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

45-24273

April 23, 1996

CERTIFIED MAIL
RETURN RECEIPT NO. P-269-269-136

Mr. Neal Goates
Conoco, Inc.
10 Desta Drive, Suite 100W
Midland, Texas 79705-4500

RE: PIT CLOSURE AND GROUND WATER INVESTIGATION
ERIN STAYS COM #1E WELL SITE

Dear Mr. Goates:

The New Mexico Oil Conservation Division (OCD) has completed a review of Conoco's undated "GROUNDWATER CLOSURE FOR ERIN STAYS COM 1E SEC. 2, T 25N, R 11W" which was submitted to the OCD on February 5, 1996. This document contains the results of Conoco's pit closure and investigation of the extent of ground water contamination related to the former use of an unlined production pit at the Erin Stays Com #1E well site. The document also requests final closure of site soil and ground water remedial actions.

Based upon the data presented in the above referenced document, Conoco's final closure request is approved.

Please be advised that OCD approval does not relieve Conoco of liability if remaining contaminants are found to pose a future threat to surface water, ground water, human health or the environment. In addition, OCD approval does not relieve Conoco 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) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Denny Foust, OCD Aztec Office
Jim Walker, Navajo Nation EPA

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NEW MEXICO ENERGY MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 S. Pacheco
Santa Fe, New Mexico 87505

September 26, 1995

CERTIFIED MAIL
RETURN RECEIPT NO. Z-765-962-417

Mr. R.N. Goates
Conoco, Inc.
10 Desta Drive, Suite 100W
Midland, Texas 79705-4500

RE: GROUND WATER INVESTIGATION
ERIN STAYS COM #1E WELL SITE

Dear Mr. Goates:

The New Mexico Oil Conservation Division (OCD) has completed a review of Conoco's July 31, 1995 "SITE DELINEATION FOR ERIN STAYS COM 1E" which was submitted to the OCD on August 31, 1995. This document contains the results of Conoco's investigation of the extent of ground water contamination related to the former use of an unlined production pit at the Erin Stays Com #1E well site.

The OCD has the following comments and requests for information regarding the above referenced document:

1. Only one of the monitor wells BW-1 was sampled during the recent investigation. In order to gain an overall understanding of the ground water conditions at the site, the OCD requests that Conoco sample all onsite monitor wells. Ground water from the monitor wells will be sampled and analyzed for concentrations of benzene, toluene, ethylbenzene and xylene (BTEX) using EPA approved methods.

2. Several test holes were completed during prior investigations as noted in Conoco's October 13, 1994 "SUMMARY OF ERIN STAYS COM #1E SITE ASSESSMENT. However, there is no information presented on test hole TH-7. Please provide the OCD with any hydrogeologic or analytical information available for this test hole.

3. Please provide the OCD with recommendations for further actions.

Please submit the documents requested above to the OCD Santa Fe Office with copies provided to the OCD Aztec District Office.

Submission of the above information will allow the OCD to complete a review of the investigations at the site.

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

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Denny Foust, OCD Aztec Office

Site Delineation
for
Erin Stays Com 1E

CONOCO INC.
Midland Division
Farmington, New Mexico

Designed
by

Western Technologies INC.

July 31, 1995

(505) 327-4966
(505) 327-5293 FAX

Table of Contents

Midland Division
Exploration Production

Conoco Inc.
10 Desta Drive, Suite 100W
Midland, TX 79705-4500
(915) 686-5400

August 26, 1995

Mr. William C. Olson
Environmental Bureau
New Mexico Oil Conservation Division
Post Office Box 3088
Santa Fe, NM 87504

Dear Mr. Olson:

GROUNDWATER ASSESSMENT AT ERIN STAYS COM 1E SEC. 2, T 25N, R 11W.

Upon initial site assessment from local company and contract employees, the determination was made to investigate potential groundwater contamination within the facility site. Enclosed is the delineation report of the site soil/groundwater plume.

In summary, the area is extremely isolated from residence or area recharge of a source aquifer for domestic or livestock use. Local recharge from the reserve pit could explain the sole existence of the discontinuous water table identified as the plume. Please review our findings and advise as to the actions required by Conoco.

Yours very truly

R.N. Goates
Environmental Specialist

cc: Mr. Denny Foust
NM Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

John Coy (w/o enclosure)

Western Technologies Inc.
The Quality People
Since 1955

400 South Lorena Avenue
Farmington, New Mexico 87401
(505) 327-4966 • fax 327-5293

July 31, 1995

Conoco Inc.
Midland Division
3315 Bloomfield Highway
Farmington, New Mexico 87401

Attention: Mr. C. John Coy, Field Shear Specialist

Re: Report on the assessment of a groundwater contamination plume, Erin Stays Com 1E wellsite, San Juan Basin, New Mexico. WT Ref. No. 3185JC065.

Dear Mr. Coy:

On May 18, 1995, Western Technologies Inc. (WT) submitted a proposal (WT Ref. No. 3185PC065) to Conoco Inc. (Conoco) to better delineate a known groundwater contamination plume located at the Erin Stays Com 1E wellsite, San Juan Basin, New Mexico. The subject site was a production well facility consisting of a wellhead, 300-barrel capacity aboveground storage tank (AST), and a separator, dehydrator, and their associated surface impoundments (pits), along with two existing piezometers.

1.0 RESULTS

The assessment was accomplished by utilizing a Geoprobe sampling system to manually advance eleven 12-foot deep soil borings and four 26- to 31-foot deep piezometers (the third piezometer [BW #3] required three attempts at three different locations due to weathered claystone and sandstone starting at 20 feet below ground surface [bgs]). The soil borings were installed in order to evaluate subsurface soil gas vapors with the prospect of determining soil impact, and thus infer the areal extent of impact to groundwater. The piezometers were installed to: collect groundwater "grab" samples for the purpose of physically evaluating the condition of groundwater at the subject site; and, survey the relative elevation of groundwater with the intent of assessing the magnitude of impact and the direction of groundwater flow. The boring/piezometer locations are depicted in Plate 1, Site Plan.

Before initiating any field work, WT prepared a Site Safety & Health Plan (SSHP) for use by field personnel to minimize the risk of injury or illness. Adequate planning is needed prior to performing work to minimize the risk of employee injury or illness. This SSHP provides health

and safety criteria for the protection of on-site personnel, the public, and the environment from physical, biologic/pathologic, and chemical hazards associated with the environmental assessment activities to be conducted at this site. The specific assessment activities to which this plan applies include: soil and groundwater sampling, drilling and other assessment activities described in the following subsections. The purpose of the SSHP is to provide personal protection standards, mandatory safety practices and procedures while performing environmental assessment tasks associated with this project. The SSHP was adhered to by personnel conducting field operations.

Soil samples were collected from each of the eleven borings from ten to twelve feet bgs in a two-foot-long nylon sampling sleeve. Additionally, soil samples were collected from each of the four piezometers (prior to installing casing) at various depths immediately above the water table, and often including the aquifer itself. The samples were visually examined and described for soil and engineering characteristics according to the Unified Soil Classification System (USCS), and to determine the degree of contamination in the field, using the "heated headspace" method (please refer to Appendix A, Boring Logs).

The heated headspace method was conducted on samples collected as a screening tool utilizing a Thermo Environmental Instruments Model 580A OVA photo-ionization detector (PID). The analysis was conducted according to New Mexico Oil Conservation Division/U.S. Department of the Interior - Bureau of Land Management (OCD/BLM) prescribed methodology as follows: a .5 liter capacity sample jar was filled half-way with the soil sample and the opening was sealed with non-porous plastic material; the temperature of the sample was estimated to be between 59 and 77 degrees fahrenheit (based on air temperature reports); the sample was then placed in direct sunlight for a minimum of five minutes to allow aromatic hydrocarbon vapors to develop, during this time the sample jar was shaken vigorously for a period of one minute; the seal was then pierced with the probe of the PID and the highest reading over a period of one minute was recorded; the PID was calibrated to isobutylene, therefore, a factory-issued correction factor of 0.47 was applied to the recorded readings in order to assume the required benzene response factor. A total of 21 soil samples were collected for screening purposes. The corrected heated headspace readings for the samples ranged from a high of 4,575 parts per million (ppm) at B #1, to eight recorded readings of 0 ppm (corrected for benzene; please refer to Table 1).

TABLE 1. HEATED HEADSPACE ANALYSIS RESULTS

PIEZOMETER/BORING ID	SAMPLE DEPTH	PID READING (PPM)	PID READING (PPM) (corrected for benzene)
B #1	10'-12'	9,734	4,575
B #2	10'-12'	10	5
B #3	10'-12'	71	33
B #4	10'-12'	8	4
B #5	10'-12'	1	1
B #6	10'-12'	0	0
B #7	10'-12'	0	0
B #8	10'-12'	1	1
B #9	10'-12'	1	1
B #10	10'-12'	0	0
B #11	10'-12'	0	0
BW #1	27'-29'	2,770	1,302
BW #1	29'-31'	98	46
BW #2	25'-27'	70	33
BW #2	27'-29'	22	10
BW #3	20'-22'	32	15
BW #3	23'-25'	2	1
BW #3	25'-26'	0	0
BW #4	21'-23'	0	0
BW #4	24'-26'	0	0
BW #4	26'-27'	0	0

NOTE: PID READINGS ROUNDED-OFF TO NEAREST WHOLE NUMBER

Soil samples were placed in glass containers, packed on ice in an insulated cooler, and transported via overnight carrier under proper chain-of-custody to Westech Laboratories Inc. (Westech) for analyses. The four soil samples collected from the piezometers were analyzed for Total Recoverable Petroleum Hydrocarbons (TPH) by EPA Method 418.1. In addition, one soil sample (BW #2; 27'-29') was analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX) using EPA Method 8020 because: heated headspace results indicated levels above the action level of 100 parts per million (ppm) established by the OCD/BLM; and, due to the close proximity

of the sample to groundwater. An additional soil sample was collected from the aquifer at BW #4 from 24'-26' bgs for a sieve analysis in order to determine aquifer engineering characteristics.

WT constructed the piezometers by setting .5-inch outside diameter slotted PVC pipe. The subsurface generally features clayey and silty sands within the depth of exploration. Sampling was conducted at specific two-foot intervals (not continuously). Therefore, much of the probed interval was classified as "undifferentiated". The boring logs are presented as Appendix A.

The depth to groundwater at the subject site ranged from 26 feet bgs at BW #4 in the eastern portion of the site, to 29 feet bgs measured at BW #1 in the western portion of the site. The apparent direction of groundwater movement based on the surveyed elevation of the currently existing piezometers and depth to groundwater measurements is west-southwest (refer to Plate 2 and Table 2). Please note that elevation data are arbitrary, assigning "100-feet" to a specific nut located on the southeast side of the wellhead and designated as the benchmark.

TABLE 2. GROUNDWATER ELEVATIONS 7/95

PIEZOMETER ID	ELEVATION (TOP OF WELL CASING)	DEPTH TO GROUNDWATER	ELEVATION OF GROUNDWATER
BW #1	98.62	26.77	71.85
BW #2	100.46	28.10	72.36
BW #3	NA	NA	NA
BW #4	99.11	25.16	73.95
DP #3	98.20	26.74	71.46
DP #4	NA	NA	NA

WT had difficulty obtaining groundwater samples from the piezometers due to the lack of groundwater available for sampling purposes. Fresh aquifer recharge could not be obtained because when the piezometers were purged inadequate recharge occurred. Therefore, "grab" samples were obtained. Groundwater "grab" samples were obtained by driving a 19-inch-long stainless steel screen point sampler to below the water table and using a polyethylene tubing and check-valve sampling system to collect the samples. New disposable tubing was utilized for each individual piezometer to prevent cross-contamination. Samples were collected and placed in glass containers, packed on ice in an insulated cooler, and transported via overnight carrier under proper chain-of-custody to Westech for the following analyses: purgeable aromatics using EPA Method 602, nitrate nitrogen, total phosphorous, pH, and conductivity. Appendix

B includes laboratory analytical reports which address the magnitude of aquifer contamination based on soil and groundwater analytical results. The analytical results are summarized below in Table 3. The direction of groundwater movement was determined by surveying all three newly installed piezometers (BW #3 did not contain groundwater; three attempted piezometer locations), plus the two existing piezometers, sounding the piezometers, and producing a resultant water table elevation and hydraulic gradient map (Plate 2). The lateral extent of soil and groundwater impact is presented in Plate 3.

The aquifer thickness appears to be 3 to 4 feet according to the boring logs for BW #1, BW #2, and BW #4 (please refer to Appendix B). The aquifer appears to be comprised of sand with varying amounts of clay and silt. The aquifer appears to be a discontinuous stringer sand. No groundwater was encountered in the locale of BW #3, and the aquifer at BW #4 consisted of a claystone and sandstone. According to the grain size analysis (or sieve test) performed on a sample collected from 24 to 26 feet bgs at BW #4 the aquifer contains a high percentage of fines. A total of 92.4 percent of the sample passed through the #30 sieve (please refer to Appendix B for the sieve test laboratory report).

TABLE 3. ANALYTICAL RESULTS

SAMPLE ID	SAMPLE TYPE	PH/ COND. (umhos/cm)	NITRATE NITROGEN (mg/L)	EPA 602 (BTEX) (ug/L - water; mg/kg - soil)	TOTAL PHOS. (mg/L)	EPA 418.1 (TPH) (mg/kg)	TDS (mg/l)
BW #1	WATER	NA	NA	B 6,600 E 170 T 5,300 X 1,300	NA	NA	6,600
BW #1 (27'-29")	SOIL	NA	NA	NA	NA	ND	NA
BW #2 (27'-29')	SOIL	NA	NA	B .380 E .620 T .230 X 4.800	NA	47	NA
BW #3 (25'-27')	SOIL	NA	NA	NA	NA	ND	NA
BW #4 (21'-23')	SOIL	NA	NA	NA	NA	ND	NA
DP #3/#4	WATER	5/12,000	0.54	NA	<0.05	NA	NA

NOTES: ug/L = micrograms per liter, mg/l = milligrams per liter, mg/kg = milligrams per kilogram, ND = not detected (<10 mg/kg); NA = not applicable; B = Benzene; T = Toluene, E = Ethylbenzene; X = Total Xylenes, TDS = Total Dissolved Solids.

New Mexico Water Quality Control Commission (WQCC) human health standards for groundwater have been exceeded at BW #1 for benzene (10 ug/L), toluene (750 ug/L), and total xylenes (620 ug/L), and domestic water supply standards were exceeded for pH (6 to 9) in the composite sample tested from DP #3/4 (please refer to Table 3). In order to better characterize the groundwater quality at the site, a "grab" sample was collected from BW #1 and analyzed for Total Dissolved Solids (TDS). WQCC standards for TDS (10,000 mg/l) were not exceeded at BW #1.

OCD/BLM recommended soil remediation levels for TPH (100 milligrams per kilogram [mg/kg]) and BTEX (benzene, 10 mg/kg; BTEX, 50 mg/kg) were not exceeded in any of the samples analyzed. The extent and magnitude of soil contamination are displayed in Plate 3. No free-floating product was indicated in the piezometers. The piezometers may require proper abandonment at a later date.

Water samples collected from previously existing DP #3 and DP #4 were composited and analyzed for pH/conductivity, nitrate nitrogen, and total phosphorous analyses.

2.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the subsurface soil samples collected and characterized at the subject site, the underling aquifer appears to be a discontinuous stringer sand comprised of sand with varying amounts of clay and silt. According to the grain size analysis (performed on a sample collected from 24 to 26 feet bgs at BW #4) the aquifer contains a high percentage of fines. A total of 92.4 percent of the sample passed through the #30 sieve.

Of the 21 soil samples collected and screened for volatile hydrocarbons by heated headspace analysis, only two, B #1 and BW #1, indicated levels higher than the 100 ppm action level established by the OCD/BLM. The location of both borings is immediately downgradient of the two former pits. No groundwater was indicated in three piezometers (BW #3, 3A, and 3B) installed downgradient of B #1, between B #1 and DP #4 (a known area of groundwater impact). Therefore, WT hypothesizes that the area of B #1, directly adjacent to and downgradient of the former dehydrator pit is a current source of soil (and potentially groundwater) impact, and that liquids migrated downgradient from the former pit and collected in groundwater located in a sand lens at DP #4. The groundwater in the locale of DP #4 is in an isolated, discontinuous

pocket, as indicated by the lack of groundwater immediately upgradient and downgradient (TH #7).

A smaller source of impact is situated in the locale of BW #1 directly adjacent to and downgradient of the former separator pit. This source may continue to contribute to low levels of groundwater impact downgradient at DP #3.

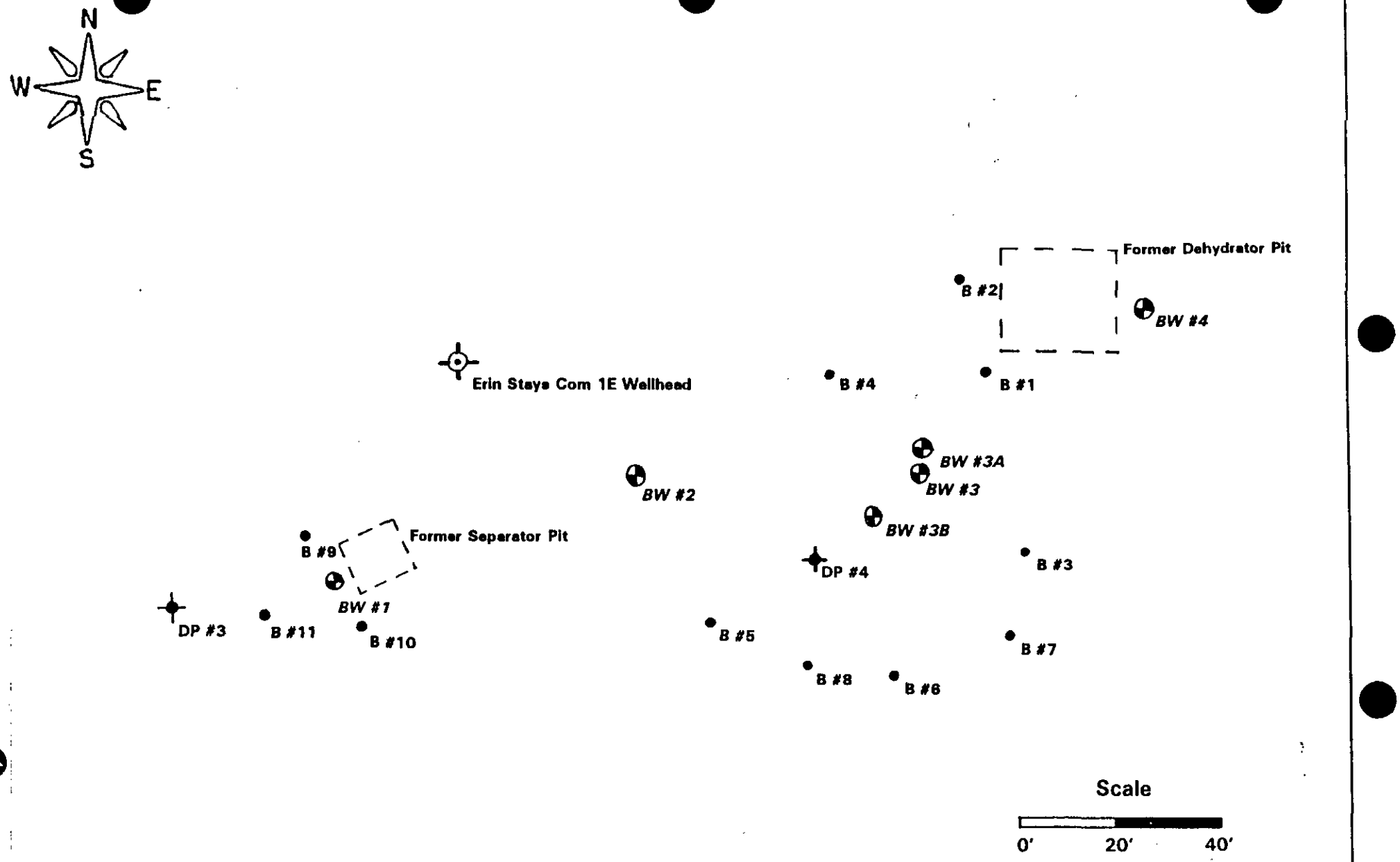
Although levels exceeding WQCC standards exist in groundwater samples collected and analyzed from the subject site at BW #1 (and previously, DP #4) the aquifer is hydrologically discontinuous and "tight". WT recommends eliminating the existing soil contamination (because it is a potential source of groundwater impact) located immediately downgradient of the former pits, and applying for a variance with the OCD/BLM because groundwater remediation at the subject site is impractical and unwarranted.

This concludes WT's services for this project. Please call the undersigned at (505) 327-4966, if you have any questions.

Sincerely,
WESTERN TECHNOLOGIES INC.
Environmental Services

David R. Cesark, R.G., R.E.A.
Senior Environmental Scientist

Copies to: (3) Addressee
(1) File



NOTES:

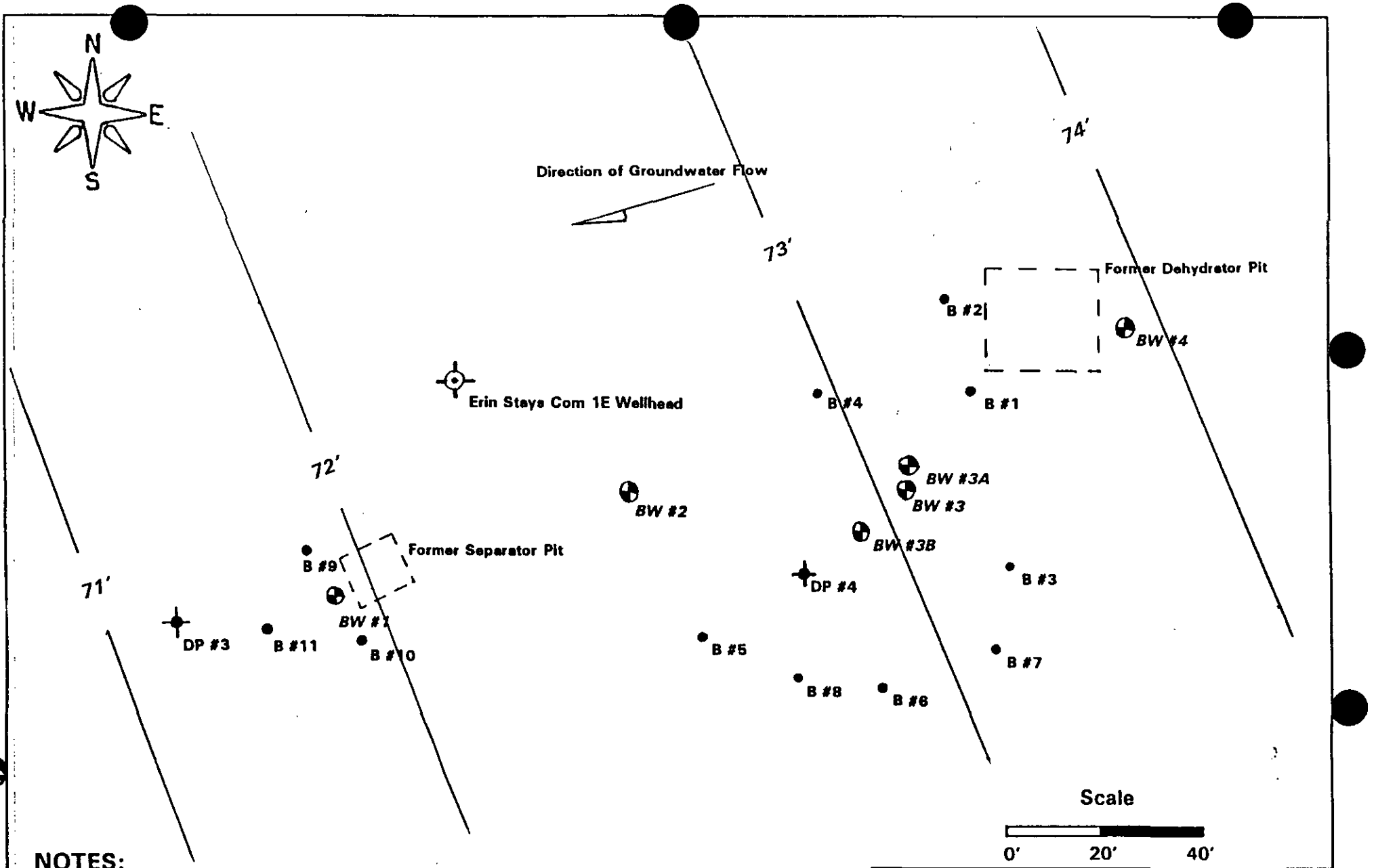
- Soil Boring Location
- Newly Installed Piezometer
- Previously Existing Piezometer

CONOCO INC. - ERIN STAYS COM 1E

SITE PLAN

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 | Plate: 1



NOTES:

- Soil Boring Location
- Newly Installed Piezometer
- Previously Existing Piezometer

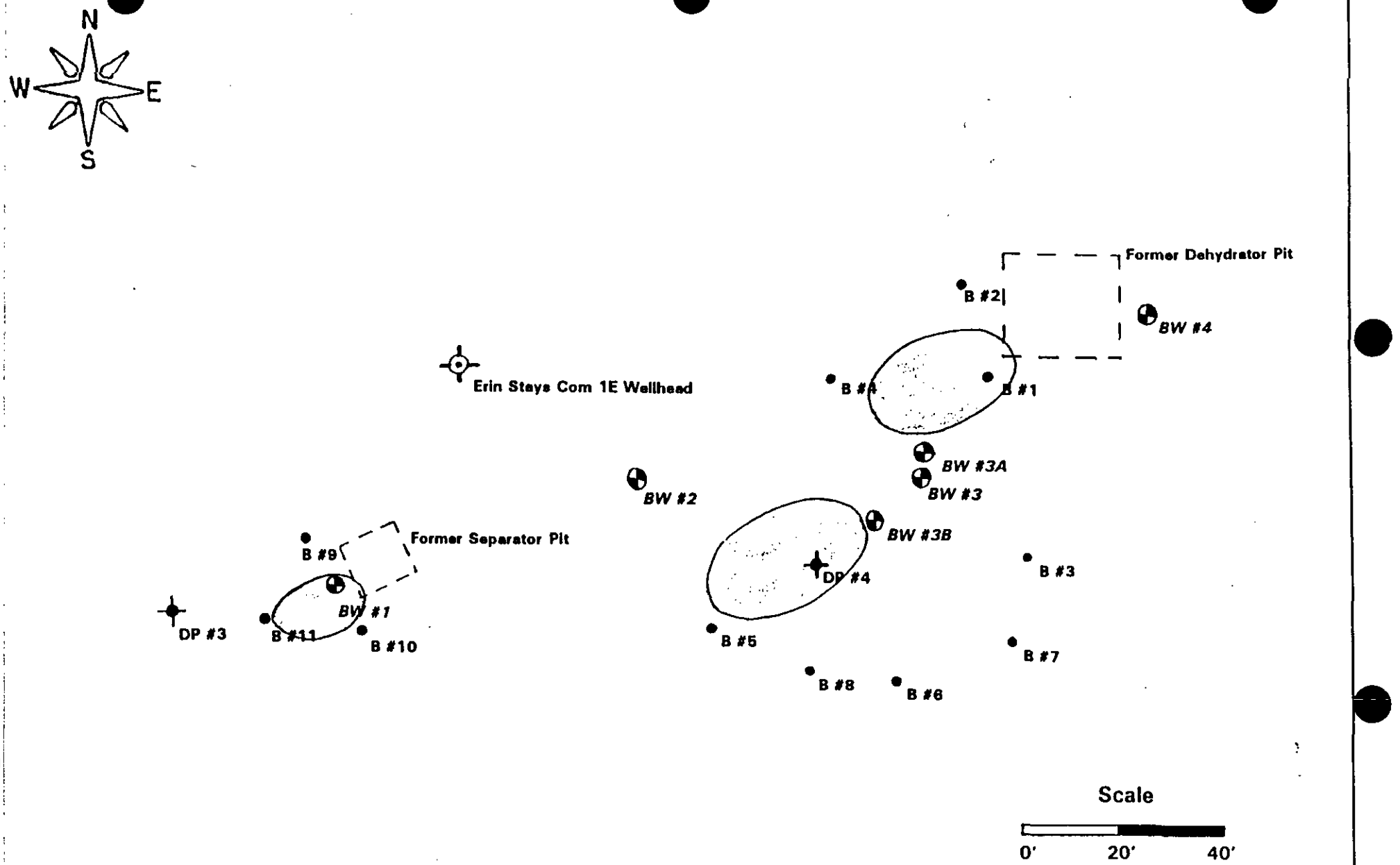
Elevation in Feet Based on Designated 100' Benchmark
Contours in 1 Foot Intervals

CONOCO INC. - ERIN STAYS COM 1E

HYDRAULIC GRADIENT

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 | Plate: 2



NOTES:

- Soil Boring Location
- Newly Installed Piezometer
- Previously Existing Piezometer

CONOCO INC. - ERIN STAYS COM 1E	
EXTENT OF IMPACT	
WESTERN TECHNOLOGIES INC.	
Job No: 3185JC065	Plate: 3

APPENDIX A
Boring Logs

DATE DRILLED: **05-23-1995**

BORING NUMBER: **B#1**

LOCATION: **See Site Plan (Figure 1)**

ELEVATION: **Not Determined**

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
						SP-SC		SANDS; undifferentiated
9734		G		STRONG	10	SP		SAND; with silt, light greyish-brown, moist, strong hydrocarbon odor and staining.
								12 Feet Stopped At 12 Feet

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop)
Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 Plate: 1

DATE DRILLED: 05-23-1995 BORING NUMBER: B#2

LOCATION: See Site Plan (Figure 1) ELEVATION: Not Determined

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
						SP-SC		SANDS; undifferentiated.
9.6		G		SLIGHT	10	SP/SM		SAND; with silt, to SAND; silty, light greyish-brown slight hydrocarbon odor, slight staining.
								12 Feet Stopped At 12 Feet

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop) Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 Plate: 2

DATE DRILLED: 05-23-1995 BORING NUMBER: B#3

LOCATION: See Site Plan (Figure 1) ELEVATION: Not Determined

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
						SP-SC		SANDS; undifferentiated.
70.8		G		MODERATE	10	SM		SAND; silty, with clay light brown, moist, moderate hydrocarbon odor, no staining.
								12 Feet Stopped At 12 Feet

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop) Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 Plate: 3

DATE DRILLED: 05-23-1995 BORING NUMBER: B#4

LOCATION: See Site Plan (Figure 1) ELEVATION: Not Determined

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
						SP-SC		SANDS; undifferentiated.
7.7		G		SLIGHT	10	SM/SP		SAND; silty, with clay to SAND; gravelly, silty, light brown, moist, slight hydrocarbon odor, no staining.
								12 Feet Stopped At 12 Feet

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop) Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 Plate: 4

DATE DRILLED: 05-23-1995 | BORING NUMBER: B#5

LOCATION: See Site Plan (Figure 1) | ELEVATION: Not Determined

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
						SP-SC		SANDS; undifferentiated.
1.3		G		NONE	10	SP		SAND; with silt, trace gravel, light brown, no hydrocarbon odor or staining.
								12 Feet Stopped At 12 Feet

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop) Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 Plate: 5

DATE DRILLED: 05-23-1995 | BORING NUMBER: B#6

LOCATION: See Site Plan (Figure 1) | ELEVATION: Not Determined

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
						SP-SC		SANDS; undifferentiated.
0.0		G		NONE	10	SP		SAND; with silt, light brown, slightly moist, no hydrocarbon odor or staining.
								12 Feet Stopped At 12 Feet

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop) Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 | Plate: 6

DATE DRILLED: 05-23-1995 | BORING NUMBER: B#7

LOCATION: See Site Plan (Figure 1) | ELEVATION: Not Determined

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
						SP-SC		SANDS; undifferentiated.
0.0		G		NONE	10	SM/SC		SAND; silty, with clay to clayey, light brown, slightly moist, no hydrocarbon odor or staining.
								12 Feet Stopped At 12 Feet

5 15 20 25 30

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop) Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 Plate: 7

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

DATE DRILLED: **05-23-1995**

BORING NUMBER: **B#8**

LOCATION: **See Site Plan (Figure 1)**

ELEVATION: **Not Determined**

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
						SP-SC		SANDS; undifferentiated.
1.3		G		SLIGHT	10	SP/SC		SAND; with silt, trace clay to SAND; clayey, with silt, light brown to brown, moist, slight hydrocarbon odor, no staining.
								12 Feet Stopped At 12 Feet

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop)
Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 Plate: 8

DATE DRILLED: 05-23-1995

BORING NUMBER: B#9

LOCATION: See Site Plan (Figure 1)

ELEVATION: Not Determined

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
						SP-SC		SANDS; undifferentiated.
1.3		G		SLIGHT	10	SP		SAND; with silt, light greyish-brown, moist, slight hydrocarbon odor, no staining.
								12 Feet Stopped At 12 Feet

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop)
Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065

Plate: 9

DATE DRILLED: **05-23-1995**

BORING NUMBER: **B#10**

LOCATION: **See Site Plan (Figure 1)**

ELEVATION: **Not Determined**

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
						SP-SC		SANDS; *undifferentiated.*
0.4		G		NONE	10	SM		SAND; silty, with clay, light brown, moist, no hydrocarbon odor, no staining.
								12 Feet Stopped At 12 Feet

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop)
Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 | Plate: 10

DATE DRILLED: 05-23-1995

BORING NUMBER: B#11

LOCATION: See Site Plan (Figure 1)

ELEVATION: Not Determined

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
						SP-SC		SANDS; undifferentiated.
					5			
0.4		G		NONE	10	SM		SAND; silty, trace clay, light brown, slightly moist no hydrocarbon odor or staining.
								12 Feet Stopped At 12 Feet
					15			
					20			
					25			
					30			

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop)
Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065

Plate: 11

DATE DRILLED: **05-24-1995**

BORING NUMBER: **BW#1**

LOCATION: **See Site Plan (Figure 1)**

ELEVATION: **98.62**

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
						SP-SC		SANDS; undifferentiated
					5			
					10			
					15			
					20			
					25			
2770		G		STRONG		SM		SAND; silty, with clay, light brown, very moist strong hydrocarbon odor, stained dark grey.
								▽ GROUNDWATER ENCOUNTERED AT 29 FEET
98-12		G		SLIGHT		SC/SP		SAND; interlayered silty to trace silt, light brown, very moist to wet, moderate hydrocarbon odor, slightly stained.
					30			feet. (this soil will be continued on the next page)

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop) Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.
Elevation measured from top of casing.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 Plate: 12

DATE DRILLED: 05-24-1995
BORING NUMBER: BW#1
LOCATION: See Site Plan (Figure 1)
ELEVATION: 98.62

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
98-12		G		SLIGHT		WBRCS		WEATHERED CLAYSTONE; trace silt, dark olive grey, moist, no hydrocarbon odor or staining.
								31 Feet
								Stopped At 31 Feet

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop)
Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.
Elevation measured from top of casing.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 Plate: 12

DATE DRILLED: **05-25-1995**

BORING NUMBER: **BW#2**

LOCATION: **See Site Plan (Figure 1)**

ELEVATION: **100.46**

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
					0	SP-SC		SANDS; undifferentiated.
70		G		MODERATE	25	SM		SAND; silty, with clay to clayey, light brown, moist, moderate hydrocarbon odor, stained grey.
								⏚ GROUNDWATER ENCOUNTERED AT 27 FEET
22		G		SLIGHT		SC		SAND; clayey to silty, to SAND AND CLAY; light brown, very moist, slight hydrocarbon odor, no staining.
					30			**29 Feet** Stopped At 29 Feet

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop)
Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.
Elevation measured from top of casing.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 Plate: 13

DATE DRILLED: 05-31-1995
BORING NUMBER: BW#3, 3A, 3B
LOCATION: See Site Plan (Figure 1)
ELEVATION: Not Determined

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
						SP-CL		SANDS AND CLAYS; undifferentiated.
					5			
					10			
					15			
32		G		SLIGHT	20	WBRCS		WEATHERED CLAYSTONE & SANDSTONE; interbedded, silty to clayey matrix, fine to coarse grained, light brown with slight olive-tone, moist to very moist, no hydrocarbon odor or staining.
1.8		G		NONE				
0.4		G		NONE	25	BRCS		CLAYSTONE; slightly silty with fine to coarse grained sand, light olive-brown, moist, no hydrocarbon odor or staining.
								26 Feet
								Stopped At 26 Feet
					30			

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop)
Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 | Plate: 14

DATE DRILLED: **05-30-1995**

LOCATION: **See Site Plan (Figure 1)**

BORING NUMBER: **BW#4**

ELEVATION: **99.11**

HEADSPACE READING	BLOWS per FOOT	SAMPLE TYPE	SAMPLE	PETRO. ODOR	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION
						SP-CL		SANDS AND CLAYS; undifferentiated.
0.4		G		NONE	20	WBRCS		WEATHERED CLAYSTONE; with interbedded SANDSTONE, silty to clayey, light olive-brown, moist to wet in sandy intervals, no hydrocarbon odor or staining.
0.4		G		NONE	25			
0.4		G		NONE		BRCS		CLAYSTONE; slightly silty with fine grained sand, light olive-brown, moist, no hydrocarbon odor or staining.
								27 Feet
					30			Stopped At 27 Feet

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

ND - "None detected"
N - Split-spoon sampler
G - Grab (scoop) Driving weight: 20
Headspace by New Mexico USTR, Chapter XII Appendix C.

NOTES:
Borings driven to depth using slide hammer.
Elevation measured from top of casing.

CONOCO; ERIN STAYS COM 1E

Boring Log

WESTERN TECHNOLOGIES INC.

Job No: 3185JC065 Plate: 15

APPENDIX B
Laboratory Reports

Westech Laboratories Inc.
The Quality People
Since 1955

10737 Gateway West, No. 100
El Paso, Texas 79935-4906
(915) 592-3591 • fax 592-3594

CLIENT WESTERN TECHNOLOGIES, INC.
400 LORENA AVENUE
FARMINGTON, NM 87401

SAMPLE NO. : 6502334
INVOICE NO.: 3185W028
REPORT DATE: 06-09-95
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : BW#1 27'-29'
SAMPLE TYPE .....: Soil
SAMPLED BY .....: B. Andersen
SUBMITTED BY ....: B. Andersen
SAMPLE SOURCE ...: Erin Stays Com 1E

AUTHORIZED BY : D. Cesark
CLIENT P.O. : --
SAMPLE DATE ...: 05-24-95
SUBMITTAL DATE : 06-02-95
EXTRACTION DATE: --

Modified 418.1 - Total Petroleum Fuel Hydrocarbons

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date
Total Petroleum Hydrocarbons .....:	<10.	mg/kg	10.	06-09-95

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Managing Director

Westech Laboratories Inc.
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El Paso, Texas 79935-4906
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CLIENT WESTERN TECHNOLOGIES, INC.
400 LORENA AVENUE
FARMINGTON, NM 87401

SAMPLE NO. : 6502335
INVOICE NO.: 3185W028
REPORT DATE: 06-09-95
REVIEWED BY: [signature]
PAGE : 1 OF 1

CLIENT SAMPLE ID : BW#2 27'-29'
SAMPLE TYPE .....: Soil
SAMPLED BY .....: B. Andersen
SUBMITTED BY ....: B. Andersen
SAMPLE SOURCE ...: Erin Stays Com 1E
ANALYST .....: A. Skornia

AUTHORIZED BY : D. Cesark
CLIENT P.O. : --
SAMPLE DATE ...: 05-24-95
SUBMITTAL DATE : 06-02-95
EXTRACTION DATE: 06-08-95
ANALYSIS DATE .: 06-09-95

Method: Modified 418.1 (TPH) + 8020 (BTEX)

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Total Petroleum Hydrocarbons .....:	47	mg/Kg	10.
Benzene .....:	380	ug/Kg	10.
Ethylbenzene .....:	620	ug/Kg	10.
Toluene .....:	230	ug/Kg	10.
Total Xylenes .....:	4800	ug/Kg	3.0

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[signature]
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CLIENT WESTERN TECHNOLOGIES, INC.
400 LORENA AVENUE
FARMINGTON, NM 87401

SAMPLE NO. : 6502336
INVOICE NO.: 3185W028
REPORT DATE: 06-09-95
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : BW#3 25'-27'
SAMPLE TYPE .....: Soil
SAMPLED BY .....: B. Andersen
SUBMITTED BY ....: B. Andersen
SAMPLE SOURCE ...: Erin Stays Com 1E

AUTHORIZED BY : D. Cesark
CLIENT P.O. : --
SAMPLE DATE ...: 05-24-95
SUBMITTAL DATE : 06-02-95
EXTRACTION DATE: --

Modified 418.1 - Total Petroleum Fuel Hydrocarbons

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date
Total Petroleum Hydrocarbons .....:	<10.	mg/kg	10.	06-09-95

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CLIENT WESTERN TECHNOLOGIES, INC.
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FARMINGTON, NM 87401

SAMPLE NO. : 6502337
INVOICE NO.: 3185W028
REPORT DATE: 06-09-95
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : BW#4 21'-23'
SAMPLE TYPE .....: Soil
SAMPLED BY .....: B. Andersen
SUBMITTED BY ....: B. Andersen
SAMPLE SOURCE ...: Erin Stays Com 1E

AUTHORIZED BY : D. Cesark
CLIENT P.O. : --
SAMPLE DATE ...: 05-24-95
SUBMITTAL DATE : 06-02-95
EXTRACTION DATE: --

Modified 418.1 - Total Petroleum Fuel Hydrocarbons

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date
Total Petroleum Hydrocarbons .....:	<10.	mg/kg	10.	06-09-95

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CLIENT WESTERN TECHNOLOGIES, INC.
400 LORENA AVENUE
FARMINGTON, NM 87401

SAMPLE NO. : 6502332
INVOICE NO.: 3185W028
REPORT DATE: 06-09-95
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : BW#1 Monitor Well
SAMPLE TYPE .....: Water
SAMPLED BY .....: B. Andersen
SUBMITTED BY ....: B. Andersen
SAMPLE SOURCE ...: Erin Stays Com 1 E
ANALYST.....: A. Skornia

AUTHORIZED BY : D. Cesark
CLIENT P.O. : --
SAMPLE DATE ...: 05-31-95
SUBMITTAL DATE : 06-02-95
EXTRACTION DATE: --
ANALYSIS DATE .: 06-07-95

Method 602 - Purgeable Aromatics

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Benzene	6600	ug/L	1.0
Ethylbenzene	170	ug/L	1.0
Toluene	5300	ug/L	1.0
Total Xylenes	1300	ug/L	0.3

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CLIENT WESTERN TECHNOLOGIES, INC.
400 LORENA AVENUE
FARMINGTON, NM 87401

SAMPLE NO. : 6502897
INVOICE NO.: 3185WO45
REPORT DATE: 07-25-95
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : 3185JC065 Erin Stays
SAMPLE TYPE .....: Water
SAMPLED BY .....: B. Andersen
SUBMITTED BY ....: B. Andersen
SAMPLE SOURCE ...: BWA1 Erin Stays Com 1E

AUTHORIZED BY : D. Cesark
CLIENT P.O. : --
SAMPLE DATE ...: 07-09-95
SUBMITTAL DATE : 07-13-95
EXTRACTION DATE: --

Inorganic Non-Metals

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Dissolved Solids .....:	6600	mg/L	5.0	07-20-95	STD METH 2540-C	F. Armendariz

(Work File Copy)

Managing Director

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CLIENT WESTERN TECHNOLOGIES, INC.
400 LORENA AVENUE
FARMINGTON, NM 87401

SAMPLE NO. : 6502421
INVOICE NO.: 3185W028
REPORT DATE: 06-15-95
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : DP #3+ #4 Composite
SAMPLE TYPE .....: Water
SAMPLED BY .....: B. Andersen
SUBMITTED BY ....: B. Andersen
SAMPLE SOURCE ...: Conoco Erin Stays

AUTHORIZED BY : D. Cesark
CLIENT P.O. : --
SAMPLE DATE ...: 05-31-95
SUBMITTAL DATE : 06-06-95
EXTRACTION DATE: --

Inorganic Non-Metals

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Electrical Conductivity .....:	12000	umhos/cm		06-15-95	STD METH 2510 B	F. Armendariz
Nitrate Nitrogen .....:	0.54	mg/L	0.50	06-06-95	EPA 300.0	F. Armendariz
pH .....:	5.0	S.U.		06-06-95	STD METH 4500-H+	F. Armendariz
Total Phosphorus .....:	<0.05	mg/L	0.05	06-09-95	STD METH 4500-P E	D.Guzman

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Managing Director

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QUALITY CONTROL REPORT

QC IDENTIFIER .....: 31-060995-1
REFERENCE NOTEBOOK :
REFERENCE PAGE ....:

INSTRUMENT : HEWLETT PACKARD GC5890 PID/ELCD
ANALYZED BY : A. Skornia
ANALYZED ON : 06-09-95

TEST DESCRIPTION ..: Mod. 8015 - TPH (C4-9) Gas / 8020 BTEX
TEST METHOD .....: Modified 8015 / 8020

SAMPLES IN THIS RUN: 6502335 6502339 6502341 6502373 6502383 6502384 6502414 6502415 6502416 6502417 6502418 6502453 6502458 6502459 6502460 6502462

CALIBRATION CHECK -

PARAMETER	UNIT	TRUE VALUE	FOUND VALUE	%RECOVERY
1,2 Dibromoethane(EDB)	ug/L	10	8.6	86.0
1,2-Dichloroethane	ug/L	10	8.5	85.0
Ethylbenzene	ug/L	10.	8.9	89.0
Toluene	ug/L	10.	8.7	87.0
Total Xylenes	ug/L	30.	27	90.0
Benzene	ug/L	10.	8.9	89.0
Methyl Tert-Butyl Ether	ug/L	10	9.1	91.0
Ethylbenzene	ug/L	10.	9.5	95.0
Toluene	ug/L	10.	9.5	95.0
Total Xylenes	ug/L	30.	29	96.7
Benzene	ug/L	10.	9.6	96.0
Ethylbenzene	ug/L	10.	9.7	97.0
Toluene	ug/L	10.	9.7	97.0
Total Xylenes	ug/L	30.	30	100.0
Benzene	ug/L	10.	9.8	98.0
Total Petroleum Fuel Hydrocarbons	mg/L	5	5.6	112.0
Ethylbenzene	ug/L	10.	9.4	94.0
Toluene	ug/L	10.	9.5	95.0
Total Xylenes	ug/L	30.	30	100.0
Benzene	ug/L	10.	9.6	96.0
Ethylbenzene	ug/L	10.	9.7	97.0
Toluene	ug/L	10.	9.8	98.0
Total Xylenes	ug/L	30.	30	100.0
Benzene	ug/L	10.	9.9	99.0
Total Petroleum Fuel Hydrocarbons	mg/L	5	5.8	116.0

REPLICATES -

SAMPLE NUMBER	PARAMETER	UNIT	RESULT	REPLICATE	RPD%
6502339	Ethylbenzene	ug/Kg	370	380	2.7
6502339	Toluene	ug/Kg	46	46	NC

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The Quality People
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QUALITY CONTROL REPORT

QC IDENTIFIER .....: 31-060995-1
REFERENCE NOTEBOOK :
REFERENCE PAGE ....:

INSTRUMENT : HEWLETT PACKARD GC5890 PID/ELCD
ANALYZED BY : A. Skornia
ANALYZED ON : 06-09-95

REPLICATES -

SAMPLE NUMBER	PARAMETER	UNIT	RESULT	REPLICATE	RPD%
6502339	Total Xylenes	ug/Kg	260	260	0.0
6502339	Benzene	ug/Kg	<10	<10	NC
6502414	Ethylbenzene	ug/L	<1.0	<1.0	NC
6502414	Toluene	ug/L	<1.0	<1.0	NC
6502414	Total Xylenes	ug/L	0.8	<0.3	NC
6502414	Benzene	ug/L	<1.0	<1.0	NC
6502414	Total Petroleum Fuel Hydrocarbons	mg/L	<2.0	<2.0	NC
6502414	Total Petroleum Fuel Hydrocarbons	mg/L	<1.0	<1.0	NC

SPIKES -

SAMPLE NUMBER	PARAMETER	UNIT	SAMPLE RESULT	SPIKE AMOUNT	SAMPLE+SPIKE RESULT	%RECOVERY
6502339	Ethylbenzene	ug/Kg	370	500	850	96.0
6502339	Toluene	ug/Kg	46	500	540	98.8
6502339	Total Xylenes	ug/Kg	260	1500	1800	102.7
6502339	Benzene	ug/Kg	<10	500	520	104.0
6502416	Ethylbenzene	ug/L	<1.0	20	20	100.0
6502416	Toluene	ug/L	<1.0	20	20	100.0
6502416	Total Xylenes	ug/L	<0.3	60	61	101.7
6502416	Benzene	ug/L	<1.0	20	20	100.0
6502417	Total Petroleum Fuel Hydrocarb	mg/L	9.9	10	18	81.0

METHOD BLANKS -

PARAMETER	UNIT	RESULT
Benzene	ug/Kg	<10.
Toluene	ug/Kg	<10.
Ethylbenzene	ug/Kg	<10.
Total Xylenes	ug/Kg	<3.0
Total Petroleum Fuel Hydrocarbons	mg/L	<1.0
Benzene	ug/L	<1.0

Westech Laboratories Inc.
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Since 1955

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QUALITY CONTROL REPORT

QC IDENTIFIER .....: 31-060995-1
REFERENCE NOTEBOOK :
REFERENCE PAGE ....:

INSTRUMENT : HEWLETT PACKARD GC5890 PID/ELCD
ANALYZED BY : A. Skornia
ANALYZED ON : 06-09-95

METHOD BLANKS -

PARAMETER	UNIT	RESULT
Toluene	ug/L	<1.0
Ethylbenzene	ug/L	<1.0
Total Xylenes	ug/L	<0.3

NOTE -

1) NC: Not Calculable because result is < 5 times the MDL

2) NP: Not Practical because sample result is 4 times or more greater than spike added.

3) Percent Recovery is:

$$\frac{\text{Sample+Spike Result - Sample Result}}{\text{Spike Amount}} \times 100$$

4) Relative Percent Difference (RPD) is:

$$\frac{\text{Sample Result - Replicate Result}}{(\text{Sample Result + Replicate Result})/2} \times 100$$

WESTECH
LABORATORIES, INC.
QUALITY ASSURANCE OFFICER

DATE 6-14-95

Westech Laboratories Inc.
The Quality People
Since 1955

9737 Gateway West, No. 100
El Paso, Texas 79935-4906
(915) 592-3591 • fax 592-3594

QUALITY CONTROL REPORT

QC IDENTIFIER .....: 31-060795-1
REFERENCE NOTEBOOK :
REFERENCE PAGE ....:

INSTRUMENT : HEWLETT PACKARD GC5890 PID/ELCD
ANALYZED BY : A. Skornia
ANALYZED ON : 06-07-95

TEST DESCRIPTION ..: 8020 BTEX
TEST METHOD .....: 8020

SAMPLES IN THIS RUN: 6502287 6502288 6502289 6502294 6502295 6502296 6502297
6502329 6502332 6502381 6502382 6502408 6502409

CALIBRATION CHECK -

PARAMETER	UNIT	TRUE VALUE	FOUND VALUE	%RECOVERY
1,2 Dibromoethane(EDB)	ug/L	10	8.6	86.0
1,2-Dichloroethane	ug/L	10	8.9	89.0
Ethylbenzene	ug/L	10.	8.5	85.0
Toluene	ug/L	10.	8.7	87.0
Total Xylenes	ug/L	30.	26	86.7
Benzene	ug/L	10.	8.7	87.0
Methyl Tert-Butyl Ether	ug/L	10	9.3	93.0
1,2 Dibromoethane(EDB)	ug/L	10	8.6	86.0
1,2-Dichloroethane	ug/L	10	9.1	91.0
Ethylbenzene	ug/L	10.	8.5	85.0
Toluene	ug/L	10.	8.8	88.0
Total Xylenes	ug/L	30.	26	86.7
Benzene	ug/L	10.	8.8	88.0
Methyl Tert-Butyl Ether	ug/L	10	8.5	85.0

REPLICATES -

SAMPLE NUMBER	PARAMETER	UNIT	RESULT	REPLICATE	RPD%
6502288	Ethylbenzene	ug/L	<1.0	<1.0	NC
6502288	Toluene	ug/L	<1.0	<1.0	NC
6502288	Benzene	ug/L	1.6	1.7	NC
6502288	Total Xylenes	ug/L	2.5	2.6	3.9
6502408	1,2 Dibromoethane(EDB)	ug/L	<1.0	<1.0	NC
6502408	1,2-Dichloroethane	ug/L	<1.0	<1.0	NC
6502408	Ethylbenzene	ug/L	<1.0	<1.0	NC
6502408	Toluene	ug/L	3.671	3.6	NC
6502408	Total Xylenes	ug/L	0.6	0.6	NC
6502408	Benzene	ug/L	16	15	6.5
6502408	Methyl Tert-Butyl Ether	ug/L	<2.0	<2.0	NC

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Since 1955

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El Paso, Texas 79935-4906
(915) 592-3591 • fax 592-3594

QUALITY CONTROL REPORT

QC IDENTIFIER .....: 31-060795-1
REFERENCE NOTEBOOK :
REFERENCE PAGE ....:

INSTRUMENT : HEWLETT PACKARD GC5890 PID/ELCD
ANALYZED BY : A. Skornia
ANALYZED ON : 06-07-95

SPIKES -

SAMPLE NUMBER	PARAMETER	UNIT	SAMPLE RESULT	SPIKE AMOUNT	SAMPLE+SPIKE RESULT	%RECOVERY
6502289	Ethylbenzene	ug/L	<1.0	20	18	90.0
6502289	Toluene	ug/L	<1.0	20	19	95.0
6502289	Benzene	ug/L	<1.0	20	19	95.0
6502289	Total Xylenes	ug/L	1.7	60	56	90.5
6502409	1,2 Dibromoethane(EDB)	ug/L	<5.0	20	17	85.0
6502409	1,2-Dichloroethane	ug/L	<0.5	20	19	95.0
6502409	Ethylbenzene	ug/L	<1.0	20	17	85.0
6502409	Toluene	ug/L	<1.0	20	18	90.0
6502409	Total Xylenes	ug/L	<0.3	60	54	90.0
6502409	Benzene	ug/L	1.6	20	19	87.0
6502409	Methyl Tert-Butyl Ether	ug/L	<2.0	20	17	85.0

METHOD BLANKS -

PARAMETER	UNIT	RESULT
Benzene	ug/L	<1.0
Toluene	ug/L	<1.0
Ethylbenzene	ug/L	<1.0
Total Xylenes	ug/L	<0.3

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QUALITY CONTROL REPORT

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INSTRUMENT : HEWLETT PACKARD GC5890 PID/ELCD
ANALYZED BY : A. Skornia
ANALYZED ON : 06-07-95

NOTE -

1) NC: Not Calculable because result is < 5 times the MDL

2) NP: Not Practical because sample result is 4 times or more greater than spike added.

3) Percent Recovery is:

$$\frac{\text{Sample+Spike Result - Sample Result}}{\text{Spike Amount}} \times 100$$

4) Relative Percent Difference (RPD) is:

$$\frac{\text{Sample Result - Replicate Result}}{(\text{Sample Result + Replicate Result})/2} \times 100$$

WESTECH
LABORATORIES, INC.
QUALITY ASSURANCE OFFICER
DATE 6-20-95

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El Paso, Texas 79935-4906
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QUALITY CONTROL REPORT

QC IDENTIFIER .....: 34-060995-2
REFERENCE NOTEBOOK : TPH #7
REFERENCE PAGE ....:

INSTRUMENT : IR-TPH
ANALYZED BY : W. Weigart
ANALYZED ON : 06-09-95

TEST DESCRIPTION ..: Total Petroleum Hydrocarbons
TEST METHOD .....: 418.1

SAMPLES IN THIS RUN: 6502327 6502334 6502335 6502336 6502337 6502338 6502340
6502373 6502377 6502378 6502379 6502464

CALIBRATION CHECK -

PARAMETER	UNIT	TRUE VALUE	FOUND VALUE	%RECOVERY
Total Petroleum Hydrocarbons	mg/kg	200.	180	90.0
Total Petroleum Hydrocarbons	mg/kg	200.	180	90.0
Total Petroleum Hydrocarbons	mg/kg	200.	190	95.0

REPLICATES -

SAMPLE NUMBER	PARAMETER	UNIT	RESULT	REPLICATE	RPD%
6502327	Total Petroleum Hydrocarbons	mg/kg	19	18	NC
6502373	Total Petroleum Hydrocarbons	mg/Kg	71	67	5.8

SPIKES -

SAMPLE NUMBER	PARAMETER	UNIT	SAMPLE RESULT	SPIKE AMOUNT	SAMPLE+SPIKE RESULT	%RECOVERY
6502327	Total Petroleum Hydrocarbons	mg/kg	19	100	120	101.0
6502373	Total Petroleum Hydrocarbons	mg/Kg	71	100	160	89.0

METHOD BLANKS -

PARAMETER	UNIT	RESULT
Total Petroleum Hydrocarbons	mg/kg	<10

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QUALITY CONTROL REPORT

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REFERENCE NOTEBOOK : TPH #7
REFERENCE PAGE ....:

INSTRUMENT : IR-TPH
ANALYZED BY : W. Weigart
ANALYZED ON : 06-09-95

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$$\frac{\text{Sample Result - Replicate Result}}{(\text{Sample Result + Replicate Result})/2} \times 100$$

WESTECH
LABORATORIES, INC.
QUALITY ASSURANCE OFFICER

DATE 6-20-95

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Flagstaff • 2400 E. Huntington Dr. • AZ 86004 • 602-774-2312 • fax 774-6469
El Paso • 10737 Gateway West #100 • TX 79935 • 915-592-3591 • fax 592-3594

CHAIN OF CUSTODY RECORD

CLIENT	ADDRESS	
WT (F[illegible])	[illegible] S Corena Ave, Farmington NM 87401	
TELEPHONE (505) 327-4966	PROJECT Erin Stayn Conl E	JOB/P.O. NO. × 3185W028

• REFER TO FEE SCHEDULE FOR ANALYSES SELECTION •

SAMPLER (SIGNATURE): [signature]
SAMPLER (PLEASE PRINT): Brian Andersen

REQUESTED ANALYSES: 602 BTEX; pH, conductivity; Nitrate Nitrogen; total Phosphorous; TPH 418.1; BTEX (8020)

SAMPLE TYPE CODES: S - Soil; O - Oil; T - Travel Blank; W - Water; G - Sludge; F - Field Blank; X - Other (specify) ______

SAMPLE IDENTIFICATION	DATE	TIME	SAMPLE LOCATION	COMPOSITE	GRAB	SAMPLE TYPE	NUMBER OF CONTAINERS	HOLD	602 BTEX	pH, conductivity	Nitrate Nitrogen	total Phosphorous	TPH 418.1	BTEX (8020)	COMMENTS	LABORATORY IDENTIFICATION
BW#1 monitor well	5/31	11:30	BW#1 monitor well		X	W	2		X						call if can't run for 602	0502332
" "	5/31	11:50	" " "		X	W	1			X	X	X			broken	2333
"	5/24	10:30	BW#1 @ 27'-29'		X	S	1	X					X	*	*save for possible 8020 call first	2334
BW#2	5/25	14:20	BW#2 @ 27'-29'		X	S	1						X	X		2335
BW#3	5/30	10:05	BW#3 @ 25'-27'		X	S	1						X			2336
BW#4	5/30	11:20	BW#4 @ 21'-23'		X	S	1						X			2337

sample container BW#1 - liquid broken

BW#1 soil broken & transferred into another 4 oz jar.
David Cesark informed.

RELINQUISHED BY (SIGNATURE)	PRINT NAME	DATE/TIME	RECEIVED BY (SIGNATURE)	PRINT NAME
[signature]	Brian Andersen	5/31 @ 1530 pm		
		6/[illegible]	B Thompson	

REMARKS: If 602 cannot be run then (possible) contact us. *Save BW#1 soil for 8020

SAMPLE / COOLER °C: Rec'd [illegible]

SAMPLE PROCESS TURNAROUND TIME: ☐ 10 Business Days ☐ Other (specify)

623 (6/93) White - Testing Laboratory; Yellow - Department Job File; Pink - Client

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El Paso • 10737 Gateway West #100 • TX 79935 • 915-592-3591 • fax 592-3594

CHAIN OF CUSTODY RECORD

CLIENT: WT Farm 3185JC065	ADDRESS: 400 S Lorena Ave Farmington NM 87401
TELEPHONE:	PROJECT: 3185JC065 Conoco Eninstags; JOB/P.O. NO.: 3185W028

• REFER TO FEE SCHEDULE FOR ANALYSES SELECTION •

SAMPLER (SIGNATURE): [signature]
SAMPLER (PLEASE PRINT): Brian Anderson

REQUESTED ANALYSES: pH, Conductivity, Nitrate/Nitrogen, Total Phosphorous

SAMPLE TYPE CODES: S - SOIL, O - OIL, T - TRAVEL BLANK, W - WATER, G - SLUDGE, F - FIELD BLANK, X - OTHER (SPECIFY)

SAMPLE IDENTIFICATION	DATE	TIME	SAMPLE LOCATION	COMPOSITE	GRAB	SAMPLE TYPE	NUMBER OF CONTAINERS	HOLD	pH	Conductivity	Nitrate/Nitrogen	Total Phosphorous	COMMENTS	LABORATORY IDENTIFICATION
DP #3 3185JC065	5/31	11 50	DP #3/DP#4	X					X	X	X	X	Run in place of other Samples which was broken upon arrival. Label reads MW-3b 1/24 1/2 leaked out & pH ~6 musty.	502421

RELINQUISHED BY (SIGNATURE)	PRINT NAME	DATE/TIME	RECEIVED BY (SIGNATURE)	PRINT NAME
[signature]	Brian Anderson	6/5/95 @ 12 00	[illegible]	
		6/6/95 830	[signature]	

REMARKS: Find Work order from previous Delivery - Original sample Jar broke

SAMPLE / COOLER / °C

SAMPLE PROCESS TURNAROUND TIME: ☐ 10 BUSINESS DAYS ☐ OTHER (SPECIFY)

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Since 1955

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Flagstaff • 2400 East Huntington Drive • AZ 86004 • (520) 774-2312
El Paso • 10737 Gateway West, No. 100 • TX 79935 • (915) 592-3591

CHAIN OF CUSTODY RECORD

CLIENT WT Farm.	ADDRESS 400 S. Corona Ave
CONTACT PERSON Dave Cegark	Farmington N.M.
TELEPHONE 327 4966	PROJECT Erin Stays Com 1E / JOB/P.O. NO. 3185JC065
FAX	WESTECH QUOTE / CONTRACT NO.

• SEE FEE SCHEDULE •

SAMPLER (SIGNATURE)

(PRINT NAME) Brian Anderson

SAMPLE TYPE CODES
A - WATER S - SOIL O - OIL G - SLUDGE
D - DRINKING WATER W - WASTEWATER
T - TRAVEL BLANK F - FIELD BLANK
X - OTHER (SPECIFY): _____

SAMPLE IDENTIFICATION	DATE	TIME	SAMPLE LOCATION	NO. CONTAINERS	COMPOSITE	GRAB	SAMPLE TYPE	CONTAINERS (FOR LAB USE ONLY) Unpreserved	HNO_3	NaOH	H_2SO_4	HCl	(Do Not Analyze) HOLD	REQUESTED ANALYSES: Total P. Soluble Solids	COMMENTS (DWR / PWS / ETC.)	LABORATORY IDENTIFICATION
3185JC065 Erin Stays	7/3	11:10	BWA 1	1		X	A	X						X		6502897

SAMPLE / COOLER TEMPERATURE: rec'd on ice cool

RELINQUISHED BY (SIGNATURE)	PRINT NAME	RECEIVED BY (SIGNATURE)	PRINT NAME	DATE / TIME
	Brian Anderson			
UPS		B Thompson		7/13/95 830

REMARKS _____

☐ Fax Results ☐ Special Detection Limits / Requirements

SAMPLE PROCESS TURNAROUND TIME:
☐ Standard ☐ Other (specify) _____

623 ©94 WTI White – Laboratory; Yellow – Work File; Pink – Client

SIEVE ANALYSIS

Type of Material S[illegible] Job. No. [illegible]

Source of Material BW-4 24-26 Lab/Invoice No. _____

Sieve No.	Weight Retained	% Retained	% Pass Accum.	Specs.
4				
3				
2				
1 1/2				
1 1/8				
1				
3/4				
1/2				
3/8				
1/4, #3				
#4				
Ret. #4		Technician Initial		
Pass #4 Wet		Wet Weight Before Wash	164.3	Sutton
Pass #4 Dry		Dry Weight Before Wash	162.1	
Total Dry		Weight After Wash	114.5	
Initial Total		Elutriation	47.6	
#8	2.7	1.7	98.3	
#10	3.0	1.9	98.1	
#16	5.5	3.4	96.6	
#30	12.3	7.6	92.4	
#40	19.4	12.0	88.0	
#50	29.3	18.1	81.9	
#100	69.6	42.9	57.1	
#200	106.0	65.4	34.6	
Finer Than 200	114.5			
Total	162.1			

Sampled By _____ Date _____

Submitted By _____ Date _____

Test/Calc. By _____ Date _____

Reviewed By _____ Date _____

Classification _____

Test Procedure

☐ Aggregate

Sieve ASTM C136-

-200 ASTM C117-

☐ Soil

Sieve ASTM D422-

-200 ASTM D1140-

☐

☐

Special Instructions _____

301 (3/92 spl)

Western Technologies Inc.

PLASTICITY INDEX
ASTM D4318-

Type of Material _____ Job No. _____

Source of Material _____ Lab/Invoice No. _____

Sampled By _____ Date _____

Submitted By _____ Date _____

Tested / Calculated By _____ Date _____

Reviewed By _____ Date _____

LIQUID LIMIT

Taps			
Container Identification			
Wet Weight + Container			
Dry Weight + Container	−		
Weight of Water	=		
Dry Weight + Container			
Weight of Container	−		
Weight of Dry Soil	=		
$\frac{\text{Weight of Water}}{\text{Weight of Dry Soil}}$ x 100 = Liquid Limit	=		
Liquid Limit at 25 Taps	=		

PLASTIC LIMIT

Container Identification			
Wet Weight + Container	−		
Dry Weight + Container	=		
Weight of Water			
Dry Weight + Container	=		
Weight of Container	−		
Weight of Dry Soil	=		
$\frac{\text{Weight of Water}}{\text{Weight of Dry Soil}}$ x 100 = Plastic Limit	=		

PLASTICITY INDEX ASTM D4318- =

344 (3/92 spl)

Western Technologies Inc.

ON SITE TECHNOLOGIES, LTD.

October 13, 1994

Mr. Mark Kratzer
Environmental Engineer
Conoco Inc.
10 Desta Drive, Suite 100W
Midland, Texas 79705-4500

RE: SUMMARY OF ERIN STAYS COM #1E
SITE ASSESSMENT

Attached is a site sketch summarizing the current assessment of the Erin Stays Com #1E well site. Based on the information and data collected to date the following conclusions may be drawn:

1) Hydrocarbon soil contamination above regulatory action levels exists from the pit bottoms to groundwater in both the DEHY and SEP pits.

2) Highly contaminated soils with a thickness >10 feet appears to be limited laterally to the immediate pit areas. Impacted soils are estimated to involve approximately 875 cy on the DEHY and 500 cy on the SEP.

3) A layer of contaminated soils 1 to 3 feet thick appears to exists in the saturated vadose zone above the groundwater table, in a down-gradient direction.

4) The groundwater table is at approximately 27 feet below the site grade. The groundwater slope appears to be on the order of 0.013 ft/ft to 0.033 ft/ft. The groundwater appears to be confined to a sand layer, possibly a stream channel deposit, with a thickness of 1 to 3 feet. Assuming a hydraulic conductivity of 10-5 m/s, the groundwater velocity is on the order of 15 to 30 ft/yr and transmissivity on the order of 10-4 ft2/sec.

5) Free product (3"+ thick) was observed on the groundwater beneath the DEHY pit. Groundwater with BTEX contamination exceeding the NMWQCC regulatory action levels was detected in the area of both pits (DP #1 and DP#2) and in the down-gradient drive-point DP#4. The TDS was measured to be 6,182 ppm, therefore the groundwater may be define by the New Mexico State Engineer as protectable.

6) At this time it appears that the soil and groundwater contamination is limited to the well location.

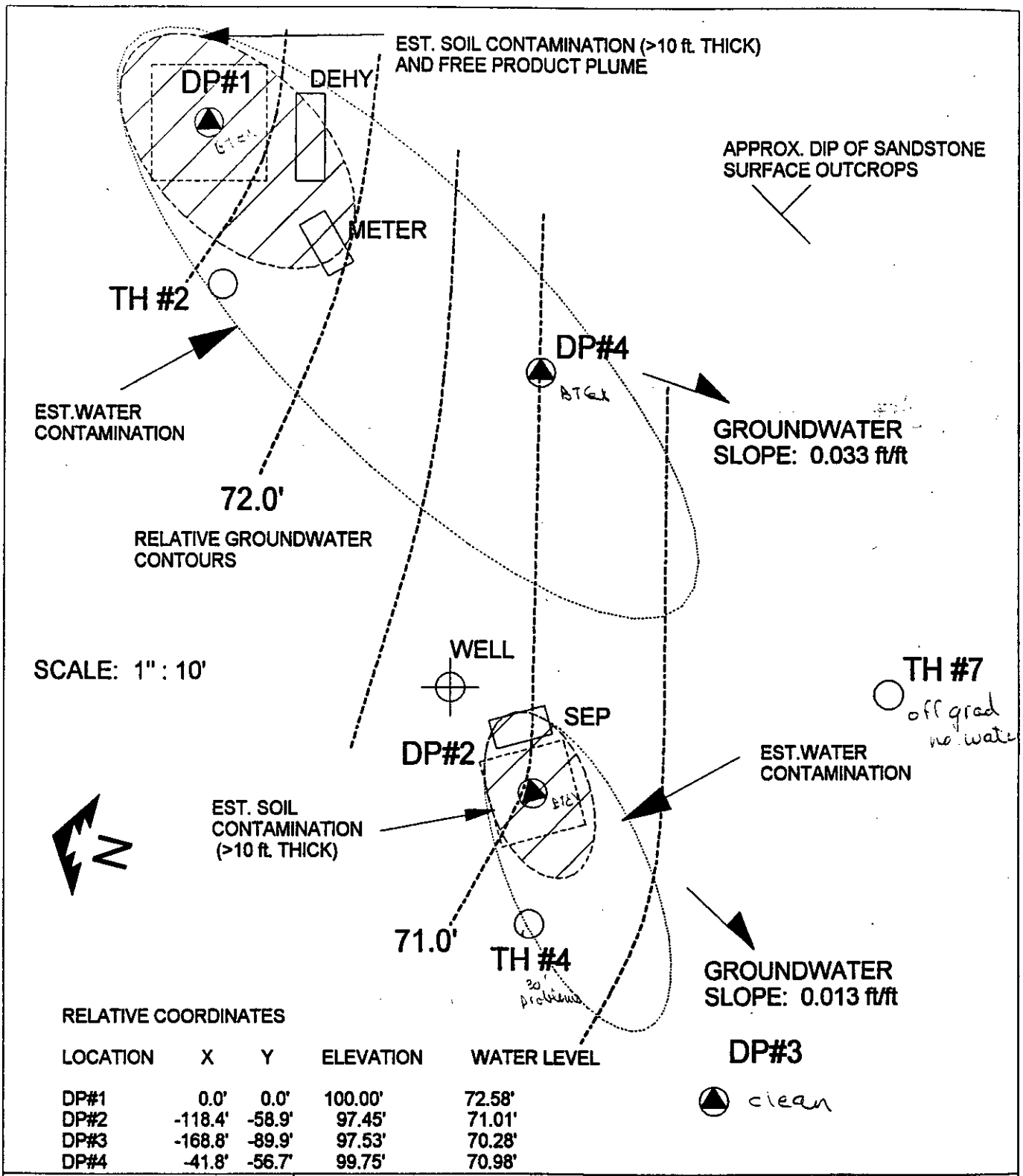
FAX: (505) 327-1496 • 24 HR. – (505) 327-7105 • OFF.: (505) 325-8786
3005 NORTHRIDGE DRIVE • SUITE F • P. O. BOX 2606 • FARMINGTON, NEW MEXICO 87499

7) Additional site characterization is necessary to fully define the extent of soil and groundwater contamination, and the most effective method of remediation. It is estimated that an additional two days of field exploration (including but not limited to: drilling, 2-5 monitor well installations, soil and water sampling and testing) and subsequent evaluation and engineering will be necessary.

On Site Technologies, LTD.

Michael K. Lane, P.E.
Geological Engineer

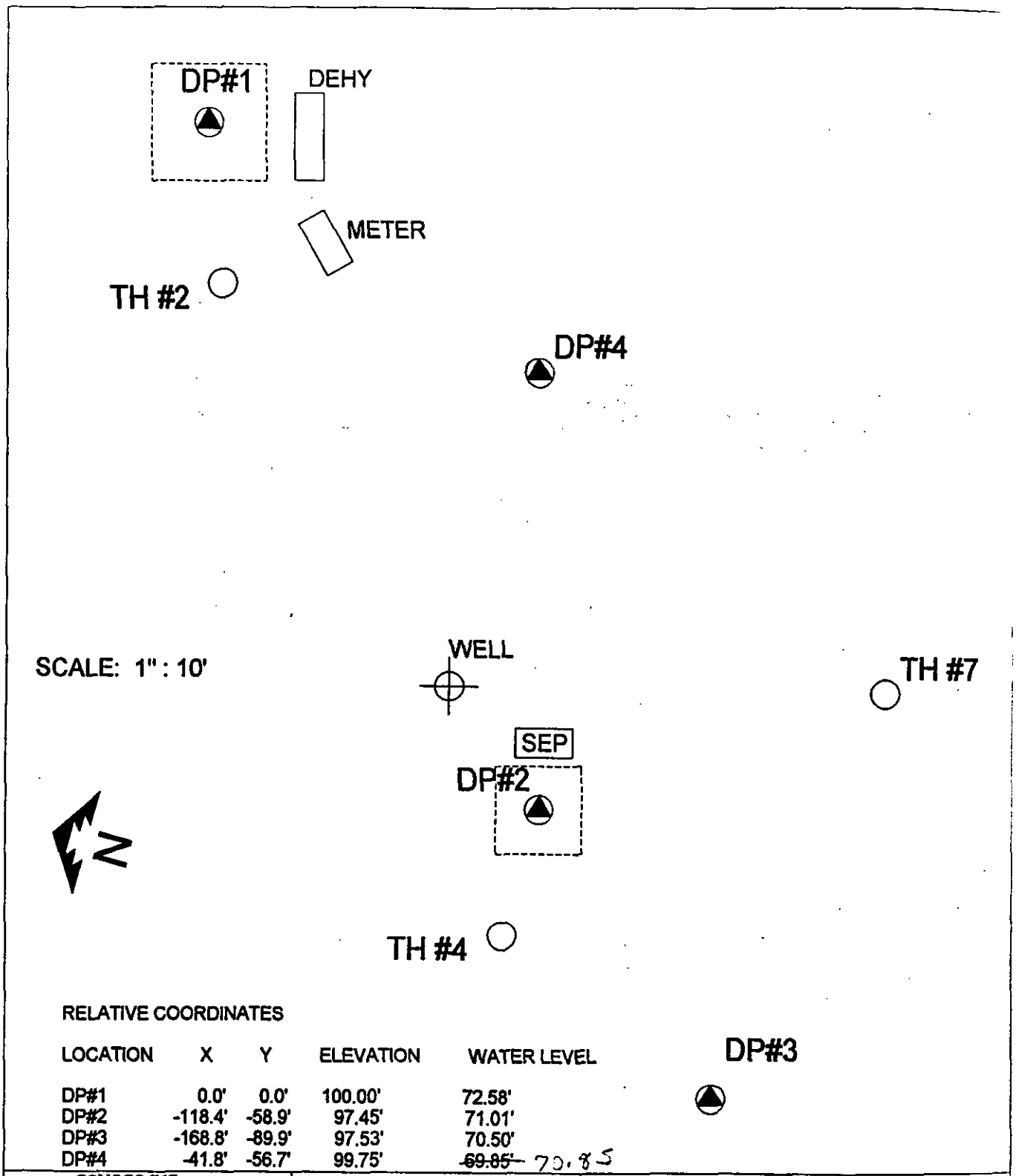
encl: ESC #1E Site Assessment
Lab Analyses



RELATIVE COORDINATES

LOCATION	X	Y	ELEVATION	WATER LEVEL
DP#1	0.0'	0.0'	100.00'	72.58'
DP#2	-118.4'	-58.9'	97.45'	71.01'
DP#3	-168.8'	-89.9'	97.53'	70.28'
DP#4	-41.8'	-56.7'	99.75'	70.98'

CONOCO INC. NASSAU PIT ASSESSMENTS SAN JUAN BASIN, NM	ASSESSMENT SUMMARY	ON SITE TECHNOLOGIES, LTD. P.O. BOX 2606, FARMINGTON, NM 87499 (505) 325-5667
PROJECT: ERIN STAY COM #1E	DRWN: OCT 11, 1994	
PROJECT NO: 4-1127(PIT #15)	DRWN BY: MKL	
SHEET: 1 / FILE: 41127ESC.CAD	REVISED:	



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DP#3	-168.8'	-89.9'	97.53'	70.50'
DP#4	-41.8'	-56.7'	99.75'	~~69.85'~~ 70.85

CONOCO INC. NASSAU PIT ASSESSMENTS SAN JUAN BASIN, NM	ASSESSMENT SUMMARY	ON SITE TECHNOLOGIES, LTD. P.O. BOX 2606, FARMINGTON, NM 87499 (505) 325-5667
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PROJECT NO: 4-1127(PIT #15)	DRWN BY: MKL	
SHEET: 1 / FILE: 41127ESC.CAD	REVISED:	

PIT CLOSURE DOCUMENTATION – SAMPLING RESULTS NOTES

LOCATION OF PIT: ERIN STATE #1E TYPE OF PIT: DHY

	SAMPLE EVENT # 1	SAMPLE EVENT # 2	SAMPLE EVENT # 3	SAMPLE EVENT # 4	SAMPLE EVENT # 5	SAMPLE EVENT # 6	SAMPLE EVENT #	SAMPLE EVENT #
DESCRIPTION OF SAMPLE	Boring #6							
DATE OF SAMPLE	10/11/94	"	"	"	"	"		
LOCATION OF SAMPLE	50' S-SW	"	"	"	"	"		
TYPE OF SAMPLE: (GRAB/COMPOSITE)	Cut. Grab	"	"	"	"	"		
DEPTH OF SAMPLE(S)	5'	10'	15'	20'	25'	27.5		
TEMPERATURE OF SAMPLE	120°F	110°F	120°F	100°F	120°F	120°F		
FIELD METHOD RESULTS (PPMS)								
TPH VAPORS (EQUIV UNITS)								
BENZENE RESPONSE FACTOR	0.56	"	"	"	"	"		
ADJUSTED FOR BENZENE EQUIV UNITS	ND	ND	7.4	25.4	14.5	>2500		
LAB RESULTS IN PPM:								
METHOD (418.1 OR MOD 8015)								
TPH								
NOTES	MGO to Coarse Sand, Dry to Sl. Moist, Loose to Firm.	SAA	Silty Clay, Dry, Hard, Plastic.	Silty Fine-Med Sand, Moist, Dense	SAA			

PIT CLOSURE DOCUMENTATION – SAMPLING RESULTS NOTES

LOCATION OF PIT: ERIN STAYS #1E TYPE OF PIT: SEP PIT

	SAMPLE EVENT # 1	SAMPLE EVENT # 2	SAMPLE EVENT # 3	SAMPLE EVENT # 4	SAMPLE EVENT # 5	SAMPLE EVENT # 6	SAMPLE EVENT #	SAMPLE EVENT #
DESCRIPTION OF SAMPLE	BORING # 5	"	"	"	"	"		
DATE OF SAMPLE	10/11/94							
LOCATION OF SAMPLE	50' SW PIT	"	"	"	"	"		
TYPE OF SAMPLE: (GRAB/COMPOSITE)	CUTTINGS GRAB	"	"	"	"	" OFF PIT		
DEPTH OF SAMPLE(S)	5'	10'	15'	20'	25'+	27'		
TEMPERATURE OF SAMPLE	100+ °F	"	"	"	>200°F	75°F		
FIELD METHOD RESULTS (PPMS)								
TPH VAPORS (EQUIV UNITS)								
BENZENE RESPONSE FACTOR	0.56	"	"	"	"	"		
ADJUSTED FOR BENZENE EQUIV UNITS	11.2	18.3	ND	ND	4.2	ND		
LAB RESULTS IN PPM:								
METHOD (418.1 OR MOD 8015)								
TPH								
NOTES	SANDY CLAY TO SILT; DRY, LOOSE, SL. PLASTIC.	SAA "	SAA, DRY & HARD.	SAA	SAA, MOIST, STIFF.	SILTY SAND, SATURATED, PLASTIC. NO ODOR OR DISCOLOR.		

PIT CLOSURE DOCUMENTATION – SAMPLING RESULTS NOTES

LOCATION OF PIT: Erin Stays #1E TYPE OF PIT: DHY

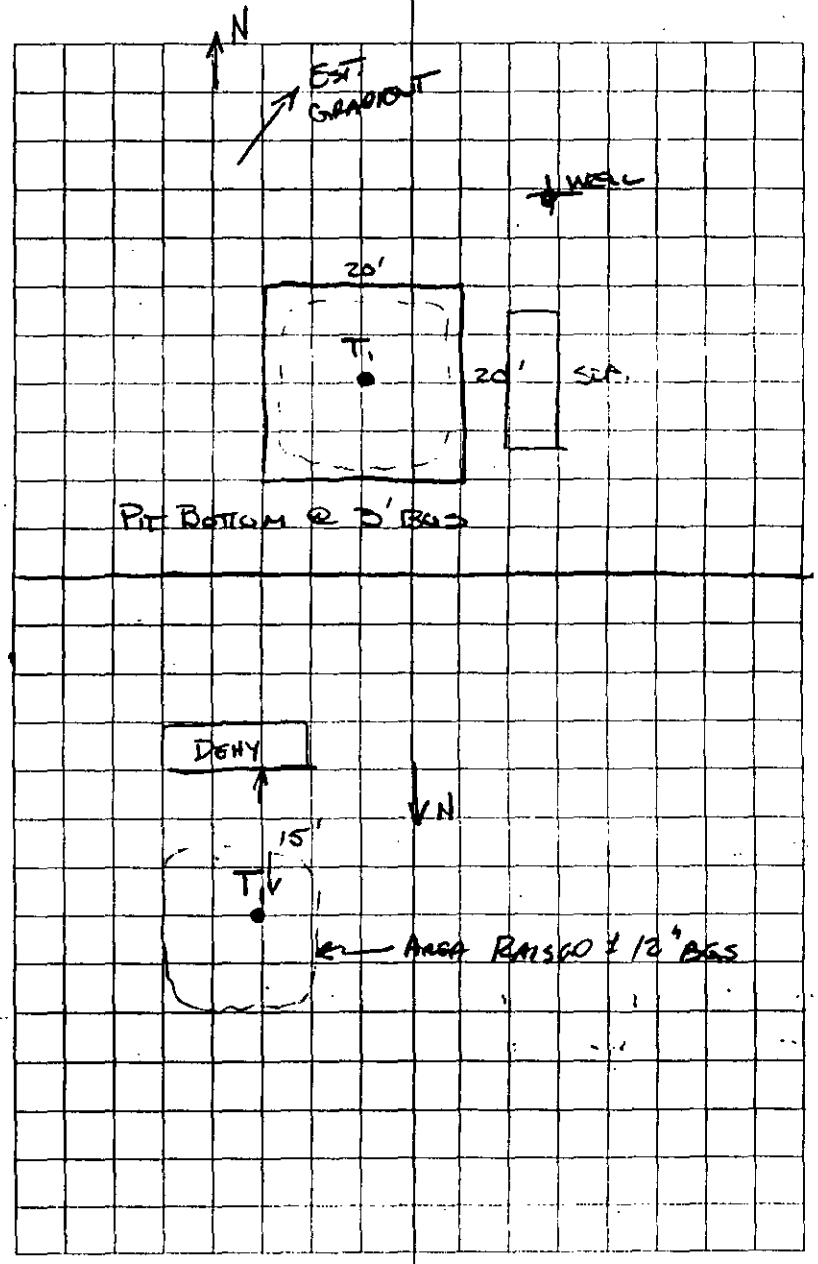
	SAMPLE EVENT # 1	SAMPLE EVENT # 2	SAMPLE EVENT # 3	SAMPLE EVENT # 4	SAMPLE EVENT # 5	SAMPLE EVENT # 6	SAMPLE EVENT #	SAMPLE EVENT #
DESCRIPTION OF SAMPLE	Bore #7							
DATE OF SAMPLE	10/11/94	"	"	"	"	"		
LOCATION OF SAMPLE	100' S-SW	"	"	"	"	"		
TYPE OF SAMPLE: (GRAB/COMPOSITE)	Cut Grab	"	"	"	"	"		
DEPTH OF SAMPLE(S)	5'	10'	15'	20'	25'	30'		
TEMPERATURE OF SAMPLE	110+°F	"	"	"	"	"		
FIELD METHOD RESULTS (PPMS)								
TPH VAPORS (EQUIV UNITS)								
BENZENE RESPONSE FACTOR	0.56	"	"	"	"	"		
ADJUSTED FOR BENZENE EQUIV UNITS	ND	2.1	4.1	ND	ND	ND		
LAB RESULTS IN PPM:								
METHOD (418.1 OR MOD 8015)								
TPH								
NOTES	Laminated Silty Clays & Fine Sands, Dry, Firm to Hard, Sl. Plastic.							

8

Conoco
10/11/94
Calvert #1E
1055' FSL / 1520' FWL
S15, T25N, R11W
San Juan Co, NM

SEP Pit @ 19' S & 19' W T1 @ Pit Bottom (HA)
0-9' Silty Sand, Med. Grey, Moist, Firm, Slight Color Change @ 8'
OVM @ 3' 1787 ppm
OVM @ 0.5' 19.7 ppm

Dehy Pit Area T1 @ Pit Center (HA)
0-4' Silty, Fine Sand, Md to Lt. Brown, Moist, Firm.
4'-6' SAA, Med Grey, Sl. Odor
6'-7+ SAA, Lt. Brown to Grey, Odor of Oily Oil & Condensate, Moist, Firm.
OVM 4' 1681 ppm
OVM 7'+ 1080 ppm



Conoco
10/11/94
Culver #1
NE/NW 31S T29N R11W NMPM
Fed Lease No: SF078228B
San Juan Co, NM

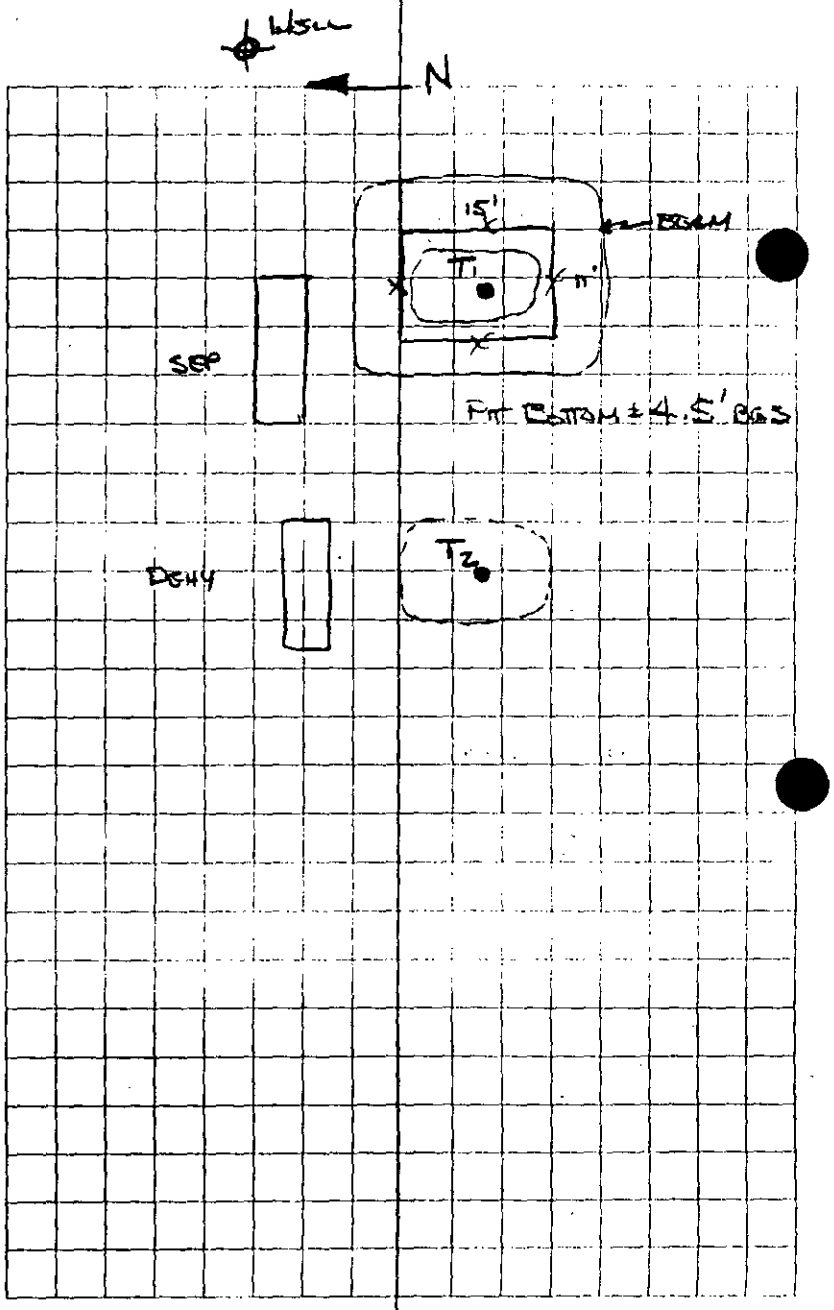
See Pit @ 20'S & 25'W of Well

T1 @ Pit Bottom Hand Auger
0-6' Fine Sand, Mod. Grey, Moist, Firm, Odor
6-8' Medium Sand, " " " "

3.5' OVM 2010 ppm Base, R.F. 0.56
8.5' OVM 1846 " "

Dehy Pit @ 20'S & 55'W of Well

T1 in Pit Crown Auger ± 12" Above Grade
0-3' OVM 10.1 ppm
7' OVM 1191 ppm
Soils similar to Sep Pit.

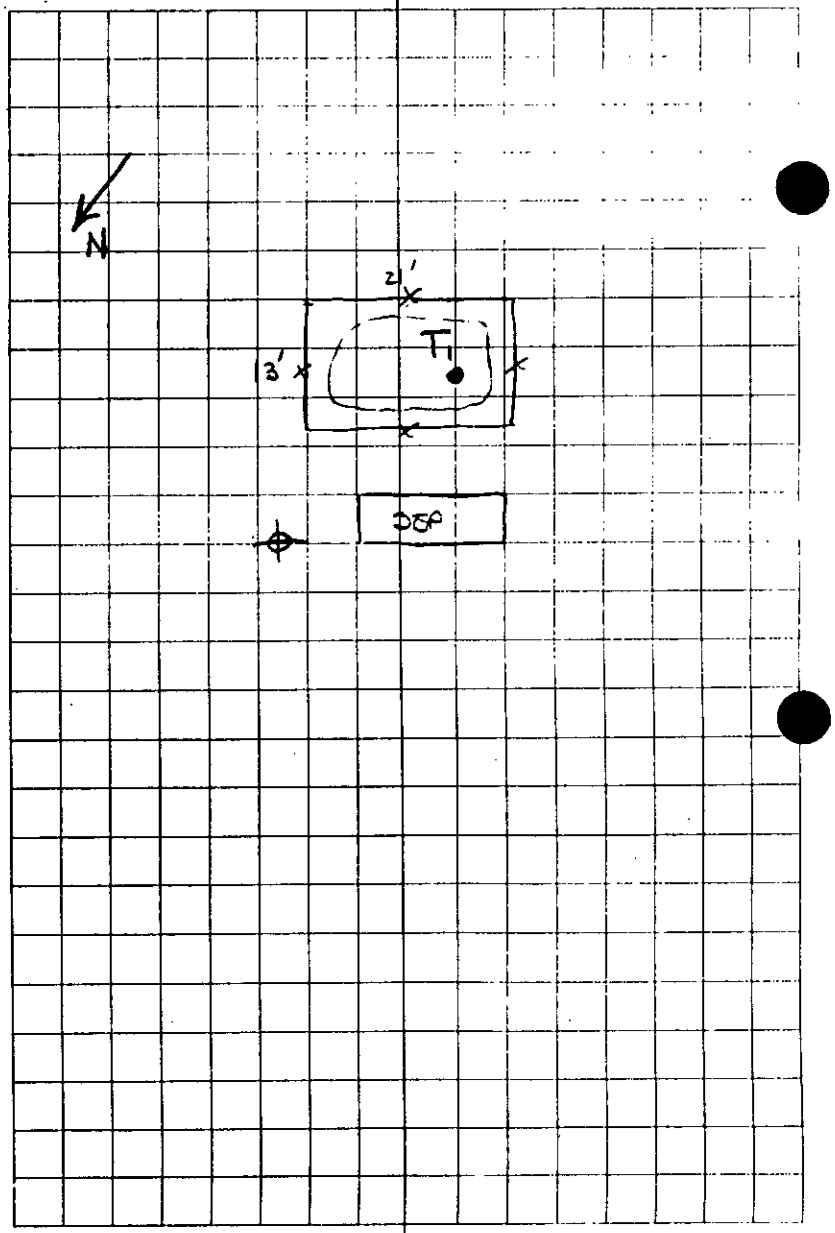


Conoco
10/11/94
Erin Stans Com #1
NE/NE Sec 2, T25N, R11W, NMPM
FSD Lease No 3778
San Juan Co, NM
SSP Pit @ 25'S & 15'W

T1 @ Pit Bottom 16" BGS
0 - 3.5' sandy silt, black, saturated
3.5' sandstone, mod. grey

OVM
3.5' 1161 ppm (Benzene R.F. 0.56)

Contamination limited above sandstone.



ON SITE
TECHNOLOGIES, LTD.

OFF: (505) 325-8786

LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*Michael Lane*	Date:	10/12/94
Company:	*On Site Technologies, Ltd.*	*Lab ID:*	*2186*
Address:	*657 W. Maple*	*Sample ID:*	*3514*
City, State:	*Farmington, NM 87401*	*Job No.*	*4-1127*

Project Name:	***Conoco***				
Project Location:	***ESC #1E DP #3***				
Sampled by:	MKL	Date:	10/11/94	Time:	18:15
Analyzed by:	DLA	Date:	10/12/94		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	*Measured Concentration ug/L*	*Detection Limit Concentration ug/L*
Benzene	3.2	*0.2*
Toluene	5.4	*0.2*
Ethylbenzene	ND	*0.2*
m,p-Xylene	18.7	*0.2*
o-Xylene	0.2	*0.2*
	TOTAL 27.4 *ug/L*	

ND - Not Detectable

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: [signature]
Date: 10-12-94

OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*Michael Lane*	Date:	10/12/94
Company:	*On Site Technologies, Ltd.*	*Lab ID:*	*2186*
Address:	*657 W. Maple*	*Sample ID:*	*3515*
City, State:	*Farmington, NM 87401*	*Job No.*	*4-1127*

Project Name:	***Conoco***				
Project Location:	***ESC #1E DP #4***				
Sampled by:	MKL	Date:	10/11/94	Time:	18:30
Analyzed by:	DLA	Date:	10/12/94		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	*Measured Concentration ug/L*	*Detection Limit Concentration ug/L*
Benzene	1,191	*0.2*
Toluene	2,122	*0.2*
Ethylbenzene	147	*0.2*
m,p-Xylene	756	*0.2*
o-Xylene	237	*0.2*
	TOTAL 4,452 *ug/L*	

ND - Not Detectable

Method *- SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by:

Date: 10-12-94

OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-5667

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 10/12/94

Internal QC No.: 0222-STD
Surrogate QC No.: 0223-STD
Reference Standard QC No.: 0300-STD

Method Blank

Analytes in Blank	Amount
Average Amount of All Analytes In Blank	<0.1 ppb

Calibration Check

Calibration Standards	Units of Measure	*True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20	20	2	15%
Toluene	ppb	20	19	3	15%
Ethylbenzene	ppb	20	20	0	15%
m,p-Xylene	ppb	40	38	4	15%
o-Xylene	ppb	20	20	1	15%

Spike Results

Analyte	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	101	100	(39-150)	0	20%
Toluene	103	103	(46-148)	0	20%
Ethylbenzene	100	99	(32-160)	1	20%
m,p-Xylene	97	101	(35-145)	3	20%
o-Xylene	103	100	(35-145)	3	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	S3 Percent Recovered
Limits	(70-130)		
3514-2186	99		

S1: Flourobenzene

OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-5667

TOTAL PETROLEUM HYDROCARBONS

Attn:	*Michael Lane*	Date:	10/12/94
Company:	*On Site Technologies, Ltd.*	*Lab ID:*	*2186*
Address:	*657 W. Maple*	*Sample No.*	*3516*
City, State:	*Farmington, NM 87401*	*Job No.*	*4-1127*

Project Name:	***Conoco***				
Project Location:	***ESC #1E TH #6 (DP #4)***				
Sampled by:	MKL	Date:	10/11/94	Time:	13:45
Analyzed by:	DLA	Date:	10/12/94		
Type of Sample:	*Soil*				

Laboratory Analysis

Laboratory Identification	*Sample Identification*	*Total Petroleum Hydrocarbons*
3516-2186	*Conoco* ***ESC #1E TH #6 (DP #4)***	998 *mg/kg*

Method - *EPA Method 418.1 Total Petroleum Hydrocarbons*

Approved by: DLQ
Date: 10-12-94

ERIN STAY COM #1E
NE/NW SEC 2, T25N,R11W, NMPM
SAN JUAN COUNTY, NM

DEHY PIT ASSESSMENT 9/30/94
PIT LOCATED @ APPROX. 100' EAST OF WELL HEAD
PIT BOTTOM APPROX. 4' BELOW SITE GRADE.

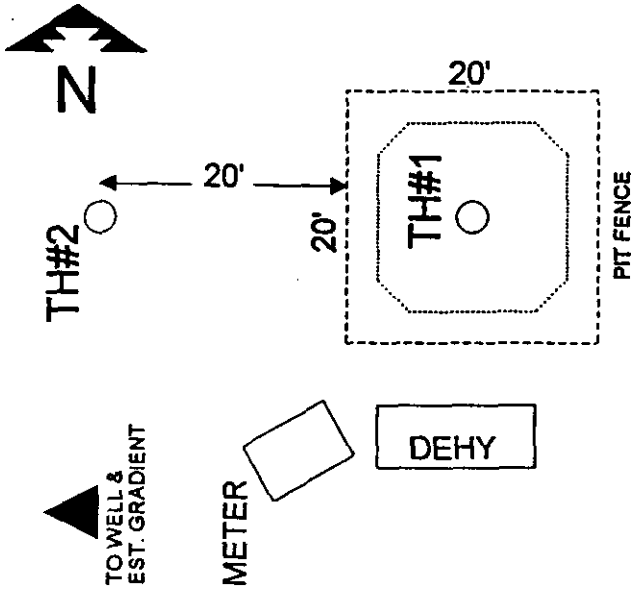
SOIL PROFILE: (ALL REFERENCED TO SITE GRADE)
0-25' SILTY MEDIUM SAND TO SANDY SILT (SM/ML); LT BRN, MOIST, FIRM.
25-27' SILTY SAND TO SANDY SILT(SM/ML); SAA, WET TO SATURATED.
27'+ SILTY CLAY (ML/CL); MOIST TO WET, STIFF, SL.PLASTIC.

IMPACTED SOILS: GREY TO OLIVE BROWN, MOIST, STRONG PETROLEUM & GLYCOL ODOR. FROM PIT BOTTOM TO GROUNDWATER @ 27' BELOW SITE GRADE. 1/4" FREE PRODUCT ON WATER SAMPLE COLLECTED 9/30/94.

ANALYTICAL SUMMARY

SAMPLE	OVM (ppm)	TPH (ppm)	BENZ. (ppb)
TH#1@3'	1164		
TH#1@6'	1497	12750	
TH#1@9+'	773		
TH#1@15'	399		
TH#1@19'	1410		
TH#1@21'	455	220	
TH#1@24'	1371		
TH#1@27'	997		
TH#2@9'	ND		
TH#2@17'	ND		
TH#2@22'	ND		
TH#1@GW	--		9664

SCALE: 1" : 15'



CONOCO INC. NASSAU PIT ASSESSMENTS SAN JUAN BASIN, NM		ASSESSMENT SUMMARY
PROJECT: ERIN STAY COM #1E, DEHY PIT		DRWN: OCT 3, 1994
PROJECT NO: 4-1127(PIT #13)		DRWN BY: MKL
SHEET: 1	FILE: 41127P13.CAD	REVISED:

ON SITE TECHNOLOGIES, LTD.
P.O. BOX 2606, FARMINGTON, NM 87499
(505) 325-3667

ERIN STAY COM #1E
NE/NW SEC 2, T25N,R11W, NMPM
SAN JUAN COUNTY, NM

SEP PIT ASSESSMENT 9/30/94
PIT LOCATED @ APPROX. 100'WEST OF WELL HEAD
PIT BOTTOM @ 3.5' BELOW SITE GRADE

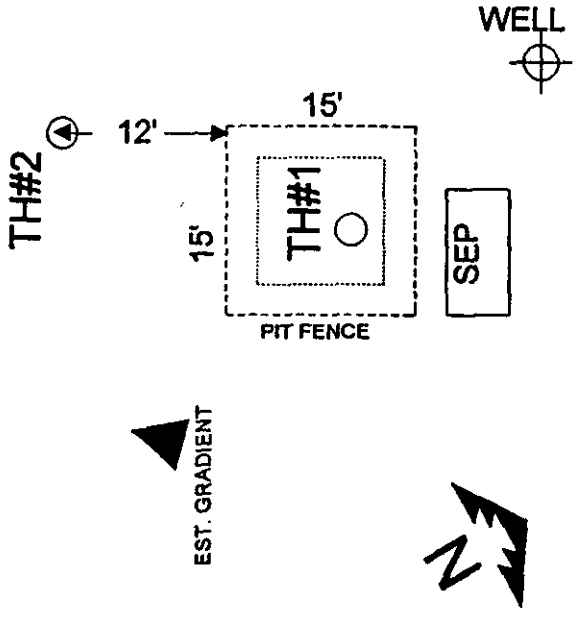
SOIL PROFILE: (ALL REFERENCED TO SITE GRADE)
0-27' SILTY MEDIUM SAND TO SANDY SILT (SM/ML); LT BRN, MOIST, FIRM.
27' SILTY SAND TO SANDY SILT(SM/ML); SAA, WET TO SATURATED.
33'+ SILTY CLAY (ML/CL); MOIST TO WET, STIFF, SL.PLASTIC.

IMPACTED SOILS: GREY TO BLACK, MOIST, PLASTIC, STRONG PETROLEUM ODOR. IN IMMEDIATE PIT AREA TO GROUNDWATER AT 27' BELOW SITE GRADE. OUTSIDE OF PIT ONLY IN VADOSE ZONE ABOVE GROUNDWATER. SHEEN OBSERVED ON WATER SAMPLED 9/30/94.

ANALYTICAL SUMMARY

SAMPLE	OVM (ppm)	TPH (ppm)	BENZ (ppb)
TH#1@3'	187		
TH#1@6'	1469	3850	
TH#1@9'	1507		
TH#1@15'	1402		
TH#1@21'	1309		
TH#1@27'	ND		
TH#2@9'	ND		
TH#2@12'	ND		
TH#2@18'	ND		
TH#2@21'	ND		
TH#2@24'	ND		
TH#2@27+'	161	18	
TH#1@GW	–	–	5176

SCALE: 1" : 15'



CONOCO INC. NASSAU PIT ASSESSMENTS SAN JUAN BASIN, NM		ASSESSMENT SUMMARY	ON SITE TECHNOLOGIES, LTD. P.O. BOX 2606, FARMINGTON, NM 87499 (505) 325-5667
PROJECT: ERIN STAY COM #1E, SEP PIT		DRWN: OCT 3, 1994	
PROJECT NO: 4-1127(PIT #14)		DRWN BY: MKL	
SHEET: 1	FILE: 41127PI4.CAD	REVISED:	

OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-5667

TOTAL PETROLEUM HYDROCARBONS

Attn: *Michael Lane*
Company: *On Site Technologies, Ltd.*
Address: *657 W. Maple*
City, State: *Farmington, NM 87401*

Date: 10/3/94
Lab ID: *2150*
Sample No. *3364*
Job No. *4-1127*

Project Name: ***Conoco***
Project Location: ***ESC #1E / Dhy. Pit / T1 @ 21'***
Sampled by: MKL Date: 9/30/94 Time: 10:45
Analyzed by: DC Date: 10/3/94
Type of Sample: *Soil*

Laboratory Analysis

Laboratory Identification	***Sample Identification***	***Total Petroleum Hydrocarbons***
3364-2150	*Conoco* ***ESC #1E / Dhy. Pit / T1 @ 21'***	220 *mg/kg*

Method - *EPA Method 418.1 Total Petroleum Hydrocarbons*

Approved by:
Date: 10/3/94

OFF: (505) 325-8786

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-5667

TOTAL PETROLEUM HYDROCARBONS

Attn: *Michael Lane*
Company: *On Site Technologies, Ltd.*
Address: *657 W. Maple*
City, State: *Farmington, NM 87401*

Date: 10/3/94
Lab ID: *2150*
Sample No. *3360*
Job No. *4-1127*

Project Name: ***Conoco***
Project Location: ***ESC #1E / Dhy. Pit / T1 Composite @ 3'-6'***
Sampled by: MKL Date: 9/30/94 Time: 10:30
Analyzed by: DC Date: 10/3/94
Type of Sample: *Soil*

Laboratory Analysis

Laboratory Identification	***Sample Identification***	***Total Petroleum Hydrocarbons***
3360-2150	***Conoco ESC #1E / Dhy. Pit / T1 Composite @ 3'-6'***	12,750 *mg/kg*

Method - *EPA Method 418.1 Total Petroleum Hydrocarbons*

Approved by: Jr Cx
Date: 10/3/94

OFF: (505) 325-8786

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-5667

TOTAL PETROLEUM HYDROCARBONS

Attn:	*Michael Lane*	Date:	10/3/94
Company:	*On Site Technologies, Ltd.*	*Lab ID:*	*2150*
Address:	*657 W. Maple*	*Sample No.*	*3358*
City, State:	*Farmington, NM 87401*	*Job No.*	*4-1127*

Project Name:	***Conoco***				
Project Location:	***ESC #1E / Sep. Pit / T1 Composite 3'-9'***				
Sampled by:	MKL	Date:	9/30/94	Time:	11:30
Analyzed by:	DC	Date:	10/3/94		
Type of Sample:	*Soil*				

Laboratory Analysis

Laboratory Identification	*Sample Identification*	*Total Petroleum Hydrocarbons*
3358-2150	*Conoco* ***ESC #1E / Sep. Pit / T1 Composite 3'-9'***	3,850 *mg/kg*

Method - *EPA Method 418.1 Total Petroleum Hydrocarbons*

Approved by:

Date: 10/3/94

OFF: (505) 325-8786

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-5667

TOTAL PETROLEUM HYDROCARBONS

Attn: *Michael Lane*
Company: *On Site Technologies, Ltd.*
Address: *657 W. Maple*
City, State: *Farmington, NM 87401*

Date: 10/3/94
Lab ID: *2150*
Sample No. *3359*
Job No. *4-1127*

Project Name: ***Conoco***
Project Location: ***ESC #1E / Sep. Pit / T2 @ 27'***
Sampled by: MKL Date: 9/30/94 Time: 12:40
Analyzed by: DC Date: 10/3/94
Type of Sample: *Soil*

Laboratory Analysis

Laboratory Identification	***Sample Identification***	***Total Petroleum Hydrocarbons***
3359-2150	*Conoco* ***ESC #1E / Sep. Pit / T2 @ 27'***	18 *mg/kg*

Method - *EPA Method 418.1 Total Petroleum Hydrocarbons*

Approved by:
Date: 10/3/94

OFF: (505) 325-8786

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*Michael K. Lane*	Date:	10/1/94
Company:	*On Site Technologies, Ltd.*	*Lab ID:*	*2150*
Address:	*657 W. Maple*	*Sample ID:*	*3362*
City, State:	*Farmington, NM 87401*	*Job No.*	*4-1127*

Project Name:	***Conoco***				
Project Location:	***ESC #1E / Dhy Pit / T1 @ GW***				
Sampled by:	MKL	Date:	9/30/94	Time:	13:15
Analyzed by:	DLA	Date:	10/1/94		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	9,664	*0.2*
Toluene	33,648	*0.2*
Ethylbenzene	2,515	*0.2*
m,p-Xylene	30,459	*0.2*
o-Xylene	10,607	*0.2*
	TOTAL *86,893 ug/L*	

ND - Not Detectable

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: [signature]
Date: 10/3/94

OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn: *Michael K. Lane*
Company: *On Site Technologies, Ltd.*
Address: *657 W. Maple*
City, State: *Farmington, NM 87401*

Date: 10/1/94
Lab ID: *2150*
Sample ID: *3363*
Job No. *4-1127*

Project Name: ***Conoco***
Project Location: ***ESC #1E / Sep. Pit / T1 @ GW***
Sampled by: MKL Date: 9/30/94 Time: 13:30
Analyzed by: DLA Date: 10/1/94
Sample Matrix: *Water*

Aromatic Volatile Organics

Component	***Measured Concentration ug/L***	***Detection Limit Concentration ug/L***
Benzene	5,176	*0.2*
Toluene	12,423	*0.2*
Ethylbenzene	2,061	*0.2*
m,p-Xylene	10,746	*0.2*
o-Xylene	3,312	*0.2*
	TOTAL 33,719 ug/L	

ND - Not Detectable

Method *- SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by:
Date: 10/3/94

OFF: (505) 325-8786

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-5667

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 10/1/94

Internal QC No.: 0222-STD
Surrogate QC No.: 0223-STD
Reference Standard QC No.: 0300-STD

Method Blank

Analytes in Blank	Amount
Average Amount of All Analytes In Blank	<0.1 ppb

Calibration Check

Calibration Standards	Units of Measure	*True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20	20	1	15%
Toluene	ppb	20	20	0	15%
Ethylbenzene	ppb	20	19	6	15%
m,p-Xylene	ppb	40	38	5	15%
o-Xylene	ppb	20	19	4	15%

Spike Results

Analyte	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	100	102	(39-150)	2	20%
Toluene	95	96	(46-148)	0	20%
Ethylbenzene	99	98	(32-160)	0	20%
m,p-Xylene	101	102	(35-145)	1	20%
o-Xylene	99	103	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	S3 Percent Recovered
Limits	(70-130)		
3362-2150	100		

S1: Flourobenzene

OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-5667

TOTAL DISSOLVED SOLIDS ANALYSIS

Attn:	*Michael Lane*	Date:	10/6/94
Company:	*On Site Technologies, Ltd.*	*Lab ID:*	*2172*
Address:	*657 W. Maple*	*Sample No.*	*3421*
City, State:	*Farmington, NM 87401*	*Job No.*	*4-1127*

Project Name:	***Conoco***				
Project Location:	***ESC #1E, Sep. Pit***				
Sampled by:	MKL	Date:	10/5/94	Time:	8:40
Analyzed by:	DLA	Date:	10/6/94		
Type of Sample:	*Soil*				

Laboratory Analysis

Laboratory Identification	***Sample Identification***	***Total Dissolved Solids***
3421-2172	*Conoco* ***ESC #1E, Sep. Pit***	6,182 *mg/L*

Method - *Standard Methods Method 2540 C. Total Dissolved Solids Dried at 180C*

Approved by:
Date: 10/6/94

OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*Michael Lane*	Date:	10/5/94
Company:	*On Site Technologies, Ltd.*	*Lab ID:*	*2172*
Address:	*657 W. Maple*	*Sample ID:*	*3421*
City, State:	*Farmington, NM 87401*	*Job No.*	*4-1127*

Project Name:	***Conoco***				
Project Location:	***ESC #1E, Sep. Pit***				
Sampled by:	MKL	Date:	10/5/94	Time:	8:40
Analyzed by:	DLA	Date:	10/5/94		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	*Measured Concentration ug/L*	*Detection Limit Concentration ug/L*
Benzene	10,929	*0.2*
Toluene	19,771	*0.2*
Ethylbenzene	932	*0.2*
m,p-Xylene	6,932	*0.2*
o-Xylene	1,815	*0.2*
	TOTAL *40,380 ug/L*	

ND - Not Detectable

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by:
Date: 10/5/94

OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-5667

AROMATIC VOLATILE ORGANICS

Attn:	*Michael Lane*	Date:	10/5/94
Company:	*On Site Technologies, Ltd.*	*Lab ID:*	*2172*
Address:	*657 W. Maple*	*Sample ID:*	*3422*
City, State:	*Farmington, NM 87401*	*Job No.*	*4-1127*

Project Name:	***Conoco***				
Project Location:	***ESC #1E, Dehy Pit***				
Sampled by:	MKL	Date:	10/5/94	Time:	9:00
Analyzed by:	DLA	Date:	10/5/94		
Sample Matrix:	*Water*				

Aromatic Volatile Organics

Component	*Measured Concentration ug/L*	*Detection Limit Concentration ug/L*
Benzene	10,098	*0.2*
Toluene	18,949	*0.2*
Ethylbenzene	1,347	*0.2*
m,p-Xylene	9,714	*0.2*
o-Xylene	2,428	*0.2*
	TOTAL 42,536 ug/L	

ND - Not Detectable

Method - *SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography*

Approved by: DLA
Date: 10/5/94

ON SITE
TECHNOLOGIES, LTD.

OFF: (505) 325-8786

LAB: (505) 325-5667

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 10/5/94

Internal QC No.: 0222-STD
Surrogate QC No.: 0223-STD
Reference Standard QC No.: 0300-STD

Method Blank

Analytes in Blank	Amount
Average Amount of All Analytes In Blank	<0.1 ppb

Calibration Check

Calibration Standards	Units of Measure	*True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20	20	2	15%
Toluene	ppb	20	19	3	15%
Ethylbenzene	ppb	20	18	8	15%
m,p-Xylene	ppb	40	37	8	15%
o-Xylene	ppb	20	18	10	15%

Spike Results

Analyte	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	100	102	(39-150)	2	20%
Toluene	95	96	(46-148)	0	20%
Ethylbenzene	99	98	(32-160)	0	20%
m,p-Xylene	101	102	(35-145)	1	20%
o-Xylene	99	103	(35-145)	2	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	S3 Percent Recovered
Limits	(70-130)		
3421-2172	94		

S1: Flourobenzene

80

SAN JUAN BASIN

PIT CLOSURE DOCUMENTATIC

LOCATION: ERIN STATE Com 1E

RCRA EXEMPT WASTES: Yes [X] No [ ]

PIT TYPE: DHP / SEP

ATE FLOW TO PIT STOPPED: BOTH ACTIVE - LIGHT STRINGS

TYPE REPLACEMENT PIT: [ ] NONE [ ] BACKFILLED – BELOW GROUND [ ] ABOVE GROU

ACREAGE TYPE: [ ] FEDERAL [ ] JICARILLA [X] NAVAHO [ ] STATE [ ] FEE

SITE ASSESSMENT

	Ranking Score
1) Groundwater Depth: < 50'	
Basis: ESTIMATED - UPGRADIENT FROM DRAW - ENCOUNTERED	20
2) Wellhead Protection Area: NURINI EXCAVATION @ 27'	
Distance To Water Sources: > 1000' Private Domestic Water Sources: > 200'	
Basis: NO PRIVATE OR DOMESTIC WTR SOURCE IN VICINITY	0
3) Distance To Surface Body of Water: > 1000'	
Basis: NO SURFACE WTR IN VICINITY	0
Total Score:	20

Soil Characteristic

[ ] Highly Contaminated/Saturated [X] Unsaturated Contaminated

RANKING CRITERIA

Depth to Groundwater		Wellhead Protection Area		Distance to Surface Water Body	
	Score	<1000' from water source or < 200' from private domestic water source	Score		Rank
<50 ft	20	yes	20	<200' horiz	20
<50 – 99	10	no	0	200 – 1000' horiz	10
>100 ft	0			>1000' horiz.	0

GUIDELINE REMEDIATION LEVELS

Total Ranking Score	>19	10–19	0–9
Benzene (ppm)	10	10	10
BTEX (ppm)	50	50	50
Field Headspace Method for BTEX	100	100	100
TPH (ppm) **	100	1,000	5,000

** Concentration above background

DEFINITION OF CONTAMINATION

Date: _____

Depth Excavated: _____

Full Excavation : [ ] Maximum Extent Practicable _____

ALL SAMPLE RESULTS ARE SHOWN ON "SAMPLE RESULTS NOTES" FORM

Groundwater Encountered: Yes [X] No [ ]

If yes, approximate depth: ±27'

Groundwater Sampling? [ ] Yes [ ] No

Where was gw sample taken? _____

Attach GW Sample Results

NOTES:

RECEIVED
MAR 2 9 1995
OIL CON. DIV.
DIST. 3

REMEDIATION PROFILE

Soil Treated Onsite [ ] Date Remediation Started: 11-9-94

[ ] In Situ Bio [ ] w/vapor venting [X] Landfarmed [ ] Composted

	Date: 11-9-94 Description	Amount/Rate	Date: Description	Amount/Ra
Tilled	LANDFARM CONTAMINATED SOIL			
Nutrients K-Potash KNO3	13.75% NITRO, 44.5% POTASH	200#		
Moisture				
Bulking Agent				
Organic Material				

	Date: Description	Amount/Rate	Date: Description	Amount/Rat
Tilled				
Nutrients				
Moisture				
Bulking Agent				
Organic Material				

ALL SAMPLE RESULTS ARE SHOWN ON "SAMPLING RESULTS NOTES" FORM

SOIL TREATED/HANDLED OFFSITE

TO SITE(ATTACH MANIFEST)

Where Treated: _____

Type of Land (Fed/Nav/Jic/State/Fee): _____

Quantity Moved: _____

Quantity Disposed At Envirotech: _____

FROM SITE (ATTACH MANIFEST)

To This Location From: _____

Type of Land (Fed/Nav/Jic/State/Fee): _____

Quantity Moved: _____

FINAL CLOSURE

BTEX: _____ ppm **(From Headspace Analysis)** TPH: _____ ppm **(From Lab Results)**

Revegetated: yes [ ] no [ ]

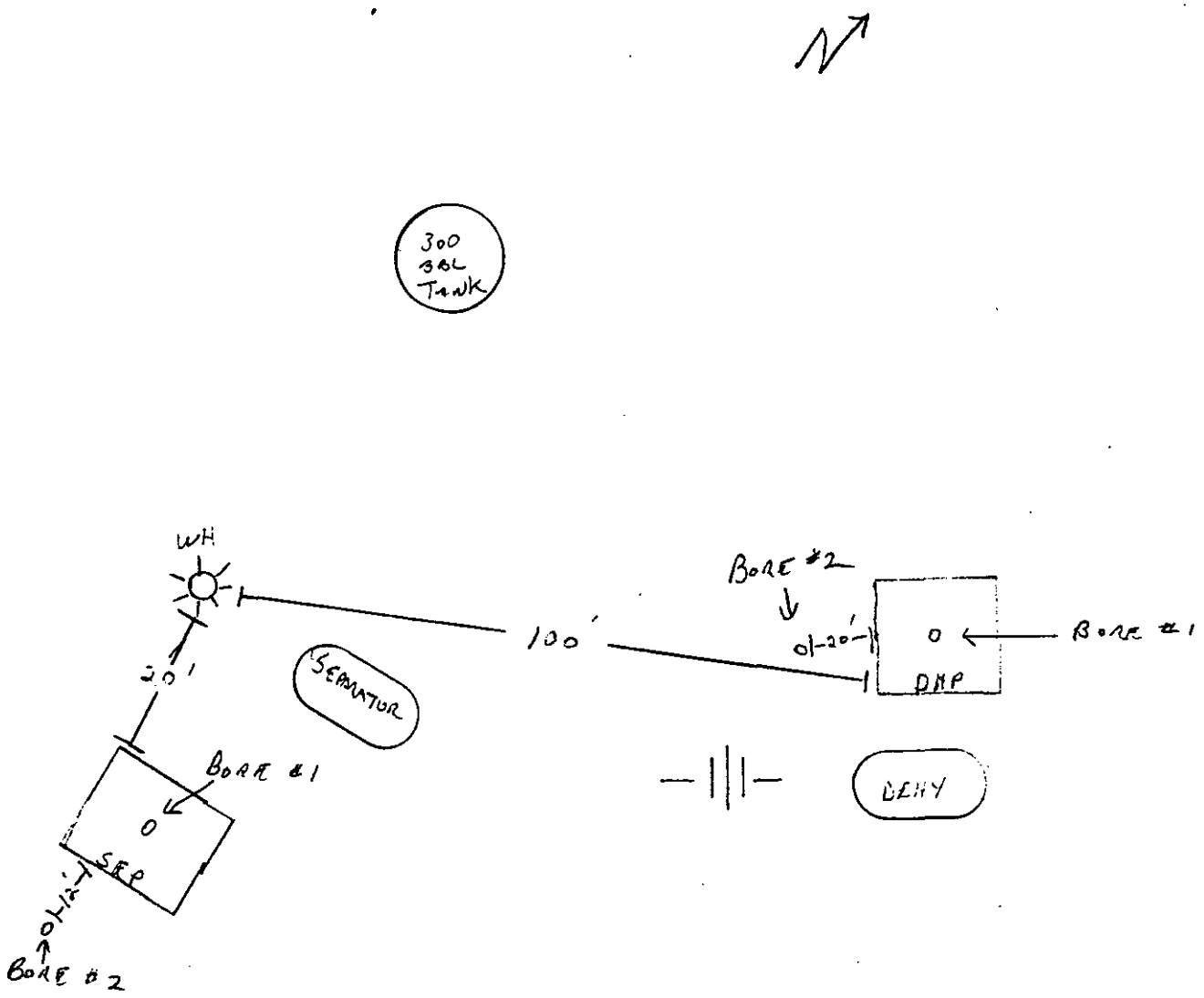
Active Well or Facility Pad: yes [ ] no [ ]

NOTES: 9/30/94 - RU ONSITE TECH. PERFORM ASSESSMENTS, BORED 4 HOLES - (2 ON EACH PIT) ENCOUNTERED (GW) PULLED SAMPLES. 10-11-94 - PERFORMED FURTHER DELINEATION IN ATTEMPT TO DEFINE PLUME & GRADIENT. 10-14-94 - NJSCAU EXCAVATED PITS TO 30'. 11-9-94 - CONOCO LANDFARMED SOILS & BACKFILLED PITS W/ CLEAN SOIL FROM LOCATION. COULD SET F6 PIT TO REPLACE DIP & CFP ENTITLED PITS.

PIT LOCATION AND COMPOSITE SAMPLE PROFILE MAP

WELL LOCATION: ERIN STATE Com 1E S___ T___ R___ UNIT___

DATE STARTED: 9/30/94 (ONSITE TECH. ASSESSMENT) DATE COMPLETED: _____



o SOIL SAMPLE LOCATION

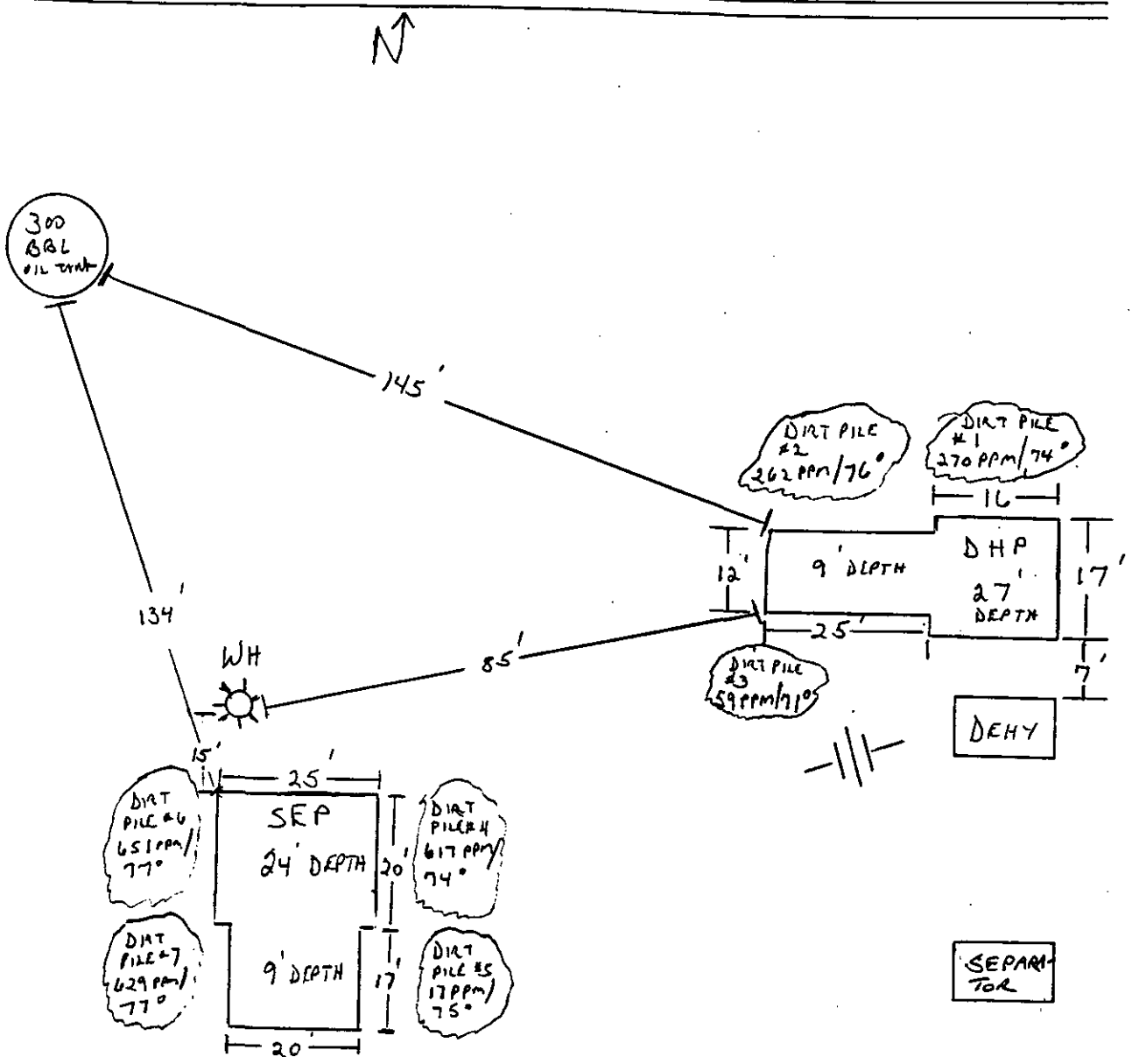
Δ BACKGROUND SAMPLE LOCATION

PIT LOCATION AND COMPOSITE SAMPLE PROFILE MAP

WELL LOCATION: ERIN STAYS Com 1E S___ T___ R___ UNIT___

DATE STARTED: 11/9/94 DATE COMPLETED: ___

EXCAVATED PIT INFORMATION: 100.4



- BOTH PITS HAD SLUFFED IN SOME, INITIAL EXCAVATION WAS TO 30' DEPTH

o SOIL SAMPLE LOCATION

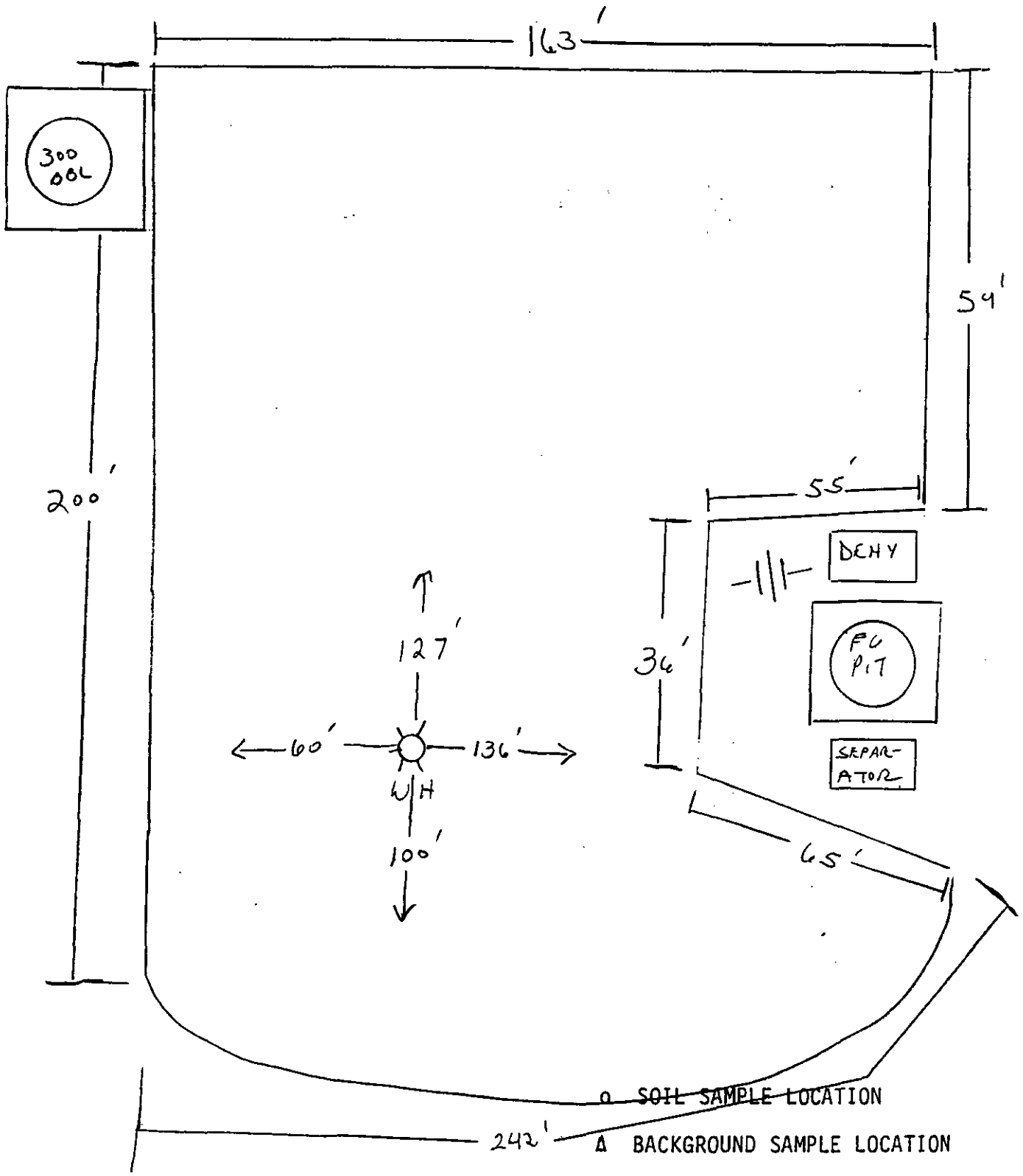
Δ BACKGROUND SAMPLE LOCATION

PIT LOCATION AND COMPOSITE SAMPLE PROFILE MAP

WELL LOCATION: ERIN STATE Com 1E S___ T___ R___ UNIT___

DATE STARTED: 9/9/94 DATE COMPLETED:___

LANFARMED AREA :



PIT CLOSURE DOCUMENTATION – SAMPLING RESULTS NOTES

LOCATION OF PIT: ERIN STAYS Comm 1E TYPE OF PIT: DHP

	SAMPLE EVENT #	1/2	SAMPLE EVENT #	3/4	SAMPLE EVENT #	5/6	SAMPLE EVENT #	7/8	SAMPLE EVENT #	9/10	SAMPLE EVENT #	11	SAMPLE EVENT #		SAMPLE EVENT #	
DESCRIPTION OF SAMPLE	Bore #1	"	"	"	"	"	"	"	Bore #2	"	"					
DATE OF SAMPLE	9/30/94								9/30/94							
LOCATION OF SAMPLE	CENTER OF PIT	"	"	"	"	"	"	"	20' WEST OF PIT	"	"					
TYPE OF SAMPLE: (GRAB/COMPOSITE)	CUTTINGS GRAB	"	HA	CUTTINGS	"	"	"	"	"	"	"					
DEPTH OF SAMPLE(S)	3	6	9-10	15	19	21	24	27	9	17	22					
TEMPERATURE OF SAMPLE																
FIELD METHOD RESULTS (PPMS)																
TPH VAPORS (EQUIV UNITS)	1164	1497	773	399	1410	455	1371	997	ND	ND	ND					
BENZENE RESPONSE FACTOR																
ADJUSTED FOR BENZENE EQUIV UNITS																
LAB RESULTS IN PPM:																
METHOD (418.1 OR MOD 8015)																
TPH																
NOTES																

PIT CLOSURE DOCUMENTATION – SAMPLING RESULTS NOTES

LOCATION OF PIT: ERIN STATE Com 1E TYPE OF PIT: SEP

	SAMPLE EVENT # 1/2		SAMPLE EVENT # 3/4		SAMPLE EVENT # 5/6		SAMPLE EVENT # 7/8		SAMPLE EVENT # 9/10		SAMPLE EVENT # 11		SAMPLE EVENT #		SAMPLE EVENT #	
DESCRIPTION OF SAMPLE	BORE #1	11	11	11	11	BORE #2	11	11	11	11	11					
DATE OF SAMPLE	9/30/94					9/30/94										
LOCATION OF SAMPLE	CENTER OF SEP	11	11	11	11	SOUTH OF SEP 12' FROM FENCE	11	11	11	11	11					
TYPE OF SAMPLE: (GRAB/COMPOSITE)	CUTTING GRAB	HA	CUTTING	11	11	CUTTING	11	11	11	11	11					
DEPTH OF SAMPLE(S)	3	9	15	21	27	9	12	18	21	24	27					
TEMPERATURE OF SAMPLE																
FIELD METHOD RESULTS (PPMS)																
TPH VAPORS (EQUIV UNITS)	187	1469	1507	1402	1309	ND	ND	ND	ND	ND	161					
BENZENE RESPONSE FACTOR																
ADJUSTED FOR BENZENE EQUIV UNITS																
LAB RESULTS IN PPM:																
METHOD (418.1 OR MOD 8015)																
TPH																
NOTES																