

GW - 114

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WORK PLANS

ACID PLANT

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**CLOSURE REPORT
FOR THE ACID PLANT AT THE
DOWELL SCHLUMBERGER INCORPORATED
FACILITY
ARTESIA, NEW MEXICO**

January 23, 1995

Submitted To:

**New Mexico Oil Conservation Division
P.O. Box 2088
Santa Fe, NM 87504**

Submitted By:

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**Western
Water
Consultants, Inc.**

Western Water Consultants, Inc. has conducted its work and presents these findings in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation and no warranty or guarantee is made or intended.

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1.0 PURPOSE

1.0 PURPOSE

The purpose of this report is to document the closure of an acid plant located at the Dowell Schlumberger Incorporated (Dowell) facility in Artesia, New Mexico. Western Water Consultants, Inc. (WWC) of Laramie, Wyoming directed the activities during the month of November 1994. Approval of the closure activities was granted by The New Mexico Oil Conservation Division (NMOCD) in a letter dated September 28, 1994.

2.0 BACKGROUND

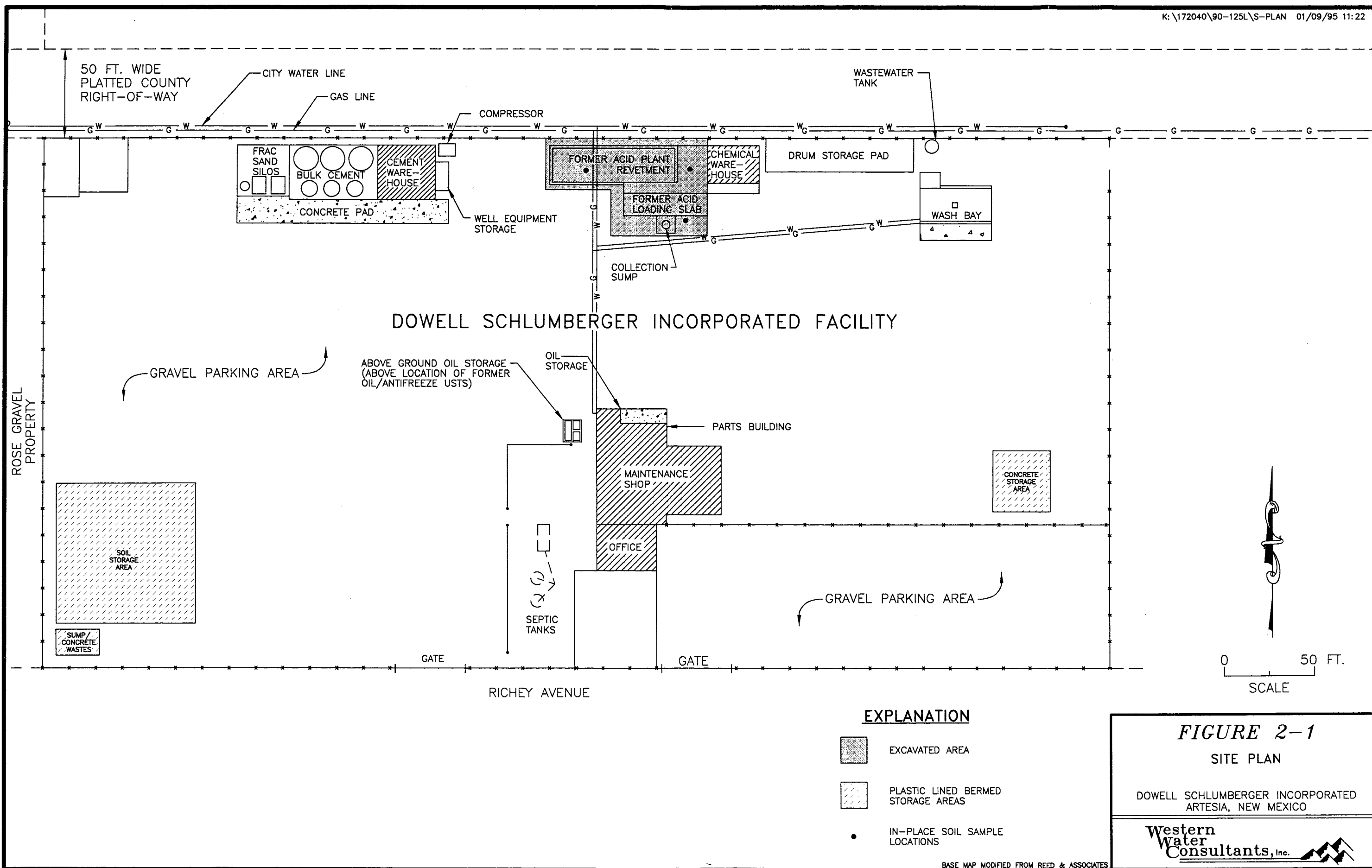
2.0 BACKGROUND

2.1 Site Description

The Dowell facility is located at 500 East Richey in Artesia, New Mexico. A site plan of the facility is shown on Figure 2-1.

The Dowell facility provides services for area oil and gas production wells. Services include well cementing, acidizing/stimulating and formation fracturing. The facility consists of a main office and truck maintenance building, dry chemicals warehouse, concrete batch facility and truck wash bay.

The former acid plant was located in the north central portion of the facility (Figure 2-1). It was comprised of a concrete revetment containing several above ground storage tanks with a loading dock along the south side. Two collection sumps received storm water and incidental spills from the acid plant (Figure 2-2). The entire plant has been out of service since the summer of 1989.



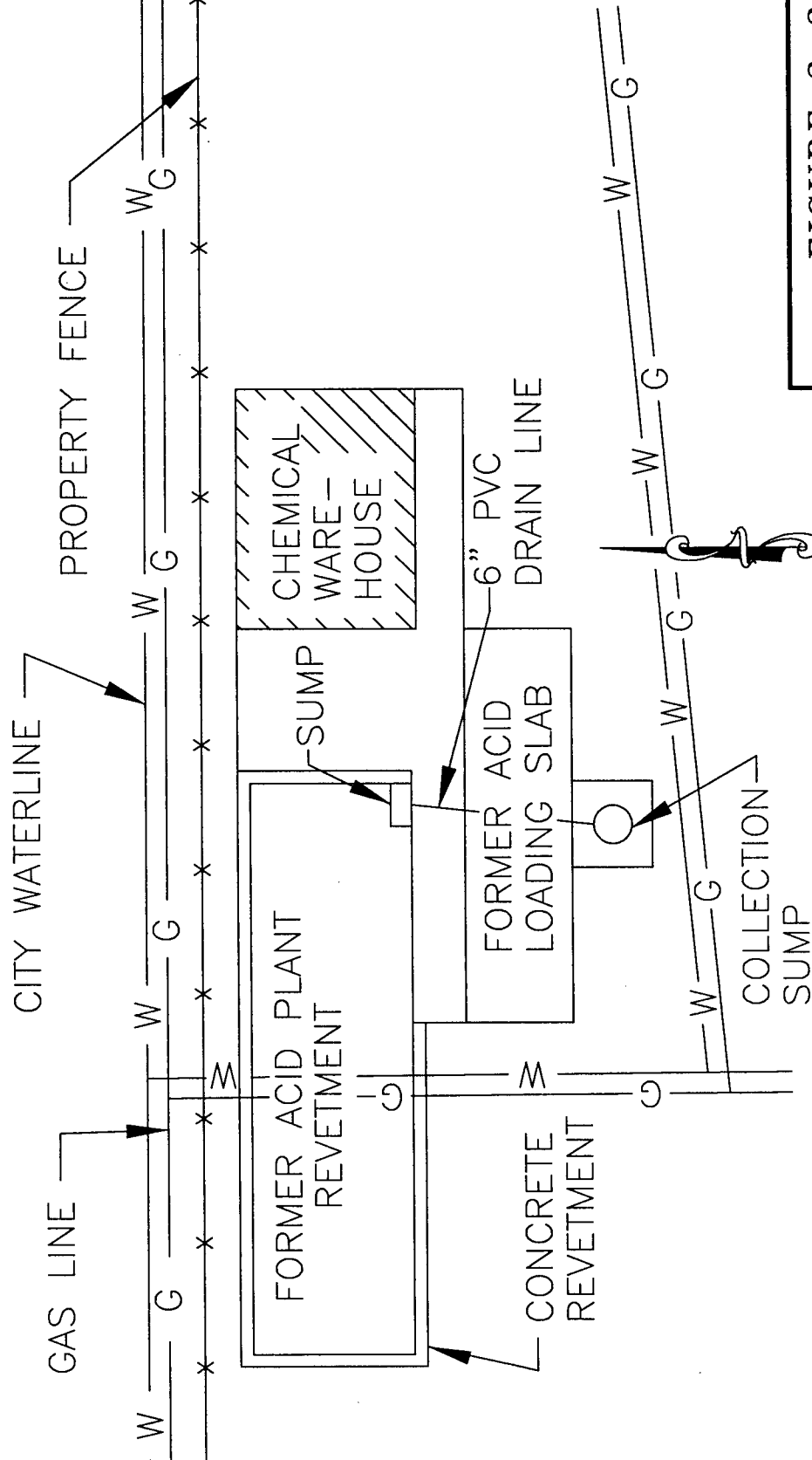
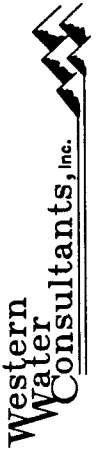


FIGURE 2-2

FORMER ACID PLANT

DOWELL SCHLUMBERGER INCORPORATED
ARTESIA, NEW MEXICO



0 20 FT.
SCALE

**DOWELL SCHLUMBERGER
INCORPORATED FACILITY**

3.0 ACID PLANT CLOSURE

3.0 ACID PLANT CLOSURE

Closure of the former acid plant occurred during the month of November 1994. The acid plant, loading dock and collection sumps were subject to the following closure activities.

3.1 Removal Activities and Field Screening

The acid plant revetment, loading dock, and sumps were removed from the ground and demolished. The concrete and associated PVC piping was scraped and broomed to remove debris adhering to them. The concrete and debris were then placed in separate plastic lined storage areas for later characterization and disposal (Figure 2-1). All soils exposed following the removal of a specific facility were screened in the field for total organic vapors (TOVs) using an Environmental Instruments 580D Photoionization Detector (PID). Soils exposed in the areas of the sumps registered TOV readings ranging up to 1500 parts per million (ppm).

3.2 Excavation

Excavation of the soils followed the dismantling of the sumps and other facilities. Soils exhibiting elevated TOVs were excavated and placed on polyethylene sheeting within a separate plastic lined storage area (Figure 2-1). A total of approximately 1400 cubic yards of soils was removed from beneath the sumps and acid plant. Excavation was limited in part by underground utilities, the property line, and the chemical warehouse.

3.3 Closure Soil Sampling

Once the soil excavation was complete, 3 composite samples were collected representing the material left in-place beneath the former acid plant (Figure 2-1). In addition, composite samples were collected from the material removed from the sumps and concrete, and from the excavated soils placed in the storage area. The samples were analyzed for volatile organic compounds and metals by the toxicity characteristic leaching procedure (TCLP), and total petroleum hydrocarbons by modified EPA Method 8015. The results are shown on Tables 3-1 and 3-2. Chain of Custody documentation and the laboratory data reports are included in Appendix A.

3.4 Material Disposal and Excavation Closure

Materials generated during closure activities include excavated soils and concrete from the sump, revetment, and loading dock. Disposal of the excavated soils will occur at the East Carbon Development Corporation (ECDC) disposal facility in central Utah. Disposal of the concrete at a local landfill is pending NMOCD and local landfill approval. Clean backfill material will be brought in from offsite and emplaced to the surrounding ground surface upon approval by the NMOCD.

Table 3-1: Organic Soil Data, Dowell Schlumberger Incorporated, Acid Plant Closure, Artesia, New Mexico

Sample Location	TPH (mg/kg)	benzene (mg/L)	carbon tetrachloride (mg/L)	chloro-benzene (mg/L)	chloroform (mg/L)	1,2-DCA (mg/L)	1,1-DCE (mg/L)	2-butanone (mg/L)	PCE (mg/L)	TCE (mg/L)	vinyl chloride (mg/L)
TCLP limit	NA	0.5	0.5	100	6	0.5	0.7	200	0.7	0.5	0.2
north half of excavation	1000	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(1.0)	ND(0.05)	ND(0.05)	ND(0.1)
south half of excavation	2300	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(1.0)	ND(0.05)	ND(0.05)	ND(0.1)
beneath former revetment	320	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(1.0)	ND(0.05)	ND(0.05)	ND(0.1)
stockpiled soil	320	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(1.0)	ND(0.05)	ND(0.05)	ND(0.1)
sump and debris	6100	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(0.05)	ND(1.0)	ND(0.05)	ND(0.05)	ND(0.1)

TPH = total petroleum hydrocarbons

ND = not detected at the concentrations shown in parenthesis

NA = not applicable

mg/L = milligrams per liter

Table 3-2: Inorganic Soil Data, Dowell Schlumberger Incorporated, Acid Plant Closure, Artesia, New Mexico

Sample Location	Arsenic (mg/L)	Barium (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Lead (mg/L)	Mercury (mg/L)	Selenium (mg/L)	Silver (mg/L)	pH
TCLP limit	5	100	1	5	5	0.2	1	5	NA
beneath former revetment	ND(0.2)	ND(10)	ND(0.1)	ND(0.5)	ND(0.5)	ND(0.0005)	ND(0.1)	ND(0.5)	8.59
south half of excavation	ND(0.1)	ND(10)	ND(0.1)	ND(0.5)	ND(0.5)	ND(0.0005)	ND(0.1)	ND(0.5)	8.88
north half of excavation	ND(0.1)	ND(10)	ND(0.1)	ND(0.5)	ND(0.5)	ND(0.0005)	ND(0.1)	ND(0.5)	8.43
stockpiled soil	ND(0.1)	ND(10)	ND(0.1)	ND(0.5)	ND(0.5)	ND(0.0005)	ND(0.1)	ND(0.5)	7.96
sump and debris	ND(0.1)	ND(10)	ND(0.1)	ND(0.5)	ND(0.5)	ND(0.0005)	ND(0.1)	ND(0.5)	7.86

Note: TCLP = toxicity characteristic leaching procedure

mg/L = milligrams per liter

ND = not detected at concentrations shown in parenthesis

NA = not applicable

APPENDIX A

**Western
Water
Consultants, Inc.**

PROJECT NO.		PROJECT NAME								CONTAINER TYPE		REMARKS
90-125L.5												
SAMPLERS : (signature) <i>Korn Mathews</i>												
SAMPLE I.D.	DATE	TIME	COMP.	GRAB	SAMPLE TYPE	NO. OF CONTAINERS		4oz		2oz		
90125-Reet. 11/94	11-13-94	0745	X		Soil	2-	1	1				Analyze all samples for TCLP
90125-SEXCAV. 11/94	11-13-94	0930	X		Soil	2	1	1				Volatile compounds and metals;
90125-S+KPL. 11/94	11-13-94	0710	X		Soil	2	1	1				TPH by method SVIS method
90125-Wast. 11/94	11-13-94	0900	X		Soil	2	1	1				(Gasoline); and pH.
90125-NEXCAV. 11/94	11-13-94	0830	X		Soil	2	1	1				
Relinquished by: (signature) <i>Gan Bell</i>	Date / Time 11/14/94 - 15:00	Received by: (signature) <i>W. J. Taylor</i>										
Relinquished by: (signature)	Date / Time	Received by: (signature)										
DISTRIBUTION :				White — ORIG. RETURN TO WWC				REMARKS: Samples kept on ice, shipped with ice. <i>Patricia Surges</i>				

COMPANY NAME:

Western Water Consultants

CENREF PROJECT NUMBER:

PR941864

CENREF SAMPLE NUMBER:

8055

SAMPLE IDENTIFICATION:

#90125-Revet.11/94

DATE SAMPLED:

11/13/94

DATE/TIME ANALYZED:

11/20/94 @ 0538

*Beneath
Former
Revetment*

METHOD Mod. 8015

ANALYSIS

	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Total Extractable Hydrocarbons	10	320

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME:

Western Water Consultants

CENREF PROJECT NUMBER:

PR941864

CENREF SAMPLE NUMBER:

8056

SAMPLE IDENTIFICATION:

#90125-SEXCAV.11/94

DATE SAMPLED:

11/13/94

DATE/TIME ANALYZED:

11/19/94 @ 1903

*South End
of Excavation*

METHOD Mod. 8015

ANALYSIS

	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Total Extractable Hydrocarbons	100	2300

BDL = Below Sample Detection Limit

SDL = Sample Detection Limit

COMMENTS: Sample run at 1:10 dilution.

COMPANY NAME:

Western Water Consultants

CENREF PROJECT NUMBER:

PR941864

CENREF SAMPLE NUMBER:

8057

SAMPLE IDENTIFICATION:

#90125-StkPl.11/94

DATE SAMPLED:

11/13/94

DATE/TIME ANALYZED:

11/20/94 @ 0708

METHOD Mod. 8015

*Stackpiled
Soil*

ANALYSIS

	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Total Extractable Hydrocarbons	10	320

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Western Water Consultants

CENREF PROJECT NUMBER: PR941864
CENREF SAMPLE NUMBER: 8059
SAMPLE IDENTIFICATION: #90125-NEXCAV.11/94
DATE SAMPLED: 11/13/94
DATE/TIME ANALYZED: 11/19/94 @ 2119

*North
End of
Excavation*

METHOD Mod. 8015

ANALYSIS

	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Total Extractable Hydrocarbons	100	1000

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: Sample run at 1:10 dilution.

COMPANY NAME: Western Water Consultants

CENREF PROJECT NUMBER: PR941864

CENREF SAMPLE NUMBER: 8058

SAMPLE IDENTIFICATION: #90125-Wast.11/94

DATE SAMPLED: 11/13/94

DATE/TIME ANALYZED: 11/20/94 @ 1010

*Debris
Material*

METHOD Mod. 8015

ANALYSIS

	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Total Extractable Hydrocarbons	200	6100

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: Sample run at 1:20 dilution.

COMPANY NAME:

Western Water Consultants

CENREF PROJECT NUMBER:

PR941864

CENREF SAMPLE NUMBER:

8055

SAMPLE IDENTIFICATION:

#90125-Revet.11/94

DATE SAMPLED:

11/13/94

*Beneath
Former
Revetment*

<u>ANALYSIS</u>	<u>DATE/TIME EXTRACTED</u>	<u>DATE/TIME ANALYZED</u>	<u>METHOD</u>	<u>UNITS</u>	<u>SDL</u>	<u>RESULT</u>
TCLP extraction			1311			
Arsenic-TCLP	11-23/0744	12-01/1900	6010	mg/L	0.2	BDL
Barium-TCLP	11-23/0744	12-01/1224	6010	mg/L	10.0	BDL
Cadmium-TCLP	11-23/0744	12-01/1900	6010	mg/L	0.1	BDL
Chromium-TCLP	11-23/0744	12-01/1220	6010	mg/L	0.5	BDL
Lead-TCLP	11-23/0744	12-01/1220	6010	mg/L	0.5	BDL
Mercury-TCLP	11-28/1203	11-28/1659	7470	mg/L	0.0005	BDL
Selenium-TCLP	11-23/0744	12-01/1235	6010	mg/L	0.1	BDL
Silver-TCLP	11-23/0744	12-01/1900	6010	mg/L	0.5	BDL
pH		11-15/1610	9045	pH	—	8.59

BDL = Below Sample Detection Limit

SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Western Water Consultants
CENREF PROJECT NUMBER: PR941864
CENREF SAMPLE NUMBER: 8056
SAMPLE IDENTIFICATION: #90125-SEXCAV.11/94
DATE SAMPLED: 11/13/94

*South
End of
Excavation*

<u>ANALYSIS</u>	<u>DATE/TIME EXTRACTED</u>	<u>DATE/TIME ANALYZED</u>	<u>METHOD</u>	<u>UNITS</u>	<u>SDL</u>	<u>RESULT</u>
TCLP extraction			1311			
Arsenic-TCLP	11-23/0744	12-01/1910	6010	mg/L	0.1	BDL
Barium-TCLP	11-23/0744	12-01/1232	6010	mg/L	10.0	BDL
Cadmium-TCLP	11-23/0744	12-01/1910	6010	mg/L	0.1	BDL
Chromium-TCLP	11-23/0744	12-01/1232	6010	mg/L	0.5	BDL
Lead-TCLP	11-23/0744	12-01/1232	6010	mg/L	0.5	BDL
Mercury-TCLP	11-28/1203	11-23/1816	7470	mg/L	0.0005	BDL
Selenium-TCLP	11-23/0744	12-01/1235	6010	mg/L	0.1	BDL
Silver-TCLP	11-23/0744	12-01/1910	6010	mg/L	0.5	BDL
pH		11-15/1612	9045	pH	--	8.88

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Western Water Consultants

CENREF PROJECT NUMBER: PR941864
CENREF SAMPLE NUMBER: 8057
SAMPLE IDENTIFICATION: #90125-StkPl.11/94
DATE SAMPLED: 11/13/94

Stockpiled
Soil

<u>ANALYSIS</u>	<u>DATE/TIME EXTRACTED</u>	<u>DATE/TIME ANALYZED</u>	<u>METHOD</u>	<u>UNITS</u>	<u>SDL</u>	<u>RESULT</u>
TCLP extraction			1311			
Arsenic-TCLP	11-23/0744	12-01/1912	6010	mg/L	0.1	BDL
Barium-TCLP	11-23/0744	12-01/1235	6010	mg/L	10.0	BDL
Cadmium-TCLP	11-23/0744	12-01/1912	6010	mg/L	0.1	BDL
Chromium-TCLP	11-23/0744	12-01/1235	6010	mg/L	0.5	BDL
Lead-TCLP	11-23/0744	12-01/1235	6010	mg/L	0.5	BDL
Mercury-TCLP	11-28/1203	11-23/1821	7470	mg/L	0.0005	BDL
Selenium-TCLP	11-23/0744	12-01/1235	6010	mg/L	0.1	BDL
Silver-TCLP	11-23/0744	12-01/1912	6010	mg/L	0.5	BDL
pH		11-15/1613	9045	pH	—	7.96

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Western Water Consultants

CENREF PROJECT NUMBER: PR941864

CENREF SAMPLE NUMBER: 8058

SAMPLE IDENTIFICATION: #90125-Wast.11/94

DATE SAMPLED: 11/13/94

*Debris
Material*

<u>ANALYSIS</u>	<u>DATE/TIME EXTRACTED</u>	<u>DATE/TIME ANALYZED</u>	<u>METHOD</u>	<u>UNITS</u>	<u>SDL</u>	<u>RESULT</u>
TCLP extraction			1311			
Arsenic-TCLP	11-23/0744	12-01/1915	6010	mg/L	0.1	BDL
Barium-TCLP	11-23/0744	12-01/1238	6010	mg/L	10.0	BDL
Cadmium-TCLP	11-23/0744	12-01/1915	6010	mg/L	0.1	BDL
Chromium-TCLP	11-23/0744	12-01/1238	6010	mg/L	0.5	BDL
Lead-TCLP	11-23/0744	12-01/1238	6010	mg/L	0.5	BDL
Mercury-TCLP	11-28/1203	11-23/1824	7470	mg/L	0.0005	BDL
Selenium-TCLP	11-23/0744	12-01/1238	6010	mg/L	0.1	BDL
Silver-TCLP	11-23/0744	12-01/1915	6010	mg/L	0.5	BDL
pH		11-15/1614	9045	pH	—	7.86

BDL = Below Sample Detection Limit

SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Western Water Consultants

CENREF PROJECT NUMBER: PR941864
CENREF SAMPLE NUMBER: 8059
SAMPLE IDENTIFICATION: #90125-NEXCAV.11/94
DATE SAMPLED: 11/13/94

*North
End of
Excavation*

<u>ANALYSIS</u>	<u>DATE/TIME EXTRACTED</u>	<u>DATE/TIME ANALYZED</u>	<u>METHOD</u>	<u>UNITS</u>	<u>SDL</u>	<u>RESULT</u>
TCLP extraction			1311			
Arsenic-TCLP	11-23/0744	12-01/1923	6010	mg/L	0.1	BDL
Barium-TCLP	11-23/0744	12-01/1248	6010	mg/L	10.0	BDL
Cadmium-TCLP	11-23/0744	12-01/1923	6010	mg/L	0.1	BDL
Chromium-TCLP	11-23/0744	12-01/1248	6010	mg/L	0.5	BDL
Lead-TCLP	11-23/0744	12-01/1248	6010	mg/L	0.5	BDL
Mercury-TCLP	11-28/1203	11-23/1826	7470	mg/L	0.0005	BDL
Selenium-TCLP	11-23/0744	12-01/1248	6010	mg/L	0.1	BDL
Silver-TCLP	11-23/0744	12-01/1923	6010	mg/L	0.5	BDL
pH		11-15/1615	9045	pH	--	8.43

BDL = Below Sample Detection Limit

SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Western Water Consultants
CENREF PROJECT NUMBER: PR941864
CENREF SAMPLE NUMBER: 8055
SAMPLE IDENTIFICATION: #90125-Rev.11/94
DATE SAMPLED: 11/13/94
DATE EXTRACTED: 11/17/94
DATE/TIME ANALYZED: 11/18/94 @ 1456

*Beneath
Former
Revetment*

**ZHE EXTRACTION
METHOD EPA 8240**

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/L)	<u>RESULT</u> (ug/L)
Benzene	71-43-2	50	BDL
Carbon Tetrachloride	56-23-5	50	BDL
Chlorobenzene	108-90-7	50	BDL
Chloroform	67-66-3	50	BDL
1,2-Dichloroethane	107-06-2	50	BDL
1,1-Dichloroethene	75-35-4	50	BDL
2-Butanone	78-93-3	1000	BDL
Tetrachloroethene	127-18-4	50	BDL
Trichloroethene	79-01-6	50	BDL
Vinyl Chloride	75-01-4	100	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Western Water Consultants

CENREF PROJECT NUMBER: PR941864
CENREF SAMPLE NUMBER: 8056
SAMPLE IDENTIFICATION: #90125-SEXCAV.11/94
DATE SAMPLED: 11/13/94
DATE EXTRACTED: 11/17/94
DATE/TIME ANALYZED: 11/18/94 @ 1537

*South
End of
Excavation*

**THE EXTRACTION
METHOD EPA 8240**

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/L)	<u>RESULT</u> (ug/L)
Benzene	71-43-2	50	BDL
Carbon Tetrachloride	56-23-5	50	BDL
Chlorobenzene	108-90-7	50	BDL
Chloroform	67-66-3	50	BDL
1,2-Dichloroethane	107-06-2	50	BDL
1,1-Dichloroethene	75-35-4	50	BDL
2-Butanone	78-93-3	1000	BDL
Tetrachloroethene	127-18-4	50	BDL
Trichloroethene	79-01-6	50	BDL
Vinyl Chloride	75-01-4	100	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Western Water Consultants

CENREF PROJECT NUMBER: PR941864
CENREF SAMPLE NUMBER: 8057
SAMPLE IDENTIFICATION: #90125-StkPl.11/94
DATE SAMPLED: 11/13/94
DATE EXTRACTED: 11/17/94
DATE/TIME ANALYZED: 11/21/94 @ 1739

*Stockpiled
material*

**ZHE EXTRACTION
METHOD EPA 8240**

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/L)	<u>RESULT</u> (ug/L)
Benzene	71-43-2	50	BDL
Carbon Tetrachloride	56-23-5	50	BDL
Chlorobenzene	108-90-7	50	BDL
Chloroform	67-66-3	50	BDL
1,2-Dichloroethane	107-06-2	50	BDL
1,1-Dichloroethene	75-35-4	50	BDL
2-Butanone	78-93-3	1000	BDL
Tetrachloroethene	127-18-4	50	BDL
Trichloroethene	79-01-6	50	BDL
Vinyl Chloride	75-01-4	100	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Western Water Consultants

CENREF PROJECT NUMBER: PR941864
CENREF SAMPLE NUMBER: 8058
SAMPLE IDENTIFICATION: #90125-Wast.11/94
DATE SAMPLED: 11/13/94
DATE EXTRACTED: 11/17/94
DATE/TIME ANALYZED: 11/18/94 @ 1659

*Debris
Material*

**ZHE EXTRACTION
METHOD EPA 8240**

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/L)	<u>RESULT</u> (ug/L)
Benzene	71-43-2	50	BDL
Carbon Tetrachloride	56-23-5	50	BDL
Chlorobenzene	108-90-7	50	BDL
Chloroform	67-66-3	50	BDL
1,2-Dichloroethane	107-06-2	50	BDL
1,1-Dichloroethene	75-35-4	50	BDL
2-Butanone	78-93-3	1000	BDL
Tetrachloroethene	127-18-4	50	BDL
Trichloroethene	79-01-6	50	BDL
Vinyl Chloride	75-01-4	100	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Western Water Consultants

CENREF PROJECT NUMBER: PR941864
CENREF SAMPLE NUMBER: 8059
SAMPLE IDENTIFICATION: #90125-NEXCAV.11/94
DATE SAMPLED: 11/13/94
DATE EXTRACTED: 11/18/94
DATE/TIME ANALYZED: 11/21/94 @ 1450

*North
End of
Excavation*

**ZHE EXTRACTION
METHOD EPA 8240**

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/L)	<u>RESULT</u> (ug/L)
Benzene	71-43-2	50	BDL
Carbon Tetrachloride	56-23-5	50	BDL
Chlorobenzene	108-90-7	50	BDL
Chloroform	67-66-3	50	BDL
1,2-Dichloroethane	107-06-2	50	BDL
1,1-Dichloroethene	75-35-4	50	BDL
2-Butanone	78-93-3	1000	BDL
Tetrachloroethene	127-18-4	50	BDL
Trichloroethene	79-01-6	50	BDL
Vinyl Chloride	75-01-4	100	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

TOTAL EXTRACTABLE HYDROCARBONS

LAB CONTROL SAMPLE / LAB CONTROL SAMPLE DUPLICATE

CENREF PROJECT I.D.: PR941864

CENREF LCS/LCSD I.D.: DSS941118/DSD941118

ASSOCIATED CENREF SAMPLE I.D.: _____

DATE ANALYZED: 11/19/94

LOW SOIL

UNITS: mg/Kg

COMPOUND	CONC. ADDED	SAMP CONC	LCS CONC	% REC	LCSD CONC	% REC	RPD	QC LIMITS	
								RPD	% REC
DIESEL #2	100	0	87.0	87.0	93.3	93.3	6.8	25	75-125

COMMENTS: _____

TEH

VOLATILE ORGANICS - GC/MS

LAB CONTROL SAMPLE / LAB CONTROL SAMPLE DUPLICATE

CENREF PROJECT I.D.: PR941864

CENREF LCS/LCSD I.D.: ZSB9411071/ZDB9411071

ASSOCIATED CENREF SAMPLE I.D.: _____

DATE ANALYZED: 11/7/94

WATER

UNITS: $\mu\text{g/L}$

COMPOUND	CONC. ADDED	SAMP CONC	LCS CONC	% REC	LCSD CONC	% REC	RPD	QC LIMITS	
								RPD	% REC
1,1-DICHLOROETHENE	500	0	494	99	490	98	1	14	61-145
TRICHLOROETHENE	500	0	541	108	575	115	6	14	71-120
CHLOROBENZENE	500	0	558	112	611	122	9	13	75-130
TOLUENE	500	0	610	122	618	124	2	13	76-125
BENZENE	500	0	524	105	534	107	2	11	76-127

COMMENTS: _____

VOLATILE ORGANICS - GC/MS - 8260
WATER SURROGATE RECOVERY

CENREF PROJECT I.D.: PR941864 CLIENT: Western Water

SAMPLE	VOLATILE		
	DIBROMOFLUORO- METHANE	TOLUENE- D8	4-BROMOFLUORO- BENZENE
QC LIMITS	86-118	88-110	86-115
ZBB9411041	108	94	102
ZSB9411071	113	93	113
ZDB9411071	107	89	106
7495MS	116	100	115
7495MD	114	115*	106
ZBA9411171	100	91	90
VBA9411211	114	108	102
8055	104	99	95
8056	115	109	107
8057	105	101	102
8058	96	91	94
8059	103	103	97
VBB9411071	91	88	99

* = VALUES OUTSIDE OF QC LIMITS

COMMENTS: _____
