1R - 231

GENERAL CORRESPONDENCE

YEAR(S): 1995 - 1994

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: ANDERSON RANCH STATION, LEA COUNTY, NEW MEXICO

Dear Mr. Olson,

Enclosed is Shell Pipe Line Corporation's final report on soil remediation at Anderson Ranch Station. The affected soils were remediated as proposed in Shell's letters of September 10, 1993 and May 12, 1994. The remedial activities exceeded the conditions in your letter of June 6, 1994. I believe that, based upon the success of the remedial activities, the site can be closed and no further action required. If you do not concur with our conclusion, please let me know. If I do not hear from your office within 45 days, I will consider that you agree with our conclusion.

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

RE: SOIL EXCAVATION AND REMEDIATION OPERATIONS
ANDERSON RANCH STATION
LEA COUNTY, NEW MEXICO

CURA PROJECT NO. 24-94163.4

Mr. Stidham:

CURA, Inc. (CURA) has completed delineation, excavation, and remediation operations at the above-referenced facility. The purpose of this investigation was to excavate the previously-identified hydrocarbon-affected soils, including any affected soils discovered during field activities and remediate the soils in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills, and Releases, dated August 13, 1993.

The site assessments previously provided to the NMOCD for the inactive Anderson Ranch Pump Station indicated hydrocarbon impacted soils in the vicinity of B-2 (Figure 1, Appendix A). The on-site abandoned water well was gauged on December 6, 1994 during this investigation. Depth to groundwater below ground surface measured 197.26 feet.

SOIL EXCAVATION OPERATIONS

On December 6, 1994, CURA supervised excavation, soil mixing, confirmatory soil sampling, and backfill operations of the soils previously identified in boring B-2. Excavation operations at the impacted area extended to a maximum depth of 5.0 feet, with hydrocarbon staining observed in an area approximately 3 feet in diameter and extending from

approximately 1.5 feet below ground surface to an average depth of approximately 2.5 feet. The excavation (E-1) was centered on boring B-2 and measured approximately 9.0 feet by 12.0 feet and extended to a depth of 5.0 feet (Figure 2, Appendix A). Excavation operations generated approximately 30 cubic yards of loose soil. The soil was staged along the west and east margins of the excavation pending mixing operations. During excavation operations soil samples were obtained from the walls and bottom of the excavation to verify the affected soils had been removed.

After removal, the soils were mixed on-site and composite samples of the mixed material was obtained to verify hydrocarbon concentrations were in accordance with NMOCD guidelines. Mixing allows for soil aeration which in turn will enhance the natural biodegradation of the hydrocarbons. Confirmatory sampling operations were conducted using observed staining, field soil vapor headspace, and soil analysis for TPH to aid in the determination of the vertical and horizontal extent of the affected soils and the hydrocarbon reduction achieved in the mixed soils. The excavation was backfilled with the mixed material and shaped to grade.

SOIL SAMPLING OPERATIONS

During this investigation, the sampled soils were field-screened with a flame ionization detector (FID) Century 128 OVA to aid in the determination of the lateral and vertical extent of the hydrocarbon-affected materials. Field screening was performed using soil vapor headspace procedures outlined in NMOCD's Guidelines for Remediation of Leaks, Spills, and Releases. Composite samples obtained from the bottom and walls of the excavations were analyzed for TPH using EPA Method 418.1.

SOIL SAMPLE ANALYTICAL RESULTS

OVA readings ranged from 5 ppm to less than 1 ppm in the soil samples obtained from the excavation. The composite sample of the excavated soil material after mixing recorded an OVA reading of 11 ppm. Complete OVA readings are presented in Table 1, Appendix B.

TPH concentrations in the composite soil samples obtained from the bottom and sides of excavation E-1 recorded levels below method detection limits of 10 ppm. The TPH concentration in the composite soil sample obtained from the excavated materials after mixing measured 88 ppm.

A summary of the soil sample analytical results from the excavation is presented in Table 1, Appendix B. The sample key is presented in Table 2. A summary of the soil sample analytical results from the boring B-2 is presented in Table 3. Laboratory reports and the chain-of-custody are included in Appendix C.

CONCLUSIONS

- The soil sample analytical results indicate that the extent of hydrocarbon-affected soils previously identified in boring B-2 has been defined and the TPH in the impacted soils reduced to an average level of 88 ppm.

CURA 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 (915) 570-8408.

Respectfully,
CURA, Inc.

Wallace D. Dilmore
for
F. Wesley Root
Environmental Geologist

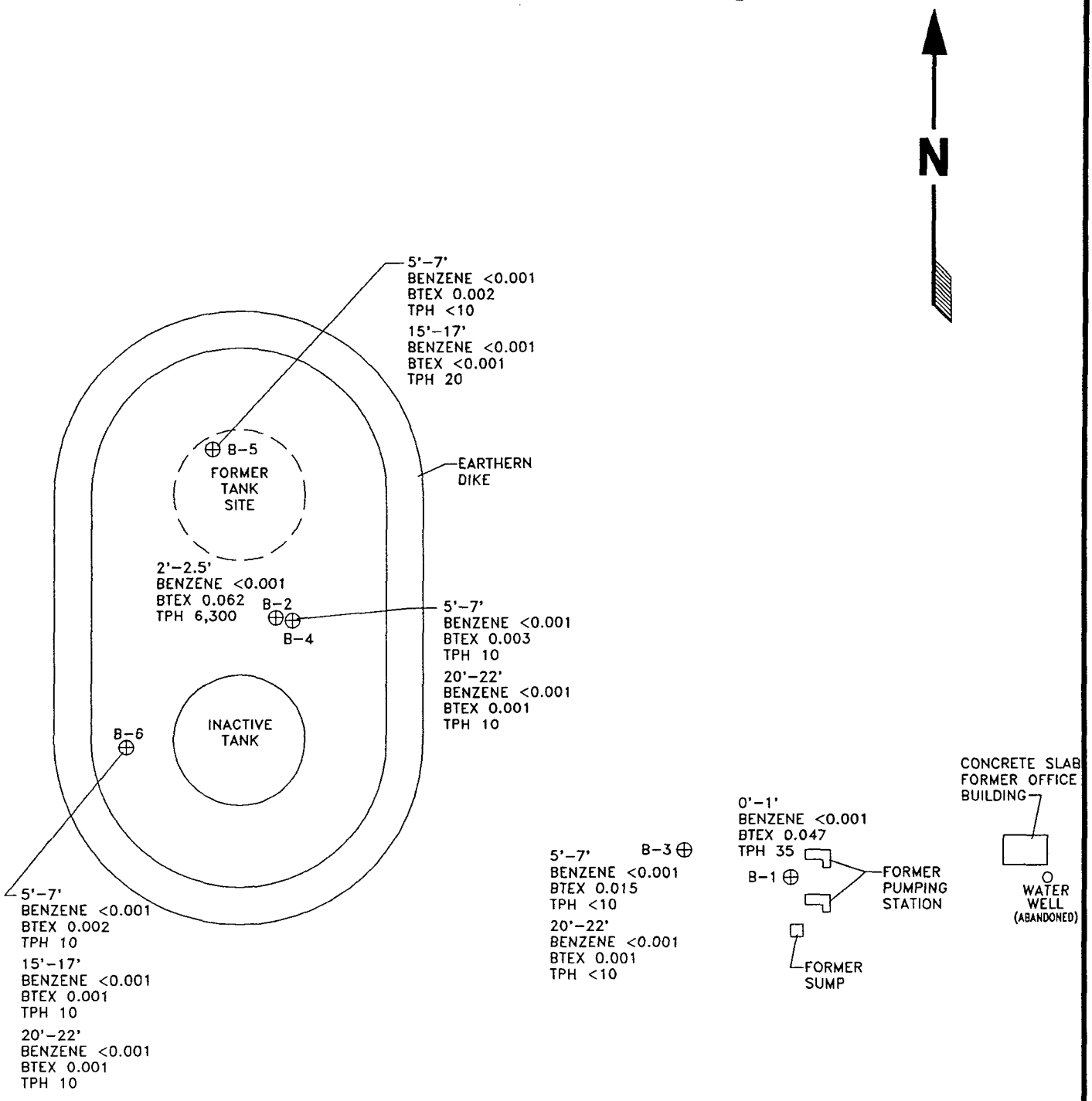
Charles D. Harlan
Project Manager

FWR/chs

Enclosures

APPENDIX A

FIGURES



SOIL HYDROCARBON CONCENTRATION MAP

-BORINGS B-1 AND B-2 WERE SAMPLED ON 12/09/92
-BORINGS B-3, B-4, B-5 AND B-6 WERE SAMPLED ON 02/08/93

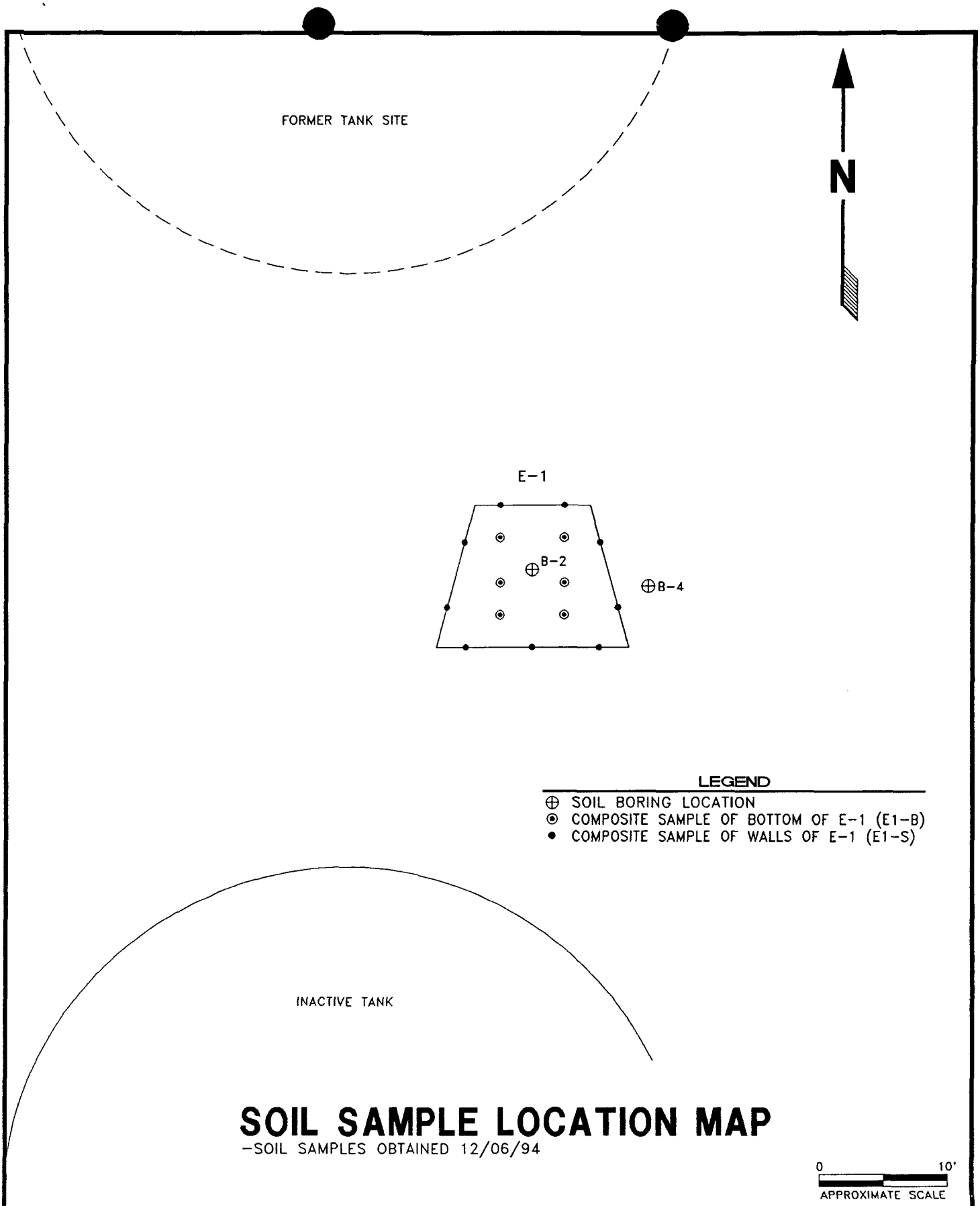
NUMBERS INDICATE: BENZENE, TOTAL BTEX, AND TPH CONCENTRATIONS IN mg/kg (ppm)

0 60'
APPROXIMATE SCALE

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

ANDERSON RANCH STATION
SHELL PIPE LINE CORPORATION
LEA COUNTY, NEW MEXICO

DATE:	SCALE:
DEC 1994	SEE ABOVE
PROJECT NO.	FIGURE NO.
15-94163	1



SOIL SAMPLE LOCATION MAP

-SOIL SAMPLES OBTAINED 12/06/94

0 10'
APPROXIMATE SCALE

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

ANDERSON RANCH STATION
SHELL PIPE LINE CORPORATION
LEA COUNTY, NEW MEXICO

DATE:	SCALE:
DEC 1994	SEE ABOVE
PROJECT NO.	FIGURE NO.
15-94163	2

APPENDIX B

TABLES

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
EXCAVATION AT ANDERSON RANCH STATION
Soil Samples Obtained December 6, 1994

Sample ID	OVA (ppm)	TPH (ppm)
E1-S	5	<10
E1-S2	<1	--
E1-B	<1	<10
E1-Fill	11	88

TPH results in mg/kg (parts per million; ppm) with a method detection limit of 10 ppm.
Analyses were conducted using EPA Method 418.1 (TPH) by Allstate Services.

TABLE 2
SAMPLE KEY
EXCAVATION SAMPLES FROM ANDERSON RANCH STATION

SAMPLE ID	DESCRIPTION
E1-S	Composite sample of the walls of E-1
E1-S2	Composite sample of the walls of E-1 between 1.5 to 2.5 feet
E1-B	Composite sample of the bottom of E-1 at a depth of 5 feet
E1-Fill	Composite sample of the excavated soils after mixing

TABLE 3
SOIL SAMPLE ANALYTICAL RESULTS
BORINGS AT ANDERSON RANCH STATION
Soil Samples Obtained on December 11, 1992

Boring	Sample Interval (feet)	OVA Reading	Benzene	Toluene	Ethyl-benzene	Xylenes	Total BTEX	TPH
B-2	2.0 - 2.5	800	<0.001	<0.001	0.038	0.024	0.062	6,300

BTEX and TPH results in mg/kg (parts per million; ppm).
Information obtained from CURA, Inc.'s Preliminary Site Assessment (report dated January 15, 1993).

APPENDIX C

SOIL ANALYSIS

AND

CHAIN-OF-CUSTODY

ALLSTATE SERVICES
P.O. Box 11322
Midland, Texas 79702
Office: (915) 682-3547
FAX: (915) 682-4182

Company: CURA, Inc.
Site: Anderson Ranch Station
Shell Pipe Line Corp
Project Number: 15-94163.4

Sample ID	Date	Time	Sampled By	TPH/IR (ppm)
E1-S	12-6-94	9:40	J. Wesley Root	<10
E1-B	12-6-94	9:50	J. Wesley Root	<10
E1-Fill	12-6-94	10:00	J. Wesley Root	88

Relinquished by: (signature)	Date:	Time:	Received by: (signature)	Date:	Time:
J. Wesley Root	12-8-94	17:10		12-8-94	17:20

Analyzed by:
K. C. Offield
Allstate Services
Ref: EPA Method 418.1

ID #	Date Time	Sample Location	Type of Analysis		Results	Initial of Sampler
K-3	12-7-94	Delaware - 2 Piles shred today 20-24" inside	10-5			direct
K-4	12-7-94 3:40p	Delaware - 2 Piles shred today 20-24" inside	TPH 10-5	635	318 ppm	KC 4:00 direct
K-5	12-7-94 3:35p	Delaware - 1 pile shred today 20-24" inside	TPH 10-5	911	306 ppm	KC 4:20 direct
EW K	12-7-94 3:45p	Delaware - composite in hole E-wall	TPH 10-5	791	396 ppm	KC 4:40 direct
OCD-B-SB SW	12-8-94 4:45p	Delaware - SW bottom hole sample	TPH 10-5	199	100 ppm	KC 5:05 OCD-direct
BH-K	12-8-94 10:45AM	Delaware - bottom hole aft rock digging SW	TPH 10-5	882	17640 ppm	KC 11:00 Direct
K-31	12-8-94 2:45	Delaware comp	TPH 10-5	152-17	2700 ppm	KC - 3pm direct
K-32	12-8-94 3:30	3 piles shredded Delaware comp	TPH 10-5	691	345 ppm	KC 3:50 direct
K-33	12-8-94 3:35	3 piles shredded Delaware Comp	TPH 10-5	499	249 ppm	KC 4:10 direct
BSW-3	12-8-94 3:40	3 piles shredded Delaware - Btm of hole after SW rock digging	TPH 10-5	775	387 ppm	KC 4:20 direct KC
E1 S	12-6-94 4:10p	Anderson - Ranch	TPH 10-5	386	193 ppm	Wes 4:40 Wes 12-8
E1 B	12-6-94	Anderson Ranch	TPH 10-5	non	non	KC 5:10 Wes 12-8
E1 Fill	12-6-94	Anderson Ranch	TPH 10-5	non	non	KC 5:15 Wes 12-8
SB WOS	12-13-94	Delaware - final - surface	TPH 10-5	175	88	KC 5:40 Wes 12-17
SB SE	12-13-94	Delaware final - surf	TPH 10-5	335	168	KC Wes 12-17-94
SB NW	12-13-94	Delaware final - Surf	TPH 10-5	304	152	KC Wes 12-17-94
SB SOS	12-13-94	Delaware final - surf	TPH 10-5	588	294	KC Wes 12-17-94
SB NE	12-13-94	Delaware final surf	TPH 10-5	671	336	KC Wes 12-17-94
SB SW	12-13-94	Delaware final surf	TPH	484	242	KC Wes 12-17-94
			TPH	521	261	KC

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 Company

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

November 22, 1994

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

SUBJECT: HUGH STATION, DELAWARE STATION, AND ANDERSON RANCH STATION, LEA COUNTY NEW MEXICO, SOIL REMEDIATION

Dear Mr. Olson,

Shell Oil Company plans to conduct the soil excavation and remediation at the above locations according to the following schedule:

Hugh Station- start in the afternoon on Monday November 28,

Delaware Station- start in the morning of Wednesday November 30,

Anderson Ranch- start in the morning of December 5

Should something happen to alter this schedule I will let you know immediately.

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

Sincerely,

Neal Stidham

CC: Paul Newman
EOTT Energy Corp.

Jerry Sexton
OCD-Hobbs

Shell Oil Company

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

December 19, 1994

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

SUBJECT: HUGH STATION, ANDERSON RANCH, DELAWARE STATION, AND DUBLIN STATION REPORTS

Dear Mr. Olson,

I respectfully request a delay until January 12, 1995 to submit the activity reports for the above referenced stations. The work at these stations, as discussed in previous letters, has been completed. However the delay in finalizing the graphics and reproduction will preclude me from submitting the reports by December 20, as I had planned.

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

Sincerely,

Neal Stidham

cc: Paul Newman
EOTT Energy Corp.

12/30/94
Verbal Approval
Will Olson

Shell Oil Company

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

November 22, 1994

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

SUBJECT: HUGH STATION, DELAWARE STATION, AND ANDERSON RANCH STATION, LEA COUNTY NEW MEXICO, SOIL REMEDIATION

Dear Mr. Olson,

Shell Oil Company plans to conduct the soil excavation and remediation at the above locations according to the following schedule:

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

Sincerely,

Neal Stidham

CC: Paul Newman
EOTT Energy Corp.

Jerry Sexton
OCD-Hobbs

Shell Oil Company

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

September 28, 1994

Mr. William Olson
State of New Mexico Oil Conservation Division
Environmental Bureau
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBJECT: REQUEST FOR EXTENSION, ANDERSON RANCH, DELAWARE STATION, DUBLIN STATION

Dear Mr. Olson,

By way of this letter I am requesting an extension of the times specified in your letters of June 6, 1994 (Anderson Ranch Station); July 13, 1994 (Dublin Station); and August 8, 1994(Delaware Station) to file a final report for either the landfarming activities or the actual construction specifics for the Dublin Soil Vapor Extraction system. The final design specifications for the SVE system are being completed and I should be able to provide them within 30 days. The request for delay on the landfarming activity is to allow me to obtain approval of the landfarming plans for Hugh and Eunice Stations. Upon approval of these plans I will be able to maximize the amount of work in one trip with a contractor, as opposed to making multiple trips.

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

Sincerely,

Neal Stidham

Neal Stidham

cc: Mr. Paul Newman
EOTT Energy Corporation

Verbally approved extension to Dec. 20, 1994
Will Olson
10/6/94

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

June 6, 1994

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-111-334-122

Mr. Neal Stidham
Shell Pipe Line Corporation
Two Shell Plaza
P.O. Box 2648
Houston, Texas 77252-2648

RE: SITE REMEDIATION
ANDERSON RANCH STATION
LEA COUNTY, NEW MEXICO

Dear Mr. Stidham:

The New Mexico Oil Conservation Division (OCD) has completed a review of Shell Pipe Line Corporation's (SPLC) May 12, 1994 correspondence which provides SPLC's methods for remediation of contaminated soils at SPLC's Anderson Ranch Station.

The above referenced soil remedial action plan is approved with the following conditions:

1. SPLC will document the final levels of benzene, toluene, ethylbenzene, xylene (BTEX) and total petroleum hydrocarbons (TPH) at the base of the excavations and in the landfarmed areas.

   NOTE: Field headspace measurements of 100 parts per million of total organic vapor, if determined in accordance with OCD guidelines (enclosed), may be substituted for a laboratory analysis of the concentrations of BTEX.

2. SPLC will notify the OCD at least 48 hours in advance of all scheduled remediation activities such that the OCD may have the opportunity to witness the events and/or split samples.

3. A final report will be submitted to the OCD by October 1, 1994 and will include a description and the results of all remediation activities including the composition, volume and application rates of any materials used in bioremediation and the final remediation levels achieved in the excavated and landfarmed areas.

Please be advised that OCD approval does not relieve SPLC of liability should the remedial activities determine that contamination exists which is beyond the scope of the work plan or should the actions fail to adequately remediate contamination related to SPLC's activities. In addition, OCD approval does not relieve SPLC of responsibility for compliance with any other federal, state or local laws and/or regulations.

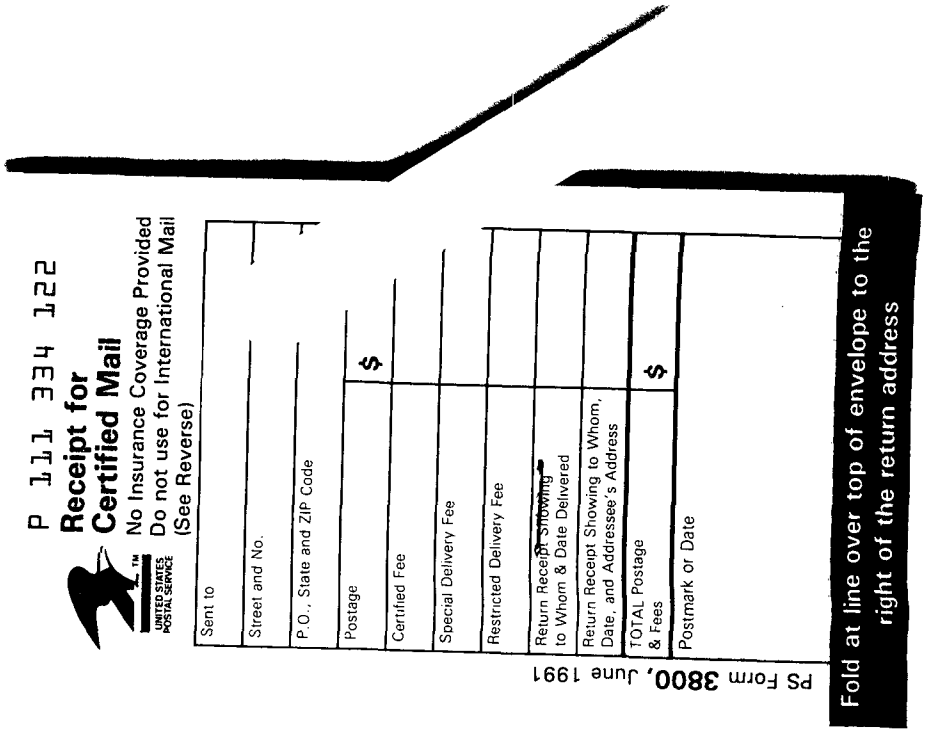
If you have any questions, please call me at (505) 827-5885.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

Enclosure

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



Shell Pipe Line Corporation

Two Shell Plaza
P. O. Box 2648
Houston, Texas 77252-2648

May 12, 1994

Mr. William Olson
State of New Mexico Oil Conservation Division
Environmental Bureau
P. O. Box 2088
Santa Fe, New Mexico 87504-2088

SUBJECT: ANDERSON RANCH

Dear Mr. Olson:

The following is in response to the comments in your letter to Shell Pipe Line Corporation of March 18, regarding Anderson Ranch Station.

Comment 1 - Samples designated as SS-1A and SS-3A were collected from the same locations as SS-01 and SS-03 and were analyzed for extractable lead and chromium. The results (enclosed), <.01 mg/L lead and <.02 mg/L chromium, are below the thresholds for hazardous waste.

Comment 2 - The location of the station water well is shown on the attached map. Shell Pipe Line acquired this station from another company more than 40 years ago and the well was there at that time. We have reviewed our records as well as New Mexico public records and have not been able to find any completion information on this well. What information we have was developed on-site. The well consists of 10 5/8 inch diameter casing extending to an unknown depth. On March 10, the depth to groundwater was 198.47 below the top of casing, and the total depth is greater than 280 feet deep. Total depth could not be determined due to lack of deep well measuring equipment. No phase separated hydrocarbon has been observed in the well. The station has been idle for more than 20 years.

Comment 3 - The impacted area around B-2 is an old release and limited in extent. The configuration of the impacted area will determine whether the area is landfarmed either in- or ex-situ or a combination. This will be determined by the remediation team in the field. Impacted soils shallow enough to be mixed with unaffected soil by deep tilling will be landfarmed in place. Deeper affected soils may be partially or completely excavated,

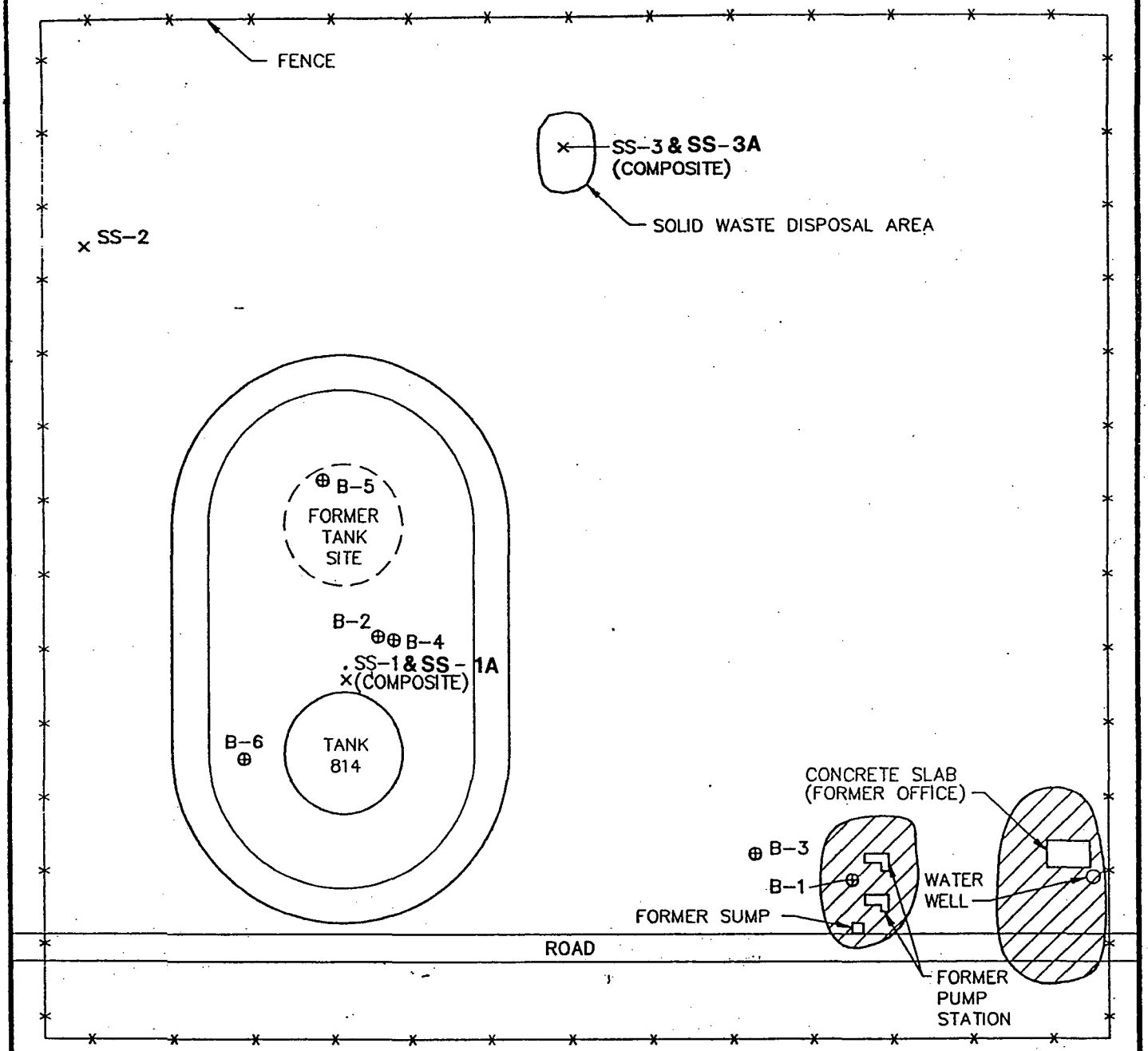
mixed with clean soil and either placed back in the excavation or spread around the surface and tilled. Soils not excavated are usually mixed with clean soil in-place. In all situations, nitrogen fertilizer will be applied at a rate of 200 lb/acre on the land farm area. The fertilizer is usually applied in a two pass operation with the area being tilled between applications. The nitrogen is a bacteria food source. This causes the bacteria to multiply and enhances the biodegradation of the hydrocarbon.

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

Sincerely,

Neal Stidham

cc: Mr. Paul Newman
EOTT Energy Corporation



Note: Map revised on 4-25-94 to indicate locations of soil samples SS-1A and SS-1B.

N

NOT TO SCALE

LEGEND

- ⊕ B-1 CURA SOIL BORING LOCATION
- × SS-1 SURFACE SOIL SAMPLE LOCATION
- ⊗ SD-1 SEDIMENT SAMPLE LOCATION
- ● SB-1 WESTON SOIL BORING LOCATION
- HYDROCARBON STAINING

WESTON MANAGERS DESIGNERS/CONSULTANTS

FIGURE 11-2

ANDERSON RANCH STATION
SITE PLAN

EOTT ENERGY CORPORATION
SPLC PIPELINE ENVIRONMENTAL ASSESSMENT

W.O. NO. : 10326-001-001-0010

H:\DWG\EOTT\SP3.PB 1=1 07-21-93

SPL, INC.

REPORT APPROVAL SHEET

WORK ORDER NUMBER: 94-04-042

Approved for release by:

W. Scott Sample Date: 4/15/94

S. Sample, Laboratory Director

Barbara Martinez Date: 4/14/94

Barbara Martinez, Client Services Representative

CLIENT NAME: Shell Pipe Line Corporation SPL #: 9404042-01
CLIENT ID: SS-1A

TCLP SUMMARY

PARAMETER	RESULTS (mg/L)	REGULATORY * LIMIT (mg/L)
LEAD	< 0.1	5.0

* = Reference Federal Register 55, 11862 (3/29/90), RCRA Toxicity Characteristic Final Rule.
** = These two compounds are quantitated together.

4/14

CLIENT NAME: Shell Pipe Line Corporation SPL #: 9404042-02
CLIENT ID: SS-3A

TCLP SUMMARY

PARAMETER	RESULTS (mg/L)	REGULATORY * LIMIT (mg/L)
CHROMIUM	< 0.02	5.0

* = Reference Federal Register 55, 11862 (3/29/90), RCRA Toxicity Characteristic Final Rule.
** = These two compounds are quantitated together.

4/14

Certificate of Analysis No. 9404042-01

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

DATE: 04/12/94

PROJECT: Anderson Ranch Station
SITE: Lea County, New Mexico
SAMPLED BY: CURA, Inc.
SAMPLE ID: SS-1A

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 03/19/94 15:30:00
DATE RECEIVED: 04/01/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Acid Digestion - ICP/TCLP METHOD 3010 *** Analyzed by: PB Date: 04/07/94	04/07/94		
Lead, TCLP Leachate METHOD 6010 *** Analyzed by: DQ Date: 04/11/94	ND	0.1	mg/L
TCLP Leachate extraction METHOD 1311 *** Analyzed by: MO Date: 04/04/94	04/04/94		

ND - Not detected.

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.

Certificate of Analysis No. 9404042-02

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

DATE: 04/12/94

PROJECT: Anderson Ranch Station
SITE: Lea County, New Mexico
SAMPLED BY: CURA, Inc.
SAMPLE ID: SS-3A

PROJECT NO:
MATRIX: SOIL
DATE SAMPLED: 03/19/94 15:50:00
DATE RECEIVED: 04/01/94

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Chromium, TCLP Leachate METHOD 6010 *** Analyzed by: DQ Date: 04/11/94	ND	0.02	mg/L
Acid Digestion - ICP/TCLP METHOD 3010 *** Analyzed by: PB Date: 04/07/94	04/07/94		
TCLP Leachate extraction METHOD 1311 *** Analyzed by: MO Date: 04/04/94	04/04/94		

ND - Not detected.

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.

ICP SPECTROSCOPY
QUALITY ASSURANCE AND CONTROL REPORT

Date of Analysis: 4-11-94 Time: 09:38 AM Analyst: RR. Matrix: TCLP

Inst. ☑ Thermo-Jarrell Ash 61E File #: A041194 Method: P3010L Units: mg/L

☐ Perkin Elmer Plasma40

SPL Work Order Identification #:				
	9404004 1C	9404041 2A	94052 DR.	9404041 1A
	9404002 1C-3C, 4A	9404042 1A, 2A	9404052 1C-4C	-
	9403A82 1A-3A	9404047 2B		
	9403A96 1C, 2C	9404050 1E, 2E		

QA\QC Sample ID: #1 9404004 1C (Soil Ex-1) #2 9404041 1A (Soil Ex-1) #3 _____

	Blank and Check Standard			Duplicate Analysis			Spike and Spike Duplicate Analysis			
	ELEMENT PBLK-2 4/7/94	METHOD BLANK	LCS # 2 % REC.	ORIGINAL CONC.	DUPLICATE CONC.	RPD %	SPIKE ADDED	MS % REC.	MSD % REC.	RPD %
1.	EA	NP	98.8	1.926	1.954	1	2.0	98.5	100.9	2
	AS	↓	99.0	NP	NP	N/A	↓	99.9	101.7	2
	SE	↓	103.4	↓	↓	↓	↓	109.9	107.0	3
	Cd	↓	101.4	↓	↓	↓	1.0	98.3	98.6	0
	CR	↓	101.7	↓	↓	↓	↓	99.2	98.6	1
	PB	↓	102.8	0.1022	↓	↓	↓	95.2	97.4	2
	AG	↓	100.9	NP	↓	↓	↓	95.9	95.6	0
2.	PB	NP	102.8	NP	NP	N/A	1.0	100.4	100.7	0

Flags

☐ Duplicate RPD Out of QA Limits
☐ MS or MSD Out of QA Limits
☐ MS-MSD RPD Out of QA Limits
☐ See Case Narrative

Analyst _____

Supervisor Approval _____

Date Approved 4/11/94

4404042

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING

CHAIN OF CUSTODY RECORD NO. 04892

Date: _____
Page ____ of ____

SITE ADDRESS: ANDERSON RANCH STATION
LEA COUNTY, NEW MEXICO

WIC #: _____

CONSULTANT NAME & ADDRESS: CURA, INC
731 W. WADLEY, SUITE L-200
MIDLAND, TEXAS 79705

CONSULTANT CONTACT: F. Wesley Root

PHONE: 915-570-8408 FAX: 915-570-8409

SAMPLED BY: F. Wesley Root

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 _____ ☐

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: TCLP LEAD (Pb) | TCLP Chromium (Cr)

REMARKS: BM 4/4

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	TCLP LEAD (Pb)	TCLP Chromium (Cr)
SS-1A	3-19-94	15:30		X		X								ICE	1	8oz	✓	
SS-3A	3-19-94	15:50		X		X								ICE	1	8oz		✓

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
F. Wesley Root	3/31/94	18:00			
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
			(INTACT 3°C)		
RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
				4/1/94	9:00

BILL NO.: _____
LABORATORY: _____
SHELL CONTACT: _____ PHONE: _____ FAX: _____

TURN AROUND TIME (CHECK ONE)
7 DAYS ☐ (NORMAL) 14 DAYS ☐
48 HOURS ☐ OTHER ☐ _____

809603948 6

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: 4/1 TIME: 9:00 CLIENT NO. _____
LOT NO. _____ CONTRACT NO. _____

CLIENT SAMPLE NOS. _____

SPL SAMPLE NOS.: 9404042

		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#: FedEx 8096039486		
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: INTACT 3°C
10. Condition/temperature of sample bottles: GOOD 3°C
11. Sample Disposal?: SPL disposal ✓ Return to client _____

NOTES (reference item number if applicable): _____

ATTEST: _____ DATE: 4/1/94
DELIVERED FOR RESOLUTION: REC'D _____ DATE: _____
RESOLVED: _____ DATE: _____

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

DRUG FREE

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

March 18, 1994

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

CERTIFIED MAIL
RETURN RECEIPT NO. P-667-241-915

Mr. Neal Stidham
Shell Oil Company
Two Shell Plaza
P.O. Box 2099
Houston, Texas 77252

RE: SITE INVESTIGATION AND REMEDIATION
ANDERSON RANCH STATION
LEA COUNTY, NEW MEXICO

Dear Mr. Stidham:

In a recent conversation with the New Mexico Oil Conservation Division (OCD) you indicated that the Shell Oil Company was awaiting OCD's comments on Shell's September 10, 1993 "SITE ASSESSMENT, ANDERSON RANCH STATION (IDLE), LEA COUNTY, NEW MEXICO", August 1993 "FINAL REPORT, ENVIRONMENTAL DUE DILIGENCE ASSESSMENT, NEW MEXICO SWEET SYSTEM AND NEW MEXICO SOUR SYSTEM" and March 3, 1993 "PHASE II ENVIRONMENTAL SITE ASSESSMENT, ANDERSON RANCH STATION, LEA COUNTY NEW MEXICO, CURA PROJECT NO. 15-9256704.3" which were received by the OCD on September 13, 1993:

It appears there has been some miscommunication regarding Shell and OCD actions involving this site. On September 27, 1993, I verbally informed Shell that total concentrations of certain constituents in soils at the facility exceeded RCRA hazardous waste toxic characteristics (see attached memo). Because these soils would be excavated for landfarming, the OCD stated they would need a TCLP analysis of these soils prior to approval. At this time, OCD was also told there was additional work ongoing and that a remediation plan would be submitted to OCD within 30 days. Consequently, the OCD has been awaiting this document and the TCLP analyses before issuing their approval.

In order to alleviate confusion and to expedite this matter, the OCD has the following comments and requests for information regarding the above referenced documents:

1. The August 1993 report identified a total lead concentration in soil sample SS-01 and a total chromium concentration in soil sample SS-03 in excess of RCRA hazardous waste toxic

characteristics. Please provide a TCLP lead analysis of the soil from the area of sample SS-01 and a TCLP chromium analysis of the soil from the area of SS-03.

2. The September 10, 1993 document stated that a water well was found on the site. Please provide the OCD with information regarding the location and completion of this water well.

3. The concept of soil bioremediation using onsite landfarming is acceptable. However, there is no specific information regarding how this operation will be conducted. Please provide this information to OCD.

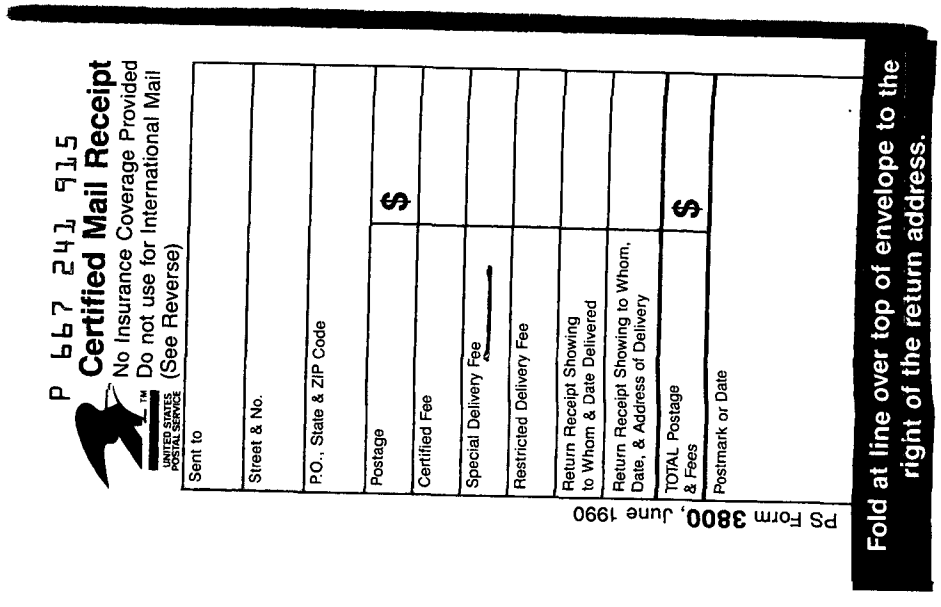
Submission of the above information will allow the OCD to complete a review of these documents. If you have any questions, please contact me at (505) 827-5885.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

Attachment

xc: Wayne Price, OCD Hobbs District Office



State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal | Time 1515 | Date 3/16/94

Originating Party	Other Parties
Wes Root - CURA (915) 570-8408	Bill Olson - Envir. Bureau

Subject

Shell Crude Stations

Discussion

Will be taking water samples tommorrow at - Denton Station
- Anderson Ranch
and Friday at - Lea Station
also taking soil samples Friday at - Delaware Station
Dublin Station

Conclusions or Agreements

I cannot attend but will inform Wayne Price at OCD Hobbs office

Distribution
Denton, Anderson Ranch, Lea, Delaware, Dublin files
Wayne Price OCD Hobbs (verbally, not. fwd., 3/16)

Signed Bill Olson

Shell Oil Company

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

January 5, 1994

State of New Mexico
Oil Conservation Division
ATTN Mr. Roger C. Anderson
P. O. Box 2088
Land Office Building
Santa Fe, NM 87504-2088

Gentlemen:

SUBJECT: SITE ASSESSMENTS AND ACTION PLANS
LEA COUNTY, NEW MEXICO

Thank you for meeting with us on December 15, 1993. The meeting was informative and will help us in our remediation activities.

I have been assigned to another department and Mr. Neal Stidham will be handling the environmental matters for the New Mexico locations. His telephone number is (713) 241-2961.

It has been my pleasure to work with you and Mr. Olson to develop action plans on these locations. I appreciate the help and guidance you both have provided.

Please thank Mr. Olson for me.

Again, thank you for your help and I hope both of you have a great 1994.

I enjoyed my trip to Santa Fe. It was all you said it would be.

Sincerely,

John B. Hite

cc: SHELL PIPE LINE CORPORATION
G. H. Sherwin, Manager Environmental & Technical
N. D. Stidham, Staff Engineer

DG400503.JBH

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal | Time 1100 | Date 9/27/93

Originating Party	Other Parties
Bill Olson - Envir. Bureau	John Hite - Shell Pipeline

Subject

Pump Station Environmental Assessments

Discussion

Told him OCD needs TCLP analyses on any constituents with totals above TC limits
OCD will also need MW construction details

Conclusions or Agreements

Shell is currently completing work referenced in the reports. Final reports on sites and proposed remediation will be submitted to OCD in approx. 30 days

Distribution

Signed Bill Olson

Shell Oil Company

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

September 10, 1993

Water well on site ?
TC lead analysis (tank)
Chrome (solid waste)
Off the caprock ?
Sample existing well
Bioremedy method

State of New Mexico
Energy, Minerals and Natural Resource Department
Oil Conservation Division
ATTN Mr. William C. Olson
Hydrogeologist - Environmental Bureau
P. O. Box 2088
Santa Fe, NM 87504

Gentlemen:

SUBJECT: SITE ASSESSMENT
ANDERSON RANCH STATION (IDLE)
LEA COUNTY, NEW MEXICO

Please find enclosed a copy of Shell Pipe Line Corporation environmental contractor's (CURA, Inc.) site assessment report and EOTT Energy Corp. environmental contractor's (Roy F. Weston, Inc.) due diligence assessment for the Anderson Ranch Station.

CURA advanced six soil borings in areas where crude oil impact to the environment was likely to occur. The samples were analyzed for TPH and BTEX. All benzene levels were less than 0.001 ppm. All TPH values were less than 35 ppm with the exception of the sample in B-2 at the 2 - 2.5 foot level (6,300 ppm). B-4 was drilled next to B-2 and all values were 10 ppm. The impacted area is limited to an area centered on B-2 with a radius of less than 9 feet and reduces rapidly with depth.

Anderson Ranch Station is located 22 miles west of Lovington in Lea County, New Mexico. The site is situated near the southeast corner of a fenced cattle range. The site is enclosed by a barbed wire fence with a locked gate and is located in a remote rural area within the Anderson Ranch oil field. No residences, public buildings or surface bodies of water were observed within a 1000 foot radius of the site. One water well was found on site. The water level in the well was 175 feet below surface. There was no crude oil on the water surface of the well.

The closest known water well is located approximately 1.3 miles southeast of the site based on the USGS Buckeye NW New Mexico topographic quadrangle (1985). The current status and construction data on this well are unknown.

AnderSt.jbh

Currently the groundwater in the site area is not used as a drinking water source. The drinking water in Lovington, the nearest municipality, is supplied from a well located about three miles south of the city and 23 miles east of the site and produces from the Ogallala Formation at a depth of 80 to 210 feet.

One tank remains on the site. The tank has been cleaned and disconnected. The bottom hatch on the tank is open. There are no other structures or equipment on the site. The site has been idled for more than 20 years.

Shell proposes to bioremediate the soils around B-2 by land farming.

Shell asks the Oil Conservation Division to comment on this proposal.

If you have any questions, please contact me at (713) 241-1001.

Sincerely,

John B. Hite
Engineering Advisor
General Engineering

Attachment

AnderSt.jbh