2R - 35

REPORTS

DATE:

Oct. 20 1993

Brown & Root Environmental

10200 Bellaire Boulevard (77072-5299)
Post Office Box 4574
Houston, TX 77210-4574

October 20, 1993

Mr. Larry Campbell
Transwestern Pipeline Company
6381 North Main
Roswell, New Mexico 88202-1717

Re: Subsurface Investigation
Atoka 2 Compressor Station
Atoka, New Mexico
Brown & Root Environmental Project Number NG21

Dear Mr. Campbell:

Brown & Root Environmental (B&R Environmental) is please to present to Transwestern Pipeline Company (Transwestern) this final letter report summarizing the results of the preliminary subsurface investigation conducted at the Transwestern Atoka 2 Compressor Station. Field work for the investigation occurred on various dates between June 27, 1993 and July 17, 1993.

INTRODUCTION

B&R Environmental conducted a subsurface investigation (SI) at the Atoka 2 Compressor Station in Eddy County, New Mexico, to investigate subsurface conditions and possible impact to the subsurface from activities related to the disposal of pipeline liquid waste into a concrete lined surface impoundment located at the site. During this SI, six soil borings were drilled.

The Atoka 2 Compressor Station is located in Eddy County, New Mexico, approximately 23 miles east of Artesia, New Mexico. A location map is included as Figure 1. The site is an operating compressor station. The surface impoundment is located in the west central portion of the property. The surface impoundment is approximately 15 feet by 15 feet at ground surface with inwardly sloping sides. At the time of the SI, the impoundment contained fluids.

FIELD ACTIVITIES

Prior to mobilization for field activities, a project-specific Health and Safety Plan (HASP) was prepared. A copy of the HASP is included as Attachment 1.

Drilling

Drilling was accomplished using a combination of hollow stem auger and air rotary drilling techniques. Hollow stem augering employed 7.625-inch outer diameter augers. Air rotary drilling employed a 3-inch diameter tricone drilling bit. Subsurface soil samples were collected from the ground surface to total depth using 2-inch by 24-inch long split spoon samplers. Water for decontamination and grouting was obtained at the site.

Soil borings were placed around the surface impoundment as shown in Figure 2. Selection of drilling locations was restricted by numerous underground pipes. Soil borings were drilled and sampled to total depths ranging from 8 to 127 feet below grade. Groundwater was not encountered in any of the soil borings. Soil boring logs and soil sample log sheets are provided as Attachment 2.

Soil samples from each boring, with the exception of Boring AT2-6, were submitted for laboratory analysis. Soil Boring AT2-6 was terminated at 8 feet when an underground pipe was encountered. One sample was collected from the bottom of each boring. Additional samples were collected from intervals where field screening indicated that contamination was possible. If soil did not appear impacted, intermediate depth samples were not collected. Field screening included scanning the recovered soils samples with a flame ionization detector (FID) and a photo ionization detector (PID).

Soil samples collected were placed in laboratory supplied containers, properly labeled, placed on ice in shipping coolers and delivered to the laboratory by common carrier.

Upon completion of drilling and sampling activities, the borings were grouted to the ground surface using a Portland cement/bentonite slurry.

GEOLOGY

The Atoka 2 Compressor Station is located within the Pecos Valley section of the Southern Great Plains physiographic province atop the Mescalero Plain, a poorly drained surface covered by gravels, eolian sand and caliche of Quaternary age.

Soils underlying the site consist of predominantly of reddish brown silts with silty clays and some silty sands. Groundwater was not encountered in any of the borings.

ANALYTICAL RESULTS

Soil samples collected during the SI were analyzed for total petroleum hydrocarbons (TPH) using EPA method 418.1, benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA method 8020, volatile organics using EPA method 8240, and semi-volatile organics using EPA method 8270. PACE Laboratories of Houston, Texas performed the analyses. Laboratory analytical reports are contained in the Attachment 3. Table 1 is a matrix of samples collected and analyses performed. Analytical results for soil samples are presented in Table 2.

An analytical detection sketch is presented as Figure 3.

Soil boring AT2-1 was the only soil boring that appeared impacted by TPH, BTEX, and semi-volatiles. All other samples collected and analyzed contained TPH, BTEX and semi-volatile constituents at concentrations less than the respective detection limits, with a few exceptions. Semi-volatile organic analyses indicted the presence of bis(2-Ethylhexyl)phthalate in two soil samples. Soil samples AT2-2B and AT2-3A, reported bis(2-Ethylhexyl)phthalate concentrations of 430 ug/kg and 460 ug/kg, respectively. Acetone and 2-butanone were detected in two of the samples collected from soil boring AT2-1 at 2,000 ug/kg and 6,000 ug/kg, respectively. The presence of these analytes to be indicative of laboratory or field artifacts and is not considered to be indicative of the environment at the Atoka 2 Compressor Station.

TPH concentrations in soil boring AT2-1 ranged from a maximum of 6,800 mg/kg in the 28-30 foot sample interval to less than the detection limit in the 125-127 foot sample interval.

BTEX was detected in three of the samples submitted from soil boring AT2-1. A maximum total BTEX concentration of 298,000 ug/kg was reported from the 90-92 foot sample interval.

Three semi-volatile compounds (2-Methylnaphthalene, Dibenzofuran and Naphthalene) were detected in the samples from soil boring AT2-1. Maximum concentrations of 2-Methylnaphthalene and Naphthalene at 17,000 ug/kg and 4,300 ug/kg, respectively, were recorded in the 60-62 foot sample interval. Dibenzofuran was reported in the 12-14 foot sample interval at a concentration of 420 ug/kg.

The concentrations of all analyzed constituents were reported as less than the detection limits in the sample collected from the bottom of soil boring AT2-1.

If you have any questions regarding this information, please contact me at 713-575-4762.

Very Truly Yours,

BROWN & ROOT ENVIRONMENTAL

Larry Basilio
Project Geologist

LB/rk

c: GES File NG19

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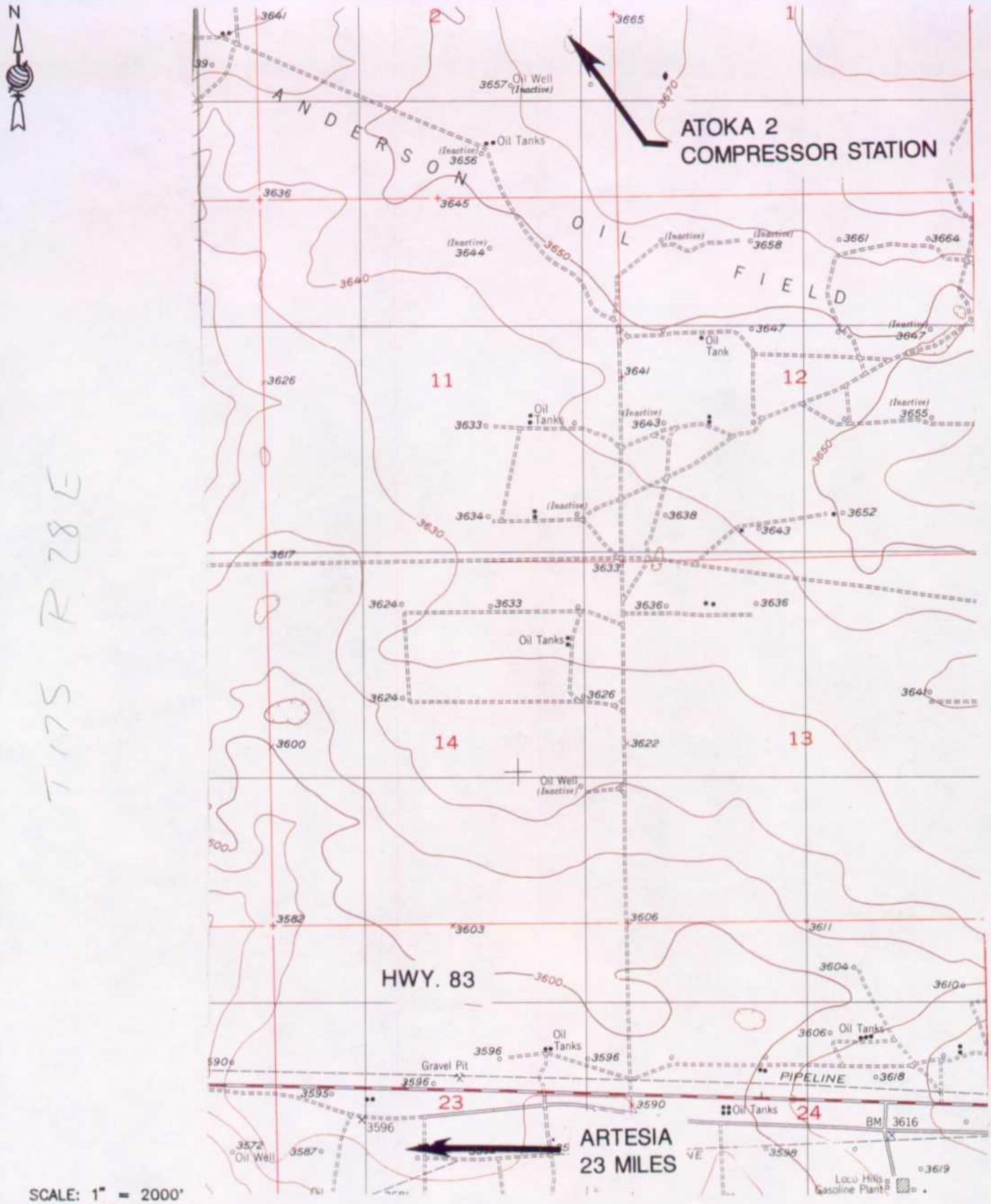


SCALE: 1" = 2000'
REFERENCE: USGS MAP
QUADRANGLE 7.5 MINUTE SERIES
RED ALKE SE, NEW MEXICO QUADRANGLE 1955

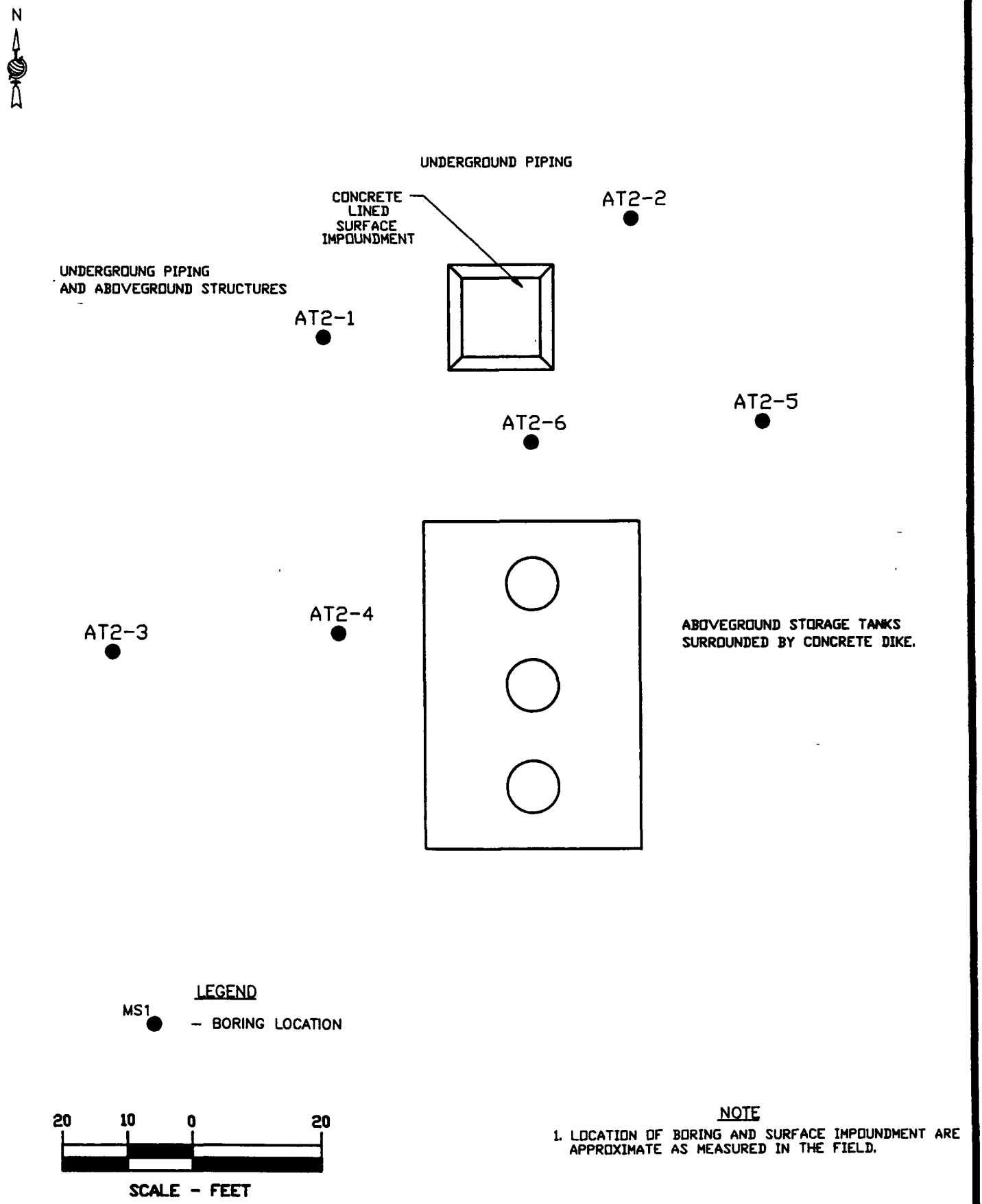
FIGURE 1

DRAWN BY:	D. GROSSHANDLER
DATE:	07/26/93
ENGINEER:	L. BASILIO
DATE:	07/26/93
CAD DWG. NO:	ATOKA-2.DWG

LOCATION MAP
ATOKA 2 COMPRESSOR STATION
TRANSWESTERN PIPELINE COMPANY
EDDY COUNTY, NEW MEXICO

SCALE: 1"=2000' | DWG. NO. NG21-BA | REV. 0

Brown & Root Environmental
A Halliburton Company



NOTE

1. LOCATION OF BORING AND SURFACE IMPOUNDMENT ARE APPROXIMATE AS MEASURED IN THE FIELD.

FIGURE 2

DRAWN BY:	D. GROSSHANDLER
DATE:	07/27/93
ENGINEER:	L. BASILIO
DATE:	07/27/93
CAD DWG. NO:	ATOKA-3.DWG

ATOKA 2 COMPRESSOR STATION

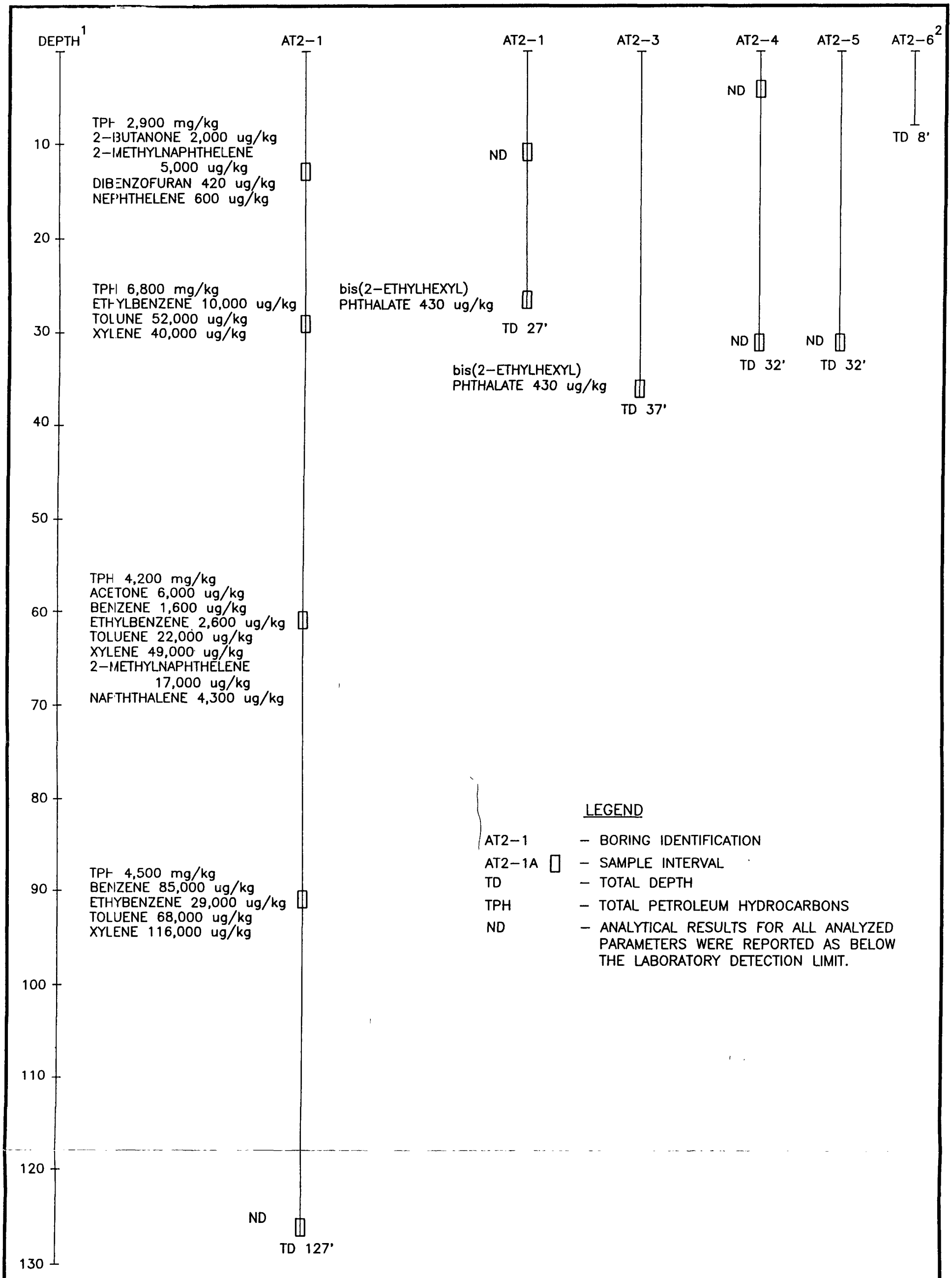
ATOKA, NEW MEXICO

TRANSWESTERN PIPELINE COMPANY

SCALE: 1"=20' | DWG. NO. NG21-8A | REV. 0

Brown & Root Environmental

A Halliburton Company



LEGEND

AT2-1	– BORING IDENTIFICATION
AT2-1A [ ]	– SAMPLE INTERVAL
TD	– TOTAL DEPTH
TPH	– TOTAL PETROLEUM HYDROCARBONS
ND	– ANALYTICAL RESULTS FOR ALL ANALYZED PARAMETERS WERE REPORTED AS BELOW THE LABORATORY DETECTION LIMIT.

NOTES: NC HORIZONTAL SCALE.
ONLY ANALYTES WITH REPORTED CONCENTRICTIONS GREATER THAN THE DETECTION LIMIT ARE SHOWN.

1. DEPTH IN FEEL BELOW GRADE.
2. NO SAMPLES WERE COLLECTED FOR LABORATORY ANALYSIS FROM THIS BORING.

FIGURE 3

DRAWN BY	D. GROSSHANDLER
DATE:	10/19/93
ENGINEER	D. GIBSON
DATE:	10/19/93
CAD DWG. NO.	NG21.DWG

ANALYTICAL DETECTION SKETCH
ATOKA 2 COMPRESSOR STATION
EDDY COUNTY, NEW MEXICO
TRANSWESTERN PIPELINE COMPANY

SCALE: NONE | BRE. DWG. NO.: NG21-BA | REV. 0

Brown & Root Environmental
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TABLE 1

SUMMARY OF ANALYSES
Atoka 2 Compressor Station
Atoka, New Mexico

	Analyses Performed			
Sample ID	TPH	BTEX	Volatile Organics	Semi-volatile Organics
Method	418.1	8020	8240	8270
AT2-1A	X		X	X
AT2-1B	X		X	X
AT2-1C	X		X	X
AT2-1D	X	X		
AT2-1E	X	X		
AT2-2A	X		X	X
AT2-2B	X		X	X
AT2-3A	X		X	X
AT2-4A	X	X		
AT2-4B	X	X		
AT2-5A	X	X		

TABLE 2

Analytical Results for Soil Samples
Atoka 2 Compressor Station
Atoka, New Mexico

PARAMETER	Units	Sample Depth	AT2-1A 12-14	AT2-1B 28-30	AT2-1C 60-62	AT2-1D 90-92	AT2-2B 25-27	AT2-3A 35-37
Petroleum Hydrocarbons	mg/kg		2,900	6,800	4,200	4,500	<20	<20
VOLATILES								
2-Butanone	ug/kg		2,000	<5,000	<1,200	NA	<10	<10
Acetone	ug/kg		<1,200	<5,000	6,000	NA	<10	<10
Benzene	ug/kg		<620	<2,500	1,600	85,000	<5	<5
Ethylbenzene	ug/kg		<620	10,000	2,600	29,000	<5	<5
Toluene	ug/kg		<620	52,000	22,000	68,000	<5	<5
Xylene (total)	ug/kg		<620	40,000	49,000	116,000	<5	<5
SEMI-VOLATILES								
2-Methylnaphthalene	ug/kg		5,000	<16,000	17,000	NA	<330	<330
Dibenzofuran	ug/kg		420	<16,000	<3,300	NA	<330	<330
Naphthalene	ug/kg		600	<16,000	4,300	NA	<330	<330
bis(2-Ethylhexyl)phthalate	ug/kg		<330	<16,000	<3,300	NA	430	460

Note: Only samples with concentrations of analytes reported as greater than detection limits are shown.

ATTACHMENT 1

HEALTH & SAFETY PLAN

SITE-SPECIFIC

HEALTH AND SAFETY PLAN

PREPARED FOR

TRANSWESTERN GAS PIPELINE COMPANY

ATOKA 1, ATOKA 2, BLACK RIVER

COMPRESSOR STATIONS

CARLSBAD, NEW MEXICO

PREPARED BY

BROWN & ROOT ENVIRONMENTAL

JUNE 1993

BROWN & ROOT PROJECT NUMBER NG 19, NG 21, NG 20

Brown & Root Environmental

A Division of Halliburton NUS Corporation

Project Name: Atoka 1, Atoka 2, Black River Compressor Stations Project No.: NG19, NG21, NG20

Scope of Work and Purpose of Visit:

- Establish if hydrocarbon impact to soils has occurred from surface impoundments at each location.
- Drill and sample those soil borings to 20 feet at each pit.

Site Visit Personnel:	Responsibility:
Larry Basilio	Geologist & SSO

Other Contacts:	Phone Nos.:
S. Richard - Brown & Root Env. Project Manager	(713) 575-4762
Larry Campbell - Transwestern Env. Affairs Manager	(505) 625-8022
Earl Chandly - Transwestern NM Operation Man	(505) 625-8031
Alan Balderas - Layne Drilling Manager	(210) 629-3330

Emergency Information — Atoka 1, Atoka 2, Black River Compressor Stations; Carlsbad, New Mexico

Type	Name	Phone Nos.
Sheriff		911
Ambulance		911
Hospital	Guadalupe Medical Center	(505) 887-4100
Rescue Service		911
Poison Control Center	N.M. Poison Control	1-800-432-6866
Site Manager	Susanne Richard	(713) 575-4762
PHMH	Tom Samson	(713) 575-4562

Hospital Route:

Guadalupe Medical Center
2430 W. Pierce
Carlsbad, New Mexico

Directions from the Site:

To west on 62-180. Turn north (right on Canal St. (in Carlsbad). Canal St. becomes Pierce. Hospital on right-hand side (east) just before you get out of town.

Inclement Weather Procedures:

No working during electrical storm, extremely high ambient heat loads, or other extreme weather conditions as determined by the SSO.

Site Background/Overall Information

Sites are compressor stations. Pits at each location used for disposal of pipeline liquids waste.

Hazard Assessment:

Hazards expected to be present include:

1. Fire and explosion from flammable/combustible materials
2. Moving machinery
3. Animal hazards -i.e., snakes, and ticks
4. Manual lifting and slip/trip hazards
5. Heat stress
6. Underground utilities, underground gas pipelines

Standard Operating Procedures: (i.e., basic hygiene, buddy system, no hand-to-mouth activities when working on site, etc.)

Other: SOO will perform air monitoring during drilling and sampling activities.

PPE Requirements: Level D

Minimum - Steel toe/shank shoes or boots, sandard field clothes. (If hard hats and safety glasses not worn, indicate why).

Other: Hard hat and safety glass to be worn in vicinity of driling operations. Rubber gloves to be worn during sampling activities.
Modified Level CPPE will be available on site and used if so determined by the SSO.

PPE Selection Criteria:

Upgrade to modified Level CPPE if HNU reading in the breathing zone is greater than 60 ppm.

PPE Decon/Disposal (if applicable):

Inspection - Generated waste will be placed in plastic bags and disposed of properly.

Monitoring Equipment and Calibration Information:

HNU - Calibrate daily with known calibration gas.
OVA - Factor calibrated. Check for positive response with a marking pen.

Monitoring Equipment Selection Criteria:

HNU - 10.2 eV prove to scan for organic and inorganic vapor concentrations.

OVA - Used to monitor organic vapor concentrations.

Action Levels for Upgrading of PPE and/or Site Withdrawal:

Begin work in Level D and upgrade PPE as site conditions warrant.

Level D - <60 ppm reading on HNU in breathing zone.

Modified Level C->60 ppm reading on HNU/OVA in breathing zone or if workers are affected by vapors.

Note:

Incident report, Site Safety Follow-up Report, and Site Map must be attached.

MEDICAL DATA SHEET FOR FIELD TEAM MEMBERS

This brief Medical Data Sheet will be completed by all on site personnel and will be kept in the command post during the conduct of site oprations. This data sheet will accompany any personnel when medical assistance is needed or if transport to hospital facilities is required.

Project _____

Name _____ Home Telephone _____

Address _____

Age _____ Height _____ Weight _____

Name of Next of Kin _____

Drug or other Allergies _____

Particular Sensitivities _____

Do You Wear Contacts? _____

Provide a Checklist of Previous Illnesses or Exposure to Hazardous Chemicals. _____

_____

_____

What medications are you presently using? _____

_____

_____

Do you have any medical restrictions? _____

_____

_____

Name, Address, and Phone Number of personal physician: _____

_____

_____

_____

_____

_____

I am the individual described above. I have read and understand this HASP.

_____ _____

Signature Date

ATTACHMENT 2

SOIL BORING LOGS AND SAMPLE LOG SHEETS

HALLIBURTON NUS
Environmental Corporation

BORING **AT2-1** SHEET **1** OF **4**

PROJECT **Transwestern Pipeline Company**

LOCATION **Atoka 2 Compressor Station**

COORDINATES

PROJECT NUMBER **NG21**

SURFACE ELEVATION DATUM **Grade**

LOGGED BY **L. Basilio** DATE DRILLED **6/27/93**

ELEVATION FEET	SOIL DESCRIPTION	STRATA	Depth Feet	Sample Type	Sample ID	Inches Adv. / Inches Rec.	Penetrometer Blow Counts	PID/FID (ppm)	REMARKS
	GROUND SURFACE								
	SILT (ML) - brown, soft, slightly clayey, dry, occasional white caliche nodules			SPT		24/24		6/2	
	SILT (ML) - reddish brown, slightly clayey, soft, dry, weathered white caliche nodules and laminae			SPT		24/18		0/0	
			5	SPT		24/20		0/0	
	SILT (ML) - A/A, lighter red towards base			SPT		24/24		47/74	
	SILT (ML) - reddish brown, soft, dry, very slightly clayey, occasional white caliche nodules and laminae			SPT		24/20		549/1000+	
	SILT (ML) - tan, dry, broken, loose, weathered caliche		10	SPT		24/20		685/1000+	
	SILT (ML) - red brown, soft, very slightly clayey			SPT	AT2-1A	24/20		776/1000+	
	SILTY SAND (SM) - red brown, fine to very fine grained, unconsolidated, silty, dry		15	SPT		24/18		120/210	
	SILTY CLAY (CL) - red brown, hard, dry, white crystalline laminae			SPT		24/24		4/15	
	SILTY CLAY (CL) - red brown, hard, semi-indurated, broken, hackly fracture, very silty, grades to a silt in parts, dry, white crystalline laminae			SPT		24/24		4/9	
	SILTY CLAY (CL) - red, hard, dry, very silty, occasional very small white calcareous inclusions		20	SPT		24/24		9/10	
	SILTY CLAY (CL) - A/A, gray streaks along fractures			SPT		24/24		220/830	
	SILTY CLAY (CL) - red, black staining along fractures, hard, silty, occasional sandy laminae towards base, hackly fracture, slickensides			SPT		24/24		781/1000+	
	SILTY CLAY (CL) - A/A, less fractured, occasional gray and white inclusions, grades to silt		25	SPT		24/24		840/1000+	
	CLAYEY SILT (ML) - red brown, soft, clayey, dry			SPT		24/24		839/1000+	
	CLAYEY SILT (ML) - A/A, sandy towards base, dry			SPT	AT2-1B	24/24		863/1000+	
	SILT (ML) - red brown, soft, slightly clayey, clay laminae at top		30	SPT		24/24		863/1000+	
	SILT (ML) - red brown, soft, slightly clayey to clayey in spots, damp			SPT		24/24		863/1000+	
	SAND (SM) - red brown, fine grained, silty,								

DRILLING CONTRACTOR: **Layne Environmental**

DRILLER: **W. Cowser**

DRILLING METHOD: **HSA & Air Rotary**

DRILLING EQUIPMENT: **Failing F-6**

COMMENTS: **Boring located approximately 3 feet north and 19 feet west from the southwest corner of the pit.**

HALLIBURTON NUS *Environmental Corporation*

BORING **AT2-1** SHEET **2** OF **4**

PROJECT **Transwestern Pipeline Company**

LOCATION **Atoka 2 Compressor Station**

COORDINATES PROJECT NUMBER **NG21**

SURFACE ELEVATION DATUM **Grade** LOGGED BY **L. Basilio** DATE DRILLED **6/27/93**

ELEVATION FEET	SOIL DESCRIPTION	STRATA	SAMPLE INFORMATION: Depth Feet	Sample Type	Sample ID	Inches Adv. / Inches Rec.	Penetrometer Blow Counts	PID/FID (ppm)	REMARKS
	CONTINUED FROM PREVIOUS PAGE								
	slightly clayey in spots, damp to moist in spots, interbedded with silt			SPT		24/24		827/1000+	
				SPT		24/24		913/1000+	
	SILTY CLAY (CL) - red brown, very silty, sandy laminae, damp								
	SAND (SM) - red brown, fine grained, loose, damp, interbedded with silt			SPT		24/24		821/1000+	
	SAND (SM) - A/A, dry		40	SPT		24/20		798/1000+	
				SPT		24/22		827/1000+	
	SANDY SILT (ML) - red brown, loose, sandy, abundant pebbles, dry								
	SILTY CLAY (CL) - red brown, very silty, hard, dry		45	SPT		24/24		737/1000+	
	SILT (ML) - brownish red, slightly clayey to clayey at top, occasional white fibrous inclusions			SPT		24/24		781/1000+	
	SILT (ML) - red brown, soft, dry, slightly clayey			SPT		24/24		580/1000+	
	SILT (ML) - A/A, very clayey at base		50	SPT		24/24		696/1000+	
	SILT (ML) - A/A, occasional light brown sandy laminae towards base			SPT		24/24		696/1000+	
#			55	SPT		24/24		711/1000+	
	SILTY SAND (SM) - red brown, fine grained, unconsolidated, dry, clayey with clay lenses at base			SPT		24/18		680/1000+	
	SILTY SAND (SM) - red brown, medium grained, dry, unconsolidated								
	SILTY CLAY (CL) - red brown, hard, dry, very silty, occasional black staining, grades to clayey silt in parts			SPT		24/24		324/1000+	
			60	SPT	AT2-1C	24/24		440/1000+	
	SILTY CLAY (CL) - red brown, hard, dry, very silty, occasional slickensides			SPT		24/24		875/1000+	Drilling suspended at 62 feet on 6/27/93 due to lack of additional drilling rods. Resume drilling on 6/30/93.
	SILT (ML) - dark red brown, soft, damp, slightly clayey		65	SPT		24/24		1000/1000+	
	SILT (ML) - A/A, dry, silty clay lenses			SPT		24/24		875/1000+	
	SILT (ML) - red brown, firm, slightly clayey to clayey, occasional caliche nodules		70	SPT		24/24		1290/1000+	
	SILT (ML) - red brown, soft, dry								

HALLIBURTON NUS
Environmental Corporation

BORING **AT2-1** SHEET **3** OF **4**

PROJECT **Transwestern Pipeline Company**

LOCATION **Atoka 2 Compressor Station**

COORDINATES

PROJECT NUMBER **NG21**

SURFACE ELEVATION DATUM **Grade**

LOGGED BY **L. Basilio** DATE DRILLED **6/27/93**

ELEVATION FEET	SOIL DESCRIPTION	STRATA	SAMPLE INFORMATION: Depth Feet	Sample Type	Sample ID	Inches Adv. / Inches Rec.	Penetrometer Blow Counts	PID/FID (ppm)	REMARKS
	CONTINUED FROM PREVIOUS PAGE								
	CLAYEY SILT (ML) - dark red brown, firm, clayey, dry, grades to silty clay in parts, abundant caliche laminae towards base			SPT		24/24		1000+	
	SILTY CLAY (CL) - dark red brown, firm, very silty, grades to clayey silt		80	SPT		24/24		1174/1000+	
	SILT (ML) - red brown, soft, damp, slightly clayey in spots, occasional hard clay lenses		85	SPT		24/24		940/1000+	
	SILTY SAND (SM) - medium brown, fine grained, unconsolidated, dry, silty			SPT		24/24		797/1000+	
	SILTY CLAY (CL) - red brown, hard, dry		90	SPT	AT2-1D	24/24		1069/1000+	Drilled to 90 feet using hollow stem augers. Switch to air rotary drilling using a 3-inch diameter tricone drilling bit. *Resume drilling on 7/16/93.*
	CLAYEY SILT (ML) - red brown, clayey, slightly sandy in spots, dry, soft to slightly firm								
	SILT (ML) - red brown, dry, loose, clayey in parts		95	SPT		24/20		1424/1000+	
	SILT (ML) - red brown, dry, loose, occasional dry hard clay layers		100	SPT		24/20		1743/1000+	
	SILTY CLAY (CL) - red brown, silty, silty laminae, hard to crumbly in silty zones, dry, occasional slickensides		105	SPT		24/24		105/88	
	SILT (ML) -red brown, dry, firm, clayey		110						
	SILTY CLAY (CL) - red brown, hard, dry, silty to very silty in parts, occasional white inclusions			SPT		24/24		29/20	

HALLIBURTON NUS
Environmental Corporation

BORING **AT2-1** SHEET **4** OF **4**

PROJECT **Transwestern Pipeline Company**

LOCATION **Atoka 2 Compressor Station**

COORDINATES PROJECT NUMBER **NG21**

SURFACE ELEVATION DATUM **Grade** LOGGED BY **L. Basilio** DATE DRILLED **6/27/93**

ELEVATION FEET	SOIL DESCRIPTION	STRATA	SAMPLE INFORMATION						REMARKS
			Depth Feet	Sample Type	Sample ID	Inches Adv. / Inches Rec.	Penetrometer Blow Counts	PID/FID (ppm)	
	CONTINUED FROM PREVIOUS PAGE								
	SANDY SILT (ML) - red brown, dry, unconsolidated, sandy			SPT		24/12		17/14	
			120	SPT		24/24		5/10	
	SANDY SILT (ML) - red brown, dry, unconsolidated, grades to silty sand in parts, occasional gravel		125	SPT	AT2-1E	24/18		0/7	
	Total depth = 127 feet BLS								

HALLIBURTON NUS
Environmental Corporation

BORING **AT2-2** SHEET **1** OF **1**

PROJECT **Transwestern Pipeline Company**

LOCATION **Atoka 2 Compressor Station**

COORDINATES

PROJECT NUMBER **NG21**

SURFACE ELEVATION DATUM **Grade**

LOGGED BY **L. Basilio** DATE DRILLED **6/29/93**

ELEVATION FEET	SOIL DESCRIPTION	STRATA	SAMPLE INFORMATION: Depth Feet	Sample Type	Sample ID	Inches Adv. / Inches Rec.	Penetrometer Blow Counts	PID/FID (ppm)	REMARKS
	GROUND SURFACE								
	SILT (ML) - red brown, dry, soft, very slightly clayey, occasional caliche nodules		5	SPT		24/24		0/3	
	SAND (SM) - red brown, fine grain, unconsolidated, dry, silty		10	SPT	AT2-2A	24/24		0/0	
	Caliche layer at bed interface								
	SILT (ML) - dark red brown, firm, slightly clayey, dry								
	SILT (ML) _ red brown, dry, firm to crumbly, scattered black staining and white caliche nodules in upper portion, also white fibrous crystals		15	SPT		24/24		0/5	
	SILTY CLAY (CL) - red brown, hard, dry, very silty, grades to clayey silt in parts, occasional black staining and white caliche nodules (<1/4")		20	SPT		24/24		0/0	
	SILTY CLAY (CL) - red brown, very silty, hard, dry, occasional black inclusions		25	SPT	AT2-2B	24/24		0/0	
	Total depth = 27 feet BLS								

DRILLING CONTRACTOR: **Layne Environmental**

DRILLER: **W. Cowser**

DRILLING METHOD: **Hollow Stem Auger**

DRILLING EQUIPMENT: **Failing F-6**

COMMENTS:
Boring located approximately 12 feet east and 6 feet north from the northeast corner of the pit.

HALLIBURTON NUS *Environmental Corporation*

BORING **AT2-3** SHEET **1** OF **2**

PROJECT **Transwestern Pipeline Company**

LOCATION **Atoka 2 Compressor Station**

COORDINATES

PROJECT NUMBER **NG21**

SURFACE ELEVATION DATUM **Grade**

LOGGED BY **L. Basilio** DATE DRILLED **6/29/93**

ELEVATION FEET	SOIL DESCRIPTION	STRATA	SAMPLE INFORMATION: Depth Feet	Sample Type	Sample ID	Inches Adv. / Inches Rec.	Penetrometer Blow Counts	PID/FID (ppm)	REMARKS
	GROUND SURFACE								
	SILT (ML) _ brown, soft, dry, slightly clayey, occasional caliche			SPT		24/22		0/0	
	SILT (ML) - tan, grades to red brown at base, soft, dry, very slightly clayey, occasional 1/4" caliche nodules		5	SPT		24/20		0/0	
	SILTY SAND (SM) - light red brown, fine grain, silty, dry		10	SPT		24/24		0/0	
	SILT (ML) - dark red brown, soft, dry, slightly clayey								
	SANDY SILT (ML) - red brown, dry, soft, very sandy to slightly clayey in spots		15	SPT		24/20		0/0	
	SILT (ML) - red brown, soft, dry, clayey at base, occasional black staining towards base		20	SPT		24/24		0/0	
	SILTY CLAY (CL) - red brown, hard, dry, very silty, grades to clayey silt in parts, occasional black staining and white fibrous crystals		25	SPT		24/24		0/0	
	SILT (ML) - red brown, firm, damp, slightly clayey to slightly sandy, occasional black inclusions		30	SPT		24/24		0/0	

DRILLING CONTRACTOR: **Layne Environmental**

DRILLER: **W. Cowser**

DRILLING METHOD: **Hollow Stem Auger**

DRILLING EQUIPMENT: **Failing F-6**

COMMENTS: **Boring located approximately 38 feet south and 52 feet west from the southwest corner of the pit.**

HALLIBURTON NUS
Environmental Corporation

BORING **AT2-3** SHEET **2** OF **2**

PROJECT **Transwestern Pipeline Company**

LOCATION **Atoka 2 Compressor Station**

COORDINATES

PROJECT NUMBER **NG21**

SURFACE ELEVATION DATUM **Grade**

LOGGED BY **L. Basilio** DATE DRILLED **6/29/93**

ELEVATION FEET	SOIL DESCRIPTION	STRATA	SAMPLE INFORMATION						REMARKS
			Depth Feet	Sample Type	Sample ID	Inches Adv. / Inches Rec.	Penetrometer Blow Counts	PID/FID (ppm)	
	CONTINUED FROM PREVIOUS PAGE								
	SAND (SM) - red brown, unconsolidated, slightly clayey to silty, damp			SPT	AT2-3A	24/24		0/0	
	Total depth = 37 feet BLS								

HALLIBURTON NUS *Environmental Corporation*

BORING **AT2-4** SHEET **1** OF **1**

PROJECT **Transwestern Pipeline Company**

LOCATION **Atoka 2 Compressor Station**

COORDINATES

PROJECT NUMBER **NG21**

SURFACE ELEVATION DATUM **Grade**

LOGGED BY **L. Basilio**

DATE DRILLED **7/16/93**

ELEVATION FEET	SOIL DESCRIPTION	STRATA	SAMPLE INFORMATION: Depth Feet	Sample Type	Sample ID	Inches Adv. / Inches Rec.	Penetrometer Blow Counts	PID/FID (ppm)	REMARKS
	GROUND SURFACE								
	SILT (ML) - black brown to dark brown with depth, soft, dry, caliche nodules			SPT		24/18		0/0	
	SILT (ML) - light brown to tan with depth, soft, unconsolidated, dry, slightly clayey in spots		5	SPT	AT2-4A	24/22		23/23	
	SILT (ML) - red brown, soft, dry. sandy in spots, abundant clay laminae at 10.5 feet		10	SPT		24/24		23/18	Switch from hollow stem augers to air rotary drilling using a 3-inch diameter tricone drilling bit at 12 feet.
	SILTY SAND (SM) - red brown, fine grained, unconsolidated, dry		15	SPT		24/24		0/1	
	SILTY CLAY (CL) - dark red brown, firm to hard, broken, silty								
	SILT (ML) - red brown, soft, dry, clayey		20	SPT		24/24		0/1	
	SILTY CLAY (CL) - dark red brown, hard, dry								
	SILTY CLAY (CL) - red brown, hard, dry, occasional to abundant black laminae and inclusions		25	SPT		24/24		0/0	
	SILTY CLAY (CL) - red brown, firm to hard in spots, dry, very silty, grades to clayey silt in parts		30	SPT	AT2-4B	24/22		0/0	
	Total depth = 32 feet BLS								

DRILLING CONTRACTOR: **Layne Environmental**

DRILLER: **W. Cowser**

DRILLING METHOD: **HSA & Air Rotary**

DRILLING EQUIPMENT: **Failing F-6**

COMMENTS: **Boring located approximately 37 feet south and 16 feet west from the southwest corner of the pit.**

HALLIBURTON NUS *Environmental Corporation*

BORING **AT2-5** SHEET **1** OF **1**

PROJECT **Transwestern Pipeline Company**

LOCATION **Atoka 2 Compressor Station**

COORDINATES

PROJECT NUMBER **NG21**

SURFACE ELEVATION DATUM **Grade**

LOGGED BY **L. Basilio** DATE DRILLED **7/17/93**

ELEVATION FEET	SOIL DESCRIPTION	STRATA	Depth Feet	Sample Type	Sample ID	Inches Adv. / Inches Rec.	Penetrometer Blow Counts	PID/FID (ppm)	REMARKS
	GROUND SURFACE								
	SILT (ML) - dark brown, soft, damp, clayey, caliche at base			SPT		24/18		0/0	
	SILT (ML) - tan to occasionally off-white, soft to slightly firm, dry, slightly clayey, occasional white calcareous inclusions		5	SPT		24/24		0/0	
	CLAYEY SILT (ML) - light to dark red brown, soft, slightly clayey to clayey, slightly sandy in spots, dry, occasional caliche nodules		10	SPT		24/22		0/0	Switch from hollow stem augers to air rotary drilling using a 3-inch diameter tricone drilling bit at 12 feet.
	SILT (ML) - red brown, dry, soft, slightly clayey, caliche nodules at base		15	SPT		6 / 6	50+/6"	0/0	
	SILT (ML) - red brown, soft to hard, dry, clayey to slightly sandy		20	SPT		24/24		0/0	
	SILTY CLAY (CL) - red brown, firm, dry, very silty								
	CLAYEY SILT (ML) - red brown, soft to firm, clayey, increasing clay with depth, damp, occasional black inclusions		25	SPT		24/24		0/0	
	SILT (ML) - red brown, soft, loose, slightly clayey to sandy in parts, damp, occasional <1/8" caliche nodules		30	SPT	AT2-5A	24/24		0/0	
	Total depth = 32 feet BLS								

DRILLING CONTRACTOR: **Layne Environmental**

DRILLER: **W. Cowser**

DRILLING METHOD: **HSA & Air Rotary**

DRILLING EQUIPMENT: **Failing F-6**

COMMENTS: **Boring located approximately 32 feet east and 6 feet south from the southeast corner of the pit.**

HALLIBURTON NUS *Environmental Corporation*

BORING **AT2-6** SHEET **1** OF **1**

PROJECT **Transwestern Pipeline Company**

LOCATION **Atoka 2 Compressor Station**

COORDINATES

PROJECT NUMBER **NG21**

SURFACE ELEVATION DATUM **Grade**

LOGGED BY **L. Basilio** DATE DRILLED **6/27/93**

ELEVATION FEET	SOIL DESCRIPTION	STRATA	SAMPLE INFORMATION: Depth Feet	Sample Type	Sample ID	Inches Adv. / Inches Rec.	Penetrometer Blow Counts	PID/FID (ppm)	REMARKS
	GROUND SURFACE								
	SILT (ML) - tan and brown, firm, dry, crumbly, white caliche nodules			SPT		24/24		0/0	
	SILT (ML) - A/A, with pebbles			SPT		24/6		0/0	
	SILT (ML) - brown, slightly clayey, dry, occasional white caliche nodules		5	SPT		24/6		0/0	
	SILT (ML) - tan to brown, soft, weathered caliche			SPT		24/6		0/0	
	Total depth = 8 feet BLS								Strike inactive water line a approximately 7 feet BLS. Terminate drilling activities at this location.

DRILLING CONTRACTOR: **Layne Environmental**

DRILLER: **W. Cowser**

DRILLING METHOD: **Hollow Stem Augers**

DRILLING EQUIPMENT: **Failing F-6**

COMMENTS: **Boring located approximately 11 feet south and 6 feet west from the southeast corner of the pit.**

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

- ☐ SURFACE SOIL
- ☒ SUBSURFACE SOIL
- ☐ SEDIMENT
- ☐ POND/LAGOON
- ☐ OTHER

PROJECT NAME Transwestern Pipeline PROJECT NUMBER 0621

HNUS SAMPLE NO. AT2-1A SOURCE Atoka 2

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 12-14

SAMPLE DATE & TIME: 6/27/93 847

SAMPLED BY: BASILIO

SIGNATURE(S): [signature]

TYPE OF SAMPLE
- ☐ LOW CONCENTRATION
- ☐ HIGH CONCENTRATION
- ☒ GRAB
- ☐ COMPOSITE
- ☐ GRAB - COMPOSITE

ANALYSIS:

418.1
8020

FID - 1000+ ppm
PID - 776 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Sand - red brown, fine to very fine
	unconsolidated, silty, dry

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

- ☐ SURFACE SOIL
- ☒ SUBSURFACE SOIL
- ☐ SEDIMENT
- ☐ POND/LAGOON
- ☐ OTHER

PROJECT NAME Transwestern Pipeline PROJECT NUMBER 0621

HNUS SAMPLE NO. AT2-1B SOURCE Atoka 2

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 28-30

SAMPLE DATE & TIME: 6/27/93 1024

SAMPLED BY: BASILIO

SIGNATURE(S): Z Basilio

TYPE OF SAMPLE
- ☐ LOW CONCENTRATION
- ☐ HIGH CONCENTRATION
- ☒ GRAB
- ☐ COMPOSITE
- ☐ GRAB - COMPOSITE

ANALYSIS:

418.1
8020

FID - 1000 + ppm

PID - 863 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Silt - red brown, soft, sandy towards base, dry

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

- ☐ SURFACE SOIL
- ☒ SUBSURFACE SOIL
- ☐ SEDIMENT
- ☐ POND/LAGOON
- ☐ OTHER

PROJECT NAME Transwestern Pipeline PROJECT NUMBER NG21

HNUS SAMPLE NO. AT2-1C SOURCE Atoka 2

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 60-62

SAMPLE DATE & TIME: 6/27/93 1530

SAMPLED BY: BASILO

SIGNATURE(S): Z. Basilo

TYPE OF SAMPLE
- ☐ LOW CONCENTRATION
- ☐ HIGH CONCENTRATION
- ☒ GRAB
- ☐ COMPOSITE
- ☐ GRAB - COMPOSITE

ANALYSIS:

418.1
8020

FID - 1000+ ppm

PID - 440 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Clay - red brown, hard, dry, very silty,
	grades to clayey silt in parts,

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

- ☐ SURFACE SOIL
- ☒ SUBSURFACE SOIL
- ☐ SEDIMENT
- ☐ POND/LAGOON
- ☐ OTHER

PROJECT NAME Transwestern Pipeline PROJECT NUMBER NG21

HNUS SAMPLE NO. AT2-1D SOURCE Atoka 2

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 90-92

SAMPLE DATE & TIME: 6/30/93 1725

SAMPLED BY: BASILIO

SIGNATURE(S): [signature]

TYPE OF SAMPLE
- ☐ LOW CONCENTRATION
- ☐ HIGH CONCENTRATION
- ☒ GRAB
- ☐ COMPOSITE
- ☐ GRAB - COMPOSITE

ANALYSIS:

418.1
8020

FID - 1000+ ppm

PID - 1069 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Silt - red brown, clayey, sl sandy
	in spots, soft to sl firm

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

- ☐ SURFACE SOIL
- ☒ SUBSURFACE SOIL
- ☐ SEDIMENT
- ☐ POND/LAGOON
- ☐ OTHER

PROJECT NAME Transwestern Pipeline PROJECT NUMBER NG21

HNUS SAMPLE NO. AT2-1E SOURCE Atoka 2

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 125-127

SAMPLE DATE & TIME: 7/16/93 1200

SAMPLED BY: BASIC

SIGNATURE(S): R Bal

TYPE OF SAMPLE
- ☐ LOW CONCENTRATION
- ☐ HIGH CONCENTRATION
- ☒ GRAB
- ☐ COMPOSITE
- ☐ GRAB - COMPOSITE

ANALYSIS:

418.1
8020

FID - 7 ppm

PID - 0 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Silt - red brown, dry, unconsolidated,
	sandy, grades to silty sand in parts,
	occ gravel at base < 1/2"

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

- ☐ SURFACE SOIL
- ☒ SUBSURFACE SOIL
- ☐ SEDIMENT
- ☐ POND/LAGOON
- ☐ OTHER

PROJECT NAME Transwestern Pipeline PROJECT NUMBER NC21

HNUS SAMPLE NO. AT2-2A SOURCE Atoka 2

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 10-12

SAMPLE DATE & TIME: 6/29/93 1415

SAMPLED BY: BASILIO

SIGNATURE(S):

TYPE OF SAMPLE
- ☐ LOW CONCENTRATION
- ☐ HIGH CONCENTRATION
- ☒ GRAB
- ☐ COMPOSITE
- ☐ GRAB - COMPOSITE

ANALYSIS:

418.1
8020

PID - 0 ppm

FID - 0 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Sand - red brown, fine grained, dry, unconsolidated
	silty
	Silt - dark red brown, dry, firm, sl clayey

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

- ☐ SURFACE SOIL
- ☒ SUBSURFACE SOIL
- ☐ SEDIMENT
- ☐ POND/LAGOON
- ☐ OTHER

PROJECT NAME Transwestern Pipeline PROJECT NUMBER NG21

HNUS SAMPLE NO. AT2-2B SOURCE Atoka 2

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 25-27

SAMPLE DATE & TIME: 6/29/93 1512

SAMPLED BY: BASILIO

SIGNATURE(S): J Bark

TYPE OF SAMPLE
- ☐ LOW CONCENTRATION
- ☐ HIGH CONCENTRATION
- ☒ GRAB
- ☐ COMPOSITE
- ☐ GRAB - COMPOSITE

ANALYSIS:

418.1
8020

FID - 0 ppm

PID - 0 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Clay - red brown, hard, dry, very silty, occ black inclusions

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

- ☐ SURFACE SOIL
- ☒ SUBSURFACE SOIL
- ☐ SEDIMENT
- ☐ POND/LAGOON
- ☐ OTHER

PROJECT NAME Transwestern Pipeline PROJECT NUMBER NG-21

HNUS SAMPLE NO. AT2-3A SOURCE Attoka 2

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 35-37

SAMPLE DATE & TIME: 6/29/93 1710

SAMPLED BY: BASILIO

SIGNATURE(S): Basil

TYPE OF SAMPLE
- ☐ LOW CONCENTRATION
- ☐ HIGH CONCENTRATION
- ☒ GRAB
- ☐ COMPOSITE
- ☐ GRAB - COMPOSITE

ANALYSIS:

418.1

8020

FID - 0 ppm

PID - 0 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Sand - red brown, unconsolidated, sl
	clayey to silty, damp

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

- ☐ SURFACE SOIL
- ☒ SUBSURFACE SOIL
- ☐ SEDIMENT
- ☐ POND/LAGOON
- ☐ OTHER

PROJECT NAME Transwestern Pipeline PROJECT NUMBER NG21

HNUS SAMPLE NO. AT2-4A SOURCE Atoka 2

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 5-7

SAMPLE DATE & TIME: 7/16/93 1640

SAMPLED BY: BASILIO

SIGNATURE(S): e Bark

TYPE OF SAMPLE
- ☐ LOW CONCENTRATION
- ☐ HIGH CONCENTRATION
- ☒ GRAB
- ☐ COMPOSITE
- ☐ GRAB - COMPOSITE

ANALYSIS:

418.1
8020

FID - 23 ppm

PID - 23 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Silt - light brown to tan with depth, dry, soft, unconsolidated, some clays in spots

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

- ☐ SURFACE SOIL
- ☒ SUBSURFACE SOIL
- ☐ SEDIMENT
- ☐ POND/LAGOON
- ☐ OTHER

PROJECT NAME Transwestern Pipeline PROJECT NUMBER NG21

HNUS SAMPLE NO. AT2-4B SOURCE Atoka 2

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 30-32

SAMPLE DATE & TIME: 7/16/93 1805

SAMPLED BY: BASILIO

SIGNATURE(S): Z Blank

TYPE OF SAMPLE
- ☐ LOW CONCENTRATION
- ☐ HIGH CONCENTRATION
- ☒ GRAB
- ☐ COMPOSITE
- ☐ GRAB - COMPOSITE

ANALYSIS:

418.1
8020

FID - 0 ppm

PID - 0 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Clay - red brown, firm to hard in spots,
	dry, very silty, grades to clayey
	silt in spots

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

- ☐ SURFACE SOIL
- ☒ SUBSURFACE SOIL
- ☐ SEDIMENT
- ☐ POND/LAGOON
- ☐ OTHER

PROJECT NAME Transwestern Pipeline PROJECT NUMBER NG21

HNUS SAMPLE NO. AT2-5A SOURCE Atoka 2

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 30-32

SAMPLE DATE & TIME: 7/17/93 858

SAMPLED BY: BASILIO

SIGNATURE(S): R Basil

TYPE OF SAMPLE
- ☐ LOW CONCENTRATION
- ☐ HIGH CONCENTRATION
- ☒ GRAB
- ☐ COMPOSITE
- ☐ GRAB - COMPOSITE

ANALYSIS:

418.1

8020

PID - 0 ppm

FID - 0 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Silt - red brown, soft, loose, damp, sl
	clayey to sl sandy, sandy in parts
	occ < 1/8" caliche nodules

OBSERVATIONS/NOTES:

ATTACHMENT 3

LABORATORY ANALYTICAL REPORTS

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

July 30, 1993
Report No.: 00026106
Section A Page 1

LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
ADDRESS: P.O. BOX 1717
ROSWELL, NM 88202-1717
ATTENTION: LARRY CAMPBELL

LSG CLIENT NO: 0734 0045
PACE PROJECT: H07340045
PACE CLIENT: 620562

SAMPLE ID: AT2-4A
LSG SAMPLE NO: H0244069
P.O. NO.: VERBAL

DATE SAMPLED: 16-JUL-93
DATE RECEIVED: 20-JUL-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNIT
1	G107S	BTEX Package		
		Benzene	< 5	ug/kg
		Ethylbenzene	< 5	ug/kg
		Toluene	< 5	ug/kg
		m-Xylene	< 5	ug/kg
		o-Xylene	< 5	ug/kg
		p-Xylene	< 5	ug/kg
3	I685S	Petroleum Hydrocarbons	< 20	mg/kg

COMMENTS: Results are reported on an "as received" basis without correction for percent moisture unless previously specified.

900 Gemini Avenue
Houston, TX 77058
TEL: 713-488-1810
FAX: 713-488-4661

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

July 30, 1993
Report No.: 00026106
Section A Page 2

LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
ADDRESS: P.O. BOX 1717
ROSWELL, NM 88202-1717
ATTENTION: LARRY CAMPBELL

LSG CLIENT NO: 0734 0045
PACE PROJECT: H07340045
PACE CLIENT: 620562

SAMPLE ID: AT2-4B
LSG SAMPLE NO: H0244070
P.O. NO.: VERBAL

DATE SAMPLED: 16-JUL-93
DATE RECEIVED: 20-JUL-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	G107S	BTEX Package		
		Benzene	< 5	ug/kg
		Ethylbenzene	< 5	ug/kg
		Toluene	< 5	ug/kg
		m-Xylene	< 5	ug/kg
		o-Xylene	< 5	ug/kg
		p-Xylene	< 5	ug/kg
3	I685S	Petroleum Hydrocarbons	< 20	mg/kg

COMMENTS: Results are reported on an "as received" basis without correction for percent moisture unless previously specified.

900 Gemini Avenue
Houston, TX 77058
TEL: 713-488-1810
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pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

July 30, 1993
Report No.: 00026106
Section A Page 3

LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
ADDRESS: P.O. BOX 1717
ROSWELL, NM 88202-1717
ATTENTION: LARRY CAMPBELL

LSG CLIENT NO: 0734 0045
PACE PROJECT: H07340045
PACE CLIENT: 620562

SAMPLE ID: AT2-1E
LSG SAMPLE NO: H0244071
P.O. NO.: VERBAL

DATE SAMPLED: 16-JUL-93
DATE RECEIVED: 20-JUL-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	G107S	BTEX Package		
		Benzene	< 5	ug/kg
		Ethylbenzene	< 5	ug/kg
		Toluene	< 5	ug/kg
		m-Xylene	< 5	ug/kg
		o-Xylene	< 5	ug/kg
		p-Xylene	< 5	ug/kg
3	I685S	Petroleum Hydrocarbons	< 20	mg/kg

COMMENTS: Results are reported on an "as received" basis without correction for percent moisture unless previously specified.

900 Gemini Avenue
Houston, TX 77058
TEL: 713-488-1810
FAX: 713-488-4661

LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
ADDRESS: P.O. BOX 1717
ROSWELL, NM 88202-1717
ATTENTION: LARRY CAMPBELL

LSG CLIENT NO: 0734 0045
PACE PROJECT: H07340045
PACE CLIENT: 620562

SAMPLE ID: AT2-5A
LSG SAMPLE NO: H0244072
P.O. NO.: VERBAL

DATE SAMPLED: 17-JUL-93
DATE RECEIVED: 20-JUL-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	G107S	BTEX Package		
		Benzene	< 5	ug/kg
		Ethylbenzene	< 5	ug/kg
		Toluene	< 5	ug/kg
		m-Xylene	< 5	ug/kg
		o-Xylene	< 5	ug/kg
		p-Xylene	< 5	ug/kg
3	I685S	Petroleum Hydrocarbons	< 20	mg/kg

COMMENTS: Results are reported on an "as received" basis without correction for percent moisture unless previously specified.

900 Gemini Avenue
Houston, TX 77058
TEL: 713-488-1810
FAX: 713-488-4661

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL REPORT
SUPPLEMENTAL INFORMATION

			SAMPLE PREPARATION			SAMPLE ANALYSIS				
LN	TEST CODE	BATCH	LR-METHOD	DATE/TIME	ANALYST	LR-METHOD	DATE/TIME	ANALYST	ANLS BATCH	INSTRUMENT
SAMPLE ID: AT2-4A							LSG SAMPLE NO: H0244069			
1	G107S	32575	NA			19-8020	22-JUL-93 308	Dan	32575	7287GC
3	I685S	32704	19-3550			02-418.1	26-JUL-93 1000	J J	0	302WAT

LR Method Literature Reference
02 EPA-Methods for Chemical Analysis of Water & Wastes, 1984.
19 EPA-Test Methods for Evaluating Solid Waste, 3rd ed, Nov. 1986

SAMPLE ID: AT2-4B							LSG SAMPLE NO: H0244070			
1	G107S	32575	NA			19-8020	22-JUL-93 344	Dan	32575	7287GC
3	I685S	32704	19-3550			02-418.1	26-JUL-93 1000	J J	0	302WAT

LR Method Literature Reference
02 EPA-Methods for Chemical Analysis of Water & Wastes, 1984.
19 EPA-Test Methods for Evaluating Solid Waste, 3rd ed, Nov. 1986

SAMPLE ID: AT2-1E							LSG SAMPLE NO: H0244071			
1	G107S	32575	NA			19-8020	22-JUL-93 421	Dan	32575	7287GC
3	I685S	32704	19-3550			02-418.1	26-JUL-93 1000	J J	0	302WAT

LR Method Literature Reference
02 EPA-Methods for Chemical Analysis of Water & Wastes, 1984.
19 EPA-Test Methods for Evaluating Solid Waste, 3rd ed, Nov. 1986

SAMPLE ID: AT2-5A							LSG SAMPLE NO: H0244072			
1	G107S	32575	NA			19-8020	22-JUL-93 646	Dan	32575	7287GC
3	I685S	32704	19-3550			02-418.1	26-JUL-93 1000	J J	0	302WAT

LR Method Literature Reference

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QUALITY CONTROL REPORT
SUPPLEMENTAL INFORMATION

			SAMPLE PREPARATION			SAMPLE ANALYSIS				
LN	TEST CODE	BATCH	LR-METHOD	DATE/TIME	ANALYST	LR-METHOD	DATE/TIME	ANALYST	ANLS BATCH	INSTRUMENT

LR Method Literature Reference

02 EPA-Methods for Chemical Analysis of Water & Wastes, 1984.
19 EPA-Test Methods for Evaluating Solid Waste, 3rd ed, Nov. 1986

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

July 30, 1993
Report No.: 00026106

QUALITY CONTROL REPORT
SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
SAMPLE ID: AT2-4A			LSG SAMPLE NO: H0244069		
2	$VARS	GC Volatile Aromatics Surrogate alpha,alpha,alpha-Trifluorotoluene	93	-	1
SAMPLE ID: AT2-4B			LSG SAMPLE NO: H0244070		
2	$VARS	GC Volatile Aromatics Surrogate alpha,alpha,alpha-Trifluorotoluene	94	-	1
SAMPLE ID: AT2-1E			LSG SAMPLE NO: H0244071		
2	$VARS	GC Volatile Aromatics Surrogate alpha,alpha,alpha-Trifluorotoluene	92	-	1
SAMPLE ID: AT2-5A			LSG SAMPLE NO: H0244072		
2	$VARS	GC Volatile Aromatics Surrogate alpha,alpha,alpha-Trifluorotoluene	91	-	1

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REPORT OF LABORATORY ANALYSIS

July 30, 1993
Report No.: 00026106
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QUALITY CONTROL REPORT
LABORATORY CONTROL SAMPLE RECOVERY

TEST CODE	DETERMINATION	PERCENT RECOVERY	ACCEPTANCE LIMITS
BATCH: 32575	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0244920
G107S	BTEX Package		
	Benzene	101	-
	Ethylbenzene	98	-
	Toluene	100	-
	m-Xylene	99 *	-
	o-Xylene	98	-
	p-Xylene	*	-
BATCH: 32704	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0245132
I685S	Petroleum Hydrocarbons	101.0	-

* The compounds m-Xylene and p-Xylene co-elute. The reported result is the sum of the two.

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REPORT OF LABORATORY ANALYSIS

July 30, 1993
Report No.: 00026106
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QUALITY CONTROL REPORT
METHOD BLANK DATA

TEST CODE	Determination	RESULT	UNITS
BATCH: 32575	SAMPLE ID: Method Blank	LSG SAMPLE NO:	H0244921
G107S	BTEX Package		
	Benzene	< 5	ug/kg
	Ethylbenzene	< 5	ug/kg
	Toluene	< 5	ug/kg
	m-Xylene	< 5	ug/kg
	o-Xylene	< 5	ug/kg
	p-Xylene	< 5	ug/kg
BATCH: 32704	SAMPLE ID: Method Blank	LSG SAMPLE NO:	H0245133
I685S	Petroleum Hydrocarbons	< 20	mg/kg

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REPORT OF LABORATORY ANALYSIS

July 30, 1993
Report No.: 00026106
Section F Page 1

QUALITY CONTROL REPORT
DUPLICATE AND MATRIX SPIKE DATA

PREP BATCH: 32704 LSG SAMPLE NO: H0243952

TEST	DETERMINATION	ORIGINAL RESULT	DUPLICATE RESULT	UNITS	RANGE / RPD	UNITS	MS RESULT	MS % RCVRY
1685S	Petroleum Hydrocarbons	< 20	< 20	mg/kg	---	mg/kg	280	94.0

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July 30, 1993
Report No.: 00026106

QUALITY CONTROL REPORT
MATRIX SPIKE AND MATRIX SPIKE DUPLICATE DATA

PREP BATCH: 32575 LSG SAMPLE NO: H0244069

TEST	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RECOVERY	MSD PCT RECOVERY
G107S	Benzene	14.6	14.1	ug/kg	3.48	73	70
G107S	Ethylbenzene	9.62	8.07	ug/kg	17.5	48 *	40 *
G107S	Toluene	13.5	12.0	ug/kg	11.8	68	60 *
G107S	m-Xylene	23.0 **	16.5 **	ug/kg	32.9	58 *	41 *
G107S	o-Xylene	12.4	9.54	ug/kg	26.1	62 *	48 *
G107S	p-Xylene	**	**	ug/kg	32.9	58 *	41 *

* Recovery of the spike indicates the presence of a matrix interference. This should be considered in evaluating the data.

** The compounds m-Xylene and p-Xylene co-elute. The reported result is the sum of the two.

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REPORT OF LABORATORY ANALYSIS

LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
ADDRESS: P.O. BOX 1717
ROSWELL, NM 88202-1717
ATTENTION: LARRY CAMPBELL

LSG CLIENT NO: 0734 0015
PACE PROJECT: H07340015
PACE CLIENT: 620562

SAMPLE ID: AT2-2A 10-12
LSG SAMPLE NO: H0242502
P.O. NO.: VERBAL

DATE SAMPLED: 29-JUN-93
DATE RECEIVED: 01-JUL-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNITS
3	I685S	Petroleum Hydrocarbons	< 20	mg/kg
4	OVTCS	TCL - Volatiles in Soil		
		1,1,1-Trichloroethane	< 5	ug/kg
		1,1,2,2,-Tetrachloroethane	< 5	ug/kg
		1,1,2-Trichloroethane	< 5	ug/kg
		1,1-Dichloroethane	< 5	ug/kg
		1,1-Dichloroethene	< 5	ug/kg
		1,2-Dichloroethane	< 5	ug/kg
		1,2-Dichloroethene (total)	< 5	ug/kg
		1,2-Dichloropropane	< 5	ug/kg
		2-Butanone	< 10	ug/kg
		2-Hexanone	< 10	ug/kg
		4-Methyl-2-pentanone	< 10	ug/kg
		Acetone	< 10	ug/kg
		Benzene	< 5	ug/kg
		Bromodichloromethane	< 5	ug/kg
		Bromoform	< 5	ug/kg
		Bromomethane	< 10	ug/kg
		Carbon disulfide	< 5	ug/kg
		Carbon tetrachloride	< 5	ug/kg
		Chlorobenzene	< 5	ug/kg
		Chloroethane	< 10	ug/kg
		Chloroform	< 5	ug/kg
		Chloromethane	< 10	ug/kg
		Dibromochloromethane	< 5	ug/kg
		Ethylbenzene	< 5	ug/kg
		Methylene chloride	< 5	ug/kg
		Styrene	< 5	ug/kg
		Tetrachloroethene	< 5	ug/kg
		Toluene	< 5	ug/kg
		Trichloroethene	< 5	ug/kg
		Vinyl acetate	< 10	ug/kg
		Vinyl chloride	< 10	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: AT2-2A 10-12
LSG SAMPLE NO: H0242502

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		Xylene(total)	< 5	ug/kg
		cis-1,3-Dichloropropene	< 5	ug/kg
		trans-1,3-Dichloropropene	< 5	ug/kg
6	OSVTCS	TCL - Semi-volatile Extractables in Soil		
		1,2,4-Trichlorobenzene	< 330	ug/kg
		1,2-Dichlorobenzene	< 330	ug/kg
		1,3-Dichlorobenzene	< 330	ug/kg
		1,4-Dichlorobenzene	< 330	ug/kg
		2,4,5-Trichlorophenol	< 1,600	ug/kg
		2,4,6-Trichlorophenol	< 330	ug/kg
		2,4-Dichlorophenol	< 330	ug/kg
		2,4-Dimethylphenol	< 330	ug/kg
		2,4-Dinitrophenol	< 1,600	ug/kg
		2,4-Dinitrotoluene	< 330	ug/kg
		2,6-Dinitrotoluene	< 330	ug/kg
		2-Chloronaphthalene	< 330	ug/kg
		2-Chlorophenol	< 330	ug/kg
		2-Methylnaphthalene	< 330	ug/kg
		2-Methylphenol	< 330	ug/kg
		2-Nitroaniline	< 1,600	ug/kg
		2-Nitrophenol	< 330	ug/kg
		3,3'-Dichlorobenzidine	< 660	ug/kg
		3-Nitroaniline	< 1,600	ug/kg
		4,6-Dinitro-o-cresol	< 1,600	ug/kg
		4-Bromophenylphenylether	< 330	ug/kg
		4-Chloro-3-methylphenol	< 1,600	ug/kg
		4-Chloroaniline	< 330	ug/kg
		4-Chlorophenylphenylether	< 330	ug/kg
		4-Methylphenol	< 330	ug/kg
		4-Nitronaniline	< 1,600	ug/kg
		4-Nitrophenol	< 1,600	ug/kg
		Acenaphthene	< 330	ug/kg
		Acenaphthylene	< 330	ug/kg
		Anthracene	< 330	ug/kg
		Benzo(a)anthracene	< 330	ug/kg
		Benzo(a)pyrene	< 330	ug/kg
		Benzo(b)fluoranthene	< 330	ug/kg
		Benzo(g,h,i)perylene	< 330	ug/kg
		Benzo(k)fluoranthene	< 330	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: AT2-2A 10-12
LSG SAMPLE NO: H0242502

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		Benzoic acid	< 1,600	ug/kg
		Benzyl alcohol	< 330	ug/kg
		Butylbenzylphthalate	< 330	ug/kg
		Chrysene	< 330	ug/kg
		Di-n-butylphthalate	< 330	ug/kg
		Di-n-octylphthalate	< 330	ug/kg
		Dibenzo(a,h)anthracene	< 330	ug/kg
		Dibenzofuran	< 330	ug/kg
		Diethylphthalate	< 330	ug/kg
		Dimethylphthalate	< 330	ug/kg
		Fluoranthene	< 330	ug/kg
		Fluorene	< 330	ug/kg
		Hexachlorobenzene	< 330	ug/kg
		Hexachlorobutadiene	< 330	ug/kg
		Hexachlorocyclopentadiene	< 330	ug/kg
		Hexachloroethane	< 330	ug/kg
		Indeno(1,2,3-cd)pyrene	< 330	ug/kg
		Isophorone	< 330	ug/kg
		N-Nitrosodi-n-propylamine	< 330	ug/kg
		N-Nitrosodiphenylamine	< 330	ug/kg
		Naphthalene	< 330	ug/kg
		Nitrobenzene	< 330	ug/kg
		Pentachlorophenol	< 1,600	ug/kg
		Phenanthrene	< 330	ug/kg
		Phenol	< 330	ug/kg
		Pyrene	< 330	ug/kg
		bis(2-Chloroethoxy)methane	< 330	ug/kg
		bis(2-Chloroethyl)ether	< 330	ug/kg
		bis(2-Chloroisopropyl)ether	< 330	ug/kg
		bis(2-Ethylhexyl)phthalate	< 330	ug/kg

COMMENTS: Results are reported on an "as received" basis without correction for percent moisture unless previously specified.

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
ADDRESS: P.O. BOX 1717
ROSWELL, NM 88202-1717
ATTENTION: LARRY CAMPBELL

LSG CLIENT NO: 0734 0015
PACE PROJECT: H07340015
PACE CLIENT: 620562

SAMPLE ID: AT2-2B 25-27
LSG SAMPLE NO: H0242503
P.O. NO.: VERBAL

DATE SAMPLED: 29-JUN-93
DATE RECEIVED: 01-JUL-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNITS
3	I685S	Petroleum Hydrocarbons	< 20	mg/kg
4	OVTCS	TCL - Volatiles in Soil		
		1,1,1-Trichloroethane	< 5	ug/kg
		1,1,2,2,-Tetrachloroethane	< 5	ug/kg
		1,1,2-Trichloroethane	< 5	ug/kg
		1,1-Dichloroethane	< 5	ug/kg
		1,1-Dichloroethene	< 5	ug/kg
		1,2-Dichloroethane	< 5	ug/kg
		1,2-Dichloroethene (total)	< 5	ug/kg
		1,2-Dichloropropane	< 5	ug/kg
		2-Butanone	< 10	ug/kg
		2-Hexanone	< 10	ug/kg
		4-Methyl-2-pentanone	< 10	ug/kg
		Acetone	< 10	ug/kg
		Benzene	< 5	ug/kg
		Bromodichloromethane	< 5	ug/kg
		Bromoform	< 5	ug/kg
		Bromomethane	< 10	ug/kg
		Carbon disulfide	< 5	ug/kg
		Carbon tetrachloride	< 5	ug/kg
		Chlorobenzene	< 5	ug/kg
		Chloroethane	< 10	ug/kg
		Chloroform	< 5	ug/kg
		Chloromethane	< 10	ug/kg
		Dibromochloromethane	< 5	ug/kg
		Ethylbenzene	< 5	ug/kg
		Methylene chloride	< 5	ug/kg
		Styrene	< 5	ug/kg
		Tetrachloroethene	< 5	ug/kg
		Toluene	< 5	ug/kg
		Trichloroethene	< 5	ug/kg
		Vinyl acetate	< 10	ug/kg
		Vinyl chloride	< 10	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: AT2-2B 25-27
LSG SAMPLE NO: H0242503

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		Xylene(total)	< 5	ug/kg
		cis-1,3-Dichloropropene	< 5	ug/kg
		trans-1,3-Dichloropropene	< 5	ug/kg
6	OSVTCS	TCL - Semi-volatile Extractables in Soil		
		1,2,4-Trichlorobenzene	< 330	ug/kg
		1,2-Dichlorobenzene	< 330	ug/kg
		1,3-Dichlorobenzene	< 330	ug/kg
		1,4-Dichlorobenzene	< 330	ug/kg
		2,4,5-Trichlorophenol	< 1,600	ug/kg
		2,4,6-Trichlorophenol	< 330	ug/kg
		2,4-Dichlorophenol	< 330	ug/kg
		2,4-Dimethylphenol	< 330	ug/kg
		2,4-Dinitrophenol	< 1,600	ug/kg
		2,4-Dinitrotoluene	< 330	ug/kg
		2,6-Dinitrotoluene	< 330	ug/kg
		2-Chloronaphthalene	< 330	ug/kg
		2-Chlorophenol	< 330	ug/kg
		2-Methylnaphthalene	< 330	ug/kg
		2-Methylphenol	< 330	ug/kg
		2-Nitroaniline	< 1,600	ug/kg
		2-Nitrophenol	< 330	ug/kg
		3,3'-Dichlorobenzidine	< 660	ug/kg
		3-Nitroaniline	< 1,600	ug/kg
		4,6-Dinitro-o-cresol	< 1,600	ug/kg
		4-Bromophenylphenylether	< 330	ug/kg
		4-Chloro-3-methylphenol	< 330	ug/kg
		4-Chloroaniline	< 330	ug/kg
		4-Chlorophenylphenylether	< 330	ug/kg
		4-Methylphenol	< 330	ug/kg
		4-Nitronaniline	< 1,600	ug/kg
		4-Nitrophenol	< 1,600	ug/kg
		Acenaphthene	< 330	ug/kg
		Acenaphthylene	< 330	ug/kg
		Anthracene	< 330	ug/kg
		Benzo(a)anthracene	< 330	ug/kg
		Benzo(a)pyrene	< 330	ug/kg
		Benzo(b)fluoranthene	< 330	ug/kg
		Benzo(g,h,i)perylene	< 330	ug/kg
		Benzo(k)fluoranthene	< 330	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: AT2-2B 25-27
LSG SAMPLE NO: H0242503

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		Benzoic acid	< 1,600	ug/kg
		Benzyl alcohol	< 330	ug/kg
		Butylbenzylphthalate	< 330	ug/kg
		Chrysene	< 330	ug/kg
		Di-n-butylphthalate	< 330	ug/kg
		Di-n-octylphthalate	< 330	ug/kg
		Dibenzo(a,h)anthracene	< 330	ug/kg
		Dibenzofuran	< 330	ug/kg
		Diethylphthalate	< 330	ug/kg
		Dimethylphthalate	< 330	ug/kg
		Fluoranthene	< 330	ug/kg
		Fluorene	< 330	ug/kg
		Hexachlorobenzene	< 330	ug/kg
		Hexachlorobutadiene	< 330	ug/kg
		Hexachlorocyclopentadiene	< 330	ug/kg
		Hexachloroethane	< 330	ug/kg
		Indeno(1,2,3-cd)pyrene	< 330	ug/kg
		Isophorone	< 330	ug/kg
		N-Nitrosodi-n-propylamine	< 330	ug/kg
		N-Nitrosodiphenylamine	< 330	ug/kg
		Naphthalene	< 330	ug/kg
		Nitrobenzene	< 330	ug/kg
		Pentachlorophenol	< 1,600	ug/kg
		Phenanthrene	< 330	ug/kg
		Phenol	< 330	ug/kg
		Pyrene	< 330	ug/kg
		bis(2-Chloroethoxy)methane	< 330	ug/kg
		bis(2-Chloroethyl)ether	< 330	ug/kg
		bis(2-Chloroisopropyl)ether	< 330	ug/kg
		bis(2-Ethylhexyl)phthalate	430	ug/kg

COMMENTS: Results are reported on an "as received" basis without correction for percent moisture unless previously specified.

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REPORT OF LABORATORY ANALYSIS

LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
ADDRESS: P.O. BOX 1717
ROSWELL, NM 88202-1717
ATTENTION: LARRY CAMPBELL

LSG CLIENT NO: 0734 0015
PACE PROJECT: H07340015
PACE CLIENT: 620562

SAMPLE ID: AT2-3A 35-37
LSG SAMPLE NO: H0242504
P.O. NO.: VERBAL

DATE SAMPLED: 29-JUN-93
DATE RECEIVED: 01-JUL-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNITS
3	I685S	Petroleum Hydrocarbons	< 20	mg/kg
4	OVTCS	TCL - Volatiles in Soil		
		1,1,1-Trichloroethane	< 5	ug/kg
		1,1,2,2,-Tetrachloroethane	< 5	ug/kg
		1,1,2-Trichloroethane	< 5	ug/kg
		1,1-Dichloroethane	< 5	ug/kg
		1,1-Dichloroethene	< 5	ug/kg
		1,2-Dichloroethane	< 5	ug/kg
		1,2-Dichloroethene (total)	< 5	ug/kg
		1,2-Dichloropropane	< 5	ug/kg
		2-Butanone	< 10	ug/kg
		2-Hexanone	< 10	ug/kg
		4-Methyl-2-pentanone	< 10	ug/kg
		Acetone	< 10	ug/kg
		Benzene	< 5	ug/kg
		Bromodichloromethane	< 5	ug/kg
		Bromoform	< 5	ug/kg
		Bromomethane	< 10	ug/kg
		Carbon disulfide	< 5	ug/kg
		Carbon tetrachloride	< 5	ug/kg
		Chlorobenzene	< 5	ug/kg
		Chloroethane	< 10	ug/kg
		Chloroform	< 5	ug/kg
		Chloromethane	< 10	ug/kg
		Dibromochloromethane	< 5	ug/kg
		Ethylbenzene	< 5	ug/kg
		Methylene chloride	< 5	ug/kg
		Styrene	< 5	ug/kg
		Tetrachloroethene	< 5	ug/kg
		Toluene	< 5	ug/kg
		Trichloroethene	< 5	ug/kg
		Vinyl acetate	< 10	ug/kg
		Vinyl chloride	< 10	ug/kg

LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: AT2-3A 35-37
LSG SAMPLE NO: H0242504

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		Xylene(total)	< 5	ug/kg
		cis-1,3-Dichloropropene	< 5	ug/kg
		trans-1,3-Dichloropropene	< 5	ug/kg
6	OSVTCS	TCL - Semi-volatile Extractables in Soil		
		1,2,4-Trichlorobenzene	< 330	ug/kg
		1,2-Dichlorobenzene	< 330	ug/kg
		1,3-Dichlorobenzene	< 330	ug/kg
		1,4-Dichlorobenzene	< 330	ug/kg
		2,4,5-Trichlorophenol	< 1,600	ug/kg
		2,4,6-Trichlorophenol	< 330	ug/kg
		2,4-Dichlorophenol	< 330	ug/kg
		2,4-Dimethylphenol	< 330	ug/kg
		2,4-Dinitrophenol	< 1,600	ug/kg
		2,4-Dinitrotoluene	< 330	ug/kg
		2,6-Dinitrotoluene	< 330	ug/kg
		2-Chloronaphthalene	< 330	ug/kg
		2-Chlorophenol	< 330	ug/kg
		2-Methylnaphthalene	< 330	ug/kg
		2-Methylphenol	< 330	ug/kg
		2-Nitroaniline	< 1,600	ug/kg
		2-Nitrophenol	< 330	ug/kg
		3,3'-Dichlorobenzidine	< 660	ug/kg
		3-Nitroaniline	< 1,600	ug/kg
		4,6-Dinitro-o-cresol	< 1,600	ug/kg
		4-Bromophenylphenylether	< 330	ug/kg
		4-Chloro-3-methylphenol	< 330	ug/kg
		4-Chloroaniline	< 330	ug/kg
		4-Chlorophenylphenylether	< 330	ug/kg
		4-Methylphenol	< 330	ug/kg
		4-Nitronaniline	< 1,600	ug/kg
		4-Nitrophenol	< 1,600	ug/kg
		Acenaphthene	< 330	ug/kg
		Acenaphthylene	< 330	ug/kg
		Anthracene	< 330	ug/kg
		Benzo(a)anthracene	< 330	ug/kg
		Benzo(a)pyrene	< 330	ug/kg
		Benzo(b)fluoranthene	< 330	ug/kg
		Benzo(g,h,i)perylene	< 330	ug/kg
		Benzo(k)fluoranthene	< 330	ug/kg

LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: AT2-3A 35-37
LSG SAMPLE NO: H0242504

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		Benzoic acid	< 1,600	ug/kg
		Benzyl alcohol	< 330	ug/kg
		Butylbenzylphthalate	< 330	ug/kg
		Chrysene	< 330	ug/kg
		Di-n-butylphthalate	< 330	ug/kg
		Di-n-octylphthalate	< 330	ug/kg
		Dibenzo(a,h)anthracene	< 330	ug/kg
		Dibenzofuran	< 330	ug/kg
		Diethylphthalate	< 330	ug/kg
		Dimethylphthalate	< 330	ug/kg
		Fluoranthene	< 330	ug/kg
		Fluorene	< 330	ug/kg
		Hexachlorobenzene	< 330	ug/kg
		Hexachlorobutadiene	< 330	ug/kg
		Hexachlorocyclopentadiene	< 330	ug/kg
		Hexachloroethane	< 330	ug/kg
		Indeno(1,2,3-cd)pyrene	< 330	ug/kg
		Isophorone	< 330	ug/kg
		N-Nitrosodi-n-propylamine	< 330	ug/kg
		N-Nitrosodiphenylamine	< 330	ug/kg
		Naphthalene	< 330	ug/kg
		Nitrobenzene	< 330	ug/kg
		Pentachlorophenol	< 1,600	ug/kg
		Phenanthrene	< 330	ug/kg
		Phenol	< 330	ug/kg
		Pyrene	< 330	ug/kg
		bis(2-Chloroethoxy)methane	< 330	ug/kg
		bis(2-Chloroethyl)ether	< 330	ug/kg
		bis(2-Chloroisopropyl)ether	< 330	ug/kg
		bis(2-Ethylhexyl)phthalate	460	ug/kg

COMMENTS: Results are reported on an "as received" basis without correction for percent moisture unless previously specified.

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL REPORT
SUPPLEMENTAL INFORMATION

			SAMPLE PREPARATION			SAMPLE ANALYSIS				
LN	TEST CODE	BATCH	LR-METHOD	DATE/TIME	ANALYST	LR-METHOD	DATE/TIME	ANALYST	ANLS BATCH	INSTRUMENT
SAMPLE ID: AT2-2A 10-12							LSG SAMPLE NO: H0242502			
3	I685S	32224	19-3550			02-418.1	02-JUL-93 100	Lin	0	302WAT
4	OVTCS	32300	NA			19-8240	07-JUL-93 1937	E M	32201	GCMSQ
6	OSVTCS	32204	19-3550	02-JUL-93 0530	MLN	19-8270	08-JUL-93 2350	G W	32204	GCMSP
SAMPLE ID: AT2-2B 25-27							LSG SAMPLE NO: H0242503			
3	I685S	32224	19-3550			02-418.1	02-JUL-93 100	Lin	0	302WAT
4	OVTCS	32300	NA			19-8240	07-JUL-93 1837	E M	32201	GCMSQ
6	OSVTCS	32204	19-3550	02-JUL-93 0530	MLN	19-8270	09-JUL-93 1242	A P	32204	GCMST
SAMPLE ID: AT2-3A 35-37							LSG SAMPLE NO: H0242504			
3	I685S	32224	19-3550			02-418.1	02-JUL-93 100	Lin	0	302WAT
4	OVTCS	32300	NA			19-8240	07-JUL-93 2038	E M	32201	GCMSQ
6	OSVTCS	32204	19-3550	02-JUL-93 0530	MLN	19-8270	09-JUL-93 1330	A P	32204	GCMST

LR	Method Literature Reference
02	EPA-Methods for Chemical Analysis of Water & Wastes, 1984.
19	EPA-Test Methods for Evaluating Solid Waste, 3rd ed, Nov. 1986

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QUALITY CONTROL REPORT
SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
SAMPLE ID:	AT2-2A 10-12		LSG SAMPLE NO:	H0242502	
5	$VOAS	GC/MS Volatiles Surrogates			4
		1,2-Dichloroethane-d4	95	-	
		4-Bromofluorobenzene	109	-	
		Toluene-d8	100	-	
7	$BNAS	GC/MS BNA Surrogates			6
		2,4,6-Tribromophenol	81	-	
		2-Fluorobiphenyl	84	-	
		2-Fluorophenol	80	-	
		Nitrobenzene-d5	80	-	
		Phenol-d5	83	-	
		p-Terphenyl-d14	95	-	
SAMPLE ID:	AT2-2B 25-27		LSG SAMPLE NO:	H0242503	
5	$VOAS	GC/MS Volatiles Surrogates			4
		1,2-Dichloroethane-d4	101	-	
		4-Bromofluorobenzene	100	-	
		Toluene-d8	117	-	
7	$BNAS	GC/MS BNA Surrogates			6
		2,4,6-Tribromophenol	84	-	
		2-Fluorobiphenyl	71	-	
		2-Fluorophenol	68	-	
		Nitrobenzene-d5	65	-	
		Phenol-d5	64	-	
		p-Terphenyl-d14	102	-	
SAMPLE ID:	AT2-3A 35-37		LSG SAMPLE NO:	H0242504	
5	$VOAS	GC/MS Volatiles Surrogates			4
		1,2-Dichloroethane-d4	98	-	
		4-Bromofluorobenzene	103	-	
		Toluene-d8	111	-	
7	$BNAS	GC/MS BNA Surrogates			6
		2,4,6-Tribromophenol	97	-	
		2-Fluorobiphenyl	94	-	
		2-Fluorophenol	106	-	
		Nitrobenzene-d5	94	-	
		Phenol-d5	95	-	
		p-Terphenyl-d14	96	-	

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QUALITY CONTROL REPORT
LABORATORY CONTROL SAMPLE RECOVERY

TEST CODE	DETERMINATION	PERCENT RECOVERY	ACCEPTANCE LIMITS
BATCH: 32204	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0243348
OSVTC	TCL - Semi-volatile Extractables in Soil		
	1,2,4-Trichlorobenzene	92	-
	1,4-Dichlorobenzene	91	-
	2,4-Dinitrotoluene	98	-
	2-Chlorophenol	80	-
	4-Chloro-3-methylphenol	92	-
	4-Nitrophenol	120	-
	Acenaphthene	94	-
	N-Nitrosodi-n-propylamine	80	-
	Pentachlorophenol	108	-
	Phenol	74	-
	Pyrene	88	-
BATCH: 32224	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0243378
I685S	Petroleum Hydrocarbons	102	-
BATCH: 32300	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0243509
OVTCS	TCL - Volatiles in Soil		
	1,1-Dichloroethene	100	-
	Benzene	101	-
	Chlorobenzene	90	-
	Toluene	100	-
	Trichloroethene	93	-
BATCH: 32335	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0244564
OVTCS	TCL - Volatiles in Soil		
	1,1-Dichloroethene	100	-
	Benzene	104	-
	Chlorobenzene	93	-
	Toluene	105	-
	Trichloroethene	95	-

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QUALITY CONTROL REPORT
METHOD BLANK DATA

BATCH: 32204 SAMPLE ID: Method Blank LSG SAMPLE NO: H0243349

TEST CODE	Determination	RESULT	UNITS
OSVTCS	TCL - Semi-volatile Extractables in Soil		
	1,2,4-Trichlorobenzene	< 330	ug/kg
	1,2-Dichlorobenzene	< 330	ug/kg
	1,3-Dichlorobenzene	< 330	ug/kg
	1,4-Dichlorobenzene	< 330	ug/kg
	2,4,5-Trichlorophenol	< 1,600	ug/kg
	2,4,6-Trichlorophenol	< 330	ug/kg
	2,4-Dichlorophenol	< 330	ug/kg
	2,4-Dimethylphenol	< 330	ug/kg
	2,4-Dinitrophenol	< 1,600	ug/kg
	2,4-Dinitrotoluene	< 330	ug/kg
	2,6-Dinitrotoluene	< 330	ug/kg
	2-Chloronaphthalene	< 330	ug/kg
	2-Chlorophenol	< 330	ug/kg
	2-Methylnaphthalene	< 330	ug/kg
	2-Methylphenol	< 330	ug/kg
	2-Nitroaniline	< 1,600	ug/kg
	2-Nitrophenol	< 330	ug/kg
	3,3'-Dichlorobenzidine	< 660	ug/kg
	3-Nitroaniline	< 1,600	ug/kg
	4,6-Dinitro-o-cresol	< 1,600	ug/kg
	4-Bromophenylphenylether	< 330	ug/kg
	4-Chloro-3-methylphenol	< 330	ug/kg
	4-Chloroaniline	< 330	ug/kg
	4-Chlorophenylphenylether	< 330	ug/kg
	4-Methylphenol	< 330	ug/kg
	4-Nitronaniline	< 1,600	ug/kg
	4-Nitrophenol	< 1,600	ug/kg
	Acenaphthene	< 330	ug/kg
	Acenaphthylene	< 330	ug/kg
	Anthracene	< 330	ug/kg
	Benzo(a)anthracene	< 330	ug/kg
	Benzo(a)pyrene	< 330	ug/kg
	Benzo(b)fluoranthene	< 330	ug/kg
	Benzo(g,h,i)perylene	< 330	ug/kg
	Benzo(k)fluoranthene	< 330	ug/kg
	Benzoic acid	< 1,600	ug/kg
	Benzyl alcohol	< 330	ug/kg
	Butylbenzylphthalate	< 330	ug/kg
	Chrysene	< 330	ug/kg

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QUALITY CONTROL REPORT
METHOD BLANK DATA

TEST CODE	Determination	RESULT	UNITS
	Di-n-butylphthalate	< 330	ug/kg
	Di-n-octylphthalate	< 330	ug/kg
	Dibenzo(a,h)anthracene	< 330	ug/kg
	Dibenzofuran	< 330	ug/kg
	Diethylphthalate	< 330	ug/kg
	Dimethylphthalate	< 330	ug/kg
	Fluoranthene	< 330	ug/kg
	Fluorene	< 330	ug/kg
	Hexachlorobenzene	< 330	ug/kg
	Hexachlorobutadiene	< 330	ug/kg
	Hexachlorocyclopentadiene	< 330	ug/kg
	Hexachloroethane	< 330	ug/kg
	Indeno(1,2,3-cd)pyrene	< 330	ug/kg
	Isophorone	< 330	ug/kg
	N-Nitrosodi-n-propylamine	< 330	ug/kg
	N-Nitrosodiphenylamine	< 330	ug/kg
	Naphthalene	< 330	ug/kg
	Nitrobenzene	< 330	ug/kg
	Pentachlorophenol	< 1,600	ug/kg
	Phenanthrene	< 330	ug/kg
	Phenol	< 330	ug/kg
	Pyrene	< 330	ug/kg
	bis(2-Chloroethoxy)methane	< 330	ug/kg
	bis(2-Chloroethyl)ether	< 330	ug/kg
	bis(2-Chloroisopropyl)ether	< 330	ug/kg
	bis(2-Ethylhexyl)phthalate	< 330	ug/kg
BATCH: 32224	SAMPLE ID: Method Blank	LSG SAMPLE NO:	H0243379
I685S	Petroleum Hydrocarbons	< 20	mg/kg
BATCH: 32300	SAMPLE ID: Method Blank	LSG SAMPLE NO:	H0243510
OVTCS	TCL - Volatiles in Soil		
	1,1,1-Trichloroethane	< 5	ug/kg
	1,1,2,2,-Tetrachloroethane	< 5	ug/kg
	1,1,2-Trichloroethane	< 5	ug/kg
	1,1-Dichloroethane	< 5	ug/kg
	1,1-Dichloroethene	< 5	ug/kg
	1,2-Dichloroethane	< 5	ug/kg
	1,2-Dichloroethene (total)	< 5	ug/kg
	1,2-Dichloropropane	< 5	ug/kg
	2-Butanone	< 10	ug/kg
	2-Hexanone	< 10	ug/kg

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QUALITY CONTROL REPORT
METHOD BLANK DATA

TEST CODE	Determination	RESULT	UNITS
	4-Methyl-2-pentanone	< 10	ug/kg
	Acetone	< 10	ug/kg
	Benzene	< 5	ug/kg
	Bromodichloromethane	< 5	ug/kg
	Bromoform	< 5	ug/kg
	Bromomethane	< 10	ug/kg
	Carbon disulfide	< 5	ug/kg
	Carbon tetrachloride	< 5	ug/kg
	Chlorobenzene	< 5	ug/kg
	Chloroethane	< 10	ug/kg
	Chloroform	< 5	ug/kg
	Chloromethane	< 10	ug/kg
	Dibromochloromethane	< 5	ug/kg
	Ethylbenzene	< 5	ug/kg
	Methylene chloride	< 5	ug/kg
	Styrene	< 5	ug/kg
	Tetrachloroethene	< 5	ug/kg
	Toluene	< 5	ug/kg
	Trichloroethene	< 5	ug/kg
	Vinyl acetate	< 10	ug/kg
	Vinyl chloride	< 10	ug/kg
	Xylene(total)	< 5	ug/kg
	cis-1,3-Dichloropropene	< 5	ug/kg
	trans-1,3-Dichloropropene	< 5	ug/kg

BATCH: 32335 SAMPLE ID: Method Blank LSG SAMPLE NO: H0244565

OVTCS	TCL - Volatiles in Soil		
	1,1,1-Trichloroethane	< 5	ug/kg
	1,1,2,2,-Tetrachloroethane	< 5	ug/kg
	1,1,2-Trichloroethane	< 5	ug/kg
	1,1-Dichloroethane	< 5	ug/kg
	1,1-Dichloroethene	< 5	ug/kg
	1,2-Dichloroethane	< 5	ug/kg
	1,2-Dichloroethene (total)	< 5	ug/kg
	1,2-Dichloropropane	< 5	ug/kg
	2-Butanone	< 10	ug/kg
	2-Hexanone	< 10	ug/kg
	4-Methyl-2-pentanone	< 10	ug/kg
	Acetone	< 10	ug/kg
	Benzene	< 5	ug/kg
	Bromodichloromethane	< 5	ug/kg
	Bromoform	< 5	ug/kg
	Bromomethane	< 10	ug/kg

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QUALITY CONTROL REPORT
METHOD BLANK DATA

TEST CODE	Determination	RESULT	UNITS
	Carbon disulfide	< 5	ug/kg
	Carbon tetrachloride	< 5	ug/kg
	Chlorobenzene	< 5	ug/kg
	Chloroethane	< 10	ug/kg
	Chloroform	< 5	ug/kg
	Chloromethane	< 10	ug/kg
	Dibromochloromethane	< 5	ug/kg
	Ethylbenzene	< 5	ug/kg
	Methylene chloride	< 5	ug/kg
	Styrene	< 5	ug/kg
	Tetrachloroethene	< 5	ug/kg
	Toluene	< 5	ug/kg
	Trichloroethene	< 5	ug/kg
	Vinyl acetate	< 10	ug/kg
	Vinyl chloride	< 10	ug/kg
	Xylene(total)	< 5	ug/kg
	cis-1,3-Dichloropropene	< 5	ug/kg
	trans-1,3-Dichloropropene	< 5	ug/kg

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QUALITY CONTROL REPORT
DUPLICATE AND MATRIX SPIKE DATA

PREP BATCH: 32224 LSG SAMPLE NO: H0242503

TEST	DETERMINATION	ORIGINAL RESULT	DUPLICATE RESULT	UNITS	RANGE / RPD	UNITS	MS RESULT	MS % RCVRY
I685S	Petroleum Hydrocarbons	< 20	< 20	mg/kg	---	mg/kg	310	102

PREP BATCH: 32224 LSG SAMPLE NO: H0242504

TEST	DETERMINATION	ORIGINAL RESULT	DUPLICATE RESULT	UNITS	RANGE / RPD	UNITS	MS RESULT	MS % RCVRY
I685S	Petroleum Hydrocarbons	< 20	< 20	mg/kg	---	mg/kg	310	102

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QUALITY CONTROL REPORT
MATRIX SPIKE AND MATRIX SPIKE DUPLICATE DATA

PREP BATCH: 32204 LSG SAMPLE NO: H0242500

TEST	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RECOVERY	MSD PCT RECOVERY
OSVTCS	1,2,4-Trichlorobenzene	2,110	2,580	ug/kg	20.0	64	78
OSVTCS	1,4-Dichlorobenzene	2,010	2,540	ug/kg	23.3	61	77
OSVTCS	2,4-Dinitrotoluene	2,800	2,970	ug/kg	5.89	85	90
OSVTCS	2-Chlorophenol	3,530	4,320	ug/kg	20.1	54	66
OSVTCS	4-Nitrophenol	8,280	8,840	ug/kg	6.54	125	134
OSVTCS	Acenaphthene	2,200	2,640	ug/kg	18.2	66	80
OSVTCS	N-Nitrosodi-n-propylamine	1,910	2,430	ug/kg	24.0	58	74
OSVTCS	Pentachlorophenol	7,850	8,510	ug/kg	8.07	119	129
OSVTCS	Phenol	3,600	4,320	ug/kg	18.2	55	66
OSVTCS	Pyrene	2,970	3,200	ug/kg	13.0	90	97
OSVTCS	p-Chloro-m-cresol	4,360	5,080	ug/kg	15.2	66	77

ANLS BATCH: 32201 LSG SAMPLE NO: H0242336

TEST	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RECOVERY	MSD PCT RECOVERY
OVTCS	1,1-Dichloroethene	54.4	48.7	ug/kg	11.0	109	97
OVTCS	Benzene	52.9	52.9	ug/kg	0.055	106	106
OVTCS	Chlorobenzene	53.2	51.7	ug/kg	2.93	106	103
OVTCS	Toluene	52.0	50.6	ug/kg	2.66	104	101
OVTCS	Trichloroethene	52.1	49.9	ug/kg	4.38	104	100

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REPORT OF LABORATORY ANALYSIS

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
ADDRESS: P.O. BOX 1717
ROSWELL, NM 88202-1717
ATTENTION: LARRY CAMPBELL

LSG CLIENT NO: 0734 0045
PACE PROJECT: H07340045
PACE CLIENT: 620562

SAMPLE ID: AT2-10 D 90-92
LSG SAMPLE NO: H0242650
P.O. NO.: VERBAL
SITE: ATOKA-2

DATE SAMPLED: 30-JUN-93
DATE RECEIVED: 03-JUL-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNIT
1	G107S	BTEX Package		
		Benzene	85,000	ug/kg
		Ethylbenzene	29,000	ug/kg
		Toluene	68,000	ug/kg
		m-Xylene	83,000	ug/kg
		o-Xylene	20,000	ug/kg
		p-Xylene	13,000	ug/kg
3	I685S	Petroleum Hydrocarbons	4,500	mg/kg

COMMENTS: Results are reported on an "as received" basis without correction for percent moisture unless previously specified.

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL REPORT
SUPPLEMENTAL INFORMATION

			SAMPLE PREPARATION			SAMPLE ANALYSIS				
LN	TEST CODE	BATCH	LR-METHOD	DATE/TIME	ANALYST	LR-METHOD	DATE/TIME	ANALYST	ANLS BATCH	INSTRUMENT
SAMPLE ID: AT2-10							LSG SAMPLE NO: H0242650			
1	G107S	32331	NA			19-8020	09-JUL-93 1214	Dan	32104	3678GC
3	I685S	32437	19-3550			02-418.1	15-JUL-93 1300	Lin	0	302WAT

LR	Method Literature Reference
02	EPA-Methods for Chemical Analysis of Water & Wastes, 1984.
19	EPA-Test Methods for Evaluating Solid Waste, 3rd ed, Nov. 1986

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REPORT OF LABORATORY ANALYSIS

July 19, 1993
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QUALITY CONTROL REPORT
SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
SAMPLE ID: AT2-10			LSG SAMPLE NO: H0242650		
2	$VARS	GC Volatile Aromatics Surrogate alpha,alpha,alpha-Trifluorotoluene	438 *	-	1

* The surrogate was out of range due to matrix interferences which was confirmed by re-analysis.

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL REPORT
LABORATORY CONTROL SAMPLE RECOVERY

TEST CODE	DETERMINATION	PERCENT RECOVERY	ACCEPTANCE LIMITS
BATCH: 32331	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0244556
G107S	BTEX Package		
	Benzene	115	-
	Ethylbenzene	112	-
	Toluene	116	-
	m-Xylene	111	-
	o-Xylene	112	-
	p-Xylene	104	-
BATCH: 32437	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0244699
I685S	Petroleum Hydrocarbons	105.0	-

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL REPORT
METHOD BLANK DATA

TEST CODE	Determination	RESULT	UNITS
BATCH: 32331	SAMPLE ID: Method Blank	LSG SAMPLE NO:	H0244557
G107S	BTEX Package		
	Benzene	< 5	ug/kg
	Ethylbenzene	< 5	ug/kg
	Toluene	< 5	ug/kg
	m-Xylene	< 5	ug/kg
	o-Xylene	< 5	ug/kg
	p-Xylene	< 5	ug/kg
BATCH: 32437	SAMPLE ID: Method Blank	LSG SAMPLE NO:	H0244700
I685S	Petroleum Hydrocarbons	< 20	mg/kg

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REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL REPORT
DUPLICATE AND MATRIX SPIKE DATA

PREP BATCH: 32437 LSG SAMPLE NO: H0242650

TEST	DETERMINATION	ORIGINAL RESULT	DUPLICATE RESULT	UNITS	RANGE / RPD	UNITS	MS RESULT	MS % RCVRY
I685S	Petroleum Hydrocarbons	4,500	4,500	mg/kg	0.0	mg/kg	4,900	*

* The concentration of the analyte prevented accurate determination of the matrix spike recovery.

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pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

July 19, 1993
Report No.: 00025801
Section H Page 1

QUALITY CONTROL REPORT
MATRIX SPIKE AND MATRIX SPIKE DUPLICATE DATA

ANLS BATCH: 32104 LSG SAMPLE NO: H0241017

TEST	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RECOVERY	MSD PCT RECOVERY
G107S	Benzene	11.7	14.1	ug/kg	18.6	58.5	70
G107S	Ethylbenzene	4.19	4.88	ug/kg	15.2	58.5	24
G107S	Toluene	12.2	13.8	ug/kg	12.3	58.5	69
G107S	m-Xylene	8.40	8.37	ug/kg	0.33	58.5	42
G107S	o-Xylene	9.79	10.3	ug/kg	5.13	58.5	52
G107S	p-Xylene	9.08	11.3	ug/kg	21.8	58.5	56

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REPORT OF LABORATORY ANALYSIS

LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
ADDRESS: P.O. BOX 1717
ROSWELL, NM 88202-1717
ATTENTION: LARRY CAMPBELL

LSG CLIENT NO: 0734 0015
PACE PROJECT: H07340015
PACE CLIENT: 620562

SAMPLE ID: AT2-1B (28-30)
LSG SAMPLE NO: H0242334
P.O. NO.: VERBAL

DATE SAMPLED: 27-JUN-93
DATE RECEIVED: 29-JUN-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNITS
3	I685S	Petroleum Hydrocarbons	6,800	mg/kg
4	OVTCS	TCL - Volatiles in Soil		
		1,1,1-Trichloroethane	< 2,500 *	ug/kg
		1,1,2,2,-Tetrachloroethane	< 2,500	ug/kg
		1,1,2-Trichloroethane	< 2,500	ug/kg
		1,1-Dichloroethane	< 2,500	ug/kg
		1,1-Dichloroethene	< 2,500	ug/kg
		1,2-Dichloroethane	< 2,500	ug/kg
		1,2-Dichloroethene (total)	< 2,500	ug/kg
		1,2-Dichloropropane	< 2,500	ug/kg
		2-Butanone	< 5,000	ug/kg
		2-Hexanone	< 5,000	ug/kg
		4-Methyl-2-pentanone	< 5,000	ug/kg
		Acetone	< 5,000	ug/kg
		Benzene	< 2,500	ug/kg
		Bromodichloromethane	< 2,500	ug/kg
		Bromoform	< 2,500	ug/kg
		Bromomethane	< 5,000	ug/kg
		Carbon disulfide	< 2,500	ug/kg
		Carbon tetrachloride	< 2,500	ug/kg
		Chlorobenzene	< 2,500	ug/kg
		Chloroethane	< 5,000	ug/kg
		Chloroform	< 2,500	ug/kg
		Chloromethane	< 5,000	ug/kg
		Dibromochloromethane	< 2,500	ug/kg
		Ethylbenzene	10,000	ug/kg
		Methylene chloride	< 2,500	ug/kg
		Styrene	< 2,500	ug/kg
		Tetrachloroethene	< 2,500	ug/kg
		Toluene	52,000	ug/kg
		Trichloroethene	< 2,500	ug/kg
		Vinyl acetate	< 5,000	ug/kg
		Vinyl chloride	< 5,000	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: AT2-1B (28-30)
LSG SAMPLE NO: H0242334

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		Xylene(total)	40,000	ug/kg
		cis-1,3-Dichloropropene	< 2,500	ug/kg
		trans-1,3-Dichloropropene	< 2,500	ug/kg
6	OSVTCS	TCL - Semi-volatile Extractables in Soil		
		1,2,4-Trichlorobenzene	< 16,000 *	ug/kg
		1,2-Dichlorobenzene	< 16,000	ug/kg
		1,3-Dichlorobenzene	< 16,000	ug/kg
		1,4-Dichlorobenzene	< 16,000	ug/kg
		2,4,5-Trichlorophenol	< 80,000	ug/kg
		2,4,6-Trichlorophenol	< 16,000	ug/kg
		2,4-Dichlorophenol	< 16,000	ug/kg
		2,4-Dimethylphenol	< 16,000	ug/kg
		2,4-Dinitrophenol	< 80,000	ug/kg
		2,4-Dinitrotoluene	< 16,000	ug/kg
		2,6-Dinitrotoluene	< 16,000	ug/kg
		2-Chloronaphthalene	< 16,000	ug/kg
		2-Chlorophenol	< 16,000	ug/kg
		2-Methylnaphthalene	< 16,000	ug/kg
		2-Methylphenol	< 16,000	ug/kg
		2-Nitroaniline	< 80,000	ug/kg
		2-Nitrophenol	< 16,000	ug/kg
		3,3'-Dichlorobenzidine	< 32,000	ug/kg
		3-Nitroaniline	< 80,000	ug/kg
		4,6-Dinitro-o-cresol	< 80,000	ug/kg
		4-Bromophenylphenylether	< 16,000	ug/kg
		4-Chloro-3-methylphenol	< 80,000	ug/kg
		4-Chloroaniline	< 16,000	ug/kg
		4-Chlorophenylphenylether	< 16,000	ug/kg
		4-Methylphenol	< 16,000	ug/kg
		4-Nitronaniline	< 80,000	ug/kg
		4-Nitrophenol	< 80,000	ug/kg
		Acenaphthene	< 16,000	ug/kg
		Acenaphthylene	< 16,000	ug/kg
		Anthracene	< 16,000	ug/kg
		Benzo(a)anthracene	< 16,000	ug/kg
		Benzo(a)pyrene	< 16,000	ug/kg
		Benzo(b)fluoranthene	< 16,000	ug/kg
		Benzo(g,h,i)perylene	< 16,000	ug/kg
		Benzo(k)fluoranthene	< 16,000	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: AT2-1B (28-30)
LSG SAMPLE NO: H0242334

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		Benzoic acid	< 80,000	ug/kg
		Benzyl alcohol	< 16,000	ug/kg
		Butylbenzylphthalate	< 16,000	ug/kg
		Chrysene	< 16,000	ug/kg
		Di-n-butylphthalate	< 16,000	ug/kg
		Di-n-octylphthalate	< 16,000	ug/kg
		Dibenzo(a,h)anthracene	< 16,000	ug/kg
		Dibenzofuran	< 16,000	ug/kg
		Diethylphthalate	< 16,000	ug/kg
		Dimethylphthalate	< 16,000	ug/kg
		Fluoranthene	< 16,000	ug/kg
		Fluorene	< 16,000	ug/kg
		Hexachlorobenzene	< 16,000	ug/kg
		Hexachlorobutadiene	< 16,000	ug/kg
		Hexachlorocyclopentadiene	< 16,000	ug/kg
		Hexachloroethane	< 16,000	ug/kg
		Indeno(1,2,3-cd)pyrene	< 16,000	ug/kg
		Isophorone	< 16,000	ug/kg
		N-Nitrosodi-n-propylamine	< 16,000	ug/kg
		N-Nitrosodiphenylamine	< 16,000	ug/kg
		Naphthalene	< 16,000	ug/kg
		Nitrobenzene	< 16,000	ug/kg
		Pentachlorophenol	< 80,000	ug/kg
		Phenanthrene	< 16,000	ug/kg
		Phenol	< 16,000	ug/kg
		Pyrene	< 16,000	ug/kg
		bis(2-Chloroethoxy)methane	< 16,000	ug/kg
		bis(2-Chloroethyl)ether	< 16,000	ug/kg
		bis(2-Chloroisopropyl)ether	< 16,000	ug/kg
		bis(2-Ethylhexyl)phthalate	< 16,000	ug/kg

COMMENTS: Results are reported on an "as received" basis without correction for percent moisture unless previously specified.
* The detection limits were elevated due to the dilution required because of the high concentration of target and non-target analytes.

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REPORT OF LABORATORY ANALYSIS

LABORATORY ANALYSIS REPORT

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ADDRESS: P.O. BOX 1717
ROSWELL, NM 88202-1717
ATTENTION: LARRY CAMPBELL

LSG CLIENT NO: 0734 0015
PACE PROJECT: H07340015
PACE CLIENT: 620562

SAMPLE ID: AT2-1A (12-14)
LSG SAMPLE NO: H0242341
P.O. NO.: VERBAL

DATE SAMPLED: 26-JUN-93
DATE RECEIVED: 29-JUN-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNITS
3	I685S	Petroleum Hydrocarbons	2,900	mg/kg
4	OVTCS	TCL - Volatiles in Soil		
		1,1,1-Trichloroethane	< 620 *	ug/kg
		1,1,2,2,-Tetrachloroethane	< 620	ug/kg
		1,1,2-Trichloroethane	< 620	ug/kg
		1,1-Dichloroethane	< 620	ug/kg
		1,1-Dichloroethene	< 620	ug/kg
		1,2-Dichloroethane	< 620	ug/kg
		1,2-Dichloroethene (total)	< 620	ug/kg
		1,2-Dichloropropane	< 620	ug/kg
		2-Butanone	2,000	ug/kg
		2-Hexanone	< 1,200	ug/kg
		4-Methyl-2-pentanone	< 1,200	ug/kg
		Acetone	< 1,200	ug/kg
		Benzene	< 620	ug/kg
		Bromodichloromethane	< 620	ug/kg
		Bromoform	< 620	ug/kg
		Bromomethane	< 1,200	ug/kg
		Carbon disulfide	< 620	ug/kg
		Carbon tetrachloride	< 620	ug/kg
		Chlorobenzene	< 620	ug/kg
		Chloroethane	< 1,200	ug/kg
		Chloroform	< 620	ug/kg
		Chloromethane	< 1,200	ug/kg
		Dibromochloromethane	< 620	ug/kg
		Ethylbenzene	< 620	ug/kg
		Methylene chloride	< 620	ug/kg
		Styrene	< 620	ug/kg
		Tetrachloroethene	< 620	ug/kg
		Toluene	< 620	ug/kg
		Trichloroethene	< 620	ug/kg
		Vinyl acetate	< 1,200	ug/kg
		Vinyl chloride	< 1,200	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: AT2-1A (12-14)
LSG SAMPLE NO: H0242341

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		Xylene(total)	< 620	ug/kg
		cis-1,3-Dichloropropene	< 620	ug/kg
		trans-1,3-Dichloropropene	< 620	ug/kg
6	OSVTCS	TCL - Semi-volatile Extractables in Soil		
		1,2,4-Trichlorobenzene	< 330	ug/kg
		1,2-Dichlorobenzene	< 330	ug/kg
		1,3-Dichlorobenzene	< 330	ug/kg
		1,4-Dichlorobenzene	< 330	ug/kg
		2,4,5-Trichlorophenol	< 1,600	ug/kg
		2,4,6-Trichlorophenol	< 330	ug/kg
		2,4-Dichlorophenol	< 330	ug/kg
		2,4-Dimethylphenol	< 1,600	ug/kg
		2,4-Dinitrophenol	< 330	ug/kg
		2,4-Dinitrotoluene	< 330	ug/kg
		2,6-Dinitrotoluene	< 330	ug/kg
		2-Chloronaphthalene	< 330	ug/kg
		2-Chlorophenol	< 330	ug/kg
		2-Methylnaphthalene	5,000	ug/kg
		2-Methylphenol	< 330	ug/kg
		2-Nitroaniline	< 1,600	ug/kg
		2-Nitrophenol	< 330	ug/kg
		3,3'-Dichlorobenzidine	< 660	ug/kg
		3-Nitroaniline	< 1,600	ug/kg
		4,6-Dinitro-o-cresol	< 1,600	ug/kg
		4-Bromophenylphenylether	< 330	ug/kg
		4-Chloro-3-methylphenol	< 1,600	ug/kg
		4-Chloroaniline	< 330	ug/kg
		4-Chlorophenylphenylether	< 330	ug/kg
		4-Methylphenol	< 330	ug/kg
		4-Nitronaniline	< 1,600	ug/kg
		4-Nitrophenol	< 1,600	ug/kg
		Acenaphthene	< 330	ug/kg
		Acenaphthylene	< 330	ug/kg
		Anthracene	< 330	ug/kg
		Benzo(a)anthracene	< 330	ug/kg
		Benzo(a)pyrene	< 330	ug/kg
		Benzo(b)fluoranthene	< 330	ug/kg
		Benzo(g,h,i)perylene	< 330	ug/kg
		Benzo(k)fluoranthene	< 330	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: AT2-1A (12-14)
LSG SAMPLE NO: H0242341

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		Benzoic acid	< 1,600	ug/kg
		Benzyl alcohol	< 330	ug/kg
		Butylbenzylphthalate	< 330	ug/kg
		Chrysene	< 330	ug/kg
		Di-n-butylphthalate	< 330	ug/kg
		Di-n-octylphthalate	< 330	ug/kg
		Dibenzo(a,h)anthracene	< 330	ug/kg
		Dibenzofuran	420	ug/kg
		Diethylphthalate	< 330	ug/kg
		Dimethylphthalate	< 330	ug/kg
		Fluoranthene	< 330	ug/kg
		Fluorene	< 330	ug/kg
		Hexachlorobenzene	< 330	ug/kg
		Hexachlorobutadiene	< 330	ug/kg
		Hexachlorocyclopentadiene	< 330	ug/kg
		Hexachloroethane	< 330	ug/kg
		Indeno(1,2,3-cd)pyrene	< 330	ug/kg
		Isophorone	< 330	ug/kg
		N-Nitrosodi-n-propylamine	< 330	ug/kg
		N-Nitrosodiphenylamine	< 330	ug/kg
		Naphthalene	600	ug/kg
		Nitrobenzene	< 330	ug/kg
		Pentachlorophenol	< 1,600	ug/kg
		Phenanthrene	< 330	ug/kg
		Phenol	< 330	ug/kg
		Pyrene	< 330	ug/kg
		bis(2-Chloroethoxy)methane	< 330	ug/kg
		bis(2-Chloroethyl)ether	< 330	ug/kg
		bis(2-Chloroisopropyl)ether	< 330	ug/kg
		bis(2-Ethylhexyl)phthalate	< 330	ug/kg

COMMENTS: Results are reported on an "as received" basis without correction for percent moisture unless previously specified.
* The detection limits were elevated due to the dilution required because of the high concentration of non-target analytes.

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REPORT OF LABORATORY ANALYSIS

LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
ADDRESS: P.O. BOX 1717
ROSWELL, NM 88202-1717
ATTENTION: LARRY CAMPBELL

LSG CLIENT NO: 0734 0015
PACE PROJECT: H07340015
PACE CLIENT: 620562

SAMPLE ID: AT2-1C (60-62)
LSG SAMPLE NO: H0242342
P.O. NO.: VERBAL

DATE SAMPLED: 26-JUN-93
DATE RECEIVED: 29-JUN-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNITS
3	I685S	Petroleum Hydrocarbons	4,200	mg/kg
4	OVTCS	TCL - Volatiles in Soil		
		1,1,1-Trichloroethane	< 620 *	ug/kg
		1,1,2,2,-Tetrachloroethane	< 620	ug/kg
		1,1,2-Trichloroethane	< 620	ug/kg
		1,1-Dichloroethane	< 620	ug/kg
		1,1-Dichloroethene	< 620	ug/kg
		1,2-Dichloroethane	< 620	ug/kg
		1,2-Dichloroethene (total)	< 620	ug/kg
		1,2-Dichloropropane	< 620	ug/kg
		2-Butanone	< 1,200	ug/kg
		2-Hexanone	< 1,200	ug/kg
		4-Methyl-2-pentanone	< 1,200	ug/kg
		Acetone	6,000	ug/kg
		Benzene	1,600	ug/kg
		Bromodichloromethane	< 620	ug/kg
		Bromoform	< 620	ug/kg
		Bromomethane	< 1,200	ug/kg
		Carbon disulfide	< 620	ug/kg
		Carbon tetrachloride	< 620	ug/kg
		Chlorobenzene	< 620	ug/kg
		Chloroethane	< 1,200	ug/kg
		Chloroform	< 620	ug/kg
		Chloromethane	< 1,200	ug/kg
		Dibromochloromethane	< 620	ug/kg
		Ethylbenzene	2,600	ug/kg
		Methylene chloride	< 620	ug/kg
		Styrene	< 620	ug/kg
		Tetrachloroethene	< 620	ug/kg
		Toluene	22,000	ug/kg
		Trichloroethene	< 620	ug/kg
		Vinyl acetate	< 1,200	ug/kg
		Vinyl chloride	< 1,200	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: AT2-1C (60-62)
LSG SAMPLE NO: H0242342

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		Xylene(total)	49,000	ug/kg
		cis-1,3-Dichloropropene	< 620	ug/kg
		trans-1,3-Dichloropropene	< 620	ug/kg
6	OSVTCS	TCL - Semi-volatile Extractables in Soil		
		1,2,4-Trichlorobenzene	< 3,300 *	ug/kg
		1,2-Dichlorobenzene	< 3,300	ug/kg
		1,3-Dichlorobenzene	< 3,300	ug/kg
		1,4-Dichlorobenzene	< 3,300	ug/kg
		2,4,5-Trichlorophenol	< 16,000	ug/kg
		2,4,6-Trichlorophenol	< 3,300	ug/kg
		2,4-Dichlorophenol	< 3,300	ug/kg
		2,4-Dimethylphenol	< 3,300	ug/kg
		2,4-Dinitrophenol	< 16,000	ug/kg
		2,4-Dinitrotoluene	< 3,300	ug/kg
		2,6-Dinitrotoluene	< 3,300	ug/kg
		2-Chloronaphthalene	< 3,300	ug/kg
		2-Chlorophenol	< 3,300	ug/kg
		2-Methylnaphthalene	17,000	ug/kg
		2-Methylphenol	< 3,300	ug/kg
		2-Nitroaniline	< 16,000	ug/kg
		2-Nitrophenol	< 3,300	ug/kg
		3,3'-Dichlorobenzidine	< 6,600	ug/kg
		3-Nitroaniline	< 16,000	ug/kg
		4,6-Dinitro-o-cresol	< 16,000	ug/kg
		4-Bromophenylphenylether	< 3,300	ug/kg
		4-Chloro-3-methylphenol	< 16,000	ug/kg
		4-Chloroaniline	< 3,300	ug/kg
		4-Chlorophenylphenylether	< 3,300	ug/kg
		4-Methylphenol	< 3,300	ug/kg
		4-Nitronaniline	< 16,000	ug/kg
		4-Nitrophenol	< 16,000	ug/kg
		Acenaphthene	< 3,300	ug/kg
		Acenaphthylene	< 3,300	ug/kg
		Anthracene	< 3,300	ug/kg
		Benzo(a)anthracene	< 3,300	ug/kg
		Benzo(a)pyrene	< 3,300	ug/kg
		Benzo(b)fluoranthene	< 3,300	ug/kg
		Benzo(g,h,i)perylene	< 3,300	ug/kg
		Benzo(k)fluoranthene	< 3,300	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: AT2-1C (60-62)
LSG SAMPLE NO: H0242342

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		Benzoic acid	< 16,000	ug/kg
		Benzyl alcohol	< 3,300	ug/kg
		Butylbenzylphthalate	< 3,300	ug/kg
		Chrysene	< 3,300	ug/kg
		Di-n-butylphthalate	< 3,300	ug/kg
		Di-n-octylphthalate	< 3,300	ug/kg
		Dibenzo(a,h)anthracene	< 3,300	ug/kg
		Dibenzofuran	< 3,300	ug/kg
		Diethylphthalate	< 3,300	ug/kg
		Dimethylphthalate	< 3,300	ug/kg
		Fluoranthene	< 3,300	ug/kg
		Fluorene	< 3,300	ug/kg
		Hexachlorobenzene	< 3,300	ug/kg
		Hexachlorobutadiene	< 3,300	ug/kg
		Hexachlorocyclopentadiene	< 3,300	ug/kg
		Hexachloroethane	< 3,300	ug/kg
		Indeno(1,2,3-cd)pyrene	< 3,300	ug/kg
		Isophorone	< 3,300	ug/kg
		N-Nitrosodi-n-propylamine	< 3,300	ug/kg
		N-Nitrosodiphenylamine	< 3,300	ug/kg
		Naphthalene	4,300	ug/kg
		Nitrobenzene	< 3,300	ug/kg
		Pentachlorophenol	< 16,000	ug/kg
		Phenanthrene	< 3,300	ug/kg
		Phenol	< 3,300	ug/kg
		Pyrene	< 3,300	ug/kg
		bis(2-Chloroethoxy)methane	< 3,300	ug/kg
		bis(2-Chloroethyl)ether	< 3,300	ug/kg
		bis(2-Chloroisopropyl)ether	< 3,300	ug/kg
		bis(2-Ethylhexyl)phthalate	< 3,300	ug/kg

COMMENTS: Results are reported on an "as received" basis without correction for percent moisture unless previously specified.
* The detection limits were elevated due to the dilution required because of the high concentration of non-target analytes.

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QUALITY CONTROL REPORT
SUPPLEMENTAL INFORMATION

			SAMPLE PREPARATION			SAMPLE ANALYSIS				
LN	TEST CODE	PREP BATCH	LR-METHOD	DATE/TIME	ANALYST	LR-METHOD	DATE/TIME	ANALYST	ANLS BATCH	INSTRUMENT
SAMPLE ID: AT1-2B (32-33)							LSG SAMPLE NO: H0242333			
3	I685S	32126	19-3550			02-418.1	29-JUN-93 1100	JLJ	0	302WAT
4	OVTCS	32153	NA			19-8240	29-JUN-93 1805	EHM	32091	GCMSQ
6	OSVTCS	32130	19-3550	29-JUN-93 1400	MLN	19-8270	29-JUN-93 2233	GMW	32106	GCMSP
SAMPLE ID: AT2-1B (28-30)							LSG SAMPLE NO: H0242334			
3	I685S	32126	19-3550			02-418.1	29-JUN-93 1100	JLJ	0	302WAT
4	OVTCS	32153	NA			19-8240	29-JUN-93 1831	EHM	32091	GCMSQ
6	OSVTCS	32130	19-3550	29-JUN-93 1400	MLN	19-8270	29-JUN-93 1854	ASP	32106	GCMSS
SAMPLE ID: AT1-2W							LSG SAMPLE NO: H0242335			
3	I685	32124	02-418.1			02-418.1	29-JUN-93 600	JLJ	0	302WAT
8	I590	32178	NA			02-160.1	29-JUN-93 2359	DPP	0	005WAT
11	OSVTCW	32138	19-3520	29-JUN-93 1530	MLN	19-8270	29-JUN-93 1806	ASP	32107	GCMSS
11	OSVTCW	32138	19-3520	29-JUN-93 1530	MLN	19-8270	29-JUN-93 1806	ASP	32107	GCMSS
13	OVTCW	32154	NA			05-624	29-JUN-93 1648	JBP	32144	GCMSR

LR	Method Literature Reference
02	EPA-Methods for Chemical Analysis of Water & Wastes, 1984.
19	EPA-Test Methods for Evaluating Solid Waste, 3rd ed, Nov. 1986

LR	Method Literature Reference
02	EPA-Methods for Chemical Analysis of Water & Wastes, 1984.
19	EPA-Test Methods for Evaluating Solid Waste, 3rd ed, Nov. 1986

LR	Method Literature Reference
02	EPA-Methods for Chemical Analysis of Water & Wastes, 1984.
05	EPA-40 CFR 136, October 26, 1984.
19	EPA-Test Methods for Evaluating Solid Waste, 3rd ed, Nov. 1986

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QUALITY CONTROL REPORT
SUPPLEMENTAL INFORMATION

			SAMPLE PREPARATION			SAMPLE ANALYSIS				
LN	TEST CODE	BATCH	LR-METHOD	DATE/TIME	ANALYST	LR-METHOD	DATE/TIME	ANALYST	ANLS BATCH	INSTRUMENT

SAMPLE ID: AT1-3A (20-22) LSG SAMPLE NO: H0242336

3	I685S	32215	19-3550			02-418.1	01-JUL-93 600	Lin	0	302WAT
4	OVTCS	32201	NA			19-8240	30-JUN-93 1320	E M	32201	GCMSQ
6	OSVTCS	32130	19-3550	29-JUN-93 1400	MLN	19-8270	07-JUL-93 2215	G W	32106	GCMSP

LR	Method Literature Reference
02	EPA-Methods for Chemical Analysis of Water & Wastes, 1984.
19	EPA-Test Methods for Evaluating Solid Waste, 3rd ed, Nov. 1986

SAMPLE ID: AT1-1A (16-17) LSG SAMPLE NO: H0242337

3	I685S	32215	19-3550			02-418.1	01-JUL-93 600	Lin	0	302WAT
4	OVTCS	32201	NA			19-8240	30-JUN-93 1320	E M	32201	GCMSQ
6	OSVTCS	32130	19-3550	29-JUN-93 1400	MLN	19-8270	08-JUL-93 1242	G W	32106	GCMSP

LR	Method Literature Reference
02	EPA-Methods for Chemical Analysis of Water & Wastes, 1984.
19	EPA-Test Methods for Evaluating Solid Waste, 3rd ed, Nov. 1986

SAMPLE ID: AT1-1B (18.5-20.5) LSG SAMPLE NO: H0242338

3	I685S	32215	19-3550			02-418.1	01-JUL-93 600	Lin	0	302WAT
4	OVTCS	32201	NA			19-8240	30-JUN-93 1353	E M	32201	GCMSQ
6	OSVTCS	32130	19-3550	29-JUN-93 1400	MLN	19-8270	07-JUL-93 2028	C H	32106	GCMST

LR	Method Literature Reference
02	EPA-Methods for Chemical Analysis of Water & Wastes, 1984.
19	EPA-Test Methods for Evaluating Solid Waste, 3rd ed, Nov. 1986

REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL REPORT
SUPPLEMENTAL INFORMATION

			SAMPLE PREPARATION			SAMPLE ANALYSIS				
LN	TEST CODE	BATCH	LR-METHOD	DATE/TIME	ANALYST	LR-METHOD	DATE/TIME	ANALYST	ANLS BATCH	INSTRUMENT
SAMPLE ID: AT1-2A (12-14)							LSG SAMPLE NO: H0242339			
3	I685S	32215	19-3550			02-418.1	01-JUL-93 600	Lin	0	302WAT
4	OVTCS	32201	NA			19-8240	30-JUN-93 1426	E M	32201	GCMSQ
6	OSVTCS	32130	19-3550	29-JUN-93 1400	MLN	19-8270	07-JUL-93 2115	C H	32130	GCMST
SAMPLE ID: AT2-1A (12-14)							LSG SAMPLE NO: H0242341			
3	I685S	32215	19-3550			02-418.1	01-JUL-93 600	Lin	0	302WAT
4	OVTCS	32201	NA			19-8240	30-JUN-93 1531	E M	32201	GCMSQ
6	OSVTCS	32130	19-3550	29-JUN-93 1400	MLN	19-8270	07-JUL-93 2202	C H	32130	GCMST
SAMPLE ID: AT2-1C (60-62)							LSG SAMPLE NO: H0242342			
3	I685S	32215	19-3550			02-418.1	01-JUL-93 600	Lin	0	302WAT
4	OVTCS	32201	NA			19-8240	30-JUN-93 1615	E M	32201	GCMSQ
6	OSVTCS	32130	19-3550	29-JUN-93 1400	MLN	19-8270	08-JUL-93 1107	C H	32130	GCMST

LR	Method Literature Reference
02	EPA-Methods for Chemical Analysis of Water & Wastes, 1984.
19	EPA-Test Methods for Evaluating Solid Waste, 3rd ed, Nov. 1986

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QUALITY CONTROL REPORT
SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
SAMPLE ID:	AT1-2B (32-33)		LSG SAMPLE NO:	H0242333	
5	$VOAS	GC/MS Volatiles Surrogates			4
		1,2-Dichloroethane-d4	86	-	
		4-Bromofluorobenzene	98	-	
		Toluene-d8	80	-	
7	$BNAS	GC/MS BNA Surrogates			6
		2,4,6-Tribromophenol	132	-	
		2-Fluorobiphenyl	862	-	
		2-Fluorophenol	982	-	
		Nitrobenzene-d5	882	-	
		Phenol-d5	109	-	
		p-Terphenyl-d14	118	-	
SAMPLE ID:	AT2-1B (28-30)		LSG SAMPLE NO:	H0242334	
5	$VOAS	GC/MS Volatiles Surrogates			4
		1,2-Dichloroethane-d4	80	-	
		4-Bromofluorobenzene	100	-	
		Toluene-d8	80	-	
7	$BNAS	GC/MS BNA Surrogates			6
		2,4,6-Tribromophenol	*	-	
		2-Fluorobiphenyl	*	-	
		2-Fluorophenol	*	-	
		Nitrobenzene-d5	*	-	
		Phenol-d5	*	-	
		p-Terphenyl-d14	*	-	

* The surrogates were not recovered due to the dilution required because of of matrix interferences or high analyte concentration.

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
SAMPLE ID:	AT1-2W		LSG SAMPLE NO:	H0242335	
12	$BNAW	GC/MS BNA Surrogates			11
		2,4,6-Tribromophenol	*	-	
		2-Fluorobiphenyl	*	-	
		2-Fluorophenol	*	-	
		Nitrobenzene-d5		-	
		Phenol-d5		-	
		p-Terphenyl-d14		-	

* The surrogates were not recovered due to the dilution required because of of matrix interferences or high analyte concentration.

14	$VOAW	GC/MS Volatiles Surrogates			13
		1,2-Dichloroethane-d4	101	-	
		4-Bromofluorobenzene	96	-	

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QUALITY CONTROL REPORT
SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
		Toluene-d8	93	-	
SAMPLE ID:		AT1-3A (20-22)	LSG SAMPLE NO:	H0242336	
5	$VOAS	GC/MS Volatiles Surrogates			4
		1,2-Dichloroethane-d4	100	-	
		4-Bromofluorobenzene	101	-	
		Toluene-d8	105	-	
7	$BNAS	GC/MS BNA Surrogates			6
		2,4,6-Tribromophenol	140	-	
		2-Fluorobiphenyl	92	-	
		2-Fluorophenol	94	-	
		Nitrobenzene-d5	83	-	
		Phenol-d5	105	-	
		p-Terphenyl-d14	84	-	
SAMPLE ID:		AT1-1A (16-17)	LSG SAMPLE NO:	H0242337	
5	$VOAS	GC/MS Volatiles Surrogates			4
		1,2-Dichloroethane-d4	100	-	
		4-Bromofluorobenzene	101	-	
		Toluene-d8	105	-	
7	$BNAS	GC/MS BNA Surrogates			6
		2,4,6-Tribromophenol	89	-	
		2-Fluorobiphenyl	87	-	
		2-Fluorophenol	84	-	
		Nitrobenzene-d5	82	-	
		Phenol-d5	101	-	
		p-Terphenyl-d14	88	-	
SAMPLE ID:		AT1-1B (18.5-20.5)	LSG SAMPLE NO:	H0242338	
5	$VOAS	GC/MS Volatiles Surrogates			4
		1,2-Dichloroethane-d4	101	-	
		4-Bromofluorobenzene	100	-	
		Toluene-d8	107	-	
7	$BNAS	GC/MS BNA Surrogates			6
		2,4,6-Tribromophenol	118	-	
		2-Fluorobiphenyl	85	-	
		2-Fluorophenol	92	-	
		Nitrobenzene-d5	79	-	
		Phenol-d5	102	-	
		p-Terphenyl-d14	108	-	

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QUALITY CONTROL REPORT
SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
SAMPLE ID:	AT1-2A (12-14)		LSG SAMPLE NO:	H0242339	
5	$VOAS	GC/MS Volatiles Surrogates			4
		1,2-Dichloroethane-d4	95	-	
		4-Bromofluorobenzene	95	-	
		Toluene-d8	103	-	
7	$BNAS	GC/MS BNA Surrogates			6
		2,4,6-Tribromophenol	115	-	
		2-Fluorobiphenyl	82	-	
		2-Fluorophenol	83	-	
		Nitrobenzene-d5	75	-	
		Phenol-d5	94	-	
		p-Terphenyl-d14	101	-	
SAMPLE ID:	AT2-1A (12-14)		LSG SAMPLE NO:	H0242341	
5	$VOAS	GC/MS Volatiles Surrogates			4
		1,2-Dichloroethane-d4	98	-	
		4-Bromofluorobenzene	91	-	
		Toluene-d8	99	-	
7	$BNAS	GC/MS BNA Surrogates			6
		2,4,6-Tribromophenol	112	-	
		2-Fluorobiphenyl	74	-	
		2-Fluorophenol	47	-	
		Nitrobenzene-d5	91	-	
		Phenol-d5	53	-	
		p-Terphenyl-d14	89	-	
SAMPLE ID:	AT2-1C (60-62)		LSG SAMPLE NO:	H0242342	
5	$VOAS	GC/MS Volatiles Surrogates			4
		1,2-Dichloroethane-d4	109	-	
		4-Bromofluorobenzene	112	-	
		Toluene-d8	96	-	
7	$BNAS	GC/MS BNA Surrogates			6
		Phenol-d5	88	-	
		p-Terphenyl-d14	79	-	
		2,4,6-Tribromophenol	70	-	
		2-Fluorobiphenyl	86	-	
		2-Fluorophenol	78	-	
		Nitrobenzene-d5	120	-	

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QUALITY CONTROL REPORT
LABORATORY CONTROL SAMPLE RECOVERY

TEST CODE	DETERMINATION	PERCENT RECOVERY	ACCEPTANCE LIMITS	
BATCH: 32124	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO:	H0243221
I685	Petroleum Hydrocarbons	92.0	-	
BATCH: 32126	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO:	H0243225
I685S	Petroleum Hydrocarbons	108.0	-	
BATCH: 32130	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO:	H0243233
OSVTC	TCL - Semi-volatile Extractables in Soil			
	1,2,4-Trichlorobenzene	74	-	
	1,4-Dichlorobenzene	78	-	
	2,4-Dinitrotoluene	84	-	
	2-Chlorophenol	68	-	
	4-Chloro-3-methylphenol	75	-	
	4-Nitrophenol	116	-	
	Acenaphthene	75	-	
	N-Nitrosodi-n-propylamine	72	-	
	Pentachlorophenol	108	-	
	Phenol	68	-	
	Pyrene	86	-	
BATCH: 32153	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO:	H0243269
OVTCS	TCL - Volatiles in Soil			
	1,1-Dichloroethene	88	-	
	Benzene	99	-	
	Chlorobenzene	89	-	
	Toluene	95	-	
	Trichloroethene	91	-	
BATCH: 32154	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO:	H0243271
OVTCW	TCL - Volatiles in Water			
	1,1-Dichloroethene	95	-	
	Benzene	109	-	
	Chlorobenzene	105	-	
	Toluene	108	-	
	Trichloroethene	99	-	

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QUALITY CONTROL REPORT
LABORATORY CONTROL SAMPLE RECOVERY

TEST CODE	DETERMINATION	PERCENT RECOVERY	ACCEPTANCE LIMITS
BATCH: 32201	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0243344
OVTCS	TCL - Volatiles in Soil		
	1,1-Dichloroethene	99	-
	Benzene	108	-
	Chlorobenzene	94	-
	Toluene	104	-
	Trichloroethene	95	-
BATCH: 32215	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0243361
1685S	Petroleum Hydrocarbons	102	-

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REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL REPORT
METHOD BLANK DATA

	TEST CODE	Determination	RESULT	UNITS
BATCH: 32124	SAMPLE ID: Method Blank		LSG SAMPLE NO: H0243222	
	I685	Petroleum Hydrocarbons	< 0.2	mg/L
BATCH: 32126	SAMPLE ID: Method Blank		LSG SAMPLE NO: H0243226	
	I685S	Petroleum Hydrocarbons	< 20	mg/kg
BATCH: 32130	SAMPLE ID: Method Blank		LSG SAMPLE NO: H0243234	
	OSVTCS	TCL - Semi-volatile Extractables in Soil		
		1,2,4-Trichlorobenzene	< 330	ug/kg
		1,2-Dichlorobenzene	< 330	ug/kg
		1,3-Dichlorobenzene	< 330	ug/kg
		1,4-Dichlorobenzene	< 330	ug/kg
		2,4,5-Trichlorophenol	< 1,600	ug/kg
		2,4,6-Trichlorophenol	< 330	ug/kg
		2,4-Dichlorophenol	< 330	ug/kg
		2,4-Dimethylphenol	< 1,600	ug/kg
		2,4-Dinitrophenol	< 330	ug/kg
		2,4-Dinitrotoluene	< 330	ug/kg
		2,6-Dinitrotoluene	< 330	ug/kg
		2-Chloronaphthalene	< 330	ug/kg
		2-Chlorophenol	< 330	ug/kg
		2-Methylnaphthalene	< 330	ug/kg
		2-Methylphenol	< 330	ug/kg
		2-Nitroaniline	< 1,600	ug/kg
		2-Nitrophenol	< 330	ug/kg
		3,3'-Dichlorobenzidine	< 660	ug/kg
		3-Nitroaniline	< 1,600	ug/kg
		4,6-Dinitro-o-cresol	< 1,600	ug/kg
		4-Bromophenylphenylether	< 330	ug/kg
		4-Chloro-3-methylphenol	< 1,600	ug/kg
		4-Chloroaniline	< 330	ug/kg
		4-Chlorophenylphenylether	< 330	ug/kg
		4-Methylphenol	< 330	ug/kg
		4-Nitronaniline	< 1,600	ug/kg
		4-Nitrophenol	< 1,600	ug/kg
		Acenaphthene	< 330	ug/kg
		Acenaphthylene	< 330	ug/kg
		Anthracene	< 330	ug/kg
		Benzo(a)anthracene	< 330	ug/kg

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QUALITY CONTROL REPORT
METHOD BLANK DATA

TEST CODE	Determination	RESULT	UNITS
	Benzo(a)pyrene	< 330	ug/kg
	Benzo(b)fluoranthene	< 330	ug/kg
	Benzo(g,h,i)perylene	< 330	ug/kg
	Benzo(k)fluoranthene	< 330	ug/kg
	Benzoic acid	< 1,600	ug/kg
	Benzyl alcohol	< 330	ug/kg
	Butylbenzylphthalate	< 330	ug/kg
	Chrysene	< 330	ug/kg
	Di-n-butylphthalate	< 330	ug/kg
	Di-n-octylphthalate	< 330	ug/kg
	Dibenzo(a,h)anthracene	< 330	ug/kg
	Dibenzofuran	< 330	ug/kg
	Diethylphthalate	< 330	ug/kg
	Dimethylphthalate	< 330	ug/kg
	Fluoranthene	< 330	ug/kg
	Fluorene	< 330	ug/kg
	Hexachlorobenzene	< 330	ug/kg
	Hexachlorobutadiene	< 330	ug/kg
	Hexachlorocyclopentadiene	< 330	ug/kg
	Hexachloroethane	< 330	ug/kg
	Indeno(1,2,3-cd)pyrene	< 330	ug/kg
	Isophorone	< 330	ug/kg
	N-Nitrosodi-n-propylamine	< 330	ug/kg
	N-Nitrosodiphenylamine	< 330	ug/kg
	Naphthalene	< 330	ug/kg
	Nitrobenzene	< 330	ug/kg
	Pentachlorophenol	< 1,600	ug/kg
	Phenanthrene	< 330	ug/kg
	Phenol	< 330	ug/kg
	Pyrene	< 330	ug/kg
	bis(2-Chloroethoxy)methane	< 330	ug/kg
	bis(2-Chloroethyl)ether	< 330	ug/kg
	bis(2-Chloroisopropyl)ether	< 330	ug/kg
	bis(2-Ethylhexyl)phthalate	< 330	ug/kg

BATCH: 32138 SAMPLE ID: Method Blank LSG SAMPLE NO: H0243246

OSVTCW	TCL - Semi-volatile Extractables in Water		
	1,2,4-Trichlorobenzene	< 10	ug/L
	1,2-Dichlorobenzene	< 10	ug/L
	1,3-Dichlorobenzene	< 10	ug/L
	1,4-Dichlorobenzene	< 10	ug/L
	2,4,5-Trichlorophenol	< 50	ug/L
	2,4,6-Trichlorophenol	< 10	ug/L

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QUALITY CONTROL REPORT
METHOD BLANK DATA

TEST CODE	Determination	RESULT	UNITS
	2,4-Dichlorophenol	< 10	ug/L
	2,4-Dimethylphenol	< 50	ug/L
	2,4-Dinitrophenol	< 10	ug/L
	2,4-Dinitrotoluene	< 10	ug/L
	2,6-Dinitrotoluene	< 10	ug/L
	2-Chloronaphthalene	< 10	ug/L
	2-Chlorophenol	< 10	ug/L
	2-Methylnaphthalene	< 10	ug/L
	2-Methylphenol	< 10	ug/L
	2-Nitroaniline	< 50	ug/L
	2-Nitrophenol	< 10	ug/L
	3,3'-Dichlorobenzidine	< 20	ug/L
	3-Nitroaniline	< 50	ug/L
	4,6-Dinitro-o-cresol	< 50	ug/L
	4-Bromophenylphenylether	< 10	ug/L
	4-Chloro-3-methylphenol	< 50	ug/L
	4-Chloroaniline	< 10	ug/L
	4-Chlorophenylphenylether	< 10	ug/L
	4-Methylphenol	< 10	ug/L
	4-Nitroaniline	< 50	ug/L
	4-Nitrophenol	< 50	ug/L
	Acenaphthene	< 10	ug/L
	Acenaphthylene	< 10	ug/L
	Anthracene	< 10	ug/L
	Benzo(a)anthracene	< 10	ug/L
	Benzo(a)pyrene	< 10	ug/L
	Benzo(b)fluoranthene	< 10	ug/L
	Benzo(g,h,i)perylene	< 10	ug/L
	Benzo(k)fluoranthene	< 10	ug/L
	Benzoic acid	< 50	ug/L
	Benzyl alcohol	< 10	ug/L
	Butylbenzylphthalate	< 10	ug/L
	Chrysene	< 10	ug/L
	Di-n-butylphthalate	< 10	ug/L
	Di-n-octylphthalate	< 10	ug/L
	Dibenzo(a,h)anthracene	< 10	ug/L
	Dibenzofuran	< 10	ug/L
	Diethylphthalate	< 10	ug/L
	Dimethylphthalate	< 10	ug/L
	Fluoranthene	< 10	ug/L
	Fluorene	< 10	ug/L
	Hexachlorobenzene	< 10	ug/L
	Hexachlorobutadiene	< 10	ug/L
	Hexachlorocyclopentadiene	< 10	ug/L

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QUALITY CONTROL REPORT
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TEST CODE	Determination	RESULT	UNITS
	Hexachloroethane	< 10	ug/L
	Indeno(1,2,3-cd)pyrene	< 10	ug/L
	Isophorone	< 10	ug/L
	N-Nitroso-di-n-propylamine	< 10	ug/L
	N-Nitrosodiphenylamine	< 10	ug/L
	Naphthalene	< 10	ug/L
	Nitrobenzene	< 10	ug/L
	Pentachlorophenol	< 50	ug/L
	Phenanthrene	< 10	ug/L
	Phenol	< 10	ug/L
	Pyrene	< 10	ug/L
	bis(2-Chloroethoxy)methane	< 10	ug/L
	bis(2-Chloroethyl)ether	< 10	ug/L
	bis(2-Chloroisopropyl)ether	< 10	ug/L
	bis(2-Ethylhexyl)phthalate	< 10	ug/L

BATCH: 32153 SAMPLE ID: Method Blank LSG SAMPLE NO: H0243270

OVTCS	TCL - Volatiles in Soil		
	1,1,1-Trichloroethane	< 5	ug/kg
	1,1,2,2,-Tetrachloroethane	< 5	ug/kg
	1,1,2-Trichloroethane	< 5	ug/kg
	1,1-Dichloroethane	< 5	ug/kg
	1,1-Dichloroethene	< 5	ug/kg
	1,2-Dichloroethane	< 5	ug/kg
	1,2-Dichloroethene (total)	< 5	ug/kg
	1,2-Dichloropropane	< 5	ug/kg
	2-Butanone	< 10	ug/kg
	2-Hexanone	< 10	ug/kg
	4-Methyl-2-pentanone	< 10	ug/kg
	Acetone	< 10	ug/kg
	Benzene	< 5	ug/kg
	Bromodichloromethane	< 5	ug/kg
	Bromoform	< 5	ug/kg
	Bromomethane	< 10	ug/kg
	Carbon disulfide	< 5	ug/kg
	Carbon tetrachloride	< 5	ug/kg
	Chlorobenzene	< 5	ug/kg
	Chloroethane	< 10	ug/kg
	Chloroform	< 5	ug/kg
	Chloromethane	< 10	ug/kg
	Dibromochloromethane	< 5	ug/kg
	Ethylbenzene	< 5	ug/kg
	Methylene chloride	< 5	ug/kg

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QUALITY CONTROL REPORT
METHOD BLANK DATA

TEST CODE	Determination	RESULT	UNITS
	Styrene	< 5	ug/kg
	Tetrachloroethene	< 5	ug/kg
	Toluene	< 5	ug/kg
	Trichloroethene	< 5	ug/kg
	Vinyl acetate	< 10	ug/kg
	Vinyl chloride	< 10	ug/kg
	Xylene(total)	< 5	ug/kg
	cis-1,3-Dichloropropene	< 5	ug/kg
	trans-1,3-Dichloropropene	< 5	ug/kg
BATCH: 32154	SAMPLE ID: Method Blank	LSG SAMPLE NO:	H0243272
OVTCW	TCL - Volatiles in Water		
	Xylene(total)	< 5	ug/L
	1,1,1-Trichloroethane	< 5	ug/L
	1,1,2,2-Tetrachloroethane	< 5	ug/L
	1,1,2-Trichloroethane	< 5	ug/L
	1,1-Dichloroethane	< 5	ug/L
	1,1-Dichloroethene	< 5	ug/L
	1,2-Dichloroethane	< 5	ug/L
	1,2-Dichloroethene (total)	< 5	ug/L
	1,2-Dichloropropane	< 5	ug/L
	2-Butanone	< 10	ug/L
	2-Hexanone	< 10	ug/L
	4-Methyl-2-pentanone	< 10	ug/L
	Acetone	< 10	ug/L
	Benzene	< 5	ug/L
	Bromodichloromethane	< 5	ug/L
	Bromoform	< 5	ug/L
	Bromomethane	< 10	ug/L
	Carbon disulfide	< 5	ug/L
	Carbon tetrachloride	< 5	ug/L
	Chlorobenzene	< 5	ug/L
	Chloroethane	< 10	ug/L
	Chloroform	< 5	ug/L
	Chloromethane	< 10	ug/L
	Dibromochloromethane	< 5	ug/L
	Ethylbenzene	< 5	ug/L
	Methylene chloride	< 5	ug/L
	Styrene	< 5	ug/L
	Tetrachloroethene	< 5	ug/L
	Toluene	< 5	ug/L
	Trichloroethene	< 5	ug/L
	Vinyl acetate	< 10	ug/L

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QUALITY CONTROL REPORT
METHOD BLANK DATA

TEST CODE	Determination	RESULT	UNITS
	Vinyl chloride	< 10	ug/L
	cis-1,3-Dichloropropene	< 5	ug/L
	trans-1,3-Dichloropropene	< 5	ug/L
BATCH: 32178	SAMPLE ID: Method Blank	LSG SAMPLE NO:	H0243314
I590	Solids, Dissolved at 180C	< 10	mg/L
BATCH: 32201	SAMPLE ID: Method Blank	LSG SAMPLE NO:	H0243345
OVTCS	TCL - Volatiles in Soil		
	Bromodichloromethane	< 5	ug/kg
	Bromoform	< 5	ug/kg
	Bromomethane	< 10	ug/kg
	Carbon disulfide	< 5	ug/kg
	Carbon tetrachloride	< 5	ug/kg
	Chlorobenzene	< 5	ug/kg
	Chloroethane	< 10	ug/kg
	Chloroform	< 5	ug/kg
	Chloromethane	< 10	ug/kg
	Dibromochloromethane	< 5	ug/kg
	Ethylbenzene	< 5	ug/kg
	Methylene chloride	< 5	ug/kg
	Styrene	< 5	ug/kg
	Tetrachloroethene	< 5	ug/kg
	Toluene	< 5	ug/kg
	Trichloroethene	< 5	ug/kg
	Vinyl acetate	< 10	ug/kg
	Vinyl chloride	< 10	ug/kg
	Xylene(total)	< 5	ug/kg
	cis-1,3-Dichloropropene	< 5	ug/kg
	1,1,1-Trichloroethane	< 5	ug/kg
	1,1,2,2,-Tetrachloroethane	< 5	ug/kg
	1,1,2-Trichloroethane	< 5	ug/kg
	1,1-Dichloroethane	< 5	ug/kg
	1,1-Dichloroethene	< 5	ug/kg
	1,2-Dichloroethane	< 5	ug/kg
	1,2-Dichloroethene (total)	< 5	ug/kg
	1,2-Dichloropropane	< 5	ug/kg
	2-Butanone	< 10	ug/kg
	2-Hexanone	< 10	ug/kg
	4-Methyl-2-pentanone	< 10	ug/kg
	Acetone	< 10	ug/kg
	Benzene	< 5	ug/kg

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QUALITY CONTROL REPORT
METHOD BLANK DATA

TEST CODE	Determination	RESULT	UNITS
	trans-1,3-Dichloropropene	< 5	ug/kg
BATCH: 32215	SAMPLE ID: Method Blank	LSG SAMPLE NO:	H0243362
I685S	Petroleum Hydrocarbons	< 20	mg/kg

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REPORT OF LABORATORY ANALYSIS

July 20, 1993
Report No.: 00025837
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QUALITY CONTROL REPORT
DUPLICATE AND MATRIX SPIKE DATA

PREP BATCH: 32126 LSG SAMPLE NO: H0242334

TEST	DETERMINATION	ORIGINAL RESULT	DUPLICATE RESULT	UNITS	RANGE / RPD	UNITS	MS RESULT	MS % RCVRY
I685S	Petroleum Hydrocarbons	6,800	6,800	mg/kg	0.0	mg/kg	7,800	*

* The concentration of the analyte prevented accurate determination of the matrix spike recovery.

PREP BATCH: 32178 LSG SAMPLE NO: H0242335

TEST	DETERMINATION	ORIGINAL RESULT	DUPLICATE RESULT	UNITS	RANGE / RPD	UNITS	MS RESULT	MS % RCVRY
I590	Solids, Dissolved at 180C	7,700	7,700	mg/L	0.0	mg/L		

PREP BATCH: 32215 LSG SAMPLE NO: H0242341

TEST	DETERMINATION	ORIGINAL RESULT	DUPLICATE RESULT	UNITS	RANGE / RPD	UNITS	MS RESULT	MS % RCVRY
I685S	Petroleum Hydrocarbons	2,900	2,800	mg/kg	4	mg/kg	3,000 *	*

* The concentration of the analyte prevented accurate determination of the matrix spike recovery.

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QUALITY CONTROL REPORT
MATRIX SPIKE AND MATRIX SPIKE DUPLICATE DATA

PREP BATCH: 32201 LSG SAMPLE NO: H0242336

TEST	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RECOVERY	MSD PCT RECOVERY
OVTCS	1,1-Dichloroethene	54.4	48.7	ug/kg	11.0	109	97
OVTCS	Benzene	52.9	52.9	ug/kg	0.055	106	106
OVTCS	Chlorobenzene	53.2	51.7	ug/kg	2.93	106	103
OVTCS	Toluene	52.0	50.6	ug/kg	2.66	104	101
OVTCS	Trichloroethene	52.1	49.9	ug/kg	4.38	104	100

PREP BATCH: 32130 LSG SAMPLE NO: H0242341

TEST	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RECOVERY	MSD PCT RECOVERY
OSVTCS	1,2,4-Trichlorobenzene	3,530	4,030	ug/kg	13.2	106	121
OSVTCS	1,4-Dichlorobenzene	1,430	1,400	ug/kg	2.12	43	42
OSVTCS	2,4-Dinitrotoluene	3,720	3,630	ug/kg	2.45	111	109
OSVTCS	2-Chlorophenol	2,870	2,770	ug/kg	3.55	43	42
OSVTCS	4-Nitrophenol	5,730	5,370	ug/kg	6.49	86	80
OSVTCS	Acenaphthene	2,430	2,370	ug/kg	2.50	73	71
OSVTCS	N-Nitrosodi-n-propylamine	1,890	1,810	ug/kg	4.32	57	54
OSVTCS	Pentachlorophenol	7,060	7,160	ug/kg	1.41	106	107
OSVTCS	Phenol	2,620	2,510	ug/kg	4.29	39	38
OSVTCS	Pyrene	3,120	2,830	ug/kg	9.75	94	85
OSVTCS	p-Chloro-m-cresol	6,660	6,550	ug/kg	1.66	100	98

ANLS BATCH: 32091 LSG SAMPLE NO: H0242034

TEST	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RECOVERY	MSD PCT RECOVERY

ANLS BATCH: 32106 LSG SAMPLE NO: H0242130

TEST	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RECOVERY	MSD PCT RECOVERY
OSVTCS	1,2,4-Trichlorobenzene	3,000	2,760	ug/kg	8.33	91	84
OSVTCS	1,4-Dichlorobenzene	2,610	2,370	ug/kg	9.64	79	72
OSVTCS	2,4-Dinitrotoluene	2,770	2,830	ug/kg	2.14	84	86

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REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL REPORT
MATRIX SPIKE AND MATRIX SPIKE DUPLICATE DATA

ANLS BATCH: 32106 LSG SAMPLE NO: H0242130

TEST	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RECOVERY	MSD PCT RECOVERY
OSVTCS	2-Chlorophenol	5,500	4,940	ug/kg	10.7	83	75
OSVTCS	4-Chloro-3-methylphenol	5,350	5,000	ug/kg	6.76	81	76
OSVTCS	4-Nitrophenol	5,170	5,380	ug/kg	3.98	78	82
OSVTCS	Acenaphthene	2,510	2,440	ug/kg	2.83	76	74
OSVTCS	N-Nitrosodi-n-propylamine	2,770	2,600	ug/kg	6.33	84	79
OSVTCS	Pentachlorophenol	8,040	7,790	ug/kg	3.16	122	118
OSVTCS	Phenol	5,440	4,820	ug/kg	12.1	82	73
OSVTCS	Pyrene	2,770	2,800	ug/kg	1.08	84	84

ANLS BATCH: 32107 LSG SAMPLE NO: H0242108

TEST	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RECOVERY	MSD PCT RECOVERY
OSVTCW	1,2,4-Trichlorobenzene	65	61	ug/L	4.81	65	61
OSVTCW	1,4-Dichlorobenzene	63	61	ug/L	3.42	63	61
OSVTCW	2,4-Dinitrotoluene	104	100	ug/L	3.86	104	100
OSVTCW	2-Chlorophenol	152	156	ug/L	1.18	76	78
OSVTCW	4-Nitrophenol	98	102	ug/L	5.45	49	51
OSVTCW	Acenaphthene	82	81	ug/L	0.37	82	81
OSVTCW	N-Nitrosodi-n-propylamine	78	78	ug/L	0.78	78	78
OSVTCW	Pentachlorophenol	212	220	ug/L	4.06	106	110
OSVTCW	Phenol	79	82	ug/L	4.51	39	82
OSVTCW	Pyrene	102	100	ug/L	2.71	102	100
OSVTCW	p-Chloro-m-cresol	198	196	ug/L	1.39	99	98

ANLS BATCH: 32144 LSG SAMPLE NO: H0242107

TEST	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RECOVERY	MSD PCT RECOVERY
OVTCW	1,1-Dichloroethene	47.0	56.0	ug/L	17.3	94	112
OVTCW	Benzene	47.0	52.7	ug/L	9.40	96	105
OVTCW	Chlorobenzene	49.9	59.5	ug/L	17.5	100	119
OVTCW	Toluene	45.2	56.7	ug/L	17.2	90	107
OVTCW	Trichloroethene	49.8	58.4	ug/L	15.9	100	117

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128252

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client

Address

Phone

Report To:

Bill To:

P.O. # / Billing Reference

Project Name / No.

Pace Client No.

Pace Project Manager

Pace Project No.

*Requested Due Date:

Sampled By (PRINT):

Sampler Signature

Date Sampled 7/1/93

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA	ANALYSES REQUEST	REMARKS
1	AT2-4A 5-7	1645	S		2					XX	
2	AT2-4B 30-32	1800	S		2					XX	
3	AT2-1E 125-127	1600	S		2					XX	
4											
5											
6											
7											
8											

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT DATE	SHIPMENT METHOD RETURNED DATE

Additional Comments

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
	[illegible]	Fed Ex 7428754574	7/6/93	

SEE REVERSE SIDE FOR INSTRUCTIONS

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128565

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client: T...

Report To:

Pace Client No.

Address

Bill To:

Pace Project Manager

P.O. # / Billing Reference

Pace Project No.

Phone

Project Name / No.

*Requested Due Date:

Sampled By (PRINT):

Sampler Signature

Date Sampled: 1/7/93

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA			ANALYSES REQUEST	REMARKS
1	AT2-1A 12-14	8417	S		2							X X X X	Pre Sump
2	AT2-1B	1414	S		2							X X X X	AT2-1B
3	AT2-2	1415	S		2							X X X X	
4													
5													
6													
7													
8													

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT / DATE	SHIPMENT METHOD RETURNED DATE

Additional Comments

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
		Fed Ex	1/8/93	
		4028702		

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128569

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client

Address

Phone

Report To:

Bill To:

P.O. # / Billing Reference

Project Name / No.

Pace Client No.

Pace Project Manager

Pace Project No.

*Requested Due Date:

Sampled By (PRINT):

Sampler Signature

Date Sampled

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA	ANALYSES REQUEST	REMARKS
1	AT2-1A 25-12	1415	S		2						
2	AT2-2B 25-27	1512	S		2						
3	AT2-3A 25-37	1712	S		2						
4											
5											
6											
7											
8											

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT / DATE	SHIPMENT METHOD RETURNED DATE

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
		FedEx 740287491		

Additional Comments

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128251

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client Transwestern Hobbs 2

Address

Phone

Report To:

Bill To:

P.O. # / Billing Reference

Project Name / No.

Pace Client No.

Pace Project Manager

Pace Project No.

*Requested Due Date:

Sampled By (PRINT):

Sampler Signature

Date Sampled 7/10/03

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA	ANALYSES REQUEST	REMARKS
1										X	
2											
3											
4											
5											
6											
7											
8											

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT DATE	SHIPMENT METHOD RETURNED DATE

Additional Comments

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
	Bar Time	Fed Ex	7/10/03	
		7428754		

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THE ASSURANCE OF QUALITY

128568

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client Tennessee - Area 2

Address

Phone

Report To:

Bill To:

P.O. # / Billing Reference

Project Name / No.

Pace Client No.

Pace Project Manager

Pace Project No.

*Requested Due Date:

Sampled By (PRINT):

Sampler Signature

Date Sampled 1/30/93

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA		ANALYSES REQUEST	REMARKS
1	AT2-(1)		S		2						X	
2												
3												
4												
5												
6												
7												
8												

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT DATE	SHIPMENT METHOD RETURNED DATE

Additional Comments

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
	Paul Lane	Fed Ex	2/1/93	
		74-287-5432		

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