED	0.603	mg/kg		--	<0.010	--	--	--	--	--	--
Trans-1,3-Dichloropropene	10061-02-6	--	--	--	mg/kg		--	<0.010	--	--	--	--	--	--
Trichloroethylene	79-01-6	45.7	NMED	0.106	mg/kg		--	<0.010	--	--	--	--	--	--
Vinyl Acetate	108-05-4	3650	NMED	1.53	mg/kg		--	<0.010	--	--	--	--	--	--
Vinyl Chloride	75-01-4	0.865	NMED	0.00576	mg/kg		--	*<0.010*	--	--	--	--	--	--
Xylenes	1330-20-7	1090	NMED	3.52	mg/kg		--	<0.010	--	--	--	--	--	--
TCLP														
VOCs		--	--	--	mg/l		<0.025	--	(a)	<0.025	<0.025	<0.025	<0.025 [<0.025]	<0.025
SVOCs		--	--	--	mg/l		<0.020	--	<0.020	<0.020	<0.020	<0.020	<0.020 [<0.020]	<0.020

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	92B 92B-SS-1 NA 6/21/1995	93 93-HA01 1.5 6/21/1995	93 93-PE-1 NA 6/21/1995	93 93-SS-1 NA 6/21/1995	94 94-HA01 3.0 6/21/1995	94 94-HA02 3.0 6/21/1995	94 94-HA03 3.0 6/21/1995	94 94-HA04 3.0 6/21/1995	94 94-PE-1 NA 6/21/1995	94 94-SS-1 NA 6/21/1995
Parameters															
Total Petroleum Hydrocarbons	TPH	200	NMED	--	mg/kg	<10	<10	<0.5	<10	<10	<10	<10	<10	89	<10
SVOCs															
1,2,4-Trichlorobenzene	120-82-1	143	NMED	0.205	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
1,2-Benzphenanthracene	218-01-9	621	NMED	652	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
1,4-Dichlorobenzene	106-46-7	32.2	NMED	0.071	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	88-06-2	61	NMED	1.43	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
2,4-Dichlorophenol	120-83-2	183	NMED	2.74	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
2,4-Dimethylphenol	105-67-9	1220	NMED	18.2	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
2,4-Dinitrophenol	51-28-5	122	NMED	1.05	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
2,4-Dinitrotoluene	121-14-2	15.7	NMED	0.0312	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
2,6-Dinitrotoluene	606-20-2	61.2	NMED	0.533	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
2-Chloronaphthalene	91-58-7	6260	NMED	271	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
2-Chlorophenol	95-57-8	391	NMED	3.06	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11	NMED	0.0785	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
2-Nitrophenol	88-75-5	--	--	--	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
3,3-Dichlorobenzidine	91-94-1	10.8	NMED	0.341	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120	NMED	3.69	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
4-Bromophenyl Phenyl Ether	101-55-3	--	--	--	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	59-50-7	--	--	--	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	--	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950	NMED	7.58	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
4-Nitrophenol	100-02-7	--	--	--	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Acenaphthene	83-32-9	3440	NMED	410	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Acenaphthylene	208-96-8	--	--	--	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Anthracene	120-12-7	17200	NMED	6,739	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Benzidine	92-87-5	0.0211	NMED	0.000250	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Benzo(a)Anthracene	56-55-3	6.21	NMED	6.39	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Benzo(a)Pyrene	50-32-8	0.621	NMED	2.17	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Benzo(b)Fluoranthene	205-99-2	6.21	NMED	22.2	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Benzo(g,h,i)Perylene	191-24-2	--	--	--	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Benzo(k)Fluoranthene	207-08-9	62.1	NMED	217	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	92B 92B-SS-1 NA 6/21/1995	93 93-HA01 1.5 6/21/1995	93 93-PE-1 NA 6/21/1995	93 93-SS-1 NA 6/21/1995	94 94-HA01 3.0 6/21/1995	94 94-HA02 3.0 6/21/1995	94 94-HA03 3.0 6/21/1995	94 94-HA04 3.0 6/21/1995	94 94-PE-1 NA 6/21/1995	94 94-SS-1 NA 6/21/1995
Benzoic Acid	65-85-0	240000	EPA	--	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Benzyl Butyl Phthalate	85-68-7	2600	EPA	--	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Bis (2-Chloroethoxy) Methane	111-91-1	180	EPA	--	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Bis(2-Chloroethyl) Ether	111-44-4	2.56	NMED	0.000465	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)Phthalate	117-81-7	347	NMED	238	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Dibenz(a,h)Anthracene	53-70-3	0.621	NMED	7.24	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Diethyl Phthalate	84-66-2	48900	NMED	212	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Dimethyl Phthalate	131-11-3	611000	NMED	1,671	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Di-n-Butyl Phthalate	84-74-2	6110	NMED	173	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Di-n-Octyl Phthalate	117-84-0	--	--	--	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Fluoranthene	206-44-0	2290	NMED	3,108	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Fluorene	86-73-7	2290	NMED	500	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Hexachloro-1,3-Butadiene	87-68-3	61.1	NMED	0.295	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Hexachlorobenzene	118-74-1	3.04	NMED	0.0441	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	77-47-4	367	NMED	12.3	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Hexachloroethane	67-72-1	61.1	NMED	0.386	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21	NMED	73.9	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
m-Dichlorobenzene	541-73-1	--	--	--	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954	NMED	0.0000610	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Nitrobenzene	98-95-3	49.4	NMED	0.137	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
N-Nitrosodi-N-Propylamine	621-64-7	0.69	EPA	--	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	86-30-6	993	NMED	25.8	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Pentachlorophenol	87-86-5	29.8	NMED	0.587	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Phenanthrene	85-01-8	1830	NMED	1,669	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Phenol	108-95-2	18300	NMED	126	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
Pyrene	129-00-0	1720	NMED	2,238	mg/kg	--	--	<0.00001	--	--	--	--	--	--	--
VOCs															
1,1,1-Trichloroethane	71-55-6	21800	NMED	59.5	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	79-34-5	7.98	NMED	0.00450	mg/kg	--	--	*<0.010*	--	--	--	--	--	--	--
1,1,2-Trichloroethane	79-00-5	17.2	NMED	0.0135	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
1,1-Dichloroethane	75-34-3	62.9	NMED	0.122	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
1,1-Dichloroethylene	75-35-4	618	NMED	2.38	mg/kg	--	--	<0.010	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	92B 92B-SS-1 NA 6/21/1995	93 93-HA01 1.5 6/21/1995	93 93-PE-1 NA 6/21/1995	93 93-SS-1 NA 6/21/1995	94 94-HA01 3.0 6/21/1995	94 94-HA02 3.0 6/21/1995	94 94-HA03 3.0 6/21/1995	94 94-HA04 3.0 6/21/1995	94 94-PE-1 NA 6/21/1995	94 94-SS-1 NA 6/21/1995
1,2,3-Trichloropropane	96-18-4	0.915	NMED	0.000713	mg/kg	--	--	*<0.010*	--	--	--	--	--	--	--
1,2-Dichlorobenzene	95-50-1	3010	NMED	6.27	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	7.74	NMED	0.00730	mg/kg	--	--	*<0.010*	--	--	--	--	--	--	--
1,2-Dichloropropane	78-87-5	14.7	NMED	--	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
1,4 Dichloro-2-Butene	764-41-0	0.046	NMED	0.000163	mg/kg	--	--	*<0.010*	--	--	--	--	--	--	--
2-Butanone	78-93-3	39600	NMED	25.3	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
2-Chloroethyl Vinyl Ether	110-75-8	--	--	--	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Acetone	67-64-1	67500	NMED	76.9	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Acrolein	107-02-8	0.646	NMED	0.000148	mg/kg	--	--	*<0.010*	--	--	--	--	--	--	--
Acrylonitrile	107-13-1	5.97	NMED	0.00164	mg/kg	--	--	*<0.010*	--	--	--	--	--	--	--
Benzene	71-43-2	15.5	NMED	0.0370	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	--	0.0511	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Bromomethane	74-83-9	22.3	NMED	0.0388	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Carbon Disulfide	75-15-0	1940	NMED	5.04	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Carbon Tetrachloride	56-23-5	4.38	NMED	0.0148	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
CFC-11	75-69-4	2010	NMED	18.0	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
CFC-12	75-71-8	481	NMED	14.5	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	508	NMED	1.08	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Chlorodibromomethane	124-48-1	11.9	NMED	0.00675	mg/kg	--	--	*<0.010*	--	--	--	--	--	--	--
Chloroethane	75-00-3	43600	NMED	108	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Chloroform	67-66-3	5.72	NMED	0.00936	mg/kg	--	--	*<0.010*	--	--	--	--	--	--	--
Chloromethane	74-87-3	35.6	NMED	0.0836	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	10061-01-5	--	--	--	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Dibromomethane	74-95-3	782	NMED	1.55	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Dichloromethane	75-09-2	199	NMED	0.215	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Ethanol	64-17-5	--	--	--	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Ethyl Methacrylate	97-63-2	7040	NMED	13.4	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Ethylbenzene	100-41-4	69.7	NMED	0.291	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Iodomethane	74-88-4	--	--	--	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Methyl N-Butyl Ketone	591-78-6	--	--	--	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Methylbenzene	108-88-3	5570	NMED	27.7	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Naphthalene	91-20-3	45	NMED	0.084	mg/kg	--	--	<0.010	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	92B 92B-SS-1 NA 6/21/1995	93 93-HA01 1.5 6/21/1995	93 93-PE-1 NA 6/21/1995	93 93-SS-1 NA 6/21/1995	94 94-HA01 3.0 6/21/1995	94 94-HA02 3.0 6/21/1995	94 94-HA03 3.0 6/21/1995	94 94-HA04 3.0 6/21/1995	94 94-PE-1 NA 6/21/1995	94 94-SS-1 NA 6/21/1995
Styrene (Monomer)	100-42-5	8970	NMED	31.2	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Tetrachloroethene	127-18-4	6.99	NMED	0.00898	mg/kg	--	--	*<0.010*	--	--	--	--	--	--	--
Trans-1,2-Dichloroethene	156-60-5	273	NMED	0.603	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Trans-1,3-Dichloropropene	10061-02-6	--	--	--	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Trichloroethylene	79-01-6	45.7	NMED	0.106	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Vinyl Acetate	108-05-4	3650	NMED	1.53	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
Vinyl Chloride	75-01-4	0.865	NMED	0.00576	mg/kg	--	--	*<0.010*	--	--	--	--	--	--	--
Xylenes	1330-20-7	1090	NMED	3.52	mg/kg	--	--	<0.010	--	--	--	--	--	--	--
TCLP															
VOCs		--	--	--	mg/l	<0.025	<0.025	--	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
SVOCs		--	--	--	mg/l	<0.020	<0.020	--	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	95 95-HA01 3 6/21/1995	95 95-HA02 3.25 6/21/1995	95 95-HA03 3.5 6/21/1995	95 95-HA04 4 6/21/1995	95 95-PE-1 NA 6/21/1995	95 95-SS-1 NA 6/21/1995	96 96-HA01 2 6/21/1995	96 96-HA02 2 6/21/1995	96 96-HA03 2.5 6/21/1995	96 96-HA04 2.5 6/21/1995
Parameters															
Total Petroleum Hydrocarbons	TPH	200	NMED	--	mg/kg	<10	<10	<10	<10 [<10]	<10	<10	<10	140	<10	<10
SVOCs															
1,2,4-Trichlorobenzene	120-82-1	143	NMED	0.205	mg/kg	--	--	--	--	--	--	--	--	--	--
1,2-Benzphenanthracene	218-01-9	621	NMED	652	mg/kg	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	106-46-7	32.2	NMED	0.071	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	88-06-2	61	NMED	1.43	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	120-83-2	183	NMED	2.74	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	105-67-9	1220	NMED	18.2	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	51-28-5	122	NMED	1.05	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	121-14-2	15.7	NMED	0.0312	mg/kg	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	606-20-2	61.2	NMED	0.533	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	91-58-7	6260	NMED	271	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	95-57-8	391	NMED	3.06	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11	NMED	0.0785	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	88-75-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidine	91-94-1	10.8	NMED	0.341	mg/kg	--	--	--	--	--	--	--	--	--	--
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120	NMED	3.69	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl Phenyl Ether	101-55-3	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	59-50-7	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950	NMED	7.58	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	100-02-7	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Acenaphthene	83-32-9	3440	NMED	410	mg/kg	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	208-96-8	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Anthracene	120-12-7	17200	NMED	6,739	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzidine	92-87-5	0.0211	NMED	0.000250	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(a)Anthracene	56-55-3	6.21	NMED	6.39	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(a)Pyrene	50-32-8	0.621	NMED	2.17	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(b)Fluoranthene	205-99-2	6.21	NMED	22.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)Perylene	191-24-2	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(k)Fluoranthene	207-08-9	62.1	NMED	217	mg/kg	--	--	--	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	95 95-HA01 3 6/21/1995	95 95-HA02 3.25 6/21/1995	95 95-HA03 3.5 6/21/1995	95 95-HA04 4 6/21/1995	95 95-PE-1 NA 6/21/1995	95 95-SS-1 NA 6/21/1995	96 96-HA01 2 6/21/1995	96 96-HA02 2 6/21/1995	96 96-HA03 2.5 6/21/1995	96 96-HA04 2.5 6/21/1995
Benzoic Acid	65-85-0	240000	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzyl Butyl Phthalate	85-68-7	2600	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Bis (2-Chloroethoxy) Methane	111-91-1	180	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl) Ether	111-44-4	2.56	NMED	0.000465	mg/kg	--	--	--	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)Phthalate	117-81-7	347	NMED	238	mg/kg	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)Anthracene	53-70-3	0.621	NMED	7.24	mg/kg	--	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	84-66-2	48900	NMED	212	mg/kg	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	131-11-3	611000	NMED	1,671	mg/kg	--	--	--	--	--	--	--	--	--	--
Di-n-Butyl Phthalate	84-74-2	6110	NMED	173	mg/kg	--	--	--	--	--	--	--	--	--	--
Di-n-Octyl Phthalate	117-84-0	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Fluoranthene	206-44-0	2290	NMED	3,108	mg/kg	--	--	--	--	--	--	--	--	--	--
Fluorene	86-73-7	2290	NMED	500	mg/kg	--	--	--	--	--	--	--	--	--	--
Hexachloro-1,3-Butadiene	87-68-3	61.1	NMED	0.295	mg/kg	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	118-74-1	3.04	NMED	0.0441	mg/kg	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	77-47-4	367	NMED	12.3	mg/kg	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	67-72-1	61.1	NMED	0.386	mg/kg	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21	NMED	73.9	mg/kg	--	--	--	--	--	--	--	--	--	--
m-Dichlorobenzene	541-73-1	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954	NMED	0.0000610	mg/kg	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	98-95-3	49.4	NMED	0.137	mg/kg	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-N-Propylamine	621-64-7	0.69	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	86-30-6	993	NMED	25.8	mg/kg	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	87-86-5	29.8	NMED	0.587	mg/kg	--	--	--	--	--	--	--	--	--	--
Phenanthrene	85-01-8	1830	NMED	1,669	mg/kg	--	--	--	--	--	--	--	--	--	--
Phenol	108-95-2	18300	NMED	126	mg/kg	--	--	--	--	--	--	--	--	--	--
Pyrene	129-00-0	1720	NMED	2,238	mg/kg	--	--	--	--	--	--	--	--	--	--
VOCs															
1,1,1-Trichloroethane	71-55-6	21800	NMED	59.5	mg/kg	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	79-34-5	7.98	NMED	0.00450	mg/kg	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	79-00-5	17.2	NMED	0.0135	mg/kg	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	75-34-3	62.9	NMED	0.122	mg/kg	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	75-35-4	618	NMED	2.38	mg/kg	--	--	--	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples

Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)

White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	95 95-HA01 3 6/21/1995	95 95-HA02 3.25 6/21/1995	95 95-HA03 3.5 6/21/1995	95 95-HA04 4 6/21/1995	95 95-PE-1 NA 6/21/1995	95 95-SS-1 NA 6/21/1995	96 96-HA01 2 6/21/1995	96 96-HA02 2 6/21/1995	96 96-HA03 2.5 6/21/1995	96 96-HA04 2.5 6/21/1995
1,2,3-Trichloropropane	96-18-4	0.915	NMED	0.000713	mg/kg	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	95-50-1	3010	NMED	6.27	mg/kg	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	7.74	NMED	0.00730	mg/kg	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	78-87-5	14.7	NMED	--	mg/kg	--	--	--	--	--	--	--	--	--	--
1,4 Dichloro-2-Butene	764-41-0	0.046	NMED	0.000163	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Butanone	78-93-3	39600	NMED	25.3	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Chloroethyl Vinyl Ether	110-75-8	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Acetone	67-64-1	67500	NMED	76.9	mg/kg	--	--	--	--	--	--	--	--	--	--
Acrolein	107-02-8	0.646	NMED	0.000148	mg/kg	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	107-13-1	5.97	NMED	0.00164	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzene	71-43-2	15.5	NMED	0.0370	mg/kg	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	--	0.0511	mg/kg	--	--	--	--	--	--	--	--	--	--
Bromomethane	74-83-9	22.3	NMED	0.0388	mg/kg	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	75-15-0	1940	NMED	5.04	mg/kg	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	56-23-5	4.38	NMED	0.0148	mg/kg	--	--	--	--	--	--	--	--	--	--
CFC-11	75-69-4	2010	NMED	18.0	mg/kg	--	--	--	--	--	--	--	--	--	--
CFC-12	75-71-8	481	NMED	14.5	mg/kg	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	508	NMED	1.08	mg/kg	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	124-48-1	11.9	NMED	0.00675	mg/kg	--	--	--	--	--	--	--	--	--	--
Chloroethane	75-00-3	43600	NMED	108	mg/kg	--	--	--	--	--	--	--	--	--	--
Chloroform	67-66-3	5.72	NMED	0.00936	mg/kg	--	--	--	--	--	--	--	--	--	--
Chloromethane	74-87-3	35.6	NMED	0.0836	mg/kg	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	10061-01-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Dibromomethane	74-95-3	782	NMED	1.55	mg/kg	--	--	--	--	--	--	--	--	--	--
Dichloromethane	75-09-2	199	NMED	0.215	mg/kg	--	--	--	--	--	--	--	--	--	--
Ethanol	64-17-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Ethyl Methacrylate	97-63-2	7040	NMED	13.4	mg/kg	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	100-41-4	69.7	NMED	0.291	mg/kg	--	--	--	--	--	--	--	--	--	--
Iodomethane	74-88-4	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Methyl N-Butyl Ketone	591-78-6	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Methylbenzene	108-88-3	5570	NMED	27.7	mg/kg	--	--	--	--	--	--	--	--	--	--
Naphthalene	91-20-3	45	NMED	0.084	mg/kg	--	--	--	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	95 95-HA01 3 6/21/1995	95 95-HA02 3.25 6/21/1995	95 95-HA03 3.5 6/21/1995	95 95-HA04 4 6/21/1995	95 95-PE-1 NA 6/21/1995	95 95-SS-1 NA 6/21/1995	96 96-HA01 2 6/21/1995	96 96-HA02 2 6/21/1995	96 96-HA03 2.5 6/21/1995	96 96-HA04 2.5 6/21/1995
Styrene (Monomer)	100-42-5	8970	NMED	31.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	127-18-4	6.99	NMED	0.00898	mg/kg	--	--	--	--	--	--	--	--	--	--
Trans-1,2-Dichloroethene	156-60-5	273	NMED	0.603	mg/kg	--	--	--	--	--	--	--	--	--	--
Trans-1,3-Dichloropropene	10061-02-6	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	79-01-6	45.7	NMED	0.106	mg/kg	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	108-05-4	3650	NMED	1.53	mg/kg	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	75-01-4	0.865	NMED	0.00576	mg/kg	--	--	--	--	--	--	--	--	--	--
Xylenes	1330-20-7	1090	NMED	3.52	mg/kg	--	--	--	--	--	--	--	--	--	--
TCLP															
VOCs		--	--	--	mg/l	<0.025	<0.025	<0.025	<0.025 [<0.025]	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
SVOCs		--	--	--	mg/l	<0.020	<0.020	<0.020	<0.020 [<0.020]	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	96 96-HA05 2.5 6/21/1995	96 96-HA06 3 6/21/1995	96 96-HA07 3 6/21/1995	96 96-HA08 3 6/21/1995	96 96-PE-1 NA 6/21/1995	96 96-SS-1 NA 6/21/1995	97 97-HA01 3 6/21/1995	97 97-HA02 3 6/21/1995	97 97-HA03 3.5 6/21/1995	97 97-HA04 4 6/21/1995
Parameters															
Total Petroleum Hydrocarbons	TPH	200	NMED	--	mg/kg	<10	<10	<10	<10 [<10]	<10	<10	<10	<10	<10	<10
SVOCs															
1,2,4-Trichlorobenzene	120-82-1	143	NMED	0.205	mg/kg	--	--	--	--	--	--	--	--	--	--
1,2-Benzphenanthracene	218-01-9	621	NMED	652	mg/kg	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	106-46-7	32.2	NMED	0.071	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	88-06-2	61	NMED	1.43	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	120-83-2	183	NMED	2.74	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	105-67-9	1220	NMED	18.2	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	51-28-5	122	NMED	1.05	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	121-14-2	15.7	NMED	0.0312	mg/kg	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	606-20-2	61.2	NMED	0.533	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	91-58-7	6260	NMED	271	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	95-57-8	391	NMED	3.06	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11	NMED	0.0785	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	88-75-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidine	91-94-1	10.8	NMED	0.341	mg/kg	--	--	--	--	--	--	--	--	--	--
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120	NMED	3.69	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl Phenyl Ether	101-55-3	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	59-50-7	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950	NMED	7.58	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	100-02-7	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Acenaphthene	83-32-9	3440	NMED	410	mg/kg	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	208-96-8	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Anthracene	120-12-7	17200	NMED	6,739	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzidine	92-87-5	0.0211	NMED	0.000250	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(a)Anthracene	56-55-3	6.21	NMED	6.39	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(a)Pyrene	50-32-8	0.621	NMED	2.17	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(b)Fluoranthene	205-99-2	6.21	NMED	22.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)Perylene	191-24-2	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(k)Fluoranthene	207-08-9	62.1	NMED	217	mg/kg	--	--	--	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	96 96-HA05 2.5 6/21/1995	96 96-HA06 3 6/21/1995	96 96-HA07 3 6/21/1995	96 96-HA08 3 6/21/1995	96 96-PE-1 NA 6/21/1995	96 96-SS-1 NA 6/21/1995	97 97-HA01 3 6/21/1995	97 97-HA02 3 6/21/1995	97 97-HA03 3.5 6/21/1995	97 97-HA04 4 6/21/1995
Benzoic Acid	65-85-0	240000	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzyl Butyl Phthalate	85-68-7	2600	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Bis (2-Chloroethoxy) Methane	111-91-1	180	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl) Ether	111-44-4	2.56	NMED	0.000465	mg/kg	--	--	--	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)Phthalate	117-81-7	347	NMED	238	mg/kg	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)Anthracene	53-70-3	0.621	NMED	7.24	mg/kg	--	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	84-66-2	48900	NMED	212	mg/kg	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	131-11-3	611000	NMED	1,671	mg/kg	--	--	--	--	--	--	--	--	--	--
Di-n-Butyl Phthalate	84-74-2	6110	NMED	173	mg/kg	--	--	--	--	--	--	--	--	--	--
Di-n-Octyl Phthalate	117-84-0	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Fluoranthene	206-44-0	2290	NMED	3,108	mg/kg	--	--	--	--	--	--	--	--	--	--
Fluorene	86-73-7	2290	NMED	500	mg/kg	--	--	--	--	--	--	--	--	--	--
Hexachloro-1,3-Butadiene	87-68-3	61.1	NMED	0.295	mg/kg	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	118-74-1	3.04	NMED	0.0441	mg/kg	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	77-47-4	367	NMED	12.3	mg/kg	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	67-72-1	61.1	NMED	0.386	mg/kg	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21	NMED	73.9	mg/kg	--	--	--	--	--	--	--	--	--	--
m-Dichlorobenzene	541-73-1	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954	NMED	0.0000610	mg/kg	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	98-95-3	49.4	NMED	0.137	mg/kg	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-N-Propylamine	621-64-7	0.69	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	86-30-6	993	NMED	25.8	mg/kg	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	87-86-5	29.8	NMED	0.587	mg/kg	--	--	--	--	--	--	--	--	--	--
Phenanthrene	85-01-8	1830	NMED	1,669	mg/kg	--	--	--	--	--	--	--	--	--	--
Phenol	108-95-2	18300	NMED	126	mg/kg	--	--	--	--	--	--	--	--	--	--
Pyrene	129-00-0	1720	NMED	2,238	mg/kg	--	--	--	--	--	--	--	--	--	--
VOCs															
1,1,1-Trichloroethane	71-55-6	21800	NMED	59.5	mg/kg	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	79-34-5	7.98	NMED	0.00450	mg/kg	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	79-00-5	17.2	NMED	0.0135	mg/kg	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	75-34-3	62.9	NMED	0.122	mg/kg	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	75-35-4	618	NMED	2.38	mg/kg	--	--	--	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	96 96-HA05 2.5 6/21/1995	96 96-HA06 3 6/21/1995	96 96-HA07 3 6/21/1995	96 96-HA08 3 6/21/1995	96 96-PE-1 NA 6/21/1995	96 96-SS-1 NA 6/21/1995	97 97-HA01 3 6/21/1995	97 97-HA02 3 6/21/1995	97 97-HA03 3.5 6/21/1995	97 97-HA04 4 6/21/1995
1,2,3-Trichloropropane	96-18-4	0.915	NMED	0.000713	mg/kg	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	95-50-1	3010	NMED	6.27	mg/kg	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	7.74	NMED	0.00730	mg/kg	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	78-87-5	14.7	NMED	--	mg/kg	--	--	--	--	--	--	--	--	--	--
1,4 Dichloro-2-Butene	764-41-0	0.046	NMED	0.000163	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Butanone	78-93-3	39600	NMED	25.3	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Chloroethyl Vinyl Ether	110-75-8	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Acetone	67-64-1	67500	NMED	76.9	mg/kg	--	--	--	--	--	--	--	--	--	--
Acrolein	107-02-8	0.646	NMED	0.000148	mg/kg	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	107-13-1	5.97	NMED	0.00164	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzene	71-43-2	15.5	NMED	0.0370	mg/kg	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	--	0.0511	mg/kg	--	--	--	--	--	--	--	--	--	--
Bromomethane	74-83-9	22.3	NMED	0.0388	mg/kg	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	75-15-0	1940	NMED	5.04	mg/kg	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	56-23-5	4.38	NMED	0.0148	mg/kg	--	--	--	--	--	--	--	--	--	--
CFC-11	75-69-4	2010	NMED	18.0	mg/kg	--	--	--	--	--	--	--	--	--	--
CFC-12	75-71-8	481	NMED	14.5	mg/kg	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	508	NMED	1.08	mg/kg	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	124-48-1	11.9	NMED	0.00675	mg/kg	--	--	--	--	--	--	--	--	--	--
Chloroethane	75-00-3	43600	NMED	108	mg/kg	--	--	--	--	--	--	--	--	--	--
Chloroform	67-66-3	5.72	NMED	0.00936	mg/kg	--	--	--	--	--	--	--	--	--	--
Chloromethane	74-87-3	35.6	NMED	0.0836	mg/kg	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	10061-01-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Dibromomethane	74-95-3	782	NMED	1.55	mg/kg	--	--	--	--	--	--	--	--	--	--
Dichloromethane	75-09-2	199	NMED	0.215	mg/kg	--	--	--	--	--	--	--	--	--	--
Ethanol	64-17-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Ethyl Methacrylate	97-63-2	7040	NMED	13.4	mg/kg	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	100-41-4	69.7	NMED	0.291	mg/kg	--	--	--	--	--	--	--	--	--	--
Iodomethane	74-88-4	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Methyl N-Butyl Ketone	591-78-6	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Methylbenzene	108-88-3	5570	NMED	27.7	mg/kg	--	--	--	--	--	--	--	--	--	--
Naphthalene	91-20-3	45	NMED	0.084	mg/kg	--	--	--	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
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White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	96 96-HA05 2.5 6/21/1995	96 96-HA06 3 6/21/1995	96 96-HA07 3 6/21/1995	96 96-HA08 3 6/21/1995	96 96-PE-1 NA 6/21/1995	96 96-SS-1 NA 6/21/1995	97 97-HA01 3 6/21/1995	97 97-HA02 3 6/21/1995	97 97-HA03 3.5 6/21/1995	97 97-HA04 4 6/21/1995
Styrene (Monomer)	100-42-5	8970	NMED	31.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	127-18-4	6.99	NMED	0.00898	mg/kg	--	--	--	--	--	--	--	--	--	--
Trans-1,2-Dichloroethene	156-60-5	273	NMED	0.603	mg/kg	--	--	--	--	--	--	--	--	--	--
Trans-1,3-Dichloropropene	10061-02-6	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	79-01-6	45.7	NMED	0.106	mg/kg	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	108-05-4	3650	NMED	1.53	mg/kg	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	75-01-4	0.865	NMED	0.00576	mg/kg	--	--	--	--	--	--	--	--	--	--
Xylenes	1330-20-7	1090	NMED	3.52	mg/kg	--	--	--	--	--	--	--	--	--	--
TCLP															
VOCs		--	--	--	mg/l	<0.025	<0.025	<0.025	<0.025 [<0.025]	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
SVOCs		--	--	--	mg/l	<0.020	<0.020	<0.020	<0.020 [<0.020]	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	97 97-HA05 4 6/21/1995	97 97-PE-1 NA 6/21/1995	97 97-PE-2 NA 6/21/1995	97 97-PE-3 NA 6/21/1995	97 97-PE-4 NA 6/21/1995	97 97-SS-1 NA 6/21/1995	98 98-HA01 3 6/21/1995	98 98-HA02 3.25 6/21/1995	98 98-HA03 3.5 6/21/1995
Parameters														
Total Petroleum Hydrocarbons	TPH	200	NMED	--	mg/kg	<10	31	12	<10	<10	<10	<10 [<10]	<10	<10
SVOCs														
1,2,4-Trichlorobenzene	120-82-1	143	NMED	0.205	mg/kg	--	--	--	--	--	--	--	--	--
1,2-Benzphenanthracene	218-01-9	621	NMED	652	mg/kg	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	106-46-7	32.2	NMED	0.071	mg/kg	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	88-06-2	61	NMED	1.43	mg/kg	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	120-83-2	183	NMED	2.74	mg/kg	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	105-67-9	1220	NMED	18.2	mg/kg	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	51-28-5	122	NMED	1.05	mg/kg	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	121-14-2	15.7	NMED	0.0312	mg/kg	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	606-20-2	61.2	NMED	0.533	mg/kg	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	91-58-7	6260	NMED	271	mg/kg	--	--	--	--	--	--	--	--	--
2-Chlorophenol	95-57-8	391	NMED	3.06	mg/kg	--	--	--	--	--	--	--	--	--
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11	NMED	0.0785	mg/kg	--	--	--	--	--	--	--	--	--
2-Nitrophenol	88-75-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidine	91-94-1	10.8	NMED	0.341	mg/kg	--	--	--	--	--	--	--	--	--
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120	NMED	3.69	mg/kg	--	--	--	--	--	--	--	--	--
4-Bromophenyl Phenyl Ether	101-55-3	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	59-50-7	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950	NMED	7.58	mg/kg	--	--	--	--	--	--	--	--	--
4-Nitrophenol	100-02-7	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Acenaphthene	83-32-9	3440	NMED	410	mg/kg	--	--	--	--	--	--	--	--	--
Acenaphthylene	208-96-8	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Anthracene	120-12-7	17200	NMED	6,739	mg/kg	--	--	--	--	--	--	--	--	--
Benzidine	92-87-5	0.0211	NMED	0.000250	mg/kg	--	--	--	--	--	--	--	--	--
Benzo(a)Anthracene	56-55-3	6.21	NMED	6.39	mg/kg	--	--	--	--	--	--	--	--	--
Benzo(a)Pyrene	50-32-8	0.621	NMED	2.17	mg/kg	--	--	--	--	--	--	--	--	--
Benzo(b)Fluoranthene	205-99-2	6.21	NMED	22.2	mg/kg	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)Perylene	191-24-2	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Benzo(k)Fluoranthene	207-08-9	62.1	NMED	217	mg/kg	--	--	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	97 97-HA05 4 6/21/1995	97 97-PE-1 NA 6/21/1995	97 97-PE-2 NA 6/21/1995	97 97-PE-3 NA 6/21/1995	97 97-PE-4 NA 6/21/1995	97 97-SS-1 NA 6/21/1995	98 98-HA01 3 6/21/1995	98 98-HA02 3.25 6/21/1995	98 98-HA03 3.5 6/21/1995
Benzoic Acid	65-85-0	240000	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--
Benzyl Butyl Phthalate	85-68-7	2600	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--
Bis (2-Chloroethoxy) Methane	111-91-1	180	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl) Ether	111-44-4	2.56	NMED	0.000465	mg/kg	--	--	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)Phthalate	117-81-7	347	NMED	238	mg/kg	--	--	--	--	--	--	--	--	--
Dibenz(a,h)Anthracene	53-70-3	0.621	NMED	7.24	mg/kg	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	84-66-2	48900	NMED	212	mg/kg	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	131-11-3	611000	NMED	1,671	mg/kg	--	--	--	--	--	--	--	--	--
Di-n-Butyl Phthalate	84-74-2	6110	NMED	173	mg/kg	--	--	--	--	--	--	--	--	--
Di-n-Octyl Phthalate	117-84-0	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Fluoranthene	206-44-0	2290	NMED	3,108	mg/kg	--	--	--	--	--	--	--	--	--
Fluorene	86-73-7	2290	NMED	500	mg/kg	--	--	--	--	--	--	--	--	--
Hexachloro-1,3-Butadiene	87-68-3	61.1	NMED	0.295	mg/kg	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	118-74-1	3.04	NMED	0.0441	mg/kg	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	77-47-4	367	NMED	12.3	mg/kg	--	--	--	--	--	--	--	--	--
Hexachloroethane	67-72-1	61.1	NMED	0.386	mg/kg	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21	NMED	73.9	mg/kg	--	--	--	--	--	--	--	--	--
m-Dichlorobenzene	541-73-1	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954	NMED	0.0000610	mg/kg	--	--	--	--	--	--	--	--	--
Nitrobenzene	98-95-3	49.4	NMED	0.137	mg/kg	--	--	--	--	--	--	--	--	--
N-Nitrosodi-N-Propylamine	621-64-7	0.69	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	86-30-6	993	NMED	25.8	mg/kg	--	--	--	--	--	--	--	--	--
Pentachlorophenol	87-86-5	29.8	NMED	0.587	mg/kg	--	--	--	--	--	--	--	--	--
Phenanthrene	85-01-8	1830	NMED	1,669	mg/kg	--	--	--	--	--	--	--	--	--
Phenol	108-95-2	18300	NMED	126	mg/kg	--	--	--	--	--	--	--	--	--
Pyrene	129-00-0	1720	NMED	2,238	mg/kg	--	--	--	--	--	--	--	--	--
VOCs														
1,1,1-Trichloroethane	71-55-6	21800	NMED	59.5	mg/kg	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	79-34-5	7.98	NMED	0.00450	mg/kg	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	79-00-5	17.2	NMED	0.0135	mg/kg	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	75-34-3	62.9	NMED	0.122	mg/kg	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	75-35-4	618	NMED	2.38	mg/kg	--	--	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples

Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)

White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	97 97-HA05 4 6/21/1995	97 97-PE-1 NA 6/21/1995	97 97-PE-2 NA 6/21/1995	97 97-PE-3 NA 6/21/1995	97 97-PE-4 NA 6/21/1995	97 97-SS-1 NA 6/21/1995	98 98-HA01 3 6/21/1995	98 98-HA02 3.25 6/21/1995	98 98-HA03 3.5 6/21/1995
1,2,3-Trichloropropane	96-18-4	0.915	NMED	0.000713	mg/kg	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	95-50-1	3010	NMED	6.27	mg/kg	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	7.74	NMED	0.00730	mg/kg	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	78-87-5	14.7	NMED	--	mg/kg	--	--	--	--	--	--	--	--	--
1,4 Dichloro-2-Butene	764-41-0	0.046	NMED	0.000163	mg/kg	--	--	--	--	--	--	--	--	--
2-Butanone	78-93-3	39600	NMED	25.3	mg/kg	--	--	--	--	--	--	--	--	--
2-Chloroethyl Vinyl Ether	110-75-8	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Acetone	67-64-1	67500	NMED	76.9	mg/kg	--	--	--	--	--	--	--	--	--
Acrolein	107-02-8	0.646	NMED	0.000148	mg/kg	--	--	--	--	--	--	--	--	--
Acrylonitrile	107-13-1	5.97	NMED	0.00164	mg/kg	--	--	--	--	--	--	--	--	--
Benzene	71-43-2	15.5	NMED	0.0370	mg/kg	--	--	--	--	--	--	--	--	--
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	--	0.0511	mg/kg	--	--	--	--	--	--	--	--	--
Bromomethane	74-83-9	22.3	NMED	0.0388	mg/kg	--	--	--	--	--	--	--	--	--
Carbon Disulfide	75-15-0	1940	NMED	5.04	mg/kg	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	56-23-5	4.38	NMED	0.0148	mg/kg	--	--	--	--	--	--	--	--	--
CFC-11	75-69-4	2010	NMED	18.0	mg/kg	--	--	--	--	--	--	--	--	--
CFC-12	75-71-8	481	NMED	14.5	mg/kg	--	--	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	508	NMED	1.08	mg/kg	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	124-48-1	11.9	NMED	0.00675	mg/kg	--	--	--	--	--	--	--	--	--
Chloroethane	75-00-3	43600	NMED	108	mg/kg	--	--	--	--	--	--	--	--	--
Chloroform	67-66-3	5.72	NMED	0.00936	mg/kg	--	--	--	--	--	--	--	--	--
Chloromethane	74-87-3	35.6	NMED	0.0836	mg/kg	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	10061-01-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Dibromomethane	74-95-3	782	NMED	1.55	mg/kg	--	--	--	--	--	--	--	--	--
Dichloromethane	75-09-2	199	NMED	0.215	mg/kg	--	--	--	--	--	--	--	--	--
Ethanol	64-17-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Ethyl Methacrylate	97-63-2	7040	NMED	13.4	mg/kg	--	--	--	--	--	--	--	--	--
Ethylbenzene	100-41-4	69.7	NMED	0.291	mg/kg	--	--	--	--	--	--	--	--	--
Iodomethane	74-88-4	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Methyl N-Butyl Ketone	591-78-6	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Methylbenzene	108-88-3	5570	NMED	27.7	mg/kg	--	--	--	--	--	--	--	--	--
Naphthalene	91-20-3	45	NMED	0.084	mg/kg	--	--	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	97 97-HA05 4 6/21/1995	97 97-PE-1 NA 6/21/1995	97 97-PE-2 NA 6/21/1995	97 97-PE-3 NA 6/21/1995	97 97-PE-4 NA 6/21/1995	97 97-SS-1 NA 6/21/1995	98 98-HA01 3 6/21/1995	98 98-HA02 3.25 6/21/1995	98 98-HA03 3.5 6/21/1995
Styrene (Monomer)	100-42-5	8970	NMED	31.2	mg/kg	--	--	--	--	--	--	--	--	--
Tetrachloroethene	127-18-4	6.99	NMED	0.00898	mg/kg	--	--	--	--	--	--	--	--	--
Trans-1,2-Dichloroethene	156-60-5	273	NMED	0.603	mg/kg	--	--	--	--	--	--	--	--	--
Trans-1,3-Dichloropropene	10061-02-6	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Trichloroethylene	79-01-6	45.7	NMED	0.106	mg/kg	--	--	--	--	--	--	--	--	--
Vinyl Acetate	108-05-4	3650	NMED	1.53	mg/kg	--	--	--	--	--	--	--	--	--
Vinyl Chloride	75-01-4	0.865	NMED	0.00576	mg/kg	--	--	--	--	--	--	--	--	--
Xylenes	1330-20-7	1090	NMED	3.52	mg/kg	--	--	--	--	--	--	--	--	--
TCLP														
VOCs		--	--	--	mg/l	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025 [<0.025]	<0.025 [<0.025]	<0.025
SVOCs		--	--	--	mg/l	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020 [<0.020]	<0.020 [<0.020]	<0.020

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	98 98-PE-1 NA 6/21/1995	98 98-SS-1 NA 6/21/1995	99 99-HA00 4 6/21/1995	99 99-HA01 4 6/21/1995	99 99-HA02 4 6/21/1995	99 99-HA03 5 6/21/1995	99 99-HA04 6 6/21/1995	99 99-PE-1 NA 6/21/1995
Parameters													
Total Petroleum Hydrocarbons	TPH	200	NMED	--	mg/kg	<0.5 [<0.5]	<10 [<10]	<10	<10	<10	<10	<10	<10 [<10]
SVOCs													
1,2,4-Trichlorobenzene	120-82-1	143	NMED	0.205	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
1,2-Benzphenanthracene	218-01-9	621	NMED	652	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
1,4-Dichlorobenzene	106-46-7	32.2	NMED	0.071	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	88-06-2	61	NMED	1.43	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
2,4-Dichlorophenol	120-83-2	183	NMED	2.74	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
2,4-Dimethylphenol	105-67-9	1220	NMED	18.2	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
2,4-Dinitrophenol	51-28-5	122	NMED	1.05	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
2,4-Dinitrotoluene	121-14-2	15.7	NMED	0.0312	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
2,6-Dinitrotoluene	606-20-2	61.2	NMED	0.533	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
2-Chloronaphthalene	91-58-7	6260	NMED	271	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
2-Chlorophenol	95-57-8	391	NMED	3.06	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11	NMED	0.0785	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
2-Nitrophenol	88-75-5	--	--	--	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
3,3-Dichlorobenzidine	91-94-1	10.8	NMED	0.341	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120	NMED	3.69	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
4-Bromophenyl Phenyl Ether	101-55-3	--	--	--	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	59-50-7	--	--	--	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	--	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950	NMED	7.58	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
4-Nitrophenol	100-02-7	--	--	--	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Acenaphthene	83-32-9	3440	NMED	410	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Acenaphthylene	208-96-8	--	--	--	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Anthracene	120-12-7	17200	NMED	6,739	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Benzidine	92-87-5	0.0211	NMED	0.000250	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Benzo(a)Anthracene	56-55-3	6.21	NMED	6.39	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Benzo(a)Pyrene	50-32-8	0.621	NMED	2.17	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Benzo(b)Fluoranthene	205-99-2	6.21	NMED	22.2	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Benzo(g,h,i)Perylene	191-24-2	--	--	--	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Benzo(k)Fluoranthene	207-08-9	62.1	NMED	217	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	98 98-PE-1 NA 6/21/1995	98 98-SS-1 NA 6/21/1995	99 99-HA00 4 6/21/1995	99 99-HA01 4 6/21/1995	99 99-HA02 4 6/21/1995	99 99-HA03 5 6/21/1995	99 99-HA04 6 6/21/1995	99 99-PE-1 NA 6/21/1995
Benzoic Acid	65-85-0	240000	EPA	--	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Benzyl Butyl Phthalate	85-68-7	2600	EPA	--	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Bis (2-Chloroethoxy) Methane	111-91-1	180	EPA	--	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Bis(2-Chloroethyl) Ether	111-44-4	2.56	NMED	0.000465	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)Phthalate	117-81-7	347	NMED	238	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Dibenz(a,h)Anthracene	53-70-3	0.621	NMED	7.24	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Diethyl Phthalate	84-66-2	48900	NMED	212	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Dimethyl Phthalate	131-11-3	611000	NMED	1,671	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Di-n-Butyl Phthalate	84-74-2	6110	NMED	173	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Di-n-Octyl Phthalate	117-84-0	--	--	--	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Fluoranthene	206-44-0	2290	NMED	3,108	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Fluorene	86-73-7	2290	NMED	500	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Hexachloro-1,3-Butadiene	87-68-3	61.1	NMED	0.295	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Hexachlorobenzene	118-74-1	3.04	NMED	0.0441	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	77-47-4	367	NMED	12.3	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Hexachloroethane	67-72-1	61.1	NMED	0.386	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21	NMED	73.9	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
m-Dichlorobenzene	541-73-1	--	--	--	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954	NMED	0.0000610	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Nitrobenzene	98-95-3	49.4	NMED	0.137	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
N-Nitrosodi-N-Propylamine	621-64-7	0.69	EPA	--	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	86-30-6	993	NMED	25.8	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Pentachlorophenol	87-86-5	29.8	NMED	0.587	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Phenanthrene	85-01-8	1830	NMED	1,669	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Phenol	108-95-2	18300	NMED	126	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
Pyrene	129-00-0	1720	NMED	2,238	mg/kg	<0.00001 [<0.00001]	--	--	--	--	--	--	--
VOCs													
1,1,1-Trichloroethane	71-55-6	21800	NMED	59.5	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	79-34-5	7.98	NMED	0.00450	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
1,1,2-Trichloroethane	79-00-5	17.2	NMED	0.0135	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
1,1-Dichloroethane	75-34-3	62.9	NMED	0.122	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
1,1-Dichloroethylene	75-35-4	618	NMED	2.38	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	98 98-PE-1 NA 6/21/1995	98 98-SS-1 NA 6/21/1995	99 99-HA00 4 6/21/1995	99 99-HA01 4 6/21/1995	99 99-HA02 4 6/21/1995	99 99-HA03 5 6/21/1995	99 99-HA04 6 6/21/1995	99 99-PE-1 NA 6/21/1995
1,2,3-Trichloropropane	96-18-4	0.915	NMED	0.000713	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
1,2-Dichlorobenzene	95-50-1	3010	NMED	6.27	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	7.74	NMED	0.00730	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
1,2-Dichloropropane	78-87-5	14.7	NMED	--	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
1,4 Dichloro-2-Butene	764-41-0	0.046	NMED	0.000163	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
2-Butanone	78-93-3	39600	NMED	25.3	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
2-Chloroethyl Vinyl Ether	110-75-8	--	--	--	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Acetone	67-64-1	67500	NMED	76.9	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Acrolein	107-02-8	0.646	NMED	0.000148	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Acrylonitrile	107-13-1	5.97	NMED	0.00164	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Benzene	71-43-2	15.5	NMED	0.0370	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	--	0.0511	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Bromomethane	74-83-9	22.3	NMED	0.0388	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Carbon Disulfide	75-15-0	1940	NMED	5.04	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Carbon Tetrachloride	56-23-5	4.38	NMED	0.0148	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
CFC-11	75-69-4	2010	NMED	18.0	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
CFC-12	75-71-8	481	NMED	14.5	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	508	NMED	1.08	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Chlorodibromomethane	124-48-1	11.9	NMED	0.00675	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Chloroethane	75-00-3	43600	NMED	108	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Chloroform	67-66-3	5.72	NMED	0.00936	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Chloromethane	74-87-3	35.6	NMED	0.0836	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	10061-01-5	--	--	--	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Dibromomethane	74-95-3	782	NMED	1.55	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Dichloromethane	75-09-2	199	NMED	0.215	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Ethanol	64-17-5	--	--	--	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Ethyl Methacrylate	97-63-2	7040	NMED	13.4	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Ethylbenzene	100-41-4	69.7	NMED	0.291	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Iodomethane	74-88-4	--	--	--	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Methyl N-Butyl Ketone	591-78-6	--	--	--	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Methylbenzene	108-88-3	5570	NMED	27.7	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Naphthalene	91-20-3	45	NMED	0.084	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	98 98-PE-1 NA 6/21/1995	98 98-SS-1 NA 6/21/1995	99 99-HA00 4 6/21/1995	99 99-HA01 4 6/21/1995	99 99-HA02 4 6/21/1995	99 99-HA03 5 6/21/1995	99 99-HA04 6 6/21/1995	99 99-PE-1 NA 6/21/1995
Styrene (Monomer)	100-42-5	8970	NMED	31.2	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Tetrachloroethene	127-18-4	6.99	NMED	0.00898	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Trans-1,2-Dichloroethene	156-60-5	273	NMED	0.603	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Trans-1,3-Dichloropropene	10061-02-6	--	--	--	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Trichloroethylene	79-01-6	45.7	NMED	0.106	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Vinyl Acetate	108-05-4	3650	NMED	1.53	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Vinyl Chloride	75-01-4	0.865	NMED	0.00576	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
Xylenes	1330-20-7	1090	NMED	3.52	mg/kg	<0.010 [<0.010]	--	--	--	--	--	--	--
TCLP													
VOCs		--	--	--	mg/l	--	<0.025 [<0.025]	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025 [<0.025]
SVOCs		--	--	--	mg/l	--	<0.020 [<0.020]	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020 [<0.020]

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	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	99 99-PE-2 NA 6/21/1995	99 99-SS-1 NA 6/21/1995	100 100-HA01 0.5 6/21/1995	100 100-HA02 1 6/21/1995	100 100-HA03 2 6/21/1995	100 100-HA04 3 6/21/1995	100 100-HA05 3 6/21/1995	100 100-HA06 3 6/21/1995	100 100-HA07 3.5 6/21/1995	100 100-HA08 3.5 6/21/1995
Parameters															
Total Petroleum Hydrocarbons	TPH	200	NMED	--	mg/kg	<10 [<10]	<10	<10	<10	<10	<10	<10	<10	<10	<10
SVOCs															
1,2,4-Trichlorobenzene	120-82-1	143	NMED	0.205	mg/kg	--	--	--	--	--	--	--	--	--	--
1,2-Benzphenanthracene	218-01-9	621	NMED	652	mg/kg	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	106-46-7	32.2	NMED	0.071	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	88-06-2	61	NMED	1.43	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	120-83-2	183	NMED	2.74	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	105-67-9	1220	NMED	18.2	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	51-28-5	122	NMED	1.05	mg/kg	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	121-14-2	15.7	NMED	0.0312	mg/kg	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	606-20-2	61.2	NMED	0.533	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	91-58-7	6260	NMED	271	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	95-57-8	391	NMED	3.06	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11	NMED	0.0785	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	88-75-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidine	91-94-1	10.8	NMED	0.341	mg/kg	--	--	--	--	--	--	--	--	--	--
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120	NMED	3.69	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl Phenyl Ether	101-55-3	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	59-50-7	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950	NMED	7.58	mg/kg	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	100-02-7	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Acenaphthene	83-32-9	3440	NMED	410	mg/kg	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	208-96-8	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Anthracene	120-12-7	17200	NMED	6,739	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzidine	92-87-5	0.0211	NMED	0.000250	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(a)Anthracene	56-55-3	6.21	NMED	6.39	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(a)Pyrene	50-32-8	0.621	NMED	2.17	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(b)Fluoranthene	205-99-2	6.21	NMED	22.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)Perylene	191-24-2	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzo(k)Fluoranthene	207-08-9	62.1	NMED	217	mg/kg	--	--	--	--	--	--	--	--	--	--

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Benzoic Acid	65-85-0	240000	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzyl Butyl Phthalate	85-68-7	2600	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Bis (2-Chloroethoxy) Methane	111-91-1	180	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl) Ether	111-44-4	2.56	NMED	0.000465	mg/kg	--	--	--	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)Phthalate	117-81-7	347	NMED	238	mg/kg	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)Anthracene	53-70-3	0.621	NMED	7.24	mg/kg	--	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	84-66-2	48900	NMED	212	mg/kg	--	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	131-11-3	611000	NMED	1,671	mg/kg	--	--	--	--	--	--	--	--	--	--
Di-n-Butyl Phthalate	84-74-2	6110	NMED	173	mg/kg	--	--	--	--	--	--	--	--	--	--
Di-n-Octyl Phthalate	117-84-0	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Fluoranthene	206-44-0	2290	NMED	3,108	mg/kg	--	--	--	--	--	--	--	--	--	--
Fluorene	86-73-7	2290	NMED	500	mg/kg	--	--	--	--	--	--	--	--	--	--
Hexachloro-1,3-Butadiene	87-68-3	61.1	NMED	0.295	mg/kg	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	118-74-1	3.04	NMED	0.0441	mg/kg	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	77-47-4	367	NMED	12.3	mg/kg	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	67-72-1	61.1	NMED	0.386	mg/kg	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21	NMED	73.9	mg/kg	--	--	--	--	--	--	--	--	--	--
m-Dichlorobenzene	541-73-1	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954	NMED	0.0000610	mg/kg	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	98-95-3	49.4	NMED	0.137	mg/kg	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-N-Propylamine	621-64-7	0.69	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	86-30-6	993	NMED	25.8	mg/kg	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	87-86-5	29.8	NMED	0.587	mg/kg	--	--	--	--	--	--	--	--	--	--
Phenanthrene	85-01-8	1830	NMED	1,669	mg/kg	--	--	--	--	--	--	--	--	--	--
Phenol	108-95-2	18300	NMED	126	mg/kg	--	--	--	--	--	--	--	--	--	--
Pyrene	129-00-0	1720	NMED	2,238	mg/kg	--	--	--	--	--	--	--	--	--	--
VOCs															
1,1,1-Trichloroethane	71-55-6	21800	NMED	59.5	mg/kg	--	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	79-34-5	7.98	NMED	0.00450	mg/kg	--	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	79-00-5	17.2	NMED	0.0135	mg/kg	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	75-34-3	62.9	NMED	0.122	mg/kg	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	75-35-4	618	NMED	2.38	mg/kg	--	--	--	--	--	--	--	--	--	--

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	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	99 99-PE-2 NA 6/21/1995	99 99-SS-1 NA 6/21/1995	100 100-HA01 0.5 6/21/1995	100 100-HA02 1 6/21/1995	100 100-HA03 2 6/21/1995	100 100-HA04 3 6/21/1995	100 100-HA05 3 6/21/1995	100 100-HA06 3 6/21/1995	100 100-HA07 3.5 6/21/1995	100 100-HA08 3.5 6/21/1995
1,2,3-Trichloropropane	96-18-4	0.915	NMED	0.000713	mg/kg	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	95-50-1	3010	NMED	6.27	mg/kg	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	7.74	NMED	0.00730	mg/kg	--	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	78-87-5	14.7	NMED	--	mg/kg	--	--	--	--	--	--	--	--	--	--
1,4 Dichloro-2-Butene	764-41-0	0.046	NMED	0.000163	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Butanone	78-93-3	39600	NMED	25.3	mg/kg	--	--	--	--	--	--	--	--	--	--
2-Chloroethyl Vinyl Ether	110-75-8	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Acetone	67-64-1	67500	NMED	76.9	mg/kg	--	--	--	--	--	--	--	--	--	--
Acrolein	107-02-8	0.646	NMED	0.000148	mg/kg	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	107-13-1	5.97	NMED	0.00164	mg/kg	--	--	--	--	--	--	--	--	--	--
Benzene	71-43-2	15.5	NMED	0.0370	mg/kg	--	--	--	--	--	--	--	--	--	--
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	--	0.0511	mg/kg	--	--	--	--	--	--	--	--	--	--
Bromomethane	74-83-9	22.3	NMED	0.0388	mg/kg	--	--	--	--	--	--	--	--	--	--
Carbon Disulfide	75-15-0	1940	NMED	5.04	mg/kg	--	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	56-23-5	4.38	NMED	0.0148	mg/kg	--	--	--	--	--	--	--	--	--	--
CFC-11	75-69-4	2010	NMED	18.0	mg/kg	--	--	--	--	--	--	--	--	--	--
CFC-12	75-71-8	481	NMED	14.5	mg/kg	--	--	--	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	508	NMED	1.08	mg/kg	--	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	124-48-1	11.9	NMED	0.00675	mg/kg	--	--	--	--	--	--	--	--	--	--
Chloroethane	75-00-3	43600	NMED	108	mg/kg	--	--	--	--	--	--	--	--	--	--
Chloroform	67-66-3	5.72	NMED	0.00936	mg/kg	--	--	--	--	--	--	--	--	--	--
Chloromethane	74-87-3	35.6	NMED	0.0836	mg/kg	--	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	10061-01-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Dibromomethane	74-95-3	782	NMED	1.55	mg/kg	--	--	--	--	--	--	--	--	--	--
Dichloromethane	75-09-2	199	NMED	0.215	mg/kg	--	--	--	--	--	--	--	--	--	--
Ethanol	64-17-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Ethyl Methacrylate	97-63-2	7040	NMED	13.4	mg/kg	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	100-41-4	69.7	NMED	0.291	mg/kg	--	--	--	--	--	--	--	--	--	--
Iodomethane	74-88-4	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Methyl N-Butyl Ketone	591-78-6	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Methylbenzene	108-88-3	5570	NMED	27.7	mg/kg	--	--	--	--	--	--	--	--	--	--
Naphthalene	91-20-3	45	NMED	0.084	mg/kg	--	--	--	--	--	--	--	--	--	--

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	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	99 99-PE-2 NA 6/21/1995	99 99-SS-1 NA 6/21/1995	100 100-HA01 0.5 6/21/1995	100 100-HA02 1 6/21/1995	100 100-HA03 2 6/21/1995	100 100-HA04 3 6/21/1995	100 100-HA05 3 6/21/1995	100 100-HA06 3 6/21/1995	100 100-HA07 3.5 6/21/1995	100 100-HA08 3.5 6/21/1995
Styrene (Monomer)	100-42-5	8970	NMED	31.2	mg/kg	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	127-18-4	6.99	NMED	0.00898	mg/kg	--	--	--	--	--	--	--	--	--	--
Trans-1,2-Dichloroethene	156-60-5	273	NMED	0.603	mg/kg	--	--	--	--	--	--	--	--	--	--
Trans-1,3-Dichloropropene	10061-02-6	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--	--
Trichloroethylene	79-01-6	45.7	NMED	0.106	mg/kg	--	--	--	--	--	--	--	--	--	--
Vinyl Acetate	108-05-4	3650	NMED	1.53	mg/kg	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride	75-01-4	0.865	NMED	0.00576	mg/kg	--	--	--	--	--	--	--	--	--	--
Xylenes	1330-20-7	1090	NMED	3.52	mg/kg	--	--	--	--	--	--	--	--	--	--
TCLP															
VOCs		--	--	--	mg/l	<0.025 [<0.025]	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	<0.025	(b)
SVOCs		--	--	--	mg/l	<0.020 [<0.020]	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	100 100-PE-1 NA 6/21/1995	100 100-PE-2 NA 6/21/1995	100 100-PE-3 NA 6/21/1995	100 100-PE-4 NA 6/21/1995	100 100-PE-5 NA 6/21/1995	100 100-PE-6 NA 6/21/1995	100 100-PE-7 NA 6/21/1995	100 100-PE-8 NA 6/21/1995	100 100-SS-1 NA 6/21/1995
Parameters														
Total Petroleum Hydrocarbons	TPH	200	NMED	--	mg/kg	<10	<10	<10	<10	32	35 [16]	<10	<10	<10
SVOCs														
1,2,4-Trichlorobenzene	120-82-1	143	NMED	0.205	mg/kg	--	--	--	--	--	--	--	--	--
1,2-Benzphenanthracene	218-01-9	621	NMED	652	mg/kg	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	106-46-7	32.2	NMED	0.071	mg/kg	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	88-06-2	61	NMED	1.43	mg/kg	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	120-83-2	183	NMED	2.74	mg/kg	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	105-67-9	1220	NMED	18.2	mg/kg	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	51-28-5	122	NMED	1.05	mg/kg	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	121-14-2	15.7	NMED	0.0312	mg/kg	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	606-20-2	61.2	NMED	0.533	mg/kg	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	91-58-7	6260	NMED	271	mg/kg	--	--	--	--	--	--	--	--	--
2-Chlorophenol	95-57-8	391	NMED	3.06	mg/kg	--	--	--	--	--	--	--	--	--
2-Methyl-4,6-Dinitrophenol	534-52-1	6.11	NMED	0.0785	mg/kg	--	--	--	--	--	--	--	--	--
2-Nitrophenol	88-75-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
3,3-Dichlorobenzidine	91-94-1	10.8	NMED	0.341	mg/kg	--	--	--	--	--	--	--	--	--
3,5,5-Trimethyl-2-Cyclohexene-1-One	78-59-1	5120	NMED	3.69	mg/kg	--	--	--	--	--	--	--	--	--
4-Bromophenyl Phenyl Ether	101-55-3	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
4-Chloro-3-Methylphenol	59-50-7	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
4-Chlorophenyl Phenyl Ether	7005-72-3	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone(MIBK)	108-10-1	5950	NMED	7.58	mg/kg	--	--	--	--	--	--	--	--	--
4-Nitrophenol	100-02-7	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Acenaphthene	83-32-9	3440	NMED	410	mg/kg	--	--	--	--	--	--	--	--	--
Acenaphthylene	208-96-8	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Anthracene	120-12-7	17200	NMED	6,739	mg/kg	--	--	--	--	--	--	--	--	--
Benzidine	92-87-5	0.0211	NMED	0.000250	mg/kg	--	--	--	--	--	--	--	--	--
Benzo(a)Anthracene	56-55-3	6.21	NMED	6.39	mg/kg	--	--	--	--	--	--	--	--	--
Benzo(a)Pyrene	50-32-8	0.621	NMED	2.17	mg/kg	--	--	--	--	--	--	--	--	--
Benzo(b)Fluoranthene	205-99-2	6.21	NMED	22.2	mg/kg	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)Perylene	191-24-2	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Benzo(k)Fluoranthene	207-08-9	62.1	NMED	217	mg/kg	--	--	--	--	--	--	--	--	--

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White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	100 100-PE-1 NA 6/21/1995	100 100-PE-2 NA 6/21/1995	100 100-PE-3 NA 6/21/1995	100 100-PE-4 NA 6/21/1995	100 100-PE-5 NA 6/21/1995	100 100-PE-6 NA 6/21/1995	100 100-PE-7 NA 6/21/1995	100 100-PE-8 NA 6/21/1995	100 100-SS-1 NA 6/21/1995
Benzoic Acid	65-85-0	240000	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--
Benzyl Butyl Phthalate	85-68-7	2600	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--
Bis (2-Chloroethoxy) Methane	111-91-1	180	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--
Bis(2-Chloroethyl) Ether	111-44-4	2.56	NMED	0.000465	mg/kg	--	--	--	--	--	--	--	--	--
Bis(2-Ethylhexyl)Phthalate	117-81-7	347	NMED	238	mg/kg	--	--	--	--	--	--	--	--	--
Dibenz(a,h)Anthracene	53-70-3	0.621	NMED	7.24	mg/kg	--	--	--	--	--	--	--	--	--
Diethyl Phthalate	84-66-2	48900	NMED	212	mg/kg	--	--	--	--	--	--	--	--	--
Dimethyl Phthalate	131-11-3	611000	NMED	1,671	mg/kg	--	--	--	--	--	--	--	--	--
Di-n-Butyl Phthalate	84-74-2	6110	NMED	173	mg/kg	--	--	--	--	--	--	--	--	--
Di-n-Octyl Phthalate	117-84-0	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Fluoranthene	206-44-0	2290	NMED	3,108	mg/kg	--	--	--	--	--	--	--	--	--
Fluorene	86-73-7	2290	NMED	500	mg/kg	--	--	--	--	--	--	--	--	--
Hexachloro-1,3-Butadiene	87-68-3	61.1	NMED	0.295	mg/kg	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	118-74-1	3.04	NMED	0.0441	mg/kg	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	77-47-4	367	NMED	12.3	mg/kg	--	--	--	--	--	--	--	--	--
Hexachloroethane	67-72-1	61.1	NMED	0.386	mg/kg	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)Pyrene	193-39-5	6.21	NMED	73.9	mg/kg	--	--	--	--	--	--	--	--	--
m-Dichlorobenzene	541-73-1	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Methanamine, N-Methyl-N-Nitroso	62-75-9	0.954	NMED	0.0000610	mg/kg	--	--	--	--	--	--	--	--	--
Nitrobenzene	98-95-3	49.4	NMED	0.137	mg/kg	--	--	--	--	--	--	--	--	--
N-Nitrosodi-N-Propylamine	621-64-7	0.69	EPA	--	mg/kg	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	86-30-6	993	NMED	25.8	mg/kg	--	--	--	--	--	--	--	--	--
Pentachlorophenol	87-86-5	29.8	NMED	0.587	mg/kg	--	--	--	--	--	--	--	--	--
Phenanthrene	85-01-8	1830	NMED	1,669	mg/kg	--	--	--	--	--	--	--	--	--
Phenol	108-95-2	18300	NMED	126	mg/kg	--	--	--	--	--	--	--	--	--
Pyrene	129-00-0	1720	NMED	2,238	mg/kg	--	--	--	--	--	--	--	--	--
VOCs														
1,1,1-Trichloroethane	71-55-6	21800	NMED	59.5	mg/kg	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	79-34-5	7.98	NMED	0.00450	mg/kg	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	79-00-5	17.2	NMED	0.0135	mg/kg	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	75-34-3	62.9	NMED	0.122	mg/kg	--	--	--	--	--	--	--	--	--
1,1-Dichloroethylene	75-35-4	618	NMED	2.38	mg/kg	--	--	--	--	--	--	--	--	--

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Table 2. Summary of Analytical Data for Close Out Samples
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White Sands Missile Range, New Mexico

	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	100 100-PE-1 NA 6/21/1995	100 100-PE-2 NA 6/21/1995	100 100-PE-3 NA 6/21/1995	100 100-PE-4 NA 6/21/1995	100 100-PE-5 NA 6/21/1995	100 100-PE-6 NA 6/21/1995	100 100-PE-7 NA 6/21/1995	100 100-PE-8 NA 6/21/1995	100 100-SS-1 NA 6/21/1995
1,2,3-Trichloropropane	96-18-4	0.915	NMED	0.000713	mg/kg	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	95-50-1	3010	NMED	6.27	mg/kg	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	107-06-2	7.74	NMED	0.00730	mg/kg	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	78-87-5	14.7	NMED	--	mg/kg	--	--	--	--	--	--	--	--	--
1,4 Dichloro-2-Butene	764-41-0	0.046	NMED	0.000163	mg/kg	--	--	--	--	--	--	--	--	--
2-Butanone	78-93-3	39600	NMED	25.3	mg/kg	--	--	--	--	--	--	--	--	--
2-Chloroethyl Vinyl Ether	110-75-8	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Acetone	67-64-1	67500	NMED	76.9	mg/kg	--	--	--	--	--	--	--	--	--
Acrolein	107-02-8	0.646	NMED	0.000148	mg/kg	--	--	--	--	--	--	--	--	--
Acrylonitrile	107-13-1	5.97	NMED	0.00164	mg/kg	--	--	--	--	--	--	--	--	--
Benzene	71-43-2	15.5	NMED	0.0370	mg/kg	--	--	--	--	--	--	--	--	--
Bis(2-Chloroisopropyl)Ether	39638-32-9	--	--	0.0511	mg/kg	--	--	--	--	--	--	--	--	--
Bromomethane	74-83-9	22.3	NMED	0.0388	mg/kg	--	--	--	--	--	--	--	--	--
Carbon Disulfide	75-15-0	1940	NMED	5.04	mg/kg	--	--	--	--	--	--	--	--	--
Carbon Tetrachloride	56-23-5	4.38	NMED	0.0148	mg/kg	--	--	--	--	--	--	--	--	--
CFC-11	75-69-4	2010	NMED	18.0	mg/kg	--	--	--	--	--	--	--	--	--
CFC-12	75-71-8	481	NMED	14.5	mg/kg	--	--	--	--	--	--	--	--	--
Chlorobenzene	108-90-7	508	NMED	1.08	mg/kg	--	--	--	--	--	--	--	--	--
Chlorodibromomethane	124-48-1	11.9	NMED	0.00675	mg/kg	--	--	--	--	--	--	--	--	--
Chloroethane	75-00-3	43600	NMED	108	mg/kg	--	--	--	--	--	--	--	--	--
Chloroform	67-66-3	5.72	NMED	0.00936	mg/kg	--	--	--	--	--	--	--	--	--
Chloromethane	74-87-3	35.6	NMED	0.0836	mg/kg	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	10061-01-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Dibromomethane	74-95-3	782	NMED	1.55	mg/kg	--	--	--	--	--	--	--	--	--
Dichloromethane	75-09-2	199	NMED	0.215	mg/kg	--	--	--	--	--	--	--	--	--
Ethanol	64-17-5	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Ethyl Methacrylate	97-63-2	7040	NMED	13.4	mg/kg	--	--	--	--	--	--	--	--	--
Ethylbenzene	100-41-4	69.7	NMED	0.291	mg/kg	--	--	--	--	--	--	--	--	--
Iodomethane	74-88-4	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Methyl N-Butyl Ketone	591-78-6	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Methylbenzene	108-88-3	5570	NMED	27.7	mg/kg	--	--	--	--	--	--	--	--	--
Naphthalene	91-20-3	45	NMED	0.084	mg/kg	--	--	--	--	--	--	--	--	--

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	CAS No	Soil Screening Level for Residential Soil	SSL Source	DAF 20	Units	100 100-PE-1 NA 6/21/1995	100 100-PE-2 NA 6/21/1995	100 100-PE-3 NA 6/21/1995	100 100-PE-4 NA 6/21/1995	100 100-PE-5 NA 6/21/1995	100 100-PE-6 NA 6/21/1995	100 100-PE-7 NA 6/21/1995	100 100-PE-8 NA 6/21/1995	100 100-SS-1 NA 6/21/1995
Styrene (Monomer)	100-42-5	8970	NMED	31.2	mg/kg	--	--	--	--	--	--	--	--	--
Tetrachloroethene	127-18-4	6.99	NMED	0.00898	mg/kg	--	--	--	--	--	--	--	--	--
Trans-1,2-Dichloroethene	156-60-5	273	NMED	0.603	mg/kg	--	--	--	--	--	--	--	--	--
Trans-1,3-Dichloropropene	10061-02-6	--	--	--	mg/kg	--	--	--	--	--	--	--	--	--
Trichloroethylene	79-01-6	45.7	NMED	0.106	mg/kg	--	--	--	--	--	--	--	--	--
Vinyl Acetate	108-05-4	3650	NMED	1.53	mg/kg	--	--	--	--	--	--	--	--	--
Vinyl Chloride	75-01-4	0.865	NMED	0.00576	mg/kg	--	--	--	--	--	--	--	--	--
Xylenes	1330-20-7	1090	NMED	3.52	mg/kg	--	--	--	--	--	--	--	--	--
TCLP														
VOCs		--	--	--	mg/l	(c)	(d)	<0.025	<0.025	<0.025	<0.025 [<0.025]	<0.025	<0.025	<0.025
SVOCs		--	--	--	mg/l	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020 [<0.020]	<0.020	<0.020	<0.020

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Table 2. Summary of Analytical Data for Close Out Samples
Closure Report for Liquid Propellant Evaporation / Neutralization Pits - SWMUs 92A/B through 100 (CCWS-71)
White Sands Missile Range, New Mexico

Notes

NMED Residential Soil Screening Level from Table A-1, December 2009 Update to Technical Background Document for Development of Soil Screening Levels, Revision 5.0. NMED Hazardous Waste Bureau and Ground Water Quality Bureau, Voluntary Remediation Program. August 2009.

USEPA Residential Screening Level from *USEPA Regional Screening Levels* (http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/index/htm). 2010.

NMED Dilution Attenuation Factor from Table A-1, December 2009 Update to Technical Background Document for Development of Soil Screening Levels, Revision 5.0. NMED Hazardous Waste Bureau and Ground Water Quality Bureau, Voluntary Remediation Program. August 2009. DAF 20 indicates a Dilution Attenuation Factor of 20 was used.

NMED TPH Screening Level from October 2006 NMED TPH Screening Guidelines document. Since the type of oils managed at the LPSA pits is unknown, the standard for unknown oil is used for comparison.

<0.010	Italics indicates that the reported result exceeds the NMED DAF 20 screening value. If the result is preceded by "<", constituent was not detected, but the reported sample quantitation limit exceeds the DAF 20 value.
--	constituent not analyzed
(a)	2 Butanone detected at 0.056 mg/l
(b)	2-Butanone detected at 0.075 mg/l
(c)	2-Butanone detected at 0.059 mg/l
(d)	2-Butanone detected at 0.095 mg/l

Sample Nomenclature

HA	hand auger
PE	steel piping rinsate
SS	soil stockpile

Definitions

mg/kg	milligrams per kilogram
mg/l	milligrams per liter
SSL	Soil Screening Level
EPA	Environmental Protection Agency
NMED	New Mexico Environment Department
SWMU	Solid Waste Management Unit
VOCs	volatile organic compounds
SVOCs	semi-volatile organic compounds
TCLP	toxicity characteristic leaching procedure

Source of all data presented: *Close Out Report, SWMU 61 Tula Peak Unexploded Ordnance Incinerator, SMWUs 92-100 Liquid Propellant Storage Area, White Sands, New Mexico*. Dow Environmental. August 30, 1996.

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Figures

TO VIEW THE MAP AND/OR MAPS WITH THIS DOCUMENT, PLEASE CALL THE HAZARDOUS WASTE BUREAU AT 505-476-6000 TO MAKE AN APPOINTMENT

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Appendices

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Appendix A

Regulatory Correspondence

WSMR EMR

State of New Mexico
ENVIRONMENT DEPARTMENT

BRUCE KING
GOVERNOR

JUDITH M. ESPINOSA
SECRETARY

RON CURRY
DEPUTY SECRETARY

January 22, 1993

COMMANDER
STEWS-ES-E (Mr. Hector Magallanes)
White Sands Missile Range, NM 88002

Dear Mr. Magallanes:

The New Mexico Environment Department has reviewed the Final RFI Report for Appendix II, III, and IV sites at White Sands Missile Range, and offers the following comments.

We concur with the recommendations in the report for the following SWMUs:

8, 9 - Waste oil tank and sump
19, 20 - Steam wash pad etc.
61 - Tula Peak UXO incinerator
89 - HWSF former evaporation tank
90 - HWSF evaporation tank
92A, 92B, 93, 94, 95, 96, 97, 98, 99, 100 - Liquid Propellant Storage Area sites
121, 122, 123 - Stallion Range Center tanks
132 - Orogrande Camp pond
137 - Paint Shop sump
140 - LC-37 paint dump
141 - HELSTF Equipment Storage Area
142 - HELSTF Cleaning Facility sump
143 - HELSTF Chromate Spill site
154 - HELSTF diesel spill
155 - Red Rio munitions burial site
156 - Building T-1348

We concur with the recommendations in the report for the following SWMUs in the HELSTF area only with the explicit understanding that White Sands Missile Range is willing to commit to an ongoing program of ground water monitoring at the HELSTF area, as required in a letter of January 5, 1993 from Mr. Ron Curry, Deputy Secretary of the Environment Department, to General Richard Wharton.

33, 34 - HELSTF fluorspar tanks
144 - HELSTF LSTC wastewater discharge point
145 - " Test Cell 4 lagoon
146 - " Dry Pond
148 - " MAR waste pond
149 - " Maintenance Building septic system
151 - " Trailer area septic system
152 - " Property and Supply Building septic system

Harold Runnels Building • 1190 St. Francis Drive • P.O. Box 26110 • Santa Fe, New Mexico 87502
(505) 827-2850 FAX (505) 827-2836

We have reservations about whether the data to be generated at SWMUs 38 and 39, the HELSTF construction landfills, will conclusively establish the absence of contamination. However, we agree with the recommendations in the report with the understanding that we reserve the right to require additional investigation of the landfill contents and soil beneath the landfills if the ground water shows evidence of contamination from the landfills.

We can agree with the recommendations for sites 10, 11, 12, 13, 14, and 15 , the washracks and battery storage area complex, only if some alternate mechanism exists for investigating the ditch into which various of the units have emptied, and the area near them which may have elevated lead levels. This could presumably be accomplished by the listing of a new SWMU/IRP site, or by an investigation under the requirements of the New Mexico Water Quality Control Commission regulations relating to unauthorized discharges. We again offer to cooperate with White Sands in the use of our X-ray fluorescence analyzer to corroborate lead sampling information.

We agree with the recommendations made in regard to SWMUs 66-78, at the main base sewage treatment plant, but would add a recommendation that a risk assessment be performed to evaluate the exposure of personnel at the site to the contaminants in the soil, and that an evaluation be made by an industrial hygienist or similar professional of the possible acute toxic hazards that may be present at the site, particularly the possiblilty of inhalation of silver-laden dust during a wind storm or similar event. It may well be that no hazard exists, but the possibility must be competently evaluated.

We cannot agree with the recommendation made for SWMU 115, the Rhodes Canyon landfill. Because of the apparently shallow depth to ground water and the possibility that it would be protected under state regulations, we are concerned that the investigation to date does not provide enough information about the possibility of a release of contaminants beneath the landfill. We believe that either several samples must be collected from the unsaturated zone beneath the landfill, or a minimum of three monitor wells must be installed to evaluate the possibility of a release from the landfill.

At SWMU 150, the MAR Dump Site, we concurred with the recommendation in the draft RFI report for removal and appropriate disposal of the dump contents, so long as adequate confirmatory sampling was done. We cannot concur with the

recommmendation in the final report for site closeout unless some sampling is done to confirm that contaminants have not migrated beneath the landfill.

At SWMU 153, the Vandal Burial Site, we do not believe the investigation can be considered complete without at least collecting a ground water sample from the nearby (and apparently down-gradient) USGS test well. We are aware that that well is not ideal as a monitoring well. Nevertheless, a sample collected a few feet below the surface of the water column would be preferrable to having no ground water information at all.

SWMU 147, the Decontamination Pad Underground Waste Tank, must have an adequate leak test before we can concur with site closeout (and it must comply with applicable UST regulations, including registration and ongoing leak detection/corrosion protection).

If you have questions or believe these comments justify further discussion, don't hesitate to let me know.

Sincerely,

David Morgan
Environmental Specialist, DSMOA
Ground Water Protection and Remediation Bureau

c: Benito J. Garcia, NMED HRMB
James Harris, US EPA Region 6

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

JUL 7 1993

Brigadier General Richard W. Wharton,
Commander
U. S. Army White Sands Missile Range
White Sands Missile Range, N. M. 88002-5000

RE: Response to Notice of Deficiencies (NOD) for the Final Phase I RCRA Facility Investigation (RFI) Report for Appendices II, III, and IV Solid Waste Management Units (SWMU's) at White Sands Missile Range (WSMR) EPA I.D. No. NM2750211235.

Dear General Wharton:

The U.S. Environmental Protection Agency (EPA) has completed its review of your response to the NOD identified in the technical review conducted on March 11, 1993 of the Final Phase I RFI Report for Appendices II, III and IV SWMU's (Enclosure I).

EPA has reviewed the list of thirty-eight SWMU's selected from Appendices I-IV which WSMR has requested no further investigation under the RFI. WSMR may proceed to submit a formal request for a Class III Permit Modification at SWMU's identified by EPA for no further investigation (Enclosure II). In addition EPA has identified and/or concurred with WSMR on which SWMU's will require institutional controls to protect human health and the environment.

SWMU's identified for further investigation under Phase II of the RFI should be incorporated as an amendment to the draft Phase II RFI workplan which WSMR has submitted for review.

The revised RFI report shall be submitted to the EPA within forty-five (45) days of receipt of this letter. If you have any questions concerning the listed deficiencies, please contact me at (214) 655-6770 or have your staff contact Mr. James Harris at (214) 655-8302.

Sincerely yours,

WK Honker

William K. Honker, Chief
RCRA Permits Branch (6H-P)

Enclosures

cc: Hector Magallanes - WSMR STEWS-ES-E
Benito Garcia - NMED HRMB
Dave Morgan - NMED Remediation

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ENCLOSURE I

Response to the items listed in the Corps of Engineers Design Review Comments:

Item 1. General:

During the meeting held at EPA Region 6 Office on November 13, 1992 several references were made by EPA staff that the extent of contamination must be determined and that risk based decisions were reserved until after contamination had been delineated. In addition EPA was informed the contract for the Phase I RFI was to expire in December 1992. This implies WSMR was aware there was little time to conduct further field investigations using the contractor at that time.

Item 3. Executive Summary:

The purpose of the RFI process is to determine if a release has occurred to the environment. If a release has occurred, then the complete horizontal and vertical extent of contamination must be determined regardless of the level of concentration of the detected release.

If the data are inconclusive as to whether the extent of contamination has been delineated by the end of Phase I of the RFI then any conclusions and recommendations should address determining the extent during Phase II of the RFI.

Item 9. Ref 1.3.2.1 (4):

EPA has reviewed EPA-600/2-84-024. Is the PVC used for monitor well installation made in the U.S.? If so then there should be no NSF chemical parameters in the PVC.

Item 11. Ref 1.3.3.4:

If a release has been documented and its extent not determined how can release characterization data be compared against established health and environment data? The comment that the permittee's intent is two fold in that you are trying to determine if a release has occurred and its extent of possible migration is correct. However data must be provided to show that the extent of contamination has been determined or will be determined under Phase II of the RFI.

Risk based information provided by the report is valuable and should be reserved at the CMS Phase of the HSWA permit.

ENCLOSURE II

EPA RESPONSE TO SWMU's PROPOSED BY WSMR FOR NO FURTHER INVESTIGATION

(Note: * indicates unit is required to go to Phase II for source characterization.)

APPENDIX I:

* SWMU # 16, Heavy Equipment Wash Pad & Drain

This unit has high TPH (>1200mg/kg) therefore the vertical and horizontal extent of contamination must be delineated. In addition the Phase II sampling plan should analyze for complete organics rather than TPH.

SWMU # 18, Waste Accumulation Area

EPA concurs with the recommendation for the installation of a containment structure to prevent future releases.

* SWMU # 21, Former Fire Fighting Training Area

Analytical results show lead and TPH exceeding Toxicity Characteristic (TC) levels. The Phase II sampling should include shallow subsurface boring and surface grabs at the soil vapor survey (SVS) hot spots for complete organics and lead.

* SWMU # 22, Abandoned Pit Near Old FFTA (SWMU 21)

The Sampling results suggest the presence of the same compounds as SWMU 21, high lead and TPH. The Phase II surface and subsurface grabs will sample for complete organics and lead to determine the vertical & horizontal extent of contamination.

SWMU # 62, Former Sewer Treatment Plant (STP)

Since no contamination was detected via test borings and field geophysics tentatively identified the tank no further investigation will be required. However WSMR should consult with the appropriate state agency for removal of the tank.

SWMU # 79, STP Sludge Beds

Formal notification of the completion of the action taken and current conditions at this unit as a result of WSMR's informal request in December 1992 for removal operations must be submitted to EPA.

* SWMU # 80, STP Waste Pile

This waste pile contains elevated levels of hazardous constituents including cyanide, mercury, lead and chromium. The RFI report recommends Phase II delineation and stabilization of the waste pile. What does "stabilization" mean and why not remove the waste pile altogether and conduct subsurface confirmatory sampling once the pile is removed?

APPENDIX II, II and IV SWMU's:

* SWMU #'s 14/15, Used Battery Accumulation Area

The high levels of lead in the referenced drainage ditch indicate the need for further source characterization under the Phase II process of all units associated with this structure.

SWMU #'s 33/34 HELSTF Flurspar Tanks

A description as to how HMW-19 will be used in monitoring programs for nearby Appendix I SWMU's must be provided.

SWMU # 61, Tula Peak UXO Incinerator

EPA concurs with recommendations for fencing & warning signs.

SWMU # 90 Hazardous Waste Storage Evaporation Tank

This unit is under closure by NMED.

SWMU # 92A/B - 100 Liquid propellent Storage Area Pits (Evaporation/Neutralization Pits)

* 92B: Silver & arsenic concentrations are abcve the MCL limit. The SWMU is required to go through Phase II of the RFI.

* 94: Analytical results show benzidine above Subpart S action levels. The unit will require further characterization in Phase II of the RFI.

EPA concurs with the RFI report conclusion for design recommendations for all 10 active units.

SWMU #'s 121-123 Stallion Range Center Subgrade Tanks

WSMR will need to coordinate the underground storage tank (UST) removal with NMED's UST Program and provide EPA with the State point of contact.

* SWMU # 132, Oro Grande Waste Stabilization Pond

This unit is the same as SWMU 25B in the Fort Bliss RFI. EPA concurs with the WSMR RFI report conclusion that the unit should go to Phase II and coordinate with Fort Bliss.

SWMU # 137, Paint Shop Sump

The sump is intact, sludges from sump exceed TC and surface water in sump exceed MCL limits. The sludges should be removed and disposed of as a hazardous waste.

* SWMU #140 LC-37 Paint Dump (trench)

The RFI report indicates cadmium and lead exceeding TC levels but not enough to produce leachate (?). Regardless of the limited potential for producing leachate a release has occurred and the extent of contamination must be delineated before any justification for no further investigation can be made.

SWMU #141 HELSTF Equipment Storage Area

Data suggest no evidence of a release.

* SWMU # 144, LSTC Water Discharge Point (HELSTF)

HMW-7 has lead exceeding the MCL limit. A release has occurred which will require delineation of the extent of the lead.

* SWMU # 145 Test Cell IV Lagoon (HELSTF)

Chloroform in groundwater samples exceed Subpart S action levels. There is a possible breech in the liner. The SWMU must be characterized in Phase II to assess the extent of the chloroform release. In addition the integrity of the liner should be restored.

* SWMU # 146, Dry Pond (HELSTF)

Analytical results indicate chloroform exceeding Subpart S action levels. A release has occurred therefore the extent of contamination must be determined. In addition a liner should be installed for preventing future discharges into the subsurface.

* SWMU # 147, Decon Pad UST

A release (organics) has occurred, the RFI report recommends no further investigation and the unit should be investigated under the closure operations at SWMU 142 and the interim measure initiative at SWMU 154. EPA's determination is that additional source characterization at this unit should continue in Phase II. Complete organics should be sampled rather than TPH. Also the RFI report does not contain a description of the tank integrity or evidence of spills, information which would contribute to assessing the possibility of the SWMU being a contaminant source.

* SWMU 148, MAR Waste Stabilization Pond

Chromium and two organics have been detected in ground water samples exceeding action levels. The source is believed unrelated to the unit but attributable to SWMU 143 and should be investigated under the Phase II operations planned for SWMU 143. EPA's determination is SWMU 148 should undergo further source characterization in Phase II of the RFI process.

SWMU # 149, Maintenance Bldg Septic System (HELSTF)

Although sampling results indicate selenium exceeds MCL limits and State ground water protection standards. The RFI reference data indicates high concentrations are naturally occurring in the ground water regime at WSMR. EPA's determination is no further investigation is necessary.

SWMU # 151, Trailer Area Septic System (HELSTF)

Sampling results indicate selenium exceeds MCL limits and State ground water protection standards. The RFI reference data indicates high concentrations are naturally occurring in the ground water regime at WSMR. EPA's determination is no further investigation is necessary.

SWMU # 152, Property and Supply Septic System (HELSTF)

Sampling results indicate selenium exceeds MCL limits and State ground water protection standards. The RFI reference data indicates high concentrations are naturally occurring in the ground water regime at WSMR. EPA's determination is no further investigation is necessary.

SWMU # 153, Vandal Burial Site

Trace DEHP below the Subpart S action level was detected. No further investigation will be required.

* SWMU # 155, Red Rio Munitions Burial Site

Although EPA issued a decision that military firing ranges & impact areas should not be considered SWMU's (see FR V55 # 145 pg 30809) this SWMU is a sub-unit of the Bombing and Gunnery Range. The SWMU's operational history indicates it was used to dispose/discard munitions. Therefore it is not exempt from the RCRA/HSWA universe. However the unit is under closure by NMED/HRMB and will require no further investigation under the WSMR HSWA Permit.

* SWMU # 156, Bldg T-1348 (Golf Course Pest. Management Shed)

Sampling analysis indicates chlordane and metals exceed Subpart S action levels. Although contaminant concentrations decrease with depth the extent of contamination must be delineated.

In addition the following information has not been submitted concerning Phase I activities at SWMU # 115, Rhodes Canyon Landfill:

Depths at which the SVS samples were taken.

A table of analytical data results.

In addition to warning signs and fences an effort should be initiated to locate and remove any live ordinance.

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DEPARTMENT OF THE ARMY

U.S. ARMY WHITE SANDS MISSILE RANGE
WHITE SANDS MISSILE RANGE, NEW MEXICO 88002-

12 OCT 1993

REPLY TO ATTENTION OF

Office of the Commanding General

Mr. William K. Honker, Chief
RCRA Permits Branch (6H-P)
U.S. Environmental Protection Agency, Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202

Dear Mr. Honker:

In response to your letter, dated September 3, 1993, and guidance from follow-on discussions between our staffs, White Sands Missile Range (WSMR) formally requests a Class III Permit Modification for all Solid Waste Management Unit (SWMU) sites, which do not require further investigative action. The 25 SWMU sites for which this request is being made are listed below.

a. Removal of the following 24 SWMU sites listed in the current WSMR Permit from further investigative actions:

SWMU Name	SWMU No.	Appendices
Waste Accumulation Area	18	I
HELSTF Flurspar Tanks	33 & 34	II
Tula Peak UXO Incinerator	61	II
Former Sewage Treatment Plant (STP)	62	I
STP Sludge Beds	79	I
Hazardous Waste Storage Evap. Tank	90	III
Liquid Propellant Storage Area Pits	92A/B-100	III
Stallion Center Subgrade Tanks	121 - 123	III
Paint Shop Sump	137	III
HELSTF Equipment Storage Area	141	IV
Maint. Bldg. Septic System (HELSTF)	149	IV
Vandal Burial Site	153	IV

b. Addition of the Temperature Test Facility (TTF) Methlyene Chloride Spill site into the WSMR Part B Permit, as SWMU site #101, Appendix III in Module VIII, Task IX. WSMR previously notified EPA of this potential SWMU site via letter, dated June 2, 1993.

A significant amount of data has been collected and evaluated by WSMR regarding the TTF site. The results indicate that soil contamination is migrating downward and will likely impact groundwater in the near future. If the TTF site is approved for addition to our Permit, WSMR further requests that it be considered for expedited investigation and remediation activities to avoid probable groundwater contamination at this site.

We believe this Permit Modification is necessary to accurately present the current status of the overall SWMU cleanup process at WSMR. Your staff's assistance regarding our request for a Class III Permit Modification is appreciated. Please contact Mr. Hector Magallanes, Environmental Services Division, at (505) 678-2073, should you or your staff have any questions regarding this request.

Sincerely,

Richard W. Wharton
Brigadier General, U.S. Army
Commanding General

STEWS-ES-E (200-1a) 05 OCT 1993

MEMORANDUM FOR RECORD

SUBJECT: Request for a Class III Permit Modification to the WSMR Part B Permit Regarding Investigation of WSMR Solid Waste Management Unit (SWMU) Sites

1. Purpose: To obtain the Commanding General's approval of the letter to the Environmental Protection Agency (EPA) concerning the subject request (Tab A).

2. Background and Discussion:

a. On 3 Sep 93, WSMR received a letter from the EPA which stated SWMU #92B will require no further investigation activities along with 23 others already identified by EPA (Tab B). The EPA letter also emphasized that WSMR should submit a formal request for a Class III Modification to our Permit prior to taking action on these sites.

b. In the subject modification request, WSMR meets EPA'S requirements but also asks for the inclusion of the Temperature Test Facility (TTF) Methylene Chloride Spill Site, as SWMU #101, into the Permit. The addition of the TTF site as a SWMU will qualify WSMR for Defense Environmental Restoration Account (DERA) funds to finalize the investigation and implement remediation of the TTF site.

3. Point of Contact: The POC for this action is Mr. Hector Magallanes, ES-E, 678-2073.

4. Recommendation. That the Commanding General sign the letter at Tab A.

OFFICIAL SIGNED BY

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as

THOMAS A. LADD
Director, Environment and Safety

?

CONCURRENCES		
ORG.	SIGNATURE	DATE
ESE	HRuiz	9/23/93

WSMR Environment & Safety Tech Lib
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

OCT 15 1993

Brigadier General Richard W. Wharton
Commander
U.S. Army White Sands Missile Range
White Sands Missile Range, NM 88002-5000

RE: Approval of the Final Phase I RFI Report for Appendix II, III and IV SWMU's at White Sands Missile Range (WSMR), EPA I.D. No. NM2750211235.

Dear General Wharton:

On September 9, 1993, the Environmental Protection Agency (EPA) received WSMR's response to EPA's Notice of Deficiency dated July 7, 1993, to your Final Phase I RFI Report for Appendix II, III and IV SWMU's.

Based on our review, the document is consistent with regulatory standards. EPA approves the Final Phase I RFI Report for Appendix II, III and IV SWMU's.

If you have any questions concerning EPA's decisions on the Final Phase I RFI Report for Appendix II, III and IV SWMU's at WSMR, please contact me at (214) 655-6770 or have your staff contact Mr. James Harris at (214) 655-8302.

Sincerely yours,

William K. Honker, P.E.
Chief
RCRA Permits Branch (6H-P)

cc: Thomas A. Ladd, Director, Environment & Safety, WSMR
Hector Magallanes - SWMU Program Manager, WSMR
Benito Garcia - Chief, NMED HRMB
Dave Morgan - NMED Groundwater & Remediation

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Pls response to DES-E.

WSMR Environment & Safety Te

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

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200-IR N105-NOD
T.A, 1995

Brigadier General Jerry L. Laws
Commander
U.S. Army White Sands Missile Range
White Sands Missile Range, NM 88002-5000

RE: Notice of Deficiencies, Phase II RCRA Facility Investigation (RFI) Report for Appendices I - IV SWMUs, White Sands Missile Range (WSMR) Hazardous and Solid Waste Amendments (HSWA) Permit EPA I.D. No. NM2750211235.

Dear General Laws:

On December 19, 1995 the U.S. Environmental Protection Agency (EPA) received your Phase II RFI Report of Appendices I - IV SWMU's. EPA has completed the review of the Phase II RFI Report and identified a number of deficiencies enumerated on the enclosed Notice of Deficiencies. The deficiencies must be corrected before the Phase II RFI Report for Appendices I - IV SWMU's can be approved.

The revised RFI Report shall be submitted to the EPA within one-hundred and twenty days (120) days of receipt of this letter. If you have any questions concerning the listed deficiencies, please contact me at (214) 665-6770 or have your staff contact Mr. James Harris at (214) 665-8302.

Sincerely yours,

William K. Honker, Chief
RCRA Permits Branch

Enclosure

cc: Mr. Thomas A. Ladd (w/enclosure)
Mr. Hector Magallanes (w/enclosure)
Mr. Benito Garcia (w/enclosure)
Mr. Dave Morgan (w/enclosure)

Received 23 May 95.

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ENCLOSURE I

Phase II RFI Report Notice of Deficiencies

GENERAL COMMENTS:

1. The latest publication for "Current and Proposed National Primary and Secondary Drinking Water Regulations and Health Advisories for Other Contaminants" is dated July 29, 1994.

2. Clean up levels will be determined by EPA.

SPECIFIC COMMENTS:

1. SWMUs 8 and 9 - Waste Oil Tank and Sump

   Removal actions were taken by WSMR. Confirmatory sampling should be collected to verify closure requirements. Once approved WSMR shall submit a request for delisting the units from the Corrective Measure Study (CMS) phase via the Class III permit modification process.

2. SWMUs 10 and 11 - Vehicle Wash Pad and Drains, Sump and Oil/Water Separator.

   EPA concurs that WSMR may request delisting the units. Institutional controls should be initiated to prevent any future discharges off of the wash pad, drains and sump.

3. SWMUs 12 and 13 - Vehicle Wash Pad and Drains, Sump and Oil/Water Separator.

   Has the source of the high chromium levels at the 9.5 foot interval of soil boring 1213SB03(009.5) been identified?

4. SWMUs 14 and 15 - Used battery Accumulation Areas

   Item 2 of Section 6.4.4 "Conclusions and Recommendations" identifies elevated lead levels from sediments upgradient of SWMUs 14-15, the SWMUs are no longer in use and there may be another lead source. Several alternate sources are suggested. Consequently the SWMUs have not been adequately delineated to confirm the source of the high lead levels. Further sampling should be performed to determine the source as well as extent of contamination.

5. SWMU 16 - Heavy Equipment Wash Pad and Drain

The upgradient background sample is higher than the downgradient surface soil sample concentrations. Also state Land Disposal Standards have been exceeded. The upgradient drainage ditch should be further characterized to determine the sources contributing to the high TPH values.

6. SWMU 17 - Waste Underground Injection Pipe

No constituents related to the SWMUs operational history were found. WSMR should submit a request for a Class III Permit Modification delisting the SWMU for no further investigation under the RFI/CMS process.

7. SWMUS 19 and 20 - Steam Wash Pad and Drain, and Oil/Water Separator

No constituents related to the SWMUs operational history were found. WSMR should submit a request for a Class III Permit Modification delisting the SWMU for no further investigation under the RFI/CMS process.

8. SWMU 21 - Former Fire Fighting Training Area (FFTA)

EPA concurs with WSMRs recommendation the unit go through a CMS to remove the above ground storage tanks and the soil around and under the ASTs.

9. SWMU 22 - Abandoned Pit Near FFTA

EPA concurs with WSMRs recommendation that the unit go through the CMS process to remove the pile and surrounding perimeter including the soils in the shallow ditch.

10. SWMUs 27-30 HELSTF Sewage Treatment Lagoons

Analytical data indicate a release at HMW-1 (lead), chromium (HMW-12, 16), 1,1-dichloroethene (HMW-4, 16), 1,1-dichloroethene and 1,1-dichlorethane (HMW-12).

HMW 4, 12 and 16 are upgradient from SWMUs 143 and 152 and consequently downgradient from SWMUs 27-30. This suggest a release is occurring in the vicinity of SWMUs 27-30 and/or the former unlined sewage lagoons which pre-date SWMUs 27-30 or undetermined sources in the area.

HMW-16 should be redeveloped or purged and resampled to confirm the high pH which the report indicates is due to improper monitor well installation. Once the well is properly developed the wells around the SWMUs should be monitored and the releases should be delineated in order to identify the source of ground water contamination. Additional wells will be required to adequately delineate the source and extent of contamination. Once the extent of contamination is defined the unit can enter the CMS phase.

11. SWMUs 38 and 39 - HELSTF Construction Landfills:

Analytical results show arsenic, selenium, chromium, 1,1-dichlorethene and trichloroethene exceeding regulatory limits in the upper/perched ground water zone; heptachlor was detected above regulatory limits in the regional ground water zone. The source of the release and the contamination in the perched zone should be confirmed and abated prior to evaluating remedial options.

12. SWMU # 62, Former Sewer Treatment Plant

The SWMU has been submitted for delisting from the RFI/CMS process under a Class III Permit Modification.

13. SWMU 63 - Former WSMR Post-Sanitary Landfill No. 1

Prior to requesting a permit modification to delist the unit WSMR shall submit confirmation that the landfill was not located at the respective coordinates. In addition the actual location of the landfill should be determined and investigated for the extent of any releases.

14. SWMU 64 - Former WSMR Post Sanitary Landfill No. 2

The analytical data from TW-21 are invalid due to improper well development during monitor well installation procedures. The well should be properly purged/developed and resampled. EPA concurs with the recommendation that further investigations should be performed to delineate the true location of the sanitary landfill.

15. SWMU 65 - Former WSMR Post Sanitary Landfill No. 3:

TPH was detected in soils and VOCs were detected in ground water exceeding regulatory levels. Though contamination is not migrating below the landfill boundary the potential exist for migration to the fresh water aquifer utilized by the Main Post and the Nuclear Effects Directorate. Corrective action will be required to prevent further migration into the subsurface. EPA concurs with the recommendation for periodic ground water monitoring. In addition a plan to cap the unit should be submitted.

Once the plan has been approved and in place WSMR may petition EPA for a Class III permit modification to delist the unit from the HSWA permit.

16. SWMUs 66-78 Main Post Sewage Treatment Plant (STP)

The report suggest the high TPH concentration in soil sample 6678SB1(000.0) may be related to old equipment and parts in storage. The extent and source of the high TPH concentration should be confirmed and removed.

RCRA metals above Subpart S levels were detected in samples from the upper soil surface. The source appears to be wastewater used to irrigate grass and trees. WSMR should implement procedures to prevent the release of RCRA metals into the wastewater stream prior irrigation of the surrounding vegetation. The contaminated media should undergo a CMS to evaluate remedial options.

17. SWMUs 82 and 83 - STP Former Drainage Ditches

The design and construction specifications for USGS monitor well T29 do not meet monitor well construction requirements per the RCRA Technical Enforcement Guidance Document specifications. In addition there is no documentation the monitoring well was properly developed. Consequently the analytical data derived from sampling the well is invalid. WSMR should submit plans to resample ground water at the respective depth.

EPA concurs with WSMRs recommendation that repairs and design modifications of the splitter box and pipe are implemented so that the system can handle high discharges without overflowing into the SWMUs.

Soil sampling results indicate chromium concentrations exceeding regulatory levels. The source appears to be the STP. The unit will be required to go through the CMS phase to evaluate remedial options to prevent the discharge of hazardous constituents into the STP which may be impacting the underlying ground water regime. Confirmatory sampling will be required prior to WSMR submitting a Class III permit modification to delist the units from its HSWA permit.

18. SWMU 85 - STP Playa Lake

Surface water sampling results show lead levels above regulatory standards. The source appears to be the STP pipeline outfall. A CMS should be performed to evaluate if remediation is required. The CMS should include an Ecological and human health risk assessment to assist in determining clean up standards.

Institutional controls should be developed to prevent the introduction of hazardous constituents into the STP and consequent discharge into the playa lake.

19. SWMU 89 - Hazardous Waste Storage Facility (HWSF) Former Evaporation Tank

    The USGS wells were were not properly installed and developed. The analytical data and conclusions derived from sampling the well are invalid. WSMR should submit plans to resample ground water per the RCRA Ground Water Monitoring Technical Guidance Document. Once the extent of ground water contamination is determined WSMR can proceed with a CMS to evaluate removal of contaminated media.

20. SWMU 94 - Evaporation/Neutralization Pit at Liquid Propellant Storage Area (LPSA)

    Contaminant concentrations in ground water are based on total unfiltered levels. Consequently the ground water sample taken documents a release at the SWMU. Once the extent of ground water contamination is determined WSMR can proceed with a CMS to evaluate remedial actions.

21. SWMU 132 - Waste Stabilization Pond near Orogrande Range Dump

    This SWMU is scheduled to be investigated via the RFI/CMS process per Fort Bliss' HSWA permit.

22. SWMU 140 - LC-37 Paint Dump

    The unit will be required to go through the CMS phase to evaluate plans for removal actions at this unit.

23. SWMU 143 - Chromium Spill Site

    The four chromium contaminated monitoring wells may be hydraulically connected with the underlying regional aquifer as suggested from analytical data from two nearby regional ground water monitoring wells. A CMS should be initiated to remove the chromium from the shallow impacted water zone.

    A CMS should not be initiated to remove the newly detected organic constituents until the source of the release has been documented. However WSMR should implement interim actions to abate the release until the source is delineated.

    The second paragraph on page 6.24.8 references seven monitoring wells screened in perched water bearing zones which overlay the regional aquifer. The paragraph actual list ten monitoring wells (HMW-10, 11, 36-41, 41, 43 and 47).

24. SWMU 144 - Laser System Test Center (LSTC) Wastewater Discharge Point

Surface water sampling of the current discharge area detected trichlorethene above regulatory levels. VOC's, cadmium, lead, dissolved and hexavalent chromium exceeded regulatory levels in ground water. The upper perched ground water interval is not isolated from the underlying regional aquifer. A CMS will be required to remove contaminated ground water. Procedures should be implemented to prevent hazardous constituents from releasing into the LSTC discharge point. Confirmatory sampling will be required prior to submitting a Class III permit modification to delist the unit for no further action.

25. SWMU 145 - Test Cell 4 Lagoon

VOCs, dissolved lead and flouride were detected above regulatory levels. The conduit appears to be a breach in the lagoons' liner. Has the integrity of the liner been confirmed? A CMS will be required to evaluate cleaning up the contaminated ground water.

Are the hazardous constituents detected related to treated sewage and industrial wastewater? If so has the state of New Mexico been contacted to determine technical and regulatory requirements for lined lagoons receiving hazardous wastewater? Controls should be implemented to prevent the discharge of hazardous constituents into the unit and to protect human health and the environment.

Page 6.26-5, Section 6.26.5, Conclusions and Recommendations, Item 2: The text does not continue on the following page(s).

26. SWMU 146 - Dry Pond

Lead, silver, selenium were detected in soils at levels which exceeded regulatory standards. VOC's were detected in ground water exceeding regulatory limits. A CMS will be required to evaluate remedial options to clean up contaminated soils and ground water.

Procedures to prevent hazardous constituents from entering the sewer system and discharging into the dry pond and consequently recharging the ground water regime should be implemented. Once the procedures are in place the observed and potential for future releases should be monitored via the HELSTF Water Quality Program.
A monitoring schedule should be submitted along with recommended reporting requirements.

27. SWMU 147 - Decontamination Pad Underground Waste Tank

Is this unit still active? Documentation should be provided to validate the referenced tank was an above ground storage tank. Is the tank empty? Confirmation will be required to confirm the integrity of the sump. Sampling should be performed to determine any impacts to the local or regional ground water regime.

VOC's with concentrations exceeding regulatory limits were detected in the sump surface water and sediment. Also the sediments in the sump show TPH, chromium and lead exceeding federal land disposal standards.

A CMS will be required to determine appropriate remedial actions to remove and dispose of the liquid, sludge and sediment as hazardous waste.

28. SWMU 148 - MAR Waste Stabilization Pond

The unit should go through surface impoundment or landfill closure procedures. Clean closure validation should be submitted prior to requesting delisting from the CMS phase. Post closure ground water monitoring will be required if the unit cannot be clean closed.

29. SWMU 150 - MAR Dump

What is the status of this SWMU? It is not listed in the Phase II Report. It was identified in the Phase I Report for Phase II delineation.

30. SWMU 156 - Building T-1348 (Pesticide Shed @ WSMR Golf Course)

Soil sampling results show chromium and lead above regulatory levels. Consequently a CMS should be submitted to evaluate removal criteria including confirmatory sampling.

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1995

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

CERTIFIED MAIL: RETURN RECEIPT REQUESTED

Public Affairs Office
U. S. Army White Sands Missile Range
White Sands Missile Range, N. M. 88002-5048

RE: U.S. Army White Sands Missile Range
White Sands Missile Range, New Mexico
EPA I.D. No. NM2750211235

Dear Sir/Madam:

Enclosed is a copy of the Statement of Basis/Final Decision and Response to Comments Summary for the U. S. Army White Sands Missile Range. Please make the enclosed document available to the public for thirty days from receipt of this notice.

Thank you for your assistance in this matter. If anyone has any questions regarding the notice, please have them call me at 214/665-8302.

Sincerely,

James A. Harris, Jr.

James A. Harris, Jr.
RCRA Facility Manager/Geologist
New Mexico and Federal
Facilities Section (6PD-N)

Enclosures

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RCRA Facility Manager/Geologist
New México and Federal
Facilities Section (6PD-N)

Enclosures

Per James Harris, Region VI EPA 7/7/97
class III Mod was finalized 12/31/95 NMED
gained authority 1/1/96

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STATEMENT OF BASIS - FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

U. S. ARMY WHITE SANDS MISSILE RANGE NEW MEXICO

EPA ANNOUNCES STATEMENT OF BASIS/FINAL DETERMINATION AND RESPONSE TO COMMENTS SUMMARY

In this Statement of Basis, the U.S. Environmental Protection Agency (EPA) has made a final determination to approve the White Sands Missile Range (WSMR) Class III permit modification request to remove twenty-four (24) solid waste management units (SWMUs) from its Corrective Action permit (EPA Identification Number NM2750211235).

Facility Type: WSMR is a storage facility. It accumulates quantities of waste necessary to facilitate proper recovery, treatment, or disposal.

Contaminants: The facility operations generated spent solvents, paint strippers, waste paints, waste oils, waste hydraulic fluids, and waste fuel at concentrations below regulatory levels.

Media: The primary media impacted by a release from the SWMUs are soils.

Remedy: EPA has determined no further action is required at the listed SWMUs.

A. FACILITY DESCRIPTION

WSMR is located in the Tularosa Basin of south central New Mexico, about thirty (30) miles east of Las Cruces, New Mexico. The range covers an area of approximately 3200 square miles. WSMR is a government owned facility under the command of the U.S. Army Testing and Evaluation Command. WSMR was established in July 1945 as the White Sands Proving Ground. The property is used to test rocket, missile, and laser weapon systems. Wastes generated at the facility are mainly related to missile testing operation and associated support facilities, fire training, refueling facilities, equipment maintenance, and vehicle maintenance. Prior to the mid 1980's, hazardous wastes generated at the facility might have been disposed on-site in some of the SWMUs identified. Since then, hazardous wastes have been disposed off-site through the Defense Reutilization and Marketing Office.

B. HISTORY OF INVESTIGATION

WSMR was issued a Corrective Action Permit on October 24, 1989. As a result of the RCRA Facility Assessment and a Class I permit modification (1994) to add one additional SWMU to the permit 139 SWMUs and 26 AOCs were identified. Ninety-two (92) were included in the HSWA permit issued and required to go through the RCRA Facility Investigation process. These 93 SWMUs were divided into four (4) groups, Appendix I - 18 SWMUs, Appendix II - 18 SWMUs, Appendix III - 40 SWMUs, and Appendix IV - 17 SWMUs.

Under the corrective action process WSMR is required to determine the type, concentration and extent of hazardous waste released into the environment at all SWMU sites. Once the delineation is complete WSMR must recommend corrective action options to remove hazardous waste from the affected media. Corrective action options must be approved by EPA. The Phase I RFI investigation for Appendix I SWMUs was completed, the final report submitted to EPA for review, and approved in April 1992. The Phase I RFI final report field investigation for Appendices II, III, and IV SWMUs was approved in September 1993.

C. INVESTIGATION RESULTS

At the completion of Phase I of the RCRA Facility Investigation WSMR submitted a Class III Permit Modification listing thirty-eight (38) SWMUs to be removed from the corrective action process based on field and analytical results which indicate little or no contamination exist at these sites. EPA reviewed the RFI report and the Class III Permit Modification and has determined that twenty-four (24) of the thirty-eight (38) SWMUs require no further investigation and can be delisted or removed from WSMRs corrective action permit. The list of SWMUs identified for delisting from WSMRs corrective action permit is attached. The remaining SWMUs will be included in the Phase II investigation of the RFI process.

A copy of the permit, the Class III permit modification request, EPA's final determination/statement of basis, analytical data supporting EPAs final decision and supporting documents may be reviewed at:

Alamogordo Public Library
10th and Oregon Avenue
Alamogordo, NM Learning Resources Center

El Paso Community College
Transmountain Campus
9570 Gateway North
El Paso, TX

Branigan Memorial Library, Suite 200 E
Picacho, Las Crusas, NM

Public Affairs Office
White Sands Missile Range, NM

D. STABILIZATION MEASURES IMPLEMENTED

No stabilization measures are necessary.

E. EXPOSURE PATHWAYS

The only media for potential impacts to the environment is soil.

F. ENVIRONMENTAL JUSTICE INDEX

The minority population within 50 square miles of study area is less than one percent

New Mexico has a minority population that is 49 percent of the total population of the State.

Within 50 square miles of study area there are less than one percent minority econmocally stressed housholds (Note: Economically stressed is defined as households making less than $15,000 a year):

G. SELECTED REMEDY

EPA's determination for no further action is based on analytical and fieldwork results which show no or insignificant release(s) of hazardous waste into the environment. In addition EPA performed risk screening on SWMUs which had insignificant release(s) of hazardous waste into the environment.

Table I lists the highest concentrations of constituents detected at any SWMU during the investigation. The levels are compared against State and Federal concentration levels. Table I also lists residential risk based concentrations and proposed Federal action levels which the hazardous constituent concentrations are screened. Results indicate the releases have no impact on human health and the environment.

H. INNOVATIVE TECHNOLOGIES CONSIDERED

No innovative technologies are required under this determination.

I. PUBLIC PARTICIPATION

Public hearings were held by WSMR at three locations. The first hearing was held on March 22, 1994, in Conference Room D, Alamogordo Civic Center, 800 East 1st Street, Alamogordo, NM. Six people attended the meeting including local citizens, representatives from the WSMR and the Alamogordo Daily news.

Five questions were asked concerning the history of the paint dump site, cleanup criteria and disposal of ordinance. WSMR responded by saying abandoned sealed paint cans were found in a dump site. The cans were removed and the underlying soils were tested for hazardous waste. Analytical results from confirmation sampling showed no hazardous materials in the soils. WSMR representatives said specific bombing areas are designated for warhead impacts and any unexploded or exploded ordinance are recovered. The area was made pristine for further ordinance testing.

The second hearing was held March 23, 1994, in the National Guard Armory, 9100 Gateway North, El Paso, TX. No one attended the meeting.

The third hearing was held March 24, 1994, in the Curry Room, Corbett Center, New Mexico State University, Las Cruces, NM. Seven people attended including two representatives from WSMR.

Five questions were asked concerning what does the taxpayer gain by having this hearing and by removing the twenty-four (24) sites. In addition questions were asked about further investigations at WSMR, and how to expedite removing sites that pose no threat to the public. WSMR responded that by removing sites which pose no threat to the public, funding can be redirected to more practical useful purposes.

WSMR also said since it is regulated by a RCRA/HSWA, permit it is required to continuously monitor the facility for known and potential threats to human health and the environment. In addition, WSMR indicated that by good communication and providing adequate evidence to the regulatory community, the process of requesting and receiving approval to remove sites which pose no threat to human health and the environment can be streamlined.

I. NEXT STEPS

In addition to advertising the final decision EPA will notify the applicant and each person on the public comment mailing list of the final decision. The final decision will become effective thirty (30) days after service of notice of the decision unless a later date is specified or review is requested under regulation 40 CFR 124.19. If no comments are received to request a change in the final determination, the decision to approve the application will become effective immediately upon issuance.

CONTACT:

James A. Harris, Jr.
U.S. EPA, Region 6
New Mexico and
Federal Facilities Section (6PD-N)
1445 Ross Avenue
Dallas, TX 75202
(214) 665-8302

Discussion of SWMU's Requiring No Further Investigation Under the Class III Permit Modification Process.

APPENDIX I SWMU's:

SWMU # 18, Waste Accumulation Area: The unit is currently active. It is used to accumulate discarded rags and cans of petroleum, oils and lubricants (POLs) on an asphalt pavement underlain by a gravel base. No contamination was detected above regulatory or proposed action levels. Sample concentrations were screened against and exceeded residential risk concentration levels for total petroleum hydrocarbons (TPH). The samples are taken from a degraded asphalt drainage ditch. Typically TPH is a constituent of asphalt and POLs. Since no regulatory or proposed action levels were exceeded no further action is necessary under the corrective action process. WSMR has volunteered to work with the New Mexico Environment Department to determine if any improvements to the drainage ditch is required.

SWMU # 62, Former Sewer Treatment Plant: The unit is a buried Imhoff tank that may have contained toxic heavy metals, petroleum hydrocarbons and solvents. Operations at the tank were terminated in 1958. No contamination was detected via test borings and field geophysics tentatively identified the tank, no further investigation will be required. However WSMR should consult with the New Mexico Environment Department (NMED) RCRA program for removal of the tank.

SWMU # 79, STP Sludge Beds: The unit is currently active, and consist of a series of 11 parallel parallel beds used for drying sewage treatment plant sludge. The sludges are non-hazardous and should be disposed of at a non-hazardous waste facility.

APPENDIX II SWMU's:

SWMU #'s 33/34 HELSTF Flurspar Tanks: These tanks are drying beds for fluorspar sludge which is transported to the tanks from the Laser System Pressure Recovery System via a 4 inch poly-vinyl-chloride line. Periodically the dried fluorspar is removed for off-site disposal. The sludges are non-hazardous and should be disposed of at a non-hazardous waste facility.

SWMU # 61, Tula Peak Unexploded Ordinance Incinerator: The unit is inactive and contains partially melted cluster bomb units and military ordinance. Soil sampling results detected no waste source or release. No further action under the corrective action process is required. WSMR has volunteered to close the site under NMEDs Solid Waste program.

APPENDIX III SWMU's

SWMU # 90 Hazardous Waste Storage Evaporation Tank: The tank was used to to evaporate liquid waste from photograpic laboratory processes. The remaining sludge was removed, drummed, and disposed of in a hazardous waste landfill. The unit is undergoing closure through the NMED RCRA program. Consequently no further action under the corrective action process is required for this unit.

SWMU # 92A, 93, 95 - 100, Liquid Propellent Storage Area Pits (Evaporation - Neutralization Pits): These units are unlined and were designed to collect spilled material from respective storage areas via a drain and pipe. No hazardous constituents were detected above regulatory standards. Consequently no further action is required. WSMR has volunteered to upgrade the pits to prevent future discharges to the surface/subsurface and subsequent releases to ground water media.

SWMU #'s 121-123 Stallion Range Center Subgrade Tanks: The units are inactive subgrade steel tanks. No hazardous constituents were detected and the tanks are empty. The units are no longer required to follow the corrective action process. WSMR has volunteered to coordinate the removal of the tanks with NMED's RCRA program.

SWMU # 137, Paint Shop Sump: The unit is used as a drain or receptacle for wastewater discharging from the paint shop spray booth. The sump is intact. No releases were detected outside of the sump. Sludges and surface water from the sump exceed regulatory limits and should be disposed of as a hazardous waste.

APPENDIX IV SWMU's

SWMU #141 HELSTF Equipment Storage Area: The unit is utilized for storage of various materials for the High Energy Laser System Test Facility operation. No releases above regulatory levels were detected. No further action is required at this unit.

SWMU # 149, Maintenance Bldg Septic System (HELSTF); SWMU # 151, Trailer Area Septic System (HELSTF); SWMU # 152, Property and Supply Septic System (HELSTF): All the septic systems are active. Sampling results detected selenium levels exceeding MCL limits and State ground water protection standards. The RFI reference data indicate high concentrations of selenium are naturally occurring in the ground water regime at WSMR. EPA's determination is no further action is necessary.

SWMU # 153, Vandal Burial Site: The unit is an open field with partially buried and excavated missile and rocket parts and shell casings. No hazardous constituents were detected. Trace Bis(2-ethylhexyl)phthalate (commonly associated with poly vinyl chloride monitor well casing and plastics) below the Subpart S action level was detected. WSMR has volunteered to clear the site of any potential hazards posed by exposed and buried debris. No further investigation under the corrective action process will be required.

TABLE I
HAZARDOUS CONSTITUENT CONCENTRATION COMPARISIONS

Constituent	Highest Concentration (mg/kg)	New Mexico Land Disposal Standard	Federal Land Disposal Standard (mg/l)	Proposed Subpart S Action Level (mg/kg)	Residential Risk Based Concentrations, Soil Ingestion Level (mg/kg)[1]
Arsenic	22	D	5	80	23
Barium	1600	D	100	4000	5500
Lead	35	D	5	NA	400
Mercury	0.13	D	0.2	20	23
Cadmium	1.0	D	1	40	39
Chromium	63	D	5	NA	390
Beta-BHC (HCH (Beta)	0.0059	NA	*	4	.35
4,4'-DDE	.022	NA	*	2	1.9
4,4'DDT	.06	NA	*	2	2.7
Total Cyanide	1.8	D	590	2000	390
Methylene Chloride	0.023	NA	*	90	85
Silver	48	D	5	200	390
Total Petroleum Hydrocarbons: Benzo(a)pyrene	52	1000	NA	NA	.088

1 = From the EPA Region III Risk-Based Concentration Table, January - June 1995

D = Defer to Federal Standards

* = Land disposal of solid wastes with total halogenated organic compounds greater than or equal to 1,000 mg/kg is restricted per 40CFR, 268.32(e)(2)

TABLE 2-2
SOIL ANALYTICAL RESULTS
SWMU 18 (Page 1 of 5)
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX I SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[1]	UNITS OF MEASURE	SAMPLE ID*: / SAMPLE TYPE: / SAMPLE DEPTH: / SAMPLE DATE:	18SB-1 @ 2 / Soil / 2 feet / 03/27/91	18SB-1 @ 5 / Soil / 5 feet / 03/27/91	18SB-1 @ 10 / Soil / 10 feet / 03/27/91	18SB-1 @ 15 / Soil / 15 feet / 03/27/91	18SB-1B @ 15 / Soil / 15 feet / 03/27/91
INORGANICS		**TC LEVEL[2]**					
Arsenic	mg/kg	100	1.2	ND	ND	0.72	ND
Barium	mg/kg	2000	46	54	35	34	34
Chromium	mg/kg	100	8.6	4.8	4.8	7.3	7.1
Lead	mg/kg	100	5.1	3.2	3.8	8.1	4.4
MISCELLANEOUS							
Total Petroleum Hydrocarbons	mg/kg	NA	52	15	ND	ND	ND

TABLE 2-2
SOIL ANALYTICAL RESULTS
SWMU 18 (Page 2 of 5)
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX I SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[1]	UNITS OF MEASURE	SAMPLE ID*: / SAMPLE TYPE: / SAMPLE DEPTH: / SAMPLE DATE:	18SB-1 @ 20 / Soil / 20 feet / 03/27/91	18SB-2 @ 2 / Soil / 2 feet / 03/27/91	18SB-2B @ 2 / Soil / 2 feet / 03/27/91	18SB-2 @ 5 / Soil / 5 feet / 03/27/91	18SB-2 @ 10 / Soil / 10 feet / 03/27/91
PESTICIDES AND PCB's		**TC LEVEL[2]**					
4, 4'-DDE	mg/kg	NA	ND	0.012	0.012	ND	ND
4, 4'-DDT	mg/kg	NA	ND	0.06	0.06	0.013	ND
INORGANICS							
Silver	mg/kg	100	ND	ND	1.5	ND	ND
Arsenic	mg/kg	100	ND	0.90	1.1	0.53	0.61
Barium	mg/kg	2000	20	48	45	33	65
Chromium	mg/kg	100	3.2	9.6	7.6	4.9	6.1
Lead	mg/kg	100	3.5	5.4	5.2	4.2	5.2
MISCELLANEOUS							
Total Petroleum Hydrocarbons	mg/kg	NA	ND	25	16	ND	ND

TABLE 2-2
SOIL ANALYTICAL RESULTS
SWMU 18 (Page 3 of 5)
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX I SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[1]	UNITS OF MEASURE	SAMPLE ID*: / SAMPLE TYPE: / SAMPLE DEPTH: / SAMPLE DATE:	18SB-2 @ 15 / Soil / 15 feet / 03/27/91	18SB-2 @ 20 / Soil / 20 feet / 03/27/91	18SB-3 @ 2 / Soil / 2 feet / 03/27/91	18SB-3 @ 5 / Soil / 5 feet / 03/27/91	18SB-3 @ 10 / Soil / 10 feet / 03/27/91
INORGANICS		**TC LEVEL[2]**					
Silver	mg/kg	100	ND	ND	1.1	1.3	ND
Arsenic	mg/kg	100	ND	ND	0.92	ND	0.57
Barium	mg/kg	2000	57	29	69	16	82
Chromium	mg/kg	100	5.6	4.7	9.1	2.7	7.0
Lead	mg/kg	100	4.6	3.1	6.4	4.5	6.2
MISCELLANEOUS							
Total Petroleum Hydrocarbons	mg/kg	NA	ND	25	ND	15	24

TABLE 2-2
SOIL ANALYTICAL RESULTS
SWMU 18 (Page 4 of 5)
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX I SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[1]	UNITS OF MEASURE	SAMPLE ID*: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	18SB-3 @ 15 Soil 15 feet 03/27/91	18SB-3 @ 20 Soil 20 feet 03/27/91	18SB-4 @ 2 Soil 2 feet 03/27/91	18SB-4 @ 5 Soil 5 feet 03/27/91	18SB-4 @ 10 Soil 10 feet 03/27/91
INORGANICS		**TC LEVEL[2]**					
Silver	mg/kg	100	ND	ND	ND	ND	17
Arsenic	mg/kg	100	0.51	ND	1.1	ND	ND
Barium	mg/kg	2000	24	36	110	19	22
Chromium	mg/kg	100	6.2	5.3	8.5	3.3	3.3
Lead	mg/kg	100	5.3	5.0	7.0	4.4	4.8
MISCELLANEOUS							
Total Petroleum Hydrocarbons	mg/kg	NA	15	21	ND	ND	ND

TABLE 2-2
SOIL ANALYTICAL RESULTS
SWMU 18 (Page 5 of 5)
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX I SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[1]	UNITS OF MEASURE	SAMPLE ID*: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	18SB-4 @ 15 Soil 15 feet 03/27/91	18SB-4 @ 20 Soil 20 feet 03/27/91	18BG-01 Soil 5 feet 04/15/91
INORGANICS		**TC LEVEL[2]**			
Silver	mg/kg	100	7.6	ND	ND
Arsenic	mg/kg	100	0.59	ND	0.81
Barium	mg/kg	2000	44	23	35
Chromium	mg/kg	100	4.3	4.7	4.8
Lead	mg/kg	100	5.4	3.9	3.4
MISCELLANEOUS					
Total Petroleum Hydrocarbons	mg/kg	NA	ND	ND	14

NOTES:
* = Sample identification nomenclature is described in 3.1.1 of Volume 1 of the RFI Report.
[1] Only samples with constituent concentrations above the detection limit are noted; concentrations exceeding TC levels are in bold type.
[2] From Toxicity Characteristic--Final Rule; values are in mg/L; values for inorganics are twenty times the TC leachate level -- see text for explanation.
ND = Non-detect. Detection limit values are noted in laboratory reports, Appendix G.
NA = Not applicable.

TABLE 2-8
SOIL ANALYTICAL RESULTS
SWMU 62 (Page 1 of 3)
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX I SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[1]	UNITS OF MEASURE	SAMPLE ID*: / SAMPLE TYPE: / SAMPLE DEPTH: / SAMPLE DATE:	62SB-1 @ 25 / Soil / 25 feet / 03/30/91	62SB-1B @ 25 / Soil / 25 feet / 03/30/91	62SB-1 @ 30 / Soil / 30 feet / 03/30/91	62SB-1B @ 30 / Soil / 30 feet / 03/30/91	62SB-1 @ 35 / Soil / 35 feet / 03/30/91
INORGANICS		**TC LEVEL[2]**					
Barium	mg/kg	2000	13	16	15	30	25
Chromium	mg/kg	100	3.2	3.6	2.8	6.0	7.6
Lead	mg/kg	100	4.2	24	8.1	8.1	8.0

TABLE 2-8
SOIL ANALYTICAL RESULTS
SWMU 62 (Page 2 of 3)
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX I SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[1]	UNITS OF MEASURE	SAMPLE ID*: / SAMPLE TYPE: / SAMPLE DEPTH: / SAMPLE DATE:	62SB-2 @ 30 / Soil / 30 feet / 03/30/91	62SB-2 @ 35 / Soil / 35 feet / 03/30/91	62SB-3 @ 25 / Soil / 25 feet / 03/30/91	62SB-3 @ 30 / Soil / 30 feet / 03/30/91	62SB-3 @ 35 / Soil / 35 feet / 03/30/91
INORGANICS		**TC LEVEL[2]**					
Arsenic	mg/kg	100	0.48	0.56	ND	0.72	0.63
Barium	mg/kg	2000	24	34	22	42	41
Chromium	mg/kg	100	4.7	8.3	2.9	5.8	8.7
Lead	mg/kg	100	5.3	6.1	4.2	8.0	11

TABLE 2-8
SOIL ANALYTICAL RESULTS
SWMU 62 (Page 3 of 3)
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX I SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[1]	UNITS OF MEASURE	SAMPLE ID*: / SAMPLE TYPE: / SAMPLE DEPTH: / SAMPLE DATE:	62SB-4 @ 25 / Soil / 25 feet / 03/30/91	62SB-4 @ 30 / Soil / 30 feet / 03/30/91	62SB-4 @ 35 / Soil / 35 feet / 03/30/91	62BKG @ 30 / Soil / 30 feet / 03/28/91
INORGANICS		**TC LEVEL[2]**				
Arsenic	mg/kg	100	ND	0.51	ND	ND
Barium	mg/kg	2000	12	20	53	21
Chromium	mg/kg	100	4.3	4.9	8.6	3.4
Lead	mg/kg	100	4.1	7.5	6.1	4.4

NOTES:
* = Sample identification nomenclature is described in 3.1.1 of Volume 1 of the RFI Report.
(1) Only samples with constituent concentrations above the detection limit are noted; concentrations exceeding TC levels are in bold type.
(2) From Toxicity Characteristic--Final Rule; values are in mg/L; values for inorganics are twenty times the TC leachate level -- see text for explanation.
ND = Non-detect. Detection limit values are noted in laboratory reports, Appendix G.
NA = Not applicable.

TABLE 2-5
SOIL ANALYTICAL RESULTS
SWMUs 33-34 (Page 1 of 4)
FLUORSPAR TANKS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II & III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	33/34BGSO01	33/34BGSO02	33/34BGSSD	33/34B1SSO	33/34B1SO01
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	1 foot	2 feet	Surface	Surface	1 feet
		SAMPLE DATE:	04/4/92	04/4/92	04/4/92	04/7/92	04/7/92
pH	None		8.0	8.0	8.0	8.0	7.8
Fluoride	mg/kg		0.60	1.1	0.83	0.98	0.49

TABLE 2-5
SOIL ANALYTICAL RESULTS
SWMUs 33-34 (Page 2 of 4)
FLUORSPAR TANKS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II & III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	33/34B1SO02	33/34B1SO02B	33/34B2SSO	33/34B2SO01
		SAMPLE TYPE:	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	2 feet	2 feet	Surface	1 feet
		SAMPLE DATE:	04/7/92	04/7/92	04/7/92	04/7/92
pH	None		7.9	8.0	7.9	8.1
Fluoride	mg/kg		0.35	0.37	0.65	0.51

TABLE 2-5
SOIL ANALYTICAL RESULTS
SWMUs 33-34 (Page 3 of 4)
FLUORSPAR TANKS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II & III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	33/34B2SO01B	33/34B2SO02	33/34B3SSO	33/34B3SO01
		SAMPLE TYPE:	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	1 foot	2 feet	Surface	1 feet
		SAMPLE DATE:	04/7/92	04/7/92	04/7/92	04/7/92
pH	None		8.0	8.0	8.0	7.9
Fluoride	mg/kg		0.54	0.50	0.74	0.49

TABLE 2-5
SOIL ANALYTICAL RESULTS
SWMUs 33-34 (Page 4 of 4)
FLUORSPAR TANKS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II & III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	33/34B3SO02	33/34B4SSO	33/34B4SO0	33/34B4SO02
		SAMPLE TYPE:	Soil	Soil	1	Soil
		SAMPLE DEPTH:	2 feet	Surface	Soil	2 feet
		SAMPLE DATE:	04/7/92	04/7/92	1 foot 04/7/92	04/7/92
pH	None		7.8	8.1	7.8	7.5
Fluoride	mg/kg		0.46	0.65	0.48	0.36

NOTES:
[1] Sample identification nomenclature is described in Section 3.1.1 of this report.
[2] Only samples with constituent concentrations above the detection limit are noted.

TABLE 2-6
GROUNDWATER ANALYTICAL RESULTS
SWMUs 33-34 (Page 1 of 1)
FLUORSPAR TANKS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II & III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

		SAMPLE ID[1]:	HMW-19GW
		UPGRADIENT/DOWNGRADIENT:	DG
	UNITS OF	SAMPLE TYPE:	Water
CONSTITUENT[2]	MEASURE	SAMPLE DATE:	05/30/92
INORGANICS			
Fluoride	mg/L		2.3

NOTES:
[1] Sample identification nomenclature is described in Section 3.1.1 of this report.
[2] Only samples with constituent concentrations above the detection limit are noted.

TABLE 2-15
SOIL AND SLUDGE ANALYTICAL RESULTS
SWMU 79 (Page 1 of 2)
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX I SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[1]	UNITS OF MEASURE	SAMPLE ID*: / SAMPLE TYPE: / SAMPLE DEPTH: / SAMPLE DATE:	79/80BKG11 Soil 1 foot 03/12/91	79B11 Soil 1 foot 03/12/91	79B12 Soil 2 feet 03/12/91	79B21 Soil 1 foot 03/12/91	79B22 Soil 2 feet 03/12/91	79B31 Soil 1 foot 03/12/91	79B32 Soil 2 feet 03/12/91
INORGANICS		**TC LEVEL[2]**							
Silver	mg/kg	100	26	ND	ND	ND	ND	ND	ND
Arsenic	mg/kg	100	0.85	ND	0.71	0.64	0.88	ND	1.0
Barium	mg/kg	2000	59	49	53	43	58	59	54
Chromium	mg/kg	100	63	6.2	7.0	7.4	9.8	7.4	8.5
Mercury	mg/kg	4	0.13	ND	ND	ND	ND	ND	ND
Lead	mg/kg	100	10	7.0	7.4	7.1	7.6	7.1	7.1
Total cyanide	mg/kg	NA	1.8	ND	ND	ND	ND	ND	ND

TABLE 2-15
SOIL AND SLUDGE ANALYTICAL RESULTS
SWMU 79 (Page 2 of 2)
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX I SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[1]	UNITS OF MEASURE	SAMPLE ID*: / SAMPLE TYPE: / SAMPLE DEPTH: / SAMPLE DATE:	79B41 Soil 1 foot 03/12/91	79B42 Soil 2 feet 03/12/91	79C11 Sludge Surface 03/12/91	79CTR1 Sludge Surface 03/12/91	79C1 Sludge Surface 03/12/91	79C2 Sludge Surface 03/12/91	79C3 Sludge Surface 03/12/91
EXTRACTABLES		**TC LEVEL[2]**							
Phenanthrene	mg/kg	NA	ND	ND	ND	ND	ND	1.1	ND
Pyrene	mg/kg	NA	ND	ND	ND	ND	ND	1.1	ND
Bis(2-Ethylhexyl)phthalate	mg/kg	NA	ND	ND	4.7	20	43	66	52
Di-n-octylphthalate	mg/kg	NA	ND	ND	ND	ND	ND	2.1	ND
INORGANICS									
Silver	mg/kg	100	ND	ND	68	93	88	76	74
Arsenic	mg/kg	100	0.92	0.99	ND	3.3	2.6	1.8	0.5
Barium	mg/kg	2000	55	50	160	610	740	860	610
Cadmium	mg/kg	20	ND	ND	2.1	15	16	13	9.4
Chromium	mg/kg	100	9.1	7.2	**110**	**460**	**430**	**530**	**320**
Mercury	mg/kg	4	ND	ND	3.1	**10**	**6.7**	**5.6**	**5.2**
Lead	mg/kg	100	6.9	9.0	60	**250**	**270**	**250**	**200**
Selenium	mg/kg	20	ND	ND	1.1	6.2	5.9	13	6.2
Total cyanide	mg/kg	NA	ND	ND	9.0	19	13	16	22

NOTES:
* = Sample identification nomenclature is described in 3.1.1 of Volume 1 of the RFI Report.
(1) Only samples with constituent concentrations above the detection limit are noted; concentrations exceeding TC levels are in bold type.
(2) From Toxicity Characteristic--Final Rule; values are in mg/L; values for inorganics are twenty times the TC leachate level -- see text for explanation.
ND = Non-detect. Detection limit values are noted in laboratory reports, Appendix G.
NA = Not applicable.

TABLE 2-11
SOIL AND SLUDGE ANALYTICAL RESULTS
SWMU 90 (Page 1 of 3)
HWSF EVAPORATION TANK
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II & III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	90B1SO05 Soil 5 feet 05/19/92	90B1SO10 Soil 10 feet 05/19/92	90B1SO15 Soil 15 feet 05/19/92	90B1SO20 Soil 20 feet 05/19/92
INORGANICS						
Barium	mg/kg		39	150	ND	ND
Lead	mg/kg		ND	5.7	5.3	6.1

TABLE 2-11
SOIL AND SLUDGE ANALYTICAL RESULTS
SWMU 90 (Page 2 of 3)
HWSF EVAPORATION TANK
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II & III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	90SL1 Sludge Surface 04/20/92	90SL2 Sludge Surface 4/20/92	90SL3 Sludge Surface 04/20/92	90SL4 Sludge Surface 04/20/92	90SL5 Sludge Surface 04/20/92	90SL6 Sludge Surface 04/20/92
INORGANICS								
Barium	mg/kg		38	ND	38	51	40	32
Lead	mg/kg		9.2	ND	7.3	9.2	9.0	7.3
Silver	mg/kg		12	5.3	9.6	8.5	18	14
Total Cyanide	mg/kg		30	5.6	8.6	39	59	37
Sulfide	mg/kg		12	8.0	ND	8.0	24	12
TCLP INORGANICS								
Silver	mg/L		0.14	ND	0.13	0.11	0.24	0.33
PESTICIDES/PCBs								
PCB-1260	mg/kg		0.060	ND	0.062	0.063	0.16	0.11
MISCELLANEOUS								
pH	NA		7.5	8.1	7.1	8.0	7.9	7.8

TABLE 2-11
SOIL AND SLUDGE ANALYTICAL RESULTS
SWMU 90 (Page 3 of 3)
HWSF EVAPORATION TANK
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II & III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	90SL6B Sludge Surface 04/20/92	90SL7 Sludge Surface 04/20/92	90SL8 Sludge Surface 04/20/92	90SL9 Sludge Surface 04/20/92	90SL10 Sludge Surface 04/20/92
INORGANICS							
Barium	mg/kg		ND	62	49	37	48
Lead	mg/kg		ND	19	12	10	7.4
Silver	mg/kg		25	7.4	6.7	14	7.7
Total Cyanide	mg/kg		39	34	94	36	22
Sulfide	mg/kg		12	8.0	8.0	12	8.0
TCLP INORGANICS							
Silver	mg/L		0.42	0.11	0.12	0.34	0.17
PESTICIDES/PCBs							
PCB-1260	mg/kg		0.088	0.10	0.086	0.076	0.056
MISCELLANEOUS							
pH	NA		7.5	8.0	8.1	7.8	7.8

NOTES:
(1) Sample identification nomenclature is described in Section 3.1.1 of this report.
(2) Only samples with constituent concentrations above the detection limit are noted.
ND = Non-detect. Detection limit values are noted in laboratory reports, Appendix G.
NA = Not applicable.

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 1 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	92-100BKGSO05 Soil 5 feet 03/10/92	92-100BKGSO15 Soil 15 feet 03/10/92	92-100BKGSO25 Soil 25 feet 03/10/92	92-100TB7 Trip blank Water 02/03/92
VOLATILES						
Acetone[3]	mg/kg		1.2	2.0	0.15	ND
Methylene chloride[4]	mg/L		ND	ND	ND	0.012
INORGANICS						
Barium	mg/kg		72	120	730	NT
Lead	mg/kg		12	ND	11	NT
MISCELLANEOUS						
pH	NA		7.8	7.9	7.9	NT

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 2 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	92ASSORS	92ASO02	92ASO05	92ASO10	92ASO15	92ASO20	92ASO25
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	Surface	2 feet	5 feet	10 feet	15 feet	20 feet	25 feet
		SAMPLE DATE:	03/17/92	03/09/92	03/09/92	03/09/92	03/09/92	03/09/92	03/09/92
VOLATILES									
Acetone[3]	mg/kg		0.16	ND	9.2	ND	0.12	0.67	ND
INORGANICS									
Arsenic	mg/kg		ND	ND	ND	12	ND	ND	ND
Barium	mg/kg		25	100	160	77	62	140	37
Cadmium	mg/kg		ND	ND	ND	ND	ND	0.65	ND
Lead	mg/kg		11	9.7	9.6	7.7	12	15	5.4
MISCELLANEOUS									
pH	NA		8.0	8.3	8.4	8.2	7.8	7.7	8.6

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 3 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	92AS030	92BSSORS	92BSO02	92BSO02B	92BSO05	92BSO10	92BSO15
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	30 feet	Surface	2 feet	2 feet	5 feet	10 feet	15 feet
		SAMPLE DATE:	03/09/92	03/17/92	03/04/92	03/04/92	03/04/92	03/04/92	03/04/92
VOLATILES									
Acetone[3]	mg/kg		0.19	0.24	0.48	0.35	ND	ND	0.11
Methylene chloride[4]	mg/kg		ND	0.023	ND	ND	ND	ND	ND
EXTRACTABLES									
Bis(2-ethylhexyl)phthalate	mg/kg		ND	ND	0.94	0.82	0.38	0.52	ND
Di-n-butylphthalate	mg/kg		ND	0.56	ND	ND	ND	ND	ND
INORGANICS									
Arsenic	mg/kg		ND	ND	ND	ND	ND	ND	16
Barium	mg/kg		63	ND	51	160	240	430	170
Lead	mg/kg		ND	5.1	ND	ND	ND	ND	12
Silver	mg/kg		5.7	37	48	28	ND	ND	ND
MISCELLANEOUS									
pH	NA		8.7	5.6	5.1	4.5	8.2	6.5	7.5

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 4 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	92BS020	92BSO25	92BSO30	93SSORS	93SO02	93SO05	93SO10
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	20 feet	25 feet	30 feet	Surface	2 feet	5 feet	10 feet
		SAMPLE DATE:	03/09/92	03/04/92	03/04/92	03/17/92	03/09/92	03/09/92	03/09/92
VOLATILES									
Acetone[3]	mg/kg		ND	0.13	ND	0.11	5.8	0.96	0.83
EXTRACTABLES									
Bis(2-ethylhexyl)phthalate	mg/kg		ND	ND	1.7	ND	ND	ND	ND
Di-n-butylphthalate	mg/kg		ND	ND	ND	0.37	ND	ND	ND
INORGANICS									
Arsenic	mg/kg		ND	11	ND	ND	ND	ND	ND
Barium	mg/kg		56	39	32	28	26	27	100
Lead	mg/kg		5.9	15	ND	12	8.2	8.5	9.4
MISCELLANEOUS									
pH	NA		8.0	8.0	8.1	7.6	8.0	8.6	8.5

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 5 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	93SO15	93SO20	93SO25	93SO30	94SSORS	94SO02RS	94SO05RS
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	15 feet	20 feet	25 feet	30 feet	Surface	2 feet	5 feet
		SAMPLE DATE:	03/09/92	03/10/92	03/09/92	03/09/92	03/17/92	03/11/92	03/1/92
VOLATILES									
Acetone[3]	mg/kg		0.38	ND	ND	0.12	ND	ND	21
EXTRACTABLES									
Bis(2-ethylhexyl)phthalate	mg/kg		ND	ND	ND	ND	0.76[6]	ND	ND
Benzidine	mg/kg		ND	ND	ND	ND	3.3[6]	ND	ND
N-nitrosodimethylamine	mg/kg		ND	ND	ND	ND	0.67[6]	ND	ND
INORGANICS									
Arsenic	mg/kg		ND	ND	ND	13	ND	ND	ND
Barium	mg/kg		ND	ND	38	81	32	34	49
Cadmium	mg/kg		ND	ND	ND	ND	ND	0.65	ND
Lead	mg/kg		ND	ND	8.4	13	13	27	11
MISCELLANEOUS									
pH	NA		8.5	8.4	8.1	7.9	6.5	5.3	7.3

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 6 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	94SO10RS Soil 10 feet 03/11/92	94SO15RS Soil 15 feet 03/11/92	94SO15BRS Soil 15 feet 03/11/92	94SO20RS Soil 20 feet 03/11/92	94SO25RS Soil 25 feet 03/11/92	94SO30RS Soil 30 feet 03/11/92	95SSORS Soil Surface 03/17/92
VOLATILES									
Acetone[3]	mg/kg		1.7	0.45	0.28	0.11	19[6]	5.8	0.15
EXTRACTABLES									
Bis(2-ethylhexyl)phthalate	mg/kg		ND	ND	ND	ND	0.35	ND	ND
Di-n-butylphthalate	mg/kg		ND	ND	ND	ND	ND	ND	0.70
INORGANICS									
Arsenic	mg/kg		ND	12	ND	ND	ND	ND	ND
Barium	mg/kg		92	130	99	75	70	69	22
Lead	mg/kg		11	19	9.9	ND	5.8	6.3	11
MISCELLANEOUS									
pH	NA		7.9	7.9	7.9	8.3	8.4	8.5	7.9

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 7 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	95SO02	95SO02B	95SO05	95SO10	95SO15	95SO20	95SO25
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	2 feet	2 feet	5 Feet	10 feet	15 feet	20 feet	25 feet
		SAMPLE DATE:	03/05/92	03/05/92	03/05/92	03/05/92	03/05/92	03/05/92	03/05/92
VOLATILES									
Acetone[3]	mg/kg		ND	ND	0.30	34[6]	10	0.42	10
2-Butanone	mg/kg		ND	ND	ND	0.13	ND	ND	ND
Ethanol[5]	mg/kg		ND	ND	ND	45	3.4	ND	ND
INORGANICS									
Arsenic	mg/kg		ND	ND	ND	22	18	ND	ND
Barium	mg/kg		19	29	30	110	44	100	87
Cadmium	mg/kg		ND	ND	ND	ND	0.55	ND	ND
Lead	mg/kg		6.5	9.4	11	21	16	15	8.4
MISCELLANEOUS									
pH	NA		7.2	7.8	4.1	6.9	7.6	7.7	7.8

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 8 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	95SO30	96SSORS	96SO02	96SO05	96SO10	96SO15	96SO20
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	30 feet	Surface	2 feet	5 feet	10 feet	15 feet	20 feet
		SAMPLE DATE:	03/05/92	03/17/92	03/10/92	03/10/92	03/10/92	03/10/92	03/10/92
VOLATILES									
Acetone[3]	mg/kg		0.65	ND	3.9	0.74	30	1.2	ND
EXTRACTABLES									
Bis(2-ethylhexyl)phthalate	mg/kg		ND	0.45	ND	ND	0.86	ND	ND
Di-n-butylphthalate	mg/kg		ND	0.51	ND	ND	ND	ND	ND
INORGANICS									
Arsenic	mg/kg		ND	ND	ND	ND	11	ND	ND
Barium	mg/kg		49	27	22	51	69	1,600	ND
Lead	mg/kg		5.4	14	9.5	11	13	ND	13
MISCELLANEOUS									
pH	NA		8.0	7.4	8.3	6.9	7.5	8.3	8.0

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 9 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: / SAMPLE TYPE: / SAMPLE DEPTH: / SAMPLE DATE:	96SO25 Soil 25 feet 03/10/92	96SO30 Soil 30 feet 03/10/92	97SSORS Soil Surface 03/17/92	97SO02 Soil 2 feet 03/07/92	97SO02B Soil 2 feet 03/07/92	97SO05 Soil 5 feet 03/07/92	97SO10 Soil 10 feet 03/07/92
VOLATILES									
Acetone[3]	mg/kg		ND	0.26	ND	0.99	0.79	0.10	0.76
INORGANICS									
Arsenic	mg/kg		22	ND	ND	ND	ND	ND	ND
Barium	mg/kg		110	170	24	27	25	41	270
Cadmium	mg/kg		ND	1.0	ND	ND	ND	ND	ND
Lead	mg/kg		18	10	6.9	7.2	8.1	11	11
MISCELLANEOUS									
pH	NA		7.8	7.7	7.6	8.3	8.2	5.3	8.0

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 10 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: / SAMPLE TYPE: / SAMPLE DEPTH: / SAMPLE DATE:	97SO15 / Soil / 15 feet / 03/07/92	97SO20 / Soil / 20 feet / 03/07/92	97SO25 / Soil / 25 feet / 03/07/92	97S030 / Soil / 30 feet / 03/07/92	98SSORS / Soil / Surface / 03/17/92	98SO02 / Soil / 2 feet / 03/05/92	98SO02B / Soil / 2 feet / 03/05/92
VOLATILES									
Acetone[3]	mg/kg		ND	ND	0.45	0.34	ND	ND	ND
EXTRACTABLES									
bis(2-ethylhexyl)phthalate	mg/kg		0.91	ND	0.43	ND	ND	ND	ND
INORGANICS									
Barium	mg/kg		130	ND	52	29	23	ND	20
Lead	mg/kg		10	ND	8.0	ND	8.8	6.4	7.5
MISCELLANEOUS									
pH	NA		8.6	8.6	8.0	8.9	7.8	8.2	8.2

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 11 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	98SO05	98SO10	98SO15	98SO20	98SO25	98SO30	99SSORS
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	5 feet	10 feet	15 feet	20 feet	25 feet	30 feet	Surface
		SAMPLE DATE:	03/05/92	03/05/92	03/05/92	03/05/92	03/05/92	03/05/92	03/17/92
VOLATILES									
Acetone[3]	mg/kg		ND	2.8	0.13	0.57	0.19	0.32	ND
INORGANICS									
Barium	mg/kg		65	300	64	65	58	120	ND
Lead	mg/kg		7.0	7.1	ND	10	6.6	6.6	6.8
MISCELLANEOUS									
pH	NA		8.0	7.6	7.8	8.5	8.1	7.6	9.3

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 12 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	99SO2RS	99SO02BRS	99SO05RS	99SO10RS	99SO15RS	99SO20RS	99SO25RS
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	2 feet	2 feet	5 feet	10 feet	15 feet	20 feet	25 feet
		SAMPLE DATE:	03/11/92	03/11/92	03/11/92	03/11/92	03/11/92	03/11/92	03/11/92
VOLATILES									
Acetone[3]	mg/kg		0.21	ND	ND	ND	0.15	ND	ND
INORGANICS									
Barium	mg/kg		ND	ND	44	ND	150	31	29
Lead	mg/kg		ND	ND	35	ND	23	8.6	6.3
MISCELLANEOUS									
pH	NA		5.6	5.7	6.5	6.6	6.9	7.3	7.5

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 13 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	99SO30RS	100SSORS	100SO02	100SO02B	100SO05	100SO10
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	30 feet	Surface	2 feet	2 feet	5 feet	10 feet
		SAMPLE DATE:	03/11/92	03/17/92	03/07/92	03/07/92	03/07/92	03/07/92
VOLATILES								
Acetone[3]	mg/kg		ND	ND	0.21	ND	11	ND
EXTRACTABLES								
Bis(2-ethylhexyl)phthalate	mg/kg		ND	ND	ND	ND	3.4	1.2
INORGANICS								
Barium	mg/kg		57	29	23	22	110	56
Lead	mg/kg		6.4	15	7.1	5.8	ND	7.6
MISCELLANEOUS								
pH	NA		7.7	7.9	8.0	7.8	8.3	8.9

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 14 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	100SO15	100SO20	100SO25	100SO30
		SAMPLE TYPE:	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	15 feet	20 feet	25 feet	30 feet
		SAMPLE DATE:	03/07/92	03/07/92	03/07/92	03/07/92
VOLATILES						
Acetone[3]	mg/kg		ND	ND	~1.9	510
INORGANICS						
Arsenic	mg/kg		ND	ND	ND	16
Barium	mg/kg		47	27	60	210
Lead	mg/kg		6.9	7.4	6.5	22
MISCELLANEOUS						
pH	NA		8.6	8.4	8.3	8.0

NOTES:
(1) Sample identification nomenclature is described in Section 3.1.1 of this report.
(2) Only samples with constituent concentrations above the detection limit are noted.
(3) This compound was introduced to the sample during collection.
(4) Probable laboratory contaminant.
(5) This compound was possibly introduced during sampling.
(6) Sample was reprepped outside of holding time to achieve this value.
ND = Non-detect. Detection limit values are noted in laboratory reports, Appendix G.
NA = Not applicable.
NT = Not tested.

TABLE 2-13
SOIL ANALYTICAL RESULTS
SWMUs 121-123 (Page 1 of 8)
STALLION RANGE CENTER SUBGRADE TANKS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	121BGSO00 Soil Surface 02/11/92	121BG1SO02 Soil 2 feet 02/11/92	121BG1SO02B Soil 2 feet 02/11/92	121BGSO05 Soil 5 feet 02/11/92	121BGSO10 Soil 10 feet 02/11/92	121B1SO00 Soil Surface 02/11/92
VOLATILES								
Acetone[3]	mg/kg		ND	2.7[4]	1.6[4]	0.13	ND	ND
INORGANICS								
Barium	mg/kg		58	63	76	59	110	85
Sulfide	mg/kg		ND	12	ND	8.0	ND	24
PESTICIDES/PCBs								
Beta-BHC	mg/kg		ND	0.0059	ND	ND	ND	ND
4,4'-DDE	mg/kg		ND	0.022	ND	ND	ND	ND
4,4'-DDT	mg/kg		ND	0.056	ND	ND	ND	ND

TABLE 2-13
SOIL ANALYTICAL RESULTS
SWMUs 121-123 (Page 2 of 8)
STALLION RANGE CENTER SUBGRADE TANKS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	121B1SO02 Soil 2 feet 02/11/92	121B1SO05 Soil 5 feet 02/11/92	121B1SO10 Soil 10 feet 02/11/92	121B2SO00 Soil Surface 02/11/92	121B2SO02 Soil 2 feet 02/11/92	121B2SO05 Soil 5 feet 02/11/92
VOLATILES								
Acetone[3]	mg/kg		ND	2.2	ND	1.9[4]	24[4]	1.6
INORGANICS								
Barium	mg/kg		72	64	47	79	100	89
Lead	mg/kg		7.3	ND	ND	ND	ND	ND
EXTRACTABLES								
Bis(2-ethylhexyl)phthalate	mg/kg		2.7	ND	0.71	ND	ND	ND

TABLE 2-13
SOIL ANALYTICAL RESULTS
SWMUs 121-123 (Page 3 of 8)
STALLION RANGE CENTER SUBGRADE TANKS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	121B2SO10	121B3SO00	121B3SO02	121B3SO05	121B3SO05B	121B3SO10
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	10 feet	Surface	2 feet	5 feet	5 feet	10 feet
		SAMPLE DATE:	02/11/92	02/12/92	02/12/92	02/12/92	02/12/92	02/12/92
VOLATILES								
Acetone[3]	mg/kg		0.20[4]	ND	1.2[5]	4.4[4]	1.4	0.12
INORGANICS								
Barium	mg/kg		57	120	110	63	83	30
Lead	mg/kg		4.6	7.1	8.3	5.7	7.6	ND
Sulfide	mg/kg		8.0	ND	ND	ND	ND	ND
Total Cyanide	mg/kg		ND	ND	0.2	ND	ND	ND
EXTRACTABLES								
Bis(2-ethylhexyl)phthalate	mg/kg		ND	ND	ND	1.0	ND	ND

TABLE 2-13
SOIL ANALYTICAL RESULTS
SWMUs 121-123 (Page 4 of 8)
STALLION RANGE CENTER SUBGRADE TANKS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	121B4SO00	121B4SO02	121B4SO05	121B4SO10	121B5SO00	121B5SO02
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	Surface	2 feet	5 feet	10 feet	Surface	2 feet
		SAMPLE DATE:	02/12/92	02/11/92	02/12/92	02/12/92	02/12/92	02/12/92
VOLATILES								
Acetone[3]	mg/kg		3.9[4]	2.7[4]	1.6[4]	2.7[4]	1.2[4]	6.8[4]
INORGANICS								
Barium	mg/kg		130	68	69	170	80	110
Lead	mg/kg		5.1	ND	6.9	ND	7.0	7.4
PESTICIDES/PCBs								
4,4'-DDE	mg/kg		ND	0.062	ND	ND	ND	ND
4,4'-DDT	mg/kg		ND	0.066	ND	ND	ND	ND
EXTRACTABLES								
Bis(2-ethylhexyl)phthalate	mg/kg		ND	ND	0.33	ND	ND	ND

TABLE 2-13
SOIL ANALYTICAL RESULTS
SWMUs 121-123 (Page 5 of 8)
STALLION RANGE CENTER SUBGRADE TANKS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	121B5SO05 Soil 5 feet 02/12/92	121B5SO10 Soil 10 feet 02/12/92	121B6SO00 Soil Surface 02/12/92	121B6SO02 Soil 2 feet 02/12/92	121B6SO02RS Soil 2 feet 03/08/92
VOLATILES							
Acetone[3]	mg/kg		0.67[4]	0.26[4]	1.7[4]	3.8[4]	0.12
INORGANICS							
Barium	mg/kg		52	140	68	ND	NT
Lead	mg/kg		ND	ND	6.7	ND	NT
Total Cyanide	mg/kg		ND	2.2	ND	ND	NT

TABLE 2-13
SOIL ANALYTICAL RESULTS
SWMUs 121-123 (Page 6 of 8)
STALLION RANGE CENTER SUBGRADE TANKS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	121B6SO05	121B6SO05B	121B6SO10	121B6SO10RS	121B7SO00
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	5 feet	5 feet	10 feet	10 feet	Surface
		SAMPLE DATE:	02/12/92	02/12/92	02/12/92	02/12/92	02/12/92
VOLATILES							
Acetone[3]	mg/kg		0.17[5]	2.8[5]	2.5[5]	0.16	0.48[5]
INORGANICS							
Barium	mg/kg		110	140	70	NT	82
Lead	mg/kg		ND	ND	ND	NT	5.6

TABLE 2-13
SOIL ANALYTICAL RESULTS
SWMUs 121-123 (Page 7 of 8)
STALLION RANGE CENTER SUBGRADE TANKS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	121B7SO02 Soil 2 feet 02/12/92	121B7SO05 Soil 5 feet 02/12/92	121B7SO10 Soil 10 feet 02/12/92	121B8SO00 Soil Surface 02/12/92
VOLATILES						
Acetone[3]	mg/kg		0.26[4]	ND	ND	7.0[4]
EXTRACTABLES						
Di-n-butylphthalate	mg/kg		ND	ND	ND	0.36
INORGANICS						
Barium	mg/kg		41	240	67	70
Lead	mg/kg		ND	ND	ND	5.6

TABLE 2-13
SOIL ANALYTICAL RESULTS
SWMUs 121-123 (Page 8 of 8)
STALLION RANGE CENTER SUBGRADE TANKS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	121B8SO02 Soil 2 feet 02/11/92	121B8SO05 Soil 5 feet 02/11/92	121B8SO10 Soil 10 feet 02/11/92	121B8SO10B Soil 10 feet 2/12/92
VOLATILES						
Acetone[3]	mg/kg		2.7[4]	4.6[4]	.10[5]	0.03[4]
EXTRACTABLES						
Di-n-butylphthalate	mg/kg		ND	0.44	0.37	0.57
INORGANICS						
Barium	mg/kg		60	31	57	92

NOTES:
[1] Sample identification nomenclature is described in Section 3.1.1 of this report.
[2] Only samples with constituent concentrations above the detection limit are noted.
[3] This compound was introduced to the sample during collection.
[4] Sample was reprepped outside of holding time to achieve this value. Sample flagged with (*) is also estimated.
[5] Sample was analyzed outside of holding times.
ND = Non-detect. Detection limit values are noted in laboratory reports, Appendix G.
NT = Not tested

TABLE 2-16
SLUDGE AND SOIL ANALYTICAL RESULTS
SWMU 137 (Page 1 of 2)
PAINT SHOP SUMP
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	137SL1	137B1SO05	137B1SO10	137B2SO05
		SAMPLE TYPE:	Sludge	Soil	Soil	Soil
		SAMPLE DEPTH:	Surface	5 feet	10 feet	5 feet
		SAMPLE DATE:	04/02/92	04/03/92	04/03/92	04/06/92
EXTRACTABLES						
Di-n-butylphthalate	mg/kg		0.96	0.90	0.89	1.1
Butylbenzylphthalate	mg/kg		0.98	ND	ND	ND
Bis(2-ethylhexyl)phthalate	mg/kg		18	ND	ND	0.4
INORGANICS						
Barium	mg/kg		180	49	33	42
Lead	mg/kg		2000	12	8.9	9.2
Mercury	mg/kg		2.1	ND	ND	ND
TCLP INORGANICS						
Barium	mg/L		1.7	NT	NT	NT
Lead	mg/L		0.49	NT	NT	NT

TABLE 2-16
SLUDGE AND SOIL ANALYTICAL RESULTS
SWMU 137 (Page 2 of 2)
PAINT SHOP SUMP
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	137B2SO05B Soil 5 feet 04/06/92	137B2SO10 Soil 10 feet 04/06/92
EXTRACTABLES				
Di-n-butylphthalate	mg/kg		0.86	ND
INORGANICS				
Barium	mg/kg		57	62
Lead	mg/kg		10	12

NOTES:
[1] Sample identification nomenclature is described in Section 3.1.1 of this report.
[2] Only samples with constituent concentrations above the detection limit are noted.
ND = Non-detect. Detection limit values are noted in laboratory reports, Appendix G.
NT = Not tested

TABLE 2-8
SURFACE SOIL ANALYTICAL RESULTS
SWMU 61 (Page 1 of 1)
TULA PEAK UXO INCINERATOR
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	61SO3 Soil Surface 02/20/92
EXTRACTABLES			
Butylbenzylphthalate	mg/kg		0.44

NOTES:
[1] Sample identification nomenclature is described in Section 3.1.1 of this report.
[2] Only samples with constituent concentrations above the detection limit are noted.

TABLE 2-17
SURFACE WATER ANALYTICAL RESULTS
SWMU 137 (Page 1 of 1)
PAINT SHOP SUMP
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	137SW1 Water Surface 04/02/92
INORGANICS			
Barium	mg/L		0.21
Lead	mg/L		0.16

NOTES:
[1] Sample identification nomenclature is described in Section 3.1.1 of this report.
[2] Only samples with constituent concentrations above the detection limit are noted.

TABLE 2-19
SOIL ANALYTICAL RESULTS
SWMU 141 (Page 1 of 3)
EQUIPMENT STORAGE AREA
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX IV SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	141BG1SO02	141B1SO03	141B1SO03B	141B3SO03
		SAMPLE TYPE:	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	2 feet	3 feet	3 feet	3 feet
		SAMPLE DATE:	04/30/92	04/30/92	04/30/92	04/30/92
INORGANICS						
Arsenic-Furnace	mg/kg		0.54	1.1	0.81	0.65

TABLE 2-19
SOIL ANALYTICAL RESULTS
SWMU 141 (Page 2 of 3)
EQUIPMENT STORAGE AREA
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX IV SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	141B4SO03 Soil 3 feet 04/30/92	141B7SO03 Soil 3 feet 05/01/92	141B8SO03 Soil 3 feet 05/01/92	141B9SO03 Soil 3 feet 05/01/92
INORGANICS						
Arsenic-Furnace	mg/kg		1.7	1.7	1.7	1.9
Barium	mg/kg		120	96	92	140
VOLATILES						
Acetone[3]	mg/kg		ND	0.72	0.19	0.42
EXTRACTABLES						
bis(2-ethylhexyl)phthalate	mg/kg		ND	ND	0.40	ND

TABLE 2-19
SOIL ANALYTICAL RESULTS
SWMU 141 (Page 3 of 3)
EQUIPMENT STORAGE AREA
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX IV SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: / SAMPLE TYPE: / SAMPLE DEPTH: / SAMPLE DATE:	141B12SO03 / Soil / 3 feet / 05/01/92	141B13SO04 / Soil / 4 feet / 05/01/92	141B14SO07 / Soil / 7 feet / 05/01/92
INORGANICS					
Arsenic-Furnace	mg/kg		1.8	0.75	0.96
VOLATILES					
Acetone[3]	mg/kg		0.19	0.17	ND

NOTES:
[1] Sample identification nomenclature is described in Section 3.1.1 of this report.
[2] Only samples with constituent concentrations above the detection limit are noted.
[3] This compound was introduced to the sample during collection.
ND = Non-detect. Detection limit values are noted in laboratory reports, Appendix G.

TABLE 2-37
SOIL ANALYTICAL RESULTS
SWMU 153 (Page 1 of 3)
VANDAL BURIAL SITE
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX IV SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	153B1SO05 Soil 5 feet 02/20/92	153B1SO10 Soil 10 feet 02/20/92	153B1SO15 Soil 15 feet 02/20/92	153B1SO20 Soil 20 feet 02/20/92
EXTRACTABLES						
Bis(2-ethylhexyl)phthalate	mg/kg		0.37	ND	ND	0.35
INORGANICS						
Barium	mg/kg		44	50	42	41
Lead	mg/kg		11	11	12	10

TABLE 2-32
GROUNDWATER ANALYTICAL RESULTS
SWMU 149 (Page 1 of 1)
MAINTENANCE BUILDING SEPTIC SYSTEM
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX IV SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	HMW-14GW	HMW-17GW
		UPGRADIENT/DOWNGRADIENT:	UG	NA[3]
		SAMPLE TYPE:	Water	Water
		SAMPLE DATE:	05/31/91	05/31/91
INORGANICS				
Selenium-Furnace	mg/L		0.33	0.020

NOTES:
[1] Sample identification nomenclature is described in Section 3.1.1 of this report.
[2] Only samples with constituent concentrations above the detection limit are noted.
[3] Well is screened in an isolated unit so groundwater gradient is unknown.

TABLE 2-31
SOIL ANALYTICAL RESULTS
SWMU 149 (Page 1 of 2)
MAINTENANCE BUILDING SEPTIC SYSTEM
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX IV SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	149BGSO02	HMW17SO05	HMW17SO15	HMW17SO20
		SAMPLE TYPE:	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	2 feet	5 feet	15 feet	20 feet
		SAMPLE DATE:	04/6/92	05/12/92	05/12/92	05/12/92
INORGANICS						
Arsenic-Furnace	mg/kg		0.60	0.78	1.4	2.7
Barium	mg/kg		ND	ND	77	400
Lead	mg/kg		ND	ND	ND	7.1
VOLATILES						
Acetone[3]	mg/kg		ND	0.37	ND	ND

TABLE 2-31
SOIL ANALYTICAL RESULTS
SWMU 149 (Page 2 of 2)
MAINTENANCE BUILDING SEPTIC SYSTEM
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX IV SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	HMW17SO20B Soil 20 feet 05/12/92	HMW17SO25 Soil 25 feet 05/12/92	HMW17SO30 Soil 30 feet 05/12/92
INORGANICS					
Arsenic-Furnace	mg/kg		2.0	0.92	2.6
Barium	mg/kg		120	66	ND
Lead	mg/kg		5.6	8.2	9.9

NOTES:
[1] Sample identification nomenclature is described in Section 3.1.1 of this report.
[2] Only samples with constituent concentrations above the detection limit are noted.
[3] This compound was introduced to the sample during collection.
ND = Non-detect. Detection limit values are noted in laboratory reports, Appendix G.

TABLE 2-34
SOIL ANALYTICAL RESULTS
SWMU 151 (Page 1 of 2)
TRAILER AREA SEPTIC SYSTEM
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX IV SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	151BGSO02	151B1SO05	151B1SO10
		SAMPLE TYPE:	Soil	Soil	Soil
		SAMPLE DEPTH:	2 feet	5 feet	10 feet
		SAMPLE DATE:	04/06/92	05/13/92	05/13/92
INORGANICS					
Arsenic - Furnace	mg/kg		0.62	0.94	ND
VOLATILES					
Acetone[3]	mg/kg		ND	ND	1.2

TABLE 2-34
SOIL ANALYTICAL RESULTS
SWMU 151 (Page 2 of 2)
TRAILER AREA SEPTIC SYSTEM
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX IV SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	151B1SO15B Soil 15 feet 05/13/92	151B1SO20 Soil 20 feet 05/13/92	151B1SO25 Soil 25 feet 05/13/92	151B1SO30 Soil 30 feet 05/13/92
INORGANICS						
Arsenic - Furnace	mg/kg		1.2	2.0	3.2	5.4
Barium	mg/kg		97	93	34	93
Lead	mg/kg		ND	7.0	6.4	5.1

NOTES:
(1) Sample identification nomenclature is described in Section 3.1.1 of this report.
(2) Only samples with constituent concentrations above the detection limit are noted.
(3) This compound was introduced to the sample during collection.
ND = Non-detect. Detection limit values are noted in laboratory reports, Appendix G.

TABLE 2-35
SOIL ANALYTICAL RESULTS
SWMU 152 (Page 1 of 1)
PROPERTY AND SUPPLY BUILDING SEPTIC SYSTEM
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX IV SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	152B1SO10	152B1SO15	152B1SO20	152B1SO25	152B1SO30
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	10 feet	15 feet	20 feet	25 feet	30 feet
		SAMPLE DATE:	05/13/92	05/13/92	05/13/92	05/13/92	05/13/92
INORGANICS							
Arsenic - Furnace	mg/kg		ND	0.80	0.77	7.4	4.1
Barium	mg/kg		ND	99	60	89	76
Cadmium	mg/kg		ND	ND	ND	ND	0.47
Lead	mg/kg		ND	ND	ND	8.6	7.6
VOLATILES							
Acetone[3]	mg/kg		3.9[4]	ND	ND	ND	ND

NOTES:
[1] Sample identification nomenclature is described in Section 3.1.1 of this report.
[2] Only samples with constituent concentrations above the detection limit are noted.
[3] This compound was introduced to the sample during collection.
[4] Sample was reprepped outside of holding time to achieve this value.
ND = Non-detect. Detection limit values are noted in laboratory reports, Appendix G.

TABLE 2-36
GROUNDWATER ANALYTICAL RESULTS
SWMU 152 (Page 1 of 1)
PROPERTY AND SUPPLY BUILDING SEPTIC SYSTEM
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX IV SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	HMW12GW	HMW12GWB
		UPGRADIENT/DOWNGRADIENT:	DG	DG
		SAMPLE TYPE:	Water	Water
		SAMPLE DATE:	6/01/92	6/01/92
INORGANICS				
Selenium - Furnace	mg/L		0.30	0.33

NOTES:
[1] Sample identification nomenclature is described in Section 3.1.1 of this report.
[2] Only samples with constituent concentrations above the detection limit are noted.
ND = Non-detect. Detection limit values are noted in laboratory reports, Appendix G.

TABLE 2-37
SOIL ANALYTICAL RESULTS
SWMU 153 (Page 2 of 3)
VANDAL BURIAL SITE
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX IV SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	153B1SO20B	153B2SO05	153B2SO10	153B2SO15
		SAMPLE TYPE:	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	20 feet	5 feet	10 feet	15 feet
		SAMPLE DATE:	02/20/92	02/20/92	02/20/92	02/20/92
VOLATILES						
Acetone[3]	mg/kg		0.15	ND	0.23	ND
INORGANICS						
Barium	mg/kg		29	33	27	29
Lead	mg/kg		10	13	6.9	8.0

TABLE 2-37
SOIL ANALYTICAL RESULTS
SWMU 153 (Page 3 of 3)
VANDAL BURIAL SITE
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX IV SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	153B2SO20 Soil 20 feet 02/20/92
INORGANICS			
Barium	mg/kg		32
Lead	mg/kg		7.7

NOTES:
[1] Sample identification nomenclature is described in Section 3.1.1 of this report.
[2] Only samples with constituent concentrations above the detection limit are noted.
[3] This compound was introduced to the sample during collection.
ND = Non-detect. Detection limit values are noted in laboratory reports, Appendix G.

WSMR Environment & Safety Tech Lib
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SECRETARY

EDGAR T. THORNTON, III
DEPUTY SECRETARY

September 4, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Thomas A. Ladd, Director
Directorate of the Environment & Safety
U.S. Army White Sands Missile Range (WSMR)
White Sands Missile Range, NM 88002-5048

Dear Mr. Ladd:

The New Mexico Environment Department (NMED) has reviewed the Phase II RCRA Facility Investigation (RFI) Report for Appendix I, II, III, and IV sites, dated December 1994, as well as the following associated correspondence: the Environmental Protection Agency's (EPA) May 23, 1996 notice of deficiency (NOD) regarding the above referenced report, and WSMR's October 11, 1995 response to the EPA's NOD. NMED approves the investigative data within the Phase II RFI Report except where specified in the attached NOD.

As the next phase of the environmental restoration process, and in conformance with WSMR's Resource Conservation and Recovery Act (RCRA) Hazardous and Solid Wastes Amendments (HSWA) permit, NMED requests the following items within the prescribed time frames:

1. A comprehensive report regarding all contaminant releases and the associated risks at the High Energy Laser System Test Facility (HELSTF). NMED requires submittal of this report 180 days after WSMR's receipt of this correspondence.

2. A base-line risk assessment for all Solid Waste Management Units (SWMUs) identified in the above referenced report as having contaminant concentrations that exceed appropriate screening levels and where WSMR proposes not to remediate the SWMU to those screening levels. NMED requires submittal of the assessment 120 days after WSMR's receipt of this correspondence.

3. A proposal to the Hazardous and Radioactive Materials Bureau (HRMB) to perform a class III permit modification to remove the appropriate SWMUs from WSMR's RCRA/HSWA permit.

4. A phase III RFI workplan to complete the determination of

4. A phase III RFI workplan to complete the determination of the nature and extent of contamination at the appropriate SWMUs as identifies in the NOD. NMED requires submittal of the workplan within 180 days of WSMR's receipt of this correspondence.

5. A SWMU assessment report as outlined in WSMR's HSWA permit for those potential new contaminant sources identified in the Phase II RFI Report or stipulated in the attached comments. NMED requires submittal of the report 90 days after WSMR's receipt of this correspondence.

6. An addendum to the Phase II RFI Report responding to the attached NOD. NMED requires submittal of the addendum in 60 days of WSMR's receipt of this correspondence.

If you require further information or have questions, please contact Mr. Steve Pullen or Mr. Phillip Solano at (505) 827-1558 regarding RCRA technical or permitting issues respectively, or myself.

Sincerely,

for Ed Kelley, Director
Water and Waste Management Division

Attachment

xc: Benito Garcia, Chief, NMED HRMB (w/encl)
Marcy Leavitt, Chief, GWQB NMED (w/encl)
Gerald Silva, Chief, SWB NMED (w/encl)
Barbara Hoditschek, NMED HRMB (w/encl)
Steve Pullen, HRMB NMED (w/encl)
David Neleigh, EPA (w/encl)
Hector Magallanes, WSMR (w/encl)

ATTACHMENT
Notice of Deficiency (NOD)

General Comments:

1. The following is an explanation of the six (I-VI) documents referenced on the attached cover letter.

I. WSMR must provide to the Administrative Authority (AA) of their Resource Conservation and Recovery Act (RCRA) permit, the New Mexico Environment Department (NMED), a comprehensive report regarding all contaminant releases and the associated risks at the High Energy Laser System Test Facility (HELSTF).

Contaminant migration via groundwater transport has commingled plumes from multiple release sources under HELSTF. Petroleum hydrocarbons from the systemic diesel release site, intermingled with chromium contamination from Solid Waste Management Unit (SWMU) 143, is one example. Additionally, the Phase II RFI Report's SWMU specific reporting approach has provided little information regarding the source of groundwater contaminant releases below the Waste Lagoons (SWMUs 27-30), the Construction Landfill (SWMUs 38 and 39), Test Cell 4 Lagoon (SWMU 145), and the MAR Waste Stabilization Pond (SWMU 148). The report regularly states that "there is no apparent connection between the contaminants detected in the ---- and those found in the underlying groundwater ...".

NMED envisions a HELSTF facility wide report that provides contaminant concentration maps juxtaposed upon all possible release sources, identifies potentially threatening human and ecological risks and identifies all data gaps. NMED believes that little additional investigation should have to take place and that this will simply be a more logical reporting of current knowledge.

This report will be a prerequisite to regulatory concurrence on removing any HELSTF SWMUs from the Hazardous and Solid Waste Amendments (HSWA) module of WSMR's RCRA permit.

II. WSMR must provide a base-line risk assessment for all SWMUs identified in this report as having contaminant concentrations that exceed appropriate screening levels. NMED currently accepts EPA Region 3 Risk Based Concentration (RBCs) as the appropriate screening levels, and risk assessments performed according to EPA's Risk Assessment Guidance for

Superfund (RAGS). WSMR does have the option to remediate any SWMU to screening levels if it chooses to not perform a risk assessment.

III. WSMR should provide a proposal to the Hazardous and Radioactive Materials Bureau (HRMB) of the NMED to perform a class III permit modification to remove the appropriate SWMUs from WSMR's HSWA permit. Those SWMUs include the following: 10/11, 16, 17, 19/20, 62, 80, 132, 140,s 150, and 156.

IV. WSMR must provide a phase III RFI workplan to complete the determination of the nature and extent of contamination at the following SWMUs: 8/9, 14/15, 21, 63, 64, 65, 66-78, 82/83, 85, 94, and 148.

V. WSMR must provide a SWMU assessment report, as outlined in WSMR's HSWA permit, for those potential new contaminant release sources identified in the Phase II RFI Report, or stipulated in the attached comments.

VI. WSMR must provide an addendum to the Phase II RFI Report responding to the attached comments and concerns, particularly for SWMUs: 8/9, 27-30, 38/39, 63, 89, and 94.

2. NMED has established the precedent of disallowing continued contamination of the groundwater in the Tularosa Basin, regardless of its inherent poor quality. To implement this principle, existing contaminant plumes must be adequately characterized and monitor wells in those plumes must be sampled often enough to determine if a release source still exists. If contaminants at any point in a plume increase significantly in concentration, or if additional contaminants are discovered, further investigation may be required to locate and remove the source. This NMED policy was described in a letter to WSMR from Dr. Ed Kelley dated May 15, 1995.

3. Remediation of existing groundwater contamination will not be required by NMED at White Sands Missile Range in groundwaters that exceed the State protection standard of 10,000 mg/L TDS, unless a situation is present where a human or ecological receptor is exposed to unacceptable risk from contact with the contaminated groundwater. However, additional groundwater contamination will not be acceptable, regardless of groundwater quality, and the Environment Department will insist on remediation of any groundwater contamination resulting from current or future activities at White Sands Missile Range.

WSMR RFI Phase II Rpt.
Attachment
September 4, 1996

4. Besides HELSTF, a general comment applies to several SWMUs in other areas at WSMR: the State of New Mexico has a regulatory interest not only in the SWMUs themselves but in the ground water contamination beneath these areas, whatever its source. The RFI report recommends no further action at several SWMUs based on a conclusion that observed ground water contamination did not originate at the SWMU in question. This conclusion may well be true, but NMED cannot support termination of the investigation at the site, nor removal of these sites from WSMR's permit, without adequate commitment on WSMR's part to adequately investigate, monitor and report on all contamination. This comment applies to SWMUs 14/15, 16, 63, 64, 65, 82/83.

5. WSMR must submit a separate report that provides a more comprehensive evaluation of contamination at the HELSTF. This report should contain at a minimum the following items; an assessment of the risks at all sites, detailed contaminant iso-concentration maps for all environmental media including the various perched aquifers, a fate and transport model for all contaminants, an identification of all potential contaminant source areas and a list of all data gaps. (Reference general comment #1)

One of the uses of this information will be to establish a baseline of current contaminant concentrations to be used with future sampling information to determine if a contaminant source exists.

6. An additional comment applies to SWMUs 144 (LSTC Wastewater Discharge Point) and 146 (Dry Pond): the ongoing discharges at these locations have measured concentrations of hazardous constituents that, at a minimum, violate the environmental anti-degradation policy of this department. A worst case scenario is that hazardous constituent concentrations measured in ground water monitoring wells associated with these SWMUs suggests that hazardous wastes have been discharged in violation of statutorily mandated land disposal restrictions (LDRs). WSMR must immediately comply with NMED anti-degradation policy by stopping the discharge of hazardous constituents to the environment, must submit an Notice of Intent (NOI) to the NMED Ground Water Quality Bureau (GWQB), and abide by the requirements of the Waste Analysis Plan (WAP) in WSMR's RCRA permit.

7. WSMR's Module VIII of their RCRA Permit (HSWA Corrective Action), Section I (RCRA Facility Investigation Report and Summary), requires that a final RFI Report discuss "actual or potential receptors" of contamination and "contain adequate

information to support further corrective action decisions". NMED policy for RCRA regulated sites is that if a site exceeds action levels or regulatory standards, a facility has the option to cleanup to those levels or the facility may provide a complete baseline risk assessment (RA) as outlined in the EPA's Risk Assessment Guidance for Superfund (RAGS).

Therefore, NMED will not grant NFA at any site where an action level has been attained or exceeded without appropriate risk justification. (Reference general comment #1)

If a New Mexico Water Quality Control groundwater standard is exceeded in protected waters, and WSMRs wishes to not cleanup to that standard, the facility will have to petition the Water Quality Control Commission for a variance.

8. Additionally, NMED requires that WSMR quantify risk at all SWMUs using the standard EPA default parameters for a residential exposure scenario. This requirement will stay in effect until there can be an agreement between the facility and the regulatory agencies about future land use of individual sitos. For your information, NMED believes that current land use is an appropriate estimation of future land use at WSMR. However, should risk based cleanup concentrations at a site be something less than those determined through the most conservative exposure scenario (i.e. residential), there must be mechanisms in place that would ensure a re-evaluation of the risk should land use change.

9. An ecological risk assessment will be required for all SWMUs where contaminant concentrations exceed action levels. If WSMR wishes to forego an ecological assessment at some SWMUs, rationale must be provided.

10. If a site is contaminated above action levels, and a risk assessment suggests there are no unacceptable risks at the site based on less than the most conservative exposure scenario (i.e. residential), and the appropriate regulatory agencies agree with the assessment, WSMR should be prepared to survey the contaminated area and enter the results of the risk assessment, along with all its qualifiers, into a deed restriction for the particular site. This action is a state requirement for regulator concurrence on no-further-action (NFA) proposals.

11. For future reference, Subpart S action levels stipulated in FR072790 may not be determined with the most currently accepted toxicological/epidemiological information used to calculate reference doses or carcinogenic slope factors. The NMED, and EPA Region 6, prefer the more current "Risk Based Concentration (RBC)

Table" which is guidance published by the EPA Region III. This table may be obtained by telephoning 215-597-3179.

12. NMED requires that in the future WSMR be more systematic about how it reports contaminant concentration exceedances at its HSWA corrective action sites. The priority of concern is as follows; first - regulatory standards (i.e. Maximum Contaminant Levels (MCLs) or state groundwater standards), second - screening action levels, third-background concentrations, fourth - any facility specific standards.

Exceedances of a toxicity characteristic (TC) for soils is only relevant to the HSWA corrective action process if these soils are proposed to be land disposed at an alternate location. All analytical data to be used to determine risk at a SWMU must be reported as a "total" value.

13. NMED considers the delineation of the extent of contamination complete, as required by a RFI, when a responsible party has investigated out to "action levels" in all directions. However, should a risk analysis determine that the action level concentration represents an unacceptable risk, delineation within the particular environmental medium must continue until concentrations are diminished to an acceptable level. Please evaluate in an addendum to the Phase II Report all SWMUs for completeness of delineation considering this criterion.

14. WSMR is encouraged to perform a removal action in lieu of investigating and evaluating risk at a site. WSMR will be held responsible for confirming and documenting both complete removal and proper disposal of the contaminated media.

15. WSMR is proposing to land dispose of various types of contaminated media, including soils, that would not be considered hazardous waste. The NMED Solid Waste Bureau (SWB) has on file a WSMR NOI to dispose of the special waste "sludge". WSMR has not previously submitted a NOI to dispose of the special wastes "petroleum" or "chemical" contaminated soils. Disposal of new solid waste may require a permit. Please clarify this with the SWB at (505) 827-0197 prior to disposing of any soils.

16. Table 3.0-1 and Section 3.5 reference New Mexico land disposal standards from the "New Mexico Solid Waste Management Regulations" 1991, the current and applicable regulations are the 1994 edition. Page 98 of the 1994 edition specifies a disposal restriction on soils with benzene concentration greater than 10 mg/Kg, not the 100 mg/Kg stated in Section 3.5.

WSMR RFI Phase II Rpt.
Attachment
September 4, 1996

17. Closed or otherwise inoperable non-hazardous landfills must be closed at a minimum according to the New Mexico Solid Waste Management Regulations (SWMRs) in place at the time of closure. In addition, landfills closed after October 9, 1991 need to meet the final cap requirements as described in section 501.K of the current SWMRs (EIB/SWMR-4). The following list identifies the reference number and date of implementation of the four sequential regulations:

EIB/SWMR-1	April	1974
EIB/SWMR-2	April	1989
EIB/SWMR-3	Dec	1991
EIB/SWMR-4	July	1994

NMED would prefer the 1994 regulation guidance be conformed to due to it being the most protective. Please contact the Department if any of the above mentioned regulations are needed.

18. WSMR's RCRA Part B Module VIII (HSWA) Permit, Section E requires notification of any newly identified SWMUs. WSMR must submit documentation, including historical photographs and personnel interviews, that resulted in the identification of the new SWMUs. Numerous new potential landfills have been identified that must undergo the reporting requirements. (Reference general comment #1)

19. Confirmatory sampling and an associated report will be required at SWMUs undergoing voluntary corrective measures or closure.

Site specific comments:

SWMUs 8/9, Waste Oil Tank and Sump: A removal action was taken by WSMR at this site. Please clarify in an addendum to the Phase II Report the extent to which discrete soil samples were collected directly below the former UST. If additional sampling is necessary, WSMR shall provide a Phase III RFI workplan to the AA.

See general comments: 7, 12, 13, 19

SWMUs 10/11, Vehicle Wash Pad and Drains, Sump and Oil/Water Separator: No contaminate concentrations were discovered during the RFI that exceed action levels. Furthermore, institutional controls are in place to prevent any future discharges off of the wash pad, drains and sump. The Administrative Authority agrees with WSMR's conclusions and recommends no further action at these SWMUs.

WSMR RFI Phase II Rpt.
Attachment
September 4, 1996

SWMUs 14/15, Used Battery Accumulation Areas: The report indicates considerable uncertainty about the source and the extent of lead and other contamination in this area. It may be true that these SWMUs as defined are not the source of the contamination, but New Mexico Water Quality Control Commission regulations, among others, focus on the presence of contaminants rather than on specific SWMUs. Under these regulations WSMR's responsibility is to determine the source and extent of contamination, even if this requires broadening the area of investigation beyond an individual SWMU. Enough additional investigation must be done to ensure that serious contamination is not present in the ditches, around the above-ground storage tanks (ASTs), or in other areas adjacent to the areas investigated already.

The AA concurs with WSMR's suggestion to properly dispose of the sludges from this site. The AA does not believe a Corrective Measure Study (CMS) is an appropriate process to investigate a source and the extent of contamination. WSMR may either submit a SWMU assessment report for the ASTs to determine if a new SWMU should be established, or perform a phase III investigation. If WSMR shows that there is an alternate source of contamination and commits to investigate that source, WSMR may propose a permit modifications to remove this SWMU from its permit.

See general comments: 10, 13, 18

SWMU 16, Heavy Equipment Wash Pad and Drain: The RFI analytical data provides no indication of a source other than the asphalt ditch liner for the total petroleum hydrocarbon (TPH) levels. Therefore, WSMR may propose a Class III permit modification to remove this SWMU from its HSWA permit.

SWMU 17, Waste Underground Injection Pipe: No constituents related to the operational history of this SWMU were found during the RFI. The AA concurs with WSMR's conclusion and recommends no further action at this SWMU. WSMR may propose a Class III permit modification to remove this SWMU from its HSWA permit.

SWMUs 19 and 20, Steam Wash Pad and Drain, and Oil/Water Separator: No constituents related to the operational history of this SWMU were found during the RFI. The AA concurs with WSMR's conclusion and recommends no further action at this SWMU. WSMR may propose a Class III permit modification to remove this SWMU from its HSWA permit.

SWMU 21, Former Fire Fighting Training Area (FFTA): Contaminated soils at this site were excavated and WSMR has not provided any

confirmatory sampling results to the AA. Please provide those sampling results or in a phase III RFI workplan explain how WSMR will evaluate the potential for residual contamination at depth. If WSMR can provide this information to the satisfaction of the AA, the investigative phase will be considered complete and a risk assessment should be performed for the site.

See general comments: 7, 8, 9, 10, 13, 14, 15, 19

SWMU 22, Abandoned Pit near FFTA: The conclusions state "although detectable levels of TPH are present at the 2-3 ft. depth in the pile, the vertical extent of contamination decreases greatly at this depth." The Phase I Report states that in the only non-hand augered boring performed at this site the highest concentrations of TPH were encountered at the 4-5 foot depth (3,100 mg/kg). Confirmatory samples will be required to ensure that the complete vertical and horizontal extent of contamination has been removed. If WSMR can provide this information to the satisfaction of the AA, the investigative phase will be considered complete and a risk assessment should be performed for the site.

See general comments: 7, 8, 9, 10, 13, 14, 15, 19

SWMUs 27-30, HELSTF Sewage Treatment Lagoons: We cannot concur with WSMRs contention that the current operable lagoons do not appear to be a release source. The Potentiometric Surface Map (Figure No. 6.10-12) illustrates a substantial groundwater mound directly under the lagoons. Please elaborate on this contention, perhaps by providing a net water balance calculation showing that net losses to SWMU 146 equal net gains.

Please explain in an addendum to the Phase II Report whether sediment samples taken within the lagoons exceeded any action levels.

The AA does understand that the previous lagoons might be contributing contaminants to the groundwater. Therefore, WSMR is required to submit to NMED a comprehensive environmental report regarding HELSTF that includes, among other things, a groundwater monitoring plan that will determine if there is an on-going release of contaminants to the groundwater in the area of this SWMU group.

Please discuss the relevance of up and down gradient monitor wells in light of the gradient reversals described on page 6.10-6 and the "leaky/stair stepping" and "flowing downwards and away from the discharge point" type situation described in the section for SWMU 146.

WSMR RFI Phase II Rpt.
Attachment
September 4, 1996

WSMR must propose a way to determine if the high pH described on page 6.10-5 is simply the result of monitor well construction materials or if it is a result of a more pervasive contaminant. NMED has found that with continued development of a monitor well, grout contamination generally dissipates.

A risk assessment must be performed for these SWMUs.

See general comments: 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13

SWMUs 38 and 39, HELSTF Construction Landfills: Please elaborate in an addendum to the Phase II Report on the construction details of the "cap" mentioned on page 6.11-2. If that cap is not in conformance with the specifications of the New Mexico Solid Waste Management Regulations in place at the time of closure (1989), or preferably the specifications of the current regulations, WSMR must upgrade the cap.

Conclusion and Recommendation #8 suggest that both the perched groundwater and its associated contamination emanate from the wastewater discharge at SWMU 144. NMED cannot agree with the conclusion that the landfill is not a source of contamination based solely on the limited number of discreet samples and a soil vapor survey.

WSMR must augment existing HELSTF groundwater monitoring to measure for a possible release to the groundwater of the shallow soil contaminants identified in the Phase I report. The monitoring plan should also include measurements of the regional aquifer to test for possible contaminant communication between the aquifers and to verify the existence of heptachlor.

Please provide a potentiometric surface map of the perched aquifer to support the contention that the waste water discharge at SWMU 144 is the source of shallow groundwater below SWMUs 38 and 39. Is the sentence on page 6.11-10 "The observed groundwater levels tend to decrease in depth with an increasing distance from the wastewater discharge point." correct?

See general comments: 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 17

SWMU 62, Former Sewage Treatment Plant: The AA agrees with WSMRs conclusions and recommends that this SWMU be de-listed from WSMR's HSWA permit under a Class III Permit Modification.

SWMU 63, Former Sanitary Landfill No. 1: If WSMR wishes to remove this SWMU from its permit, it must provide and refute in an

addendum to the Phase II Report, the original rational for creating this site as a SWMU. If WSMR cannot definitively establish that a landfill has not been at or near this location, WSMR may propose a "conditional" permit modifications to remove this SWMU from its permit with a condition of long term groundwater monitoring. The Administrative Authority also requires that WSMR submit a SWMU assessment report for the alternate landfill location to determine if a new SWMU should be established.

To better understand the refocussing of the investigation of this SWMU, NMED asks that WSMR provide, in a SWMU assessment report, copies of the historical aerial photographs referenced on page 6.13-3.

WSMR must evaluate and investigate the source of the elevated levels of contaminants in the groundwater below this site in a phase III RCRA Facility Investigation.

In Table 6.13-1, for well 0063MyW06, the TDS value (27,210 mg/L) and the conductance value (512 uS/cm) do not seem to match. This well should be resampled for TDS (at least) at some point in the future.

See general comments: 2, 3, 11, 12, 13, 18

SWMU 64, Former Sanitary Landfill No. 2: If WSMR wishes to remove this site from its permit, it must provide and refute in an addendum to the Phase II Report, the original rational for creating this site as a SWMU. If WSMR cannot definitively establish that a landfill has not been at or near this location, WSMR may propose a "conditional" permit modifications to remove this SWMU from its permit with a condition of long term groundwater monitoring. The Administrative Authority also requires that WSMR submit a SWMU assessment report for the alternate landfill location to determine if a new SWMU should be established.

WSMR must evaluate and investigate the source of the elevated levels of contaminants in the groundwater below this site. Please elaborate on whether the metals concentrations measures in the groundwater below this site are above background concentrations or not. RCRA guidelines require that totals concentrations in groundwater be considered. This may be in addition to the New Mexico Water Quality Control Commission (WQCC) requirement to consider the dissolved fraction.

See general comments: 2, 3, 4, 7, 8, 11, 12, 13, 17, 18,

WSMR RFI Phase II Rpt.
Attachment
September 4, 1996

SWMU 65, Former WSMR Post Sanitary Landfill No. 3: WSMR must propose how it will verify the existence of, and delineate the extent of, 1,1 Dichloroethene and 1,1,1-Trichloroethane in the underlying groundwater in a phase III RFI workplan.

A complete baseline risk assessment as outlined in general comments 7, 8, 9 is required for this site.

Please elaborate on the cover of this landfill and abide by general comments 16 and 17.

See general comments: 2, 4, 11, 12, 13, 14, 15, 18

SWMUs 66-78, Main Post Sewage Treatment Plant: The nitrate problem in the groundwater below the Main Post may be relevant to this RCRA/IRP investigation, in that it is not clear what contribution SWMU 66 or the STP has made to that problem. WSMR must provide additional information through a Phase III RFI regarding this problem. If these SWMUs do appear to be the release source, WSMR must identify if the hazardous constituents found at these SWMUs are also are infiltrating to the aquifer with the nitrogen compounds.

The extent and source of the high TPH concentrations should be confirmed.

A complete baseline risk assessment is required for this site.

WSMR shall submit procedures to prevent the release of RCRA metals into the wastewater stream prior to irrigation of the surrounding vegetation.

See general comments: 2, 3, 4, 7, 8, 10, 11, 12, 13, 14, 19

SWMU 80, STP Waste Pile: A removal action has been performed at this site and documentation of a complete removal has been submitted. Therefore, WSMR should submit a proposal to remove this SWMU from the ESWA Permit.

SWMUs 82, 83 STP Former Drainage Ditch: WSMR must outline how it will evaluate and investigate the source of the elevated levels of contaminants in the groundwater below this site in a phase III workplan. Please elaborate in an addendum to this report whether the metals concentrations measures in the groundwater below this site are above background concentrations or not. RCRA guidelines require that totals concentrations in groundwater be considered.

WSMR RFI Phase II Rpt.
Attachment
September 4, 1996

Measured concentrations of cyanide may or may not pose a health risk depending on the chemical form of the cyanide. WSMR must perform this evaluation and include this information in the risk assessment.

Effluent continues to enter these ditches when the capacity of the effluent pipe to the Playa Lake is exceeded. This information must be submitted to the Ground Water Protection and Remediation Bureau, Ground Water Discharge Permit Section under a separate letter. This reviewer has given Ms. Marchell Schuman of that Section notice of these occurrences. The AA concurs with WSMRs recommendation that repairs and design modifications of the splitter box and pipe are implemented so that the system can handle high discharges without overflowing into the SWMUs. Confirmation that repairs and institutional controls have been implemented shall be submitted prior to removing the units from the HSWA process via the Class III permit modification.

WSMR must identify an alternative source for the contaminants detected in the groundwater before these SWMUs can be eliminated as possible source location.

See general comment: 2, 3, 4, 7, 8, 9, 10, 11, 12, 13

SWMU 85, STP Playa Lake: To complete the RFI and to fully establish the environmental risk posed by the Playa Lake, WSMR must determine three things. First, if the groundwater below the lake is potable and part of the Main Post's drinking water supply. Second, whether the heavy metals found in the lake have infiltrated into the groundwater. Finally, what are the ecological risks at this unique habitat? WSMR must evaluate these issues through a phase III RFI.

See general comments: 2, 7, 8, 9, 11, 12, 13

SWMU 89, Hazardous Waste Storage Facility, Former Evaporation Tank: Photographic laboratory wastes are identified as having been stored in the evaporation tank, yet there is no specific discussion of silver contamination. Please provide a discussion regarding silver in a Phase III RFI report.

Because of the nature of the site, a Hazardous Waste Storage Facility, and the length of time in operation, a more thorough evaluation of possible groundwater contamination must be performed. NMED requires that a complete 40 CFR, Part 264, Appendix IX (Groundwater Monitoring List) analysis be performed.

A complete baseline risk assessment is required for this site.

WSMR RFI Phase II Rpt.
Attachment
September 4, 1996

Please explain in an addendum to the Phase II Report how the investigation of this SWMUs is associated with the clean closure proposal for the permitted Hazardous Waste Management Unit.

See general comments: 2, 3, 7, 8, 9, 10, 11, 12, 13, 14, 19

SWMU 94, LPSA Storage Area Pit: The Phase I investigation identified benzidine and n-nitrosopimethylamine as constituents exceeding action levels. However, the Phase II investigation did not verify the existence of the constituents. WSMR must supply an explanation for this discrepancy in an addendum to this report.

The investigation of groundwater and its possible contamination is insufficient. The existence of perched groundwater below the site is not explained and a water sample collected through augers is not a verifiable sampling technique.

WSMR must initiate a 3rd phase of investigation for this SWMU.

See general comments: 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 19

SWMU 132, Waste Stabilization Pond Near Orogrange Range Camp: Though this SWMU is on WSMR property, the Waste Stabilization Pond is the result of Fort Bliss's (FB) waste handling practices and FB has agreed to perform the related corrective action. Therefore, WSMR should submit a proposal to remove this SWMU from the facility's HSWA permit.

SWMU 140, LC-37 Paint Dump: A removal action has taken place at this site to the satisfaction of the AA. Therefore, WSMR should submit a proposal to remove this SWMU from the facility's HSWA permit.

SWMU 143, Chrome Spill Site: WSMR must perform a risk assessment to fully evaluate the threat to human health and the environment at this site, and any other site where contaminants from this SWMU may have had an impact.

See general comments: 2, 3, 4, 5, 7, 8, 10, 11, 12, 13

SWMU 144, LSTC Wastewater Discharge Point: WSMR must evaluate in an addendum to this report whether the background inorganic concentrations referenced are appropriate. If these background concentrations are non-authigenic, WSMR must determine and report their source, and if an alternate source is located, a SWMU assessment report must be submitted.

WSMR RFI Phase II Rpt.
Attachment
September 4, 1996

WSMR must perform a risk assessment to fully evaluate the threat to human health and the environment at this site and any other site where contaminants from this SWMU may have had an impact.

See also general comments: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 18

SWMU 145, Test Cell 4 Lagoon: NMED agrees with the WSMR proposal to dismantle the piping to this unit. Making this unit incapable of receiving additional wastes will be a prerequisite for removing the SWMU from WSMR's permit.

WSMR must perform a risk assessment to fully evaluate the threat to human health and the environment at this site.

See general comments: 2, 3, 4, 5, 7, 8, 10, 11, 12, 13

SWMU 146, Dry Pond: NMED disagrees with WSMR's suggestion that "there are no significant evidence of a release of contaminants" from this SWMU. The report states that groundwater below the site contains 1,1-Dichloroethelene, 1,1,1-trichloroethane and carbon tetrachloride above regulatory levels.

WSMR must perform a risk assessment to fully evaluate the threat to human health and the environment at this site and any other site where contaminants from this SWMU may have had an impact.

See general comment: 2, 3, 4, 6, 7, 8, 10, 11, 12, 13

SWMU 147, Decontamination Pad "Underground" Waste Tank: NMED approved the workplan for this site, including its proposed soil sampling, and does not concur with the deletion of the sampling from the activities performed. It is inappropriate that we were not consulted about this decision, and we require that appropriate sampling be done. The question of whether the tank in question was above or below grade is irrelevant to the contamination that may be present. This site must be properly investigated in the light of what its contribution may be to the ground water contamination in the area and the overall risk it poses.

See general comments: 2, 3, 4, 5, 7, 8, 10, 11, 12, 13, 14

SWMU 148, MAR Waste Stabilization Pond: Minimal effort was spent to investigate below the soil used to fill the closed pond. WSMR must evaluate in a phase III RFI report the nature and extent of "deeper" soil contamination at this site to determine whether it is a source for groundwater contamination.

WSMR RFI Phase II Rpt.
Attachment
September 4, 1996

See general comments: 2, 3, 4, 5, 8, 10, 11, 12, 13

SWMU 150, MAR Dump: A removal action was performed a this site in which all soil contaminants above action levels were removed.

The AA concurs with WSMR's conclusions and recommends removal of this SWMUs from WSMR's permit. WSMR should propose a permit modification for this site.

SWMU 156, Building T-1348: A removal action was performed a this site in which all soil contaminants above action levels were removed.

The AA recommends removal of this SWMUs from WSMR's permit. WSMR should propose a permit modifications for this site.

APPENDIX C

CRITERIA FOR NO FURTHER ACTION PROPOSALS

NO FURTHER ACTION (NFA) PROPOSALS
CRITERIA

NFA Criterion 1 The Solid Waste Management Unit/Area of Concern (SWMU/AOC) cannot be located, does not to exist or is a duplicate SWMU/AOC.

NFA Criterion 2 The SWMU/AOC has never been used for the management (i.e., generation, treatment, storage and/or disposal) of Resource Conservation and Recovery Act (RCRA) solid waste or hazardous wastes and/or constituents or other Comprehensive Environmental Response, Conservation and Liability Act (CERCLA) hazardous substances.

NFA Criterion 3 No release to the environment has occurred or is likely to occur in the future from the SWMU/AOC.

NFA Criterion 4 A release from the SWMU/AOC to the environment has occurred, but the SWMU/AOC was characterized and/or remediated under another authority (such as the New Mexico Environment Department's Underground Storage Tank or Ground Water Quality Bureaus), which adequately addressed RCRA corrective action, and documentation, such as a closure letter, is available.

NFA Criterion 5 The SWMU/AOC 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.

WSMR Environment & Safe

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

2 8800 00019365 /

April 28, 2000

Mr. Thomas A. Ladd, Director
Environment and Safety Directorate
Department of the Army
U. S. Army White Sands Missile Range
White Sands Missile Range, New Mexico 88002-5048

Dear Mr. Ladd,

On March 27, 2000 the Environmental Protection Agency (EPA) received a request for confirmation that the Class III Permit Modification issued by EPA to White Sands Missile Range in December 1995 removed twenty-four (24) solid waste management units (SWMUs) from the Hazardous and Solid Waste Amendments (HSWA) portion of WSMRs Resource Conservation and Recovery Act (RCRA) Permit.

The notice of decision removing the twenty-four (24) SWMUs from WSMRs HSWA permit was issued on November 29, 1995 and EPA was authorized to implement HSWA at that time. The New Mexico Environment Department (NMED) was authorized to implement HSWA on January 1, 1996. Referencing the Statement of Basis - Final Decision "The final decision will become effective thirty (30) days after service of notice of the decision unless a later date is specified or review is requested under regulation 40 CFR 124.19. If no comments are received to request a change in the final determination, the decision to approve the application will become effective immediately upon issuance." The decision became effective December 29, 1995.

Consequently, the Statement of Basis - Final Decision issued by EPA removed all twenty-four (24) SWMUs from WSMRs HSWA Permit. This action does not preclude NMED from initiating Class III Permit Modification procedures to reinstate the twenty-four (24) SWMUs back into WSMRs HSWA permit should cause exist to do so.

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If you have any questions or require further assistance regarding EPAs 1995 Class III Permit Modification removing twenty-four (24) SWMUs from WSMRs HSWA permit please contact James Harris of my staff at (214) 665-8302.

Sincerely,

David Neleigh

David Neleigh, Chief
New Mexico and
Federal Facilities Section
(6PD-N)

cc: Jim Bearzi, NMED, HRMB
Phillip Solano, NMED, HRMB

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous & Radioactive Materials Bureau
2044 Galisteo Street
P.O. Box 26110
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WSMR Environment & Safety Tech Lib
200-1H
N105-AUA

June 6, 2000

Mr. Thomas A. Ladd
Director, Environment and Safety Division
U.S. Army White Sands Missile Range
White Sands Missile Range, New Mexico 88002-5048

Dear Mr. Ladd:

The New Mexico Environment Department's Hazardous and Radioactive Materials Bureau has received and reviewed your correspondence of March 23, 2000 identifying "discrepancies" in units listed in the 1999 Annual Unit Audit for White Sands Missile Range.

A review of your correspondence and documents in our administrative record have provided sufficient information on each of the units for HRMB to reach a decision on "discrepancies" identified by White Sands Missile Range. Each unit will be listed and a fee assessed as indicated in Attachment 1 to this letter. For clarity our determination is made in the order presented by White Sands Missile Range in the March 23, 2000 letter.

During the review of information provided and the associated administrative record other discrepancies were discovered and are identified in the attached tables. The Final Annual Unit Audit complete with Tables and an invoice will be mailed no later than June 30, 2000.

Sincerely,

Robert S. (Stu) Dinwiddie, Ph.D.
RCRA Advisor

Paul
ES
6/12/00

ATTACHMENT 1

Enclosure 1: Comments on Operating Units Table
Tank-1, Evaporation Tank Building 22895,

Response: According to the Administrative Record this unit has not completed the closure process through Closure Certification Verification and therefore will remain on the Operating Units Table and a fee of $1,500 assessed until this unit meets the necessary requirements to not be assessed a fee under the provisions of 20 NMAC § 4.2.208.1.

Under the provisions of 20 NMAC 4.1.600 incorporating 40 CFR § 265.197(a) "At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners etc.) contaminated soils and structures and equipment contaminated with waste, and manage them as hazardous waste," As stated in your Enclosure 1, you have requested that the closure plan be modified to allow for less stringent closure standards.

Under the provisions of 20 NMAC 4.1.600 incorporating 40 CFR § 265.197(b) "If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in paragraph (a) of this section, then the owner or operator must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply for landfills (20 NMAC 4.1.600 incorporating 40 CFR § 265.310)

Enclosure 2: Comments on Table A-1, Units Requiring Corrective Action, Part 1, Previously Identified SWMUs

"a. SWMUs 33-34, WSMR-49, HELSTF Holding Tanks- The former HELSTF fluorspar tanks should not be on the 1999 AUA because they were previously removed from the White Sands Corrective Action Permit by the EPA in December, 1995"

Response: According to the Administrative Record the HELSTF Holding Tanks in addition to receiving Calcium fluoride also received aqueous Sodium Hydroxide solutions with pH typically above 12.5. The tank then acts as a drying bed.

Under the provisions of 20 NMAC § 4.1.200 incorporating 40 CFR § 261.22 aqueous solutions with a pH greater than or equal to 12.5 is a characteristic hazardous waste.

Under the provisions of 20 NMAC § 4.1.102 incorporating 40 CFR § 260.10 "Treatment means any method, technique, or process including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

Therefore, the HELSTF Fluorspar Tanks have been moved to Table-A.2 of the HSWA Module indicating that they are active RCRA Hazardous Waste Management Units requiring a RCRA Operating Permit and not known to be in need of corrective action at this time.

Under the provisions of HSWA and corrective action guidance all operating Hazardous Waste Management Units meet the definition of Solid Waste Management Units and are listed in the HSWA Module of the permit.

There is no $250 corrective action fee assessed for SWMUs in Table A.2. However a fee of $1,500 will be assessed for each of these two units until these units meet the necessary requirements to not be assessed a fee under the provisions of 20 NMAC § 4.2.208.1.

"**b.** SWMU 61, WSMR-24, Tula Peak Burial Site Incinerator - The former Tula Peak Burial Site Incinerator should not be on the 1999 AUA because it was previously removed from the White Sands Corrective Action Permit by EPA in December, 1995."

Response: Administrative Records maintained by our office indicate that White Sands Missile Range was instructed by the EPA, during the NFA process for this site, that RCRA Closure and Post Closure Care was required. The Administrative Record does not show a closure plan or post-closure care plan was submitted for this site.

During discussions about this site between White Sands Missile Range staff and myself on May 10, 2000 Missile Range Staff indicated that a fence was put up and that everything was removed from this site. As part of the Administrative Record White Sands Missile Range submitted an Instillation Action Plan (IAP) in February 2000. That plan states on Page 83 Section 3.2.18 "Partially melted cluster bomb units and other small ordnance debris were left in the incinerator and are scattered on the surface of the ground." Page 85, Photograph 3-25 shows the incinerator in place and it was not removed at the time the IAP was submitted.

According to the IAP Page 84, Figure 3-20 there are four distinct and separate land disposal units within the fence of this site and one incinerator.

Under the provisions of 20 NMAC § 4.1.600 incorporating 40 CFR §§ 265.310 Tula Peak Burial Site has waste left in place and therefore must close and go through post-closure care as a landfill containing 4 distinct landfill cells. (SWMUs 57, 58, 59, and 60; WSMR-23)

Under the provisions of 20 NMAC § 4.1.600 incorporating 40 CFR §§ 265.351 the incinerator must be "clean closed".

Under the provisions of 20 NMAC §§ 4.1.102 and 4.2.107.30 incorporating 40 CFR § 260.10 which states: "Hazardous Waste Management Unit is a contiguous area of land on which or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of Hazardous Waste Management Units include surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area" ....

According to the above citation landfill cell is a unit and the incinerator is a separate unit. Therefore a fee of $2,000 will be assessed for each unit meeting the description of a Landfill Cell until the end of the post-closure care period and $1,500 assessed for the incinerator until clean closed as required by 20 NMAC § 4.1.600.

"**c.** SWMUs 92A, 93, 95, 96, 97, 98, 99, 100, WSMR-11, Liquid Propellant Evaporation/Neutralization Pits- These former liquid propellant storage area pits should not be on the 1999 AUA because they were previously removed from the White Sands Corrective Action Permit by the EPA in December 1995."

Response: Excluding SWMU 92B and SWMU 94 NMED is not in agreement with the NFA determination and requires confirmatory sampling for nitrosamines NDMA and DMN. At the time of this NFA action EPA was requiring sampling and enforcing for the same types of units handling, treating, and disposing of the same wastes at other Federal Facilities and not against

others. This site will be added to Table A.1 pending further investigation.

A fee of $250 will be assessed for each of these SWMUs until a thorough investigation is completed and these units are shown to meet NFA requirements.

"**d.** SWMUs 121-123, WSMR 67, Stallion Asphalt Tanks- These former asphalt tanks should not be on the 1999 AUA because they were previously removed from the White Sands Corrective Action Permit by the EPA in December 1995."

Response: The administrative Record indicates that these tanks were granted NFA status partially if not totally under the understanding that they had been closed out under the NMED Underground Storage Tank (UST) Program. Since the date of NFA Missile Range Staff has stated that that may not have been all together correct because the UST Program nor the Missile Range had any records to indicate closure under UST. Based on the Administrative Record granting of NFA status for these units may have been in error.

Therefore these tanks will remain on the AUA and be added to the permit's HSWA Module until properly closed out as SWMU's with the RCRA Program. A fee of $250 for each tank will be assessed until they qualify for NFA status under the RCRA Program.

"**e.** SWMU 149, WSMR-46, HELSTF Septic System Bldg. 26121- This site should not be on the 1999 AUA because they were previously removed from the White Sands Corrective Action Permit by the EPA in December 1995."

Response: This Septic System has been determined to be active and has been moved to Table A.2 of the White Sands Missile Range Permit's HSWA Module.

No Fee Assessed

"**f.** SWMU 151, WSMR-46, HELSTF Septic System Technical support Area Office Trailers- This site should not be on the 1999 AUA because they were previously removed from the White Sands Corrective Action Permit by the EPA in December 1995."

Response: This Septic System has been determined to be active and has been moved to Table A.2 of the White Sands Missile Range Permit's HSWA Module.

No Fee Assessed

"**g.** SWMU 152, WSMR-46, HELSTF Septic System Bldg. 26145- This site should not be on the 1999 AUA because they were previously removed from the White Sands Corrective Action Permit by the EPA in December 1995."

Response: This Septic System has been determined to be active and has been moved to Table A.2 of the White Sands Missile Range Permit's HSWA Module.

No Fee Assessed

"**h.** SWMU 153, WSMR-58, Vandal Burial Site- This Site should not be on the 1999 AUA because they were previously removed from the White Sands Corrective Action Permit by the EPA in December 1995."

Response: This site warrants further investigation to determine if the materials buried here contributed to the per chlorate plume in the area. At the time this site was granted NFA status by the EPA investigation, sampling, and analysis did not include per chlorate or other solid fuel hazardous constituents and a determination of the amount of contribution to the groundwater contamination in the area has not been made to the New Mexico Environment Departments satisfaction.

This site will remain in the AUA and in Table A.1 of the White Sands Missile Range HSWA Module. A fee of $250 will be assessed.

Enclosure 3:Comments on Table A-1, Units Requiring Corrective Action, Part 2, Newly Identified SWMUs

"**a.** SWMU 109, Drum Storage Area/Splash Pad at TTF- The comments section of the table for this site, taken from the RCRA Facility Assessment PR/VSI Report (A.T. Kearny, 1988), states: 'An RFI is suggested; the unit was constructed over contaminated soil. Further investigation warranted to define extent of contamination and to determine whether ground water quality has been impacted. Ground water sampling around the TTF for priority pollutants has been recommended under the IRP.' This site should not be on the 1999 AUA because it has been completely and thoroughly investigated during the course of the extensive investigations accomplished at the TTF, contamination has been removed from the subsurface soils, no waste is stored here, and ground water monitoring is ongoing at the TTF.

Response: Administrative Records for the White Sands Missile Range HSWA Module reflect that this site was identified during the RCRA Facility Assessment and that a RCRA Facility Investigation (RFI) was recommended. No record of RFI or other corrective action to warrant removal from the permit or omission from the original HSWA Module of the RCRA Permit. Therefore this site will remain in the AUA and in Table A.1 until justification for NFA and the NFA Process is completed. A fee of $250 will be assessed.

"**b.** SWMU 124, Waste Oil Storage Tank at Stallion Range- The comments section of the table for this site, taken from the RCRA Facility Assessment PR/VSI Report (A.T. Kearny, 1988), states: ' An RFI may be warranted; identification of the contents of the tanks and confirmation of the integrity of the tank appears warranted. If a release has occurred, then further RFI activities may be warranted.' This site should not be on the 1999 AUA because contents of the tank have been identified and removed by the used oil contractor, Mesa Oil, for recycling, the tank has not been used for oil storage since the early 1990s, and there has never been a release from this unit. The 550-gallon closed steal tank discussed in the RFA was taken out of service in the early 1990s. Used oil is currently accumulated in 55-gallon drums stored on pallets over asphalt. Mesa Oil contacted when quantities in storage approach 500 gallons total. Mesa Oil performs a characterization of the oil prior to pumping it and taking it for recycling. No release of used oil has ever occurred at Stallion.

Response: Administrative Records for the White Sands Missile Range HSWA Module reflect that this site was identified during the RCRA Facility Assessment and that a RCRA Facility Investigation (RFI) was recommended. No record of RFI or other corrective action to warrant removal from the permit or omission from the original HSWA Module of the RCRA Permit.

Therefore this site will remain in the AUA and in Table A.1 until justification for NFA and the NFA Process is completed. A fee of $250 will be assessed.

"c. SWMU 135, Paint Shop Accumulation Area Bldg. 1742- The comments section of the table for this site, taken from the RCRA Facility Assessment PR/VSI Report (A.T. Kearny, 1988), states: 'An RFI is suggested; during the VSI minor paint spills and drips were observed; sampling of sub-soils under drums storage area is suggested to determine whether routine and systematic spillage occurred.' This site should not be on the 1999 AUA because an RFI is not suggested, minor paint spills and drips could not have migrated to the sub-soils, and there has never been a release at this unit. The area where the used paint and solvents used to be stored is gravel over asphalt. Thus, minor spills and drips could not have migrated to the sub-soils under the drums storage area. The paint shop closed in the early 1990s and all materials were moved to the hazardous waste storage facility after proper characterization for proper disposal. There has never been a release at this site. Photos of this site are enclosed for your information.

Response: There appears to be a discrepancy in White Sands Missile Range's assertion that this site should not be in the AUA. Line 3 of the site description indicated the the RFA Contractor suggested an RFI. White Sands Missile Range then states two lines later that an RFI is not suggested. Administrative Records for the White Sands Missile Range HSWA Module reflect that this site was identified during the RCRA Facility Assessment and that a RCRA Facility Investigation (RFI) was recommended. No record of RFI or other corrective action to warrant removal from the permit or omission from the original HSWA Module of the RCRA Permit.

Therefore this site will remain on Table A.1 until justification for NFA and the NFA Process is completed. A fee of $250 will be assessed.

Enclosure 4:SWMUs That Should Be Combined

"a. SWMUs 14-15, WSMR-33, Used Battery Accumulation Areas

Response: Combining SWMUs 14 and 15 would not be in keeping with the combination strategy at other facilities.

These Units are not contiguous or integrally connected by plumbing flowing one into the other.

White Sands Missile Range has addressed these units separately by identifying and addressing these units separately in the IAP and/or NFA Petitions.

These SWMUs will remain separate units in Table A.1 as separate units. A fee of $250 will be assessed for each unit as described.

Under the provisions of 20 NMAC §§ 4.1.102 and 4.2.107.30 incorporating 40 CFR § 260.10 which states: "Hazardous Waste Management Unit is a contiguous area of land on which or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of Hazardous Waste Management Units include surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area" ....

"b. SWMUs 21-22, WSMR-31 and WSMR-32, Main Post Former Fire Fighting Training Area, Pit, and Waste Pile

Response: White Sands Missile Range has identified and addressed these units separately in the IAP and/or NFA Petitions. These SWMUs will remain separate units in Table A.1 as separate units.

Under the provisions of 20 NMAC §§ 4.1.102 and 4.2.107.30 incorporating 40 CFR § 260.10 which states: "Hazardous Waste Management Unit is a contiguous area of land on which or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of Hazardous Waste Management Units include surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area" ....

A fee of $250 will be assessed for each of these units.

"c. SWMUs 27-30, WSMR-44, HELSTF Lagoons

Response: Review of the drawings for these four lagoons indicates that SWMUs 27 and 28 are contiguous as are SWMUs 29 and 30. While White Sands Missile Range indicates these lagoons are hydraulically connected there is no indication if that connection an integral part of lagoon design as required for combining these units. Furthermore White Sands Missile Range has identified and addressed these units separately in corrective action documents up to and including NFA Petition.

Under the provisions of 20 NMAC §§ 4.1.102 and 4.2.107.30 incorporating 40 CFR § 260.10 which states: "Hazardous Waste Management Unit is a contiguous area of land on which or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of Hazardous Waste Management Units include surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area" ....

A fee of $250 will not be assessed for each unit.

"d. SWMUs 38-39, WSMR-52, Former HELSTF Landfills

Response: These Units are not contiguous and drawings show 5 not 2 Landfill Cells. Therefore, SWMUs 38 and 39 have been redesignated 38A, 38B, 38C, 39A and 39B in Table A.2 of the White Sands Missile Range Permit's HSWA Module.

Based on information provided by White Sands Missile Range which indicate dates of operation after the effective date of RCRA these units must undergo closure and post-closure care under the provisions of 20 NMAC 4.1.600.

Under the provisions of 20 NMAC §§ 4.1.102 and 4.2.107.30 incorporating 40 CFR § 260.10 which states: "Hazardous Waste Management Unit is a contiguous area of land on which or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of Hazardous Waste Management Units include surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area" ....

A fee of $250 will not be assessed for each of these units.
A fee of $2,000 will be assessed for each of these units.

"e. SWMUs 47-49, WSMR-71, Former North Oscura Peak Landfill

Response: Under the provisions of 20 NMAC §§ 4.1.102 and 4.2.107.30 incorporating 40 CFR § 260.10 which states: "Hazardous Waste Management Unit is a contiguous area of land on which or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of Hazardous Waste Management Units include surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area" ....

A fee of $250 will be assessed for each of these units

"f. SWMUs 82-83, WSMR-62, Former STP Percolation Ditches

Response: The Administrative Record reflects two distinct ditches emptying into two distinct separate areas. These units will remain separate but be placed in Table A.2 of the White Sands Missile Range permit's HSWA Module.

Based on information submitted by White Sands Missile Range these units were constructed and continued to operate, manage hazardous waste, after the effective date of RCRA. Based on the information provided by White Sands Missile Range these units must be closed under the provisions of 20 NMAC 4.1.600.

A fee of $1,500 will be assessed for each of these units.

"g. SWMUs 86-87, WSMR-81 and WSMR-82, Main Post Sanitary and Construction Landfill

Response: These units will remain separate and be placed in Table A.2 of the White Sands Missile Range Permit's HSWA Module because they are distinct landfill cells that manage wastes meeting the definition of solid waste under the provisions of HSWA. However there are indications in the administrative record that there are more than two cells in this landfill and NMED will continue to research the administrative record to determine if the appropriate number of cells is more or less than 2 as indicated by the designation of SWMU 86 and SWMU 87.

Under the provisions of 20 NMAC §§ 4.1.102 and 4.2.107.30 incorporating 40 CFR § 260.10 which states: "Hazardous Waste Management Unit is a contiguous area of land on which or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of Hazardous Waste Management Units include surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area" ....

A fee of $250 will not be assessed for each of these units.

"h. SWMUs 114-115, WSMR-14, Former Rhodes Canyon Landfills

Response: These units will remain separate and be placed in Table A.1 of the White Sands Missile Range Permit's HSWA Module because they are distinct landfill cells that manage wastes meeting the definition of solid waste under the provisions of HSWA.

Based upon the information provided by White Sands Missile Range one of the units closed prior

to the effective date of RCRA and one unit closed in 1987 after the effective date of RCRA. The unit that closed after the effective date of RCRA must close under the provisions of 20 NMAC 4.1.600.

Under the provisions of 20 NMAC §§ 4.1.102 and 4.2.107.30 incorporating 40 CFR § 260.10 which states: "Hazardous Waste Management Unit is a contiguous area of land on which or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of Hazardous Waste Management Units include surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area" ....

A fee of $250 will be assessed for the unit closed prior to the effective date of RCRA.
A fee of $2,000 will be assessed for the unit that closed in 1987.

"i. SWMUs 116-118, WSMR-75, Rhodes Subgrade Asphalt Tanks

Response: White Sands Missile Range indicates that a decision document is forthcoming on these units. A determination of appropriateness for NFA will not be made on a CERCLA Based Decision document unless all necessary components of a RCRA Corrective Action Voluntary Remediation Report including confirmatory sampling and analysis are included in the Decision Document. Until such time these SWMUs will remain in Table A.1 of the White Sands Missile Range Permit's HSWA Module as separate units.

Under the provisions of 20 NMAC §§ 4.1.102 and 4.2.107.30 incorporating 40 CFR § 260.10 which states: "Hazardous Waste Management Unit is a contiguous area of land on which or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of Hazardous Waste Management Units include surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area" ....

A fee of $250 will be assessed for each of these units.

WSMR Environment &

2 8800

NEW MEXICO ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us

RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

November 3, 2009

Thomas A. Ladd, Director
Environment and Safety Directorate
U.S. Army White Sands Missile Range
White Sands Missile Range, New Mexico 88002

RE: 2009 ANNUAL FEE - CORRECTED
WHITE SANDS MISSILE RANGE
EPA ID #NM2750211235

Dear Mr. Ladd:

The New Mexico Environment Department (NMED) has made a correction to the 2009 Annual Fee for your facility. This correction was made after communications with your staff regarding two units (SWMU 104, Surface Impoundment TTF and SWMU 90, Evaporation Tank) that were closed prior to the date for consideration for this annual fee. The enclosed Tables have been updated to reflect this change. The tables are: 1) Table A – Hazardous Waste Management Activities; 2) Table B - Corrective Action; and 3) Table C - Summary of Units.

Enclosed is the corrected invoice for your 2009 annual fees. Under the provisions of 20.4.2.301.C NMAC "[p]ayment shall be due within sixty (60) days of receipt of the invoice unless the facility submits to NMED a written request seven (7) days prior to the end of the sixty (60) day period and receives written approval to extend the time for payment before the date payment is due."

CF: - TA
- BOOK

Rcvd
11/5/2009
10:10 AM
PW

Should you have any further questions concerning this matter please call me at (505) 476-6035.

Sincerely,

John E. Kieling
Manager
Permits Management Program
Hazardous Waste Bureau

Attachments

cc: J. Valdez, NMED HWB
L. Andress, NMED HWB
File: Reading and 2009 Annual Fee

TABLE A - Corrected
White Sands Missile Range 2009 Annual Fee
HAZARDOUS WASTE MANAGEMENT ACTIVITIES

Unit ID No.	Unit Type/Description	Process	Comments	Fee
Operating unit:				
CS-1	Container Storage Unit	S01-Container Storage	SWMU 88	$2,000.00
Operating units requiring or undergoing closure:				
LDU-1	Tula Peak Burrial Site; Was SWMUs 57-60	D80-Landfill	SWMU 57	$4,000.00
LDU-6	HELSTF Landfill	D80-Landfill	SWMU 38	$4,000.00
LDU-9	HELSTF Landfill	D80-Landfill	SWMU 39	$4,000.00
LDU-10	Former Main Post Landfill #3 at Scrap Yard	D80-Landfill	SWMU 65; Shut down because of UXO possibility	$4,000.00
SI-2	Former Acid Neutralization Unit HWSF	T01-Tank Treatment	SWMU 89	$3,000.00
SI-3	Pond; Was SWMUs 82 & 83	T02-Surface Impoundment	SWMU 82	$3,000.00
SI-4	HELSTF Cleaning Facility Sump		SWMU 142	$3,000.00
SI-8	Liquid Propellant Evaporation/Neutralization Pit 4	T02-Surface Impoundment	SWMU 94	$3,000.00
OB/OD-1	Open Detonation Crater 1	X01-Open Detonation	SWMU 56	$3,000.00
OB/OD-2	Open Detonation Crater 2	X01-Open Detonation	SWMU 56A	$3,000.00
OB/OD-3	Open Burn Pan	X01-Open Burn	SWMU 55	$3,000.00
Post-closure care unit:				
LDU-5	Rhodes Canyon Landfill	D80-Landfill	SWMU 114	$4,000.00
			Total Annual Fee:	$43,000.00

TABLE B - Corrected
White Sands Missile Range 2009 Annual Fee
CORRECTIVE ACTION

Count	Unit ID No.	Unit Type/Description	Comments	Fee
1	SWMU 8	Former Waste Oil Tank East of Building 1794	WSMR 36, Was SWMUs 8 & 9	750.00
2	SWMU 10	Vehicle Wash Ramp, Drains, Sump, and Oil Water Separator at Building 1778		750.00
3	SWMU 12	Vehicle Wash Ramp, Drains, Sump, and Oil Water Separator at Building 1778	WSMR 60, Was SWMUs 12 & 13	750.00
4	SWMU 14	Used Battery Accumulation Areas (Main Post) Buildings 1776 & 1794 (2)	WSMR 33, Was SWMUs 14 & 15	750.00
5	SWMU 16	Heavy Equipment Wash Pad & Drain Building 1736	WSMR 79	750.00
6	SWMU 16	Heavy Equipment Wash Pad and Drain		750.00
7	SWMU 17	Waste Underground Injection Pipe	WSMR 73	750.00
8	SWMU 18	Waste Accumulation Area		750.00
9	SWMU 19	Steam Wash Pad, Drain, Oil/Water Separator at Bldg. 1753		750.00
10	SWMU 20	Oil/Water Separator		750.00
11	SWMU 21	Old Fire Fighting Training Area	WSMR 31	750.00
12	SWMU 22	Main Post Former FFTA Waste Pile	WSMR 32	750.00
13	SWMU 22	Abandoned Pit		750.00
14	SWMU 26	Vapor Recovery Unit		750.00
15	SWMU 27	Sanitary Treatment System HELSTF		750.00
16	SWMU 28	Sanitary Treatment System HELSTF		750.00
17	SWMU 29	Sanitary Treatment System HELSTF		750.00
18	SWMU 30	Sanitary Treatment System HELSTF		750.00
19	SWMU 33	Fluorspar Tank at HELSTF		750.00
20	SWMU 34	Fluorspar Tank at HELSTF		750.00
21	SWMU 47	Former North Oscura Peak Landfill (1 cell)	WSMR 71	750.00
22	SWMU 48	Former North Oscura Peak Landfill (2 cells)	WSMR 71 Was SWMUs 48 & 49	750.00
23	SWMU 62	Former Sewage Treatment Plant		750.00
24	SWMU 63	Former Main Post Landfill 1A	WSMR 39	750.00
25	SWMU 64	Former Main Post Landfill 2A	WSMR 40	750.00
26	SWMU 66	Influent Pipeline to STP		750.00
27	SWMU 67	Bar/Screen Grinder		750.00
28	SWMU 68	North Primary Clarifier		750.00
29	SWMU 69	South Primary Clarifier		750.00
30	SWMU 70	Grid Ditch/Splitter Box 2		750.00
31	SWMU 71	North Trickling Filter		750.00

TABLE B - Corrected
White Sands Missile Range 2009 Annual Fee
CORRECTIVE ACTION

Count	Unit ID No.	Unit Type/Description	Comments	Fee
32	SWMU 72	South Trickling Filter		750.00
33	SWMU 73	Splittter Box		750.00
34	SWMU 74	North Secondary Clarifier		750.00
35	SWMU 75	South Secondary Clarifier		750.00
36	SWMU 76	Splitter Box 3		750.00
37	SWMU 77	Primary Digester		750.00
38	SWMU 78	Secondary Digester		750.00
39	SWMU 80	STP Sludge Waste Pile (Main Post)	WSMR 30	750.00
40	SWMU 86	Santiary Landfill		750.00
41	SWMU 87	Construction Landfill		750.00
42	SWMU 115	Former Rhodes Canyon Landfill	WSMR 14	750.00
43	SWMU 116	Rhodes Subgrade Asphalt Tank	WSMR 75 Was SWMUs 116, 117, & 118	750.00
44	SWMU 117	Subgrade Tank at Rhodes Canyon		750.00
45	SWMU 118	Subgrade Tank at Rhodes Canyon		750.00
46	SWMU 121	Subgrade Tank at Stallion Range		750.00
47	SWMU 122	Subgrade Tank at Stallion Range		750.00
48	SWMU 123	Subgrade Tank at Stallion Range		750.00
49	SWMU 125	Veterinary & McAffee Clinic Incinerator 1	WSMR 77	750.00
50	SWMU 126	Veterinary & McAffee Clinic Incinerator 2	WSMR 77	750.00
51	SWMU 132	Waste Stabilization Pond		750.00
52	SWMU 135	Paint Shop Accumulation Area Building 1742		750.00
53	SWMU 137	Paint Shop Sump		750.00
54	SWMU 140	LC 37 Paint Dump	WSMR 84	750.00
55	SWMU 141	Equipment Storage Area		750.00
56	SWMU 143	HELSTF Storage Yard Chromium Spill Site	WSMR 54	750.00
57	SWMU 144	HELSTF Laser System Test Center Wastewater Discharge Point		750.00
58	SWMU 145	HELSTF Test Cell 4 Lagoon	WSMR 53	750.00
59	SWMU 146	HELSTF STP Dry Pond		750.00
60	SWMU 147	Decontamination Pad & Underground Holding Tank	WSMR 78	750.00
61	SWMU 148	Former MAR Site Stabilization Pond	WSMR 83	750.00
62	SWMU 149	Maintenance Building Septic System		750.00
63	SWMU 150	MAR Dump Site		750.00
64	SWMU 151	Trailer Area Septic System		750.00
65	SWMU 152	Property and Supply Septic System		750.00

TABLE B - Corrected
White Sands Missile Range 2009 Annual Fee
CORRECTIVE ACTION

Count	Unit ID No.	Unit Type/Description	Comments	Fee
66	SWMU 153	Vandel Rocket Burial Site		750.00
67	SWMU 154	HELSTF Systemic Diesel Spill Site	WSMR 55	750.00
68	SWMU 155	Red Rio Munitions Burial Site		750.00
69	SWMU 156	Former Golf Course Pesticide Storage Shed T-1348	WSMR 57	750.00
			Total Annual Fee:	$51,750.00

TABLE C - Corrected
White Sands Missile Range 2009 Annual Fee
SUMMARY OF UNITS

Number of Units	Unit Type	Fee
5	Disposal	$20,000.00
7	Treatment	$21,000.00
1	Storage	$2,000.00
1	Post Closure Care	$4,000.00
0	Corrective Action Management Unit	$0.00
0	Temporary Unit	$0.00
0	Remedial Action Plan Unit	$0.00
69	Corrective Action	$51,750.00
	Total Annual Fee:	$98,750.00

ARCADIS

Appendix B

1996 Close Out Report

WSMR Environmental and Safety Technical Library
2 8800 00001 3988

CLOSE OUT REPORT

SWMU 61 TULA PEAK UNEXPLODED ORDNANCE INCINERATOR
SWMUs 92-100 LIQUID PROPELLANT STORAGE AREA
WHITE SANDS MISSILE RANGE
NEW MEXICO

Prepared for:

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

Prepared by:

DOW

Dow Environmental

AUGUST 30, 1996
USACE CONTRACT DACA56-93-D-0016
DELIVERY ORDER NO. 0010
DEI PROJECT NO. 6015

TABLE OF CONTENTS

SECTION		PAGE
	Executive Summary	iii
1.0	**Introduction**	1-1
1.1	General	1-1
1.2	Site Locations	1-1
1.3	Site Descriptions	1-1
2.0	**SWMU 61 Tula Peak Unexploded Ordnance Incinerator**	2-1
2.1	Previous Investigations	2-1
2.2	Site Description	2-1
2.3	Waste Sampling Program	2-1
2.4	Waste Characterization	2-1
2.5	Waste Removal & Disposal and/or Recycling	2-1
2.6	Conclusions and Recommendations	2-4
3.0	**SWMUs 92-100 Liquid Propellant Storage Area**	3-1
3.1	Previous Investigations	3-1
3.2	SWMU 92-100 Description	3-1
3.3	SWMU 92-100 Remediation Strategy	3-1
3.4	Waste Characterization	3-4
3.5	Waste Removal & Disposal and/or Recycling	3-4
3.6	Conclusions and Recommendations	3-12
4.0	**Quality Assurance/Quality Control Program**	4-1
4.1	Analytical Methodology	4-1
4.2	Sample Integrity	4-1
4.2.1	Decontamination Procedures	4-1
4.2.2	Sample Log Forms	4-2
4.2.3	Sample Labeling	4-2
4.2.4	Sample Custody and Chain of Custody Procedures	4-2
	4.2.4.1 Sample Custody	4-2
	4.2.4.2 Chain of Custody Form	4-2
4.3	Quality Assurance and Quality Control Samples	4-3
4.3.1	Field Quality Control Samples	4-3
4.3.2	Laboratory Quality Control Samples	4-3

TABLE OF CONTENTS

SECTION		PAGE
5.0	**Data Validation, Reduction and Record Keeping**	**5-1**
5.1	General	5-1
5.2	Data Validation	5-1
5.2.1	Methodology	5-1
5.2.2	Results	5-2

FIGURES

Figure No.		Page
1-1	General Vicinity Map	1-2
1-2	Site Map - General SWMU Location	1-3
2-1	Site Map - SWMU 61 Tula Peak Unexploded Ordnance Incinerator	2-2
2-2	Site Plan - SWMU 61 Tula Peak Unexploded Ordnance Incinerator	2-3
3-1	Site Map - SWMUs 92-100 Liquid Propellant Storage Area	3-2
3-2	Site Plan - SWMUs 92-100 Liquid Propellant Storage Area	3-3

TABLES

Table No.		Page
3-1	Summary Table Waste Characterization SWMUs 92-100	3-5

APPENDICES

Appendix A	Fence Specifications
Appendix B	Sign Specifications
Appendix C	As Built Drawings
Appendix D	Material Certificates
Appendix E	Transfer of Government Property
Appendix F	Waste Characterization Report
Appendix G	Data Validation Report
Appendix H	Photographs
Appendix I	Previous Investigations

WHITE SAND MISSILE RANGE, NEW MEXICO
SWMUs 61, & 92-100
CLOSE OUT REPORT

EXECUTIVE SUMMARY

Dow Environmental Inc. (DEI) was retained by the United States Army Corps of Engineers (USACE) to provide necessary support to characterize and dispose of materials associated with SWMUs 92-100 and mitigate the hazard at SWMU 61. All work was performed under Delivery Order No. 0010 of Contract DACA56-93-D-0016.

The Scope of Work encompassed the Solid Waste Management Units (SWMUs) 61 and 92-100, located at White Sands Missile Range (WSMR), New Mexico.

DEI was tasked to provide the necessary work plans to ensure remediation of the sites. Initial plans included a General Work Plan, a Chemical Data Acquisition Plan (CDAP), and a Site Specific Health and Safety Plan (SSHP). Additional plans and reports included Hazard Determination and Data Reports, Disposal Plans, and Data Validation Reports.

Work was performed between June and September 1995. Field activities included soil sampling, pipe sampling, soil excavation, pipe removal, plugging of drains, and backfilling pits with soil from a clean borrow pit.

Soils and various solids were sampled and analyzed to identify hazardous and/or contaminated materials. The results of these analyses were reviewed, and the materials were characterized according to the constituents and concentrations detected. Upon characterization approval, disposal plans were developed and executed to dispose of the material.

After removal of the materials, soil samples were taken from the site areas to ensure that remedial activities were complete. The following narrative describes and illustrates the site background, previous investigation data, types of samples taken, the types of analyses performed, the results of these analyses, and the remedial activities that were performed for each SWMU, respectively.

1.0 INTRODUCTION

1.1 General

This Close Out Report provides a narrative and illustrative account of the work performed as described in the Scope of Work for ten (10) solid waste management units (SWMUs) located at White Sands Missile Range (WSMR), New Mexico.

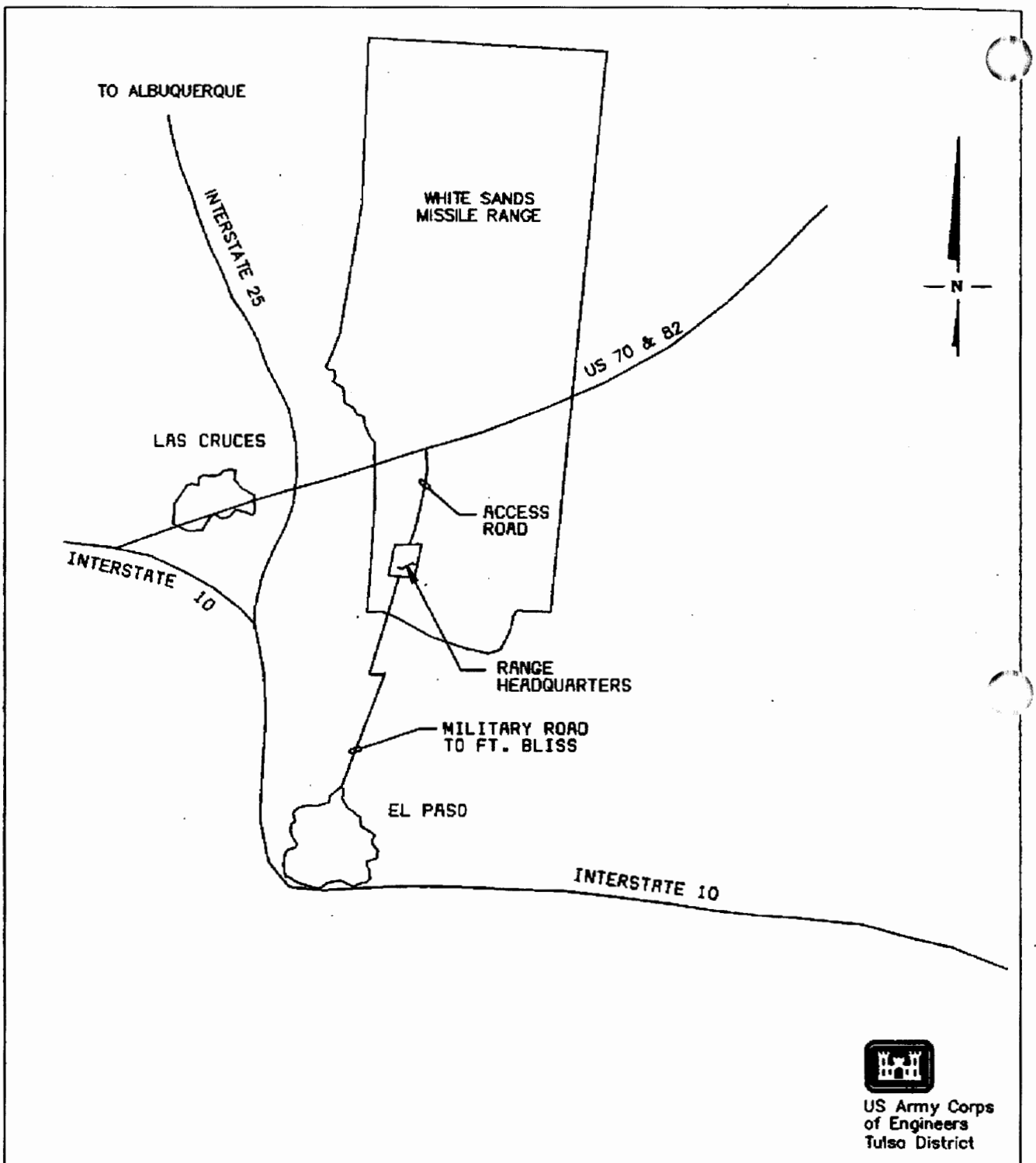
This Close Out Report is submitted by Dow Environmental Inc. (DEI) in partial fulfillment of the requirements of Contract No. DACA56-93-D-0016, Delivery Order No. 0010, for the U.S. Army Corps of Engineers (USACE), Tulsa District.

1.2 Site Locations

White Sands Missile Range (WSMR) is located in the Tularosa Basin of south central New Mexico, about thirty (30) miles east of Las Cruces, New Mexico (Figure 1-1). The range covers an area of approximately 3,200 square miles. The materials that were characterized and disposed were at SWMUs #92-100, located approximately 3.3 miles east of the main post. The area that was enclosed with a wire fence, SWMU #61, is located approximately 40 miles northeast of the main post. The general location of each SWMU is shown on Figure 1-2.

1.3 Site Description

WSMR is a government owned facility under the command of the U.S. Army Testing and Evaluation Command (TECOM). WSMR was established in July 1945 as the White Sands Proving Ground. The property is used to test rocket, missile, and laser weapon systems. As such, the facility provides support for programs of the Army, Air Force, Navy, National Aeronautics and Space Administration (NASA), and other government agencies.



6015-WS-EDP-FIG1-1

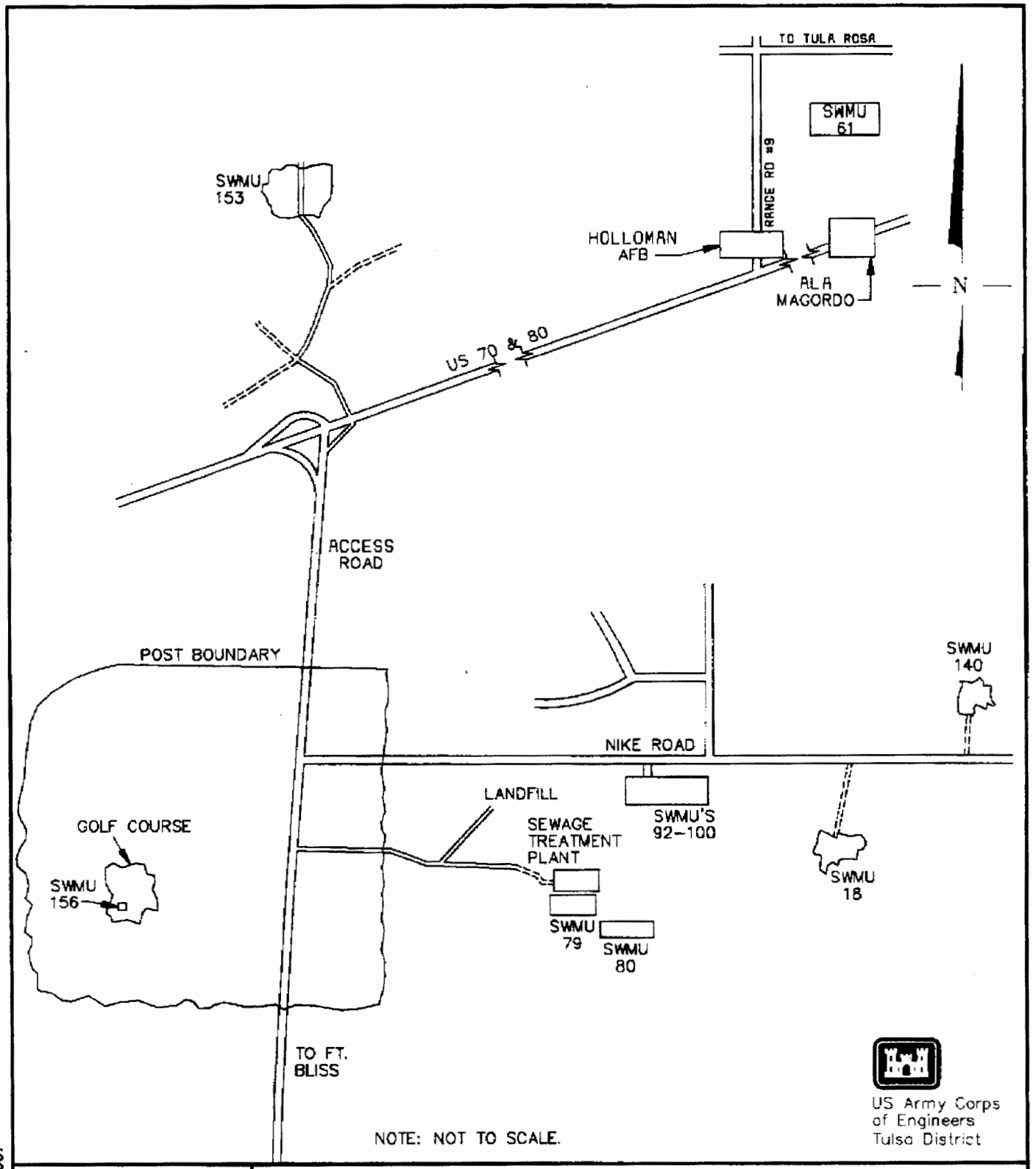
FIG 1

Dow Environmental

GENERAL VICINITY MAP
WHITE SANDS MISSILE RANGE

U.S. ARMY CORPS OF ENGINEERS

PROJECT: WHITE SANDS MISSILE RANGE		PROJECT NUMBER: 6015	
SCALE: N.T.S.	DATE: SEPTEMBER 28, 1995	FIGURE NUMBER 1-1	R 0



Dow Environmental	SITE MAP GENERAL CONTAMINANT LOCATION			
	U.S. ARMY CORPS OF ENGINEERS			
	PROJECT: WHITE SANDS MISSILE RANGE		PROJECT NUMBER: 6015	
	SCALE: N.T.S.	DATE: JANUARY 26, 1996	FIGURE NUMBER 1-2	REV 0

6L -WS-EDP-F007

2.0 SWMU 61 Tula Peak Unexploded Ordnance (UXO) Incinerator

2.1 Previous Investigations

A discussion of previous investigations is attached as Appendix I, Section 1.

2.2 Site Description

SWMU #61 is located about 13.6 miles north of Holloman AFB and about 7.5 miles west of Tularosa, NM, as shown in Figure 2-1. As shown on Figure 2-2, an incinerator and burial pit areas are located about 0.5 miles east of Range Road #9 and north of the road to the Old Tula Peak Airfield. Range Road #9 is a north-south road connecting Holloman Air Force Base (AFB) with the north range and is the access to the project site. The incinerator is currently inactive. Miscellaneous aircraft and missile parts are observable in the burial pits. Partially melted cluster bomb units and other small ordnance have been left in the incinerator and are scattered over the ground surface.

2.3 Waste Sampling Program

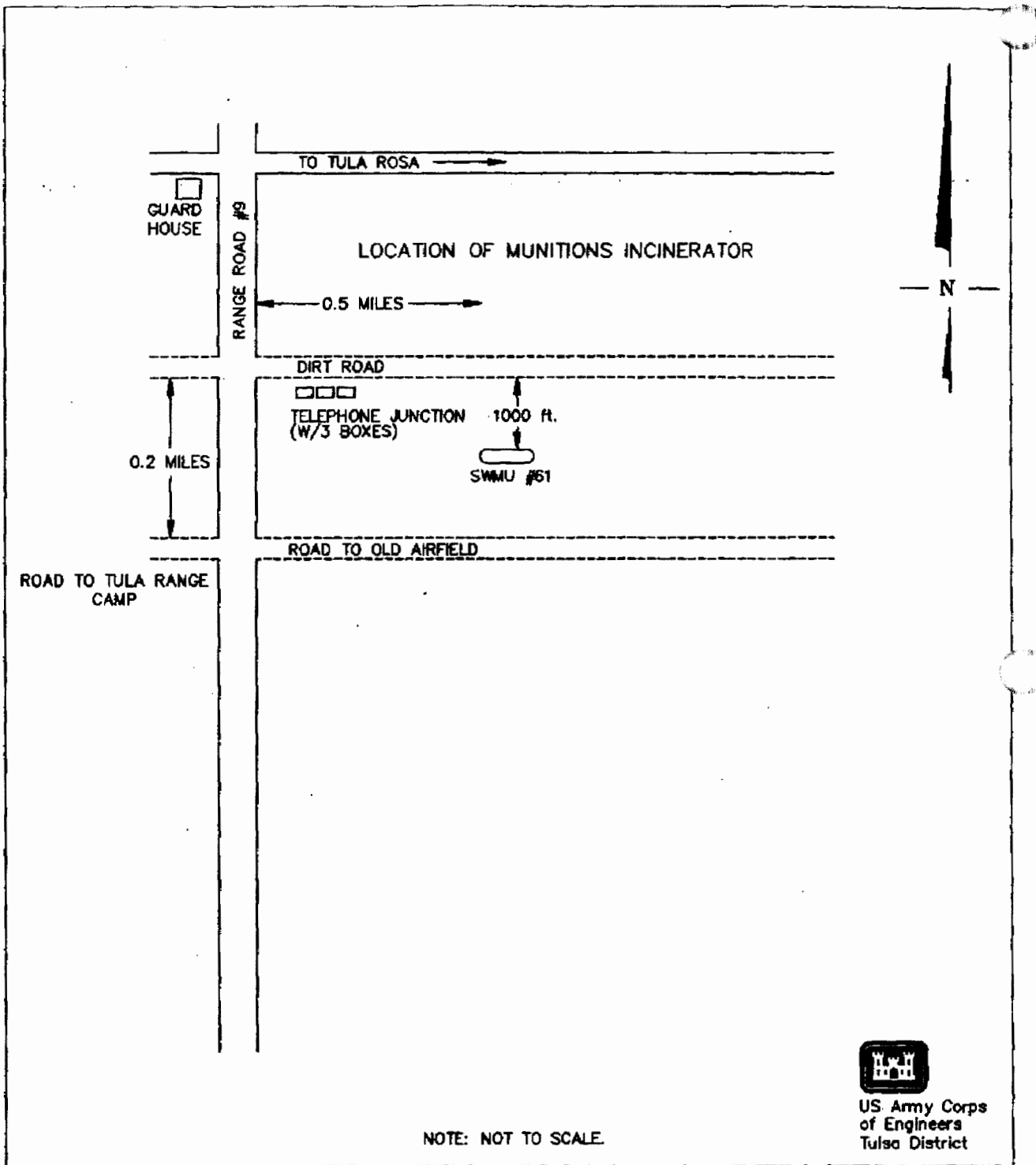
None required.

2.4 Waste Characterization

None required.

2.5 Waste Removal & Disposal and/or Recycling

The remediation strategy for SWMU #61 was to construct a fence with a gate around the site perimeter and post signs every 100 feet on the fence warning of the potential hazard that exists

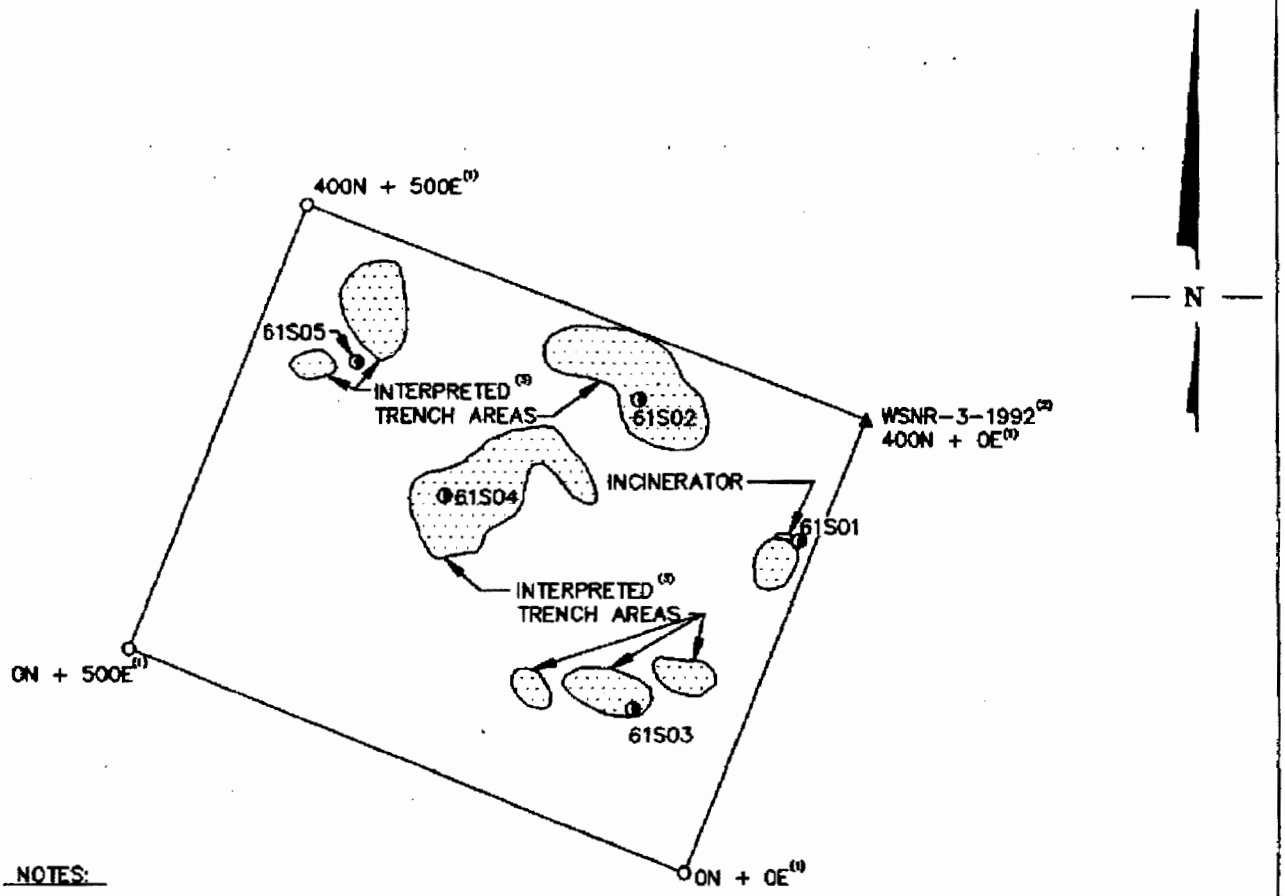


6015-WS-EDP-F008

SITE LOCATION MAP SWMU # 61

U.S. ARMY CORPS OF ENGINEERS

PROJECT: WHITE SANDS MISSILE RANGE		PROJECT NUMBER: 6015	
SCALE: N.T.S.	DATE: APRIL 13, 1995	FIGURE NUMBER 2-1	REV 0



NOTES:

(1) SURVEY COORDINATES ARE NOTED IN APPENDIX H.

(2) MONUMENT (WSMR-3-1992) IS ALSO THE GEOPHYSICAL GRID POINT 400N + 0E.

(3) INTERPRETED TRENCH AREAS ARE BASED ON ELECTROMAGNETIC CONDUCTIVITY PROFILING AND MAGNETIC FIELD MEASUREMENTS.

100 0 100
SCALE

LEGEND

SURFACE SOIL LOCATION AND NUMBER

GEOPHYSICAL GRID REFERENCE COORDINATE

INTERPRETED TRENCH AREA

MONUMENT LOCATION AND DESIGNATION

US Army Corps of Engineers
Tulsa District

6015-WS-EDP-F009

Dow Environmental

SITE PLAN SWMU # 61

U.S. ARMY CORPS OF ENGINEERS

PROJECT: WHITE SANDS MISSILE RANGE		PROJECT NUMBER: 6015	
SCALE: AS SHOWN	DATE: APRIL 13, 1995	FIGURE NUMBER 2-2	REV 0

within. On May 22, 1995, DEI coordinated with the Explosive Ordnance Disposal (EOD) Detachment at WSMR to clear a construction area for mobilizing equipment and materials, and clear an area at least 10 feet wide on each side of the proposed fence line. The fence was constructed June 19-27, 1995 in such a manner to achieve the desired objectives of protecting humans and wildlife from the potential hazards located within the perimeter. Specifications, drawings and documentation associated with the SWMU are attached as Appendices A through E. Photographs of the fence and gate are included as Photographs 61-1 and 61-2 in Appendix H.

2.6 Conclusions and Recommendations

Remedial activities for SWMU 61 have been completed and WSMR should apply for closure of the site.

3.0 SWMUs 92-100 Liquid Propellant Storage Area

3.1 Previous Investigations

A discussion of previous investigations is attached as Appendix I, Section 2.

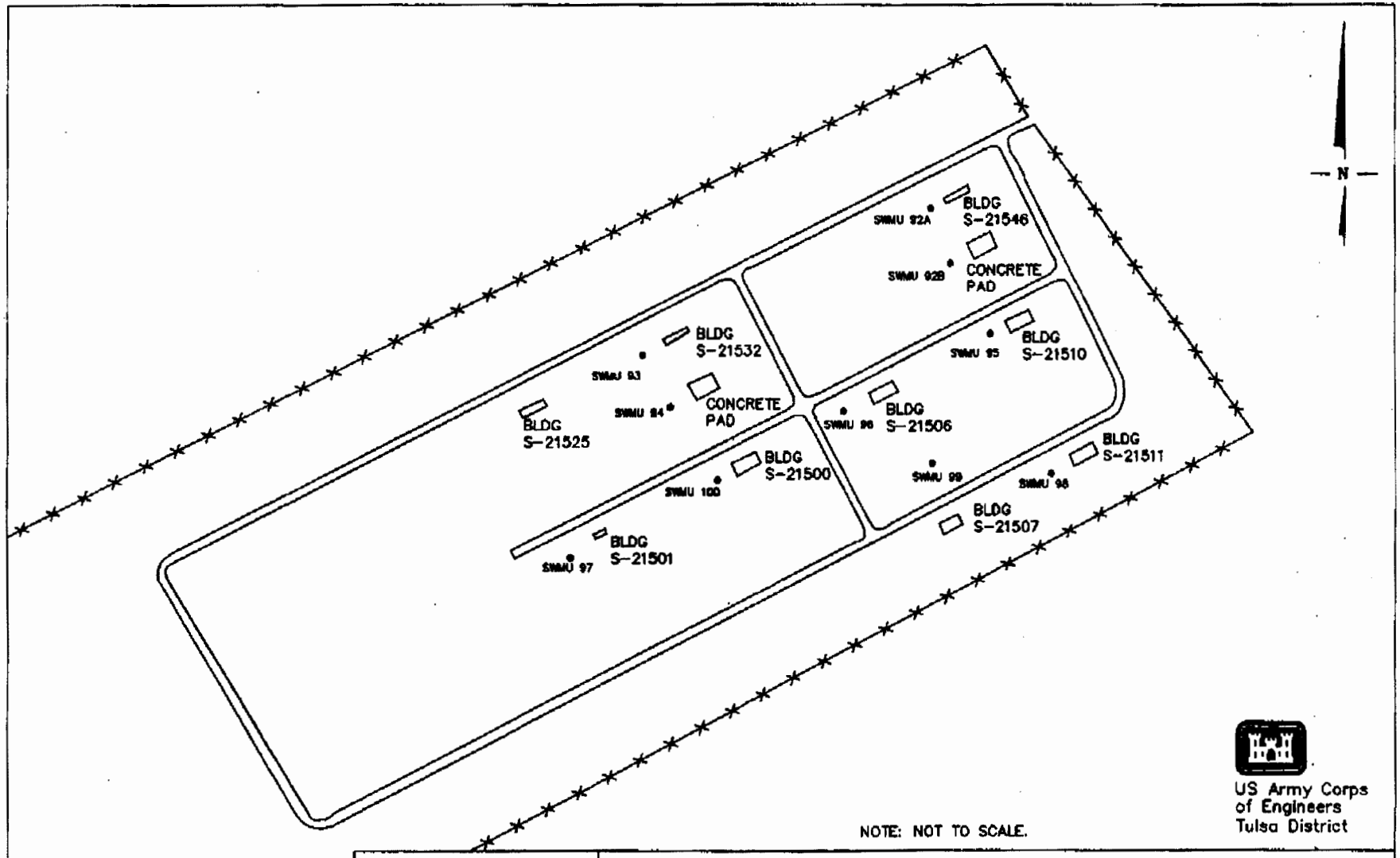
3.2 SWMU 92-100 Description

SWMUs #92-100 were located about 3.3 miles east of the Main Post area, south of Nike Road. The area consists of about 63 acres of secured field where 10 earthen pits were located (Figure 3-1). Each pit was intended to be a secondary containment for a specific storage shed. In the event of a spill in the storage shed, the pit associated with the shed would collect the spilled material via a drain and pipe. The pits were unlined and were typically about 20 feet in diameter and 10 feet deep. Historically, the pits had been associated with inhibited red fuming nitric acid, liquid propellants, and petroleum/oil/lubricants. In 1992, IT Corporation conducted sub-surface and surface soil sampling and detected a semi-volatile compound at SWMU #94. In 1994, Sverdrup Environmental reinvestigated SWMUs #92-100 and did not detect the semi-volatile compound. The RFI determined that the detected metal constituents in the soil of the pits are below the proposed Subpart S action levels.

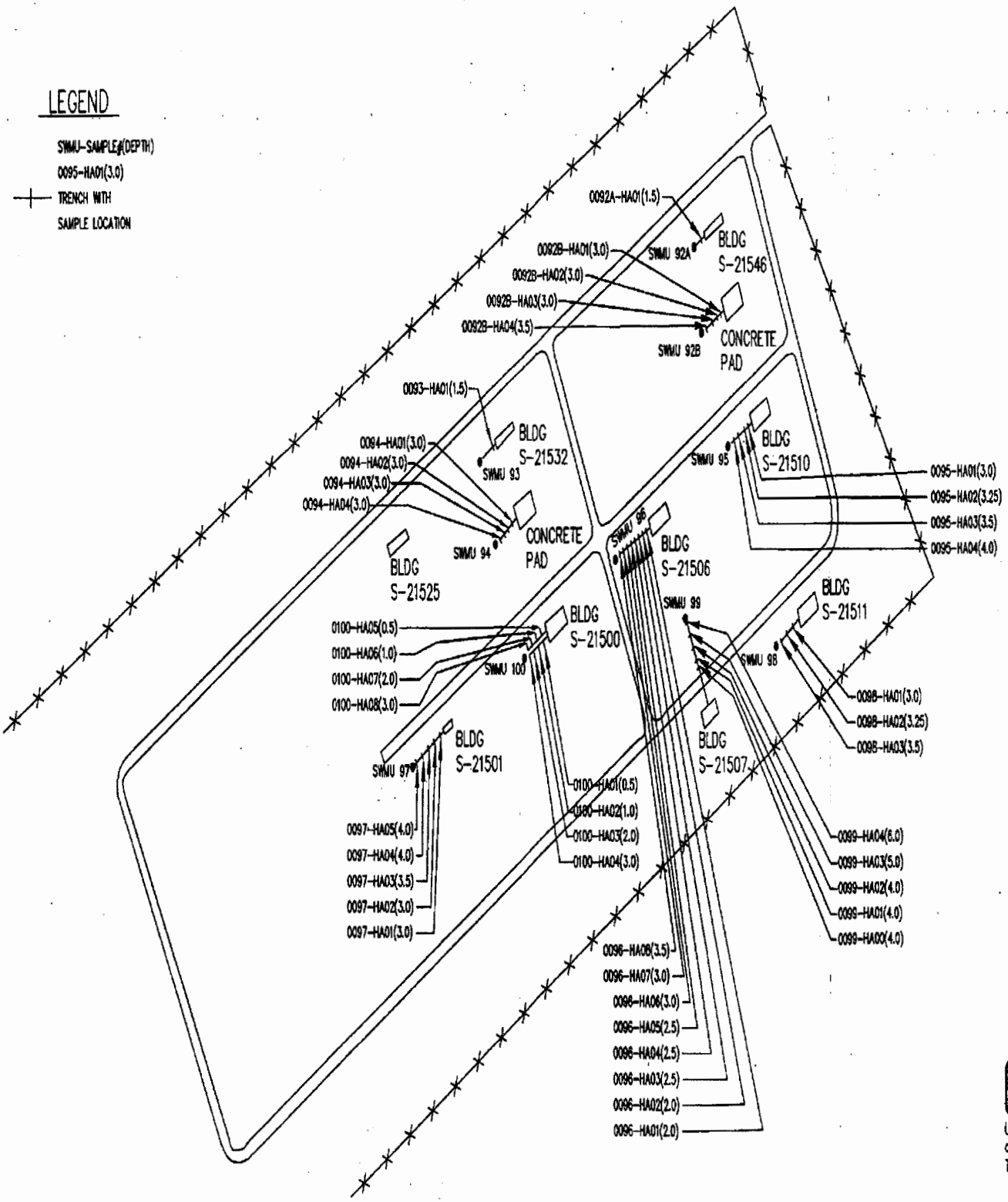
3.3 SWMU 92-100 Remediation Strategy

The remediation strategy for SWMUs 92-100 was to plug the existing storage shed drains leading to the unlined pits, take out the drain lines between the sheds and the pits, and then to fill in the pits with clean soil from a borrow source. The disturbed soil surface areas were then stabilized with mulch and native grass seed. The removed drain lines were sampled and characterized as to their nature and then properly disposed in the WSMR landfill or the scrap yard. The soil was excavated June 20-26, 1995 during the drain pipe removal and was stockpiled and sampled for total petroleum hydrocarbons (TPH), semi-volatile analytes, and volatile analytes prior to placing the soil back into the trenches (see Figure 3-2).

6015-WS-EDP-F010



Dow Environmental	SITE PLAN SWMUs # 92-100		
	U.S. ARMY CORPS OF ENGINEERS		
	PROJECT: WHITE SANDS MISSILE RANGE	PROJECT NUMBER: 6015	
	SCALE: N.T.S.	DATE: APRIL 13, 1995	FIGURE NUMBER 3-1	REV 0



US Army Corps of Engineers Tulsa District

NOTE: SCALE OF TRENCH LINES 1"=100'.

Dow Environmental	JUNE, 1995 SOIL SAMPLE LOCATIONS SWMU 92-100 WHITE SANDS MISSLE RANGE
	USACE TULSA DISTRICT
	PROJECT: WSMR — PROJECT NO. 6015-716
	DATE: JULY 4, 1995 — FIGURE NUMBER 3-2 — REV 0

6015-95-F016

DEI coordinated the site work with the WSMR Directorate of Public Works (DPW), the Ammunition Section, whose office was located adjacent to SWMUs #92-100, the Hazardous Waste Storage Facility, and the Environmental Services Directorate.

3.4 Waste Characterization

The results of the SWMUs 92-100 sampling effort performed June 21-27, 1995 by DEI are presented in Table 3-1. A copy of the approved Waste Characterization Report is attached as Appendix F. All samples tested as non-hazardous and suitable for disposal in the WSMR landfill. Sample locations are shown in Figure 3-2.

3.5 Waste Removal & Disposal and/or Recycling

Since all waste was characterized as non-hazardous, the three samples that exhibited a volatile organic compound (VOC) were compared with the Proposed Subpart S criteria. The TCLP values were subjected to the 20 times rule. All were less than 2 mg/kg, a small fraction of the regulatory level of 4000 mg/kg.

One sample exhibited a TPH level above the New Mexico action level. All material adjacent to and around the immediate area was excavated and placed into the WSMR landfill.

Following the removal of the TPH-laden material, excavated soils were used to backfill the trenches. Collection pits and all excavated trenches were backfilled June 20, 1995 through September 8, 1995 to existing grade with borrow material taken from a USACE-designated borrow area. Upon completion of backfilling, all areas were bladed smooth and hydroseeded September 13, 1995 using a USACE approved seed mixture. Photographs of these operations are included in Appendix H, photos numbered 92/100-2, 92/100-4, 92/100-7, 92/100-8, 92/100-10, 92/100-13 and 92/100-14.

The terra cotta pipe and the TPH-laden soil was placed in the WSMR landfill on September 6, 1995. Two 20 feet lengths of steel drain pipe that were excavated were power-washed and turned in to the WSMR scrap metal yard on September 7, 1995.

Table 3-1

SUMMARY TABLE
WASTE CHARACTERIZATION SWMUs 92-100

Sample No.*	VOC[1] TCLP mg/l	SVOC[2] TCLP mg/l	TPH 8015M mg/kg	VOC 8240 ug/kg	SVOC 8270 ug/kg	Regulatory[3] Limits mg/kg	Remedial Options
DETECTION LIMIT RANGES (SWMU 92)	0.025	0.020	10	5-10	0.01	---	---
92A-HA01 (1.5)	ND	ND	<10	NA	NA		Backfill
92A-PE-1	NA	NA	<0.5	ND	ND		Backfill
92A-SS-1	2 Butanone 0.056	ND	<10	NA	NA	2 Butanone 4000	Backfill
92B-HAO1(3.0)	ND	ND	<10	NA	NA		Backfill
92B-HA02(3.0)	ND	ND	<10	NA	NA		Backfill
92B-HAO3(3.0)	ND	ND	<10	NA	NA		Backfill
92B-HA04(3.5)	ND	ND	11	NA	NA		Backfill
92B-HA04(3.5QC)	ND	ND	<10	NA	NA		Backfill
92B-PE-01	ND	ND	10	NA	NA		Backfill
92B-SS-1	ND	ND	<10	NA	NA		
DETECTION LIMIT RANGES (SWMU 93)	0.025	0.020	10	5-10	0.01	---	---
93-HA01(1.5)	ND	ND	<10	NA	NA		Backfill
93-PE-1	NA	NA	<0.5	ND	ND		Backfill
93-SS-1	ND	ND	<10	NA	NA		Backfill
93-TB	NA	NA	NA	ND	NA		Backfill

Table 3-1 (continued)

SUMMARY TABLE
WASTE CHARACTERIZATION SWMUs 92-100

Sample No.*	VOC[1] TCLP mg/l	SVOC[2] TCLP mg/l	TPH 8015M mg/kg	VOC 8240 ug/kg	SVOC 8270 ug/kg	Regulatory[3] Limits mg/kg	Remedial Options
93-HA01-RB	NA	NA	<10	ND	ND		Backfill
DETECTION LIMIT RANGES (SWMU 94)	0.025	0.020	10	5-10	NA	---	---
94-HA01(3.0)	ND	ND	<10	NA	NA		Backfill
94-HA02(3.0)	ND	ND	<10	NA	NA		Backfill
94-HA03(3.0)	ND	ND	<10	NA	NA		Backfill
94-HA04(3.0)	ND	ND	<10	NA	NA		Backfill
94-PE-1	ND	ND	89	NA	NA		Backfill
94-SS-1	ND	ND	<10	NA	NA		Backfill
94-TB	NA	NA	NA	ND	NA		Backfill
DETECTION LIMIT RANGES (SWMU 95)	0.025	0.020	10	NA	NA	---	---
95-HA01(3.0)	ND	ND	<10	NA	NA		Backfill
95-HA02(3.25)	ND	ND	<10	NA	NA		Backfill
95-HA03(3.5)	ND	ND	<10	NA	NA		Backfill
95-HA04(4.0)	ND	ND	<10	NA	NA		Backfill
95-HA04(4.0) QC	ND	ND	<10	NA	NA		Backfill
95-PE-1	ND	ND	<10	NA	NA		Backfill

Table 3-1 (continued)
SUMMARY TABLE
WASTE CHARACTERIZATION SWMU's 92-100

Sample No.*	VOC[1] TCLP mg/l	SVOC[2] TCLP mg/l	TPH 8015M mg/kg	VOC 8240 ug/kg	SVOC 8270 ug/kg	Regulatory[3] Limits mg/kg	Remedial Options
95-SS-1	ND	ND	<10	NA	NA		Backfill
DETECTION LIMIT RANGES (SWMU 96)	0.025	0.020	10	NA	NA	---	---
96-HA01(2.0)	ND	ND	<10	NA	NA		Backfill
96-HA02(2.0)	ND	ND	140	NA	NA	100<TPH<1000	WSMR Landfill
96-HA03(2.5)	ND	ND	<10	NA	NA		Backfill
96-HA04(2.5)	ND	ND	<10	NA	NA		Backfill
96-HA05(2.5)	ND	ND	<10	NA	NA		Backfill
96-HA06(3.0)	ND	ND	<10	NA	NA		Backfill
96-HA07(3.0)	ND	ND	<10	NA	NA		Backfill
96-HA08(3.0)	ND	ND	<10	NA	NA		Backfill
96HA08(3.0)QC	ND	ND	<10	NA	NA		Backfill
96-PE-1	ND	ND	<10	NA	NA		Backfill
96-SS-1	ND	ND	<10	NA	NA		Backfill
DETECTION LIMIT RANGES (SWMU 97)	0.025	0.020	10	5-10	0.01	---	—
97-HA01(3.0)	ND	ND	<10	NA	NA		Backfill
97-HA02(3.0)	ND	ND	<10	NA	NA		Backfill

Table 3-1 (continued)
SUMMARY TABLE
WASTE CHARACTERIZATION SWMU's 92-100

Sample No.*	VOC[1] TCLP mg/l	SVOC[2] TCLP mg/l	TPH 8015M mg/kg	VOC 8240 ug/kg	SVOC 8270 ug/kg	Regulatory[3] Limits mg/kg	Remedial Options
97-HA03(3.5)	ND	ND	<10	NA	NA		Backfill
97-HA04(4.0)	ND	ND	<10	NA	NA		Backfill
97-HA05(4.0)	ND	ND	<10	NA	NA		Backfill
97-PE-1	ND	ND	31	NA	NA		Backfill
97-PE-2	ND	ND	12	NA	NA		Backfill
97-PE-3	ND	ND	<10	NA	NA		Backfill
97-PE-4	ND	ND	<10	NA	NA		Backfill
97-SS-1	ND	ND	<10	NA	NA		Backfill
97-RB	NA	NA	<0.5	ND	ND		Backfill
97-TB	NA	NA	NA	ND	NA		Backfill
DETECTION LIMIT RANGES (SWMU 98)	0.025	0.020	10	5-10	0.01	---	---
98-HA01(3.0)	ND	ND	<10	NA	NA		Backfill
98-HA01(3.0)QC	ND	ND	<10	NA	NA		Backfill
98-HA02(3.25)	ND	ND	<10	NA	NA		Backfill
98-HA02(3.25)QC	ND	ND	<10	NA	NA		Backfill
98-HA03(3.5)	ND	ND	<10	NA	NA		Backfill
98-PE-1	NA	NA	<0.50	ND	ND		Backfill
98-PE-1 QC	NA	NA	<0.50	ND	ND		Backfill

Table 3-1 (continued)
SUMMARY TABLE
WASTE CHARACTERIZATION SWMU's 92-100

Sample No.*	VOC[1] TCLP mg/l	SVOC[2] TCLP mg/l	TPH 8015M mg/kg	VOC 8240 ug/kg	SVOC 8270 ug/kg	Regulatory[3] Limits mg/kg	Remedial Options
98-SS-1	ND	ND	< 10	NA	NA		Backfill
98-SS-1 QC	ND	ND	< 10	NA	NA		Backfill
DETECTION LIMIT RANGES (SWMU 99)	0.025	0.020	10	NA	NA	—	—
99-HA00(4.0)	ND	ND	< 10	NA	NA		Backfill
99-HA01(4.0)	ND	ND	< 10	NA	NA		Backfill
99-HA02(4.0)	ND	ND	< 10	NA	NA		Backfill
99-HA03(5.0)	ND	ND	< 10	NA	NA		Backfill
99-HA04(6.0)	ND	ND	< 10	NA	NA		Backfill
99-PE-1	ND	ND	< 10	NA	NA		Backfill
99-PE-1 QC	ND	ND	< 10	NA	NA		Backfill
99-PE-2	ND	ND	< 10	NA	NA		Backfill
99-PE-2 QC	ND	ND	< 10	NA	NA		Backfill
99-PE-3	ND	ND	< 10	NA	NA		Backfill
99-PE-4	ND	ND	< 10	NA	NA		Backfill
99-SS-1	ND	ND	< 10	NA	NA		Backfill

Table 3-1 (continued)

SUMMARY TABLE
WASTE CHARACTERIZATION SWMU's 92-100

Sample No.*	VOC[1] TCLP mg/l	SVOC[2] TCLP mg/l	TPH 8015M mg/kg	VOC 8240 ug/kg	SVOC 8270 ug/kg	Regulatory[3] Limits mg/kg	Remedial Options
DETECTION LIMIT RANGES (SWMU 100)	0.025	0.020	10	5-10	0.01	---	---
100-HA01(0.5)	ND	ND	<10	NA	NA		Backfill
100-HA01-RB	NA	NA	<0.5	ND	ND		Backfill
100-HA02(1.0)	ND	ND	<10	NA	NA		Backfill
100-HA03(2.0)	ND	ND	<10	NA	NA		Backfill
100-HA04(3.0)	ND	ND	<10	NA	NA		Backfill
100-HA05(3.0)	ND	ND	<10	NA	NA		Backfill
100-HA06(3.0)	ND	ND	<10	NA	NA		Backfill
100-HA07(3.5)	ND	ND	<10	NA	NA		Backfill
100-HA08(3.5)	2 Butanone 0.075	ND	<10	NA	NA	2-Butanone 4000	Backfill
100-PE-1	2 Butanone 0.059	ND	<10	NA	NA	2-Butanone 4000	Backfill
100-PE-2	2 Butanone 0.095	ND	<10	NA	NA		Backfill
100-PE-3	ND	ND	<10	NA	NA		Backfill
100-PE-4	ND	ND	<10	NA	NA		Backfill
100-PE-5	ND	ND	32	NA	NA		Backfill
100-PE-6	ND	ND	35	NA	NA		Backfill

Table 3-1 (continued)
SUMMARY TABLE
WASTE CHARACTERIZATION SWMU's 92-100

Sample No.*	VOC[1] TCLP mg/l	SVOC[2] TCLP mg/l	TPH 8015M mg/kg	VOC 8240 ug/kg	SVOC 8270 ug/kg	Regulatory[3] Limits mg/kg	Remedial Options
100-PE-6 QC	ND	ND	16	NA	NA		Backfill
100-PE-6 RB	NA	NA	<0.50	ND	ND		Backfill
100-PE-6 TB	NA	NA	NA	ND	NA		Backfill
100-PE-7	ND	ND	<10	NA	NA		Backfill
100-PE-8	ND	ND	<10	NA	NA		Backfill
100-SS-1	ND	ND	<10	NA	NA		Backfill
100-TB	NA	NA	NA	ND	NA		Backfill

* Samples are identified as follows: HA = Hand Auger SS = Stockpile Soil PE = Pipe TB = Trip Blank
[1] EPA Method 1311/8240
[2] EPA Method 1311/8270
[3] Regulatory Limits. The 4000 mg/kg for 2-Butanone is IAW Federal Register, 27 July 1990, Appendix A, Proposed 40 CFR, Part 264, Subpart S Action Levels. The Regulatory Limit for TPH is IAW the State of New Mexico's Land Disposal Standard.
ND = Not Detected NA = Not Analyzed

The drains at each building were plugged and sealed with concrete grout on June 26, 1995 and September 8, 1995. A plugged and grouted drain is shown in photograph number 92/100-1 in Appendix H.

3.6 Conclusions and Recommendations

Based upon results of the confirmatory soil sampling and analyses conducted during the remediation activities, the SWMUs meet or exceed the criteria established in Subpart S. WSMR should apply for closure of the sites.

4.0 QUALITY ASSURANCE/QUALITY CONTROL PROGRAM

4.1 Analytical Methodology

DEI recommended and the Corps of Engineers accepted and approved a Level III Data Quality Objective. Samples from SWMUs 92-100 were collected and analyzed as follows:

Method	SWMU									
	92A	92B	93	94	95	96	97	98	99	100
TCLP Volatile Organics 1311/8240	X	X	X	X	X	X	X	X	X	X
TCLP Semi-Volatile Org. 1311/8270	X	X	X	X	X	X	X	X	X	X
Volatile Organics 8240	X	X	X	X	X	X	X	X	X	X
Semi-Volatile Organics 8270	X	X	X	X	X	X	X	X	X	X
Total Petroleum Hydrocarbons 8015	X	X	X	X	X	X	X	X	X	X

4.2 Sample Integrity

4.2.1 Decontamination Procedures

The decontamination of sampling equipment utilized the standard four stage cleaning procedures.

- Primary wash. Primary wash was performed in a 5 gallon plastic pale using Alconox as the cleansing agent.

- Primary rinse. Primary rinse was performed in a 5 gallon plastic pale using potable water.

- Secondary rinse. Secondary rinse was performed by rinsing the tools with distilled water sprayed from a pressurized plastic bottle.

- Final rinse. Final rinse was performed by applying hexane from a pressurized plastic bottle.

4.2.2 Sample Log Forms

DEI field personnel utilized two sample log forms. One form recorded data relating to individual samples and recorded such data as location, type sample, depth and weather conditions. The other form recorded the total number of samples, sample ID and chain of custody data. Copies of the forms are in Appendix D of the CDAP.

4.2.3 Sample Labeling

Labels were provided by the contract laboratory. Labels contained space for entering date, time and signature, and description of the analysis to be performed, and quantity of material collected.

4.2.4 Sample Custody and Chain of Custody Procedures

4.2.4.1 Sample Custody

Samples, once collected, remained in the possession of the sampling crew until released to the carrier (FedEx, UPS or Laboratory Courier). All samples were tracked by a Chain of Custody.

4.2.4.2 Chain of Custody Form

DEI field personnel used the Chain of Custody form provided by the contract laboratory. The form had spaces to record the site, sample number, number of jars, parameters sampled and a space to record signatures, date and time of the Relinquisher and the Recipient. Copies of a typical form are in Appendix C of the CDAP.

4.3 Quality Assurance and Quality Control Samples

4.3.1 Field Quality Control Samples

Field quality control and quality assurance samples were collected int he same manner and at the time as other samples. QC samples were forwarded to the contract laboratory for analysis. The results were validated and reported as required. QA samples were forwarded to the COE laboratory. Results were reported as required. QC and QA samples were collected one for every 10 samples.

4.3.2 Laboratory Quality Control Samples

Level III protocols have built in QA/QC, including calibration runs, surrogate standards.

5.0 DATA VALIDATION, REDUCTION AND RECORD KEEPING

5.1 General

Dow Environmental Inc. (DEI) was tasked to provide the necessary work plans to ensure complete cleanup of the solid waste management units (SWMUs) 61 and 92-100 which are located throughout White Sands Missile Range (WSMR), New Mexico.. The Data Validation Reports (DVRs) were part of this effort. Soils and various solids were sampled and analyzed to identify hazardous and/or contaminated materials. The results of these analyses were reviewed and the materials were characterized according to the constituent and concentration detected. The DVRs describe and illustrate the type of samples taken, the type of analysis performed, the results of the analysis, the suitability of the data for its intended use, and the validity of the analysis and findings.

5.2 Data Validation

5.2.1 Methodology

All sample analyses were performed within Solid Waste SW-846 guidelines according to U.S. EPA methodologies 1311/ 8240, 8270, and 8015.

Data validation was performed by examining QA/QC summary reports and is considered to be a data quality objective (DQO) level III review. The organic analytical data was evaluated by the following quality assurance/quality control (QA/QC) parameters where applicable: holding times and preservation, system monitoring compound/surrogate spike recoveries, method and rinsate blanks, matrix spike/matrix spike duplicates (MS/MSDs), laboratory control samples (LCSs), field duplicates, and transcription.

The detailed discussions of the DVRs included the following topics: accuracy, precision, representativeness, analytical method, and sensitivity. Accuracy of data results was evaluated by using LCSs and MSs recoveries, and precision was evaluated using the relative percent differences (RPDs) of the MSs and the MSDs. Representativeness was determined by reviewing equipment,

trip, and instrument blanks for possible sample contamination caused by field sampling or laboratory procedures, as well as by reviewing chain of custody (COC) forms. The effect of any variance from the method and holding times prescribed in the Chemical Data Acquisition Plan (CDAP) was discussed in the analytical method, and the adequacy of the detection limits for the intended purpose was covered in the sensitivity section. After review of these topics, the results were applied to RCRA D coded regulatory levels for hazardous waste determination and Proposed Subpart S guideline levels to determine if cleanup of the SWMUs were complete.

5.2.2 Results

The laboratory results for these SWMUs, as presented in all the associated data from the Talem, Inc. laboratory, should be accepted as qualified. The DVRs thoroughly discuss these qualified data results for each method of analysis performed on each SWMU and their effect on data quality objectives. All results and data meet the requirements of the data quality objectives for these SWMUs as outlined in the CDAP, and they are deemed acceptable and valid for the intended use.

A copy of the Data Validation Report is attached as Appendix G.

APPENDIX A

FENCE SPECIFICATIONS

SECTION 02832

NUMBER 9 GRADE 60 FARM (FIELD) FENCE

PART 1 - GENERAL

1.1 SUMMARY (Not Applicable)

1.2 REFERENCES - The publications listed below form a part of this specification to the extent referenced. The publications are referenced to in the text by basic designation only.

1.2.1 AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 94	(1990) Ready-Mixed Concrete
ASTM A 116-88	(1988) Zinc-Coated (Galvanized Steel Woven Wire Fence Fabric
ASTM A 702-89	(1994) Steel Fence Posts and Assemblies, Hot Wrought

1.2.2 FEDERAL SPECIFICATIONS (FS)

FS FF-P-101	(Rev F) Padlocks
RR-F-191/3C	Galvanized Pipe

1.3 SUBMITTALS - The successful bidder shall be required to submit the following prior to beginning work.

(a) Manufacturer's certificate that materials provided meet the requirements of ASTM A 116 and ASTM A 702 as appropriate.

(b) Shop drawings and material specs for the gates. Includes gates, mounting hardware and hanging detail.

(c) Submit manufacturer's descriptive data, technical literature, catalog cuts and installation procedures of the material being placed, prior to installation. Submittals shall be in accordance with SECTION 01305 - SUBMITTALS. Drawings showing post sizes and sections; post setting and bracing; gate details; details for the attachment of panels; and any other details required to erect the fence along the lines indicated.

1.3.2 Padlocks - Two padlocks shall be provided. One padlock shall be attached to the gate and the other shall be provided to the Contractor.

1.4 DELIVERY, STORAGE, AND HANDLING.

1.4.1 Delivery and Storage - Materials delivered to site shall be inspected for damage, unloaded, and stored with a minimum of handling. Materials shall not be stored directly on the ground.

PART 2 PRODUCTS

2.1 FENCE:

(a) Woven: No. 9 farm fence (woven wire) as described in ASTM A116. (Design number 1155-12-9)

(b) Barbed Wire: 12 1/2 gauge, 2 point, double-twisted, barb spacing of 4". Equal to or better than product no. 5989T1 of McMaster Carr catalog #101 Page 877

(c) Overall Height: Six (6) feet (72 inches), from the ground surface.

2.2 POST:

(a) Fence: Metal, Type 1, Style 1 (T-section) steel (8 ft) conforming to the requirements of ASTM A 702. (Steel post shall not weigh less than 1.3 pounds per foot.) Anchor plates shall be 18 inches from the bottom of the post.

(b) Corner: CMT 40, 2 7/8" O.D. with cap (Fed Spec RR-F-191/3C)

(c) Gate: CMT 40, 2" O.D. with cap (Fed Spec RR-F-191/3C)

(d) Sign Support: CMT 40, 2 3/8" O.D. with cap (Fed Spec RR-F-191/3C)

2.3 CONCRETE - ASTM C 94, using 3/4-inch maximum-size aggregate, and having minimum compressive strength of 2000 psi at 28 days. Grout shall consist of one part portland cement to three parts clean, well-graded sand and the minimum amount of water to produce a workable mix.

2.4 PADLOCKS - FS FF-P-101, Type EPB, Size 1-3/4 inch. Padlocks shall be keyed alike and each lock shall be furnished with two keys.

2.5 GATE:

2.5.1 One (1) gate shall be installed as described below. The exact location will be determined during the site walk through.

2.5.2 The gate shall be the dual type (two (2) eight (8) foot sections) constructed on 2" galvanized pipe. Metal gate connections and cross braces shall be welded or double riveted. Gate sections shall be covered with the same fabric as the fence. (Figure 3)

2.5.3 The gate sections shall be sag proof and shall be of a quality equal to the fence.

2.5.4 At least two hinges (3" long) and a latch chain (36" long) shall be provided with the gate. The hinges and chain shall be equivalent to the gate manufacturer's standard for the size of gate supplied. The chain shall be spot welded to the left gate, 48" from the surface of the ground.

2.5.5 The gate sections shall be reinforced, when in the closed position, by a sliding stop rod, which is affixed to the left gate section. The sliding rod shall be 1/2" bar stock and the receptacle shall be a 3/4" 1D x 12" long galvanized pipe, set in concrete. (Figure 3)

PART 3 EXECUTION

3.1 GENERAL - Fence shall be installed to the lines and grades indicated. The area on either side of the fence line shall be cleared to the extent indicated. Line post shall be spaced equidistant at intervals not exceeding 10 feet. (Figure 1)

3.2 SPECIAL FEATURES:

3.2.1 The fasteners to be used for holding the fence to the metal posts shall be Style 5 conforming to the requirements of ASTM A 702.

3.2.2 The posts shall be at least 8 feet long and shall be coated in accordance with ASTM A 702 with a rust resistant hot-dip galvanized finish.

3.2.3 Braces shall be treated material and of the same quality as specified for the posts.

3.2.4 All "T" posts shall be firmly set and well tamped at least 2 feet into the ground. Extra length posts shall be installed at small depressions where it is not practical for the fence to follow the contour of the ground. Corner panels, sign posts and gate posts shall be constructed wherever there is an alignment change of 10 degrees or more, and at each corner of the site (4). Corner panels shall be set in concrete. (Figures 1 thru 4)

3.2.5 Line posts shall be set 10 feet apart. If the posts are placed where rock is encountered making it impossible to set the posts, holes shall be drilled into the rock and the posts, with anchors removed, grouted in place. Grout shall consist of three parts sand to one part portland cement with sufficient water to produce a workable mix.

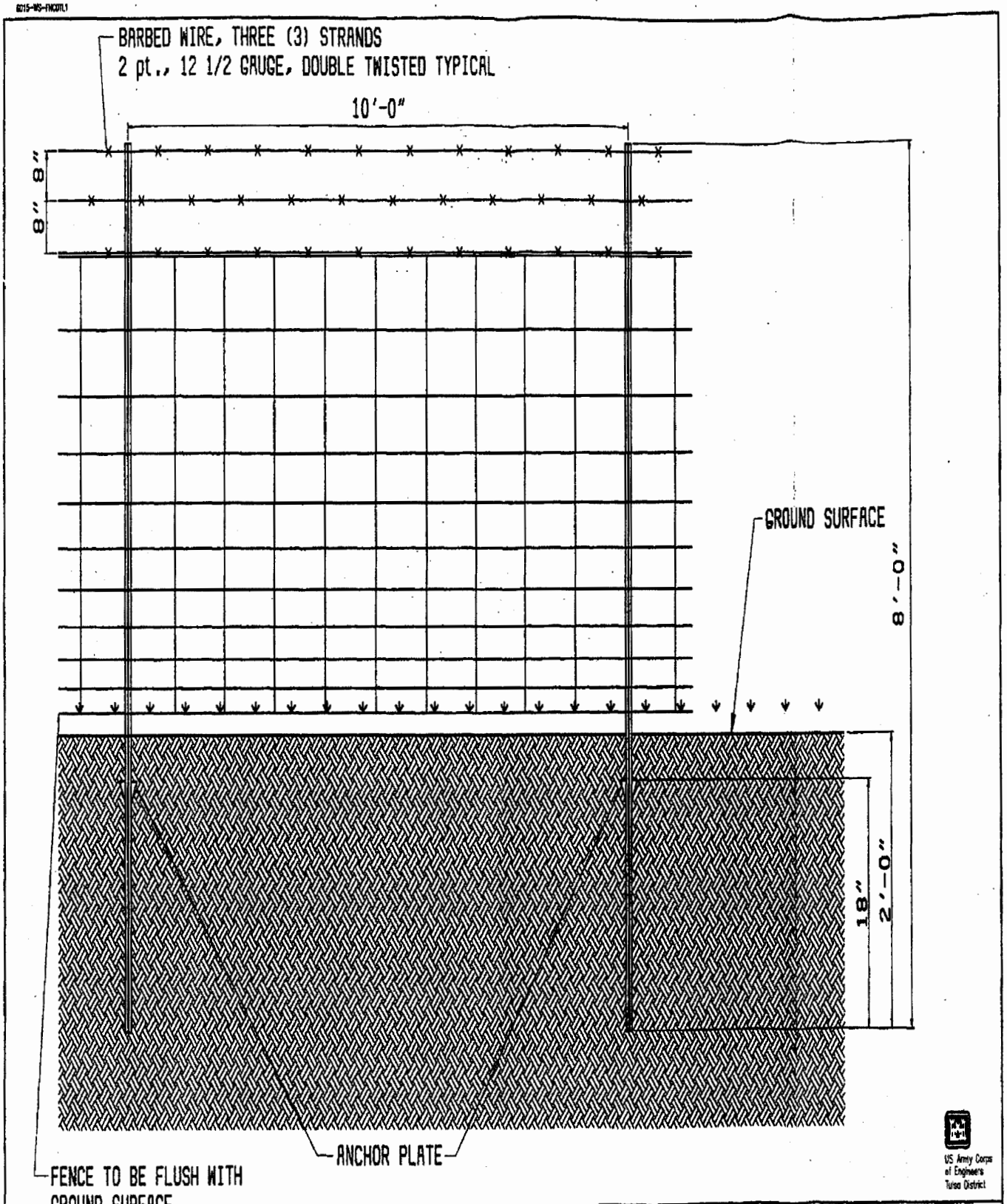
3.2.6 Sign posts shall be set 100 feet apart. Sign posts shall be set in concrete (Figure 4). The signs, furnished by DEI, will be attached to the poles in the same manner as the fence. Additionally, the four corner will be attached to the fence with fasteners as stated in paragraph 3.2.1 above.

3.2.7 Wire installed on the fencepost shall be stretched uniformly tight. Wire shall be attached to the steel line posts with wire fasteners. The fence wire shall be placed on the side of the posts away from the area enclosed. Splices shall be made by bolt clamps of an approved type and by the installers method that is approved, IN ADVANCE, by Dow Environmental.

3.2.8 Three (3) strands of 2 point barbed wire, 12 1/2-gauge, double-twisted shall be installed above the No. 9 farm wire fence. The upper strand (TOP) shall be one (1) inch below the top of the post. The middle strand shall be evenly spaced (approximately 8") between the upper strand and the top of the fabric. The bottom strand of barbed wire shall be flush with the upper strand of the farm wire fence. Barbed wire shall be equal to or better than that specified in McMaster-Carr catalog 101, page 877 (barbed wire). The barbed wire shall be affixed to the posts in the same manner as the fence. Refer to paragraph 3.2.1 and 3.2.7 above. (Figures 1 and 4)

END OF SECTION

6015-WS-FNCDTL1



US Army Corps of Engineers
Tulsa District

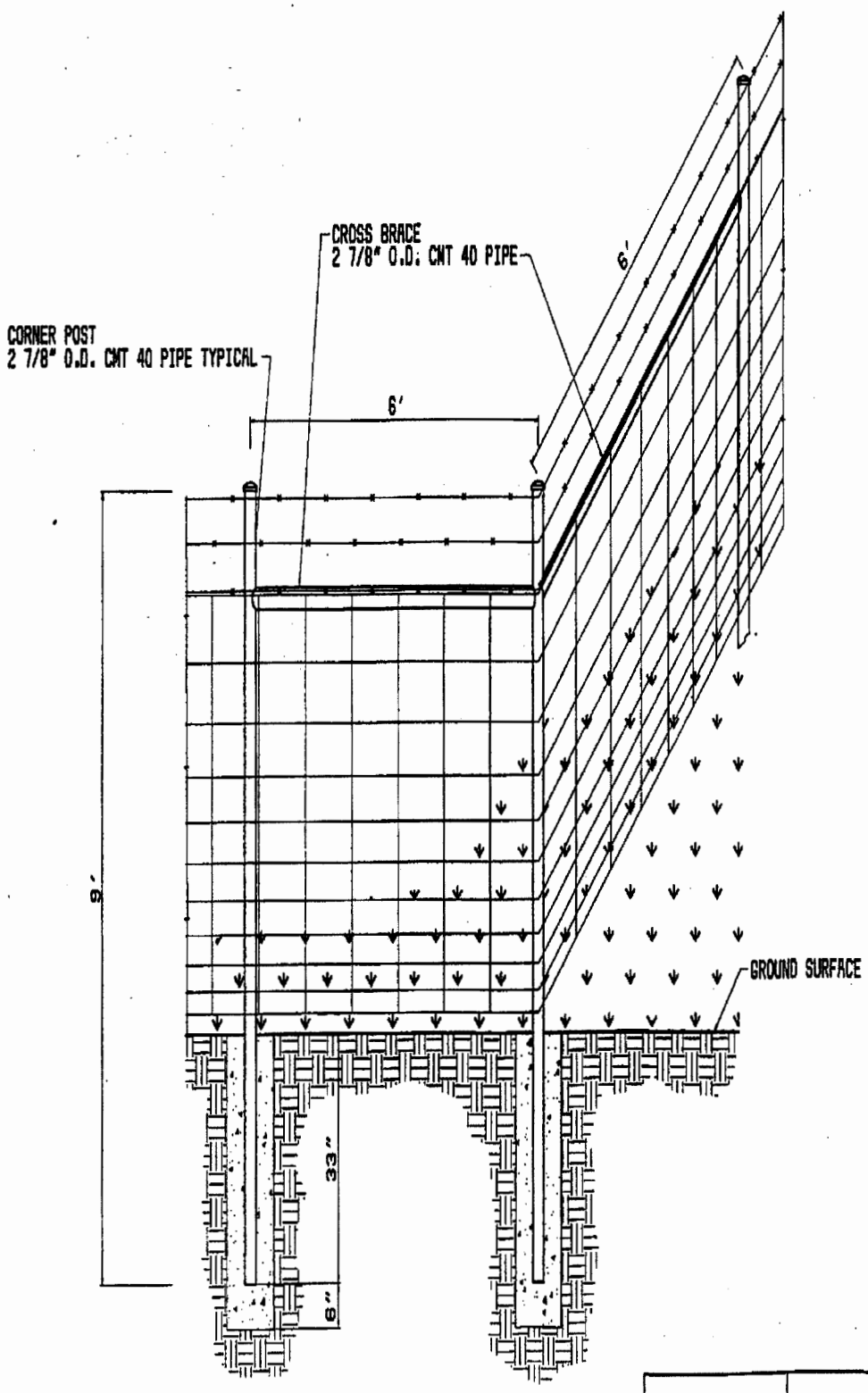
Dow Environmental

SWMU #61
FENCE DETAIL

U.S. ARMY CORPS OF ENGINEERS

PROJECT: WHITE SANDS MISSILE RANGE		PROJECT NUMBER: 6015	
SCALE: N.T.S.	DATE: MARCH 21, 1995	FIGURE NUMBER 1	REV 0

6015-WS-CORNER



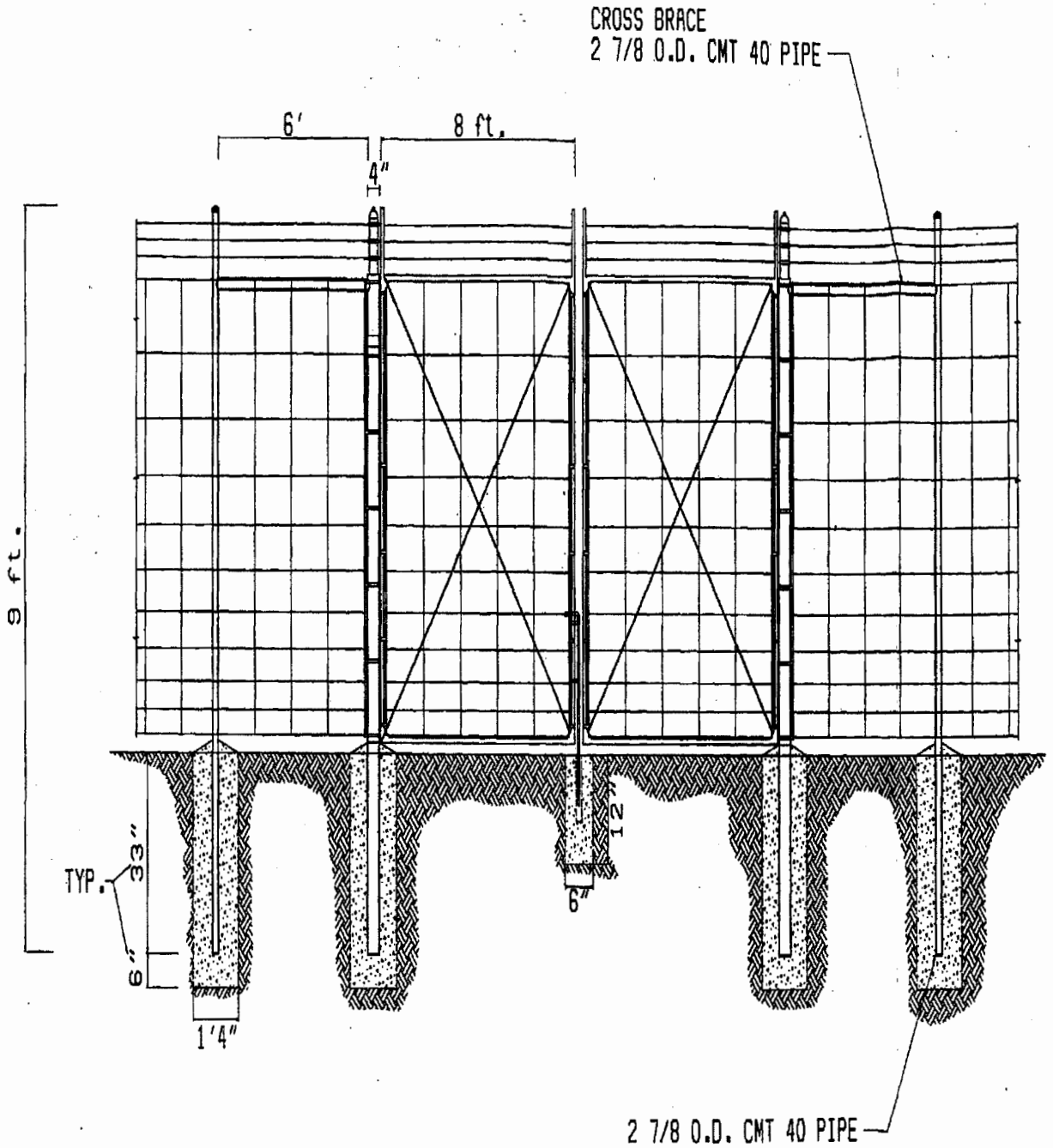
US Army Corps of Engineers Tulsa District

Dow Environmental

SWMU #61
FENCE CORNER DETAIL

U.S. ARMY CORPS OF ENGINEERS

PROJECT: WHITE SANDS MISSILE RANGE		PROJECT NUMBER: 6015-4001	
SCALE: N.T.S.	DATE: MARCH 21, 1995	FIGURE NUMBER 2	REV 0



US Army Corps of Engineers Tulsa District

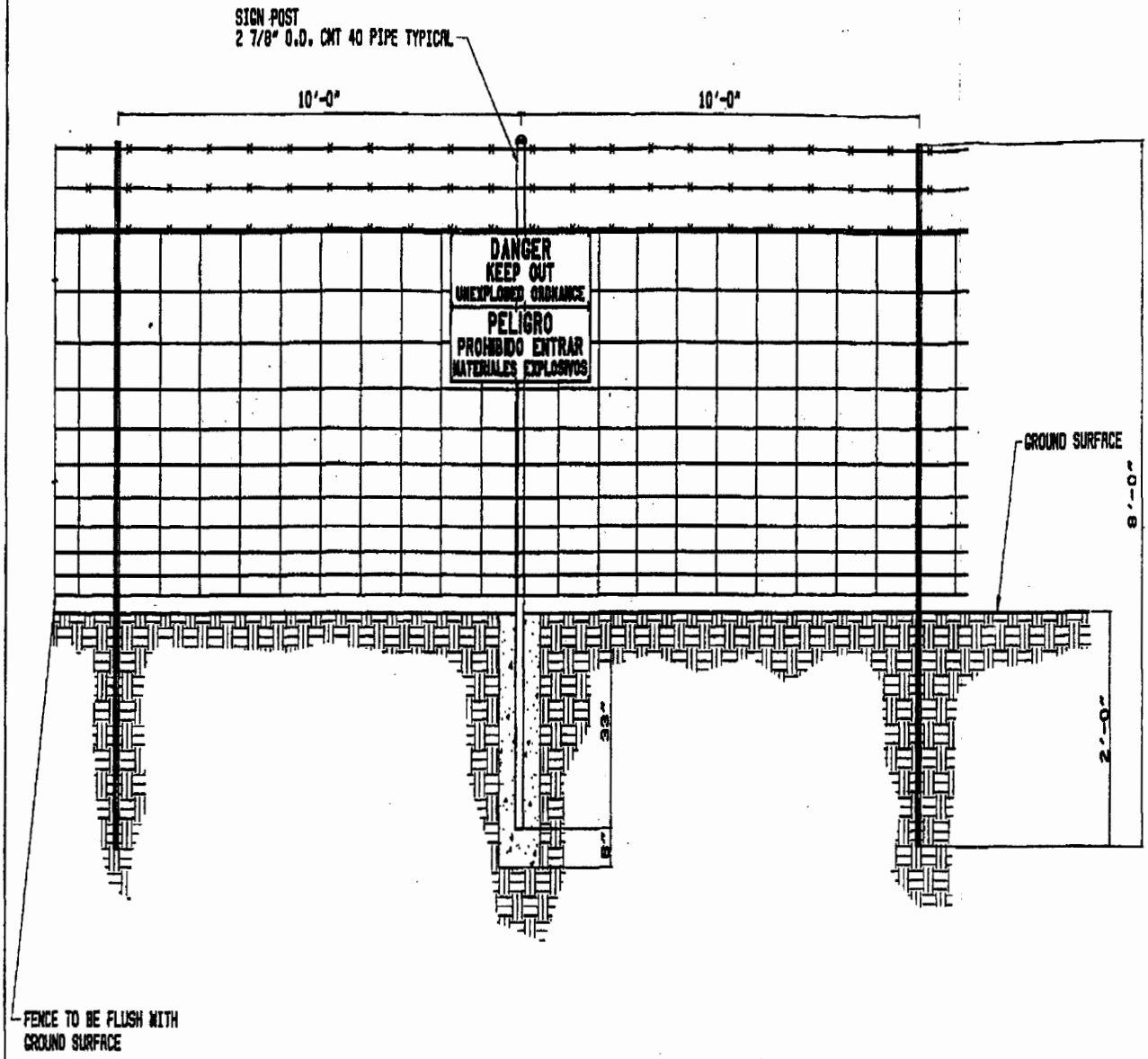
Dow Environmental

SWMU #61
GATE DETAIL

U.S. ARMY CORPS OF ENGINEERS

PROJECT: WHITE SANDS MISSILE RANGE		PROJECT NUMBER: 6015	
SCALE: N.T.S.	DATE: MARCH 21, 1995	FIGURE NUMBER 3	REV 0

0015-MS-FNCDTL2



U.S. Army Corps of Engineers Tulsa District

NOTE: EVERY 100' INSTALL A SIGN SUPPORT POLE.
FOR POST DIMENSIONS SEE GATE AND CORNER DETAIL.

Dow Environmental

SWMU #61
SIGN POLE FENCE DETAIL

U.S. ARMY CORPS OF ENGINEERS

PROJECT: WHITE SANDS MISSILE RANGE		PROJECT NUMBER: 6315	
SCALE: N.T.S.	DATE: MARCH 21, 1995	FIGURE NUMBER: 4	REV 0

APPENDIX B

SIGN SPECIFICATIONS

Dow Environmental Inc.
15204 Omega Drive
Suite 200
Rockville, Maryland 20850
Fax: (301) 948-6094
(301) 948-0040

SPECIFICATIONS

1. ITEM:
   (a) Sign, Warning, English
   (b) Sign, Warning, Spanish

2. SIZE:
   (a) English - 3'-5 1/8" Wide x 11 3/8" High
   (b) Spanish - 3'-5 1/2" Wide x 11 3/8" High

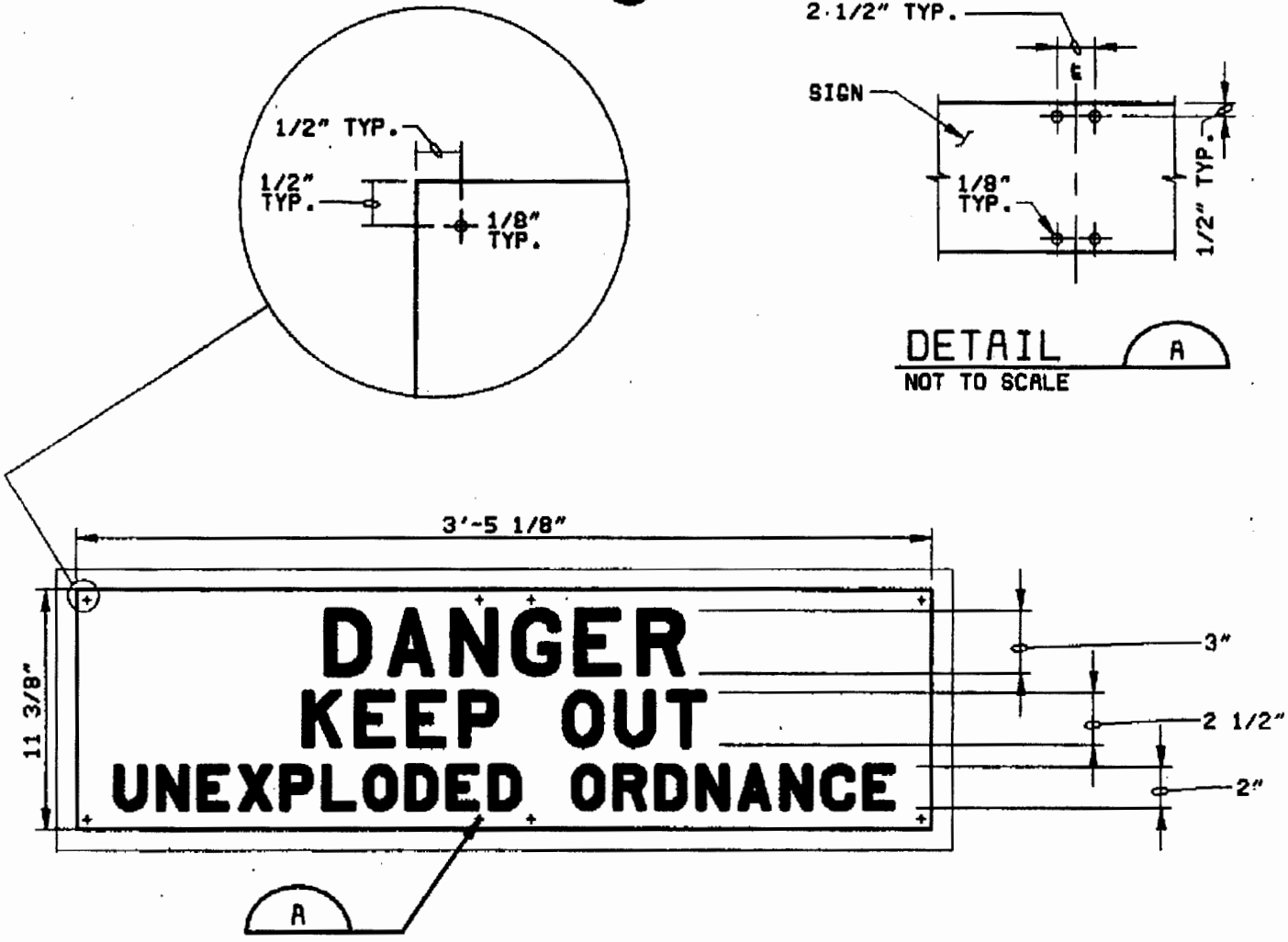
3. QUANTITY: Twenty Five (25) Each

4. MATERIAL: Aluminum 0.040 Thickness

5. COLOR: Sign: White - Color Code NR. 1788
   Lettering Red - Color Code NR. 28913

   (Color NRs. refer to Federal Color Standard Nr. 595A (1-6B)

6. SPECIAL FEATURES: Holes for mounting refer to the attached drawings.



LETTERS ARE TO BE RED COLOR CODE NUMBER 28913

THE BACKGROUND SHALL BE WHITE COLOR CODE NUMER 1788

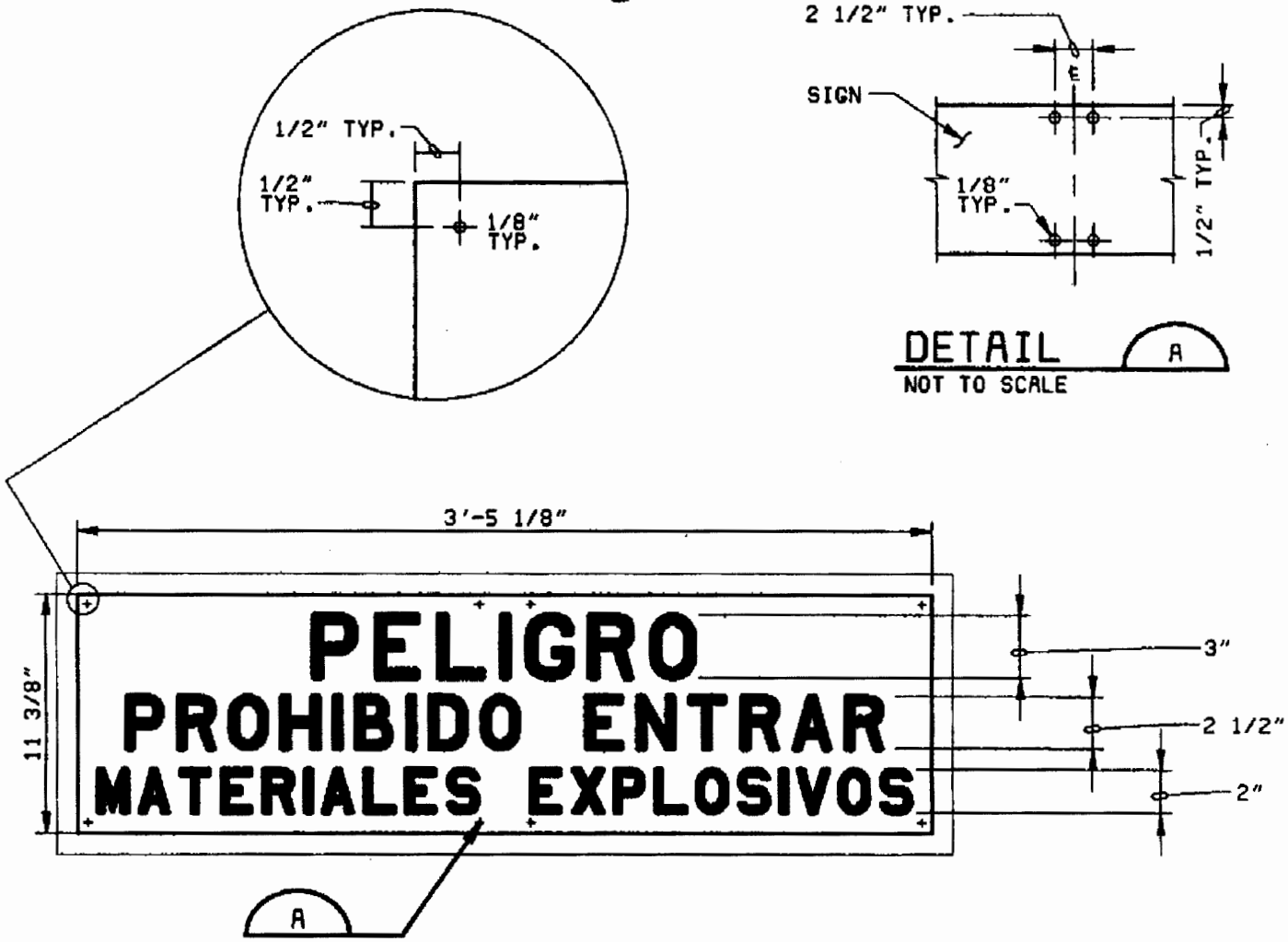
COLOR NUMBERS REFER TO FEDERAL COLOR STANDARD NUMBER 595A (I-6B)

US Army Corps of Engineers
Tulsa District

SWMU #61
ENGLISH SIGN DETAIL

U.S. ARMY CORPS OF ENGINEERS

PROJECT: WHITE SANDS MISSILE RANGE		PROJECT NUMBER: 6015-M001	
SCALE: N.T.S.	DATE: MARCH 21, 1995	FIGURE NUMBER 6	REV 0



LETTERS ARE TO BE RED COLOR CODE NUMBER 28913

THE BACKGROUND SHALL BE WHITE COLOR CODE NUMER 1788

COLOR NUMBERS REFER TO FEDERAL COLOR STANDARD NUMBER 595A (I-6B)

US Army Corps of Engineers
Tulsa District

SWMU #61
SPANISH SIGN DETAIL

U.S. ARMY CORPS OF ENGINEERS

PROJECT: WHITE SANDS MISSILE RANGE		PROJECT NUMBER: 6015	
SCALE: N.T.S.	DATE: MARCH 21, 1995	FIGURE NUMBER 7	REV 0

APPENDIX C

AS BUILT DRAWINGS

VALLEY FENCE COMPANY
6684 DONIPHAN DRIVE
CANUTILLO, TEXAS 79835
877-3115

7-6-95

Mr. Robert Bailey
Dow Environmental Inc.
15204 Omega Dr., Suite 200
Rockville, Maryland 20850

RE: Subcontract No. SC-95-6015-0040
As-built Drawings

Dear Mr. Bailey:

Drawings enclosed are final and were done by Robert Pounds and myself 7-5-95.

If any other things are needed, please let me know.

Yours truly,

Charles Haines

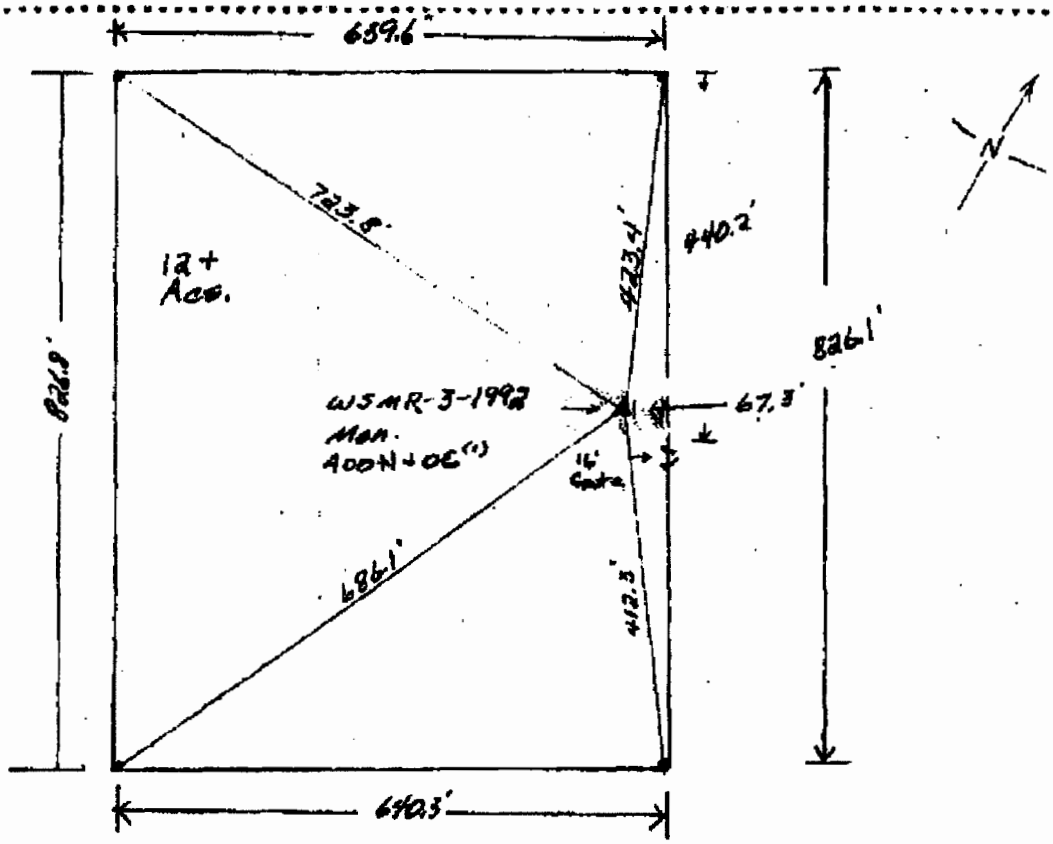
Charles Haines, V.P.
Valley Fence Co., Inc.

CH/jh

Encl: 1

VALLEY FENCE COMPANY

6664 DONIPHAN DRIVE
CANUTILLO, TEXAS 79835
877-3115



As-built for Tula Peak UXO incinerator fence
Subcontract No. SC-95-6015-0040

APPENDIX D

MATERIAL CERTIFICATES

Attn: Gary

BEKAERT STEEL WIRE CORP.
VAN BUREN, ARKANSAS

PRODUCT CERTIFICATION

APR 13 1995

TWIN MOUNTAIN SUPPLY
HWY 67
(5 MILES WEST OF SAN ANGELO)

SAN ANGELO, TX 76902

GENTLEMEN

THIS LETTER IS TO CERTIFY THAT THE FOLLOWING MATERIAL SHIPPED ON THE FOLLOWING ORDER NUMBERS:

PRODUCT CODES	33221V83000
DESCRIPTION	9/9 GA.,1155/12,CLI,FIELD FENC
BEKAERT ORDER#	V67496
CUSTOMER ORDER#	6097

WAS MADE IN ACCORDANCE WITH AND MEETS THE FOLLOWING SPECIFICATIONS:

ASTM A116 AND CLASS I SPECIFICATIONS.

CERTIFIED BY,

BEKAERT STEEL WIRE CORP.

JOHN BRICELAND
PROCESS CONTROL MANAGER

W. SILVER INC.

VINTON (EL PASO COUNTY), TX

CERTIFIED TEST REPORT

CUSTOMER Master Halco

CUSTOMER ORDER 41138

COMMODITY DESCRIPTION 1338' spec

PROJECT

ADDRESS

BILL OF LADING

SHIP DATE

INVOICE NO.

MANUFACTURED IN THE U.S.A.
ALL T-POSTS ARE MANUFACTURED WITH RAIL STEEL AND FINISHED WITH ENAMEL PAINT.

QUANTITY	LENGTH	TENSILE STRENGTH	YIELD	ANCHOR PLATE	WEIGHT PER FOOT	OTHER Bend
1 bundle	8'0"	40800	33700	Satisfactory	20.68	Satisfactory

THIS MATERIAL HAS BEEN PRODUCED IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATION ASTM-702-84 AND WE HEREBY CERTIFY THAT THE ABOVE TEST RESULTS ARE REPRESENTATIVE OF THOSE OBTAINED ON THE MATERIAL IN THIS SHIPMENT.

THIS CERTIFICATION IS NOTORIZED ONLY WHEN REQUESTED SWORN AND SUBSCRIBED TO BEFORE ME THIS _____ DAY OF _____. MY COMMISSION EXPIRES _____.

SIGNED Jose Morales
INSPECTOR'S SIGNATURE

DATE: 6/14/95

CENTURY TUBE
CORPORATION

Master Halco
Ref: Valley Fence
Alamogordo, NM

June 14,1995

Mr.Gary Leeah,

We hereby certify that the material described below has been domestically manufactured and tested to meet Federal Specification RR-F-191/30 class 1 grade B, ASTM A-569, ASTM F-669, ASTM F-1234-89 and AASHTO M-181.

2.875 - .160

As well, the zinc weight is 1.0 oz./ft^2. + 0.1. The interior coating is .3 mill minimum. Thank you for your continued patronage and if we can be of further assistance, please call.

Sincerely,
CENTURY TUBE CORPORATION

Kyle Minyard
Regional Sales Manager

P.O. BOX 7612, Pine Bluff, Arkansas 71611 Phone: (501) 535-6200 Telex: CENTTUBE PBUF

DEACERO

16- JUN-95

QUALITY CERTIFICATION

AT'N : CHARLY

THIS IS TO CERTIFY THAT THE PRODUCTS ON THE SUBJECT ORDERS WERE MANUFACTURED , SAMPLED , TESTED AND INSPECTED AND HAVE BEEN FOUND TO MEET THE REQUIREMENTS IN ACCORDANCE WITH THE APPLICABLE STANDARD SPECIFICATIONS HERE DESCRIBED:

CONCEPT	DESCRIPTION	APPLICABLE SPECIFICATIONS
MATERIALS	ZINC-COATED (galvanized) CARBON STEEL WIRE	ASTM - A 641
PRODUCTS	BARBED WIRE	ASTM - A121

NOTE: THE QUEMICAL, PHYSICAL AND/ OR MECHANICAL PROPERTIES OF THE ABOVE MENTIONED ARE CONTAINED IN THE RECORDS OF THE COMPANY.

ING. EDMUNDO CONTRERAS
QUALITY ASSURANCE

NELSON CONCRETE

P.O. BOX 164
ALAMOGORDO, NEW MEXICO 88310
Phone (Area 505) 434-1520

№ 79558

CUBIC YDS. ORDERED 7				DATE 6/20/95	
PROPERTY OWNER			ORDERED BY Rio Valley Fence		
JOB ADDRESS Tula Gate					
CITY W.S.M.R.			PHONE		
LOAD NO. 1	TRUCK NO. 43	LICENSE NO.	DRIVER Harvey		
LEAVE PLANT 9:18 AM		CU. YDS.	TOTAL CU. YDS. DELIVERED 7	PRICE	AMOUNT
ARRIVE JOB 10:05 M		CU. YDS.	DESIGN MIX B2500		
START UNLOAD 10:15	COMPLETE POUR 11:35	MISC.			
STANDBY TIME					
LEAVE JOB M		DELIVERY AND OR SMALL LOAD CHARGES			
ARRIVE PLANT M		STANDBY TIME			
WATER ADDED ON JOB CUSTOMER'S REQUEST GALS.				TAX	
ONE HOUR MAXIMUM FREE TIME FOR UNLOADING. EXCESS TIME WILL BE CHARGED AT THE RATE OF $ PER HOUR.				TOTAL	

ADDED INGREDIENTS: If at any time water or other material is added to the concrete by the buyer or at his request, seller is not responsible for either the slump or the strength of the concrete so treated.

RECEIVED BY: C. Haines
SIGN NAME IN FULL

If customer exceeds specifications set forth in ASTM-C-94, Nelson Concrete will not be responsible for strengths or condition of concrete.

NOTICE: Our drivers will make every effort to place material where customer designates, but the company assumes no responsibility for damage inside curb or property line.

If my ACCOUNT is turned over for COLLECTION, I agree to pay ALL COSTS including ATTORNEY FEES of not less than 15% of my balance.

BEKAERT

Farm & Ranch
FIELD FENCE

1155-12-9 Class 1 20 Rods (330 ft.)
Made in U.S.A. ASTM A-116

Specifications: 55" Height, 11 Line Wires, 12" Between Stay Wires, 9 Ga. Line & Stay Wires, 9 Ga. Top / Bottom Wires, ASTM Class 1 Zinc Coating.

Bekaert Corporation Van Buren, Arkansas
Sales Office Atlanta, GA 1-800-241-4126

83000

BEKAERT

7 36763 83000 3

APPENDIX E

TRANSFER OF GOVERNMENT PROPERTY

TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY

Form Approved
OMB No. 0704-0188

PAGE 1 OF 1 PAGES

1. FROM (Installation/ Activity/ Service and Zip code)	2. OPERATING UNIT	3. DISTRICT CODE	4. OPERATING AGENCY	5. DATE	6. JOB NUMBER	7. SERIAL NUMBER	8. CONTRACT NUMBER
USAED, Forth Worth Southwestern Area Office P.O. Drwr J, WSMR, NM 88002-5507				07 Sep 95			DACA56-93-D-0016

9. TO (Installation/ Activity/ Service and Zip code)	10. OPERATING UNIT	11. DISTRICT CODE	12. OPERATING AGENCY	13. ACCOUNTING NUMBER	14. ACCOUNTABLE OFFICE NUMBER	15. TYPE OF TRANSACTION	16. PROJECT NUMBER
Commander White Sands Missile Range ATTN: DPW-PM WSMR, NM 88002						A. ☐ NEW CONSTR. ☐ EXISTING FAC. ☒ CAPITAL IMP. ☐ OTHER (Specify) B. ☐ BENF/O ☐ PHYSICAL COM. ☐ FINAN. COM. ☐ OTHER (Specify)	

ITEM NO. 17	CATEGORY CODE 18	FACILITY (Category description) 19	NO. OF UNITS 20	TYPE 21	UNIT OF MEAS. 22	TOTAL QUANTITY 23	COST 24	DRAWING NUMBERS 25	REMARKS 26
1	87210	Galvanized Steel Woven Fence with 3 Strands Barbed Wire	1	P	LF	2932.8	$15,821.62		Contractor: Dow Environmental Rockville, MD
2	87250	Gates	2	P	LF	16	1,300.00		Site: Tula Peak
						Total	$17,121.62		Date Construction Completed: 05 Jul 95

27. STATEMENT OF COMPLETION: The facilities listed hereon are in accordance with maps, drawings, and specifications and change orders approved by the authorized representative of the using agency except for the deficiencies listed on the reverse side.

TRANSFERRED BY (Signature): [signature]

DATE: 9/7/95

TITLE (Asst. Engr./ Base Engr./ DPWO): Michael T. Kusmak, Asst. Area Engineer

28. ACCEPTED BY (Signature): [signature]

GEORGE P. LECHLER

DATE: 12 Sep 95

TITLE (Post Engr./ Base Civ. Engr./ Navy Rep.): LTC, EN
Director Public Works

29. PROPERTY VOUCHER NUMBER: D-029-95

DD Form 1354, JUN 86

Previous editions are obsolete.

TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY

Form Approved
OMB No. 0704-0188

1. FROM (Installation/ Activity/ Service and Zip code)	2. OPERATING UNIT	3. DISTRICT CODE	4. OPERATING AGENCY	5. DATE	6. JOB NUMBER	7. SERIAL NUMBER	8. CONTRACT NUMBER
USAED, Forth Worth Southwestern Area Office P.O. Drwr J, WSMR, NM 88002-5507				07 Sep 95			DACA56-93-D-0016

9. TO (Installation/ Activity/ Service and Zip code)	10. OPERATING UNIT	11. DISTRICT CODE	12. OPERATING AGENCY	13. ACCOUNTING NUMBER	14. ACCOUNTABLE OFFICE NUMBER	15. TYPE OF TRANSACTION	16. PROJECT NUMBER
Commander White Sands Missile Range ATTN: DPW-PM WSMR, NM 88002						A. ☐ NEW CONSTR. ☐ EXISTING FAC. ☒ CAPITAL IMP. ☐ OTHER (Specify) B. ☐ BENF/O ☐ PHYSICAL COM. ☐ FINAN. COM. ☐ OTHER (Specify)	

ITEM NO. 17	CATEGORY CODE 18	FACILITY (Category description) 19	NO. OF UNITS 20	TYPE 21	UNIT OF MEAS. 22	TOTAL QUANTITY 23	COST 24	DRAWING NUMBERS 25	REMARKS 26
1	87210	Galvanized Steel Woven Fence with 3 Strands Barbed Wire	1	P	LF	2932.8	$15,821.62		Contractor: Dow Environmental Rockville, MD
2	87250	Gates	2	P	LF	16	1,300.00		Site: Tula Peak
						Total	$17,121.62		Date Construction Completed: 05 Jul 95

27. STATEMENT OF COMPLETION: The facilities listed hereon are in accordance with maps, drawings, and specifications and change orders approved by the authorized representative of the using agency except for the deficiencies listed on the reverse side.

TRANSFERRED BY (Signature) [signature] DATE 9/7/95

TITLE (Area Engr./ Base Engr./ DPWO)
Michael T. Kusmak, Asst. Area Engineer

28. ACCEPTED BY (Signature) [signature]
GEORGE P. LECHLER

TITLE (Post Engr./ Base Civ. Engr./ Navy Rep.)
LTC, EN
Director Public Works

DATE 12 Sep 95

29. PROPERTY VOUCHER NUMBER
D-029-95

DD Form 1354, JUN 86 Previous editions are obsolete.

APPENDIX F

WASTE CHARACTERIZATION REPORT

DOW

RECEIVED
AUG 31 1995
HTRW COST PLUS CONTRACTS
RESIDENT OFFICE

Dow Environmental Inc.
15204 Omega Drive
Suite 200
Rockville, Maryland 20850
Fax: (301) 948-6094
(301) 948-0040

RHB-95-186
August 28, 1995

Mr. Clif B. Warren, P.E.
HTRW Cost Plus Contract
Resident Office
Department of the Army
U.S. Army Corps of Engineers
Tulsa District
1645 S. 101st East Avenue
Tulsa, Oklahoma 74128

Subject: **Contract No. DACA56-93-D-0016, Delivery Order No. 0010**
Debris and Sludge Pile Removal, Mod No. 2,
Tula Peak Incinerator and Liquid Propellant Storage Area,
Updated Waste Characterization Report.

Reference: **DEI Letter, RHB-95-176, Subject: Waste Characterization Report and Disposal Plan, Dated July 31, 1995.**

Dear Mr. Warren:

The purpose of this letter is to forward a revised copy of the subject Waste Characterization Report.

Please substitute the attached Summary Table for the table forwarded with the referenced letter. Minor corrections were made as a result of Data Validation. The original characterization did not change.

Indicate your acceptance of the characterization and the recommended disposal procedure by signing and returning a copy of the referenced letter.

Sincerely,

Robert H. Bailey

Robert H. Bailey
Project Manager

1 Enclosure: 1 a/s

cc: Jim Hall
File

✓
CONCUR

NON-CONCUR

Clif Warren
CLIF WARREN
RESIDENT ENGR.
HTRW RES. OFF.

OPTIONAL FORM 99 (7-90)
FAX TRANSMITTAL # of pages ▸ 1
To BOB BAILEY
Dept./Agency
Fax #
From RANDY BRATCHER
Phone #
Fax #
NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

SUMMAR. ABLE
WASTE CHARACTERIZATION SWMU's 92-100

Sample No.	VOC[1] TCLP mg/l	SVOC[2] TCLP mg/l	TPH 8015M mg/kg	VOC 8240 mg/l	SVOC 8270 mg/l	Regulatory Limits mg/l	Disposal Options
92A-HA01 (1.5)	ND	ND	< 10				Backfill
92A-PE-1			<0.5	ND	ND		Backfill
92A-SS-1	2 Butanone 0.056	ND	< 10			2 Butanone 200	Backfill
92B-HAO1(3.0)	ND	ND	< 10				Backfill
92B-HA02(3.0)	ND	ND	< 10				Backfill
92B-HAO3(3.0)	ND	ND	< 10				Backfill
92B-HA04(3.5)	ND	ND	11				Backfill
92B-HA04(3.5QC)	ND	ND	< 10				Backfill
92B-PE-01	ND	ND	10				Backfill
92B-SS-1	ND	ND	< 10				
93-HA01(1.5)	ND	ND	< 10				Backfill
93-PE-1			<0.5	ND	ND		Backfill
93-SS-1	ND	ND	< 10				Backfill
93-TB				ND			Backfill
93-HA01-RB			< 10	ND	ND		Backfill
94-HA01(3.0)	ND	ND	< 10				Backfill

[1]EPA Method 1311/8240
[2]EPA Method 1311/8270

SUMMARY TABLE
WASTE CHARACTERIZATION SWMU's 92-100

Sample No.	VOC[1] TCLP mg/l	SVOC[2] TCLP mg/l	TPH 8015M mg/kg	VOC 8240 mg/l	SVOC 8270 mg/l	Regulatory Limits mg/l	Disposal Options
94-HA02(3.0)	ND	ND	< 10				Backfill
94-HA03(3.0)	ND	ND	< 10				Backfill
94-HA04(3.0)	ND	ND	< 10				Backfill
94-PE-1	ND	ND	89				Backfill
94-SS-1	ND	ND	< 10				Backfill
							Backfill
94-TB				ND			Backfill
95-HA01(3.0)	ND	ND	< 10				Backfill
95-HA02(3.25)	ND	ND	< 10				Backfill
95-HA03(3.5)	ND	ND	< 10				Backfill
95-HA04(4.0)	ND	ND	< 10				Backfill
95-HA04(4.0) QC	ND	ND	< 10				Backfill
95-PE-1	ND	ND	< 10				Backfill
95-SS-1	ND	ND	< 10				Backfill
96-HA01(2.0)	ND	ND	< 10				Backfill
96-HA02(2.0)	ND	ND	140			TPH > 100 < 1000	WSMR Landfill
96-HA03(2.5)	ND	ND	< 10				Backfill

[1]EPA Method 1311/8240
[2]EPA Method 1311/8270

SUMMAR ABLE
WASTE CHARACTERIZATION SWMU's 92-100

Sample No.	VOC[1] TCLP mg/l	SVOC[2] TCLP mg/l	TPH 8015M mg/kg	VOC 8240 mg/l	SVOC 8270 mg/l	Regulatory Limits mg/l	Disposal Options
96-HA04(2.5)	ND	ND	< 10				Backfill
96-HA05(2.5)	ND	ND	< 10				Backfill
96-HA06(3.0)	ND	ND	< 10				Backfill
96-HA07(3.0)	ND	ND	< 10				Backfill
96-HA08(3.0)	ND	ND	< 10				Backfill
96HA08(3.0)QC	ND	ND	< 10				Backfill
96-PE-1	ND	ND	< 10				Backfill
96-SS-1	ND	ND	< 10				Backfill
97-HA01(3.0)	ND	ND	< 10				Backfill
97-HA02(3.0)	ND	ND	< 10				Backfill
97-HA03(3.5)	ND	ND	< 10				Backfill
97-HA04(4.0)	ND	ND	< 10				Backfill
97-HA05(4.0)	ND	ND	< 10				Backfill
97-PE-1	ND	ND	31				Backfill
97-PE-2	ND	ND	12				Backfill
97-PE-3	ND	ND	< 10				Backfill
97-PE-4	ND	ND	< 10				Backfill
97-SS-1	ND	ND	< 10				Backfill

[1]EPA Method 1311/8240
[2]EPA Method 1311/8270

SUMMARY BLE
WASTE CHARACTERIZATION SWMU's 92-100

Sample No.	VOC[1] TCLP mg/l	SVOC[2] TCLP mg/l	TPH 8015M mg/kg	VOC 8240 mg/l	SVOC 8270 mg/l	Regulatory Limits mg/l	Disposal Options
97-RB			<0.5	ND	ND		Backfill
97-TB				ND			Backfill
98-HA01(3.0)	ND	ND	<10				Backfill
98-HA01(3.0)QC	ND	ND	<10				Backfill
98-HA02(3.25)	ND	ND	<10				Backfill
98-HA02(3.25)QC	ND	ND	<10				Backfill
98-HA03(3.5)	ND	ND	<10				Backfill
98-PE-1			<0.50	ND	ND		Backfill
98-PE-1 QC			<0.50	ND	ND		Backfill
98-SS-1	ND	ND	<10				Backfill
98-SS-1 QC	ND	ND	<10				Backfill
99-HA00(4.0)	ND	ND	<10				Backfill
99-HA01(4.0)	ND	ND	<10				Backfill
99-HA02(4.0)	ND	ND	<10				Backfill
99-HA03(5.0)	ND	ND	<10				Backfill
99-HA04(6.0)	ND	ND	<10				Backfill
99-PE-1	ND	ND	<10				Backfill

[1]EPA Method 1311/8240
[2]EPA Method 1311/8270

SUMMARY TABLE
WASTE CHARACTERIZATION SWMU's 92-100

Sample No.	VOC[1] TCLP mg/l	SVOC[2] TCLP mg/l	TPH 8015M mg/kg	VOC 8240 mg/l	SVOC 8270 mg/l	Regulatory Limits mg/l	Disposal Options
99-PE-1 QC	ND	ND	< 10				Backfill
99-PE-2	ND	ND	< 10				Backfill
99-PE-2 QC	ND	ND	< 10				Backfill
99-PE-3	ND	ND	< 10				Backfill
99-PE-4	ND	ND	< 10				Backfill
99-SS-1	ND	ND	< 10				Backfill
100-HA01(0.5)	ND	ND	< 10				Backfill
100-HA01-RB			< 0.5	ND	ND		Backfill
100-HA02(1.0)	ND	ND	< 10				Backfill
100-HA03(2.0)	ND	ND	< 10				Backfill
100-HA04(3.0)	ND	ND	< 10				Backfill
100-HA05(3.0)	ND	ND	< 10				Backfill
100-HA06(3.0)	ND	ND	< 10				Backfill
100-HA07(3.5)	ND	ND	< 10				Backfill
100-HA08(3.5)	2 Butanone 0.075	ND	< 10			2-Butanone 200	Backfill
100-PE-1	2 Butanone 0.059	ND	< 10			2-Butanone 200	Backfill

[1]EPA Method 1311/8240
[2]EPA Method 1311/8270

SUMMARY ABLE
WASTE CHARACTERIZATION SWMU's 92-100

Sample No.	VOC[1] TCLP mg/l	SVOC[2] TCLP mg/l	TPH 8015M mg/kg	VOC 8240 mg/l	SVOC 8270 mg/l	Regulatory Limits mg/l	Disposal Options
100-PE-2	2 Butanone 0.095	ND	< 10				Backfill
100-PE-3	ND	ND	< 10				Backfill
100-PE-4	ND	ND	< 10				Backfill
100-PE-5	ND	ND	32				Backfill
100-PE-6	ND	ND	35				Backfill
100-PE-6 QC	ND	ND	16				Backfill
100-PE-6 RB			< 0.50	ND	ND		Backfill
100-PE-6 TB				ND			Backfill
100-PE-7	ND	ND	< 10				Backfill
100-PE-8	ND	ND	< 10				Backfill
100-SS-1	ND	ND	< 10				Backfill
100-TB				ND			Backfill

[1]EPA Method 1311/8240
[2]EPA Method 1311/8270

APPENDIX G

DATA VALIDATION REPORT

Dow Environmental Inc.
15204 Omega Drive
Suite 200
Rockville, Maryland 20850
Fax: (301) 948-6094
(301) 948-0040

RHB-95-6015-185
August 25, 1995

Mr. Clif Warren
U.S. Army Corps of Engineers
Tulsa District
Attn: CESWT-EC-FER
1645 South 101 East Avenue
Tulsa, Oklahoma 74128-4629

Subject: Contract No. DACA56-93-D-0016, Delivery Order No. 0010, Debris and Sludge Pile Removal, Mod No. 2, Tula Peak Incinerator and Liquid Propellant Storage Area, Data Validation Report.

Dear Mr. Warren:

The purpose of this letter is to forward the subject report.

This report was the basis for updating the Waste Characterization Report which was submitted via a separate letter.

If you have any questions concerning this report, please call me at (301) 548-1687.

Sincerely,

Robert H. Bailey

Robert H. Bailey
Project Manager

cc: J. Hall
File

1 Enclosure: a/s (6 Copies)

FINAL

DATA VALIDATION REPORT
SOLID WASTE MANAGEMENT UNITS 92-100
WHITE SANDS MISSILE RANGE (WSMR)
WHITE SANDS, NEW MEXICO

PREPARED FOR

UNITED STATES ARMY CORPS OF ENGINEERS
TULSA DISTRICT

PREPARED BY

DOW ENVIRONMENTAL, INC.
ROCKVILLE, MARYLAND

AUGUST 24, 1995
USACE CONTRACT NUMBER DACA56-93-D-0016
DELIVERY ORDER NO. 0010
DEI PROJECT NO. 6015

Enclosure #1

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 DISCUSSION 2

2.1 SWMU 92 2
2.1.1 Total Petroleum Hydrocarbons 2
2.1.2 Total Volatile Organic Compounds 3
2.1.3 Total Semivolatile Organic Compounds 4
2.1.4 TCLP Volatile Organic Compounds 5
2.1.5 TCLP Semivolatile Organic Compounds 6

2.2 SWMU 93 7
2.2.1 Total Petroleum Hydrocarbons 7
2.2.2 Total Volatile Organic Compounds 8
2.2.3 Total Semivolatile Organic Compounds 9
2.2.4 TCLP Volatile Organic Compounds 10
2.2.5 TCLP Semivolatile Organic Compounds 11

2.3 SWMU 94 12
2.3.1 Total Petroleum Hydrocarbons 12
2.3.2 Total Volatile Organic Compounds 13
2.3.3 Total Semivolatile Organic Compounds 14
2.3.4 TCLP Volatile Organic Compounds 15
2.3.5 TCLP Semivolatile Organic Compounds 16

2.4 SWMU 95 18
2.4.1 Total Petroleum Hydrocarbons 18
2.4.2 TCLP Volatile Organic Compounds 19
2.4.3 TCLP Semivolatile Organic Compounds 20

2.5 SWMU 96 21
2.5.1 Total Petroleum Hydrocarbons 21
2.5.2 TCLP Volatile Organic Compounds 22
2.5.3 TCLP Semivolatile Organic Compounds 23

2.6 SWMU 97 24
2.6.1 Total Petroleum Hydrocarbons 24
2.6.2 Total Volatile Organic Compounds 25
2.6.3 Total Semivolatile Organic Compounds 26
2.6.4 TCLP Volatile Organic Compounds 27
2.6.5 TCLP Semivolatile Organic Compounds 28

2.7 SWMU 98 30
2.7.1 Total Petroleum Hydrocarbons 30
2.7.2 Total Volatile Organic Compounds 31
2.7.3 Total Semivolatile Organic Compounds 32
2.7.4 TCLP Volatile Organic Compounds 33
2.7.5 TCLP Semivolatile Organic Compounds 34

2.8 SWMU 99 35
2.8.1 TCLP Petroleum Hydrocarbons 35
2.8.2 TCLP Volatile Organic Compounds 36
2.8.3 TCLP Semivolatile Organic Compounds 37

2.9 SWMU 100 38
2.9.1 Total Petroleum Hydrocarbons 38
2.9.2 Total Volatile Organic Compounds 39
2.9.3 Total Semivolatile Organic Compounds 40
2.9.4 TCLP Volatile Organic Compounds 41
2.9.5 TCLP Semivolatile Organic Compounds 43

3.0 CONCLUSION 45

TABLES

Table 1 - SWMU 92 thur SWMU 100 Site Analyses

WHITE SAND MISSILE RANGE, NEW MEXICO
SOLID WASTE MANAGEMENT UNITS 92-100
DATA VALIDATION

EXECUTIVE SUMMARY

The Scope of Work encompassed Solid Waste Management Units (SWMUs) 92-100 located at White Sands Missile Range (WSMR), New Mexico.

Dow Environmental, Incorporated (DEI) was tasked to provide the necessary work plans to ensure cleanup of the liquid propellant storage buildings. Initial plans included a General Work Plan, a Chemical Data Acquisition Plan (CDAP), and a Site Specific Health and Safety Plan (SSHP). Additional plans and reports included Hazard Determination and Data Reports, Disposal Plans, and a Data Validation Report.

Soils, terra-cotta piping, and cast iron piping rinsate samples at SWMUs 92-100 were sampled and analyzed to identify hazardous and/or contaminated materials. The results of these analyses were reviewed, and the materials were characterized according to the constituents and concentrations detected. Upon characterization approval, disposal plans were developed to dispose of the material.

The following narrative and data describe and illustrate the types of samples taken, the types of analyses performed, the results of these analyses, and the validity of these analyses and findings.

1.0 INTRODUCTION

Sampling at SWMUs 92-100 consisted of trench and stockpile soil samples to determine if soils were hazardous or non-hazardous. Soils were also sampled to determined if soils were above state of New Mexico guidelines, and if above state guidelines, whether they were suitable for disposal in the on-site WSMR Landfill. Sampling at SWMUs 92-100 also consisted of cast iron rinsate and terra-cotta piping sampling to determine whether the piping materials were hazardous, non-hazardous, and/or above state guidelines. The sampling activity was conducted by DEI for the USACE, Tulsa District. Water and soil samples collected included seventy six (76) field samples, five (5) trip blanks, four (4) rinsate blanks, and ten (10) quality control (QC) samples. The samples were sent to Talem, Inc. Environmental Services in Ft. Worth, Texas. Table 1 outlines each individual sample's SWMU, lab ID #, field ID #, parameters analyzed for, and type of sample for the SWMU.

All SWMUs 92-100 samples were prepared and analyzed for TCLP volatiles, TCLP semi-volatiles, total petroleum hydrocarbons (TPH), and/or total volatiles and total semi-volatiles. These analyses were all performed within EPA and Solid Waste SW-846 guidelines according to U.S. EPA methodologies 8240, 8270, 8015, 624, 1311/8240, and 1311/8270.

Data validation has been performed by examining QA/QC summary reports and is considered to be a data quality objective (DQO) level III review. The organic analytical data was evaluated by the following QA/QC parameters where applicable: holding times and preservation, system monitoring of compound/surrogate spike recoveries, method and rinsate blanks, matrix spike/matrix spike duplicates (MS/MSDs), laboratory control samples (LCSs), field duplicates, and transcription.

2.0 DISCUSSION

2.1 SWMU 92

2.1.1 Total Petroleum Hydrocarbons

2.1.1.1 Accuracy

All LCSs percent recoveries were within control limits.

2.1.1.2 Precision

All relative percent differences (RPDs) between the MS/MSDs percent recoveries were all acceptable. The field duplicate pair 92B-HA04-(3.5) and 92B-HA04 (3.5)-QC was found to be comparable with results of <10 mg/l and 11 mg/l, respectively.

2.1.1.3 Representativeness

All samples were properly preserved, packed and shipped using proper chain of custody (COC) procedures, and received by the laboratory in good condition. Contamination was identified in every method blank ranging from 0.13 mg/l to 7.6 mg/l for test method 8015 (TPH). As such, all results are qualified as an estimates and estimated non-detects. Since sample results were well below the state of New Mexico's regulatory limit for TPH in soil, data quality objectives were not affected. Poor laboratory decontamination procedures during sample analyses were the likely causes.

2.1.1.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.1.1.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below state of New Mexico guidelines for TPH in soils; therefore, they were adequate for the intended purpose.

2.1.2 Total Volatile Organic Compounds

2.1.2.1 Accuracy

Sample 92A-PE-1 had a high MS/MSD recovery for toluene. Since all volatile parameter results were non-detect, data quality objectives were not affected. All other surrogates, LCSs, and MS/MSDs percent recoveries were within control limits.

2.1.2.2 Precision

All RPDs between the MS/MSDs percent recoveries were all acceptable. Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives.

2.1.2.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since most samples were analyzed within 7 days and only one organic compound (2-butanone) was detected in all of the samples from this SWMU in the low ppb range, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these samples that are to be analyzed for volatile organics. No contamination was identified in any associated blanks.

2.1.2.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.1.2.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.1.3 Total Semivolatile Organic Compounds

2.1.3.1 Accuracy

All surrogate percent recoveries were within quality control limits. Sample 92A-PE-1 had low MS/MSD recoveries for surrogate nitrobenzene-D5, acenaphthalene, and 4-chloro-3-methylphenol. No qualification of data was necessary since qualification is not based on MS/MSD criteria alone.

2.1.3.2 Precision

All RPDs of the MS/MSD sample were within quality control limits. Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives.

2.1.3.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any associated blank.

2.1.3.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.1.3.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.1.4 TCLP Volatile Organic Compounds

2.1.4.1 Accuracy

All surrogate percent recoveries were within control limits with the exception of high recoveries for 1,2-dichloroethane-D4 in samples 92A-SS-1, 92B-HA03-(3.0), 92B-HA04-(3.5)-QC, and 92B-SS-1. Since no 1,2- dichloroethane was detected in any sample from this SWMU, no qualification of data was necessary. The MS/MSDs surrogate recoveries were all within control limits.

2.1.4.2 Precision

The MS/MSDs RPDs were all within control limits. Quality control was performed by comparing the field duplicate sample pair 92B-HA04-(3.5) and 92B-HA04 (3.5)-QC. All comparisons were within quality control limits as all results were non-detect.

2.1.4.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since most samples were analyzed within 7 days and only one organic compound (2-butanone) was detected in all of the samples from this SWMU in the low ppb range, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these samples that are to be analyzed for volatile organics. No contamination was identified in any associated blank.

2.1.4.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.1.4.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.1.5 TCLP Semivolatile Organic Compounds

2.1.5.1 Accuracy

All surrogate percent recoveries were within quality control limits with the exceptions of samples 92A-HA01-(1.5), 92A-SS-1, 92B-HA01-(3.0), 92B-HA02-(3.0), 92B-HA03-(3.0), 92B-HA04-(3.5), 92B-HA04-(3.5)-QC, 92B-PE-01, and 92B-SS-1. Surrogates with low recoveries included nitrobenzene-D5, 2-fluorobiphenyl,and terphenyl-D14. Since most surrogates were within control limits for all samples and no semi-volatiles were detected in any sample from this SWMU, data quality objectives were not affected. All MS/MSDs percent recoveries were within quality control limits with the exceptions of low recoveries for surrogate nitrobenzene-D5 and 2,4,5-trichlorophenol in one MS/MSD sample and low recovery for 2,4,5-trichlorophenol in another MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

2.1.5.2 Precision

All RPDs between MS/MSDs were within quality control limits with the exception 2,4,5-trichlorophenol and 2,4- dinitrotoluene in one MS/MSD sample and pyridine in another MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

Quality control was performed by comparing the field duplicate sample pair 92B-HA04-(3.5) and 92B-HA04-(3.5)-QC. All comparisons were within quality control limits as all results were non-detect.

2.1.5.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any associated blank.

2.1.5.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.1.5.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.2 SWMU 93

2.2.1 Total Petroleum Hydrocarbons

2.2.1.1 Accuracy

All LCSs percent recoveries were within control limits.

2.2.1.2 Precision

All RPDs between the MS/MSDs percent recoveries were all acceptable. Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives.

2.2.1.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. Contamination was identified in every method blank ranging from 0.13 mg/l to 7.6 mg/l for test method 8015 (TPH). As such, all results are qualified as estimated non-detects. Since sample results were well below the state of New Mexico's regulatory limit for TPH in soil, data quality objectives were not affected. Poor laboratory decontamination procedures during sample analyses were the likely causes.

2.2.1.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.1.1.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below state of New Mexico guidelines for TPH in soils; therefore, they were adequate for the intended purpose.

2.2.2 Total Volatile Organic Compounds

2.2.2.1 Accuracy

Sample 93-TB had a low surrogate percent recovery for 1,2-dichloroethane-D4. Since all volatile parameter results were non-detect and this was a quality control sample, data quality objectives were not affected. One MS/MSD sample had a high percent recovery for 1,1-dichloroethene and another MS/MSD sample had a high recovery for toluene. No qualification of data was necessary because qualification should not be based on MS/MSD criteria alone. All other surrogates, LCSs, and MS/MSDs percent recoveries were within control limits.

2.2.2.2 Precision

All RPDs between the MS/MSDs percent recoveries were all acceptable. Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives.

2.2.2.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since most samples were analyzed within 7 days and no organic compounds were detected in all of the samples from this SWMU, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these

samples that are to be analyzed for volatile organics. No contamination was identified in any associated blanks.

2.2.2.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.2.2.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.2.3 Total Semivolatile Organic Compounds

2.2.3.1 Accuracy

All surrogate percent recoveries were within quality control limits with the exceptions of samples 93-PE-1 and 93-HA01-RB. Each sample had a low surrogate recovery for nitrobenzene-D5. Since no semi-volatile compounds were detected from this SWMU and the majority of surrogate percent recoveries were in control for each sample, data quality objectives were not affected. Samples 93-PE-1 and 93-HA01-RB had low MS/MSDs recoveries for surrogate nitrobenzene-D5, acenaphthalene, 2-chlorophenol, and 4-chloro-3-methylphenol. No qualification of data was necessary since qualification is not based on MS/MSD criteria alone.

2.2.3.2 Precision

All RPDs of the MS/MSD sample were within quality control limits. Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives.

2.2.3.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any associated blank.

2.2.3.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.2.3.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.2.4 TCLP Volatile Organic Compounds

2.2.4.1 Accuracy

All surrogate percent recoveries were within control limits. The MS/MSDs surrogate percent recoveries were all within control limits.

2.2.4.2 Precision

The MS/MSDs RPDs were all within control limits. Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives.

2.2.4.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since most samples were analyzed within 7 days and no organic

compounds were detected in any of the samples from this SWMU, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these samples that are to be analyzed for volatile organics. No contamination was identified in any associated blank.

2.2.4.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.2.4.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.2.5 TCLP Semivolatile Organic Compounds

2.2.5.1 Accuracy

All surrogate percent recoveries were within quality control limits with the exceptions of sample 93-HA01-(1.5). Surrogates with low recoveries included nitrobenzene-D5 and 2-fluorobiphenyl. Since most surrogates were within control limits for this sample and no semi-volatiles were detected in any sample from this SWMU, data quality objectives were not affected. All MS/MSDs percent recoveries were within quality control limits with the exceptions of low recoveries for surrogate nitrobenzene-D5 and 2,4,5-trichlorophenol in one MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

2.2.5.2 Precision

All RPDs between MS/MSDs were within quality control limits with the exception of pyridine in one MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives

2.2.5.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any associated blank.

2.2.5.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.2.5.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.3 SWMU 94

2.3.1 Total Petroleum Hydrocarbons

2.3.1.1 Accuracy

All LCSs percent recoveries were within control limits.

2.3.1.2 Precision

All RPDs between the MS/MSDs percent recoveries were all acceptable. Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives.

2.3.1.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. Contamination was identified in every method blank ranging from 4.7 mg/l to 7.6 mg/l for test method 8015 (TPH). As such, all results are qualified as estimates and estimated non-detects. Since SWMU sample results were well below the state of New Mexico's regulatory limit for TPH in soil for all samples except the terra-cotta pipe sample 94-PE-1, data quality objectives were not affected except for sample 94-PE-1. This sample had a TPH level of 89 mg/kg. Due to the levels of TPH contamination in the method blanks, sample 94-PE-1 was far enough below the state regulatory limit of 100 mg/kg that it didn't affect its disposition; however, due to the consistent contamination identified in the TPH analyses, it is recommended that this piping be taken to the WSMR landfill for disposal.

2.3.1.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.3.1.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below state of New Mexico guidelines for TPH in soils; therefore, they were adequate for the intended purpose.

2.3.2 Total Volatile Organic Compounds

2.3.2.1 Accuracy

All surrogates, LCSs, and MS/MSDs percent recoveries were within control limits.

2.3.2.2 Precision

All RPDs between the MS/MSDs percent recoveries were all acceptable. Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives.

2.3.2.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since most samples were analyzed within 7 days and no organic compounds were detected in any of the samples from this SWMU, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these samples that are to be analyzed for volatile organics. No contamination was identified in any associated blanks.

2.3.2.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP with the exception of 94-TB which was analyzed by EPA Method 624. Since EPA Method 624 and 8240 are so similiar, data quality objectives were not affected.

2.3.2.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.3.3 Total Semivolatile Organic Compounds

2.3.3.1 Accuracy

All surrogate, MS/MSDs, and LCSs percent recoveries were within quality control limits.

2.3.3.2 Precision

All RPDs of the MS/MSD sample were within quality control limits. Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives.

2.3.3.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any associated blank.

2.3.3.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.3.3.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.3.4 TCLP Volatile Organic Compounds

2.3.4.1 Accuracy

All surrogate percent recoveries were within control limits with the exception of low recovery in sample 94-HA01-(3.0) and high recovery in sample 94-PE-1 for 1,2-dichloroethane-D4. Since no volatile organic compounds were detected in any sample from this SWMU, data quality objectives were not affected. The MS/MSDs percent recoveries were all within control limits with the exception of high recoveries for 1,1-dichloroethene in one MS/MSD sample and for surrogate 1,2-dichloroethane-D4 in another MS/MSD sample. No qualification of data was necessary because qualification of data should not be done based on MS/MSD criteria alone.

2.3.4.2 Precision

The MS/MSDs RPDs were all within control limits. Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives.

2.3.4.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since most samples were analyzed within 7 days and no organic compounds were detected in any of the samples from this SWMU, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these samples that are to be analyzed for volatile organics. No contamination was identified in any associated blank.

2.3.4.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP with the exception of sample 94-SS-1. This sample was analyzed beyond the holding time by several days. Since there were no volatile organic compounds detected in any sample from this SWMU, data quality objectives were not affected.

2.3.4.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.3.5 TCLP Semivolatile Organic Compounds

2.3.5.1 Accuracy

All surrogate percent recoveries were within quality control limits with the exceptions of samples 94-HA03-(3.0), 94-PE-1, and 94-HA04-(3.0). Surrogates with low recoveries included nitrobenzene-D5, 2-fluorobiphenyl, and terphenyl-D14. Since most surrogates were within control limits for all samples and no semi-volatiles were detected in any sample from this SWMU, data quality objectives were not affected. All MS/MSDs percent recoveries were within quality control limits with the exceptions of low recoveries for surrogate nitrobenzene-D5, surrogate 2-fluorobiphenyl, and 2,4,5-trichlorophenol in one MS/MSD sample and low recoveries for 2,4,5-trichlorophenol and 2,4-dinitrotoluene in another MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

2.3.5.2 Precision

All RPDs between MS/MSDs were within quality control limits with the exception of pyridine in one MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone. Field duplicate sampling was performed as part of another SWMU. This didn't affect data quality objectives.

2.3.5.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any ated blank.

2.3.5.4 Analytical Method

All samples were analyzed within the holding times and by the methods listed in the CDAP.

2.3.5.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.4 SWMU 95

2.4.1 Total Petroleum Hydrocarbons

2.4.1.1 Accuracy

All LCSs percent recoveries were within control limits.

2.4.1.2 Precision

All RPDs between the MS/MSDs percent recoveries were all acceptable. Quality control was performed by comparing field duplicate pair 95-HA04-(4.0) and 95-HA04-(4.0)-QC. All comparisons were within quality control limits as all results were non-detect.

2.4.1.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. Contamination was identified in every method blank at 5.6 mg/l for test method 8015 (TPH). As such, all results are qualified as estimated non-detects. Since sample results were well below the state of New Mexico's regulatory limit for TPH in soil, data quality objectives were not affected. Poor laboratory decontamination procedures during sample analyses were the likely causes.

2.4.1.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.4.1.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below state of New Mexico guidelines for TPH in soils; therefore, they were adequate for the intended purpose.

2.4.2 TCLP Volatile Organic Compounds

2.4.2.1 Accuracy

All surrogate percent recoveries were within control limits with the exceptions of high surrogate recovery of 1,2-dichloroethane-D4 in samples 95-HA02-(3.25), 95-HA03-(3.5), 95-PE-1, and 95-SS-1. No qualification of data was necessary because all results from these samples were non-detect. The MS/MSDs surrogate percent recoveries were all within control limits.

2.4.2.2 Precision

The MS/MSDs RPDs were all within control limits. Quality control was performed by comparing field duplicate pair 95-HA04-(4.0) and 95-HA04-(4.0)-QC. All comparisons were within quality control limits as all results were non-detect.

2.4.2.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since most samples were analyzed within 7 days and no organic compounds were detected in any of the samples from this SWMU, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these samples that are to be analyzed for volatile organics. No contamination was identified in any associated blank.

2.4.2.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.4.2.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.4.3 TCLP Semivolatile Organic Compounds

2.4.3.1 Accuracy

All surrogate percent recoveries were within quality control limits with the exceptions of samples 95-HA02-(3.25), 95-SS-1, and 95-HA04-(4.0) Surrogates with low recoveries included nitrobenzene-D5 and 2-fluorobiphenyl. Since most surrogates were within control limits for all samples and no semi-volatiles were detected in any sample from this SWMU, data quality objectives were not affected. All MS/MSDs percent recoveries were within quality control limits with the exceptions of low recoveries for surrogate nitrobenzene-D5, surrogate 2-fluorobiphenyl, and 2,4,5 trichlorophenol in one MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

2.4.3.2 Precision

All RPDs between MS/MSDs were within quality control limits with the exception of pyridine in one MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

Quality control was performed by comparing field duplicate pair 95-HA04-(4.0) and 95-HA04-(4.0) QC. All comparisons were within quality control limits as all results were non-detect.

2.4.3.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any associated blank.

2.4.3.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.4.3.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.5 SWMU 96

2.5.1 Total Petroleum Hydrocarbons

2.5.1.1 Accuracy

All LCSs percent recoveries were within control limits.

2.5.1.2 Precision

All RPDs between the MS/MSDs percent recoveries were all acceptable. Quality control was performed by comparing field duplicate pair 96-HA08-(3.0) and 96-HA08-(3.0)-QC. All comparisons were within quality control limits as all results were non-detect.

2.5.1.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. Contamination was identified in every method blank randging from 4.59 mg/l to 4.84 mg/l for test method 8015 (TPH). As such, all results are qualified as estimates and estimated non-detects. Since sample results were either well below or well above the state of New Mexico's regulatory limit for TPH in soil, data quality objectives were not affected. Poor laboratory decontamination procedures during sample analyses were the likely causes.

2.5.1.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.5.1.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below state of New Mexico guidelines for TPH in soils; therefore, they were adequate for the intended purpose.

2.5.2 TCLP Volatile Organic Compounds

2.5.2.1 Accuracy

All surrogate percent recoveries were within control limits with the exceptions of high surrogate recovery of 1,2 dichloroethane-D4 in samples 96-HA01-(2.0), 96-HA05-(2.5), and 96-PE-1 and low surrogate recovery of 1,2-dichloroethane-D4 in sample 96-HA08-(3.0). No qualification of data was necessary in the high surrogate percent recoveries because all results from these samples were non-detect. Since no volatile organics were detected in any sample from this SWMU, data quality objectives were not affected due to the low surrogate recovery in sample 96-HA08-(3.0). The MS/MSDs surrogate percent recoveries were all within control limits.

2.5.2.2 Precision

The MS/MSDs RPDs were all within control limits. Quality control was performed by comparing field duplicate pair 96-HA08-(3.0) and 96-HA08-(3.0)-QC. All comparisons were within quality control limits as all results were non-detect.

2.5.2.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since most samples were analyzed within 7 days and no organic compounds were detected in any of the samples from this SWMU, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these samples that are to be analyzed for volatile organics. No contamination was identified in any associated blank.

2.5.2.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.5.2.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.5.3 TCLP Semivolatile Organic Compounds

2.5.3.1 Accuracy

All surrogate percent recoveries were within quality control limits with the exceptions of samples 96-HA01-(2.0), 96-HA02-(2.0), 96-HA03-(2.5), 96-HA05-(2.5), 96-HA06-(3.0), 96-HA07-(3.0), 96-HA08-(3.0), 96-PE-1, and 96-SS-1. Surrogates with low recoveries included nitrobenzene-D5, 2-chlorophenol, and 2-fluorobiphenyl. Since most surrogates were within control limits for all samples and no semi-volatiles were detected in any sample from this SWMU, data quality objectives were not affected. In addition, one sample 96-HA04-(2.5) had some surrogates that were not recovered at all and most that had low recoveries. All data associated with this sample has been qualified as estimated non-detects. Since all samples from this SWMU detected no semi-volatile compounds, data quality objectives were not affected. All MS/MSDs percent recoveries were within quality control limits with the exceptions of low recovery for 2,4,5-trichlorophenol in one MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

2.5.3.2 Precision

All RPDs between MS/MSDs were within quality control limits with the exception of 2,4,5-trichlorophenol in one MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

Quality control was performed by comparing field duplicate pair 96-HA08-(3.0) and 96-HA08-(3.0) QC. All comparisons were within quality control limits as all results were non-detect.

2.5.3.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any associated blank.

2.5.3.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.5.3.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.6 SWMU 97

2.6.1 Total Petroleum Hydrocarbons

2.6.1.1 Accuracy

All LCSs percent recoveries were within control limits.

2.6.1.2 Precision

All RPDs between the MS/MSDs percent recoveries were all acceptable. Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives.

2.6.1.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. Contamination was identified in method blanks ranging from 0.13 mg/l to 4.6 mg/l in samples 97-HA05-(4.0), 97-SS-1, and 97-RB for EPA Method 8015 (TPH). As such, all results are qualified as estimated non-detects. Since these SWMU sample results were well below the state of New Mexico's regulatory limit for TPH in soil, data quality objectives were not affected. Poor laboratory decontamination procedures during sample analyses were the likely causes.

2.6.1.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.6.1.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below state of New Mexico guidelines for TPH in soils; therefore, they were adequate for the intended purpose.

2.6.2 Total Volatile Organic Compounds

2.6.2.1 Accuracy

All surrogates, LCSs, and MS/MSDs percent recoveries were within control limits with the exception of a high toluene recovery in one MS/MSD sample. No qualification of data was necessary because qualification should not be based on MS/MSD criteria alone.

2.6.2.2 Precision

All RPDs between the MS/MSDs percent recoveries were all acceptable. Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives.

2.6.2.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since no organic compounds were detected in any of the samples from this SWMU, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these samples that are to be analyzed for volatile organics. No contamination was identified in any associated blanks.

2.6.2.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.6.2.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.6.3 Total Semivolatile Organic Compounds

2.6.3.1 Accuracy

All surrogate percent recoveries were within quality control limits with the exception of sample 97-RB. The surrogate with low recovery was nitrobenzene-D5. Since most surrogates were within control limits for ths sample and no semi-volatiles were detected in any sample from this SWMU, data quality objectives were not affected. All MS/MSDs percent recoveries were within quality control limits with the exceptions of low recoveries for surrogate nitrobenzene-D5 and acenaphthalene in one MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

2.6.3.2 Precision

All RPDs of the MS/MSDs were within quality control limits. Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives.

2.6.3.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any associated blank.

2.6.3.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.6.3.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.6.4 TCLP Volatile Organic Compounds

2.6.4.1 Accuracy

All surrogate percent recoveries were within control limits. The MS/MSDs percent recoveries were all within control limits.

2.6.4.2 Precision

The MS/MSDs RPDs were all within control limits. Field duplicates were performed as part of another SWMU. This didn't affect data quality objectives.

2.6.4.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since no organic compounds were detected in any of the samples from this SWMU, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these samples that are to be analyzed for volatile organics. No contamination was identified in any associated blank.

2.6.4.4 Analytical Method

All of the samples were not analyzed within the prescribed holding times; however, they were analyzed by the methods listed in the CDAP. These samples were analyzed beyond the holding time by several days. Since there were no volatile organic compounds detected in any sample from this SWMU, data quality objectives were not affected.

2.6.4.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.6.5 TCLP Semivolatile Organic Compounds

2.6.5.1 Accuracy

All surrogate percent recoveries were within quality control limits with the exceptions of samples 97-HA01-(3.0), 97-PE-2, and 97-HA02-(3.0). Surrogates with low recoveries included nitrobenzene-D5 and 2-fluorobiphenyl. Since most surrogates were within control limits for all samples and no semi-volatiles were detected in any sample from this SWMU, data quality objectives were not affected. All MS/MSDs percent recoveries were within quality control limits with the exceptions of low recoveries for surrogate nitrobenzene-D5, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dinitrobenzene, and surrogate 2-fluorobiphenyl in one MS/MSD sample. No

qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

2.6.5.2 Precision

All RPDs between MS/MSDs were within quality control limits with the exception of 2-fluorophenol in one MS/MSD sample and 2,4,5-trichlorophenol, 2,4-dinitrotoluene, 1,2-dichlorobenzene-D4, and 2-fluorobiphenyl in another MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone. Field duplicate sampling was performed as part of another SWMU. This didn't affect data quality objectives.

2.6.5.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any associated blank.

2.6.5.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.6.5.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.7 SWMU 98

2.7.1 Total Petroleum Hydrocarbons

2.7.1.1 Accuracy

All LCSs percent recoveries were within control limits.

2.7.1.2 Precision

All RPDs between the MS/MSDs percent recoveries were all acceptable. The field duplicate pairs 98-HA01-(3.0) and 98-HA01-(3.0)-QC, 98-HA02-(3.25) and 98-HA02 (3.25)-QC, 98-PE-1 and 98-PE-1-QC, and 98-SS-1 and 98-SS-1-QC were found to be comparable as all results were non-detect.

2.7.1.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. Contamination was identified in every method blank ranging from 0.13 mg/l to 4.8 mg/l for EPA Method 8015 (TPH). As such, all results are qualified as estimated non-detects. Since sample results were well below the state of New Mexico's regulatory limit for TPH in soil, data quality objectives were not affected. Poor laboratory decontamination procedures during sample analyses were the likely causes.

2.7.1.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.7.1.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below state of New Mexico guidelines for TPH in soils; therefore, they were adequate for the intended purpose.

2.7.2 Total Volatile Organic Compounds

2.7.2.1 Accuracy

Samples 98-PE-1 and 98-PE-1-QC had a high MS/MSD recoveries for toluene, and they also had low surrogate percent recoveries for 1,2-dichloroethane-D4. Since all volatile parameter results were non-detect for this SWMU, data quality objectives were not affected. All other surrogates, LCSs, and MS/MSDs percent recoveries were within control limits.

2.7.2.2 Precision

All RPDs between the MS/MSDs percent recoveries were all acceptable. Field duplicates were comparable as all results were non-detect.

2.7.2.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since no organic compounds were detected in any of the samples from this SWMU, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these samples that are to be analyzed for volatile organics. No contamination was identified in any associated blanks.

2.7.2.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.7.2.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.7.3 Total Semivolatile Organic Compounds

2.7.3.1 Accuracy

All surrogate percent recoveries were within quality control limits with the exception of samples 98-PE-1 and 98-PE-1-QC which had low surrogate percent recoveries for nitrobenzene-D5 and 2-fluorobiphenyl. Since most of the surrogates were within control limits and no semi-volatile compounds were detected in any sample from this SWMU, data quality objectives were not affected. The MS/MSD sample had low recoveries for surrogate nitrobenzene-D5, and acenaphthalene. No qualification of data was necessary since qualification is not based on MS/MSD criteria alone.

2.7.3.2 Precision

All RPDs of the MS/MSDs were within quality control limits. Field duplicates were comparable as all results were non-detect.

2.7.3.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any associated blank.

2.7.3.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.7.3.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.7.4 TCLP Volatile Organic Compounds

2.7.4.1 Accuracy

All surrogate percent recoveries were within control limits. The MS/MSDs pecent recoveries were all within control limits with the exception of 1,1-dichloroethene which had a high recovery for both samples. Since all results were non-detect, no qualification of data was necessary.

2.7.4.2 Precision

The MS/MSDs RPDs were all within control limits. Quality control was performed by comparing the field duplicate sample pairs 98-HA01-(3.0) and 98-HA03-(3.0)-QC, 98-HA02-(3.25) and 98-HA02-(3.5)-QC, and 98-SS-1 and 98-SS-1-QC. All comparisons were within quality control limits as all results were non-detect.

2.7.4.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since no organic compounds were detected in any of the samples from this SWMU, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these samples that are to be analyzed for volatile organics. No contamination was identified in any associated blank.

2.7.4.4 Analytical Method

All samples were analyzed by the methods listed in the CDAP; however, all the samples were analyzed beyond the prescribed holding times by several days. Since no volatile organic compounds were detected at this SWMU, data quality objectives were not affect.

2.7.4.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.7.5 TCLP Semivolatile Organic Compounds

2.7.5.1 Accuracy

All surrogate percent recoveries were within quality control limits with the exceptions of samples 98-HA03-(3.5) and 98-SS-1-QC. Surrogates with low recoveries included nitrobenzene-D5, and 2-fluorobiphenyl. Since most surrogates were within control limits for all samples and no semi-volatiles were detected in any sample from this SWMU, data quality objectives were not affected. All MS/MSDs percent recoveries were within quality control limits with the exceptions of low recoveries for 2,4,5-trichlorophenol and 2,4-dinitrophenol in one MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

2.7.5.2 Precision

All RPDs between MS/MSDs were within quality control limits. Quality control was performed by comparing the field duplicate sample pairs 98-HA01-(3.0) and 98-HA03-(3.0)-QC, 98-HA02-(3.25) and 98-HA02-(3.5)-QC, and 98-SS-1 and 98-SS-1-QC. All comparisons were within quality control limits as all results were non-detect.

2.7.5.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any associated blank.

2.7.5.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.7.5.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.8 SWMU 99

2.8.1 Total Petroleum Hydrocarbons

2.8.1.1 Accuracy

All LCSs percent recoveries were within control limits.

2.8.1.2 Precision

All RPDs between the MS/MSDs percent recoveries were all acceptable. Quality control was performed by comparing field duplicate pairs 99-PE-1 and 99-PE-1-QC and 99-PE-2 and 99-PE-2-QC. All comparisons were within quality control limits as all results were non-detect.

2.8.1.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. Contamination was identified in every method blank at 4.58 mg/l for test method 8015 (TPH) with the exception of samples 99-PE-4 and 99-SS-1. As such, all results from all but these two samples are qualified as estimated non-detects. Since sample results were well below the state of New Mexico's regulatory limit for TPH in soil, data quality objectives were not affected. Poor laboratory decontamination procedures during sample analyses were the likely causes.

2.8.1.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.8.1.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below state of New Mexico guidelines for TPH in soils; therefore, they were adequate for the intended purpose.

2.8.2 TCLP Volatile Organic Compounds

2.8.2.1 Accuracy

All surrogate percent recoveries were within control limits. One MS/MSD sample had a high percent recovery for 1,1-Dichloroethene. No qualification of data was necessary because qualification of data should not be based on MS/MSD criteria alone.

2.8.2.2 Precision

The MS/MSD RPDs were all within control limits. Quality control was performed by comparing field duplicate pairs 99-PE-1 and 99-PE-1-QC and 99-PE-2 and 99-PE-2-QC. All comparisons were within quality control limits as all results were non-detect.

2.8.2.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since no organic compounds were detected in any of the samples from this SWMU, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these samples that are to be analyzed for volatile organics. No contamination was identified in any associated blank.

2.8.2.4 Analytical Method

All samples were analyzed by the methods listed in the CDAP; however, all the samples were analyzed beyond the prescribed holding times by several days. Since no volatile organic compounds were detected at this SWMU, data quality objectives were not affect.

2.8.2.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.8.3 TCLP Semivolatile Organic Compounds

2.8.3.1 Accuracy

All surrogate percent recoveries were within quality control limits with the exceptions of samples 99-HA01-(4.0), 99-PE-2, 99-PE-2-QC, and 99-HA04-(6.0) Surrogates with low recoveries included nitrobenzene-D5 and 2-fluorobiphenyl. Since most surrogates were within control limits for all samples and no semi-volatiles were detected in any sample from this SWMU, data quality objectives were not affected. All MS/MSDs percent recoveries were within quality control limits with the exceptions of low recoveries for surrogate nitrobenzene-D5, surrogate 2-fluorobiphenyl, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dinitrotoluene, and hexachloroethane in one MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

2.8.3.2 Precision

All RPDs in the MS/MSD sample were within quality control limits with the exception of surrogate 2-fluorophenol and m&p creosol. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

Quality control was performed by comparing field duplicate pairs 99-PE-1 and 99-PE-1-QC and 99-PE-2 and 99-PE-2-QC. All comparisons were within quality control limits as all results were non-detect.

2.8.3.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any associated blank.

2.8.3.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.8.3.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.9 SWMU 100

2.9.1 Total Petroleum Hydrocarbons

2.9.1.1 Accuracy

All LCSs percent recoveries were within control limits.

2.9.1.2 Precision

All RPDs between the MS/MSDs percent recoveries were all acceptable. The field duplicate pair 100-PE-6 and 100-PE-6-QC was found to be comparable with results of 32 mg/l and 16 mg/l, respectively.

2.9.1.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. Contamination was identified in every method blank ranging from 0.13 mg/l to 4.8 mg/l for EPA Method 8015 (TPH). As such, all results are qualified as an estimates and estimated non-detects. Since sample results were well below the state of New Mexico's regulatory limit for TPH in soil, data quality objectives were not affected. Poor laboratory decontamination procedures during sample analyses were the likely causes.

2.9.1.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.9.1.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below state of New Mexico guidelines for TPH in soils; therefore, they were adequate for the intended purpose.

2.9.2 Total Volatile Organic Compounds

2.9.2.1 Accuracy

All surrogates, LCSs, and MS/MSDs percent recoveries were within control limits.

2.9.2.2 Precision

All RPDs between the MS/MSDs percent recoveries were all acceptable. Field duplicates were performed as part of another SWMU.

2.9.2.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since most samples were analyzed within 7 days and no organic compound was detected in any of the samples from this SWMU, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these samples that are to be analyzed for volatile organics. No contamination was identified in any associated blanks.

2.9.2.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP with the exception of trip blank samples 100-PE-6-TB and 100-TB. These samples were analyzed using EPA Method 624 instead of EPA Method 8240. Since EPA Methods 624 and 8240 are so similiar, data quality objectives were not affected.

2.9.2.5 Sensitivity

Detection limits for the analytes of interest for this SWMU were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.9.3 Total Semivolatile Organic Compounds

2.9.3.1 Accuracy

All surrogate percent recoveries were within quality control limits. The MS/MSD sample had low recoveries for surrogate nitrobenzene-D5 and acenaphthalene. No qualification of data was necessary since qualification is not based on MS/MSD criteria alone.

2.9.3.2 Precision

All RPDs of the MS/MSD sample were within quality control limits. Field duplicates were performed as part of another SWMU. This didn't affect data quality control objectives.

2.9.3.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any associated blank.

2.9.3.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.9.3.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.9.4 TCLP Volatile Organic Compounds

2.9.4.1 Accuracy

All surrogate percent recoveries were within control limits with the exception of high recoveries for 1,2-dichloroethane-D4 in samples 100-HA06-(3.0), 100-HA07-(3.5), and 100-PE-3. Since no volatile organics except 2-butanone in the low ppb were detected in any sample from this SWMU, no qualification of data was necessary. The MS/MSDs percent recoveries were all within control limits with the exception of low recovery for carbon tetrachloride in one sample and high recovery for 1,1-dichloroethene in another. No qualification of data was necessary because qualification of data should not be based on MS/MSD criteria alone.

2.9.4.2 Precision

The MS/MSDs RPDs were all within control limits. Quality control was performed by comparing the field duplicate sample pair 100-PE-6 and 100-PE-6-QC. All comparisons were within quality control limits as all results were non-detect.

2.9.4.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition with the exception of preserving the samples with hydrochloric acid to a pH of <2.0. Since only one organic compound (2-butanone) was detected in any of the samples from this SWMU in the low ppb range, data quality objectives were not affected. It should be noted that it is the standard practice of Talem, Inc. not to preserve these samples that are to be analyzed for volatile organics. No contamination was identified in any associated blank.

2.9.4.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP with the exception of samples 100-HA05-(3.0), 100-PE-4, 100-PE-5, 100-PE-6, 100-PE-6-QC, 100-PE-7, and 100-PE-8. These samples were analyzed beyond the prescribed holding times. Since only one organic compound (2-butanone) was detected in any of the samples from this SWMU in the low ppb range, data quality objectives were not affected.

2.9.4.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

2.9.5 TCLP Semivolatile Organic Compounds

2.9.5.1 Accuracy

All surrogate percent recoveries were within quality control limits with the exceptions of samples 100-HA01-(0.5), 100-PE-4, 100-HA02-(1.0), 100-HA06-(3.0), 100-HA03-(2.0), 100-HA04-(3.0), 100-HA07-(3.5), 100-HA08-(3.5), 100-PE-6, 100-PE-7, and 100-PE-8. Surrogates with low recoveries included nitrobenzene-D5, 2-fluorobiphenyl, and 2-chlorophenol-D4. Since most surrogates were within control limits for all samples and no semi-volatiles were detected in any sample from this SWMU, data quality objectives were not affected. Sample 100-SS-1 had almost all of its surrogates with low percent recoveries; therefore, all results have been qualified as estimated non-detects. Since all results were well below RCRA D coded regulatory limits, data quality objectives were not affected. All MS/MSD percent recoveries were within quality control limits with the exceptions of low recoveries for 2,4,5-trichlorophenol in both MS/MSD samples. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

2.9.5.2 Precision

All RPDs between MS/MSDs were within quality control limits with the exception 2,4,5-trichlorophenol in one MS/MSD sample. No qualification of data was necessary because data qualification should not be based on MS/MSD criteria alone.

Quality control was performed by comparing the field duplicate sample pair 100-PE-6 and 100-PE-6-QC. All comparisons were within quality control limits as all results were non-detect.

2.9.5.3 Representativeness

All samples were properly preserved, packed and shipped using proper COC procedures, and received by the laboratory in good condition. No contamination was identified in any associated blank.

2.9.5.4 Analytical Method

All samples were analyzed within the prescribed holding times and by the methods listed in the CDAP.

2.9.5.5 Sensitivity

Detection limits for the analytes of interest for this site were well below RCRA D coded regulatory levels; therefore, they were adequate for the intended purpose.

3.0 CONCLUSION

The laboratory results for these SWMUs as presented in all the associated data from Talem, Inc. should be accepted as qualified. Data collection problems during the sampling process were not found. Laboratory analyses problems included exceeding recommended holding times, contamination in laboratory blanks, high and low surrogate and LCSs recoveries, and LCS/LCSDs and MS/MSDs RPDs that were out of control. Section two thoroughly discusses these qualified data results for each method of analysis performed on this site and their effect on data quality objectives for each SWMU. All results and data meet the requirements of the data quality objectives for this site as outlined in the CDAP, and they are deemed acceptable and valid for the intended use.

TABLE 1

WHITE SANDS MISSILE RANGE (SWMU 92 & 100)

SWMU #	LABORATORY ID #	FIELD SAMPLE ID #	ANALYZED PARAMETERS	MATRIX
92	2453 06/21/95 1	92A-HA01-(1.5)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
92	2453 06/28/95 11	92A-PE-1	VOLATILES 8240, SEMI-VOLATILES 8270, AND TPH 8015	STEEL PIPING RINSATE
92	2453 06/23/95 8	92A-SS-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL STOCKPILE
92	2453 06/21/95 2	92B-HA01-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
92	2453 06/21/95 3	92B-HA02-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
92	2453 06/21/95 4	92B-HA03-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
92	2453 06/21/95 5	92B-HA04-(3.5)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
92	2453 06/21/95 6	92B-HA04-(3.5)-QC	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
92	2453 06/21/95 7	92B-PE-01	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
92	2453 06/23/95 9	92B-SS-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL STOCKPILE
93	2453 06/21/95 8	93-HA01-(1.5)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
93	2453 06/28/95 12	93-PE-1	VOLATILES 8240, SEMI-VOLATILES 8270, AND TPH 8015	STEEL PIPING RINSATE
93	2453 06/24/95 1	93-SS-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL STOCKPILE
93	2453 06/28/95 13	93-TB	VOLATILES 8240	TRIP BLANK
93	2453 06/22/95 6	93-HA01-RB	VOLATILES 8240, SEMI-VOLATILES 8270, AND TPH 8015	RINSATE BLANK
94	2453 06/22/95 2	94-HA01-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
94	2453 06/22/95 3	94-HA02-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
94	2453 06/22/95 4	94-HA03-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
94	2453 06/22/95 5	94-HA04-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
94	2453 06/22/95 1	94-PE-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
94	2453 06/24/95 2	94-SS-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL STOCKPILE
94	2453 06/22/95 7	94-TB	VOLATILES 8240	TRIP BLANK
95	2453 06/23/95 1	95-HA01-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
95	2453 06/23/95 2	95-HA02-(3.25)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
95	2453 06/23/95 3	95-HA03-(3.5)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
95	2453 06/23/95 4	95-HA04-(4.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
95	2453 06/23/95 5	95-HA04-(4.0)-QC	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
95	2453 06/23/95 6	95-PE-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
95	2453 06/23/95 7	95-SS-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL STOCKPILE
96	2453 06/23/95 10	96-HA01-(2.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
96	2453 06/23/95 11	96-HA02-(2.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL

SWMU #	LABORATORY ID #	FIELD SAMPLE ID #	ANALYZED PARAMETERS	MATRIX
96	2453 06/23/95 12	96-HA03-(2.5)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
96	2453 06/23/95 13	96-HA04-(2.5)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
96	2453 06/23/95 14	96-HA05-(2.5)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
96	2453 06/23/95 15	96-HA06-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
96	2453 06/23/95 16	96-HA07-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
96	2453 06/23/95 17	96-HA08-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
96	2453 06/23/95 18	96-HA06-(3.0)-QC	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
96	2453 06/23/95 19	96-PE-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
96	2453 06/23/95 20	96-SS-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL STOCKPILE
97	2453 06/27/95 17	97-HA01-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
97	2453 06/27/95 18	97-HA02-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
97	2453 06/27/95 19	97-HA03-(3.5)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
97	2453 06/27/95 20	97-HA04-(4.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
97	2453 06/27/95 21	97-HA05-(4.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
97	2453 06/27/95 13	97-PE-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
97	2453 06/27/95 14	97-PE-2	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
97	2453 06/27/95 15	97-PE-3	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
97	2453 06/27/95 16	97-PE-4	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
97	2453 06/27/95 22	97-SS-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL STOCKPILE
97	2453 06/27/95 23	97-RB	VOLATILES 8240, SEMI-VOLATILES 8270, AND TPH 8015	RINSATE BLANK
97	2453 06/27/95 24	97-TB	VOLATILES 8240	TRIP BLANK
98	2453 06/24/95 8	98-HA01-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
98	2453 06/24/95 9	98-HA01-(3.0)-QC	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
98	2453 06/24/95 10	98-HA02-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
98	2453 06/24/95 11	98-HA02-(3.25)-QC	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
98	2453 06/24/95 12	98-HA03-(3.5)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
98	2453 06/24/95 13	98-SS-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL STOCKPILE
98	2453 06/24/95 14	98-SS-1-QC	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL STOCKPILE
98	2453 06/28/95 9	98-PE-1	VOLATILES 8240, SEMI-VOLATILES 8270, AND TPH 8015	STEEL PIPING RINSATE
98	2453 06/28/95 10	98-PE-1-QC	VOLATILES 8240, SEMI-VOLATILES 8270, AND TPH 8015	STEEL PIPING RINSATE
99	2453 06/27/95 5	99-HA00-(4.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
99	2453 06/27/95 4	99-HA01-(4.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
99	2453 06/27/95 3	99-HA02-(4.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL

SWMU #	LABORATORY ID #	FIELD SAMPLE ID #	ANALYZED PARAMETERS	MATRIX
99	2453 06/27/95 2	99-HA03-(5.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
99	2453 06/27/95 1	99-HA04-(6.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
99	2453 06/27/95 6	99-PE-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
99	2453 06/27/95 7	99-PE-1-QC	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
99	2453 06/27/95 8	99-PE-2	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
99	2453 06/27/95 9	99-PE-2-QC	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
99	2453 06/27/95 10	99-PE-3	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
99	2453 06/27/95 11	99-PE-4	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
99	2453 06/27/95 12	99-SS-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL STOCKPILE
100	2453 06/23/95 21	100-HA01-(0.5)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
100	2453 06/23/95 22	100-HA02-(1.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
100	2453 06/23/95 23	100-HA03-(2.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
100	2453 06/23/95 24	100-HA04-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
100	2453 06/23/95 32	100-HA05-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
100	2453 06/23/95 26	100-HA06-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
100	2453 06/23/95 27	100-HA07-(3.0)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
100	2453 06/23/95 28	100-HA08-(3.5)	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL
100	2453 06/23/95 29	100-PE-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
100	2453 06/23/95 30	100-PE-2	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
100	2453 06/23/95 31	100-PE-3	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
100	2453 06/23/95 33	100-PE-4	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
100	2453 06/24/3 3	100-PE-5	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
100	2453 06/24/95 4	100-PE-6	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
100	2453 06/24/95 5	100-PE-6-QC	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
100	2453 06/24/95 15	100-PE-6-RB	VOLATILES 8240, SEMI-VOLATILES 8270, AND TPH 8015	RINSATE BLANK
100	2453 06/24/95 16	100-PE-6-TB	VOLATILES 8240	TRIP BLANK
100	2453 06/24/95 6	100-PE-7	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING
100	2453 06/24/95 7	100-PE-8	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	TERRA-COTTA PIPING

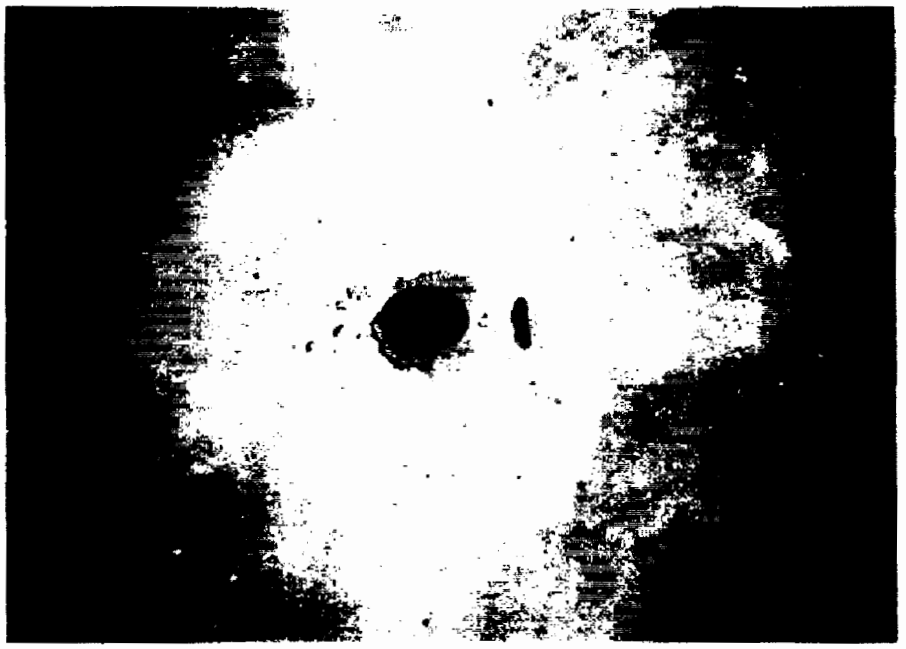
SWMU #	LABORATORY ID #	FIELD SAMPLE ID #	ANALYZED PARAMETERS	MATRIX
100	2453 06/23/95 25	100-SS-1	TCLP VOLATILES 1311/8240, SEMI-VOLATILES 1311/8270, AND TPH 8015	SOIL STOCKPILE
100	2453 06/23/95 35	100-TB	VOLATILES 8240	TRIP BLANK
100	2453 06/23/95 34	100-HA01-RB	VOLATILES 8240, SEMI-VOLATILES 8270, AND TPH 8015	RINSATE BLANK

APPENDIX H

PHOTOGRAPHS

Photograph 61-1: Perimeter fence of SWMU #61, looking north.

Photograph 61-2: Access gate to SWMU #61. The incinerator is at the left side of the photo.



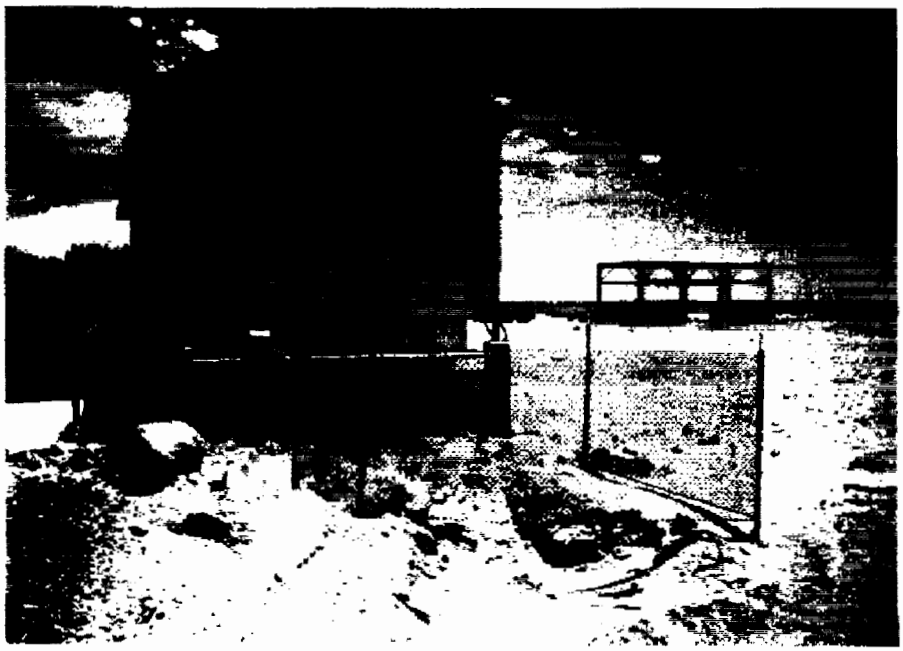
92/100-1 All drain holes were sealed with concrete.

92/100-2 Drain pipes were excavated and removed from each building.

92/100-3 Drain pipes were excavated and removed from each storage pad.

92/100-4 Metal pipe type drains were excavated and power washed. Waste water and residue were sampled and analyzed.

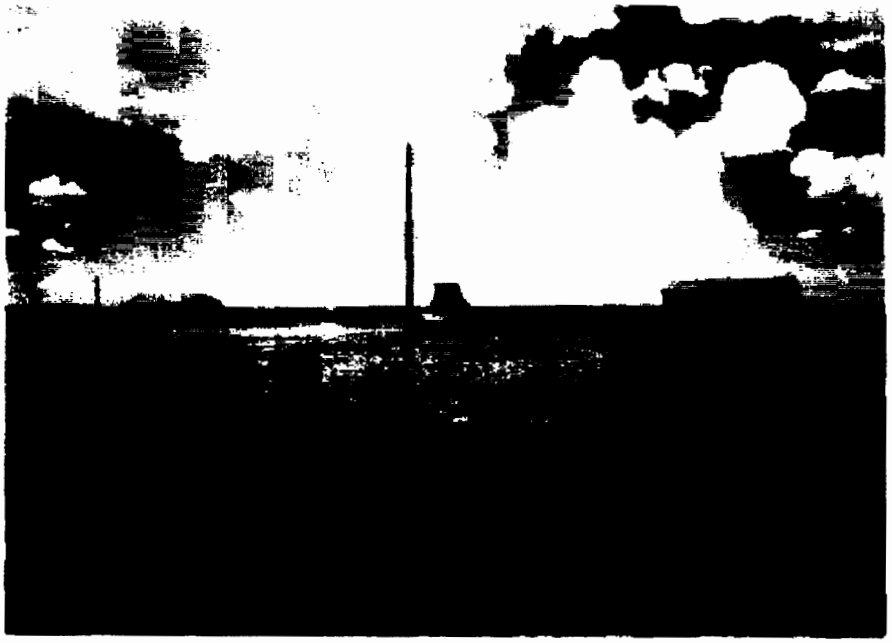
92/100-5 Drain pipes were excavated and removed. Samples were taken during and after excavation. Sample locations were identified with stakes.



92/100-6 In addition, each excavation was secured with plastic wire and stakes.

92/100-7 All trenching/excavation was secured. Note sampling stakes.

92/100-8: Material for backfilling the trenches and collection pits was taken from a USACE-approved borrow area.



92/100-9 Borrow material was placed in each collection pit.

92/100-10 Each pit and excavated area was bladed to match the adjacent terrain.

92/100-11 Front End loader grading fill to match surrounding area.

92/100-12 Bladed area ready for seeding and mulch.

92/100-13 Typical area after seeding and mulching.

92/100-14 Typical area after seeding and mulching.

APPENDIX I

PREVIOUS INVESTIGATION

SWMU 61 Tula Peak Unexploded Ordnance (UXO) Incinerator

This section is taken verbatim from the 1992 report prepared by the IT Corporation.

Phase I RCRA Facility Investigation (RFI)

Report Date: 1992 Performed By: IT Corporation

Investigation Findings

RFI Unit Operational Historical Delineation

The incinerator was located approximately 2 miles north of Tula Peak, east of the UXO burial areas (SWMUs 57-60)(Figure 2-23). The unit was inactive, and the start date was unknown. The incinerator was cylindrical in shape and was mounted on a steel frame. The axis was parallel to the ground and UXO was manually introduced into the incinerator via a door in one end of the unit. Miscellaneous aircraft and missile parts were observable in the trenches. Partially-melted cluster bomb units (CBUs) and other small ordnance had been left in the incinerator and were scattered over the ground surface.

In February 1992, a Geonics EM-31 and a PPM-500 were used to measure conductivity and the total magnetic field at stations along pre-established grid lines located in the vicinity of SWMU 61. The grids were emplaced over suspected UXO burial pits and adjacent undisturbed native soil.

The geophysical survey map (Figure 2-24) shows eight possible UXO disposal trenches/pits (some of which were easily identified by visual observation as well). The trenches/pits varied in size and shape. The largest trench/pit area was approximately 60-by-150 feet and the smallest was approximately 25-by-40 feet. UXO and surface debris were observed over the entire geophysical grid (440-by-500 feet).

Hydrogeologic Conditions

Site specific hydrogeologic and stratigraphic data were not available for SWMU 61. However, depth to water, based on visual observation of a spring located approximately 1200 feet to the southwest of the unit, was assumed to be less than 100 feet. Fish (species unknown) were observed swimming in the surface water at the spring.

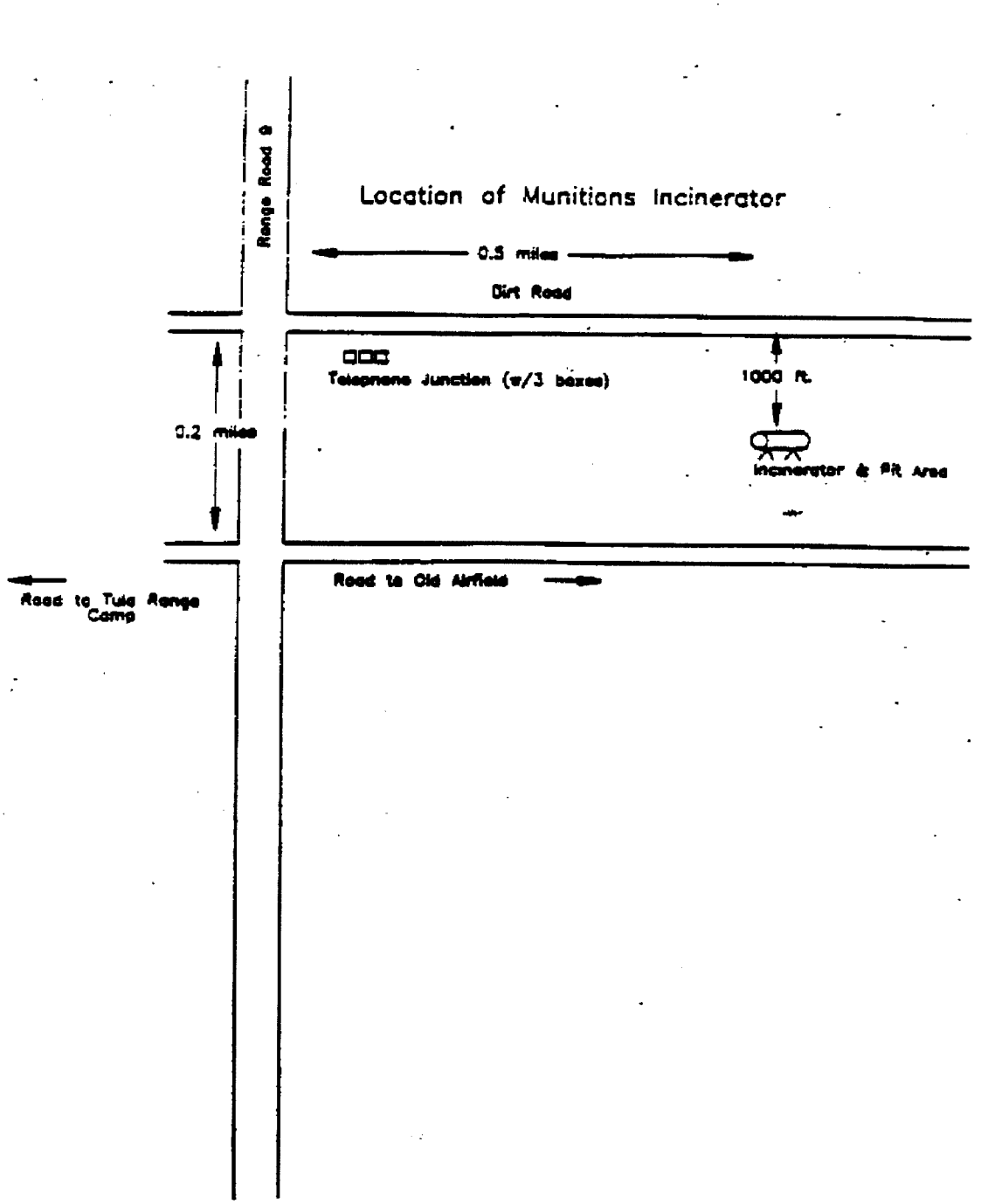


FIGURE 2-23

SITE LOCATION MAP
SWMU 61
TULA PEAK UXO INCINERATOR
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

800 FT 0 800 FT

APPROXIMATE SCALE

PREPARED FOR

U.S. ARMY CORPS OF ENGINEERS
HUNTSVILLE DIVISION

INTERNATIONAL TECHNOLOGY CORPORATION

DRAWN BY	DRP 07/27/92	DRAFTING CHECK	BM 12-10-92	ENG. CHECK	DFC 12/9/92	APPROVED BY	DJP 12.10.92	PROJECT NUMBER 421671.11

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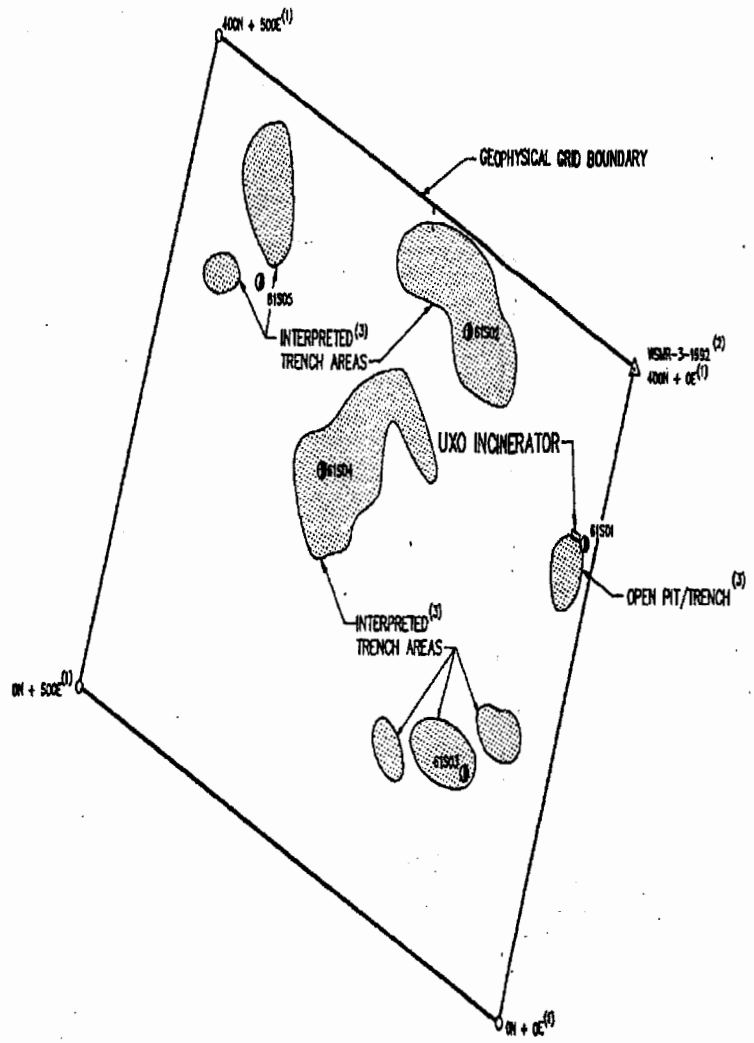

100 FT 0 100 FT
SCALE

NOTES:

(1) SURVEY COORDINATES ARE NOTED IN APPENDIX H.

(2) MONUMENT (WSMR-3-1992) IS ALSO THE CORNER GEOPHYSICAL GRID POINT 400N + 0E.

(3) INTERPRETED TRENCH AREAS ARE BASED ON ELECTROMAGNETIC CONDUCTIVITY PROFILING AND MAGNETIC FIELD MEASUREMENTS.

REFERENCE:

GEOPHYSICAL SURVEYS, WHITE SANDS MISSILE RANGE, BLACKHAWK GEOSCIENCES, INC., FEBRUARY, 1992 (APPENDIX C).

LEGEND:

61S01 — SURFACE SOIL SAMPLE LOCATION AND NUMBER

0N+0E — GEOPHYSICAL GRID REFERENCE COORDINATE

INTERPRETED TRENCH AREA

WSMR-3-1992 — MONUMENT LOCATION AND DESIGNATION

FIGURE 2-24

SITE PLAN
SWMU 61
TULA PEAK UXO INCINERATOR
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

PREPARED FOR

U.S. ARMY CORPS OF ENGINEERS
HUNTSVILLE DIVISION

INTERNATIONAL TECHNOLOGY CORPORATION

DRAWN BY	BSM 7-6-92	ENG. CHECK	APPROVED BY	PROJECT NUMBER 421671

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Characterization of Contaminants and Release Evaluation

According to the RFI Work Plan, constituents potentially present at SWMU 61 included lead, cadmium, mercury, and organic compounds related to explosives and liquid propellants. The Phase I investigation included an EOD team sweep of the area, a geophysical survey to delineate disposal areas, and the collection of five optional surface soil samples inside of the five identified disposal areas (Figure 2-24). The samples were analyzed for VOCs, SVOCs, TPH, and metals (Table 2-8). During the EOD sweep, it was noted that no live ordnance were observed at the facility.

Of the five soil samples (which were collected from drainage pathways very near debris), only one detection of butylbenzylphthalate (BBP) was identified in the southernmost disposal area. The concentration was low (0.44 mg/kg) and BBP tends to strongly adsorb to soils and may undergo rapid biodegradation. BBP also may be associated with PVC materials such as sampling equipment. The data did not indicate that a concentrated waste source was present here or that a release had occurred. Proposed Subpart S action levels were not exceeded in any of the samples.

TABLE 2-8
SURFACE SOIL ANALYTICAL RESULTS
SWMU 61 (Page 1 of 1)
TULA PEAK UXO INCINERATOR
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	61SO3 Soil Surface 02/20/92
EXTRACTABLES			
Butylbenzylphthalate	mg/kg		0.44

NOTES:
[1] Sample identification nomenclature is described in Section 3.1.1 of this report.
[2] Only samples with constituent concentrations above the detection limit are noted.

SWMUs 92-100 Liquid Propellant Storage Area

This section was taken verbatim from the 1992 report prepared by the IT Corporation.

Previous Investigations

Phase I RCRA Facility Investigation (RFI)

Report Date: 1992 Performed By: IT Corporation

Investigation Findings

RFI Unit Operational History and Delineation

Ten (10) earthen pits (SWMUs 92A/B-100), located two miles east of the Main Post area in the LPSA (see Figure 2-32), had been active since 1953. Each pit was intended to provide secondary containment for a specific storage area. The pits were unlined, and were typically about 20 feet in diameter and 10 feet deep.

Historically, the pits had been associated with Inhibited Red Fuming Nitric Acid (IRFNA) liquid propellants, and petroleum/oil/lubricants (POLs). In the event of a spill in any of the storage areas, the pit associated with the storage area would collect the spilled material via a drain and pipe.

Hydrogeologic Conditions

SWMUs 92A/B-100 are located in the distal facies of the alluvial fan which borders the western edge of the Tularosa Basin. No information was available on the deep stratigraphy (greater than 30 feet). However, generalizations concerning the deep stratigraphy were made due to the proximity of this unit to SWMUs 89 and 90 approximately 5 miles to the east and SWMU 64 approximately 3 miles to the west.

The shallow subsurface stratigraphy was characterized by soil borings drilled to 30 feet below grade in the center of each pit. The sediments consisted of poorly sorted and unconsolidated gravel, sand and silt size sediment with occasional interlevels of clay. Depth below grade to the regional aquifer, estimated from depth to water measurements in borehole B-9 located

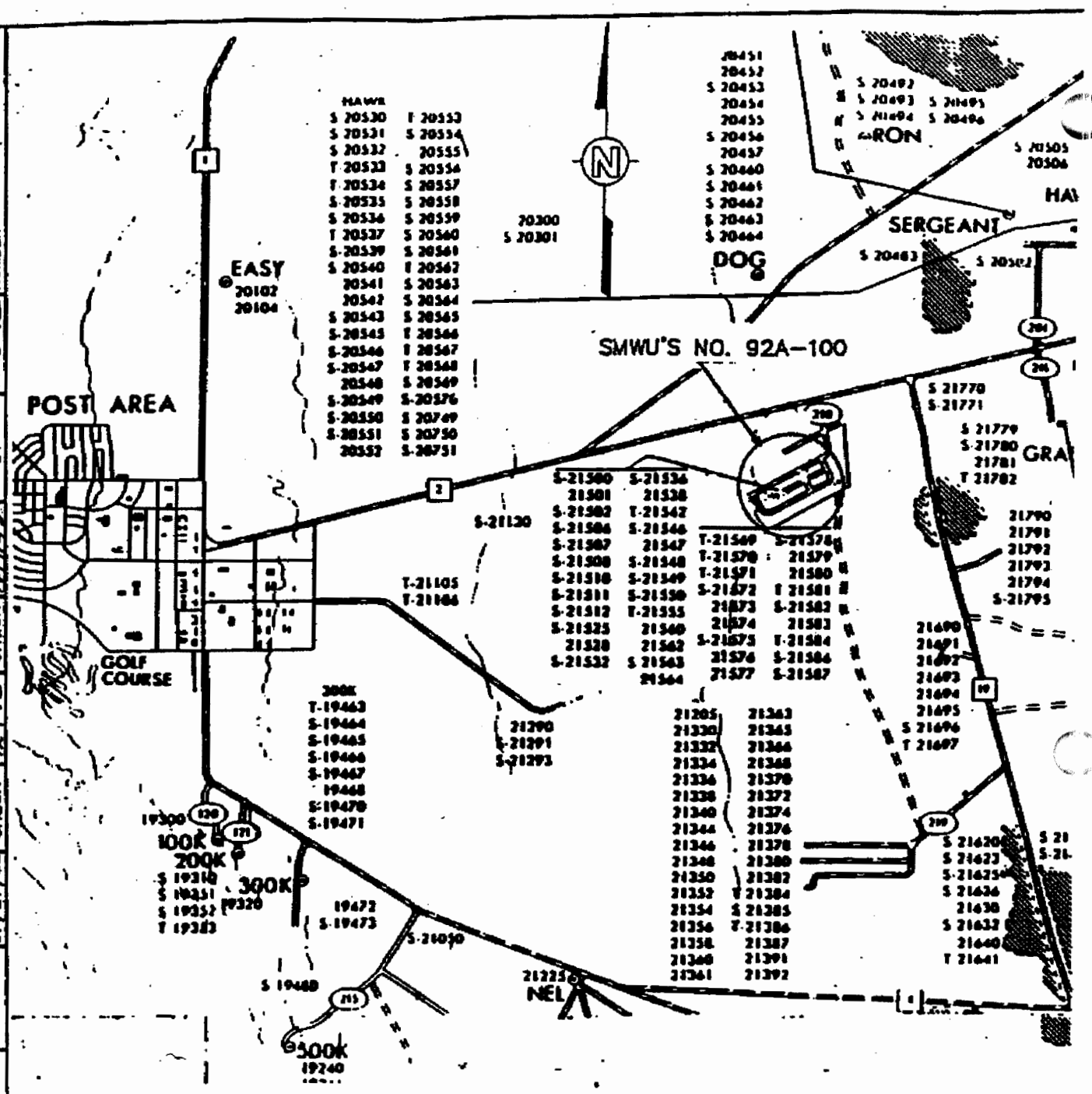

FIGURE 2-32

SITE LOCATION MAP
SWMU'S 92A-100
LPSA EVAPORATION/
NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

625 FT 0 625 FT

APPROXIMATE SCALE

PREPARED FOR

U.S. ARMY CORPS OF ENGINEERS
HUNTSVILLE DIVISION

INTERNATIONAL TECHNOLOGY CORPORATION

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approximately 0.75 miles west of the LPSA in summer, 1987 was approximately 225 feet. Assuming the slope of the water table remains constant in the direction of the LPSA, the groundwater gradient direction would be to the southeast. No information was available on water quality in the vicinity of this unit.

Characterization of Contaminants and Release Evaluation

According to the RFI Work Plan, contaminants potentially released from SWMUs 92A/B-100 (LPSA pits) included IRFNA and constituents related to POLs and liquid propellants. The field investigation included the following (Figures 2-33 and 2-34):

1) A 5 point soil vapor survey(SVS)(samples were collected 5 to 7 feet below grade) at each of the 10 SWMUs (one SVS point in the center and 4 around the perimeter).

2) A 30-foot soil boring in the center of each SWMU, with samples collected at 5, 10, 15, 20, 25 and 30 feet.

3) A 25-foot background boring with samples collected at 5, 15 and 25 feet.

4) A surface soil composite sample from each unit.

5) Visual observations of contamination and PID readings.

Analytical samples were analyzed for VOCs, SVOCs, total metals and corrosivity (Table 2-12). The units were still active and the RFA estimated a high potential for subsurface release of contaminants.

Background boring samples, collected in an isolated location (see Figure 2-34) showed normal pH (7.8-7.9) and generally normal background concentrations of lead and barium. One sample (from 25 feet) had a barium concentration of 730 mg/kg, demonstrating that natural concentrations can be very high in the alluvium and that the background is quite variable from location to location.

Because each pit was isolated from the others by significant distances, the following discussions were on a SWMU-specific basis:

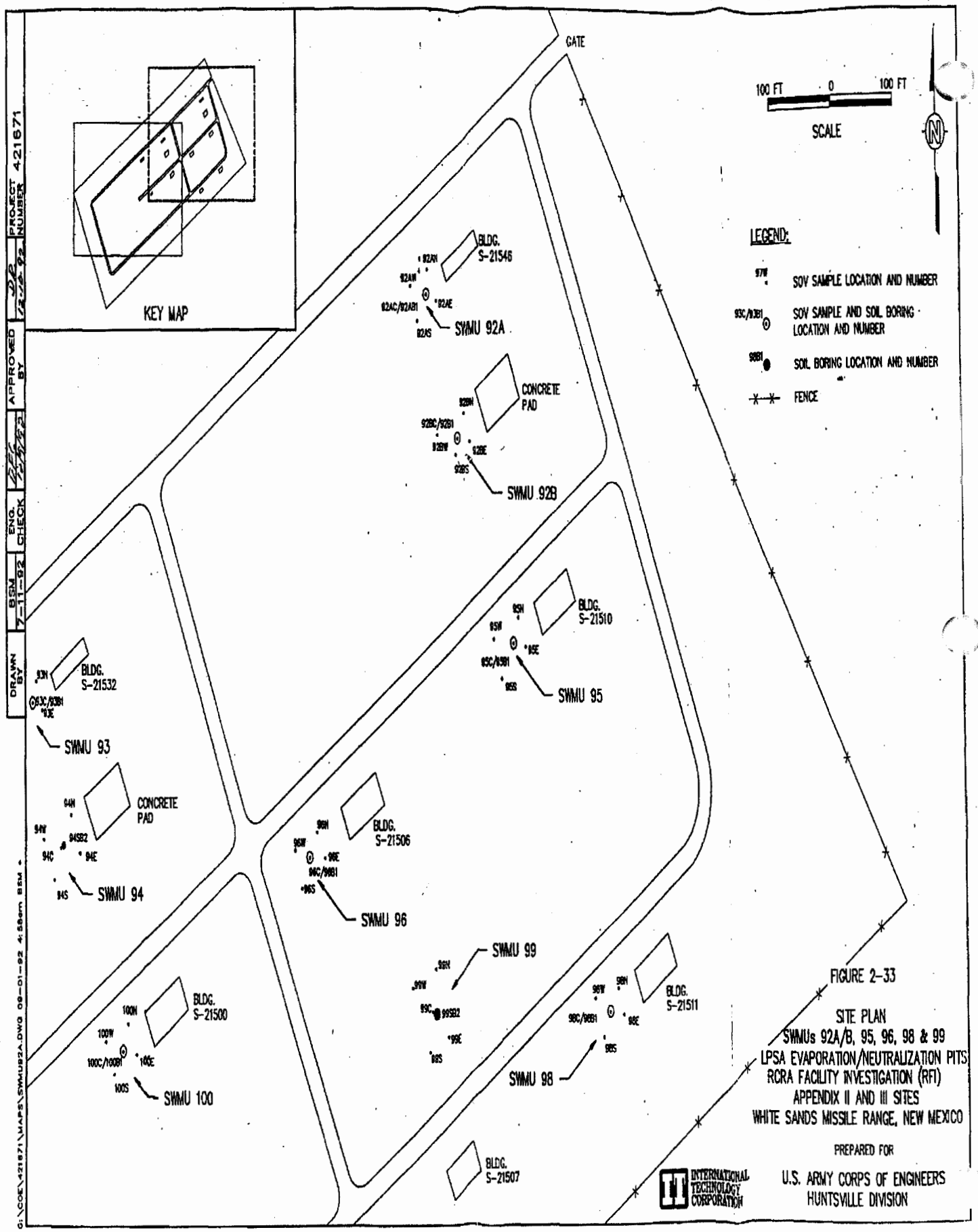

FIGURE 2-33

SITE PLAN
SWMUs 92A/B, 95, 96, 98 & 99
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

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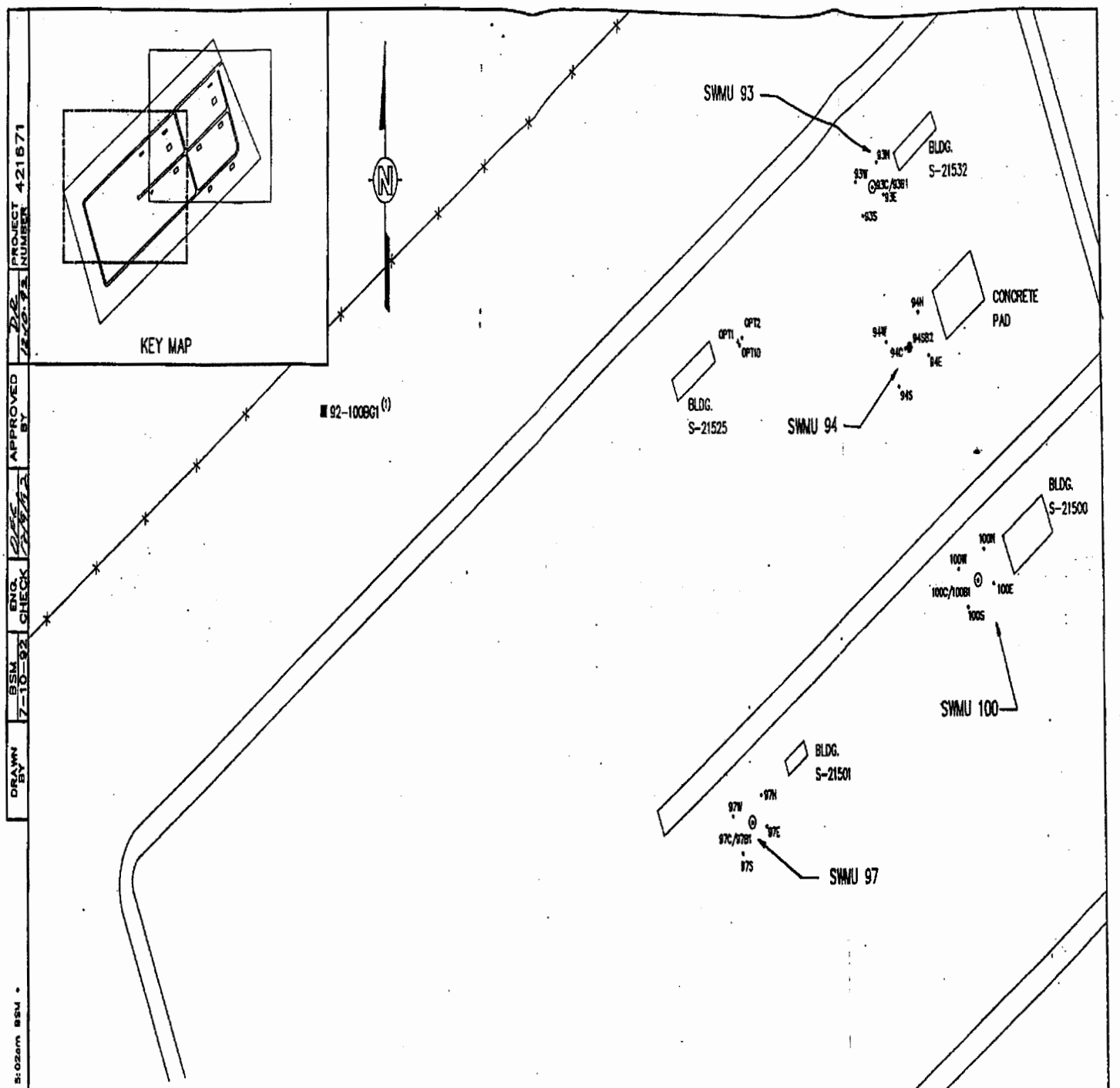

LEGEND:

- 97N — SOV SAMPLE LOCATION AND NUMBER
- 92/100BG1 — BACKGROUND SOIL BORING LOCATION AND NUMBER
- 93C/93B1 — SOV SAMPLE AND SOIL BORING LOCATION AND NUMBER
- 94SB2 — SOIL BORING LOCATION AND NUMBER
- FENCE

100 FT 0 100 FT

SCALE

NOTE:

(1) LOCATION OF MONUMENT (WSMR-6-1992) INSTALLED BY IT CORPORATION.

FIGURE 2-34

SITE PLAN
SWMUs 93, 94, 97 & 100
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

PREPARED FOR

U.S. ARMY CORPS OF ENGINEERS
HUNTSVILLE DIVISION

INTERNATIONAL TECHNOLOGY CORPORATION

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TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 1 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	92-100BKGSO05	92-100BKGSO15	92-100BKGSO25	92-100TB7
		SAMPLE TYPE:	Soil	Soil	Soil	Trip blank
		SAMPLE DEPTH:	5 feet	15 feet	25 feet	Water
		SAMPLE DATE:	03/10/92	03/10/92	03/10/92	02/03/92
VOLATILES						
Acetone[3]	mg/kg		1.2	2.0	0.15	ND
Methylene chloride[4]	mg/L		ND	ND	ND	0.012
INORGANICS						
Barium	mg/kg		72	120	730	NT
Lead	mg/kg		12	ND	11	NT
MISCELLANEOUS						
pH	NA		7.8	7.9	7.9	NT

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 2 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	92ASS0RS	92ASO02	92ASO05	92ASO10	92ASO15	92ASO20	92ASO25
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	Surface	2 feet	5 feet	10 feet	15 feet	20 feet	25 feet
		SAMPLE DATE:	03/17/92	03/09/92	03/09/92	03/09/92	03/09/92	03/09/92	03/09/92
VOLATILES									
Acetone[3]	mg/kg		0.16	ND	9.2	ND	0.12	0.67	ND
INORGANICS									
Arsenic	mg/kg		ND	ND	ND	12	ND	ND	ND
Barium	mg/kg		25	100	160	77	62	140	37
Cadmium	mg/kg		ND	ND	ND	ND	ND	0.65	ND
Lead	mg/kg		11	9.7	9.6	7.7	12	15	5.4
MISCELLANEOUS									
pH	NA		8.0	8.3	8.4	8.2	7.8	7.7	8.6

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 3 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	92AS030	92BSSORS	92BSO02	92BSO02B	92BSO05	92BSO10	92BSO15
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	30 feet	Surface	2 feet	2 feet	5 feet	10 feet	15 feet
		SAMPLE DATE:	03/09/92	03/17/92	03/04/92	03/04/92	03/04/92	03/04/92	03/04/92
VOLATILES									
Acetone[3]	mg/kg		0.19	0.24	0.48	0.35	ND	ND	0.11
Methylene chloride[4]	mg/kg		ND	0.023	ND	ND	ND	ND	ND
EXTRACTABLES									
Bis(2-ethylhexyl)phthalate	mg/kg		ND	ND	0.94	0.82	0.38	0.52	ND
Di-n-butylphthalate	mg/kg		ND	0.56	ND	ND	ND	ND	ND
INORGANICS									
Arsenic	mg/kg		ND	ND	ND	ND	ND	ND	16
Barium	mg/kg		63	ND	51	160	240	430	170
Lead	mg/kg		ND	5.1	ND	ND	ND	ND	12
Silver	mg/kg		5.7	37	48	28	ND	ND	ND
MISCELLANEOUS									
pH	NA		8.7	5.6	5.1	4.5	8.2	6.5	7.5

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 4 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	92BS020	92BSO25	92BSO30	93SSORS	93SO02	93SO05	93SO10
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	20 feet	25 feet	30 feet	Surface	2 feet	5 feet	10 feet
		SAMPLE DATE:	03/09/92	03/04/92	03/04/92	03/17/92	03/09/92	03/09/92	03/09/92
VOLATILES									
Acetone[3]	mg/kg		ND	0.13	ND	0.11	5.8	0.96	0.83
EXTRACTABLES									
Bis(2-ethylhexyl)phthalate	mg/kg		ND	ND	1.7	ND	ND	ND	ND
Di-n-butylphthalate	mg/kg		ND	ND	ND	0.37	ND	ND	ND
INORGANICS									
Arsenic	mg/kg		ND	11	ND	ND	ND	ND	ND
Barium	mg/kg		56	39	32	28	26	27	100
Lead	mg/kg		5.9	15	ND	12	8.2	8.5	9.4
MISCELLANEOUS									
pH	NA		8.0	8.0	8.1	7.6	8.0	8.6	8.5

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 5 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	93SO15 Soil 15 feet 03/09/92	93SO20 Soil 20 feet 03/10/92	93SO25 Soil 25 feet 03/09/92	93SO30 Soil 30 feet 03/09/92	94SSORS Soil Surface 03/17/92	94SO02RS Soil 2 feet 03/11/92	94SO05RS Soil 5 feet 03/1/92
VOLATILES									
Acetone[3]	mg/kg		0.38	ND	ND	0.12	ND	ND	21
EXTRACTABLES									
Bis(2-ethylhexyl)phthalate	mg/kg		ND	ND	ND	ND	0.76[6]	ND	ND
Benzidine	mg/kg		ND	ND	ND	ND	3.3[6]	ND	ND
N-nitrosodimethylamine	mg/kg		ND	ND	ND	ND	0.67[6]	ND	ND
INORGANICS									
Arsenic	mg/kg		ND	ND	ND	13	ND	ND	ND
Barium	mg/kg		ND	ND	38	81	32	34	49
Cadmium	mg/kg		ND	ND	ND	ND	ND	0.65	ND
Lead	mg/kg		ND	ND	8.4	13	13	27	11
MISCELLANEOUS									
pH	NA		8.5	8.4	8.1	7.9	6.5	5.3	7.3

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 6 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	94SO10RS Soil 10 feet 03/11/92	94SO15RS Soil 15 feet 03/11/92	94SO15BRS Soil 15 feet 03/11/92	94SO20RS Soil 20 feet 03/11/92	94SO25RS Soil 25 feet 03/11/92	94SO30RS Soil 30 feet 03/11/92	95SSORS Soil Surface 03/17/92
VOLATILES									
Acetone[3]	mg/kg		1.7	0.45	0.28	0.11	19[6]	5.8	0.15
EXTRACTABLES									
Bis(2-ethylhexyl)phthalate	mg/kg		ND	ND	ND	ND	0.35	ND	ND
Di-n-butylphthalate	mg/kg		ND	ND	ND	ND	ND	ND	0.70
INORGANICS									
Arsenic	mg/kg		ND	12	ND	ND	ND	ND	ND
Barium	mg/kg		92	130	99	75	70	69	22
Lead	mg/kg		11	19	9.9	ND	5.8	6.3	11
MISCELLANEOUS									
pH	NA		7.9	7.9	7.9	8.3	8.4	8.5	7.9

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 7 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	95SO02	95SO02B	95SO05	95SO10	95SO15	95SO20	95SO25
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	2 feet	2 feet	5 Feet	10 feet	15 feet	20 feet	25 feet
		SAMPLE DATE:	03/05/92	03/05/92	03/05/92	03/05/92	03/05/92	03/05/92	03/05/92
VOLATILES									
Acetone[3]	mg/kg		ND	ND	0.30	34[6]	10	0.42	10
2-Butanone	mg/kg		ND	ND	ND	0.13	ND	ND	ND
Ethanol[3]	mg/kg		ND	ND	ND	45	3.4	ND	ND
INORGANICS									
Arsenic	mg/kg		ND	ND	ND	22	18	ND	ND
Barium	mg/kg		19	29	30	110	44	100	87
Cadmium	mg/kg		ND	ND	ND	ND	0.55	ND	ND
Lead	mg/kg		6.5	9.4	11	21	16	15	8.4
MISCELLANEOUS									
pH	NA		7.2	7.8	4.1	6.9	7.6	7.7	7.8

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 8 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	95SO30	96SSORS	96SO02	96SO05	96SO10	96SO15	96SO20
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	30 feet	Surface	2 feet	5 feet	10 feet	15 feet	20 feet
		SAMPLE DATE:	03/05/92	03/17/92	03/10/92	03/10/92	03/10/92	03/10/92	03/10/92
VOLATILES									
Acetone[3]	mg/kg		0.65	ND	3.9	0.74	30	1.2	ND
EXTRACTABLES									
Bis(2-ethylhexyl)phthalate	mg/kg		ND	0.45	ND	ND	0.86	ND	ND
Di-n-butylphthalate	mg/kg		ND	0.51	ND	ND	ND	ND	ND
INORGANICS									
Arsenic	mg/kg		ND	ND	ND	ND	11	ND	ND
Barium	mg/kg		49	27	22	51	69	1,600	ND
Lead	mg/kg		5.4	14	9.5	11	13	ND	13
MISCELLANEOUS									
pH	NA		8.0	7.4	8.3	6.9	7.5	8.3	8.0

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 9 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	96SO25	96SO30	97SSORS	97SO02	97SO02B	97SO05	97SO10
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	25 feet	30 feet	Surface	2 feet	2 feet	5 feet	10 feet
		SAMPLE DATE:	03/10/92	03/10/92	03/17/92	03/07/92	03/07/92	03/07/92	03/07/92
VOLATILES									
Acetone[3]	mg/kg		ND	0.26	ND	0.99	0.79	0.10	0.76
INORGANICS									
Arsenic	mg/kg		22	ND	ND	ND	ND	ND	ND
Barium	mg/kg		110	170	24	27	25	41	270
Cadmium	mg/kg		ND	1.0	ND	ND	ND	ND	ND
Lead	mg/kg		18	10	6.9	7.2	8.1	11	11
MISCELLANEOUS									
pH	NA		7.8	7.7	7.6	8.3	8.2	5.3	8.0

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 10 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	97SO15	97SO20	97SO25	97S030	98SSORS	98SO02	98SO02B
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	15 feet	20 feet	25 feet	30 feet	Surface	2 feet	2 feet
		SAMPLE DATE:	03/07/92	03/07/92	03/07/92	03/07/92	03/17/92	03/05/92	03/05/92
VOLATILES									
Acetone[3]	mg/kg		ND	ND	0.45	0.34	ND	ND	ND
EXTRACTABLES									
bis(2-ethylhexyl)phthalate	mg/kg		0.91	ND	0.43	ND	ND	ND	ND
INORGANICS									
Barium	mg/kg		130	ND	52	29	23	ND	20
Lead	mg/kg		10	ND	8.0	ND	8.8	6.4	7.5
MISCELLANEOUS									
pH	NA		8.6	8.6	8.0	8.9	7.8	8.2	8.2

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 11 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]:	98SO05	98SO10	98SO15	98SO20	98SO25	98SO30	99SSORS
		SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		SAMPLE DEPTH:	5 feet	10 feet	15 feet	20 feet	25 feet	30 feet	Surface
		SAMPLE DATE:	03/05/92	03/05/92	03/05/92	03/05/92	03/05/92	03/05/92	03/17/92
VOLATILES									
Acetone[3]	mg/kg		ND	2.8	0.13	0.57	0.19	0.32	ND
INORGANICS									
Barium	mg/kg		65	300	64	65	58	120	ND
Lead	mg/kg		7.0	7.1	ND	10	6.6	6.6	6.8
MISCELLANEOUS									
pH	NA		8.0	7.6	7.8	8.5	8.1	7.6	9.3

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 12 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	99SO2RS Soil 2 feet 03/11/92	99SO02BRS Soil 2 feet 03/11/92	99SO05RS Soil 5 feet 03/11/92	99SO10RS Soil 10 feet 03/11/92	99SO15RS Soil 15 feet 03/11/92	99SO20RS Soil 20 feet 03/11/92	99SO25RS Soil 25 feet 03/11/92
VOLATILES									
Acetone[3]	mg/kg		0.21	ND	ND	ND	0.15	ND	ND
INORGANICS									
Barium	mg/kg		ND	ND	44	ND	150	31	29
Lead	mg/kg		ND	ND	35	ND	23	8.6	6.3
MISCELLANEOUS									
pH	NA		5.6	5.7	6.5	6.6	6.9	7.3	7.5

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 13 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	99SO30RS Soil 30 feet 03/11/92	100SSORS Soil Surface 03/17/92	100SO02 Soil 2 feet 03/07/92	100SO02B Soil 2 feet 03/07/92	100SO05 Soil 5 feet 03/07/92	100SO10 Soil 10 feet 03/07/92
VOLATILES								
Acetone[3]	mg/kg		ND	ND	0.21	ND	11	ND
EXTRACTABLES								
Bis(2-ethylhexyl)phthalate	mg/kg		ND	ND	ND	ND	3.4	1.2
INORGANICS								
Barium	mg/kg		57	29	23	22	110	56
Lead	mg/kg		6.4	15	7.1	5.8	ND	7.6
MISCELLANEOUS								
pH	NA		7.7	7.9	8.0	7.8	8.3	8.9

TABLE 2-12
SOIL ANALYTICAL RESULTS
SWMUs 92-100 (Page 14 of 14)
LPSA EVAPORATION/NEUTRALIZATION PITS
RCRA FACILITY INVESTIGATION (RFI)
APPENDIX II AND III SITES
WHITE SANDS MISSILE RANGE, NEW MEXICO

CONSTITUENT[2]	UNITS OF MEASURE	SAMPLE ID[1]: SAMPLE TYPE: SAMPLE DEPTH: SAMPLE DATE:	100SO15 Soil 15 feet 03/07/92	100SO20 Soil 20 feet 03/07/92	100SO25 Soil 25 feet 03/07/92	100SO30 Soil 30 feet 03/07/92
VOLATILES						
Acetone[3]	mg/kg		ND	ND	1.9	510
INORGANICS						
Arsenic	mg/kg		ND	ND	ND	16
Barium	mg/kg		47	27	60	210
Lead	mg/kg		6.9	7.4	6.5	22
MISCELLANEOUS						
pH	NA		8.6	8.4	8.3	8.0

NOTES:
(1) Sample identification nomenclature is described in Section 3.1.1 of this report.
(2) Only samples with constituent concentrations above the detection limit are noted.
(3) This compound was introduced to the sample during collection.
(4) Probable laboratory contaminant.
(5) This compound was possibly introduced during sampling.
(6) Sample was reprepped outside of holding time to achieve this value.
ND = Non-detect. Detection limit values are noted in laboratory reports, Appendix G.
NA = Not applicable.
NT = Not tested.

SWMU 92A: No SVS target compounds or elevated CO_2 were detected at SWMU 92A. Elevated arsenic (12 mg/kg) was detected in the boring at 10 feet and a low level of cadmium at 20 feet. Both were isolated occurrences and may represent natural concentrations. Neither was mobile in soil. Soil pH was normal (7.7-8.7) and barium and lead concentrations were at or below background levels. Slightly elevated silver was detected at 30 feet, but was not expected to be mobile in the soil. No visual or PID evidence of contamination was observed. No release was indicated by the data. Proposed Subpart S action levels were not exceeded in any samples.

SWMU 92B: No SVS target compounds or elevated CO_2 were detected at SWMU 92B. In the soil samples, two SVOCs were detected at trace concentrations: DEHP at 2 to 10 feet and at 30 feet, and DBP in the surface composite. Both were immobile in the soil and DBP had no applicable action levels. Soil pH was somewhat low in the surface and 2-foot samples, but still within acceptable land disposal restriction ranges. Lead and barium were detected in several samples and although barium in the 10-foot sample was elevated, the occurrence is very likely to be natural since no other elevated constituent levels were identified in the sample. Silver levels were elevated (up to 48 mg/kg) in the upper two feet, and arsenic levels were slightly elevated in the 15 and 25-foot samples, however, neither occurred at concentrations high enough to expect leachate production. Both metals were immobile in soil. No PID readings or visual observations indicated contamination. No significant release was evident at this SWMU. Proposed Subpart S action levels were not exceeded in any samples.

SWMU 93: No SVS target compounds or elevated CO_2 were detected at SWMU 93. Trace DBP was detected in the surface soil and slightly elevated arsenic in the 30-foot sample, however neither was mobile in soil. Additionally, lead and barium were also detected in several samples collected from the boring and their occurrence was very likely to be natural. Proposed Subpart S action levels were not exceeded in any samples. No discoloration, odor or PID readings indicated contamination. No release was evident here.

SWMU 94: Although the SVS detected no target compounds, CO_2 was significantly elevated at this unit, indicating that organic constituents may be present in the soil and may be undergoing biodegradation. Soil samples collected at the surface and from the soil boring indicated that several contaminants were present, but not at significant levels. Two extractables, DEHP and n-nitrosodimethylamine, were detected at trace concentrations. Benzidine was also detected in the surface soil at a low level (3.3 mg/kg) and was expected to be quite mobile in soil. The benzidine concentration exceeds the proposed Subpart S

action level of 0.003 mg/kg in soil. The pH was generally normal, but was slightly low (5.3) in the 2-foot sample (still within acceptable range for land disposal). Slightly elevated arsenic and lead were detected at 15 feet and lead at 2 feet, but neither would likely produce leachate, neither was mobile in soil, and their occurrence may have represented anomalous natural values. Other detections of lead, cadmium and barium probably represented natural background. The surface soil and several soil horizons encountered during soil sampling were discolored and/or odorous, but chemical analyses did not identify any significant constituents in these horizons. A significant release may have occurred here, but the data were not conclusive. Other than benzidine, proposed Subpart S action levels were not exceeded in the samples.

SWMU 95: No SVS target compounds were detected, however slightly elevated CO_2 was identified at SWMU 95. DBP was detected at a trace concentration in the surface soil. Arsenic was slightly elevated at 15 feet and both arsenic and lead were slightly elevated at 10 feet. All other metals were below background. The pH was generally normal although slightly low at 10 and 15 feet (4.1 and 6.9, respectively). The analyses did not indicate significant concentrations of mobile constituents and no significant release was evident. Proposed Subpart S action levels were not exceeded in any of the samples.

SWMU 96: No SVS target compounds were detected, but slightly elevated CO_2 was identified at this SWMU. Two relatively immobile SVOCs were detected at trace concentrations. Arsenic was slightly elevated at 10 and 25 feet. Lead, cadmium and barium were detected in most samples at background levels, however barium was grossly elevated (1600 mg/kg) at 15 feet. Barium at 10 feet (69 mg/kg) and 20 feet (non-detect) were in the normal background range and no other elevated constituents were detected at 15 feet, suggesting that the high barium level may have been an anomalous natural concentration. No discoloration or high PID readings were observed. The pH in all samples was normal. None of the detected constituents were expected to be mobile in the soil or to produce a leachate. No significant release was indicated. Proposed Subpart S action levels were not exceeded in any of the samples.

SWMU 97: The SVS did not show any evidence of contamination at SWMU 97. DEHP was detected at trace concentrations in two samples. Proposed Subpart S action levels were not exceeded in any of the samples. PID readings did not indicate VOCs and no discoloration or odor was observed. The pH was normal and metals concentrations were background or below. No release was evident at this SWMU.

SWMU 98: Neither the PID screening of samples nor the SVS showed evidence of VOCs contamination at this SWMU. However, the SVS did indicate slightly elevated CO_2 at SWMU 98. No odor or discoloration was observed, and pH was normal. No organics and no elevated metals were detected. A release was not evident at this SWMU.

SWMU 99: The SVS indicated slightly elevated CO_2 at SWMU 99, however no organic compounds were detected in soil samples. The pH was generally normal and within land disposal restriction range, and no visual evidence of contamination or PID readings indicated contamination. One exception was a white crust present in some areas of the surface soil which corresponded with a slightly elevated pH (9.3). Metals concentration (barium and lead) were at or below background, with the exception of lead at 5 and 15 feet, which was slightly elevated. The lead, at concentrations up to 35 mg/kg was expected to be immobile and would not produce a leachate. Proposed Subpart S action levels were not exceeded in any of the samples. A release was not evident at this SWMU.

SWMU 100: Soil analyses, PID readings and the SVS did not detect VOCs st SWMU 100. The pH was normal and no odor or discoloration was observed. Trace concentrations of DEHP were detected in two soil samples and barium and lead were detected in most samples, but were at or below background levels. Arsenic was detected in the 30-foot sample at a level consistent with other detections at SWMUs 92A/B-100 and was believed to have occurred naturally here. Proposed Subpart S action levels were not exceeded in any of the samples. No release from SWMU 100 was indicated by the data.

ARCADIS

Appendix C

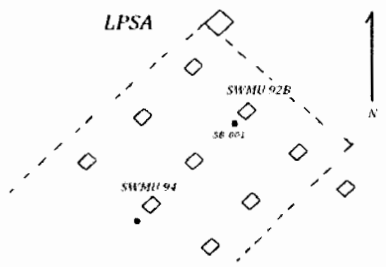
Soil Boring Logs

ARCADIS
Boring/Well Construction Log

JOB NUMBER	CLIENT	LOCATION	BORING/WELL ID	PAGE ___1___
24	WSMR	LPSA SWMU 92B	SB-001	OF ___1__

DRILLING METHOD	Hollow Stem Auger	SAMPLING METHOD	3 inch ID Core Barrel
DRILLING START	5/11/2010 0855	DEVELOP START	N/A
FINISH	5/11/10 0955	FINISH	N/A
STATIC DTW	N/A TIME	DRILLED BY	Raba Kistner/Manny Duenez
DTO	N/A DATE		
ELEV. GROUND		LOGGED BY	BRADLEY DAVIS
TOC			Zia Engineering and Environmental Consultants

BORING/ WELL LOCATION



WELL CONSTRUCTION	DEPTH FEET	CLASS-IFICATION	NAME	COLOR	DESCRIPTION: GRADATION, SECONDARY CHARACTERISTICS, ODOR, REMARKS	MOISTURE	SAMPLING DEVICE	BLOW COUNT	PERCENT RECOVE	OVM/PID (PPM)	AIR TEMP F	SAMPLE NO	DEPTH
	1	SP	Poorly graded sand with silt	Moderate brown	Fine to medium grained sand w/silt and few coarse sand	M	CB	N/A	100	0	98	Y	0-1
	2	SP	Poorly graded sand	Moderate brown	Fine to medium grained sand w/silt and few coarse sand	M	CB	N/A	100	N/A	N/A	N	N/A
	3	SP	Poorly graded sand	Moderate brown	Fine to medium grained sand w/silt and few coarse sand	M	CB	N/A	100	N/A	N/A	N	N/A
	4	SP	Poorly graded sand	Moderate brown	Fine to medium grained sand w/silt and few coarse sand	M	CB	N/A	100	N/A	N/A	N	N
	5	SP	Poorly graded sand with silt	Moderate brown	Fine to medium grained sand w/silt and few coarse sand	M	CB	N/A	100	0	99	Y	4-5
	6	SW	Well graded sand with silt	Light brown	Fine to medium grained sand w/silt and few coarse sand	M	CB	N/A	80	N/A	N/A	N	N/A
	7	SW	Well graded sand with silt	Light brown	Fine to coarse sand few granules and pebbles up to 12 mm	M	CB	N/A	80	N/A	N/A	N	N/A
	8	ML	Silt with sand	Light brown	Silt with fine grained sand minor clay. FeOxide staining.	D	CB	N/A	80	N/A	N/A	N	N/A
	9	CL	Lean Clay with silt	Moderate brown	Lean clay with silt. Moderate plasticity.	D	CB	N/A	80	N/A	N/A	N	N/A
	10	CL	Lean Clay with silt	Moderate brown	Lean clay with silt. Low plasticity.	D	CB	N/A	80	0	101	Y	9-10
	11	SP	Poorly graded sand with silt	Light brown	Fine grained sand with silt.	D	CB	N/A	80	N/A	N/A	N	N/A
	12	SP	Poorly graded sand with silt	Light brown	Fine grained sand with silt.	D	CB	N/A	80	N/A	N/A	N	N/A
	13	CL	Lean Clay	Moderate brown	Lean clay with little silt. Moderate plasticity.	D	CB	N/A	80	N/A	N/A	N	N/A
	14	ML	Silt with sand	Light brown	Silt with fine grained sand	D	CB	N/A	80	N/A	N/A	N	N/A
	15	CL	Lean Clay with silt	Moderate brown	Lean clay with silt. Low plasticity.	D	CB	N/A	80	0.2	105	Y	14-15
	16				TD = 15 Feet. No evidence of contamination from soil boring.								
	17												
	18												
	19												
	20												

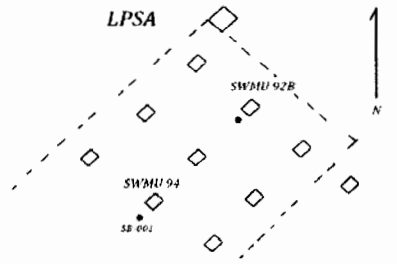
D - Dry
M - Moist
SM - Slightly Moist
CB - Core Barrel
N/A - Not Applicable
Y - Yes, chem sample collected
N - No chem sample collected

ARCADIS
Boring/Well Construction Log

JOB NUMBER	CLIENT	LOCATION	BORING/WELL ID	PAGE
24	WSMR	LPSA SWMU 94	SB-001	1 OF 1

DRILLING METHOD	Hollow Stem Auger	SAMPLING METHOD	3 inch ID Core Barrel
DRILLING START	5-11-10 1050	DEVELOP START	N/A
FINISH	5-11-10 1325	FINISH	N/A
STATIC DTW	N/A TIME	DRILLED BY	Raba Kistner/Manny Duenez
DTO	N/A DATE		
ELEV. GROUND		LOGGED BY	BRADLEY DAVIS
TOC			Zia Engineering and Environmental Consultants

BORING/ WELL LOCATION



WELL CONSTRUCTION	DEPTH FEET	CLASS-IFICATION	NAME	COLOR	DESCRIPTION: GRADATION, SECONDARY CHARACTERISTICS, ODOR, REMARKS	MOISTURE	SAMPLING DEVICE	BLOW COUNT	PERCENT RECOVE	OVM/PID (PPM)	AIR TEMP F	SAMPLE NO	DEPTH
	1	SP	Poorly graded sand	reddish brown	Fine to medium grained sand w/silt and few coarse sand	D	CB	N/A	80	0.1	115	Y	0-1
	2	SP	Poorly graded sand	reddish brown	Fine to medium grained sand w/silt and few coarse sand	D	CB	N/A	80	N/A	N/A	N	N/A
	3	SP	Poorly graded sand	reddish brown	Fine to medium grained sand w/silt and few coarse sand	M	CB	N/A	80	N/A	N/A	N	N/A
	4	SP	Poorly graded sand	reddish brown	Fine to medium grained sand w/silt and few coarse sand	D	CB	N/A	80	N/A	N/A	N	N
	5	SP	Poorly graded sand	reddish brown	Fine to medium grained sand w/silt and few coarse sand	D	CB	N/A	80	0	115	Y	4-5
	6	SP	Poorly graded sand	greyish brown	Fine to medium grained sand w/silt and few granules	M	CB	N/A	90	N/A	N/A	N	N/A
	7	SW	Well graded sand	greyish brown	Fine to coarse sand few granules	D	CB	N/A	90	N/A	N/A	N	N/A
	8	SW	Well graded sand	greyish brown	Fine to coarse sand few granules	D	CB	N/A	90	N/A	N/A	N	N/A
	9	SC	Clayey Sand	Mod bwn 5YR 4/4	Fine to coarse sand with clay	D	CB	N/A	90	N/A	N/A	N	N/A
	10	CL	Sandy Clay	Mod bwn 5YR 4/4	Lean clay with sand and silt	D	CB	N/A	90	0.4	117	Y	9-10
	11	SC	Clayey Sand	Mod bwn 5YR 4/4	Fine to medium sand with clay	D	CB	N/A	90	N/A	N/A	N	N/A
	12	SP	Poorly graded sand	Mod bwn 5YR 4/4	Fine to medium grained sand w/silt and few granules	D	CB	N/A	90	N/A	N/A	N	N/A
	13	SP	Poorly graded sand	Mod bwn 5YR 4/4	Fine to medium grained sand w/silt and few granules	D	CB	N/A	90	N/A	N/A	N	N/A
	14	ML	Silt	Light brown	Silt with minor fine grained sand	SM	CB	N/A	90	N/A	N/A	N	N/A
	15	ML	Silt with sand	Light brown	Silt with fine to medium grained sand	SM	CB	N/A	90	0.1	117	Y	14-15
	16	SP	Poorly graded sand with silt	Light brown	Fine grained sand with silt	D	CB	N/A	90	N/A	N/A	N	N/A
	17	SP	Poorly graded sand with silt	Light brown	Fine grained sand with silt	D	CB	N/A	90	N/A	N/A	N	N/A
	18	CL	Lean clay with silt	Moderate brown	Lean clay with silt and caliche low plasticity	D	CB	N/A	90	N/A	N/A	N	N/A
	19	SP	Poorly graded sand	Light brown	Fine grained sand with silt and minor clay	D	CB	N/A	90	N/A	N/A	N	N/A
	20	SP	Poorly graded sand	Light brown	Fine grained sand with silt and minor clay	D	CB	N/A	90	0.1	118	Y	19-20

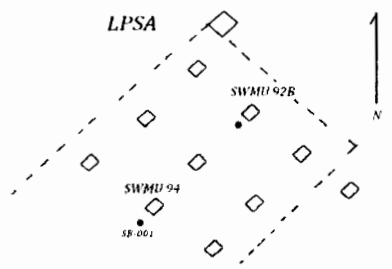
D - Dry
M - Moist
SM - Slightly Moist
CB - Core Barrel
N/A - Not Applicable
Y - Yes, chem sample collected
N - No chem sample collected

ARCADIS
Boring/Well Construction Log

JOB NUMBER	CLIENT	LOCATION	BORING/WELL ID	PAGE ___2___
24	WSMR	LPSA SWMU 94	SB-001	OF ___2__

DRILLING METHOD	Hollow Stem Auger	SAMPLING METHOD	3 inch ID Core Barrel
DRILLING START	5-11-10 1050	DEVELOP START	N/A
FINISH	5-11-10 1325	FINISH	N/A
STATIC DTW	N/A TIME	DRILLED BY	Raba Kistner/Manny Duenez
DTO	N/A DATE		
ELEV. GROUND		LOGGED BY	BRADLEY DAVIS
TOC			Zia Engineering and Environmental Consultants

BORING/ WELL LOCATION



WELL CONSTRUCTION	DEPTH FEET	CLASS-IFICATION	NAME	COLOR	DESCRIPTION: GRADATION, SECONDARY CHARACTERISTICS, ODOR, REMARKS	MOISTURE	SAMPLING DEVICE	BLOW COUNT	PERCENT RECOVE	OVM/PID (PPM)	AIR TEMP F	SAMPLE NO	DEPTH
	21	SP	Poorly graded sand	Light brown	Fine grained sand w/silt	D	CB	N/A	90	N/A	N/A	N	N/A
	22	SP	Poorly graded sand	Light brown	Fine to medium grained sand w/silt and few coarse sand	SM	CB	N/A	90	N/A	N/A	N	N/A
	23	SP	Poorly graded sand	Light brown	Fine to medium grained sand w/silt and few coarse sand	SM	CB	N/A	90	N/A	N/A	N	N/A
	24	SP	Poorly graded sand	Light brown	Fine grained sand w/silt	D	CB	N/A	90	N/A	N/A	N	N/A
	25	SP	Poorly graded sand	Light brown	Fine grained sand w/silt	D	CB	N/A	90	0.1	120	Y	24-25
	26	SP	Poorly graded sand	moderate brown	Fine grained sand w/silt and little clay	SM	CB	N/A	90	N/A	N/A	N	N/A
	27	SP	Poorly graded sand	moderate brown	Fine to medium sand with silt and clay	D	CB	N/A	90	N/A	N/A	N	N/A
	28	SP	Poorly graded sand	moderate brown	Fine to medium sand with silt and clay and caliche. Clay increasing	D	CB	N/A	90	N/A	N/A	N	N/A
	29	SP	Poorly graded sand with clay	moderate brown	Fine to medium sand with clay and silt. Clay increasing	D	CB	N/A	90	N/A	N/A	N	N/A
	30	SP	Poorly graded sand	Mod bwn 5YR 4/4	Fine to medium grained sand with silt	D	CB	N/A	90	0.2	120	Y	29-30
	31	CL	Lean clay	Mod bwn 5YR 4/4	Lean clay with silt. Moderate plasticity.	SM	CB	N/A	100	N/A	N/A	N	N/A
					Unknown odor to clay.								
	32	CL	Lean clay with silt	Mod bwn 5YR 4/4	Lean clay with silt. Moderate plasticity. With caliche	SM	CB	N/A	100	N/A	N/A	N	N/A
					Unknown odor to clay.								
	33	CL	Lean clay with silt	Mod bwn 5YR 4/4	Lean clay little silt. Moderate plasticity. Few caliche	D	CB	N/A	100	N/A	N/A	N	N/A
					Unknown odor to clay.								
	34	CL	Lean clay	Mod bwn 5YR 4/4	Lean clay with caliche.	D	CB	N/A	100	N/A	N/A	N	N/A
					Unknown odor to clay.								
	35	CL	Lean clay	Mod bwn 5YR 4/4	Lean clay with caliche.	D	CB	N/A	100	0.3	121	Y	34-35
					Unknown odor to clay. Project management decision to sample and to drill past to determine if contamination present.								
	36	CL	Lean clay	Mod bwn 5YR 4/4	Lean clay with caliche.	D	CB	N/A	100	N/A	N/A	N	N/A
					No odor to clay down to 40 feet.								
	37	CL	Lean clay	Mod bwn 5YR 4/4	Lean clay with silt. Moderate plasticity.	D	CB	N/A	100	N/A	N/A	N	N/A
	38	SP	Poorly graded sand	Light brown	Fine to medium grained sand with silt.	D	CB	N/A	100	N/A	N/A	N	N/A
	39	CL	Lean clay with silt	Mod bwn 5YR 4/4	Lean clay little silt. Moderate plasticity. Few caliche	D	CB	N/A	100	N/A	N/A	N	N/A
	40	CL	Lean clay with silt	Mod bwn 5YR 4/4	Lean clay little silt. Moderate plasticity. Few caliche	D	CB	N/A	100	0	117	Y	39-40

D - Dry
M - Moist
SM - Slightly Moist
CB - Core Barrel
- Not Applicable
Y - Yes, chem sample collected
N - No chem sample collected

INTERNATIONAL TECHNOLOGY CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 42-1671 PROJECT NAME: WSMR II

BORING NUMBER: 92-100BG1 COORDINATES: N504136.0732 x E1565196.9228 (1)

ELEVATION: 3,994.2 feet, MSL DATE STARTED: 3/10/92

ENGINEER/GEOLOGIST: M. L. ARCHIBALD DATE COMPLETED: 3/10/92

DRILLING METHOD: HSA PAGE 1 OF 1

DEPTH (ft)	SAMPLE INTERVAL (ft)	PROFILE	DESCRIPTION	REMARKS
0				
			NA	Interval not sampled.
5	(2) 4-6		SAND, SILT and GRAVEL; reddish-brown, damp, unsorted, coherent, stiff.	
			NA	Interval not sampled.
10				
15	(2) 14-16		SAND, SILT and GRAVEL; dry, unsorted, stiff, coherent, crumbly, roots.	
			NA	Interval not sampled.
20				
25	(2) 23-25		CLAY; dry, stiff, coherent, crumbly, manganese (?) leaves on slickensides.	
			TD = 25 feet.	
30				

NOTES: (1) Values are in feet.
(2) Sample retained for chemical analysis.
NA = Not Available.

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INTERNATIONAL TECHNOLOGY CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 42-1671 PROJECT NAME: WSMR II

BORING NUMBER: 92AB1 COORDINATES: N504642.3298 x E1586603.5017 (1)

ELEVATION: 3,975.0 feet, MSL DATE STARTED: 3/9/92

ENGINEER/GEOLOGIST: M. L. ARCHIBALD DATE COMPLETED: 3/9/92

DRILLING METHOD: HSA PAGE 1 OF 1

DEPTH (ft)	SAMPLE INTERVAL (ft)	PROFILE	DESCRIPTION	PID (ppm)	REMARKS
0					
	(2) 0-2		SAND and SILT; brown, damp, loose, unsorted, roots.	0	50% recovery.
			NA		Interval not sampled.
5	(2) 4-6		SAND and SILT; brown, damp, loose, unsorted, roots, underlain by tan/brown-mottled, dry crumbly, coherent.	(3) 6	25% recovery.
			NA		Interval not sampled.
10	(2) 9-11		SILT; tan/brown-mottled, dry, crumbly, coherent, underlain by brown, damp, crumbly, coherent SILT.	(3) 3	25% recovery.
			NA		Interval not sampled.
15	(2) 14-16		CLAY; brown/tan-mottled, dry, stiff, silty, coherent; underlain by dull grayish-green, damp, soft, silty CLAY with black streaks.	0	50% recovery.
			NA		Interval not sampled.
20	(2) 19-21		Silty CLAY; dull grayish-green, damp, soft, with black streaks, grading to brown, dry, stiff, crumbly CLAY with manganese(?) leaves on slickensides and tan lithified (CLAYSTONE) horizon.	0	60% recovery.
			NA		Interval not sampled.
25	(2) 24-26		CLAY; brown, dry, stiff, crumbly, with manganese (?) leaves on slickensides and tan lithified (CLAYSTONE) horizon, underlain by damp, loose, well-sorted SILT to fine SAND.	0	50% recovery.
			NA		Interval not sampled.
30	(2) 29-31		SILT and fine SAND; tan, dry, loose, well-sorted.	0	25% recovery.
			TD = 31 feet.		

NOTES: (1) Values are in feet.
(2) Sample retained for chemical analysis.
(3) PID reading probably due to isopropyl alcohol used for decontamination.
NA = Not Available.

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INTERNATIONAL TECHNOLOGY CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 42-1671 PROJECT NAME: WSMR II

BORING NUMBER: 92B1 COORDINATES: N504524.5752 x E1586654.0795 (1)

ELEVATION: 3,973.5 feet, MSL DATE STARTED: 3/4/92

ENGINEER/GEOLOGIST: M. L. ARCHIBALD DATE COMPLETED: 3/4/92

DRILLING METHOD: HSA PAGE 1 OF 2

DEPTH (ft)	SAMPLE INTERVAL (ft)	PROFILE	DESCRIPTION	PID (ppm)	REMARKS
0					
	0-2 (2)		SAND; brown, damp, loose, with some clay and silt content.	2 (3)	70% recovery.
	2-4			9 (3)	70% recovery.
5	4-6 (2)		CLAY; brown, dry, hard, sandy, silty to 4.25 feet; underlain by silty CLAY; tan, mottled, dry, hard, silty with red stains.	0	55% recovery.
			NA		Interval not sampled.
10	9-11 (2)		CLAY; tan/brown, dry, silty, sandy.	0	50% recovery.
			NA		Interval not sampled.
15	14-16 (2)		CLAY; brown, damp, soft, sandy, silty; underlain at 15 feet by brown/tan-mottled, dry, stiff, slickensided CLAY.	0	100% recovery.
			NA		Interval not sampled.
20	19-21 (2)		CLAY; brown/tan mottled, dry, stiff, slickensided, with black incusions.	0	60% recovery.
			NA		Interval not sampled.
25	24-26 (2)		SAND; dry, coherent, silty.	2 (3)	30% recovery.
			NA		Interval not sampled.
30	29-31 (2)		CLAY; brown, dry, coherent, silty, crumbly; underlain by dry, loose gravel and poorly sorted, angular SAND.	6	25% recovery.

NOTES: (1) Values are in feet.
(2) Sample retained for chemical analysis.
(3) PID reading probably due to isopropyl alcohol used for decontamination.
NA = Not Available.

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INTERNATIONAL TECHNOLOGY CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 42-1671 PROJECT NAME: WSMR II

BORING NUMBER: 92B1 COORDINATES: N504524.5752 x E1586654.0795 (1)

ELEVATION: 3,973.5 feet, MSL DATE STARTED: 3/4/92

ENGINEER/GEOLOGIST: M. L. ARCHIBALD DATE COMPLETED: 3/4/92

DRILLING METHOD: HSA PAGE 2 OF 2

DEPTH (ft)	SAMPLE INTERVAL (ft)	PROFILE	DESCRIPTION	PID (ppm)	REMARKS
30					
	31-33		SAND; poorly sorted, angular with loose dry gravel.	NA	<5% recovery.
			TD = 33 feet.		
35					
40					
45					
50					
55					
60					

NOTES: (1) Values are in feet.
(2) Sample retained for chemical analysis.
NA = Not Available.

G:\COE\421671\LOG110B.DWG 07-27-92 10:17am BSM

INTERNATIONAL TECHNOLOGY CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 42-1671 PROJECT NAME: WSMR II

BORING NUMBER: 93B1 COORDINATES: N504304.5224 x E1585976.4988 (1)

ELEVATION: 3,982.7 feet, MSL DATE STARTED: 3/9/92

ENGINEER/GEOLOGIST: M. L. ARCHIBALD DATE COMPLETED: 3/9/92

DRILLING METHOD: HSA PAGE 1 OF 1

DEPTH (ft)	SAMPLE INTERVAL (ft)	PROFILE	DESCRIPTION	PID (ppm)	REMARKS
0					
	0-2 (2)		SAND, SILT and GRAVEL; brown, damp, loose, unsorted.	4 (3)	75% recovery.
			NA		Interval not sampled.
5	4-6 (2)		SAND; brown, damp, loose, unsorted, growing stiffer, coherent; clay and increased gravel grading in.	1 (3)	50% recovery.
			NA		Interval not sampled.
10	9-11 (2)		Silty CLAY to clayey SILT; tan/brown-mottled, dry, stiff, coherent, crumbly, sandy, gravelly.	2 (3)	30% recovery.
			NA		Interval not sampled.
15	14-16 (2)		SILT; tan/brown-mottled, dry, stiff, coherent, crumbly, clayey.	0	25% recovery.
			NA		Interval not sampled.
20	19-21 (2)		SILT; tan/brown-mottled, dry, stiff, coherent, crumbly, clayey, underlain by SAND; brown, damp, loose, well-sorted, fine-grained.	0	30% recovery.
			NA		Interval not sampled.
25	24-26 (2)		SILT; brown, damp, loose, clayey, sandy, gravelly.	0	90% recovery.
			NA		Interval not sampled.
30	29-31 (2)		SILT; brown, damp, loose, clayey, sandy, gravelly, growing very clayey with depth and grading to CLAY; brown, dry, coherent, crumbly, manganese (?) leaves on slickensides.	0	90% recovery.
			TD = 31 feet.		

NOTES: (1) Values are in feet.
(2) Sample retained for chemical analysis.
(3) PID reading probably due to isopropyl alcohol used for decontamination.
NA = Not Available.

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INTERNATIONAL TECHNOLOGY CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 42-1671 PROJECT NAME: WSMR II

BORING NUMBER: 94SB2 COORDINATES: N504187.6652 x E1586027.9449 (1)

ELEVATION: 3,981.6 feet, MSL DATE STARTED: 3/11/92

ENGINEER/GEOLOGIST: M. L. ARCHIBALD DATE COMPLETED: 3/11/92

DRILLING METHOD: HSA PAGE 1 OF 1

DEPTH (ft)	SAMPLE INTERVAL (ft)	PROFILE	DESCRIPTION	REMARKS
0				
	0-2 (2)		SAND, SILT and CLAY; reddish-brown, damp, loose, unsorted, roots.	
			NA	Interval not sampled.
5	4-6 (2)		SAND, SILT, and CLAY; reddish-brown, damp, loose, unsorted, roots, with white, coherent CLAY inclusions and red (iron-stained), cemented, hard zones.	
			NA	Interval not sampled.
10	9-11 (2)		SAND, SILT and GRAVEL; brown, damp, loose, unsorted.	
			NA	Interval not sampled.
15	14-16 (2)		CLAY; grayish-green and brown-mottled, dry, stiff, crumbly; underlain by SILT, GRAVEL and SAND; red/brown-mottled, dry, coherent, crumbly.	
			NA	Interval not sampled.
20	19-21 (2)		CLAY; dry, coherent, stiff, crumbly, manganese leaves along slickensides.	
			NA	Interval not sampled.
25	24-26 (2)		SILT and fine SAND; brown, wet, loose, clayey.	
			NA	Interval not sampled.
30	29-31 (2)		SILT and fine SAND; brown, wet, loose, clayey, underlain by 4" layer of brown, stiff CLAY underlain by brown, damp, loose SILT and fine SAND.	
			TD = 31 feet.	

NOTES: (1) Values are in feet.
(2) Sample retained for chemical analysis.
NA = Not Available.

G:\COE\421671\LOG112.DWG 07-27-92 10:11am BSM

INTERNATIONAL TECHNOLOGY CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 42-1671 PROJECT NAME: WSMR II

BORING NUMBER: 95B1 COORDINATES: N504355.9024 x E1586745.3741 (1)

ELEVATION: 3,974.3 feet, MSL DATE STARTED: 3/5/92

ENGINEER/GEOLOGIST: M. L. ARCHIBALD DATE COMPLETED: 3/5/92

DRILLING METHOD: HSA PAGE 1 OF 1

DEPTH (ft)	SAMPLE INTERVAL (ft)	PROFILE	DESCRIPTION	PID (ppm)	REMARKS
0					
	0-2 (2)		SAND; reddish brown, damp, loose, silty, poorly sorted, roots.	0	100% recovery.
			NA		Interval not sampled.
5	4-6 (2)		SILT; reddish brown, damp, loose, sandy, clayey, gravelly; becomes coherent and hard with depth.	0	70% recovery.
			NA		Interval not sampled.
10	9-11 (2)		SILT; reddish brown, damp, loose, sandy, clayey, gravelly; becomes coherent and hard with depth, underlain by brown, coherent, silty SAND; underlain by tan/brown/white-mottled, damp, hard, coherent CLAY.	52 (3) 130 (3)	60% recovery.
			NA		Interval not sampled.
15	14-16 (2)		CLAY; tan/brown/white-mottled, damp, hard, coherent, with silty/sandy zones.	18 (3) 42 (3)	75% recovery.
			NA		Interval not sampled.
20	19-21 (2)		CLAY; brown, damp, soft, silty; underlain by white/brown-mottled, dry, hard, stiff CLAY.	4 (3)	60% recovery.
			NA		Interval not sampled.
25	24-26 (2)		SILT; brown, damp, soft, coherent with clayey and silty zones.	10 (3)	40% recovery.
			NA		Interval not sampled.
30	29-31 (2)		SAND/SILT; brown, damp, coherent, soft, homogeneous.	1 (3)	60% recovery.
			TD = 31 feet.		

NOTES: (1) Values are in feet.
(2) Sample retained for chemical analysis.
(3) PID reading probably due to isopropyl alcohol used for decontamination.
NA = Not Available.

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INTERNATIONAL TECHNOLOGY CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 42-1671 PROJECT NAME: WSMR II

BORING NUMBER: 96B1 COORDINATES: N504179.1183 x E1586418.7151 (1)

ELEVATION: 3,976.9 feet, MSL DATE STARTED: 3/10/92

ENGINEER/GEOLOGIST: M. L. ARCHIBALD DATE COMPLETED: 3/10/92

DRILLING METHOD: HSA PAGE 1 OF 1

DEPTH (ft)	SAMPLE INTERVAL (ft)	PROFILE	DESCRIPTION	PID (ppm)	REMARKS
0					
	0-2 (2)		SAND, SILT and GRAVEL; tan, loose, unsorted, damp.	0	60% recovery.
			NA		Interval not sampled.
5	4-6 (2)		SILT; damp, coherent, clayey, sandy, crumbly.	0	40% recovery.
			NA		Interval not sampled.
10	9-11 (2)		SAND; brown, damp, coarse, cemented; underlain by brown-mottled, damp, coherent, clayey, sandy SILT.	73 (3)	20% recovery.
			NA		Interval not sampled.
15	14-16 (2)		CLAY; white, dry, coherent, crumbly, manganese leaves along slickensides.	0	30% recovery.
			NA		Interval not sampled.
20	19-21 (2)		CLAY; white/tan-mottled, dry, coherent, silty.	0	30% recovery.
			NA		Interval not sampled.
25	24-26 (2)		CLAY; white/tan-mottled, dry, coherent, silty, grading to white and brown-mottled, dry, coherent, stiff CLAY with manganese leaves along slickensides.	0	50% recovery.
			NA		Interval not sampled.
30	29-31 (2)		CLAY; white and brown-mottled, dry, coherent, stiff, with manganese leaves along slickensides.	0	50% recovery.
			TD = 31 feet.		

NOTES: (1) Values are in feet.
(2) Sample retained for chemical analysis.
(3) PID reading probably due to isopropyl alcohol used for decontamination.
NA = Not Available.

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INTERNATIONAL TECHNOLOGY CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 42-1671 PROJECT NAME: WSMR II

BORING NUMBER: 97B1 COORDINATES: N503845.8749 x E1585798.2641 (1)

ELEVATION: 3,986.2 feet, MSL DATE STARTED: 3/7/92

ENGINEER/GEOLOGIST: M. L. ARCHIBALD DATE COMPLETED: 3/7/92

DRILLING METHOD: HSA PAGE 1 OF 1

DEPTH (ft)	SAMPLE INTERVAL (ft)	PROFILE	DESCRIPTION	PID (ppm)	REMARKS
0					
	0-2 (2)		SAND, SILT and GRAVEL; reddish-brown, loose, damp, unsorted.	0	70% recovery.
			NA		Interval not sampled.
5	4-6 (2)		SAND, SILT and GRAVEL; reddish-brown, damp, loose, unsorted, becoming consolidated as clay grades in and gravel grades out; occasional black streaks.	0	70% recovery.
			NA		Interval not sampled.
10	9-11 (2)		SILT, SAND and GRAVEL; reddish-brown, damp, loose, unsorted.	0	30% recovery.
			NA		Interval not sampled.
15	14-16 (2)		SILT, SAND, and GRAVEL; reddish-brown, damp, loose, unsorted; brown, larger gravels, grading in.	29 (3)	25% recovery.
			NA		Interval not sampled.
20	19-21 (2)		CLAY; tan/brown-mottled, dry, stiff, consolidated, crumbly, black stains (Manganese?) along slickensides.	0	30% recovery.
			NA		Interval not sampled.
25	24-26 (2)		SILT or fine SAND; tan, damp, loose, well-sorted; underlain by tan, damp, consolidated, clayey SILT with white streaks.	6 (3)	50% recovery.
			NA		Interval not sampled.
30	29-31 (2)		SAND; damp, loose, angular, fine-grained, well-sorted.	5 (3)	50% recovery.
			TD = 31 feet.		

NOTES: (1) Values are in feet.
(2) Sample retained for chemical analysis.
(3) PID reading probably due to isopropyl alcohol used for decontamination.
NA = Not Available.

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INTERNATIONAL TECHNOLOGY CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 42-1671 PROJECT NAME: WSMR II

BORING NUMBER: 98B1 COORDINATES: N504055.2813 x E1586900.3601 (1)

ELEVATION: 3,973.3 feet, MSL DATE STARTED: 3/5/92

ENGINEER/GEOLOGIST: M. L. ARCHIBALD DATE COMPLETED: 3/5/92

DRILLING METHOD: HSA PAGE 1 OF 1

DEPTH (ft)	SAMPLE INTERVAL (ft)	PROFILE	DESCRIPTION	PID (ppm)	REMARKS
0					
	0-2 (2)		SAND; reddish-brown, damp, loose, silty, sparse gravel.	0	100% recovery.
			NA		Interval not sampled.
5	4-6 (2)		SAND/SILT; brown, dry, coherent, crumbly.	0	50% recovery.
			NA		Interval not sampled.
10	9-11 (2)		SILT; brown, dry, coherent, hard, sparse gravel.	1 (3)	25% recovery.
			NA		Interval not sampled.
15	14-16 (2)		CLAY; brown/tan-mottled, dry, stiff, silty.	0	50% recovery.
			NA		Interval not sampled.
20	19-21 (2)		SILT; brown, damp, soft, coherent.	2 (3)	75% recovery.
			NA		Interval not sampled.
25	24-26 (2)		SILT/fine SAND; light brown, damp, loose; increased clay, coherent, in 0.25 feet at base.	2 (3)	90% recovery.
			NA		Interval not sampled.
30	29-31 (2)		SILT/fine SAND; reddish brown, damp, loose, clayey.	2 (3)	80% recovery.
			TD = 31 feet.		

NOTES: (1) Values are in feet.
(2) Sample retained for chemical analysis.
(3) PID reading probably due to isopropyl alcohol used for decontamination.
NA = Not Available.

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INTERNATIONAL TECHNOLOGY CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 42-1671 PROJECT NAME: WSMR II

BORING NUMBER: 99SB2 COORDINATES: N504051.7102 x E1586616.5595 (1)

ELEVATION: 3,974.7 feet, MSL DATE STARTED: 3/11/92

ENGINEER/GEOLOGIST: M. L. ARCHIBALD DATE COMPLETED: 3/11/92

DRILLING METHOD: HSA PAGE 1 OF 1

DEPTH (ft)	SAMPLE INTERVAL (ft)	PROFILE	DESCRIPTION	PID (ppm)	REMARKS
0					
	0-2 (2)		SAND, SILT and GRAVEL; brown, wet, loose, unsorted, strong odor.		
			NA		Interval not sampled.
5	4-6 (2)		SAND, SILT and GRAVEL; brown, wet, loose, unsorted, strong odor, with clay grading in, becoming coherent, occassional stains.		
			NA		Interval not sampled.
10	9-11 (2)		SILT; brown, damp, coherent, crumbly, soft, clayey.		
			NA		Interval not sampled.
15	14-16 (2)		Clayey SILT to silty CLAY; brown-mottled, dry, coherent, crumbly.		
			NA		Interval not sampled.
20	19-21 (2)		Fine-grained SAND and SILT; brown, damp, loose.		
			NA		Interval not sampled.
25	24-26 (2)		Fine-grained SAND and SILT; brown, damp, loose, underlain by greenish-gray, dry, crumbly, clayey SILT.		
			NA		Interval not sampled.
30	29-31 (2)		SILT; greenish-gray, damp, crumbly, clayey, with clayey horizons and sandy horizons.		
			TD = 31 feet.		

NOTES: (1) Values are in feet.
(2) Sample retained for chemical analysis.
(3) PID reading probably due to isopropyl alcohol used for decontamination.
NA = Not Available.

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INTERNATIONAL TECHNOLOGY CORPORATION

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 42-1671 PROJECT NAME: WSMR II

BORING NUMBER: 100B1 COORDINATES: N504020.3777 x E1586121.5946 (1)

ELEVATION: 3,981.8 feet, MSL DATE STARTED: 3/7/92

ENGINEER/GEOLOGIST: M. L. ARCHIBALD DATE COMPLETED: 3/7/92

DRILLING METHOD: HSA PAGE 1 OF 1

DEPTH (ft)	SAMPLE INTERVAL (ft)	PROFILE	DESCRIPTION	PID (ppm)	REMARKS
0					
	0-2 (2)		SAND, SILT and GRAVEL; reddish-brown, damp, loose, unsorted.	0	100% recovery.
			NA		Interval not sampled.
5	4-6 (2)		SAND, SILT and GRAVEL; reddish-brown, damp, loose, unsorted, underlain by light tan, dry, coherent, crumbly, stiff, unsorted GRAVEL, SAND, SILT and CLAY.	118 (3)	90% recovery.
			NA		Interval not sampled.
10	9-11 (2)		GRAVEL, SAND, SILT and CLAY; light tan, dry, coherent, crumbly, stiff, unsorted, with large gravel-sized rock.	92 (3)	30% recovery.
			NA		Interval not sampled.
15	14-16 (2)		CLAYSTONE; light tan/white-mottled, lithified, sandy, silty.	105 (3)	20% recovery.
			NA		Interval not sampled.
20	19-21 (2)		SAND; damp, loose, fine-grained, silty.	55 (3)	40% recovery.
			NA		Interval not sampled.
25	24-26 (2)		SILT; tan/brown, damp; grows very clayey and stiff with depth.	8 (3)	50% recovery.
			NA		Interval not sampled.
30	29-31 (2)		CLAY; reddish-brown, dry, stiff, crumbly, black stains (manganese?) along slickensides.	0	50% recovery.
			TD = 31 feet.		

NOTES: (1) Values are in feet.
(2) Sample retained for chemical analysis.
(3) PID reading probably due to isopropyl alcohol used for decontamination.
NA = Not Available.

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Location: White Sands Missile Range, New Mexico	Site No: 0094-401
Date(s): 12/18/93 – 12/20/93	X Coordinate: 536012
Logged By: S. Brunton	Y Coordinate: 504192
Contractor:	Elevation: 3982.51'
Drilling Method: Hand Auger	Datum: MSL
US Army Corps of Engineers Tulsa District — Sverdrup ENVIRONMENTAL	Total Depth: 10.00'
	Borehole Dia.: 3.00"
	Static Water Level:
	Remarks: Hand auger used instead of drilling rig.

Elevation (ft)	Depth (ft)	Recovery	Sample No.	Water Level	Graphic Log	USCS Code	Material Description	Vapor (ppm)	Notes
3980						SM	SILTY SAND – reddish-brown, some beige silt zones, some staining in upper 0.25', dry	0	0'–1' Chemical analysis sample
	5					ML	SANDY SILT – reddish-brown to light brown, fine grained, dry	0	4'–5' Chemical analysis sample
	10								9'–10' Chemical analysis sample
3970	15								
3960	20								
	25								
3950	30								
	35								
3940	40								
	45								
3930	50								
	55								

Location: White Sands Missile Range, New Mexico	Site Id: 0094--A02
Date(s): 12/18/93 – 12/20/93	X Coordinate: 1586017
Logged By: S. Brunton	Y Coordinate: 504180
Contractor:	Elevation: 3982.61'
Drilling Method: Hand Auger	Datum: MSL
US Army Corps of Engineers Tulsa District — Sverdrup ENVIRONMENTAL	Total Depth: 15.00'
	Borehole Dia.: 3.00"
	Static Water Level:
	Remarks: Hand auger used instead of drilling rig.

Elevation (ft)	Depth (ft)	Recovery	Sample No.	Water Level	Graphic Log	USCS Code	Material Description	Vapor (ppm)	Notes
3980						SM	SILTY SAND – reddish-brown to medium brown, hard crusty layer with some staining in upper 0.25', some beige silt zones, dry	0	0'–1' Chemical analysis sample
	5						– some gravel		4'–5' Chemical analysis sample
						ML	SANDY SILT – brown, fine grained, beige silt zones, dry		
	10								9'–10' Chemical analysis sample
3970									
	15								14'–15' Chemical analysis sample
	20								
3960									
	25								
	30								
3950									
	35								
	40								
3940									
	45								
	50								
3930									
	55								

Location: White Sands Missile Range, New Mexico	Site ID: 0094-A03
Date(s): 12/18/93 – 12/20/93	X Coordinate: 586036
Logged By: S. Brunton	Y Coordinate: 534191
Contractor:	Elevation: 3982.63'
Drilling Method: Hand Auger	Datum: MSL
US Army Corps of Engineers Tulsa District — Sverdrup ENVIRONMENTAL	Total Depth: 15.00'
	Borehole Dia.: 3.00"
	Static Water Level:
	Remarks: Hand auger used instead of drilling rig.

Elevation (ft)	Depth (ft)	Recovery	Sample No.	Water Level	Graphic Log	USCS Code	Material Description	Vapor (ppm)	Notes
						SM	SILTY SAND – reddish-brown, hard crusty layer with some staining in upper 0.25', moist	0	0'–1' Chemical analysis sample
3980						ML	SANDY SILT – red, some beige silt zones, damp		
	5								4'–5' Chemical analysis sample
						SM	SILTY SAND – reddish-brown to light brown, fine grained, some beige silt zones, damp		
	10								9'–10' Chemical analysis sample
3970									
	15								14'–15' Chemical analysis sample
	20								
3960									
	25								
	30								
3950									
	35								
	40								
3940									
	45								
	50								
3930									
	55								

Location: White Sands Missile Range, New Mexico	File No: 0334-404
Date(s): 12/18/93 – 12/20/93	Y Coordinate: 586031
Logged By: S. Brunton	X Coordinate: 504198
Contractor:	Elevation: 3982.34'
Drilling Method: Hand Auger	Datum: MSL
US Army Corps of Engineers Tulsa District	Total Depth: 15.00'
Sverdrup ENVIRONMENTAL	Borehole Dia.: 3.00"
	Static Water Level:
	Remarks: Hand auger used instead of drilling rig.

Elevation (ft)	Depth (ft)	Recovery	Sample No.	Water Level	Graphic Log	USCS Code	Material Description	Vapor (ppm)	Notes
						SM	SILTY SAND – tar layer to 0.2', brown stained to 0.8', reddish-brown, damp		0'–1' Chemical analysis sample
3980						ML	SANDY SILT – red, damp	0	
	5					SM	SILTY SAND – reddish-brown to light brown with beige silt zones		4'–5' Chemical analysis sample
	10					ML	SANDY SILT – reddish-brown to light brown, fine grained, damp		9'–10' Chemical analysis sample
3970						SM	SILTY SAND – light brown, damp		14'–15' Chemical analysis sample
	15								
	20								
3960									
	25								
	30								
3950									
	35								
	40								
3940									
	45								
	50								
3930									
	55								

Location:	Site: SL10949B05
Date(s): 12/17/93 – 12/20/93	X Coordinate: 1586025
Logged By: S. Brunton	Y Coordinate: 504191
Contractor: GEOPROJECTS INTERNATIONAL, Inc.	Elevation: 3981.33'
Drilling Method: 3.25" I.D. Hollow Stem Auger	Datum:
US Army Corps of Engineers Tulsa District — Sverdrup ENVIRONMENTAL	Total Depth: 28.50'
	Borehole Dia.: 8.00"
	Static Water Level:
	Remarks:

Elevation (ft)	Depth (ft)	Recovery	Sample No.	Water Level	Graphic Log	USCS Code	Material Description	Vapor (ppm)	Notes
3980			SS-01			SW	SAND – brown grading to gray, fine to medium grained, well graded, some staining, moist to wet		0'–1' Chemical analysis sample
			SS-02						
	5		SS-03			ML	SANDY SILT – tan to brown, fine grained, dry		4'–5' Chemical analysis sample
			SS-04						
			SS-05						
	10		SS-06					0	9'–10' Chemical analysis sample
3970			SS-07						
			SS-08				– some hard, brittle layers and some clayey zones		14'–14.5' Chemical analysis sample
	15		SS-09			SM	SILTY SAND – brown, fine grained, moist		
			SS-10			ML	SANDY SILT – light brown to brown, fine grained, dry		
	20		SS-11					0	19'–20' Chemical analysis sample
3960			SS-12						
			SS-13				– hard, decreasing sand, dry		23.5'–24.25' Chemical analysis sample
	25		SS-14						
			SS-15				– grayish-brown, saturated fine sand at 26.5' to 27' – brown, dry, hard sandy silt returns at 27.5'		27.5'–28.5' Chemical analysis sample
	30								
3950									
	35								
	40								
3940									
	45								
	50								
3930									
	55								

ARCADIS

Appendix D

Laboratory and Data Validation Reports

May 25, 2010

Brad Davis
Zia Engineering & Environmental
755 S Telshor Blvd Ste F-201
Las Cruces, NM 88011

Order No: 1005097

TEL: (575) 678-3397
FAX: (575) 532-1587

RE: SWMUs 92B & 94 Closure

Dear Brad Davis:

DHL Analytical received 10 sample(s) on 5/12/2010 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of DoD QSM Ver 4.1 and NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. This report shall not be reproduced except in full without the written approval of DHL Analytical, Inc. Thank you for using DHL Analytical.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-10-2

Table of Contents

Miscellaneous Documents 3

Case Narrative 10

Sample Summary 12

Prep Dates Report 13

Analytical Dates Report 15

Sample Results 17

Analytical QC Summary Report 27

zia engineering & environmental consultants, llc
755 S. Telshor Blvd. Ste. F-201
Las Cruces, NM 88011
575-532-1526 u
575-532-1587 f

CHAIN OF CUSTODY RECORD

#1005097 ~~#1005095~~ 93

PAGE 1 OF 1

PROJECT NO.: 24

PROJECT NAME: SWMUs 92B + 94 Closure

SAMPLER'S SIGNATURE:

DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	NDMA	TPH									REMARKS
5-11-10	1057	LPSA-0094-SB001 (0-1)-20100511	Soil		6	X	X									
5-11-10	1100	LPSA-0094-SB001 (4-5)-20100511	Soil		6	X	X									
5-11-10	1109	LPSA-0094-SB001 (9-10)-20100511	Soil		6	X	X									
5-11-10	1116	LPSA-0094-SB001 (14-15)-20100511	Soil		6	X	X									
5-11-10	1126	LPSA-0094-SB001 (19-20)-20100511	Soil		6	X	X									
5-11-10	1126	LPSA-0094-SB101 (19-20)-20100511	Soil		6	X	X									
5-11-10	1140	LPSA-0094-SB001 (24-25)-20100511	Soil		6	X	X									
5-11-10	1149	LPSA-0094-SB001 (29-30)-20100511	Soil		6	X	X									
5-11-10	1201	LPSA-0094-SB001 (34-35)-20100511	Soil		2	X	X									
5-11-10	1325	LPSA-0094-SB001 (39-40)20100511	Soil		2	X	X									

PROJECT INFORMATION	SAMPLES RECEIVED		1. RELINQUISHED BY: (SIGNATURE)	2. RELINQUISHED BY: (SIGNATURE)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER: Brad Davis	TOTAL NO. OF CONTAINERS		(PRINTED NAME) Bradley T. Davis	(PRINTED NAME) 5/12/10 10:00	(PRINTED NAME)
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	4.0	RECEIVED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	(COMPANY)
	GOOD CONDITION/CHILLED	4.7	(TIME/DATE) 5/11/10	(TIME/DATE) 5/12/10 10:00	(TIME/DATE)
VIA: Fed EX	CONFORMS TO RECORD		SPECIAL INSTRUCTIONS/COMMENTS:		

PLEASE USE BALL POINT PEN

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

FedEx Express US Airbill

FedEx Tracking Number 8570 8901 3944

Recipient's Copy

1 From

Date 5-11-10

Sender's Name BRAD DAVIS Phone 775 771-0963

Company [illegible]

Address [illegible] Dept./Floor/Suite/Room

City [illegible] State NM ZIP 88011

2 Your Internal Billing Reference 265-07-015-00024

3 To

Recipient's Name [illegible] Phone [illegible]

Company [illegible]

Recipient's Address [illegible] Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City [illegible] State TN ZIP 37664

8570 8901 3944

4a Express Package Service — *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate.

*To most locations.

4b Express Freight Service — *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* ** — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation:

**To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

*Declared value limit $500.

6 Special Handling — Include FedEx address in Section 3.

- [ ] SATURDAY Delivery — Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] HOLD Weekday at FedEx Location — Not available for FedEx First Overnight.
- [ ] HOLD Saturday at FedEx Location — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes* — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry ice, 9, UN 1845 ____ x ____ kg
- [ ] Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

Obtain Recip. Acct. No. [ ]

Total Packages	Total Weight	Total Declared Value†	Total Charges
	175 lbs	$ .00	

†Our liability is limited to $100 unless you declare a higher value. See back for details.

Credit Card Auth.

8 *NEW* Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [X] Direct Signature — Anyone at recipient's address may sign for delivery. Fee applies.
- [ ] Indirect Signature — If no one is available at recipient's address, anyone at a neighboring address may sign for delivery. Fee applies.

520

Rev. Date 8/09 Part #158231-©1994-2009 FedEx PRINTED IN U.S.A. SRY

fedex.com 1.800.GoFedEx 1.800.463.3339

4.70c

CUSTODY SEAL
DATE 5-11-10
SIGNATURE Brad T. Davis

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DHL Analytical

Sample Receipt Checklist

Client Name Zia Engineering & Environmental

Date Received: 5/12/2010

Work Order Number 1005097

Received by JB

Checklist completed by: J. Bach (Signature) 5/12/10 (Date)

Reviewed by SS (Initials) 5-12-10 (Date)

Carrier name: FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	4.7 °C
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Page 1 of 1

Laboratory Data Package Signature Page

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC 5.13
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies.

The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Scott Schroeder – Project Manager
John DuPont – General / QA Manager

Signature

05/25/10
Date

DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: SWMUs 92B & 94 Closure	Date: 5/25/2010
Reviewer Name: Angie O'Donnell	Laboratory Work Order: 1005097
Prep Batch Number(s): See Prep Dates Report	Run Batch: See Analytical Dates Report

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-Custody (C-O-C)					
	OI	1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				R1-01
		2) Were all departures from standard conditions described in an exception report?			X		
	OI	**Sample and Quality Control (QC) Identification**					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test Reports**					
		1) Were all samples prepared and analyzed within holding times?	X				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		3) Were calculations checked by a peer or supervisor?	X				
		4) Were all analyte identifications checked by a peer or supervisor?	X				
		5) Were sample quantitation limits reported for all analytes not detected?	X				
		6) Were all results for soil and sediment samples reported on a dry weight basis?	X				
		7) Were % moisture (or solids) reported for all soil and sediment samples?	X				
		8) If required for the project, TICs reported?	X				
R4	O	**Surrogate Recovery Data**					
		1) Were surrogates added prior to extraction?	X				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			R4-02
R5	OI	**Test Reports/Summary Forms for Blank Samples**					
		1) Were appropriate type(s) of blanks analyzed?	X				
		2) Were blanks analyzed at the appropriate frequency?	X				
		3) Where method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		4) Were blank concentrations < MQL?	X				
R6	OI	**Laboratory Control Samples (LCS):**					
		1) Were all COCs included in the LCS?	X				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		3) Were LCSs analyzed at the required frequency?	X				
		4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	X				
		6) Was the LCSD RPD within QC limits (if applicable)?	X				
R7	OI	**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Data**					
		1) Were the project/method specified analytes included in the MS and MSD?	X				
		2) Were MS/MSD analyzed at the appropriate frequency?		X			R7-02
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		4) Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical Duplicate Data**					
		1) Were appropriate analytical duplicates analyzed for each matrix?	X				
		2) Were analytical duplicates analyzed at the appropriate frequency?	X				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method Quantitation Limits (MQLs):**					
		1) Are the MQLs for each method analyte included in the laboratory data package?	X				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		3) Are unadjusted MQLs included in the laboratory data package?	X				
0	OI	**Other Problems/Anomalies**					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				R10-01
		2) Were all necessary corrective actions performed for the reported data?	X				
		3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: SWMUs 92B & 94 Closure	Date: 5/25/2010
Reviewer Name: Angie O'Donnell	Laboratory Work Order: 1005097

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial Calibration (ICAL)**					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	X				
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and Continuing calibration Verification (ICCV and CCV) and Continuing Calibration blank (CCB):**					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?	X				
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass Spectral Tuning:**					
		1) Was the appropriate compound for the method used for tuning?	X				
		2) Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal Standards (IS):**					
		1) Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw Data (NELAC section 1 appendix A glossary, and section 5.12)**					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				S5-02
S6	O	**Dual Column Confirmation**					
		1) Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively Identified Compounds (TICs):**					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) Results:**					
		1) Were percent recoveries within method QC limits?			X		
S9	I	**Serial Dilutions, Post Digestion Spikes, and Method of Standard Additions**					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	**Method Detection Limit (MDL) Studies**					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency Test Reports:**					
		1) Was the lab's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards Documentation**					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/Analyte Identification Procedures**					
		1) Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of Analyst Competency (DOC)**					
		1) Was DOC conducted consistent with NELAC Chapter 5C?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/Validation Documentation for Methods** (NELAC Chap 5)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory Standard Operating Procedures (SOPs):**					
		1) Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Manual Integrations Tracking Form - DoD QSM 4.1 Requirement

Instrument ID: GC12 **Run ID : GC12-100521C**

Sample ID ICAL, ICV, and CCV QC and Field Samples	**Analyte #1** Identification & Reason	**Analyte #2** Identification & Reason	**Analyte #3** Identification & Reason	**Analyte #4** Identification & Reason
	Diesels			
1005097-01B	Adjusted baseline by MI.			
1005097-03B	Adjusted baseline by MI.			

***Manually Integrated = MI**

RV
5/24/2010

CLIENT:	Zia Engineering & Environmental	**CASE NARRATIVE**
Project:	SWMUs 92B & 94 Closure	
Lab Order:	1005097	

This case narrative describes abnormalities and deviations that may affect the results and summarizes all known issues that need to be highlighted for the data user to assess the results. This case narrative and the report contents are compliant with DoD QSM Ver 4.1 and NELAC.

Samples were analyzed using the methods outlined in the following references:

Method M8015D - TPH Extractable by GC (DRO)
Method M8015V - Modified 8015 Gasoline (GRO)
Method SW8270C - Semivolatile SIM Analysis by GC/MS
Method D2216 - Percent Moisture

Exception Report R1-01

Samples were received on and log-in performed on 5/12/2010. A total of 10 samples were received and all were analyzed. The samples arrived in good condition and were properly packaged.

Exception Report R4-02

For DRO Analysis, the recovery of surrogate Isopropylbenzene in Samples LPSA-0094-SB001 (0-1)-20100511 and LPSA-0094-SB001(9-10)-20100511 and the Method Blank (MB-41055) was slightly below the method control limits.

Exception Report R7-02

For GRO Analysis, Prep Batch 41070, an MS/MSD was not analyzed due to limited sample volume. An LCS /LCSD was analyzed instead.

Exception Report R10-01

The analysis of NDMA in soil and/or water is being performed using Method 8270 with a Selected Ion Monitoring (SIM) mode to improve the detection limit. The method was also modified to use deuterated NDMA as the surrogate, and the extraction was modified to improve the recovery of NDMA in the sample extracts. The analysis of NDMA is included on DHL Analytical's NELAP accreditation and the method modifications have been validated.

Exception Report S5-02

For DRO Analysis, some samples and/or standards were manually integrated. Please refer to the table on page 9 of this report for the full list of samples, standards, and the compounds that were manually integrated.

A summary of project communication follows:

DHL Analytical received the Project RFQ from the client on 12/29/09. Completed RFQ returned to client via email on 1/07/2010. Purchase Order/Terms and Conditions received and signed and approved by both parties on 01/25/2010.
Brad Davis of ZIA Requested the bottle kit from Jennifer Barker of DHL: via phone call on 5/3/2010.

CLIENT:	Zia Engineering & Environmental	**CASE NARRATIVE**
Project:	SWMUs 92B & 94 Closure	
Lab Order:	1005097	

Kit sent on 5/3/2010 via Lonestar Overnight, to arrive by 5/6/2010.
This sample delivery group arrives at DHL Analytical 5/12/2010. The sample summary, sent via email from Log-in to client on 5/12/2010, is kept in the project folder.

All hardcopies for the sample kit request, bill of lading for sample kit sent are kept in the project folder.

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Lab Order: 1005097

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recv'd
1005097-01	LPSA-0094-SB001(0-1)-20100511		05/11/10 10:57 AM	05/12/10
1005097-02	LPSA-0094-SB001(4-5)-20100511		05/11/10 11:00 AM	05/12/10
1005097-03	LPSA-0094-SB001(9-10)-20100511		05/11/10 11:09 AM	05/12/10
1005097-04	LPSA-0094-SB001(14-15)-20100511		05/11/10 11:16 AM	05/12/10
1005097-05	LPSA-0094-SB001(19-20)-20100511		05/11/10 11:26 AM	05/12/10
1005097-06	LPSA-0094-SB101(19-20)-20100511		05/11/10 11:26 AM	05/12/10
1005097-07	LPSA-0094-SB001(24-25)-20100511		05/11/10 11:40 AM	05/12/10
1005097-08	LPSA-0094-SB001(29-30)-20100511		05/11/10 11:49 AM	05/12/10
1005097-09	LPSA-0094-SB001(34-35)-20100511		05/11/10 12:01 PM	05/12/10
1005097-10	LPSA-0094-SB001(39-40)-20100511		05/11/10 01:25 PM	05/12/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Lab Order: 1005097

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1005097-01A	LPSA-0094-SB001(0-1)-20100511	05/11/10 10:57 AM	Soil	SW5030B	Purge and Trap Soils GC- Gas	05/13/10 03:13 PM	41070
1005097-01B	LPSA-0094-SB001(0-1)-20100511	05/11/10 10:57 AM	Soil	SW3550B	Soil Prep Sonication: DRO	05/13/10 09:31 AM	41055
	LPSA-0094-SB001(0-1)-20100511	05/11/10 10:57 AM	Soil	SW3550B	Soil Prep Sonication: DRO	05/13/10 09:31 AM	41055
1005097-01C	LPSA-0094-SB001(0-1)-20100511	05/11/10 10:57 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005097-01D	LPSA-0094-SB001(0-1)-20100511	05/11/10 10:57 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
1005097-02A	LPSA-0094-SB001(4-5)-20100511	05/11/10 11:00 AM	Soil	SW5030B	Purge and Trap Soils GC- Gas	05/13/10 03:13 PM	41070
1005097-02B	LPSA-0094-SB001(4-5)-20100511	05/11/10 11:00 AM	Soil	SW3550B	Soil Prep Sonication: DRO	05/13/10 09:31 AM	41055
1005097-02C	LPSA-0094-SB001(4-5)-20100511	05/11/10 11:00 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005097-02D	LPSA-0094-SB001(4-5)-20100511	05/11/10 11:00 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
1005097-03A	LPSA-0094-SB001(9-10)-20100511	05/11/10 11:09 AM	Soil	SW5030B	Purge and Trap Soils GC- Gas	05/13/10 03:13 PM	41070
1005097-03B	LPSA-0094-SB001(9-10)-20100511	05/11/10 11:09 AM	Soil	SW3550B	Soil Prep Sonication: DRO	05/13/10 09:31 AM	41055
1005097-03C	LPSA-0094-SB001(9-10)-20100511	05/11/10 11:09 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005097-03D	LPSA-0094-SB001(9-10)-20100511	05/11/10 11:09 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
1005097-04A	LPSA-0094-SB001(14-15)-2010051	105/11/10 11:16 AM	Soil	SW5030B	Purge and Trap Soils GC- Gas	05/13/10 03:13 PM	41070
1005097-04B	LPSA-0094-SB001(14-15)-2010051	105/11/10 11:16 AM	Soil	SW3550B	Soil Prep Sonication: DRO	05/13/10 09:31 AM	41055
1005097-04C	LPSA-0094-SB001(14-15)-2010051	105/11/10 11:16 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005097-04D	LPSA-0094-SB001(14-15)-2010051	105/11/10 11:16 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
1005097-05A	LPSA-0094-SB001(19-20)-2010051	105/11/10 11:26 AM	Soil	SW5030B	Purge and Trap Soils GC- Gas	05/13/10 03:13 PM	41070
1005097-05B	LPSA-0094-SB001(19-20)-2010051	105/11/10 11:26 AM	Soil	SW3550B	Soil Prep Sonication: DRO	05/13/10 09:31 AM	41055
1005097-05C	LPSA-0094-SB001(19-20)-2010051	105/11/10 11:26 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005097-05D	LPSA-0094-SB001(19-20)-2010051	105/11/10 11:26 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
1005097-06A	LPSA-0094-SB101(19-20)-2010051	105/11/10 11:26 AM	Soil	SW5030B	Purge and Trap Soils GC- Gas	05/13/10 03:13 PM	41070
1005097-06B	LPSA-0094-SB101(19-20)-2010051	105/11/10 11:26 AM	Soil	SW3550B	Soil Prep Sonication: DRO	05/13/10 09:31 AM	41055
1005097-06C	LPSA-0094-SB101(19-20)-2010051	105/11/10 11:26 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0094-SB101(19-20)-2010051	105/11/10 11:26 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005097-07A	LPSA-0094-SB001(24-25)-2010051	105/11/10 11:40 AM	Soil	SW5030B	Purge and Trap Soils GC- Gas	05/13/10 03:13 PM	41070
1005097-07B	LPSA-0094-SB001(24-25)-2010051	105/11/10 11:40 AM	Soil	SW3550B	Soil Prep Sonication: DRO	05/13/10 09:31 AM	41055
1005097-07C	LPSA-0094-SB001(24-25)-2010051	105/11/10 11:40 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005097-07D	LPSA-0094-SB001(24-25)-2010051	105/11/10 11:40 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
1005097-08A	LPSA-0094-SB001(29-30)-2010051	105/11/10 11:49 AM	Soil	SW5030B	Purge and Trap Soils GC- Gas	05/13/10 03:13 PM	41070
1005097-08B	LPSA-0094-SB001(29-30)-2010051	105/11/10 11:49 AM	Soil	SW3550B	Soil Prep Sonication: DRO	05/13/10 09:31 AM	41055
1005097-08C	LPSA-0094-SB001(29-30)-2010051	105/11/10 11:49 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005097-08D	LPSA-0094-SB001(29-30)-2010051	105/11/10 11:49 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Lab Order: 1005097

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1005097-09A	LPSA-0094-SB001(34-35)-2010051	05/11/10 12:01 PM	Soil	SW5030B	Purge and Trap Soils GC- Gas	05/13/10 03:13 PM	41070
1005097-09B	LPSA-0094-SB001(34-35)-2010051	05/11/10 12:01 PM	Soil	SW3550B	Soil Prep Sonication: DRO	05/13/10 09:31 AM	41055
	LPSA-0094-SB001(34-35)-2010051	05/11/10 12:01 PM	Soil	D2216	Moisture Preparation	05/17/10 10:45 AM	41106
	LPSA-0094-SB001(34-35)-2010051	05/11/10 12:01 PM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005097-10A	LPSA-0094-SB001(39-40)-2010051	05/11/10 01:25 PM	Soil	SW5030B	Purge and Trap Soils GC- Gas	05/13/10 03:13 PM	41070
1005097-10B	LPSA-0094-SB001(39-40)-2010051	05/11/10 01:25 PM	Soil	SW3550B	Soil Prep Sonication: DRO	05/13/10 09:31 AM	41055
	LPSA-0094-SB001(39-40)-2010051	05/11/10 01:25 PM	Soil	D2216	Moisture Preparation	05/17/10 10:45 AM	41106
	LPSA-0094-SB001(39-40)-2010051	05/11/10 01:25 PM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Lab Order: 1005097

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1005097-01A	LPSA-0094-SB001(0-1)-20100511	Soil	M8015V	Method 8015 Gasoline (GRO)	41070	1	05/13/10 04:36 PM	GC4_100513B
1005097-01B	LPSA-0094-SB001(0-1)-20100511	Soil	M8015D	TPH Extractable by GC - Soil	41055	10	05/21/10 05:03 PM	GC12_100521C
	LPSA-0094-SB001(0-1)-20100511	Soil	M8015D	TPH Extractable by GC - Soil	41055	1	05/24/10 09:57 AM	GC12_100521C
1005097-01C	LPSA-0094-SB001(0-1)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 04:55 PM	GCMS3_100521A
1005097-01D	LPSA-0094-SB001(0-1)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005097-02A	LPSA-0094-SB001(4-5)-20100511	Soil	M8015V	Method 8015 Gasoline (GRO)	41070	1	05/13/10 04:59 PM	GC4_100513B
1005097-02B	LPSA-0094-SB001(4-5)-20100511	Soil	M8015D	TPH Extractable by GC - Soil	41055	1	05/21/10 03:25 PM	GC12_100521C
1005097-02C	LPSA-0094-SB001(4-5)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 05:12 PM	GCMS3_100521A
1005097-02D	LPSA-0094-SB001(4-5)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005097-03A	LPSA-0094-SB001(9-10)-20100511	Soil	M8015V	Method 8015 Gasoline (GRO)	41070	1	05/13/10 05:23 PM	GC4_100513B
1005097-03B	LPSA-0094-SB001(9-10)-20100511	Soil	M8015D	TPH Extractable by GC - Soil	41055	1	05/21/10 05:12 PM	GC12_100521C
1005097-03C	LPSA-0094-SB001(9-10)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 08:54 PM	GCMS3_100521A
1005097-03D	LPSA-0094-SB001(9-10)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005097-04A	LPSA-0094-SB001(14-15)-20100511	Soil	M8015V	Method 8015 Gasoline (GRO)	41070	1	05/13/10 05:47 PM	GC4_100513B
1005097-04B	LPSA-0094-SB001(14-15)-20100511	Soil	M8015D	TPH Extractable by GC - Soil	41055	1	05/21/10 03:34 PM	GC12_100521C
1005097-04C	LPSA-0094-SB001(14-15)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 05:29 PM	GCMS3_100521A
1005097-04D	LPSA-0094-SB001(14-15)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005097-05A	LPSA-0094-SB001(19-20)-20100511	Soil	M8015V	Method 8015 Gasoline (GRO)	41070	1	05/13/10 06:10 PM	GC4_100513B
1005097-05B	LPSA-0094-SB001(19-20)-20100511	Soil	M8015D	TPH Extractable by GC - Soil	41055	1	05/21/10 03:43 PM	GC12_100521C
1005097-05C	LPSA-0094-SB001(19-20)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 05:46 PM	GCMS3_100521A
1005097-05D	LPSA-0094-SB001(19-20)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005097-06A	LPSA-0094-SB101(19-20)-20100511	Soil	M8015V	Method 8015 Gasoline (GRO)	41070	1	05/13/10 06:32 PM	GC4_100513B
1005097-06B	LPSA-0094-SB101(19-20)-20100511	Soil	M8015D	TPH Extractable by GC - Soil	41055	1	05/21/10 03:52 PM	GC12_100521C
1005097-06C	LPSA-0094-SB101(19-20)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 06:03 PM	GCMS3_100521A
	LPSA-0094-SB101(19-20)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005097-07A	LPSA-0094-SB001(24-25)-20100511	Soil	M8015V	Method 8015 Gasoline (GRO)	41070	1	05/13/10 06:56 PM	GC4_100513B
1005097-07B	LPSA-0094-SB001(24-25)-20100511	Soil	M8015D	TPH Extractable by GC - Soil	41055	1	05/21/10 04:09 PM	GC12_100521C
1005097-07C	LPSA-0094-SB001(24-25)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 06:20 PM	GCMS3_100521A
1005097-07D	LPSA-0094-SB001(24-25)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005097-08A	LPSA-0094-SB001(29-30)-20100511	Soil	M8015V	Method 8015 Gasoline (GRO)	41070	1	05/13/10 07:19 PM	GC4_100513B
1005097-08B	LPSA-0094-SB001(29-30)-20100511	Soil	M8015D	TPH Extractable by GC - Soil	41055	1	05/21/10 04:18 PM	GC12_100521C
1005097-08C	LPSA-0094-SB001(29-30)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 06:37 PM	GCMS3_100521A
1005097-08D	LPSA-0094-SB001(29-30)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Lab Order: 1005097

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1005097-09A	LPSA-0094-SB001(34-35)-20100511	Soil	M8015V	Method 8015 Gasoline (GRO)	41070	1	05/14/10 10:49 AM	GC4_100514A
1005097-09B	LPSA-0094-SB001(34-35)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 06:54 PM	GCMS3_100521A
	LPSA-0094-SB001(34-35)-20100511	Soil	D2216	Percent Moisture	41106	1	05/17/10 03:00 PM	PMOIST_100517A
	LPSA-0094-SB001(34-35)-20100511	Soil	M8015D	TPH Extractable by GC - Soil	41055	1	05/21/10 04:45 PM	GC12_100521C
1005097-10A	LPSA-0094-SB001(39-40)-20100511	Soil	M8015V	Method 8015 Gasoline (GRO)	41070	1	05/14/10 11:12 AM	GC4_100514A
1005097-10B	LPSA-0094-SB001(39-40)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 07:11 PM	GCMS3_100521A
	LPSA-0094-SB001(39-40)-20100511	Soil	D2216	Percent Moisture	41106	1	05/17/10 03:00 PM	PMOIST_100517A
	LPSA-0094-SB001(39-40)-20100511	Soil	M8015D	TPH Extractable by GC - Soil	41055	1	05/21/10 04:54 PM	GC12_100521C

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(0-1)-20100511
Lab ID: 1005097-01
Collection Date: 05/11/10 10:57 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	5.83	2.91	9.69	J	mg/Kg-dry	1	05/24/10 09:57 AM
Surr: Isopropylbenzene	41.4	0	47 - 142	S	%REC	1	05/24/10 09:57 AM
Surr: Octacosane	66.7	0	25 - 162		%REC	1	05/24/10 09:57 AM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0684	0.137		mg/Kg-dry	1	05/13/10 04:36 PM
Surr: Tetrachlorethene	101	0	70 - 134		%REC	1	05/13/10 04:36 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00308	0.00513		mg/Kg-dry	1	05/21/10 04:55 PM
Surr: N-Nitrosodimethylamine-d6	83.2	0	30 - 125		%REC	1	05/21/10 04:55 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	2.59	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(4-5)-20100511
Lab ID: 1005097-02
Collection Date: 05/11/10 11:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	2.93	9.77		mg/Kg-dry	1	05/21/10 03:25 PM
Surr: Isopropylbenzene	64.5	0	47 - 142		%REC	1	05/21/10 03:25 PM
Surr: Octacosane	72.1	0	25 - 162		%REC	1	05/21/10 03:25 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0694	0.139		mg/Kg-dry	1	05/13/10 04:59 PM
Surr: Tetrachlorethene	101	0	70 - 134		%REC	1	05/13/10 04:59 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00311	0.00519		mg/Kg-dry	1	05/21/10 05:12 PM
Surr: N-Nitrosodimethylamine-d6	95.6	0	30 - 125		%REC	1	05/21/10 05:12 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	4.63	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(9-10)-20100511
Lab ID: 1005097-03
Collection Date: 05/11/10 11:09 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	90.3	3.06	10.2		mg/Kg-dry	1	05/21/10 05:12 PM
Surr: Isopropylbenzene	44.1	0	47 - 142	S	%REC	1	05/21/10 05:12 PM
Surr: Octacosane	119	0	25 - 162		%REC	1	05/21/10 05:12 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0535	0.107		mg/Kg-dry	1	05/13/10 05:23 PM
Surr: Tetrachlorethene	101	0	70 - 134		%REC	1	05/13/10 05:23 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00329	0.00549		mg/Kg-dry	1	05/21/10 08:54 PM
Surr: N-Nitrosodimethylamine-d6	93.4	0	30 - 125		%REC	1	05/21/10 08:54 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	9.02	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(14-15)-20100511
Lab ID: 1005097-04
Collection Date: 05/11/10 11:16 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	3.00	10.0		mg/Kg-dry	1	05/21/10 03:34 PM
Surr: Isopropylbenzene	59.6	0	47 - 142		%REC	1	05/21/10 03:34 PM
Surr: Octacosane	72.7	0	25 - 162		%REC	1	05/21/10 03:34 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0789	0.158		mg/Kg-dry	1	05/13/10 05:47 PM
Surr: Tetrachlorethene	105	0	70 - 134		%REC	1	05/13/10 05:47 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00326	0.00543		mg/Kg-dry	1	05/21/10 05:29 PM
Surr: N-Nitrosodimethylamine-d6	87.5	0	30 - 125		%REC	1	05/21/10 05:29 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	8.00	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(19-20)-20100511
Lab ID: 1005097-05
Collection Date: 05/11/10 11:26 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	3.28	10.9		mg/Kg-dry	1	05/21/10 03:43 PM
Surr: Isopropylbenzene	61.1	0	47 - 142		%REC	1	05/21/10 03:43 PM
Surr: Octacosane	77.8	0	25 - 162		%REC	1	05/21/10 03:43 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0695	0.139		mg/Kg-dry	1	05/13/10 06:10 PM
Surr: Tetrachlorethene	106	0	70 - 134		%REC	1	05/13/10 06:10 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00342	0.00570		mg/Kg-dry	1	05/21/10 05:46 PM
Surr: N-Nitrosodimethylamine-d6	81.6	0	30 - 125		%REC	1	05/21/10 05:46 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	13.5	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB101(19-20)-20100511
Lab ID: 1005097-06
Collection Date: 05/11/10 11:26 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	3.42	11.4		mg/Kg-dry	1	05/21/10 03:52 PM
Surr: Isopropylbenzene	62.4	0	47 - 142		%REC	1	05/21/10 03:52 PM
Surr: Octacosane	74.6	0	25 - 162		%REC	1	05/21/10 03:52 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0771	0.154		mg/Kg-dry	1	05/13/10 06:32 PM
Surr: Tetrachlorethene	105	0	70 - 134		%REC	1	05/13/10 06:32 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00360	0.00601		mg/Kg-dry	1	05/21/10 06:03 PM
Surr: N-Nitrosodimethylamine-d6	64.5	0	30 - 125		%REC	1	05/21/10 06:03 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	17.8	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(24-25)-20100511
Lab ID: 1005097-07
Collection Date: 05/11/10 11:40 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	2.92	9.75		mg/Kg-dry	1	05/21/10 04:09 PM
Surr: Isopropylbenzene	61.4	0	47 - 142		%REC	1	05/21/10 04:09 PM
Surr: Octacosane	77.5	0	25 - 162		%REC	1	05/21/10 04:09 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0619	0.124		mg/Kg-dry	1	05/13/10 06:56 PM
Surr: Tetrachlorethene	94.7	0	70 - 134		%REC	1	05/13/10 06:56 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00308	0.00514		mg/Kg-dry	1	05/21/10 06:20 PM
Surr: N-Nitrosodimethylamine-d6	100	0	30 - 125		%REC	1	05/21/10 06:20 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	2.96	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(29-30)-20100511
Lab ID: 1005097-08
Collection Date: 05/11/10 11:49 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	3.19	10.6		mg/Kg-dry	1	05/21/10 04:18 PM
Surr: Isopropylbenzene	62.9	0	47 - 142		%REC	1	05/21/10 04:18 PM
Surr: Octacosane	77.7	0	25 - 162		%REC	1	05/21/10 04:18 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0528	0.106		mg/Kg-dry	1	05/13/10 07:19 PM
Surr: Tetrachlorethene	101	0	70 - 134		%REC	1	05/13/10 07:19 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00330	0.00550		mg/Kg-dry	1	05/21/10 06:37 PM
Surr: N-Nitrosodimethylamine-d6	83.5	0	30 - 125		%REC	1	05/21/10 06:37 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	9.32	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(34-35)-20100511
Lab ID: 1005097-09
Collection Date: 05/11/10 12:01 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	3.53	11.8		mg/Kg-dry	1	05/21/10 04:45 PM
Surr: Isopropylbenzene	48.5	0	47 - 142		%REC	1	05/21/10 04:45 PM
Surr: Octacosane	83.1	0	25 - 162		%REC	1	05/21/10 04:45 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.114	0.228		mg/Kg-dry	1	05/14/10 10:49 AM
Surr: Tetrachlorethene	103	0	70 - 134		%REC	1	05/14/10 10:49 AM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00373	0.00622		mg/Kg-dry	1	05/21/10 06:54 PM
Surr: N-Nitrosodimethylamine-d6	75.6	0	30 - 125		%REC	1	05/21/10 06:54 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	19.6	0	0		WT%	1	05/17/10 03:00 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(39-40)-20100511
Lab ID: 1005097-10
Collection Date: 05/11/10 01:25 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	3.02	10.1		mg/Kg-dry	1	05/21/10 04:54 PM
Surr: Isopropylbenzene	60.4	0	47 - 142		%REC	1	05/21/10 04:54 PM
Surr: Octacosane	74.8	0	25 - 162		%REC	1	05/21/10 04:54 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.102	0.205		mg/Kg-dry	1	05/14/10 11:12 AM
Surr: Tetrachlorethene	98.1	0	70 - 134		%REC	1	05/14/10 11:12 AM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00317	0.00528		mg/Kg-dry	1	05/21/10 07:11 PM
Surr: N-Nitrosodimethylamine-d6	73.3	0	30 - 125		%REC	1	05/21/10 07:11 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	5.74	0	0		WT%	1	05/17/10 03:00 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Work Order: 1005097
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_100521C

Sample ID:	LCS-41055	Batch ID:	41055	TestNo:	M8015D	Units:	mg/Kg
SampType:	LCS	Run ID:	GC12_100521C	Analysis Date:	05/21/10 02:40 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	112	10.0	125.0	0	89.6	50	114			
Surr: Isopropylbenzene	4.60		7.500		61.3	47	142			
Surr: Octacosane	6.23		7.500		83.1	25	162			

Sample ID:	MB-41055	Batch ID:	41055	TestNo:	M8015D	Units:	mg/Kg
SampType:	MBLK	Run ID:	GC12_100521C	Analysis Date:	05/21/10 03:07 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	ND	10.0								
Surr: Isopropylbenzene	2.66		7.500		35.4	47	142			S
Surr: Octacosane	6.01		7.500		80.1	25	162			

Sample ID:	1005097-08B-MS	Batch ID:	41055	TestNo:	M8015D	Units:	mg/Kg-dry
SampType:	MS	Run ID:	GC12_100521C	Analysis Date:	05/21/10 04:27 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	115	10.7	134.0	0	85.7	50	114			
Surr: Isopropylbenzene	5.33		8.038		66.3	47	142			
Surr: Octacosane	6.25		8.038		77.7	25	162			

Sample ID:	1005097-08B-MSD	Batch ID:	41055	TestNo:	M8015D	Units:	mg/Kg-dry
SampType:	MSD	Run ID:	GC12_100521C	Analysis Date:	05/21/10 04:36 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	114	10.6	132.0	0	86.5	50	114	0.557	30	
Surr: Isopropylbenzene	4.85		7.922		61.2	47	142	0	0	
Surr: Octacosane	6.24		7.922		78.8	25	162	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005097
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_100521C

Sample ID:	ICV-100521	Batch ID:	R49490	TestNo:	M8015D	Units:	mg/Kg
SampType:	ICV	Run ID:	GC12_100521C	Analysis Date:	05/21/10 10:15 AM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	516	10.0	500.0	0	103	85	115			
Surr: Isopropylbenzene	21.0		25.00		83.8	47	142			
Surr: Octacosane	23.8		25.00		95.3	25	162			

Sample ID:	CCV2-100521	Batch ID:	R49490	TestNo:	M8015D	Units:	mg/Kg
SampType:	CCV	Run ID:	GC12_100521C	Analysis Date:	05/21/10 02:13 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	270	10.0	250.0	0	108	85	115			
Surr: Isopropylbenzene	12.7		12.50		102	47	142			
Surr: Octacosane	12.6		12.50		101	25	162			

Sample ID:	CCV3-100521	Batch ID:	R49490	TestNo:	M8015D	Units:	mg/Kg
SampType:	CCV	Run ID:	GC12_100521C	Analysis Date:	05/21/10 04:01 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	283	10.0	250.0	0	113	85	115			
Surr: Isopropylbenzene	13.2		12.50		105	47	142			
Surr: Octacosane	13.5		12.50		108	25	162			

Sample ID:	CCV4-100521	Batch ID:	R49490	TestNo:	M8015D	Units:	mg/Kg
SampType:	CCV	Run ID:	GC12_100521C	Analysis Date:	05/21/10 05:21 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	269	10.0	250.0	0	108	85	115			
Surr: Isopropylbenzene	12.5		12.50		100	47	142			
Surr: Octacosane	12.5		12.50		99.8	25	162			

Sample ID:	ICV-100524	Batch ID:	R49490	TestNo:	M8015D	Units:	mg/Kg
SampType:	ICV	Run ID:	GC12_100521C	Analysis Date:	05/24/10 09:30 AM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	520	10.0	500.0	0	104	85	115			
Surr: Isopropylbenzene	20.8		25.00		83.2	47	142			
Surr: Octacosane	22.7		25.00		90.8	25	162			

Sample ID:	CCV1-100524	Batch ID:	R49490	TestNo:	M8015D	Units:	mg/Kg
SampType:	CCV	Run ID:	GC12_100521C	Analysis Date:	05/24/10 10:09 AM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	261	10.0	250.0	0	104	85	115			
Surr: Isopropylbenzene	12.2		12.50		97.7	47	142			
Surr: Octacosane	11.4		12.50		91.1	25	162			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005097
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_100513B

Sample ID:	LCS-41070	Batch ID:	41070	TestNo:	M8015V	Units:	mg/Kg
SampType:	LCS	Run ID:	GC4_100513B	Analysis Date:	05/13/10 03:44 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics	4.88	0.200	5.000	0	97.7	68	126			
Surr: Tetrachlorethene	0.428		0.4000		107	70	134			

Sample ID:	MB-41070	Batch ID:	41070	TestNo:	M8015V	Units:	mg/Kg
SampType:	MBLK	Run ID:	GC4_100513B	Analysis Date:	05/13/10 04:08 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics	ND	0.200								
Surr: Tetrachlorethene	0.401		0.4000		100	70	134			

Sample ID:	LCSD-41070	Batch ID:	41070	TestNo:	M8015V	Units:	mg/Kg
SampType:	LCSD	Run ID:	GC4_100513B	Analysis Date:	05/13/10 07:43 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics	4.62	0.200	5.000	0	92.4	68	126	5.61	30	
Surr: Tetrachlorethene	0.378		0.4000		94.6	70	134	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005097
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_100513B

Sample ID:	ICV-100513	**Batch ID:**	R49366		**TestNo:**		M8015V		**Units:**		mg/Kg
SampType:	ICV	**Run ID:**	GC4_100513B		**Analysis Date:**		05/13/10 03:07 PM		**Prep Date:**		
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Gasoline Range Organics		9.66	0.200	10.00	0	96.6	80	120			
Surr: Tetrachlorethene		0.520		0.4000		130	70	134			

Sample ID:	CCV1-100513	**Batch ID:**	R49366		**TestNo:**		M8015V		**Units:**		mg/Kg
SampType:	CCV	**Run ID:**	GC4_100513B		**Analysis Date:**		05/13/10 08:06 PM		**Prep Date:**		
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Gasoline Range Organics		4.79	0.200	5.000	0	95.7	80	120			
Surr: Tetrachlorethene		0.366		0.4000		91.5	70	134			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005097
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_100514A

Sample ID:	LCS-41070	Batch ID:	41070	TestNo:	M8015V	Units:	mg/Kg
SampType:	LCS	Run ID:	GC4_100514A	Analysis Date:	05/14/10 10:00 AM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics	4.46	0.200	5.000	0	89.2	68	126			
Surr: Tetrachlorethene	0.355		0.4000		88.7	70	134			

Sample ID:	MB-41070	Batch ID:	41070	TestNo:	M8015V	Units:	mg/Kg
SampType:	MBLK	Run ID:	GC4_100514A	Analysis Date:	05/14/10 10:24 AM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics	ND	0.200								
Surr: Tetrachlorethene	0.398		0.4000		99.5	70	134			

Sample ID:	1005097-10AMS	Batch ID:	41070	TestNo:	M8015V	Units:	mg/Kg-dry
SampType:	MS	Run ID:	GC4_100514A	Analysis Date:	05/14/10 11:36 AM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics	3.86	0.199	4.976	0	77.6	68	126			
Surr: Tetrachlorethene	0.377		0.3981		94.8	70	134			

Sample ID:	1005097-10AMSD	Batch ID:	41070	TestNo:	M8015V	Units:	mg/Kg-dry
SampType:	MSD	Run ID:	GC4_100514A	Analysis Date:	05/14/10 12:00 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics	4.10	0.193	4.831	0	85.0	68	126	6.04	30	
Surr: Tetrachlorethene	0.354		0.3865		91.6	70	134	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005097
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_100514A

Sample ID:	ICV-100514	**Batch ID:**	R49379		**TestNo:**		M8015V		**Units:**		mg/Kg
SampType:	ICV	**Run ID:**	GC4_100514A		**Analysis Date:**		05/14/10 09:36 AM		**Prep Date:**		
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Gasoline Range Organics		9.57	0.200	10.00	0	95.7	80	120			
Surr: Tetrachlorethene		0.357		0.4000		89.2	70	134			

Sample ID:	CCV1-100514	**Batch ID:**	R49379		**TestNo:**		M8015V		**Units:**		mg/Kg
SampType:	CCV	**Run ID:**	GC4_100514A		**Analysis Date:**		05/14/10 12:23 PM		**Prep Date:**		
Analyte		**Result**	**RL**	**SPK value**	**Ref Val**	**%REC**	**LowLimit**	**HighLimit**	**%RPD**	**RPD Limit**	**Qual**
Gasoline Range Organics		4.77	0.200	5.000	0	95.5	80	120			
Surr: Tetrachlorethene		0.355		0.4000		88.8	70	134			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005097
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_100521A

Sample ID:	LCS-41150	Batch ID:	41150	TestNo:	SW8270C	Units:	mg/Kg
SampType:	LCS	Run ID:	GCMS3_100521A	Analysis Date:	05/21/10 02:56 PM	Prep Date:	05/19/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine	0.0475	0.00500	0.0500	0	95.0	20	115			
Surr: N-Nitrosodimethylamine-d6	91.6		100.0		91.6	30	125			

Sample ID:	1005097-08C-MS	Batch ID:	41150	TestNo:	SW8270C	Units:	mg/Kg-dry
SampType:	MS	Run ID:	GCMS3_100521A	Analysis Date:	05/21/10 03:30 PM	Prep Date:	05/19/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine	0.0583	0.00546	0.0546	0	107	20	115			
Surr: N-Nitrosodimethylamine-d6	107		109.3		98.2	30	125			

Sample ID:	1005097-08C-MSD	Batch ID:	41150	TestNo:	SW8270C	Units:	mg/Kg-dry
SampType:	MSD	Run ID:	GCMS3_100521A	Analysis Date:	05/21/10 04:04 PM	Prep Date:	05/19/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine	0.0561	0.00544	0.0544	0	103	20	115	3.89	30	
Surr: N-Nitrosodimethylamine-d6	102		108.9		94.1	30	125	0	0	

Sample ID:	MB-41150	Batch ID:	41150	TestNo:	SW8270C	Units:	mg/Kg
SampType:	MBLK	Run ID:	GCMS3_100521A	Analysis Date:	05/21/10 04:38 PM	Prep Date:	05/19/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine	ND	0.00500								
Surr: N-Nitrosodimethylamine-d6	83.8		100.0		83.8	30	125			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005097
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_100521A

Sample ID:	ICV-100521	**Batch ID:**	R49457	**TestNo:**	SW8270C	**Units:**	mg/Kg
SampType:	ICV	**Run ID:**	GCMS3_100521A	**Analysis Date:**	05/21/10 02:22 PM	**Prep Date:**	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine	0.112	0.00500	0.100	0	112	80	120			
Surr: N-Nitrosodimethylamine-d6	101		100.0		101	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005097
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: PMOIST_100513A

Sample ID:	1005099-05A-DUP	**Batch ID:**	41060	**TestNo:**	D2216	**Units:**	WT%
SampType:	DUP	**Run ID:**	PMOIST_100513A	**Analysis Date:**	05/13/10 03:50 PM	**Prep Date:**	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Percent Moisture	14.5	0	0	15.16				4.53	30	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005097
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: PMOIST_100517A

Sample ID:	1005097-10B-DUP	**Batch ID:**	41106	**TestNo:**	D2216	**Units:**	WT%
SampType:	DUP	**Run ID:**	PMOIST_100517A	**Analysis Date:**	05/17/10 03:00 PM	**Prep Date:**	05/17/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Percent Moisture	5.48	0	0	5.743				4.62	30	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

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White Sands Missile Range-
Liquid Propellant Storage Area
Pits Soil Sampling

Data Review

WHITE SANDS MISSLE RANGE, NEW MEXICO

Semivolatiles and TPH

SDG #1005097

Analyses Performed By:
DHL Analytical, Inc.
Round Rock, Texas

Report #12229R
Review Level: Tier II
Project: GP08WSMR.OODM.OC110

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #1005097 for samples collected in association with the White Sands Missile Range-Liquid Propellant Storage Area Pits Site. The review was conducted as a Tier II evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Field documentation was not included in this review. Included with this assessment are the validation annotated sample result sheets, and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
					VOC	SVOC	MET	DRO/ GRO	MISC
LPSA-0094-SB001(0-1)-20100511	1005097-01	Soil	5/11/2010			X		X	
LPSA-0094-SB001(4-5)-20100511	1005097-02	Soil	5/11/2010			X		X	
LPSA-0094-SB001(9-10)-20100511	1005097-03	Soil	5/11/2010			X		X	
LPSA-0094-SB001(14-15)-20100511	1005097-04	Soil	5/11/2010			X		X	
LPSA-0094-SB001(19-20)-20100511	1005097-05	Soil	5/11/2010			X		X	
LPSA-0094-SB101(19-20)-20100511	1005097-06	Soil	5/11/2010	LPSA-0094-SB001(19-20)-20100511		X		X	
LPSA-0094-SB001(24-25)-20100511	1005097-07	Soil	5/11/2010			X		X	
LPSA-0094-SB001(29-30)-20100511	1005097-08	Soil	5/11/2010			X		X	
LPSA-0094-SB001(39-40)-20100511	1005097-09	Soil	5/11/2010			X		X	
LPSA-0094-SB001(0-1)-20100511	1005097-10	Soil	5/11/2010			X		X	

ANALYTICAL DATA PACKAGE DOCUMENTATION

The table below is the evaluation of the data package completeness.

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample receipt condition		X		X	
2. Requested analyses and sample results		X		X	
3. Master tracking list		X		X	
4. Methods of analysis		X		X	
5. Reporting limits		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preservation verification (as applicable)		X		X	
9. Sample preparation/extraction/analysis dates		X		X	
10. Fully executed Chain-of-Custody (COC) form		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Data Package Completeness and Compliance		X		X	

QA - Quality Assurance

ORGANIC ANALYSIS INTRODUCTION

Analyses were performed according to United States Environmental Protection Agency (USEPA) SW-846 Method 8270Cand 8015. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999/January 2005.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

  U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

  UB Compound considered non-detect at the listed value due to associated blank contamination.

  R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

SEMI-VOLATILE VOLATILE ORGANIC COMPOUND (SVOC) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8270	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to 4°C±2°C
	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to 4°C±2°C

All samples were analyzed within the specified holding time criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were not detected above the MDL in the associated blanks; therefore detected sample results were not associated with blank contamination.

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. SVOC analysis requires that two of the three SVOC surrogate compounds within each fraction exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD exhibited acceptable recoveries and RPD between the MS/MSD recoveries.

5. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

6. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 40% for water matrices and 70% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
LPSA-0094-SB001(19-20)-20100511/ LPSA-0094-SB101(19-20)-20100511	NDMA	ND	ND	AC

AC Acceptable
ND Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

7. Compound Identification

Compounds are identified on the GC/MS by laboratory personnel using the analytes relative retention time and ion spectra. These identifications were not reviewed by the data validator.

8. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR SVOCs

SVOCs: SW-846 8270C	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks		X		X	
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate (LCSD) %R					X
LCS/LCSD Precision (RPD)					X
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate(MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor					X
Moisture Content		X		X	

%R Percent recovery
RPD Relative percent difference

DIESEL RANGE ORGANICS (DRO) – GAS RANGE ORGANICS (GRO) ANALYSES

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
SW-846 8015	Soil	14 days from collection to extraction and 40 days from extraction to analysis	Cool to 4°C±2°C
	Water	7 days from collection to extraction and 40 days from extraction to analysis	Cool to 4°C±2°C

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the reporting limit (RL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were detected in the associated QA blanks; however, the associated sample results were greater than the BAL and/or were non-detect. No qualification of the sample results was required.

3. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. The analysis requires surrogate compounds exhibit recoveries within the laboratory-established acceptance limits.

Sample locations associated with surrogates exhibiting recoveries outside of the control limits presented in the following table.

Sample Locations	Surrogate	Recovery
LPSA-0094-SB001(0-1)-20100511 LPSA-0094-SB001(9-10)-20100511	Isopropylbenzene	<LL but >10%

Lower control limit (LL)

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results associated with the deviant fraction are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	No Action
	Detect	J
< LL but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

4. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

The MS/MSD exhibited acceptable recoveries and RPD between the MS/MSD recoveries.

5. Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) Analysis

The LCS/LCSD analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS/LCSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

All compounds associated with the LCS/LCSD analysis exhibited recoveries within the control limits.

6. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 40% for water matrices and 70% for soil matrices is applied to the RPD between the parent sample and the field duplicate. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of two times the RL is applied for water matrices or three times the RL is applied for soil matrices.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
LPSA-0094-SB001(19-20)-20100511/ LPSA-0094-SB101(19-20)-20100511	DRO/GRO	ND	ND	AC

AC Acceptable
ND Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

7. Compound Identification

Compounds are identified on the GC by laboratory personnel using the analytes relative retention time. These identifications were not reviewed by the data validator.

8. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

DATA VALIDATION CHECKLIST FOR DRO/GRO

DRO/GRO; SW-846 8015	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY (GC/FID)					
Tier II Validation					
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X		X	
B. Equipment blanks		X		X	
Laboratory Control Sample (LCS) %R		X		X	
Laboratory Control Sample Duplicate(LCSD) %R		X		X	
LCS/LCSD Precision (RPD)		X		X	
Matrix Spike (MS) %R		X		X	
Matrix Spike Duplicate(MSD) %R		X		X	
MS/MSD Precision (RPD)		X		X	
Field/Lab Duplicate (RPD)		X		X	
Surrogate Spike Recoveries		X	X		
Dilution Factor					X
Moisture Content		X		X	

%RSD – relative standard deviation, %R - percent recovery, RPD - relative percent difference, %D – difference

VALIDATION PERFORMED BY: Jeffrey L. Davin

SIGNATURE:

DATE: June 2, 2010

PEER REVIEW: Dennis Capria

DATE: June 14, 2010

CHAIN OF CUSTODY/
CORRECTED SAMPLE ANALYSIS DATA SHEETS

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(0-1)-20100511
Lab ID: 1005097-01
Collection Date: 05/11/10 10:57 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	5.83	2.91	9.69	J	mg/Kg-dry	1	05/24/10 09:57 AM
Surr: Isopropylbenzene	41.4	0	47 - 142	S	%REC	1	05/24/10 09:57 AM
Surr: Octacosane	66.7	0	25 - 162		%REC	1	05/24/10 09:57 AM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0684	0.137		mg/Kg-dry	1	05/13/10 04:36 PM
Surr: Tetrachlorethene	101	0	70 - 134		%REC	1	05/13/10 04:36 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00308	0.00513		mg/Kg-dry	1	05/21/10 04:55 PM
Surr: N-Nitrosodimethylamine-d6	83.2	0	30 - 125		%REC	1	05/21/10 04:55 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	2.59	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(4-5)-20100511
Lab ID: 1005097-02
Collection Date: 05/11/10 11:00 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	2.93	9.77		mg/Kg-dry	1	05/21/10 03:25 PM
Surr: Isopropylbenzene	64.5	0	47 - 142		%REC	1	05/21/10 03:25 PM
Surr: Octacosane	72.1	0	25 - 162		%REC	1	05/21/10 03:25 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0694	0.139		mg/Kg-dry	1	05/13/10 04:59 PM
Surr: Tetrachlorethene	101	0	70 - 134		%REC	1	05/13/10 04:59 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00311	0.00519		mg/Kg-dry	1	05/21/10 05:12 PM
Surr: N-Nitrosodimethylamine-d6	95.6	0	30 - 125		%REC	1	05/21/10 05:12 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	4.63	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(9-10)-20100511
Lab ID: 1005097-03
Collection Date: 05/11/10 11:09 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	90.3	3.06	10.2	J	mg/Kg-dry	1	05/21/10 05:12 PM
Surr: Isopropylbenzene	44.1	0	47 - 142	S	%REC	1	05/21/10 05:12 PM
Surr: Octacosane	119	0	25 - 162		%REC	1	05/21/10 05:12 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0535	0.107		mg/Kg-dry	1	05/13/10 05:23 PM
Surr: Tetrachlorethene	101	0	70 - 134		%REC	1	05/13/10 05:23 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00329	0.00549		mg/Kg-dry	1	05/21/10 08:54 PM
Surr: N-Nitrosodimethylamine-d6	93.4	0	30 - 125		%REC	1	05/21/10 08:54 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	9.02	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(14-15)-20100511
Lab ID: 1005097-04
Collection Date: 05/11/10 11:16 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	3.00	10.0		mg/Kg-dry	1	05/21/10 03:34 PM
Surr: Isopropylbenzene	59.6	0	47 - 142		%REC	1	05/21/10 03:34 PM
Surr: Octacosane	72.7	0	25 - 162		%REC	1	05/21/10 03:34 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0789	0.158		mg/Kg-dry	1	05/13/10 05:47 PM
Surr: Tetrachlorethene	105	0	70 - 134		%REC	1	05/13/10 05:47 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00326	0.00543		mg/Kg-dry	1	05/21/10 05:29 PM
Surr: N-Nitrosodimethylamine-d6	87.5	0	30 - 125		%REC	1	05/21/10 05:29 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	8.00	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(19-20)-20100511
Lab ID: 1005097-05
Collection Date: 05/11/10 11:26 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	3.28	10.9		mg/Kg-dry	1	05/21/10 03:43 PM
Surr: Isopropylbenzene	61.1	0	47 - 142		%REC	1	05/21/10 03:43 PM
Surr: Octacosane	77.8	0	25 - 162		%REC	1	05/21/10 03:43 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0695	0.139		mg/Kg-dry	1	05/13/10 06:10 PM
Surr: Tetrachlorethene	106	0	70 - 134		%REC	1	05/13/10 06:10 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00342	0.00570		mg/Kg-dry	1	05/21/10 05:46 PM
Surr: N-Nitrosodimethylamine-d6	81.6	0	30 - 125		%REC	1	05/21/10 05:46 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	13.5	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB101(19-20)-20100511
Lab ID: 1005097-06
Collection Date: 05/11/10 11:26 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	3.42	11.4		mg/Kg-dry	1	05/21/10 03:52 PM
Surr: Isopropylbenzene	62.4	0	47 - 142		%REC	1	05/21/10 03:52 PM
Surr: Octacosane	74.6	0	25 - 162		%REC	1	05/21/10 03:52 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0771	0.154		mg/Kg-dry	1	05/13/10 06:32 PM
Surr: Tetrachlorethene	105	0	70 - 134		%REC	1	05/13/10 06:32 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00360	0.00601		mg/Kg-dry	1	05/21/10 06:03 PM
Surr: N-Nitrosodimethylamine-d6	64.5	0	30 - 125		%REC	1	05/21/10 06:03 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	17.8	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(24-25)-20100511
Lab ID: 1005097-07
Collection Date: 05/11/10 11:40 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	2.92	9.75		mg/Kg-dry	1	05/21/10 04:09 PM
Surr: Isopropylbenzene	61.4	0	47 - 142		%REC	1	05/21/10 04:09 PM
Surr: Octacosane	77.5	0	25 - 162		%REC	1	05/21/10 04:09 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0619	0.124		mg/Kg-dry	1	05/13/10 06:56 PM
Surr: Tetrachlorethene	94.7	0	70 - 134		%REC	1	05/13/10 06:56 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00308	0.00514		mg/Kg-dry	1	05/21/10 06:20 PM
Surr: N-Nitrosodimethylamine-d6	100	0	30 - 125		%REC	1	05/21/10 06:20 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	2.96	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(29-30)-20100511
Lab ID: 1005097-08
Collection Date: 05/11/10 11:49 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	3.19	10.6		mg/Kg-dry	1	05/21/10 04:18 PM
Surr: Isopropylbenzene	62.9	0	47 - 142		%REC	1	05/21/10 04:18 PM
Surr: Octacosane	77.7	0	25 - 162		%REC	1	05/21/10 04:18 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.0528	0.106		mg/Kg-dry	1	05/13/10 07:19 PM
Surr: Tetrachlorethene	101	0	70 - 134		%REC	1	05/13/10 07:19 PM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00330	0.00550		mg/Kg-dry	1	05/21/10 06:37 PM
Surr: N-Nitrosodimethylamine-d6	83.5	0	30 - 125		%REC	1	05/21/10 06:37 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	9.32	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(34-35)-20100511
Lab ID: 1005097-09
Collection Date: 05/11/10 12:01 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	3.53	11.8		mg/Kg-dry	1	05/21/10 04:45 PM
Surr: Isopropylbenzene	48.5	0	47 - 142		%REC	1	05/21/10 04:45 PM
Surr: Octacosane	83.1	0	25 - 162		%REC	1	05/21/10 04:45 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.114	0.228		mg/Kg-dry	1	05/14/10 10:49 AM
Surr: Tetrachlorethene	103	0	70 - 134		%REC	1	05/14/10 10:49 AM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00373	0.00622		mg/Kg-dry	1	05/21/10 06:54 PM
Surr: N-Nitrosodimethylamine-d6	75.6	0	30 - 125		%REC	1	05/21/10 06:54 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	19.6	0	0		WT%	1	05/17/10 03:00 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005097

Client Sample ID: LPSA-0094-SB001(39-40)-20100511
Lab ID: 1005097-10
Collection Date: 05/11/10 01:25 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Soil		**M8015D**					**Analyst: AV**
TPH-DRO C10-C28	ND	3.02	10.1		mg/Kg-dry	1	05/21/10 04:54 PM
Surr: Isopropylbenzene	60.4	0	47 - 142		%REC	1	05/21/10 04:54 PM
Surr: Octacosane	74.8	0	25 - 162		%REC	1	05/21/10 04:54 PM
Method 8015 Gasoline (GRO)		**M8015V**					**Analyst: DEW**
Gasoline Range Organics	ND	0.102	0.205		mg/Kg-dry	1	05/14/10 11:12 AM
Surr: Tetrachlorethene	98.1	0	70 - 134		%REC	1	05/14/10 11:12 AM
NDMA by 8270-SIM		**SW8270C**					**Analyst: DO**
N-Nitrosodimethylamine	ND	0.00317	0.00528		mg/Kg-dry	1	05/21/10 07:11 PM
Surr: N-Nitrosodimethylamine-d6	73.3	0	30 - 125		%REC	1	05/21/10 07:11 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	5.74	0	0		WT%	1	05/17/10 03:00 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

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CHAIN OF CUSTODY RECORD

#1005097 ~~1005095~~ 98

PAGE 1 OF 1

PROJECT NO.: 24

PROJECT NAME: SWMUs 92B + 94 Closure

SAMPLER'S SIGNATURE:

DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	NDMA	TPH								REMARKS
5-11-10	1057	LPSA-0094-SB001 (0-1)-20100511	Soil		6	X	X								
5-11-10	1100	LPSA-0094-SB001 (4-5)-20100511	Soil		6	X	X								
5-11-10	1109	LPSA-0094-SB001 (9-10)-20100511	Soil		6	X	X								
5-11-10	1116	LPSA-0094-SB001 (14-15)-20100511	Soil		6	X	X								
5-11-10	1126	LPSA-0094-SB001 (19-20)-20100511	Soil		6	X	X								
5-11-10	1126	LPSA-0094-SB101 (19-20)-20100511	Soil		6	X	X								
5-11-10	1140	LPSA-0094-SB001 (24-25)-20100511	Soil		6	X	X								
5-11-10	1149	LPSA-0094-SB001 (29-30)-20100511	Soil		6	X	X								
5-11-10	1201	LPSA-0094-SB001 (34-35)-20100511	Soil		2	X	X								
5-11-10	1325	LPSA-0094-SB001 (39-40)20100511	Soil		2	X	X								

PROJECT INFORMATION	SAMPLES RECEIVED		1. RELINQUISHED BY: (SIGNATURE)	2. RELINQUISHED BY: (SIGNATURE)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER: Brad Davis	TOTAL NO. OF CONTAINERS		(PRINTED NAME) Bradley T. Davis	(PRINTED NAME) 5/12/10 10:00	(PRINTED NAME)
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	Yes	RECEIVED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	(COMPANY)
	GOOD CONDITION/CHILLED	4.7	(TIME/DATE) 5/11/10	(TIME/DATE) 5/12/10 10:00	(TIME/DATE)
VIA: Fed EX	CONFORMS TO RECORD		SPECIAL INSTRUCTIONS / COMMENTS:		

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May 25, 2010

Brad Davis
Zia Engineering & Environmental
755 S Telshor Blvd Ste F-201
Las Cruces, NM 88011

TEL: (575) 678-3397
FAX: (575) 532-1587

Order No: 1005099

RE: SWMUs 92B & 94 Closure

Dear Brad Davis:

DHL Analytical received 7 sample(s) on 5/12/2010 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of DoD QSM Ver 4.1 and NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. This report shall not be reproduced except in full without the written approval of DHL Analytical, Inc. Thank you for using DHL Analytical.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-10-2

Table of Contents

Miscellaneous Documents 3

Case Narrative 12

Sample Summary 14

Prep Dates Report 15

Analytical Dates Report 16

Sample Results 17

Analytical QC Summary Report 28

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1005095

CHAIN OF CUSTODY RECORD

PAGE 1 OF 3

PROJECT NO.: 24
PROJECT NAME: SWMUs 92B + 94 Closure
SAMPLER'S SIGNATURE:

DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	NDMA									REMARKS
5-11-10	0903	LPSA-0092B-SB001(0-1) -20100511	Soil		1	X									
5-11-10	0905	LPSA-0092B-SB001(4-5) -20100511	Soil		1	X									
5-11-10	0930	LPSA-0092B-SB001(9-10) -20100511	Soil		1	X									
5-11-10	0955	LPSA-0092B-SB001(14-15) -20100511	Soil		1	X									
5-11-10	0955	LPSA-0092B-SB001(14-15) -20100511	Soil		1	X									

PROJECT INFORMATION	SAMPLES RECEIVED		1. RELINQUISHED BY: (SIGNATURE)	2. RELINQUISHED BY: (SIGNATURE)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER: Brad Davis	TOTAL NO. OF CONTAINERS		(PRINTED NAME) Bradley T. Davis	(PRINTED NAME) Fed Ex	(PRINTED NAME)
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	yes	RECEIVED BY: (SIGNATURE) Fed Ex	RECEIVED BY: (SIGNATURE)	(COMPANY)
	GOOD CONDITION/COOLED	5.5	(TIME/DATE) 5/11/10	(TIME/DATE) 5/12/10 10:00	(TIME/DATE)
VIA: Fed Ex	CONFORMS TO RECORD		SPECIAL INSTRUCTIONS / COMMENTS:		

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CHAIN OF CUSTODY RECORD

PROJECT NO.: 24
PROJECT NAME: SWMUs 92B+94 Closure
SAMPLER'S SIGNATURE:

DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	RCRA 8 Metals	VOCs	SVOCs							REMARKS
5-11-10	1430	LPSA-0094-WC001-20100511	Soil		3	X	X	X							Waste Characterization

PROJECT INFORMATION	SAMPLES RECEIVED		1. RELINQUISHED BY: (SIGNATURE)	2. RELINQUISHED BY: (SIGNATURE)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER: Brad Davis	TOTAL NO. OF CONTAINERS		(PRINTED NAME) Bradley T. Davis	(PRINTED NAME) Fed ex	(PRINTED NAME)
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	yes	RECEIVED BY: (SIGNATURE) Fed ex	RECEIVED BY: (SIGNATURE)	(COMPANY)
	GOOD CONDITION/CHILLED	5.5	(TIME/DATE) 5/11/10	(TIME/DATE) 5/12/10 10:00	(TIME/DATE)
VIA: Fed EX	CONFORMS TO RECORD		SPECIAL INSTRUCTIONS/COMMENTS:		

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#1005099

CHAIN OF CUSTODY RECORD

PAGE 3 OF 3

PROJECT NO. 24

PROJECT NAME SWMUs 92B & 94 Closure

SAMPLER'S SIGNATURE Bradley T. Davis

DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	NDMA	TPH									REMARKS
5-11-10	1135	LPSA-0094-RB001(19-20)-20100511	water		10	X	X									

SUBJECT INFORMATION	SAMPLES RECEIVED		1. RELINQUISHED BY: (SIGNATURE) Bradley T. Davis	2. RELINQUISHED BY: (SIGNATURE) Fed ex	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER Brad Davis	TOTAL NO. OF CONTAINERS		(PRINTED NAME) Bradley T. Davis	(PRINTED NAME) Fed ex	(PRINTED NAME)
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	yes	RECEIVED BY: (SIGNATURE) Fed ex	RECEIVED BY: (SIGNATURE) [illegible]	(COMPANY)
	GOOD CONDITION/CHILLED	5.5	(TIME/DATE) 5/11/10	(TIME/DATE) 5/12/10 10:00	(TIME/DATE)
VIA: Fed EX	CONFORMS TO RECORD		SPECIAL INSTRUCTIONS/COMMENTS:		

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FedEx. US Airbill Express

Tracking Number 8692 5729 9754

Recipient's Copy

1 From

Date

Sender's Name GRAD DAVIS Phone 505 676 0263

Company FIR ENGINEERING + ENVIRONMENTAL

Address 755 S. TRUCKER BLVD SUITE E-201

City LAS CRUCES State NM ZIP 88011

2 Your Internal Billing Reference LCS-09-015-26004

3 To

Recipient's Name JOHN DUPONT Phone 512 388-2272

Company BUL ANALYTICAL

Recipient's Address 2300 DOUBLE CREEK DRIVE

Address

If request a package be held at a specific FedEx location, print FedEx address here.

City ROUND ROCK State TX ZIP 78664

8692 5729 9754

fedex.com 1.800.GoFedEx 1.800.463.3339

4a Express Package Service — Packages up to 150 lbs.

- [X] FedEx Priority Overnight (Next business morning.* Most shipments will be delivered on Monday unless SATURDAY Delivery is selected.)
- [ ] FedEx Standard Overnight (Next business afternoon.* Saturday Delivery NOT available.)
- [ ] FedEx First Overnight (Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.)
- [ ] FedEx 2Day (Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.)
- [ ] FedEx Express Saver (Third business day.* Saturday Delivery NOT available.)

FedEx Envelope rate not available. Minimum charge: One-pound rate.

* To most locations.

4b Express Freight Service — Packages over 150 lbs.

- [ ] FedEx 1Day Freight* (First business day.** Most shipments will be delivered on Monday unless SATURDAY Delivery is selected.)
- [ ] FedEx 2Day Freight (Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.)
- [ ] FedEx 3Day Freight (Third business day.** Saturday Delivery NOT available.)

* Call for Confirmation.

** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

* One level value limit $100.

6 Special Handling — Include FedEx address in Section 3.

- [ ] SATURDAY Delivery (Now available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 2Day Freight.)
- [ ] HOLD Weekday at FedEx Location (Not available for FedEx First Overnight.)
- [ ] HOLD Saturday at FedEx Location (Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.)

Does this shipment contain dangerous goods? (One box must be checked.)

- [X] No
- [ ] Yes (As per attached Shipper's Declaration.)
- [ ] Yes (Shipper's Declaration not required.)
- [ ] Dry Ice (Dry Ice, 9, UN 1845 ____ x ____ kg)

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment Bill to: Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender (Acct. No. in Section 1 will be billed.)
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

Obtain Recip. Acct. No.

Total Packages	Total Weight	Total Declared Value†
	75LBS	$ .00

† Our liability is limited to $100 unless you declare a higher value. See back for details.

Credit Card Auth.

8 Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required (Package may be left without obtaining a signature for delivery.)
- [ ] Direct Signature (Someone at recipient's address may sign for delivery. Fee applies.)
- [ ] Indirect Signature (If no one is available at recipient's address, someone at a neighboring address may sign for delivery. Fee applies.)

520

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5.50

CUSTODY SEAL
DATE 5-11-10
SIGNATURE Bradley T. Davis

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DHL Analytical

Sample Receipt Checklist

Client Name Zia Engineering & Environmental

Date Received: 5/12/2010

Work Order Number 1005099

Received by JB

list completed by: Signature 5/12/10 Date

Reviewed by Initials 5-12-10 Date

Carrier name: FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	5.5 °C
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Adjusted? NO Checked by

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

ctive Action _____

Page 1 of 1

Laboratory Data Package Signature Page

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC 5.13
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies.

The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Scott Schroeder – Project Manager
John DuPont – General / QA Manager

Signature

05/25/10
Date

DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: SWMUs 92B & 94 Closure	Date: 5/25/2010
Reviewer Name: Angie O'Donnell	Laboratory Work Order: 1005099
Prep Batch Number(s): See Prep Dates Report	Run Batch: See Analytical Dates Report

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-Custody (C-O-C)					
	OI	1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				R1-01
		2) Were all departures from standard conditions described in an exception report?			X		
R2	OI	**Sample and Quality Control (QC) Identification**					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test Reports**					
		1) Were all samples prepared and analyzed within holding times?	X				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		3) Were calculations checked by a peer or supervisor?	X				
		4) Were all analyte identifications checked by a peer or supervisor?	X				
		5) Were sample quantitation limits reported for all analytes not detected?	X				
		6) Were all results for soil and sediment samples reported on a dry weight basis?	X				
		7) Were % moisture (or solids) reported for all soil and sediment samples?	X				
		8) If required for the project, TICs reported?	X				
R4	O	**Surrogate Recovery Data**					
		1) Were surrogates added prior to extraction?	X				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			R4-02
R5	OI	**Test Reports/Summary Forms for Blank Samples**					
		1) Were appropriate type(s) of blanks analyzed?	X				
		2) Were blanks analyzed at the appropriate frequency?	X				
		3) Where method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		4) Were blank concentrations < MQL?	X				
R6	OI	**Laboratory Control Samples (LCS):**					
		1) Were all COCs included in the LCS?	X				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		3) Were LCSs analyzed at the required frequency?	X				
		4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X			R6-04
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	X				
		6) Was the LCSD RPD within QC limits (if applicable)?	X				
R7	OI	**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Data**					
		1) Were the project/method specified analytes included in the MS and MSD?	X				
		2) Were MS/MSD analyzed at the appropriate frequency?		X			R7-02
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			R7-03
		4) Were MS/MSD RPDs within laboratory QC limits?		X			R7-04
R8	OI	**Analytical Duplicate Data**					
		1) Were appropriate analytical duplicates analyzed for each matrix?	X				
		2) Were analytical duplicates analyzed at the appropriate frequency?	X				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method Quantitation Limits (MQLs):**					
		1) Are the MQLs for each method analyte included in the laboratory data package?	X				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		3) Are unadjusted MQLs included in the laboratory data package?	X				
.0	OI	**Other Problems/Anomalies**					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				R10-01
		2) Were all necessary corrective actions performed for the reported data?	X				
		3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: SWMUs 92B & 94 Closure	Date: 5/25/2010
Reviewer Name: Angie O'Donnell	Laboratory Work Order: 1005099

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial Calibration (ICAL)**					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	X				
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and Continuing calibration Verification (ICCV and CCV) and Continuing Calibration blank (CCB):**					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?		X			S2-02
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass Spectral Tuning:**					
		1) Was the appropriate compound for the method used for tuning?	X				
		2) Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal Standards (IS):**					
		1) Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw Data (NELAC section 1 appendix A glossary, and section 5.12)**					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				S5-02
S6	O	**Dual Column Confirmation**					
		1) Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively Identified Compounds (TICs):**					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) Results:**					
		1) Were percent recoveries within method QC limits?	X				
S9	I	**Serial Dilutions, Post Digestion Spikes, and Method of Standard Additions**					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X			S9-01
S10	OI	**Method Detection Limit (MDL) Studies**					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency Test Reports:**					
		1) Was the lab's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards Documentation**					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/Analyte Identification Procedures**					
		1) Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of Analyst Competency (DOC)**					
		1) Was DOC conducted consistent with NELAC Chapter 5C?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/Validation Documentation for Methods** (NELAC Chap 5)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory Standard Operating Procedures (SOPs):**					
		1) Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Manual Integrations Tracking Form - DoD QSM 4.1 Requirement

Instrument ID: **GCMS4** **DATA Folder:** **GCMS#4-100522A**

Sample ID ICAL, ICV, and CCV QC and Field Samples	**Analyte #1** Identification & Reason	**Analyte #2** Identification & Reason	**Analyte #3** Identification & Reason	**Analyte #4** Identification & Reason
	Benzo(b)fluoranthene.			
1005099-06C-MSD	MI because of poor resolution between benzo(b) and benzo(k) fluoranthene.			

***Manually Integrated = MI**

D.O 5/25/10

Analyst **Date**

2nd Level Review ~~5.24.2010~~ 5.25.2010 **Date**

CLIENT:	Zia Engineering & Environmental	
Project:	SWMUs 92B & 94 Closure	CASE NARRATIVE
Lab Order:	1005099	

This case narrative describes abnormalities and deviations that may affect the results and summarizes all known issues that need to be highlighted for the data user to assess the results. This case narrative and the report contents are compliant with DoD QSM Ver 4.1 and NELAC.

Samples were analyzed using the methods outlined in the following references:

Method M8015D - TPH Extractable by GC (DRO)
Method M8015V - Modified 8015 Gasoline (GRO)
Method SW8270C - Semivolatiles by GC/MS (The compounds 1-Methylnaphthalene/1-Chloronaphthalene and Dibenz(a,j)acridine are not NELAC Certified)
Method SW8270C - Semivolatile SIM Analysis by GC/MS
Method D2216 - Percent Moisture
Method SW6020 - Trace Metals
Method SW7471A - Total Mercury
Method SW8260B - Volatiles Analysis

Exception Report R1-01

Samples were received on and log-in performed on 5/12/2010. A total of 7 samples were received and all were analyzed. The samples arrived in good condition and were properly packaged.

Exception Report R4-02

For DRO Analysis, the recovery of surrogate Isopropylbenzene in Sample LPSA-0094-RB001 (19-20)-2010051, the Method Blank (MB-41069), the Laboratory Control Spike and the Laboratory Control Spike Duplicate (LCS/LCSD-41069) was slightly below the method control limits. These are flagged in the enclosed Analytical Data Report and the QC Summary Report. The remaining surrogate was within acceptable control limits for these samples. No further corrective action was taken.

Exception Report R6-02

For Semivolatiles Analysis, Batch 41204, the recovery of compound 7,12-Dimethylbenz(a)anthracene in the Laboratory Control Spike (LCS-41204) was slightly above the method control limits. This is flagged accordingly in the QC Summary Report. This compound was within acceptable control limits in the associated ICV. No further corrective action was taken.

Exception Report R7-02

For DRO Analysis, Prep Batch 41069, an MS/MSD was not analyzed due to limited sample volume. An LCS /LCSD was analyzed instead.

Exception Report R7-03 and -04

For Volatiles Analysis, Batch 41071, the recoveries of several compounds in the Matrix Spike and Matrix Spike Duplicate (1005099-06 MS/MSD) were below the method control limits. These are flagged in the QC Summary Report. These compounds are within acceptable control limits in the associated LCS. The reference sample selected for the Matrix Spike and Matrix Spike Duplicate were from this workorder. No

further corrective action was taken.

For Semivolatiles Analysis, Batch 41204, the recoveries and/or RPD's of several compounds in the Matrix Spike and Matrix Spike Duplicate (1005099-06 MS/MSD) were outside of the method control limits. These are flagged in the QC Summary Report. The reference sample selected for the Matrix Spike and Matrix Spike Duplicate were from this workorder. No further corrective action was taken.

Exception Report R10-1

The analysis of NDMA in soil and/or water is being performed using Method 8270 with a Selected Ion Monitoring (SIM) mode to improve the detection limit. The method was also modified to use deuterated NDMA as the surrogate, and the extraction was modified to improve the recovery of NDMA in the sample extracts. The analysis of NDMA is included on DHL Analytical's NELAP accreditation and the method modifications have been validated.

Exception Report S2-02

For Semivolatiles Analysis, the recovery of Benzidine in the Initial Calibration Verification (ICV2-100522) was below the control limit. This was flagged accordingly in the enclosed QC Summary Report. The associated LCS was within acceptable control limits for this compound. No further corrective actions were taken.

Exception Report S5-02

For DRO Analysis, some samples and/or standards were manually integrated. Please refer to the table on page 11 of this report for the full list of samples, standards, and the compounds that were manually integrated.

Exception Report S9-01

For Metals Analysis, the RPD of Selenium in the Serial Dilution (1005099-06 SD) was above the method control limit. This was flagged in the QC Summary Report. The associated PDS was within acceptable control limits for this analyte. No further corrective action was taken.

A summary of project communication follows:

DHL Analytical received the Project RFQ from the client on 12/29/09. Completed RFQ returned to client via email on 1/07/2010. Purchase Order/Terms and Conditions received and signed and approved by both parties on 01/25/2010.
Brad Davis of ZIA Requested the bottle kit from Jennifer Barker of DHL: via email on 4/30/2010.
Kit sent on 5/4/2010 via Lonestar Overnight, to arrive by 5/6/2010.
This sample delivery group arrives at DHL Analytical 5/12/2010. The sample summary, sent via email from Log-in to client on 5/12/2010, is kept in the project folder.

All hardcopies for the sample kit request, bill of lading for sample kit sent are kept in the project folder.

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Lab Order: 1005099

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recv'd
1005099-01	LPSA-0092B-SB001(0-1)-20100511		05/11/10 09:03 AM	05/12/10
1005099-02	LPSA-0092B-SB001(4-5)-20100511		05/11/10 09:05 AM	05/12/10
1005099-03	LPSA-0092B-SB001(9-10)-20100511		05/11/10 09:30 AM	05/12/10
1005099-04	LPSA-0092B-SB001(14-15)-20100511		05/11/10 09:55 AM	05/12/10
1005099-05	LPSA-0092B-SB101(14-15)-20100511		05/11/10 09:55 AM	05/12/10
1005099-06	LPSA-0094-WC001-20100511		05/11/10 02:30 PM	05/12/10
1005099-07	LPSA-0094-RB001(19-20)-20100511		05/11/10 11:35 AM	05/12/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Lab Order: 1005099

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1005099-01A	LPSA-0092B-SB001(0-1)-2010051	05/11/10 09:03 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB001(0-1)-2010051	05/11/10 09:03 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-02A	LPSA-0092B-SB001(4-5)-2010051	05/11/10 09:05 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB001(4-5)-2010051	05/11/10 09:05 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-03A	LPSA-0092B-SB001(9-10)-2010051	05/11/10 09:30 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB001(9-10)-2010051	05/11/10 09:30 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-04A	LPSA-0092B-SB001(14-15)-2010051	05/11/10 09:55 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB001(14-15)-2010051	05/11/10 09:55 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-05A	LPSA-0092B-SB101(14-15)-2010051	05/11/10 09:55 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB101(14-15)-2010051	05/11/10 09:55 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-06A	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW5030B	Purge and Trap Soils GC/MS	05/13/10 03:35 PM	41071
1005099-06B	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW7471A	Mercury Soil Prep, Total	05/20/10 09:00 AM	41164
	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/20/10 09:00 AM	41153
	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	D2216	Moisture Preparation	05/17/10 10:45 AM	41106
1005099-06C	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW3550B	Soil Prep Sonication: BNA	05/21/10 11:33 AM	41204
	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW3550B	Soil Prep Sonication: BNA	05/21/10 11:33 AM	41204
1005099-07A	LPSA-0094-RB001(19-20)-2010051	05/11/10 11:35 AM	Equip Blank	SW5030B	Purge and Trap Water GC-Gas	05/14/10 11:56 AM	41087
1005099-07B	LPSA-0094-RB001(19-20)-2010051	05/11/10 11:35 AM	Equip Blank	SW3535A	Aq Prep SPE: BNA	05/18/10 12:46 PM	41136
1005099-07C	LPSA-0094-RB001(19-20)-2010051	05/11/10 11:35 AM	Equip Blank	SW3510C	Aq Prep Sep Funnel: DRO	05/13/10 03:07 PM	41069

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Lab Order: 1005099

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1005099-01A	LPSA-0092B-SB001(0-1)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 07:28 PM	GCMS3_100521A
	LPSA-0092B-SB001(0-1)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-02A	LPSA-0092B-SB001(4-5)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 08:37 PM	GCMS3_100521A
	LPSA-0092B-SB001(4-5)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-03A	LPSA-0092B-SB001(9-10)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 07:45 PM	GCMS3_100521A
	LPSA-0092B-SB001(9-10)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-04A	LPSA-0092B-SB001(14-15)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 08:03 PM	GCMS3_100521A
	LPSA-0092B-SB001(14-15)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-05A	LPSA-0092B-SB101(14-15)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 08:20 PM	GCMS3_100521A
	LPSA-0092B-SB101(14-15)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-06A	LPSA-0094-WC001-20100511	Soil	SW8260B	8260 Soil Volatiles by GC/MS	41071	1	05/13/10 06:06 PM	GCMS2_100513A
1005099-06B	LPSA-0094-WC001-20100511	Soil	D2216	Percent Moisture	41106	1	05/17/10 03:00 PM	PMOIST_100517A
	LPSA-0094-WC001-20100511	Soil	SW7471A	Total Mercury: Soil/Solid	41164	1	05/20/10 05:03 PM	CETAC_HG_100520B
	LPSA-0094-WC001-20100511	Soil	SW6020	Trace Metals: ICP-MS - Solid	41153	5	05/21/10 12:22 PM	ICP-MS2_100521A
1005099-06C	LPSA-0094-WC001-20100511	Soil	SW8270C	Semivolatiles by GC/MS - Soil	41204	1	05/22/10 11:25 PM	GCMS4_100522A
	LPSA-0094-WC001-20100511	Soil	SW8270C	Semivolatiles by GC/MS - Soil	41204	1	05/22/10 11:49 PM	GCMS4_100522B
1005099-07A	LPSA-0094-RB001(19-20)-20100511	Equip Blank	M8015V	Method 8015 Gasoline (GRO)	41087	1	05/14/10 01:40 PM	GC4_100514B
1005099-07B	LPSA-0094-RB001(19-20)-20100511	Equip Blank	SW8270C	NDMA by 8270-SIM	41136	1	05/19/10 01:42 AM	GCMS3_100518A
1005099-07C	LPSA-0094-RB001(19-20)-20100511	Equip Blank	M8015D	TPH Extractable by GC - Water	41069	1	05/21/10 03:16 PM	GC12_100521B

DHL Analytical

Date: 05/25/10

CLIENT:	Zia Engineering & Environmental	Client Sample ID:	LPSA-0092B-SB001(0-1)-20100511
Project:	SWMUs 92B & 94 Closure	Lab ID:	1005099-01
Project No:	24	Collection Date:	05/11/10 09:03 AM
Lab Order:	1005099	Matrix:	Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00322	0.00537		mg/Kg-dry	1	05/21/10 07:28 PM
Surr: N-Nitrosodimethylamine-d6	67.9	0	30 - 125		%REC	1	05/21/10 07:28 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	6.84	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
	B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
	C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
	DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
	E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
			S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT:	Zia Engineering & Environmental	Client Sample ID:	LPSA-0092B-SB001(4-5)-20100511
Project:	SWMUs 92B & 94 Closure	Lab ID:	1005099-02
Project No:	24	Collection Date:	05/11/10 09:05 AM
Lab Order:	1005099	Matrix:	Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00314	0.00524		mg/Kg-dry	1	05/21/10 08:37 PM
Surr: N-Nitrosodimethylamine-d6	69.0	0	30 - 125		%REC	1	05/21/10 08:37 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	5.30	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
	B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
	C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
	DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
	E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
			S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT:	Zia Engineering & Environmental	Client Sample ID:	LPSA-0092B-SB001(9-10)-20100511
Project:	SWMUs 92B & 94 Closure	Lab ID:	1005099-03
Project No:	24	Collection Date:	05/11/10 09:30 AM
Lab Order:	1005099	Matrix:	Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00351	0.00585		mg/Kg-dry	1	05/21/10 07:45 PM
Surr: N-Nitrosodimethylamine-d6	72.0	0	30 - 125		%REC	1	05/21/10 07:45 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	14.7	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
	B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
	C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
	DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
	E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
			S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT:	Zia Engineering & Environmental	Client Sample ID:	LPSA-0092B-SB001(14-15)-20100511
Project:	SWMUs 92B & 94 Closure	Lab ID:	1005099-04
Project No:	24	Collection Date:	05/11/10 09:55 AM
Lab Order:	1005099	Matrix:	Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00343	0.00572		mg/Kg-dry	1	05/21/10 08:03 PM
Surr: N-Nitrosodimethylamine-d6	68.6	0	30 - 125		%REC	1	05/21/10 08:03 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	13.0	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
	B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
	C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
	DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
	E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
			S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0092B-SB101(14-15)-20100511
Lab ID: 1005099-05
Collection Date: 05/11/10 09:55 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00353	0.00589		mg/Kg-dry	1	05/21/10 08:20 PM
Surr: N-Nitrosodimethylamine-d6	67.0	0	30 - 125		%REC	1	05/21/10 08:20 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	15.2	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
	B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
	C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
	DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
	E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
			S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Total Mercury: Soil/Solid		SW7471A					Analyst: LM
Mercury	ND	0.0163	0.0510		mg/Kg-dry	1	05/20/10 05:03 PM
Trace Metals: ICP-MS - Solid		SW6020					Analyst: KL
Arsenic	2.66	0.475	0.950		mg/Kg-dry	5	05/21/10 12:22 PM
Barium	72.0	0.475	1.90		mg/Kg-dry	5	05/21/10 12:22 PM
Cadmium	0.203	0.0950	0.285	J	mg/Kg-dry	5	05/21/10 12:22 PM
Chromium	29.1	0.475	1.90		mg/Kg-dry	5	05/21/10 12:22 PM
Lead	10.0	0.0950	0.285		mg/Kg-dry	5	05/21/10 12:22 PM
Selenium	1.56	0.142	0.475		mg/Kg-dry	5	05/21/10 12:22 PM
Silver	1.14	0.0950	0.190		mg/Kg-dry	5	05/21/10 12:22 PM
Semivolatiles by GC/MS - Soil		SW8270C					Analyst: DO
1,2,4,5-Tetrachlorobenzene	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,2,4-Trichlorobenzene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,2-Dichlorobenzene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,2-Diphenylhydrazine	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,3-Dichlorobenzene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,4-Dichlorobenzene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1-Chloronaphthalene	ND	0.0412	0.137	N	mg/Kg-dry	1	05/22/10 11:49 PM
1-Methylnaphthalene	ND	0.0618	0.137	N	mg/Kg-dry	1	05/22/10 11:25 PM
1-Naphthylamine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
2,4,5-Trichlorophenol	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,4,6-Trichlorophenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,4-Dichlorophenol	ND	0.0824	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,4-Dimethylphenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,4-Dinitrophenol	ND	0.0515	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
2,4-Dinitrotoluene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,6-Dichlorophenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,6-Dinitrotoluene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Chloronaphthalene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Chlorophenol	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Methylnaphthalene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Methylphenol	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Naphthylamine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
2-Nitroaniline	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Nitrophenol	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Picoline	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
3,3'-Dichlorobenzidine	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
3-Methylcholanthrene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
3-Nitroaniline	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4,6-Dinitro-2-methylphenol	ND	0.0824	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
4-Aminobiphenyl	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
4-Bromophenyl phenyl ether	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4-Chloro-3-methylphenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4-Chloroaniline	ND	0.0515	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
4-Chlorophenyl phenyl ether	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
4-Methylphenol	ND	0.103	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4-Nitroaniline	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4-Nitrophenol	ND	0.144	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
7,12-Dimethylbenz(a)anthracene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Acenaphthene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Acenaphthylene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Acetophenone	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Aniline	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Anthracene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzidine	ND	0.340	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[a]anthracene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[a]pyrene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[b]fluoranthene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[g,h,i]perylene	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[k]fluoranthene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzoic acid	ND	0.134	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
Benzyl alcohol	ND	0.0412	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Biphenyl	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Bis(2-chloroethoxy)methane	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Bis(2-chloroethyl)ether	ND	0.0103	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Bis(2-chloroisopropyl)ether	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Bis(2-ethylhexyl)phthalate	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Butyl benzyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Carbazole	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Chrysene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Di-n-butyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Di-n-octyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Dibenz(a,j)acridine	ND	0.0412	0.137	N	mg/Kg-dry	1	05/22/10 11:49 PM
Dibenz[a,h]anthracene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Dibenzofuran	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Diethyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Dimethyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Dimethylphenethylamine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Diphenylamine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Ethyl methanesulfonate	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Fluoranthene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Fluorene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Hexachlorobenzene	ND	0.0103	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Hexachlorobutadiene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Hexachlorocyclopentadiene	ND	0.0618	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Hexachloroethane	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Indeno[1,2,3-cd]pyrene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Isophorone	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Methyl methanesulfonate	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
N-Nitrosodi-n-propylamine	ND	0.0103	0.137		mg/Kg-dry	1	05/22/10 11:25 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
N-Nitrosodimethylamine	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
N-Nitrosodiphenylamine	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
N-Nitrosopiperidine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Naphthalene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Nitrobenzene	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
p-Dimethylaminoazobenzene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Pentachlorobenzene	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Pentachloronitrobenzene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Pentachlorophenol	ND	0.0926	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Phenacetin	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Phenanthrene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Phenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Pronamide	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Pyrene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Pyridine	ND	0.134	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
Surr: 2,4,6-Tribromophenol	83.6	0	37 - 125		%REC	1	05/22/10 11:49 PM
Surr: 2,4,6-Tribromophenol	81.1	0	37 - 125		%REC	1	05/22/10 11:25 PM
Surr: 2-Fluorobiphenyl	60.2	0	60 - 135		%REC	1	05/22/10 11:49 PM
Surr: 2-Fluorobiphenyl	71.4	0	60 - 135		%REC	1	05/22/10 11:25 PM
Surr: 2-Fluorophenol	72.9	0	60 - 129		%REC	1	05/22/10 11:49 PM
Surr: 2-Fluorophenol	69.4	0	60 - 129		%REC	1	05/22/10 11:25 PM
Surr: 4-Terphenyl-d14	71.4	0	45 - 125		%REC	1	05/22/10 11:49 PM
Surr: 4-Terphenyl-d14	76.9	0	45 - 125		%REC	1	05/22/10 11:25 PM
Surr: Nitrobenzene-d5	70.9	0	40 - 125		%REC	1	05/22/10 11:49 PM
Surr: Nitrobenzene-d5	74.4	0	40 - 125		%REC	1	05/22/10 11:25 PM
Surr: Phenol-d6	70.6	0	40 - 125		%REC	1	05/22/10 11:25 PM
Surr: Phenol-d6	67.7	0	40 - 125		%REC	1	05/22/10 11:49 PM
8260 Soil Volatiles by GC/MS		**SW8260B**					**Analyst: AJR**
1,1,1,2-Tetrachloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1,1-Trichloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1,2,2-Tetrachloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1,2-Trichloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1-Dichloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1-Dichloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1-Dichloropropene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2,3-Trichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2,3-Trichloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2,4-Trichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2,4-Trimethylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dibromo-3-chloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dibromoethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dichloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dichloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,3,5-Trimethylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
1,3-Dichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,3-Dichloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,4-Dichloro-2-butene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,4-Dichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
2,2-Dichloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
2-Butanone	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
2-Chloroethylvinylether	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
2-Chlorotoluene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
2-Hexanone	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
4-Chlorotoluene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
4-Methyl-2-pentanone	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
Acetone	ND	0.0142	0.0475		mg/Kg-dry	1	05/13/10 06:06 PM
Acrylonitrile	ND	0.00285	0.00950		mg/Kg-dry	1	05/13/10 06:06 PM
Benzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromochloromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromodichloromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromoform	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromomethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Carbon disulfide	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Carbon tetrachloride	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Chlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Chloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Chloroform	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Chloromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
cis-1,2-Dichloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
cis-1,3-Dichloropropene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Dibromochloromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Dibromomethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Dichlorodifluoromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Ethylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Hexachlorobutadiene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Iodomethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Isopropylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
m,p-Xylene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Methyl tert-butyl ether	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Methylene chloride	ND	0.00475	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
n-Butylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
n-Propylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Naphthalene	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
o-Xylene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
p-Isopropyltoluene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
sec-Butylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Styrene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
tert-Butylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Tetrachloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Toluene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
trans-1,2-Dichloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
trans-1,3-Dichloropropene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Trichloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Trichlorofluoromethane	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
Vinyl chloride	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Surr: 1,2-Dichloroethane-d4	109	0	78 - 125		%REC	1	05/13/10 06:06 PM
Surr: 4-Bromofluorobenzene	101	0	85 - 120		%REC	1	05/13/10 06:06 PM
Surr: Dibromofluoromethane	102	0	84 - 116		%REC	1	05/13/10 06:06 PM
Surr: Toluene-d8	96.6	0	85 - 115		%REC	1	05/13/10 06:06 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	6.83	0	0		WT%	1	05/17/10 03:00 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-RB001(19-20)-20100511
Lab ID: 1005099-07
Collection Date: 05/11/10 11:35 AM
Matrix: Equip Blank

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Water		M8015D					Analyst: AV
TPH-DRO C10-C28	0.0824	0.0500	0.100	J	mg/L	1	05/21/10 03:16 PM
Surr: Isopropylbenzene	58.8	0	60 - 140	S	%REC	1	05/21/10 03:16 PM
Surr: Octacosane	90.9	0	51 - 124		%REC	1	05/21/10 03:16 PM
Method 8015 Gasoline (GRO)		M8015V					Analyst: DEW
Gasoline Range Organics	ND	0.0600	0.100		mg/L	1	05/14/10 01:40 PM
Surr: Tetrachlorethene	96.1	0	74 - 138		%REC	1	05/14/10 01:40 PM
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	4.00	12.0		ng/L	1	05/19/10 01:42 AM
Surr: N-Nitrosodimethylamine-d6	70.9	0	50 - 135		%REC	1	05/19/10 01:42 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_100521B

Sample ID:	LCS-41069	Batch ID:	41069		TestNo:		M8015D		Units:		mg/L
SampType:	LCS	Run ID:	GC12_100521B		Analysis Date:		05/21/10 02:22 PM		Prep Date:		05/13/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28		1.16	0.100	1.250	0	92.7	50	114			
Surr: Isopropylbenzene		0.0820		0.1500		54.7	60	140			S
Surr: Octacosane		0.129		0.1500		85.9	51	124			

Sample ID:	LCSD-41069	Batch ID:	41069		TestNo:		M8015D		Units:		mg/L
SampType:	LCSD	Run ID:	GC12_100521B		Analysis Date:		05/21/10 02:31 PM		Prep Date:		05/13/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28		1.09	0.100	1.250	0	87.4	50	114	5.87	30	
Surr: Isopropylbenzene		0.0721		0.1500		48.1	60	140	0	0	S
Surr: Octacosane		0.119		0.1500		79.2	51	124	0	0	

Sample ID:	MB-41069	Batch ID:	41069		TestNo:		M8015D		Units:		mg/L
SampType:	MBLK	Run ID:	GC12_100521B		Analysis Date:		05/21/10 02:58 PM		Prep Date:		05/13/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28		ND	0.100								
Surr: Isopropylbenzene		0.0735		0.1500		49.0	60	140			S
Surr: Octacosane		0.126		0.1500		83.8	51	124			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_100521B

Sample ID:	ICV-100521	Batch ID:	R49489	TestNo:	M8015D	Units:	mg/L
SampType:	ICV	Run ID:	GC12_100521B	Analysis Date:	05/21/10 10:15 AM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	516	0.100	500.0	0	103	85	115			
Surr: Isopropylbenzene	21.0		25.00		83.8	80	120			
Surr: Octacosane	23.8		25.00		95.3	80	120			

Sample ID:	CCV2-100521	Batch ID:	R49489	TestNo:	M8015D	Units:	mg/L
SampType:	CCV	Run ID:	GC12_100521B	Analysis Date:	05/21/10 02:13 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	270	0.100	250.0	0	108	85	115			
Surr: Isopropylbenzene	12.7		12.50		102	80	120			
Surr: Octacosane	12.6		12.50		101	80	120			

Sample ID:	CCV3-100521	Batch ID:	R49489	TestNo:	M8015D	Units:	mg/L
SampType:	CCV	Run ID:	GC12_100521B	Analysis Date:	05/21/10 04:01 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	283	0.100	0	0	0	85	115			
Surr: Isopropylbenzene	13.2		12.50		105	80	120			
Surr: Octacosane	13.5		12.50		108	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_100514B

Sample ID:	LCS-41087	Batch ID:	41087		TestNo:		M8015V			Units:	mg/L
SampType:	LCS	Run ID:	GC4_100514B		Analysis Date:		05/14/10 12:47 PM			Prep Date:	05/14/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		5.01	0.100	5.000	0	100	67	136			
Surr: Tetrachlorethene		0.354		0.4000		88.4	74	138			

Sample ID:	MB-41087	Batch ID:	41087		TestNo:		M8015V			Units:	mg/L
SampType:	MBLK	Run ID:	GC4_100514B		Analysis Date:		05/14/10 01:16 PM			Prep Date:	05/14/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		ND	0.100								
Surr: Tetrachlorethene		0.398		0.4000		99.6	74	138			

Sample ID:	1005122-02BMS	Batch ID:	41087		TestNo:		M8015V			Units:	mg/L
SampType:	MS	Run ID:	GC4_100514B		Analysis Date:		05/14/10 02:50 PM			Prep Date:	05/14/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		8.30	0.100	5.000	3.315	99.8	67	136			
Surr: Tetrachlorethene		0.370		0.4000		92.6	74	138			

Sample ID:	1005122-02BMSD	Batch ID:	41087		TestNo:		M8015V			Units:	mg/L
SampType:	MSD	Run ID:	GC4_100514B		Analysis Date:		05/14/10 03:13 PM			Prep Date:	05/14/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		8.20	0.100	5.000	3.315	97.7	67	136	1.25	30	
Surr: Tetrachlorethene		0.373		0.4000		93.2	74	138	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_100514B

Sample ID:	ICV-100514	Batch ID:	R49383		TestNo:		M8015V		Units:		mg/L
SampType:	ICV	Run ID:	GC4_100514B		Analysis Date:		05/14/10 09:36 AM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		9.57	0.100	10.00	0	95.7	80	120			
Surr: Tetrachlorethene		0.357		0.4000		89.2	74	138			

Sample ID:	CCV1-100514	Batch ID:	R49383		TestNo:		M8015V		Units:		mg/L
SampType:	CCV	Run ID:	GC4_100514B		Analysis Date:		05/14/10 05:24 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		5.18	0.100	5.000	0	104	80	120			
Surr: Tetrachlorethene		0.360		0.4000		90.1	74	138			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC_HG_100520B

Sample ID:	MB-41164	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg	
SampType:	MBLK	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 03:42 PM		Prep Date:		05/20/10	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit		Qual
Mercury		ND	0.0500									
Sample ID:	LCS-41164	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg	
SampType:	LCS	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 03:48 PM		Prep Date:		05/20/10	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit		Qual
Mercury		0.223	0.0500	0.2000	0	112	85	115				
Sample ID:	LCSD-41164	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg	
SampType:	LCSD	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 03:50 PM		Prep Date:		05/20/10	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit		Qual
Mercury		0.228	0.0500	0.2000	0	114	85	115	2.22	25		
Sample ID:	1005099-06B SD	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg-dry	
SampType:	SD	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:05 PM		Prep Date:		05/20/10	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit		Qual
Mercury		0	0.255	0	0				0	10		
Sample ID:	1005099-06B PDS	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg-dry	
SampType:	PDS	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:07 PM		Prep Date:		05/20/10	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit		Qual
Mercury		0.276	0.0510	0.2552	0	108	85	115				
Sample ID:	1005099-06B MS	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg-dry	
SampType:	MS	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:09 PM		Prep Date:		05/20/10	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit		Qual
Mercury		0.232	0.0503	0.2012	0	116	80	120				
Sample ID:	1005099-06B MSD	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg-dry	
SampType:	MSD	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:13 PM		Prep Date:		05/20/10	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit		Qual
Mercury		0.223	0.0498	0.1991	0	112	80	120	4.14	25		

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC_HG_100520B

Sample ID:	ICV-100520	Batch ID:	R49477		TestNo:		SW7471A		Units:		mg/Kg
SampType:	ICV	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 03:36 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00384	0.0500	0.004000	0	96.0	90	110			

Sample ID:	CCV1-100520	Batch ID:	R49477		TestNo:		SW7471A		Units:		mg/Kg
SampType:	CCV	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 04:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00211	0.0500	0.002000	0	106	90	110			

Sample ID:	CCV2-100520	Batch ID:	R49477		TestNo:		SW7471A		Units:		mg/Kg
SampType:	CCV	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:15 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00202	0.0500	0.002000	0	101	90	110			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_100521A

Sample ID:	MB-41153	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg
SampType:	MBLK	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 11:55 AM	Prep Date:	05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	ND	1.00								
Barium	ND	2.00								
Cadmium	ND	0.300								
Chromium	ND	2.00								
Lead	ND	0.300								
Selenium	ND	0.500								
Silver	ND	0.200								

Sample ID:	LCS-41153	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg
SampType:	LCS	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 12:00 PM	Prep Date:	05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	50.5	1.00	50.00	0	101	80	120			
Barium	50.4	2.00	50.00	0	101	80	120			
Cadmium	49.8	0.300	50.00	0	99.5	80	120			
Chromium	53.6	2.00	50.00	0	107	80	120			
Lead	49.7	0.300	50.00	0	99.4	80	120			
Selenium	50.4	0.500	50.00	0	101	80	120			
Silver	51.8	0.200	50.00	0	104	80	120			

Sample ID:	LCSD-41153	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg
SampType:	LCSD	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 12:05 PM	Prep Date:	05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	49.9	1.00	50.00	0	99.8	80	120	1.20	20	
Barium	51.3	2.00	50.00	0	103	80	120	1.67	20	
Cadmium	49.5	0.300	50.00	0	99.0	80	120	0.453	20	
Chromium	54.2	2.00	50.00	0	108	80	120	1.11	20	
Lead	49.6	0.300	50.00	0	99.3	80	120	0.050	20	
Selenium	50.1	0.500	50.00	0	100	80	120	0.498	20	
Silver	52.0	0.200	50.00	0	104	80	120	0.289	20	

Sample ID:	1005099-06B SD	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg-dry
SampType:	SD	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 12:27 PM	Prep Date:	05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	2.58	4.75	0	2.662				3.13	10	
Barium	68.9	9.50	0	71.95				4.37	10	
Cadmium	0	1.42	0	0.2031				0	10	
Chromium	30.3	9.50	0	29.11				4.04	10	
Lead	9.65	1.42	0	10.04				3.94	10	
Selenium	1.86	2.37	0	1.563				17.4	10	R
Silver	1.13	0.950	0	1.142				1.38	10	

Sample ID:	1005099-06B PDS	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg-dry
SampType:	PDS	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 12:33 PM	Prep Date:	05/20/10

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_100521A

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	49.5	0.950	47.49	2.662	98.5	75	125			
Barium	119	1.90	47.49	71.95	100	75	125			
Cadmium	47.3	0.285	47.49	0.2031	99.1	75	125			
Chromium	74.0	1.90	47.49	29.11	94.5	75	125			
Lead	58.5	0.285	47.49	10.04	102	75	125			
Selenium	47.7	0.475	47.49	1.563	97.1	75	125			
Silver	48.7	0.190	47.49	1.142	100	75	125			

Sample ID: 1005099-06B MS Batch ID: 41153 TestNo: SW6020 Units: mg/Kg-dry
SampType: MS Run ID: ICP-MS2_100521A Analysis Date: 05/21/10 12:38 PM Prep Date: 05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	47.4	0.942	47.08	2.662	95.0	80	120			
Barium	125	1.88	47.08	71.95	112	80	120			
Cadmium	47.3	0.282	47.08	0.2031	100	80	120			
Chromium	72.5	1.88	47.08	29.11	92.2	80	120			
Lead	56.4	0.282	47.08	10.04	98.6	80	120			
Selenium	46.9	0.471	47.08	1.563	96.3	80	120			
Silver	49.4	0.188	47.08	1.142	102	80	120			

Sample ID: 1005099-06B MSD Batch ID: 41153 TestNo: SW6020 Units: mg/Kg-dry
SampType: MSD Run ID: ICP-MS2_100521A Analysis Date: 05/21/10 12:44 PM Prep Date: 05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	46.7	0.933	46.67	2.662	94.4	80	120	1.47	20	
Barium	123	1.87	46.67	71.95	110	80	120	1.23	20	
Cadmium	46.3	0.280	46.67	0.2031	98.7	80	120	2.13	20	
Chromium	73.2	1.87	46.67	29.11	94.4	80	120	0.896	20	
Lead	54.6	0.280	46.67	10.04	95.5	80	120	3.32	20	
Selenium	44.8	0.467	46.67	1.563	92.6	80	120	4.66	20	
Silver	47.7	0.187	46.67	1.142	99.7	80	120	3.48	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_100521A

Sample ID:	ICV1-100521	Batch ID:	R49494		TestNo:		SW6020		Units:		mg/L
SampType:	ICV	Run ID:	ICP-MS2_100521A		Analysis Date:		05/21/10 11:32 AM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic		0.0999	0.00600	0.100	0	99.9	90	110			
Barium		0.0975	0.0100	0.100	0	97.5	90	110			
Cadmium		0.0954	0.00100	0.100	0	95.4	90	110			
Chromium		0.102	0.00600	0.100	0	102	90	110			
Lead		0.0970	0.00100	0.100	0	97.0	90	110			
Selenium		0.0994	0.00600	0.100	0	99.4	90	110			
Silver		0.0996	0.00200	0.100	0	99.6	90	110			

Sample ID:	CCV1-100521	Batch ID:	R49494		TestNo:		SW6020		Units:		mg/L
SampType:	CCV	Run ID:	ICP-MS2_100521A		Analysis Date:		05/21/10 12:49 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic		0.200	0.00600	0.200	0	99.8	90	110			
Barium		0.199	0.0100	0.200	0	99.4	90	110			
Cadmium		0.195	0.00100	0.200	0	97.4	90	110			
Chromium		0.210	0.00600	0.200	0	105	90	110			
Lead		0.192	0.00100	0.200	0	96.1	90	110			
Selenium		0.201	0.00600	0.200	0	100	90	110			
Silver		0.200	0.00200	0.200	0	99.9	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_100518A

Sample ID:	LCS-41136	Batch ID:	41136		TestNo:		SW8270C		Units:		ng/L
SampType:	LCS	Run ID:	GCMS3_100518A		Analysis Date:		05/18/10 09:58 PM		Prep Date:		05/18/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		152	12.0	200.0	0	76.1	25	110			
Surr: N-Nitrosodimethylamine-d6		275		400.0		68.8	50	135			

Sample ID:	LCSD-41136	Batch ID:	41136		TestNo:		SW8270C		Units:		ng/L
SampType:	LCSD	Run ID:	GCMS3_100518A		Analysis Date:		05/18/10 10:15 PM		Prep Date:		05/18/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		175	12.0	200.0	0	87.4	25	110	13.8	30	
Surr: N-Nitrosodimethylamine-d6		312		400.0		78.1	50	135	0	0	

Sample ID:	MB-41136	Batch ID:	41136		TestNo:		SW8270C		Units:		ng/L
SampType:	MBLK	Run ID:	GCMS3_100518A		Analysis Date:		05/19/10 01:25 AM		Prep Date:		05/18/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		ND	12.0								
Surr: N-Nitrosodimethylamine-d6		283		400.0		70.7	50	135			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_100518A

Sample ID:	ICV-100518	Batch ID:	R49435	TestNo:	SW8270C			Units:	ng/L
SampType:	ICV	Run ID:	GCMS3_100518A	Analysis Date:	05/18/10 08:33 PM			Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine	83800	12.0	100000	0	83.8	80	120			
Surr: N-Nitrosodimethylamine-d6	82000		100000		82.0	70	130			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_100521A

Sample ID:	LCS-41150	Batch ID:	41150		TestNo:		SW8270C		Units:		mg/Kg
SampType:	LCS	Run ID:	GCMS3_100521A		Analysis Date:		05/21/10 02:56 PM		Prep Date:		05/19/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		0.0475	0.00500	0.0500	0	95.0	20	115			
Surr: N-Nitrosodimethylamine-d6		91.6		100.0		91.6	30	125			

Sample ID:	1005097-08C-MS	Batch ID:	41150		TestNo:		SW8270C		Units:		mg/Kg-dry
SampType:	MS	Run ID:	GCMS3_100521A		Analysis Date:		05/21/10 03:30 PM		Prep Date:		05/19/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		0.0583	0.00546	0.0546	0	107	20	115			
Surr: N-Nitrosodimethylamine-d6		107		109.3		98.2	30	125			

Sample ID:	1005097-08C-MSD	Batch ID:	41150		TestNo:		SW8270C		Units:		mg/Kg-dry
SampType:	MSD	Run ID:	GCMS3_100521A		Analysis Date:		05/21/10 04:04 PM		Prep Date:		05/19/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		0.0561	0.00544	0.0544	0	103	20	115	3.89	30	
Surr: N-Nitrosodimethylamine-d6		102		108.9		94.1	30	125	0	0	

Sample ID:	MB-41150	Batch ID:	41150		TestNo:		SW8270C		Units:		mg/Kg
SampType:	MBLK	Run ID:	GCMS3_100521A		Analysis Date:		05/21/10 04:38 PM		Prep Date:		05/19/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		ND	0.00500								
Surr: N-Nitrosodimethylamine-d6		83.8		100.0		83.8	30	125			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_100521A

Sample ID:	ICV-100521	Batch ID:	R49457	TestNo:	SW8270C			Units:	mg/Kg
SampType:	ICV	Run ID:	GCMS3_100521A	Analysis Date:	05/21/10 02:22 PM			Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine	0.112	0.00500	0.100	0	112	80	120			
Surr: N-Nitrosodimethylamine-d6	101		100.0		101	70	130			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Sample ID:	LCS-41204	Batch ID:	41204		TestNo:		SW8270C		Units:		mg/Kg
SampType:	LCS	Run ID:	GCMS4_100522A		Analysis Date:		05/22/10 03:22 PM		Prep Date:		05/21/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene		1.23	0.133	1.340	0	92.0	35	125			
1,2,4-Trichlorobenzene		1.17	0.133	1.340	0	87.1	45	110			
1,2-Dichlorobenzene		1.13	0.133	1.340	0	84.1	45	100			
1,2-Diphenylhydrazine		1.31	0.133	1.340	0	97.5	38	125			
1,3-Dichlorobenzene		1.11	0.133	1.340	0	82.6	40	100			
1,4-Dichlorobenzene		1.11	0.133	1.340	0	83.1	35	105			
1-Methylnaphthalene		1.20	0.133	1.340	0	89.6	45	105			N
2,4,5-Trichlorophenol		1.25	0.133	1.340	0	93.5	50	110			
2,4,6-Trichlorophenol		1.25	0.133	1.340	0	93.0	45	110			
2,4-Dichlorophenol		1.22	0.133	1.340	0	91.0	45	110			
2,4-Dimethylphenol		1.26	0.133	1.340	0	94.0	30	105			
2,4-Dinitrophenol		1.07	0.660	1.340	0	79.6	15	130			
2,4-Dinitrotoluene		1.34	0.133	1.340	0	100	50	115			
2,6-Dichlorophenol		1.23	0.133	1.340	0	91.5	35	125			
2,6-Dinitrotoluene		1.37	0.133	1.340	0	102	50	110			
2-Chloronaphthalene		1.21	0.133	1.340	0	90.5	45	105			
2-Chlorophenol		1.14	0.133	1.340	0	85.1	45	105			
2-Methylnaphthalene		1.27	0.133	1.340	0	94.5	45	105			
2-Methylphenol		1.13	0.133	1.340	0	84.1	40	105			
2-Nitroaniline		1.35	0.133	1.340	0	100	45	120			
2-Nitrophenol		1.20	0.133	1.340	0	89.6	40	110			
3,3'-Dichlorobenzidine		0.840	0.133	1.340	0	62.7	25	128			
3-Nitroaniline		1.13	0.133	1.340	0	84.1	25	110			
4,6-Dinitro-2-methylphenol		1.25	0.330	1.340	0	93.0	30	135			
4-Bromophenyl phenyl ether		1.27	0.133	1.340	0	94.5	45	115			
4-Chloro-3-methylphenol		1.36	0.133	1.340	0	101	45	115			
4-Chloroaniline		0.967	0.330	1.340	0	72.1	25	125			
4-Chlorophenyl phenyl ether		1.27	0.133	1.340	0	95.0	45	110			
4-Methylphenol		1.17	0.133	1.340	0	87.6	40	105			
4-Nitroaniline		1.14	0.133	1.340	0	85.1	35	115			
4-Nitrophenol		1.27	0.660	1.340	0	95.0	15	140			
Acenaphthene		1.25	0.133	1.340	0	93.0	45	110			
Acenaphthylene		1.25	0.133	1.340	0	93.5	45	105			
Acetophenone		1.08	0.133	1.340	0	80.6	40	125			
Aniline		0.960	0.133	1.340	0	71.6	40	125			
Anthracene		1.27	0.133	1.340	0	94.5	55	105			
Benzidine		0.307	0.660	1.340	0	22.9	20	125			
Benzo[a]anthracene		1.27	0.133	1.340	0	95.0	50	110			
Benzo[a]pyrene		1.37	0.133	1.340	0	102	50	110			
Benzo[b]fluoranthene		1.33	0.133	1.340	0	99.5	45	115			
Benzo[g,h,i]perylene		1.09	0.133	1.340	0	81.6	40	125			
Benzo[k]fluoranthene		1.33	0.133	1.340	0	99.5	45	125			
Benzoic acid		1.49	0.660	1.340	0	111	25	125			
Benzyl alcohol		1.21	0.330	1.340	0	90.0	20	125			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Biphenyl	1.17	0.133	1.340	0	87.6	60	140
Bis(2-chloroethoxy)methane	1.21	0.133	1.340	0	90.5	45	110
Bis(2-chloroethyl)ether	1.17	0.133	1.340	0	87.1	40	105
Bis(2-chloroisopropyl)ether	1.18	0.133	1.340	0	88.1	20	115
Bis(2-ethylhexyl)phthalate	1.36	0.133	1.340	0	101	45	125
Butyl benzyl phthalate	1.37	0.330	1.340	0	102	50	125
Carbazole	1.29	0.133	1.340	0	96.5	45	115
Chrysene	1.31	0.133	1.340	0	98.0	55	110
Di-n-butyl phthalate	1.32	0.330	1.340	0	98.5	55	110
Di-n-octyl phthalate	1.44	0.330	1.340	0	107	40	130
Dibenz[a,h]anthracene	1.17	0.133	1.340	0	87.6	40	125
Dibenzofuran	1.25	0.133	1.340	0	93.0	50	105
Diethyl phthalate	1.31	0.330	1.340	0	98.0	50	115
Dimethyl phthalate	1.31	0.330	1.340	0	97.5	50	110
Fluoranthene	1.33	0.133	1.340	0	99.0	55	115
Fluorene	1.27	0.133	1.340	0	94.5	50	110
Hexachlorobenzene	1.27	0.133	1.340	0	94.5	45	120
Hexachlorobutadiene	1.15	0.133	1.340	0	86.1	40	115
Hexachlorocyclopentadiene	1.24	0.330	1.340	0	92.5	34	125
Hexachloroethane	1.11	0.133	1.340	0	83.1	35	110
Indeno[1,2,3-cd]pyrene	1.23	0.133	1.340	0	92.0	40	120
Isophorone	1.21	0.133	1.340	0	90.5	45	110
N-Nitrosodi-n-propylamine	1.12	0.133	1.340	0	83.6	40	115
N-Nitrosodimethylamine	1.17	0.133	1.340	0	87.1	20	115
N-Nitrosodiphenylamine	1.31	0.133	1.340	0	97.5	50	115
Naphthalene	1.18	0.133	1.340	0	88.1	40	105
Nitrobenzene	1.24	0.133	1.340	0	92.5	40	115
Pentachlorobenzene	1.18	0.133	1.340	0	88.1	35	125
Pentachlorophenol	1.27	0.133	1.340	0	95.0	25	120
Phenanthrene	1.27	0.133	1.340	0	95.0	50	110
Phenol	1.18	0.133	1.340	0	88.1	40	100
Pyrene	1.33	0.133	1.340	0	99.5	45	125
Pyridine	0.807	0.660	1.340	0	60.2	20	125
Surr: 2,4,6-Tribromophenol	2.29		2.680		85.6	45	138
Surr: 2-Fluorobiphenyl	2.17		2.680		80.8	37	125
Surr: 2-Fluorophenol	2.08		2.680		77.6	60	135
Surr: 4-Terphenyl-d14	2.37		2.680		88.6	60	129
Surr: Nitrobenzene-d5	2.13		2.680		79.4	45	125
Surr: Phenol-d6	2.07		2.680		77.4	40	125

Sample ID:	1005099-06C-MS	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg-dry
SampType:	MS	Run ID:	GCMS4_100522A	Analysis Date:	05/22/10 05:23 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	1.85	0.137	2.726	0	67.7	35	125			
1,2,4-Trichlorobenzene	1.14	0.137	1.384	0	82.6	45	110			
1,2-Dichlorobenzene	1.08	0.137	1.384	0	78.1	45	100			
1,2-Diphenylhydrazine	1.22	0.137	1.384	0	88.1	38	125			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

1,3-Dichlorobenzene	1.06	0.137	1.384	0	76.6	40	100	
1,4-Dichlorobenzene	1.07	0.137	1.384	0	77.6	35	105	
1-Methylnaphthalene	1.06	0.137	1.384	0	76.6	45	105	N
2,4,5-Trichlorophenol	1.18	0.137	1.384	0	85.1	50	110	
2,4,6-Trichlorophenol	1.17	0.137	1.384	0	84.6	45	110	
2,4-Dichlorophenol	1.05	0.137	1.384	0	76.1	45	110	
2,4-Dimethylphenol	1.26	0.137	1.384	0	91.0	30	105	
2,4-Dinitrophenol	0.372	0.682	1.384	0	26.9	15	130	
2,4-Dinitrotoluene	1.31	0.137	1.384	0	94.5	50	115	
2,6-Dichlorophenol	1.10	0.137	1.384	0	79.6	35	125	
2,6-Dinitrotoluene	1.33	0.137	1.384	0	96.0	50	110	
2-Chloronaphthalene	1.34	0.137	1.384	0	97.0	45	105	
2-Chlorophenol	1.05	0.137	1.384	0	75.6	45	105	
2-Methylnaphthalene	1.16	0.137	1.384	0	83.6	45	105	
2-Methylphenol	1.05	0.137	1.384	0	75.6	40	105	
2-Nitroaniline	1.34	0.137	1.384	0	97.0	45	120	
2-Nitrophenol	1.05	0.137	1.384	0	75.6	40	110	
3,3′-Dichlorobenzidine	0.207	0.137	1.384	0	14.9	25	128	S
3-Nitroaniline	1.31	0.137	1.384	0	95.0	25	110	
4,6-Dinitro-2-methylphenol	0.475	0.341	1.384	0	34.3	30	135	
4-Bromophenyl phenyl ether	1.23	0.137	1.384	0	88.6	45	115	
4-Chloro-3-methylphenol	1.22	0.137	1.384	0	88.1	45	115	
4-Chloroaniline	0.888	0.341	1.384	0	64.2	25	125	
4-Chlorophenyl phenyl ether	1.20	0.137	1.384	0	86.6	45	110	
4-Methylphenol	1.02	0.137	1.384	0	73.6	40	105	
4-Nitroaniline	1.12	0.137	1.384	0	81.1	35	115	
4-Nitrophenol	1.36	0.682	1.384	0	98.5	15	140	
Acenaphthene	1.19	0.137	1.384	0	86.1	45	110	
Acenaphthylene	1.20	0.137	1.384	0	87.1	45	105	
Acetophenone	1.84	0.137	2.726	0	67.4	40	125	
Aniline	0.916	0.137	1.384	0	66.2	40	125	
Anthracene	1.24	0.137	1.384	0	89.6	55	105	
Benzidine	0	0.682	1.384	0	0	20	125	S
Benzo[a]anthracene	1.16	0.137	1.384	0	83.6	50	110	
Benzo[a]pyrene	1.26	0.137	1.384	0	91.0	50	110	
Benzo[b]fluoranthene	1.80	0.137	1.384	0	130	45	115	S
Benzo[g,h,i]perylene	0.702	0.137	1.384	0	50.7	40	125	
Benzo[k]fluoranthene	0.888	0.137	1.384	0	64.2	45	125	
Benzoic acid	1.22	0.682	1.384	0	88.1	25	125	
Benzyl alcohol	1.12	0.341	1.384	0	80.6	20	125	
Biphenyl	1.14	0.137	1.384	0	82.1	60	140	
Bis(2-chloroethoxy)methane	1.25	0.137	1.384	0	90.0	45	110	
Bis(2-chloroethyl)ether	1.20	0.137	1.384	0	86.6	40	105	
Bis(2-chloroisopropyl)ether	1.25	0.137	1.384	0	90.0	20	115	
Bis(2-ethylhexyl)phthalate	1.23	0.137	1.384	0	89.1	45	125	
Butyl benzyl phthalate	1.18	0.341	1.384	0	85.6	50	125	
Carbazole	1.27	0.137	1.384	0	91.5	45	115	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Chrysene	1.25	0.137	1.384	0	90.0	55	110
Di-n-butyl phthalate	1.27	0.341	1.384	0	92.0	55	110
Di-n-octyl phthalate	1.46	0.341	1.384	0	105	40	130
Dibenz[a,h]anthracene	0.695	0.137	1.384	0	50.2	40	125
Dibenzofuran	1.21	0.137	1.384	0	87.6	50	105
Diethyl phthalate	1.24	0.341	1.384	0	89.6	50	115
Dimethyl phthalate	1.25	0.341	1.384	0	90.0	50	110
Fluoranthene	1.25	0.137	1.384	0	90.5	55	115
Fluorene	1.21	0.137	1.384	0	87.6	50	110
Hexachlorobenzene	1.18	0.137	1.384	0	85.6	45	120
Hexachlorobutadiene	1.12	0.137	1.384	0	81.1	40	115
Hexachlorocyclopentadiene	1.08	0.341	1.384	0	78.1	34	125
Hexachloroethane	1.09	0.137	1.384	0	78.6	35	110
Indeno[1,2,3-cd]pyrene	0.730	0.137	1.384	0	52.7	40	120
Isophorone	1.19	0.137	1.384	0	86.1	45	110
N-Nitrosodi-n-propylamine	1.08	0.137	1.384	0	78.1	40	115
N-Nitrosodimethylamine	1.29	0.137	1.384	0	93.0	20	115
N-Nitrosodiphenylamine	2.42	0.137	2.726	0	88.9	50	115
Naphthalene	1.16	0.137	1.384	0	84.1	40	105
Nitrobenzene	1.25	0.137	1.384	0	90.5	40	115
Pentachlorobenzene	1.96	0.137	2.726	0	71.7	35	125
Pentachlorophenol	1.58	0.137	1.384	0	114	25	120
Phenanthrene	1.20	0.137	1.384	0	86.6	50	110
Phenol	1.12	0.137	1.384	0	80.6	40	100
Pyrene	1.17	0.137	1.384	0	84.6	45	125
Pyridine	0.888	0.682	1.384	0	64.2	20	125
Surr: 2,4,6-Tribromophenol	2.20		2.768		79.4	45	138
Surr: 2-Fluorobiphenyl	2.08		2.768		75.1	37	125
Surr: 2-Fluorophenol	1.96		2.768		70.6	60	135
Surr: 4-Terphenyl-d14	2.14		2.768		77.4	60	129
Surr: Nitrobenzene-d5	2.18		2.768		78.6	45	125
Surr: Phenol-d6	1.99		2.768		71.9	40	125

Sample ID:	1005099-06C-MSD	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg-dry
SampType:	MSD	Run ID:	GCMS4_100522A	Analysis Date:	05/22/10 05:47 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	1.94	0.137	2.719	0	71.2	35	125	4.83	30	
1,2,4-Trichlorobenzene	1.10	0.137	1.380	0	79.6	45	110	3.94	30	
1,2-Dichlorobenzene	1.03	0.137	1.380	0	74.6	45	100	4.82	30	
1,2-Diphenylhydrazine	1.20	0.137	1.380	0	87.1	38	125	1.39	30	
1,3-Dichlorobenzene	1.02	0.137	1.380	0	73.6	40	100	4.23	30	
1,4-Dichlorobenzene	1.02	0.137	1.380	0	74.1	35	105	4.85	30	
1-Methylnaphthalene	1.11	0.137	1.380	0	80.1	45	105	4.19	30	N
2,4,5-Trichlorophenol	1.22	0.137	1.380	0	88.6	50	110	3.76	30	
2,4,6-Trichlorophenol	1.17	0.137	1.380	0	85.1	45	110	0.330	30	
2,4-Dichlorophenol	1.11	0.137	1.380	0	80.1	45	110	4.84	30	
2,4-Dimethylphenol	1.26	0.137	1.380	0	91.5	30	105	0.289	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

2,4-Dinitrophenol	0.268	0.680	1.380	0	19.4	15	130	32.5	30	R
2,4-Dinitrotoluene	1.24	0.137	1.380	0	89.6	50	115	5.66	30	
2,6-Dichlorophenol	1.14	0.137	1.380	0	82.6	35	125	3.42	30	
2,6-Dinitrotoluene	1.26	0.137	1.380	0	91.0	50	110	5.58	30	
2-Chloronaphthalene	1.29	0.137	1.380	0	93.5	45	105	3.91	30	
2-Chlorophenol	1.08	0.137	1.380	0	78.1	45	105	2.98	30	
2-Methylnaphthalene	1.13	0.137	1.380	0	82.1	45	105	2.06	30	
2-Methylphenol	1.07	0.137	1.380	0	77.6	40	105	2.34	30	
2-Nitroaniline	1.33	0.137	1.380	0	96.0	45	120	1.29	30	
2-Nitrophenol	1.07	0.137	1.380	0	77.6	40	110	2.34	30	
3,3′-Dichlorobenzidine	0.165	0.137	1.380	0	11.9	25	128	22.5	30	S
3-Nitroaniline	1.23	0.137	1.380	0	89.1	25	110	6.74	30	
4,6-Dinitro-2-methylphenol	0.336	0.340	1.380	0	24.4	30	135	34.1	30	SR
4-Bromophenyl phenyl ether	1.24	0.137	1.380	0	89.6	45	115	0.861	30	
4-Chloro-3-methylphenol	1.26	0.137	1.380	0	91.5	45	115	3.62	30	
4-Chloroaniline	0.831	0.340	1.380	0	60.2	25	125	6.66	30	
4-Chlorophenyl phenyl ether	1.19	0.137	1.380	0	86.1	45	110	0.833	30	
4-Methylphenol	1.07	0.137	1.380	0	77.6	40	105	5.01	30	
4-Nitroaniline	1.04	0.137	1.380	0	75.6	35	115	7.24	30	
4-Nitrophenol	1.31	0.680	1.380	0	95.0	15	140	3.86	30	
Acenaphthene	1.17	0.137	1.380	0	85.1	45	110	1.42	30	
Acenaphthylene	1.15	0.137	1.380	0	83.6	45	105	4.34	30	
Acetophenone	1.96	0.137	2.719	0	72.0	40	125	6.27	30	
Aniline	0.810	0.137	1.380	0	58.7	40	125	12.2	30	
Anthracene	1.20	0.137	1.380	0	87.1	55	105	3.07	30	
Benzidine	0	0.680	1.380	0	0	20	125	0	30	S
Benzo[a]anthracene	1.13	0.137	1.380	0	81.6	50	110	2.67	30	
Benzo[a]pyrene	1.23	0.137	1.380	0	89.1	50	110	2.47	30	
Benzo[b]fluoranthene	1.63	0.137	1.380	0	118	45	115	9.47	30	S
Benzo[g,h,i]perylene	0.632	0.137	1.380	0	45.8	40	125	10.6	30	
Benzo[k]fluoranthene	1.21	0.137	1.380	0	87.6	45	125	30.6	30	R
Benzoic acid	1.04	0.680	1.380	0	75.6	25	125	15.5	30	
Benzyl alcohol	1.11	0.340	1.380	0	80.6	20	125	0.256	30	
Biphenyl	1.13	0.137	1.380	0	82.1	60	140	0.256	30	
Bis(2-chloroethoxy)methane	1.19	0.137	1.380	0	86.6	45	110	4.20	30	
Bis(2-chloroethyl)ether	1.13	0.137	1.380	0	81.6	40	105	6.17	30	
Bis(2-chloroisopropyl)ether	1.17	0.137	1.380	0	84.6	20	115	6.52	30	
Bis(2-ethylhexyl)phthalate	1.18	0.137	1.380	0	85.6	45	125	4.24	30	
Butyl benzyl phthalate	1.18	0.340	1.380	0	85.6	50	125	0.256	30	
Carbazole	1.24	0.137	1.380	0	89.6	45	115	2.45	30	
Chrysene	1.18	0.137	1.380	0	85.6	55	110	5.36	30	
Di-n-butyl phthalate	1.24	0.340	1.380	0	90.0	55	110	2.44	30	
Di-n-octyl phthalate	1.55	0.340	1.380	0	112	40	130	5.69	30	
Dibenz[a,h]anthracene	0.625	0.137	1.380	0	45.3	40	125	10.7	30	
Dibenzofuran	1.18	0.137	1.380	0	85.6	50	105	2.56	30	
Diethyl phthalate	1.20	0.340	1.380	0	87.1	50	115	3.07	30	
Dimethyl phthalate	1.18	0.340	1.380	0	85.6	50	110	5.36	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Fluoranthene	1.19	0.137	1.380	0	86.1	55	115	5.33	30
Fluorene	1.21	0.137	1.380	0	87.6	50	110	0.256	30
Hexachlorobenzene	1.18	0.137	1.380	0	85.6	45	120	0.256	30
Hexachlorobutadiene	1.09	0.137	1.380	0	78.6	40	115	3.37	30
Hexachlorocyclopentadiene	0.955	0.340	1.380	0	69.2	34	125	12.4	30
Hexachloroethane	1.04	0.137	1.380	0	75.1	35	110	4.79	30
Indeno[1,2,3-cd]pyrene	0.659	0.137	1.380	0	47.8	40	120	10.2	30
Isophorone	1.15	0.137	1.380	0	83.6	45	110	3.19	30
N-Nitrosodi-n-propylamine	1.06	0.137	1.380	0	77.1	40	115	1.54	30
N-Nitrosodimethylamine	1.14	0.137	1.380	0	82.6	20	115	12.2	30
N-Nitrosodiphenylamine	2.51	0.137	2.719	0	92.4	50	115	3.64	30
Naphthalene	1.12	0.137	1.380	0	81.1	40	105	3.87	30
Nitrobenzene	1.17	0.137	1.380	0	84.6	40	115	7.07	30
Pentachlorobenzene	2.02	0.137	2.719	0	74.2	35	125	3.20	30
Pentachlorophenol	1.27	0.137	1.380	0	92.0	25	120	21.5	30
Phenanthrene	1.18	0.137	1.380	0	85.6	50	110	1.41	30
Phenol	1.13	0.137	1.380	0	82.1	40	100	1.58	30
Pyrene	1.14	0.137	1.380	0	82.6	45	125	2.64	30
Pyridine	0.817	0.680	1.380	0	59.2	20	125	8.32	30
Surr: 2,4,6-Tribromophenol	2.26		2.761		81.8	45	138	0	0
Surr: 2-Fluorobiphenyl	2.03		2.761		73.6	37	125	0	0
Surr: 2-Fluorophenol	2.02		2.761		73.1	60	135	0	0
Surr: 4-Terphenyl-d14	2.14		2.761		77.6	60	129	0	0
Surr: Nitrobenzene-d5	2.13		2.761		77.1	45	125	0	0
Surr: Phenol-d6	2.03		2.761		73.4	40	125	0	0

Sample ID:	MB-41204	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg
SampType:	MBLK	Run ID:	GCMS4_100522A	Analysis Date:	05/22/10 09:24 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	ND	0.133								
1,2,4-Trichlorobenzene	ND	0.133								
1,2-Dichlorobenzene	ND	0.133								
1,2-Diphenylhydrazine	ND	0.133								
1,3-Dichlorobenzene	ND	0.133								
1,4-Dichlorobenzene	ND	0.133								
1-Methylnaphthalene	ND	0.133								N
2,4,5-Trichlorophenol	ND	0.133								
2,4,6-Trichlorophenol	ND	0.133								
2,4-Dichlorophenol	ND	0.133								
2,4-Dimethylphenol	ND	0.133								
2,4-Dinitrophenol	ND	0.660								
2,4-Dinitrotoluene	ND	0.133								
2,6-Dichlorophenol	ND	0.133								
2,6-Dinitrotoluene	ND	0.133								
2-Chloronaphthalene	ND	0.133								
2-Chlorophenol	ND	0.133								
2-Methylnaphthalene	ND	0.133								

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

2-Methylphenol	ND	0.133
2-Nitroaniline	ND	0.133
2-Nitrophenol	ND	0.133
3,3′-Dichlorobenzidine	ND	0.133
3-Nitroaniline	ND	0.133
4,6-Dinitro-2-methylphenol	ND	0.330
4-Bromophenyl phenyl ether	ND	0.133
4-Chloro-3-methylphenol	ND	0.133
4-Chloroaniline	ND	0.330
4-Chlorophenyl phenyl ether	ND	0.133
4-Methylphenol	ND	0.133
4-Nitroaniline	ND	0.133
4-Nitrophenol	ND	0.660
Acenaphthene	ND	0.133
Acenaphthylene	ND	0.133
Acetophenone	ND	0.133
Aniline	ND	0.133
Anthracene	ND	0.133
Benzidine	ND	0.660
Benzo[a]anthracene	ND	0.133
Benzo[a]pyrene	ND	0.133
Benzo[b]fluoranthene	ND	0.133
Benzo[g,h,i]perylene	ND	0.133
Benzo[k]fluoranthene	ND	0.133
Benzoic acid	ND	0.660
Benzyl alcohol	ND	0.330
Biphenyl	ND	0.133
Bis(2-chloroethoxy)methane	ND	0.133
Bis(2-chloroethyl)ether	ND	0.133
Bis(2-chloroisopropyl)ether	ND	0.133
Bis(2-ethylhexyl)phthalate	ND	0.133
Butyl benzyl phthalate	ND	0.330
Carbazole	ND	0.133
Chrysene	ND	0.133
Di-n-butyl phthalate	ND	0.330
Di-n-octyl phthalate	ND	0.330
Dibenz[a,h]anthracene	ND	0.133
Dibenzofuran	ND	0.133
Diethyl phthalate	ND	0.330
Dimethyl phthalate	ND	0.330
Fluoranthene	ND	0.133
Fluorene	ND	0.133
Hexachlorobenzene	ND	0.133
Hexachlorobutadiene	ND	0.133
Hexachlorocyclopentadiene	ND	0.330
Hexachloroethane	ND	0.133
Indeno[1,2,3-cd]pyrene	ND	0.133

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Isophorone	ND	0.133				
N-Nitrosodi-n-propylamine	ND	0.133				
N-Nitrosodimethylamine	ND	0.133				
N-Nitrosodiphenylamine	ND	0.133				
Naphthalene	ND	0.133				
Nitrobenzene	ND	0.133				
Pentachlorobenzene	ND	0.133				
Pentachlorophenol	ND	0.133				
Phenanthrene	ND	0.133				
Phenol	ND	0.133				
Pyrene	ND	0.133				
Pyridine	ND	0.660				
Surr: 2,4,6-Tribromophenol	2.20		2.680	82.1	45	138
Surr: 2-Fluorobiphenyl	1.98		2.680	73.9	37	125
Surr: 2-Fluorophenol	2.01		2.680	75.1	60	135
Surr: 4-Terphenyl-d14	2.05		2.680	76.4	60	129
Surr: Nitrobenzene-d5	2.15		2.680	80.1	45	125
Surr: Phenol-d6	2.01		2.680	75.1	40	125

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Sample ID:	ICV2-100522	Batch ID:	R49500	TestNo:	SW8270C	Units:	mg/Kg
SampType:	ICV	Run ID:	GCMS4_100522A	Analysis Date:	05/22/10 01:46 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	3.46	0.133	4.000	0	86.5	80	120			
1,2,4-Trichlorobenzene	3.87	0.133	4.000	0	96.8	80	120			
1,2-Dichlorobenzene	3.60	0.133	4.000	0	90.0	80	120			
1,2-Diphenylhydrazine	3.98	0.133	4.000	0	99.5	80	120			
1,3-Dichlorobenzene	3.62	0.133	4.000	0	90.5	80	120			
1,4-Dichlorobenzene	3.63	0.133	4.000	0	90.8	80	120			
1-Methylnaphthalene	3.34	0.133	4.000	0	83.5	80	120			N
2,4,5-Trichlorophenol	3.87	0.133	4.000	0	96.8	80	120			
2,4,6-Trichlorophenol	3.87	0.133	4.000	0	96.8	80	120			
2,4-Dichlorophenol	3.61	0.133	4.000	0	90.2	80	120			
2,4-Dimethylphenol	3.74	0.133	4.000	0	93.5	80	120			
2,4-Dinitrophenol	4.05	0.660	4.000	0	101	80	120			
2,4-Dinitrotoluene	3.97	0.133	4.000	0	99.2	80	120			
2,6-Dichlorophenol	3.53	0.133	4.000	0	88.2	80	120			
2,6-Dinitrotoluene	3.89	0.133	4.000	0	97.2	80	120			
2-Chloronaphthalene	3.78	0.133	4.000	0	94.5	80	120			
2-Chlorophenol	3.60	0.133	4.000	0	90.0	80	120			
2-Methylnaphthalene	3.39	0.133	4.000	0	84.8	80	120			
2-Methylphenol	3.42	0.133	4.000	0	85.5	80	120			
2-Nitroaniline	3.86	0.133	4.000	0	96.5	80	120			
2-Nitrophenol	3.81	0.133	4.000	0	95.2	80	120			
3,3'-Dichlorobenzidine	4.23	0.133	4.000	0	106	80	120			
3-Nitroaniline	3.52	0.133	4.000	0	88.0	80	120			
4,6-Dinitro-2-methylphenol	3.99	0.330	4.000	0	99.8	80	120			
4-Bromophenyl phenyl ether	3.75	0.133	4.000	0	93.8	80	120			
4-Chloro-3-methylphenol	3.31	0.133	4.000	0	82.8	80	120			
4-Chloroaniline	3.34	0.330	4.000	0	83.5	80	120			
4-Chlorophenyl phenyl ether	3.79	0.133	4.000	0	94.8	80	120			
4-Methylphenol	3.33	0.133	4.000	0	83.2	80	120			
4-Nitroaniline	3.99	0.133	4.000	0	99.8	80	120			
4-Nitrophenol	4.06	0.660	4.000	0	102	80	120			
Acenaphthene	3.72	0.133	4.000	0	93.0	80	120			
Acenaphthylene	3.72	0.133	4.000	0	93.0	80	120			
Acetophenone	3.37	0.133	4.000	0	84.2	80	120			
Aniline	3.18	0.133	4.000	0	79.5	80	120			
Anthracene	3.67	0.133	4.000	0	91.8	80	120			
Benzidine	2.96	0.660	4.000	0	74.0	80	120			S
Benzo[a]anthracene	3.62	0.133	4.000	0	90.5	80	120			
Benzo[a]pyrene	4.04	0.133	4.000	0	101	80	120			
Benzo[b]fluoranthene	4.11	0.133	4.000	0	103	80	120			
Benzo[g,h,i]perylene	3.28	0.133	4.000	0	82.0	80	120			
Benzo[k]fluoranthene	4.04	0.133	4.000	0	101	80	120			
Benzoic acid	3.72	0.660	4.000	0	93.0	80	120			
Benzyl alcohol	3.44	0.330	4.000	0	86.0	80	120			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Biphenyl	3.82	0.133	4.000	0	95.5	80	120
Bis(2-chloroethoxy)methane	3.50	0.133	4.000	0	87.5	80	120
Bis(2-chloroethyl)ether	3.34	0.133	4.000	0	83.5	80	120
Bis(2-chloroisopropyl)ether	3.72	0.133	4.000	0	93.0	80	120
Bis(2-ethylhexyl)phthalate	3.97	0.133	4.000	0	99.2	80	120
Butyl benzyl phthalate	3.52	0.330	4.000	0	88.0	80	120
Carbazole	3.68	0.133	4.000	0	92.0	80	120
Chrysene	3.76	0.133	4.000	0	94.0	80	120
Di-n-butyl phthalate	3.51	0.330	4.000	0	87.8	80	120
Di-n-octyl phthalate	3.74	0.330	4.000	0	93.5	80	120
Dibenz[a,h]anthracene	3.26	0.133	4.000	0	81.5	80	120
Dibenzofuran	3.69	0.133	4.000	0	92.2	80	120
Diethyl phthalate	4.02	0.330	4.000	0	101	80	120
Dimethyl phthalate	3.71	0.330	4.000	0	92.8	80	120
Fluoranthene	3.69	0.133	4.000	0	92.2	80	120
Fluorene	3.75	0.133	4.000	0	93.8	80	120
Hexachlorobenzene	3.78	0.133	4.000	0	94.5	80	120
Hexachlorobutadiene	3.85	0.133	4.000	0	96.2	80	120
Hexachlorocyclopentadiene	3.91	0.330	4.000	0	97.8	80	120
Hexachloroethane	3.54	0.133	4.000	0	88.5	80	120
Indeno[1,2,3-cd]pyrene	3.40	0.133	4.000	0	85.0	80	120
Isophorone	3.61	0.133	4.000	0	90.2	80	120
N-Nitrosodi-n-propylamine	3.38	0.133	4.000	0	84.5	80	120
N-Nitrosodimethylamine	3.93	0.133	4.000	0	98.2	80	120
N-Nitrosodiphenylamine	3.64	0.133	4.000	0	91.0	80	120
Naphthalene	3.62	0.133	4.000	0	90.5	80	120
Nitrobenzene	3.62	0.133	4.000	0	90.5	80	120
Pentachlorobenzene	3.63	0.133	4.000	0	90.8	80	120
Pentachlorophenol	3.96	0.133	4.000	0	99.0	80	120
Phenanthrene	3.68	0.133	4.000	0	92.0	80	120
Phenol	4.04	0.133	4.000	0	101	80	120
Pyrene	3.58	0.133	4.000	0	89.5	80	120
Pyridine	3.52	0.660	4.000	0	88.0	80	120
Surr: 2,4,6-Tribromophenol	3.85		4.000		96.2	80	120
Surr: 2-Fluorobiphenyl	3.83		4.000		95.8	80	120
Surr: 2-Fluorophenol	3.59		4.000		89.8	80	120
Surr: 4-Terphenyl-d14	3.61		4.000		90.2	80	120
Surr: Nitrobenzene-d5	3.76		4.000		94.0	80	120
Surr: Phenol-d6	3.53		4.000		88.2	80	120

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522B

Sample ID:	LCS2-41204	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg
SampType:	LCS	Run ID:	GCMS4_100522B	Analysis Date:	05/22/10 04:10 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene	1.16	0.133	1.340	0	86.6	40	125			N
1-Naphthylamine	1.01	0.133	1.340	0	75.1	40	125			
2-Naphthylamine	1.17	0.133	1.340	0	87.6	40	125			
2-Picoline	1.12	0.133	1.340	0	83.6	40	125			
3-Methylcholanthrene	1.56	0.133	1.340	0	116	40	125			
4-Aminobiphenyl	0.853	0.133	1.340	0	63.7	40	125			
7,12-Dimethylbenz(a)anthracene	1.83	0.133	1.340	0	136	40	125			S
Dibenz(a,j)acridine	1.31	0.133	1.340	0	98.0	40	125			N
Dimethylphenethylamine	0.580	0.133	1.340	0	43.3	40	125			
Diphenylamine	1.15	0.133	1.340	0	86.1	40	125			
Ethyl methanesulfonate	1.31	0.133	1.340	0	97.5	40	125			
Methyl methanesulfonate	1.45	0.133	1.340	0	108	40	125			
N-Nitrosopiperidine	1.43	0.133	1.340	0	106	40	125			
p-Dimethylaminoazobenzene	1.15	0.133	1.340	0	86.1	40	125			
Pentachloronitrobenzene	1.58	0.133	1.340	0	118	40	125			
Phenacetin	1.33	0.133	1.340	0	99.0	40	125			
Pronamide	1.33	0.133	1.340	0	99.0	40	125			
Surr: 2,4,6-Tribromophenol	2.29		2.680		85.6	45	138			
Surr: 2-Fluorobiphenyl	1.78		2.680		66.4	37	125			
Surr: 2-Fluorophenol	1.93		2.680		71.9	60	135			
Surr: 4-Terphenyl-d14	2.11		2.680		78.6	60	129			
Surr: Nitrobenzene-d5	2.21		2.680		82.6	45	125			
Surr: Phenol-d6	1.91		2.680		71.4	40	125			

Sample ID:	1005099-06C-MS	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg-dry
SampType:	MS	Run ID:	GCMS4_100522B	Analysis Date:	05/22/10 07:00 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene	1.04	0.137	1.384	0	75.1	40	125			N
1-Naphthylamine	0.399	0.137	1.384	0	28.9	40	125			S
2-Naphthylamine	0.613	0.137	1.384	0	44.3	40	125			
2-Picoline	0.929	0.137	1.384	0	67.2	40	125			
3-Methylcholanthrene	1.21	0.137	1.384	0	87.6	40	125			
4-Aminobiphenyl	0.269	0.137	1.384	0	19.4	40	125			S
7,12-Dimethylbenz(a)anthracene	1.85	0.137	1.384	0	134	40	125			S
Dibenz(a,j)acridine	0.551	0.137	1.384	0	39.8	40	125			N
Dimethylphenethylamine	0	0.137	1.384	0	0	40	125			S
Diphenylamine	2.02	0.137	2.726	0	74.2	40	125			
Ethyl methanesulfonate	1.18	0.137	1.384	0	85.1	40	125			
Methyl methanesulfonate	1.24	0.137	1.384	0	89.6	40	125			
N-Nitrosopiperidine	1.29	0.137	1.384	0	93.0	40	125			
p-Dimethylaminoazobenzene	0.950	0.137	1.384	0	68.7	40	125			
Pentachloronitrobenzene	1.38	0.137	1.384	0	99.5	40	125			
Phenacetin	1.10	0.137	1.384	0	79.6	40	125			
Pronamide	1.19	0.137	1.384	0	86.1	40	125			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522B

Surr: 2,4,6-Tribromophenol	2.27	2.768	81.8	45	138
Surr: 2-Fluorobiphenyl	1.73	2.768	62.4	37	125
Surr: 2-Fluorophenol	2.08	2.768	75.1	60	135
Surr: 4-Terphenyl-d14	1.97	2.768	71.1	60	129
Surr: Nitrobenzene-d5	2.01	2.768	72.6	45	125
Surr: Phenol-d6	1.85	2.768	66.9	40	125

Sample ID:	1005099-06C-MSD	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg-dry		
SampType:	MSD	Run ID:	GCMS4_100522B	Analysis Date:	05/22/10 07:23 PM	Prep Date:	05/21/10		
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene	1.12	0.137	1.380	0	81.1	40	125	7.39	30	N
1-Naphthylamine	0.343	0.137	1.380	0	24.9	40	125	15.1	30	S
2-Naphthylamine	0.584	0.137	1.380	0	42.3	40	125	4.85	30	
2-Picoline	0.975	0.137	1.380	0	70.6	40	125	4.80	30	
3-Methylcholanthrene	1.30	0.137	1.380	0	94.5	40	125	7.39	30	
4-Aminobiphenyl	0.233	0.137	1.380	0	16.9	40	125	14.0	30	S
7,12-Dimethylbenz(a)anthracene	1.78	0.137	1.380	0	129	40	125	4.04	30	S
Dibenz(a,j)acridine	0.735	0.137	1.380	0	53.2	40	125	28.6	30	N
Dimethylphenethylamine	0	0.137	1.380	0	0	40	125	0	30	S
Diphenylamine	2.11	0.137	2.719	0	77.5	40	125	4.07	30	
Ethyl methanesulfonate	1.22	0.137	1.380	0	88.6	40	125	3.76	30	
Methyl methanesulfonate	1.29	0.137	1.380	0	93.5	40	125	4.09	30	
N-Nitrosopiperidine	1.33	0.137	1.380	0	96.0	40	125	2.90	30	
p-Dimethylaminoazobenzene	1.01	0.137	1.380	0	73.1	40	125	6.06	30	
Pentachloronitrobenzene	1.47	0.137	1.380	0	106	40	125	6.51	30	
Phenacetin	1.17	0.137	1.380	0	85.1	40	125	6.39	30	
Pronamide	1.24	0.137	1.380	0	89.6	40	125	3.71	30	
Surr: 2,4,6-Tribromophenol	2.32		2.761		84.1	45	138	0	0	
Surr: 2-Fluorobiphenyl	1.76		2.761		63.7	37	125	0	0	
Surr: 2-Fluorophenol	2.14		2.761		77.6	60	135	0	0	
Surr: 4-Terphenyl-d14	2.02		2.761		73.1	60	129	0	0	
Surr: Nitrobenzene-d5	1.98		2.761		71.6	45	125	0	0	
Surr: Phenol-d6	1.95		2.761		70.6	40	125	0	0	

Sample ID:	MB-41204	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg		
SampType:	MBLK	Run ID:	GCMS4_100522B	Analysis Date:	05/22/10 08:36 PM	Prep Date:	05/21/10		
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene	ND	0.133								N
1-Naphthylamine	ND	0.133								
2-Naphthylamine	ND	0.133								
2-Picoline	ND	0.133								
3-Methylcholanthrene	ND	0.133								
4-Aminobiphenyl	ND	0.133								
7,12-Dimethylbenz(a)anthracene	ND	0.133								
Dibenz(a,j)acridine	ND	0.133								N
Dimethylphenethylamine	ND	0.133								
Diphenylamine	ND	0.133								

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522B

Ethyl methanesulfonate	ND	0.133				
Methyl methanesulfonate	ND	0.133				
N-Nitrosopiperidine	ND	0.133				
p-Dimethylaminoazobenzene	ND	0.133				
Pentachloronitrobenzene	ND	0.133				
Phenacetin	ND	0.133				
Pronamide	ND	0.133				
Surr: 2,4,6-Tribromophenol	2.27		2.680	84.8	45	138
Surr: 2-Fluorobiphenyl	1.67		2.680	62.4	37	125
Surr: 2-Fluorophenol	2.14		2.680	79.9	60	135
Surr: 4-Terphenyl-d14	1.92		2.680	71.6	60	129
Surr: Nitrobenzene-d5	2.03		2.680	75.6	45	125
Surr: Phenol-d6	1.96		2.680	73.1	40	125

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522B

Sample ID:	ICV-100522	Batch ID:	R49504	TestNo:	SW8270C			Units:	mg/Kg
SampType:	ICV	Run ID:	GCMS4_100522B	Analysis Date:	05/22/10 02:10 PM			Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene	3.86	0.133	4.000	0	96.5	80	120			N
1-Naphthylamine	4.10	0.133	4.000	0	103	80	120			
2-Naphthylamine	4.39	0.133	4.000	0	110	80	120			
2-Picoline	4.08	0.133	4.000	0	102	80	120			
3-Methylcholanthrene	4.20	0.133	4.000	0	105	80	120			
4-Aminobiphenyl	3.93	0.133	4.000	0	98.2	80	120			
7,12-Dimethylbenz(a)anthracene	3.65	0.133	4.000	0	91.2	80	120			
Dibenz(a,j)acridine	4.13	0.133	4.000	0	103	80	120			N
Dimethylphenethylamine	3.58	0.133	4.000	0	89.5	80	120			
Diphenylamine	3.73	0.133	4.000	0	93.2	80	120			
Ethyl methanesulfonate	3.71	0.133	4.000	0	92.8	80	120			
Methyl methanesulfonate	4.69	0.133	4.000	0	117	80	120			
N-Nitrosopiperidine	4.27	0.133	4.000	0	107	80	120			
p-Dimethylaminoazobenzene	3.23	0.133	4.000	0	80.8	80	120			
Pentachloronitrobenzene	4.25	0.133	4.000	0	106	80	120			
Phenacetin	3.60	0.133	4.000	0	90.0	80	120			
Pronamide	3.72	0.133	4.000	0	93.0	80	120			
Surr: 2,4,6-Tribromophenol	4.52		4.000		113	80	120			
Surr: 2-Fluorobiphenyl	3.74		4.000		93.5	80	120			
Surr: 2-Fluorophenol	4.31		4.000		108	80	120			
Surr: 4-Terphenyl-d14	3.39		4.000		84.8	80	120			
Surr: Nitrobenzene-d5	3.75		4.000		93.8	80	120			
Surr: Phenol-d6	3.89		4.000		97.2	80	120			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

Sample ID:	LCS-41071	Batch ID:	41071	TestNo:	SW8260B	Units:	mg/Kg
SampType:	LCS	Run ID:	GCMS2_100513A	Analysis Date:	05/13/10 04:26 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.0239	0.00500	0.0232	0	103	75	125			
1,1,1-Trichloroethane	0.0226	0.00500	0.0232	0	97.6	70	130			
1,1,2,2-Tetrachloroethane	0.0253	0.00500	0.0232	0	109	59	130			
1,1,2-Trichloroethane	0.0241	0.00500	0.0232	0	104	62	125			
1,1-Dichloroethane	0.0227	0.00500	0.0232	0	97.8	75	125			
1,1-Dichloroethene	0.0199	0.00500	0.0232	0	85.8	65	135			
1,1-Dichloropropene	0.0230	0.00500	0.0232	0	99.0	70	135			
1,2,3-Trichlorobenzene	0.0268	0.00500	0.0232	0	116	62	133			
1,2,3-Trichloropropane	0.0242	0.00500	0.0232	0	105	65	130			
1,2,4-Trichlorobenzene	0.0262	0.00500	0.0232	0	113	65	130			
1,2,4-Trimethylbenzene	0.0237	0.00500	0.0232	0	102	65	135			
1,2-Dibromo-3-chloropropane	0.0243	0.00500	0.0232	0	105	49	135			
1,2-Dibromoethane	0.0237	0.00500	0.0232	0	102	70	124			
1,2-Dichlorobenzene	0.0246	0.00500	0.0232	0	106	75	120			
1,2-Dichloroethane	0.0232	0.00500	0.0232	0	99.9	72	135			
1,2-Dichloropropane	0.0235	0.00500	0.0232	0	101	71	120			
1,3,5-Trimethylbenzene	0.0242	0.00500	0.0232	0	104	65	133			
1,3-Dichlorobenzene	0.0244	0.00500	0.0232	0	105	72	124			
1,3-Dichloropropane	0.0238	0.00500	0.0232	0	103	76	123			
1,4-Dichloro-2-butene	0.0240	0.00500	0.0232	0	103	50	150			
1,4-Dichlorobenzene	0.0242	0.00500	0.0232	0	105	72	125			
2,2-Dichloropropane	0.0248	0.00500	0.0232	0	107	67	134			
2-Butanone	0.0596	0.0150	0.0580	0	103	60	135			
2-Chloroethylvinylether	0.0230	0.0150	0.0232	0	99.2	50	150			
2-Chlorotoluene	0.0238	0.00500	0.0232	0	103	70	128			
2-Hexanone	0.0579	0.0150	0.0580	0	99.8	50	145			
4-Chlorotoluene	0.0239	0.00500	0.0232	0	103	75	125			
4-Isopropyltoluene	0.0243	0.00500	0.0232	0	105	75	133			
4-Methyl-2-pentanone	0.0593	0.0150	0.0580	0	102	60	135			
Acetone	0.0495	0.0500	0.0580	0	85.3	40	141			
Acrylonitrile	0.0481	0.0100	0.0464	0	104	40	160			
Benzene	0.0234	0.00500	0.0232	0	101	75	125			
Bromobenzene	0.0241	0.00500	0.0232	0	104	66	120			
Bromochloromethane	0.0238	0.00500	0.0232	0	103	71	125			
Bromodichloromethane	0.0233	0.00500	0.0232	0	100	72	128			
Bromoform	0.0233	0.00500	0.0232	0	100	66	137			
Bromomethane	0.0224	0.00500	0.0232	0	96.4	45	141			
Carbon disulfide	0.0203	0.00500	0.0232	0	87.5	50	150			
Carbon tetrachloride	0.0226	0.00500	0.0232	0	97.5	67	133			
Chlorobenzene	0.0241	0.00500	0.0232	0	104	75	123			
Chloroethane	0.0248	0.00500	0.0232	0	107	41	141			
Chloroform	0.0233	0.00500	0.0232	0	100	72	124			
Chloromethane	0.0237	0.00500	0.0232	0	102	51	129			
cis-1,2-Dichloroethene	0.0233	0.00500	0.0232	0	100	67	125			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

cis-1,3-Dichloropropene	0.0240	0.00500	0.0232	0	104	72	125
Dibromochloromethane	0.0233	0.00500	0.0232	0	100	66	130
Dibromomethane	0.0236	0.00500	0.0232	0	102	75	128
Dichlorodifluoromethane	0.0240	0.00500	0.0232	0	103	80	121
Ethylbenzene	0.0238	0.00500	0.0232	0	103	75	125
Hexachlorobutadiene	0.0248	0.00500	0.0232	0	107	55	140
Iodomethane	0.0233	0.00500	0.0232	0	100	50	150
Isopropylbenzene	0.0241	0.00500	0.0232	0	104	77	129
m,p-Xylene	0.0484	0.00500	0.0464	0	104	80	125
Methyl tert-butyl ether	0.0225	0.00500	0.0232	0	96.8	68	130
Methylene chloride	0.0211	0.00500	0.0232	0	90.9	63	137
n-Butylbenzene	0.0243	0.00500	0.0232	0	105	65	138
n-Propylbenzene	0.0238	0.00500	0.0232	0	103	65	135
Naphthalene	0.0273	0.0150	0.0232	0	118	51	125
o-Xylene	0.0241	0.00500	0.0232	0	104	77	125
sec-Butylbenzene	0.0240	0.00500	0.0232	0	103	65	130
Styrene	0.0242	0.00500	0.0232	0	104	75	125
tert-Butylbenzene	0.0239	0.00500	0.0232	0	103	65	130
Tetrachloroethene	0.0237	0.00500	0.0232	0	102	67	139
Toluene	0.0236	0.00500	0.0232	0	102	75	125
trans-1,2-Dichloroethene	0.0224	0.00500	0.0232	0	96.7	66	134
trans-1,3-Dichloropropene	0.0246	0.00500	0.0232	0	106	65	125
Trichloroethene	0.0227	0.00500	0.0232	0	97.7	77	124
Trichlorofluoromethane	0.0240	0.0150	0.0232	0	103	49	139
Vinyl chloride	0.0239	0.00500	0.0232	0	103	60	125
Surr: 1,2-Dichloroethane-d4	50.9		50.00		102	78	125
Surr: 4-Bromofluorobenzene	49.8		50.00		99.6	85	120
Surr: Dibromofluoromethane	50.4		50.00		101	84	116
Surr: Toluene-d8	49.6		50.00		99.2	85	115

Sample ID:	MB-41071	Batch ID:	41071	TestNo:	SW8260B	Units:	mg/Kg
SampType:	MBLK	Run ID:	GCMS2_100513A	Analysis Date:	05/13/10 05:33 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	0.00500								
1,1,1-Trichloroethane	ND	0.00500								
1,1,2,2-Tetrachloroethane	ND	0.00500								
1,1,2-Trichloroethane	ND	0.00500								
1,1-Dichloroethane	ND	0.00500								
1,1-Dichloroethene	ND	0.00500								
1,1-Dichloropropene	ND	0.00500								
1,2,3-Trichlorobenzene	ND	0.00500								
1,2,3-Trichloropropane	ND	0.00500								
1,2,4-Trichlorobenzene	ND	0.00500								
1,2,4-Trimethylbenzene	ND	0.00500								
1,2-Dibromo-3-chloropropane	ND	0.00500								
1,2-Dibromoethane	ND	0.00500								
1,2-Dichlorobenzene	ND	0.00500								

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

1,2-Dichloroethane	ND	0.00500
1,2-Dichloropropane	ND	0.00500
1,3,5-Trimethylbenzene	ND	0.00500
1,3-Dichlorobenzene	ND	0.00500
1,3-Dichloropropane	ND	0.00500
1,4-Dichloro-2-butene	ND	0.00500
1,4-Dichlorobenzene	ND	0.00500
2,2-Dichloropropane	ND	0.00500
2-Butanone	ND	0.0150
2-Chloroethylvinylether	ND	0.0150
2-Chlorotoluene	ND	0.00500
2-Hexanone	ND	0.0150
4-Chlorotoluene	ND	0.00500
4-Isopropyltoluene	ND	0.00500
4-Methyl-2-pentanone	ND	0.0150
Acetone	ND	0.0500
Acrylonitrile	ND	0.0100
Benzene	ND	0.00500
Bromobenzene	ND	0.00500
Bromochloromethane	ND	0.00500
Bromodichloromethane	ND	0.00500
Bromoform	ND	0.00500
Bromomethane	ND	0.00500
Carbon disulfide	ND	0.00500
Carbon tetrachloride	ND	0.00500
Chlorobenzene	ND	0.00500
Chloroethane	ND	0.00500
Chloroform	ND	0.00500
Chloromethane	ND	0.00500
cis-1,2-Dichloroethene	ND	0.00500
cis-1,3-Dichloropropene	ND	0.00500
Dibromochloromethane	ND	0.00500
Dibromomethane	ND	0.00500
Dichlorodifluoromethane	ND	0.00500
Ethylbenzene	ND	0.00500
Hexachlorobutadiene	ND	0.00500
Iodomethane	ND	0.00500
Isopropylbenzene	ND	0.00500
m,p-Xylene	ND	0.00500
Methyl tert-butyl ether	ND	0.00500
Methylene chloride	ND	0.00500
n-Butylbenzene	ND	0.00500
n-Propylbenzene	ND	0.00500
Naphthalene	ND	0.0150
o-Xylene	ND	0.00500
sec-Butylbenzene	ND	0.00500
Styrene	ND	0.00500

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

tert-Butylbenzene	ND	0.00500				
Tetrachloroethene	ND	0.00500				
Toluene	ND	0.00500				
trans-1,2-Dichloroethene	ND	0.00500				
trans-1,3-Dichloropropene	ND	0.00500				
Trichloroethene	ND	0.00500				
Trichlorofluoromethane	ND	0.0150				
Vinyl chloride	ND	0.00500				
Surr: 1,2-Dichloroethane-d4	48.8		50.00	97.6	78	125
Surr: 4-Bromofluorobenzene	50.1		50.00	100	85	120
Surr: Dibromofluoromethane	49.7		50.00	99.4	84	116
Surr: Toluene-d8	49.0		50.00	97.9	85	115

Sample ID:	1005099-06AMS	Batch ID:	41071	TestNo:	SW8260B	Units:	mg/Kg-dry
SampType:	MS	Run ID:	GCMS2_100513A	Analysis Date:	05/13/10 06:38 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.0168	0.00493	0.0229	0	73.4	75	125			S
1,1,1-Trichloroethane	0.0167	0.00493	0.0229	0	72.8	70	130			
1,1,2,2-Tetrachloroethane	0.0190	0.00493	0.0229	0	83.0	59	130			
1,1,2-Trichloroethane	0.0179	0.00493	0.0229	0	78.2	62	125			
1,1-Dichloroethane	0.0168	0.00493	0.0229	0	73.4	75	125			S
1,1-Dichloroethene	0.0158	0.00493	0.0229	0	68.9	65	135			
1,1-Dichloropropene	0.0166	0.00493	0.0229	0	72.5	70	135			
1,2,3-Trichlorobenzene	0.0102	0.00493	0.0229	0	44.8	62	133			S
1,2,3-Trichloropropane	0.0190	0.00493	0.0229	0	82.8	65	130			
1,2,4-Trichlorobenzene	0.0111	0.00493	0.0229	0	48.4	65	130			S
1,2,4-Trimethylbenzene	0.0150	0.00493	0.0229	0	65.4	65	135			
1,2-Dibromo-3-chloropropane	0.0168	0.00493	0.0229	0	73.4	49	135			
1,2-Dibromoethane	0.0177	0.00493	0.0229	0	77.5	70	124			
1,2-Dichlorobenzene	0.0152	0.00493	0.0229	0	66.6	75	120			S
1,2-Dichloroethane	0.0173	0.00493	0.0229	0	75.5	72	135			
1,2-Dichloropropane	0.0174	0.00493	0.0229	0	76.2	71	120			
1,3,5-Trimethylbenzene	0.0152	0.00493	0.0229	0	66.3	65	133			
1,3-Dichlorobenzene	0.0152	0.00493	0.0229	0	66.6	72	124			S
1,3-Dichloropropane	0.0178	0.00493	0.0229	0	77.8	76	123			
1,4-Dichloro-2-butene	0.0179	0.00493	0.0229	0	78.2	50	150			
1,4-Dichlorobenzene	0.0155	0.00493	0.0229	0	67.7	72	125			S
2,2-Dichloropropane	0.0176	0.00493	0.0229	0	76.7	67	134			
2-Butanone	0.0456	0.0148	0.0572	0	79.7	60	135			
2-Chloroethylvinylether	0.0160	0.0148	0.0229	0	69.7	50	150			
2-Chlorotoluene	0.0160	0.00493	0.0229	0	70.0	70	128			
2-Hexanone	0.0405	0.0148	0.0572	0	70.8	50	145			
4-Chlorotoluene	0.0162	0.00493	0.0229	0	70.9	75	125			S
4-Isopropyltoluene	0.0131	0.00493	0.0229	0	57.4	75	133			S
4-Methyl-2-pentanone	0.0438	0.0148	0.0572	0	76.5	60	135			
Acetone	0.0424	0.0493	0.0572	0	74.1	40	141			
Acrylonitrile	0.0359	0.00987	0.0458	0	78.5	40	160			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

Benzene	0.0168	0.00493	0.0229	0	73.6	75	125		S
Bromobenzene	0.0168	0.00493	0.0229	0	73.4	66	120		
Bromochloromethane	0.0174	0.00493	0.0229	0	76.2	71	125		
Bromodichloromethane	0.0170	0.00493	0.0229	0	74.4	72	128		
Bromoform	0.0165	0.00493	0.0229	0	72.0	66	137		
Bromomethane	0.0166	0.00493	0.0229	0	72.3	45	141		
Carbon disulfide	0.0160	0.00493	0.0229	0	69.8	50	150		
Carbon tetrachloride	0.0161	0.00493	0.0229	0	70.2	67	133		
Chlorobenzene	0.0169	0.00493	0.0229	0	73.9	75	123		S
Chloroethane	0.0161	0.00493	0.0229	0	70.2	41	141		
Chloroform	0.0171	0.00493	0.0229	0	74.7	72	124		
Chloromethane	0.0171	0.00493	0.0229	0	74.6	51	129		
cis-1,2-Dichloroethene	0.0169	0.00493	0.0229	0	73.8	67	125		
cis-1,3-Dichloropropene	0.0173	0.00493	0.0229	0	75.6	72	125		
Dibromochloromethane	0.0167	0.00493	0.0229	0	73.1	66	130		
Dibromomethane	0.0177	0.00493	0.0229	0	77.3	75	128		
Dichlorodifluoromethane	0.0172	0.00493	0.0229	0	75.2	80	121		S
Ethylbenzene	0.0160	0.00493	0.0229	0	69.8	75	125		S
Hexachlorobutadiene	0.00575	0.00493	0.0229	0	25.1	55	140		S
Iodomethane	0.0166	0.00493	0.0229	0	72.7	50	150		
Isopropylbenzene	0.0150	0.00493	0.0229	0	65.6	77	129		S
m,p-Xylene	0.0325	0.00493	0.0458	0	71.1	80	125		S
Methyl tert-butyl ether	0.0166	0.00493	0.0229	0	72.6	68	130		
Methylene chloride	0.0150	0.00493	0.0229	0	65.4	63	137		
n-Butylbenzene	0.0119	0.00493	0.0229	0	51.9	65	138		S
n-Propylbenzene	0.0150	0.00493	0.0229	0	65.7	65	135		
Naphthalene	0.0140	0.0148	0.0229	0	61.0	51	125		
o-Xylene	0.0162	0.00493	0.0229	0	70.9	77	125		S
sec-Butylbenzene	0.0130	0.00493	0.0229	0	56.6	65	130		S
Styrene	0.0165	0.00493	0.0229	0	72.1	75	125		S
tert-Butylbenzene	0.0141	0.00493	0.0229	0	61.5	65	130		S
Tetrachloroethene	0.0160	0.00493	0.0229	0	69.7	67	139		
Toluene	0.0167	0.00493	0.0229	0	73.1	75	125		S
trans-1,2-Dichloroethene	0.0163	0.00493	0.0229	0	71.2	66	134		
trans-1,3-Dichloropropene	0.0175	0.00493	0.0229	0	76.3	65	125		
Trichloroethene	0.0164	0.00493	0.0229	0	71.5	77	124		S
Trichlorofluoromethane	0.0165	0.0148	0.0229	0	71.9	49	139		
Vinyl chloride	0.0171	0.00493	0.0229	0	74.7	60	125		
Surr: 1,2-Dichloroethane-d4	52.2		49.33		106	78	125		
Surr: 4-Bromofluorobenzene	50.2		49.33		102	85	120		
Surr: Dibromofluoromethane	49.6		49.33		101	84	116		
Surr: Toluene-d8	49.0		49.33		99.3	85	115		

Sample ID:	1005099-06AMSD	Batch ID:	41071	TestNo:	SW8260B	Units:	mg/Kg-dry
SampType:	MSD	Run ID:	GCMS2_100513A	Analysis Date:	05/13/10 07:14 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.0177	0.00478	0.0222	0	79.7	75	125	5.14	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

1,1,1-Trichloroethane	0.0174	0.00478	0.0222	0	78.6	70	130	4.67	30	
1,1,2,2-Tetrachloroethane	0.0212	0.00478	0.0222	0	95.7	59	130	11.2	30	
1,1,2-Trichloroethane	0.0197	0.00478	0.0222	0	88.6	62	125	9.38	30	
1,1-Dichloroethane	0.0176	0.00478	0.0222	0	79.5	75	125	4.94	30	
1,1-Dichloroethene	0.0165	0.00478	0.0222	0	74.4	65	135	4.69	30	
1,1-Dichloropropene	0.0176	0.00478	0.0222	0	79.2	70	135	5.80	30	
1,2,3-Trichlorobenzene	0.0119	0.00478	0.0222	0	53.4	62	133	14.6	30	S
1,2,3-Trichloropropane	0.0209	0.00478	0.0222	0	94.4	65	130	9.97	30	
1,2,4-Trichlorobenzene	0.0128	0.00478	0.0222	0	57.8	65	130	14.5	30	S
1,2,4-Trimethylbenzene	0.0167	0.00478	0.0222	0	75.1	65	135	10.7	30	
1,2-Dibromo-3-chloropropane	0.0192	0.00478	0.0222	0	86.4	49	135	13.1	30	
1,2-Dibromoethane	0.0194	0.00478	0.0222	0	87.2	70	124	8.76	30	
1,2-Dichlorobenzene	0.0170	0.00478	0.0222	0	76.7	75	120	11.1	30	
1,2-Dichloroethane	0.0188	0.00478	0.0222	0	84.9	72	135	8.64	30	
1,2-Dichloropropane	0.0184	0.00478	0.0222	0	83.0	71	120	5.49	30	
1,3,5-Trimethylbenzene	0.0166	0.00478	0.0222	0	74.9	65	133	9.15	30	
1,3-Dichlorobenzene	0.0168	0.00478	0.0222	0	75.7	72	124	9.72	30	
1,3-Dichloropropane	0.0194	0.00478	0.0222	0	87.3	76	123	8.41	30	
1,4-Dichloro-2-butene	0.0210	0.00478	0.0222	0	94.8	50	150	16.2	30	
1,4-Dichlorobenzene	0.0170	0.00478	0.0222	0	76.8	72	125	9.46	30	
2,2-Dichloropropane	0.0182	0.00478	0.0222	0	81.9	67	134	3.50	30	
2-Butanone	0.0534	0.0143	0.0555	0	96.2	60	135	15.8	30	
2-Chloroethylvinylether	0.0186	0.0143	0.0222	0	84.0	50	150	15.6	30	
2-Chlorotoluene	0.0174	0.00478	0.0222	0	78.6	70	128	8.53	30	
2-Hexanone	0.0481	0.0143	0.0555	0	86.8	50	145	17.1	30	
4-Chlorotoluene	0.0175	0.00478	0.0222	0	78.8	75	125	7.41	30	
4-Isopropyltoluene	0.0147	0.00478	0.0222	0	66.2	75	133	11.1	30	S
4-Methyl-2-pentanone	0.0511	0.0143	0.0555	0	92.1	60	135	15.4	30	
Acetone	0.0514	0.0478	0.0555	0	92.6	40	141	19.1	30	
Acrylonitrile	0.0407	0.00957	0.0444	0	91.7	40	160	12.4	30	
Benzene	0.0179	0.00478	0.0222	0	80.5	75	125	5.88	30	
Bromobenzene	0.0185	0.00478	0.0222	0	83.4	66	120	9.64	30	
Bromochloromethane	0.0188	0.00478	0.0222	0	84.8	71	125	7.69	30	
Bromodichloromethane	0.0180	0.00478	0.0222	0	81.3	72	128	5.79	30	
Bromoform	0.0181	0.00478	0.0222	0	81.6	66	137	9.44	30	
Bromomethane	0.0177	0.00478	0.0222	0	79.7	45	141	6.62	30	
Carbon disulfide	0.0172	0.00478	0.0222	0	77.4	50	150	7.18	30	
Carbon tetrachloride	0.0168	0.00478	0.0222	0	75.7	67	133	4.55	30	
Chlorobenzene	0.0179	0.00478	0.0222	0	80.5	75	123	5.47	30	
Chloroethane	0.0176	0.00478	0.0222	0	79.3	41	141	9.04	30	
Chloroform	0.0183	0.00478	0.0222	0	82.5	72	124	6.91	30	
Chloromethane	0.0183	0.00478	0.0222	0	82.3	51	129	6.77	30	
cis-1,2-Dichloroethene	0.0177	0.00478	0.0222	0	80.0	67	125	4.89	30	
cis-1,3-Dichloropropene	0.0187	0.00478	0.0222	0	84.1	72	125	7.51	30	
Dibromochloromethane	0.0181	0.00478	0.0222	0	81.5	66	130	7.69	30	
Dibromomethane	0.0195	0.00478	0.0222	0	87.7	75	128	9.53	30	
Dichlorodifluoromethane	0.0185	0.00478	0.0222	0	83.5	80	121	7.42	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

Ethylbenzene	0.0173	0.00478	0.0222	0	77.9	75	125	7.90	30	
Hexachlorobutadiene	0.00619	0.00478	0.0222	0	27.9	55	140	7.34	30	S
Iodomethane	0.0188	0.00478	0.0222	0	84.6	50	150	12.0	30	
Isopropylbenzene	0.0163	0.00478	0.0222	0	73.5	77	129	8.27	30	S
m,p-Xylene	0.0351	0.00478	0.0444	0	79.1	80	125	7.58	30	S
Methyl tert-butyl ether	0.0182	0.00478	0.0222	0	81.8	68	130	8.88	30	
Methylene chloride	0.0162	0.00478	0.0222	0	73.0	63	137	7.89	30	
n-Butylbenzene	0.0133	0.00478	0.0222	0	60.0	65	138	11.4	30	S
n-Propylbenzene	0.0167	0.00478	0.0222	0	75.4	65	135	10.7	30	
Naphthalene	0.0166	0.0143	0.0222	0	74.8	51	125	17.3	30	
o-Xylene	0.0173	0.00478	0.0222	0	77.9	77	125	6.37	30	
sec-Butylbenzene	0.0144	0.00478	0.0222	0	64.9	65	130	10.6	30	
Styrene	0.0174	0.00478	0.0222	0	78.6	75	125	5.62	30	
tert-Butylbenzene	0.0155	0.00478	0.0222	0	70.0	65	130	9.79	30	
Tetrachloroethene	0.0168	0.00478	0.0222	0	75.9	67	139	5.45	30	
Toluene	0.0176	0.00478	0.0222	0	79.4	75	125	5.24	30	
trans-1,2-Dichloroethene	0.0170	0.00478	0.0222	0	76.4	66	134	3.93	30	
trans-1,3-Dichloropropene	0.0191	0.00478	0.0222	0	85.9	65	125	8.68	30	
Trichloroethene	0.0173	0.00478	0.0222	0	78.1	77	124	5.86	30	
Trichlorofluoromethane	0.0178	0.0143	0.0222	0	80.3	49	139	8.03	30	
Vinyl chloride	0.0181	0.00478	0.0222	0	81.8	60	125	5.91	30	
Surr: 1,2-Dichloroethane-d4	52.4		47.83		110	78	125	0	0	
Surr: 4-Bromofluorobenzene	49.1		47.83		103	85	120	0	0	
Surr: Dibromofluoromethane	48.7		47.83		102	84	116	0	0	
Surr: Toluene-d8	46.5		47.83		97.2	85	115	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

Sample ID:	ICV-100513	Batch ID:	R49353	TestNo:	SW8260B			Units:	mg/Kg
SampType:	ICV	Run ID:	GCMS2_100513A	Analysis Date:	05/13/10 03:52 PM			Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.0501	0.00500	0.0464	0	108	80	120			
1,1,1-Trichloroethane	0.0481	0.00500	0.0464	0	104	80	120			
1,1,2,2-Tetrachloroethane	0.0509	0.00500	0.0464	0	110	80	120			
1,1,2-Trichloroethane	0.0493	0.00500	0.0464	0	106	80	120			
1,1-Dichloroethane	0.0480	0.00500	0.0464	0	103	80	120			
1,1-Dichloroethene	0.0422	0.00500	0.0464	0	90.9	80	120			
1,1-Dichloropropene	0.0478	0.00500	0.0464	0	103	80	120			
1,2,3-Trichlorobenzene	0.0470	0.00500	0.0464	0	101	80	120			
1,2,3-Trichloropropane	0.0490	0.00500	0.0464	0	106	80	120			
1,2,4-Trichlorobenzene	0.0498	0.00500	0.0464	0	107	80	120			
1,2,4-Trimethylbenzene	0.0488	0.00500	0.0464	0	105	80	120			
1,2-Dibromo-3-chloropropane	0.0473	0.00500	0.0464	0	102	80	120			
1,2-Dibromoethane	0.0485	0.00500	0.0464	0	105	80	120			
1,2-Dichlorobenzene	0.0492	0.00500	0.0464	0	106	80	120			
1,2-Dichloroethane	0.0477	0.00500	0.0464	0	103	80	120			
1,2-Dichloropropane	0.0490	0.00500	0.0464	0	106	80	120			
1,3,5-Trimethylbenzene	0.0491	0.00500	0.0464	0	106	80	120			
1,3-Dichlorobenzene	0.0493	0.00500	0.0464	0	106	80	120			
1,3-Dichloropropane	0.0490	0.00500	0.0464	0	105	80	120			
1,4-Dichloro-2-butene	0.0511	0.00500	0.0464	0	110	80	120			
1,4-Dichlorobenzene	0.0489	0.00500	0.0464	0	105	80	120			
2,2-Dichloropropane	0.0529	0.00500	0.0464	0	114	80	120			
2-Butanone	0.116	0.0150	0.116	0	99.6	80	120			
2-Chloroethylvinylether	0.0447	0.0150	0.0464	0	96.4	80	120			
2-Chlorotoluene	0.0482	0.00500	0.0464	0	104	80	120			
2-Hexanone	0.110	0.0150	0.116	0	95.3	80	120			
4-Chlorotoluene	0.0491	0.00500	0.0464	0	106	80	120			
4-Isopropyltoluene	0.0492	0.00500	0.0464	0	106	80	120			
4-Methyl-2-pentanone	0.113	0.0150	0.116	0	97.5	80	120			
Acetone	0.115	0.0500	0.116	0	99.1	80	120			
Acrylonitrile	0.0971	0.0100	0.0928	0	105	80	120			
Benzene	0.0484	0.00500	0.0464	0	104	80	120			
Bromobenzene	0.0499	0.00500	0.0464	0	108	80	120			
Bromochloromethane	0.0495	0.00500	0.0464	0	107	80	120			
Bromodichloromethane	0.0486	0.00500	0.0464	0	105	80	120			
Bromoform	0.0489	0.00500	0.0464	0	105	80	120			
Bromomethane	0.0457	0.00500	0.0464	0	98.5	80	120			
Carbon disulfide	0.0415	0.00500	0.0464	0	89.5	80	120			
Carbon tetrachloride	0.0474	0.00500	0.0464	0	102	80	120			
Chlorobenzene	0.0497	0.00500	0.0464	0	107	80	120			
Chloroethane	0.0512	0.00500	0.0464	0	110	80	120			
Chloroform	0.0484	0.00500	0.0464	0	104	80	120			
Chloromethane	0.0470	0.00500	0.0464	0	101	80	120			
cis-1,2-Dichloroethene	0.0487	0.00500	0.0464	0	105	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

cis-1,3-Dichloropropene	0.0506	0.00500	0.0464	0	109	80	120
Dibromochloromethane	0.0486	0.00500	0.0464	0	105	80	120
Dibromomethane	0.0494	0.00500	0.0464	0	106	80	120
Dichlorodifluoromethane	0.0476	0.00500	0.0464	0	103	80	120
Ethylbenzene	0.0499	0.00500	0.0464	0	108	80	120
Hexachlorobutadiene	0.0482	0.00500	0.0464	0	104	80	120
Iodomethane	0.0462	0.00500	0.0464	0	99.5	80	120
Isopropylbenzene	0.0493	0.00500	0.0464	0	106	80	120
m,p-Xylene	0.100	0.00500	0.0928	0	108	80	120
Methyl tert-butyl ether	0.0459	0.00500	0.0464	0	98.9	80	120
Methylene chloride	0.0472	0.00500	0.0464	0	102	80	120
n-Butylbenzene	0.0486	0.00500	0.0464	0	105	80	120
n-Propylbenzene	0.0492	0.00500	0.0464	0	106	80	120
Naphthalene	0.0494	0.0150	0.0464	0	106	80	120
o-Xylene	0.0501	0.00500	0.0464	0	108	80	120
sec-Butylbenzene	0.0485	0.00500	0.0464	0	105	80	120
Styrene	0.0502	0.00500	0.0464	0	108	80	120
tert-Butylbenzene	0.0491	0.00500	0.0464	0	106	80	120
Tetrachloroethene	0.0494	0.00500	0.0464	0	106	80	120
Toluene	0.0490	0.00500	0.0464	0	106	80	120
trans-1,2-Dichloroethene	0.0472	0.00500	0.0464	0	102	80	120
trans-1,3-Dichloropropene	0.0506	0.00500	0.0464	0	109	80	120
Trichloroethene	0.0482	0.00500	0.0464	0	104	80	120
Trichlorofluoromethane	0.0503	0.0150	0.0464	0	108	80	120
Vinyl chloride	0.0486	0.00500	0.0464	0	105	80	120
Surr: 1,2-Dichloroethane-d4	48.5		50.00		96.9	78	125
Surr: 4-Bromofluorobenzene	49.5		50.00		99.0	85	120
Surr: Dibromofluoromethane	50.9		50.00		102	84	116
Surr: Toluene-d8	49.8		50.00		99.7	85	115

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: PMOIST_100513A

Sample ID:	1005099-05A-DUP	Batch ID:	41060	TestNo:	D2216	Units:	WT%
SampType:	DUP	Run ID:	PMOIST_100513A	Analysis Date:	05/13/10 03:50 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Percent Moisture	14.5	0	0	15.16				4.53	30	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: PMOIST_100517A

Sample ID:	1005097-10B-DUP	Batch ID:	41106	TestNo:	D2216	Units:	WT%
SampType:	DUP	Run ID:	PMOIST_100517A	Analysis Date:	05/17/10 03:00 PM	Prep Date:	05/17/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Percent Moisture	5.48	0	0	5.743				4.62	30	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

ARCADIS

WHITE SANDS MISSILE RANGE – NEW MEXICO
ELECTRONIC VALIDATION REVIEW REPORT
SDG: 1005099
SWMU-92B 94 LIQUID PROPELLANT PITS

Analytical data was evaluated in accordance with applicable USEPA SW-846 method requirements, "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (October 1999); site-specific requirements defined in *White Sands Missile Range Site-Wide Quality Assurance Project Plan* (ARCADIS, 2009), and any additional evaluation criteria set forth in the area specific Work Plan. The validation presented in this review was performed at the White Sands defined Level I.

The data review summarized in this report includes a review of all sample collection documentation and the electronic data validation of the analytical data housed in the project database. Sample collection documentation included sample collection logs and chains of custody. The electronic data validation was performed utilizing the EQuIS Data Qualification Module (DQM). DQM checks for the following parameters:

- Holding times and preservation;
- Blank contamination;
  - Method blanks,
  - Trip blanks,
  - Equipment blanks;
- Matrix spike and Duplicate sample recovery;
- Matrix Spike and Matrix Spike Duplicate relative percent differences;
- Laboratory Control Sample and Duplicate recovery;
- Laboratory Control Sample and Duplicate relative percent differences;
- Surrogate recovery (organic analyses only); and
- Field duplicate relative percent difference.

Manually review was performed on the following items:

- Sample dilutions and reporting limits;
- Case Narratives; and

Reviewed data was generated by DHL Analytical. Data qualifiers were applied electronically to the database with any additional qualifiers added manually. A summary of the data as amended by data qualifiers is included with the original hard copy reports.

The attached table summarizes the data that were qualified due to QC deficiencies. The table indicates compounds/analytes qualified based on electronic and manual validation. Refer to the associated method section of the validation checklist for a detailed explanation of qualification. All other data in this SDG are considered usable as reported.

ARCADIS

WHITE SANDS MISSILE RANGE – NEW MEXICO
ELECTRONIC VALIDATION REVIEW REPORT
SDG: 1005099
SWMU-92B 94 LIQUID PROPELLANT PITS

The following list of data qualifiers and definitions were applied in accordance with qualification criteria defined in the greater than guidance documents:

UB Compound/analyte detected in blank or associated blank, qualified as a non-detect at listed value.

J The analyte was positively identified, but the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected greater than the reporting limit; however, the reported quantitation limit is approximate and may, or may not represent the actual limit of quantitation necessary to accurately and precisely measure analyte in the sample.

R The sample result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria; and the presence or absence of the analyte cannot be verified.

DQM RUN BY:	Rachelle Borne	06/09/10
REVIEW PERFORMED BY:	Rachelle Borne	06/09/10
SIGNATURE:	Rachelle Borne	06/10/10
PEER REVIEW:	Dennis Capria	6/11/10

ARCADIS

WHITE SANDS MISSILE RANGE – NEW MEXICO
ELECTRONIC VALIDATION REVIEW REPORT
SDG: 1005099
SWMU-92B 94 LIQUID PROPELLANT PITS

The following samples were included in this SDG:

SDG	Sample ID	Sample Date	Parent Sample
1005099	LPSA-0092B-SB001(0-1)-20100511	05/11/10	
1005099	LPSA-0092B-SB001(4-5)-20100511	05/11/10	
1005099	LPSA-0092B-SB001(9-10)-20100511	05/11/10	
1005099	LPSA-0092B-SB001(14-15)-20100511	05/11/10	
1005099	LPSA-0092B-SB101(14-15)-20100511	05/11/10	LPSA-0092B-SB001(14-15)-20100511
1005099	LPSA-0094-RB001(19-20)-20100511	05/11/10	

ANALYTICAL DATA PACKAGE DOCUMENTATION

GENERAL INFORMATION

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Methods of analysis		X		X	
4. Reporting limits of analysis		X		X	
5. Master tracking list		X		X	
6. Sample collection date		X		X	
7. Laboratory sample received date		X		X	
8. Sample preparation/extraction date		X		X	
9. Sample analysis date		X		X	
10. Copy of chain-of-custody form signed by lab sample custodian		X		X	
11. Narrative summary of QA or sample problems provided		X		X	
12. Laboratory Signature		X		X	

QA – quality assurance

The analytical report was complete with the following exceptions or notations.

Comments:

Note: Sample LPSA-0094-WC001-20100511 was listed on the COC; however, it was not reviewed in this validation.

SEMIVOLATILE ORGANIC COMPOUNDS

Items Reviewed	DQM Deficiency		Qualification Applied	
	No	Yes	No	Yes
1. Holding times/Preservation	DQM		DQM	
2. Reporting limits	M		M	
3. Blanks				
A. Method blanks	DQM		DQM	
B. Equipment/Field blanks	DQM		DQM	
4. Surrogate spike recoveries	DQM		DQM	
5. Laboratory control sample (LCS) A. LCS %R	DQM		DQM	
B. LCS duplicate (LCSD) %R	DQM		DQM	
C. LCS/LCSD RPD	DQM		DQM	
6. Matrix spike (MS)				
A. MS %R	DQM		DQM	
B. MS duplicate (MSD) %R	DQM		DQM	
C. MS/MSD precision (RPD)	DQM		DQM	
7. Field Duplicate precision (RPD)	DQM		DQM	

M – Manual Review %R - percent recovery RPD - relative percent difference
DQM – Data Qualification Module

Comments:
This section presents a discussion of any additions or changes to the electronic data validation for compounds analyzed by Method 8270 SIM.

6. Batch QC was used for the MS/MSD. The recoveries and RPD were acceptable.

7. Sample location LPSA-0092B-SB101(14-15)-20100511 was collected as a field duplicate of LPSA-0092B-SB001(14-15)-20100511. The RPDs were acceptable at non-detect.

ARCADIS

Appendix E

Waste Management Documentation

WASTE PROFILE NUMBER #2010226

WSMR WASTE PROFILE

TO BE COMPLETED BY THE SATELLITE ACCUMULATION POINT (SAP) Manager

SAP Number: May 2010 Liquid Propellant Site PPE #2010226

Detailed description of hazardous waste generation process:
PPE generated during an investigation at the Liquid Propellant Storage Area were containerized. A composite waste characterization sample of the soil from the investigation was collected and results are attached to this profile (sample ID: LPSA-0094-WC001-20100511). Results indicate that no VOCs or SVOCs were detected. Several RCRA 8 total metals were detected, but below the 20X rule for TCLP waste characterization. Based on these results, the soil and therefore, the PPE waste is characterized as non-hazardous.

SAP Manager Verification (Generator if this is a single event): I have attached DRMS Form 1930 with all appropriate documentation. I hereby certify that all information submitted in this and all attached documents are to the best of my knowledge an accurate representation of the waste turned into the HWMC/HWSF. All known or suspected hazards have been properly identified.

Print Name: Bradley Davis Phone: 678-3397

Office Symbol: Zia Engineering and Environmental Building # 126

Signature/date (DD MMM YY): 21 JUN 10

TO BE COMPLETED BY THE ACTIVITY ENVIRONMENTAL COMPLIANCE OFFICER (ECO)
I have reviewed the attached DRMS Form 1930; I have reviewed all attached documents and have ensured that all relevant information regarding this waste has been disclosed.
Print Name: Fred Bourger Phone: 678-3426

Office Symbol: Zia Engineering and Environmental Building # 126

Signature/date (DD MMM YY): 22 JUNE 10

HAZARDOUS WASTE STORAGE FACILITY/HWMC REPRESENTATIVE APPROVAL
I have reviewed the attached DRMS Form 1930 and have reviewed all documents that the generating activity has provided.
Print Name: Phone:

Signature/date (DD MMM YY):

Comments:

HAZARDOUS WASTE PROFILE SHEET

NOTE: Explosives, Shock Sensitive, Pyrophoric, Radioactive, and Etiological Waste are not normally accepted by the DRMO

Contact your DRMO for furthur guidance if your waste meets any of these categories.

PART I

A. GENERAL INFORMATION

1. GENERATORS NAME White Sands Missile Range

WASTE PROFILE NO. 2010 226

2. FACILITY ADDRESS
100 Headquarters Ave
WSMR
New Mexico

3. ZIP CODE 88002-5000

4. GENERATOR USEPA ID NM2750211235

5. GENERATOR STATE ID NA

6. TECHNICAL CONTACT Bradley Davis

7. TITLE Geologist

8. PHONE 678-3397

B. WASTE INFORMATION

1. NAME OF WASTE

2A. USEPA WASTE CODE
non-regulated

2B. STATE/LOCAL/HOST-NATION WASTE CODES

3. PROCESS GENERATING WASTE PPE generated during an environmental investigation.

4. PROJECTED ANNUAL VOL 3 lbs

5. MODE OF COLLECTION 5 gallon bucket

6. IS THIS WASTE A DIOXIN LISTED WASTE AS DEFINED IN 40 CFR 261.31? ☐ YES ☒ NO

7. IS THIS WASTE RESTRICTED FROM LAND DISPOSAL? *(40 CFR 268)* ☐ YES ☒ NO
HAS AN EXEMPTION BEEN GRANTED? ☐ YES ☐ NO
DOES THE WASTE MEET APPLICABLE TREATMENT STANDARDS ALREADY? ☐ YES ☐ NO
(If Yes, Enter Reference Standards in Part 3, Block 6)

PART II

1. MATERIAL CHARACTERIZATION *(Optional - Not Required Data)*

COLOR varies | **DENSITY** >1.0 | **BTU/LB** n/a

TOTAL SOLIDS 100% | **ASH CONTENT** n/a

LAYERING ☐ MULTILAYERED ☐ BILAYERED ☐ SINGLE PHASE

2. RCRA CHARACTERISTICS

PHYSICAL STATE (Check One) ☒ SOLID ☐ LIQUID ☐ SEMI-SOLID ☐ GAS ☐ OTHER _____

OTHER CHARACTERISTICS (Check all that apply)

☐ IGNITABLE ☐ CORROSIVE (D002) ☐ REACTIVE (D003) ☐ WATER REACTIVE ☐ CYANIDE REACTIVE ☐ SULFIDE REACTIVE

Flash Point _____ *ph* _____

☐ HIGH TOC (≥10%) ☐ LOW TOC (<10%) TREATMENT GROUP: ☐ WASTEWATER ☐ NON-WASTEWATER

3. CHEMICAL/MATERIAL COMPOSITION *(List all components and contaminents, including PCB's, and any applicable F-Listed and Underlying Hazardous Constituents)*

CAS #	COMPONENT *(Be as descriptive as possible. Chemical names, as well as generic descriptions. e.g., 'sludge', 'paint solids', 'water' etc. are acceptable.)*	CONCENTRATION	RANGE
	personal protective equipment		

HAZARDOUS WASTE PROFILE SHEET *(Continued)*

WASTE PROFILE NO. 20102226

3. MATERIAL COMPOSITION / UNDERLYING HAZARDOUS CONSTITUENTS

CAS #	COMPONENT *(Be as descriptive as possible. Chemical names, as well as generic descrptions. e.g., sludge, 'paint solids', 'water' etc. are acceptable.)*	CONCENTRATION	RANGE
	personal protective equipment		

RANGE TOTAL MUST EQUAL AT LEAST 100%

4. SHIPPING INFORMATION

DOT HAZARDOUS MATERIAL? ☐ YES ☒ NO *(If "NO" skip to block 5)*

PROPER SHIPPING NAME

HAZARD CLASS	U.N. or N.A. NO.	PACKING GROUP

ADDITIONAL DESCRIPTION

METHOD OF SHIPMENT ☐ BULK ☐ DRUM ☒ OTHER 5 gallon bucket

DOT REPORTABLE QTY *(RQ)*

EMERGENCY RESPONSE GUIDE EDITION *(YR)*	EMERGENCY RESPONSE NUMBER

5. SPECIAL HANDLING INFORMATION

6. GENERATOR CERTIFICATION

☒ CHEMICAL ANALYSIS *(ATTACH TEST RESULTS)* ☒ USER KNOWLEDGE *(ATTACH SUPPORTING DOCUMENTS)*

EXPLAIN HOW AND WHY THESE DOCUMENTS COMPLY WITH RCRA REQUIRMENTS

CERTIFICATION

I, _____ HEREBY CERTIFY THAT ALL INFORMATION SUBMITTED IN THIS AND ALL ATTACHED DOCUMENTS IS TO THE BEST OF MY KNOWLEDGE AN ACCURATE REPRESENTATION OF THE WASTE TURNED IN TO THE DRMO. ALL KNOWN OR SUSPECTED HAZARDS HAVE BEEN DISCLOSED.

Signature of Generator's Representative _____ *Date* _____

Liquid Propellant Storage Area (SWMUs 92 and 94) Waste Characterization Results

Sample ID	Method	Date	Parameter	Result	Qualifier	Reporting Limit	MDL	Units
LPSA-0094-WC001-20100511	SW6020	5/21/2010	Total Cadmium	0.203	J	0.285	0.095	mg/kg
LPSA-0094-WC001-20100511	SW6020	5/21/2010	Total Silver	1.14		0.19	0.095	mg/kg
LPSA-0094-WC001-20100511	SW6020	5/21/2010	Total Selenium	1.56		0.475	0.142	mg/kg
LPSA-0094-WC001-20100511	SW6020	5/21/2010	Total Arsenic	2.66		0.95	0.475	mg/kg
LPSA-0094-WC001-20100511	SW6020	5/21/2010	Total Lead	10		0.285	0.095	mg/kg
LPSA-0094-WC001-20100511	SW6020	5/21/2010	Total Chromium	29.1		1.9	0.475	mg/kg
LPSA-0094-WC001-20100511	SW6020	5/21/2010	Total Barium	72		1.9	0.475	mg/kg
LPSA-0094-WC001-20100511	SW7471A	5/20/2010	Total Mercury	ND	U	0.051	0.0163	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,1,1,2-Tetrachloroethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,1,1-Trichloroethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,1,2,2-Tetrachloroethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,1,2-Trichloroethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,1-Dichloroethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,1-Dichloroethene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,1-Dichloropropene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2,3-Trichlorobenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2,3-Trichloropropane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2,4-Trichlorobenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2,4-Trimethylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2-Dibromo-3-chloropropane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2-Dibromoethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2-Dichlorobenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2-Dichloroethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2-Dichloropropane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,3,5-Trimethylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,3-Dichlorobenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,3-Dichloropropane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,4-Dichloro-2-butene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,4-Dichlorobenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	2,2-Dichloropropane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	2-Butanone	ND	U	0.0142	0.00475	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	2-Chloroethylvinylether	ND	U	0.0142	0.00475	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	2-Chlorotoluene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	2-Hexanone	ND	U	0.0142	0.00475	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	4-Chlorotoluene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	4-Methyl-2-pentanone	ND	U	0.0142	0.00475	mg/kg

Liquid Propellant Storage Area (SWMUs 92 and 94) Waste Characterization Results

Sample ID	Method	Date	Parameter	Result	Qualifier	Reporting Limit	MDL	Units
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Acetone	ND	U	0.0475	0.0142	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Acrylonitrile	ND	U	0.0095	0.00285	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Benzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Bromobenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Bromochloromethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Bromodichloromethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Bromoform	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Bromomethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Carbon disulfide	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Carbon tetrachloride	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Chlorobenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Chloroethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Chloroform	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Chloromethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	cis-1,2-Dichloroethene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	cis-1,3-Dichloropropene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Dibromochloromethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Dibromomethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Dichlorodifluoromethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Ethylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Hexachlorobutadiene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Iodomethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Isopropylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	m,p-Xylene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Methyl tert-butyl ether	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Methylene chloride	ND	U	0.00475	0.00475	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	n-Butylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	n-Propylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Naphthalene	ND	U	0.0142	0.00475	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	o-Xylene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	p-Isopropyltoluene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	sec-Butylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Styrene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	tert-Butylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Tetrachloroethene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Toluene	ND	U	0.00475	0.00095	mg/kg

Liquid Propellant Storage Area (SWMUs 92 and 94) Waste Characterization Results

Sample ID	Method	Date	Parameter	Result	Qualifier	Reporting Limit	MDL	Units
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	trans-1,2-Dichloroethene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	trans-1,3-Dichloropropene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Trichloroethene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Trichlorofluoromethane	ND	U	0.0142	0.00475	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Vinyl chloride	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1,2,4,5-Tetrachlorobenzene	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1,2,4-Trichlorobenzene	ND	U	0.137	0.0206	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1,2-Dichlorobenzene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1,2-Diphenylhydrazine	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1,3-Dichlorobenzene	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1,4-Dichlorobenzene	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1-Methylnaphthalene	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,4,5-Trichlorophenol	ND	U	0.137	0.0721	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,4,6-Trichlorophenol	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,4-Dichlorophenol	ND	U	0.137	0.0824	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,4-Dimethylphenol	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,4-Dinitrophenol	ND	U	0.679	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,4-Dinitrotoluene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,6-Dichlorophenol	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,6-Dinitrotoluene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Chloronaphthalene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Chlorophenol	ND	U	0.137	0.0721	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Methylnaphthalene	ND	U	0.137	0.0206	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Methylphenol	ND	U	0.137	0.0721	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Nitroaniline	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Nitrophenol	ND	U	0.137	0.0721	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	3,3'-Dichlorobenzidine	ND	U	0.137	0.0721	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	3-Nitroaniline	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4,6-Dinitro-2-methylphenol	ND	U	0.34	0.0824	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Bromophenyl phenyl ether	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Chloro-3-methylphenol	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Chloroaniline	ND	U	0.34	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Chlorophenyl phenyl ether	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Methylphenol	ND	U	0.137	0.103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Nitroaniline	ND	U	0.137	0.0721	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Nitrophenol	ND	U	0.679	0.144	mg/kg

Liquid Propellant Storage Area (SWMUs 92 and 94) Waste Characterization Results

Sample ID	Method	Date	Parameter	Result	Qualifier	Reporting Limit	MDL	Units
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Acenaphthene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Acenaphthylene	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Acetophenone	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Aniline	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Anthracene	ND	U	0.137	0.0206	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzidine	ND	U	0.679	0.34	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzo[a]anthracene	ND	U	0.137	0.0206	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzo[a]pyrene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzo[b]fluoranthene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzo[g,h,i]perylene	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzo[k]fluoranthene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzoic acid	ND	U	0.679	0.134	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzyl alcohol	ND	U	0.34	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Biphenyl	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Bis(2-chloroethoxy)methane	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Bis(2-chloroethyl)ether	ND	U	0.137	0.0103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Bis(2-chloroisopropyl)ether	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Bis(2-ethylhexyl)phthalate	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Butyl benzyl phthalate	ND	U	0.34	0.103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Carbazole	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Chrysene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Di-n-butyl phthalate	ND	U	0.34	0.103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Di-n-octyl phthalate	ND	U	0.34	0.103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Dibenz[a,h]anthracene	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Dibenzofuran	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Diethyl phthalate	ND	U	0.34	0.103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Dimethyl phthalate	ND	U	0.34	0.103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Fluoranthene	ND	U	0.137	0.0206	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Fluorene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Hexachlorobenzene	ND	U	0.137	0.0103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Hexachlorobutadiene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Hexachlorocyclopentadiene	ND	U	0.34	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Hexachloroethane	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Indeno[1,2,3-cd]pyrene	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Isophorone	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	N-Nitrosodi-n-propylamine	ND	U	0.137	0.0103	mg/kg

Liquid Propellant Storage Area (SWMUs 92 and 94) Waste Characterization Results

Sample ID	Method	Date	Parameter	Result	Qualifier	Reporting Limit	MDL	Units
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	N-Nitrosodimethylamine	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	N-Nitrosodiphenylamine	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Naphthalene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Nitrobenzene	ND	U	0.137	0.0721	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Pentachlorobenzene	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Pentachlorophenol	ND	U	0.137	0.0926	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Phenanthrene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Phenol	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Pyrene	ND	U	0.137	0.0206	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Pyridine	ND	U	0.679	0.134	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1-Chloronaphthalene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1-Naphthylamine	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Naphthylamine	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Picoline	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	3-Methylcholanthrene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Aminobiphenyl	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	7,12-Dimethylbenz(a)anthracene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Dibenz(a,j)acridine	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Dimethylphenethylamine	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Diphenylamine	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Ethyl methanesulfonate	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Methyl methanesulfonate	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	N-Nitrosopiperidine	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	p-Dimethylaminoazobenzene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Pentachloronitrobenzene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Phenacetin	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Pronamide	ND	U	0.137	0.0412	mg/kg

May 25, 2010

Brad Davis
Zia Engineering & Environmental
755 S Telshor Blvd Ste F-201
Las Cruces, NM 88011

TEL: (575) 678-3397
FAX: (575) 532-1587

Order No: 1005099

RE: SWMUs 92B & 94 Closure

Dear Brad Davis:

DHL Analytical received 7 sample(s) on 5/12/2010 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of DoD QSM Ver 4.1 and NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. This report shall not be reproduced except in full without the written approval of DHL Analytical, Inc. Thank you for using DHL Analytical.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-10-2

Table of Contents

Miscellaneous Documents 3

Case Narrative 12

Sample Summary 14

Prep Dates Report 15

Analytical Dates Report 16

Sample Results 17

Analytical QC Summary Report 28

zia engineering & environmental consultants, llc
7555 S. Telshor Blvd. Ste. F-201
Las Cruces, NM 88011
575-532-1526 u
575-532-1587 f

1005095

CHAIN OF CUSTODY RECORD

PROJECT NO. 24

PROJECT NAME SWMUs 92B + 94 Closure

SAMPLER'S SIGNATURE

	DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	NDMA										REMARKS
01	5-11-10	0903	LPSA-0092B-SB001(0-1) -20100511	Soil		1	X										
02	5-11-10	0905	LPSA-0092B-SB001(4-5) -20100511	Soil		1	X										
03	5-11-10	0930	LPSA-0092B-SB001(9-10) -20100511	Soil		1	X										
04	5-11-10	0955	LPSA-0092B-SB001(14-15) -20100511	Soil		1	X										
05	5-11-10	0955	LPSA-0092B-SB001(14-15) -20100511	Soil		1	X										

PROJECT INFORMATION	SAMPLES RECEIVED		1. RELINQUISHED BY: (SIGNATURE)	2. RELINQUISHED BY: (SIGNATURE)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER Brad Davis	TOTAL NO. OF CONTAINERS		(PRINTED NAME) Bradley T. Davis	(PRINTED NAME) Fed Ex	(PRINTED NAME)
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	yes	RECEIVED BY: (SIGNATURE) Fed Ex	RECEIVED BY: (SIGNATURE)	(COMPANY)
	GOOD CONDITION/CHILLED	5.5	(TIME/DATE) 5/11/10	(TIME/DATE) 5/12/10 10:00	(TIME/DATE)
VIA: Fed Ex	CONFORMS TO RECORD		SPECIAL INSTRUCTIONS / COMMENTS:		

PLEASE USE BALL POINT PEN

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

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Las Cruces, NM 88011
575-532-1526 u
575-532-1687 f

#1005099

CHAIN OF CUSTODY RECORD

PAGE 2 OF 3

PROJECT NO.: 24
PROJECT NAME: SWMUs 92B+94 Closure
SAMPLER'S SIGNATURE:

DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	RCRA 8 Metals	VOCs	SVOCs								REMARKS
5-11-10	1430	LPSA-0094-WC001-20100511	Soil		3	X	X	X								Waste Characterization

PROJECT INFORMATION	SAMPLES RECEIVED		1. RELINQUISHED BY: (SIGNATURE)	2. RELINQUISHED BY: (SIGNATURE)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER: Brad Davis	TOTAL NO. OF CONTAINERS		(PRINTED NAME) Bradley T. Davis	(PRINTED NAME) Fed-ex	(PRINTED NAME)
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	400	RECEIVED BY: (SIGNATURE) Fed-ex	RECEIVED BY: (SIGNATURE)	(COMPANY)
	GOOD CONDITION/CHILLED	5.5	(TIME/DATE) 5/11/10	(TIME/DATE) 5/12/10 10:00	(TIME/DATE)
VIA: Fed EX	CONFORMS TO RECORD		SPECIAL INSTRUCTIONS / COMMENTS:		

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#1005099

CHAIN OF CUSTODY RECORD

PAGE 3 OF 3

PROJECT NO.: 24
PROJECT NAME: SWMUs 92B & 94 Closure
SAMPLER'S SIGNATURE: Bradley T. Davis

DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	NDMA	TPH								REMARKS
5-11-10	1135	LPSA-0094-RB001(19-20)-20100511	water		10	X	X								

PROJECT INFORMATION	SAMPLES RECEIVED		1. RELINQUISHED BY: (SIGNATURE)	2. RELINQUISHED BY: (SIGNATURE)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER: Brad Davis	TOTAL NO. OF CONTAINERS		(PRINTED NAME) Bradley T. Davis	(PRINTED NAME) Fed ex	(PRINTED NAME)
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	yes	RECEIVED BY: (SIGNATURE) Fed ex	RECEIVED BY: (SIGNATURE)	(COMPANY)
	GOOD CONDITION/CHILLED	5.5	(TIME/DATE) 5/11/10	(TIME/DATE) 5/12/10 10:00	(TIME/DATE)
VIA: Fed EX	CONFORMS TO RECORD		SPECIAL INSTRUCTIONS / COMMENTS:		

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FedEx. US Airbill Express

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Recipient's Copy

1 From

Date

Sender's Name: CRAIG DAVIS Phone: 575 676 0213

Company: TRI TRIGAMENTING + ENVIRONMENTAL

Address: 755 S. TALSHOR BLVD SUITE E-201

City: LAS CRUCES State: NM ZIP: 88011

2 Your Internal Billing Reference LCS-09-615-SEND4

3 To

Recipient's Name: JOHN DUPONT Phone: 210 308-2222

Company: BIO ANALYTICAL

Recipient's Address: 2300 DOUBLE CREEK DRIVE

Address:

City: ROUND ROCK State: TX ZIP: 78664

8692 5729 9754

fedex.com 1.800.GoFedEx 1.800.463.3339

4a Express Package Service — Packages up to 150 lbs.

- [x] FedEx Priority Overnight
- [ ] FedEx Standard Overnight
- [ ] FedEx First Overnight
- [ ] FedEx 2Day
- [ ] FedEx Express Saver

4b Express Freight Service — Packages over 150 lbs.

- [ ] FedEx 1Day Freight*
- [ ] FedEx 2Day Freight
- [ ] FedEx 3Day Freight

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak*
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other

6 Special Handling

- [ ] SATURDAY Delivery
- [ ] HOLD Weekday at FedEx Location
- [ ] HOLD Saturday at FedEx Location

Does this shipment contain dangerous goods?

- [x] No
- [ ] Yes
- [ ] Dry Ice
- [ ] Cargo Aircraft Only

7 Payment

- [x] Sender
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

Total Packages | Total Weight: 75LBS | Total Declared Value: $ .00

8 Residential Delivery Signature Options

- [ ] No Signature Required
- [ ] Direct Signature
- [ ] Indirect Signature

520

fedex.com 1.800.GoFedEx 1.800.463.3339

5.5°C

CUSTODY SEAL
DATE 5-21-10
SIGNATURE Bradley T. Davis

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DHL Analytical

Sample Receipt Checklist

Client Name Zia Engineering & Environmental

Date Received: 5/12/2010

Work Order Number 1005099

Received by JB

Checklist completed by: Signature JB Date 5/12/10

Reviewed by Initials KJ Date 5-12-10

Carrier name: FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	5.5 °C
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Adjusted? NO Checked by JB

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Page 1 of 1

Laboratory Data Package Signature Page

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC 5.13
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies.

The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Scott Schroeder – Project Manager
John DuPont – General / QA Manager

Signature

05/25/10
Date

DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: SWMUs 92B & 94 Closure	Date: 5/25/2010
Reviewer Name: Angie O'Donnell	Laboratory Work Order: 1005099
Prep Batch Number(s): See Prep Dates Report	Run Batch: See Analytical Dates Report

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-Custody (C-O-C)					
R1	OI	1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				R1-01
		2) Were all departures from standard conditions described in an exception report?			X		
R2	OI	**Sample and Quality Control (QC) Identification**					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test Reports**					
		1) Were all samples prepared and analyzed within holding times?	X				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		3) Were calculations checked by a peer or supervisor?	X				
		4) Were all analyte identifications checked by a peer or supervisor?	X				
		5) Were sample quantitation limits reported for all analytes not detected?	X				
		6) Were all results for soil and sediment samples reported on a dry weight basis?	X				
		7) Were % moisture (or solids) reported for all soil and sediment samples?	X				
		8) If required for the project, TICs reported?	X				
R4	O	**Surrogate Recovery Data**					
		1) Were surrogates added prior to extraction?	X				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			R4-02
R5	OI	**Test Reports/Summary Forms for Blank Samples**					
		1) Were appropriate type(s) of blanks analyzed?	X				
		2) Were blanks analyzed at the appropriate frequency?	X				
		3) Where method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		4) Were blank concentrations < MQL?	X				
R6	OI	**Laboratory Control Samples (LCS):**					
		1) Were all COCs included in the LCS?	X				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		3) Were LCSs analyzed at the required frequency?	X				
		4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X			R6-04
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	X				
		6) Was the LCSD RPD within QC limits (if applicable)?	X				
R7	OI	**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Data**					
		1) Were the project/method specified analytes included in the MS and MSD?	X				
		2) Were MS/MSD analyzed at the appropriate frequency?		X			R7-02
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			R7-03
		4) Were MS/MSD RPDs within laboratory QC limits?		X			R7-04
R8	OI	**Analytical Duplicate Data**					
		1) Were appropriate analytical duplicates analyzed for each matrix?	X				
		2) Were analytical duplicates analyzed at the appropriate frequency?	X				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method Quantitation Limits (MQLs):**					
		1) Are the MQLs for each method analyte included in the laboratory data package?	X				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		3) Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	**Other Problems/Anomalies**					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				R10-01
		2) Were all necessary corrective actions performed for the reported data?	X				
		3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: SWMUs 92B & 94 Closure	Date: 5/25/2010
Reviewer Name: Angie O'Donnell	Laboratory Work Order: 1005099

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial Calibration (ICAL)**					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	X				
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and Continuing calibration Verification (ICCV and CCV) and Continuing Calibration blank (CCB):**					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?		X			S2-02
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass Spectral Tuning:**					
		1) Was the appropriate compound for the method used for tuning?	X				
		2) Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal Standards (IS):**					
		1) Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw Data (NELAC section 1 appendix A glossary, and section 5.12)**					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				S5-02
S6	O	**Dual Column Confirmation**					
		1) Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively Identified Compounds (TICs):**					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) Results:**					
		1) Were percent recoveries within method QC limits?	X				
S9	I	**Serial Dilutions, Post Digestion Spikes, and Method of Standard Additions**					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X			S9-01
S10	OI	**Method Detection Limit (MDL) Studies**					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency Test Reports:**					
		1) Was the lab's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards Documentation**					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/Analyte Identification Procedures**					
		1) Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of Analyst Competency (DOC)**					
		1) Was DOC conducted consistent with NELAC Chapter 5C?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/Validation Documentation for Methods** (NELAC Chap 5)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory Standard Operating Procedures (SOPs):**					
		1) Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Manual Integrations Tracking Form - DoD QSM 4.1 Requirement

Instrument ID: **GCMS4** **DATA Folder:** **GCMS#4-100522A**

Sample ID ICAL, ICV, and CCV QC and Field Samples	Analyte #1 Identification & Reason	Analyte #2 Identification & Reason	Analyte #3 Identification & Reason	Analyte #4 Identification & Reason
	Benzo(b)fluoranthene.			
1005099-06C-MSD	MI because of poor resolution between benzo(b) and benzo(k) fluoranthene.			

*Manually Integrated = MI

D.O 5/25/10

Analyst Date

2nd Level Review ~~5.24.2010~~ 5.25.2010 Date

CLIENT:	Zia Engineering & Environmental	CASE NARRATIVE
Project:	SWMUs 92B & 94 Closure	
Lab Order:	1005099	

This case narrative describes abnormalities and deviations that may affect the results and summarizes all known issues that need to be highlighted for the data user to assess the results. This case narrative and the report contents are compliant with DoD QSM Ver 4.1 and NELAC.

Samples were analyzed using the methods outlined in the following references:

Method M8015D - TPH Extractable by GC (DRO)
Method M8015V - Modified 8015 Gasoline (GRO)
Method SW8270C - Semivolatiles by GC/MS (The compounds 1-Methylnaphthalene/1-Chloronaphthalene and Dibenz(a,j)acridine are not NELAC Certified)
Method SW8270C - Semivolatile SIM Analysis by GC/MS
Method D2216 - Percent Moisture
Method SW6020 - Trace Metals
Method SW7471A - Total Mercury
Method SW8260B - Volatiles Analysis

Exception Report R1-01

Samples were received on and log-in performed on 5/12/2010. A total of 7 samples were received and all were analyzed. The samples arrived in good condition and were properly packaged.

Exception Report R4-02

For DRO Analysis, the recovery of surrogate Isopropylbenzene in Sample LPSA-0094-RB001 (19-20)-2010051, the Method Blank (MB-41069), the Laboratory Control Spike and the Laboratory Control Spike Duplicate (LCS/LCSD-41069) was slightly below the method control limits. These are flagged in the enclosed Analytical Data Report and the QC Summary Report. The remaining surrogate was within acceptable control limits for these samples. No further corrective action was taken.

Exception Report R6-02

For Semivolatiles Analysis, Batch 41204, the recovery of compound 7,12-Dimethylbenz(a)anthracene in the Laboratory Control Spike (LCS-41204) was slightly above the method control limits. This is flagged accordingly in the QC Summary Report. This compound was within acceptable control limits in the associated ICV. No further corrective action was taken.

Exception Report R7-02

For DRO Analysis, Prep Batch 41069, an MS/MSD was not analyzed due to limited sample volume. An LCS /LCSD was analyzed instead.

Exception Report R7-03 and -04

For Volatiles Analysis, Batch 41071, the recoveries of several compounds in the Matrix Spike and Matrix Spike Duplicate (1005099-06 MS/MSD) were below the method control limits. These are flagged in the QC Summary Report. These compounds are within acceptable control limits in the associated LCS. The reference sample selected for the Matrix Spike and Matrix Spike Duplicate were from this workorder. No

further corrective action was taken.

For Semivolatiles Analysis, Batch 41204, the recoveries and/or RPD's of several compounds in the Matrix Spike and Matrix Spike Duplicate (1005099-06 MS/MSD) were outside of the method control limits. These are flagged in the QC Summary Report. The reference sample selected for the Matrix Spike and Matrix Spike Duplicate were from this workorder. No further corrective action was taken.

Exception Report R10-1

The analysis of NDMA in soil and/or water is being performed using Method 8270 with a Selected Ion Monitoring (SIM) mode to improve the detection limit. The method was also modified to use deuterated NDMA as the surrogate, and the extraction was modified to improve the recovery of NDMA in the sample extracts. The analysis of NDMA is included on DHL Analytical's NELAP accreditation and the method modifications have been validated.

Exception Report S2-02

For Semivolatiles Analysis, the recovery of Benzidine in the Initial Calibration Verification (ICV2-100522) was below the control limit. This was flagged accordingly in the enclosed QC Summary Report. The associated LCS was within acceptable control limits for this compound. No further corrective actions were taken.

Exception Report S5-02

For DRO Analysis, some samples and/or standards were manually integrated. Please refer to the table on page 11 of this report for the full list of samples, standards, and the compounds that were manually integrated.

Exception Report S9-01

For Metals Analysis, the RPD of Selenium in the Serial Dilution (1005099-06 SD) was above the method control limit. This was flagged in the QC Summary Report. The associated PDS was within acceptable control limits for this analyte. No further corrective action was taken.

A summary of project communication follows:

DHL Analytical received the Project RFQ from the client on 12/29/09. Completed RFQ returned to client via email on 1/07/2010. Purchase Order/Terms and Conditions received and signed and approved by both parties on 01/25/2010.
Brad Davis of ZIA Requested the bottle kit from Jennifer Barker of DHL: via email on 4/30/2010.
Kit sent on 5/4/2010 via Lonestar Overnight, to arrive by 5/6/2010.
This sample delivery group arrives at DHL Analytical 5/12/2010. The sample summary, sent via email from Log-in to client on 5/12/2010, is kept in the project folder.

All hardcopies for the sample kit request, bill of lading for sample kit sent are kept in the project folder.

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Lab Order: 1005099

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recv'd
1005099-01	LPSA-0092B-SB001(0-1)-20100511		05/11/10 09:03 AM	05/12/10
1005099-02	LPSA-0092B-SB001(4-5)-20100511		05/11/10 09:05 AM	05/12/10
1005099-03	LPSA-0092B-SB001(9-10)-20100511		05/11/10 09:30 AM	05/12/10
1005099-04	LPSA-0092B-SB001(14-15)-20100511		05/11/10 09:55 AM	05/12/10
1005099-05	LPSA-0092B-SB101(14-15)-20100511		05/11/10 09:55 AM	05/12/10
1005099-06	LPSA-0094-WC001-20100511		05/11/10 02:30 PM	05/12/10
1005099-07	LPSA-0094-RB001(19-20)-20100511		05/11/10 11:35 AM	05/12/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Lab Order: 1005099

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1005099-01A	LPSA-0092B-SB001(0-1)-2010051	05/11/10 09:03 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB001(0-1)-2010051	05/11/10 09:03 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-02A	LPSA-0092B-SB001(4-5)-2010051	05/11/10 09:05 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB001(4-5)-2010051	05/11/10 09:05 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-03A	LPSA-0092B-SB001(9-10)-2010051	05/11/10 09:30 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB001(9-10)-2010051	05/11/10 09:30 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-04A	LPSA-0092B-SB001(14-15)-2010051	05/11/10 09:55 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB001(14-15)-2010051	05/11/10 09:55 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-05A	LPSA-0092B-SB101(14-15)-2010051	05/11/10 09:55 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB101(14-15)-2010051	05/11/10 09:55 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-06A	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW5030B	Purge and Trap Soils GC/MS	05/13/10 03:35 PM	41071
1005099-06B	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW7471A	Mercury Soil Prep, Total	05/20/10 09:00 AM	41164
	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/20/10 09:00 AM	41153
	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	D2216	Moisture Preparation	05/17/10 10:45 AM	41106
1005099-06C	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW3550B	Soil Prep Sonication: BNA	05/21/10 11:33 AM	41204
	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW3550B	Soil Prep Sonication: BNA	05/21/10 11:33 AM	41204
1005099-07A	LPSA-0094-RB001(19-20)-2010051	05/11/10 11:35 AM	Equip Blank	SW5030B	Purge and Trap Water GC-Gas	05/14/10 11:56 AM	41087
1005099-07B	LPSA-0094-RB001(19-20)-2010051	05/11/10 11:35 AM	Equip Blank	SW3535A	Aq Prep SPE: BNA	05/18/10 12:46 PM	41136
1005099-07C	LPSA-0094-RB001(19-20)-2010051	05/11/10 11:35 AM	Equip Blank	SW3510C	Aq Prep Sep Funnel: DRO	05/13/10 03:07 PM	41069

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Lab Order: 1005099

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1005099-01A	LPSA-0092B-SB001(0-1)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 07:28 PM	GCMS3_100521A
	LPSA-0092B-SB001(0-1)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-02A	LPSA-0092B-SB001(4-5)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 08:37 PM	GCMS3_100521A
	LPSA-0092B-SB001(4-5)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-03A	LPSA-0092B-SB001(9-10)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 07:45 PM	GCMS3_100521A
	LPSA-0092B-SB001(9-10)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-04A	LPSA-0092B-SB001(14-15)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 08:03 PM	GCMS3_100521A
	LPSA-0092B-SB001(14-15)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-05A	LPSA-0092B-SB101(14-15)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 08:20 PM	GCMS3_100521A
	LPSA-0092B-SB101(14-15)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-06A	LPSA-0094-WC001-20100511	Soil	SW8260B	8260 Soil Volatiles by GC/MS	41071	1	05/13/10 06:06 PM	GCMS2_100513A
1005099-06B	LPSA-0094-WC001-20100511	Soil	D2216	Percent Moisture	41106	1	05/17/10 03:00 PM	PMOIST_100517A
	LPSA-0094-WC001-20100511	Soil	SW7471A	Total Mercury: Soil/Solid	41164	1	05/20/10 05:03 PM	CETAC_HG_100520B
	LPSA-0094-WC001-20100511	Soil	SW6020	Trace Metals: ICP-MS - Solid	41153	5	05/21/10 12:22 PM	ICP-MS2_100521A
1005099-06C	LPSA-0094-WC001-20100511	Soil	SW8270C	Semivolatiles by GC/MS - Soil	41204	1	05/22/10 11:25 PM	GCMS4_100522A
	LPSA-0094-WC001-20100511	Soil	SW8270C	Semivolatiles by GC/MS - Soil	41204	1	05/22/10 11:49 PM	GCMS4_100522B
1005099-07A	LPSA-0094-RB001(19-20)-20100511	Equip Blank	M8015V	Method 8015 Gasoline (GRO)	41087	1	05/14/10 01:40 PM	GC4_100514B
1005099-07B	LPSA-0094-RB001(19-20)-20100511	Equip Blank	SW8270C	NDMA by 8270-SIM	41136	1	05/19/10 01:42 AM	GCMS3_100518A
1005099-07C	LPSA-0094-RB001(19-20)-20100511	Equip Blank	M8015D	TPH Extractable by GC - Water	41069	1	05/21/10 03:16 PM	GC12_100521B

DHL Analytical

Date: 05/25/10

CLIENT:	Zia Engineering & Environmental	Client Sample ID:	LPSA-0092B-SB001(0-1)-20100511
Project:	SWMUs 92B & 94 Closure	Lab ID:	1005099-01
Project No:	24	Collection Date:	05/11/10 09:03 AM
Lab Order:	1005099	Matrix:	Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00322	0.00537		mg/Kg-dry	1	05/21/10 07:28 PM
Surr: N-Nitrosodimethylamine-d6	67.9	0	30 - 125		%REC	1	05/21/10 07:28 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	6.84	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
	B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
	C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
	DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
	E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
			S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT:	Zia Engineering & Environmental	Client Sample ID:	LPSA-0092B-SB001(4-5)-20100511
Project:	SWMUs 92B & 94 Closure	Lab ID:	1005099-02
Project No:	24	Collection Date:	05/11/10 09:05 AM
Lab Order:	1005099	Matrix:	Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00314	0.00524		mg/Kg-dry	1	05/21/10 08:37 PM
Surr: N-Nitrosodimethylamine-d6	69.0	0	30 - 125		%REC	1	05/21/10 08:37 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	5.30	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
	B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
	C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
	DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
	E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
			S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT:	Zia Engineering & Environmental	Client Sample ID:	LPSA-0092B-SB001(9-10)-20100511
Project:	SWMUs 92B & 94 Closure	Lab ID:	1005099-03
Project No:	24	Collection Date:	05/11/10 09:30 AM
Lab Order:	1005099	Matrix:	Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00351	0.00585		mg/Kg-dry	1	05/21/10 07:45 PM
Surr: N-Nitrosodimethylamine-d6	72.0	0	30 - 125		%REC	1	05/21/10 07:45 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	14.7	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
	B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
	C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
	DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
	E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
			S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT:	Zia Engineering & Environmental	Client Sample ID:	LPSA-0092B-SB001(14-15)-20100511
Project:	SWMUs 92B & 94 Closure	Lab ID:	1005099-04
Project No:	24	Collection Date:	05/11/10 09:55 AM
Lab Order:	1005099	Matrix:	Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00343	0.00572		mg/Kg-dry	1	05/21/10 08:03 PM
Surr: N-Nitrosodimethylamine-d6	68.6	0	30 - 125		%REC	1	05/21/10 08:03 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	13.0	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
	B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
	C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
	DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
	E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
			S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT:	Zia Engineering & Environmental	Client Sample ID:	LPSA-0092B-SB101(14-15)-20100511
Project:	SWMUs 92B & 94 Closure	Lab ID:	1005099-05
Project No:	24	Collection Date:	05/11/10 09:55 AM
Lab Order:	1005099	Matrix:	Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00353	0.00589		mg/Kg-dry	1	05/21/10 08:20 PM
Surr: N-Nitrosodimethylamine-d6	67.0	0	30 - 125		%REC	1	05/21/10 08:20 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	15.2	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
	B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
	C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
	DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
	E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
			S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Total Mercury: Soil/Solid		SW7471A					Analyst: LM
Mercury	ND	0.0163	0.0510		mg/Kg-dry	1	05/20/10 05:03 PM
Trace Metals: ICP-MS - Solid		SW6020					Analyst: KL
Arsenic	2.66	0.475	0.950		mg/Kg-dry	5	05/21/10 12:22 PM
Barium	72.0	0.475	1.90		mg/Kg-dry	5	05/21/10 12:22 PM
Cadmium	0.203	0.0950	0.285	J	mg/Kg-dry	5	05/21/10 12:22 PM
Chromium	29.1	0.475	1.90		mg/Kg-dry	5	05/21/10 12:22 PM
Lead	10.0	0.0950	0.285		mg/Kg-dry	5	05/21/10 12:22 PM
Selenium	1.56	0.142	0.475		mg/Kg-dry	5	05/21/10 12:22 PM
Silver	1.14	0.0950	0.190		mg/Kg-dry	5	05/21/10 12:22 PM
Semivolatiles by GC/MS - Soil		SW8270C					Analyst: DO
1,2,4,5-Tetrachlorobenzene	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,2,4-Trichlorobenzene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,2-Dichlorobenzene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,2-Diphenylhydrazine	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,3-Dichlorobenzene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,4-Dichlorobenzene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1-Chloronaphthalene	ND	0.0412	0.137	N	mg/Kg-dry	1	05/22/10 11:49 PM
1-Methylnaphthalene	ND	0.0618	0.137	N	mg/Kg-dry	1	05/22/10 11:25 PM
1-Naphthylamine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
2,4,5-Trichlorophenol	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,4,6-Trichlorophenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,4-Dichlorophenol	ND	0.0824	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,4-Dimethylphenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,4-Dinitrophenol	ND	0.0515	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
2,4-Dinitrotoluene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,6-Dichlorophenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,6-Dinitrotoluene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Chloronaphthalene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Chlorophenol	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Methylnaphthalene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Methylphenol	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Naphthylamine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
2-Nitroaniline	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Nitrophenol	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Picoline	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
3,3′-Dichlorobenzidine	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
3-Methylcholanthrene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
3-Nitroaniline	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4,6-Dinitro-2-methylphenol	ND	0.0824	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
4-Aminobiphenyl	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
4-Bromophenyl phenyl ether	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4-Chloro-3-methylphenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4-Chloroaniline	ND	0.0515	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
4-Chlorophenyl phenyl ether	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
4-Methylphenol	ND	0.103	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4-Nitroaniline	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4-Nitrophenol	ND	0.144	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
7,12-Dimethylbenz(a)anthracene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Acenaphthene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Acenaphthylene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Acetophenone	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Aniline	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Anthracene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzidine	ND	0.340	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[a]anthracene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[a]pyrene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[b]fluoranthene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[g,h,i]perylene	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[k]fluoranthene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzoic acid	ND	0.134	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
Benzyl alcohol	ND	0.0412	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Biphenyl	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Bis(2-chloroethoxy)methane	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Bis(2-chloroethyl)ether	ND	0.0103	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Bis(2-chloroisopropyl)ether	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Bis(2-ethylhexyl)phthalate	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Butyl benzyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Carbazole	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Chrysene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Di-n-butyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Di-n-octyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Dibenz(a,j)acridine	ND	0.0412	0.137	N	mg/Kg-dry	1	05/22/10 11:49 PM
Dibenz[a,h]anthracene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Dibenzofuran	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Diethyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Dimethyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Dimethylphenethylamine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Diphenylamine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Ethyl methanesulfonate	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Fluoranthene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Fluorene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Hexachlorobenzene	ND	0.0103	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Hexachlorobutadiene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Hexachlorocyclopentadiene	ND	0.0618	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Hexachloroethane	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Indeno[1,2,3-cd]pyrene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Isophorone	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Methyl methanesulfonate	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
N-Nitrosodi-n-propylamine	ND	0.0103	0.137		mg/Kg-dry	1	05/22/10 11:25 PM

Qualifiers:

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B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
N-Nitrosodimethylamine	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
N-Nitrosodiphenylamine	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
N-Nitrosopiperidine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Naphthalene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Nitrobenzene	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
p-Dimethylaminoazobenzene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Pentachlorobenzene	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Pentachloronitrobenzene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Pentachlorophenol	ND	0.0926	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Phenacetin	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Phenanthrene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Phenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Pronamide	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Pyrene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Pyridine	ND	0.134	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
Surr: 2,4,6-Tribromophenol	83.6	0	37 - 125		%REC	1	05/22/10 11:49 PM
Surr: 2,4,6-Tribromophenol	81.1	0	37 - 125		%REC	1	05/22/10 11:25 PM
Surr: 2-Fluorobiphenyl	60.2	0	60 - 135		%REC	1	05/22/10 11:49 PM
Surr: 2-Fluorobiphenyl	71.4	0	60 - 135		%REC	1	05/22/10 11:25 PM
Surr: 2-Fluorophenol	72.9	0	60 - 129		%REC	1	05/22/10 11:49 PM
Surr: 2-Fluorophenol	69.4	0	60 - 129		%REC	1	05/22/10 11:25 PM
Surr: 4-Terphenyl-d14	71.4	0	45 - 125		%REC	1	05/22/10 11:49 PM
Surr: 4-Terphenyl-d14	76.9	0	45 - 125		%REC	1	05/22/10 11:25 PM
Surr: Nitrobenzene-d5	70.9	0	40 - 125		%REC	1	05/22/10 11:49 PM
Surr: Nitrobenzene-d5	74.4	0	40 - 125		%REC	1	05/22/10 11:25 PM
Surr: Phenol-d6	70.6	0	40 - 125		%REC	1	05/22/10 11:25 PM
Surr: Phenol-d6	67.7	0	40 - 125		%REC	1	05/22/10 11:49 PM
8260 Soil Volatiles by GC/MS		SW8260B					Analyst: AJR
1,1,1,2-Tetrachloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1,1-Trichloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1,2,2-Tetrachloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1,2-Trichloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1-Dichloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1-Dichloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1-Dichloropropene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2,3-Trichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2,3-Trichloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2,4-Trichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2,4-Trimethylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dibromo-3-chloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dibromoethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dichloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dichloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,3,5-Trimethylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM

Qualifiers:

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DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
1,3-Dichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,3-Dichloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,4-Dichloro-2-butene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,4-Dichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
2,2-Dichloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
2-Butanone	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
2-Chloroethylvinylether	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
2-Chlorotoluene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
2-Hexanone	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
4-Chlorotoluene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
4-Methyl-2-pentanone	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
Acetone	ND	0.0142	0.0475		mg/Kg-dry	1	05/13/10 06:06 PM
Acrylonitrile	ND	0.00285	0.00950		mg/Kg-dry	1	05/13/10 06:06 PM
Benzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromochloromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromodichloromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromoform	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromomethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Carbon disulfide	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Carbon tetrachloride	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Chlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Chloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Chloroform	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Chloromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
cis-1,2-Dichloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
cis-1,3-Dichloropropene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Dibromochloromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Dibromomethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Dichlorodifluoromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Ethylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Hexachlorobutadiene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Iodomethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Isopropylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
m,p-Xylene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Methyl tert-butyl ether	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Methylene chloride	ND	0.00475	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
n-Butylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
n-Propylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Naphthalene	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
o-Xylene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
p-Isopropyltoluene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
sec-Butylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Styrene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
tert-Butylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Tetrachloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Toluene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
trans-1,2-Dichloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
trans-1,3-Dichloropropene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Trichloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Trichlorofluoromethane	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
Vinyl chloride	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Surr: 1,2-Dichloroethane-d4	109	0	78 - 125		%REC	1	05/13/10 06:06 PM
Surr: 4-Bromofluorobenzene	101	0	85 - 120		%REC	1	05/13/10 06:06 PM
Surr: Dibromofluoromethane	102	0	84 - 116		%REC	1	05/13/10 06:06 PM
Surr: Toluene-d8	96.6	0	85 - 115		%REC	1	05/13/10 06:06 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	6.83	0	0		WT%	1	05/17/10 03:00 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT:	Zia Engineering & Environmental	Client Sample ID:	LPSA-0094-RB001(19-20)-20100511
Project:	SWMUs 92B & 94 Closure	Lab ID:	1005099-07
Project No:	24	Collection Date:	05/11/10 11:35 AM
Lab Order:	1005099	Matrix:	Equip Blank

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Water		M8015D					Analyst: AV
TPH-DRO C10-C28	0.0824	0.0500	0.100	J	mg/L	1	05/21/10 03:16 PM
Surr: Isopropylbenzene	58.8	0	60 - 140	S	%REC	1	05/21/10 03:16 PM
Surr: Octacosane	90.9	0	51 - 124		%REC	1	05/21/10 03:16 PM
Method 8015 Gasoline (GRO)		M8015V					Analyst: DEW
Gasoline Range Organics	ND	0.0600	0.100		mg/L	1	05/14/10 01:40 PM
Surr: Tetrachlorethene	96.1	0	74 - 138		%REC	1	05/14/10 01:40 PM
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	4.00	12.0		ng/L	1	05/19/10 01:42 AM
Surr: N-Nitrosodimethylamine-d6	70.9	0	50 - 135		%REC	1	05/19/10 01:42 AM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
	B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
	C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
	DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
	E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
			S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_100521B

Sample ID:	LCS-41069	Batch ID:	41069	TestNo:	M8015D	Units:	mg/L
SampType:	LCS	Run ID:	GC12_100521B	Analysis Date:	05/21/10 02:22 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	1.16	0.100	1.250	0	92.7	50	114			
Surr: Isopropylbenzene	0.0820		0.1500		54.7	60	140			S
Surr: Octacosane	0.129		0.1500		85.9	51	124			

Sample ID:	LCSD-41069	Batch ID:	41069	TestNo:	M8015D	Units:	mg/L
SampType:	LCSD	Run ID:	GC12_100521B	Analysis Date:	05/21/10 02:31 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	1.09	0.100	1.250	0	87.4	50	114	5.87	30	
Surr: Isopropylbenzene	0.0721		0.1500		48.1	60	140	0	0	S
Surr: Octacosane	0.119		0.1500		79.2	51	124	0	0	

Sample ID:	MB-41069	Batch ID:	41069	TestNo:	M8015D	Units:	mg/L
SampType:	MBLK	Run ID:	GC12_100521B	Analysis Date:	05/21/10 02:58 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	ND	0.100								
Surr: Isopropylbenzene	0.0735		0.1500		49.0	60	140			S
Surr: Octacosane	0.126		0.1500		83.8	51	124			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_100521B

Sample ID:	ICV-100521	Batch ID:	R49489	TestNo:	M8015D	Units:	mg/L
SampType:	ICV	Run ID:	GC12_100521B	Analysis Date:	05/21/10 10:15 AM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	516	0.100	500.0	0	103	85	115			
Surr: Isopropylbenzene	21.0		25.00		83.8	80	120			
Surr: Octacosane	23.8		25.00		95.3	80	120			

Sample ID:	CCV2-100521	Batch ID:	R49489	TestNo:	M8015D	Units:	mg/L
SampType:	CCV	Run ID:	GC12_100521B	Analysis Date:	05/21/10 02:13 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	270	0.100	250.0	0	108	85	115			
Surr: Isopropylbenzene	12.7		12.50		102	80	120			
Surr: Octacosane	12.6		12.50		101	80	120			

Sample ID:	CCV3-100521	Batch ID:	R49489	TestNo:	M8015D	Units:	mg/L
SampType:	CCV	Run ID:	GC12_100521B	Analysis Date:	05/21/10 04:01 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	283	0.100	0	0	0	85	115			
Surr: Isopropylbenzene	13.2		12.50		105	80	120			
Surr: Octacosane	13.5		12.50		108	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_100514B

Sample ID:	LCS-41087	Batch ID:	41087		TestNo:		M8015V			Units:	mg/L
SampType:	LCS	Run ID:	GC4_100514B		Analysis Date:		05/14/10 12:47 PM			Prep Date:	05/14/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		5.01	0.100	5.000	0	100	67	136			
Surr: Tetrachlorethene		0.354		0.4000		88.4	74	138			

Sample ID:	MB-41087	Batch ID:	41087		TestNo:		M8015V			Units:	mg/L
SampType:	MBLK	Run ID:	GC4_100514B		Analysis Date:		05/14/10 01:16 PM			Prep Date:	05/14/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		ND	0.100								
Surr: Tetrachlorethene		0.398		0.4000		99.6	74	138			

Sample ID:	1005122-02BMS	Batch ID:	41087		TestNo:		M8015V			Units:	mg/L
SampType:	MS	Run ID:	GC4_100514B		Analysis Date:		05/14/10 02:50 PM			Prep Date:	05/14/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		8.30	0.100	5.000	3.315	99.8	67	136			
Surr: Tetrachlorethene		0.370		0.4000		92.6	74	138			

Sample ID:	1005122-02BMSD	Batch ID:	41087		TestNo:		M8015V			Units:	mg/L
SampType:	MSD	Run ID:	GC4_100514B		Analysis Date:		05/14/10 03:13 PM			Prep Date:	05/14/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		8.20	0.100	5.000	3.315	97.7	67	136	1.25	30	
Surr: Tetrachlorethene		0.373		0.4000		93.2	74	138	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_100514B

Sample ID:	ICV-100514	Batch ID:	R49383		TestNo:		M8015V		Units:		mg/L
SampType:	ICV	Run ID:	GC4_100514B		Analysis Date:		05/14/10 09:36 AM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		9.57	0.100	10.00	0	95.7	80	120			
Surr: Tetrachlorethene		0.357		0.4000		89.2	74	138			

Sample ID:	CCV1-100514	Batch ID:	R49383		TestNo:		M8015V		Units:		mg/L
SampType:	CCV	Run ID:	GC4_100514B		Analysis Date:		05/14/10 05:24 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		5.18	0.100	5.000	0	104	80	120			
Surr: Tetrachlorethene		0.360		0.4000		90.1	74	138			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC_HG_100520B

Sample ID:	MB-41164	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg
SampType:	MBLK	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 03:42 PM		Prep Date:		05/20/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		ND	0.0500								

Sample ID:	LCS-41164	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg
SampType:	LCS	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 03:48 PM		Prep Date:		05/20/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.223	0.0500	0.2000	0	112	85	115			

Sample ID:	LCSD-41164	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg
SampType:	LCSD	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 03:50 PM		Prep Date:		05/20/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.228	0.0500	0.2000	0	114	85	115	2.22	25	

Sample ID:	1005099-06B SD	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg-dry
SampType:	SD	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:05 PM		Prep Date:		05/20/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0	0.255	0	0				0	10	

Sample ID:	1005099-06B PDS	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg-dry
SampType:	PDS	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:07 PM		Prep Date:		05/20/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.276	0.0510	0.2552	0	108	85	115			

Sample ID:	1005099-06B MS	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg-dry
SampType:	MS	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:09 PM		Prep Date:		05/20/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.232	0.0503	0.2012	0	116	80	120			

Sample ID:	1005099-06B MSD	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg-dry
SampType:	MSD	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:13 PM		Prep Date:		05/20/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.223	0.0498	0.1991	0	112	80	120	4.14	25	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC_HG_100520B

Sample ID:	ICV-100520	Batch ID:	R49477		TestNo:		SW7471A		Units:		mg/Kg
SampType:	ICV	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 03:36 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00384	0.0500	0.004000	0	96.0	90	110			

Sample ID:	CCV1-100520	Batch ID:	R49477		TestNo:		SW7471A		Units:		mg/Kg
SampType:	CCV	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 04:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00211	0.0500	0.002000	0	106	90	110			

Sample ID:	CCV2-100520	Batch ID:	R49477		TestNo:		SW7471A		Units:		mg/Kg
SampType:	CCV	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:15 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00202	0.0500	0.002000	0	101	90	110			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_100521A

Sample ID:	MB-41153	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg
SampType:	MBLK	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 11:55 AM	Prep Date:	05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	ND	1.00								
Barium	ND	2.00								
Cadmium	ND	0.300								
Chromium	ND	2.00								
Lead	ND	0.300								
Selenium	ND	0.500								
Silver	ND	0.200								

Sample ID:	LCS-41153	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg
SampType:	LCS	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 12:00 PM	Prep Date:	05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	50.5	1.00	50.00	0	101	80	120			
Barium	50.4	2.00	50.00	0	101	80	120			
Cadmium	49.8	0.300	50.00	0	99.5	80	120			
Chromium	53.6	2.00	50.00	0	107	80	120			
Lead	49.7	0.300	50.00	0	99.4	80	120			
Selenium	50.4	0.500	50.00	0	101	80	120			
Silver	51.8	0.200	50.00	0	104	80	120			

Sample ID:	LCSD-41153	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg
SampType:	LCSD	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 12:05 PM	Prep Date:	05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	49.9	1.00	50.00	0	99.8	80	120	1.20	20	
Barium	51.3	2.00	50.00	0	103	80	120	1.67	20	
Cadmium	49.5	0.300	50.00	0	99.0	80	120	0.453	20	
Chromium	54.2	2.00	50.00	0	108	80	120	1.11	20	
Lead	49.6	0.300	50.00	0	99.3	80	120	0.050	20	
Selenium	50.1	0.500	50.00	0	100	80	120	0.498	20	
Silver	52.0	0.200	50.00	0	104	80	120	0.289	20	

Sample ID:	1005099-06B SD	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg-dry
SampType:	SD	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 12:27 PM	Prep Date:	05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	2.58	4.75	0	2.662				3.13	10	
Barium	68.9	9.50	0	71.95				4.37	10	
Cadmium	0	1.42	0	0.2031				0	10	
Chromium	30.3	9.50	0	29.11				4.04	10	
Lead	9.65	1.42	0	10.04				3.94	10	
Selenium	1.86	2.37	0	1.563				17.4	10	R
Silver	1.13	0.950	0	1.142				1.38	10	

Sample ID:	1005099-06B PDS	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg-dry
SampType:	PDS	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 12:33 PM	Prep Date:	05/20/10

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_100521A

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	49.5	0.950	47.49	2.662	98.5	75	125			
Barium	119	1.90	47.49	71.95	100	75	125			
Cadmium	47.3	0.285	47.49	0.2031	99.1	75	125			
Chromium	74.0	1.90	47.49	29.11	94.5	75	125			
Lead	58.5	0.285	47.49	10.04	102	75	125			
Selenium	47.7	0.475	47.49	1.563	97.1	75	125			
Silver	48.7	0.190	47.49	1.142	100	75	125			

Sample ID: 1005099-06B MS Batch ID: 41153 TestNo: SW6020 Units: mg/Kg-dry
SampType: MS Run ID: ICP-MS2_100521A Analysis Date: 05/21/10 12:38 PM Prep Date: 05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	47.4	0.942	47.08	2.662	95.0	80	120			
Barium	125	1.88	47.08	71.95	112	80	120			
Cadmium	47.3	0.282	47.08	0.2031	100	80	120			
Chromium	72.5	1.88	47.08	29.11	92.2	80	120			
Lead	56.4	0.282	47.08	10.04	98.6	80	120			
Selenium	46.9	0.471	47.08	1.563	96.3	80	120			
Silver	49.4	0.188	47.08	1.142	102	80	120			

Sample ID: 1005099-06B MSD Batch ID: 41153 TestNo: SW6020 Units: mg/Kg-dry
SampType: MSD Run ID: ICP-MS2_100521A Analysis Date: 05/21/10 12:44 PM Prep Date: 05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	46.7	0.933	46.67	2.662	94.4	80	120	1.47	20	
Barium	123	1.87	46.67	71.95	110	80	120	1.23	20	
Cadmium	46.3	0.280	46.67	0.2031	98.7	80	120	2.13	20	
Chromium	73.2	1.87	46.67	29.11	94.4	80	120	0.896	20	
Lead	54.6	0.280	46.67	10.04	95.5	80	120	3.32	20	
Selenium	44.8	0.467	46.67	1.563	92.6	80	120	4.66	20	
Silver	47.7	0.187	46.67	1.142	99.7	80	120	3.48	20	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_100521A

Sample ID:	ICV1-100521	Batch ID:	R49494	TestNo:	SW6020	Units:	mg/L
SampType:	ICV	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 11:32 AM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	0.0999	0.00600	0.100	0	99.9	90	110			
Barium	0.0975	0.0100	0.100	0	97.5	90	110			
Cadmium	0.0954	0.00100	0.100	0	95.4	90	110			
Chromium	0.102	0.00600	0.100	0	102	90	110			
Lead	0.0970	0.00100	0.100	0	97.0	90	110			
Selenium	0.0994	0.00600	0.100	0	99.4	90	110			
Silver	0.0996	0.00200	0.100	0	99.6	90	110			

Sample ID:	CCV1-100521	Batch ID:	R49494	TestNo:	SW6020	Units:	mg/L
SampType:	CCV	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 12:49 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	0.200	0.00600	0.200	0	99.8	90	110			
Barium	0.199	0.0100	0.200	0	99.4	90	110			
Cadmium	0.195	0.00100	0.200	0	97.4	90	110			
Chromium	0.210	0.00600	0.200	0	105	90	110			
Lead	0.192	0.00100	0.200	0	96.1	90	110			
Selenium	0.201	0.00600	0.200	0	100	90	110			
Silver	0.200	0.00200	0.200	0	99.9	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_100518A

Sample ID:	LCS-41136	Batch ID:	41136		TestNo:		SW8270C		Units:		ng/L
SampType:	LCS	Run ID:	GCMS3_100518A		Analysis Date:		05/18/10 09:58 PM		Prep Date:		05/18/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		152	12.0	200.0	0	76.1	25	110			
Surr: N-Nitrosodimethylamine-d6		275		400.0		68.8	50	135			

Sample ID:	LCSD-41136	Batch ID:	41136		TestNo:		SW8270C		Units:		ng/L
SampType:	LCSD	Run ID:	GCMS3_100518A		Analysis Date:		05/18/10 10:15 PM		Prep Date:		05/18/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		175	12.0	200.0	0	87.4	25	110	13.8	30	
Surr: N-Nitrosodimethylamine-d6		312		400.0		78.1	50	135	0	0	

Sample ID:	MB-41136	Batch ID:	41136		TestNo:		SW8270C		Units:		ng/L
SampType:	MBLK	Run ID:	GCMS3_100518A		Analysis Date:		05/19/10 01:25 AM		Prep Date:		05/18/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		ND	12.0								
Surr: N-Nitrosodimethylamine-d6		283		400.0		70.7	50	135			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_100518A

Sample ID:	ICV-100518	Batch ID:	R49435		TestNo:		SW8270C		Units:	ng/L	
SampType:	ICV	Run ID:	GCMS3_100518A		Analysis Date:		05/18/10 08:33 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		83800	12.0	100000	0	83.8	80	120			
Surr: N-Nitrosodimethylamine-d6		82000		100000		82.0	70	130			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_100521A

Sample ID:	LCS-41150	Batch ID:	41150		TestNo:		SW8270C		Units:		mg/Kg
SampType:	LCS	Run ID:	GCMS3_100521A		Analysis Date:		05/21/10 02:56 PM		Prep Date:		05/19/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		0.0475	0.00500	0.0500	0	95.0	20	115			
Surr: N-Nitrosodimethylamine-d6		91.6		100.0		91.6	30	125			

Sample ID:	1005097-08C-MS	Batch ID:	41150		TestNo:		SW8270C		Units:		mg/Kg-dry
SampType:	MS	Run ID:	GCMS3_100521A		Analysis Date:		05/21/10 03:30 PM		Prep Date:		05/19/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		0.0583	0.00546	0.0546	0	107	20	115			
Surr: N-Nitrosodimethylamine-d6		107		109.3		98.2	30	125			

Sample ID:	1005097-08C-MSD	Batch ID:	41150		TestNo:		SW8270C		Units:		mg/Kg-dry
SampType:	MSD	Run ID:	GCMS3_100521A		Analysis Date:		05/21/10 04:04 PM		Prep Date:		05/19/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		0.0561	0.00544	0.0544	0	103	20	115	3.89	30	
Surr: N-Nitrosodimethylamine-d6		102		108.9		94.1	30	125	0	0	

Sample ID:	MB-41150	Batch ID:	41150		TestNo:		SW8270C		Units:		mg/Kg
SampType:	MBLK	Run ID:	GCMS3_100521A		Analysis Date:		05/21/10 04:38 PM		Prep Date:		05/19/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		ND	0.00500								
Surr: N-Nitrosodimethylamine-d6		83.8		100.0		83.8	30	125			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_100521A

Sample ID:	ICV-100521	Batch ID:	R49457		TestNo:		SW8270C			Units:	mg/Kg
SampType:	ICV	Run ID:	GCMS3_100521A		Analysis Date:		05/21/10 02:22 PM			Prep Date:	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		0.112	0.00500	0.100	0	112	80	120			
Surr: N-Nitrosodimethylamine-d6		101		100.0		101	70	130			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Sample ID:	LCS-41204	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg
SampType:	LCS	Run ID:	GCMS4_100522A	Analysis Date:	05/22/10 03:22 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	1.23	0.133	1.340	0	92.0	35	125			
1,2,4-Trichlorobenzene	1.17	0.133	1.340	0	87.1	45	110			
1,2-Dichlorobenzene	1.13	0.133	1.340	0	84.1	45	100			
1,2-Diphenylhydrazine	1.31	0.133	1.340	0	97.5	38	125			
1,3-Dichlorobenzene	1.11	0.133	1.340	0	82.6	40	100			
1,4-Dichlorobenzene	1.11	0.133	1.340	0	83.1	35	105			
1-Methylnaphthalene	1.20	0.133	1.340	0	89.6	45	105			N
2,4,5-Trichlorophenol	1.25	0.133	1.340	0	93.5	50	110			
2,4,6-Trichlorophenol	1.25	0.133	1.340	0	93.0	45	110			
2,4-Dichlorophenol	1.22	0.133	1.340	0	91.0	45	110			
2,4-Dimethylphenol	1.26	0.133	1.340	0	94.0	30	105			
2,4-Dinitrophenol	1.07	0.660	1.340	0	79.6	15	130			
2,4-Dinitrotoluene	1.34	0.133	1.340	0	100	50	115			
2,6-Dichlorophenol	1.23	0.133	1.340	0	91.5	35	125			
2,6-Dinitrotoluene	1.37	0.133	1.340	0	102	50	110			
2-Chloronaphthalene	1.21	0.133	1.340	0	90.5	45	105			
2-Chlorophenol	1.14	0.133	1.340	0	85.1	45	105			
2-Methylnaphthalene	1.27	0.133	1.340	0	94.5	45	105			
2-Methylphenol	1.13	0.133	1.340	0	84.1	40	105			
2-Nitroaniline	1.35	0.133	1.340	0	100	45	120			
2-Nitrophenol	1.20	0.133	1.340	0	89.6	40	110			
3,3'-Dichlorobenzidine	0.840	0.133	1.340	0	62.7	25	128			
3-Nitroaniline	1.13	0.133	1.340	0	84.1	25	110			
4,6-Dinitro-2-methylphenol	1.25	0.330	1.340	0	93.0	30	135			
4-Bromophenyl phenyl ether	1.27	0.133	1.340	0	94.5	45	115			
4-Chloro-3-methylphenol	1.36	0.133	1.340	0	101	45	115			
4-Chloroaniline	0.967	0.330	1.340	0	72.1	25	125			
4-Chlorophenyl phenyl ether	1.27	0.133	1.340	0	95.0	45	110			
4-Methylphenol	1.17	0.133	1.340	0	87.6	40	105			
4-Nitroaniline	1.14	0.133	1.340	0	85.1	35	115			
4-Nitrophenol	1.27	0.660	1.340	0	95.0	15	140			
Acenaphthene	1.25	0.133	1.340	0	93.0	45	110			
Acenaphthylene	1.25	0.133	1.340	0	93.5	45	105			
Acetophenone	1.08	0.133	1.340	0	80.6	40	125			
Aniline	0.960	0.133	1.340	0	71.6	40	125			
Anthracene	1.27	0.133	1.340	0	94.5	55	105			
Benzidine	0.307	0.660	1.340	0	22.9	20	125			
Benzo[a]anthracene	1.27	0.133	1.340	0	95.0	50	110			
Benzo[a]pyrene	1.37	0.133	1.340	0	102	50	110			
Benzo[b]fluoranthene	1.33	0.133	1.340	0	99.5	45	115			
Benzo[g,h,i]perylene	1.09	0.133	1.340	0	81.6	40	125			
Benzo[k]fluoranthene	1.33	0.133	1.340	0	99.5	45	125			
Benzoic acid	1.49	0.660	1.340	0	111	25	125			
Benzyl alcohol	1.21	0.330	1.340	0	90.0	20	125			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Biphenyl	1.17	0.133	1.340	0	87.6	60	140
Bis(2-chloroethoxy)methane	1.21	0.133	1.340	0	90.5	45	110
Bis(2-chloroethyl)ether	1.17	0.133	1.340	0	87.1	40	105
Bis(2-chloroisopropyl)ether	1.18	0.133	1.340	0	88.1	20	115
Bis(2-ethylhexyl)phthalate	1.36	0.133	1.340	0	101	45	125
Butyl benzyl phthalate	1.37	0.330	1.340	0	102	50	125
Carbazole	1.29	0.133	1.340	0	96.5	45	115
Chrysene	1.31	0.133	1.340	0	98.0	55	110
Di-n-butyl phthalate	1.32	0.330	1.340	0	98.5	55	110
Di-n-octyl phthalate	1.44	0.330	1.340	0	107	40	130
Dibenz[a,h]anthracene	1.17	0.133	1.340	0	87.6	40	125
Dibenzofuran	1.25	0.133	1.340	0	93.0	50	105
Diethyl phthalate	1.31	0.330	1.340	0	98.0	50	115
Dimethyl phthalate	1.31	0.330	1.340	0	97.5	50	110
Fluoranthene	1.33	0.133	1.340	0	99.0	55	115
Fluorene	1.27	0.133	1.340	0	94.5	50	110
Hexachlorobenzene	1.27	0.133	1.340	0	94.5	45	120
Hexachlorobutadiene	1.15	0.133	1.340	0	86.1	40	115
Hexachlorocyclopentadiene	1.24	0.330	1.340	0	92.5	34	125
Hexachloroethane	1.11	0.133	1.340	0	83.1	35	110
Indeno[1,2,3-cd]pyrene	1.23	0.133	1.340	0	92.0	40	120
Isophorone	1.21	0.133	1.340	0	90.5	45	110
N-Nitrosodi-n-propylamine	1.12	0.133	1.340	0	83.6	40	115
N-Nitrosodimethylamine	1.17	0.133	1.340	0	87.1	20	115
N-Nitrosodiphenylamine	1.31	0.133	1.340	0	97.5	50	115
Naphthalene	1.18	0.133	1.340	0	88.1	40	105
Nitrobenzene	1.24	0.133	1.340	0	92.5	40	115
Pentachlorobenzene	1.18	0.133	1.340	0	88.1	35	125
Pentachlorophenol	1.27	0.133	1.340	0	95.0	25	120
Phenanthrene	1.27	0.133	1.340	0	95.0	50	110
Phenol	1.18	0.133	1.340	0	88.1	40	100
Pyrene	1.33	0.133	1.340	0	99.5	45	125
Pyridine	0.807	0.660	1.340	0	60.2	20	125
Surr: 2,4,6-Tribromophenol	2.29		2.680		85.6	45	138
Surr: 2-Fluorobiphenyl	2.17		2.680		80.8	37	125
Surr: 2-Fluorophenol	2.08		2.680		77.6	60	135
Surr: 4-Terphenyl-d14	2.37		2.680		88.6	60	129
Surr: Nitrobenzene-d5	2.13		2.680		79.4	45	125
Surr: Phenol-d6	2.07		2.680		77.4	40	125

Sample ID:	1005099-06C-MS	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg-dry
SampType:	MS	Run ID:	GCMS4_100522A	Analysis Date:	05/22/10 05:23 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	1.85	0.137	2.726	0	67.7	35	125			
1,2,4-Trichlorobenzene	1.14	0.137	1.384	0	82.6	45	110			
1,2-Dichlorobenzene	1.08	0.137	1.384	0	78.1	45	100			
1,2-Diphenylhydrazine	1.22	0.137	1.384	0	88.1	38	125			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

1,3-Dichlorobenzene	1.06	0.137	1.384	0	76.6	40	100	
1,4-Dichlorobenzene	1.07	0.137	1.384	0	77.6	35	105	
1-Methylnaphthalene	1.06	0.137	1.384	0	76.6	45	105	N
2,4,5-Trichlorophenol	1.18	0.137	1.384	0	85.1	50	110	
2,4,6-Trichlorophenol	1.17	0.137	1.384	0	84.6	45	110	
2,4-Dichlorophenol	1.05	0.137	1.384	0	76.1	45	110	
2,4-Dimethylphenol	1.26	0.137	1.384	0	91.0	30	105	
2,4-Dinitrophenol	0.372	0.682	1.384	0	26.9	15	130	
2,4-Dinitrotoluene	1.31	0.137	1.384	0	94.5	50	115	
2,6-Dichlorophenol	1.10	0.137	1.384	0	79.6	35	125	
2,6-Dinitrotoluene	1.33	0.137	1.384	0	96.0	50	110	
2-Chloronaphthalene	1.34	0.137	1.384	0	97.0	45	105	
2-Chlorophenol	1.05	0.137	1.384	0	75.6	45	105	
2-Methylnaphthalene	1.16	0.137	1.384	0	83.6	45	105	
2-Methylphenol	1.05	0.137	1.384	0	75.6	40	105	
2-Nitroaniline	1.34	0.137	1.384	0	97.0	45	120	
2-Nitrophenol	1.05	0.137	1.384	0	75.6	40	110	
3,3'-Dichlorobenzidine	0.207	0.137	1.384	0	14.9	25	128	S
3-Nitroaniline	1.31	0.137	1.384	0	95.0	25	110	
4,6-Dinitro-2-methylphenol	0.475	0.341	1.384	0	34.3	30	135	
4-Bromophenyl phenyl ether	1.23	0.137	1.384	0	88.6	45	115	
4-Chloro-3-methylphenol	1.22	0.137	1.384	0	88.1	45	115	
4-Chloroaniline	0.888	0.341	1.384	0	64.2	25	125	
4-Chlorophenyl phenyl ether	1.20	0.137	1.384	0	86.6	45	110	
4-Methylphenol	1.02	0.137	1.384	0	73.6	40	105	
4-Nitroaniline	1.12	0.137	1.384	0	81.1	35	115	
4-Nitrophenol	1.36	0.682	1.384	0	98.5	15	140	
Acenaphthene	1.19	0.137	1.384	0	86.1	45	110	
Acenaphthylene	1.20	0.137	1.384	0	87.1	45	105	
Acetophenone	1.84	0.137	2.726	0	67.4	40	125	
Aniline	0.916	0.137	1.384	0	66.2	40	125	
Anthracene	1.24	0.137	1.384	0	89.6	55	105	
Benzidine	0	0.682	1.384	0	0	20	125	S
Benzo[a]anthracene	1.16	0.137	1.384	0	83.6	50	110	
Benzo[a]pyrene	1.26	0.137	1.384	0	91.0	50	110	
Benzo[b]fluoranthene	1.80	0.137	1.384	0	130	45	115	S
Benzo[g,h,i]perylene	0.702	0.137	1.384	0	50.7	40	125	
Benzo[k]fluoranthene	0.888	0.137	1.384	0	64.2	45	125	
Benzoic acid	1.22	0.682	1.384	0	88.1	25	125	
Benzyl alcohol	1.12	0.341	1.384	0	80.6	20	125	
Biphenyl	1.14	0.137	1.384	0	82.1	60	140	
Bis(2-chloroethoxy)methane	1.25	0.137	1.384	0	90.0	45	110	
Bis(2-chloroethyl)ether	1.20	0.137	1.384	0	86.6	40	105	
Bis(2-chloroisopropyl)ether	1.25	0.137	1.384	0	90.0	20	115	
Bis(2-ethylhexyl)phthalate	1.23	0.137	1.384	0	89.1	45	125	
Butyl benzyl phthalate	1.18	0.341	1.384	0	85.6	50	125	
Carbazole	1.27	0.137	1.384	0	91.5	45	115	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Chrysene	1.25	0.137	1.384	0	90.0	55	110
Di-n-butyl phthalate	1.27	0.341	1.384	0	92.0	55	110
Di-n-octyl phthalate	1.46	0.341	1.384	0	105	40	130
Dibenz[a,h]anthracene	0.695	0.137	1.384	0	50.2	40	125
Dibenzofuran	1.21	0.137	1.384	0	87.6	50	105
Diethyl phthalate	1.24	0.341	1.384	0	89.6	50	115
Dimethyl phthalate	1.25	0.341	1.384	0	90.0	50	110
Fluoranthene	1.25	0.137	1.384	0	90.5	55	115
Fluorene	1.21	0.137	1.384	0	87.6	50	110
Hexachlorobenzene	1.18	0.137	1.384	0	85.6	45	120
Hexachlorobutadiene	1.12	0.137	1.384	0	81.1	40	115
Hexachlorocyclopentadiene	1.08	0.341	1.384	0	78.1	34	125
Hexachloroethane	1.09	0.137	1.384	0	78.6	35	110
Indeno[1,2,3-cd]pyrene	0.730	0.137	1.384	0	52.7	40	120
Isophorone	1.19	0.137	1.384	0	86.1	45	110
N-Nitrosodi-n-propylamine	1.08	0.137	1.384	0	78.1	40	115
N-Nitrosodimethylamine	1.29	0.137	1.384	0	93.0	20	115
N-Nitrosodiphenylamine	2.42	0.137	2.726	0	88.9	50	115
Naphthalene	1.16	0.137	1.384	0	84.1	40	105
Nitrobenzene	1.25	0.137	1.384	0	90.5	40	115
Pentachlorobenzene	1.96	0.137	2.726	0	71.7	35	125
Pentachlorophenol	1.58	0.137	1.384	0	114	25	120
Phenanthrene	1.20	0.137	1.384	0	86.6	50	110
Phenol	1.12	0.137	1.384	0	80.6	40	100
Pyrene	1.17	0.137	1.384	0	84.6	45	125
Pyridine	0.888	0.682	1.384	0	64.2	20	125
Surr: 2,4,6-Tribromophenol	2.20		2.768		79.4	45	138
Surr: 2-Fluorobiphenyl	2.08		2.768		75.1	37	125
Surr: 2-Fluorophenol	1.96		2.768		70.6	60	135
Surr: 4-Terphenyl-d14	2.14		2.768		77.4	60	129
Surr: Nitrobenzene-d5	2.18		2.768		78.6	45	125
Surr: Phenol-d6	1.99		2.768		71.9	40	125

Sample ID:	1005099-06C-MSD	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg-dry
SampType:	MSD	Run ID:	GCMS4_100522A	Analysis Date:	05/22/10 05:47 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	1.94	0.137	2.719	0	71.2	35	125	4.83	30	
1,2,4-Trichlorobenzene	1.10	0.137	1.380	0	79.6	45	110	3.94	30	
1,2-Dichlorobenzene	1.03	0.137	1.380	0	74.6	45	100	4.82	30	
1,2-Diphenylhydrazine	1.20	0.137	1.380	0	87.1	38	125	1.39	30	
1,3-Dichlorobenzene	1.02	0.137	1.380	0	73.6	40	100	4.23	30	
1,4-Dichlorobenzene	1.02	0.137	1.380	0	74.1	35	105	4.85	30	
1-Methylnaphthalene	1.11	0.137	1.380	0	80.1	45	105	4.19	30	N
2,4,5-Trichlorophenol	1.22	0.137	1.380	0	88.6	50	110	3.76	30	
2,4,6-Trichlorophenol	1.17	0.137	1.380	0	85.1	45	110	0.330	30	
2,4-Dichlorophenol	1.11	0.137	1.380	0	80.1	45	110	4.84	30	
2,4-Dimethylphenol	1.26	0.137	1.380	0	91.5	30	105	0.289	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

2,4-Dinitrophenol	0.268	0.680	1.380	0	19.4	15	130	32.5	30	R
2,4-Dinitrotoluene	1.24	0.137	1.380	0	89.6	50	115	5.66	30	
2,6-Dichlorophenol	1.14	0.137	1.380	0	82.6	35	125	3.42	30	
2,6-Dinitrotoluene	1.26	0.137	1.380	0	91.0	50	110	5.58	30	
2-Chloronaphthalene	1.29	0.137	1.380	0	93.5	45	105	3.91	30	
2-Chlorophenol	1.08	0.137	1.380	0	78.1	45	105	2.98	30	
2-Methylnaphthalene	1.13	0.137	1.380	0	82.1	45	105	2.06	30	
2-Methylphenol	1.07	0.137	1.380	0	77.6	40	105	2.34	30	
2-Nitroaniline	1.33	0.137	1.380	0	96.0	45	120	1.29	30	
2-Nitrophenol	1.07	0.137	1.380	0	77.6	40	110	2.34	30	
3,3'-Dichlorobenzidine	0.165	0.137	1.380	0	11.9	25	128	22.5	30	S
3-Nitroaniline	1.23	0.137	1.380	0	89.1	25	110	6.74	30	
4,6-Dinitro-2-methylphenol	0.336	0.340	1.380	0	24.4	30	135	34.1	30	SR
4-Bromophenyl phenyl ether	1.24	0.137	1.380	0	89.6	45	115	0.861	30	
4-Chloro-3-methylphenol	1.26	0.137	1.380	0	91.5	45	115	3.62	30	
4-Chloroaniline	0.831	0.340	1.380	0	60.2	25	125	6.66	30	
4-Chlorophenyl phenyl ether	1.19	0.137	1.380	0	86.1	45	110	0.833	30	
4-Methylphenol	1.07	0.137	1.380	0	77.6	40	105	5.01	30	
4-Nitroaniline	1.04	0.137	1.380	0	75.6	35	115	7.24	30	
4-Nitrophenol	1.31	0.680	1.380	0	95.0	15	140	3.86	30	
Acenaphthene	1.17	0.137	1.380	0	85.1	45	110	1.42	30	
Acenaphthylene	1.15	0.137	1.380	0	83.6	45	105	4.34	30	
Acetophenone	1.96	0.137	2.719	0	72.0	40	125	6.27	30	
Aniline	0.810	0.137	1.380	0	58.7	40	125	12.2	30	
Anthracene	1.20	0.137	1.380	0	87.1	55	105	3.07	30	
Benzidine	0	0.680	1.380	0	0	20	125	0	30	S
Benzo[a]anthracene	1.13	0.137	1.380	0	81.6	50	110	2.67	30	
Benzo[a]pyrene	1.23	0.137	1.380	0	89.1	50	110	2.47	30	
Benzo[b]fluoranthene	1.63	0.137	1.380	0	118	45	115	9.47	30	S
Benzo[g,h,i]perylene	0.632	0.137	1.380	0	45.8	40	125	10.6	30	
Benzo[k]fluoranthene	1.21	0.137	1.380	0	87.6	45	125	30.6	30	R
Benzoic acid	1.04	0.680	1.380	0	75.6	25	125	15.5	30	
Benzyl alcohol	1.11	0.340	1.380	0	80.6	20	125	0.256	30	
Biphenyl	1.13	0.137	1.380	0	82.1	60	140	0.256	30	
Bis(2-chloroethoxy)methane	1.19	0.137	1.380	0	86.6	45	110	4.20	30	
Bis(2-chloroethyl)ether	1.13	0.137	1.380	0	81.6	40	105	6.17	30	
Bis(2-chloroisopropyl)ether	1.17	0.137	1.380	0	84.6	20	115	6.52	30	
Bis(2-ethylhexyl)phthalate	1.18	0.137	1.380	0	85.6	45	125	4.24	30	
Butyl benzyl phthalate	1.18	0.340	1.380	0	85.6	50	125	0.256	30	
Carbazole	1.24	0.137	1.380	0	89.6	45	115	2.45	30	
Chrysene	1.18	0.137	1.380	0	85.6	55	110	5.36	30	
Di-n-butyl phthalate	1.24	0.340	1.380	0	90.0	55	110	2.44	30	
Di-n-octyl phthalate	1.55	0.340	1.380	0	112	40	130	5.69	30	
Dibenz[a,h]anthracene	0.625	0.137	1.380	0	45.3	40	125	10.7	30	
Dibenzofuran	1.18	0.137	1.380	0	85.6	50	105	2.56	30	
Diethyl phthalate	1.20	0.340	1.380	0	87.1	50	115	3.07	30	
Dimethyl phthalate	1.18	0.340	1.380	0	85.6	50	110	5.36	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Fluoranthene	1.19	0.137	1.380	0	86.1	55	115	5.33	30
Fluorene	1.21	0.137	1.380	0	87.6	50	110	0.256	30
Hexachlorobenzene	1.18	0.137	1.380	0	85.6	45	120	0.256	30
Hexachlorobutadiene	1.09	0.137	1.380	0	78.6	40	115	3.37	30
Hexachlorocyclopentadiene	0.955	0.340	1.380	0	69.2	34	125	12.4	30
Hexachloroethane	1.04	0.137	1.380	0	75.1	35	110	4.79	30
Indeno[1,2,3-cd]pyrene	0.659	0.137	1.380	0	47.8	40	120	10.2	30
Isophorone	1.15	0.137	1.380	0	83.6	45	110	3.19	30
N-Nitrosodi-n-propylamine	1.06	0.137	1.380	0	77.1	40	115	1.54	30
N-Nitrosodimethylamine	1.14	0.137	1.380	0	82.6	20	115	12.2	30
N-Nitrosodiphenylamine	2.51	0.137	2.719	0	92.4	50	115	3.64	30
Naphthalene	1.12	0.137	1.380	0	81.1	40	105	3.87	30
Nitrobenzene	1.17	0.137	1.380	0	84.6	40	115	7.07	30
Pentachlorobenzene	2.02	0.137	2.719	0	74.2	35	125	3.20	30
Pentachlorophenol	1.27	0.137	1.380	0	92.0	25	120	21.5	30
Phenanthrene	1.18	0.137	1.380	0	85.6	50	110	1.41	30
Phenol	1.13	0.137	1.380	0	82.1	40	100	1.58	30
Pyrene	1.14	0.137	1.380	0	82.6	45	125	2.64	30
Pyridine	0.817	0.680	1.380	0	59.2	20	125	8.32	30
Surr: 2,4,6-Tribromophenol	2.26		2.761		81.8	45	138	0	0
Surr: 2-Fluorobiphenyl	2.03		2.761		73.6	37	125	0	0
Surr: 2-Fluorophenol	2.02		2.761		73.1	60	135	0	0
Surr: 4-Terphenyl-d14	2.14		2.761		77.6	60	129	0	0
Surr: Nitrobenzene-d5	2.13		2.761		77.1	45	125	0	0
Surr: Phenol-d6	2.03		2.761		73.4	40	125	0	0

Sample ID:	MB-41204	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg
SampType:	MBLK	Run ID:	GCMS4_100522A	Analysis Date:	05/22/10 09:24 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	ND	0.133								
1,2,4-Trichlorobenzene	ND	0.133								
1,2-Dichlorobenzene	ND	0.133								
1,2-Diphenylhydrazine	ND	0.133								
1,3-Dichlorobenzene	ND	0.133								
1,4-Dichlorobenzene	ND	0.133								
1-Methylnaphthalene	ND	0.133								N
2,4,5-Trichlorophenol	ND	0.133								
2,4,6-Trichlorophenol	ND	0.133								
2,4-Dichlorophenol	ND	0.133								
2,4-Dimethylphenol	ND	0.133								
2,4-Dinitrophenol	ND	0.660								
2,4-Dinitrotoluene	ND	0.133								
2,6-Dichlorophenol	ND	0.133								
2,6-Dinitrotoluene	ND	0.133								
2-Chloronaphthalene	ND	0.133								
2-Chlorophenol	ND	0.133								
2-Methylnaphthalene	ND	0.133								

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

2-Methylphenol	ND	0.133
2-Nitroaniline	ND	0.133
2-Nitrophenol	ND	0.133
3,3′-Dichlorobenzidine	ND	0.133
3-Nitroaniline	ND	0.133
4,6-Dinitro-2-methylphenol	ND	0.330
4-Bromophenyl phenyl ether	ND	0.133
4-Chloro-3-methylphenol	ND	0.133
4-Chloroaniline	ND	0.330
4-Chlorophenyl phenyl ether	ND	0.133
4-Methylphenol	ND	0.133
4-Nitroaniline	ND	0.133
4-Nitrophenol	ND	0.660
Acenaphthene	ND	0.133
Acenaphthylene	ND	0.133
Acetophenone	ND	0.133
Aniline	ND	0.133
Anthracene	ND	0.133
Benzidine	ND	0.660
Benzo[a]anthracene	ND	0.133
Benzo[a]pyrene	ND	0.133
Benzo[b]fluoranthene	ND	0.133
Benzo[g,h,i]perylene	ND	0.133
Benzo[k]fluoranthene	ND	0.133
Benzoic acid	ND	0.660
Benzyl alcohol	ND	0.330
Biphenyl	ND	0.133
Bis(2-chloroethoxy)methane	ND	0.133
Bis(2-chloroethyl)ether	ND	0.133
Bis(2-chloroisopropyl)ether	ND	0.133
Bis(2-ethylhexyl)phthalate	ND	0.133
Butyl benzyl phthalate	ND	0.330
Carbazole	ND	0.133
Chrysene	ND	0.133
Di-n-butyl phthalate	ND	0.330
Di-n-octyl phthalate	ND	0.330
Dibenz[a,h]anthracene	ND	0.133
Dibenzofuran	ND	0.133
Diethyl phthalate	ND	0.330
Dimethyl phthalate	ND	0.330
Fluoranthene	ND	0.133
Fluorene	ND	0.133
Hexachlorobenzene	ND	0.133
Hexachlorobutadiene	ND	0.133
Hexachlorocyclopentadiene	ND	0.330
Hexachloroethane	ND	0.133
Indeno[1,2,3-cd]pyrene	ND	0.133

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Isophorone	ND	0.133				
N-Nitrosodi-n-propylamine	ND	0.133				
N-Nitrosodimethylamine	ND	0.133				
N-Nitrosodiphenylamine	ND	0.133				
Naphthalene	ND	0.133				
Nitrobenzene	ND	0.133				
Pentachlorobenzene	ND	0.133				
Pentachlorophenol	ND	0.133				
Phenanthrene	ND	0.133				
Phenol	ND	0.133				
Pyrene	ND	0.133				
Pyridine	ND	0.660				
Surr: 2,4,6-Tribromophenol	2.20		2.680	82.1	45	138
Surr: 2-Fluorobiphenyl	1.98		2.680	73.9	37	125
Surr: 2-Fluorophenol	2.01		2.680	75.1	60	135
Surr: 4-Terphenyl-d14	2.05		2.680	76.4	60	129
Surr: Nitrobenzene-d5	2.15		2.680	80.1	45	125
Surr: Phenol-d6	2.01		2.680	75.1	40	125

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Sample ID:	ICV2-100522	Batch ID:	R49500	TestNo:	SW8270C	Units:	mg/Kg
SampType:	ICV	Run ID:	GCMS4_100522A	Analysis Date:	05/22/10 01:46 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	3.46	0.133	4.000	0	86.5	80	120			
1,2,4-Trichlorobenzene	3.87	0.133	4.000	0	96.8	80	120			
1,2-Dichlorobenzene	3.60	0.133	4.000	0	90.0	80	120			
1,2-Diphenylhydrazine	3.98	0.133	4.000	0	99.5	80	120			
1,3-Dichlorobenzene	3.62	0.133	4.000	0	90.5	80	120			
1,4-Dichlorobenzene	3.63	0.133	4.000	0	90.8	80	120			
1-Methylnaphthalene	3.34	0.133	4.000	0	83.5	80	120			N
2,4,5-Trichlorophenol	3.87	0.133	4.000	0	96.8	80	120			
2,4,6-Trichlorophenol	3.87	0.133	4.000	0	96.8	80	120			
2,4-Dichlorophenol	3.61	0.133	4.000	0	90.2	80	120			
2,4-Dimethylphenol	3.74	0.133	4.000	0	93.5	80	120			
2,4-Dinitrophenol	4.05	0.660	4.000	0	101	80	120			
2,4-Dinitrotoluene	3.97	0.133	4.000	0	99.2	80	120			
2,6-Dichlorophenol	3.53	0.133	4.000	0	88.2	80	120			
2,6-Dinitrotoluene	3.89	0.133	4.000	0	97.2	80	120			
2-Chloronaphthalene	3.78	0.133	4.000	0	94.5	80	120			
2-Chlorophenol	3.60	0.133	4.000	0	90.0	80	120			
2-Methylnaphthalene	3.39	0.133	4.000	0	84.8	80	120			
2-Methylphenol	3.42	0.133	4.000	0	85.5	80	120			
2-Nitroaniline	3.86	0.133	4.000	0	96.5	80	120			
2-Nitrophenol	3.81	0.133	4.000	0	95.2	80	120			
3,3'-Dichlorobenzidine	4.23	0.133	4.000	0	106	80	120			
3-Nitroaniline	3.52	0.133	4.000	0	88.0	80	120			
4,6-Dinitro-2-methylphenol	3.99	0.330	4.000	0	99.8	80	120			
4-Bromophenyl phenyl ether	3.75	0.133	4.000	0	93.8	80	120			
4-Chloro-3-methylphenol	3.31	0.133	4.000	0	82.8	80	120			
4-Chloroaniline	3.34	0.330	4.000	0	83.5	80	120			
4-Chlorophenyl phenyl ether	3.79	0.133	4.000	0	94.8	80	120			
4-Methylphenol	3.33	0.133	4.000	0	83.2	80	120			
4-Nitroaniline	3.99	0.133	4.000	0	99.8	80	120			
4-Nitrophenol	4.06	0.660	4.000	0	102	80	120			
Acenaphthene	3.72	0.133	4.000	0	93.0	80	120			
Acenaphthylene	3.72	0.133	4.000	0	93.0	80	120			
Acetophenone	3.37	0.133	4.000	0	84.2	80	120			
Aniline	3.18	0.133	4.000	0	79.5	80	120			
Anthracene	3.67	0.133	4.000	0	91.8	80	120			
Benzidine	2.96	0.660	4.000	0	74.0	80	120			S
Benzo[a]anthracene	3.62	0.133	4.000	0	90.5	80	120			
Benzo[a]pyrene	4.04	0.133	4.000	0	101	80	120			
Benzo[b]fluoranthene	4.11	0.133	4.000	0	103	80	120			
Benzo[g,h,i]perylene	3.28	0.133	4.000	0	82.0	80	120			
Benzo[k]fluoranthene	4.04	0.133	4.000	0	101	80	120			
Benzoic acid	3.72	0.660	4.000	0	93.0	80	120			
Benzyl alcohol	3.44	0.330	4.000	0	86.0	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Biphenyl	3.82	0.133	4.000	0	95.5	80	120
Bis(2-chloroethoxy)methane	3.50	0.133	4.000	0	87.5	80	120
Bis(2-chloroethyl)ether	3.34	0.133	4.000	0	83.5	80	120
Bis(2-chloroisopropyl)ether	3.72	0.133	4.000	0	93.0	80	120
Bis(2-ethylhexyl)phthalate	3.97	0.133	4.000	0	99.2	80	120
Butyl benzyl phthalate	3.52	0.330	4.000	0	88.0	80	120
Carbazole	3.68	0.133	4.000	0	92.0	80	120
Chrysene	3.76	0.133	4.000	0	94.0	80	120
Di-n-butyl phthalate	3.51	0.330	4.000	0	87.8	80	120
Di-n-octyl phthalate	3.74	0.330	4.000	0	93.5	80	120
Dibenz[a,h]anthracene	3.26	0.133	4.000	0	81.5	80	120
Dibenzofuran	3.69	0.133	4.000	0	92.2	80	120
Diethyl phthalate	4.02	0.330	4.000	0	101	80	120
Dimethyl phthalate	3.71	0.330	4.000	0	92.8	80	120
Fluoranthene	3.69	0.133	4.000	0	92.2	80	120
Fluorene	3.75	0.133	4.000	0	93.8	80	120
Hexachlorobenzene	3.78	0.133	4.000	0	94.5	80	120
Hexachlorobutadiene	3.85	0.133	4.000	0	96.2	80	120
Hexachlorocyclopentadiene	3.91	0.330	4.000	0	97.8	80	120
Hexachloroethane	3.54	0.133	4.000	0	88.5	80	120
Indeno[1,2,3-cd]pyrene	3.40	0.133	4.000	0	85.0	80	120
Isophorone	3.61	0.133	4.000	0	90.2	80	120
N-Nitrosodi-n-propylamine	3.38	0.133	4.000	0	84.5	80	120
N-Nitrosodimethylamine	3.93	0.133	4.000	0	98.2	80	120
N-Nitrosodiphenylamine	3.64	0.133	4.000	0	91.0	80	120
Naphthalene	3.62	0.133	4.000	0	90.5	80	120
Nitrobenzene	3.62	0.133	4.000	0	90.5	80	120
Pentachlorobenzene	3.63	0.133	4.000	0	90.8	80	120
Pentachlorophenol	3.96	0.133	4.000	0	99.0	80	120
Phenanthrene	3.68	0.133	4.000	0	92.0	80	120
Phenol	4.04	0.133	4.000	0	101	80	120
Pyrene	3.58	0.133	4.000	0	89.5	80	120
Pyridine	3.52	0.660	4.000	0	88.0	80	120
Surr: 2,4,6-Tribromophenol	3.85		4.000		96.2	80	120
Surr: 2-Fluorobiphenyl	3.83		4.000		95.8	80	120
Surr: 2-Fluorophenol	3.59		4.000		89.8	80	120
Surr: 4-Terphenyl-d14	3.61		4.000		90.2	80	120
Surr: Nitrobenzene-d5	3.76		4.000		94.0	80	120
Surr: Phenol-d6	3.53		4.000		88.2	80	120

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522B

Sample ID:	LCS2-41204	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg
SampType:	LCS	Run ID:	GCMS4_100522B	Analysis Date:	05/22/10 04:10 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene	1.16	0.133	1.340	0	86.6	40	125			N
1-Naphthylamine	1.01	0.133	1.340	0	75.1	40	125			
2-Naphthylamine	1.17	0.133	1.340	0	87.6	40	125			
2-Picoline	1.12	0.133	1.340	0	83.6	40	125			
3-Methylcholanthrene	1.56	0.133	1.340	0	116	40	125			
4-Aminobiphenyl	0.853	0.133	1.340	0	63.7	40	125			
7,12-Dimethylbenz(a)anthracene	1.83	0.133	1.340	0	136	40	125			S
Dibenz(a,j)acridine	1.31	0.133	1.340	0	98.0	40	125			N
Dimethylphenethylamine	0.580	0.133	1.340	0	43.3	40	125			
Diphenylamine	1.15	0.133	1.340	0	86.1	40	125			
Ethyl methanesulfonate	1.31	0.133	1.340	0	97.5	40	125			
Methyl methanesulfonate	1.45	0.133	1.340	0	108	40	125			
N-Nitrosopiperidine	1.43	0.133	1.340	0	106	40	125			
p-Dimethylaminoazobenzene	1.15	0.133	1.340	0	86.1	40	125			
Pentachloronitrobenzene	1.58	0.133	1.340	0	118	40	125			
Phenacetin	1.33	0.133	1.340	0	99.0	40	125			
Pronamide	1.33	0.133	1.340	0	99.0	40	125			
Surr: 2,4,6-Tribromophenol	2.29		2.680		85.6	45	138			
Surr: 2-Fluorobiphenyl	1.78		2.680		66.4	37	125			
Surr: 2-Fluorophenol	1.93		2.680		71.9	60	135			
Surr: 4-Terphenyl-d14	2.11		2.680		78.6	60	129			
Surr: Nitrobenzene-d5	2.21		2.680		82.6	45	125			
Surr: Phenol-d6	1.91		2.680		71.4	40	125			

Sample ID:	1005099-06C-MS	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg-dry
SampType:	MS	Run ID:	GCMS4_100522B	Analysis Date:	05/22/10 07:00 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene	1.04	0.137	1.384	0	75.1	40	125			N
1-Naphthylamine	0.399	0.137	1.384	0	28.9	40	125			S
2-Naphthylamine	0.613	0.137	1.384	0	44.3	40	125			
2-Picoline	0.929	0.137	1.384	0	67.2	40	125			
3-Methylcholanthrene	1.21	0.137	1.384	0	87.6	40	125			
4-Aminobiphenyl	0.269	0.137	1.384	0	19.4	40	125			S
7,12-Dimethylbenz(a)anthracene	1.85	0.137	1.384	0	134	40	125			S
Dibenz(a,j)acridine	0.551	0.137	1.384	0	39.8	40	125			N
Dimethylphenethylamine	0	0.137	1.384	0	0	40	125			S
Diphenylamine	2.02	0.137	2.726	0	74.2	40	125			
Ethyl methanesulfonate	1.18	0.137	1.384	0	85.1	40	125			
Methyl methanesulfonate	1.24	0.137	1.384	0	89.6	40	125			
N-Nitrosopiperidine	1.29	0.137	1.384	0	93.0	40	125			
p-Dimethylaminoazobenzene	0.950	0.137	1.384	0	68.7	40	125			
Pentachloronitrobenzene	1.38	0.137	1.384	0	99.5	40	125			
Phenacetin	1.10	0.137	1.384	0	79.6	40	125			
Pronamide	1.19	0.137	1.384	0	86.1	40	125			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522B

Surr: 2,4,6-Tribromophenol	2.27	2.768	81.8	45	138
Surr: 2-Fluorobiphenyl	1.73	2.768	62.4	37	125
Surr: 2-Fluorophenol	2.08	2.768	75.1	60	135
Surr: 4-Terphenyl-d14	1.97	2.768	71.1	60	129
Surr: Nitrobenzene-d5	2.01	2.768	72.6	45	125
Surr: Phenol-d6	1.85	2.768	66.9	40	125

Sample ID: 1005099-06C-MSD Batch ID: 41204 TestNo: SW8270C Units: mg/Kg-dry
SampType: MSD Run ID: GCMS4_100522B Analysis Date: 05/22/10 07:23 PM Prep Date: 05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene	1.12	0.137	1.380	0	81.1	40	125	7.39	30	N
1-Naphthylamine	0.343	0.137	1.380	0	24.9	40	125	15.1	30	S
2-Naphthylamine	0.584	0.137	1.380	0	42.3	40	125	4.85	30	
2-Picoline	0.975	0.137	1.380	0	70.6	40	125	4.80	30	
3-Methylcholanthrene	1.30	0.137	1.380	0	94.5	40	125	7.39	30	
4-Aminobiphenyl	0.233	0.137	1.380	0	16.9	40	125	14.0	30	S
7,12-Dimethylbenz(a)anthracene	1.78	0.137	1.380	0	129	40	125	4.04	30	S
Dibenz(a,j)acridine	0.735	0.137	1.380	0	53.2	40	125	28.6	30	N
Dimethylphenethylamine	0	0.137	1.380	0	0	40	125	0	30	S
Diphenylamine	2.11	0.137	2.719	0	77.5	40	125	4.07	30	
Ethyl methanesulfonate	1.22	0.137	1.380	0	88.6	40	125	3.76	30	
Methyl methanesulfonate	1.29	0.137	1.380	0	93.5	40	125	4.09	30	
N-Nitrosopiperidine	1.33	0.137	1.380	0	96.0	40	125	2.90	30	
p-Dimethylaminoazobenzene	1.01	0.137	1.380	0	73.1	40	125	6.06	30	
Pentachloronitrobenzene	1.47	0.137	1.380	0	106	40	125	6.51	30	
Phenacetin	1.17	0.137	1.380	0	85.1	40	125	6.39	30	
Pronamide	1.24	0.137	1.380	0	89.6	40	125	3.71	30	
Surr: 2,4,6-Tribromophenol	2.32		2.761		84.1	45	138	0	0	
Surr: 2-Fluorobiphenyl	1.76		2.761		63.7	37	125	0	0	
Surr: 2-Fluorophenol	2.14		2.761		77.6	60	135	0	0	
Surr: 4-Terphenyl-d14	2.02		2.761		73.1	60	129	0	0	
Surr: Nitrobenzene-d5	1.98		2.761		71.6	45	125	0	0	
Surr: Phenol-d6	1.95		2.761		70.6	40	125	0	0	

Sample ID: MB-41204 Batch ID: 41204 TestNo: SW8270C Units: mg/Kg
SampType: MBLK Run ID: GCMS4_100522B Analysis Date: 05/22/10 08:36 PM Prep Date: 05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene	ND	0.133								N
1-Naphthylamine	ND	0.133								
2-Naphthylamine	ND	0.133								
2-Picoline	ND	0.133								
3-Methylcholanthrene	ND	0.133								
4-Aminobiphenyl	ND	0.133								
7,12-Dimethylbenz(a)anthracene	ND	0.133								
Dibenz(a,j)acridine	ND	0.133								N
Dimethylphenethylamine	ND	0.133								
Diphenylamine	ND	0.133								

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522B

Ethyl methanesulfonate	ND	0.133				
Methyl methanesulfonate	ND	0.133				
N-Nitrosopiperidine	ND	0.133				
p-Dimethylaminoazobenzene	ND	0.133				
Pentachloronitrobenzene	ND	0.133				
Phenacetin	ND	0.133				
Pronamide	ND	0.133				
Surr: 2,4,6-Tribromophenol	2.27		2.680	84.8	45	138
Surr: 2-Fluorobiphenyl	1.67		2.680	62.4	37	125
Surr: 2-Fluorophenol	2.14		2.680	79.9	60	135
Surr: 4-Terphenyl-d14	1.92		2.680	71.6	60	129
Surr: Nitrobenzene-d5	2.03		2.680	75.6	45	125
Surr: Phenol-d6	1.96		2.680	73.1	40	125

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522B

Sample ID:	ICV-100522	Batch ID:	R49504	TestNo:	SW8270C	Units:	mg/Kg
SampType:	ICV	Run ID:	GCMS4_100522B	Analysis Date:	05/22/10 02:10 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene	3.86	0.133	4.000	0	96.5	80	120			N
1-Naphthylamine	4.10	0.133	4.000	0	103	80	120			
2-Naphthylamine	4.39	0.133	4.000	0	110	80	120			
2-Picoline	4.08	0.133	4.000	0	102	80	120			
3-Methylcholanthrene	4.20	0.133	4.000	0	105	80	120			
4-Aminobiphenyl	3.93	0.133	4.000	0	98.2	80	120			
7,12-Dimethylbenz(a)anthracene	3.65	0.133	4.000	0	91.2	80	120			
Dibenz(a,j)acridine	4.13	0.133	4.000	0	103	80	120			N
Dimethylphenethylamine	3.58	0.133	4.000	0	89.5	80	120			
Diphenylamine	3.73	0.133	4.000	0	93.2	80	120			
Ethyl methanesulfonate	3.71	0.133	4.000	0	92.8	80	120			
Methyl methanesulfonate	4.69	0.133	4.000	0	117	80	120			
N-Nitrosopiperidine	4.27	0.133	4.000	0	107	80	120			
p-Dimethylaminoazobenzene	3.23	0.133	4.000	0	80.8	80	120			
Pentachloronitrobenzene	4.25	0.133	4.000	0	106	80	120			
Phenacetin	3.60	0.133	4.000	0	90.0	80	120			
Pronamide	3.72	0.133	4.000	0	93.0	80	120			
Surr: 2,4,6-Tribromophenol	4.52		4.000		113	80	120			
Surr: 2-Fluorobiphenyl	3.74		4.000		93.5	80	120			
Surr: 2-Fluorophenol	4.31		4.000		108	80	120			
Surr: 4-Terphenyl-d14	3.39		4.000		84.8	80	120			
Surr: Nitrobenzene-d5	3.75		4.000		93.8	80	120			
Surr: Phenol-d6	3.89		4.000		97.2	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

Sample ID:	LCS-41071	Batch ID:	41071	TestNo:	SW8260B	Units:	mg/Kg
SampType:	LCS	Run ID:	GCMS2_100513A	Analysis Date:	05/13/10 04:26 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.0239	0.00500	0.0232	0	103	75	125			
1,1,1-Trichloroethane	0.0226	0.00500	0.0232	0	97.6	70	130			
1,1,2,2-Tetrachloroethane	0.0253	0.00500	0.0232	0	109	59	130			
1,1,2-Trichloroethane	0.0241	0.00500	0.0232	0	104	62	125			
1,1-Dichloroethane	0.0227	0.00500	0.0232	0	97.8	75	125			
1,1-Dichloroethene	0.0199	0.00500	0.0232	0	85.8	65	135			
1,1-Dichloropropene	0.0230	0.00500	0.0232	0	99.0	70	135			
1,2,3-Trichlorobenzene	0.0268	0.00500	0.0232	0	116	62	133			
1,2,3-Trichloropropane	0.0242	0.00500	0.0232	0	105	65	130			
1,2,4-Trichlorobenzene	0.0262	0.00500	0.0232	0	113	65	130			
1,2,4-Trimethylbenzene	0.0237	0.00500	0.0232	0	102	65	135			
1,2-Dibromo-3-chloropropane	0.0243	0.00500	0.0232	0	105	49	135			
1,2-Dibromoethane	0.0237	0.00500	0.0232	0	102	70	124			
1,2-Dichlorobenzene	0.0246	0.00500	0.0232	0	106	75	120			
1,2-Dichloroethane	0.0232	0.00500	0.0232	0	99.9	72	135			
1,2-Dichloropropane	0.0235	0.00500	0.0232	0	101	71	120			
1,3,5-Trimethylbenzene	0.0242	0.00500	0.0232	0	104	65	133			
1,3-Dichlorobenzene	0.0244	0.00500	0.0232	0	105	72	124			
1,3-Dichloropropane	0.0238	0.00500	0.0232	0	103	76	123			
1,4-Dichloro-2-butene	0.0240	0.00500	0.0232	0	103	50	150			
1,4-Dichlorobenzene	0.0242	0.00500	0.0232	0	105	72	125			
2,2-Dichloropropane	0.0248	0.00500	0.0232	0	107	67	134			
2-Butanone	0.0596	0.0150	0.0580	0	103	60	135			
2-Chloroethylvinylether	0.0230	0.0150	0.0232	0	99.2	50	150			
2-Chlorotoluene	0.0238	0.00500	0.0232	0	103	70	128			
2-Hexanone	0.0579	0.0150	0.0580	0	99.8	50	145			
4-Chlorotoluene	0.0239	0.00500	0.0232	0	103	75	125			
4-Isopropyltoluene	0.0243	0.00500	0.0232	0	105	75	133			
4-Methyl-2-pentanone	0.0593	0.0150	0.0580	0	102	60	135			
Acetone	0.0495	0.0500	0.0580	0	85.3	40	141			
Acrylonitrile	0.0481	0.0100	0.0464	0	104	40	160			
Benzene	0.0234	0.00500	0.0232	0	101	75	125			
Bromobenzene	0.0241	0.00500	0.0232	0	104	66	120			
Bromochloromethane	0.0238	0.00500	0.0232	0	103	71	125			
Bromodichloromethane	0.0233	0.00500	0.0232	0	100	72	128			
Bromoform	0.0233	0.00500	0.0232	0	100	66	137			
Bromomethane	0.0224	0.00500	0.0232	0	96.4	45	141			
Carbon disulfide	0.0203	0.00500	0.0232	0	87.5	50	150			
Carbon tetrachloride	0.0226	0.00500	0.0232	0	97.5	67	133			
Chlorobenzene	0.0241	0.00500	0.0232	0	104	75	123			
Chloroethane	0.0248	0.00500	0.0232	0	107	41	141			
Chloroform	0.0233	0.00500	0.0232	0	100	72	124			
Chloromethane	0.0237	0.00500	0.0232	0	102	51	129			
cis-1,2-Dichloroethene	0.0233	0.00500	0.0232	0	100	67	125			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

cis-1,3-Dichloropropene	0.0240	0.00500	0.0232	0	104	72	125
Dibromochloromethane	0.0233	0.00500	0.0232	0	100	66	130
Dibromomethane	0.0236	0.00500	0.0232	0	102	75	128
Dichlorodifluoromethane	0.0240	0.00500	0.0232	0	103	80	121
Ethylbenzene	0.0238	0.00500	0.0232	0	103	75	125
Hexachlorobutadiene	0.0248	0.00500	0.0232	0	107	55	140
Iodomethane	0.0233	0.00500	0.0232	0	100	50	150
Isopropylbenzene	0.0241	0.00500	0.0232	0	104	77	129
m,p-Xylene	0.0484	0.00500	0.0464	0	104	80	125
Methyl tert-butyl ether	0.0225	0.00500	0.0232	0	96.8	68	130
Methylene chloride	0.0211	0.00500	0.0232	0	90.9	63	137
n-Butylbenzene	0.0243	0.00500	0.0232	0	105	65	138
n-Propylbenzene	0.0238	0.00500	0.0232	0	103	65	135
Naphthalene	0.0273	0.0150	0.0232	0	118	51	125
o-Xylene	0.0241	0.00500	0.0232	0	104	77	125
sec-Butylbenzene	0.0240	0.00500	0.0232	0	103	65	130
Styrene	0.0242	0.00500	0.0232	0	104	75	125
tert-Butylbenzene	0.0239	0.00500	0.0232	0	103	65	130
Tetrachloroethene	0.0237	0.00500	0.0232	0	102	67	139
Toluene	0.0236	0.00500	0.0232	0	102	75	125
trans-1,2-Dichloroethene	0.0224	0.00500	0.0232	0	96.7	66	134
trans-1,3-Dichloropropene	0.0246	0.00500	0.0232	0	106	65	125
Trichloroethene	0.0227	0.00500	0.0232	0	97.7	77	124
Trichlorofluoromethane	0.0240	0.0150	0.0232	0	103	49	139
Vinyl chloride	0.0239	0.00500	0.0232	0	103	60	125
Surr: 1,2-Dichloroethane-d4	50.9		50.00		102	78	125
Surr: 4-Bromofluorobenzene	49.8		50.00		99.6	85	120
Surr: Dibromofluoromethane	50.4		50.00		101	84	116
Surr: Toluene-d8	49.6		50.00		99.2	85	115

Sample ID:	MB-41071	Batch ID:	41071	TestNo:	SW8260B	Units:	mg/Kg
SampType:	MBLK	Run ID:	GCMS2_100513A	Analysis Date:	05/13/10 05:33 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	0.00500								
1,1,1-Trichloroethane	ND	0.00500								
1,1,2,2-Tetrachloroethane	ND	0.00500								
1,1,2-Trichloroethane	ND	0.00500								
1,1-Dichloroethane	ND	0.00500								
1,1-Dichloroethene	ND	0.00500								
1,1-Dichloropropene	ND	0.00500								
1,2,3-Trichlorobenzene	ND	0.00500								
1,2,3-Trichloropropane	ND	0.00500								
1,2,4-Trichlorobenzene	ND	0.00500								
1,2,4-Trimethylbenzene	ND	0.00500								
1,2-Dibromo-3-chloropropane	ND	0.00500								
1,2-Dibromoethane	ND	0.00500								
1,2-Dichlorobenzene	ND	0.00500								

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

1,2-Dichloroethane	ND	0.00500
1,2-Dichloropropane	ND	0.00500
1,3,5-Trimethylbenzene	ND	0.00500
1,3-Dichlorobenzene	ND	0.00500
1,3-Dichloropropane	ND	0.00500
1,4-Dichloro-2-butene	ND	0.00500
1,4-Dichlorobenzene	ND	0.00500
2,2-Dichloropropane	ND	0.00500
2-Butanone	ND	0.0150
2-Chloroethylvinylether	ND	0.0150
2-Chlorotoluene	ND	0.00500
2-Hexanone	ND	0.0150
4-Chlorotoluene	ND	0.00500
4-Isopropyltoluene	ND	0.00500
4-Methyl-2-pentanone	ND	0.0150
Acetone	ND	0.0500
Acrylonitrile	ND	0.0100
Benzene	ND	0.00500
Bromobenzene	ND	0.00500
Bromochloromethane	ND	0.00500
Bromodichloromethane	ND	0.00500
Bromoform	ND	0.00500
Bromomethane	ND	0.00500
Carbon disulfide	ND	0.00500
Carbon tetrachloride	ND	0.00500
Chlorobenzene	ND	0.00500
Chloroethane	ND	0.00500
Chloroform	ND	0.00500
Chloromethane	ND	0.00500
cis-1,2-Dichloroethene	ND	0.00500
cis-1,3-Dichloropropene	ND	0.00500
Dibromochloromethane	ND	0.00500
Dibromomethane	ND	0.00500
Dichlorodifluoromethane	ND	0.00500
Ethylbenzene	ND	0.00500
Hexachlorobutadiene	ND	0.00500
Iodomethane	ND	0.00500
Isopropylbenzene	ND	0.00500
m,p-Xylene	ND	0.00500
Methyl tert-butyl ether	ND	0.00500
Methylene chloride	ND	0.00500
n-Butylbenzene	ND	0.00500
n-Propylbenzene	ND	0.00500
Naphthalene	ND	0.0150
o-Xylene	ND	0.00500
sec-Butylbenzene	ND	0.00500
Styrene	ND	0.00500

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

tert-Butylbenzene	ND	0.00500				
Tetrachloroethene	ND	0.00500				
Toluene	ND	0.00500				
trans-1,2-Dichloroethene	ND	0.00500				
trans-1,3-Dichloropropene	ND	0.00500				
Trichloroethene	ND	0.00500				
Trichlorofluoromethane	ND	0.0150				
Vinyl chloride	ND	0.00500				
Surr: 1,2-Dichloroethane-d4	48.8		50.00	97.6	78	125
Surr: 4-Bromofluorobenzene	50.1		50.00	100	85	120
Surr: Dibromofluoromethane	49.7		50.00	99.4	84	116
Surr: Toluene-d8	49.0		50.00	97.9	85	115

Sample ID:	1005099-06AMS	Batch ID:	41071	TestNo:	SW8260B		Units:	mg/Kg-dry	
SampType:	MS	Run ID:	GCMS2_100513A	Analysis Date:	05/13/10 06:38 PM		Prep Date:	05/13/10	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane		0.0168	0.00493	0.0229	0	73.4	75	125			S
1,1,1-Trichloroethane		0.0167	0.00493	0.0229	0	72.8	70	130			
1,1,2,2-Tetrachloroethane		0.0190	0.00493	0.0229	0	83.0	59	130			
1,1,2-Trichloroethane		0.0179	0.00493	0.0229	0	78.2	62	125			
1,1-Dichloroethane		0.0168	0.00493	0.0229	0	73.4	75	125			S
1,1-Dichloroethene		0.0158	0.00493	0.0229	0	68.9	65	135			
1,1-Dichloropropene		0.0166	0.00493	0.0229	0	72.5	70	135			
1,2,3-Trichlorobenzene		0.0102	0.00493	0.0229	0	44.8	62	133			S
1,2,3-Trichloropropane		0.0190	0.00493	0.0229	0	82.8	65	130			
1,2,4-Trichlorobenzene		0.0111	0.00493	0.0229	0	48.4	65	130			S
1,2,4-Trimethylbenzene		0.0150	0.00493	0.0229	0	65.4	65	135			
1,2-Dibromo-3-chloropropane		0.0168	0.00493	0.0229	0	73.4	49	135			
1,2-Dibromoethane		0.0177	0.00493	0.0229	0	77.5	70	124			
1,2-Dichlorobenzene		0.0152	0.00493	0.0229	0	66.6	75	120			S
1,2-Dichloroethane		0.0173	0.00493	0.0229	0	75.5	72	135			
1,2-Dichloropropane		0.0174	0.00493	0.0229	0	76.2	71	120			
1,3,5-Trimethylbenzene		0.0152	0.00493	0.0229	0	66.3	65	133			
1,3-Dichlorobenzene		0.0152	0.00493	0.0229	0	66.6	72	124			S
1,3-Dichloropropane		0.0178	0.00493	0.0229	0	77.8	76	123			
1,4-Dichloro-2-butene		0.0179	0.00493	0.0229	0	78.2	50	150			
1,4-Dichlorobenzene		0.0155	0.00493	0.0229	0	67.7	72	125			S
2,2-Dichloropropane		0.0176	0.00493	0.0229	0	76.7	67	134			
2-Butanone		0.0456	0.0148	0.0572	0	79.7	60	135			
2-Chloroethylvinylether		0.0160	0.0148	0.0229	0	69.7	50	150			
2-Chlorotoluene		0.0160	0.00493	0.0229	0	70.0	70	128			
2-Hexanone		0.0405	0.0148	0.0572	0	70.8	50	145			
4-Chlorotoluene		0.0162	0.00493	0.0229	0	70.9	75	125			S
4-Isopropyltoluene		0.0131	0.00493	0.0229	0	57.4	75	133			S
4-Methyl-2-pentanone		0.0438	0.0148	0.0572	0	76.5	60	135			
Acetone		0.0424	0.0493	0.0572	0	74.1	40	141			
Acrylonitrile		0.0359	0.00987	0.0458	0	78.5	40	160			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

Benzene	0.0168	0.00493	0.0229	0	73.6	75	125	S
Bromobenzene	0.0168	0.00493	0.0229	0	73.4	66	120	
Bromochloromethane	0.0174	0.00493	0.0229	0	76.2	71	125	
Bromodichloromethane	0.0170	0.00493	0.0229	0	74.4	72	128	
Bromoform	0.0165	0.00493	0.0229	0	72.0	66	137	
Bromomethane	0.0166	0.00493	0.0229	0	72.3	45	141	
Carbon disulfide	0.0160	0.00493	0.0229	0	69.8	50	150	
Carbon tetrachloride	0.0161	0.00493	0.0229	0	70.2	67	133	
Chlorobenzene	0.0169	0.00493	0.0229	0	73.9	75	123	S
Chloroethane	0.0161	0.00493	0.0229	0	70.2	41	141	
Chloroform	0.0171	0.00493	0.0229	0	74.7	72	124	
Chloromethane	0.0171	0.00493	0.0229	0	74.6	51	129	
cis-1,2-Dichloroethene	0.0169	0.00493	0.0229	0	73.8	67	125	
cis-1,3-Dichloropropene	0.0173	0.00493	0.0229	0	75.6	72	125	
Dibromochloromethane	0.0167	0.00493	0.0229	0	73.1	66	130	
Dibromomethane	0.0177	0.00493	0.0229	0	77.3	75	128	
Dichlorodifluoromethane	0.0172	0.00493	0.0229	0	75.2	80	121	S
Ethylbenzene	0.0160	0.00493	0.0229	0	69.8	75	125	S
Hexachlorobutadiene	0.00575	0.00493	0.0229	0	25.1	55	140	S
Iodomethane	0.0166	0.00493	0.0229	0	72.7	50	150	
Isopropylbenzene	0.0150	0.00493	0.0229	0	65.6	77	129	S
m,p-Xylene	0.0325	0.00493	0.0458	0	71.1	80	125	S
Methyl tert-butyl ether	0.0166	0.00493	0.0229	0	72.6	68	130	
Methylene chloride	0.0150	0.00493	0.0229	0	65.4	63	137	
n-Butylbenzene	0.0119	0.00493	0.0229	0	51.9	65	138	S
n-Propylbenzene	0.0150	0.00493	0.0229	0	65.7	65	135	
Naphthalene	0.0140	0.0148	0.0229	0	61.0	51	125	
o-Xylene	0.0162	0.00493	0.0229	0	70.9	77	125	S
sec-Butylbenzene	0.0130	0.00493	0.0229	0	56.6	65	130	S
Styrene	0.0165	0.00493	0.0229	0	72.1	75	125	S
tert-Butylbenzene	0.0141	0.00493	0.0229	0	61.5	65	130	S
Tetrachloroethene	0.0160	0.00493	0.0229	0	69.7	67	139	
Toluene	0.0167	0.00493	0.0229	0	73.1	75	125	S
trans-1,2-Dichloroethene	0.0163	0.00493	0.0229	0	71.2	66	134	
trans-1,3-Dichloropropene	0.0175	0.00493	0.0229	0	76.3	65	125	
Trichloroethene	0.0164	0.00493	0.0229	0	71.5	77	124	S
Trichlorofluoromethane	0.0165	0.0148	0.0229	0	71.9	49	139	
Vinyl chloride	0.0171	0.00493	0.0229	0	74.7	60	125	
Surr: 1,2-Dichloroethane-d4	52.2		49.33		106	78	125	
Surr: 4-Bromofluorobenzene	50.2		49.33		102	85	120	
Surr: Dibromofluoromethane	49.6		49.33		101	84	116	
Surr: Toluene-d8	49.0		49.33		99.3	85	115	

Sample ID:	1005099-06AMSD	Batch ID:	41071	TestNo:	SW8260B	Units:	mg/Kg-dry		
SampType:	MSD	Run ID:	GCMS2_100513A	Analysis Date:	05/13/10 07:14 PM	Prep Date:	05/13/10		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane		0.0177	0.00478	0.0222	0	79.7	75	125	5.14	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

1,1,1-Trichloroethane	0.0174	0.00478	0.0222	0	78.6	70	130	4.67	30	
1,1,2,2-Tetrachloroethane	0.0212	0.00478	0.0222	0	95.7	59	130	11.2	30	
1,1,2-Trichloroethane	0.0197	0.00478	0.0222	0	88.6	62	125	9.38	30	
1,1-Dichloroethane	0.0176	0.00478	0.0222	0	79.5	75	125	4.94	30	
1,1-Dichloroethene	0.0165	0.00478	0.0222	0	74.4	65	135	4.69	30	
1,1-Dichloropropene	0.0176	0.00478	0.0222	0	79.2	70	135	5.80	30	
1,2,3-Trichlorobenzene	0.0119	0.00478	0.0222	0	53.4	62	133	14.6	30	S
1,2,3-Trichloropropane	0.0209	0.00478	0.0222	0	94.4	65	130	9.97	30	
1,2,4-Trichlorobenzene	0.0128	0.00478	0.0222	0	57.8	65	130	14.5	30	S
1,2,4-Trimethylbenzene	0.0167	0.00478	0.0222	0	75.1	65	135	10.7	30	
1,2-Dibromo-3-chloropropane	0.0192	0.00478	0.0222	0	86.4	49	135	13.1	30	
1,2-Dibromoethane	0.0194	0.00478	0.0222	0	87.2	70	124	8.76	30	
1,2-Dichlorobenzene	0.0170	0.00478	0.0222	0	76.7	75	120	11.1	30	
1,2-Dichloroethane	0.0188	0.00478	0.0222	0	84.9	72	135	8.64	30	
1,2-Dichloropropane	0.0184	0.00478	0.0222	0	83.0	71	120	5.49	30	
1,3,5-Trimethylbenzene	0.0166	0.00478	0.0222	0	74.9	65	133	9.15	30	
1,3-Dichlorobenzene	0.0168	0.00478	0.0222	0	75.7	72	124	9.72	30	
1,3-Dichloropropane	0.0194	0.00478	0.0222	0	87.3	76	123	8.41	30	
1,4-Dichloro-2-butene	0.0210	0.00478	0.0222	0	94.8	50	150	16.2	30	
1,4-Dichlorobenzene	0.0170	0.00478	0.0222	0	76.8	72	125	9.46	30	
2,2-Dichloropropane	0.0182	0.00478	0.0222	0	81.9	67	134	3.50	30	
2-Butanone	0.0534	0.0143	0.0555	0	96.2	60	135	15.8	30	
2-Chloroethylvinylether	0.0186	0.0143	0.0222	0	84.0	50	150	15.6	30	
2-Chlorotoluene	0.0174	0.00478	0.0222	0	78.6	70	128	8.53	30	
2-Hexanone	0.0481	0.0143	0.0555	0	86.8	50	145	17.1	30	
4-Chlorotoluene	0.0175	0.00478	0.0222	0	78.8	75	125	7.41	30	
4-Isopropyltoluene	0.0147	0.00478	0.0222	0	66.2	75	133	11.1	30	S
4-Methyl-2-pentanone	0.0511	0.0143	0.0555	0	92.1	60	135	15.4	30	
Acetone	0.0514	0.0478	0.0555	0	92.6	40	141	19.1	30	
Acrylonitrile	0.0407	0.00957	0.0444	0	91.7	40	160	12.4	30	
Benzene	0.0179	0.00478	0.0222	0	80.5	75	125	5.88	30	
Bromobenzene	0.0185	0.00478	0.0222	0	83.4	66	120	9.64	30	
Bromochloromethane	0.0188	0.00478	0.0222	0	84.8	71	125	7.69	30	
Bromodichloromethane	0.0180	0.00478	0.0222	0	81.3	72	128	5.79	30	
Bromoform	0.0181	0.00478	0.0222	0	81.6	66	137	9.44	30	
Bromomethane	0.0177	0.00478	0.0222	0	79.7	45	141	6.62	30	
Carbon disulfide	0.0172	0.00478	0.0222	0	77.4	50	150	7.18	30	
Carbon tetrachloride	0.0168	0.00478	0.0222	0	75.7	67	133	4.55	30	
Chlorobenzene	0.0179	0.00478	0.0222	0	80.5	75	123	5.47	30	
Chloroethane	0.0176	0.00478	0.0222	0	79.3	41	141	9.04	30	
Chloroform	0.0183	0.00478	0.0222	0	82.5	72	124	6.91	30	
Chloromethane	0.0183	0.00478	0.0222	0	82.3	51	129	6.77	30	
cis-1,2-Dichloroethene	0.0177	0.00478	0.0222	0	80.0	67	125	4.89	30	
cis-1,3-Dichloropropene	0.0187	0.00478	0.0222	0	84.1	72	125	7.51	30	
Dibromochloromethane	0.0181	0.00478	0.0222	0	81.5	66	130	7.69	30	
Dibromomethane	0.0195	0.00478	0.0222	0	87.7	75	128	9.53	30	
Dichlorodifluoromethane	0.0185	0.00478	0.0222	0	83.5	80	121	7.42	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

Ethylbenzene	0.0173	0.00478	0.0222	0	77.9	75	125	7.90	30	
Hexachlorobutadiene	0.00619	0.00478	0.0222	0	27.9	55	140	7.34	30	S
Iodomethane	0.0188	0.00478	0.0222	0	84.6	50	150	12.0	30	
Isopropylbenzene	0.0163	0.00478	0.0222	0	73.5	77	129	8.27	30	S
m,p-Xylene	0.0351	0.00478	0.0444	0	79.1	80	125	7.58	30	S
Methyl tert-butyl ether	0.0182	0.00478	0.0222	0	81.8	68	130	8.88	30	
Methylene chloride	0.0162	0.00478	0.0222	0	73.0	63	137	7.89	30	
n-Butylbenzene	0.0133	0.00478	0.0222	0	60.0	65	138	11.4	30	S
n-Propylbenzene	0.0167	0.00478	0.0222	0	75.4	65	135	10.7	30	
Naphthalene	0.0166	0.0143	0.0222	0	74.8	51	125	17.3	30	
o-Xylene	0.0173	0.00478	0.0222	0	77.9	77	125	6.37	30	
sec-Butylbenzene	0.0144	0.00478	0.0222	0	64.9	65	130	10.6	30	
Styrene	0.0174	0.00478	0.0222	0	78.6	75	125	5.62	30	
tert-Butylbenzene	0.0155	0.00478	0.0222	0	70.0	65	130	9.79	30	
Tetrachloroethene	0.0168	0.00478	0.0222	0	75.9	67	139	5.45	30	
Toluene	0.0176	0.00478	0.0222	0	79.4	75	125	5.24	30	
trans-1,2-Dichloroethene	0.0170	0.00478	0.0222	0	76.4	66	134	3.93	30	
trans-1,3-Dichloropropene	0.0191	0.00478	0.0222	0	85.9	65	125	8.68	30	
Trichloroethene	0.0173	0.00478	0.0222	0	78.1	77	124	5.86	30	
Trichlorofluoromethane	0.0178	0.0143	0.0222	0	80.3	49	139	8.03	30	
Vinyl chloride	0.0181	0.00478	0.0222	0	81.8	60	125	5.91	30	
Surr: 1,2-Dichloroethane-d4	52.4		47.83		110	78	125	0	0	
Surr: 4-Bromofluorobenzene	49.1		47.83		103	85	120	0	0	
Surr: Dibromofluoromethane	48.7		47.83		102	84	116	0	0	
Surr: Toluene-d8	46.5		47.83		97.2	85	115	0	0	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

Sample ID:	ICV-100513	Batch ID:	R49353	TestNo:	SW8260B	Units:	mg/Kg
SampType:	ICV	Run ID:	GCMS2_100513A	Analysis Date:	05/13/10 03:52 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.0501	0.00500	0.0464	0	108	80	120			
1,1,1-Trichloroethane	0.0481	0.00500	0.0464	0	104	80	120			
1,1,2,2-Tetrachloroethane	0.0509	0.00500	0.0464	0	110	80	120			
1,1,2-Trichloroethane	0.0493	0.00500	0.0464	0	106	80	120			
1,1-Dichloroethane	0.0480	0.00500	0.0464	0	103	80	120			
1,1-Dichloroethene	0.0422	0.00500	0.0464	0	90.9	80	120			
1,1-Dichloropropene	0.0478	0.00500	0.0464	0	103	80	120			
1,2,3-Trichlorobenzene	0.0470	0.00500	0.0464	0	101	80	120			
1,2,3-Trichloropropane	0.0490	0.00500	0.0464	0	106	80	120			
1,2,4-Trichlorobenzene	0.0498	0.00500	0.0464	0	107	80	120			
1,2,4-Trimethylbenzene	0.0488	0.00500	0.0464	0	105	80	120			
1,2-Dibromo-3-chloropropane	0.0473	0.00500	0.0464	0	102	80	120			
1,2-Dibromoethane	0.0485	0.00500	0.0464	0	105	80	120			
1,2-Dichlorobenzene	0.0492	0.00500	0.0464	0	106	80	120			
1,2-Dichloroethane	0.0477	0.00500	0.0464	0	103	80	120			
1,2-Dichloropropane	0.0490	0.00500	0.0464	0	106	80	120			
1,3,5-Trimethylbenzene	0.0491	0.00500	0.0464	0	106	80	120			
1,3-Dichlorobenzene	0.0493	0.00500	0.0464	0	106	80	120			
1,3-Dichloropropane	0.0490	0.00500	0.0464	0	105	80	120			
1,4-Dichloro-2-butene	0.0511	0.00500	0.0464	0	110	80	120			
1,4-Dichlorobenzene	0.0489	0.00500	0.0464	0	105	80	120			
2,2-Dichloropropane	0.0529	0.00500	0.0464	0	114	80	120			
2-Butanone	0.116	0.0150	0.116	0	99.6	80	120			
2-Chloroethylvinylether	0.0447	0.0150	0.0464	0	96.4	80	120			
2-Chlorotoluene	0.0482	0.00500	0.0464	0	104	80	120			
2-Hexanone	0.110	0.0150	0.116	0	95.3	80	120			
4-Chlorotoluene	0.0491	0.00500	0.0464	0	106	80	120			
4-Isopropyltoluene	0.0492	0.00500	0.0464	0	106	80	120			
4-Methyl-2-pentanone	0.113	0.0150	0.116	0	97.5	80	120			
Acetone	0.115	0.0500	0.116	0	99.1	80	120			
Acrylonitrile	0.0971	0.0100	0.0928	0	105	80	120			
Benzene	0.0484	0.00500	0.0464	0	104	80	120			
Bromobenzene	0.0499	0.00500	0.0464	0	108	80	120			
Bromochloromethane	0.0495	0.00500	0.0464	0	107	80	120			
Bromodichloromethane	0.0486	0.00500	0.0464	0	105	80	120			
Bromoform	0.0489	0.00500	0.0464	0	105	80	120			
Bromomethane	0.0457	0.00500	0.0464	0	98.5	80	120			
Carbon disulfide	0.0415	0.00500	0.0464	0	89.5	80	120			
Carbon tetrachloride	0.0474	0.00500	0.0464	0	102	80	120			
Chlorobenzene	0.0497	0.00500	0.0464	0	107	80	120			
Chloroethane	0.0512	0.00500	0.0464	0	110	80	120			
Chloroform	0.0484	0.00500	0.0464	0	104	80	120			
Chloromethane	0.0470	0.00500	0.0464	0	101	80	120			
cis-1,2-Dichloroethene	0.0487	0.00500	0.0464	0	105	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

cis-1,3-Dichloropropene	0.0506	0.00500	0.0464	0	109	80	120
Dibromochloromethane	0.0486	0.00500	0.0464	0	105	80	120
Dibromomethane	0.0494	0.00500	0.0464	0	106	80	120
Dichlorodifluoromethane	0.0476	0.00500	0.0464	0	103	80	120
Ethylbenzene	0.0499	0.00500	0.0464	0	108	80	120
Hexachlorobutadiene	0.0482	0.00500	0.0464	0	104	80	120
Iodomethane	0.0462	0.00500	0.0464	0	99.5	80	120
Isopropylbenzene	0.0493	0.00500	0.0464	0	106	80	120
m,p-Xylene	0.100	0.00500	0.0928	0	108	80	120
Methyl tert-butyl ether	0.0459	0.00500	0.0464	0	98.9	80	120
Methylene chloride	0.0472	0.00500	0.0464	0	102	80	120
n-Butylbenzene	0.0486	0.00500	0.0464	0	105	80	120
n-Propylbenzene	0.0492	0.00500	0.0464	0	106	80	120
Naphthalene	0.0494	0.0150	0.0464	0	106	80	120
o-Xylene	0.0501	0.00500	0.0464	0	108	80	120
sec-Butylbenzene	0.0485	0.00500	0.0464	0	105	80	120
Styrene	0.0502	0.00500	0.0464	0	108	80	120
tert-Butylbenzene	0.0491	0.00500	0.0464	0	106	80	120
Tetrachloroethene	0.0494	0.00500	0.0464	0	106	80	120
Toluene	0.0490	0.00500	0.0464	0	106	80	120
trans-1,2-Dichloroethene	0.0472	0.00500	0.0464	0	102	80	120
trans-1,3-Dichloropropene	0.0506	0.00500	0.0464	0	109	80	120
Trichloroethene	0.0482	0.00500	0.0464	0	104	80	120
Trichlorofluoromethane	0.0503	0.0150	0.0464	0	108	80	120
Vinyl chloride	0.0486	0.00500	0.0464	0	105	80	120
Surr: 1,2-Dichloroethane-d4	48.5		50.00		96.9	78	125
Surr: 4-Bromofluorobenzene	49.5		50.00		99.0	85	120
Surr: Dibromofluoromethane	50.9		50.00		102	84	116
Surr: Toluene-d8	49.8		50.00		99.7	85	115

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: PMOIST_100513A

Sample ID:	1005099-05A-DUP	Batch ID:	41060		TestNo:		D2216		Units:		WT%
SampType:	DUP	Run ID:	PMOIST_100513A		Analysis Date:		05/13/10 03:50 PM		Prep Date:		05/13/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Percent Moisture		14.5	0	0	15.16				4.53	30	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: PMOIST_100517A

Sample ID:	1005097-10B-DUP	Batch ID:	41106		TestNo:		D2216		Units:		WT%
SampType:	DUP	Run ID:	PMOIST_100517A		Analysis Date:		05/17/10 03:00 PM		Prep Date:		05/17/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Percent Moisture		5.48	0	0	5.743				4.62	30	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

WASTE PROFILE NUMBER #2010225

WSMR WASTE PROFILE

TO BE COMPLETED BY THE SATELLITE ACCUMULATION POINT (SAP) Manager

SAP Number: May 2010 Liquid Propellant Site Soil Borings #2010225

Detailed description of hazardous waste generation process:
Soil cuttings generated during an investigation at the Liquid Propellant Storage Area were containerized in a 1 CY pallet box. A composite waste characterization sample of the soil was collected and results are attached to this profile (sample ID: LPSA-0094-WC001-20100511). Results indicate that no VOCs or SVOCs were detected. Several RCRA 8 total metals were detected, but below the 20X rule for TCLP waste characterization. Based on these results, the waste is characterized as non-hazardous.

SAP Manager Verification (Generator if this is a single event): I have attached DRMS Form 1930 with all appropriate documentation. I hereby certify that all information submitted in this and all attached documents are to the best of my knowledge an accurate representation of the waste turned into the HWMC/HWSF. All known or suspected hazards have been properly identified.

Print Name: Bradley Davis Phone: 678-3397

Office Symbol: Zia Engineering and Environmental Building # 126

Signature/date (DD MMM YY): 21 JUN 10

TO BE COMPLETED BY THE ACTIVITY ENVIRONMENTAL COMPLIANCE OFFICER (ECO)
I have reviewed the attached DRMS Form 1930; I have reviewed all attached documents and have ensured that all relevant information regarding this waste has been disclosed.
Print Name: Fred Bourger Phone: 678-3426

Office Symbol: Zia Engineering and Environmental Building # 126

Signature/date (DD MMM YY): 22 June 10

HAZARDOUS WASTE STORAGE FACILITY/HWMC REPRESENTATIVE APPROVAL
I have reviewed the attached DRMS Form 1930 and have reviewed all documents that the generating activity has provided.
Print Name: Phone:

Signature/date (DD MMM YY):

Comments:

HAZARDOUS WASTE PROFILE SHEET

NOTE: Explosives, Shock Sensitive, Pyrophoric, Radioactive, and Etiological Waste are not normally accepted by the DRMO

Contact your DRMO for furthur guidance if your waste meets any of these categories.

PART I

A. GENERAL INFORMATION

1. GENERATORS NAME White Sands Missile Range

WASTE PROFILE NO. 2010 225

2. FACILITY ADDRESS
100 Headquarters Ave
WSMR
New Mexico

3. ZIP CODE 88002-5000

4. GENERATOR USEPA ID NM2750211235

5. GENERATOR STATE ID NA

6. TECHNICAL CONTACT Bradley Davis

7. TITLE Geologist

8. PHONE 678-3397

B. WASTE INFORMATION

1. NAME OF WASTE

2A. USEPA WASTE CODE
non-regulated

2B. STATE/LOCAL/HOST-NATION WASTE CODES

3. PROCESS GENERATING WASTE Soil cuttings generated during an environmental investigation.

4. PROJECTED ANNUAL VOL 1 cubic yard

5. MODE OF COLLECTION pallet box

6. IS THIS WASTE A DIOXIN LISTED WASTE AS DEFINED IN 40 CFR 261.31? ☐ YES ☒ NO

7. IS THIS WASTE RESTRICTED FROM LAND DISPOSAL? *(40 CFR 268)* ☐ YES ☒ NO
HAS AN EXEMPTION BEEN GRANTED? ☐ YES ☐ NO
DOES THE WASTE MEET APPLICABLE TREATMENT STANDARDS ALREADY? ☐ YES ☐ NO
(If Yes, Enter Reference Standards in Part 3, Block 6)

PART II

1. MATERIAL CHARACTERIZATION *(Optional - Not Required Data)*

COLOR brown | **DENSITY** >1.0 | **BTU/LB** n/a

TOTAL SOLIDS 100% | **ASH CONTENT** n/a

LAYERING ☐ MULTILAYERED ☐ BILAYERED ☐ SINGLE PHASE

2. RCRA CHARACTERISTICS

PHYSICAL STATE (Check One) ☒ SOLID ☐ LIQUID ☐ SEMI-SOLID ☐ GAS ☐ OTHER _____

OTHER CHARACTERISTICS (Check all that apply)

☐ IGNITABLE ☐ CORROSIVE (D002) ☐ REACTIVE (D003) ☐ WATER REACTIVE ☐ CYANIDE REACTIVE ☐ SULFIDE REACTIVE

Flash Point _____ *ph* _____

☐ HIGH TOC (≥10%) ☐ LOW TOC (<10%) TREATMENT GROUP: ☐ WASTEWATER ☐ NON-WASTEWATER

3. CHEMICAL/MATERIAL COMPOSITION *(List all components and contaminents, including PCB's, and any applicable F-Listed and Underlying Hazardous Constituents)*

CAS #	COMPONENT *(Be as descriptive as possible. Chemical names, as well as generic descriptions. e.g., 'sludge', 'paint solids', 'water' etc. are acceptable.)*	CONCENTRATION	RANGE
	soil cuttings		

HAZARDOUS WASTE PROFILE SHEET *(Continued)*

WASTE PROFILE NO. 2010225

3. MATERIAL COMPOSITION / UNDERLYING HAZARDOUS CONSTITUENTS

CAS #	COMPONENT *(Be as descriptive as possible. Chemical names, as well as generic descriptions. e.g., sludge, 'paint solids', 'water' etc. are acceptable.)*	CONCENTRATION	RANGE
	soil cuttings		

RANGE TOTAL MUST EQUAL AT LEAST 100%

4. SHIPPING INFORMATION

DOT HAZARDOUS MATERIAL? ☐ YES ☒ NO *(If "NO" skip to block 5)*

PROPER SHIPPING NAME

HAZARD CLASS	U.N. or N.A. NO.	PACKING GROUP

ADDITIONAL DESCRIPTION

METHOD OF SHIPMENT ☐ BULK ☐ DRUM ☒ OTHER 1 cubic yard pallet box

DOT REPORTABLE QTY *(RQ)*

EMERGENCY RESPONSE GUIDE EDITION *(YR)*	EMERGENCY RESPONSE NUMBER

5. SPECIAL HANDLING INFORMATION

6. GENERATOR CERTIFICATION

☒ CHEMICAL ANALYSIS *(ATTACH TEST RESULTS)* ☒ USER KNOWLEDGE *(ATTACH SUPPORTING DOCUMENTS)*

EXPLAIN HOW AND WHY THESE DOCUMENTS COMPLY WITH RCRA REQUIRMENTS

CERTIFICATION

I, _____ HEREBY CERTIFY THAT ALL INFORMATION SUBMITTED IN THIS AND ALL ATTACHED DOCUMENTS IS TO THE BEST OF MY KNOWLEDGE AN ACCURATE REPRESENTATION OF THE WASTE TURNED IN TO THE DRMO. ALL KNOWN OR SUSPECTED HAZARDS HAVE BEEN DISCLOSED.

_____ _____

Signature of Generator's Representative *Date*

Liquid Propellant Storage Area (SWMUs 92 and 94) Waste Characterization Results

Sample ID	Method	Date	Parameter	Result	Qualifier	Reporting Limit	MDL	Units
LPSA-0094-WC001-20100511	SW6020	5/21/2010	Total Cadmium	0.203	J	0.285	0.095	mg/kg
LPSA-0094-WC001-20100511	SW6020	5/21/2010	Total Silver	1.14		0.19	0.095	mg/kg
LPSA-0094-WC001-20100511	SW6020	5/21/2010	Total Selenium	1.56		0.475	0.142	mg/kg
LPSA-0094-WC001-20100511	SW6020	5/21/2010	Total Arsenic	2.66		0.95	0.475	mg/kg
LPSA-0094-WC001-20100511	SW6020	5/21/2010	Total Lead	10		0.285	0.095	mg/kg
LPSA-0094-WC001-20100511	SW6020	5/21/2010	Total Chromium	29.1		1.9	0.475	mg/kg
LPSA-0094-WC001-20100511	SW6020	5/21/2010	Total Barium	72		1.9	0.475	mg/kg
LPSA-0094-WC001-20100511	SW7471A	5/20/2010	Total Mercury	ND	U	0.051	0.0163	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,1,1,2-Tetrachloroethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,1,1-Trichloroethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,1,2,2-Tetrachloroethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,1,2-Trichloroethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,1-Dichloroethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,1-Dichloroethene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,1-Dichloropropene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2,3-Trichlorobenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2,3-Trichloropropane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2,4-Trichlorobenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2,4-Trimethylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2-Dibromo-3-chloropropane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2-Dibromoethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2-Dichlorobenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2-Dichloroethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,2-Dichloropropane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,3,5-Trimethylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,3-Dichlorobenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,3-Dichloropropane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,4-Dichloro-2-butene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	1,4-Dichlorobenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	2,2-Dichloropropane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	2-Butanone	ND	U	0.0142	0.00475	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	2-Chloroethylvinylether	ND	U	0.0142	0.00475	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	2-Chlorotoluene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	2-Hexanone	ND	U	0.0142	0.00475	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	4-Chlorotoluene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	4-Methyl-2-pentanone	ND	U	0.0142	0.00475	mg/kg

Liquid Propellant Storage Area (SWMUs 92 and 94) Waste Characterization Results

Sample ID	Method	Date	Parameter	Result	Qualifier	Reporting Limit	MDL	Units
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Acetone	ND	U	0.0475	0.0142	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Acrylonitrile	ND	U	0.0095	0.00285	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Benzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Bromobenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Bromochloromethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Bromodichloromethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Bromoform	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Bromomethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Carbon disulfide	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Carbon tetrachloride	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Chlorobenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Chloroethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Chloroform	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Chloromethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	cis-1,2-Dichloroethene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	cis-1,3-Dichloropropene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Dibromochloromethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Dibromomethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Dichlorodifluoromethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Ethylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Hexachlorobutadiene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Iodomethane	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Isopropylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	m,p-Xylene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Methyl tert-butyl ether	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Methylene chloride	ND	U	0.00475	0.00475	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	n-Butylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	n-Propylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Naphthalene	ND	U	0.0142	0.00475	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	o-Xylene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	p-Isopropyltoluene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	sec-Butylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Styrene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	tert-Butylbenzene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Tetrachloroethene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Toluene	ND	U	0.00475	0.00095	mg/kg

Liquid Propellant Storage Area (SWMUs 92 and 94) Waste Characterization Results

Sample ID	Method	Date	Parameter	Result	Qualifier	Reporting Limit	MDL	Units
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	trans-1,2-Dichloroethene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	trans-1,3-Dichloropropene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Trichloroethene	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Trichlorofluoromethane	ND	U	0.0142	0.00475	mg/kg
LPSA-0094-WC001-20100511	SW8260B	5/13/2010	Vinyl chloride	ND	U	0.00475	0.00095	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1,2,4,5-Tetrachlorobenzene	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1,2,4-Trichlorobenzene	ND	U	0.137	0.0206	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1,2-Dichlorobenzene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1,2-Diphenylhydrazine	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1,3-Dichlorobenzene	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1,4-Dichlorobenzene	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1-Methylnaphthalene	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,4,5-Trichlorophenol	ND	U	0.137	0.0721	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,4,6-Trichlorophenol	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,4-Dichlorophenol	ND	U	0.137	0.0824	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,4-Dimethylphenol	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,4-Dinitrophenol	ND	U	0.679	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,4-Dinitrotoluene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,6-Dichlorophenol	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2,6-Dinitrotoluene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Chloronaphthalene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Chlorophenol	ND	U	0.137	0.0721	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Methylnaphthalene	ND	U	0.137	0.0206	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Methylphenol	ND	U	0.137	0.0721	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Nitroaniline	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Nitrophenol	ND	U	0.137	0.0721	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	3,3'-Dichlorobenzidine	ND	U	0.137	0.0721	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	3-Nitroaniline	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4,6-Dinitro-2-methylphenol	ND	U	0.34	0.0824	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Bromophenyl phenyl ether	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Chloro-3-methylphenol	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Chloroaniline	ND	U	0.34	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Chlorophenyl phenyl ether	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Methylphenol	ND	U	0.137	0.103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Nitroaniline	ND	U	0.137	0.0721	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Nitrophenol	ND	U	0.679	0.144	mg/kg

Liquid Propellant Storage Area (SWMUs 92 and 94) Waste Characterization Results

Sample ID	Method	Date	Parameter	Result	Qualifier	Reporting Limit	MDL	Units
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Acenaphthene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Acenaphthylene	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Acetophenone	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Aniline	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Anthracene	ND	U	0.137	0.0206	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzidine	ND	U	0.679	0.34	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzo[a]anthracene	ND	U	0.137	0.0206	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzo[a]pyrene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzo[b]fluoranthene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzo[g,h,i]perylene	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzo[k]fluoranthene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzoic acid	ND	U	0.679	0.134	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Benzyl alcohol	ND	U	0.34	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Biphenyl	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Bis(2-chloroethoxy)methane	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Bis(2-chloroethyl)ether	ND	U	0.137	0.0103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Bis(2-chloroisopropyl)ether	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Bis(2-ethylhexyl)phthalate	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Butyl benzyl phthalate	ND	U	0.34	0.103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Carbazole	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Chrysene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Di-n-butyl phthalate	ND	U	0.34	0.103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Di-n-octyl phthalate	ND	U	0.34	0.103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Dibenz[a,h]anthracene	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Dibenzofuran	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Diethyl phthalate	ND	U	0.34	0.103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Dimethyl phthalate	ND	U	0.34	0.103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Fluoranthene	ND	U	0.137	0.0206	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Fluorene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Hexachlorobenzene	ND	U	0.137	0.0103	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Hexachlorobutadiene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Hexachlorocyclopentadiene	ND	U	0.34	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Hexachloroethane	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Indeno[1,2,3-cd]pyrene	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Isophorone	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	N-Nitrosodi-n-propylamine	ND	U	0.137	0.0103	mg/kg

Liquid Propellant Storage Area (SWMUs 92 and 94) Waste Characterization Results

Sample ID	Method	Date	Parameter	Result	Qualifier	Reporting Limit	MDL	Units
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	N-Nitrosodimethylamine	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	N-Nitrosodiphenylamine	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Naphthalene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Nitrobenzene	ND	U	0.137	0.0721	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Pentachlorobenzene	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Pentachlorophenol	ND	U	0.137	0.0926	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Phenanthrene	ND	U	0.137	0.0309	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Phenol	ND	U	0.137	0.0618	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Pyrene	ND	U	0.137	0.0206	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Pyridine	ND	U	0.679	0.134	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1-Chloronaphthalene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	1-Naphthylamine	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Naphthylamine	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	2-Picoline	ND	U	0.137	0.0515	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	3-Methylcholanthrene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	4-Aminobiphenyl	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	7,12-Dimethylbenz(a)anthracene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Dibenz(a,j)acridine	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Dimethylphenethylamine	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Diphenylamine	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Ethyl methanesulfonate	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Methyl methanesulfonate	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	N-Nitrosopiperidine	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	p-Dimethylaminoazobenzene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Pentachloronitrobenzene	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Phenacetin	ND	U	0.137	0.0412	mg/kg
LPSA-0094-WC001-20100511	SW8270C	5/22/2010	Pronamide	ND	U	0.137	0.0412	mg/kg

May 25, 2010

Brad Davis
Zia Engineering & Environmental
755 S Telshor Blvd Ste F-201
Las Cruces, NM 88011

TEL: (575) 678-3397
FAX: (575) 532-1587

Order No: 1005099

RE: SWMUs 92B & 94 Closure

Dear Brad Davis:

DHL Analytical received 7 sample(s) on 5/12/2010 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of DoD QSM Ver 4.1 and NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. This report shall not be reproduced except in full without the written approval of DHL Analytical, Inc. Thank you for using DHL Analytical.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-10-2

Table of Contents

Miscellaneous Documents 3

Case Narrative 12

Sample Summary 14

Prep Dates Report 15

Analytical Dates Report 16

Sample Results 17

Analytical QC Summary Report 28

zia engineering & environmental consultants, llc
7551 S. Telshor Blvd. Ste. F-201
Las Cruces, NM 88011
575-532-1526 tel
575-532-1587 f

1005095

CHAIN OF CUSTODY RECORD

PROJECT NO.: 24
PROJECT NAME: SWMUs 92B + 94 Closure
SAMPLER'S SIGNATURE:

	DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	NDMA									REMARKS
01	5-11-10	0903	LPSA-0092B-SB001(0-1) -20100511	Soil		1	X									
02	5-11-10	0905	LPSA-0092B-SB001(4-5) -20100511	Soil		1	X									
03	5-11-10	0930	LPSA-0092B-SB001(9-10) -20100511	Soil		1	X									
04	5-11-10	0955	LPSA-0092B-SB001(14-15) -20100511	Soil		1	X									
05	5-11-10	0955	LPSA-0092B-SB001(14-15) -20100511	Soil		1	X									

PROJECT INFORMATION			1. RELINQUISHED BY: (SIGNATURE)	2. RELINQUISHED BY: (SIGNATURE)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER: Brad Davis	SAMPLES RECEIVED		(PRINTED NAME) Bradley T. Davis	(PRINTED NAME) Fed Ex	(PRINTED NAME)
SHIPPING ID NO.	TOTAL NO. OF CONTAINERS		RECEIVED BY: (SIGNATURE) Fed Ex	RECEIVED BY: (SIGNATURE)	(COMPANY)
	CHAIN OF CUSTODY SEALS	yes	(TIME/DATE) 5/11/10	(TIME/DATE) 5/12/10 10:00	(TIME/DATE)
VIA: Fed Ex	GOOD CONDITION/CHILLED	5.5	SPECIAL INSTRUCTIONS / COMMENTS:		
	CONFORMS TO RECORD				

PLEASE USE BALL POINT PEN

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

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Las Cruces, NM 88011
575-532-1526 u
575-532-1687 f

#1005099

CHAIN OF CUSTODY RECORD

PROJECT NO.: 24
PROJECT NAME: SWMUs 92B+94 Closure
SAMPLER'S SIGNATURE:

	DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	RCRA 8 Metals	VOCs	SVOCs								REMARKS
se	5-11-10	1430	LPSA-0094-WC001-20100511	Soil		3	X	X	X								Waste Characterization

PROJECT INFORMATION	SAMPLES RECEIVED		1. RELINQUISHED BY: (SIGNATURE)	2. RELINQUISHED BY: (SIGNATURE)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER: Brad Davis	TOTAL NO. OF CONTAINERS		(PRINTED NAME) Bradley T. Davis	(PRINTED NAME) Fedex	(PRINTED NAME)
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	yes	RECEIVED BY: (SIGNATURE) Fedex	RECEIVED BY: (SIGNATURE)	(COMPANY)
	GOOD CONDITION/CHILLED	5.5	(TIME/DATE) 5/11/10	(TIME/DATE) 5/12/10 10:00	(TIME/DATE)
VIA: Fed EX	CONFORMS TO RECORD		SPECIAL INSTRUCTIONS / COMMENTS:		

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#1005099

CHAIN OF CUSTODY RECORD

PAGE 3 OF 3

PROJECT NO. 24

PROJECT NAME SWMUs 92B & 94 Closure

SAMPLER'S SIGNATURE Bradley T. Davis

DATE	TIME	SAMPLE ID	MATRIX	LAB NO.	NO. OF CONTAINERS	NDMA	TPH								REMARKS
5-11-10	1135	LPSA-0094-RB001(19-20)-20100511	water		10	X	X								

PROJECT INFORMATION	SAMPLES RECEIVED		1. RELINQUISHED BY: (SIGNATURE)	2. RELINQUISHED BY: (SIGNATURE)	3. RECEIVED BY LAB: (SIGNATURE)
PROJECT MANAGER Brad Davis	TOTAL NO. OF CONTAINERS		(PRINTED NAME) Bradley T. Davis	(PRINTED NAME) Fed ex	(PRINTED NAME)
SHIPPING ID NO.	CHAIN OF CUSTODY SEALS	yes	RECEIVED BY: (SIGNATURE) Fed ex	RECEIVED BY: (SIGNATURE)	(COMPANY)
	GOOD CONDITION/CHILLED	5.5	(TIME/DATE) 5/11/10	(TIME/DATE) 5/12/10 10:00	(TIME/DATE)
VIA: Fed EX	CONFORMS TO RECORD		SPECIAL INSTRUCTIONS/COMMENTS:		

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FedEx. US Airbill Express — FedEx Tracking Number 8692 5729 9754

Recipient's Copy

1 From [redacted]

Date

Sender's Name: CRAG DAVIS — Phone: 505 676 0263

Company: TTA INSTRUMENTING + ENVIRONMENTAL

Address: 755 S. TRESHOR BLVD SUITE E-201

City: LAS CRUCES — State: NM — ZIP: 88011

2 Your Internal Billing Reference LCS-09-615-36004

3 To

Recipient's Name: JOHN DUBONT — Phone: 510 388-6272

Company: BML ANALYTICAL

Recipient's Address: 2300 DOUBLE CREEK DRIVE

Address

City: ROUND ROCK — State: TX — ZIP: 78664

8692 5729 9754

4a Express Package Service — Packages up to 150 lbs.

- [x] FedEx Priority Overnight
- [ ] FedEx Standard Overnight
- [ ] FedEx First Overnight
- [ ] FedEx 2Day
- [ ] FedEx Express Saver

4b Express Freight Service — Packages over 150 lbs.

- [ ] FedEx 1Day Freight*
- [ ] FedEx 2Day Freight
- [ ] FedEx 3Day Freight

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak*
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other

6 Special Handling

- [ ] SATURDAY Delivery
- [ ] HOLD Weekday at FedEx Location
- [ ] HOLD Saturday at FedEx Location

Does this shipment contain dangerous goods?

- [x] No
- [ ] Yes
- [ ] Dry Ice
- [ ] Cargo Aircraft Only

7 Payment Bill to:

- [x] Sender
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

Total Packages | Total Weight: 7 LBS | Total Declared Value: $ .00

8 Residential Delivery Signature Options

- No Signature Required
- Direct Signature
- Indirect Signature

520

fedex.com 1800.GoFedEx 1800.463.3339

5.5°C

CUSTODY SEAL
DATE: 5-11-09
SIGNATURE: Bradley T. Davis

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

DHL Analytical

Sample Receipt Checklist

Client Name Zia Engineering & Environmental | Date Received: 5/12/2010

Work Order Number 1005099 | Received by JB

Checklist completed by: Signature [signature] Date 5/12/10 | Reviewed by Initials [initials] Date 5-12-10

Carrier name: FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	5.5 °C
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	Not Applicable ☐

Adjusted? NO Checked by [initials]

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Page 1 of 1

Laboratory Data Package Signature Page

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC 5.13
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies.

The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Scott Schroeder – Project Manager
John DuPont – General / QA Manager

Signature

05/25/10
Date

DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: SWMUs 92B & 94 Closure	Date: 5/25/2010
Reviewer Name: Angie O'Donnell	Laboratory Work Order: 1005099
Prep Batch Number(s): See Prep Dates Report	Run Batch: See Analytical Dates Report

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-Custody (C-O-C)					
R1	OI	1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				R1-01
		2) Were all departures from standard conditions described in an exception report?			X		
R2	OI	**Sample and Quality Control (QC) Identification**					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test Reports**					
		1) Were all samples prepared and analyzed within holding times?	X				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		3) Were calculations checked by a peer or supervisor?	X				
		4) Were all analyte identifications checked by a peer or supervisor?	X				
		5) Were sample quantitation limits reported for all analytes not detected?	X				
		6) Were all results for soil and sediment samples reported on a dry weight basis?	X				
		7) Were % moisture (or solids) reported for all soil and sediment samples?	X				
		8) If required for the project, TICs reported?	X				
R4	O	**Surrogate Recovery Data**					
		1) Were surrogates added prior to extraction?	X				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			R4-02
R5	OI	**Test Reports/Summary Forms for Blank Samples**					
		1) Were appropriate type(s) of blanks analyzed?	X				
		2) Were blanks analyzed at the appropriate frequency?	X				
		3) Where method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		4) Were blank concentrations < MQL?	X				
R6	OI	**Laboratory Control Samples (LCS):**					
		1) Were all COCs included in the LCS?	X				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		3) Were LCSs analyzed at the required frequency?	X				
		4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X			R6-04
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	X				
		6) Was the LCSD RPD within QC limits (if applicable)?	X				
R7	OI	**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Data**					
		1) Were the project/method specified analytes included in the MS and MSD?	X				
		2) Were MS/MSD analyzed at the appropriate frequency?		X			R7-02
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			R7-03
		4) Were MS/MSD RPDs within laboratory QC limits?		X			R7-04
R8	OI	**Analytical Duplicate Data**					
		1) Were appropriate analytical duplicates analyzed for each matrix?	X				
		2) Were analytical duplicates analyzed at the appropriate frequency?	X				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	OI	**Method Quantitation Limits (MQLs):**					
		1) Are the MQLs for each method analyte included in the laboratory data package?	X				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		3) Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	**Other Problems/Anomalies**					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				R10-01
		2) Were all necessary corrective actions performed for the reported data?	X				
		3) Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: SWMUs 92B & 94 Closure	Date: 5/25/2010
Reviewer Name: Angie O'Donnell	Laboratory Work Order: 1005099

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial Calibration (ICAL)**					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	X				
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and Continuing calibration Verification (ICCV and CCV) and Continuing Calibration blank (CCB):**					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?		X			S2-02
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass Spectral Tuning:**					
		1) Was the appropriate compound for the method used for tuning?	X				
		2) Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal Standards (IS):**					
		1) Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw Data (NELAC section 1 appendix A glossary, and section 5.12)**					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				S5-02
S6	O	**Dual Column Confirmation**					
		1) Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively Identified Compounds (TICs):**					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) Results:**					
		1) Were percent recoveries within method QC limits?	X				
S9	I	**Serial Dilutions, Post Digestion Spikes, and Method of Standard Additions**					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X			S9-01
S10	OI	**Method Detection Limit (MDL) Studies**					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency Test Reports:**					
		1) Was the lab's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards Documentation**					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/Analyte Identification Procedures**					
		1) Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of Analyst Competency (DOC)**					
		1) Was DOC conducted consistent with NELAC Chapter 5C?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/Validation Documentation for Methods** (NELAC Chap 5)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory Standard Operating Procedures (SOPs):**					
		1) Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable)
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Manual Integrations Tracking Form - DoD QSM 4.1 Requirement

Instrument ID: GCMS4 **DATA Folder: GCMS#4-100522A**

Sample ID ICAL, ICV, and CCV QC and Field Samples	Analyte #1 Identification & Reason	Analyte #2 Identification & Reason	Analyte #3 Identification & Reason	Analyte #4 Identification & Reason
	Benzo(b)fluoranthene.			
1005099-06C-MSD	MI because of poor resolution between benzo(b) and benzo(k) fluoranthene.			

*Manually Integrated = MI

D.O 5/25/10
Analyst Date

2nd Level Review ~~5.24.2010~~ 5.25.2010
Date

CLIENT:	Zia Engineering & Environmental	CASE NARRATIVE
Project:	SWMUs 92B & 94 Closure	
Lab Order:	1005099	

This case narrative describes abnormalities and deviations that may affect the results and summarizes all known issues that need to be highlighted for the data user to assess the results. This case narrative and the report contents are compliant with DoD QSM Ver 4.1 and NELAC.

Samples were analyzed using the methods outlined in the following references:

Method M8015D - TPH Extractable by GC (DRO)
Method M8015V - Modified 8015 Gasoline (GRO)
Method SW8270C - Semivolatiles by GC/MS (The compounds 1-Methylnaphthalene/1-Chloronaphthalene and Dibenz(a,j)acridine are not NELAC Certified)
Method SW8270C - Semivolatile SIM Analysis by GC/MS
Method D2216 - Percent Moisture
Method SW6020 - Trace Metals
Method SW7471A - Total Mercury
Method SW8260B - Volatiles Analysis

Exception Report R1-01

Samples were received on and log-in performed on 5/12/2010. A total of 7 samples were received and all were analyzed. The samples arrived in good condition and were properly packaged.

Exception Report R4-02

For DRO Analysis, the recovery of surrogate Isopropylbenzene in Sample LPSA-0094-RB001 (19-20)-2010051, the Method Blank (MB-41069), the Laboratory Control Spike and the Laboratory Control Spike Duplicate (LCS/LCSD-41069) was slightly below the method control limits. These are flagged in the enclosed Analytical Data Report and the QC Summary Report. The remaining surrogate was within acceptable control limits for these samples. No further corrective action was taken.

Exception Report R6-02

For Semivolatiles Analysis, Batch 41204, the recovery of compound 7,12-Dimethylbenz(a)anthracene in the Laboratory Control Spike (LCS-41204) was slightly above the method control limits. This is flagged accordingly in the QC Summary Report. This compound was within acceptable control limits in the associated ICV. No further corrective action was taken.

Exception Report R7-02

For DRO Analysis, Prep Batch 41069, an MS/MSD was not analyzed due to limited sample volume. An LCS /LCSD was analyzed instead.

Exception Report R7-03 and -04

For Volatiles Analysis, Batch 41071, the recoveries of several compounds in the Matrix Spike and Matrix Spike Duplicate (1005099-06 MS/MSD) were below the method control limits. These are flagged in the QC Summary Report. These compounds are within acceptable control limits in the associated LCS. The reference sample selected for the Matrix Spike and Matrix Spike Duplicate were from this workorder. No

further corrective action was taken.

For Semivolatiles Analysis, Batch 41204, the recoveries and/or RPD's of several compounds in the Matrix Spike and Matrix Spike Duplicate (1005099-06 MS/MSD) were outside of the method control limits. These are flagged in the QC Summary Report. The reference sample selected for the Matrix Spike and Matrix Spike Duplicate were from this workorder. No further corrective action was taken.

Exception Report R10-1

The analysis of NDMA in soil and/or water is being performed using Method 8270 with a Selected Ion Monitoring (SIM) mode to improve the detection limit. The method was also modified to use deuterated NDMA as the surrogate, and the extraction was modified to improve the recovery of NDMA in the sample extracts. The analysis of NDMA is included on DHL Analytical's NELAP accreditation and the method modifications have been validated.

Exception Report S2-02

For Semivolatiles Analysis, the recovery of Benzidine in the Initial Calibration Verification (ICV2-100522) was below the control limit. This was flagged accordingly in the enclosed QC Summary Report. The associated LCS was within acceptable control limits for this compound. No further corrective actions were taken.

Exception Report S5-02

For DRO Analysis, some samples and/or standards were manually integrated. Please refer to the table on page 11 of this report for the full list of samples, standards, and the compounds that were manually integrated.

Exception Report S9-01

For Metals Analysis, the RPD of Selenium in the Serial Dilution (1005099-06 SD) was above the method control limit. This was flagged in the QC Summary Report. The associated PDS was within acceptable control limits for this analyte. No further corrective action was taken.

A summary of project communication follows:

DHL Analytical received the Project RFQ from the client on 12/29/09. Completed RFQ returned to client via email on 1/07/2010. Purchase Order/Terms and Conditions received and signed and approved by both parties on 01/25/2010.
Brad Davis of ZIA Requested the bottle kit from Jennifer Barker of DHL: via email on 4/30/2010.
Kit sent on 5/4/2010 via Lonestar Overnight, to arrive by 5/6/2010.
This sample delivery group arrives at DHL Analytical 5/12/2010. The sample summary, sent via email from Log-in to client on 5/12/2010, is kept in the project folder.

All hardcopies for the sample kit request, bill of lading for sample kit sent are kept in the project folder.

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Lab Order: 1005099

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recv'd
1005099-01	LPSA-0092B-SB001(0-1)-20100511		05/11/10 09:03 AM	05/12/10
1005099-02	LPSA-0092B-SB001(4-5)-20100511		05/11/10 09:05 AM	05/12/10
1005099-03	LPSA-0092B-SB001(9-10)-20100511		05/11/10 09:30 AM	05/12/10
1005099-04	LPSA-0092B-SB001(14-15)-20100511		05/11/10 09:55 AM	05/12/10
1005099-05	LPSA-0092B-SB101(14-15)-20100511		05/11/10 09:55 AM	05/12/10
1005099-06	LPSA-0094-WC001-20100511		05/11/10 02:30 PM	05/12/10
1005099-07	LPSA-0094-RB001(19-20)-20100511		05/11/10 11:35 AM	05/12/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Lab Order: 1005099

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1005099-01A	LPSA-0092B-SB001(0-1)-2010051	05/11/10 09:03 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB001(0-1)-2010051	05/11/10 09:03 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-02A	LPSA-0092B-SB001(4-5)-2010051	05/11/10 09:05 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB001(4-5)-2010051	05/11/10 09:05 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-03A	LPSA-0092B-SB001(9-10)-2010051	05/11/10 09:30 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB001(9-10)-2010051	05/11/10 09:30 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-04A	LPSA-0092B-SB001(14-15)-2010051	05/11/10 09:55 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB001(14-15)-2010051	05/11/10 09:55 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-05A	LPSA-0092B-SB101(14-15)-2010051	05/11/10 09:55 AM	Soil	D2216	Moisture Preparation	05/13/10 11:00 AM	41060
	LPSA-0092B-SB101(14-15)-2010051	05/11/10 09:55 AM	Soil	SW3585	Solvent Extraction/Vortex	05/19/10 08:40 AM	41150
1005099-06A	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW5030B	Purge and Trap Soils GC/MS	05/13/10 03:35 PM	41071
1005099-06B	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW7471A	Mercury Soil Prep, Total	05/20/10 09:00 AM	41164
	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW3050B	Soil Prep Total Metals: ICP-MS	05/20/10 09:00 AM	41153
	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	D2216	Moisture Preparation	05/17/10 10:45 AM	41106
1005099-06C	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW3550B	Soil Prep Sonication: BNA	05/21/10 11:33 AM	41204
	LPSA-0094-WC001-20100511	05/11/10 02:30 PM	Soil	SW3550B	Soil Prep Sonication: BNA	05/21/10 11:33 AM	41204
1005099-07A	LPSA-0094-RB001(19-20)-2010051	05/11/10 11:35 AM	Equip Blank	SW5030B	Purge and Trap Water GC-Gas	05/14/10 11:56 AM	41087
1005099-07B	LPSA-0094-RB001(19-20)-2010051	05/11/10 11:35 AM	Equip Blank	SW3535A	Aq Prep SPE: BNA	05/18/10 12:46 PM	41136
1005099-07C	LPSA-0094-RB001(19-20)-2010051	05/11/10 11:35 AM	Equip Blank	SW3510C	Aq Prep Sep Funnel: DRO	05/13/10 03:07 PM	41069

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Lab Order: 1005099

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1005099-01A	LPSA-0092B-SB001(0-1)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 07:28 PM	GCMS3_100521A
	LPSA-0092B-SB001(0-1)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-02A	LPSA-0092B-SB001(4-5)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 08:37 PM	GCMS3_100521A
	LPSA-0092B-SB001(4-5)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-03A	LPSA-0092B-SB001(9-10)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 07:45 PM	GCMS3_100521A
	LPSA-0092B-SB001(9-10)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-04A	LPSA-0092B-SB001(14-15)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 08:03 PM	GCMS3_100521A
	LPSA-0092B-SB001(14-15)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-05A	LPSA-0092B-SB101(14-15)-20100511	Soil	SW8270C	NDMA by 8270-SIM	41150	1	05/21/10 08:20 PM	GCMS3_100521A
	LPSA-0092B-SB101(14-15)-20100511	Soil	D2216	Percent Moisture	41060	1	05/13/10 03:50 PM	PMOIST_100513A
1005099-06A	LPSA-0094-WC001-20100511	Soil	SW8260B	8260 Soil Volatiles by GC/MS	41071	1	05/13/10 06:06 PM	GCMS2_100513A
1005099-06B	LPSA-0094-WC001-20100511	Soil	D2216	Percent Moisture	41106	1	05/17/10 03:00 PM	PMOIST_100517A
	LPSA-0094-WC001-20100511	Soil	SW7471A	Total Mercury: Soil/Solid	41164	1	05/20/10 05:03 PM	CETAC_HG_100520B
	LPSA-0094-WC001-20100511	Soil	SW6020	Trace Metals: ICP-MS - Solid	41153	5	05/21/10 12:22 PM	ICP-MS2_100521A
1005099-06C	LPSA-0094-WC001-20100511	Soil	SW8270C	Semivolatiles by GC/MS - Soil	41204	1	05/22/10 11:25 PM	GCMS4_100522A
	LPSA-0094-WC001-20100511	Soil	SW8270C	Semivolatiles by GC/MS - Soil	41204	1	05/22/10 11:49 PM	GCMS4_100522B
1005099-07A	LPSA-0094-RB001(19-20)-20100511	Equip Blank	M8015V	Method 8015 Gasoline (GRO)	41087	1	05/14/10 01:40 PM	GC4_100514B
1005099-07B	LPSA-0094-RB001(19-20)-20100511	Equip Blank	SW8270C	NDMA by 8270-SIM	41136	1	05/19/10 01:42 AM	GCMS3_100518A
1005099-07C	LPSA-0094-RB001(19-20)-20100511	Equip Blank	M8015D	TPH Extractable by GC - Water	41069	1	05/21/10 03:16 PM	GC12_100521B

DHL Analytical

Date: 05/25/10

CLIENT:	Zia Engineering & Environmental	Client Sample ID:	LPSA-0092B-SB001(0-1)-20100511
Project:	SWMUs 92B & 94 Closure	Lab ID:	1005099-01
Project No:	24	Collection Date:	05/11/10 09:03 AM
Lab Order:	1005099	Matrix:	Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00322	0.00537		mg/Kg-dry	1	05/21/10 07:28 PM
Surr: N-Nitrosodimethylamine-d6	67.9	0	30 - 125		%REC	1	05/21/10 07:28 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	6.84	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
	B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
	C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
	DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
	E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
			S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0092B-SB001(4-5)-20100511
Lab ID: 1005099-02
Collection Date: 05/11/10 09:05 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00314	0.00524		mg/Kg-dry	1	05/21/10 08:37 PM
Surr: N-Nitrosodimethylamine-d6	69.0	0	30 - 125		%REC	1	05/21/10 08:37 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	5.30	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0092B-SB001(9-10)-20100511
Lab ID: 1005099-03
Collection Date: 05/11/10 09:30 AM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00351	0.00585		mg/Kg-dry	1	05/21/10 07:45 PM
Surr: N-Nitrosodimethylamine-d6	72.0	0	30 - 125		%REC	1	05/21/10 07:45 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	14.7	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT:	Zia Engineering & Environmental	Client Sample ID:	LPSA-0092B-SB001(14-15)-20100511
Project:	SWMUs 92B & 94 Closure	Lab ID:	1005099-04
Project No:	24	Collection Date:	05/11/10 09:55 AM
Lab Order:	1005099	Matrix:	Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00343	0.00572		mg/Kg-dry	1	05/21/10 08:03 PM
Surr: N-Nitrosodimethylamine-d6	68.6	0	30 - 125		%REC	1	05/21/10 08:03 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	13.0	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:				
	*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
	B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
	C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
	DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
	E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
			S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT:	Zia Engineering & Environmental	Client Sample ID:	LPSA-0092B-SB101(14-15)-20100511
Project:	SWMUs 92B & 94 Closure	Lab ID:	1005099-05
Project No:	24	Collection Date:	05/11/10 09:55 AM
Lab Order:	1005099	Matrix:	Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	0.00353	0.00589		mg/Kg-dry	1	05/21/10 08:20 PM
Surr: N-Nitrosodimethylamine-d6	67.0	0	30 - 125		%REC	1	05/21/10 08:20 PM
Percent Moisture		D2216					Analyst: RP
Percent Moisture	15.2	0	0		WT%	1	05/13/10 03:50 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Total Mercury: Soil/Solid		SW7471A					Analyst: LM
Mercury	ND	0.0163	0.0510		mg/Kg-dry	1	05/20/10 05:03 PM
Trace Metals: ICP-MS - Solid		SW6020					Analyst: KL
Arsenic	2.66	0.475	0.950		mg/Kg-dry	5	05/21/10 12:22 PM
Barium	72.0	0.475	1.90		mg/Kg-dry	5	05/21/10 12:22 PM
Cadmium	0.203	0.0950	0.285	J	mg/Kg-dry	5	05/21/10 12:22 PM
Chromium	29.1	0.475	1.90		mg/Kg-dry	5	05/21/10 12:22 PM
Lead	10.0	0.0950	0.285		mg/Kg-dry	5	05/21/10 12:22 PM
Selenium	1.56	0.142	0.475		mg/Kg-dry	5	05/21/10 12:22 PM
Silver	1.14	0.0950	0.190		mg/Kg-dry	5	05/21/10 12:22 PM
Semivolatiles by GC/MS - Soil		SW8270C					Analyst: DO
1,2,4,5-Tetrachlorobenzene	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,2,4-Trichlorobenzene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,2-Dichlorobenzene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,2-Diphenylhydrazine	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,3-Dichlorobenzene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1,4-Dichlorobenzene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
1-Chloronaphthalene	ND	0.0412	0.137	N	mg/Kg-dry	1	05/22/10 11:49 PM
1-Methylnaphthalene	ND	0.0618	0.137	N	mg/Kg-dry	1	05/22/10 11:25 PM
1-Naphthylamine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
2,4,5-Trichlorophenol	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,4,6-Trichlorophenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,4-Dichlorophenol	ND	0.0824	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,4-Dimethylphenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,4-Dinitrophenol	ND	0.0515	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
2,4-Dinitrotoluene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,6-Dichlorophenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2,6-Dinitrotoluene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Chloronaphthalene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Chlorophenol	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Methylnaphthalene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Methylphenol	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Naphthylamine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
2-Nitroaniline	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Nitrophenol	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
2-Picoline	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
3,3'-Dichlorobenzidine	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
3-Methylcholanthrene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
3-Nitroaniline	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4,6-Dinitro-2-methylphenol	ND	0.0824	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
4-Aminobiphenyl	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
4-Bromophenyl phenyl ether	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4-Chloro-3-methylphenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4-Chloroaniline	ND	0.0515	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
4-Chlorophenyl phenyl ether	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
4-Methylphenol	ND	0.103	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4-Nitroaniline	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
4-Nitrophenol	ND	0.144	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
7,12-Dimethylbenz(a)anthracene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Acenaphthene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Acenaphthylene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Acetophenone	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Aniline	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Anthracene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzidine	ND	0.340	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[a]anthracene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[a]pyrene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[b]fluoranthene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[g,h,i]perylene	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzo[k]fluoranthene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Benzoic acid	ND	0.134	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
Benzyl alcohol	ND	0.0412	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Biphenyl	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Bis(2-chloroethoxy)methane	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Bis(2-chloroethyl)ether	ND	0.0103	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Bis(2-chloroisopropyl)ether	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Bis(2-ethylhexyl)phthalate	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Butyl benzyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Carbazole	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Chrysene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Di-n-butyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Di-n-octyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Dibenz(a,j)acridine	ND	0.0412	0.137	N	mg/Kg-dry	1	05/22/10 11:49 PM
Dibenz[a,h]anthracene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Dibenzofuran	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Diethyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Dimethyl phthalate	ND	0.103	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Dimethylphenethylamine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Diphenylamine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Ethyl methanesulfonate	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Fluoranthene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Fluorene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Hexachlorobenzene	ND	0.0103	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Hexachlorobutadiene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Hexachlorocyclopentadiene	ND	0.0618	0.340		mg/Kg-dry	1	05/22/10 11:25 PM
Hexachloroethane	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Indeno[1,2,3-cd]pyrene	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Isophorone	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Methyl methanesulfonate	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
N-Nitrosodi-n-propylamine	ND	0.0103	0.137		mg/Kg-dry	1	05/22/10 11:25 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
N-Nitrosodimethylamine	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
N-Nitrosodiphenylamine	ND	0.0515	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
N-Nitrosopiperidine	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Naphthalene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Nitrobenzene	ND	0.0721	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
p-Dimethylaminoazobenzene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Pentachlorobenzene	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Pentachloronitrobenzene	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Pentachlorophenol	ND	0.0926	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Phenacetin	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Phenanthrene	ND	0.0309	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Phenol	ND	0.0618	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Pronamide	ND	0.0412	0.137		mg/Kg-dry	1	05/22/10 11:49 PM
Pyrene	ND	0.0206	0.137		mg/Kg-dry	1	05/22/10 11:25 PM
Pyridine	ND	0.134	0.679		mg/Kg-dry	1	05/22/10 11:25 PM
Surr: 2,4,6-Tribromophenol	83.6	0	37 - 125		%REC	1	05/22/10 11:49 PM
Surr: 2,4,6-Tribromophenol	81.1	0	37 - 125		%REC	1	05/22/10 11:25 PM
Surr: 2-Fluorobiphenyl	60.2	0	60 - 135		%REC	1	05/22/10 11:49 PM
Surr: 2-Fluorobiphenyl	71.4	0	60 - 135		%REC	1	05/22/10 11:25 PM
Surr: 2-Fluorophenol	72.9	0	60 - 129		%REC	1	05/22/10 11:49 PM
Surr: 2-Fluorophenol	69.4	0	60 - 129		%REC	1	05/22/10 11:25 PM
Surr: 4-Terphenyl-d14	71.4	0	45 - 125		%REC	1	05/22/10 11:49 PM
Surr: 4-Terphenyl-d14	76.9	0	45 - 125		%REC	1	05/22/10 11:25 PM
Surr: Nitrobenzene-d5	70.9	0	40 - 125		%REC	1	05/22/10 11:49 PM
Surr: Nitrobenzene-d5	74.4	0	40 - 125		%REC	1	05/22/10 11:25 PM
Surr: Phenol-d6	70.6	0	40 - 125		%REC	1	05/22/10 11:25 PM
Surr: Phenol-d6	67.7	0	40 - 125		%REC	1	05/22/10 11:49 PM
8260 Soil Volatiles by GC/MS		**SW8260B**					**Analyst: AJR**
1,1,1,2-Tetrachloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1,1-Trichloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1,2,2-Tetrachloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1,2-Trichloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1-Dichloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1-Dichloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,1-Dichloropropene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2,3-Trichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2,3-Trichloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2,4-Trichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2,4-Trimethylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dibromo-3-chloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dibromoethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dichloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,2-Dichloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,3,5-Trimethylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
1,3-Dichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,3-Dichloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,4-Dichloro-2-butene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
1,4-Dichlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
2,2-Dichloropropane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
2-Butanone	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
2-Chloroethylvinylether	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
2-Chlorotoluene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
2-Hexanone	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
4-Chlorotoluene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
4-Methyl-2-pentanone	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
Acetone	ND	0.0142	0.0475		mg/Kg-dry	1	05/13/10 06:06 PM
Acrylonitrile	ND	0.00285	0.00950		mg/Kg-dry	1	05/13/10 06:06 PM
Benzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromochloromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromodichloromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromoform	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Bromomethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Carbon disulfide	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Carbon tetrachloride	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Chlorobenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Chloroethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Chloroform	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Chloromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
cis-1,2-Dichloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
cis-1,3-Dichloropropene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Dibromochloromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Dibromomethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Dichlorodifluoromethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Ethylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Hexachlorobutadiene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Iodomethane	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Isopropylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
m,p-Xylene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Methyl tert-butyl ether	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Methylene chloride	ND	0.00475	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
n-Butylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
n-Propylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Naphthalene	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
o-Xylene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
p-Isopropyltoluene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
sec-Butylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Styrene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
tert-Butylbenzene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-WC001-20100511
Lab ID: 1005099-06
Collection Date: 05/11/10 02:30 PM
Matrix: Soil

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
Tetrachloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Toluene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
trans-1,2-Dichloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
trans-1,3-Dichloropropene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Trichloroethene	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Trichlorofluoromethane	ND	0.00475	0.0142		mg/Kg-dry	1	05/13/10 06:06 PM
Vinyl chloride	ND	0.000950	0.00475		mg/Kg-dry	1	05/13/10 06:06 PM
Surr: 1,2-Dichloroethane-d4	109	0	78 - 125		%REC	1	05/13/10 06:06 PM
Surr: 4-Bromofluorobenzene	101	0	85 - 120		%REC	1	05/13/10 06:06 PM
Surr: Dibromofluoromethane	102	0	84 - 116		%REC	1	05/13/10 06:06 PM
Surr: Toluene-d8	96.6	0	85 - 115		%REC	1	05/13/10 06:06 PM
Percent Moisture		**D2216**					**Analyst: RP**
Percent Moisture	6.83	0	0		WT%	1	05/17/10 03:00 PM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

DHL Analytical

Date: 05/25/10

CLIENT: Zia Engineering & Environmental
Project: SWMUs 92B & 94 Closure
Project No: 24
Lab Order: 1005099

Client Sample ID: LPSA-0094-RB001(19-20)-20100511
Lab ID: 1005099-07
Collection Date: 05/11/10 11:35 AM
Matrix: Equip Blank

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TPH Extractable by GC - Water		M8015D					Analyst: AV
TPH-DRO C10-C28	0.0824	0.0500	0.100	J	mg/L	1	05/21/10 03:16 PM
Surr: Isopropylbenzene	58.8	0	60 - 140	S	%REC	1	05/21/10 03:16 PM
Surr: Octacosane	90.9	0	51 - 124		%REC	1	05/21/10 03:16 PM
Method 8015 Gasoline (GRO)		M8015V					Analyst: DEW
Gasoline Range Organics	ND	0.0600	0.100		mg/L	1	05/14/10 01:40 PM
Surr: Tetrachlorethene	96.1	0	74 - 138		%REC	1	05/14/10 01:40 PM
NDMA by 8270-SIM		SW8270C					Analyst: DO
N-Nitrosodimethylamine	ND	4.00	12.0		ng/L	1	05/19/10 01:42 AM
Surr: N-Nitrosodimethylamine-d6	70.9	0	50 - 135		%REC	1	05/19/10 01:42 AM

Qualifiers:

*	Value exceeds TCLP Maximum Concentration Level	J	Analyte detected between MDL and RL
B	Analyte detected in the associated Method Blank	MDL	Method Detection Limit
C	Sample Result or QC discussed in the Case Narrative	N	Parameter not NELAC certified
DF	Dilution Factor	ND	Not Detected at the Method Detection Limit
E	TPH pattern not Gas or Diesel Range Pattern	RL	Reporting Limit
		S	Spike Recovery outside control limits

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_100521B

Sample ID:	LCS-41069	Batch ID:	41069	TestNo:	M8015D	Units:	mg/L
SampType:	LCS	Run ID:	GC12_100521B	Analysis Date:	05/21/10 02:22 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	1.16	0.100	1.250	0	92.7	50	114			
Surr: Isopropylbenzene	0.0820		0.1500		54.7	60	140			S
Surr: Octacosane	0.129		0.1500		85.9	51	124			

Sample ID:	LCSD-41069	Batch ID:	41069	TestNo:	M8015D	Units:	mg/L
SampType:	LCSD	Run ID:	GC12_100521B	Analysis Date:	05/21/10 02:31 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	1.09	0.100	1.250	0	87.4	50	114	5.87	30	
Surr: Isopropylbenzene	0.0721		0.1500		48.1	60	140	0	0	S
Surr: Octacosane	0.119		0.1500		79.2	51	124	0	0	

Sample ID:	MB-41069	Batch ID:	41069	TestNo:	M8015D	Units:	mg/L
SampType:	MBLK	Run ID:	GC12_100521B	Analysis Date:	05/21/10 02:58 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	ND	0.100								
Surr: Isopropylbenzene	0.0735		0.1500		49.0	60	140			S
Surr: Octacosane	0.126		0.1500		83.8	51	124			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC12_100521B

Sample ID:	ICV-100521	Batch ID:	R49489	TestNo:	M8015D	Units:	mg/L
SampType:	ICV	Run ID:	GC12_100521B	Analysis Date:	05/21/10 10:15 AM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	516	0.100	500.0	0	103	85	115			
Surr: Isopropylbenzene	21.0		25.00		83.8	80	120			
Surr: Octacosane	23.8		25.00		95.3	80	120			

Sample ID:	CCV2-100521	Batch ID:	R49489	TestNo:	M8015D	Units:	mg/L
SampType:	CCV	Run ID:	GC12_100521B	Analysis Date:	05/21/10 02:13 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	270	0.100	250.0	0	108	85	115			
Surr: Isopropylbenzene	12.7		12.50		102	80	120			
Surr: Octacosane	12.6		12.50		101	80	120			

Sample ID:	CCV3-100521	Batch ID:	R49489	TestNo:	M8015D	Units:	mg/L
SampType:	CCV	Run ID:	GC12_100521B	Analysis Date:	05/21/10 04:01 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
TPH-DRO C10-C28	283	0.100	0	0	0	85	115			
Surr: Isopropylbenzene	13.2		12.50		105	80	120			
Surr: Octacosane	13.5		12.50		108	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_100514B

Sample ID:	LCS-41087	Batch ID:	41087		TestNo:		M8015V			Units:	mg/L
SampType:	LCS	Run ID:	GC4_100514B		Analysis Date:		05/14/10 12:47 PM			Prep Date:	05/14/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		5.01	0.100	5.000	0	100	67	136			
Surr: Tetrachlorethene		0.354		0.4000		88.4	74	138			

Sample ID:	MB-41087	Batch ID:	41087		TestNo:		M8015V			Units:	mg/L
SampType:	MBLK	Run ID:	GC4_100514B		Analysis Date:		05/14/10 01:16 PM			Prep Date:	05/14/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		ND	0.100								
Surr: Tetrachlorethene		0.398		0.4000		99.6	74	138			

Sample ID:	1005122-02BMS	Batch ID:	41087		TestNo:		M8015V			Units:	mg/L
SampType:	MS	Run ID:	GC4_100514B		Analysis Date:		05/14/10 02:50 PM			Prep Date:	05/14/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		8.30	0.100	5.000	3.315	99.8	67	136			
Surr: Tetrachlorethene		0.370		0.4000		92.6	74	138			

Sample ID:	1005122-02BMSD	Batch ID:	41087		TestNo:		M8015V			Units:	mg/L
SampType:	MSD	Run ID:	GC4_100514B		Analysis Date:		05/14/10 03:13 PM			Prep Date:	05/14/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		8.20	0.100	5.000	3.315	97.7	67	136	1.25	30	
Surr: Tetrachlorethene		0.373		0.4000		93.2	74	138	0	0	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GC4_100514B

Sample ID:	ICV-100514	Batch ID:	R49383		TestNo:		M8015V		Units:		mg/L
SampType:	ICV	Run ID:	GC4_100514B		Analysis Date:		05/14/10 09:36 AM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		9.57	0.100	10.00	0	95.7	80	120			
Surr: Tetrachlorethene		0.357		0.4000		89.2	74	138			

Sample ID:	CCV1-100514	Batch ID:	R49383		TestNo:		M8015V		Units:		mg/L
SampType:	CCV	Run ID:	GC4_100514B		Analysis Date:		05/14/10 05:24 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Gasoline Range Organics		5.18	0.100	5.000	0	104	80	120			
Surr: Tetrachlorethene		0.360		0.4000		90.1	74	138			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC_HG_100520B

Sample ID:	MB-41164	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg
SampType:	MBLK	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 03:42 PM		Prep Date:		05/20/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		ND	0.0500								

Sample ID:	LCS-41164	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg
SampType:	LCS	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 03:48 PM		Prep Date:		05/20/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.223	0.0500	0.2000	0	112	85	115			

Sample ID:	LCSD-41164	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg
SampType:	LCSD	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 03:50 PM		Prep Date:		05/20/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.228	0.0500	0.2000	0	114	85	115	2.22	25	

Sample ID:	1005099-06B SD	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg-dry
SampType:	SD	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:05 PM		Prep Date:		05/20/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0	0.255	0	0				0	10	

Sample ID:	1005099-06B PDS	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg-dry
SampType:	PDS	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:07 PM		Prep Date:		05/20/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.276	0.0510	0.2552	0	108	85	115			

Sample ID:	1005099-06B MS	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg-dry
SampType:	MS	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:09 PM		Prep Date:		05/20/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.232	0.0503	0.2012	0	116	80	120			

Sample ID:	1005099-06B MSD	Batch ID:	41164		TestNo:		SW7471A		Units:		mg/Kg-dry
SampType:	MSD	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:13 PM		Prep Date:		05/20/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.223	0.0498	0.1991	0	112	80	120	4.14	25	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC_HG_100520B

Sample ID:	ICV-100520	Batch ID:	R49477		TestNo:		SW7471A		Units:		mg/Kg
SampType:	ICV	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 03:36 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00384	0.0500	0.004000	0	96.0	90	110			

Sample ID:	CCV1-100520	Batch ID:	R49477		TestNo:		SW7471A		Units:		mg/Kg
SampType:	CCV	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 04:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00211	0.0500	0.002000	0	106	90	110			

Sample ID:	CCV2-100520	Batch ID:	R49477		TestNo:		SW7471A		Units:		mg/Kg
SampType:	CCV	Run ID:	CETAC_HG_100520B		Analysis Date:		05/20/10 05:15 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Mercury		0.00202	0.0500	0.002000	0	101	90	110			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_100521A

Sample ID:	MB-41153	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg
SampType:	MBLK	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 11:55 AM	Prep Date:	05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	ND	1.00								
Barium	ND	2.00								
Cadmium	ND	0.300								
Chromium	ND	2.00								
Lead	ND	0.300								
Selenium	ND	0.500								
Silver	ND	0.200								

Sample ID:	LCS-41153	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg
SampType:	LCS	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 12:00 PM	Prep Date:	05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	50.5	1.00	50.00	0	101	80	120			
Barium	50.4	2.00	50.00	0	101	80	120			
Cadmium	49.8	0.300	50.00	0	99.5	80	120			
Chromium	53.6	2.00	50.00	0	107	80	120			
Lead	49.7	0.300	50.00	0	99.4	80	120			
Selenium	50.4	0.500	50.00	0	101	80	120			
Silver	51.8	0.200	50.00	0	104	80	120			

Sample ID:	LCSD-41153	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg
SampType:	LCSD	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 12:05 PM	Prep Date:	05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	49.9	1.00	50.00	0	99.8	80	120	1.20	20	
Barium	51.3	2.00	50.00	0	103	80	120	1.67	20	
Cadmium	49.5	0.300	50.00	0	99.0	80	120	0.453	20	
Chromium	54.2	2.00	50.00	0	108	80	120	1.11	20	
Lead	49.6	0.300	50.00	0	99.3	80	120	0.050	20	
Selenium	50.1	0.500	50.00	0	100	80	120	0.498	20	
Silver	52.0	0.200	50.00	0	104	80	120	0.289	20	

Sample ID:	1005099-06B SD	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg-dry
SampType:	SD	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 12:27 PM	Prep Date:	05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	2.58	4.75	0	2.662				3.13	10	
Barium	68.9	9.50	0	71.95				4.37	10	
Cadmium	0	1.42	0	0.2031				0	10	
Chromium	30.3	9.50	0	29.11				4.04	10	
Lead	9.65	1.42	0	10.04				3.94	10	
Selenium	1.86	2.37	0	1.563				17.4	10	R
Silver	1.13	0.950	0	1.142				1.38	10	

Sample ID:	1005099-06B PDS	Batch ID:	41153	TestNo:	SW6020	Units:	mg/Kg-dry
SampType:	PDS	Run ID:	ICP-MS2_100521A	Analysis Date:	05/21/10 12:33 PM	Prep Date:	05/20/10

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_100521A

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	49.5	0.950	47.49	2.662	98.5	75	125			
Barium	119	1.90	47.49	71.95	100	75	125			
Cadmium	47.3	0.285	47.49	0.2031	99.1	75	125			
Chromium	74.0	1.90	47.49	29.11	94.5	75	125			
Lead	58.5	0.285	47.49	10.04	102	75	125			
Selenium	47.7	0.475	47.49	1.563	97.1	75	125			
Silver	48.7	0.190	47.49	1.142	100	75	125			

Sample ID: 1005099-06B MS Batch ID: 41153 TestNo: SW6020 Units: mg/Kg-dry
SampType: MS Run ID: ICP-MS2_100521A Analysis Date: 05/21/10 12:38 PM Prep Date: 05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	47.4	0.942	47.08	2.662	95.0	80	120			
Barium	125	1.88	47.08	71.95	112	80	120			
Cadmium	47.3	0.282	47.08	0.2031	100	80	120			
Chromium	72.5	1.88	47.08	29.11	92.2	80	120			
Lead	56.4	0.282	47.08	10.04	98.6	80	120			
Selenium	46.9	0.471	47.08	1.563	96.3	80	120			
Silver	49.4	0.188	47.08	1.142	102	80	120			

Sample ID: 1005099-06B MSD Batch ID: 41153 TestNo: SW6020 Units: mg/Kg-dry
SampType: MSD Run ID: ICP-MS2_100521A Analysis Date: 05/21/10 12:44 PM Prep Date: 05/20/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic	46.7	0.933	46.67	2.662	94.4	80	120	1.47	20	
Barium	123	1.87	46.67	71.95	110	80	120	1.23	20	
Cadmium	46.3	0.280	46.67	0.2031	98.7	80	120	2.13	20	
Chromium	73.2	1.87	46.67	29.11	94.4	80	120	0.896	20	
Lead	54.6	0.280	46.67	10.04	95.5	80	120	3.32	20	
Selenium	44.8	0.467	46.67	1.563	92.6	80	120	4.66	20	
Silver	47.7	0.187	46.67	1.142	99.7	80	120	3.48	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS2_100521A

Sample ID:	ICV1-100521	Batch ID:	R49494		TestNo:		SW6020		Units:		mg/L
SampType:	ICV	Run ID:	ICP-MS2_100521A		Analysis Date:		05/21/10 11:32 AM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic		0.0999	0.00600	0.100	0	99.9	90	110			
Barium		0.0975	0.0100	0.100	0	97.5	90	110			
Cadmium		0.0954	0.00100	0.100	0	95.4	90	110			
Chromium		0.102	0.00600	0.100	0	102	90	110			
Lead		0.0970	0.00100	0.100	0	97.0	90	110			
Selenium		0.0994	0.00600	0.100	0	99.4	90	110			
Silver		0.0996	0.00200	0.100	0	99.6	90	110			

Sample ID:	CCV1-100521	Batch ID:	R49494		TestNo:		SW6020		Units:		mg/L
SampType:	CCV	Run ID:	ICP-MS2_100521A		Analysis Date:		05/21/10 12:49 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Arsenic		0.200	0.00600	0.200	0	99.8	90	110			
Barium		0.199	0.0100	0.200	0	99.4	90	110			
Cadmium		0.195	0.00100	0.200	0	97.4	90	110			
Chromium		0.210	0.00600	0.200	0	105	90	110			
Lead		0.192	0.00100	0.200	0	96.1	90	110			
Selenium		0.201	0.00600	0.200	0	100	90	110			
Silver		0.200	0.00200	0.200	0	99.9	90	110			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_100518A

Sample ID:	LCS-41136	Batch ID:	41136		TestNo:		SW8270C		Units:		ng/L
SampType:	LCS	Run ID:	GCMS3_100518A		Analysis Date:		05/18/10 09:58 PM		Prep Date:		05/18/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		152	12.0	200.0	0	76.1	25	110			
Surr: N-Nitrosodimethylamine-d6		275		400.0		68.8	50	135			

Sample ID:	LCSD-41136	Batch ID:	41136		TestNo:		SW8270C		Units:		ng/L
SampType:	LCSD	Run ID:	GCMS3_100518A		Analysis Date:		05/18/10 10:15 PM		Prep Date:		05/18/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		175	12.0	200.0	0	87.4	25	110	13.8	30	
Surr: N-Nitrosodimethylamine-d6		312		400.0		78.1	50	135	0	0	

Sample ID:	MB-41136	Batch ID:	41136		TestNo:		SW8270C		Units:		ng/L
SampType:	MBLK	Run ID:	GCMS3_100518A		Analysis Date:		05/19/10 01:25 AM		Prep Date:		05/18/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		ND	12.0								
Surr: N-Nitrosodimethylamine-d6		283		400.0		70.7	50	135			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_100518A

Sample ID:	ICV-100518	Batch ID:	R49435	TestNo:	SW8270C			Units:	ng/L
SampType:	ICV	Run ID:	GCMS3_100518A	Analysis Date:	05/18/10 08:33 PM			Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine	83800	12.0	100000	0	83.8	80	120			
Surr: N-Nitrosodimethylamine-d6	82000		100000		82.0	70	130			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_100521A

Sample ID:	LCS-41150	Batch ID:	41150		TestNo:		SW8270C		Units:		mg/Kg
SampType:	LCS	Run ID:	GCMS3_100521A		Analysis Date:		05/21/10 02:56 PM		Prep Date:		05/19/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		0.0475	0.00500	0.0500	0	95.0	20	115			
Surr: N-Nitrosodimethylamine-d6		91.6		100.0		91.6	30	125			

Sample ID:	1005097-08C-MS	Batch ID:	41150		TestNo:		SW8270C		Units:		mg/Kg-dry
SampType:	MS	Run ID:	GCMS3_100521A		Analysis Date:		05/21/10 03:30 PM		Prep Date:		05/19/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		0.0583	0.00546	0.0546	0	107	20	115			
Surr: N-Nitrosodimethylamine-d6		107		109.3		98.2	30	125			

Sample ID:	1005097-08C-MSD	Batch ID:	41150		TestNo:		SW8270C		Units:		mg/Kg-dry
SampType:	MSD	Run ID:	GCMS3_100521A		Analysis Date:		05/21/10 04:04 PM		Prep Date:		05/19/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		0.0561	0.00544	0.0544	0	103	20	115	3.89	30	
Surr: N-Nitrosodimethylamine-d6		102		108.9		94.1	30	125	0	0	

Sample ID:	MB-41150	Batch ID:	41150		TestNo:		SW8270C		Units:		mg/Kg
SampType:	MBLK	Run ID:	GCMS3_100521A		Analysis Date:		05/21/10 04:38 PM		Prep Date:		05/19/10
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine		ND	0.00500								
Surr: N-Nitrosodimethylamine-d6		83.8		100.0		83.8	30	125			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS3_100521A

Sample ID:	ICV-100521	Batch ID:	R49457	TestNo:	SW8270C			Units:	mg/Kg
SampType:	ICV	Run ID:	GCMS3_100521A	Analysis Date:	05/21/10 02:22 PM			Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
N-Nitrosodimethylamine	0.112	0.00500	0.100	0	112	80	120			
Surr: N-Nitrosodimethylamine-d6	101		100.0		101	70	130			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Sample ID:	LCS-41204	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg
SampType:	LCS	Run ID:	GCMS4_100522A	Analysis Date:	05/22/10 03:22 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	1.23	0.133	1.340	0	92.0	35	125			
1,2,4-Trichlorobenzene	1.17	0.133	1.340	0	87.1	45	110			
1,2-Dichlorobenzene	1.13	0.133	1.340	0	84.1	45	100			
1,2-Diphenylhydrazine	1.31	0.133	1.340	0	97.5	38	125			
1,3-Dichlorobenzene	1.11	0.133	1.340	0	82.6	40	100			
1,4-Dichlorobenzene	1.11	0.133	1.340	0	83.1	35	105			
1-Methylnaphthalene	1.20	0.133	1.340	0	89.6	45	105			N
2,4,5-Trichlorophenol	1.25	0.133	1.340	0	93.5	50	110			
2,4,6-Trichlorophenol	1.25	0.133	1.340	0	93.0	45	110			
2,4-Dichlorophenol	1.22	0.133	1.340	0	91.0	45	110			
2,4-Dimethylphenol	1.26	0.133	1.340	0	94.0	30	105			
2,4-Dinitrophenol	1.07	0.660	1.340	0	79.6	15	130			
2,4-Dinitrotoluene	1.34	0.133	1.340	0	100	50	115			
2,6-Dichlorophenol	1.23	0.133	1.340	0	91.5	35	125			
2,6-Dinitrotoluene	1.37	0.133	1.340	0	102	50	110			
2-Chloronaphthalene	1.21	0.133	1.340	0	90.5	45	105			
2-Chlorophenol	1.14	0.133	1.340	0	85.1	45	105			
2-Methylnaphthalene	1.27	0.133	1.340	0	94.5	45	105			
2-Methylphenol	1.13	0.133	1.340	0	84.1	40	105			
2-Nitroaniline	1.35	0.133	1.340	0	100	45	120			
2-Nitrophenol	1.20	0.133	1.340	0	89.6	40	110			
3,3'-Dichlorobenzidine	0.840	0.133	1.340	0	62.7	25	128			
3-Nitroaniline	1.13	0.133	1.340	0	84.1	25	110			
4,6-Dinitro-2-methylphenol	1.25	0.330	1.340	0	93.0	30	135			
4-Bromophenyl phenyl ether	1.27	0.133	1.340	0	94.5	45	115			
4-Chloro-3-methylphenol	1.36	0.133	1.340	0	101	45	115			
4-Chloroaniline	0.967	0.330	1.340	0	72.1	25	125			
4-Chlorophenyl phenyl ether	1.27	0.133	1.340	0	95.0	45	110			
4-Methylphenol	1.17	0.133	1.340	0	87.6	40	105			
4-Nitroaniline	1.14	0.133	1.340	0	85.1	35	115			
4-Nitrophenol	1.27	0.660	1.340	0	95.0	15	140			
Acenaphthene	1.25	0.133	1.340	0	93.0	45	110			
Acenaphthylene	1.25	0.133	1.340	0	93.5	45	105			
Acetophenone	1.08	0.133	1.340	0	80.6	40	125			
Aniline	0.960	0.133	1.340	0	71.6	40	125			
Anthracene	1.27	0.133	1.340	0	94.5	55	105			
Benzidine	0.307	0.660	1.340	0	22.9	20	125			
Benzo[a]anthracene	1.27	0.133	1.340	0	95.0	50	110			
Benzo[a]pyrene	1.37	0.133	1.340	0	102	50	110			
Benzo[b]fluoranthene	1.33	0.133	1.340	0	99.5	45	115			
Benzo[g,h,i]perylene	1.09	0.133	1.340	0	81.6	40	125			
Benzo[k]fluoranthene	1.33	0.133	1.340	0	99.5	45	125			
Benzoic acid	1.49	0.660	1.340	0	111	25	125			
Benzyl alcohol	1.21	0.330	1.340	0	90.0	20	125			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Biphenyl	1.17	0.133	1.340	0	87.6	60	140
Bis(2-chloroethoxy)methane	1.21	0.133	1.340	0	90.5	45	110
Bis(2-chloroethyl)ether	1.17	0.133	1.340	0	87.1	40	105
Bis(2-chloroisopropyl)ether	1.18	0.133	1.340	0	88.1	20	115
Bis(2-ethylhexyl)phthalate	1.36	0.133	1.340	0	101	45	125
Butyl benzyl phthalate	1.37	0.330	1.340	0	102	50	125
Carbazole	1.29	0.133	1.340	0	96.5	45	115
Chrysene	1.31	0.133	1.340	0	98.0	55	110
Di-n-butyl phthalate	1.32	0.330	1.340	0	98.5	55	110
Di-n-octyl phthalate	1.44	0.330	1.340	0	107	40	130
Dibenz[a,h]anthracene	1.17	0.133	1.340	0	87.6	40	125
Dibenzofuran	1.25	0.133	1.340	0	93.0	50	105
Diethyl phthalate	1.31	0.330	1.340	0	98.0	50	115
Dimethyl phthalate	1.31	0.330	1.340	0	97.5	50	110
Fluoranthene	1.33	0.133	1.340	0	99.0	55	115
Fluorene	1.27	0.133	1.340	0	94.5	50	110
Hexachlorobenzene	1.27	0.133	1.340	0	94.5	45	120
Hexachlorobutadiene	1.15	0.133	1.340	0	86.1	40	115
Hexachlorocyclopentadiene	1.24	0.330	1.340	0	92.5	34	125
Hexachloroethane	1.11	0.133	1.340	0	83.1	35	110
Indeno[1,2,3-cd]pyrene	1.23	0.133	1.340	0	92.0	40	120
Isophorone	1.21	0.133	1.340	0	90.5	45	110
N-Nitrosodi-n-propylamine	1.12	0.133	1.340	0	83.6	40	115
N-Nitrosodimethylamine	1.17	0.133	1.340	0	87.1	20	115
N-Nitrosodiphenylamine	1.31	0.133	1.340	0	97.5	50	115
Naphthalene	1.18	0.133	1.340	0	88.1	40	105
Nitrobenzene	1.24	0.133	1.340	0	92.5	40	115
Pentachlorobenzene	1.18	0.133	1.340	0	88.1	35	125
Pentachlorophenol	1.27	0.133	1.340	0	95.0	25	120
Phenanthrene	1.27	0.133	1.340	0	95.0	50	110
Phenol	1.18	0.133	1.340	0	88.1	40	100
Pyrene	1.33	0.133	1.340	0	99.5	45	125
Pyridine	0.807	0.660	1.340	0	60.2	20	125
Surr: 2,4,6-Tribromophenol	2.29		2.680		85.6	45	138
Surr: 2-Fluorobiphenyl	2.17		2.680		80.8	37	125
Surr: 2-Fluorophenol	2.08		2.680		77.6	60	135
Surr: 4-Terphenyl-d14	2.37		2.680		88.6	60	129
Surr: Nitrobenzene-d5	2.13		2.680		79.4	45	125
Surr: Phenol-d6	2.07		2.680		77.4	40	125

Sample ID:	1005099-06C-MS	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg-dry
SampType:	MS	Run ID:	GCMS4_100522A	Analysis Date:	05/22/10 05:23 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	1.85	0.137	2.726	0	67.7	35	125			
1,2,4-Trichlorobenzene	1.14	0.137	1.384	0	82.6	45	110			
1,2-Dichlorobenzene	1.08	0.137	1.384	0	78.1	45	100			
1,2-Diphenylhydrazine	1.22	0.137	1.384	0	88.1	38	125			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

1,3-Dichlorobenzene	1.06	0.137	1.384	0	76.6	40	100	
1,4-Dichlorobenzene	1.07	0.137	1.384	0	77.6	35	105	
1-Methylnaphthalene	1.06	0.137	1.384	0	76.6	45	105	N
2,4,5-Trichlorophenol	1.18	0.137	1.384	0	85.1	50	110	
2,4,6-Trichlorophenol	1.17	0.137	1.384	0	84.6	45	110	
2,4-Dichlorophenol	1.05	0.137	1.384	0	76.1	45	110	
2,4-Dimethylphenol	1.26	0.137	1.384	0	91.0	30	105	
2,4-Dinitrophenol	0.372	0.682	1.384	0	26.9	15	130	
2,4-Dinitrotoluene	1.31	0.137	1.384	0	94.5	50	115	
2,6-Dichlorophenol	1.10	0.137	1.384	0	79.6	35	125	
2,6-Dinitrotoluene	1.33	0.137	1.384	0	96.0	50	110	
2-Chloronaphthalene	1.34	0.137	1.384	0	97.0	45	105	
2-Chlorophenol	1.05	0.137	1.384	0	75.6	45	105	
2-Methylnaphthalene	1.16	0.137	1.384	0	83.6	45	105	
2-Methylphenol	1.05	0.137	1.384	0	75.6	40	105	
2-Nitroaniline	1.34	0.137	1.384	0	97.0	45	120	
2-Nitrophenol	1.05	0.137	1.384	0	75.6	40	110	
3,3'-Dichlorobenzidine	0.207	0.137	1.384	0	14.9	25	128	S
3-Nitroaniline	1.31	0.137	1.384	0	95.0	25	110	
4,6-Dinitro-2-methylphenol	0.475	0.341	1.384	0	34.3	30	135	
4-Bromophenyl phenyl ether	1.23	0.137	1.384	0	88.6	45	115	
4-Chloro-3-methylphenol	1.22	0.137	1.384	0	88.1	45	115	
4-Chloroaniline	0.888	0.341	1.384	0	64.2	25	125	
4-Chlorophenyl phenyl ether	1.20	0.137	1.384	0	86.6	45	110	
4-Methylphenol	1.02	0.137	1.384	0	73.6	40	105	
4-Nitroaniline	1.12	0.137	1.384	0	81.1	35	115	
4-Nitrophenol	1.36	0.682	1.384	0	98.5	15	140	
Acenaphthene	1.19	0.137	1.384	0	86.1	45	110	
Acenaphthylene	1.20	0.137	1.384	0	87.1	45	105	
Acetophenone	1.84	0.137	2.726	0	67.4	40	125	
Aniline	0.916	0.137	1.384	0	66.2	40	125	
Anthracene	1.24	0.137	1.384	0	89.6	55	105	
Benzidine	0	0.682	1.384	0	0	20	125	S
Benzo[a]anthracene	1.16	0.137	1.384	0	83.6	50	110	
Benzo[a]pyrene	1.26	0.137	1.384	0	91.0	50	110	
Benzo[b]fluoranthene	1.80	0.137	1.384	0	130	45	115	S
Benzo[g,h,i]perylene	0.702	0.137	1.384	0	50.7	40	125	
Benzo[k]fluoranthene	0.888	0.137	1.384	0	64.2	45	125	
Benzoic acid	1.22	0.682	1.384	0	88.1	25	125	
Benzyl alcohol	1.12	0.341	1.384	0	80.6	20	125	
Biphenyl	1.14	0.137	1.384	0	82.1	60	140	
Bis(2-chloroethoxy)methane	1.25	0.137	1.384	0	90.0	45	110	
Bis(2-chloroethyl)ether	1.20	0.137	1.384	0	86.6	40	105	
Bis(2-chloroisopropyl)ether	1.25	0.137	1.384	0	90.0	20	115	
Bis(2-ethylhexyl)phthalate	1.23	0.137	1.384	0	89.1	45	125	
Butyl benzyl phthalate	1.18	0.341	1.384	0	85.6	50	125	
Carbazole	1.27	0.137	1.384	0	91.5	45	115	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Chrysene	1.25	0.137	1.384	0	90.0	55	110
Di-n-butyl phthalate	1.27	0.341	1.384	0	92.0	55	110
Di-n-octyl phthalate	1.46	0.341	1.384	0	105	40	130
Dibenz[a,h]anthracene	0.695	0.137	1.384	0	50.2	40	125
Dibenzofuran	1.21	0.137	1.384	0	87.6	50	105
Diethyl phthalate	1.24	0.341	1.384	0	89.6	50	115
Dimethyl phthalate	1.25	0.341	1.384	0	90.0	50	110
Fluoranthene	1.25	0.137	1.384	0	90.5	55	115
Fluorene	1.21	0.137	1.384	0	87.6	50	110
Hexachlorobenzene	1.18	0.137	1.384	0	85.6	45	120
Hexachlorobutadiene	1.12	0.137	1.384	0	81.1	40	115
Hexachlorocyclopentadiene	1.08	0.341	1.384	0	78.1	34	125
Hexachloroethane	1.09	0.137	1.384	0	78.6	35	110
Indeno[1,2,3-cd]pyrene	0.730	0.137	1.384	0	52.7	40	120
Isophorone	1.19	0.137	1.384	0	86.1	45	110
N-Nitrosodi-n-propylamine	1.08	0.137	1.384	0	78.1	40	115
N-Nitrosodimethylamine	1.29	0.137	1.384	0	93.0	20	115
N-Nitrosodiphenylamine	2.42	0.137	2.726	0	88.9	50	115
Naphthalene	1.16	0.137	1.384	0	84.1	40	105
Nitrobenzene	1.25	0.137	1.384	0	90.5	40	115
Pentachlorobenzene	1.96	0.137	2.726	0	71.7	35	125
Pentachlorophenol	1.58	0.137	1.384	0	114	25	120
Phenanthrene	1.20	0.137	1.384	0	86.6	50	110
Phenol	1.12	0.137	1.384	0	80.6	40	100
Pyrene	1.17	0.137	1.384	0	84.6	45	125
Pyridine	0.888	0.682	1.384	0	64.2	20	125
Surr: 2,4,6-Tribromophenol	2.20		2.768		79.4	45	138
Surr: 2-Fluorobiphenyl	2.08		2.768		75.1	37	125
Surr: 2-Fluorophenol	1.96		2.768		70.6	60	135
Surr: 4-Terphenyl-d14	2.14		2.768		77.4	60	129
Surr: Nitrobenzene-d5	2.18		2.768		78.6	45	125
Surr: Phenol-d6	1.99		2.768		71.9	40	125

Sample ID:	1005099-06C-MSD	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg-dry
SampType:	MSD	Run ID:	GCMS4_100522A	Analysis Date:	05/22/10 05:47 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	1.94	0.137	2.719	0	71.2	35	125	4.83	30	
1,2,4-Trichlorobenzene	1.10	0.137	1.380	0	79.6	45	110	3.94	30	
1,2-Dichlorobenzene	1.03	0.137	1.380	0	74.6	45	100	4.82	30	
1,2-Diphenylhydrazine	1.20	0.137	1.380	0	87.1	38	125	1.39	30	
1,3-Dichlorobenzene	1.02	0.137	1.380	0	73.6	40	100	4.23	30	
1,4-Dichlorobenzene	1.02	0.137	1.380	0	74.1	35	105	4.85	30	
1-Methylnaphthalene	1.11	0.137	1.380	0	80.1	45	105	4.19	30	N
2,4,5-Trichlorophenol	1.22	0.137	1.380	0	88.6	50	110	3.76	30	
2,4,6-Trichlorophenol	1.17	0.137	1.380	0	85.1	45	110	0.330	30	
2,4-Dichlorophenol	1.11	0.137	1.380	0	80.1	45	110	4.84	30	
2,4-Dimethylphenol	1.26	0.137	1.380	0	91.5	30	105	0.289	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

2,4-Dinitrophenol	0.268	0.680	1.380	0	19.4	15	130	32.5	30	R
2,4-Dinitrotoluene	1.24	0.137	1.380	0	89.6	50	115	5.66	30	
2,6-Dichlorophenol	1.14	0.137	1.380	0	82.6	35	125	3.42	30	
2,6-Dinitrotoluene	1.26	0.137	1.380	0	91.0	50	110	5.58	30	
2-Chloronaphthalene	1.29	0.137	1.380	0	93.5	45	105	3.91	30	
2-Chlorophenol	1.08	0.137	1.380	0	78.1	45	105	2.98	30	
2-Methylnaphthalene	1.13	0.137	1.380	0	82.1	45	105	2.06	30	
2-Methylphenol	1.07	0.137	1.380	0	77.6	40	105	2.34	30	
2-Nitroaniline	1.33	0.137	1.380	0	96.0	45	120	1.29	30	
2-Nitrophenol	1.07	0.137	1.380	0	77.6	40	110	2.34	30	
3,3′-Dichlorobenzidine	0.165	0.137	1.380	0	11.9	25	128	22.5	30	S
3-Nitroaniline	1.23	0.137	1.380	0	89.1	25	110	6.74	30	
4,6-Dinitro-2-methylphenol	0.336	0.340	1.380	0	24.4	30	135	34.1	30	SR
4-Bromophenyl phenyl ether	1.24	0.137	1.380	0	89.6	45	115	0.861	30	
4-Chloro-3-methylphenol	1.26	0.137	1.380	0	91.5	45	115	3.62	30	
4-Chloroaniline	0.831	0.340	1.380	0	60.2	25	125	6.66	30	
4-Chlorophenyl phenyl ether	1.19	0.137	1.380	0	86.1	45	110	0.833	30	
4-Methylphenol	1.07	0.137	1.380	0	77.6	40	105	5.01	30	
4-Nitroaniline	1.04	0.137	1.380	0	75.6	35	115	7.24	30	
4-Nitrophenol	1.31	0.680	1.380	0	95.0	15	140	3.86	30	
Acenaphthene	1.17	0.137	1.380	0	85.1	45	110	1.42	30	
Acenaphthylene	1.15	0.137	1.380	0	83.6	45	105	4.34	30	
Acetophenone	1.96	0.137	2.719	0	72.0	40	125	6.27	30	
Aniline	0.810	0.137	1.380	0	58.7	40	125	12.2	30	
Anthracene	1.20	0.137	1.380	0	87.1	55	105	3.07	30	
Benzidine	0	0.680	1.380	0	0	20	125	0	30	S
Benzo[a]anthracene	1.13	0.137	1.380	0	81.6	50	110	2.67	30	
Benzo[a]pyrene	1.23	0.137	1.380	0	89.1	50	110	2.47	30	
Benzo[b]fluoranthene	1.63	0.137	1.380	0	118	45	115	9.47	30	S
Benzo[g,h,i]perylene	0.632	0.137	1.380	0	45.8	40	125	10.6	30	
Benzo[k]fluoranthene	1.21	0.137	1.380	0	87.6	45	125	30.6	30	R
Benzoic acid	1.04	0.680	1.380	0	75.6	25	125	15.5	30	
Benzyl alcohol	1.11	0.340	1.380	0	80.6	20	125	0.256	30	
Biphenyl	1.13	0.137	1.380	0	82.1	60	140	0.256	30	
Bis(2-chloroethoxy)methane	1.19	0.137	1.380	0	86.6	45	110	4.20	30	
Bis(2-chloroethyl)ether	1.13	0.137	1.380	0	81.6	40	105	6.17	30	
Bis(2-chloroisopropyl)ether	1.17	0.137	1.380	0	84.6	20	115	6.52	30	
Bis(2-ethylhexyl)phthalate	1.18	0.137	1.380	0	85.6	45	125	4.24	30	
Butyl benzyl phthalate	1.18	0.340	1.380	0	85.6	50	125	0.256	30	
Carbazole	1.24	0.137	1.380	0	89.6	45	115	2.45	30	
Chrysene	1.18	0.137	1.380	0	85.6	55	110	5.36	30	
Di-n-butyl phthalate	1.24	0.340	1.380	0	90.0	55	110	2.44	30	
Di-n-octyl phthalate	1.55	0.340	1.380	0	112	40	130	5.69	30	
Dibenz[a,h]anthracene	0.625	0.137	1.380	0	45.3	40	125	10.7	30	
Dibenzofuran	1.18	0.137	1.380	0	85.6	50	105	2.56	30	
Diethyl phthalate	1.20	0.340	1.380	0	87.1	50	115	3.07	30	
Dimethyl phthalate	1.18	0.340	1.380	0	85.6	50	110	5.36	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Fluoranthene	1.19	0.137	1.380	0	86.1	55	115	5.33	30
Fluorene	1.21	0.137	1.380	0	87.6	50	110	0.256	30
Hexachlorobenzene	1.18	0.137	1.380	0	85.6	45	120	0.256	30
Hexachlorobutadiene	1.09	0.137	1.380	0	78.6	40	115	3.37	30
Hexachlorocyclopentadiene	0.955	0.340	1.380	0	69.2	34	125	12.4	30
Hexachloroethane	1.04	0.137	1.380	0	75.1	35	110	4.79	30
Indeno[1,2,3-cd]pyrene	0.659	0.137	1.380	0	47.8	40	120	10.2	30
Isophorone	1.15	0.137	1.380	0	83.6	45	110	3.19	30
N-Nitrosodi-n-propylamine	1.06	0.137	1.380	0	77.1	40	115	1.54	30
N-Nitrosodimethylamine	1.14	0.137	1.380	0	82.6	20	115	12.2	30
N-Nitrosodiphenylamine	2.51	0.137	2.719	0	92.4	50	115	3.64	30
Naphthalene	1.12	0.137	1.380	0	81.1	40	105	3.87	30
Nitrobenzene	1.17	0.137	1.380	0	84.6	40	115	7.07	30
Pentachlorobenzene	2.02	0.137	2.719	0	74.2	35	125	3.20	30
Pentachlorophenol	1.27	0.137	1.380	0	92.0	25	120	21.5	30
Phenanthrene	1.18	0.137	1.380	0	85.6	50	110	1.41	30
Phenol	1.13	0.137	1.380	0	82.1	40	100	1.58	30
Pyrene	1.14	0.137	1.380	0	82.6	45	125	2.64	30
Pyridine	0.817	0.680	1.380	0	59.2	20	125	8.32	30
Surr: 2,4,6-Tribromophenol	2.26		2.761		81.8	45	138	0	0
Surr: 2-Fluorobiphenyl	2.03		2.761		73.6	37	125	0	0
Surr: 2-Fluorophenol	2.02		2.761		73.1	60	135	0	0
Surr: 4-Terphenyl-d14	2.14		2.761		77.6	60	129	0	0
Surr: Nitrobenzene-d5	2.13		2.761		77.1	45	125	0	0
Surr: Phenol-d6	2.03		2.761		73.4	40	125	0	0

Sample ID:	MB-41204	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg		
SampType:	MBLK	Run ID:	GCMS4_100522A	Analysis Date:	05/22/10 09:24 PM	Prep Date:	05/21/10		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene		ND	0.133								
1,2,4-Trichlorobenzene		ND	0.133								
1,2-Dichlorobenzene		ND	0.133								
1,2-Diphenylhydrazine		ND	0.133								
1,3-Dichlorobenzene		ND	0.133								
1,4-Dichlorobenzene		ND	0.133								
1-Methylnaphthalene		ND	0.133								N
2,4,5-Trichlorophenol		ND	0.133								
2,4,6-Trichlorophenol		ND	0.133								
2,4-Dichlorophenol		ND	0.133								
2,4-Dimethylphenol		ND	0.133								
2,4-Dinitrophenol		ND	0.660								
2,4-Dinitrotoluene		ND	0.133								
2,6-Dichlorophenol		ND	0.133								
2,6-Dinitrotoluene		ND	0.133								
2-Chloronaphthalene		ND	0.133								
2-Chlorophenol		ND	0.133								
2-Methylnaphthalene		ND	0.133								

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

2-Methylphenol	ND	0.133
2-Nitroaniline	ND	0.133
2-Nitrophenol	ND	0.133
3,3'-Dichlorobenzidine	ND	0.133
3-Nitroaniline	ND	0.133
4,6-Dinitro-2-methylphenol	ND	0.330
4-Bromophenyl phenyl ether	ND	0.133
4-Chloro-3-methylphenol	ND	0.133
4-Chloroaniline	ND	0.330
4-Chlorophenyl phenyl ether	ND	0.133
4-Methylphenol	ND	0.133
4-Nitroaniline	ND	0.133
4-Nitrophenol	ND	0.660
Acenaphthene	ND	0.133
Acenaphthylene	ND	0.133
Acetophenone	ND	0.133
Aniline	ND	0.133
Anthracene	ND	0.133
Benzidine	ND	0.660
Benzo[a]anthracene	ND	0.133
Benzo[a]pyrene	ND	0.133
Benzo[b]fluoranthene	ND	0.133
Benzo[g,h,i]perylene	ND	0.133
Benzo[k]fluoranthene	ND	0.133
Benzoic acid	ND	0.660
Benzyl alcohol	ND	0.330
Biphenyl	ND	0.133
Bis(2-chloroethoxy)methane	ND	0.133
Bis(2-chloroethyl)ether	ND	0.133
Bis(2-chloroisopropyl)ether	ND	0.133
Bis(2-ethylhexyl)phthalate	ND	0.133
Butyl benzyl phthalate	ND	0.330
Carbazole	ND	0.133
Chrysene	ND	0.133
Di-n-butyl phthalate	ND	0.330
Di-n-octyl phthalate	ND	0.330
Dibenz[a,h]anthracene	ND	0.133
Dibenzofuran	ND	0.133
Diethyl phthalate	ND	0.330
Dimethyl phthalate	ND	0.330
Fluoranthene	ND	0.133
Fluorene	ND	0.133
Hexachlorobenzene	ND	0.133
Hexachlorobutadiene	ND	0.133
Hexachlorocyclopentadiene	ND	0.330
Hexachloroethane	ND	0.133
Indeno[1,2,3-cd]pyrene	ND	0.133

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Isophorone	ND	0.133				
N-Nitrosodi-n-propylamine	ND	0.133				
N-Nitrosodimethylamine	ND	0.133				
N-Nitrosodiphenylamine	ND	0.133				
Naphthalene	ND	0.133				
Nitrobenzene	ND	0.133				
Pentachlorobenzene	ND	0.133				
Pentachlorophenol	ND	0.133				
Phenanthrene	ND	0.133				
Phenol	ND	0.133				
Pyrene	ND	0.133				
Pyridine	ND	0.660				
Surr: 2,4,6-Tribromophenol	2.20		2.680	82.1	45	138
Surr: 2-Fluorobiphenyl	1.98		2.680	73.9	37	125
Surr: 2-Fluorophenol	2.01		2.680	75.1	60	135
Surr: 4-Terphenyl-d14	2.05		2.680	76.4	60	129
Surr: Nitrobenzene-d5	2.15		2.680	80.1	45	125
Surr: Phenol-d6	2.01		2.680	75.1	40	125

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Sample ID:	ICV2-100522	Batch ID:	R49500	TestNo:	SW8270C	Units:	mg/Kg
SampType:	ICV	Run ID:	GCMS4_100522A	Analysis Date:	05/22/10 01:46 PM	Prep Date:	

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,2,4,5-Tetrachlorobenzene	3.46	0.133	4.000	0	86.5	80	120			
1,2,4-Trichlorobenzene	3.87	0.133	4.000	0	96.8	80	120			
1,2-Dichlorobenzene	3.60	0.133	4.000	0	90.0	80	120			
1,2-Diphenylhydrazine	3.98	0.133	4.000	0	99.5	80	120			
1,3-Dichlorobenzene	3.62	0.133	4.000	0	90.5	80	120			
1,4-Dichlorobenzene	3.63	0.133	4.000	0	90.8	80	120			
1-Methylnaphthalene	3.34	0.133	4.000	0	83.5	80	120			N
2,4,5-Trichlorophenol	3.87	0.133	4.000	0	96.8	80	120			
2,4,6-Trichlorophenol	3.87	0.133	4.000	0	96.8	80	120			
2,4-Dichlorophenol	3.61	0.133	4.000	0	90.2	80	120			
2,4-Dimethylphenol	3.74	0.133	4.000	0	93.5	80	120			
2,4-Dinitrophenol	4.05	0.660	4.000	0	101	80	120			
2,4-Dinitrotoluene	3.97	0.133	4.000	0	99.2	80	120			
2,6-Dichlorophenol	3.53	0.133	4.000	0	88.2	80	120			
2,6-Dinitrotoluene	3.89	0.133	4.000	0	97.2	80	120			
2-Chloronaphthalene	3.78	0.133	4.000	0	94.5	80	120			
2-Chlorophenol	3.60	0.133	4.000	0	90.0	80	120			
2-Methylnaphthalene	3.39	0.133	4.000	0	84.8	80	120			
2-Methylphenol	3.42	0.133	4.000	0	85.5	80	120			
2-Nitroaniline	3.86	0.133	4.000	0	96.5	80	120			
2-Nitrophenol	3.81	0.133	4.000	0	95.2	80	120			
3,3'-Dichlorobenzidine	4.23	0.133	4.000	0	106	80	120			
3-Nitroaniline	3.52	0.133	4.000	0	88.0	80	120			
4,6-Dinitro-2-methylphenol	3.99	0.330	4.000	0	99.8	80	120			
4-Bromophenyl phenyl ether	3.75	0.133	4.000	0	93.8	80	120			
4-Chloro-3-methylphenol	3.31	0.133	4.000	0	82.8	80	120			
4-Chloroaniline	3.34	0.330	4.000	0	83.5	80	120			
4-Chlorophenyl phenyl ether	3.79	0.133	4.000	0	94.8	80	120			
4-Methylphenol	3.33	0.133	4.000	0	83.2	80	120			
4-Nitroaniline	3.99	0.133	4.000	0	99.8	80	120			
4-Nitrophenol	4.06	0.660	4.000	0	102	80	120			
Acenaphthene	3.72	0.133	4.000	0	93.0	80	120			
Acenaphthylene	3.72	0.133	4.000	0	93.0	80	120			
Acetophenone	3.37	0.133	4.000	0	84.2	80	120			
Aniline	3.18	0.133	4.000	0	79.5	80	120			
Anthracene	3.67	0.133	4.000	0	91.8	80	120			
Benzidine	2.96	0.660	4.000	0	74.0	80	120			S
Benzo[a]anthracene	3.62	0.133	4.000	0	90.5	80	120			
Benzo[a]pyrene	4.04	0.133	4.000	0	101	80	120			
Benzo[b]fluoranthene	4.11	0.133	4.000	0	103	80	120			
Benzo[g,h,i]perylene	3.28	0.133	4.000	0	82.0	80	120			
Benzo[k]fluoranthene	4.04	0.133	4.000	0	101	80	120			
Benzoic acid	3.72	0.660	4.000	0	93.0	80	120			
Benzyl alcohol	3.44	0.330	4.000	0	86.0	80	120			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522A

Biphenyl	3.82	0.133	4.000	0	95.5	80	120
Bis(2-chloroethoxy)methane	3.50	0.133	4.000	0	87.5	80	120
Bis(2-chloroethyl)ether	3.34	0.133	4.000	0	83.5	80	120
Bis(2-chloroisopropyl)ether	3.72	0.133	4.000	0	93.0	80	120
Bis(2-ethylhexyl)phthalate	3.97	0.133	4.000	0	99.2	80	120
Butyl benzyl phthalate	3.52	0.330	4.000	0	88.0	80	120
Carbazole	3.68	0.133	4.000	0	92.0	80	120
Chrysene	3.76	0.133	4.000	0	94.0	80	120
Di-n-butyl phthalate	3.51	0.330	4.000	0	87.8	80	120
Di-n-octyl phthalate	3.74	0.330	4.000	0	93.5	80	120
Dibenz[a,h]anthracene	3.26	0.133	4.000	0	81.5	80	120
Dibenzofuran	3.69	0.133	4.000	0	92.2	80	120
Diethyl phthalate	4.02	0.330	4.000	0	101	80	120
Dimethyl phthalate	3.71	0.330	4.000	0	92.8	80	120
Fluoranthene	3.69	0.133	4.000	0	92.2	80	120
Fluorene	3.75	0.133	4.000	0	93.8	80	120
Hexachlorobenzene	3.78	0.133	4.000	0	94.5	80	120
Hexachlorobutadiene	3.85	0.133	4.000	0	96.2	80	120
Hexachlorocyclopentadiene	3.91	0.330	4.000	0	97.8	80	120
Hexachloroethane	3.54	0.133	4.000	0	88.5	80	120
Indeno[1,2,3-cd]pyrene	3.40	0.133	4.000	0	85.0	80	120
Isophorone	3.61	0.133	4.000	0	90.2	80	120
N-Nitrosodi-n-propylamine	3.38	0.133	4.000	0	84.5	80	120
N-Nitrosodimethylamine	3.93	0.133	4.000	0	98.2	80	120
N-Nitrosodiphenylamine	3.64	0.133	4.000	0	91.0	80	120
Naphthalene	3.62	0.133	4.000	0	90.5	80	120
Nitrobenzene	3.62	0.133	4.000	0	90.5	80	120
Pentachlorobenzene	3.63	0.133	4.000	0	90.8	80	120
Pentachlorophenol	3.96	0.133	4.000	0	99.0	80	120
Phenanthrene	3.68	0.133	4.000	0	92.0	80	120
Phenol	4.04	0.133	4.000	0	101	80	120
Pyrene	3.58	0.133	4.000	0	89.5	80	120
Pyridine	3.52	0.660	4.000	0	88.0	80	120
Surr: 2,4,6-Tribromophenol	3.85		4.000		96.2	80	120
Surr: 2-Fluorobiphenyl	3.83		4.000		95.8	80	120
Surr: 2-Fluorophenol	3.59		4.000		89.8	80	120
Surr: 4-Terphenyl-d14	3.61		4.000		90.2	80	120
Surr: Nitrobenzene-d5	3.76		4.000		94.0	80	120
Surr: Phenol-d6	3.53		4.000		88.2	80	120

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522B

Sample ID:	LCS2-41204	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg
SampType:	LCS	Run ID:	GCMS4_100522B	Analysis Date:	05/22/10 04:10 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene	1.16	0.133	1.340	0	86.6	40	125			N
1-Naphthylamine	1.01	0.133	1.340	0	75.1	40	125			
2-Naphthylamine	1.17	0.133	1.340	0	87.6	40	125			
2-Picoline	1.12	0.133	1.340	0	83.6	40	125			
3-Methylcholanthrene	1.56	0.133	1.340	0	116	40	125			
4-Aminobiphenyl	0.853	0.133	1.340	0	63.7	40	125			
7,12-Dimethylbenz(a)anthracene	1.83	0.133	1.340	0	136	40	125			S
Dibenz(a,j)acridine	1.31	0.133	1.340	0	98.0	40	125			N
Dimethylphenethylamine	0.580	0.133	1.340	0	43.3	40	125			
Diphenylamine	1.15	0.133	1.340	0	86.1	40	125			
Ethyl methanesulfonate	1.31	0.133	1.340	0	97.5	40	125			
Methyl methanesulfonate	1.45	0.133	1.340	0	108	40	125			
N-Nitrosopiperidine	1.43	0.133	1.340	0	106	40	125			
p-Dimethylaminoazobenzene	1.15	0.133	1.340	0	86.1	40	125			
Pentachloronitrobenzene	1.58	0.133	1.340	0	118	40	125			
Phenacetin	1.33	0.133	1.340	0	99.0	40	125			
Pronamide	1.33	0.133	1.340	0	99.0	40	125			
Surr: 2,4,6-Tribromophenol	2.29		2.680		85.6	45	138			
Surr: 2-Fluorobiphenyl	1.78		2.680		66.4	37	125			
Surr: 2-Fluorophenol	1.93		2.680		71.9	60	135			
Surr: 4-Terphenyl-d14	2.11		2.680		78.6	60	129			
Surr: Nitrobenzene-d5	2.21		2.680		82.6	45	125			
Surr: Phenol-d6	1.91		2.680		71.4	40	125			

Sample ID:	1005099-06C-MS	Batch ID:	41204	TestNo:	SW8270C	Units:	mg/Kg-dry
SampType:	MS	Run ID:	GCMS4_100522B	Analysis Date:	05/22/10 07:00 PM	Prep Date:	05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene	1.04	0.137	1.384	0	75.1	40	125			N
1-Naphthylamine	0.399	0.137	1.384	0	28.9	40	125			S
2-Naphthylamine	0.613	0.137	1.384	0	44.3	40	125			
2-Picoline	0.929	0.137	1.384	0	67.2	40	125			
3-Methylcholanthrene	1.21	0.137	1.384	0	87.6	40	125			
4-Aminobiphenyl	0.269	0.137	1.384	0	19.4	40	125			S
7,12-Dimethylbenz(a)anthracene	1.85	0.137	1.384	0	134	40	125			S
Dibenz(a,j)acridine	0.551	0.137	1.384	0	39.8	40	125			N
Dimethylphenethylamine	0	0.137	1.384	0	0	40	125			S
Diphenylamine	2.02	0.137	2.726	0	74.2	40	125			
Ethyl methanesulfonate	1.18	0.137	1.384	0	85.1	40	125			
Methyl methanesulfonate	1.24	0.137	1.384	0	89.6	40	125			
N-Nitrosopiperidine	1.29	0.137	1.384	0	93.0	40	125			
p-Dimethylaminoazobenzene	0.950	0.137	1.384	0	68.7	40	125			
Pentachloronitrobenzene	1.38	0.137	1.384	0	99.5	40	125			
Phenacetin	1.10	0.137	1.384	0	79.6	40	125			
Pronamide	1.19	0.137	1.384	0	86.1	40	125			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522B

Surr: 2,4,6-Tribromophenol	2.27	2.768	81.8	45	138
Surr: 2-Fluorobiphenyl	1.73	2.768	62.4	37	125
Surr: 2-Fluorophenol	2.08	2.768	75.1	60	135
Surr: 4-Terphenyl-d14	1.97	2.768	71.1	60	129
Surr: Nitrobenzene-d5	2.01	2.768	72.6	45	125
Surr: Phenol-d6	1.85	2.768	66.9	40	125

Sample ID: 1005099-06C-MSD Batch ID: 41204 TestNo: SW8270C Units: mg/Kg-dry
SampType: MSD Run ID: GCMS4_100522B Analysis Date: 05/22/10 07:23 PM Prep Date: 05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene	1.12	0.137	1.380	0	81.1	40	125	7.39	30	N
1-Naphthylamine	0.343	0.137	1.380	0	24.9	40	125	15.1	30	S
2-Naphthylamine	0.584	0.137	1.380	0	42.3	40	125	4.85	30	
2-Picoline	0.975	0.137	1.380	0	70.6	40	125	4.80	30	
3-Methylcholanthrene	1.30	0.137	1.380	0	94.5	40	125	7.39	30	
4-Aminobiphenyl	0.233	0.137	1.380	0	16.9	40	125	14.0	30	S
7,12-Dimethylbenz(a)anthracene	1.78	0.137	1.380	0	129	40	125	4.04	30	S
Dibenz(a,j)acridine	0.735	0.137	1.380	0	53.2	40	125	28.6	30	N
Dimethylphenethylamine	0	0.137	1.380	0	0	40	125	0	30	S
Diphenylamine	2.11	0.137	2.719	0	77.5	40	125	4.07	30	
Ethyl methanesulfonate	1.22	0.137	1.380	0	88.6	40	125	3.76	30	
Methyl methanesulfonate	1.29	0.137	1.380	0	93.5	40	125	4.09	30	
N-Nitrosopiperidine	1.33	0.137	1.380	0	96.0	40	125	2.90	30	
p-Dimethylaminoazobenzene	1.01	0.137	1.380	0	73.1	40	125	6.06	30	
Pentachloronitrobenzene	1.47	0.137	1.380	0	106	40	125	6.51	30	
Phenacetin	1.17	0.137	1.380	0	85.1	40	125	6.39	30	
Pronamide	1.24	0.137	1.380	0	89.6	40	125	3.71	30	
Surr: 2,4,6-Tribromophenol	2.32		2.761		84.1	45	138	0	0	
Surr: 2-Fluorobiphenyl	1.76		2.761		63.7	37	125	0	0	
Surr: 2-Fluorophenol	2.14		2.761		77.6	60	135	0	0	
Surr: 4-Terphenyl-d14	2.02		2.761		73.1	60	129	0	0	
Surr: Nitrobenzene-d5	1.98		2.761		71.6	45	125	0	0	
Surr: Phenol-d6	1.95		2.761		70.6	40	125	0	0	

Sample ID: MB-41204 Batch ID: 41204 TestNo: SW8270C Units: mg/Kg
SampType: MBLK Run ID: GCMS4_100522B Analysis Date: 05/22/10 08:36 PM Prep Date: 05/21/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene	ND	0.133								N
1-Naphthylamine	ND	0.133								
2-Naphthylamine	ND	0.133								
2-Picoline	ND	0.133								
3-Methylcholanthrene	ND	0.133								
4-Aminobiphenyl	ND	0.133								
7,12-Dimethylbenz(a)anthracene	ND	0.133								
Dibenz(a,j)acridine	ND	0.133								N
Dimethylphenethylamine	ND	0.133								
Diphenylamine	ND	0.133								

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522B

Ethyl methanesulfonate	ND	0.133				
Methyl methanesulfonate	ND	0.133				
N-Nitrosopiperidine	ND	0.133				
p-Dimethylaminoazobenzene	ND	0.133				
Pentachloronitrobenzene	ND	0.133				
Phenacetin	ND	0.133				
Pronamide	ND	0.133				
Surr: 2,4,6-Tribromophenol	2.27		2.680	84.8	45	138
Surr: 2-Fluorobiphenyl	1.67		2.680	62.4	37	125
Surr: 2-Fluorophenol	2.14		2.680	79.9	60	135
Surr: 4-Terphenyl-d14	1.92		2.680	71.6	60	129
Surr: Nitrobenzene-d5	2.03		2.680	75.6	45	125
Surr: Phenol-d6	1.96		2.680	73.1	40	125

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS4_100522B

Sample ID:	ICV-100522	Batch ID:	R49504		TestNo:		SW8270C		Units:		mg/Kg
SampType:	ICV	Run ID:	GCMS4_100522B		Analysis Date:		05/22/10 02:10 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1-Chloronaphthalene		3.86	0.133	4.000	0	96.5	80	120			N
1-Naphthylamine		4.10	0.133	4.000	0	103	80	120			
2-Naphthylamine		4.39	0.133	4.000	0	110	80	120			
2-Picoline		4.08	0.133	4.000	0	102	80	120			
3-Methylcholanthrene		4.20	0.133	4.000	0	105	80	120			
4-Aminobiphenyl		3.93	0.133	4.000	0	98.2	80	120			
7,12-Dimethylbenz(a)anthracene		3.65	0.133	4.000	0	91.2	80	120			
Dibenz(a,j)acridine		4.13	0.133	4.000	0	103	80	120			N
Dimethylphenethylamine		3.58	0.133	4.000	0	89.5	80	120			
Diphenylamine		3.73	0.133	4.000	0	93.2	80	120			
Ethyl methanesulfonate		3.71	0.133	4.000	0	92.8	80	120			
Methyl methanesulfonate		4.69	0.133	4.000	0	117	80	120			
N-Nitrosopiperidine		4.27	0.133	4.000	0	107	80	120			
p-Dimethylaminoazobenzene		3.23	0.133	4.000	0	80.8	80	120			
Pentachloronitrobenzene		4.25	0.133	4.000	0	106	80	120			
Phenacetin		3.60	0.133	4.000	0	90.0	80	120			
Pronamide		3.72	0.133	4.000	0	93.0	80	120			
Surr: 2,4,6-Tribromophenol		4.52		4.000		113	80	120			
Surr: 2-Fluorobiphenyl		3.74		4.000		93.5	80	120			
Surr: 2-Fluorophenol		4.31		4.000		108	80	120			
Surr: 4-Terphenyl-d14		3.39		4.000		84.8	80	120			
Surr: Nitrobenzene-d5		3.75		4.000		93.8	80	120			
Surr: Phenol-d6		3.89		4.000		97.2	80	120			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

Sample ID:	LCS-41071	Batch ID:	41071	TestNo:	SW8260B	Units:	mg/Kg
SampType:	LCS	Run ID:	GCMS2_100513A	Analysis Date:	05/13/10 04:26 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.0239	0.00500	0.0232	0	103	75	125			
1,1,1-Trichloroethane	0.0226	0.00500	0.0232	0	97.6	70	130			
1,1,2,2-Tetrachloroethane	0.0253	0.00500	0.0232	0	109	59	130			
1,1,2-Trichloroethane	0.0241	0.00500	0.0232	0	104	62	125			
1,1-Dichloroethane	0.0227	0.00500	0.0232	0	97.8	75	125			
1,1-Dichloroethene	0.0199	0.00500	0.0232	0	85.8	65	135			
1,1-Dichloropropene	0.0230	0.00500	0.0232	0	99.0	70	135			
1,2,3-Trichlorobenzene	0.0268	0.00500	0.0232	0	116	62	133			
1,2,3-Trichloropropane	0.0242	0.00500	0.0232	0	105	65	130			
1,2,4-Trichlorobenzene	0.0262	0.00500	0.0232	0	113	65	130			
1,2,4-Trimethylbenzene	0.0237	0.00500	0.0232	0	102	65	135			
1,2-Dibromo-3-chloropropane	0.0243	0.00500	0.0232	0	105	49	135			
1,2-Dibromoethane	0.0237	0.00500	0.0232	0	102	70	124			
1,2-Dichlorobenzene	0.0246	0.00500	0.0232	0	106	75	120			
1,2-Dichloroethane	0.0232	0.00500	0.0232	0	99.9	72	135			
1,2-Dichloropropane	0.0235	0.00500	0.0232	0	101	71	120			
1,3,5-Trimethylbenzene	0.0242	0.00500	0.0232	0	104	65	133			
1,3-Dichlorobenzene	0.0244	0.00500	0.0232	0	105	72	124			
1,3-Dichloropropane	0.0238	0.00500	0.0232	0	103	76	123			
1,4-Dichloro-2-butene	0.0240	0.00500	0.0232	0	103	50	150			
1,4-Dichlorobenzene	0.0242	0.00500	0.0232	0	105	72	125			
2,2-Dichloropropane	0.0248	0.00500	0.0232	0	107	67	134			
2-Butanone	0.0596	0.0150	0.0580	0	103	60	135			
2-Chloroethylvinylether	0.0230	0.0150	0.0232	0	99.2	50	150			
2-Chlorotoluene	0.0238	0.00500	0.0232	0	103	70	128			
2-Hexanone	0.0579	0.0150	0.0580	0	99.8	50	145			
4-Chlorotoluene	0.0239	0.00500	0.0232	0	103	75	125			
4-Isopropyltoluene	0.0243	0.00500	0.0232	0	105	75	133			
4-Methyl-2-pentanone	0.0593	0.0150	0.0580	0	102	60	135			
Acetone	0.0495	0.0500	0.0580	0	85.3	40	141			
Acrylonitrile	0.0481	0.0100	0.0464	0	104	40	160			
Benzene	0.0234	0.00500	0.0232	0	101	75	125			
Bromobenzene	0.0241	0.00500	0.0232	0	104	66	120			
Bromochloromethane	0.0238	0.00500	0.0232	0	103	71	125			
Bromodichloromethane	0.0233	0.00500	0.0232	0	100	72	128			
Bromoform	0.0233	0.00500	0.0232	0	100	66	137			
Bromomethane	0.0224	0.00500	0.0232	0	96.4	45	141			
Carbon disulfide	0.0203	0.00500	0.0232	0	87.5	50	150			
Carbon tetrachloride	0.0226	0.00500	0.0232	0	97.5	67	133			
Chlorobenzene	0.0241	0.00500	0.0232	0	104	75	123			
Chloroethane	0.0248	0.00500	0.0232	0	107	41	141			
Chloroform	0.0233	0.00500	0.0232	0	100	72	124			
Chloromethane	0.0237	0.00500	0.0232	0	102	51	129			
cis-1,2-Dichloroethene	0.0233	0.00500	0.0232	0	100	67	125			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

cis-1,3-Dichloropropene	0.0240	0.00500	0.0232	0	104	72	125
Dibromochloromethane	0.0233	0.00500	0.0232	0	100	66	130
Dibromomethane	0.0236	0.00500	0.0232	0	102	75	128
Dichlorodifluoromethane	0.0240	0.00500	0.0232	0	103	80	121
Ethylbenzene	0.0238	0.00500	0.0232	0	103	75	125
Hexachlorobutadiene	0.0248	0.00500	0.0232	0	107	55	140
Iodomethane	0.0233	0.00500	0.0232	0	100	50	150
Isopropylbenzene	0.0241	0.00500	0.0232	0	104	77	129
m,p-Xylene	0.0484	0.00500	0.0464	0	104	80	125
Methyl tert-butyl ether	0.0225	0.00500	0.0232	0	96.8	68	130
Methylene chloride	0.0211	0.00500	0.0232	0	90.9	63	137
n-Butylbenzene	0.0243	0.00500	0.0232	0	105	65	138
n-Propylbenzene	0.0238	0.00500	0.0232	0	103	65	135
Naphthalene	0.0273	0.0150	0.0232	0	118	51	125
o-Xylene	0.0241	0.00500	0.0232	0	104	77	125
sec-Butylbenzene	0.0240	0.00500	0.0232	0	103	65	130
Styrene	0.0242	0.00500	0.0232	0	104	75	125
tert-Butylbenzene	0.0239	0.00500	0.0232	0	103	65	130
Tetrachloroethene	0.0237	0.00500	0.0232	0	102	67	139
Toluene	0.0236	0.00500	0.0232	0	102	75	125
trans-1,2-Dichloroethene	0.0224	0.00500	0.0232	0	96.7	66	134
trans-1,3-Dichloropropene	0.0246	0.00500	0.0232	0	106	65	125
Trichloroethene	0.0227	0.00500	0.0232	0	97.7	77	124
Trichlorofluoromethane	0.0240	0.0150	0.0232	0	103	49	139
Vinyl chloride	0.0239	0.00500	0.0232	0	103	60	125
Surr: 1,2-Dichloroethane-d4	50.9		50.00		102	78	125
Surr: 4-Bromofluorobenzene	49.8		50.00		99.6	85	120
Surr: Dibromofluoromethane	50.4		50.00		101	84	116
Surr: Toluene-d8	49.6		50.00		99.2	85	115

Sample ID:	MB-41071	Batch ID:	41071	TestNo:	SW8260B	Units:	mg/Kg
SampType:	MBLK	Run ID:	GCMS2_100513A	Analysis Date:	05/13/10 05:33 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	ND	0.00500								
1,1,1-Trichloroethane	ND	0.00500								
1,1,2,2-Tetrachloroethane	ND	0.00500								
1,1,2-Trichloroethane	ND	0.00500								
1,1-Dichloroethane	ND	0.00500								
1,1-Dichloroethene	ND	0.00500								
1,1-Dichloropropene	ND	0.00500								
1,2,3-Trichlorobenzene	ND	0.00500								
1,2,3-Trichloropropane	ND	0.00500								
1,2,4-Trichlorobenzene	ND	0.00500								
1,2,4-Trimethylbenzene	ND	0.00500								
1,2-Dibromo-3-chloropropane	ND	0.00500								
1,2-Dibromoethane	ND	0.00500								
1,2-Dichlorobenzene	ND	0.00500								

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

1,2-Dichloroethane	ND	0.00500
1,2-Dichloropropane	ND	0.00500
1,3,5-Trimethylbenzene	ND	0.00500
1,3-Dichlorobenzene	ND	0.00500
1,3-Dichloropropane	ND	0.00500
1,4-Dichloro-2-butene	ND	0.00500
1,4-Dichlorobenzene	ND	0.00500
2,2-Dichloropropane	ND	0.00500
2-Butanone	ND	0.0150
2-Chloroethylvinylether	ND	0.0150
2-Chlorotoluene	ND	0.00500
2-Hexanone	ND	0.0150
4-Chlorotoluene	ND	0.00500
4-Isopropyltoluene	ND	0.00500
4-Methyl-2-pentanone	ND	0.0150
Acetone	ND	0.0500
Acrylonitrile	ND	0.0100
Benzene	ND	0.00500
Bromobenzene	ND	0.00500
Bromochloromethane	ND	0.00500
Bromodichloromethane	ND	0.00500
Bromoform	ND	0.00500
Bromomethane	ND	0.00500
Carbon disulfide	ND	0.00500
Carbon tetrachloride	ND	0.00500
Chlorobenzene	ND	0.00500
Chloroethane	ND	0.00500
Chloroform	ND	0.00500
Chloromethane	ND	0.00500
cis-1,2-Dichloroethene	ND	0.00500
cis-1,3-Dichloropropene	ND	0.00500
Dibromochloromethane	ND	0.00500
Dibromomethane	ND	0.00500
Dichlorodifluoromethane	ND	0.00500
Ethylbenzene	ND	0.00500
Hexachlorobutadiene	ND	0.00500
Iodomethane	ND	0.00500
Isopropylbenzene	ND	0.00500
m,p-Xylene	ND	0.00500
Methyl tert-butyl ether	ND	0.00500
Methylene chloride	ND	0.00500
n-Butylbenzene	ND	0.00500
n-Propylbenzene	ND	0.00500
Naphthalene	ND	0.0150
o-Xylene	ND	0.00500
sec-Butylbenzene	ND	0.00500
Styrene	ND	0.00500

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

tert-Butylbenzene	ND	0.00500				
Tetrachloroethene	ND	0.00500				
Toluene	ND	0.00500				
trans-1,2-Dichloroethene	ND	0.00500				
trans-1,3-Dichloropropene	ND	0.00500				
Trichloroethene	ND	0.00500				
Trichlorofluoromethane	ND	0.0150				
Vinyl chloride	ND	0.00500				
Surr: 1,2-Dichloroethane-d4	48.8		50.00	97.6	78	125
Surr: 4-Bromofluorobenzene	50.1		50.00	100	85	120
Surr: Dibromofluoromethane	49.7		50.00	99.4	84	116
Surr: Toluene-d8	49.0		50.00	97.9	85	115

Sample ID:	1005099-06AMS	Batch ID:	41071	TestNo:	SW8260B	Units:	mg/Kg-dry
SampType:	MS	Run ID:	GCMS2_100513A	Analysis Date:	05/13/10 06:38 PM	Prep Date:	05/13/10

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	0.0168	0.00493	0.0229	0	73.4	75	125			S
1,1,1-Trichloroethane	0.0167	0.00493	0.0229	0	72.8	70	130			
1,1,2,2-Tetrachloroethane	0.0190	0.00493	0.0229	0	83.0	59	130			
1,1,2-Trichloroethane	0.0179	0.00493	0.0229	0	78.2	62	125			
1,1-Dichloroethane	0.0168	0.00493	0.0229	0	73.4	75	125			S
1,1-Dichloroethene	0.0158	0.00493	0.0229	0	68.9	65	135			
1,1-Dichloropropene	0.0166	0.00493	0.0229	0	72.5	70	135			
1,2,3-Trichlorobenzene	0.0102	0.00493	0.0229	0	44.8	62	133			S
1,2,3-Trichloropropane	0.0190	0.00493	0.0229	0	82.8	65	130			
1,2,4-Trichlorobenzene	0.0111	0.00493	0.0229	0	48.4	65	130			S
1,2,4-Trimethylbenzene	0.0150	0.00493	0.0229	0	65.4	65	135			
1,2-Dibromo-3-chloropropane	0.0168	0.00493	0.0229	0	73.4	49	135			
1,2-Dibromoethane	0.0177	0.00493	0.0229	0	77.5	70	124			
1,2-Dichlorobenzene	0.0152	0.00493	0.0229	0	66.6	75	120			S
1,2-Dichloroethane	0.0173	0.00493	0.0229	0	75.5	72	135			
1,2-Dichloropropane	0.0174	0.00493	0.0229	0	76.2	71	120			
1,3,5-Trimethylbenzene	0.0152	0.00493	0.0229	0	66.3	65	133			
1,3-Dichlorobenzene	0.0152	0.00493	0.0229	0	66.6	72	124			S
1,3-Dichloropropane	0.0178	0.00493	0.0229	0	77.8	76	123			
1,4-Dichloro-2-butene	0.0179	0.00493	0.0229	0	78.2	50	150			
1,4-Dichlorobenzene	0.0155	0.00493	0.0229	0	67.7	72	125			S
2,2-Dichloropropane	0.0176	0.00493	0.0229	0	76.7	67	134			
2-Butanone	0.0456	0.0148	0.0572	0	79.7	60	135			
2-Chloroethylvinylether	0.0160	0.0148	0.0229	0	69.7	50	150			
2-Chlorotoluene	0.0160	0.00493	0.0229	0	70.0	70	128			
2-Hexanone	0.0405	0.0148	0.0572	0	70.8	50	145			
4-Chlorotoluene	0.0162	0.00493	0.0229	0	70.9	75	125			S
4-Isopropyltoluene	0.0131	0.00493	0.0229	0	57.4	75	133			S
4-Methyl-2-pentanone	0.0438	0.0148	0.0572	0	76.5	60	135			
Acetone	0.0424	0.0493	0.0572	0	74.1	40	141			
Acrylonitrile	0.0359	0.00987	0.0458	0	78.5	40	160			

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

Benzene	0.0168	0.00493	0.0229	0	73.6	75	125		S
Bromobenzene	0.0168	0.00493	0.0229	0	73.4	66	120		
Bromochloromethane	0.0174	0.00493	0.0229	0	76.2	71	125		
Bromodichloromethane	0.0170	0.00493	0.0229	0	74.4	72	128		
Bromoform	0.0165	0.00493	0.0229	0	72.0	66	137		
Bromomethane	0.0166	0.00493	0.0229	0	72.3	45	141		
Carbon disulfide	0.0160	0.00493	0.0229	0	69.8	50	150		
Carbon tetrachloride	0.0161	0.00493	0.0229	0	70.2	67	133		
Chlorobenzene	0.0169	0.00493	0.0229	0	73.9	75	123		S
Chloroethane	0.0161	0.00493	0.0229	0	70.2	41	141		
Chloroform	0.0171	0.00493	0.0229	0	74.7	72	124		
Chloromethane	0.0171	0.00493	0.0229	0	74.6	51	129		
cis-1,2-Dichloroethene	0.0169	0.00493	0.0229	0	73.8	67	125		
cis-1,3-Dichloropropene	0.0173	0.00493	0.0229	0	75.6	72	125		
Dibromochloromethane	0.0167	0.00493	0.0229	0	73.1	66	130		
Dibromomethane	0.0177	0.00493	0.0229	0	77.3	75	128		
Dichlorodifluoromethane	0.0172	0.00493	0.0229	0	75.2	80	121		S
Ethylbenzene	0.0160	0.00493	0.0229	0	69.8	75	125		S
Hexachlorobutadiene	0.00575	0.00493	0.0229	0	25.1	55	140		S
Iodomethane	0.0166	0.00493	0.0229	0	72.7	50	150		
Isopropylbenzene	0.0150	0.00493	0.0229	0	65.6	77	129		S
m,p-Xylene	0.0325	0.00493	0.0458	0	71.1	80	125		S
Methyl tert-butyl ether	0.0166	0.00493	0.0229	0	72.6	68	130		
Methylene chloride	0.0150	0.00493	0.0229	0	65.4	63	137		
n-Butylbenzene	0.0119	0.00493	0.0229	0	51.9	65	138		S
n-Propylbenzene	0.0150	0.00493	0.0229	0	65.7	65	135		
Naphthalene	0.0140	0.0148	0.0229	0	61.0	51	125		
o-Xylene	0.0162	0.00493	0.0229	0	70.9	77	125		S
sec-Butylbenzene	0.0130	0.00493	0.0229	0	56.6	65	130		S
Styrene	0.0165	0.00493	0.0229	0	72.1	75	125		S
tert-Butylbenzene	0.0141	0.00493	0.0229	0	61.5	65	130		S
Tetrachloroethene	0.0160	0.00493	0.0229	0	69.7	67	139		
Toluene	0.0167	0.00493	0.0229	0	73.1	75	125		S
trans-1,2-Dichloroethene	0.0163	0.00493	0.0229	0	71.2	66	134		
trans-1,3-Dichloropropene	0.0175	0.00493	0.0229	0	76.3	65	125		
Trichloroethene	0.0164	0.00493	0.0229	0	71.5	77	124		S
Trichlorofluoromethane	0.0165	0.0148	0.0229	0	71.9	49	139		
Vinyl chloride	0.0171	0.00493	0.0229	0	74.7	60	125		
Surr: 1,2-Dichloroethane-d4	52.2		49.33		106	78	125		
Surr: 4-Bromofluorobenzene	50.2		49.33		102	85	120		
Surr: Dibromofluoromethane	49.6		49.33		101	84	116		
Surr: Toluene-d8	49.0		49.33		99.3	85	115		

Sample ID:	1005099-06AMSD	Batch ID:	41071	TestNo:	SW8260B		Units:	mg/Kg-dry	
SampType:	MSD	Run ID:	GCMS2_100513A	Analysis Date:	05/13/10 07:14 PM		Prep Date:	05/13/10	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane		0.0177	0.00478	0.0222	0	79.7	75	125	5.14	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

1,1,1-Trichloroethane	0.0174	0.00478	0.0222	0	78.6	70	130	4.67	30	
1,1,2,2-Tetrachloroethane	0.0212	0.00478	0.0222	0	95.7	59	130	11.2	30	
1,1,2-Trichloroethane	0.0197	0.00478	0.0222	0	88.6	62	125	9.38	30	
1,1-Dichloroethane	0.0176	0.00478	0.0222	0	79.5	75	125	4.94	30	
1,1-Dichloroethene	0.0165	0.00478	0.0222	0	74.4	65	135	4.69	30	
1,1-Dichloropropene	0.0176	0.00478	0.0222	0	79.2	70	135	5.80	30	
1,2,3-Trichlorobenzene	0.0119	0.00478	0.0222	0	53.4	62	133	14.6	30	S
1,2,3-Trichloropropane	0.0209	0.00478	0.0222	0	94.4	65	130	9.97	30	
1,2,4-Trichlorobenzene	0.0128	0.00478	0.0222	0	57.8	65	130	14.5	30	S
1,2,4-Trimethylbenzene	0.0167	0.00478	0.0222	0	75.1	65	135	10.7	30	
1,2-Dibromo-3-chloropropane	0.0192	0.00478	0.0222	0	86.4	49	135	13.1	30	
1,2-Dibromoethane	0.0194	0.00478	0.0222	0	87.2	70	124	8.76	30	
1,2-Dichlorobenzene	0.0170	0.00478	0.0222	0	76.7	75	120	11.1	30	
1,2-Dichloroethane	0.0188	0.00478	0.0222	0	84.9	72	135	8.64	30	
1,2-Dichloropropane	0.0184	0.00478	0.0222	0	83.0	71	120	5.49	30	
1,3,5-Trimethylbenzene	0.0166	0.00478	0.0222	0	74.9	65	133	9.15	30	
1,3-Dichlorobenzene	0.0168	0.00478	0.0222	0	75.7	72	124	9.72	30	
1,3-Dichloropropane	0.0194	0.00478	0.0222	0	87.3	76	123	8.41	30	
1,4-Dichloro-2-butene	0.0210	0.00478	0.0222	0	94.8	50	150	16.2	30	
1,4-Dichlorobenzene	0.0170	0.00478	0.0222	0	76.8	72	125	9.46	30	
2,2-Dichloropropane	0.0182	0.00478	0.0222	0	81.9	67	134	3.50	30	
2-Butanone	0.0534	0.0143	0.0555	0	96.2	60	135	15.8	30	
2-Chloroethylvinylether	0.0186	0.0143	0.0222	0	84.0	50	150	15.6	30	
2-Chlorotoluene	0.0174	0.00478	0.0222	0	78.6	70	128	8.53	30	
2-Hexanone	0.0481	0.0143	0.0555	0	86.8	50	145	17.1	30	
4-Chlorotoluene	0.0175	0.00478	0.0222	0	78.8	75	125	7.41	30	
4-Isopropyltoluene	0.0147	0.00478	0.0222	0	66.2	75	133	11.1	30	S
4-Methyl-2-pentanone	0.0511	0.0143	0.0555	0	92.1	60	135	15.4	30	
Acetone	0.0514	0.0478	0.0555	0	92.6	40	141	19.1	30	
Acrylonitrile	0.0407	0.00957	0.0444	0	91.7	40	160	12.4	30	
Benzene	0.0179	0.00478	0.0222	0	80.5	75	125	5.88	30	
Bromobenzene	0.0185	0.00478	0.0222	0	83.4	66	120	9.64	30	
Bromochloromethane	0.0188	0.00478	0.0222	0	84.8	71	125	7.69	30	
Bromodichloromethane	0.0180	0.00478	0.0222	0	81.3	72	128	5.79	30	
Bromoform	0.0181	0.00478	0.0222	0	81.6	66	137	9.44	30	
Bromomethane	0.0177	0.00478	0.0222	0	79.7	45	141	6.62	30	
Carbon disulfide	0.0172	0.00478	0.0222	0	77.4	50	150	7.18	30	
Carbon tetrachloride	0.0168	0.00478	0.0222	0	75.7	67	133	4.55	30	
Chlorobenzene	0.0179	0.00478	0.0222	0	80.5	75	123	5.47	30	
Chloroethane	0.0176	0.00478	0.0222	0	79.3	41	141	9.04	30	
Chloroform	0.0183	0.00478	0.0222	0	82.5	72	124	6.91	30	
Chloromethane	0.0183	0.00478	0.0222	0	82.3	51	129	6.77	30	
cis-1,2-Dichloroethene	0.0177	0.00478	0.0222	0	80.0	67	125	4.89	30	
cis-1,3-Dichloropropene	0.0187	0.00478	0.0222	0	84.1	72	125	7.51	30	
Dibromochloromethane	0.0181	0.00478	0.0222	0	81.5	66	130	7.69	30	
Dibromomethane	0.0195	0.00478	0.0222	0	87.7	75	128	9.53	30	
Dichlorodifluoromethane	0.0185	0.00478	0.0222	0	83.5	80	121	7.42	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

Ethylbenzene	0.0173	0.00478	0.0222	0	77.9	75	125	7.90	30	
Hexachlorobutadiene	0.00619	0.00478	0.0222	0	27.9	55	140	7.34	30	S
Iodomethane	0.0188	0.00478	0.0222	0	84.6	50	150	12.0	30	
Isopropylbenzene	0.0163	0.00478	0.0222	0	73.5	77	129	8.27	30	S
m,p-Xylene	0.0351	0.00478	0.0444	0	79.1	80	125	7.58	30	S
Methyl tert-butyl ether	0.0182	0.00478	0.0222	0	81.8	68	130	8.88	30	
Methylene chloride	0.0162	0.00478	0.0222	0	73.0	63	137	7.89	30	
n-Butylbenzene	0.0133	0.00478	0.0222	0	60.0	65	138	11.4	30	S
n-Propylbenzene	0.0167	0.00478	0.0222	0	75.4	65	135	10.7	30	
Naphthalene	0.0166	0.0143	0.0222	0	74.8	51	125	17.3	30	
o-Xylene	0.0173	0.00478	0.0222	0	77.9	77	125	6.37	30	
sec-Butylbenzene	0.0144	0.00478	0.0222	0	64.9	65	130	10.6	30	
Styrene	0.0174	0.00478	0.0222	0	78.6	75	125	5.62	30	
tert-Butylbenzene	0.0155	0.00478	0.0222	0	70.0	65	130	9.79	30	
Tetrachloroethene	0.0168	0.00478	0.0222	0	75.9	67	139	5.45	30	
Toluene	0.0176	0.00478	0.0222	0	79.4	75	125	5.24	30	
trans-1,2-Dichloroethene	0.0170	0.00478	0.0222	0	76.4	66	134	3.93	30	
trans-1,3-Dichloropropene	0.0191	0.00478	0.0222	0	85.9	65	125	8.68	30	
Trichloroethene	0.0173	0.00478	0.0222	0	78.1	77	124	5.86	30	
Trichlorofluoromethane	0.0178	0.0143	0.0222	0	80.3	49	139	8.03	30	
Vinyl chloride	0.0181	0.00478	0.0222	0	81.8	60	125	5.91	30	
Surr: 1,2-Dichloroethane-d4	52.4		47.83		110	78	125	0	0	
Surr: 4-Bromofluorobenzene	49.1		47.83		103	85	120	0	0	
Surr: Dibromofluoromethane	48.7		47.83		102	84	116	0	0	
Surr: Toluene-d8	46.5		47.83		97.2	85	115	0	0	

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

Sample ID:	ICV-100513	Batch ID:	R49353	TestNo:		SW8260B			Units:	mg/Kg	
SampType:	ICV	Run ID:	GCMS2_100513A	Analysis Date:		05/13/10 03:52 PM			Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane		0.0501	0.00500	0.0464	0	108	80	120			
1,1,1-Trichloroethane		0.0481	0.00500	0.0464	0	104	80	120			
1,1,2,2-Tetrachloroethane		0.0509	0.00500	0.0464	0	110	80	120			
1,1,2-Trichloroethane		0.0493	0.00500	0.0464	0	106	80	120			
1,1-Dichloroethane		0.0480	0.00500	0.0464	0	103	80	120			
1,1-Dichloroethene		0.0422	0.00500	0.0464	0	90.9	80	120			
1,1-Dichloropropene		0.0478	0.00500	0.0464	0	103	80	120			
1,2,3-Trichlorobenzene		0.0470	0.00500	0.0464	0	101	80	120			
1,2,3-Trichloropropane		0.0490	0.00500	0.0464	0	106	80	120			
1,2,4-Trichlorobenzene		0.0498	0.00500	0.0464	0	107	80	120			
1,2,4-Trimethylbenzene		0.0488	0.00500	0.0464	0	105	80	120			
1,2-Dibromo-3-chloropropane		0.0473	0.00500	0.0464	0	102	80	120			
1,2-Dibromoethane		0.0485	0.00500	0.0464	0	105	80	120			
1,2-Dichlorobenzene		0.0492	0.00500	0.0464	0	106	80	120			
1,2-Dichloroethane		0.0477	0.00500	0.0464	0	103	80	120			
1,2-Dichloropropane		0.0490	0.00500	0.0464	0	106	80	120			
1,3,5-Trimethylbenzene		0.0491	0.00500	0.0464	0	106	80	120			
1,3-Dichlorobenzene		0.0493	0.00500	0.0464	0	106	80	120			
1,3-Dichloropropane		0.0490	0.00500	0.0464	0	105	80	120			
1,4-Dichloro-2-butene		0.0511	0.00500	0.0464	0	110	80	120			
1,4-Dichlorobenzene		0.0489	0.00500	0.0464	0	105	80	120			
2,2-Dichloropropane		0.0529	0.00500	0.0464	0	114	80	120			
2-Butanone		0.116	0.0150	0.116	0	99.6	80	120			
2-Chloroethylvinylether		0.0447	0.0150	0.0464	0	96.4	80	120			
2-Chlorotoluene		0.0482	0.00500	0.0464	0	104	80	120			
2-Hexanone		0.110	0.0150	0.116	0	95.3	80	120			
4-Chlorotoluene		0.0491	0.00500	0.0464	0	106	80	120			
4-Isopropyltoluene		0.0492	0.00500	0.0464	0	106	80	120			
4-Methyl-2-pentanone		0.113	0.0150	0.116	0	97.5	80	120			
Acetone		0.115	0.0500	0.116	0	99.1	80	120			
Acrylonitrile		0.0971	0.0100	0.0928	0	105	80	120			
Benzene		0.0484	0.00500	0.0464	0	104	80	120			
Bromobenzene		0.0499	0.00500	0.0464	0	108	80	120			
Bromochloromethane		0.0495	0.00500	0.0464	0	107	80	120			
Bromodichloromethane		0.0486	0.00500	0.0464	0	105	80	120			
Bromoform		0.0489	0.00500	0.0464	0	105	80	120			
Bromomethane		0.0457	0.00500	0.0464	0	98.5	80	120			
Carbon disulfide		0.0415	0.00500	0.0464	0	89.5	80	120			
Carbon tetrachloride		0.0474	0.00500	0.0464	0	102	80	120			
Chlorobenzene		0.0497	0.00500	0.0464	0	107	80	120			
Chloroethane		0.0512	0.00500	0.0464	0	110	80	120			
Chloroform		0.0484	0.00500	0.0464	0	104	80	120			
Chloromethane		0.0470	0.00500	0.0464	0	101	80	120			
cis-1,2-Dichloroethene		0.0487	0.00500	0.0464	0	105	80	120			

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: GCMS2_100513A

cis-1,3-Dichloropropene	0.0506	0.00500	0.0464	0	109	80	120
Dibromochloromethane	0.0486	0.00500	0.0464	0	105	80	120
Dibromomethane	0.0494	0.00500	0.0464	0	106	80	120
Dichlorodifluoromethane	0.0476	0.00500	0.0464	0	103	80	120
Ethylbenzene	0.0499	0.00500	0.0464	0	108	80	120
Hexachlorobutadiene	0.0482	0.00500	0.0464	0	104	80	120
Iodomethane	0.0462	0.00500	0.0464	0	99.5	80	120
Isopropylbenzene	0.0493	0.00500	0.0464	0	106	80	120
m,p-Xylene	0.100	0.00500	0.0928	0	108	80	120
Methyl tert-butyl ether	0.0459	0.00500	0.0464	0	98.9	80	120
Methylene chloride	0.0472	0.00500	0.0464	0	102	80	120
n-Butylbenzene	0.0486	0.00500	0.0464	0	105	80	120
n-Propylbenzene	0.0492	0.00500	0.0464	0	106	80	120
Naphthalene	0.0494	0.0150	0.0464	0	106	80	120
o-Xylene	0.0501	0.00500	0.0464	0	108	80	120
sec-Butylbenzene	0.0485	0.00500	0.0464	0	105	80	120
Styrene	0.0502	0.00500	0.0464	0	108	80	120
tert-Butylbenzene	0.0491	0.00500	0.0464	0	106	80	120
Tetrachloroethene	0.0494	0.00500	0.0464	0	106	80	120
Toluene	0.0490	0.00500	0.0464	0	106	80	120
trans-1,2-Dichloroethene	0.0472	0.00500	0.0464	0	102	80	120
trans-1,3-Dichloropropene	0.0506	0.00500	0.0464	0	109	80	120
Trichloroethene	0.0482	0.00500	0.0464	0	104	80	120
Trichlorofluoromethane	0.0503	0.0150	0.0464	0	108	80	120
Vinyl chloride	0.0486	0.00500	0.0464	0	105	80	120
Surr: 1,2-Dichloroethane-d4	48.5		50.00		96.9	78	125
Surr: 4-Bromofluorobenzene	49.5		50.00		99.0	85	120
Surr: Dibromofluoromethane	50.9		50.00		102	84	116
Surr: Toluene-d8	49.8		50.00		99.7	85	115

Qualifiers:

B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
DF	Dilution Factor	RL	Reporting Limit
J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
MDL	Method Detection Limit	J	Analyte detected between SDL and RL
ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: PMOIST_100513A

Sample ID:	1005099-05A-DUP	Batch ID:	41060		TestNo:	D2216			Units:	WT%	
SampType:	DUP	Run ID:	PMOIST_100513A		Analysis Date:	05/13/10 03:50 PM			Prep Date:	05/13/10	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Percent Moisture		14.5	0	0	15.16				4.53	30	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified

CLIENT: Zia Engineering & Environmental
Work Order: 1005099
Project: SWMUs 92B & 94 Closure

ANALYTICAL QC SUMMARY REPORT

RunID: PMOIST_100517A

Sample ID:	1005097-10B-DUP	Batch ID:	41106		TestNo:	D2216			Units:	WT%	
SampType:	DUP	Run ID:	PMOIST_100517A		Analysis Date:	05/17/10 03:00 PM			Prep Date:	05/17/10	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPD Limit	Qual
Percent Moisture		5.48	0	0	5.743				4.62	30	

Qualifiers:				
	B	Analyte detected in the associated Method Blank	R	RPD outside accepted control limits
	DF	Dilution Factor	RL	Reporting Limit
	J	Analyte detected between MDL and RL	S	Spike Recovery outside control limits
	MDL	Method Detection Limit	J	Analyte detected between SDL and RL
	ND	Not Detected at the Method Detection Limit	N	Parameter not NELAC certified