3R - 95

REPORTS

DATE:

April 1, 1997

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Attn:	*Michael Lane*	Date:	1-Apr-97
Company:	*On Site Technologies, Ltd. c/o Conoco*	COC No.:	*5101*
Address:	*612 E. Murray Drive*	Sample No.:	*14048*
City, State:	*Farmington, NM 87401*	Job No.:	*4-1360*

Project Name:	***Conoco - 28-7 #126***				
Project Location:	***MW-1***				
Sampled by:	HR	Date:	26-Mar-97	Time:	12:25
Analyzed by:	DC	Date:	31-Mar-97		
Sample Matrix:	*Liquid*				

Parameter	*Result*	*Unit of Measure*	*Detection Limit*	*Unit of Measure*
Benzene	0.3	ug/L	0.2	ug/L
Toluene	1.0	ug/L	0.2	ug/L
Ethylbenzene	0.8	ug/L	0.2	ug/L
m,p-Xylene	1.7	ug/L	0.2	ug/L
o-Xylene	0.5	ug/L	0.2	ug/L
TOTAL	4.3	ug/L		

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

Approved By:

Date: 4/1/97

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

QUALITY ASSURANCE REPORT

for EPA Method 8020

Date Analyzed: 31-Mar-97

Internal QC No.: 0527-STD
Surrogate QC No.: 0528-STD
Reference Standard QC No.: 0529/30-QC

Method Blank

Parameter	Result	Unit of Measure
Average Amount of All Analytes In Blank	<0.2	ppb

Calibration Check

Parameter	Unit of Measure	True Value	Analyzed Value	% Diff	Limit
Benzene	ppb	20.0	18.0	10	15%
Toluene	ppb	20.0	19.1	5	15%
Ethylbenzene	ppb	20.0	19.5	3	15%
m,p-Xylene	ppb	40.0	37.6	6	15%
o-Xylene	ppb	20.0	19.3	3	15%

Matrix Spike

Parameter	1- Percent Recovered	2 - Percent Recovered	Limit	%RSD	Limit
Benzene	87	80	(39-150)	3	20%
Toluene	90	81	(46-148)	2	20%
Ethylbenzene	96	89	(32-160)	5	20%
m,p-Xylene	93	86	(35-145)	4	20%
o-Xylene	95	88	(35-145)	4	20%

Surrogate Recoveries

Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered	Laboratory Identification	S1 Percent Recovered	S2 Percent Recovered
Limit Percent Recovered	(70-130)		Limit Percent Recovered	(70-130)	
14048-5101	95				

S1: Flourobenzene

4/1/97

CHAIN OF CUSTODY RECORD

101

ON SITE TECHNOLOGIES, LTD.
657 W. Maple • P. O. Box 2606 • Farmington NM 87499
LAB: (505) 325-5667 • FAX: (505) 325-6256

Date: [illegible]   Page ______ of ______

Purchase Order No.:	Job No. [illegible]	**REPORT RESULTS TO** Name [illegible]	Title
SEND INVOICE TO Name		Company [illegible]	
Company	Dept.	Mailing Address [illegible]	
Address		City, State, Zip [illegible]	
City, State, Zip		Telephone No.	Telefax No.
Sampling Location: [illegible] Well #1 [illegible] 126		Number of Containers	ANALYSIS REQUESTED
Sampler: [illegible]			

SAMPLE IDENTIFICATION	SAMPLE DATE	SAMPLE TIME	MATRIX	PRES.	Number of Containers	BTEX									LAB ID
[illegible] 126, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2	✓									[illegible]

Relinquished by: [illegible]	Date/Time [illegible]	Received by: [illegible]	Date/Time [illegible] 11:55
Relinquished by:	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time
Method of Shipment:		Rush / 24-48 Hours / 10 Working Days	Special Instructions:
Authorized by: [illegible] (Client Signature Must Accompany Request)	Date [illegible]		

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Conoco, Inc.

Project ID:	Not Given	Report Date:	07/26/96
Sample ID:	28-7 #126 MW1	Date Sampled:	07/17/96
Lab ID:	0396G01349	Date Received:	07/17/96
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	07/18/96

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	5.0
Toluene	10.7	5.0
Ethylbenzene	7.4	5.0
m,p-Xylenes	24.5	5.0
o-Xylene	ND	5.0

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	90.0%	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

conoco

Environmental Sample Chain of Custody and Log

Research and Engineering

NO.

Project Number

Type or Print Data

Facility Name	Telephone Number	Transporter Name	Telephone Number
Conoco	(505) 324-5813		( ) -
Facility Address		**Transporter Address**	
3315 Bloomfield Hwy			
Facility Supervisor		**Method of Shipping**	
John Coy			
Process Producing Sample	**Special Shipping Instructions**		
Employee(s) Sampling	**Remarks**		
Neal Goates / Brent Dunagan			
Other Employee(s) Handling			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	BTEX - Wtr	Soil TPH	
28-7 #47 MW 1	7-16-96	9:30am	Wtr.	40mL	Glss	1	HCl 1:1	1		
28-7 #72A - LF	7-16-96	9:45am	soil	8 oz	Glss	1	none		1	
28-7 #72 - LF	7-16-96	10:00am	soil	8 oz	Glss	1	none		1	
28-7 #19 ~~MW~~ MW2	7-16-96	1100 am	Wtr	40 mL	Glss	1	HCl 1:1	1		
28-7 #167 Pit 1	7-16-96	100 pm	soil	8 oz	Glss	1	none		1	
28-7 #167 Pit 2	7-16-96	105 pm	soil	8 oz	Glss	1	none		1	
28-7 #167 pit 3	7-16-96	110 pm	soil	8 oz	Glss	1	none		1	
28-7 #202 pit 2	7-16-96	145pm	soil	8 oz	Glss	1	none		1	
28-7 #202 pit 1	7-16-96	140pm	soil	8 oz	Glss	1	none		1	
28-7 #67 Pit 1	7-16-96	130pm	soil	8 oz	Glss	1	none		1	
28-7 #170 pit 1	7-16-96	230pm	soil	8 oz	Glss	1	none		1	
28-7 #170 pit 2	7-16-96	235pm	soil	8 oz	Glss	1	none		1	
28-7 #122 pit 1	7-16-96	300pm	soil	8 oz	Glss	1	none		1	
28-7 #173 pit 1	7-16-96	330pm	soil	8 oz	Glss	1	none		1	
28-7 #173 pit 2	7-16-96	335pm	soil	8 oz	Glss	1	none		1	cool + intact
28-7 #173 pit 3	7-16-96	340pm	soil	8 oz	Glss	1	none		1	
28-7 #196 pit 1	7-16-96	430pm	soil	8 oz	Glss	1	none		1	
28-7 #196 pit 2	7-16-96	435pm	soil	8 oz	Glss	1	none		1	
28-7 #120 MW1	7-16-96	545pm	Wtr.	40 mL	Glss	1	HCl 1:1	1		

Signatures

Bottles Relinquished by	Date/Time	Bottles Received by	Date/Time	Condition of Samples Upon Arrival at Final Destination
[signature]	7/17/96 8:30am	Chris Rayner	7-17-96 0830	
Relinquished by	Date/Time	Received by	Date/Time	
Relinquished by	Date/Time	Received by	Date/Time	Signature / Date
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)
Relinquished by	Date/Time	Received by	Date/Time	
Relinquished by	Date/Time	Received by	Date/Time	Signature / Date

5-157 X3, 10-91

ANALYZING LAB COPY

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
Quality Assurance/Quality Control

Client:	**Conoco, Inc.**	Date Reported:	07/26/96
Project:	Not Given	Date Sampled:	07/16/96
Matrix:	Soil	Date Received:	07/17/96
Condition:	Intact/Cool	Date Extracted:	07/19/96
		Date Analyzed:	07/19/96

Duplicate Analysis

Lab ID	Sample Result	Duplicate Result	Units	% Difference
0396G01350	822	784	mg/Kg	4.8%

Method Blank Analysis

Lab ID	Result	Units	Detection Limit
Method Blank	ND	mg/Kg	20

Spike Analysis

Lab ID	Found Conc. mg/Kg	Sample Conc. mg/Kg	Spike Amount mg/Kg	Percent ecover	Acceptance Limits
0396G01350	975	883	200	77%	70-130%

Known Analysis

Lab ID	Found Conc. mg/Kg	Known Conc. mg/Kg	Percent ecover	Acceptance Limits
QC	20.1	20.6	98%	70-130%

References:

Method 418.1: Petroleum Hydrocarbons, Total Recoverable, USEPA Chemical Analysis of Water and Waste, 1978.

Method 3550: Ultrasonic Extraction of Non-Volatile and Semi-Volatile Organic Compounds from Solids, USEPA SW-846, Rev. 1, July 1992.

Analyst: _____ Reviewed: _____

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
Quality Assurance/Quality Control

Client:	**Conoco, Inc.**	Date Reported:	07/26/96
Project:	Not Given	Date Sampled:	07/16/96
Matrix:	Soil	Date Received:	07/17/96
Condition:	Intact/Cool	Date Extracted:	07/19/96
		Date Analyzed:	07/19/96

Duplicate Analysis

Lab ID	Sample Result	Duplicate Result	Units	% Difference
0396G01360	324	311	mg/Kg	4.0%

Method Blank Analysis

Lab ID	Result	Units	Detection Limit
Method Blank	ND	mg/Kg	20

Spike Analysis

Lab ID	Found Conc. mg/Kg	Sample Conc. mg/Kg	Spike Amount mg/Kg	Percent ecover	Acceptance Limits
0396G01360	516	324	250	77%	70-130%

Known Analysis

Lab ID	Found Conc. mg/Kg	Known Conc. mg/Kg	Percent ecover	Acceptance Limits
QC	20.1	20.6	98%	70-130%

References:

Method 418.1: Petroleum Hydrocarbons, Total Recoverable, USEPA Chemical Analysis of Water and Waste, 1978.

Method 3550: Ultrasonic Extraction of Non-Volatile and Semi-Volatile Organic Compounds from Solids, USEPA SW-846, Rev. 1, July 1992.

Analyst: dt

Reviewed: 813

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Quality Control / Quality Assurance

Known Analysis
BTEX

Client: **Conoco, Inc.**
Project: Not Given

Date Reported: 07/26/96
Date Analyzed: 07/18/96

Known Analysis

Parameter	Found Concentration (ppb)	Known Concentration (ppb)	Percent Recovery	Acceptance Limits
Benzene	6.5	6.0	**108%**	70-130%
Toluene	7.3	6.0	**121%**	70-130%
Ethylbenzene	6.6	6.0	**110%**	70-130%
m+p-Xylene	11.6	12.0	**97%**	70-130%
o-Xylene	7.1	6.0	**118%**	70-130%

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	82.5%	75-125%

Reference: Method 5030, Purge and Trap: Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Reported by _____

Reviewed by _____

Inter·Mountain Laboratories, Inc.
2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORT

Method Blank Analysis

Sample Matrix: Water
Lab ID: Method Blank

Report Date: 07/26/96
Date Analyzed: 07/18/96

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2
m,p-Xylenes	ND	0.2
o-Xylene	ND	0.2

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	96.5%	75-125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORT

Matrix Spike Analysis

Lab ID: 0396G01343
Sample Matrix: Water
Condition: Cool/Intact

Report Date: 07/26/96
Date Analyzed: 07/18-25/96

Target Analyte	Spiked Sample Result in ppb	Sample result in ppb	Spike Added (ppb)	% Recovery	Acceptance Limits (%)
Benzene	168	4.54	150	109%	70-130
Toluene	194	9.47	150	123%	70-130
Ethylbenzene	173	ND	150	115%	70-130
m,p-Xylenes	299	ND	300	99.7%	70-130
o-Xylene	181	2.00	150	119%	70-130

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	Bromofluorobenzene	106.4%	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORT

Duplicate Analysis

Lab ID: 0396G01343
Sample Matrix: Water
Condition: Cool/Intact

Report Date: 07/26/96
Date Analyzed: 07/18-25/96

Target Analyte	Duplicate Concentration (ppb)	Original Concentration (ppb)	% Difference
Benzene	4.8	5.6	15.4
Toluene	8.7	10.1	14.9
Ethylbenzene	ND	ND	NA
m,p-Xylenes	ND	1.2	NA
o-Xylene	2.0	2.3	14.0

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	82.8%	75 -125%

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

imL

Inter-Mountain Laboratories, Inc.

Inorganics Laboratory
11183 SH 30 College Station, Texas 77845
Phone (409) 776-8945 Fax (409) 774-4705

Organics Laboratory
3304 Longmire Drive College Station, Texas 77845
Phone (409) 774-4999 Fax (409) 696-0962

AROMATIC VOLATILE ORGANICS

Client:	CONOCO		
Project Name:	NA	Report Date:	03/20/96
Sample ID:	SJ 28-7 #126	Date Sampled:	03/12/96
Sample Number:	039600353 / 0696G00469	Date Received:	03/20/96
Sample Matrix:	Water	Date Extracted:	03/20/96
Preservative:	Cool, HCl	Date Analyzed:	03/20/96
Condition:	Intact, pH < 2	Time Analyzed:	1:38 PM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Benzene	ND	0.01
Toluene	0.019	0.01
Ethylbenzene	0.013	0.01
p,m-xylene	0.19	0.01
o-xylene	0.011	0.01

ND - Analyte not detected at stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
a,a,a-Trifluorotoluene	107%	75 - 125%
Bromofluorobenzene	102%	70 - 120%

Reference:

Method 5030A, Purge and Trap.
Method 8020A, Aromatic Volatile Organics.
SW-846, Test Methods for Evaluating Solid Waste, United States Environmental Protection Agency, Final Update II, September 1994.

Comments:

Elevated detection limits due to high levels of other compounds.

Analyst

Ramona R. Dennis
Review

conoco

Environmental Sample Chain of Custody and L
Research and Engineering

No. 177

Project Number

Facility Name: CONOCO INC.	Telephone Number: (505) 324-5813	Transporter Name: CONOCO INC.	Telephone Number: ( ) -
Facility Address: 3315 BLOMFLD HWY FARMINGTON, NM 87401		Transporter Address: SAME	
Facility Supervisor: C. J Coy		Method of Shipping: HAND DELIVER	
Process Producing Sample: WATER BTEX	Special Shipping Instructions: —		
Employee(s) Sampling: CJ Coy	Remarks: —		
Other Employee(s) Handling: —			

Sample I.D. No. and Description	Date	Time	Sample Type	Total Volume	Containers Type	Containers No.	Analysis Req. ▶ Preservative	WTR BTEX	
1) SJ28-7 #219	3/12/96	11:05AM	WTR-BTEX		GLASS	1	1:1 HCL	1	
2) SJ28-7 #47	3/12/96	12:45PM	WTR-BTEX		"	"	"	1	Broken when shipped TCS
3) SJ28-7 #19	3/12/96	2:25PM	WTR-BTEX		"	"	"	1	
4) SJ28-7 #126	3/12/96	4:00PM	WTR BTEX		"	"	"	1	

Bottles Relinquished by: Carl J Coy	Date/Time: 3/13/96 11:00AM	Bottles Received by: Anna Schaerer	Date/Time: 3/13/96 1100	Condition of Samples Upon Arrival at Final Destination	
Relinquished by	Date/Time	Received by	Date/Time		
Relinquished by	Date/Time	Received by	Date/Time	Signature	Date
Relinquished by	Date/Time	Received by	Date/Time	Temp. of Samples on Arrival (Temp. sensitive analysis only)	
Relinquished by	Date/Time	Received by	Date/Time		
Relinquished by	Date/Time	Received by	Date/Time	Signature	Date

5-157 X3, 10-91

ANALYZING LAB COPY

imd

Inter Mountain Laboratories, Inc.

Inorganics Laboratory
11183 SH 30 College Station, Texas 77845
Phone (409) 776-8945 Fax (409) 774-4705

Organics Laboratory
3304 Longmire Drive College Station, Texas 77845
Phone (409) 774-4999 Fax (409) 696-0962

QUALITY CONTROL REPORT - METHOD BLANK
VOLATILE AROMATIC HYDROCARBONS

Sample Number MB0320
Sample Matrix: Water

Report Date: 03/20/96
Date Analyzed: 03/20/96
Time Analyzed: 10:04 AM

Analyte	Concentration (mg/L)	Detection Limit (mg/L)
Benzene	ND	0.001
Toluene	ND	0.001
Ethylbenzene	ND	0.001
p,m-xylene	ND	0.001
o-xylene	ND	0.001

ND - Analyte not detected at stated detection limit

Quality Control:	Surrogate	Percent Recovery	Acceptance Limits
	a,a,a-Trifluorotoluene	102%	75 - 125%
	Bromofluorobenzene	99%	70 - 120%

Reference: Method 5030A, Purge and Trap.
Method 8020A, Aromatic Volatile Organics.
SW-846, Test Methods for Evaluating Solid Waste, United States Environmental Protection Agency, Final Update II, September 1994.

Comments:

Analyst

Ramona R. Dennis
Review

imi

Inter-Mountain Laboratories, Inc.

Inorganics Laboratory
11183 SH 30 College Station, Texas 77845
Phone (409) 776-8945 Fax (409) 774-4705

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3304 Longmire Drive College Station, Texas 77845
Phone (409) 774-4999 Fax (409) 696-0962

QUALITY CONTROL REPORT - BLANK SPIKE
VOLATILE AROMATIC HYDROCARBONS

Sample Number: Blank Spike
Sample Matrix: Water

Report Date: 03/20/96
Date Extracted: 03/20/96
Date Analyzed: 03/20/96
Time Analyzed: 2:34 PM

Analyte	Spike Added ppb	Sample Result ppb	Spike Result ppb	Percent Recovery	Accept-ance Limit
Benzene	0.020	ND	0.021	105%	39-150%
Toluene	0.020	ND	0.021	104%	46-148%
Ethylbenzene	0.020	ND	0.020	102%	32-160%
m-Xylene	0.020	ND	0.021	104%	50-150%
o-Xylene	0.020	ND	0.020	102%	50-150%

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
a,a,a-Trifluorotoluene	100%	75 - 125%
Bromofluorobenzene	105%	70 - 120%

Reference: Method 5030A, Purge and Trap.
Method 8020A, Aromatic Volatile Organics.
SW-846, Test Methods for Evaluating Solid Waste, United States Environmental Protection Agency, Final Update II, September 1994.

Comments:

Analyst

Review

imd

Inter Mountain Laboratories, Inc.

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11183 SH 30 College Station, Texas 77845
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3304 Longmire Drive College Station, Texas 77845
Phone (409) 774-4999 Fax (409) 696-0962

QUALITY CONTROL REPORT - BLANK SPIKE DUPLICATE
VOLATILE AROMATIC HYDROCARBONS

Sample Number: Blank Spike Duplicate
Sample Matrix: Water

Report Date: 03/20/96
Date Extracted: 03/20/96
Date Analyzed: 03/20/96
Time Analyzed: 3:15 PM

Analyte	Spike Recovery (%)	Duplicate Recovery (%)	Percent Difference
Benzene	105%	109%	3%
Toluene	104%	108%	4%
Ethylbenzene	102%	107%	4%
m-Xylene	104%	109%	4%
o-Xylene	102%	107%	4%

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
a,a,a-Trifluorotoluene	101%	75 - 125%
Bromofluorobenzene	102%	70 - 120%

Reference: Method 5030A, Purge and Trap.
Method 8020A, Aromatic Volatile Organics.
SW-846, Test Methods for Evaluating Solid Waste, United States Environmental Protection Agency, Final Update II, September 1994.

Comments:

Analyst

Ramona R. Dennis
Review