3R - 82

REPORTS

DATE:

10/13/1994

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.

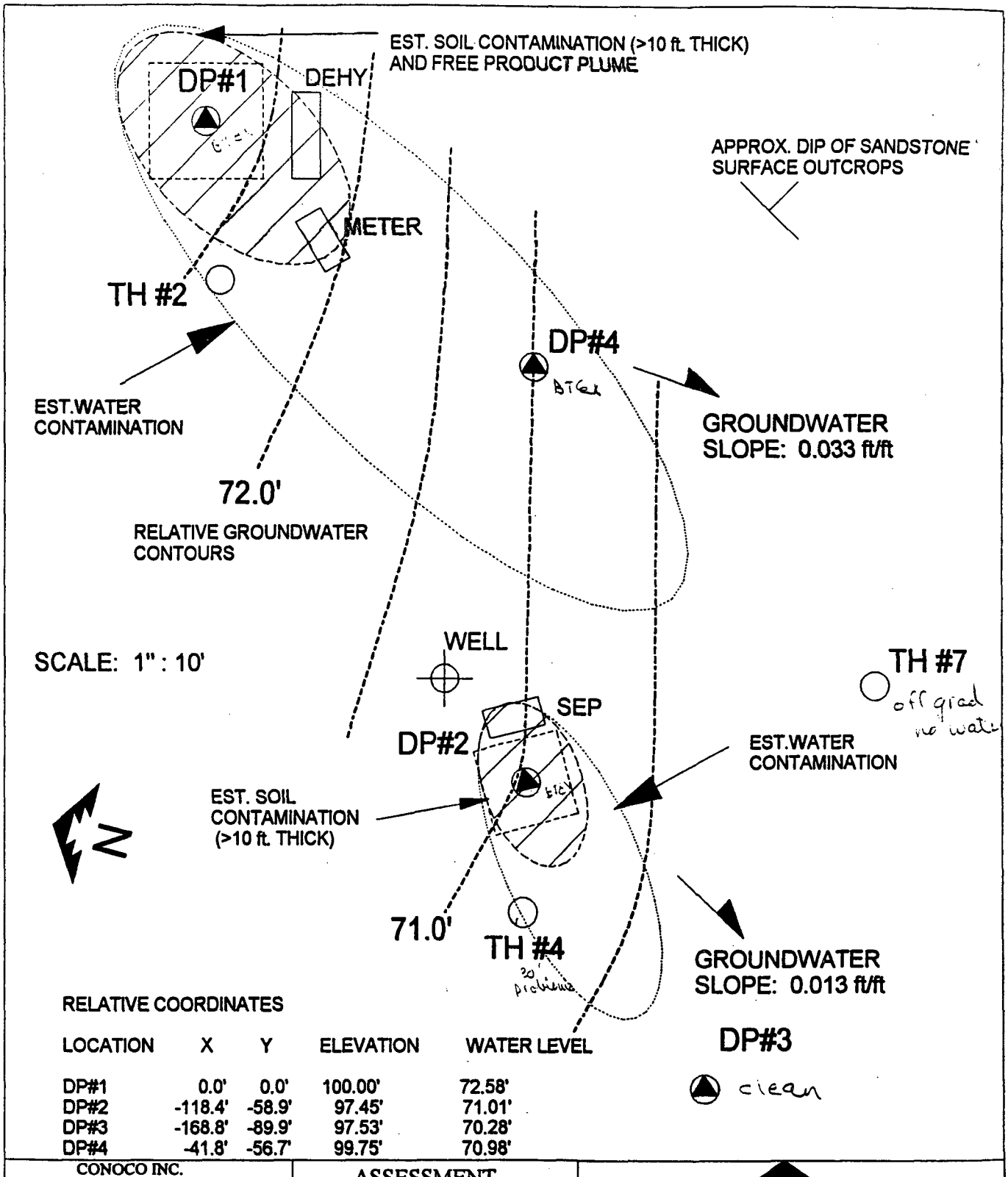
FAX: (505) 327-1496 • 24 HR. – (505) 327-7105 • OFF.: (505) 325-8786
3005 NORTHRIDGE DRIVE • SUITE F • P. O. BOX 2606 • FARMINGTON, NEW MEXICO 87499

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

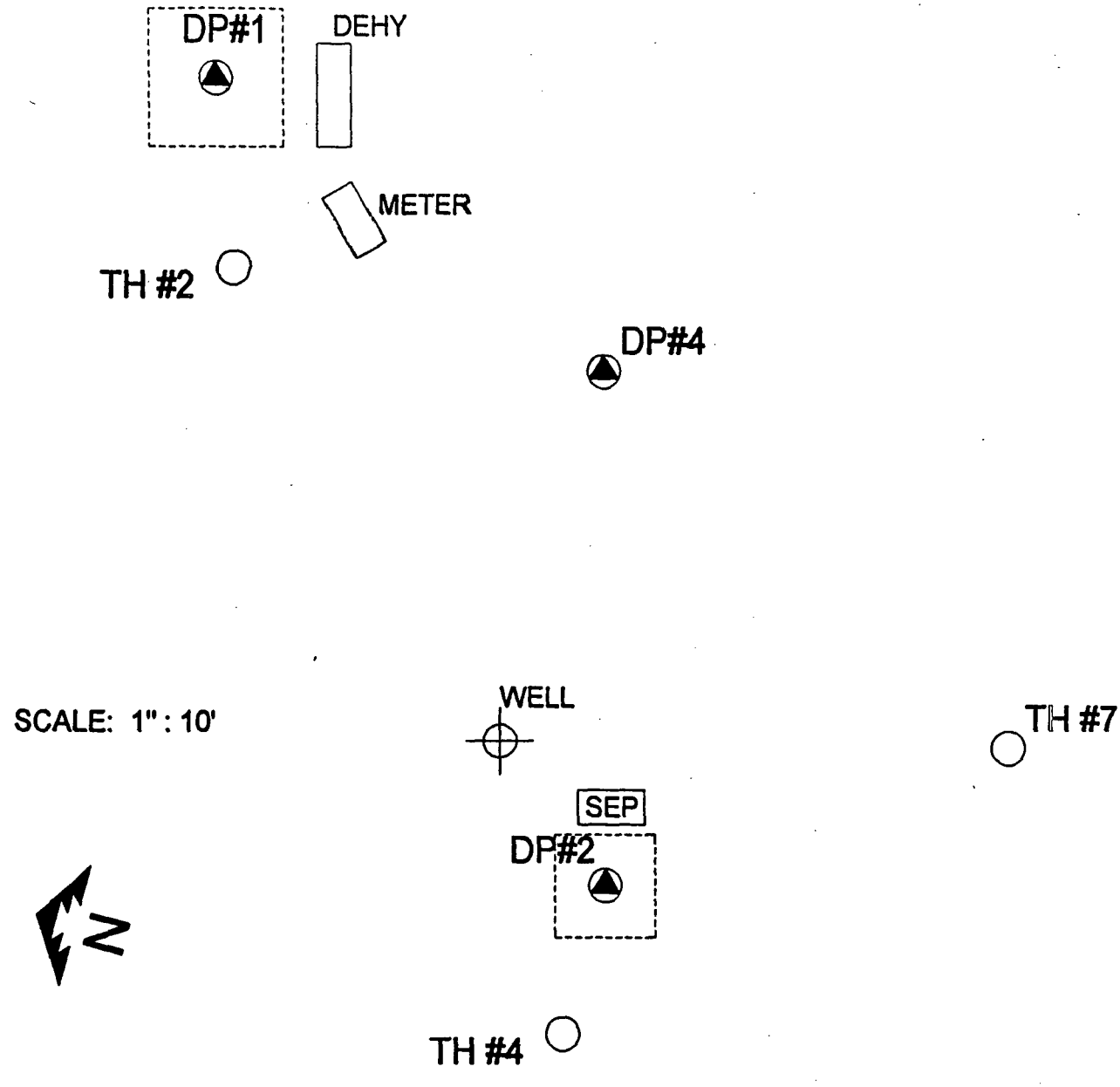
encl: ESC #1E Site Assessment
Lab Analyses



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#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'	70.50'
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
PROJECT: ERIN STAY COM #1E		DRWN: OCT 11, 1994	
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: DRY

	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	SD' 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	Mod 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 STATE #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, [illegible], [illegible]. NO ODOR OR DISCOLOR.		

PIT CLOSURE DOCUMENTATION – SAMPLING RESULTS NOTES

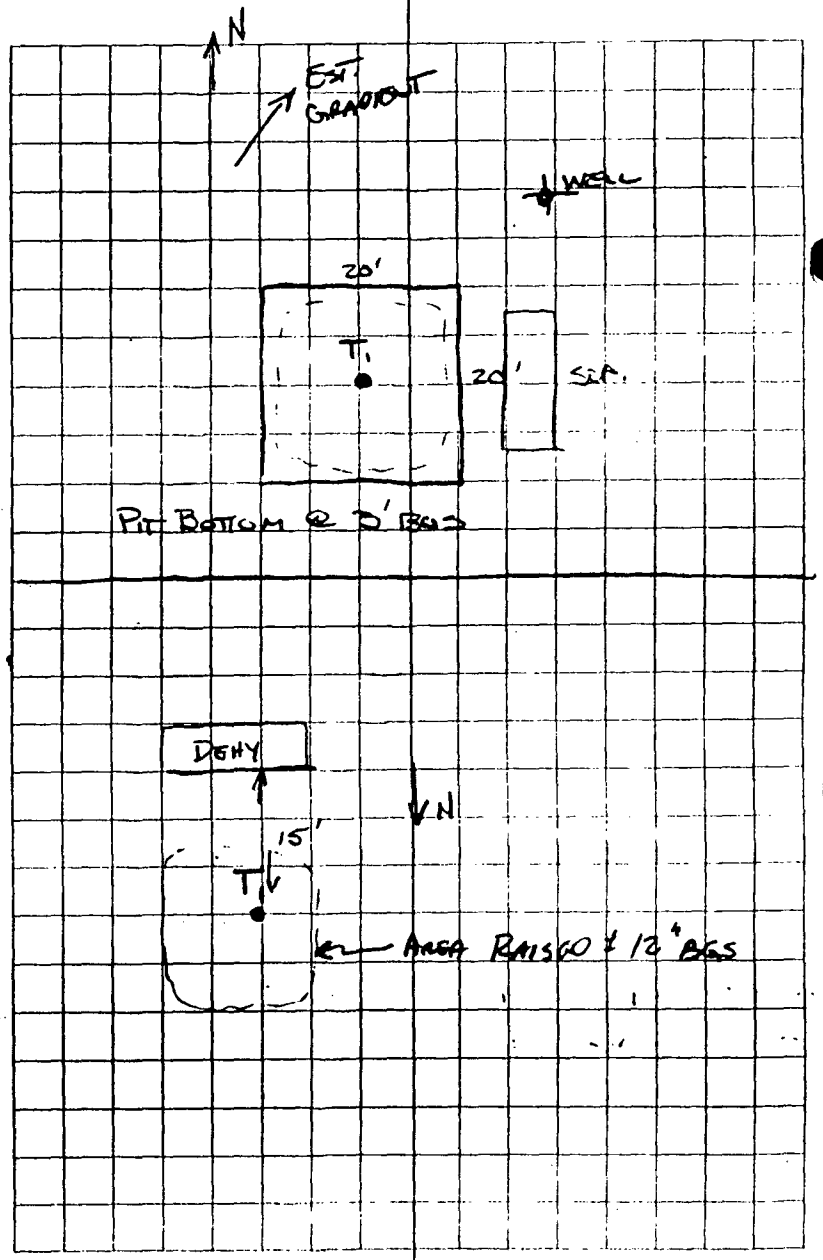
LOCATION OF PIT: Erin Stays #1E TYPE OF PIT: DHY

	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	Boring #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.							

CONOCO
10/11/94
COLBERT #1E
1058' FSL / 1520' FWL
S15, T25N, R11W
SAN JUAN CO, NM

SEP PIT @ 19' S & 19' W T1 @ PIT BTM (HA)
0-9' SILTY SAND, MOD. GREY, MOIST, FIRM, SLIGHT COLOR CHANGE @ 8'
OVM @ 3' 1787 PPM
OVM @ 8.5' 19.7 PPM

DEHY PIT AREA T1 @ PIT CTR (HA)
0-4' FINE SILTY SAND, MD TO LT. BROWN, MOIST, FIRM.
4'-6' SAA, MOD 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
9/11/94
COLLET #1
NE/NW S15 T29N R11W NMPM
FOR LEASE No: SF078228B
SAN JUAN Co, NM

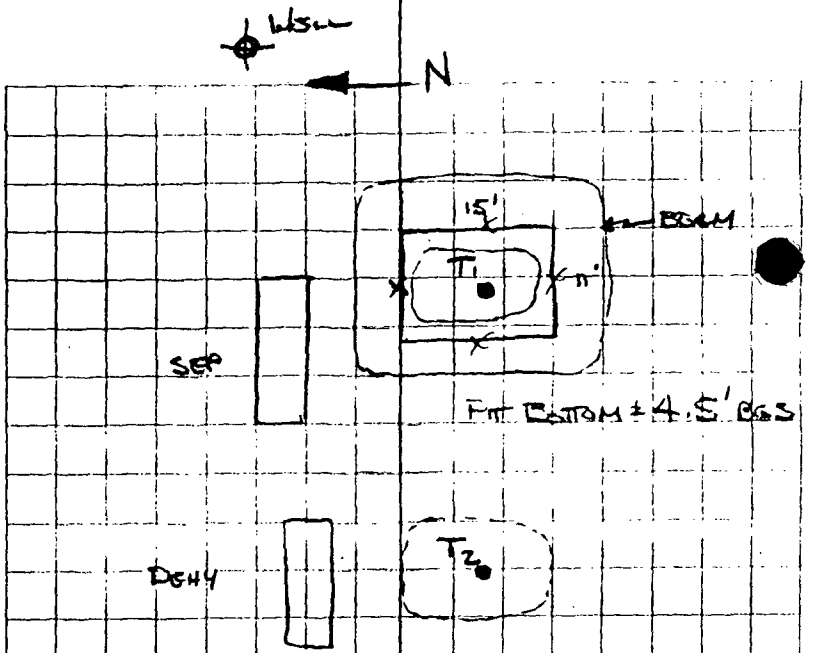
SEP PIT @ 20'S & 25'W OF WELL

T1 @ PIT BOTTOM HAND AUGER
0-6' FINE SAND, MOD. GRAY, MOIST, FIRM, ODOR
6-8' MEDIUM SAND, " " " "

3.5' OVM 2010 PPM BOVE, R.F. 0.56
8.5' OVM 1846 "

DEHY PIT @ 20'S & 55'W OF WELL

T1 IN PIT CROWN AREA ± 12" ABOVE GRADE
0-3' OVM 10.1 PPM
7' OVM 1191 PPM
SOILS SIMILAR TO SEP PIT.

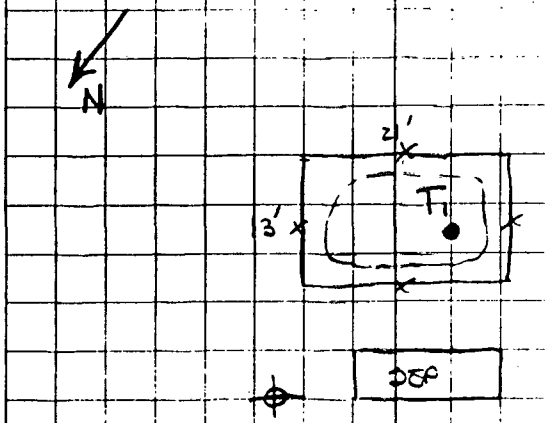


CONOCO
10/11/94
ERIN STATE COM #1
NE/NE SEC 2, T25N, R11W, NMPM
FED LEASE NO 3778
SAN JUAN CO, NM
SEP PIT @ 25'S & 15'W

T1 @ PIT BOTTM 16" BGS
0-3.5' SANDY SILT, BLACK, SATURATED
3.5' SANDSTONE, MOD. GREY

OVM
3.5' 116.1 ppm (BENZENE R.F. 0.56)

CONTAMINATION LIMITED ABOVE SANDSTONE.



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:*	*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: DLA
Date: 10-12-94

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:*	*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: [signature]
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: DLA

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.

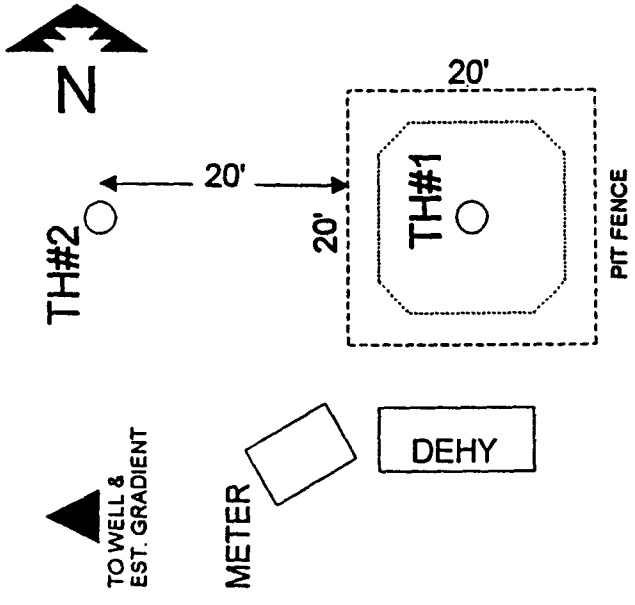
SOIL PROFILE: (ALL REFERENCED TO SITE GRADE)
0-25' SILTY MEDIUM SAND TO SANDY SILT (SM/ML); LT BRN, MOIST, FIRM.
25-27' SILTY SAND TO SANDY SILT(SM/ML); SAA, WET TO SATURATED.
27'+ SILTY CLAY (ML/CL); MOIST TO WET, STIFF, SL.PLASTIC.

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

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

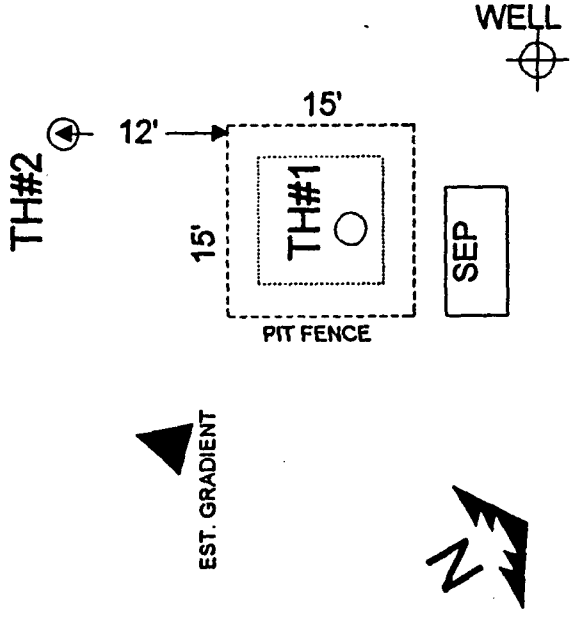
SOIL PROFILE: (ALL REFERENCED TO SITE GRADE)
0-27' SILTY MEDIUM SAND TO SANDY SILT (SM/ML); LT BRN, MOIST, FIRM.
27' SILTY SAND TO SANDY SILT(SM/ML); SAA, WET TO SATURATED.
33'+ SILTY CLAY (ML/CL); MOIST TO WET, STIFF, SL.PLASTIC.

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: 41127P14.CAD	REVISED:	

ON SITE
TECHNOLOGIES, LTD.

OFF: (505) 325-8786 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.*	*3364*
City, State:	*Farmington, NM 87401*	*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*	Date:	10/3/94
Company:	*On Site Technologies, Ltd.*	*Lab ID:*	*2150*
Address:	*657 W. Maple*	*Sample No.*	*3360*
City, State:	*Farmington, NM 87401*	*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:
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*	Date:	10/3/94
Company:	*On Site Technologies, Ltd.*	*Lab ID:*	*2150*
Address:	*657 W. Maple*	*Sample No.*	*3359*
City, State:	*Farmington, NM 87401*	*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:
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:*	*3363*
City, State:	*Farmington, NM 87401*	*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: [signature]

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

ON SITE
TECHNOLOGIES, LTD.

OFF: (505) 325-8786

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:
Date: 10/5/94

OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

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