STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

February 6, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P-269-269-248

Mr. Neal Stidham
Shell Pipe Line Corporation
Two Shell Plaza
P.O. Box 2099
Houston, Texas 77252-2099

RE: SHELL DUBLIN CRUDE STATION
LEA COUNTY, NEW MEXICO

Dear Mr. Stidham:

The New Mexico Oil Conservation Division (OCD) has completed a review of the Shell Oil Company's October 9, 1996 "DUBLIN STATION, LEA COUNTY NEW MEXICO". This document contains an assessment of soil and ground water remedial actions related to petroleum contamination at the Shell Dublin Crude Station. The document also recommends final closure of the remedial actions based upon the assessment results which show only low levels of soil contaminants remaining at the site.

Based upon the information contained in the above referenced document, the final closure recommendations are **approved.**

Please be advised that OCD approval does not relieve Shell of liability should remaining contaminants pose a future threat to ground waters, surface waters, human health or the environment. In addition, OCD approval does not relieve Shell of responsibility for compliance with any other federal, state or local laws and/or regulations.

If you have any questions, please contact me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Jerry Sexton, OCD Hobbs District Supervisor
Wayne Price, OCD Hobbs Office

Shell Oil Products Company

Two Shell Plaza
P. O. Box 2099
Houston, TX 77252-2099

HAND DELIVERED

October 9, 1996

William Olson
State of New Mexico Oil Conservation Division
Environmental Bureau
2040 S. Pacheco St.
Santa Fe, New Mexico 87504

SUBJECT: DUBLIN STATION, LEA COUNTY NEW MEXICO

Dear Mr. Olson,

As you are aware Shell Pipe Line Corporation has been conducting groundwater monitoring and soil remediation activities at Dublin Station for the past three years. This letter and the enclosed updated reports on Soil Vapor Extraction (SVE), Groundwater Monitoring, and Soil Sampling and Analyses are an assessment of both the effectiveness and status of soil remediation at Dublin Station. The SVE system was designed and installed to remediate the three major impacted zones identified in the baseline assessment report. The system was installed and began operating in December 1994. Through August, the system has removed approximately 3 tons of volatile organic compounds from the shallow/middle zone and 4 tons from the deep zone. Groundwater monitoring has continued for three years. Any detectable BTEX concentrations have been well below Safe Drinking Water Standards and all were non-detect when last sampled. The dissolved oxygen concentration in all wells is sufficient to facilitate bio-degradation.

In order to try and evaluate the effectiveness of the SVE system, a rotary drill rig was used to collect soil samples from a boring drilled adjacent to B-8. These zones were also the target of the SVE system. These samples were screened in the field with an Organic Vapor Meter and submitted to the laboratory for Synthetic Precipitation Leachate Procedure (SPLP) and analysis for BTEX (EPA 8240) and Total Petroleum Hydrocarbon (EPA 8015 Gasoline Range and Diesel Range Organics). The SPLP is a laboratory procedure used to demonstrate the potential leachability of materials under natural conditions. The gasoline range organics are the lighter more mobile fraction as compared to the diesel range compounds. The leachable BTEX was non-detect in all samples and TPH-GRO ranged from 0.6-5.8 ppm and TPH-DRO was non-detect to 2.4ppm.

I believe the groundwater monitoring record supports the soils analyses that shows only trace amounts of leachable hydrocarbon remain in-place. Further the Field Head-Space Results on Table 2 show a significant reduction in soil organic vapor concentrations since the baseline study. Although natural variability may account for some, the SVE system has been quite effective in reducing volatile compounds in the soil.

Based upon the information presented, I do not feel the remaining hydrocarbon poses either a health or environmental threat. I believe that no further action is needed at Dublin Station and request your concurrence. If I do not hear from you within 60 days I will presume we are in agreement and will remove the SVE equipment.

If you have any questions, please do not hesitate to call me at 713-241-2961.

Sincerely,

Neal Stidham
Staff Engineer
Shell Oil Products Company
Representing Shell Pipe Line Corporation

cc: W/copy
Paul Newman
EOTT Energy Corp.

Jerry Sexton
OCD-Hobbs

ENERCON SERVICES, INC.
An Employee Owned Company

1221 River Bend, Suite 259
Dallas, TX 75247
(214) 631-7693
FAX (214) 631-7699

October 7, 1996

Mr. Neal Stidham
Shell Oil Products Company
Two Shell Plaza
777 Walker Street
P.O. Box 2099
Houston, Texas 77252-2099

RE: Drilling & Sampling Report
Dublin Station
Lea County, New Mexico

Mr. Stidham:

Enercon Services, Inc. mobilized to the above referenced facility on September 5, 1996 to drill near the previously installed soil boring designated as B-8. Soil boring B-8 was located in the southwest portion of the facility in an area actively undergoing Soil Vapor Extraction (SVE) remediation. The purpose of the drilling was to collect soil samples at selected intervals corresponding to previously sampled zones to evaluate the performance of the ongoing remediation project.

Staff representing EOTT (facility operator) were on site and checked piping and utility clearance for the boring location prior to commencement of drilling activities. All field work was conducted under the direct supervision of Mr. Charles Harlan, an Enercon certified geologist.

Field activities included drilling, soil sampling, and field screenings for organic vapors detection. The drilling equipment and crew were provided by West Texas Water Well Drillers of Odessa, Texas. The drilling procedure consisted of air drilling to the selected sampling depth, replacement of the drill bit with a two (2) foot split spoon sampler, re-entering the borehole, and the collection of a soil sample by pushing the sampler with the drill pipe. The boring (ETB-1) was drilled at a location approximately eight (8) feet west of soil boring B-8 to an approximate depth of 110 feet. The boring was sampled at 20 feet, 40 feet, 90 feet, and 108 feet below land surface (BLS) using a split spoon sampler. The soil samples were screened for the presence of hydrocarbon vapors using

a 580B Thermo-Environmental Organic Vapor Meter (OVM). The OVM was calibrated daily using an 100 ppm Isobutylene standard. The results of the field screening are posted on the attached boring log. The boring log shows the intervals sampled by split spoon and a description and classification of the soil profile using the Unified Soil Classification System (USCS).

The soil samples were delivered to RECRA LabNet in Houston, Texas. The analyses requested included BTEX (EPA Method 8240), TPH - GRO & DRO (EPA Method 8015) and Synthetic Precipitation Leachate Procedure (SPLP) - BTEX & TPH (EPA Methods 8240 & 8015, respectively).

The entire soil profile consisted of tan fine-grained sand to a depth of 44 feet BLS where a color change to reddish-tan occurred and persisted to the total depth drilled. No petroleum hydrocarbon staining was observed in the soil interval during drilling. The highest levels of affected soil were found between 40 and 42 feet BLS. However, the leaching data (Table 1) shows only trace amounts of hydrocarbons as leachable. The data indicates that the remaining hydrocarbon will not adversely impact the groundwater.

Should you have any questions concerning these activities, or wish further discussion, please contact me at your convenience. Enercon Services, Inc. appreciates this opportunity to be of service to Shell Oil Products Company.

Sincerely,

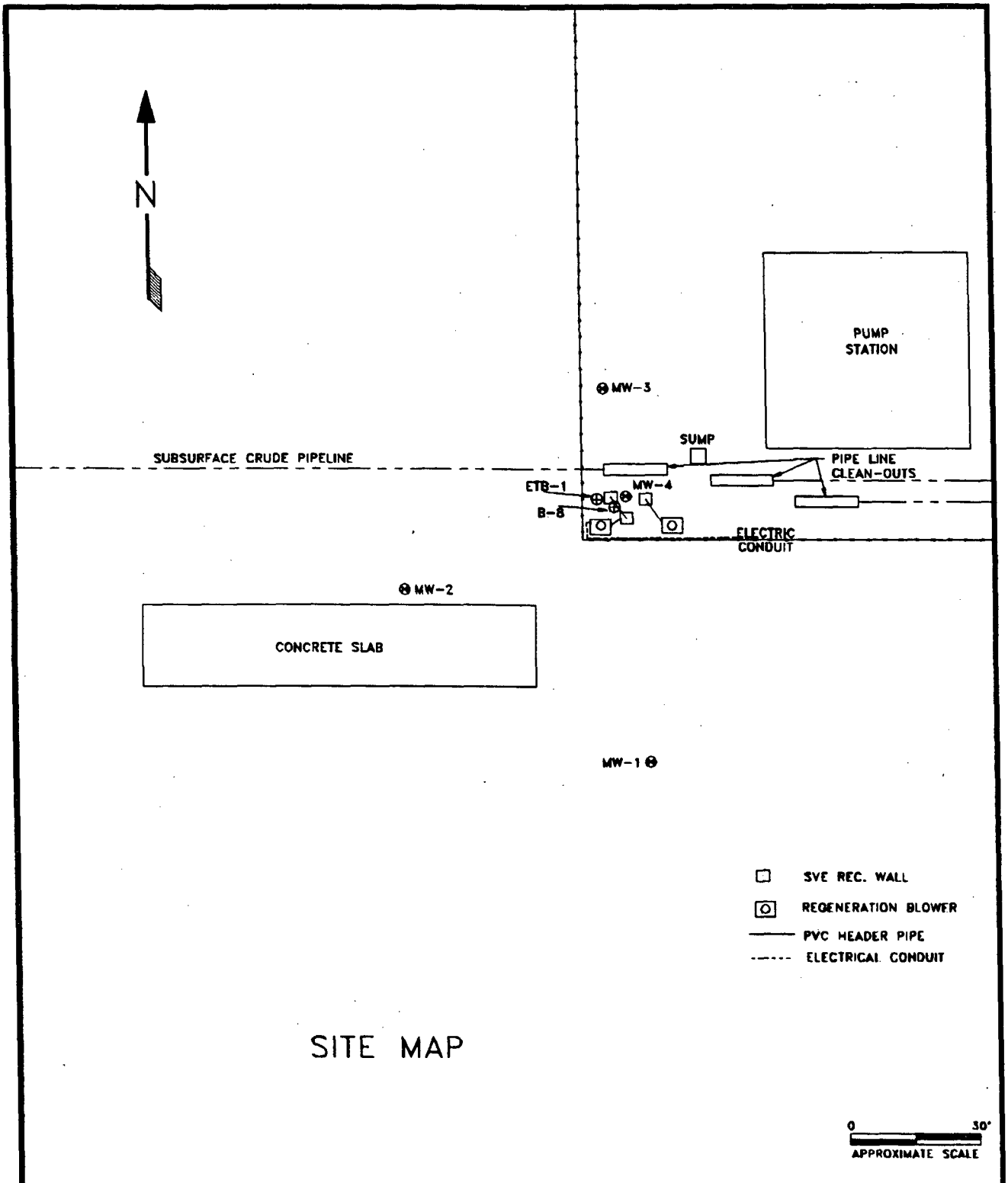
ENERCON SERVICES, INC.

Charles D. Harlan
Project Manager

Attachments

ATTACHMENT A

SITE MAP



SITE MAP

ENERCON SERVICES, INC. 1221 RIVER BEND, SUITE 259 DALLAS, TEXAS 75247	DUBLIN STATION SHELL PIPE LINE CORPORATION LEA COUNTY, NEW MEXICO	DATE: SEPT. 1996	SCALE: SEE ABOVE
		PROJECT NO. EV-412	FIGURE NO. 1

ATTACHMENT B

TABLES

TABLE 1
Soil Sample Analytical Results
Dublin Station

Date	Boring	Depth (Feet)	Benzene	SPLP Benzene	Toluene	SPLP Toluene	Ethyl-Benzene	SPLP Ethyl-Benzene	Xylene (ppm)	SPLP Xylene	TPH 418.1	TPH GRO	SPLP TPH GRO	TPH DRO	SPLP TPH DRO
2/4/93	B-8	20-22	<0.001*		<0.001*		4.600*		1.600*		11,000*				
2/4/93	B-8	40-42	<0.001*		2.9*		17*		26*		12,000*				
2/4/93	B-8	90-92	<0.001*		3.3*		23*		44*		12,000*				
9/5/96	ETB-1	20-22	NA	NA	NA	NA	NA	NA	NA	NA	NA	410	0.61	790	ND
9/5/96	ETB-1	40-42	NA	NA	NA	NA	NA	NA	NA	NA	NA	600	1.3	2,500	ND
9/5/96	ETB-1	90-92	ND**	ND**	ND**	ND**	ND**	ND**	ND**	ND**	ND**	230	1	1,000	2.4
9/5/96	ETB-1	108-110	NA	NA	NA	NA	NA	NA	NA	NA	NA	54	5.8	1,900	ND

* BTEX and TPH Analyses conducted using EPA Method 8020 & 418.1, respectively. Results listed in mg/kg (parts per million; ppm)

** BTEX, TPH, and SPLP BTEX and TPH conducted using EPA Method 8240 and 8015, respectively. Results listed in mg/kg (parts per million; ppm)

NA - Not Analyzed due to field headspace screening results <100ppm

ND - None Detected

TABLE 2
Field Head-Space Screening Results
Dublin Station

Location	Depth (feet)	OVM (ppm)
B-8	20-22 40-42 90-92	50 >1,000 950
ETB-1	20-22 40-42 90-92 108-110	11 89 287 11

Soil boring B-8 drilled 2/4/93.
Soil boring ETB-1 drilled 9/5/96.
Head-Space field screening results obtained by Thermo-Environmental Model 580-B organic vapor monitor.

ATTACHMENT C

BORING LOG

RECORD OF SUBSURFACE EXPLORATION

Project No: EV-375 | **Project Name:** Dublin Station

Well/Boring No: ETB-1 | **Date Drilled:** 09/5/96 | **Logged By:** C. Harlan

Drilling Co.: West Texas Water Wel Drillers | **Driller:** Bernie | **Method:** Air Rotary

Depth (Feet)	SOIL DESCRIPTION	SAMPLE NUMBER	SAMPLE TYPE	OVA/OVM (PPM)	REMARKS
0	Tan-Grey Fine Sand, Moist				Slight Hydrocarbon odor
10					
20	Dry	20-22'	ST	11	
30					
40		40-42'	ST	89	
50	Red - Tan Fine Sand Dry at 44'				
60					
70					
80					
90		90-92'	ST	217	
100					
110		108-110'	ST	11	Saturated at 108'
	TD = 110'				

SS - Split Spoon | CT - Continuous Sampler | CFA - Continuous Flight Auger | AR - Air Rotary | HA - Hand Auger
ST - Shelby Tube | RC - Rock Core | HSA - Hollow Stem Auger | MD - Mud Drilling | LS - Lab Sample

LEGEND

WATER LEVEL:
▽ At Completion
▼ After _____ Hours

GB Grab Sample
CS Composite Sample

Sample Interval
24" Recovery Length
NR - No Recovery

ENERCON SERVICES, INC.
1221 RIVER BEND, SUITE 259
DALLAS, TX 75247
(214) 631-7693

ATTACHMENT D

LABORATORY REPORTS

Report
Prepared
for

ENERCON SERVICES, INC.
1221 River Bend, Suite 259
Dallas, Texas 75247

Attention: Charles Harlan

by

RECRA LabNet-Houston
8300 Westpark Drive
Houston, Texas 77063
(713)266-6800

CERTIFIED BY: _____

J .Gerardo Uría
Project Manager

PROJECT ID : Shell Pipeline Corp EV-375 Dublin Station
P.O. Number : NA

Work Order : H96-2385
Date Received : 07-Sept-1996

Date: 10/03/96
Time: 08:07

Shell Pipeline Corporation
SHELL PIPELINE CORPORATION
SAMPLE DESCRIPTION INFORMATION

Lab Sample ID	Client Sample ID	Laboratory Job Number	Sample Type	Matrix	Sample Date	Receive Date
H6238505	BLANK SPIKE	H96-2385	MSB	Soil	05-Sep-96	07-Sep-96
H6238504	ETB-1/108-110'	H96-2385	FS	Soil	05-Sep-96	07-Sep-96
H6238501	ETB-1/20-22'	H96-2385	FS	Soil	05-Sep-96	07-Sep-96
H6238502	ETB-1/40-42'	H96-2385	FS	Soil	05-Sep-96	07-Sep-96
H6238503MS	ETB-1/90-92'MS	H96-2385	MS	Soil	05-Sep-96	07-Sep-96
H6238503	ETB-1/90-92'	H96-2385	FS	Soil	05-Sep-96	07-Sep-96
H6238503SD	ETB-1/90-92'MSD	H96-2385	SD	Soil	05-Sep-96	07-Sep-96
H6238506	METHOD BLANK	H96-2385	MBLK	Soil	05-Sep-96	07-Sep-96

Recra LabNet

RECRA LabNet

8300 Westpark
Houston TX 77063 (713) 266-6800

☐ Amherst
☐ Houston
☐ Monroeville

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Manager _____
Project Name EV-375 DUBLIN STATION
Purchase Order No. _____
Sampler(s) _____

Company ENERCON SERVICES, INC.
Address 1221 RIVER BEND, SUITE 259
DALLAS, TX 75247
Phone #(214) 631-7693 Fax 631-7699
Mail Report To: CHARLES HARLAN

Requested Turn Around Time: NORMAL

COMMENTS:

1. HNO3 5. NaOH
2. H2SO4 6. Na2SO3
3. H3PO4 7. None
4. HCl 8. Other(s)

Matrix

SAMPLE IDENTITY:	Date Sample	Time Sampled	Soil	Water	Air	Other	Preservative	Volatile Organics	Semi-Volatile Organics	Pesticides	PCB's	Herbicides	Btex	Metals	TPH (Ft Lauderdale) 8015	SPLP - TPH	Other Analyses: SPLP - BTEX & TPH	Other Analyses: BTEX ONLY 8240	No. of Containers	REMARKS:
ETB-1 / 20-22'	9/5/96	9:30	✓												✓	✓			3	
ETB-1 / 40-42'	"	10:00	✓												✓	✓			2	
ETB-1 / 90-92'	"	2:45	✓												✓		✓	✓	4	
ETB-1 / 108-110'	"	16:30	✓												✓	✓			2	

Chester LabNet-Houston
Lab ID # H96-2885
Iced Y/N
pH —
Temperature 6C0
9/7/96
BR

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
[signature]	9-6	0930	D. MASSOUD	9/6/96	10:30 AM
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time
Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Date	Time

Delivery Method:
☐ In Person
☐ Common Carrier _____ specify
☐ Lab Courier
☐ Other

Airbill #

200000

Client Sample ID: Job Number & Lab Sample ID: Sample Date:	ETB-1/108-110' H96-2385 H6238504 09/05/96	ETB-1/20-22' H96-2385 H6238501 09/05/96	ETB-1/40-42' H96-2385 H6238502 09/05/96	ETB-1/90-92' H96-2385 H6238503 09/05/96	
Analyte (MG/KG)	Result	Result	Result	Result	
DIESEL RANGE ORGANICS Diesel Range Organics	1900	790	2500	1000	

Analyte (MG/KG)	Result	Result	Result	Result	
GASOLINE RANGE ORGANICS - Gasoline Range Organics	54	410	600	230	

Analyte (MG/KG)	Result	Result	Result	Result	
SOIL-SW8463 8240 - UTS BTEX VOLATILES					
Benzene	NA	NA	NA	0.028 U	
Ethylbenzene	NA	NA	NA	0.028 U	
Toluene	NA	NA	NA	0.028 U	
Total Xylenes	NA	NA	NA	0.028 U	

REVISED

000003

U = Undetected at the Listed Detection Limit
J = Compound is present, but below the detection limit

* Indicates Result is Outside QC Limits
NA = Not Applicable

Client Sample ID:	ETB-1/108-110'	ETB-1/20-22'	ETB-1/40-42'	ETB-1/90-92'	
Job Number & Lab Sample ID:	H96-2385 H6238504	H96-2385 H6238501	H96-2385 H6238502	H96-2385 H6238503	
Sample Date:	09/05/96	09/05/96	09/05/96	09/05/96	
Analyte (MG/L)	Result	Result	Result	Result	
SPLP - DIESEL RANGE ORGANICS					
Diesel Range Organics	0.18 U	0.18 U	0.18 U	2.4	

Analyte (MG/L)	Result	Result	Result	Result	
SPLP - GASOLINE RANGE ORGANICS					
Gasoline Range Organics	5.8	0.61	1.3	1.0	

Analyte (MG/L)	Result	Result	Result	Result	
METHOD 8240 - SPLP BTEX					
Benzene	NA	NA	NA	0.0250 U	
Toluene	NA	NA	NA	0.0250 U	
Ethylbenzene	NA	NA	NA	0.0250 U	
Total Xylenes	NA	NA	NA	0.0250 U	

000004

* Indicates Result is Outside QC Limits
NA = Not Applicable

U = Undetected at the Listed Detection Limit
J = Compound is present, but below the detection limit

Client Sample ID:	BLANK SPIKE	ETB-1/90-92'MS	ETB-1/90-92'MSD	METHOD BLANK	
Job Number & Lab Sample ID:	H96-2385 H6238505	H96-2385 H6238503MS	H96-2385 H6238503SD	H96-2385 H6238506	
Sample Date:	09/05/96	09/05/96	09/05/96	09/05/96	
Analyte (MG/KG)	Result	Result	Result	Result	
DIESEL RANGE ORGANICS					
Diesel Range Organics	210	1400	2400	5.9 U	

Analyte (MG/KG)	Result	Result	Result	Result	
GASOLINE RANGE ORGANICS -					
Gasoline Range Organics	1500	300	310	0.025 U	

Analyte (MG/KG)	Result	Result	Result	Result	
SOIL-SW8463 8240 - UTS BTEX VOLATILES					
Benzene	0.055	0.28	0.30	0.0050 U	
Ethylbenzene	0.0050 U	0.028 U	0.028 U	0.0050 U	
Toluene	0.057	0.27	0.31	0.0050 U	
Total Xylenes	0.0050 U	0.028 U	0.028 U	0.0050 U	

000005

U = Undetected at the Listed Detection Limit
J = Compound is present, but below the detection limit

* Indicates Result is Outside QC Limits
NA = Not Applicable

Client Sample ID:	BLANK SPIKE	ETB-1/90-92'MS	ETB-1/90-92'MSD	METHOD BLANK	
Job Number & Lab Sample ID:	H96-2385 H6238505	H96-2385 H6238503MS	H96-2385 H6238503SD	H96-2385 H6238506	
Sample Date:	09/05/96	09/05/96	09/05/96	09/05/96	
Analyte (MG/L)	Result	Result	Result	Result	
SPLP - DIESEL RANGE ORGANICS					
Diesel Range Organics	12	15	14	0.18 U	

Analyte (MG/L)	Result	Result	Result	Result	
SPLP - GASOLINE RANGE ORGANICS					
Gasoline Range Organics	0.90	1.8	1.4	0.025 U	

Analyte (MG/L)	Result	Result	Result	Result	
METHOD 8240 - SPLP BTEX					
Benzene	0.290	0.275	0.270	0.0250 U	
Toluene	0.0250 U	0.0250 U	0.0250 U	0.0250 U	
Ethylbenzene	0.0250 U	0.0250 U	0.0250 U	0.0250 U	
Total Xylenes	0.0250 U	0.0250 U	0.0250 U	0.0250 U	

900006

U = Undetected at the Listed Detection Limit
J = Compound is present, but below the detection limit

* Indicates Result is Outside QC Limits
NA = Not Applicable

RECRA LabNet - Houston

LABORATORY QA/QC DATA

SHELL PIPELINE CORPORATION
SHELL PIPELINE CORPORATION
SOIL-SW8463 8240 - UTS BTEX VOLATILES
SOIL SURROGATE RECOVERY

Laboratory: Recra LabNet - RECTX
Lab Job No: H96-2385
SDG No: EV-375

Client Sample ID	Lab Sample ID	S1 BFB #	S2 DCE #	S3 TOL #
BLANK SPIKE	H6238505	102	93	103
ETB-1/90-92'	H6238503	109	92	108
ETB-1/90-92'MS	H6238503MS	106	96	106
ETB-1/90-92'MSD	H6238503SD	99	99	104
METHOD BLANK	H6238506	98	92	100

800008

				QC Limits
S1	BFB	=	p-Bromofluorobenzene	(74 - 121)
S2	DCE	=	1,2-Dichloroethane-D4	(70 - 121)
S3	TOL	=	Toluene-D8	(81 - 117)

\# Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

SHELL PIPELINE CORPORATION
SHELL PIPELINE CORPORATION
GASOLINE RANGE ORGANICS -
SOIL SURROGATE RECOVERY

Laboratory: Recra LabNet - RECTX
Lab Job No: H96-2385
SDG No: EV-375

Client Sample ID	Lab Sample ID	S1 TFT	#
BLANK SPIKE	H6238505	99	
ETB-1/108-110'	H6238504	140	
ETB-1/20-22'	H6238501	110	
ETB-1/40-42'	H6238502	130	
ETB-1/90-92'	H6238503	98	
ETB-1/90-92'MS	H6238503MS	110	
ETB-1/90-92'MSD	H6238503SD	100	
METHOD BLANK	H6238506	85	

600009

QC Limits

S1 TFT = a,a,a-Trifluorotoluene (46 - 140)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

SHELL PIPELINE CORPORATION
SHELL PIPELINE CORPORATION
DIESEL RANGE ORGANICS
SOIL SURROGATE RECOVERY

Laboratory: Recra LabNet - RECTX
Lab Job No: H96-2385
SDG No: EV-375

Client Sample ID	Lab Sample ID	S1 OTP	#
BLANK SPIKE	H6238505	120	
ETB-1/108-110'	H6238504	1100	*
ETB-1/20-22'	H6238501	250	*
ETB-1/40-42'	H6238502	325	*
ETB-1/90-92'	H6238503	190	*
ETB-1/90-92'MS	H6238503MS	230	*
ETB-1/90-92'MSD	H6238503SD	380	*
METHOD BLANK	H6238506	100	

QC Limits

S1 OTP = o-Terphenyl (24 - 150)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

Date : 10/02/96 17:40
Job No: H96-2385

SHELL PIPELINE CORPORATION
SHELL PIPELINE CORPORATION
SAMPLE DATE 09/05/96

Rept: AN0364

Client Sample ID: ETB-1/90-92' ETB-1/90-92'MS ETB-1/90-92'MSD
Lab Sample ID: H6238503 H6238503MS H6238503SD

Analyte	Units of Measure	Concentration			Spike Amount		% Recovery			% RPD	QC LIMITS	
		Sample	Matrix Spike	Spike Duplicate	MS	MSD	MS	MSD	Avg		RPD	REC.
DIESEL RANGE ORGANICS												
Diesel Fuel	MG/KG	1000	1400	2400	370	370	108	378 *	243	111 *	50.0	32-155
SPLP - DIESEL RANGE ORGANICS												
Diesel Fuel	MG/L	2.4	15	14	20	20	63	58	61	8	50.0	31-173
METHOD 8240 - SPLP BTEX												
Benzene	MG/L	0	0.275	0.270	0.250	0.250	110	108	109	2	15.0	72-122
SOIL-SW8463 8240 - UTS BTEX VOLATILES												
Benzene	MG/KG	0	0.28	0.30	0.28	0.28	100	107	104	7	25.0	78-
Toluene	MG/KG	0	0.27	0.31	0.28	0.28	96	111	104	14	25.0	78-124

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

Client Sample ID: METHOD BLANK BLANK SPIKE
Lab Sample ID: H6238506 H6238505

Analyte	Units of Measure	Concentration Blank Spike	Concentration Spike Amount	% Recovery Blank Spike	QC LIMITS
DIESEL RANGE ORGANICS					
Diesel Fuel	MG/KG	210	330	64	32-155
SPLP - DIESEL RANGE ORGANICS					
Diesel Fuel	MG/L	13	20	65	31-173
METHOD 8240 - SPLP BTEX					
Benzene	MG/L	0.290	0.250	116	72-122
SOIL-SW8463 8240 - UTS BTEX VOLATILES					
Benzene	MG/KG	0.055	0.050	110	78-123
Toluene	MG/KG	0.057	0.050	114	78-124

000015

* Indicates Result is outside QC Limits
NC = Not Calculated ND = Not Calculated

SHELL PIPELINE CORPORATION
SHELL PIPELINE CORPORATION
METHOD 8240 - SPLP BTEX
SOIL SURROGATE RECOVERY

Laboratory: Recra LabNet - RECTX
Lab Job No: H96-2385
SDG No: EV-375

Client Sample ID	Lab Sample ID	S1 BFB #	S2 DCE #	S3 TOL #
BLANK SPIKE	H6238505	99	93	97
ETB-1/90-92'	H6238503	104	88	95
ETB-1/90-92'MS	H6238503MS	104	91	95
ETB-1/90-92'MSD	H6238503SD	105	93	98
METHOD BLANK	H6238506	100	90	99

			QC Limits
S1	BFB	= p-Bromofluorobenzene	(86 - 115)
S2	DCE	= 1,2-Dichloroethane-D4	(76 - 114)
S3	TOL	= Toluene-D8	(88 - 110)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

SHELL PIPELINE CORPORATION
SHELL PIPELINE CORPORATION
SPLP - GASOLINE RANGE ORGANICS
SOIL SURROGATE RECOVERY

Laboratory: Recra LabNet - RECTX
Lab Job No: H96-2385
SDG No: EV-375

Client Sample ID	Lab Sample ID	S1 TFT #
BLANK SPIKE	H6238505	90
ETB-1/108-110'	H6238504	120
ETB-1/20-22'	H6238501	98
ETB-1/40-42'	H6238502	91
ETB-1/90-92'	H6238503	120
ETB-1/90-92'MS	H6238503MS	110
ETB-1/90-92'MSD	H6238503SD	130
METHOD BLANK	H6238506	140

QC Limits

S1 TFT = a,a,a-Trifluorotoluene (46 - 140)

210012

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

SHELL PIPELINE CORPORATION
SHELL PIPELINE CORPORATION
SPLP - DIESEL RANGE ORGANICS
SOIL SURROGATE RECOVERY

Laboratory: Recra LabNet - RECTX
Lab Job No: H96-2385
SDG No: EV-375

Client Sample ID	Lab Sample ID	S1 OTP	#
BLANK SPIKE	H6238505	120	
ETB-1/108-110'	H6238504	21	
ETB-1/20-22'	H6238501	29	
ETB-1/40-42'	H6238502	86	
ETB-1/90-92'	H6238503	16	
ETB-1/90-92'MS	H6238503MS	45	
ETB-1/90-92'MSD	H6238503SD	38	
METHOD BLANK	H6238506	96	

QC Limits

S1 OTP = o-Terphenyl (24 - 150)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

ENERCON SERVICES, INC.
1221 River Bend
Suite 259
Dallas, TX 75247
(214) 631-7693
(214) 631-7699-Fax

May 13, 1996
EV-380

Mr. Neal D. Stidham
Shell Oil Products Company
Two Shell Plaza, Room 1452
777 Walker Street
Houston, Texas 77002

RE: GROUNDWATER MONITORING REPORT - APRIL, 1996
Dublin Station
Lea County, New Mexico

Mr. Stidham:

Enercon Services, Inc. (ENERCON) has completed the groundwater monitoring operations at the above referenced site. The work was performed in accordance with the scope of services requested by Shell Oil Products Company in your letter dated December 13, 1995.

Monitor wells MW-1 through MW-4 were gauged and checked for phase-separated hydrocarbons (PSH) on April 8, 1996. Following gauging operations, monitor well MW-3 was purged and sampled. In accordance with water quality monitoring requirements set forth by the New Mexico Oil Conservation Division (NMOCD), the groundwater samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and dissolved oxygen (DO) content. The New Mexico Water Quality Control Commission (WQCC) regulations do not contain a groundwater standard for total petroleum hydrocarbons (TPH). Therefore, the NMOCD does not require that groundwater samples be analyzed for TPH.

Groundwater Sampling

The monitor wells were gauged April 8, 1996, to determine the depth to groundwater. Depth to groundwater across the site ranged from 113.01 feet to 114.01 feet below top of casing with the direction of groundwater flow toward the southwest. Groundwater Gradient and Hydrocarbon Distribution maps are provided in Appendix A. A summary of groundwater elevations and PSH thicknesses are presented in Table 1, Appendix B.

A soil vapor extraction (SVE) system was installed on-site in December, 1994, in order to lower the soil hydrocarbon concentrations by removing the volatile components of prior crude oil releases. Based on initial testing at the site, one SVE system was installed to remediate the upper and middle zones, and one SVE system was installed to remediate the lower zone. Data accumulated during

SVE operations indicates that both systems have been successful in removing hydrocarbons from the subsurface.

On April 8, 1996, immediately following gauging operations, monitor well MW-3 was purged by bailing approximately seven gallons of water prior to bailing the well dry. After the monitor well was allowed to sufficiently recover a groundwater sample was obtained from the monitor well using a new disposable bailer and was transported on ice to Southern Petroleum Laboratory (SPL) in Houston, Texas, for analysis of BTEX utilizing EPA Method 8020. A summary of groundwater analytical results is presented in Table 2 , Appendix B. The laboratory reports and chain-of -custody are included in Appendix C. Quality Assurance/Quality Control information is included in Appendix D.

Results and Discussion

The groundwater sample obtained April 8, 1996, from monitor well MW-3 recorded dissolved BTEX concentrations below the practical quantitation levels (BPQL).

The dissolved oxygen (DO) level in monitor well MW-3 was obtained as a possible indicator of the natural biological activity of hydrocarbon degrading microorganisms in the groundwater. Microbial and mineral oxidation reactions within the dissolved hydrocarbon plume typically result in depletion of DO so that an inverse relationship between DO and BTEX will be found where natural attenuation of the contaminant plume has occurred. In order for natural attenuation to be considered as a viable methodology in pursuing site closure, free-phase hydrocarbons must be removed from the site to the maximum extent practicable. In addition, to determine whether a significant correlation exists between DO and BTEX, several data points must be collected to evaluate the effectiveness of natural attenuation in controlling movement of the plume. The DO result obtained in the latest sampling event suggest that sufficient levels of dissolved oxygen are present in the groundwater around monitor well MW-3 to enable the occurrence of natural hydrocarbon biodegradation.

ENERCON appreciates the opportunity to provide you with our professional consulting services. If you have any questions or concerns, please do not hesitate to contact us at (214) 631-7693.

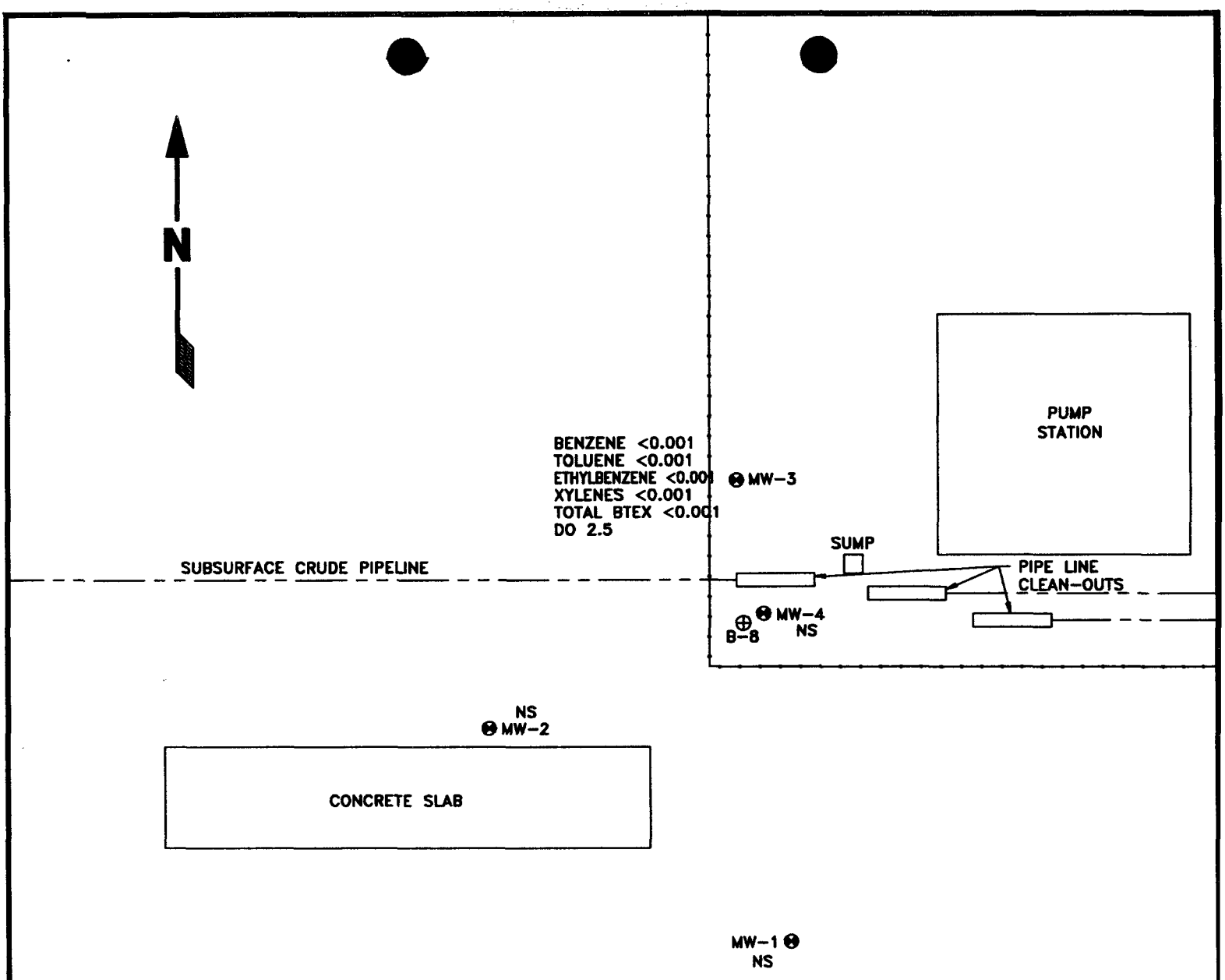
Sincerely,
Enercon Services, Inc.

Charles D. Harlan
Project Manager

Attachments

APPENDIX A

FIGURES

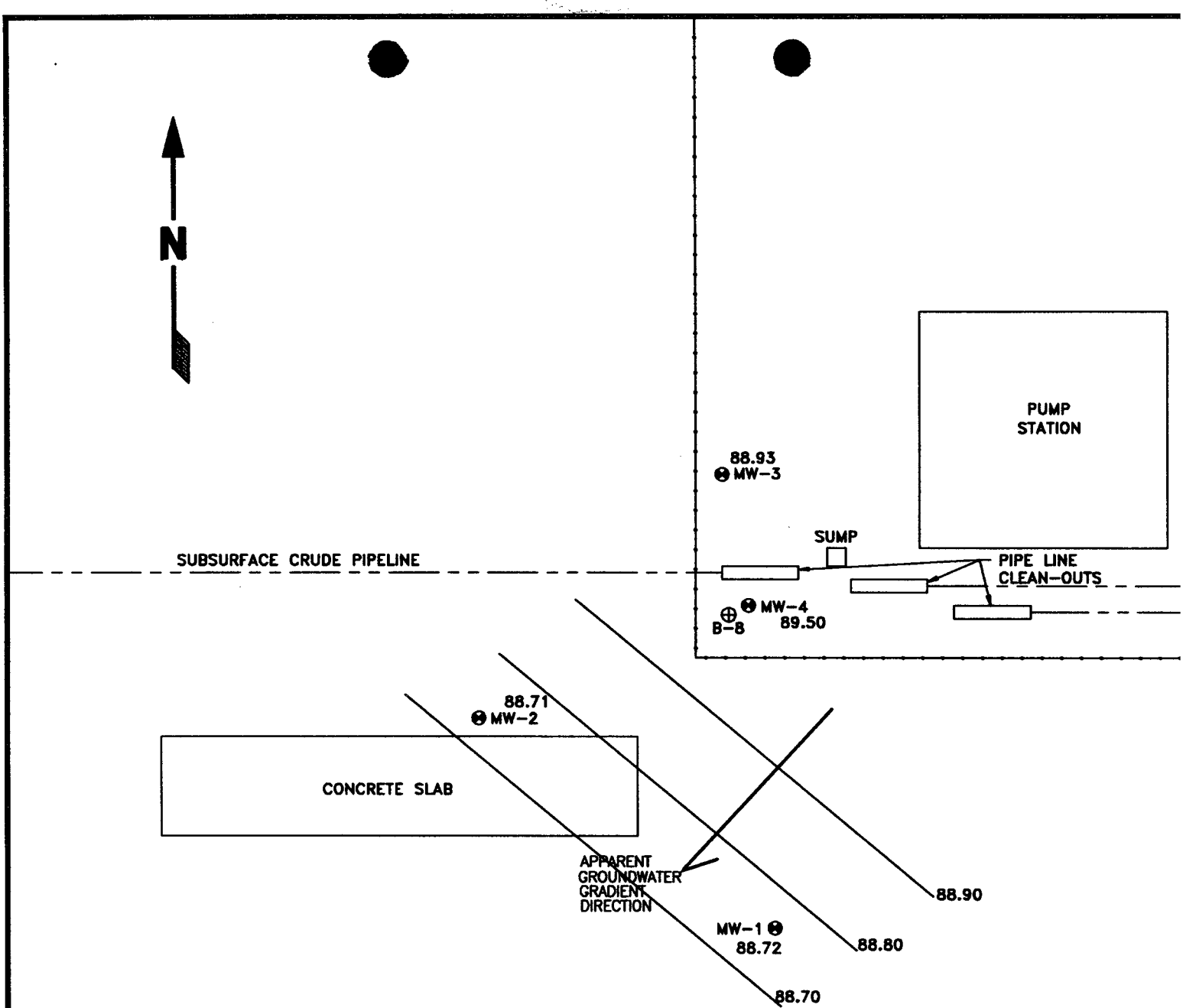


DISSOLVED HYDROCARBON MAP

-SAMPLES OBTAINED 4/8/96
-BENZENE AND DO CONCENTRATIONS LISTED IN mg/l (ppm)
-NS: NOT SAMPLED

0 30'
APPROXIMATE SCALE

ENERCON SERVICES, INC. 1221 RIVER BEND, SUITE 259 DALLAS, TEXAS 75247	DUBLIN STATION SHELL PIPE LINE CORPORATION LEA COUNTY, NEW MEXICO	DATE: APRIL 1996	SCALE: SEE ABOVE
		PROJECT NO. EV-380	FIGURE NO. 1



DISSOLVED HYDROCARBON MAP

-GROUNDWATER ELEVATION OBTAINED 4/8/96
-CONTOUR INTERVAL = 0.10 FEET
-MONITOR WELL MW-3 NOT USED IN DEVELOPING GRADIENT MAP

0 30'
APPROXIMATE SCALE

ENERCON SERVICES, INC. 1221 RIVER BEND, SUITE 259 DALLAS, TEXAS 75247	DUBLIN STATION SHELL PIPE LINE CORPORATION LEA COUNTY, NEW MEXICO	DATE: APRIL 1996	SCALE: SEE ABOVE
		PROJECT NO. EV-380	FIGURE NO. 2

APPENDIX B

TABLES

TABLE 1
SUMMARY OF RELATIVE GROUNDWATER LEVEL ELEVATIONS AND PHASE-SEPARATED HYDROCARBON THICKNESSES

Monitor Well	Date	Relative Ground Surface Elevation (feet)*	Relative Top Of Casing Elevation (feet)*	Depth to Water Below Top of Casing (feet)	Corrected Relative Groundwater Elevation (feet)**	Phase-Separated Hydrocarbon Thickness (feet)
MW-1	4/21/95	199.45	202.09	112.84	89.25	0.00
	4/8/96	**199.45**	**202.09**	**113.37**	**88.72**	**0.00**
MW-2	4/21/95	200.83	202.72	113.62	89.10	0.00
	4/8/96	**200.83**	**202.72**	**114.01**	**88.71**	**0.00**
MW-3	4/21/95	199.68	202.83	113.38	89.45	0.00
	4/8/96	**199.68**	**202.83**	**113.90**	**88.93**	**0.00**
MW-4	4/21/95	200.21	202.51	112.62	89.93	0.00
	4/8/96	**200.21**	**202.51**	**113.01**	**89.50**	**0.00**

* Measured from a relative datum (benchmark = 100.00 feet). The monitoring well casings were marked to provide consistent reference points for future gauging operations.
** Correction Equation for Phase-Separated Hydrocarbons: Corrected Groundwater Elevation = Top of Casing Elevation - (Depth to Water Below Top of Casing - [SG] [PSH Thickness])
Specific Gravity (SG) = 0.9 for crude oil.

TABLE 2
WATER SAMPLE ANALYTICAL RESULTS

Monitor Well	Date Sampled	Benzene	Toluene	Ethyl-benzene	Xylenes	Total BTEX	DO
MW-1	4/21/95 **4/8/96**	<0.001 **NS**	<0.001 **NS**	<0.001 **NS**	<0.001 **NS**	<0.001 **NS**	2.8 **NS**
MW-2	4/21/95 **4/8/96**	<0.001 **NS**	<0.001 **NS**	<0.001 **NS**	<0.001 **NS**	<0.001 **NS**	3.0 **NS**
MW-3	4/21/95 **4/8/96**	0.002 **<0.001**	0.003 **<0.001**	0.001 **<0.001**	0.002 **<0.001**	0.008 **<0.001**	1.4 **2.5**
MW-4	4/21/95 **4/8/96**	<0.001 **NS**	<0.001 **NS**	<0.001 **NS**	<0.001 **NS**	<0.001 **NS**	1.2 **NS**

BTEX and DO results listed in mg/l (parts per million; ppm).
BTEX analyses were conducted using EPA Method 8020 by Southern Petroleum Laboratory.
NS - Not Sampled.

APPENDIX C

ANALYTICAL RESULTS

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL, INC.

REPORT APPROVAL SHEET

WORK ORDER NUMBER: 96 - 04 - 507

Approved for release by:

M. Scott Sample Date: 4/19/96

M. Scott Sample, Laboratory Director

Debbie Proctor Date: 4/18/96

Debbie Proctor, Project Manager

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9604507-01

Shell Pipe Line Corporation
P.O. Box 2648
Houston, TX 77252
ATTN: Neal Stidham

P.O.# MESA-CAO-B-131201-PX-4204-NS
DATE: 04/16/96

PROJECT: EV-380
SITE: Dublin Station
SAMPLED BY: Enercon Services Inc
SAMPLE ID: MW-3

PROJECT NO: H 17648
MATRIX: WATER
DATE SAMPLED: 04/08/96 12:00:00
DATE RECEIVED: 04/11/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
BENZENE	ND	1 P	µg/L
TOLUENE	ND	1 P	µg/L
ETHYLBENZENE	ND	1 P	µg/L
TOTAL XYLENE	ND	1 P	µg/L
TOTAL BTEX	ND		µg/L

Surrogate	% Recovery
1,4-Difluorobenzene	83
4-Bromofluorobenzene	96

METHOD 5030/8020 ***
Analyzed by: YN
Date: 04/13/96

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

QUALITY CONTROL

DOCUMENTATION

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

* SPL BATCH QUALITY CONTROL REPORT **
METHOD 8020***

Matrix: Aqueous
Units: µg/L

Batch Id: HP_J960413123800

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Benzene	ND	50	40	80.0	62 - 121
Toluene	ND	50	46	92.0	66 - 136
EthylBenzene	ND	50	51	102	70 - 136
O Xylene	ND	50	52	104	74 - 134
M & P Xylene	ND	100	110	110	77 - 140

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
BENZENE	ND	20	19	95.0	19	95.0	0	25	39 - 150
TOLUENE	2	20	17	75.0	19	85.0	12.5	26	56 - 134
ETHYLBENZENE	ND	20	19	95.0	19	95.0	0	38	61 - 128
O XYLENE	ND	20	21	105	21	105	0	29	40 - 130
M & P XYLENE	3	40	44	102	44	102	0	20	43 - 152

Analyst: YN
Sequence Date: 04/13/96
SPL ID of sample spiked: 9604623-01A
Sample File ID: J___866.TX0
Method Blank File ID:
Blank Spike File ID: J___860.TX0
Matrix Spike File ID: J___862.TX0
Matrix Spike Duplicate File ID: J___863.TX0

* = Values Outside QC Range
NC = Not Calculated (Sample exceeds spike by factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100
(**) = Source: SPL-Houston Historical Data (3rd Q '95)
(***) = Source: SPL-Houston Historical Data (4th Q '94)

SAMPLES IN BATCH(SPL ID):

9604515-03A 9604515-02A 9604515-04A 9604515-05A
9604510-01A 9604515-01A 9604505-04A 9604505-02A
9604527-01A 9604597-01A 9604509-01A 9604482-02A
9604612-01A 9604482-01A 9604510-02A 9604623-01A
9604515-06A 9604507-01A

QC Officer

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

QUALITY ASSURANCE/QUALITY CONTROL

A strict Quality Assurance Plan was incorporated throughout all phases of the on-site operations and sampling procedures. Soil or solid material samples were collected using new disposable or properly decontaminated reusable stainless steel equipment. Water or liquid samples were collected with new disposable bailers. All non-reusable equipment was disposed of and reusable equipment was decontaminated between sampling stations to eliminate the potential of cross-contamination. The water samples were transferred from the bailers into airtight septum-sealed 40-ml glass VOA vials, one-liter amber glass jars with Teflon lids, or other sample containers appropriate for the required analyses.

The samples were sealed with QA/QC seals, preserved with acid (if required), and maintained at 4°C in accordance with Environmental Protection Agency (EPA) requirements (EPA 600/4-82-029) for shipment to the laboratory. A chain-of-custody (COC) which documents sample collection times and delivery times to the laboratory was completed for each set of samples. The COC is included with the analytical results in the Appendix.

ENERCON utilizes laboratories that maintain strict quality controls, i.e. equipment calibration and standardization, appropriate analytical methods, preparation of quality control samples, and complete chain-of-custody. Analyses were performed on all samples using the EPA, State, or local agency-directed methods. The maximum recommended holding times were not exceeded unless noted in the text.

SAFETY PLAN

The sampling operations were performed at level D personal protection. ENERCON personnel involved in the on-site activities have completed the Occupational Safety and Health for Hazardous Waste Field Operation training course (OSHA 29 CFR 1910.120). Applicable safety equipment was on site and available to ENERCON personnel.

LIMITATIONS

It should be noted that all subsurface investigations are inherently limited in the sense that conclusions are drawn and recommendations are developed from samples which depict subsurface conditions at representative locations over relatively short periods of time. Subsurface conditions elsewhere may differ from those at the sampling locations. In addition, subsurface conditions at sampling locations may vary over longer periods of time than can be observed in a study of this type. The passage of time, manifestation of latent conditions, or occurrence of future events may require further site exploration, data collection and analysis, and reevaluation of the findings, observations, conclusions, and recommendation expressed in this report.

9604507 pp Hmare

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING

CHAIN OF CUSTODY RECORD NO. H 17648

Date: 4-8-96
Page 1 of 1

SITE ADDRESS: Dublin Station
EV-380

WIC #:

CONSULTANT NAME & ADDRESS: ENERCON SERVICES, INC.
1221 River Bend, Ste. 259
Dallas, TX, 75247

CONSULTANT CONTACT: Charles Hanlan

PHONE: (214) 631-7693 FAX: (214) 631-7699

SAMPLED BY: Bill D. Smith

CHECK ONE BOX ONLY CT/DT

- QUARTERLY MONITORING ☐ 5461
- SITE INVESTIGATION ☐ 5441
- SOIL FOR DISPOSAL ☐ 5442
- WATER FOR DISPOSAL ☐ 5443
- AIR SAMPLER - SYS O+M ☐ 5452
- WATER SAMPLE - SYS O+M ☐ 5453
- OTHER ☐

SAMPLE I.D.	DATE	TIME	COMP.	GRAB	MATRIX: H2O	SOIL	AIR	SLUDGE	OTHER	METHOD PRESERVED: HCl	HNO3	H2SO4	NONE	OTHER: ICE	NO. OF CONTAINERS	CONTAINER SIZE	ANALYSIS REQUEST: BTEX 602 ☐ 8020 ☐ WITH MTBE ☐	BTEX/GAS HYDROCARBONS PID/FID ☐ WITH MTBE	VOL 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐	PNA/PAH 8310 ☐ 8100 ☐ 610 ☐	SEMI - VOL 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐	TPH/IR 418.1 ☐ SM503 ☐ ☐	TPH/GC 8015 Mod. GAS ☐ 8015 Mod DIESEL ☐	TCLP METALS ☐ VOL ☐ SEMI-VOL ☐ PEST ☐ HERB ☐	EP TOX METALS ☐ PESTICIDES ☐ HERBICIDES ☐	REACTIVITY ☐ CORROSIVITY ☐ IGNITABILITY ☐	OTHER	REMARKS
MW-3	4-8-96	1200		✓	✓					✓				✓	3	✓	✓											

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
Bill D. Smith	4-10-96	1015	Donna Rose	4/11/96	1000
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

BILL NO.:
LABORATORY:
SHELL CONTACT: Neal Stidham PHONE: 241-2961 FAX:

TURN AROUND TIME (CHECK ONE)
7 DAYS ☐ (~~RUSH~~) 14 DAYS ☐ Normal turn
48 HOURS ☐ OTHER ☐

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN OF CUSTODY WITH INVOICE AND RESULTS
DISTRIBUTION: PINK Sampling Coordinator - WHITE & YELLOW Accompanies Shipment - WHITE Returned with Report

Intact 6°C

SPL Houston Environmental Laboratory

Sample Login Checklist

Date:	Time:
4-11-96	10:00

SPL Sample ID:
9604507

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.		✓	
7	If no, Non-Conformance Worksheet has been completed.			
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		6 °C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	8277300662	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name:	Date:
Electa Brown	4/11/96

APPENDIX D

QUALITY ASSURANCE/QUALITY CONTROL

SAFETY PLAN, AND LIMITATIONS

ENERCON SERVICES, INC.
An Employee Owned Company

1221 River Bend, Suite 259
Dallas, TX 75247
(214) 631-7693
FAX (214) 631-7699

September 9, 1996
EV- 375

Mr. Neal D. Stidham
Shell Oil Products Company
Two Shell Plaza, Room 1452
777 Walker Street
P.O. Box 2099
Houston, TX 77252-2099

Re: STATUS REPORT
SOIL VAPOR EXTRACTION (SVE) SYSTEM
Dublin Station
Lea County, New Mexico

Mr. Stidham:

Attached for your review is the current status and updated emissions recovery results of SVE operations at the Dublin Station. The system has now been operational for approximately 19 months and has shown continued overall improvements in the Total Petroleum Hydrocarbon (TPH) and emission recovery levels.

Both systems were shut down from approximately May 29, 1996 to August 12, 1996 due to electrical problems at the site. These have been corrected and both systems are now operational.

SVE Effluent Sampling and Results

Emission samples were obtained from SVE-1 (deep zone) and SVE-2 (shallow zone) on August 26, 1996. Laboratory results of these samples are attached and are included on the updated tabulation of hydrocarbon recovery. The increased hydrocarbon emissions rate observed on this sampling event from the shallow and medium zones (0.63 lb/hr.) are felt due to the rebound effect of the 15 day shut down period. Current emissions from the deep zone are 0.25 lb/hr. Emission rates from the shallow and medium zones are anticipated to decline rapidly to near or below reported levels at the last sampling event (0.07 lb/hr.).

Enercon appreciates the opportunity to provide you with our professional consulting services. If there are any questions regarding this matter, please contact us at (214) 631-7693.

Sincerely,
Enercon Services, Inc

for Rodger L. Walker, PE, REM
Senior Engineer

Charles D. Harlan
Manager Environmental Services

Attachments

ev-375.mr2

DUBLIN STATION CUMULATIVE EMISSIONS

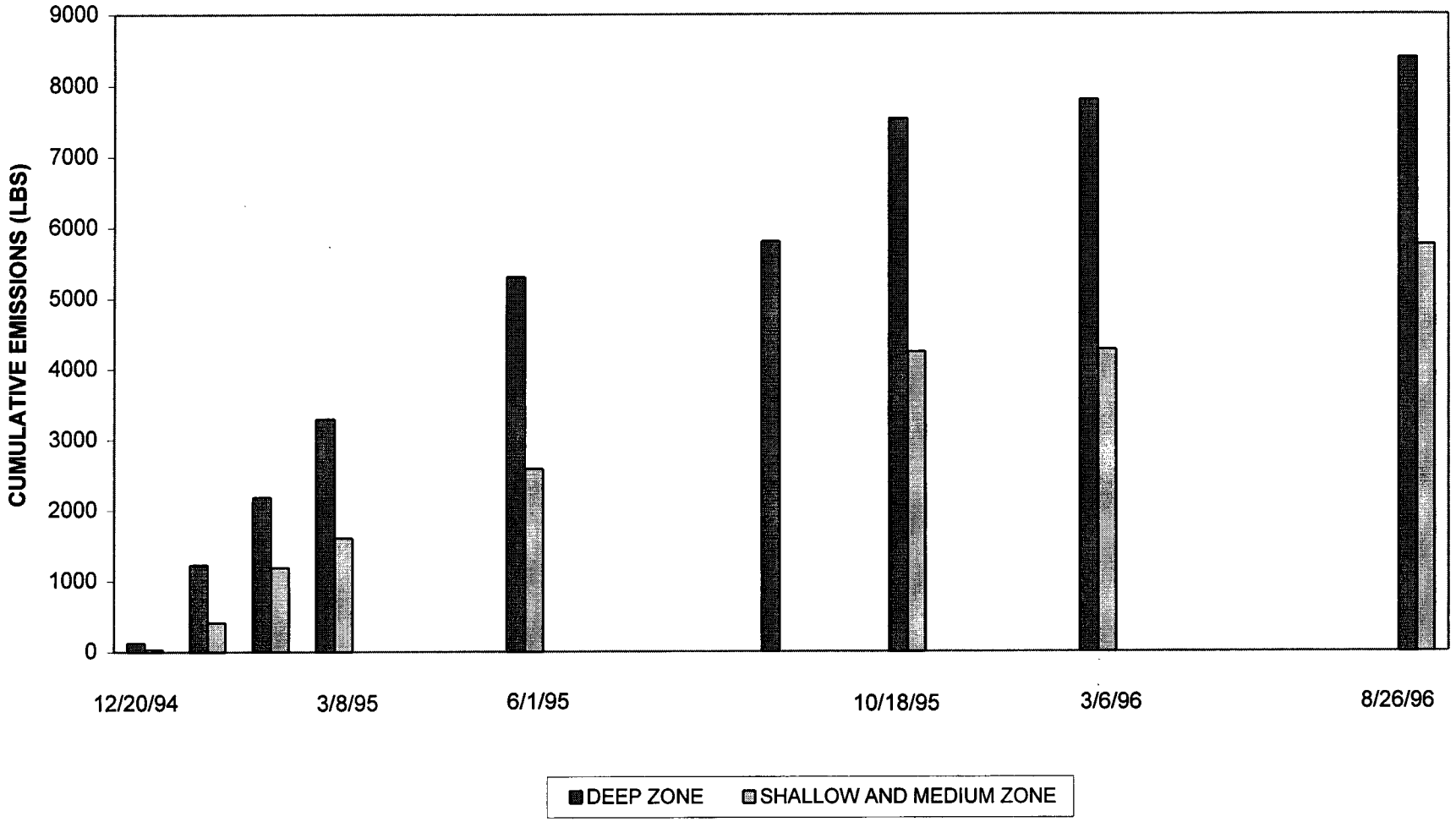


TABLE 1
DUBLIN STATION RESULTS
Shallow and Medium Zones

Date	Hydrocarbon Concentration (ppmv)	Extraction Rate (cfm)	Emission Rate (lbs/hr)	Days Operated	Emissions (lbs)	Cumulative Emissions (lbs)
12/18/94	N/A	70	N/A	Start	0	0
12/20/94	668	75	0.68	2	33	33
01/19/95	519	75	0.53	30	382	415
01/27/95	658	90	0.81	8	156	571
02/16/95	633	150	1.29	20	619	1,190
03/08/95	428	150	0.87	20	418	1,608
06/01/95	22	165	0.49	83	976	2,584
12/14/95*	408	165	0.92	75	1,656	4,240
03/06/96	33	165	0.07	21	35	4,275
08/26/96**	300	155	0.63	98	1,482	5,757

* Note: System was shut down from June 1 to September 30, 1995 to allow the shallow and medium zones to reequilibrate.

** Note: System was shut down from May 29 to August 12, 1996 due to electrical problems.

TABLE 2
DUBLIN STATION RESULTS
Deep Zone

Date	Hydrocarbon Concentration (ppmv)	Extraction Rate (cfm)	Emissions Rate (lbs/hr)	Days Operated	Emissions (lbs)	Cumulative Emissions (lbs)
12/18/94	N/A	N/A	N/A	Start	0	0
12/20/94	1,360	140	2.59	2	124	124
01/19/95	702	160	1.53	30	1,102	1,226
01/27/95	685	190	1.77	8	340	1,566
02/16/95	463	205	1.29	20	619	2,185
03/08/95	872	205	2.43	19	1,108	3,293
06/01/95	344	215	1.01	83	2,012	5,305
10/18/95	50	215	0.15	139	500	5,805
12/14/95	410	215	1.20	60	1,729	7,534
03/06/96	69	270	0.25	45	270	7,804
08/26/96**	71	255	0.25	98	588	8,392

** Note: System was shut down from May 29 to August 12, 1996 due to electrical problems.

Emission Calculation Procedure

The following equation is used to convert Total Petroleum Hydrocarbon (TPH) concentrations from the SVE effluent emissions to an approximate hydrocarbon recovery rate (lb/hr).

Emission Rate = TPH (MW) (Flow Rate) (1.581×10^{-7} lb-mole-min/ft^3-ppmv-hr)

Where: TPH = concentration in ppmv
MW = molecular weight in lb/lb-mole
Flow Rate = cubic feet per minute (cfm)

Note: The MW for the effluent is assumed to be 86 (Hexane).

Certificate of Analysis No. H9-9608D76-02

Shell Pipe Line Corporation
P.O. Box 2648
Houston, TX 77252
ATTN: Neal Stidham

DATE: 09/05/96

PROJECT: Dublin Station EV-380
SITE:
SAMPLED BY: Enercon Services
SAMPLE ID: SVE-Shallow

PROJECT NO:
MATRIX: AIR
DATE SAMPLED: 08/26/96 16:15:00
DATE RECEIVED: 08/28/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
BENZENE	1.2	1.0 P	ppm
TOLUENE	2.9	1.0 P	ppm
ETHYLBENZENE	1	1.0 P	ppm
TOTAL XYLENE	1.2	1.0 P	ppm
TOTAL VOLATILE AROMATIC HYDROCARBONS	6.3		ppm
METHOD 5030/8020 (Modified)***			
Analyzed by: DAO			
Date: 08/30/96			
Total Petroleum Hydrocarbons	300	5	ppm
Method Modified 8015A Air***			
Analyzed by: DAO			
Date: 08/30/96 07:34:00			

(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Certificate of Analysis No. H9-9608D76-01

Shell Pipe Line Corporation
P.O. Box 2648
Houston, TX 77252
ATTN: Neal Stidham

DATE: 09/05/96

PROJECT: Dublin Station EV-380
SITE:
SAMPLED BY: Enercon Services
SAMPLE ID: SVE-Deep

PROJECT NO:
MATRIX: AIR
DATE SAMPLED: 08/26/96 16:00:00
DATE RECEIVED: 08/28/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
BENZENE	ND	1.0 P	ppm
TOLUENE	ND	1.0 P	ppm
ETHYLBENZENE	ND	1.0 P	ppm
TOTAL XYLENE	ND	1.0 P	ppm
TOTAL VOLATILE AROMATIC HYDROCARBONS	ND		ppm
METHOD 5030/8020 (Modified)***			
Analyzed by: AA_			
Date: 09/02/96			
Total Petroleum Hydrocarbons	71	5	ppm
Method Modified 8015A Air***			
Analyzed by: AA/			
Date: 09/02/96 12:50:00			

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

Shell Oil Products Company

Two Shell Plaza
P. O. Box 2099
Houston, TX 77252-2099

September 1, 1995

William Olson
State of New Mexico Oil Conservation Division
Environmental Bureau
2040 S. Pacheco St.
Santa Fe, New Mexico 87504

SUBJECT: DUBLIN STATION, LEA COUNTY, NEW MEXICO

Dear Mr. Olson,

Enclosed is the 1995 groundwater monitoring report for Dublin Station. Groundwater quality and elevations have remained virtually unchanged for the past two years. All BTEX analyses were either less than the detection level or only slightly above(MW-3). All detected components were well below the drinking water standards. If you have any questions please call me at 713-241-2961.

Sincerely,

Neal Stidham
Staff Engineer
Shell Oil Products Company
Representing Shell Pipe Line Corporation

cc: Paul Newman (w/copy)
EOTT Energy Corp.

Jerry Sexton (w/copy)
OCD-Hobbs

CURA INC.
Environmental Consultants, Engineers & Scientists
6049 South Loop East • Houston, Texas 77033 • 713/640-1490 • FAX 640-2593

August 29, 1995

Mr. Neal D. Stidham
Shell Oil Products Company
Two Shell Plaza, Room 1452
777 Walker Street
Houston, Texas 77002

RE: GROUNDWATER MONITORING REPORT - APRIL 1995
DUBLIN STATION
LEA COUNTY, NEW MEXICO

CURA PROJECT NO. 24-93676

Mr. Stidham:

CURA, Inc. has completed the groundwater monitoring and sampling operations at the above-referenced site. The work was performed in accordance with the Scope of Services requested by Shell Oil Products Company (SPLC) in your letter dated January 25, 1995.

On April 21, 1995 monitoring wells MW-1, MW-2, MW-3, and MW-4 were gauged and checked for phase separated hydrocarbons (PSH). Following gauging operations monitoring wells MW-1 through MW-4 were developed and sampled. The groundwater samples were analyzed for dissolved oxygen content (DO) and benzene, toluene, ethylbenzene and total xylenes (BTEX). Total petroleum hydrocarbons (TPH) were not analyzed during this sampling event per Shell Oil Products Company request.

Groundwater Sampling and PSH Recovery

The monitoring wells were gauged on April 25, 1995, to determine depth to groundwater and PSH thickness (if any). Depth to groundwater across the site was 112.62 feet to 113.62 feet below the top of casing with the direction of groundwater flow to the west. Although minor variations in groundwater gradient have been

observed through time, the site gradient has remained consistently to the west. Groundwater gradient and hydrocarbon distribution maps are included in Appendix A. A summary of groundwater data including well elevations, depths to water, and groundwater elevations based on an arbitrary survey point datum of 100.00 feet is presented in Table 1, Appendix B.

On April 21, 1995, immediately following gauging operations, monitoring wells MW-1, MW-2, MW-3, and MW-4 were purged by bailing the wells dry. After development, DO measurements were performed on-site and groundwater samples were obtained from the monitoring wells using disposable bailers. The samples were transported on ice to SPL Laboratories in Houston, Texas for analysis of BTEX using EPA Method 8020. A summary of groundwater analytical results is presented in Table 2, Appendix B. The laboratory reports and chain-of-custody are included in Appendix C. Quality Assurance/Quality Control information is included in Appendix D.

Analytical Results

With the exception of MW-3, BTEX concentrations in all water samples were below the detection level. BTEX concentrations in MW-3 were slightly above the detection level but well below drinking water standards.

Dissolved oxygen concentrations (DO) were obtained as a possible indicator of the natural biological activity of hydrocarbon degrading microorganisms in the groundwater. Microbial and mineral oxidation reactions within the dissolved hydrocarbon plume typically result in depletion of DO. The dissolved oxygen results obtained in April suggest only that sufficient levels of dissolved oxygen are present in the groundwater at the site to enable the occurrence of natural hydrocarbon biodegradation.

Currently a soil vapor extraction system is installed on site to address hydrocarbon impacted soils. The system design and construction was completed in accordance with CURA's Contaminate Reduction Plan (CRP, dated April 11, 1994) with final design approved by the New Mexico Oil Conservation Division (OCD). By extracting the volatile/water soluable portion of the crude oil from the suspected source area, potential for these compounds to partition and migrate through the groundwater will be minimized.

CURA appreciates the opportunity to provide you with our professional consulting services. If you have any questions regarding the information presented, please contact CURA at (713) 640-1490.

Respectfully,
CURA, Inc.

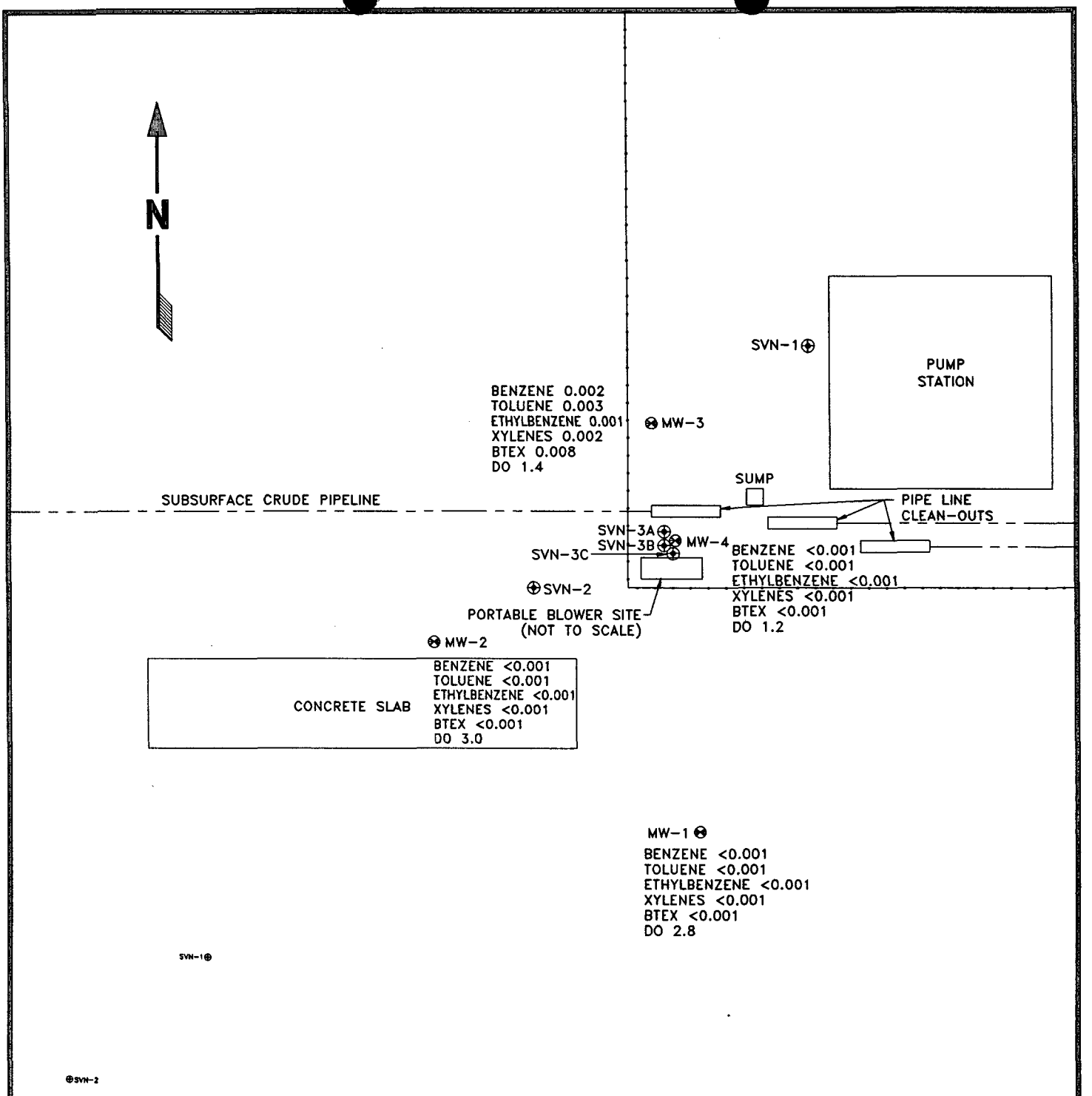
James W. Leach
Environmental Geologist

Bradley S. Smith
Project Manager

Kevin Van Hook
Senior Project Manager

JWL/chs

Attachments



DISSOLVED HYDROCARBON MAP

-SAMPLES OBTAINED 04/21/95
-BENZENE, TPH AND DO CONCENTRATIONS LISTED IN mg/l (ppm)

0 30'
APPROXIMATE SCALE

CRA INC.
2735 VILLA CREEK DRIVE - TWO METRO SQUARE
BLDG. C - SUITE 250 - DALLAS, TX 75234
620-7117 FAX - 620-8219

DUBLIN STATION
SHELL PIPE LINE CORPORATION
LEA COUNTY, NEW MEXICO

DATE:	SCALE:
APRIL 1995	SEE ABOVE
PROJECT NO.	FIGURE NO.
24-93676	2

APPENDIX B

TABLES

TABLE 1
SUMMARY OF RELATIVE GROUNDWATER LEVEL ELEVATIONS AND PHASE-SEPARATED HYDROCARBON THICKNESSES

SHELL OIL PRODUCTS COMPANY
DUBLIN STATION
LEA COUNTY, NEW MEXICO

Monitoring Well	Date	Relative Ground Surface (feet)	Relative Top of Casing Elevation (feet)	Depth to Water (feet)	Corrective Relative Groundwater Elevation (feet)	Phase-Separated Hydrocarbon Thickness (feet)
MW-1	09/30/93	199.45	202.09	111.70	90.39	0.00
	03/22/94	199.45	202.09	111.93	90.16	0.00
	05/06/94	199.45	202.09	112.34	89.75	0.00
	04/21/95	**199.45**	**202.09**	**112.84**	**89.25**	**0.00**
MW-2	09/30/93	200.83	202.72	112.43	90.29	0.00
	03/22/94	200.83	202.72	112.69	90.08	0.00
	05/06/94	200.83	202.72	112.94	89.78	0.00
	04/21/95	**200.83**	**202.72**	**113.62**	**89.10**	**0.00**
MW-3	09/30/93	199.68	202.83	112.26	90.57	0.00
	03/22/94	199.68	202.83	112.55	90.28	0.00
	05/06/94	199.68	202.83	112.76	90.07	0.00
	04/21/95	**199.68**	**202.83**	**113.38**	**89.45**	**0.00**
MW-4	09/30/93	200.21	202.51	112.04	90.47	0.00
	03/22/94	200.21	202.51	112.20	90.31	0.00
	05/06/94	200.21	202.51	112.58	89.93	0.00
	04/21/95	**200.21**	**202.51**	**112.62**	**89.93**	**0.00**

* Measured from a relative datum (benchmark = 200.00 feet) located at the southwest corner of the concrete pump pad. The monitor well casings were marked to provide consistent reference points for future gauging operations.

** Correction Equation for Phase-Separated Hydrocarbons: Corrected Groundwater Elevation = Top of Casing Elevation - (Depth to Water Below Top of Casing - [SG] [PSH Thickness])
Specific Gravity (SG) = 0.73 for gasoline, 0.85 for diesel, 0.82 for crude oil.

TABLE 2
WATER SAMPLE ANALYTICAL RESULTS

SHELL OIL PRODUCTS COMPANY
DUBLIN STATION
LEA COUNTY, NEW MEXICO

Monitoring Well	Date Sampled	Benzene	Toluene	Ethyl-benzene	Xylenes	Total BTEX	TPH	DO
MW-1	09/30/93	<0.001	<0.001	<0.001	<0.001	<0.001	<1	--
	05/06/94	<0.001	<0.001	<0.001	<0.001	<0.001	<1	3.4
	04/21/95	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**NA**	**2.8**
MW-2	09/30/93	<0.001	<0.001	<0.001	<0.001	<0.001	<1	--
	05/06/94	<0.001	<0.001	<0.001	<0.001	<0.001	<1	2.6
	04/21/95	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**NA**	**3.0**
MW-3	09/30/93	<0.001	<0.001	<0.001	<0.001	<0.001	<1	--
	05/06/94	0.016	0.001	<0.001	<0.001	0.017	NA	2.6
	04/21/95	**0.002**	**0.003**	**0.001**	**0.002**	**0.008**	**NA**	**1.4**
MW-4	09/30/93	<0.001	<0.001	0.003	0.012	0.015	9	--
	05/06/94	<0.001	0.001	0.001	0.002	0.004	2	0.8
	04/21/95	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**<0.001**	**NA**	**1.2**

BTEX results listed in m/l (parts per million; ppm) with a method detection limit of 0.001 ppm.
TPH and DO results listed in mg/l (parts per million; ppm) with a method detection limit of 1 ppm.
Analyses were conducted using EPA Method 8020 (BTEX), EPA Method 418.1 (TPH), and EPA Method 160.1 (TDS) by SPL Environmental Laboratories.
NA = Not analyzed.

4950487B 4/5 Page 1 of 1

Environmental Laboratory
8880 Interchange Drive
Houston, Texas 77054
713/660-0901

Analysis Request and Chain of Custody Record

Project No.	Client/Project Name	Project Location
24-93676	SHELL PIPELINE CORP.	DUBLIN STATION

Field Sample No./ Identification	Date and Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Sludge, Etc.)	Preservative	ANALYSIS REQUESTED	LABORATORY REMARKS
MW-1	4-21-95 10:00	X		40 ML X3	WATER	HCl	BTEX 8020	
MW-2	4-21-95 11:00	X		40 ML X3	WATER	HCl	BTEX 8020	
MW-3	4-21-95 12:00	X		40 ML X3	WATER	HCl	BTEX 8020	
MW-4	4-21-95 13:00	X		40 ML X3	WATER	HCl	BTEX 8020	

Samplers: (Signature)	Relinquished by: (Signature)	Date: 4/24/95 Time: 14:00	Received by: (Signature)	Date: Time:	Intact
Danny Leach	Danny Leach				
CURA, INC	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact
Affiliation					
	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)	Date: Time:	Intact Y.C
SAMPLER REMARKS: PLEASE FAX RESULTS TO MIDLAND 915-570-8408 (PH/FAX) 915-570-8409 (FAX)			Received for laboratory: (Signature)	Date: 4/25/95 Time: 1030	Laboratory No.
Seal #			Data Results to:		

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9504873-01

Shell Pipe Line Corporation
P.O. Box 2648
Houston, TX 77252
ATTN: Neal Stidham

P.O.# MESA-CAO-B-131201-PX-4204-NS
DATE: 05/03/95

PROJECT: Shell Pipeline Corp.
SITE: Dublin Station
SAMPLED BY: Cura, Inc.
SAMPLE ID: MW-1

PROJECT NO: 24-93676
MATRIX: LIQUID
DATE SAMPLED: 04/21/95 10:00:00
DATE RECEIVED: 04/25/95

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
BENZENE	ND	1 P	µg/L
TOLUENE	ND	1 P	µg/L
ETHYLBENZENE	ND	1 P	µg/L
TOTAL XYLENE	ND	1 P	µg/L
TOTAL BTEX	ND		µg/L

Surrogate	% Recovery
1,4-Difluorobenzene	93
4-Bromofluorobenzene	77

METHOD 5030/8020 ***
Analyzed by: SLB
Date: 05/02/95

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9504873-02

Shell Pipe Line Corporation
P.O. Box 2648
Houston, TX 77252
ATTN: Neal Stidham

P.O.# MESA-CAO-B-131201-PX-4204-NS
DATE: 05/03/95

PROJECT: Shell Pipeline Corp.
SITE: Dublin Station
SAMPLED BY: Cura, Inc.
SAMPLE ID: MW-2

PROJECT NO: 24-93676
MATRIX: LIQUID
DATE SAMPLED: 04/21/95 11:00:00
DATE RECEIVED: 04/25/95

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
BENZENE	ND	1 P	µg/L
TOLUENE	ND	1 P	µg/L
ETHYLBENZENE	ND	1 P	µg/L
TOTAL XYLENE	ND	1 P	µg/L
TOTAL BTEX	ND		µg/L

Surrogate	% Recovery
1,4-Difluorobenzene	92
4-Bromofluorobenzene	75

METHOD 5030/8020 ***
Analyzed by: SLB
Date: 05/02/95

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9504873-03

Shell Pipe Line Corporation
P.O. Box 2648
Houston, TX 77252
ATTN: Neal Stidham

P.O.# MESA-CAO-B-131201-PX-4204-NS
DATE: 05/03/95

PROJECT: Shell Pipeline Corp.
SITE: Dublin Station
SAMPLED BY: Cura, Inc.
SAMPLE ID: MW-3

PROJECT NO: 24-93676
MATRIX: LIQUID
DATE SAMPLED: 04/21/95 12:00:00
DATE RECEIVED: 04/25/95

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
BENZENE	2	1 P	µg/L
TOLUENE	3	1 P	µg/L
ETHYLBENZENE	1	1 P	µg/L
TOTAL XYLENE	2	1 P	µg/L
TOTAL BTEX	8		µg/L

Surrogate	% Recovery
1,4-Difluorobenzene	100
4-Bromofluorobenzene	95

METHOD 5030/8020 ***
Analyzed by: LT
Date: 05/03/95

(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9504873-04

Shell Pipe Line Corporation
P.O. Box 2648
Houston, TX 77252
ATTN: Neal Stidham

P.O.# MESA-CAO-B-131201-PX-4204-NS
DATE: 05/03/95

PROJECT: Shell Pipeline Corp.
SITE: Dublin Station
SAMPLED BY: Cura, Inc.
SAMPLE ID: MW-4

PROJECT NO: 24-93676
MATRIX: LIQUID
DATE SAMPLED: 04/21/95 13:00:00
DATE RECEIVED: 04/25/95

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
BENZENE	ND	1 P	µg/L
TOLUENE	ND	1 P	µg/L
ETHYLBENZENE	ND	1 P	µg/L
TOTAL XYLENE	ND	1 P	µg/L
TOTAL BTEX	ND		µg/L

Surrogate	% Recovery
1,4-Difluorobenzene	99
4-Bromofluorobenzene	99

METHOD 5030/8020 ***
Analyzed by: LT
Date: 05/03/95

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

QUALITY CONTROL DOCUMENTATION

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL BATCH QUALITY CONTROL REPORT **
METHOD 8020/602

Matrix: Aqueous
Units: µg/L

Batch Id: HP_N950502135900

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
MTBE	ND	50	40	80.0	56 - 135
Benzene	ND	50	40	80.0	61 - 123
Toluene	ND	50	40	80.0	62 - 122
EthylBenzene	ND	50	42	84.0	56 - 119
O Xylene	ND	50	43	86.0	32 - 160
M & P Xylene	ND	100	91	91.0	32 - 160

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	ND	20	16	80.0	15	75.0	6.45	20	39 - 150
Benzene	ND	20	13	65.0	11	55.0	16.7	33	39 - 150
Toluene	ND	20	13	65.0	11	55.0 *	16.7	35	56 - 134
EthylBenzene	ND	20	12	60.0 *	11	55.0 *	8.70	40	61 - 128
O Xylene	ND	20	13	65.0	11	55.0	16.7	29	40 - 130
M & P Xylene	ND	40	27	67.5	22	55.0	20.4 *	20	43 - 152

Analyst: LT
Sequence Date: 05/02/95
SPL ID of sample spiked: 9504B04-02A
Sample File ID: NN__010.TX0
Method Blank File ID:
Blank Spike File ID: NN__995.TX0
Matrix Spike File ID: NN__998.TX0
Matrix Spike Duplicate File ID: NN__999.TX0

* = Values Outside QC Range
NC = Not Calculated (Sample exceeds spike by factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100
(**) = Source: SPL-Houston Historical Data
(***) = Source: SPL-Houston Historical Data

SAMPLES IN BATCH(SPL ID):

9504939-06A 9504939-04A 9504926-01A 9504873-04A
9504873-03A 9504872-02A 9504957-01A 9504A16-08A
9505015-01A 9504B04-03A 9504B04-02A 9504B04-01A
9504981-01A 9504957-03A

Idelis Williams, QC Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL BATCH QUALITY CONTROL REPORT **
METHOD 8020

Matrix: Aqueous
Units: µg/L

Batch Id: HP_S950502125900

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Benzene	ND	50	37	74.0	61 - 123
Toluene	ND	50	42	84.0	62 - 122
EthylBenzene	ND	50	48	96.0	56 - 119
O Xylene	ND	50	42	84.0	32 - 160
M & P Xylene	ND	100	97	97.0	32 - 160

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
Benzene	43	20	63	100	63	100	0	25	39 - 150
Toluene	10	20	33	115	32	110	4.44	26	56 - 134
EthylBenzene	1	20	28	135 *	26	125	7.69	38	61 - 128
O Xylene	1	20	25	120	24	115	4.26	20	40 - 130
M & P Xylene	2	40	53	128	52	125	2.37	20	43 - 152

Analyst: SLB
Sequence Date: 05/02/95
SPL ID of sample spiked: 9504870-01A
Sample File ID: SS__944.TX0
Method Blank File ID:
Blank Spike File ID: SS__939.TX0
Matrix Spike File ID: SS__942.TX0
Matrix Spike Duplicate File ID: SS__943.TX0

* = Values Outside QC Range
NC = Not Calculated (Sample exceeds spike by factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100
(**) = Source: SPL-Houston Historical Data
(***) = Source: SPL-Houston Historical Data

SAMPLES IN BATCH(SPL ID):

9504873-02A 9504873-01A 9504872-03A 9504872-02A
9504872-01A 9504856-03A 9504856-02A 9504856-01A
9504942-03A 9504870-01A

Idelis Williams, QC Officer

APPENDIX D

QUALITY ASSURANCE/QUALITY CONTROL

SAFETY PLAN, AND LIMITATIONS

QUALITY ASSURANCE/QUALITY CONTROL

A strict Quality Assurance Plan was incorporated throughout all phases of the on-site operations and sampling procedures. Soil or solid material samples were collected using new disposable or properly decontaminated reusable stainless steel equipment. Water or liquid samples were collected with new disposable bailers or decontaminated pump equipment. All non-reusable equipment was disposed of and reusable equipment was decontaminated between sampling stations to eliminate the potential of cross-contamination. The water samples were transferred from the bailers into airtight septum-sealed 40-ml glass VOA vials, one-liter amber glass jars with Teflon-lined lids, or other sample containers appropriate for the required analyses.

The samples were sealed with QA/QC seals, preserved with acid (if required), and maintained at 4°C in accordance with Environmental Protection Agency (EPA) requirements (EPA 600/4-82-029) for shipment to the laboratory. A chain-of-custody (COC) which documents sample collection times and delivery times to the laboratory was completed for each set of samples. The COC is included with the analytical results in the Appendix.

CURA utilizes laboratories that maintain strict quality controls, i.e. equipment calibration and standardization, appropriate analytical methods, preparation of quality control samples, and complete chains-of-custody. Analyses were performed on all samples using the EPA-, state-, or local agency-directed methods. The maximum recommended holding times were not exceeded unless noted in the text.

SAFETY PLAN

The sampling operations were performed at level D personal protection. CURA personnel involved in on-site activities have completed the Occupational Safety and health for Hazardous Waste Field Operation training course (OSHA 29 CFR 1910.120). Applicable safety equipment was on site to CURA personnel.

LIMITATIONS

It should be noted that all subsurface investigations are inherently limited in the sense that conclusions are drawn and recommendations are developed from samples which depict subsurface conditions at representative locations over relatively short periods of time. Subsurface conditions elsewhere may differ from those at the sampling locations. In addition, subsurface conditions at sampling locations may vary over longer periods of time than can be observed in a study of this type. The passage of time, manifestation of latent conditions, or occurrence of future events may require further site exploration, data collection and analysis, and reevaluation of the findings, observations, conclusions, and recommendation expressed in this report.

Shell Oil Products Company

Two Shell Plaza
P. O. Box 2099
Houston, TX 77252-2099

August 17, 1995

William Olson
State of New Mexico Oil Conservation Division
Environmental Bureau
2040 S. Pacheco St.
Santa Fe, New Mexico 87504

SUBJECT: DUBLIN STATION, LEA COUNTY NEW MEXICO, SOIL VAPOR EXTRACTION STATUS REPORT

Dear Mr. Olson,

Enclosed is a copy of the Dublin Soil Vapor Extraction Status Report which covers the first three months of operation. The system has been operating successfully for about seven months now. Air samples are collected and analyzed every 3-4 months. As more data are collected we will be more able to assess the systems impacts. As the report shows, the hydrocarbon concentration remains fairly consistent. I feel that the system is successfully reducing the volatile components of the subsurface contamination at Dublin. I will keep you informed of our progress. If you have any questions, please call me at 713-241-2961.

Sincerely,

Neal Stidham
Staff Engineer
Shell Oil Products Company
Representing Shell Pipe Line Corporation

cc: W/copy
Paul Newman
EOTT Energy Corp.

Jerry Sexton
OCD-Hobbs

CURA INC.
Environmental Consultants, Engineers & Scientists
6049 South Loop East • Houston, Texas 77033 • 713/640-1490 • FAX 640-2593

June 6, 1995

Mr. Neal Stidham
Shell Oil Company
Two Shell Plaza, Room 1452
777 Walker Street
P. O. Box 2099
Houston, Texas 77252-2099

RE: STATUS REPORT
SOIL VAPOR EXTRACTION (SVE) SYSTEM

DUBLIN STATION
LEA COUNTY, NEW MEXICO

CURA PROJECT NO. 24-93676

Mr. Stidham:

In response to your recent inquiries, CURA has prepared the following summary letter regarding the operational status and analytical results from the soil vapor extraction (SVE) system at Dublin Station. The purpose of SVE operations at this site is to lower the hydrocarbon impact to soils in the unsaturated (vadose) zone by removing volatile components of the weathered crude oil release and to promote in-situ natural biodegradation of the less volatile hydrocarbons.

As a result of initial testing at the site, the decision was made to remediate the upper and middle hydrocarbon impacted zones using one SVE system and the lower zone using a separate SVE system. Based on the limited amount of data we have accumulated to date, both SVE systems appear to be successful in removing hydrocarbons from the subsurface. SVE effluent samples are analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX) and total petroleum hydrocarbon (TPH) concentrations. These measured values are used to calculate a theoretical hydrocarbon emission or recovery rate which in turn is used to calculate total hydrocarbon recovery in pounds. A sample calculation for data obtained on December 12, 1994 is attached.

A review of the performance data indicates that the total calculated recovery from the deep, shallow, and medium zones is estimated at approximately 1,278 pounds of hydrocarbons as of March 9, 1995. The accuracy of this data is limited and the calculated values should be regarded as estimates only. This is especially true for the data obtained prior to January 31, 1995 for the shallow and middle zones and prior to January 19, 1995 for the data from the deep zones. Data obtained on or before these dates is affected by partially opened dilution values used to regulate vacuum levels during start-up. Table 1 summarizes the results for the shallow and medium zones and Table 2 summarizes the results for the deep zone through March 9, 1995:

TABLE 1

DUBLIN STATION SVE EMISSION RESULTS

Shallow and Medium Zones

Date	Hydrocarbon Concentration (µg/l)	Extraction Rate (cfm)	Recovery (lbs./hr.)	Days Between Samples	Total Recovery (lbs.)	Cumulative Recovery (lbs.)
12/18/94	N/A	N/A	N/A	START	0	0
12/20/94	668	75	0.19	2	9	9
01/19/95	519	85	0.17	30	119	128
01/27/95	658	90	0.22	8	43	171
02/16/95	633	150	0.36	20	171	341
03/08/95	428	150	0.24	20	110	451

TABLE 2

DUBLIN STATION SVE EMISSION RESULTS

Deep Zone

Date	Hydrocarbon Concentration (µg/l)	Extraction Rate (cfm)	Recovery (lbs./hr.)	Days Between Samples	Total Recovery (lbs.)	Cumulative Recovery (lbs.)
12/18/94	N/A	N/A	N/A	START	0	0
12/20/94	1,360	140	0.71	2	34	34
01/19/95	702	160	0.42	30	303	337
01/27/95	685	190	0.49	8	94	431
02/16/95	463	205	0.36	20	171	601
03/09/95	872	205	0.67	19	305	906

Effective in March, 1995 CURA began sampling the site on a quarterly basis with the next sampling event scheduled for June, 1995. Data from the June sampling should aid in determining overall SVE performance and in estimating the probable duration of the SVE operations.

CURA appreciates the opportunity to provide our professional consulting services to Shell Oil Company. Please contact Brad Smith at (713) 640-1490 if you have any further questions regarding this project.

Respectfully
CURA, Inc.

for Don H. Smith, P.E.
Environmental Engineer

Bradley S. Smith
Project Manager

Enclosure

2493676.L1

SAMPLE CALCULATIONS

The following equation is used to convert total petroleum hydrocarbon concentrations in SVE effluent emissions to an approximate hydrocarbon recovery rate in pounds per hour. Multiplication of the recovery rate in lbs/hr by the number of hours of operation between sampling events yields an approximate hydrocarbon recovery in pounds.

The following sample calculation uses data from the effluent sampling of SVE #2 (EFF2) collected on December 20, 1995.

Measured effluent TPH level = 668 ppb
Measured system flow rate = 75 cubic feet per minute (cfm)

$$668\ \mu g/l \times \frac{28.31\,l}{f^3} \times \frac{2.2046 \times 10^{-9}\,lb}{\mu g} \times \frac{75 ft^3}{\min} \times \frac{60\min}{hr} \times = 0.1876\ \frac{lb}{hr}$$

This calculation indicates that the SVE system was recovering hydrocarbons at a rate of approximately 0.19 lb/hr from the shallow and medium zones at the time of the December 20, 1995 sampling event.

CEL

Cortes Environmental Laboratories, L.C.

2209 Wisconsin
Dallas, Texas 75229
214/620-7966
800/394-2872
FAX 214/620-7963

CHAIN-OF-CUSTODY AND LAB ANALYSIS WORK ORDER

P.O. #

TAT
- ☐ Priority 24 hrs.
- ☐ Expedited 48 hrs.
- ☒ Normal (10 work days)

QA/QC LEVEL
- ☒ Level III (Normal Charge)
- ☐ CLP
- ☐ Other _____

Site Location: DUBLIN STATION Shell Pipe Line Co Lea Co. New Mexico

CLIENT NAME: CURA, INC.

CLIENT PROJECT NO.: 15-73676,4

CLIENT ADDRESS: 731 W. Wadley, Suite L-200 Midland, Texas 79705

PHONE NO.: (915)570-8408

FAX NO.: (915)570-8409

BILLING ADDRESS:

PROJECT MANAGER: Charles HARLAN

CEL LOCATION CODE:

ATTEST THAT PROPER FIELD SAMPLING PROCEDURES WERE USED DURING THE COLLECTION PROCESS

SAMPLER NAME (Print): F. Wesley Root

Special Reporting and Handling Instructions: FAX ANALYTICAL to Charles HARLAN CURA DALLAS & FAX Results to Wes Root, CURA-Midland

CEL USE ONLY - CEL #	FIELD SAMPLE ID	Sampling: Date	Sampling: Time	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation or Method: HCL	HNO3	H2SO4	Ice	None	Other	ANALYSIS REQUESTED: BTEX / 602 8020A MTBE AIR	TPH 418.1	EPA Metals - Priority Pollutants RCRA	Lead 239.2 7421	7420	OTHER
-01	EFF-1 (DEEP)	12-20-94	15:20			AIR				X			X	X				
-02	EFF-2 (SHALLOW)	12-20-94	15:45			AIR				X			X	X				

RECORD OF CUSTODY

		DATE:	TIME:	
Relinquished By Sampler:	F. Wesley Root	12-20-94	17:30	Received By:
Relinquished By:		DATE:	TIME:	Received By:
Relinquished By:		DATE: 12/21/94	TIME: 9:20	Received By Laboratory:

NOTES:
1. If sample is determined to be hazardous, an additional charge of $5.00 per sample will be assessed prior to disposal and billed to client.
2. All samples will be held 90 days unless otherwise specified by the client.

LAB USE ONLY CEL LOT #: 94-1654

CEL000.FRM

Report #	: 94-1654-01	Date Received	: 12/21/94
Sample ID	: EFF-1	BTEX/TPH Analysis Date	: 12/21/94
Project #	: 15-93676.4	Analyst	: JSL
Sample Matrix	: Air	Methods: BTEX	: EPA 8020 Modified Air
		TPH	: EPA 8015 Modified Air

Compound	Result	Practical Quantitation Limit
Benzene	6 µg/l	5 µg/l
Toluene	29 µg/l	5 µg/l
Ethylbenzene	<5 µg/l	5 µg/l
Total Xylenes	13 µg/l	5 µg/l
Total Petroleum Hydrocarbons	1360 µg/l	50 µg/l

Joe Thompson
Director of Technical Services

Yanqi Li
Analytical Chemist

Report #	: 94-1654-02	Date Received	: 12/21/94
Sample ID	: EFF-2	BTEX/TPH Analysis Date	: 12/21/94
Project #	: 15-93676.4	Analyst	: JSL
Sample Matrix	: Air	Methods: BTEX	: EPA 8020 Modified Air
		TPH	: EPA 8015 Modified Air

Compound	Result	Practical Quantitation Limit
Benzene	<5 µg/l	5 µg/l
Toluene	10 µg/l	5 µg/l
Ethylbenzene	<5 µg/l	5 µg/l
Total Xylenes	<5 µg/l	5 µg/l
Total Petroleum Hydrocarbons	668 µg/l	50 µg/l

Joe Thompson
Director of Technical Services

Yanqi Li
Analytical Chemist

CHAIN-OF-CUSTODY AND LAB ANALYSIS WORK ORDER

P.O. # 27-73676.4

CEL
Certes Environmental Laboratories, L.C.

2209 Wisconsin
Dallas, Texas 75229
214/620-7966
800/394-2872
FAX 214/620-7963

TAT
- ☐ Priority 24 hrs.
- ☐ Expedited 48 hrs.
- ☒ Normal (10 work days)

QA/QC LEVEL
- ☒ Level III (Normal Charge)
- ☐ CLP
- ☐ Other _____

Site Location: Shell Pipe Line Corp Dublin Station Lea Co. New Mexico

CLIENT NAME: CURA, INC.
CLIENT PROJECT NO.
CLIENT ADDRESS: 731 W. Wadley, Suite L-200 Midland, Texas 79705
PHONE NO.: (915)570-8408
BILLING ADDRESS:
FAX NO.: (915)570-8409
PROJECT MANAGER: Charles HARLAN
CEL LOCATION CODE:
ATTEST THAT PROPER FIELD SAMPLING PROCEDURES WERE USED DURING THE COLLECTION PROCESS
SAMPLER NAME (Print): Frank Wesley Root

Special Reporting and Handling Instructions:

CEL USE ONLY - CEL #	FIELD SAMPLE ID	Sampling: Date	Sampling: Time	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation Method: HCL	HNO3	H2SO4	Ice	None	Other	ANALYSIS REQUESTED: BTEX/602 8020A ☐ MTBE ☐ AIR ☒	TPH 418.1 ☒	EPA Metals - Priority Pollutants RCRA ☐	Lead 239.2 7421 ☐ 7420 ☐	OTHER	pH on Arrival
-01	EFF-1	1-19-95	16:30			AIR				✓			✓	✓				
-02	EFF-2	1-19-95	16:30			AIR				✓			✓	✓				

RECORD OF CUSTODY

		DATE:	TIME:	
Relinquished By Sampler	F. Wesley Root	1-20-95	11:40	Received By:
Relinquished By:				Received By:
Relinquished By:		1/20/95	5:30	Received By Laboratory:

NOTES:
1. If sample is determined to be hazardous, an additional charge of $5.00 per sample will be assessed prior to disposal and billed to client.
2. All samples will be held 90 days unless otherwise specified by the client.

LAB USE ONLY
CEL LOT #: 95-0097

CELCOC.FRM

Report #	: 95-0097-01	Date Received	: 01/20/95
Sample ID	: EFF-1	Date Analyzed	: 01/20/95
Project #	: 27-93676.4	Analyst	: JSL
Sample Matrix	: Air	Methods:	BTEX : EPA 8020 Modified Air
			TPH : EPA 8015 Modified Air

Compound	Result	Practical Quantitation Limit
Benzene	<5 µg/l	5 µg/l
Toluene	<5 µg/l	5 µg/l
Ethylbenzene	<5 µg/l	5 µg/l
Total Xylenes	<5 µg/l	5 µg/l
Total Petroleum Hydrocarbons	519 µg/l	50 µg/l

Joe Thompson
Director of Technical Services

Yanqi Li
Analytical Chemist

Report #	: 95-0097-02	Date Received	: 01/20/95
Sample ID	: EFF-2	Date Analyzed	: 01/20/95
Project #	: 27-93676.4	Analyst	: JSL
Sample Matrix	: Air	Methods:	BTEX : EPA 8020 Modified Air
			TPH : EPA 8015 Modified Air

Compound	Result	Practical Quantitation Limit
Benzene	<5 µg/l	5 µg/l
Toluene	<5 µg/l	5 µg/l
Ethylbenzene	<5 µg/l	5 µg/l
Total Xylenes	<5 µg/l	5 µg/l
Total Petroleum Hydrocarbons	702 µg/l	50 µg/l

Joe Thompson
Director of Technical Services

Yanqi Li
Analytical Chemist

DATE RECEIVED: 01/20/95 REPORT NUMBER: 95-0097

SUBMITTED BY: CURA REPORT DATE: 01/25/95

LABORATORY QUALITY CONTROL REPORT

ANALYTE	BTEX	TPH
BATCH No.	A011	A011
LCS LOT No.	------	------
PREP METHOD	5030-M	5030-M
PREP DATE	12/30/95	12/30/95
PREP CHEMIST	JSL	JSL
ANALYSIS METH.	8020M	8020M
ANALYSIS DATE	12/30/95	12/30/95
ANALYST	JSL	JSL
METHOD BLANK (µg/l)	<5	<50
MS% RECOVERY	-------	-------
MSD % RECOVERY	-------	-------
LCS % RECOVERY	-------	-------
DUPLICATE RPD	0.00	0.00
MS/MSD RPD	-------	-------
SPIKE LEVEL (µg/l)	-------	-------
SPIKED SAMPLE ID	-------	-------
DUPLICATE SAMPLE ID #	1710-01	1710-01

----: Not Applicable MS: Matrix Spike LCS: Laboratory Control Sample
NC: Not Calculable MSD: Matrix Spike Duplicate RPD: Relative Percent Difference
RW: Reagent Water

COMMENTS:

CHAIN-OF-CUSTODY AND LAB ANALYSIS WORK ORDER

CEL
Cortes Environmental Laboratories, L.C.

2209 Wisconsin
Dallas, Texas 75229
214/620-7966
800/394-2872
FAX 214/620-7963

P.O. #

TAT
- ☐ Priority 24 hrs.
- ☐ Expedited 48 to 72 hrs.
- ☒ Normal (10 to 15 work days)

QA/QC LEVEL
- ☒ Level III (Normal Charge)
- ☐ CLP
- ☐ Other _____

Site Location/Client: Shell Pipe Line Dublin Station

CLIENT NAME: CURA INC
CLIENT PROJECT NO.: 15-97256700A-03
CLIENT ADDRESS: 731 W. Wadley, L-200 Midland
PHONE NO.: (915) 570-8408
BILLING ADDRESS:
FAX NO.: (915) 570-8409
PROJECT MANAGER: Charles Hayley
CEL LOCATION CODE:
ATTEST THAT PROPER FIELD SAMPLING PROCEDURES WERE USED DURING THE COLLECTION PROCESS
SAMPLER NAME (Print): Bill D. Smith

Special Reporting and Handling Instructions:
Please FAX results to Midland

CEL USE ONLY -- CEL #	FIELD SAMPLE ID	Sampling Date	Sampling Time	Matrix: Soil (S)	Matrix: Water (W)	Matrix: Other (O)	Preservation Method: HCL	Preservation Method: HNO3	Preservation Method: H2SO4	Preservation Method: Ice	Preservation Method: None	Preservation Method: Other	ANALYSIS REQUESTED: BTEX 602 / 8020A MTBE ☐ AIR ☐	ANALYSIS REQUESTED: TPH 418.1 ☐ 8015M ☒	ANALYSIS REQUESTED: EPA Metals - Priority Pollutants (13) ☐ RCRA (8) ☐	ANALYSIS REQUESTED: Lead 239.2 ☐ 7420 ☐ 7421 ☐	OTHERS: CO2	pH on Arrival
-01	SVE-EFF #1	1-27-95	1430			✓					✓		✓	✓			✓	
-02	SVE-EFF #2	1-27-95	1440			✓					✓		✓	✓			✓	

RECORD OF CUSTODY

		DATE:	TIME:	
Relinquished By Sampler:	Bill D. Smith	1-30-95	0900	Received By:
Relinquished By:		DATE:	TIME:	Received By:
Relinquished By:		DATE: 1/31/95	TIME: 12:00	Received By Laboratory:

NOTES:
1. If sample is determined to be hazardous, an additional charge of $5.00 per sample will be assessed prior to disposal and billed to client.
2. All samples will be held 90 days unless otherwise specified by the client.

LAB USE ONLY
CEL LOT #: 95-0157

CELCOC.FRM

CEL Sample ID : 95-0156-01
Sample ID : SVE-EFF #1
Project # : 15-9256700B-03
Sample Matrix : Air

Date Received: 01/31/95
Date Analyzed: 01/31/95
Analyst: JSL
Methods: BTEX : EPA 8020 Modified Air
TPH : EPA 8015 Modified Air
CO_2: GC

Compound	Result	Practical Quantitation Limit
Benzene	<5 µg/l	5 µg/l
Toluene	<5 µg/l	5 µg/l
Ethylbenzene	<5 µg/l	5 µg/l
Total Xylenes	<5 µg/l	5 µg/l
Total Petroleum Hydrocarbons	658 µg/l	50 µg/l
CO_2	1840 ppm	100 ppm

Joe Thompson
Director of Technical Services

John S. Lee
Analytical Chemist

CEL Sample ID : 95-0156-02
Sample ID : SVE-EFF #2
Project # : 15-9256700B-03
Sample Matrix : Air

Date Received: 01/31/95
Date Analyzed: 01/31/95
Analyst: JSL
Methods: BTEX : EPA 8020 Modified Air
TPH : EPA 8015 Modified Air
CO_2: GC

Compound	Result	Practical Quantitation Limit
Benzene	<5 µg/l	5 µg/l
Toluene	<5 µg/l	5 µg/l
Ethylbenzene	<5 µg/l	5 µg/l
Total Xylenes	10 µg/l	5 µg/l
Total Petroleum Hydrocarbons	685 µg/l	50 µg/l
CO_2	12,400 ppm	100 ppm

Joe Thompson
Director of Technical Services

John S. Lee
Analytical Chemist

CHAIN-OF-CUSTODY AND LAB ANALYSIS WORK ORDER

P.C. #

CEL
Cortes Environmental Laboratories, L.C.

2209 Wisconsin
Dallas, Texas 75229
214/620-7966
800/394-2872
FAX 214/620-7963

TAT
- ☐ Priority 24 hrs.
- ☐ Expedited 48 hrs.
- ☒ Normal ~~(10 work days)~~

QA/QC LEVEL
- ☒ Level III (Normal Charge)
- ☐ CLP
- ☐ Other _____

Site Location: Shell Pipe Line - Dublin Station

CLIENT NAME: CURA, INC.	CLIENT PROJECT NO. 15-92567006.03
CLIENT ADDRESS: 2735 Villa Creek Dr.	PHONE NO. 214/620-7117
BILLING ADDRESS: Dallas, TX 75234	FAX NO. 214/620-8219
PROJECT MANAGER: Brad Smith	CEL LOCATION CODE:
ATTEST THAT PROPER FIELD SAMPLING PROCEDURES WERE USED DURING THE COLLECTION PROCESS	SAMPLER NAME (Print): Bill Smith

Special Reporting and Handling Instructions:

Please FAX results to Midland

CEL USE ONLY -- CEL #	FIELD SAMPLE ID	Sampling: Date	Sampling: Time	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation Method: HCL	HNO3	H2SO4	Ice	None	Other	ANALYSIS REQUESTED: BTEX / 602 8020A ☐ MTBE ☐ AIR ☒	TPH 418.1 ☒	EPA Metals - Priority Pollutants ☐ RCRA ☐	Lead 239.2 ☐ 7420 ☐ 7421 ☐	OTHERS
-01	SVE-EFF #1	2-16-95	1300			✓					✓		✓	✓			
-02	SVE-EFF #2	2-16-95	1315			✓					✓		✓	✓			

RECORD OF CUSTODY	Relinquished By Sampler: Bill D. Smith	DATE: 2-16-95	TIME: 1615	Received By:
	Relinquished By:	DATE:	TIME:	Received By:
	Relinquished By:	DATE: 2/17/95	TIME: ~~1600~~ 9:00	Received By Laboratory:

NOTES:
1. If sample is determined to be hazardous, an additional charge of $5.00 per sample will be assessed prior to disposal and billed to client.
2. All samples will be held 90 days unless otherwise specified by the client.

LAB USE ONLY
CEL LOT #: 95 0258

CELCOC.FRM

Report #	: 95-0250-01	Date Received	: 02/17/95
Sample ID	: SVE-EFF#1	Date Analyzed	: 02/17/95
Project #	: 15-9256700B.03	Analyst	: JSL
Sample Matrix	: Air	Methods:	BTEX : EPA 8020 Modified Air
			TPH : EPA 8015 Modified Air

Compound	Result	Practical Quantitation Limit
Benzene	<5 µg/l	5 µg/l
Toluene	<5 µg/l	5 µg/l
Ethylbenzene	<5 µg/l	5 µg/l
Total Xylenes	<5 µg/l	5 µg/l
Total Petroleum Hydrocarbons	633 µg/l	50 µg/l

Joe Thompson
Director of Technical Services

John S. Lee
Analytical Chemist

Report #	: 95-0250-02	Date Received	: 02/17/95
Sample ID	: SVE-EFF#2	Date Analyzed	: 02/17/95
Project #	: 15-9256700B.03	Analyst	: JSL
Sample Matrix	: Air	Methods:	BTEX : EPA 8020 Modified Air
			TPH : EPA 8015 Modified Air

Compound	Result	Practical Quantitation Limit
Benzene	<5 µg/l	5 µg/l
Toluene	<5 µg/l	5 µg/l
Ethylbenzene	<5 µg/l	5 µg/l
Total Xylenes	<5 µg/l	5 µg/l
Total Petroleum Hydrocarbons	463 µg/l	50 µg/l

Joe Thompson
Director of Technical Services

John S. Lee
Analytical Chemist

DATE RECEIVED: 02/17/95 REPORT NUMBER: 95-0250

SUBMITTED BY: CURA REPORT DATE: 02/21/95

LABORATORY QUALITY CONTROL REPORT

ANALYTE	BTEX	TPH
BATCH No.	A012	A012
LCS LOT No.	------	------
PREP METHOD	5030-M	5030-M
PREP DATE	02/03/95	02/03/95
PREP CHEMIST	JSL	JSL
ANALYSIS METH.	8020M	8015M
ANALYSIS DATE	02/03/95	02/03/95
ANALYST	JSL	JSL
METHOD BLANK (µg/l)	<5	<50
MS% RECOVERY	-------	-------
MSD % RECOVERY	-------	-------
LCS % RECOVERY	-------	-------
DUPLICATE RPD	0.00	0.00
MS/MSD RPD	-------	-------
SPIKE LEVEL (µg/l)	-------	-------
SPIKED SAMPLE ID	-------	-------
DUPLICATE SAMPLE ID #	0183-01	0183-01

----: Not Applicable MS: Matrix Spike LCS: Laboratory Control Sample
NC: Not Calculable MSD: Matrix Spike Duplicate RPD: Relative Percent Difference
RW: Reagent Water

COMMENTS:

CLIENT: SPLC / Dublin Station	LPST No:		Site/Station No.:
Project No.: 1 5 9 3 6 7 6 0 0 4	Phase/Network:		Site Address: Lea Co. New Mexico
Project Mgr: CDH	Copies to: ☒ PM ☒ S/O/S: DHS FWR ☐ DEBIT (CI)		Tech Initial: FWR Date:

DRUM INVENTORY

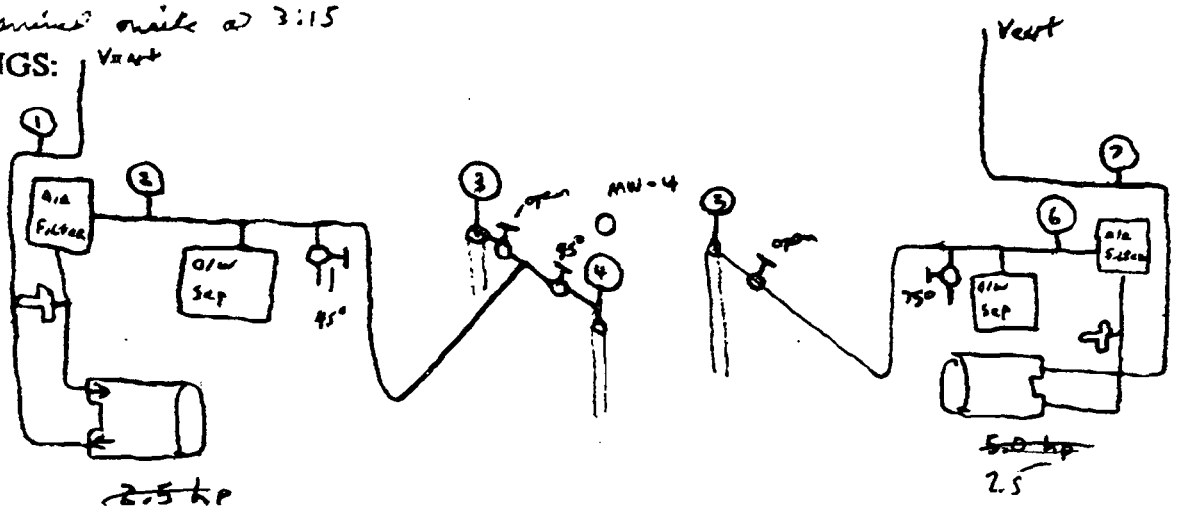
	#	#	#	#	#	#	#	#	#	#	#
CURA/Non											
Type (Bung/Open)											
Labelled											
Contents											
Volume Filled %											
Condition (P/F/G)											

FIELD NOTES: Vent on 5hp blower fallen off, need to replace rubber boot & clamp w/ 2½ to 2" 90 or add bracing.

Sampled air emissions 2.5 hp EFF-1 @ 15:30 submitted to Centies using FED-X
5.0 hp EFF-2 @ 15:45

arrived onsite @ 3:15

DRAWINGS:



1. Temperature 117°F
2. Vacuum 52 inch H_2O
3. Magnahelic 38 inch H_2O
4. Magnahelic 38 inch H_2O
5. Magnahelic 50 inches H_2O
6. Vacuum 78 inch H_2O
7. Temp 120°F

CLIENT: Shell Pipe Line		SITE ADDRESS: Dublin Station	
PROJECT NO.	1 5 9 2 5 6 7 0 0 8 0 3.	TECHNICIAN: TZ BDS	
PROJECT MANAGER: Brad Smith		DATE: 2-16-95	

SYSTEM STATUS

SVE System Status Upon Arrival ☒ Operating ☐ Down	
SVE Magnahelic Reading @ Filter _____ in. H_2O	
SVE Magnahelic Reading @ Pump _____ in. H_2O	
SVE Time Clock _____ Hours	Ambient Air Bleed:
Pump System Status Upon Arrival ☐ Operating ☐ Down	
Discharge Meter Reading _____ Gallons @ _____	
PRT Level _____ in. PSH	_____ in. H_2O
AST Magnahelic Reading _____ in. H_2O	

Remarks: SVE #1 temp 99°F, mag. 55" @ filter
mag. @ wells 38-40"
SVE #2 temp 96°F, mag 43" @ filter
mag @ well 32"

SYSTEM MAINTENANCE

AIR COMPRESSOR

_____ Check Oil Level
_____ Change Oil (R-100) (Every 3 months)
_____ Drain Water from Compressor Tank
_____ Drain Condensate Traps
_____ Clean Intake Filter
_____ Test Safety Valve
_____ Check Belts
_____ Check Air Dryer

O/W SEPARATOR

_____ Skim Algae/Bacteria
_____ Remove Coalescer & Clean
_____ Check Level Switches

AIR STRIPPING TOWER

_____ Check Packing for $CaCO_3$ Buildup
_____ Acid Wash Packing
_____ Check Blower/Intake Screen
_____ Check Plumbing for Leaks
_____ Check Blower Pressure Switch Operation
_____ Check High Level Switch Operation
_____ Check Water Distributer/Mist Eliminator

ENVIRONMENTAL LABS OF TEXAS

CEL
2209 Wisconsin
Dallas, Texas 75229
214/620-7960
800/394-2872
FAX 214/620-7963
Certes Environmental Laboratories, L.C.

CHAIN-OF-CUSTODY AND LAB ANALYSIS WORK ORDER

P.O. #

TAT
- ☐ Priority 24 hrs.
- ☐ Expedited 48 hrs.
- ☒ Normal ~~(10 work days)~~

QA/QC LEVEL
- ☒ Level III (Normal Charge)
- ☐ CLP
- ☐ Other _____

Site Location: Shell Pipe Line Dublin Station #33-93676

CLIENT NAME: CURA, INC.
CLIENT PROJECT NO.: 33-93676
CLIENT ADDRESS: 731 W. Wadley, Suite L-200 Midland, Texas 79705
PHONE NO.: (915)570-8408
FAX NO.: (915)570-8409
BILLING ADDRESS: SAME AS ABOVE
CEL LOCATION CODE:
PROJECT MANAGER: Brad Smith
ATTEST THAT PROPER FIELD SAMPLING PROCEDURES WERE USED DURING THE COLLECTION PROCESS
SAMPLER NAME (Print): Smith, Bill

Special Reporting and Handling Instructions:

Please FAX results to Midland office

CEL USE ONLY -- CEL #	FIELD SAMPLE ID	Sampling Date	Sampling Time	Matrix: Soil	Matrix: Water	Matrix: Other	Preservation/Method: HCL	HNO3	H2SO4	Ice	None	Other	ANALYSIS REQUESTED: BTEX/602 8020A MTBE ☐ AIR ☒	TPH 418.1	EPA Metals - Priority Pollutants RCRA ☐	Lead 239.2 7421 ☐ 7420 ☐	CO2	pH on Arrival
3623	SVE-1	3-8-95	1440			✓					✓		✓	✓			✓	
3624	SVE-2	3-8-95	1430			✓					✓		✓	✓			✓	

RECORD OF CUSTODY

	DATE:	TIME:	
Relinquished By Sampler: Bill E. Smith	3-7-95		Received By:
Relinquished By: E. Smith	3-9-95		Received By:
Relinquished By:	3-1-95		Received By Laboratory: Kalad K Jutt

NOTES:
1. If sample is determined to be hazardous, an additional charge of $5.00 per sample will be assessed prior to disposal and billed to client.
2. All samples will be held 90 days unless otherwise specified by the client.

LAB USE ONLY
CEL LOT #:

CELCOC.FRM

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

CURA, INC.
ATTN: DON SMITH
731 W. WADLEY, SUITE L-200
MIDLAND, TEXAS 79705
FAX # 915-570-8409

Receiving Date: 03/09/95
Sample Type: AIR
Project : Shell Pipe Line Dublin Sta. #33-93676

Analysis Date: 03/13/95
Sampling Date: None Given
Sample Condition: Intact

REVISED 3/23/95
mg/m3

ELT#	Field Code	TPH	Benzene	Toluene	Ethylbenzene	Xylene
3623	SVE-1	428.50	<11	<11	<11	<11
3624	SVE-2	872.60	<11	<11	<11	<11

Scott Latimer
Scott A. Latimer
Analytical Chemist

3-23-95
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

CURA, INC.
ATTN: BRAD SMITH
731 W. WADLEY, SUITE L-200
MIDLAND, TEXAS 79705
FAX # 915-570-8409

Receiving Date: 03/09/95
Sample Type: AIR
Project : Shell Pipe Line Dublin Sta. #33-93676

Analysis Date: 03/13/95
Sampling Date: None Given
Sample Condition: Intact

WT. %

ELT#	Field Code	TPH	CO2	Benzene	Toluene	Ethylbenzene	Xylene
3623	SVE-1	0.0385	0.0970	<0.0010	<0.0010	<0.0010	<0.0010
3624	SVE-2	0.0785	1.0110	<0.0010	<0.0010	<0.0010	<0.0010

Scott A. Latimer

3-13-95
Date

DON,

HERE IS HOW I ARRIVED AT THE RESULTS

CALCULATION (SAMPLE)

.0385 % weight TPH (FROM REPORT)

$$\left(\frac{.000385\ \text{Kg TPH}}{\text{Kg AIR}}\right)\left(\frac{1.1117\ \text{Kg AIR}}{\text{m}^3\ \text{AIR}}\right)^{*}\left(\frac{1\times10^{6}\ \text{mg TPH}}{1\ \text{Kg TPH}}\right)=\frac{428.5\ \text{mg TPH}}{\text{m}^3}$$

DENSITY AIR AT 1000 m elevation

$^{*}\ \frac{1.1117\ \text{Kg}}{\text{m}^3}$ DRY AIR

HANDBOOK CHEMISTRY AND PHYSICS 64TH EDITION

THANKS

SCOTT LATIMER

NOTE: CO_2 NOT COMPUTED

CURA INC.
DALLAS - HOUSTON - MIDLAND

CLIENT: _____ SCALE: _____ SHEET ____ OF ____

SUBJECT: _____ PROJECT NUMBER: _____

PREPARED BY: _____ DATE: _____ CHECKED BY: _____ DATE: _____

Dublin Station

SVE #1 (shallow)

18"-20" @ wells
40" @ fitter
temp 98°
ambient ½ open

SVE #2 deep

32" @ well
43" @ fitter
temp 101°
ambient: closed

ENVIRONMENTAL LAB OF Texas, Inc.

12600 West I-20 East Odessa, Texas 79763
(915) 563-1800 FAX (915) 563-1713

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Brad Smith (Houston)
Phone #: (915) 570-8408
FAX #: (915) 570-8409

Company Name & Address: CURA, INC. 731 W. Wadley C-200, Midland TX 79705

Project #: 24-73676504

Project Name: ~~Duke~~ Pipeline Dublin Station

Project Location:

Sampler Signature: Brad D. Smith

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	OTHER	SAMPLING: DATE	TIME	BTEX 8020/5030	TPH 418.1	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	TDS	RCI
4182	SITE #1 EFF	1				✓						✓		6-1-95	1700	✓	✓						
4183	SITE #2 EFF	1				✓						✓		6-1-95	1730	✓	✓						

Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:
	6-2-95		
Relinquished by:	Date:	Time:	Received by Laboratory:
		9:25 Am	Rebecca J. Stelz

REMARKS
24 Hr. T.A.T.

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

CURA, INC.
ATTN: RICK ROBERTSON
731 W. WADLEY, SUITE L-200
MIDLAND, TEXAS 79705
FAX # 915-570-8409

Receiving Date: 06/02/95
Sample Type: AIR
Project : SHELL PIPELINE
Project #: DUBLIN STATION

Analysis Date: 06/02/95
Sampling Date: 06/01/95
Sample Condition: Intact

ELT#	Field Code	TPH MGM3	TPH %W	Benzene	Toluene	Ethylbenzene	Xylene
4182	SUE #1 EFF	344.60	0.031	ND	ND	ND	ND
4183	SUE #2 EFF	22.34	0.002	ND	ND	ND	ND

Raland K. Tuttle

Raland K. Tuttle

6-5-95

Date

12600 West I-20 East • Odessa, Texas 79765 • (915) 563-1800 • Fax (915) 563-1713

Shell Oil Products Company

Two Shell Plaza
P. O. Box 2099
Houston, Texas 77252-2099

June 14, 1995

William Olson
State of New Mexico Oil Conservation Division
Environmental Bureau
2040 S. Pacheco St.
Santa Fe, New Mexico 87504

SUBJECT: DEVELOPMENT WATER, DUBLIN, DENTON, AND LEA STATIONS

Dear Mr. Olson,

Enclosed are copies of the laboratory results from sampling the development water at the subject stations. This water was form the last sampling event. The water was analyzed for benzene and was non-detect at Dublin and Denton and 0.35ppm at Lea. With your concurrence we will surface discharge this water. If you have any questions please call me at 713-241-2961.

Sincerely

Neal Stidham
Staff Engineer
Shell Oil Products Company
Representing Shell Pipe Line Corporation

cc: Paul Newman-EOTT Energy Corp.
Jerry Sexton-OCD Hobbs

Verbal approval to Neal Stidham on 7/24/95

Wilson

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

LCA

SPL, INC.

REPORT APPROVAL SHEET

WORK ORDER NUMBER: 95 - 05 - 815

Approved for release by:

Date: 6/1/95

Brent Barron, Project Manager

Date: 6/2/95

S. Sample, Laboratory Director

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9505815-01

Shell Pipe Line Corporation
P.O. Box 2648
Houston, TX 77252
ATTN: Neal Stidham

P.O.# MESA-CAO-B-131201-PX-4204-NS
DATE: 05/31/95

PROJECT: 24-93677504.03
SITE: Lea Station
SAMPLED BY: Cura, Inc.
SAMPLE ID: Dev. Water

PROJECT NO: H 13360
MATRIX: WATER
DATE SAMPLED: 05/19/95 15:00:00
DATE RECEIVED: 05/23/95

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Benzene	350	1 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	153		
4-Bromofluorobenzene	118		

METHOD 8020***
Analyzed by: SLB
Date: 05/30/95

(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL, Inc., - Project Manager

QUALITY CONTROL DOCUMENTATION

METHOD 8020/602

Matrix: Aqueous Batch Id: HP_J950528200900

Units: µg/L

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
MTBE	ND	50	44	88.0	56 - 135
Benzene	ND	50	39	78.0	61 - 123
Toluene	ND	50	40	80.0	62 - 122
EthylBenzene	ND	50	40	80.0	56 - 119
O Xylene	ND	50	42	84.0	32 - 160
M & P Xylene	ND	100	88	88.0	32 - 160

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	7	20	29	110	29	110	0	20	39 - 150
Benzene	ND	20	23	115	23	115	0	33	39 - 150
Toluene	ND	20	21	105	22	110	4.65	35	56 - 134
EthylBenzene	ND	20	21	105	21	105	0	40	61 - 128
O Xylene	ND	20	21	105	20	100	4.88	29	40 - 130
M & P Xylene	ND	40	43	108	43	108	0	20	43 - 152

Analyst: YN

Sequence Date: 05/28/95

SPL ID of sample spiked: 9505884-07A

Sample File ID: J___434.TX0

Method Blank File ID:

Blank Spike File ID: J___426.TX0

Matrix Spike File ID: J___429.TX0

Matrix Spike Duplicate File ID: J___430.TX0

* = Values Outside QC Range

NC = Not Calculated (Sample exceeds spike by factor of 4 or more)

ND = Not Detected/Below Detection Limit

% Recovery = [(<1> - <2>) / <3>] x 100

LCS % Recovery = (<1> / <3>) x 100

Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100

(**) = Source: SPL-Houston Historical Data

(***) = Source: SPL-Houston Historical Data

SAMPLES IN BATCH(SPL ID):

9505A50-01A 9505816-01A 9505815-01A 9505814-01A
9505A50-02A 9505813-01A 9505813-03A 9505899-05A
9505715-09A 9505A34-01A 9505844-05A 9505690-01B
9505844-03A 9505884-02A 9505884-08A 9505884-09A
9505884-07A 9505844-10A 9505884-10A

Idelis Williams, QC Officer

CHAIN OF CUSTODY
AND
SAMPLE RECEIPT CHECKLIST

4505615

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING

CHAIN OF CUSTODY RECORD NO. H 13360

Date: 5-22-95
Page 1 of 1

SITE ADDRESS: Shell Pipe Line
LEA Station
(SAP) # 24-93677504.03
CONSULTANT NAME & ADDRESS: CURA Inc.
731 W. Wadley, C-200, Midland TX
CONSULTANT CONTACT: Brad Smith (Houston)
PHONE: (915) 570-8408 FAX: (915) 570-8409
SAMPLED BY: Bill Smith

CHECK ONE BOX ONLY CT/DT

- QUARTERLY MONITORING [X] 5461
- SITE INVESTIGATION [ ] 5441
- SOIL FOR DISPOSAL [ ] 5442
- WATER FOR DISPOSAL [ ] 5443
- AIR SAMPLER - SYS O+M [ ] 5452
- WATER SAMPLE - SYS O+M [ ] 5453
- OTHER _____ [ ]

ANALYSIS REQUEST: (CHECK APPROPRIATE BOX)

BTEX 602 ☐ 8020 ☐ WITH MTBE ☐
BTEX/GAS HYDROCARBONS PID/FID ☐ WITH MTBE
VOL 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐
PNA/PAH 8310 ☐ 8100 ☐ 610 ☐
SEMI - VOL 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐
TPH/IR 418.1 ☐ SM503 ____ ☐ ____ ☐
TPH/GC 8015 Mod. GAS ☐ 8015 Mod DIESEL ☐
TCLP METALS ☐ VOL ☐ SEMI-VOL ☐ PEST ☐ HERB ☐
EP TOX METALS ☐ PESTICIDES ☐ HERBICIDES ☐
REACTIVITY ☐ CORROSIVITY ☐ IGNITABILITY ☐

OTHER: Total BTEX

REMARKS

SAMPLE I.D.	DATE	TIME	COMP.	GRAB	MATRIX: H2O	SOIL	AIR	SLUDGE	OTHER	METHOD PRESERVED: HCl	HNO3	H2SO4	NONE	OTHER: ICE	NO. OF CONTAINERS	CONTAINER SIZE	BTEX 602	BTEX/GAS HYDROCARBONS PID/FID	VOL 624/PPL	PNA/PAH 8310	SEMI - VOL 625/PPL	TPH/IR 418.1	TPH/GC 8015 Mod. GAS	TCLP METALS	EP TOX METALS	REACTIVITY	Total BTEX	REMARKS
Dav. Water	5-19-95	1500	✓		✓					✓				✓	3	40ml VOA											✓	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
Bill D. Smith	5-22-95	1500			
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
			S. West	5/23/95	1025

BILL NO.: _____
LABORATORY: SPL Houston
SHELL CONTACT: Neil Stidham PHONE: _____ FAX: _____

TURN AROUND TIME (CHECK ONE)
7 DAYS ☐ (NORMAL) 14 DAYS ☐
48 HOURS ☐ OTHER [X] per Shell contract

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN OF CUSTODY WITH INVOICE AND RESULTS

DISTRIBUTION: PINK Sampling Coordinator - WHITE & YELLOW Accompanies Shipment - WHITE Returned with Report

FedEx
Federal Express

RECIPIENT'S COPY

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 4530723525

4530723525

1 Date 2-22-95

From (Your Name) Please Print: Bill Smith
Your Phone Number (Very Important):

2 To (Recipient's Name) Please Print:
Recipient's Phone Number (Very Important):

Company: Cona Inc.
Department/Floor No.:

Company:
Department/Floor No.:

Street Address: 101 W Valley 220

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.):

City: Mesquite State: TX ZIP Required: 75

City: HOUSTON State: TX ZIP Required: 77004

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address: 4702 TRAVIS
City: HOUSTON State: TX ZIP Required: 77002

3 PAYMENT 1 ☐ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card
5 ☐ Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning)	Standard Overnight (Delivery by next business afternoon. No Saturday delivery.)
11 ☐ OTHER PACKAGING	51 ☒ OTHER PACKAGING
16 ☐ FEDEX LETTER*	56 ☐ FEDEX LETTER*
12 ☐ FEDEX PAK*	52 ☐ FEDEX PAK*
13 ☐ FEDEX BOX	53 ☐ FEDEX BOX
14 ☐ FEDEX TUBE	54 ☐ FEDEX TUBE
Economy Two-Day (Delivery by second business day.)	**Government Overnight** (Restricted for authorized users only)
30 ☐ ECONOMY*	46 ☐ GOVT LETTER
	41 ☐ GOVT PACKAGE

* Economy Letter Rate not available. Minimum charge: One pound Economy rate.

Freight Service (for packages over 150 lbs.)
70 ☐ OVERNIGHT FREIGHT** (Confirmed reservation required)
80 ☐ TWO-DAY FREIGHT**

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
1 ☒ HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 ☐ DELIVER WEEKDAY

Saturday Service
31 ☐ HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 ☐ DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 ☐ SATURDAY PICK-UP (Extra charge)

Special Handling
4 ☐ DANGEROUS GOODS (Extra charge)
6 ☐ DRY ICE Dangerous Goods Shipper's Declaration not required
Dry Ice, 9, UN 1845, ____ X ____ kg, 904.1d
☐ DESCRIPTION
12 ☐ HOLIDAY DELIVERY (If offered)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	3	
Total 1	Total 3	Total

DIM SHIPMENT (Chargeable Weight)
☐ ____ x ____ lbs.
L x W x H

Received At
1 ☐ Regular Stop 3 ☐ Drop Box
4 ☐ B.S.C.

7 Release

Emp. No. Date

☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold

Street Address

City State Zip

Received By: X

Date/Time Received FedEx Employee Number

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 4/94
PART #145412 FXEM 2/95
FORMAT #160
160

SPL HOUSTON ENVIRONMENTAL LABORATORY

SAMPLE LOGIN CHECKLIST

DATE: 5/23/95 TIME: 1025 CLIENT NO. _____
LOT NO. _____ CONTRACT NO. _____

CLIENT SAMPLE NOS. _____

SPL SAMPLE NOS.: 9505815

	YES	NO
1. Is a Chain-of-Custody form present?	✓	
2. Is the COC properly completed?	✓	
If no, describe what is incomplete:		
If no, has the client been contacted about it?		
(Attach subsequent documentation from client about the situation)		
3. Is airbill/packing list/bill of lading with shipment?	✓	
If yes, ID#: RD EX		
4. Is a USEPA Traffic Report present?		✓
5. Is a USEPA SAS Packing List present?		
6. Are custody seals present on the package?	✓	
If yes, were they intact upon receipt?		
7. Are all samples tagged or labeled?	✓	
Do the sample tags/labels match the COC?	✓	
If no, has the client been contacted about it?		
(Attach subsequent documentation from client about the situation)		
8. Do all shipping documents agree?	✓	
If no, describe what is in nonconformity:		

9. Condition/temperature of shipping container: 3°C WET ICE
10. Condition/temperature of sample bottles: GOOD
11. Sample Disposal?: SPL disposal ✓ Return to client _____

NOTES (reference item number if applicable): _____

ATTEST: R Rinsay DATE: 5/23/95
DELIVERED FOR RESOLUTION: REC'D _____ DATE: _____
RESOLVED: _____ DATE: _____

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL, INC.

REPORT APPROVAL SHEET

WORK ORDER NUMBER: 95 - 05 - 816

Approved for release by:

Date: 6/1/95

Brent Barron, Project Manager

Date: 6/2/95

S. Sample, Laboratory Director

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9505816-01

Shell Pipe Line Corporation
P.O. Box 2648
Houston, TX 77252
ATTN: Neal Stidham

P.O.# MESA-CAO-B-131201-PX-4204-NS
DATE: 05/31/95

PROJECT: 24-93676504.03
SITE: Dublin Station
SAMPLED BY: Cura, Inc.
SAMPLE ID: Dev. Water

PROJECT NO: H 13358
MATRIX: WATER
DATE SAMPLED: 05/19/95 16:00:00
DATE RECEIVED: 05/23/95

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Benzene	ND	1 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	109		
4-Bromofluorobenzene	94		

METHOD 8020***
Analyzed by: SLB
Date: 05/30/95

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL, Inc. - Project Manager

QUALITY CONTROL DOCUMENTATION

METHOD 8020/602

Matrix: Aqueous Batch Id: HP_J950528200900

Units: µg/L

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
MTBE	ND	50	44	88.0	56 - 135
Benzene	ND	50	39	78.0	61 - 123
Toluene	ND	50	40	80.0	62 - 122
EthylBenzene	ND	50	40	80.0	56 - 119
O Xylene	ND	50	42	84.0	32 - 160
M & P Xylene	ND	100	88	88.0	32 - 160

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	7	20	29	110	29	110	0	20	39 - 150
Benzene	ND	20	23	115	23	115	0	33	39 - 150
Toluene	ND	20	21	105	22	110	4.65	35	56 - 134
EthylBenzene	ND	20	21	105	21	105	0	40	61 - 128
O Xylene	ND	20	21	105	20	100	4.88	29	40 - 130
M & P Xylene	ND	40	43	108	43	108	0	20	43 - 152

Analyst: YN

Sequence Date: 05/28/95

SPL ID of sample spiked: 9505884-07A

Sample File ID: J___434.TX0

Method Blank File ID:

Blank Spike File ID: J___426.TX0

Matrix Spike File ID: J___429.TX0

Matrix Spike Duplicate File ID: J___430.TX0

* = Values Outside QC Range

NC = Not Calculated (Sample exceeds spike by factor of 4 or more)

ND = Not Detected/Below Detection Limit

% Recovery = [(<1> - <2>) / <3>] x 100

LCS % Recovery = (<1> / <3>) x 100

Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100

(**) = Source: SPL-Houston Historical Data

(***) = Source: SPL-Houston Historical Data

SAMPLES IN BATCH(SPL ID):

9505A50-01A	9505816-01A	9505815-01A	9505814-01A
9505A50-02A	9505813-01A	9505813-03A	9505899-05A
9505715-09A	9505A34-01A	9505844-05A	9505690-01B
9505844-03A	9505884-02A	9505884-08A	9505884-09A
9505884-07A	9505844-10A	9505884-10A	

Idelis Williams, QC Officer

CHAIN OF CUSTODY
AND
SAMPLE RECEIPT CHECKLIST

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING

CHAIN OF CUSTODY RECORD NO. H 13358

Date: 5-22-95
Page 1 of 1

SITE ADDRESS: Shell Pipe Line
Dublin Station
ARCO #: 24-93676504.03
CONSULTANT NAME & ADDRESS: CURA Fax.
731 W. Wadley, L-200, Midland TX
CONSULTANT CONTACT: Brad Smith (Houston)
PHONE: (915) 570-8409 FAX: (915) 570-8409
SAMPLED BY: Bill D. Smith

CHECK ONE BOX ONLY CT/DT

- QUARTERLY MONITORING ☐ 5461
- SITE INVESTIGATION ☐ 5441
- SOIL FOR DISPOSAL ☐ 5442
- WATER FOR DISPOSAL ☐ 5443
- AIR SAMPLER - SYS O+M ☐ 5452
- WATER SAMPLE - SYS O+M ☐ 5453
- OTHER ☐

SAMPLE I.D.	DATE	TIME	COMP.	GRAB	MATRIX: H2O	SOIL	AIR	SLUDGE	OTHER	METHOD PRESERVED: HCl	HNO3	H2SO4	NONE	OTHER: ICE	NO. OF CONTAINERS	CONTAINER SIZE
Dev. Water	5-19-95	1600	✓		✓					✓				✓	3	40 ml VOA

ANALYSIS REQUEST: (CHECK APPROPRIATE BOX)

BTEX 602 ☐	8020 ☐	WITH MTBE ☐	BTEX/GAS HYDROCARBONS PID/FID ☐	WITH MTBE	VOL 624/PPL ☐	8240/TAL ☐	NBS (+15) ☐	PNA/PAH 8310 ☐	8100 ☐	610 ☐	SEMI - VOL 625/PPL ☐	8270/TAL ☐	NBS (+25) ☐	TPH/IR 418.1 ☐	SM503 ☐	____ ☐	____ ☐	TPH/GC 8015 Mod GAS ☐	8015 Mod DIESEL ☐	TCLP METALS ☐	VOL ☐	SEMI-VOL ☐	PEST ☐	HERB ☐	EP TOX METALS ☐	PESTICIDES ☐	HERBICIDES ☐	REACTIVITY ☐	CORROSIVITY ☐	IGNITABILITY ☐

OTHER: total / Benzene ✓

REMARKS

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
Bill D. Smith	5-22-95	1500			
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
			S. West	5/23/95	1025

BILL NO.:
LABORATORY: SAL Houston
SHELL CONTACT: Neil Stidham PHONE: FAX:

TURN AROUND TIME (CHECK ONE)
7 DAYS ☐ (NORMAL) 14 DAYS ☐
48 HOURS ☐ OTHER per Shell Contract

FedEx# 4530723578

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN OF CUSTODY WITH INVOICE AND RESULTS
DISTRIBUTION: PINK Sampling Coordinator - WHITE & YELLOW Accompanies Shipment - WHITE Returned with Report

SPL HOUSTON ENVIRONMENTAL LABORATORY

SAMPLE LOGIN CHECKLIST

DATE: 5/23/95 TIME: 1025 CLIENT NO. _____
LOT NO. _____ CONTRACT NO. _____

CLIENT SAMPLE NOS. _____

SPL SAMPLE NOS.: 9505616

		YES	NO
1.	Is a Chain-of-Custody form present?	✓	
2.	Is the COC properly completed?	✓	
	If no, describe what is incomplete:		
	If no, has the client been contacted about it? (Attach subsequent documentation from client about the situation)		
3.	Is airbill/packing list/bill of lading with shipment? If yes, ID#: HD EX	✓	
4.	Is a USEPA Traffic Report present?		✓
5.	Is a USEPA SAS Packing List present?		
6.	Are custody seals present on the package?	✓	
	If yes, were they intact upon receipt?	✓	
7.	Are all samples tagged or labeled?	✓	
	Do the sample tags/labels match the COC?		
	If no, has the client been contacted about it? (Attach subsequent documentation from client about the situation)		
8.	Do all shipping documents agree?	✓	
	If no, describe what is in nonconformity:		

9. Condition/temperature of shipping container: 3C IMP
10. Condition/temperature of sample bottles: 3C
11. Sample Disposal?: SPL disposal ✓ Return to client ____

NOTES (reference item number if applicable): _____

ATTEST: BRINSON DATE: 5/23/95
DELIVERED FOR RESOLUTION: REC'D _____ DATE: _____
RESOLVED: _____ DATE: _____

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL, INC.

REPORT APPROVAL SHEET

WORK ORDER NUMBER: 95 - 05 - 817

Approved for release by:

Date: 6/1/95

Brent Barron, Project Manager

Date: 6/2/95

S. Sample, Laboratory Director

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9505817-01

Shell Pipe Line Corporation
P.O. Box 2648
Houston, TX 77252
ATTN: Neal Stidham

P.O.# MESA-CAO-B-131201-PX-4204-NS
DATE: 05/31/95

PROJECT: 24-93678504.03
SITE: Denton Station
SAMPLED BY: Cura, Inc.
SAMPLE ID: Dev. Water

PROJECT NO: H 13359
MATRIX: WATER
DATE SAMPLED: 05/19/95 14:00:00
DATE RECEIVED: 05/23/95

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Benzene	ND	1 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	109		
4-Bromofluorobenzene	92		

METHOD 8020***
Analyzed by: SLB
Date: 05/31/95

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 17th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.

SPL, Inc. - Project Manager

QUALITY CONTROL DOCUMENTATION

METHOD 8020/602

Matrix: Aqueous Batch Id: HP_J950530210700

Units: µg/L

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
MTBE	ND	50	50	100	56 - 135
Benzene	ND	50	52	104	61 - 123
Toluene	ND	50	51	102	62 - 122
EthylBenzene	ND	50	52	104	56 - 119
O Xylene	ND	50	55	110	32 - 160
M & P Xylene	ND	100	120	120	32 - 160

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	23	20	46	115	43	100	14.0	20	39 - 150
Benzene	ND	20	21	105	21	105	0	33	39 - 150
Toluene	ND	20	22	110	20	100	9.52	35	56 - 134
EthylBenzene	ND	20	21	105	21	105	0	40	61 - 128
O Xylene	ND	20	21	105	20	100	4.88	29	40 - 130
M & P Xylene	ND	40	44	110	42	105	4.65	20	43 - 152

Analyst: SLB

Sequence Date: 05/31/95

SPL ID of sample spiked: 9505A20-01A

Sample File ID: J___462.TX0

Method Blank File ID:

Blank Spike File ID: J___487.TX0

Matrix Spike File ID: J___460.TX0

Matrix Spike Duplicate File ID: J___461.TX0

* = Values Outside QC Range

NC = Not Calculated (Sample exceeds spike by factor of 4 or more)

ND = Not Detected/Below Detection Limit

% Recovery = [(<1> - <2>) / <3>] x 100

LCS % Recovery = (<1> / <3>) x 100

Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100

(**) = Source: SPL-Houston Historical Data

(***) = Source: SPL-Houston Historical Data

SAMPLES IN BATCH(SPL ID):

9505894-02B 9505894-01B 9505844-08A 9505994-07A
9505994-06A 9505994-04A 9505994-08A 9505994-03A
9505994-02A 9505994-01A 9505973-02A 9505973-01A
9505884-06A 9505884-04A 9505884-01A 9505817-01A
9505942-01A 9505942-03A 9505A20-01A

Idelis Williams, QC Officer

CHAIN OF CUSTODY
AND
SAMPLE RECEIPT CHECKLIST

4505401?

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING

CHAIN OF CUSTODY RECORD NO. H 13359

Date: 5-22-95
Page 1 of 1

SITE ADDRESS: Shell Pipe Line
Denton Station
PROJ # 24-93678504.03
CONSULTANT NAME & ADDRESS: Cuba Inc
731 W. Wadley, L-200, Midland TX
CONSULTANT CONTACT: Brad Smith (Houston)
PHONE: (915) 570-8408 FAX: (915) 570-8409
SAMPLED BY: Bill D. Smith

CHECK ONE BOX ONLY CT/DT

- QUARTERLY MONITORING ☒ 5461
- SITE INVESTIGATION ☐ 5441
- SOIL FOR DISPOSAL ☐ 5442
- WATER FOR DISPOSAL ☐ 5443
- AIR SAMPLER - SYS O+M ☐ 5452
- WATER SAMPLE - SYS O+M ☐ 5453
- OTHER ☐

SAMPLE I.D.	DATE	TIME	COMP.	GRAB	MATRIX: H2O	SOIL	AIR	SLUDGE	OTHER	METHOD PRESERVED: HCl	HNO3	H2SO4	NONE	OTHER	NO. OF CONTAINERS	CONTAINER SIZE	BTEX 602 ☐ 8020 ☐ WITH MTBE ☐	BTEX/GAS HYDROCARBONS PID/FID ☐ WITH MTBE	VOL 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐	PNA/PAH 8310 ☐ 8100 ☐ 610 ☐	SEMI-VOL 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐	TPH/IR 418.1 ☐ SM503 ___ ☐ ___ ☐ ___	TPH/GC 8015 Mod. GAS ☐ 8015 Mod DIESEL ☐	TCLP METALS ☐ VOL ☐ SEMI-VOL ☐ PEST ☐ HERB ☐	EP TOX METALS ☐ PESTICIDES ☐ HERBICIDES ☐	REACTIVITY ☐ CORROSIVITY ☐ IGNITABILITY ☐	OTHER: total Benzene			REMARKS
Dev. Water	5-19-95	1400	✓		✓					✓				ICE	3	40 ml VOA											✓			

ANALYSIS REQUEST: (CHECK APPROPRIATE BOX)

OTHER

REMARKS

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
Bill D. Smith	5-22-95	1500			
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
			S. West	5/23/95	1025

BILL NO.:
LABORATORY: SPL Houston
SHELL CONTACT: Neil Stidham PHONE: FAX:

TURN AROUND TIME (CHECK ONE)
7 DAYS ☐ (NORMAL) 14 DAYS ☐
48 HOURS ☐ OTHER ☒ per Shell contract

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN OF CUSTODY WITH INVOICE AND RESULTS
DISTRIBUTION: PINK Sampling Coordinator - WHITE & YELLOW Accompanies Shipment - WHITE Returned with Report

Fed Ex # 453072352 5
2nd Att

SPL HOUSTON ENVIRONMENTAL LABORATORY

SAMPLE LOGIN CHECKLIST

DATE: 5/23/95 TIME: 1025 CLIENT NO._____
LOT NO._____ CONTRACT NO._____

CLIENT SAMPLE NOS._____

SPL SAMPLE NOS.: 9505817

	YES	NO
1. Is a Chain-of-Custody form present?	✓	
2. Is the COC properly completed?	✓	
If no, describe what is incomplete:		
If no, has the client been contacted about it? (Attach subsequent documentation from client about the situation)		
3. Is airbill/packing list/bill of lading with shipment?	✓	
If yes, ID#: FED EX		
4. Is a USEPA Traffic Report present?		✓
5. Is a USEPA SAS Packing List present?		✓
6. Are custody seals present on the package?	✓	
If yes, were they intact upon receipt?	✓	
7. Are all samples tagged or labeled?	✓	
Do the sample tags/labels match the COC?	✓	
If no, has the client been contacted about it? (Attach subsequent documentation from client about the situation)		
8. Do all shipping documents agree?	✓	
If no, describe what is in nonconformity:		

9. Condition/temperature of shipping container: 3°C INTACT
10. Condition/temperature of sample bottles: 3°C INTACT
11. Sample Disposal?: SPL disposal ✓ Return to client____

NOTES (reference item number if applicable):_____

ATTEST: RAINSAU DATE: 5/23/95
DELIVERED FOR RESOLUTION: REC'D_____ DATE:_____
RESOLVED:_____ DATE:_____

Shell Oil Company

Two Shell Plaza
P. O. Box 2099
Houston, Texas 77252-2099

January 6, 1995

REGISTERED MAIL

William Olson
State of New Mexico Oil Conservation Division
Environmental Bureau
2040 S. Pacheco St.
Santa Fe, New Mexico 87504

SUBJECT: DUBLIN STATION, LEA COUNTY, NEW MEXICO

Dear Mr. Olson,

Enclosed is Shell Pipe Line Corporation's Soil Vapor Extraction (SVE) report for Dublin Station. I believe this report contains the information requested in condition #2 of your July 13, 1994 letter. If additional information is needed please let me know. Our November 10, 1993 proposal was to landfarm the shallow impacted soil around B-5 inplace. Conditions #1 and #3 of your letter pertain to this activity. However, subsequent investigation determined that this area has a high density of shallow piping and conduit which essentially precludes the use of large mechanical excavation or landfarming equipment. I feel that due to the nature of the contamination, 15,000 ppm TPH at 1-3' decreasing to less than 15 ppm at 10' and all BTEX components being < 0.001 ppm, will not pose a threat to the public or the environment while we pursue other remediation options for these shallow soils. Furthermore, the groundwater, approximately 110' below surface, is not in danger of being impacted by these soils.

If you have any questions, please call me at 713-241-2961.

Sincerely,

Neal Stidham

cc: Paul Newman
EOTT Energy Corporation
Jerry Sexton-OCD Hobbs

CURA INC.
Environmental Consultants, Engineers & Scientists
2735 Villa Creek Drive • Building C • Suite 250 • Dallas, Texas 75234 • 214/620-7117 • FAX 620-8219

December 20, 1994

Mr. Neal Stidham
Environmental & Technical
Shell Oil Company
Two Shell Plaza, Room 1452
777 Walker Street
Houston, Texas 77002

RE: SVE FEASIBILITY REPORT
DUBLIN STATION
LEA COUNTY, NEW MEXICO

CURA PROJECT NO. 24-93676

Mr. Stidham:

CURA, Inc. (CURA) has completed the soil vapor extraction (SVE) feasibility test at the above referenced site. The test was performed utilizing existing monitor well MW-4 which has been documented to be in the area of greatest hydrocarbon impact to the soils.

Based upon results of the SVE test three individual SVE wells were installed adjacent to monitor well MW-4. The wells were designated SVE-1A (screened 95-105 feet), SVE-2A (screened 50-60 feet), and SVE-3A (screened 17-27 feet). SVE-2A and SVE-3A will be manifolded and connected to a 5 hp blower as a vacuum source. SVE-1A will be connected to a 7.5 hp blower.

CURA appreciates the opportunity to provide you with our professional consulting services. If you have any questions or concerns regarding this project please feel free to contact me at (214) 620-7117.

Sincerely,

Charles D. Harlan
Project Manager

SVE FEASIBILITY REPORT

DUBLIN STATION
LEA COUNTY, NEW MEXICO

CURA conducted a soil vapor extraction (SVE) feasibility test at Shell Pipe Line Corporation's Dublin Station site located in Lea County, New Mexico on November 17, 1994. The purpose of the test was to determine potential remediation requirements. Previous activities had identified hydrocarbon-impacted soils on site. Monitor well MW-4 was utilized as the vapor extraction point. Monitor well MW-4 is located in the primary plume area as defined by soil analysis. The purpose of installing and operating the SVE system at this site is to eliminate the volatile organic compounds in the soils and minimize their potential impact to groundwater.

TEST PROCEDURE

Two 1-1/2 hp Rotron regenerative blowers were connected in parallel to monitor well MW-4 using 2" flex piping. All zones were monitored by Magnahelic gauges installed on the nested well piping at SVN-1 and SVN-2. The SVE feasibility test indicated that the effective radius of influence for vapor extraction is approximately 80 feet with an air flow of 10 standard cubic feet per minute (SCFM) per foot of available well screen. Analytical results of the air effluent indicate vapor phase hydrocarbons are present within the vadose zone. The effective radius of influence and flow rate indicate the air conductivity of the impacted soil is sufficient for vapor extraction. The following table shows vacuum levels measured during the feasibility test.

SOIL VAPOR EXTRACTION FEASIBILITY TEST FIELD DATA Soil Vapor Extraction Feasibility Test Conducted November 17, 1994			
Monitor Point	**Screened Interval of Monitor Point (feet)**	**Distance From Extraction Point (feet)**	**Equilibrium Pressure (inches of water)**
30" Vacuum @ MW-4			
SVN-1-S	17 - 27	46	0.04
SVN-1-M	50 - 60	46	0.75
SVN-1-D	95 - 105	46	2.7
SVN-2-S	17 - 27	32	0.06
SVN-2-M	50 - 60	32	1.7
SVN-2-D	95 - 105	32	2.85

An air sample was obtained from MW-4 during the test to determine the composition and concentration of the vapor phase hydrocarbon constituents. The analytical results are presented in the following table with laboratory results and chain-of-custody included in Appendix A.

AIR SAMPLE ANALYTICAL RESULTS							
Sample ID	**Date**	**Benzene**	**Toluene**	**Ethyl-benzene**	**Xylenes**	**Total BTEX**	**TPH**
SVE-1-MW-4	11/17/94	18	88	13	71	190	3,470
BTEX and TPH results in μg/l.							

Based on the expected operating range of 175 cfm for each blower, the expected emission levels are calculated to be approximately 4.55 lb/hr. This is below the New Mexico allowable levels of 10 lb/hr and 25 tons per year. Air samples will be collected twice during the first month the system is operational, and once per month from that point on to ensure compliance with the emission requirements.

SYSTEM DESIGN

Based upon the feasibility test results and to better control the application of vacuum, three additional SVE wells were installed in the near vicinity of the present MW-4 well. These wells are individual completions at total depths of 105 feet, 60 feet, and 27 feet (Appendix B) with the last 10 feet screened. A five foot bentonite seal was placed immediately above the screen. They are designated as SVE-1A, SVE-2A, and SVE-3A, respectively, on the revised map (Figure 1).

Current plans call for manifolding wells SVE-2A and SVE-3A (medium and shallow zones) using a 5 hp blower as a vacuum source to apply approximately 50 inches of water vacuum to the wells. The vacuum for the lower zone will be supplied by connecting a 7.5 hp blower to well SVE-1A and applying approximately 60 inches of water vacuum. The system has been designed to operate continuously with minimal downtime.