2R - 37

REPORTS

DATE:

OCT 1993

Brown & Root Environmental

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

October 13, 1993

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

Re: Subsurface Investigation
Black River Compressor Station
Carlsbad, New Mexico
Brown & Root Environmental Project Number NG20

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 Black River Compressor Station. Field work for the investigation occurred on June 23, 1993.

INTRODUCTION

B&R Environmental conducted a subsurface investigation (SI) at the Black River Compressor Station in Eddy County, New Mexico, in order 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 at the site. During this SI, three soil borings were drilled to determine if the subsurface soils had been impacted.

The Black River Compressor Station is located in Eddy County, New Mexico, approximately twelve miles south of Carlsbad, New Mexico. A location map is included as Figure 1. The site is a former compressor station. The facility was shut down and the compressors moved in the late 1970's. No structures or equipment remain at the site. The impoundment is located in the northeast corner of the property along the fenceline. The impoundment is approximately 28 feet by 28 feet at ground surface with inwardly sloping sides.

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.

Three borings were drilled at the Black River Compressor Station. Prior to initiating drilling activities, utility lines and other subsurface obstructions were located and marked by Transwestern. A site map showing the boring locations is included as Figure 2.

Drilling was accomplished using 7.625-inch outer diameter hollow stem augers. Samples were continuously collected from the ground surface to total depth using a 2-inch by 24-inch long split spoon sampler. A water supply was not available at the site. Water for decontamination and grouting was obtained offsite and was supplied by the Carlsbad local municipal water supply.

Soil borings were placed around the surface impoundment as shown in Figure 2. All three soil borings were drilled and sampled to a total depth of 20 feet below grade. Groundwater was not encountered in any of the borings. Soil boring logs and soil sample log sheets are provided as Attachment 2.

Two samples from each boring were submitted for laboratory analysis. One sample was collected from the bottom of the boring, and one other sample collected on the basis of field screening for evidence of contamination. If soil did not appear impacted, an intermediate depth sample was collected. Field screening for evidence of contamination included scanning the recovered soils samples with a flame ionization detector (FID) and a photoionization 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 Black River Compressor Station is located in the Southern High Plains physiographic provence atop Holocene eolian deposits.

Soils underlying the site consist primarily of tan silt and clayey silt with some gray clay and sand below 15 feet. The bottom sample collected from soil boring BR-2 appeared wet. A temporary 2-inch diameter PVC monitor well was installed in the boring, but no water was produced. The temporary monitor well was removed and the hole grouted to the ground surface.

ANALYTICAL RESULTS

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

All samples collected and analyzed contained concentrations of TPH, BTEX, and semi-volatiles less than the respective detection limits. Volatile organics analyses indicated concentrations below detection limits for all constituents except methylene chloride and acetone. Methylene chloride was detected in low concentrations (i.e., less than 46 ug/kg) in all the samples submitted. Acetone was detected at a concentration of 16 ug/kg in one sample. Methylene chloride and acetone are considered lab artifacts and are not considered to be indicative of the environment at the Black River Compressor Station.

If you have any questions regarding this information, please contact the undersigned at 713-575-4753.

Very truly yours,

BROWN & ROOT ENVIRONMENTAL

Daniel K. Gibson
Project Geologist

SR/sd

Attachment

c: File NG20 3.1.2

SCALE: 1" = 2000'
REFERENCE: USGS MAP
QUADRANGLE 7.5 MINUTE SERIES
BLACK RIVER VILLAGE, N. MEX. QUADRANGLE 1979

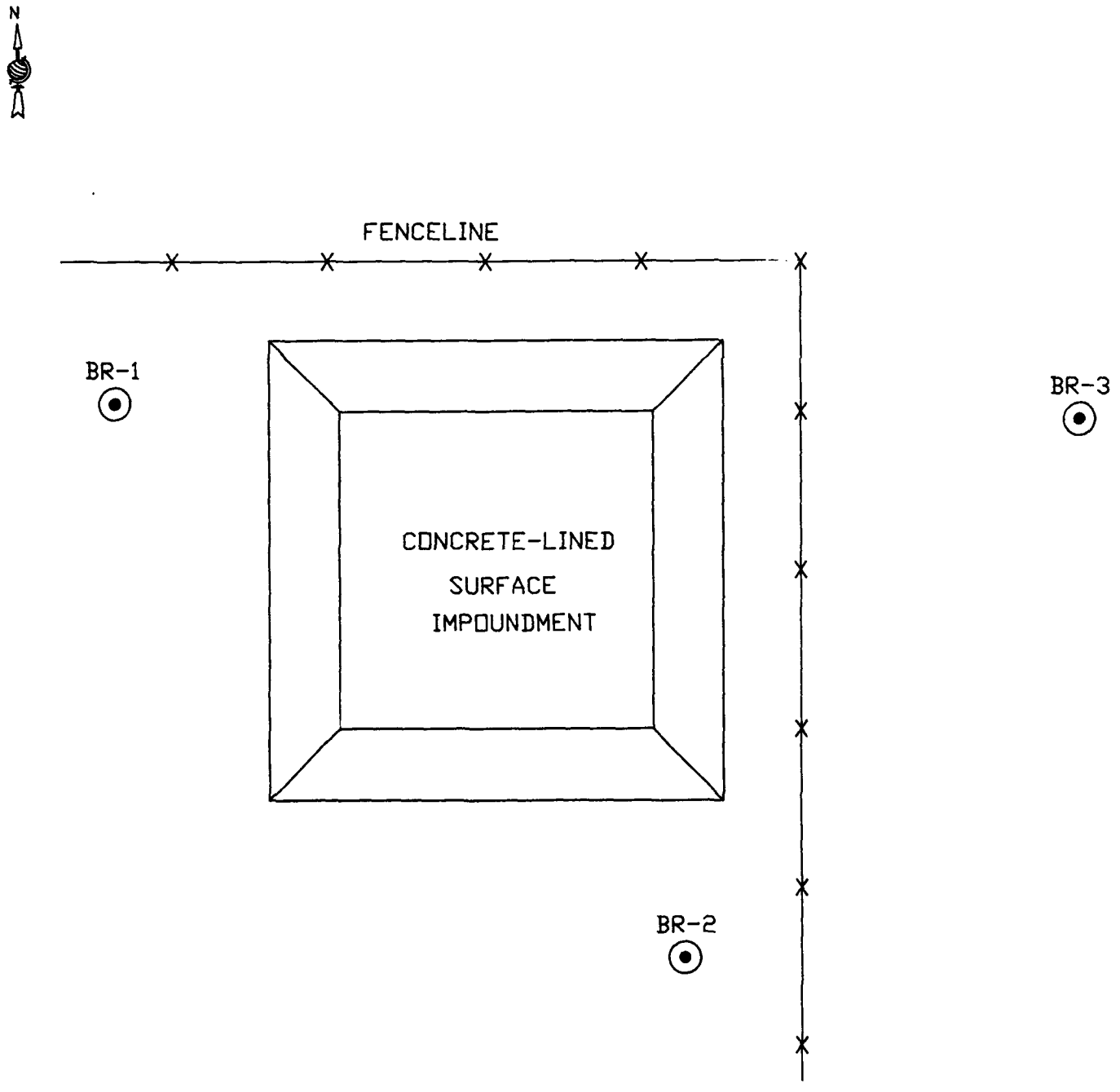
FIGURE 1

DRAWN BY:	D. GROSSHANDLER
DATE:	08/24/93
ENGINEER:	L. BASILIO
DATE:	08/24/93
CAD DWG. NO:	NG20-3.DWG

SITE LOCATION MAP
BLACK RIVER COMPRESSOR STATION
TRANSWESTERN PIPELINE COMPANY
CARLSBAD, NEW MEXICO

SCALE: 1"=2000' | DWG. NO. NG20-BA | REV. 0

Brown & Root Environmental
A Halliburton Company



NOTE

1. LOCATIONS OF BORING AND SURFACE IMPOUNDMENT ARE APPROXIMATE, AS MEASURED IN THE FIELD FROM THE NORTHEAST FENCE CORNER OF THE PROPERTY.

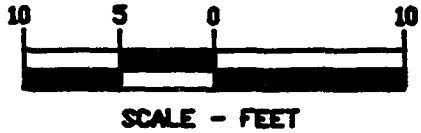


FIGURE 2

DRAWN BY:	D. GROSSHANDLER	BLACK RIVER COMPRESSOR STATION TRANSWESTERN PIPELINE COMPANY CARLSBAD, NEW MEXICO		Brown & Root Environmental A Halliburton Company
DATE:	07/09/93			
ENGINEER:	L. BASILIO			
DATE:	07/09/93			
CAD DWG. NO:	NG20.DWG	SCALE: 1"=10'	DWG. NO. NG20-BA REV. 0	

TABLE 1

ANALYTICAL RESULTS FOR SOIL SAMPLES

BLACK RIVER COMPRESSOR STATION
CARLSBAD, NEW MEXICO

Sample ID	Depth (ft)	Acetone ug/kg	Methylene Chloride ug/kg
BR-1A	4-6	< 10	6
BR-1B	18-20	16	46
BR-2A	8-10	< 10	13
BR-2B	16-18	< 10	14
BR-3A	8-10	10	13
BR-3B	18-20	< 10	7

Note: Concentrations of all other analytes reported as "less than detection limits".

ATTACHMENT 1

HEALTH AND 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

SOIL SAMPLE LOG SHEETS

HALLIBURTON NUS *Environmental Corporation*

BORING **BR-1** SHEET **1** OF **1**

PROJECT **Transwestern Pipeline Company**

LOCATION **Black River Compressor Station, Carlsbad, New Mexico**

COORDINATES

PROJECT NUMBER **NG20**

SURFACE ELEVATION DATUM **Grade**

LOGGED BY **L. Basilio** DATE DRILLED **6/23/93**

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, dry, powdery, occasional rootlets			SPT		24/24		0/0	
			2	SPT		24/3		0/0	
	SILT (ML) - tan to light gray, dry, firm to crumbly, occasionally powdery, occasional white caliche nodules		4	SPT	BR-1A	24/24		1/1	
	SILT (ML) - tan, slightly sandy, dry to slightly moist, loose, occasional caliche nodules		6	SPT		24/3		0/0	
	SILT (ML) - tan, slightly clayey, soft, damp, occasional sandy laminae, sandy towards base		8	SPT		24/18		0/0	
	SILT (ML) - tan, occasional caliche nodules		10	SPT		24/2		0/0	
	SILT (ML) - tan, slightly clayey, soft, damp		12	SPT		24/20		0/0	
	CLAYEY SILT (ML) - tan, very clayey		14	SPT		24/1		0/0	
	SILTY CLAY (CL) - tan to light gray, stiff, silty, very silty at top, damp		16	SPT		24/22		0/0	
	CLAYEY SAND (SC) - tan, very clayey to silty in spots, moist		18	SPT	BR-1B	24/24		0/0	
	Total depth = 20 feet BLS		20						

DRILLING CONTRACTOR: **Layne Environmental**

DRILLER: **W. Cowser**

DRILLING METHOD: **Hollow Stem Auger**

DRILLING EQUIPMENT: **Failing F-6**

COMMENTS: **Boring located approximately 10 feet west from the northwest corner of the pit.**

HALLIBURTON NUS
Environmental Corporation

BORING **BR-2** SHEET **1** OF **1**

PROJECT **Transwestern Pipeline Company**

LOCATION **Black River Compressor Station, Carlsbad, New Mexico**

COORDINATES

PROJECT NUMBER **NG20**

SURFACE ELEVATION DATUM **Grade**

LOGGED BY **L. Basilio** DATE DRILLED **6/23/93**

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, dry, abundant caliche nodules			SPT		24/1		0/0	
			2	SPT		24/1		0/0	
	SILT (ML) - tan to light gray, soft, dry, easily crushed to powder, caliche laminae and nodules		4	SPT		24/24		0/0	
			6	SPT		24/1		0/0	
	CLAYEY SILT (ML) - tan to light gray, occasional iron staining, clayey, stiff to very stiff, occasional white caliche, grades to clay		8	SPT	BR-2A	24/24		0/0	
	SILTY CLAY (CL) - tan and gray, variegated, stiff, very silty, damp, micaceous with gypsum (?) crystals, abundant white calcareous laminae		10	SPT		24/24		0/0	
			12	SPT		24/24		0/0	
	SILT (ML) - light gray to tan, clayey to sandy at base, soft, moist		14	SPT		24/24		0/0	
	CLAYEY SILT (ML) - light gray, clayey, soft to firm, moist, wet at base		16	SPT		24/24		0/0	
	SANDY SILT (ML) - light gray, sandy, occasional clayey laminae, soft, wet		18	SPT	BR-2B	24/24		0/0	
	Total depth = 20 feet BLS		20						

DRILLING CONTRACTOR: **Layne Environmental**

DRILLER: **W. Cowser**

DRILLING METHOD: **Hollow Stem Auger**

DRILLING EQUIPMENT: **Failing F-6**

COMMENTS: **Boring located approximately 10 feet south from the southeast corner of the pit.**

HALLIBURTON NUS
Environmental Corporation

BORING **BR-3** SHEET **1** OF **1**

PROJECT **Transwestern Pipeline Company**

LOCATION **Black River Compressor Station, Carlsbad, New Mexico**

COORDINATES

PROJECT NUMBER **NG20**

SURFACE ELEVATION DATUM **Grade**

LOGGED BY **L. Basilio** DATE DRILLED **6/23/93**

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, dry			SPT		24/1		0/0	
			2	SPT		24/1		0/0	
	SILT (ML) - light tan to light gray, dry, hard, crumbly		4	SPT		24/24		0/0	
			6	SPT		24/1		0/0	
	SILT (ML) - light tan, dry, firm to crumbly		8		BR-3A				
				SPT		24/24		0/0	
			10	SPT		24/1		0/0	
	CLAYEY SILT (ML) - tan, occasional to abundant iron staining, clayey to very clayey, grades to silty clay in parts, stiff in clayey parts, damp		12	SPT		24/24		0/0	
	CLAYEY SILT (ML) - A/A, less iron staining, softer towards base		14	SPT		24/24		0/0	
	SILT and CLAY - interbedded		16	SPT		24/24		0/0	
	SILTY CLAY (CL) - light gray, silty, stiff, moist at base		18		BR-3B				
				SPT		24/24		0/0	
	Total depth = 20 feet BLS		20						

DRILLING CONTRACTOR: **Layne Environmental**

DRILLER: **W. Cowser**

DRILLING METHOD: ***Hollow Stem Auger***

DRILLING EQUIPMENT: **Failing F-6**

COMMENTS: **Boring located approximately 18 feet east from the northeast 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 Company PROJECT NUMBER _____

HNUS SAMPLE NO. BR-1A SOURCE Black River

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 4-6'

SAMPLE DATE & TIME: 6/23/93 918

SAMPLED BY: BASILIO

SIGNATURE(S): Z Basilio

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

ANALYSIS:

8240
8270
8020
TPH 418.1

FID - 1 ppm

PID - 1 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Silt - tan to light gray, dry, firm to crumbly, occ powdery, occ white caliche nodules

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

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

PROJECT NAME Transwestern Pipeline Company PROJECT NUMBER _____

HNUS SAMPLE NO. BR-10 SOURCE Black River

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 18-20

SAMPLE DATE & TIME: 6/23/93 1010

SAMPLED BY: BASILIO

SIGNATURE(S): Z Basilio

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

ANALYSIS:

8240
8270
8020
TPH 418.1

FID - 0 ppm

PID - 0 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Sand - tan, very clayey, to silty, 1%
	spots, moist

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

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

PROJECT NAME Transwestern Pipeline Company PROJECT NUMBER _____

HNUS SAMPLE NO. BR-2A SOURCE Black River

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 8-10

SAMPLE DATE & TIME: 6/23/93 1110

SAMPLED BY: BASILLO

SIGNATURE(S): C Basil

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

ANALYSIS:

8240
8270
8020
TPH 418.1

FID - 0 ppm

PID - 0 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Silt - tan to light gray, occ iron stain
	clayey, stiff to very stiff, occ
	white caliche, grades to clay

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

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

PROJECT NAME Transwestern Pipeline Company PROJECT NUMBER _____

HNUS SAMPLE NO. BR-2B SOURCE Black River

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 16-18

SAMPLE DATE & TIME: 6/23/93 1155

SAMPLED BY: BASILIO

SIGNATURE(S): Z Bak

TYPE OF SAMPLE

- ☐ LOW CONCENTRATION
- ☐ HIGH CONCENTRATION
- ☒ GRAB
- ☐ COMPOSITE
- ☐ GRAB - COMPOSITE

ANALYSIS:

8240
8270
8020
TPH 418.1

FID- 0 ppm

PID- 0 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Silt - light gray, clayey, moist, wet
	at base, soft to firm

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

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

PROJECT NAME Transwestern Pipeline Company PROJECT NUMBER _____

HNUS SAMPLE NO. BR-3A SOURCE Black River

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 8-10

SAMPLE DATE & TIME: 6/23/93 1368

SAMPLED BY: BASILIO

SIGNATURE(S): [signature]

TYPE OF SAMPLE

- ☐ LOW CONCENTRATION
- ☐ HIGH CONCENTRATION
- ☒ GRAB
- ☐ COMPOSITE
- ☐ GRAB - COMPOSITE

ANALYSIS:

8240
8270
8020
TPH 418.1

F10 - 0 ppm

P10 - 0 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Silt - light tan, dry, firm - crumbly

OBSERVATIONS/NOTES:

HALLIBURTON NUS
Environmental Corporation

SOIL/SEDIMENT SAMPLE LOG SHEET

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

PROJECT NAME Transwestern Pipeline Company PROJECT NUMBER _____

HNUS SAMPLE NO. BR-3B SOURCE Black River

SAMPLE METHOD: Split Spoon

DEPTH SAMPLED: 18-20

SAMPLE DATE & TIME: 6/23/93 1327

SAMPLED BY: BASILIO

SIGNATURE(S): [signature]

TYPE OF SAMPLE

- ☐ LOW CONCENTRATION
- ☐ HIGH CONCENTRATION
- ☒ GRAB
- ☐ COMPOSITE
- ☐ GRAB - COMPOSITE

ANALYSIS:

8240
8270
8020
TPH 418.1

PID- 0 ppm

PID- 0 ppm

COMPOSITE SAMPLE DATA

SAMPLE	TIME	COLOR/DESCRIPTION

SAMPLE DATA

COLOR	DESCRIPTION: (SAND, CLAY, DRY, MOIST, WET, ETC.)
	Clay light gray, silty, stiff, moist at base.

OBSERVATIONS/NOTES:

ATTACHMENT 3

LABORATORY ANALYTICAL REPORTS

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

July 09, 1993
Report No.: 00025641
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 0002
PACE PROJECT: H07340002
PACE CLIENT: 620562

SAMPLE ID: BR-1A-ARTESIA
LSG SAMPLE NO: H0242130
P.O. NO.: VERBAL

DATE SAMPLED: 23-JUN-93
DATE RECEIVED: 25-JUN-93
APPROVED BY: L Beyer

SITE: Artesia, New Mexico

LN	TEST CODE	DETERMINATION	RESULT	UNIT
1	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	6	ug/kg
		Styrene	< 5	ug/kg
		Tetrachloroethene	< 5	ug/kg
		Toluene	< 5	ug/kg
		Trichloroethene	< 5	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-1A-ARTESIA
LSG SAMPLE NO: H0242130

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		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
3	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	< 330	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

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-1A-ARTESIA
LSG SAMPLE NO: H0242130

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		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
5	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

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

July 09, 1993
Report No.: 00025641
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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-1A-ARTESIA
LSG SAMPLE NO: H0242130

LN	TEST CODE	DETERMINATION	RESULT	UNITS
7	I685S	Petroleum Hydrocarbons	< 20	mg/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
SAMPLE ID: BR-1B-ARTESIA
LSG SAMPLE NO: H0242131

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		cis-1,3-Dichloropropene	< 5	ug/kg
		trans-1,3-Dichloropropene	< 5	ug/kg
3	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
		Benzoic acid	< 1,600	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-1B-ARTESIA
LSG SAMPLE NO: H0242131

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		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
5	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
7	I685S	Petroleum Hydrocarbons	< 20	mg/kg

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

July 09, 1993
Report No.: 00025641
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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-1B-ARTESIA
LSG SAMPLE NO: H0242131

LN	TEST CODE	DETERMINATION	RESULT	UNITS

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 0002
PACE PROJECT: H07340002
PACE CLIENT: 620562

SAMPLE ID: BR-2A-ARTESIA
LSG SAMPLE NO: H0242132
P.O. NO.: VERBAL

DATE SAMPLED: 23-JUN-93
DATE RECEIVED: 25-JUN-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	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	13	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

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-2A-ARTESIA
LSG SAMPLE NO: H0242132

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		cis-1,3-Dichloropropene	< 5	ug/kg
		trans-1,3-Dichloropropene	< 5	ug/kg
3	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
		Benzoic acid	< 1,600	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-2A-ARTESIA
LSG SAMPLE NO: H0242132

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		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
5	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
7	I685S	Petroleum Hydrocarbons	< 20	mg/kg

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REPORT OF LABORATORY ANALYSIS

LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-2A-ARTESIA
LSG SAMPLE NO: H0242132

LN	TEST CODE	DETERMINATION	RESULT	UNITS

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 0002
PACE PROJECT: H07340002
PACE CLIENT: 620562

SAMPLE ID: BR-2B-ARTESIA
LSG SAMPLE NO: H0242133
P.O. NO.: VERBAL

DATE SAMPLED: 23-JUN-93
DATE RECEIVED: 25-JUN-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	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	14	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

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-2B-ARTESIA
LSG SAMPLE NO: H0242133

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		cis-1,3-Dichloropropene	< 5	ug/kg
		trans-1,3-Dichloropropene	< 5	ug/kg
3	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
		Benzoic acid	< 1,600	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-2B-ARTESIA
LSG SAMPLE NO: H0242133

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		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
5	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
7	I685S	Petroleum Hydrocarbons	< 20	mg/kg

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

July 09, 1993
Report No.: 00025641

LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-2B-ARTESIA
LSG SAMPLE NO: H0242133

LN	TEST CODE	DETERMINATION	RESULT	UNITS

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

July 09, 1993
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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 0002
PACE PROJECT: H07340002
PACE CLIENT: 620562

SAMPLE ID: BR-3A-ARTESIA
LSG SAMPLE NO: H0242134
P.O. NO.: VERBAL

DATE SAMPLED: 23-JUN-93
DATE RECEIVED: 25-JUN-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	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	13	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

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-3A-ARTESIA
LSG SAMPLE NO: H0242134

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		cis-1,3-Dichloropropene	< 5	ug/kg
		trans-1,3-Dichloropropene	< 5	ug/kg
3	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
		Benzoic acid	< 1,600	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-3A-ARTESIA
LSG SAMPLE NO: H0242134

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		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
5	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
7	I685S	Petroleum Hydrocarbons	< 20	mg/kg

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REPORT OF LABORATORY ANALYSIS

LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-3A-ARTESIA
LSG SAMPLE NO: H0242134

LN	TEST CODE	DETERMINATION	RESULT	UNITS

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

July 09, 1993
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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 0002
PACE PROJECT: H07340002
PACE CLIENT: 620562

SAMPLE ID: BR-3B-ARTESIA
LSG SAMPLE NO: H0242135
P.O. NO.: VERBAL

DATE SAMPLED: 23-JUN-93
DATE RECEIVED: 25-JUN-93
APPROVED BY: L Beyer

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	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	7	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

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-3B-ARTESIA
LSG SAMPLE NO: H0242135

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		cis-1,3-Dichloropropene	< 5	ug/kg
		trans-1,3-Dichloropropene	< 5	ug/kg
3	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
		Benzoic acid	< 1,600	ug/kg

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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-3B-ARTESIA
LSG SAMPLE NO: H0242135

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		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
5	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
7	I685S	Petroleum Hydrocarbons	< 20	mg/kg

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

July 09, 1993
Report No.: 00025641
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LABORATORY ANALYSIS REPORT

CLIENT NAME: TRANSWESTERN PIPELINE COMPANY
SAMPLE ID: BR-3B-ARTESIA
LSG SAMPLE NO: H0242135

LN	TEST CODE	DETERMINATION	RESULT	UNITS

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

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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: BR-1A-ARTESIA							LSG SAMPLE NO: H0242130			
1	OVTCS	32102	NA			19-8240	26-JUN-93 1734	E M	32091	GCMSQ
3	OSVTCS	32106	19-3550	28-JUN-93 1500	MLN	19-8270	01-JUL-93 38	C H	32106	GCMST
5	G107S	32104	NA			19-8020	26-JUN-93 503	G F	32052	3678GC
7	I685S	32063	19-3550			02-418.1	25-JUN-93 1900	Lin	0	302WAT
SAMPLE ID: BR-1B-ARTESIA							LSG SAMPLE NO: H0242131			
1	OVTCS	32102	NA			19-8240	26-JUN-93 1804	E M	32091	GCMSQ
3	OSVTCS	32106	19-3550	28-JUN-93 1500	MLN	19-8270	01-JUL-93 125	C H	32106	GCMST
5	G107S	32104	NA			19-8020	26-JUN-93 538	G F	32052	3678GC
7	I685S	32063	19-3550			02-418.1	25-JUN-93 1900	Lin	0	302WAT
SAMPLE ID: BR-2A-ARTESIA							LSG SAMPLE NO: H0242132			
1	OVTCS	32102	NA			19-8240	26-JUN-93 1834	E M	32091	GCMSQ
3	OSVTCS	32106	19-3550	28-JUN-93 1500	MLN	19-8270	01-JUL-93 212	C H	32106	GCMST
5	G107S	32172	NA			19-8020	28-JUN-93 2355	Dan	32172	3678GC
7	I685S	32063	19-3550			02-418.1	25-JUN-93 1900	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

QUALITY CONTROL REPORT
SUPPLEMENTAL INFORMATION

LN	TEST CODE	BATCH	SAMPLE PREPARATION LR-METHOD	DATE/TIME	ANALYST	SAMPLE ANALYSIS LR-METHOD	DATE/TIME	ANALYST	ANLS BATCH	INSTRUMENT
SAMPLE ID: BR-2B-ARTESIA								LSG SAMPLE NO: H0242133		
1	OVTCS	32102	NA			19-8240	26-JUN-93 1904	E M	32091	GCMSQ
3	OSVTCS	32106	19-3550	28-JUN-93 1500	MLN	19-8270	02-JUL-93 900	C H	32106	GCMST
5	G107S	32104	NA			19-8020	26-JUN-93 758	G F	32052	3678GC
7	I685S	32063	19-3550			02-418.1	25-JUN-93 1900	Lin	0	302WAT
SAMPLE ID: BR-3A-ARTESIA								LSG SAMPLE NO: H0242134		
1	OVTCS	32102	NA			19-8240	26-JUN-93 1934	E M	32091	GCMSQ
3	OSVTCS	32106	19-3550	28-JUN-93 1500	MLN	19-8270	01-JUL-93 2021	A P	32106	GCMSS
5	G107S	32104	NA			19-8020	26-JUN-93 833	G F	31999	3678GC
7	I685S	32063	19-3550			02-418.1	25-JUN-93 1900	Lin	0	302WAT
SAMPLE ID: BR-3B-ARTESIA								LSG SAMPLE NO: H0242135		
1	OVTCS	32102	NA			19-8240	26-JUN-93 2004	E M	32091	GCMSQ
3	OSVTCS	32106	19-3550	28-JUN-93 1500	MLN	19-8270	01-JUL-93 2109	A P	32106	GCMSS
5	G107S	32104	NA			19-8020	26-JUN-93 908	G F	31999	3678GC
7	I685S	32063	19-3550			02-418.1	25-JUN-93 1900	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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QUALITY CONTROL REPORT
SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
SAMPLE ID:	BR-1A-ARTESIA		LSG SAMPLE NO:	H0242130	
2	$VOAS	GC/MS Volatiles Surrogates			1
		1,2-Dichloroethane-d4	99	-	
		4-Bromofluorobenzene	94	-	
		Toluene-d8	103	-	
4	$BNAS	GC/MS BNA Surrogates			3
		2,4,6-Tribromophenol	110	-	
		2-Fluorobiphenyl	91	-	
		2-Fluorophenol	90	-	
		Nitrobenzene-d5	82	-	
		Phenol-d5	96	-	
		p-Terphenyl-d14	99	-	
6	$VARS	GC Volatile Aromatics Surrogate			5
		alpha,alpha,alpha-Trifluorotoluene	90	-	
SAMPLE ID:	BR-1B-ARTESIA		LSG SAMPLE NO:	H0242131	
2	$VOAS	GC/MS Volatiles Surrogates			1
		1,2-Dichloroethane-d4	101	-	
		4-Bromofluorobenzene	101	-	
		Toluene-d8	111	-	
4	$BNAS	GC/MS BNA Surrogates			3
		2,4,6-Tribromophenol	105	-	
		2-Fluorobiphenyl	82	-	
		2-Fluorophenol	81	-	
		Nitrobenzene-d5	76	-	
		Phenol-d5	89	-	
		p-Terphenyl-d14	100	-	
6	$VARS	GC Volatile Aromatics Surrogate			5
		alpha,alpha,alpha-Trifluorotoluene	81	-	
SAMPLE ID:	BR-2A-ARTESIA		LSG SAMPLE NO:	H0242132	
2	$VOAS	GC/MS Volatiles Surrogates			1
		1,2-Dichloroethane-d4	105	-	
		4-Bromofluorobenzene	107	-	
		Toluene-d8	111	-	
4	$BNAS	GC/MS BNA Surrogates			3
		2,4,6-Tribromophenol	116	-	
		2-Fluorobiphenyl	91	-	
		2-Fluorophenol	87	-	
		Nitrobenzene-d5	83	-	
		Phenol-d5	95	-	

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QUALITY CONTROL REPORT
SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
		p-Terphenyl-d14	110	-	
6	$VARS	GC Volatile Aromatics Surrogate			5
		alpha,alpha,alpha-Trifluorotoluene	98	-	
SAMPLE ID:	BR-2B-ARTESIA		LSG SAMPLE NO:	H0242133	
2	$VOAS	GC/MS Volatiles Surrogates			1
		1,2-Dichloroethane-d4	98	-	
		4-Bromofluorobenzene	90	-	
		Toluene-d8	104	-	
4	$BNAS	GC/MS BNA Surrogates			3
		2,4,6-Tribromophenol	95	-	
		2-Fluorobiphenyl	81	-	
		2-Fluorophenol	83	-	
		Nitrobenzene-d5	80	-	
		Phenol-d5	94	-	
		p-Terphenyl-d14	96	-	
6	$VARS	GC Volatile Aromatics Surrogate			5
		alpha,alpha,alpha-Trifluorotoluene	82	-	
SAMPLE ID:	BR-3A-ARTESIA		LSG SAMPLE NO:	H0242134	
2	$VOAS	GC/MS Volatiles Surrogates			1
		1,2-Dichloroethane-d4	101	-	
		4-Bromofluorobenzene	94	-	
		Toluene-d8	105	-	
4	$BNAS	GC/MS BNA Surrogates			3
		2,4,6-Tribromophenol	101	-	
		2-Fluorobiphenyl	65	-	
		2-Fluorophenol	65	-	
		Nitrobenzene-d5	65	-	
		Phenol-d5	74	-	
		p-Terphenyl-d14	84	-	
6	$VARS	GC Volatile Aromatics Surrogate			5
		alpha,alpha,alpha-Trifluorotoluene	89	-	
SAMPLE ID:	BR-3B-ARTESIA		LSG SAMPLE NO:	H0242135	
2	$VOAS	GC/MS Volatiles Surrogates			1
		1,2-Dichloroethane-d4	104	-	
		4-Bromofluorobenzene	93	-	
		Toluene-d8	108	-	
4	$BNAS	GC/MS BNA Surrogates			3

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QUALITY CONTROL REPORT
SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
		2,4,6-Tribromophenol	114	-	
		2-Fluorobiphenyl	77	-	
		2-Fluorophenol	78	-	
		Nitrobenzene-d5	77	-	
		Phenol-d5	90	-	
		p-Terphenyl-d14	84	-	
6	$VARS	GC Volatile Aromatics Surrogate			5
		alpha,alpha,alpha-Trifluorotoluene	84	-	

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QUALITY CONTROL REPORT
LABORATORY CONTROL SAMPLE RECOVERY

TEST CODE	DETERMINATION	PERCENT RECOVERY	ACCEPTANCE LIMITS
BATCH: 32063	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0243110
I685S	Petroleum Hydrocarbons	99.0	-
BATCH: 32102	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0243182
OVTCS	TCL - Volatiles in Soil		
	1,1-Dichloroethene	101	-
	Benzene	101	-
	Chlorobenzene	79	-
	Toluene	92	-
	Trichloroethene	88	-
BATCH: 32104	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0243186
G107S	BTEX Package		
	Benzene	93	-
	Ethylbenzene	88	-
	Toluene	88	-
	m-Xylene	85	-
	o-Xylene	88	-
	p-Xylene	82	-
BATCH: 32106	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0243190
OSVTC	TCL - Semi-volatile Extractables in Soil		
	1,2,4-Trichlorobenzene	98	-
	1,4-Dichlorobenzene	94	-
	2,4-Dinitrotoluene	100	-
	2-Chlorophenol	85	-
	4-Chloro-3-methylphenol	98	-
	4-Nitrophenol	106	-
	Acenaphthene	88	-
	N-Nitrosodi-n-propylamine	86	-
	Pentachlorophenol	114	-
	Phenol	88	-
	Pyrene	100	-

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QUALITY CONTROL REPORT
LABORATORY CONTROL SAMPLE RECOVERY

TEST CODE	DETERMINATION	PERCENT RECOVERY	ACCEPTANCE LIMITS
BATCH: 32172	SAMPLE ID: Lab Control Sample		LSG SAMPLE NO: H0243303
G107S	BTEX Package		
	Benzene	98	-
	Ethylbenzene	88	-
	Toluene	93	-
	m-Xylene	86	-
	o-Xylene	87	-
	p-Xylene	84	-

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QUALITY CONTROL REPORT
METHOD BLANK DATA

TEST CODE	Determination	RESULT	UNITS
BATCH: 32063	SAMPLE ID: Method Blank	LSG SAMPLE NO:	H0243111
I685S	Petroleum Hydrocarbons	< 20	mg/kg
BATCH: 32102	SAMPLE ID: Method Blank	LSG SAMPLE NO:	H0243183
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
	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
METHOD BLANK DATA

TEST CODE	Determination	RESULT	UNITS
BATCH: 32104	SAMPLE ID: Method Blank	LSG SAMPLE NO: H0243187	
G107S	BTEX Package		
	Benzene	< 1	ug/kg
	Ethylbenzene	< 1	ug/kg
	Toluene	< 1	ug/kg
	m-Xylene	< 1	ug/kg
	o-Xylene	< 1	ug/kg
	p-Xylene	< 1	ug/kg
BATCH: 32106	SAMPLE ID: Method Blank	LSG SAMPLE NO: H0243191	
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

QUALITY CONTROL REPORT
METHOD BLANK DATA

TEST CODE	Determination	RESULT	UNITS
	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
	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: 32172	SAMPLE ID: Method Blank	LSG SAMPLE NO:	H0243304
G107S	BTEX Package		
	Benzene	< 5	ug/kg
	Ethylbenzene	< 5	ug/kg
	Toluene	< 5	ug/kg
	m-Xylene	< 5	ug/kg

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METHOD BLANK DATA

TEST CODE	Determination	RESULT	UNITS
	o-Xylene	< 5	ug/kg
	p-Xylene	< 5	ug/kg

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QUALITY CONTROL REPORT
DUPLICATE AND MATRIX SPIKE DATA

PREP BATCH: 32063

LSG SAMPLE NO: H0242134

TEST	DETERMINATION	ORIGINAL RESULT	DUPLICATE RESULT	UNITS	RANGE / RPD	UNITS	MS RESULT	MS % RCVRY
1685S	Petroleum Hydrocarbons	< 20	< 20	mg/kg	---	mg/kg	290	95.0

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QUALITY CONTROL REPORT
MATRIX SPIKE AND MATRIX SPIKE DUPLICATE DATA

PREP 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
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

PREP BATCH: 32172 LSG SAMPLE NO: H0242132

TEST	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RECOVERY	MSD PCT RECOVERY
G107S	Benzene	15.4	15.7	ug/kg	1.9	77	79
G107S	Ethylbenzene	15.0	18.7	ug/kg	4.6	75	79
G107S	Toluene	16.1	16.3	ug/kg	1.2	81	82
G107S	m-Xylene	14.7	15.6	ug/kg	5.9	74	78
G107S	o-Xylene	17.3	18.4	ug/kg	6.2	87	92
G107S	p-Xylene	13.8	15.7	ug/kg	12.9	69	79

ANLS BATCH: 31999 LSG SAMPLE NO: H0241011

TEST	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RECOVERY	MSD PCT RECOVERY
G107S	Benzene	15.8	15.2	ug/kg	3.9	79	76
G107S	Ethylbenzene	11.4	10.4	ug/kg	9.2	57 *	52 *
G107S	Toluene	13.8	12.9	ug/kg	6.7	69	64 *
G107S	m-Xylene	20.8 **	19.4 **	ug/kg	7.0	52 *	48 *
G107S	o-Xylene	9.72	8.98	ug/kg	7.9	49 *	45 *
G107S	p-Xylene	**	**	ug/kg	7.0	52 *	48 *

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

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QUALITY CONTROL REPORT
MATRIX SPIKE AND MATRIX SPIKE DUPLICATE DATA

ANLS BATCH: 31999 LSG SAMPLE NO: H0241011

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

ANLS BATCH: 32052 LSG SAMPLE NO: H0241048

TEST	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RECOVERY	MSD PCT RECOVERY
G107S	Benzene	10.3	10.8	ug/kg	4.7	51.5	54.0
G107S	Ethylbenzene	6.00	5.94	ug/kg	1.0	30.0	29.7
G107S	Toluene	8.59	9.44	ug/kg	9.4	42.9	47.2
G107S	m-Xylene	5.30	5.69	ug/kg	7.1	26.5	28.5
G107S	o-Xylene	4.38	4.61	ug/kg	5.1	21.9	23.1
G107S	p-Xylene	5.28	5.40	ug/kg	2.2	26.4	27.0

ANLS BATCH: 32091 LSG SAMPLE NO: H0242034

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