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UST PHASE II INVESTIGATION REPORT
NAVAJO GENERATING STATION
PAGE, ARIZONA

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DECEMBER 1992

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TABLE OF CONTENTS

Page

Table of Contents i

List of Tables iii

List of Figures iii

1.0 INTRODUCTION 1
- 1.1 Program Objective 1
- 1.2 Scope Of Work 1

2.0 SITE BACKGROUND AND SETTING 1
- 2.1 Site Description 1
- 2.2 Site Hydrogeology 1
  - 2.2.1 Dune Sands 2
  - 2.2.2 Carmel Formation 2
  - 2.2.3 Navajo Sandstone 2
- 2.3 Previous Investigation 3

3.0 SOIL AND GROUNDWATER SAMPLING ACTIVITIES 4
- 3.1 Sampling Locations and Number of Samples 4
  - 3.1.1 NGS-5, NGS-6, NGS-7, NGS-8, and NGS-9 4
  - 3.1.2 NGS-3 4
  - 3.1.3 NGS-10 4
  - 3.1.4 NGS-14 5
  - 3.1.5 NGS-16 5
- 3.2 Laboratory Analyses Requested 5
- 3.3 Field Methods and Procedures 5
  - 3.3.1 Soil Borings and Core Drilling 5
  - 3.3.2 Soil Sample Collection 6
  - 3.3.3 Groundwater Sampling Methods and Procedures 6
  - 3.3.4 Borehole Abandonment 7

TABLE OF CONTENTS (continued)

		Page
4.0	ANALYTICAL RESULTS	7
5.0	QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)	10
5.1	Equipment Decontamination	10
5.1.1	Drilling Equipment	10
5.1.2	Sampling Equipment	10
5.2	Sample Preservation and Containers	11
5.3	Field Documentation	11
5.4	Sample Handling and Shipment	11
5.4.1	Sample Handling	12
5.4.2	Sample Shipment and Chain-of-Custody	12
5.5	Field Quality Control Samples	13
5.5.1	Duplicate Samples	13
5.5.2	Equipment Blanks	13
5.6	Laboratory QA/QC	13
5.7	Field and Laboratory QA/QC Assessment	13
6.0	RESULTS AND CONCLUSIONS	14

APPENDICES

APPENDIX A - FIGURES	A-1
APPENDIX B - BORING LOGS	B-1
APPENDIX C - ANALYTICAL REPORT	C-1

LIST OF TABLES

4-1 NGS UST Follow-Up Investigation, Soil Sample Analytical Results 8
4-2 Groundwater Samples at UST Boring Locations 9

5-1 Sample Containers, Preservation, and Holding Times 11

LIST OF FIGURES (APPENDIX A)

FIGURE 1 Navajo Generating Station Vicinity Map A-1
FIGURE 2 Facility Underground Storage Tank Locations A-2
FIGURE 3 UST Nest Area, NGS-5, NGS-6, NGS-7, NGS-8, NGS-9, Phase II - UST Investigation A-3
FIGURE 4 NGS - 3, Phase II, UST Investigation A-4
FIGURE 5 NGS - 10, Phase II, UST Investigation A-5
FIGURE 6 NGS - 14, Phase II, UST Investigation A-6
FIGURE 7 NGS - 16, Phase II, UST Investigation A-7

1.0 INTRODUCTION

During September 1991, Salt River Project (SRP) conducted an investigation of 13 underground storage tanks (USTs) at the Navajo Generating Station (NGS) in Page, Arizona. The investigation indicated that additional study was required for several of the USTs. During April 1992, the Phase II investigation of the USTs was conducted. This report summarizes the activities and findings of the Phase II investigation.

1.1 Program Objective

The objective of the Phase II investigation was to evaluate the lateral and vertical extent of petroleum related constituents in soil in the vicinity of eight former UST sites. Petroleum product was identified in soil at these sites during September 1991. Additionally, soil samples were collected at one UST site to replace samples lost during the initial investigation.

1.2 Scope of Work

Soil borings were drilled in the vicinity of nine former UST locations. Soil samples were collected and analyzed from each boring. Additionally, if water was encountered in a soil boring, a sample of the water was collected for analysis.

2.0 SITE BACKGROUND AND SETTING

The NGS is a coal-fired electric generating station located approximately 4 miles southeast of Page, Arizona (Figure 1; all figures may be found in Appendix A). Aside from the town of Page, Arizona, the region surrounding the plant site is sparsely populated.

2.1 Site Description

The plant site includes the main power building, railroad maintenance facilities, coal and ash handling facilities, water storage reservoir, water systems, mechanical induced draft cooling towers, machine shop and warehouse facilities, administration building, and a 500 and 230 kilovolt switchyard. An additional 765-acre parcel, located 2 miles east of the plant site, has been leased from the Tribe for ash disposal. USTs previously located on the plant site were used to store gasoline and diesel fuel for equipment and vehicles or waste oil generated from maintenance operations.

2.2 Site Hydrogeology

Three geologic units are exposed in the vicinity of the plant site: dune sands, the Carmel Formation, and the Navajo Sandstone.

In the NGS site area, organic and clay rich soil horizons do not typically occur. Therefore, for the purpose of this report, the term soil is used loosely to refer to fill material, unconsolidated dune sand, weakly to moderately consolidated Carmel Formation, and Navajo Sandstone.

2.2.1 Dune Sands

Localized areas in the plant site contain a thin surface veneer of loose windblown sand deposited on the erosional surface of the Carmel Formation. These deposits consist of unconsolidated red-brown to buff, silty fine to medium grained quartz sand derived from the Carmel Formation and the Navajo Sandstone. The dune sand deposits range in thickness from 0 to over 20 feet.

2.2.2 Carmel Formation

The Carmel Formation is present as an erosional remnant resting disconformably on the Navajo Sandstone. The Carmel Formation is exposed in the northern half of the plant site; subsurface boring data indicate it ranges in thickness from 0 to approximately 70 feet at the site.

The Carmel Formation is composed of reddish brown interbedded sandstone, siltstone and claystone. These strata are flat (horizontally bedded) with maximum localized dips of several degrees in varying directions. Major structural features are absent from the Carmel Formation at the plant site.

Sandstone beds in the Carmel Formation range in individual thickness from 6 inches to 20 feet with a predominant average thickness of 3 feet. The sandstone beds are strongly cemented with calcium carbonate, silica, and iron minerals. Layers of massive to thinly laminated siltstone and claystone are interbedded between the lenticular sandstone beds. These layers generally range in individual thickness from less than 1 inch to more than 3 feet with an average thickness of 1 foot.

The Carmel Formation is interpreted as having been deposited in a deltaic environment in Middle Jurassic time. The textural heterogeneity is attributed to deposition in a transitional environment varying between shallow marine and near-shore fluvial conditions.

The Carmel Formation is fine grained and well indurated. In place permeability tests conducted in the Carmel Formation indicate coefficients of permeability ranging from negligible to 90 feet per year. Vertical permeability of the Carmel Formation is extremely low, averaging less than 1 foot per year.

2.2.3 Navajo Sandstone

The Navajo Sandstone can be observed along the Mesa boundaries at the plant site and in outcrop along Glen Canyon. The Navajo Sandstone is disconformably overlain by the Carmel Formation in the northern part of the plant site with the contact dipping to the north. Deep drilling data at the plant site indicate the total thickness of the Navajo Sandstone at the site is in excess of 1,500 feet.

The Navajo Sandstone is composed of uniformly fine to medium, white to light brown, friable to moderately well cemented quartz sand. The sandstone is indurated by silica cement and also has minor amounts of iron, calcium carbonate and clay minerals present.

The Navajo Sandstone is highly cross-bedded but weathers to a generally massive appearance in erosional exposures. Depositional features such as the extensive cross-bedding and uniformity of grain size and mineral type indicates an aeolian environment of deposition. Deposition is known to have occurred in the Late Triassic and Early Jurassic.

The Navajo Sandstone comprises the regional aquifer in the plant area, however, due to the extreme depth to groundwater, sparse population, and availability of surface water supplies, the Navajo Sandstone is generally not used as a water supply in the region surrounding NGS. The available data indicate a depth to groundwater at the plant site of approximately 900 to 980 feet beneath land surface. The groundwater flow direction at the plant site is to the northwest at a gradient of approximately 40 feet per mile. Aquifer parameters were developed by the U.S. Bureau of Reclamation based on studies of the Navajo Sandstone in the Lake Powell area. Their studies indicate an average porosity of 25 percent, average specific retention of 12 percent, typical primary permeability of 200 feet per year, and typical secondary permeability of 2,000 feet per year for this unit.

2.3 Previous Investigation

In 1991, SRP removed 13 USTs from service at the NGS facility. Figure 2 schematically depicts the location of the 13 USTs at the NGS facility. During the excavation and removal activities SRP collected verification soil samples to characterize the soil (fill material, sand, silt, sandstone) in the vicinity of the UST excavations.

On November 26, 1991, SRP submitted the "Initial Site Characterization Report, UST Closure - Navajo Generating Station, Page, Arizona" to the Environmental Protection Agency (EPA). The Initial Site Characterization Report summarized the tank removal and results of the verification sampling.

The Initial Site Characterization Report recommended a follow-up investigation for six USTs in two locations at NGS. Five of the six USTs (NGS-5, NGS-6, NGS-7, NGS-8, and NGS-9) were nested in a single excavation adjacent to the Heavy Equipment Shop. The sixth UST (NGS-3) was located northeast of the Heavy Equipment Shop.

The Initial Site Characterization Report also recommended collecting samples below the former location of the NGS-10 tank because the samples previously collected there were inadvertently disposed of prior to analysis. In a letter dated March 19, 1992 the EPA requested additional testing at two other sites where USTs NGS-14 and NGS-16 had previously been located.

3.0 SOIL AND GROUNDWATER SAMPLING ACTIVITIES

For the purpose of this report, the term soil refers to fill material, unconsolidated dune sand, weakly to moderately consolidated Carmel Formation, and/or Navajo Sandstone. Samples were collected for analysis as described in Sections 3.2 and 3.3.

3.1 Sampling Locations and Number of Samples

3.1.1 NGS-5, NGS-6, NGS-7, NGS-8 and NGS-9

Five USTs (NGS-5, NGS-6, NGS-7, NGS-8, and NGS-9) were removed from one excavation north of the heavy equipment shop at the NGS. SRP attempted to drill borings around the perimeter of the excavation from which these five tanks were removed. However, underground utilities and structures prohibited several borings from being advanced on the east, south, and west side of the excavation. Figure 3 displays the location of completed soil borings in relation to the excavation and previous UST locations. One boring was located 25 feet north of the former excavation. A second boring was located 40 feet north of the excavation. Soil samples were collected in these borings at a depth of 10 feet, 15 feet, and 20 feet below ground surface (bgs). Soil samples were collected for analyses as described in Sections 3.2 and 3.3.

Two interior borings were located along the north-south centerline of the excavation and spaced approximately 25 feet apart. A soil sample was collected from each of the interior borings in the interval immediately above the contact of the consolidated rock at a depth of 18 feet. Below the contact, rock core samples were collected from depths of 23 and 27 feet bgs to delineate the vertical extent of contamination.

3.1.2 NGS-3

Two borings were advanced at the former location of NGS-3 as shown in Figure 4. One boring was advanced at the east end of the former UST location and one boring was advanced at the west end of the former location. At the east boring, one split spoon sample of sandy fill material was collected at a depth of 12 feet. An attempt was made to collect a core sample of the consolidated sandstone below the fill. However, metal debris that was encountered damaged the coring equipment, and the hole was abandoned. At the west boring, moderately well consolidated samples were collected using a split-spoon sampler at depths of 18, 23, and 27 feet. Samples were collected at depths that appeared to be least consolidated from drilling conditions. Well consolidated rock was encountered at 27 feet. Rock coring was not attempted in the second boring.

3.1.3 NGS-10

One boring was advanced in the center of the former location of NGS-10 as shown in Figure 5. A sample was collected in native soil below the excavation fill material at approximately 13 feet bgs. Core samples of native rock were

collected at 15.5 feet and 18 feet. Perched groundwater accumulated in the boring and an aqueous sample was collected.

3.1.4 NGS-14

One boring was advanced in the center of the former location of NGS-14 as shown in Figure 6. Soil samples were collected from depths of 24, 25, and 27 feet bgs. Core samples were not collected. Perched groundwater accumulated in the boring and an aqueous sample was collected for analysis.

3.1.5 NGS-16

One boring was advanced in the center of the former location of NGS-16 as shown in Figure 7. Soil samples were collected at 11, 12, and 14 feet bgs. Navajo Sandstone was encountered at 14 feet bgs. Core samples were not collected.

Due to the configuration of the power block building, perimeter sampling was not attempted near NGS-16.

3.2 Laboratory Analyses Requested

All sediment and rock samples were submitted for Total Petroleum Hydrocarbon (TPH) analysis by EPA Method 418.1 and for Fuel Fingerprint Analysis by EPA Method 8015 modified. Additionally, samples collected adjacent to a waste oil tank (at the NGS-5 site) were analyzed for Volatile Organic Compounds (VOCs) by EPA Method 8010/8020.

Groundwater samples were submitted for total petroleum hydrocarbon analysis by EPA Method 418.1 and for VOC analysis by EPA Method 601/602.

3.3 Field Methods and Procedures

During this field investigation at the NGS, a total of 26 nonaqueous samples were collected from nine former UST locations. Twenty samples of weakly to moderately well consolidated sediment samples were collected using a split-spoon sampler. Six samples of well consolidated Navajo Sandstone or Carmel Formation were collected using a split spoon or core sampler.

3.3.1 Soil Borings and Core Drilling

Soil borings were drilled using a multi-purpose drill rig capable of hollow stem auger and diamond core drilling. Auger drilling was conducted without the addition of any lubricants.

Core drilling was necessary at some locations because of the consolidated rock encountered. When core drilling was performed, it was necessary to use water as a lubricant to advance the diamond core bit. The uppermost and lowermost sections of intact rock core from each segment of core obtained was used for sample analysis.

3.3.2 Soil Sample Collection

Soil samples (fill, sand, sandstone) were collected from each boring using a non-stainless steel split-spoon sampler. The sampler was driven 6 to 18 inches below the bottom of the auger bit. Prior to collection of each sample, the sampler was decontaminated to prevent cross-contamination between samples.

Material from the lower portion of the sampler was used to fill a pre-cleaned eight ounce glass jar. The material was transferred from the split spoon to the glass jar using a clean-gloved hand. The glass jars were fitted with teflon-lined lids. The soil was packed fully and firmly within the glass jar to minimize headspace.

Sample material contained within the sampler shoe was extruded and used for geologic logging.

The soils were screened in the field for the presence of organic vapors by placing a fresh sample in a semi-closed baggie and reading the response on a Model PI 101 HNu Photo-Ionization Detector. The HNu meter was operated according to manufacturer specifications using a 10.2 electron volt probe at a span setting of 9.8. Calibration of the HNu meter was performed daily and recorded in field notes. The NHu results of sample screening were recorded in the field on a borehole log. Final borehole logs are presented in Appendix B.

Procedures for collecting samples of consolidated rock followed "ASTM D 2113: Standard Practice for Diamond Core Drilling for Site Assessment". The uppermost and lowermost sections of intact rock core obtained from each segment of diamond core drilling was used for sample analysis. The sample material was wrapped in aluminum foil and placed in an air-tight plastic bag.

3.3.3 Groundwater Sampling Methods and Procedures

When wet soil cuttings were observed at a boring location, the boring was left open overnight to see if groundwater would accumulate. Borings were not constructed as monitoring wells nor was any volume of water purged from the boring prior to sampling. Sampling was conducted using a disposable plastic bailer. Groundwater was transferred from the disposable bailer to a 40ml volatile organic analysis (VOA) vial and a 1 liter amber glass bottle headspace free for analysis.

3.3.4 Borehole Abandonment

Prior to removing augers, 1 to 3 feet of bentonite chips were placed in the bottom of each hole. When augers were removed, clean fill was used to fill any remaining space left in the abandoned hole.

4.0 Analytical Results

Copies of complete analytical reports including analytical results and chain-of-custody (COC) records are presented in Appendix C. A summary of the soil sample results is presented in Table 4-1.

Table 4-1 also presents ADEQ suggested clean-up levels for soils. The EPA does not have recommended clean-up levels for petroleum constituents in soil.

Table 4-1. NGS UST Follow-Up Investigation
Soil Sample Analytical Results

UST	Sample ID	Sample Depth (feet)	Analytical Results						
			TPH by EPA 418.1 mg/kg	Fuel type by EPA 8015 modified		VOCs[2] µg/kg			
				TPH mg/kg	Type	Benzene	Ethylbezene	Toluene	Total Xylenes
NGS-3	NGS-3 East-12	12	14,000	11,300	Diesel	--	--[3]	--	--
	NGS-3 West-12	12	220	140	Diesel	--	--	--	--
	NGS-3 West-18	18	<15[1]	<30	--	--	--	--	--
	NGS-3 West-22	22	50	<30	--	--	--	--	--
	NGS-3 West-27	27	60	39	Diesel	--	--	--	--
NGS-10	NGS-10-13	13	210	230	Gasoline	<500[4]	2,000	1,400	12,500
	NGS-10-15.5	15.5	24	<30	--	<50	67	<50	92
	NGS-10 CORE-18	18	<15	<30	--	<50	<50	<50	<50
NGS-14	NGS-14-24	24	<15	<30	--	--	--	--	--
	NGS-14-25	25	<15	<30	--	--	--	--	--
	NGS-14-27	27	<15	<30	--	--	--	--	--
NGS-16	NGS-16-11	11	82	<30	--	--	--	--	--
	NGS-16-12	12	19	<30	--	--	--	--	--
	NGS-16-14	14	<15	<30	--	--	--	--	--
NGS-5, 6, 7, 8, 9	UST-Nest-N-10	10	<15	<30	--	<50	<50	<50	<50
	UST-Nest-N-15	15	<15	<30	--	<50	<50	<50	<50
	UST-Nest-N-20	20	250	400	Gasoline	<5,000[5]	18,000	34,000	95,000
	NGS-Nest-North(2)-10	10	<15	<30	--	<50	<50	<50	<50
	NGS-Nest-North(2)-15	15	<15	<30	--	<50	<50	<50	<50
	NGS-Nest-North(2)-20	20	<15	<30	--	<50	<50	<50	<50
NGS-5, 6, 7, 8, 9	UST-Nest CORE North 18	18	16	<30	--	<50	<50	<50	<50
	UST-Nest CORE North 23	23	<15	<30	--	<50	<50	<50	<50
	UST-Nest CORE North 27	27	<15	<30	--	<50	<50	<50	<50
	NGS-Nest S-Center-18	18	550	<30	--	<50	<50	<50	<50
	NGS-Nest CORE-South-23	23	<15	<30	--	<50	<50	<50	<50
	NGS-Nest CORE-South-27	27	21	<30	--	<50	<50	<50	<50
Arizona Department of Environmental Quality (ADEQ) Suggested Clean-up Levels			100	100		130	68,000	200,000	44,000

[1]Denotes laboratory non-detection.
[2]Volatile organic compounds (VOCs) analyzed by EPA Method 8010/8020.
[3]--Denotes not analyzed
[4]Laboratory detection limit set at 500 micrograms per kilogram.
[5]Laboratory detection limit set at 5,000 micrograms per kilogram.

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The laboratory analytical results indicate that ethylbenzene, toluene, and/or xylenes were detected in only 3 of the 26 soil samples submitted. The maximum concentrations of ethylbenzene, toluene, and xylenes were detected in sample UST-NEST-N-20. This sample was collected from a boring 25 feet north of the UST nest area at 20 feet bgs. The concentrations of ethylbenzene, toluene, and xylenes were 18,000 µg/kg, 34,000 µg/kg, and 95,000 µg/kg, respectively. Ethylbenzene, toluene, and xylenes were also detected in two soil samples near the former location of NGS-10. Sample NGS-10-13 contained ethylbenzene, toluene, and xylenes at concentrations of 2,000 µg/kg, 1,400 µg/kg, and 12,500 µg/kg, respectively. Ethylbenzene and total xylenes were detected in sample NGS-10-15.5 at concentrations of 67 µg/kg and 92 µg/kg, respectively.

As indicated in Table 4-1, all detected concentrations of ethylbenzene, toluene, and total xylenes were below the ADEQ soil clean-up levels with the exception of one UST nest sample. UST-NEST-N-20 analytical results indicated xylene concentrations of 95,000 µg/kg, which is above the ADEQ suggested clean-up level of 44,000 µg/kg.

TPH was detected in 12 of the 26 soil samples submitted. EPA does not have a recommended cleanup level for TPH. The ADEQ suggested clean-up level for TPH is 100 mg/kg. Only 5 of the 12 samples that had TPH detected, were above suggested clean-up levels. Samples NGS-3-EAST-12, NGS-3-WEST-12, NGS-10-13, UST-NEST-N-20 and NGS-NEST-S-Center-18 had concentrations of 14,000 mg/kg, 220 mg/kg, 210 mg/kg, 250 mg/kg, and 550 mg/kg, respectively.

Additionally, 1,1,1-TCA was detected in sample NGS-10-13 at a concentration of 59 µg/kg. No other VOCs were detected in any of the sediment or rock samples.

A summary of the groundwater sample results is presented in Table 4-2.

Table 4-2. Groundwater Samples at UST Boring Locations

UST	Sample ID	Analytical Results				
		TPH[1] mg/L	VOCs[2] µg/L			
			Benzene	Ethylbenzene	Toluene	Total Xylenes
NGS-10	NGS-10-W	8	65	1400	1500	4600
NGS-14	NGS-14-W	0.7	1.0	1.8	1.1	3.5
EPA MCL[3]		Not Established	5	700	1,000	10,000

[1]Total petroleum hydrocarbons analyzed by EPA Method 418.1. Concentrations in milligrams per liter.
[2]Volatile Organic Compounds analyzed by EPA Method 601/602. Concentrations in micrograms per liter.
[3]EPA maximum contaminant level.

The laboratory analytical results indicate that benzene, ethylbenzene, toluene, and xylenes (BETX) were detected in the two water samples submitted. The maximum concentrations of BETX were detected in sample NGS-10-W at a concentration of 65 µg/L, 1,400 µg/L, 1,500 µg/L, and 4,600 µg/L, respectively. Benzene, ethylbenzene, and toluene concentrations for sample NGS-10-W were above the EPA maximum contaminant level for drinking water. Analytical results from water samples NGS-10-W and NGS-14-W indicated TPH concentrations of 8 mg/L and 0.7 mg/L, respectively. There are no established federal or state guidelines for TPH in groundwater.

The laboratory analytical results also indicated that 1,1-dichloroethylene (1,1-DCE), 1,1-dichloroethane (1,1-DCA), chloroform, trichlorethene (TCE), and tetrachloroethylene (PCE) were detected in samples NGS-10-W and/or NGS-14-W. The majority of concentrations were below EPA MCLs. PCE was detected in NGS-10-W at a concentration above the EPA MCL.

5.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

This section describes the measures taken to control and document the quality of the environmental samples collected during this investigation.

5.1 Equipment Decontamination

5.1.1 Drilling Equipment

All down-hole drilling equipment (augers, bits, drive rod, core barrels) was decontaminated by cleaning with high pressure hot water before and after each soil boring. An area was designated for drilling equipment decontamination and covered with a plastic liner to collect rinse water.

5.1.2 Sampling Equipment

Soil sampling equipment such as split spoons was decontaminated prior to each use according to the following procedure:

- the equipment was washed in an Alconox detergent solution using a brush made of inert material to remove any particles or surface film;
- the equipment was rinsed thoroughly with clean tap water;
- equipment was rinsed with an organic desorbing agent such as hexane; and
- the equipment was rinsed two additional times with organic-free deionized water.

Decontamination of groundwater sampling equipment was not necessary because disposable bailers were used.

5.2 Sample Preservation and Containers

Table 5-1 lists the sample container and preservation requirements for aqueous and nonaqueous samples that were maintained during this sampling investigation.

Table 5-1. Sample Containers, Preservation, and Holding Times

Analytical Parameter (EPA Method)	Container and Quantity	Preservative	Holding Time Until Extraction
[Sediment/Rock] total petroleum hydrocarbons (418.1)	Eight ounce glass jar with teflon lid	None	28 days
Fuel fingerprint analysis (8015 modified)	Eight ounce glass jar with teflon lid	None	14 days
Volatile organic compounds (8010/8020)	Eight ounce glass jar with teflon lid	None	14 days
[Water] total petroleum hydrocarbons (418.1)	1 liter amber glass	5ml HCL	28 days
Volatile organic compounds (601/602)	(2) 40ml VOA vial headspace free	3 drops HCL	14 days

5.3 Field Documentation

Field observations and measurements were maintained on two types of field note logs. A field activity log was used to document all general activities at the site including administrative details, field quality assurance/quality control (QA/QC) information, and soil boring observations and technical data. A field borehole log was used to document geologic data, drilling information (drilling rate, penetration counts), sample interval, and sample descriptions. Final borehole logs were prepared using information from the field activity logs and field borehole logs and are presented in Appendix B.

The data collected in the field was recorded at the sample location from which it was collected. Field notes were made in waterproof ink, dated and signed by the field personnel.

5.4 Sample Handling and Shipment

This section documents the sample handling and shipment procedures followed for analytical soil and groundwater samples. These procedures were followed to ensure that samples were labeled correctly and that the analytical results are reliable.

5.4.1 Sample Handling

The procedures for collecting analytical soil samples were as follows:

- Transfer soil from split-spoon sampler to glass jar using clean gloved hand;
- record in the field log form, information such as the sample collection point, depth, and sampling device used;
- complete log entries, sample tags, field record sheets with sample identification point, date, time, and name or initials of person collecting the sample in the field;
- place sample labels on all sample jars;
- ensure that each label includes site or project name, sample number, date and time of sample collection, type of sample (matrix), sample initials, sample preservative, type of analysis to be conducted;
- decontaminate outside surfaces of sample jars so that no residue remains on the outside of any jar;
- place custody seals or custody tape on all jars;
- place sealed and decontaminated sample jars in an ice chest containing ice. The samples remained in the custody of sampling personnel until shipment to the analytical laboratory; and
- all sampling devices were cleaned by the sampling team, using procedures previously described, prior to the beginning of the next sample collection effort.

The procedures for handling water samples were generally the same as for soil and rock, except that water was discharged directly from the disposable plastic bailer to the sample containers. For VOC analyses, care was taken during sample collection to ensure that a minimum amount of volatilization occurred of the sample and that a minimum amount of air remained in the vial.

5.4.2 Sample Shipment and Chain-of-Custody

After each analytical sample was collected in the field, documentation for sample shipment was completed. An SRP approved COC record was prepared for each sample cooler to maintain the legal transfer of the sample from the field team to the laboratory. The COC listed each sample in that cooler. The COC record was used to record the custody of samples and accompanied samples at all times.

COC records are included with the complete analytical reports and can be found in Appendix C.

All samples were shipped to the laboratory as soon as practical.

5.5 Field Quality Control Samples

Additional field samples were collected for analysis to evaluate the quality of the analytical data from this investigation.

5.5.1 Duplicate Samples

Duplicate samples were not collected because of the small amount of material obtained from the split-spoon sampler. Not enough material was collected to analyze a duplicate sample.

5.5.2 Equipment Blanks

An equipment blank was collected to document the efficiency of equipment decontamination. The equipment blank was prepared by pouring organic free water through a decontaminated split-spoon sampler. A sample of this water was collected, headspace free, in a 40 milliliter vial for VOC analyses and in an acidified 1 liter amber glass bottle for TPH analysis. The equipment blank was labeled equipment blank on the COC.

The analytical results indicated that concentrations of TPH and VOCs were not present in the equipment blank at levels above the detection limits.

5.6 Laboratory QA/QC

The SRP Environmental Management Services Laboratory, a state certified laboratory, conducted the analyses of all samples collected during this investigation. The laboratory's QA/QC procedures are available for review upon request.

5.7 Field and Laboratory QA/QC Assessment

Except as listed below, all field and laboratory QA/QC results appear to meet acceptable levels for the analytical data to be used without qualification.

Because of the sampling methodology used for the collection of groundwater samples NGS-10-W and NGS-14-W, the analytical results for these samples should be considered semi-quantitative and used for estimation purposes only.

6.0 RESULTS AND CONCLUSION

At the former NGS-3 location, elevated TPH levels of diesel fuel were detected at 12 feet bgs in the east and west borings (reference Table 4-1). At the west boring, analytical results for deeper samples indicate that there is not significant vertical migration of hydrocarbons through underlying sedimentary strata in this area.

At the former NGS-10 location, an elevated level of TPH was detected at a depth of 13 feet. However, rock coring into the consolidated rock to a depth of 18 feet yielded samples with TPH concentrations below detection levels. Vertical migration of any petroleum constituents appears to be minimal through the consolidated rock at this location.

Perched groundwater was discovered in the boring at the former NGS-10 site above the consolidated rock layer. Elevated BETX and PCE concentrations above EPA MCLs were detected in the water. However, previous studies have documented that the amount of perched water in this area is minimal and that this water does not represent a drinking water source. Due to the geologic conditions in the area, vertical migration should not be a concern at this location.

At the former NGS-14 location, all soil analytical results indicated non-detectable concentrations of TPH. Perched groundwater was sampled in the NGS-14 boring. All VOCs detected were below EPA MCLs. The amount of perched water is minimal and this water does not represent a drinking water aquifer.

At the previous location of NGS-16, detected concentrations of TPH were below ADEQ clean-up levels in the upper sample depths at this boring. Analyses showed non-detection at the deepest sample depth of 14 feet. Therefore, vertical migration appears to have been minimal at this location.

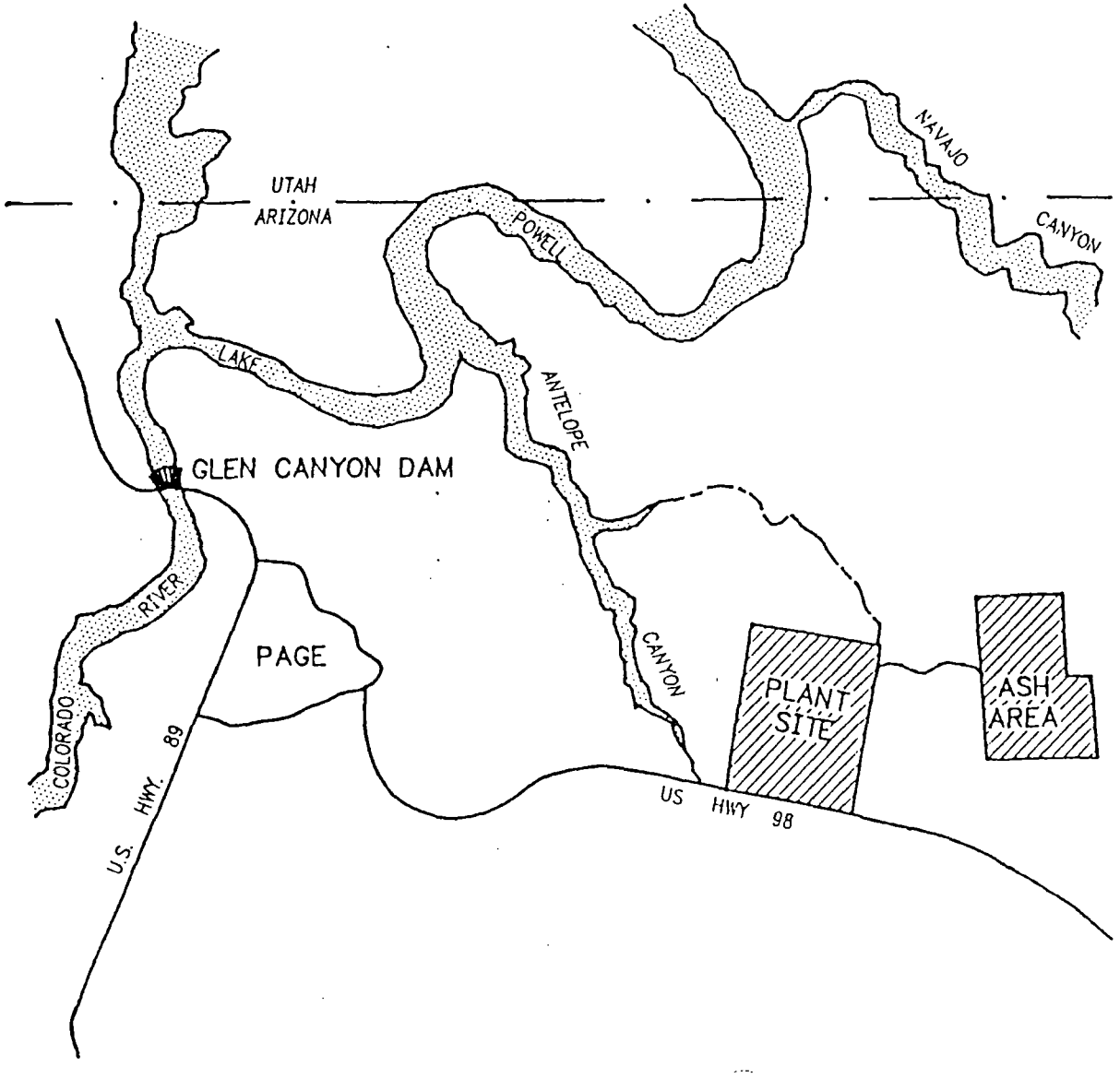
At the former site of nested USTs NGS-5, NGS-6, NGS-7, NGS-8, and NGS-9 a boring, located 45 feet north of the former excavation limit, produced non-detectable concentrations for all petroleum constituents. A boring located 25 feet north of the former excavation had TPH levels above clean-up levels at the sample depth of 20 feet bgs.

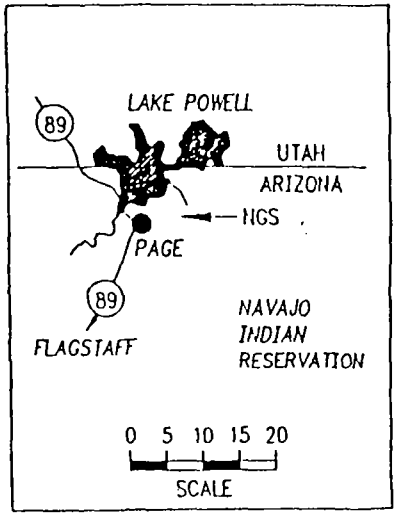
Analytical results from the shallowest soil and core samples from the UST nest excavation indicated detectable concentrations of TPH exist. However, deeper core samples from the same borings contained non-detectable concentrations which appears to indicate that there is no downward migration of the constituents.

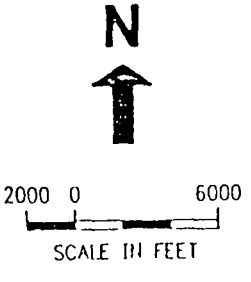
APPENDIX A

FIGURES

FIGURE 1
NAVAJO GENERATING STATION
VICINITY MAP

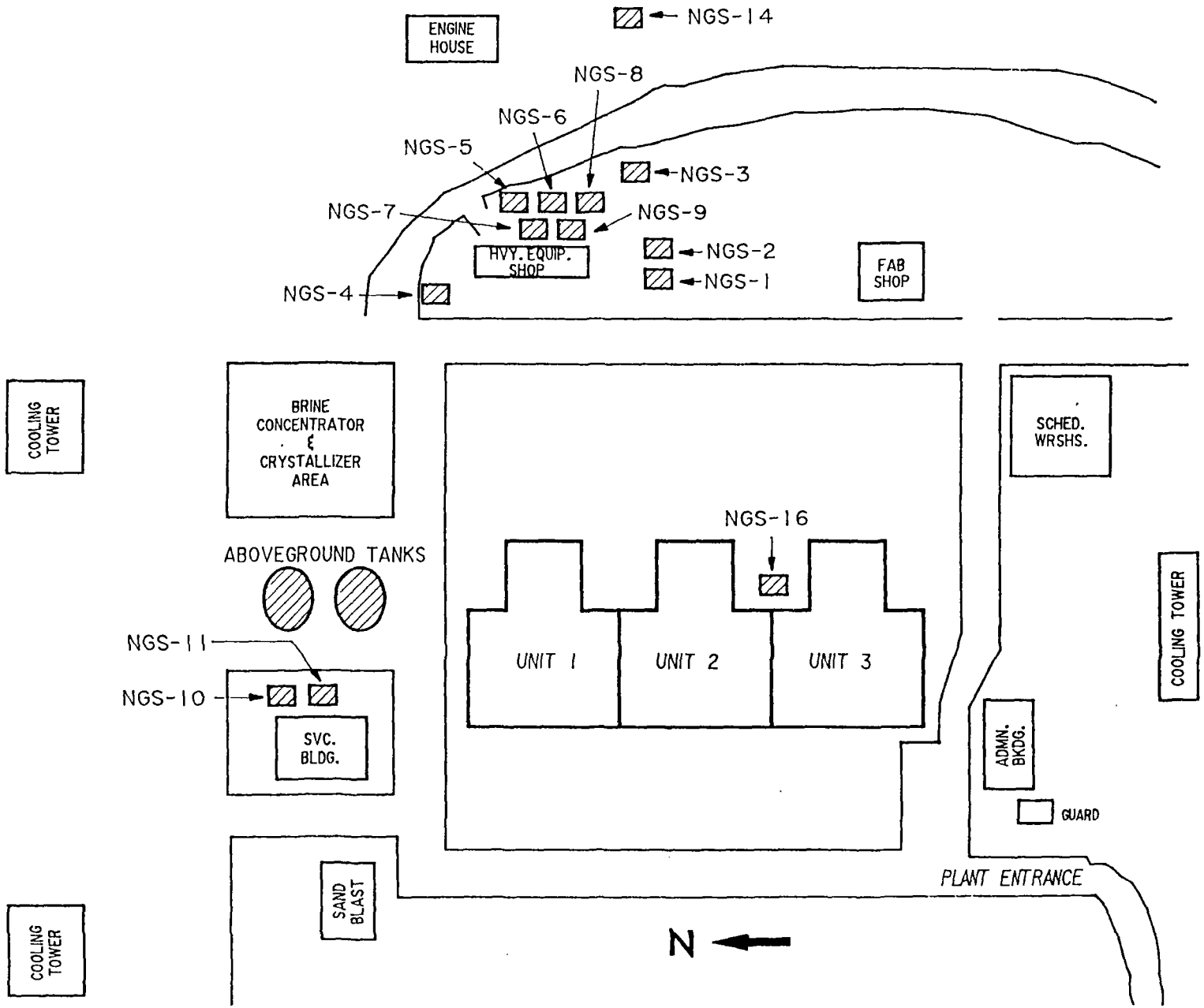


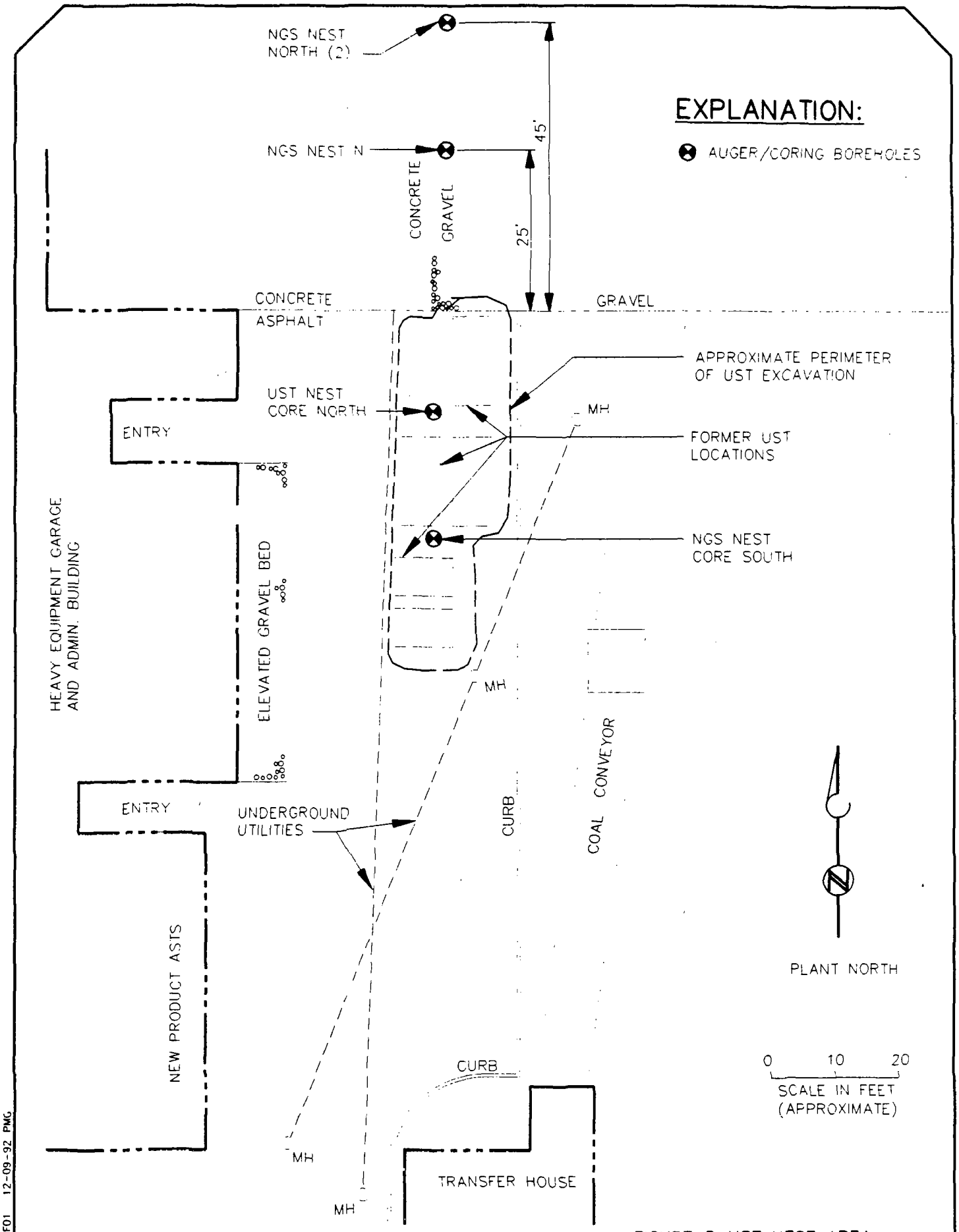




MVINGSVM

FIGURE 2
FACILITY UNDERGROUND STORAGE TANK LOCATIONS





5816F01 12-09-92 PMG

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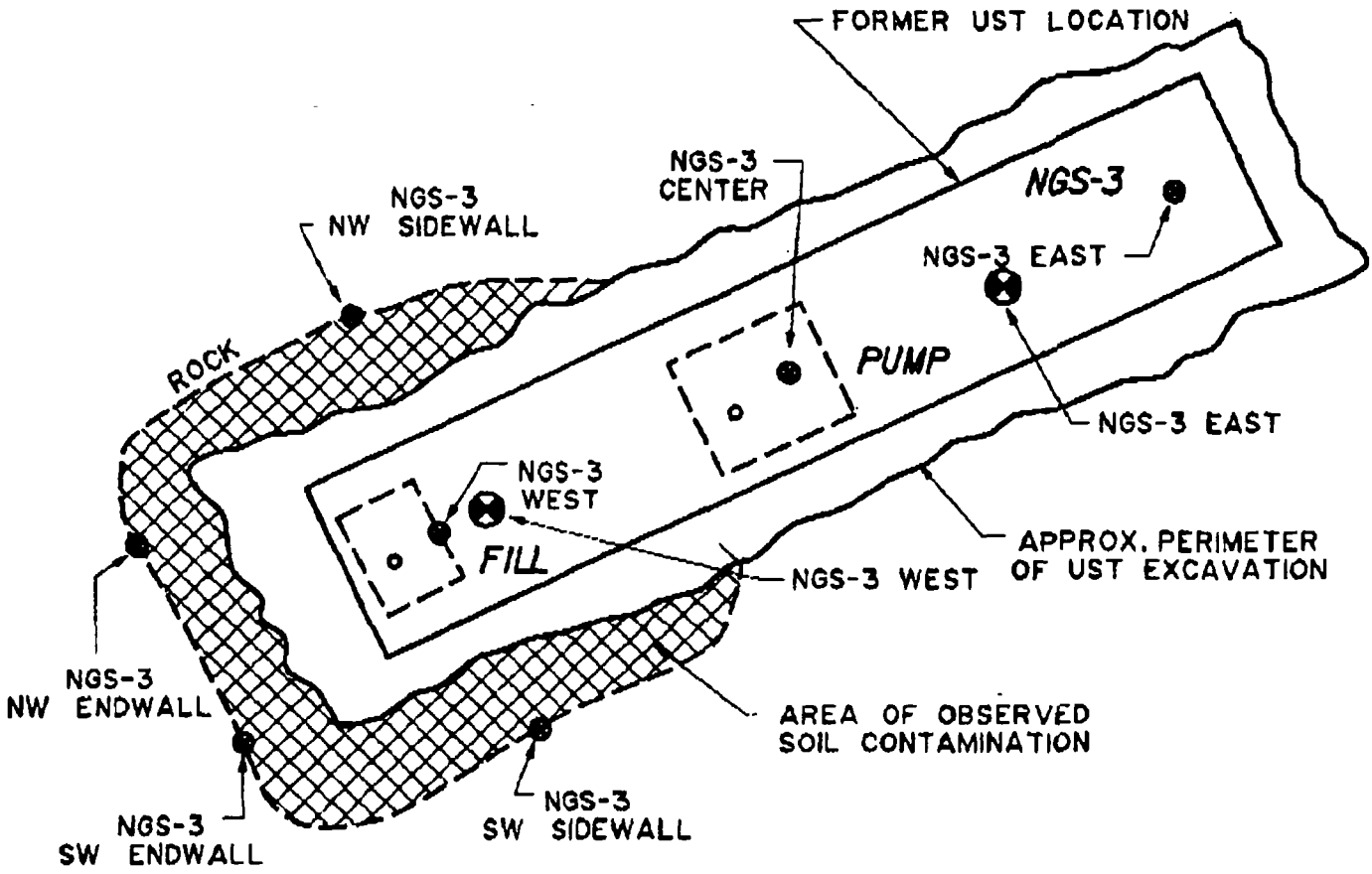
Phoenix, Arizona

FIGURE 3. UST NEST AREA
NGS-5, NGS-6, NGS-7, NGS-8, NGS-9
PHASE II - UST INVESTIGATION

FIGURE 4
NGS-3
PHASE II
UST INVESTIGATION



PLANT NORTH

N

NGS-3 DIMENSION
8' X 32'

LEGEND

- AUGER BOREHOLES (APRIL/1992)
- INITIAL INVESTIGATION SAMPLE LOCATION

0 10

SCALE IN FEET

FIGURE 5
NGS-10
PHASE II
UST INVESTIGATION

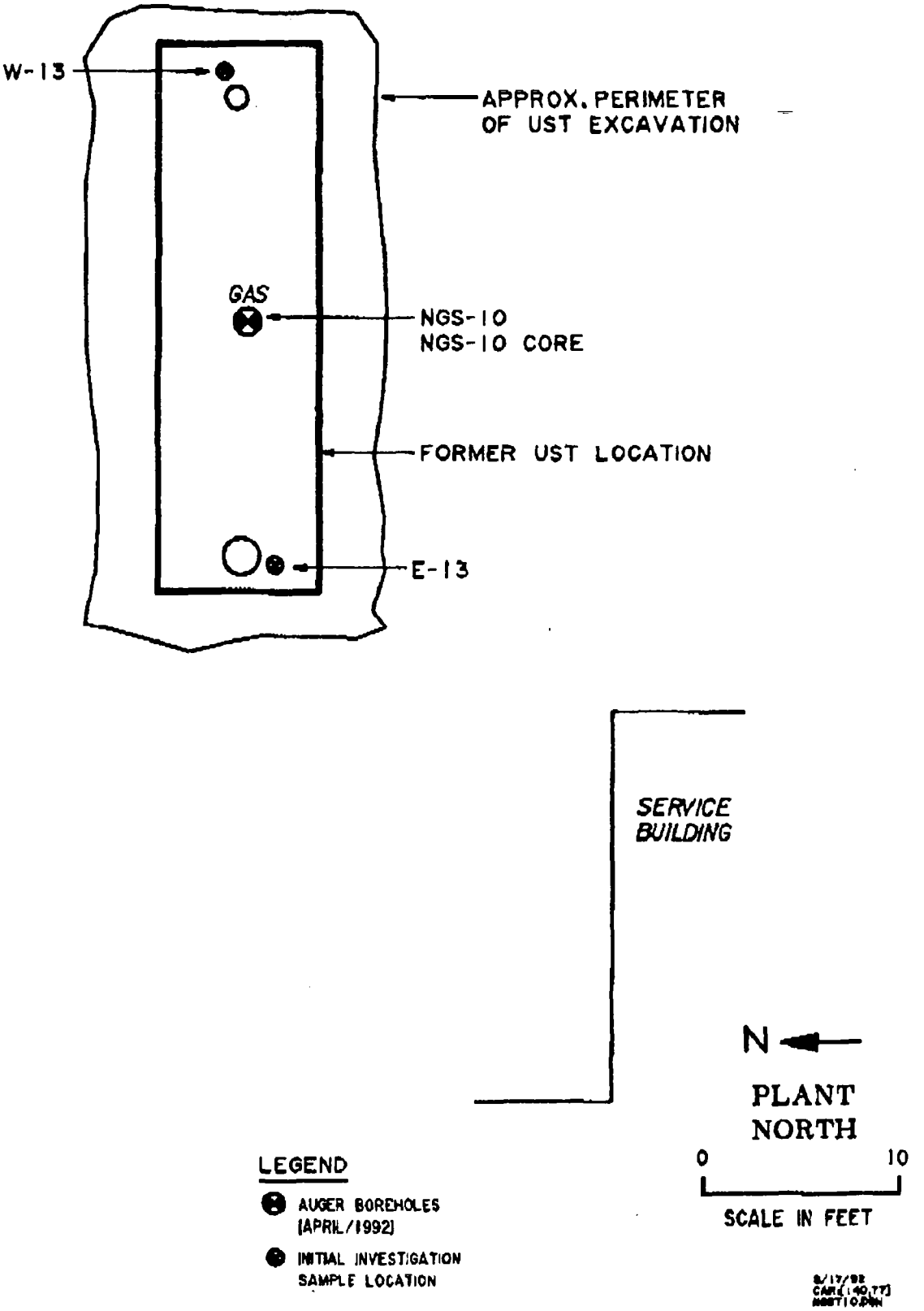
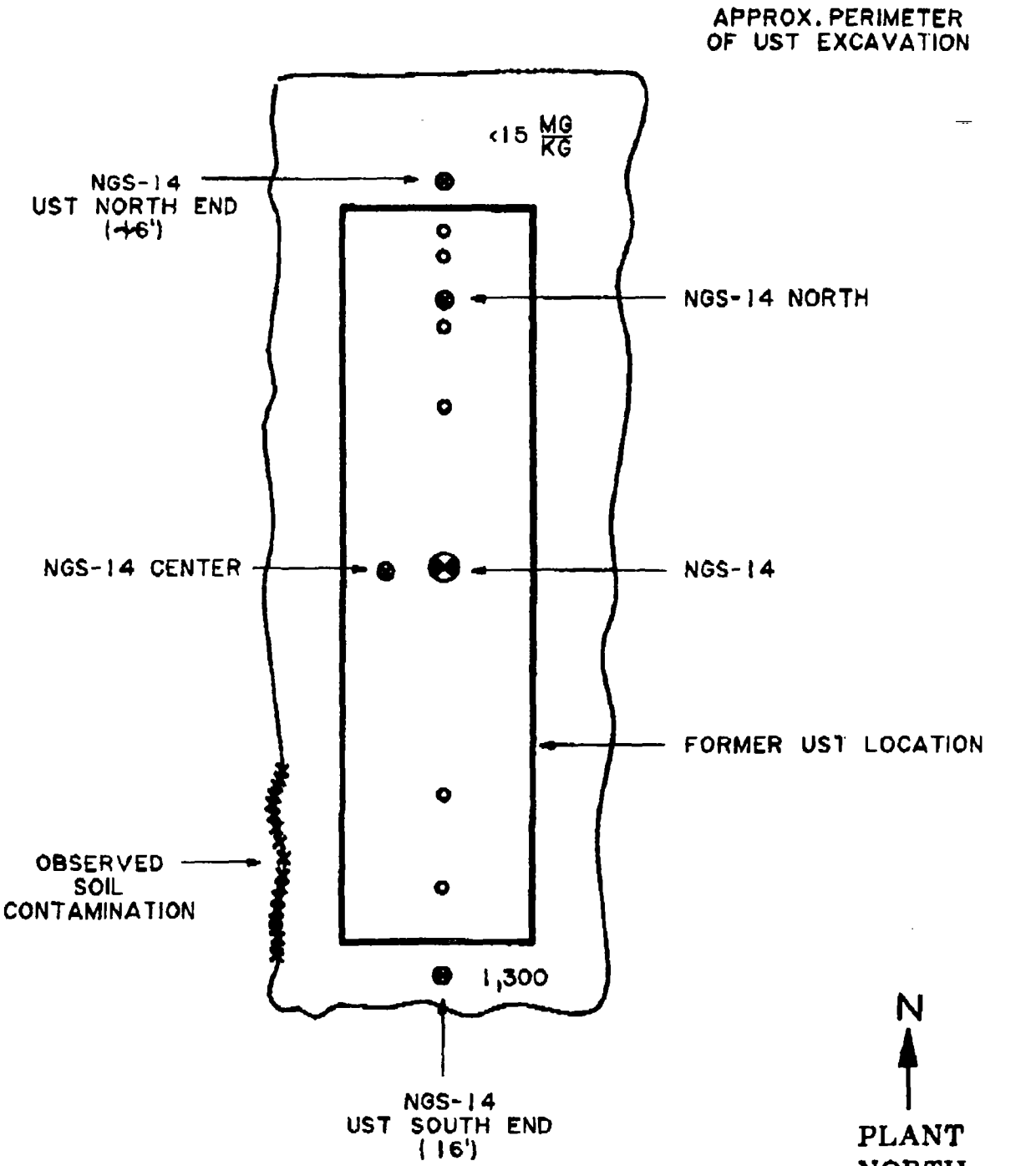


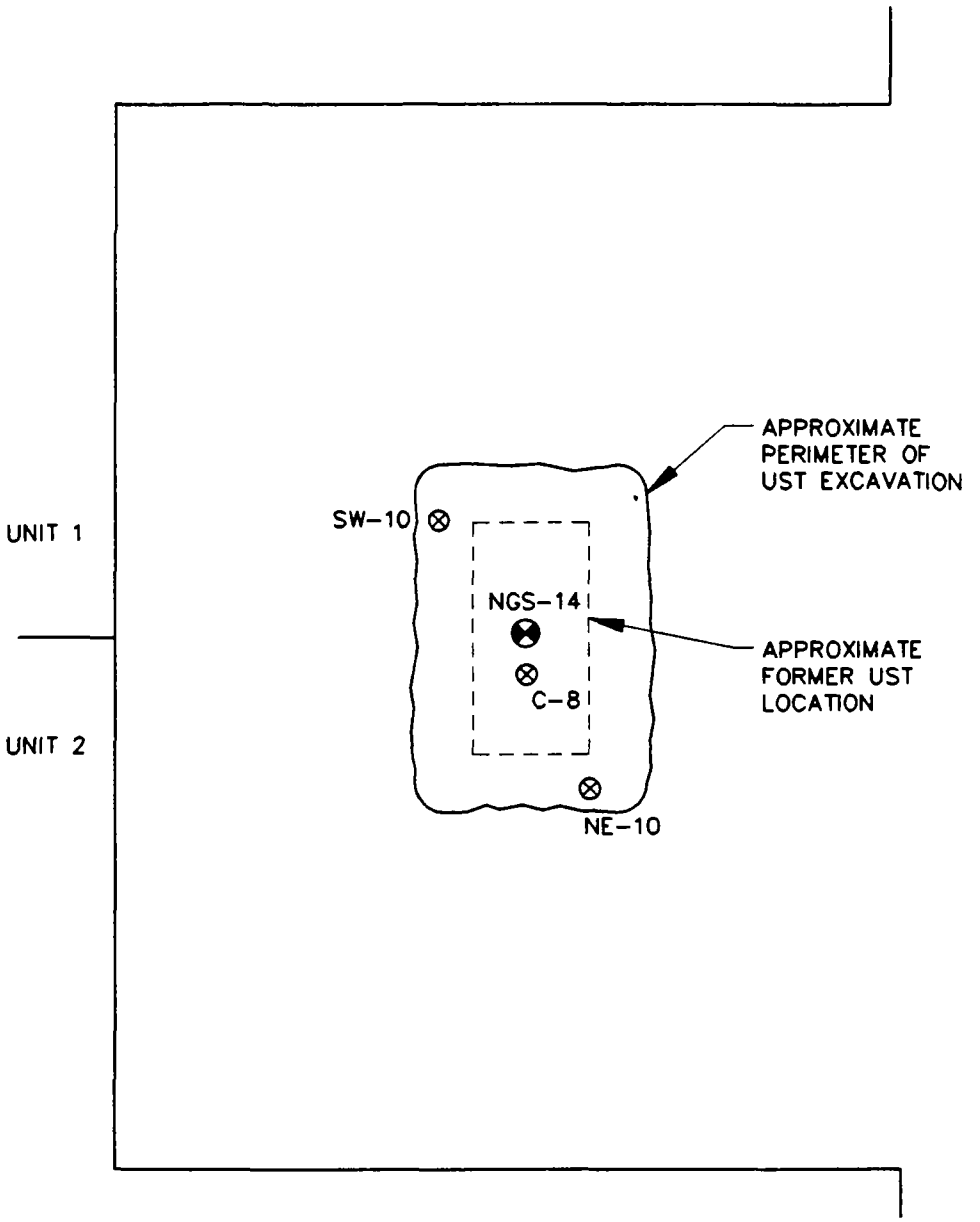
FIGURE 6
NGS-14
PHASE II
UST INVESTIGATION



NGS-14
10'6" X 32'

LEGEND

- AUGER BOREHOLES (APRIL/1992)
- INITIAL INVESTIGATION SAMPLE LOCATION



PLANT NORTH

EXPLANATION

AUGER BOREHOLES (APRIL 1992)

INITIAL INVESTIGATION SAMPLE LOCATION

0 5 10

SCALE IN FEET (APPROXIMATE)

5816F02 12-2-92 PMG

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Phoenix, Arizona

FIGURE 7. NGS-16
PHASE II
UST INVESTIGATION

APPENDIX B

BORING LOGS

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BORING LOG

Project Name: SRP UST Investigation | Project Number: 5816.05

Solid Boring [X] | Monitoring Well [ ] | Boring/Well Number: NGS-3EAST | Sheet 1 of 1

Boring Location: Navajo Generating Station		Elevation and Datum:	
Drilling Contractor: Heber Mining	Driller: Paul Mills	Date Started: 04/21/92	Date Finished: 04/21/92
Drilling Equipment: CME-75	Borehole Diameter: 7"	Completed Depth: (feet) 12.5'	Water Depth: (feet)
Sampling Method: California Method [ ] Shelby Tube [ ] Split Spoon [X]		WELL CONSTRUCTION	
Drilling Fluid: N/A		Type and Diameter of Well Casing: N/A	
Backfill Material: N/A		Slot Size: N/A	Filter Material: N/A
Logged By: R. Brazeal	Checked By: D. Shirley	Development Method: N/A	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Well	Readings PPM	Remarks
5, 10		FILL, gravelly						
		Sample at 12 feet - Sandstone, red, fine-grained	22 50/6"	-12				Collected sample NGS-3EAST-12
15, 20, 25, 30								Coring equipment set up at 12.5 feet depth. Due to buried construction debris in the area, coring equipment was damaged and the boring was abandoned.

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BORING LOG

Project Name: SRP UST Investigation | Project Number: 5816.05

Solid Boring [X] | Monitoring Well [ ] | Boring/Well Number: NGS-3WEST | Sheet 1 of 1

Boring Location: Navajo Generating Station		Elevation and Datum:	
Drilling Contractor: Heber Mining	Driller: Paul Mills	Date Started: 04/22/92	Date Finished: 04/22/92
Drilling Equipment: CME-75	Borehole Diameter: 7"	Completed Depth: (feet) 27.5'	Water Depth: (feet)
Sampling Method: California Method [ ] Shelby Tube [ ] Split Spoon [X]		WELL CONSTRUCTION	
Drilling Fluid: N/A		Type and Diameter of Well Casing: N/A	
Backfill Material: N/A		Slot Size: N/A	Filter Material: N/A
Logged By: R. Brazeal	Checked By: D. Shirley	Development Method: N/A	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Well	Readings PPM	Remarks
5, 10		FILL, gravelly						
		Sample at 12 feet – Sandstone, red, fine-grained.	100/6"	-12			0	Collected sample NGS-3WEST-12
15								Hard drilling at 14 feet
		Sample at 18 feet – Sandstone, red, fine grained.	55 87/6"	-18			24	Collected sample NGS-3WEST-18 Loose drilling at 18 feet
20								
		Sample at 22 feet – Sandstone, red, fine grained.	19 75 5	-22			19	Collected sample NGS-3WEST-22
25								Hard drilling at 26 feet
		Sample at 27 feet – Sandstone, red, fine grained.	100/1"	-27				Collected sample NGS-3WEST-27
30								

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BORING LOG

Project Name: SRP UST Investigation | Project Number: 5816.05

Solid Boring [X] | Monitoring Well [ ] | Boring/Well Number: NGS-10 | Sheet 1 of 1

Boring Location: Navajo Generating Station	Elevation and Datum:
Drilling Contractor: Heber Mining / Driller: Paul Mills	Date Started: 04/23/92 / Date Finished: 04/24/92
Drilling Equipment: CME-75 / Borehole Diameter: 7"	Completed Depth: (feet) 18' / Water Depth: (feet)
Sampling Method: California Method [ ] Shelby Tube [ ] Split Spoon [X]	WELL CONSTRUCTION
Drilling Fluid: Water used during coring	Type and Diameter of Well Casing: N/A
Backfill Material: N/A	Slot Size: N/A / Filter Material: N/A
Logged By: R. Brazeal / Checked By: D. Shirley	Development Method: N/A

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Well	Readings PPM	Remarks
		FILL, gravelly					10-20	
5								
10								
		Sample at 13 feet - Sandstone, red, fine-grained	100/6"	-13				Collected sample NGS-10-13 HC odor Split spoon refusal at 14 feet Boring making water and mud stopped drilling at 14 feet on 4/23/92
15		Begin coring, sample at 15.5 feet - CARMEL FORMATION, sandstone, red, strongly cemented.	150/6"	-15.5				Collected core sample NGS-10-15.5
		Stopped coring, sample at 18 feet - CARMEL FORMATION, sandstone, red, strongly cemented.		-18				Collected core sample NGS-10CORE-18
20								Collected water sample (NGS-10-W) on 4/24/92 from boring
25								
30								

Brown and Caldwell Consultants

BORING LOG

Project Name: SRP UST Investigation | Project Number: 5816.05

Solid Boring [X] | Monitoring Well [ ] | Boring/Well Number: NGS-14 | Sheet 1 of 1

Boring Location: Navajo Generating Station		Elevation and Datum:	
Drilling Contractor: Heber Mining	Driller: Paul Mills	Date Started: 04/23/92	Date Finished: 04/23/92
Drilling Equipment: CME-75	Borehole Diameter: 7"	Completed Depth: (feet) 30'	Water Depth: (feet)
Sampling Method: California Method [ ] Shelby Tube [ ] Split Spoon [X]		WELL CONSTRUCTION	
Drilling Fluid: N/A		Type and Diameter of Well Casing: N/A	
Backfill Material: N/A		Slot Size: N/A	Filter Material: N/A
Logged By: R. Brazeal	Checked By: D. Shirley	Development Method: N/A	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Well	Readings PPM	Remarks
		FILL, gravelly						
5								
10								
15								
								Wet fill at 18 feet
20								
		Sample at 23 feet – Sandstone, red, fine-grained, wet.	100/6"	-23				Collected sample NGS-14-23
		Sample at 24 feet – Sandstone, red, fine grained, wet.	100/6"	-24				Collected sample NGS-14-24
25		Sample at 25 feet – Sandstone, red, fine grained, wet.	26/6"	-25				Collected sample NGS-14-25
		Sample at 27 feet – Navajo Sandstone, white, fine grained, wet.	100/6"	-27				Collected sample NGS-14-27
30		Unsuccessful attempt to sample at 30 feet						Split spoon sampler refusal
								Water sample (NGS-14-W) collected on 4/24/92 from boring

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BORING LOG

Project Name: SRP UST Investigation | Project Number: 5816.05

Solid Boring [X] | Monitoring Well [ ] | Boring/Well Number: NGS-16 | Sheet 1 of 1

Boring Location: Navajo Generating Station		Elevation and Datum:	
Drilling Contractor: Heber Mining	Driller: Paul Mills	Date Started: 04/24/92	Date Finished: 04/24/92
Drilling Equipment: CME-75	Borehole Diameter: 7"	Completed Depth: (feet) 14.33'	Water Depth: (feet)
Sampling Method: California Method [ ] Shelby Tube [ ] Split Spoon [X]		WELL CONSTRUCTION	
Drilling Fluid: N/A		Type and Diameter of Well Casing: N/A	
Backfill Material: N/A		Slot Size: N/A	Filter Material: N/A
Logged By: R. Brazeal	Checked By: D. Shirley	Development Method: N/A	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Well	Readings PPM	Remarks
5		FILL, gravelly, up to 1" diameter						
10		CARMEL FORMATION, fine grained sandstone, moderately to strongly cemented.						
		Sample at 11 feet – SANDSTONE, red, fine-grained, wet, moderately to strongly cemented.	100/11"	-11				Collected sample NGS-16-11
		Hard drilling 11 to 14 feet						Hard drilling at 11 feet
		Sample at 12 feet – SANDSTONE, red, fine grained, slightly damp, moderately to strongly cemented.	73 50/4"	-12				Collected sample NGS-16-12
			100/4"	-14				Collected sample NGS-16-14
15		Stopped drilling and sampling at 14.33 feet. Sandstone, red with white, fine grained.						Navajo sandstone encountered
20								
25								
30								

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BORING LOG

Project Name: SRP UST Investigation | Project Number: 5816.05

Solid Boring [X] | Monitoring Well [ ] | Boring/Well Number: NGS-UST-NEST-N | Sheet 1 of 1

Boring Location: Navajo Generating Station		Elevation and Datum:	
Drilling Contractor: Heber Mining	Driller: Paul Mills	Date Started: 04/22/92	Date Finished: 04/22/92
Drilling Equipment: CME-75	Borehole Diameter: 7"	Completed Depth: (feet) 22'	Water Depth: (feet)
Sampling Method: California Method [ ] Shelby Tube [ ] Split Spoon [X]		WELL CONSTRUCTION	
Drilling Fluid: N/A		Type and Diameter of Well Casing: N/A	
Backfill Material: N/A		Slot Size: N/A	Filter Material: N/A
Logged By: R. Brazeal	Checked By: D. Shirley	Development Method: N/A	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Well	Readings PPM	Remarks
		FILL, gravelly, less than 1" diameter						
5		Sand, red						
10	SP	Sample at 10 feet – Sand, red, fine-grained.	4 3 5	-10			0	Collected sample UST-NEST-N-10
15		Sample at 15 feet – Sand, red, fine grained.	19 38 49	-15			24	Collected sample UST-NEST-N-15 Sewer odor
20		Sample at 20 feet – Sand, brown, fine grained.	100/6"	-20			190	Collected sample UST-NEST-N-20 Gasoline odor, auger refusal
25								
30								

Brown and Caldwell Consultants

BORING LOG

Project Name: SRP UST Investigation | Project Number: 5816.05

Solid Boring [X] | Monitoring Well [ ] | Boring/Well Number: NGS-UST-NEST-NORTH(2) | Sheet 1 of 1

Boring Location: Navajo Generating Station		Elevation and Datum:	
Drilling Contractor: Heber Mining	Driller: Paul Mills	Date Started: 04/23/92	Date Finished: 04/23/92
Drilling Equipment: CME-75	Borehole Diameter: 7"	Completed Depth: (feet) 22'	Water Depth: (feet)
Sampling Method: California Method [ ] Shelby Tube [ ] Split Spoon [X]		WELL CONSTRUCTION	
Drilling Fluid: N/A		Type and Diameter of Well Casing: N/A	
Backfill Material: N/A		Slot Size: N/A	Filter Material: N/A
Logged By: R. Brazeal	Checked By: D. Shirely	Development Method: N/A	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Well	Readings PPM	Remarks
	CL	FILL, gravelly						
5								
10	SP	Sample at 10 feet – Sand, red, fine-grained.	10 18 18	-10			0	Collected sample NGS-NEST-NORTH2-10
15		Sample at 15 feet – Sand, red, fine grained.	9 32 41	-15			0	Collected sample NGS-NEST-NORTH2-15
20		Sample at 20 feet – Sand, red, fine grained.	27 50 100	-20				Collected sample NGS-NEST-NORTH2-20
		Auger refusal						
25								
30								

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BORING LOG

Project Name: SRP UST Investigation | Project Number: 5816.05

Soild Boring [X] Monitoring Well [ ] Boring/Well Number: UST-NESTCORE-NORTH Sheet 1 of 1

Boring Location: Navajo Generating Station		Elevation and Datum:	
Drilling Contractor: Heber Mining	Driller: Paul Mills	Date Started: 04/23/92	Date Finished: 04/23/92
Drilling Equipment: CME-75	Borehole Diameter: 7"	Completed Depth: (feet) 27'	Water Depth: (feet)
Sampling Method: California Method [ ] Shelby Tube [ ] Split Spoon [X]		WELL CONSTRUCTION	
Drilling Fluid: Water used as fluid during coring		Type and Diameter of Well Casing: N/A	
Backfill Material: N/A		Slot Size: N/A	Filter Material: N/A
Logged By: R. Brazeal	Checked By: D. Shirley	Development Method: N/A	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Well	Readings PPM	Remarks
		FILL, asphalt						
5								
		Fill, sand, red to 18 feet						
	SP							
10								
15								
		Sample at 18 feet - Sandstone, red, fine-grained, weathered	40 32 50	-18			20	Collected sample UST-NESTCORE NORTH-18 Sour odor
20								Hard Drilling at 20 feet
								Begin coring at 22 feet
		Core sample at 23 feet - CLAYSTONE, silty		-23				Collected core sample UST-NESTCORE NORTH-23
25								
		Core sample at 26.5 feet - SANDSTONE, silty		-27				Collected core sample UST-NESTCORE NORTH-27
30								

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BORING LOG

Project Name: SRP UST Investigation | Project Number: 5816.05

Solid Boring [X] | Monitoring Well [ ] | Boring/Well Number: UST-NEST SCENTER (SOUTH) | Sheet 1 of 1

Boring Location: Navajo Generating Station		Elevation and Datum:	
Drilling Contractor: Heber Mining	Driller: Paul Mills	Date Started: 04/22/92	Date Finished: 04/22/92
Drilling Equipment: CME-75	Borehole Diameter: 7"	Completed Depth: (feet) 27'	Water Depth: (feet)
Sampling Method: California Method [ ] Shelby Tube [ ] Split Spoon [X]		WELL CONSTRUCTION	
Drilling Fluid: Water used during coring operation		Type and Diameter of Well Casing: N/A	
Backfill Material: N/A		Slot Size: N/A	Filter Material: N/A
Logged By: R. Brazeal	Checked By: D. Shirley	Development Method: N/A	

Depth (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample	Graphic Log: Well	Readings PPM	Remarks
		FILL, asphalt						
5								
		Fill, sand to 11 feet						
10								
		Sandstone						Encountered rock at 11 feet Sewer odor at lower depths
15								
		Sample at 18 feet – Sandstone, red,	33 100/6"	-18			0	Collected sample NGS-UST NEST-S CENTER-18 Hard drilling at 19 feet
20								Set up for coring at 20 feet
		Core sample collected at 23 feet CLAYSTONE, silty, dark red		-23				Collected core sample UST NEST CORE-SOUTH 23
25								
		Core sample collected at 26.5 feet SANDSTONE, pinkish red		-27				Collected core sample UST NEST CORE-SOUTH 27
30								

APPENDIX C

ANALYTICAL REPORT

MEMORANDUM

Environmental Laboratory and Field Services
Analysis Report

Date: 05/27/92

To: Dennis Shirley

Laboratory ID Number: 92-04-080/81

Date Sample(s) Received: 04/27/92

Project: NGS UST INVESTIGATION

Hilda Marchetti
Hilda Marchetti
Chemist

Linda S. Johnson
Linda S. Johnson
Laboratory Supervisor

Note:

HM:LSJ:hm
Attachments
Analytical Results
Chain of Custody

cc: Lab File

RECEIVED
MAY 28 1992
WATER & WASTE DIVISION
Environmental Services

S R P

Salt River Project
Post Office Box 52025
Phoenix, Arizona
85072-2025

CHAIN OF CUSTODY RECORD/TRANSMITTAL

ENVIRONMENTAL SERVICES DEPARTMENT
LAB & FIELD SERVICES DIVISION
(602) 236-4141

Project: NAVAJO UST INVESTIGATION

Charge No: N91-47263-01

Project Manager/Contact: DENNIS SNIVELY

Phone: 2685

Cost Center: 71000

Sampler(s) Signature: [illegible] / Dennis N. Snively

Sample ID	Date Collected	Time Collected	Matrix	Lab ID No.	No of Containers	FIELD DATA: FLOW (GPM ____ CFS ____)	NO3/N	TEMP °C	EC	pH	ANALYSIS: TPH C EPA 418.1	EPA 8015M Fuel P/P	EPA 8010/8020
NGS-3EAST-12	4.21.92	0825	Soil	92-04-080 01	1						✓	✓	
NGS-3WEST-12	4.22.92	1240	Soil	02	1						✓	✓	
NGS-3WEST-18	4.22.92	1302	Soil	03	1						✓	✓	
NGS-3WEST-22	4.22.92	1317	Soil	04	1						✓	✓	
NGS-3WEST-27	4.22.92	1352	Soil	05	1						✓	✓	
NGS-1ST WEST-S.CENTER-18	4.22.92	1452	Soil	06	1						✓	✓	✓
NGS-WEST CORE-SOUTH-23	4.22.92	1731	Rock	07	1						✓	✓	✓
NGS-WEST CORE-SOUTH-27	4.22.92	1733	Rock	08	1						✓	✓	✓
1ST WEST-N-10	4.22.92	0815	Soil	09	1						✓	✓	✓
1ST WEST-N-15	4.22.92	0823	Soil	10	1						✓	✓	✓
1ST WEST N-20	4.22.92	0832	Soil	11	1						✓	✓	✓

Relinquished By: (signature)	Date	Time	Received By: (signature)	Date	Time
Dennis N. Snively	4/27/92	0940	Elaine Heineman	4/27/92	0840
Relinquished By: (signature)	Date	Time	Received By: (signature)	Date	Time
Relinquished By: (signature)	Date	Time	Received By: (signature)	Date	Time

Remarks:

S R P

Salt River Project
Post Office Box 52025
Phoenix, Arizona
85072-2025

CHAIN OF CUSTODY RECORD/TRANSMITTAL

ENVIRONMENTAL SERVICES DEPARTMENT
LAB & FIELD SERVICES DIVISION
(602) 236-4141

Project: ALKALI UST INVESTIGATION

Charge No: N91-47263-01

Project Manager/Contact: DEANE SHIPLEY

Phone: 2685

Cost Center: 71000

Sampler(s) Signature: [signature]

Sample ID	Date Collected	Time Collected	Matrix	Lab ID No.	No of Containers	FIELD DATA: FLOW (GPM ____ CFS ____)	NO3/N	TEMP °C	EC	pH	ANALYSIS: EPA 418.1	EPA 8015M	EPA 8010/8020
				92-04-080									
UST NEST CORE NORTH 18	4.23.92	0705	Soil	12	1						✓	✓	✓
UST NEST CORE NORTH 23	4.23.92	1045	Rock	13	1						✓	✓	✓
UST NEST CORE NORTH 27	4.23.92	1050	Rock	14	1						✓	✓	✓
NGS PCS WEST	4-23-92	1140	Soil	15	1						✓	✓	✓
NGS PCS EAST	4-23-92	1150	Soil	16	1						✓	✓	✓
NGS-NEST-NORTH(2)-10	4.23.92	1212	Soil	17	1						✓	✓	✓
NGS-NEST-NORTH(2)-15	4.23.92	1245	Soil	18	1						✓	✓	✓
NGS-NEST-NORTH(2)-20	4.23.92	1252	Soil	19	1						✓	✓	✓
NGS14-24	4.23.92	1505	Soil	20	1						✓	✓	
NGS14-25	4.23.92	1521	Rock	21	1						✓	✓	
NGS14-27	4.23.92	1542	Rock	22	1						✓	✓	

Relinquished By: (signature)	Date	Time	Received By: (signature)	Date	Time
[signature]	4/27/92	0840	Elaine Heineman	4/27/92	0840
Relinquished By: (signature)	Date	Time	Received By: (signature)	Date	Time
Relinquished By: (signature)	Date	Time	Received By: (signature)	Date	Time

Remarks:

 SRP WQ LAB REPORT Work Order # 92-04-080

Received: 04/27/92 05/19/92 10:21:23

REPORT DENNIS SHIRLEY
TO ENVIRONMENTAL SERVICES
SRP

PREPARED
BY

CERTIFIED BY

ATTEN

ATTEN
PHONE

CONTACT JOHNSON

CLIENT NGSUSTINVEST SAMPLES 22
COMPANY SRP
FACILITY

WORK ID NAVAJO UST INVESTIGATION
TAKEN RON BRAZEAL/DENNIS SHIRLEY
TRANS N91-472-3-04
TYPE 71000
P.O. #
INVOICE under separate cover

SAMPLE IDENTIFICATION

01 NGS-3 EAST-12
02 NGS-3 WEST-12
03 NGS-3 WEST-18
04 NGS-3 WEST-22
05 NGS-3 WEST-27
06 NGS-USTWEST-S.CENTER-18
07 NGS-WEST CORE-SOUTH-23
08 NGS-WEST CORE-SOUTH-27
09 UST WEST-N-10
10 UST WEST-N-15
11 USG WEST N-20
12 UST WEST CORE NORTH 18
13 UST WEST CORE NORTH 23
14 UST WEST CORE NORTH 27
15 NGS PCS WEST
16 NGS PCS EAST
17 NGS-WEST-NORTH(2)-10
18 NGS-WEST-NORTH(2)-15
19 NGS-WEST-NORTH(2)-20
20 NGS14-24
21 NGS14-25
22 NGS14-27

TEST CODES and NAMES used on this workorder

FUELFP	FUEL FINGERPRINT
TPHC	TOT PETROLEUM HYDORCARBONS
VOA2	8010/8020

Received: 04/27/92

Results by Sample

SAMPLE ID NGS-3 EAST-12 SAMPLE # 01 FRACTIONS: A

Date & Time Collected 04/21/92 08:25:00 Category

TPHC	14000	
	MG/KG	

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-3 EAST-12 FRACTION 01A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/21/92 08:25:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-3 EAST-12
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	11300	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 1000 ppm

Comments:

Signature David M Kinney

Received: 04/27/92

Results by Sample

SAMPLE ID NGS-3 WEST-12 SAMPLE # 02 FRACTIONS: A

Date & Time Collected 04/22/92 12:40:00 Category

TPHC	220	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-3 WEST-12 FRACTION 02A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/22/92 12:40:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-3 WEST-12
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	140	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-3 WEST-18 SAMPLE # 03 FRACTIONS: A
Date & Time Collected 04/22/92 13:02:00 Category

TPHC	-15
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-3 WEST-18 FRACTION 03A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/22/92 13:02:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-3 WEST-18
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David M Kinney

Received: 04/27/92

Results by Sample

SAMPLE ID NGS-3 WEST-22 SAMPLE # 04 FRACTIONS: A

Date & Time Collected 04/22/92 13:17:00 Category

TPHC	50	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-3 WEST-22 FRACTION 04A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/22/92 13:17:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-3 WEST-22
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments

Signature David McKinney

Received: 04/27/92

Results by Sample

SAMPLE ID NGS-3 WEST-27 SAMPLE # 05 FRACTIONS: A

Date & Time Collected 04/22/92 13:52:00 Category

TPHC	60
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-3 WEST-27 FRACTION 05A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/22/92 13:52:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-3 WEST-27
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	39	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David M Kinney

Received: 04/27/92

Results by Sample

SAMPLE ID NGS-USTNEST-S.CENTER-18 SAMPLE # 06 FRACTIONS: A,B

Date & Time Collected 04/22/92 14:52:00 Category

TPHC	550	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-USTNEST-S.CENTER-18 FRACTION 06A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/22/92 14:52:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-USTNEST-S.CENTER-18
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= .30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-USTNEST-S.CENTER-18 FRACTION 06B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/22/92 14:52:00 Category

8010/8020 ANALYSIS

Sample Date	04/22/92	Accession Number	920409006
Received Date	04/27/92	Sample Id	NGS-USTNEST-S.CNTR18
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100
Analyst	E.J.MURPHY	Analyzing Lab	SRF

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	50	-50
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	50	-50
Chloroform	50	-50	M/P Xylenes	50	-50
1,1,1-Trichloroethane	50	-50	O Xylene	50	-50
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-5

QA\QC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-NEST CORE-SOUTH-23 SAMPLE # 07 FRACTIONS: A,B
Date & Time Collected 04/22/92 17:31:00 Category

TPHC	-15
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-NEST CORE-SOUTH-23 FRACTION 07A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/22/92 17:31:00 Category

FUEL FINGERPRINT

SAMPLE ID NGS-NEST CORE-SOUTH-23
DATE RUN 04/30/92
MATRIX SOIL
ANALYST D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-NEST CORE-SOUTH-23 FRACTION 07B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/22/92 17:31:00 Category

8010/8020 ANALYSIS

Sample Date	04/22/92	Accession Number	920408007
Received Date	04/27/92	Sample Id	NGS-NESTCORE SOUTH23
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	50	-50
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	50	-50
Chloroform	50	-50	M/P Xylenes	50	-50
1,1,1-Trichloroethane	50	-50	O Xylene	50	-50
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

QA\QC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-NEST CORE-SOUTH-27 SAMPLE # 08 FRACTIONS: A,B

Date & Time Collected 04/22/92 17:33:00 Category

TPHC	21
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-NEST CORE-SOUTH-27 FRACTION OBA TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/22/92 17:33:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-NEST CORE-SOUTH-27
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David W Kenney

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-NEST CORE-SOUTH-27 FRACTION OBB TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/22/92 17:33:00 Category

8010/8020 ANALYSIS

Sample Date	04/22/92	Accession Number	920408008
Received Date	04/27/92	Sample Id	NGS-NESTCORE SOUTH27
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	50	-50
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	50	-50
Chloroform	50	-50	M/P Xylenes	50	-50
1,1,1-Trichloroethane	50	-50	O Xylene	50	-50
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

QA\QC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92

Results by Sample

SAMPLE ID UST NEST-N-10 SAMPLE # 09 FRACTIONS: A,B

Date & Time Collected 04/22/92 08:15:00 Category

TPHC	-15
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID UST NEST-N-10 FRACTION 09A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/22/92 08:15:00 Category

FUEL FINGERPRINT

SAMPLE ID	UST NEST-N-10
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID UST NEST-N-10 FRACTION 09B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/22/92 08:15:00 Category

8010/8020 ANALYSIS

Sample Date	04/22/92	Accession Number	920408009
Received Date	04/27/92	Sample Id	UST NEST-N-10
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	50	-50
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	50	-50
Chloroform	50	-50	M/P Xylenes	50	-50
1,1,1-Trichloroethane	50	-50	O Xylene	50	-50
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

QA\QC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92 Results by Sample

SAMPLE ID UST NEST-N-15 SAMPLE # 10 FRACTIONS: A,B
Date & Time Collected 04/22/91 08:23:00 Category

TPHC	-15
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID UST NEST-N-15 FRACTION 10A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/22/91 08:23:00 Category

FUEL FINGERPRINT

SAMPLE ID	UST NEST-N-15
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David W McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID UST NEST-N-15 FRACTION 10B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/22/91 08:23:00 Category

8010/8020 ANALYSIS

Sample Date	04/22/92	Accession Number	920408010
Received Date	04/27/92	Sample Id	UST NEST-N-15
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	50	-50
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	50	-50
Chloroform	50	-50	M/P Xylenes	50	-50
1,1,1-Trichloroethane	50	-50	O Xylene	50	-50
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

GA\QC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92

Results by Sample

SAMPLE ID USG NEST N-20 SAMPLE # 11 FRACTIONS: A,B

Date & Time Collected 04/22/92 08:32:00 Category

TPHC 250
MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID USG NEST N-20 FRACTION 11A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/22/92 08:32:00 Category

FUEL FINGERPRINT

SAMPLE ID	UST NEST N-20
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	400	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID USG NEST N-20 FRACTION 11B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/22/92 08:32:00 Category

8010/8020 ANALYSIS

Sample Date	04/22/92	Accession Number	920408011
Received Date	04/27/92	Sample Id	UST NEST N-20
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100/10000
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	5000	34000
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	5000	18000
Chloroform	50	-50	M/P Xylenes	5000	70000
1,1,1-Trichloroethane	50	-50	O Xylene	5000	25000
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	5000	-5000	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

QA\QC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92 Results by Sample

SAMPLE ID UST NEST CORE NORTH 18 SAMPLE # 12 FRACTIONS: A,B
Date & Time Collected 04/23/92 07:05:00 Category

TPHC	16
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID UST NEST CORE NORTH 18 FRACTION 12A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/23/92 07:05:00 Category

FUEL FINGERPRINT

SAMPLE ID	UST NEST CORE NORTH 18
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= .30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID UST NEST CORE NORTH 18 FRACTION 12B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/23/92 07:05:00 Category

8010/8020 ANALYSIS

Sample Date	04/23/92	Accession Number	920408012
Received Date	04/27/92	Sample Id	UST NESTCORE NORTH18
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	50	-50
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	50	-50
Chloroform	50	-50	M/P Xylenes	50	-50
1,1,1-Trichloroethane	50	-50	O Xylene	50	-50
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

QA\QC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92 Results by Sample

SAMPLE ID UST NEST CORE NORTH 23 SAMPLE # 13 FRACTIONS: A,B
Date & Time Collected 04/23/92 10:43:00 Category

TPHC	-15
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID UST NEST CORE NORTH 23 FRACTION 13A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/23/92 10:43:00 Category

FUEL FINGERPRINT

SAMPLE ID	UST NEST CORE NORTH 23
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID UST NEST CORE NORTH 23 FRACTION 13B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/23/92 10:43:00 Category

8010/8020 ANALYSIS

Sample Date	04/23/92	Accession Number	920408013
Received Date	04/27/92	Sample Id	UST NESTCORE NORTH23
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	50	-50
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	50	-50
Chloroform	50	-50	M/P Xylenes	50	-50
1,1,1-Trichloroethane	50	-50	O Xylene	50	-50
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

QA\QC Comments

NOTES:

A result preceded by - indicates result is below detection limit
A -99 indicates that the compound was not analyzed

Received: 04/27/92 Results by Sample

SAMPLE ID UST NEST CORE NORTH 27 SAMPLE # 14 FRACTIONS: A,B
Date & Time Collected 04/23/92 10:50:00 Category

TPHC -15
MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID UST NEST CORE NORTH 27 FRACTION 14A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/23/92 10:50:00 Category

FUEL FINGERPRINT

SAMPLE ID	UST NEST CORE NORTH 27
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID UST NEST CORE NORTH 27 FRACTION 14B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/23/92 10:50:00 Category

8010/8020 ANALYSIS

Sample Date	04/23/92	Accession Number	920408014
Received Date	04/27/92	Sample Id	UST NESTCORE NORTH27
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	50	-50
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	50	-50
Chloroform	50	-50	M/P Xylenes	50	-50
1,1,1-Trichloroethane	50	-50	O Xylene	50	-50
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

QA\QC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92 Results by Sample

SAMPLE ID MGS PCS WEST SAMPLE # 15 FRACTIONS: A,B
Date & Time Collected 04/23/92 11:40:00 Category

TPHC	2900
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS PCS WEST FRACTION 15A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/23/92 11:40:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS PCS WEST
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	4000	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= .30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID NGS PCS WEST FRACTION 15B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/23/92 11:40:00 Category

8010/8020 ANALYSIS

Sample Date	04/23/92	Accession Number	920408015
Received Date	04/27/92	Sample Id	NGS PCS WEST
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	50	-50
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	50	-50
Chloroform	50	-50	M/P Xylenes	50	-50
1,1,1-Trichloroethane	50	-50	O Xylene	50	90
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

QA\QC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92

Results by Sample

SAMPLE ID NGS PCS EAST SAMPLE # 16 FRACTIONS: A,B

Date & Time Collected 04/23/92 11:50:00 Category

TPHC	9700	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS PCS EAST FRACTION 16A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/23/92 11:50:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS PCS EAST
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

SAMPLE ID NGS PCS EAST FRACTION 16B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/23/92 11:50:00 Category

8010/8020 ANALYSIS

Sample Date	04/23/92	Accession Number	920408016
Received Date	04/27/92	Sample Id	NGS PCS EAST
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100/500
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	250	-250
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	250	-250
Chloroform	50	-50	M/P Xylenes	250	-250
1,1,1-Trichloroethane	50	-50	O Xylene	250	-250
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

QA\QC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-NEST-NORTH(2)-10 SAMPLE # 17 FRACTIONS: A,B
Date & Time Collected 04/23/92 12:12:00 Category

TPHC -15
MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-NEST-NORTH(2)-10 FRACTION 17A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/23/92 12:12:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-NEST-NORTH(2)-10
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

SAMPLE ID NGS-NEST-NORTH(2)-10 FRACTION 17B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/23/92 12:12:00 Category

8010/8020 ANALYSIS

Sample Date	04/23/92	Accession Number	920408017
Received Date	04/27/92	Sample Id	NGS-NEST-NORTH(2)-10
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	50	-50
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	50	-50
Chloroform	50	-50	M/P Xylenes	50	-50
1,1,1-Trichloroethane	50	-50	O Xylene	50	-50
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

GA\QC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-NEST-NORTH(2)-15 SAMPLE # 18 FRACTIONS: A,B
Date & Time Collected 04/23/92 12:48:00 Category

TPHC -15
MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-NEST-NORTH(2)-15 FRACTION 18A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/23/92 12:48:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-NEST-NORTH(2)-15
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-NEST-NORTH(2)-15 FRACTION 18B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/23/92 12:48:00 Category

8010/8020 ANALYSIS

Sample Date	04/23/92	Accession Number	92040801B
Received Date	04/27/92	Sample Id	NGS-NEST-NORTH(2)-15
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	50	-50
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	50	-50
Chloroform	50	-50	M/P Xylenes	50	-50
1,1,1-Trichloroethane	50	-50	O Xylene	50	-50
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

QA\QC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-WEST-NORTH(2)-20 SAMPLE # 19 FRACTIONS: A,B
Date & Time Collected 04/23/92 12:52:00 Category

TPHC	-15	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-NEST-NORTH(2)-20 FRACTION 19A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/23/92 12:52:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-NEST-NORTH(2)-20
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-NEST-NORTH(2)-20 FRACTION 19B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/23/92 12:52:00 Category

8010/8020 ANALYSIS

Sample Date	04/23/92	Accession Number	920408019
Received Date	04/27/92	Sample Id	NGS-NEST-NORTH(2)-20
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	50	-50
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	50	-50
Chloroform	50	-50	M/P Xylenes	50	-50
1,1,1-Trichloroethane	50	-50	O Xylene	50	-50
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

QA\QC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92

Results by Sample

SAMPLE ID NGS14-24 SAMPLE # 20 FRACTIONS: A

Date & Time Collected 04/23/92 13:05:00 Category

TPHC	-15
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS14-24 FRACTION 20A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/23/92 13:05:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS14-24
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection Limit= .30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID NGS14-25 SAMPLE # 21 FRACTIONS: A
Date & Time Collected 04/23/92 15:21:00 Category

TPHC	-15
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS14-25 FRACTION 21A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/23/92 15:21:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS14-25
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

Received: 04/27/92

Results by Sample

SAMPLE ID NGS14-27 SAMPLE # 22 FRACTIONS: A

Date & Time Collected 04/23/92 15:42:00 Category

TPHC -15

MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS14-27 FRACTION 22A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/23/92 15:42:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS14-27
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

S R P

Salt River Project
Post Office Box 52025
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85072-2025

CHAIN OF CUSTODY RECORD/TRANSMITTAL

ENVIRONMENTAL SERVICES DEPARTMENT
LAB & FIELD SERVICES DIVISION
(602) 236-4141

Project: NAVAJO NAT INVESTIGATION

Charge No: N91-47263-01

Project Manager/Contact: DENNIS SHIRLEY

Phone: 2685

Cost Center: 71000

Sampler(s) Signature: [signature]

Sample ID	Date Collected	Time Collected	Matrix	Lab ID No.	No of Containers	FIELD DATA: FLOW (GPM ___ CFS ___)	NO3/N	TEMP °C	EC	pH	ANALYSIS: EPA 418.1	EPA 8015M	EPA 8010/8020	EPA 601/602
Equipment Blank	4-23-92	1700	WATER	92-04-081 01	2						✓			✓
NGS-10-13	4-23-92	1640	Soil	02	1						✓	✓	✓	
~~NGS-14-23~~ Duplicate of # 92-04-080-20 on page 2	4-23-92	1505	Soil		1						✓	✓		
~~NGS-14-25~~ " 92-04-080-21	4-23-92	1521	Soil		1						✓	✓		
~~NGS-14-27~~ " 92-04-080-22	4-23-92	1542	Soil		1						✓	✓		
NGS-10-W	4-24-92	0645	WATER	03	2						✓	~~✓~~ NO		✓
NGS-14-W	4-24-92	0723	WATER	04	2						✓	~~✓~~ NO		✓
NGS-10 CORE-18	4-24-92	0950	Rock	05	1						✓	✓	✓	
NGS-10-15.5	4-24-92	0734	Rock	06	1						✓	✓	✓	
NGS-16-11	4-24-92	1105	Rock	07	1						✓	✓		
NGS-16-12	4-24-92	1120	Rock	08	1						✓	✓		

Relinquished By: (signature)	Date	Time	Received By: (signature)	Date	Time
[signature]	4/27/92	0840	Elaine Hunneman	4/27/92	0840
Relinquished By: (signature)	Date	Time	Received By: (signature)	Date	Time
Relinquished By: (signature)	Date	Time	Received By: (signature)	Date	Time

Remarks:

S R P

Salt River Project
Post Office Box 52025
Phoenix, Arizona
85072-2025

CHAIN OF CUSTODY RECORD/TRANSMITTAL

ENVIRONMENTAL SERVICES DEPARTMENT
LAB & FIELD SERVICES DIVISION
(602) 236-4141

Project: NGS UST INVESTIGATION

Charge No: N91-47263-01

Project Manager/Contact: DENNIS SHURLEY

Phone: 2685

Cost Center: 71000

Sampler(s) Signature: [signature]

Sample ID	Date Collected	Time Collected	Matrix	Lab ID No.	No of Containers	FIELD DATA: FLOW (GPM ____ CFS ____)	NO3/N	TEMP °C	EC	pH	ANALYSIS: EPA 418.1	EPA 8015M
NGS-16-14	4-24-92	1128	Rock	9204081 09	1						✓	✓
~~NGS-NEST-SOUTH~~												

Relinquished By: (signature)	Date	Time	Received By: (signature)	Date	Time
[signature]	4/27/92	0840	Elaine Hennman	4/27/92	0840
Relinquished By: (signature)	Date	Time	Received By: (signature)	Date	Time
Relinquished By: (signature)	Date	Time	Received By: (signature)	Date	Time

Remarks:

Received: 04/27/92 05/19/92 10:50:03

REPORT TO: DENNIS SHIRLEY
ENVIRONMENTAL SERVICES
SRP

PREPARED BY

CERTIFIED BY

ATTEN

ATTEN
PHONE

CONTACT JOHNSON

CLIENT NGSUSTINVEST SAMPLES 9
COMPANY SRP
FACILITY

WORK ID NAVAJO UST INVESTIGATION
TAKEN RON BRATEAL/DENNIS SHIRLEY
TRANS N91-47263-01
TYPE 71000
P.O. #
INVOICE under separate cover

SAMPLE IDENTIFICATION

01 EQUIPMENT BLANK
02 NGS-10-13
03 NGS-10-W
04 NGS-14-W
05 NGS-10 CORE-18
06 NGS-10-15.5
07 NGS-16-11
08 NGS-16-12
09 NGS-16-14

TEST CODES and NAMES used on this workorder

FUELFP	FUEL FINGERPRINT
TPHC	TOT PETROLEUM HYDORCARBONS
VOA2	8010/8020
VOA5	Volatile Organic Analysis

Received: 04/27/92

Results by Sample

SAMPLE ID EQUIPMENT BLANK SAMPLE # 01 FRACTIONS: A,B

Date & Time Collected 04/23/92 17:00:00 Category

TPHC	-0.1	MG/L

Received: 04/27/92 Results by Sample

SAMPLE ID EQUIPMENT BLANK FRACTION 01B TEST CODE VOA5 NAME Volatile Organic Analysis
Date & Time Collected 04/23/92 17:00:00 Category

601/602 ANALYSIS

SAMPLE DATE 04/23/92 ACCESSION NUMBER 920408101
RECEIVED DATE 04/27/92 SAMPLE ID EQUIPMENT BLANK
ANALYSIS DATE 05/04/92 UNITS UG/L
MATRIX WATER DILUTION FACTOR 1.0
ANALYST D.W.MCKINNEY ANALYZING LAB SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	0.5	-0.5
Chloromethane	-99	-99	2-Chloroethylvinylether	0.5	-0.5
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	0.5	-0.5
Bromomethane	-99	-99	Toluene	0.5	-0.5
Chloroethane	-99	-99	C-1,3-Dichloropropene	0.5	-0.5
Trichlorofluoromethane	0.5	-0.5	1,1,2-Trichloroethane	0.5	-0.5
1,1-Dichloroethylene	0.5	-0.5	Tetrachloroethylene	0.5	-0.5
Methylene Chloride	0.5	-0.5	Dibromochloromethane	0.5	-0.5
T-1,2-Dichloroethylene	0.5	-0.5	Chlorobenzene	0.5	-0.5
1,1-Dichloroethane	0.5	-0.5	Ethyl Benzene	0.5	-0.5
Chloroform	0.5	-0.5	M/P Xylenes	0.5	0.5
1,1,1-Trichloroethane	0.5	-0.5	O Xylene	0.5	-0.5
Carbon Tetrachloride	0.5	-0.5	Bromoform	0.5	-0.5
Benzene	0.5	-0.5	1,1,2,2-Tetrachloroethane	0.5	-0.5
1,2-Dichloroethane	0.5	-0.5	1,3-Dichlorobenzene	0.5	-0.5
Trichloroethene	0.5	-0.5	1,4-Dichlorobenzene	0.5	-0.5
1,2-Dichloropropane	0.5	-0.5	1,2-Dichlorobenzene	0.5	-0.5

QA/QC Comments

Notes:

A result preceded by - indicates result is below detection limit & -99 indicates that the compound was not analyzed

Received: 04/27/92

Results by Sample

SAMPLE ID NGS-10-13 SAMPLE # 02 FRACTIONS: A,B

Date & Time Collected 04/23/92 16:40:00 Category

TPHC	210	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-10-13 FRACTION 02A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/23/92 16:40:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-10-13
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	230	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-10-13 FRACTION 02B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/23/92 16:40:00 Category

8010/8020 ANALYSIS

Sample Date	04/23/92	Accession Number	920408102
Received Date	04/27/92	Sample Id	NGS-10-13
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100/1000
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	500	1400
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	500	2000
Chloroform	50	-50	M/P Xylenes	500	8700
1,1,1-Trichloroethane	50	059	O Xylene	500	3800
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	500	-500	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

GA\GC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-10-W SAMPLE # 03 FRACTIONS: A,B
Date & Time Collected 04/24/92 06:48:00 Category

TPHC	8.0	MG/L

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-10-W FRACTION 03B TEST CODE VOA5 NAME Volatile Organic Analysis
Date & Time Collected 04/24/92 06:48:00 Category

601/602 ANALYSIS

SAMPLE DATE 04/24/92 ACCESSION NUMBER 920408103
RECEIVED DATE 04/27/92 SAMPLE ID NGS-10-W
ANALYSIS DATE 05/04/92 UNITS UG/L
MATRIX WATER DILUTION FACTOR 1.0/100
ANALYST D.W.MCKINNEY ANALYZING LAB SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	0.5	-0.5
chloromethane	-99	-99	2-Chloroethylvinylether	0.5	-0.5
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	0.5	-0.5
Bromomethane	-99	-99	Toluene	50	1500
Chloroethane	-99	-99	C-1,3-Dichloropropene	0.5	-0.5
Trichlorofluoromethane	0.5	-0.5	1,1,2-Trichloroethane	0.5	-0.5
1,1-Dichloroethylene	0.5	-0.5	Tetrachloroethylene	0.5	7.6
Methylene Chloride	0.5	-0.5	Dibromochloromethane	0.5	-0.5
T-1,2-Dichloroethylene	0.5	-0.5	Chlorobenzene	0.5	-0.5
1,1-Dichloroethane	0.5	1.1	Ethyl Benzene	50	1400
Chloroform	0.5	-0.5	M/P Xylenes	50	1800
1,1,1-Trichloroethane	0.5	-0.5	O Xylene	50	2800
Carbon Tetrachloride	0.5	-0.5	Bromoform	0.5	-0.5
Benzene	50	65	1,1,2,2-Tetrachloroethane	0.5	-0.5
1,2-Dichloroethane	0.5	-0.5	1,3-Dichlorobenzene	0.5	-0.5
Trichloroethene	0.5	1.3	1,4-Dichlorobenzene	0.5	-0.5
1,2-Dichloropropane	0.5	-0.5	1,2-Dichlorobenzene	0.5	-0.5

QA/QC Comments

Notes:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92

Results by Sample

SAMPLE ID MGS-14-W SAMPLE # 04 FRACTIONS: A,B

Date & Time Collected 04/24/92 07:23:00 Category

TPHC	0.7	MG/L

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-14-W FRACTION 04B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/24/92 07:23:00 Category

8010/8020 ANALYSIS

Sample Date	04/24/92	Accession Number	920408104
Received Date	04/27/92	Sample Id	NGS-14-W
Analysis Date	05/04/92	Units	UG/L
Matrix	WATER	Dilution Factor	1.0
Analyst	D.W.MCKINNEY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	0.5	-0.5
Chloromethane	-99	-99	2-Chloroethylvinylether	0.5	-0.5
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	0.5	-0.5
Bromomethane	-99	-99	Toluene	0.5	1.1
Chloroethane	-99	-99	C-1,3-Dichloropropene	0.5	-0.5
Trichlorofluoromethane	0.5	-0.5	1,1,2-Trichloroethane	0.5	-0.5
1,1-Dichloroethylene	0.5	2.0	Tetrachloroethylene	0.5	1.3
Methylene Chloride	0.5	-0.5	Dibromochloromethane	0.5	-0.5
T-1,2-Dichloroethylene	0.5	-0.5	Chlorobenzene	0.5	-0.5
1,1-Dichloroethane	0.5	14	Ethyl Benzene	0.5	1.8
Chloroform	0.5	0.8	M/P Xylenes	0.5	3.5
1,1,1-Trichloroethane	0.5	-0.5	O Xylene	0.5	2.0
Carbon Tetrachloride	0.5	-0.5	Bromoform	0.5	-0.5
Benzene	0.5	1.0	1,1,2,2-Tetrachloroethane	0.5	-0.5
1,2-Dichloroethane	0.5	-0.5	1,3-Dichlorobenzene	0.5	-0.5
Trichloroethene	0.5	4.5	1,4-Dichlorobenzene	0.5	-0.5
1,2-Dichloropropane	0.5	-0.5	1,2-Dichlorobenzene	0.5	-0.5

GA\GC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-10 CORE-18 SAMPLE # 05 FRACTIONS: A,B
Date & Time Collected 04/24/92 09:50:00 Category

TPHC	-15
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-10 CORE-18 FRACTION 05A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/24/92 09:50:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-10 CORE-18
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-10 CORE-18 FRACTION 05B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/24/92 09:50:00 Category

8010/8020 ANALYSIS

Sample Date	04/24/92	Accession Number	920408105
Received Date	04/27/92	Sample Id	NGS-10 CORE-18
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	50	-50
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	50	-50
Chloroform	50	-50	M/P Xylenes	50	-50
1,1,1-Trichloroethane	50	-50	O Xylene	50	-50
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

GA\QC Comments

NOTES:

A result preceded by ~ indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92

Results by Sample

SAMPLE ID NGS-10-15.5 SAMPLE # 06 FRACTIONS: A,B

Date & Time Collected 04/24/92 07:38:00 Category

TPHC	24	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-10-15.5 FRACTION 06A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/24/92 07:38:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-10-15.5
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David M Kinney

SAMPLE ID NGS-10-15.5 FRACTION 06B TEST CODE VOA2 NAME 8010/8020
Date & Time Collected 04/24/92 07:38:00 Category

8010/8020 ANALYSIS

Sample Date	04/24/92	Accession Number	920408106
Received Date	04/27/92	Sample Id	NGS-10-15.5
Analysis Date	05/07/92	Units	UG/KG
Matrix	SOIL	Dilution Factor	100
Analyst	E.J.MURPHY	Analyzing Lab	SRP

COMPOUND	DET LIM	RESULT	COMPOUND	DET LIM	RESULT
Dichlorodifluoromethane	-99	-99	Bromodichloromethane	50	-50
Chloromethane	-99	-99	2-Chloroethylvinylether	50	-50
Vinyl Chloride	-99	-99	T-1,3-Dichloropropene	50	-50
Bromomethane	-99	-99	Toluene	50	-50
Chloroethane	-99	-99	C-1,3-Dichloropropene	50	-50
Trichlorofluoromethane	50	-50	1,1,2-Trichloroethane	50	-50
1,1-Dichloroethylene	50	-50	Tetrachloroethylene	50	-50
Methylene Chloride	50	-50	Dibromochloromethane	50	-50
T-1,2-Dichloroethylene	50	-50	Chlorobenzene	50	-50
1,1-Dichloroethane	50	-50	Ethyl Benzene	50	67
Chloroform	50	-50	M/P Xylenes	50	92
1,1,1-Trichloroethane	50	-50	O Xylene	50	-50
Carbon Tetrachloride	50	-50	Bromoform	50	-50
Benzene	50	-50	1,1,2,2-Tetrachloroethane	50	-50
1,2-Dichloroethane	50	-50	1,3-Dichlorobenzene	50	-50
Trichloroethene	50	-50	1,4-Dichlorobenzene	50	-50
1,2-Dichloropropane	50	-50	1,2-Dichlorobenzene	50	-50

QA\QC Comments

NOTES:

A result preceded by - indicates
result is below detection limit
A -99 indicates that the compound
was not analyzed

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-16-11 SAMPLE # 07 FRACTIONS: A

Date & Time Collected 04/24/92 11:03:00 Category

TPHC	B2
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-16-11 FRACTION 07A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/24/92 11:03:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-16-11
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney

Received: 04/27/92

Results by Sample

SAMPLE ID N6S-16-12 SAMPLE # 08 FRACTIONS: A

Date & Time Collected 04/24/92 11:20:00 Category

TPHC	19
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-16-12 FRACTION OBA TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/24/92 11:20:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-16-12
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= .30 ppm

Comments:

Signature David McKinney

Received: 04/27/92 Results by Sample

SAMPLE ID MGS-16-14 SAMPLE # 09 FRACTIONS: A
Date & Time Collected 04/24/92 11:28:00 Category

TPHC	-15
	MG/KG

Received: 04/27/92 Results by Sample

SAMPLE ID NGS-16-14 FRACTION 09A TEST CODE FUELFP NAME FUEL FINGERPRINT
Date & Time Collected 04/24/92 11:28:00 Category

FUEL FINGERPRINT

SAMPLE ID	NGS-16-14
DATE RUN	04/30/92
MATRIX	SOIL
ANALYST	D.W.MCKINNEY

	RESULT	UNITS
GASOLINE	BDL	PPM
DIESEL	BDL	PPM
FUEL OIL	BDL	PPM
KEROSENE	BDL	PPM
LUBRICATING OIL	BDL	PPM

BDL=Below Detection Limit

Detection limit= 30 ppm

Comments:

Signature David McKinney