3R - 289

GENERAL CORRESPONDENCE

YEAR(S):
1998 - 1994

MERRION

Oil & Gas

July 21, 1998

JUL 22 1998

Mr. William C. Olson, Hydrologist
Environmental Bureau
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

RE: Osborn #1, CLU #302, Canada Mesa #3 Soil Contamination

Dear Mr. Olson

Attached please find laboratory analyses which indicate that the groundwater was not contaminated at the two subject sites, the CLU #302 and the Canada Mesa #3. The water samples were tested for TPH and BTEX and the results from both tests at both sites were within acceptable levels. Closure reports have not been filed for the pits at either site because the soil remediation is not complete.

The Osborn #1 was sold to Holcomb Oil & Gas, 3001 Northridge Dr., Farmington, NM 87401, phone (505)326-0550, who assumed all environmental liability associated with the site.

If you need further information, please call me at the number listed below, ext. 126.

Sincerely

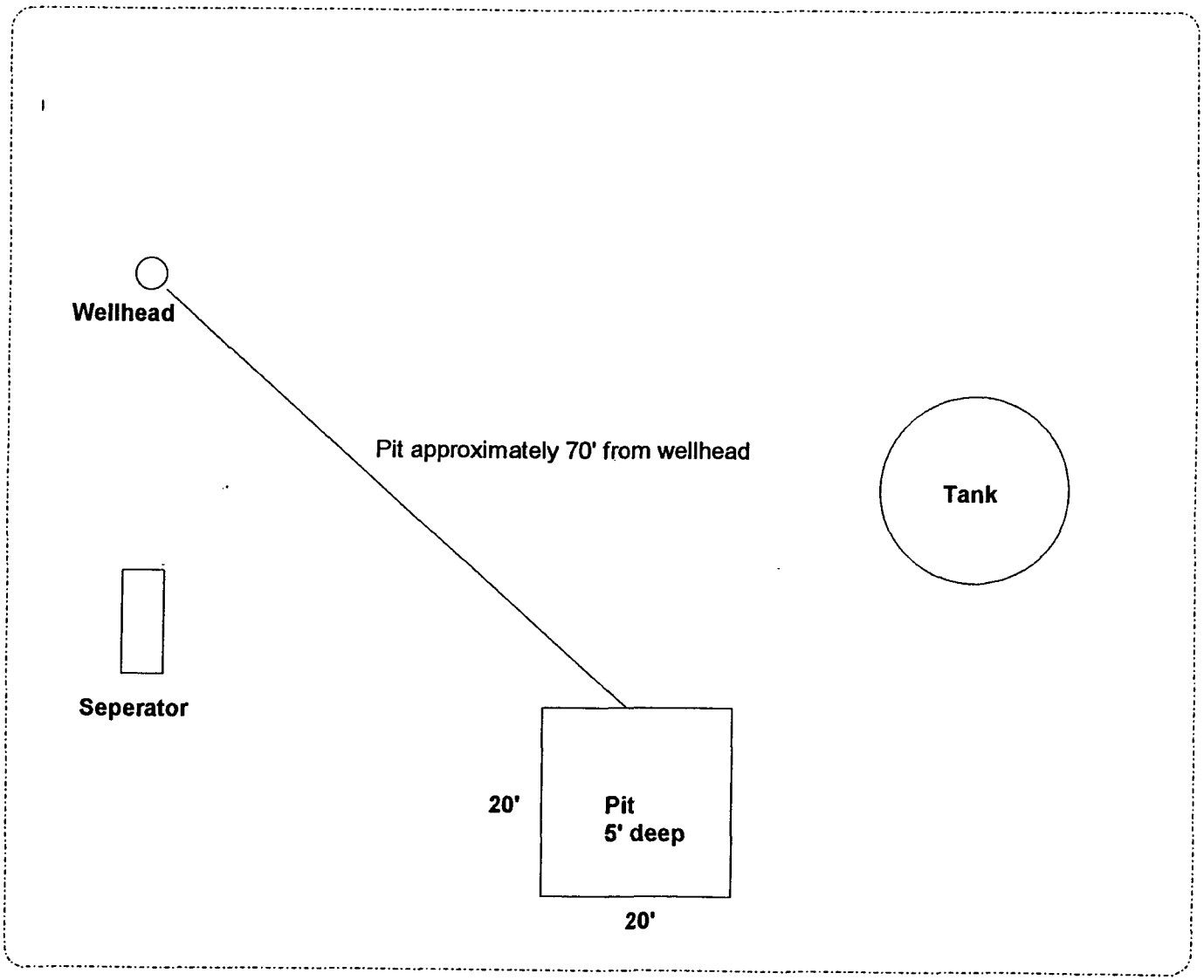
Connie Dinning, Contract Engineer

Attachments

CC: Denny Foust, OCD Aztec District Office w/ abbreviated attachments

610 Reilly Avenue • Farmington, New Mexico 87401-2634 • 505-327-9801 / 505 326-5900 (Fax)

Merrion Oil & Gas
CLU #302
Site Schematic



MERRION OIL & GAS
Daily Pit Closure Report

Date: 6-6-94

Well: CLU 302 #1

Report: Took Ground water sample from center of pit. Excavated 5' downgradiant took water sample #2 Looked clean OVM of soil tested less then 100 ppm.

Margi Sullivan
Engr Tech

iml
Inter-Mountain
Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

15 June 1994

Margi Sullivan
Merrion Oil and Gas
610 Reilly
Farmington, NM 87401

Mrs. Sullivan :

Enclosed please find the report for the samples received by our laboratory for analysis on June 8, 1994.

If you have any questions about the results of these analyses, please don't hesitate to call me at your convenience.

Sincerely,

Austin Wallace
Organic Analyst/IML-Farmington

Enclosure

xc: File

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Merrion Oil and Gas

Case Narrative

On June 8, 1994, three samples were submitted to Inter-Mountain Laboratories - Farmington for analysis. The samples were received cool and intact and were designated CLU 302 #1, CLU 302 #2, CANADA MESA #3. Analyses for Benzene-Toluene-Ethylbenzene-Xylenes (BTEX) and Total Petroleum Hydrocarbons (TPH) were performed on the water samples as per the accompanying Chain of Custody document.

BTEX analysis on the samples was performed by EPA Method 5030, Purge and Trap, and EPA Method 8020, Aromatic Volatile Hydrocarbons, using an OI Analytical 4560 Purge and Trap and a Hewlett-Packard 5890 Gas Chromatograph, equipped with a photoionization detector. Detectable levels of BTEX analytes were found in the sample as indicated in the enclosed report.

The Total Petroleum Hydrocarbon samples were extracted by Method 3550, "Sonication Extraction", with 1,1,2-trichloro 1,2,2-trifluoroethane (Freon) as the extraction solvent. Analysis was by Method 418.1, "Total Recoverable Petroleum Hydrocarbons", using a Beckman Acculab 10 Infrared Spectro-photometer. Petroleum hydrocarbons were detected in the samples as indicated in the enclosed report.

It is the policy of this laboratory to employ, whenever possible, preparatory and analytical methods which have been approved by regulatory agencies. The methods used in the analyses of the samples reported herein are found in Test Methods for Evaluation of Solid Waste, SW-846, USEPA, 1986 and Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, USEPA, 1983.

Quality control reports appear at the end of the analytical package and may be identified by title. If there are any questions regarding the information presented in this package, please feel free to call at your convenience.

Sincerely,

Austin Wallace
Organic Analyst

Inter- Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSES / PARAMETERS
Merrion Oil & Gas	CLU 302, Canada Mesa 3	
Sampler: (Signature) Margi Sullivan	**Chain of Custody Tape No.**	

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	TPH	BTEX			Remarks
CLU 302 # 1	6-6-94	3:30	G00657	water	2	✓	✓			
CLU 302 # 2	6-6-94	5:00	G00658	"	2	✓	✓			
Canada Mesa 3 # 3	6-7-94	5:00	G00659	"	2	✓	✓			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Margi Sullivan	6-8-94	8:05		6-8	8:05
Relinquished by: (Signature)	**Date**	**Time**	**Received by: (Signature)**	**Date**	**Time**
Relinquished by: (Signature)	**Date**	**Time**	**Received by laboratory: (Signature)**	**Date**	**Time**

Inter-Mountain Laboratories, Inc.

☐ 1633 Terra Avenue, Sheridan, Wyoming 82801, Telephone (307) 672-8945

☐ 1714 Phillips Circle, Gillette, Wyoming 82716, Telephone (307) 682-8945

☐ 2506 West Main Street, Farmington, NM 87401, Telephone (505) 326-4737

☐ 1160 Research Dr., Bozeman, Montana 59715, Telephone (406) 586-8450

☐ 11183 SH 30, College Station, TX 77845, Telephone (409) 776-8945

☐ 3304 Longmire Drive, College Station, TX 77845, Telephone (409) 774-4999

20765

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
EPA METHOD 418.1

Merrion Oil and Gas

Project: CLU 302, Canada Mesa 3
Matrix: Water
Condition: Intact/Cool

Date Reported: 06/14/94
Date Sampled: 6/6-7/1994
Date Received: 06/08/94
Date Extracted: 06/10/94
Date Analyzed: 06/10/94

Sample ID	Lab ID	Result (mg/L)	Detection Limit
CLU 302 #1	G00657	98	25
CLU 302 #2	G00658	ND	1
Canada Mesa #3	G00659	ND	1

center of pit

10' downgradient from pit edge

ND - Analyte not detected at stated detection level.

References:

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

Method 3510: Separatory Funnel Liquid - Liquid Extraction, USEPA SW-846, Test Methods for Evaluating Solid Waste, Rev. 1, July 1992.

Analyst: [signature]

Reviewed: mh

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Merrion Oil and Gas

Project ID:	CLU 302, Canada Mesa 3	Report Date:	06/14/94
Sample ID:	CLU 302 #1	Date Sampled:	06/06/94
Lab ID:	G00657	Date Received:	06/08/94
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	06/13/94

Center of pit (no ground water contamination just soil above

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	8.7 ok	1.0
Toluene	2 ok	1.0
Ethylbenzene	1.3 ok	1.0
m,p-Xylenes	9.9 ok	1.0
o-Xylene	ND	1.0

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	99.5	86 -115%

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

mh
Review

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Merrion Oil and Gas

Project ID:	CLU 302, Canada Mesa 3	Report Date:	06/14/94
Sample ID:	CLU 302 #2	Date Sampled:	06/06/94
Lab ID:	G00658	Date Received:	06/08/94
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	06/13/94

10' Down Gradient of pit

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	92.8	86 -115%

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

mh
Review

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

QUALITY ASSURANCE / QUALITY CONTROL

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
Quality Assurance/Quality Control

Merrion Oil and Gas

Project: CLU 302, Canada Mesa 3
Matrix: Water
Condition: Intact/Cool

Date Reported: 06/12/94
Date Sampled: 6/6-7/1994
Date Received: 06/08/94
Date Extracted: 06/10/94
Date Analyzed: 06/10/94

Method Blank Analysis

Lab ID	Result	Detection Limit
MB	ND	1

ND - Analyte not detected at stated detection level.

References:

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

Method 3510: Separatory Funnel Liquid - Liquid Extraction, USEPA SW-846, Test Methods for Evaluating Solid Waste, Rev. 1, July. 1992.

Analyst: Austin Cook

Reviewed: mh

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Duplicate Analysis

Lab ID: G00658
Sample Matrix: Water
Condition: Cool/Intact

Report Date: 06/14/94
Date Sampled: 06/06/94
Date Received: 06/08/94
Date Extracted: NA
Date Analyzed: 06/13/94

Target Analyte	Duplicate Concentration (ppb)	Original Concentration (ppb)	% Difference
Benzene	ND	ND	NA
Toluene	ND	ND	NA
Ethylbenzene	ND	ND	NA
m,p-Xylenes	1.2	ND	NE
o-Xylene	ND	ND	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Duplicate acceptance range not established by the EPA.

Quality Control

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	91.8%	86 -115%

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

Matrix Spike Analysis

Lab ID: G00657
Sample Matrix: Water
Condition: Cool/Intact

Report Date: 06/14/94
Date Sampled: 06/06-07/94
Date Received: 06/08/94
Date Extracted: NA
Date Analyzed: 06/14/94

Target Analyte	Spiked Sample Result in ng	Sample result in ng	Spike Added (ng)	% Recovery	Acceptance Limits (%)
Benzene	68.0	0.00	75	90.7%	39-150
Toluene	70.2	0.71	75	92.7%	32-160
Ethylbenzene	71.3	0.00	75	95.1%	46-148
m,p-Xylenes	141.0	1.22	150	93.2%	NE
o-Xylene	135.0	0.41	150	89.7%	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Spike acceptance range not established by the EPA.

Quality Control	Surrogate	Percent Recovery	Acceptance Limits
	Bromofluorobenzene	90.9%	86 -115%

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

Method Blank Analysis

Merrion Oil and Gas

Sample Matrix: Water
Lab ID: MB

Report Date: 06/14/94
Date Analyzed: 06/13/94

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	99.8	74-121%

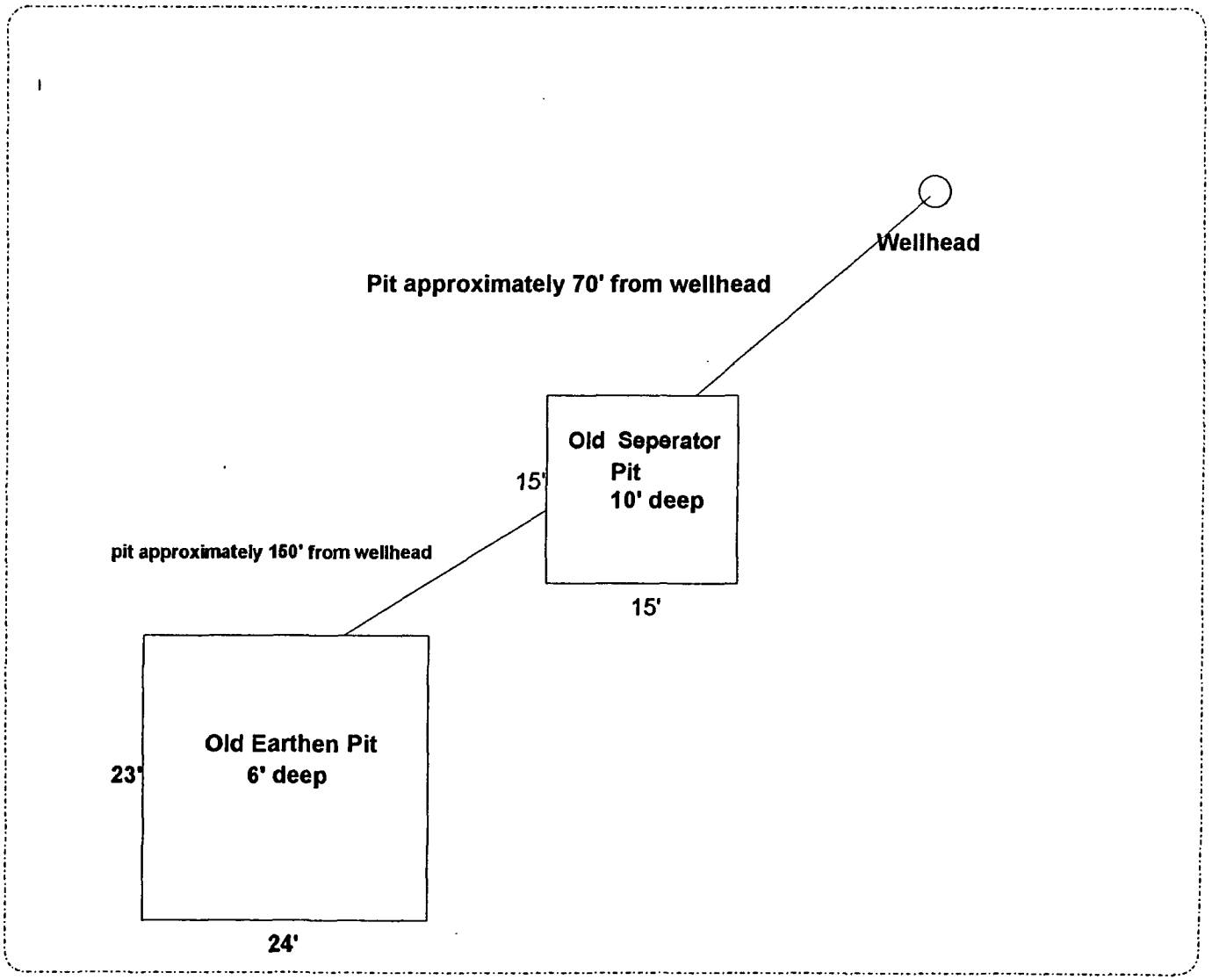
Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

Review

Merrion Oil & Gas
Canada Mesa #3
Site Schematic



MERRION OIL & GAS
Daily Pit Closure Report

Date: 6-9-94

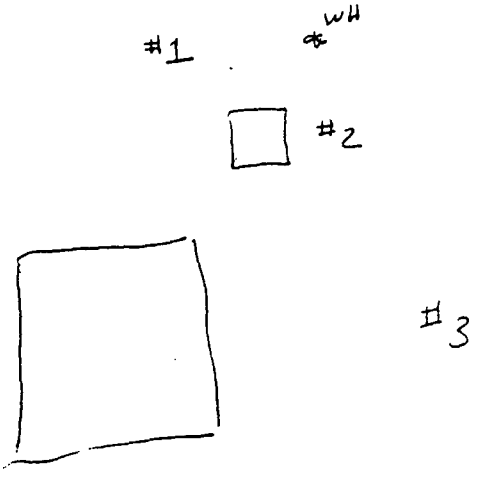
Well: Canada Mesa 3

Report: Continuing sampling. #1
Took Ground water sample at location #1.
GW sample #2 at location #2.
GW sample #3 at location #3
GW sample #4 at location #4

&
Composit soil sample at location #4
gave OVM reading of 388 ppm.

Estimate a 50' radius around pit of contamination.

Margi Sullivan
Engr Tech



Inter-Mountain
Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

13 June 1994

Margi Sullivan
Merrion Oil and Gas
610 Reilly
Farmington, NM 87401

Mrs. Sullivan :

Enclosed please find the report for the samples received by our laboratory for analysis on June 3, 1994.

If you have any questions about the results of these analyses, please don't hesitate to call me at your convenience.

Sincerely,

Austin Wallace
Organic Analyst/IML-Farmington

Enclosure

xc: File

CHAIN OF CUSTODY RECORD

Inter- Mountain Laboratories, Inc.

Client/Project Name	Project Location	ANALYSES / PARAMETERS
Merrion Oil & Gas	Canada Mesa 2+3	Copy
Sampler: (Signature) Margi Sullivan	**Chain of Custody Tape No.**	F.Y.I

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	TPH	BTEX			Remarks
~~Canada Mesa #1~~	~~6-2-94~~	~~3:50~~	600640		1	✓				
Canada Mesa 3 #1	6-1-94	4:00	646		2	✓	✓			
Old Rock 3 #1	6-2-94	3:50	647	Soil	1	✓				

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Margi Sullivan	6-3-94	3:00	Austin Wolf	6-3	3:00
Relinquished by: (Signature)	**Date**	**Time**	**Received by: (Signature)**	**Date**	**Time**
Relinquished by: (Signature)	**Date**	**Time**	**Received by laboratory: (Signature)**	**Date**	**Time**

Inter-Mountain Laboratories, Inc.

☐ 1633 Terra Avenue, Sheridan, Wyoming 82801, Telephone (307) 672-8945

☐ 1714 Phillips Circle, Gillette, Wyoming 82716, Telephone (307) 682-8945

☒ 2506 West Main Street, Farmington, NM 87401, Telephone (505) 326-4737

☐ 1160 Research Dr., Bozeman, Montana 59715, Telephone (406) 586-8450

☐ 11183 SH 30, College Station, TX 77845, Telephone (409) 776-8945

☐ 3304 Longmire Drive, College Station, TX 77845, Telephone (409) 774-4999

20763

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Merrion Oil and Gas

Case Narrative

On June 3, 1994, two samples were submitted to Inter-Mountain Laboratories - Farmington for analysis. The samples were received cool and intact. Analyses for Benzene-Toluene-Ethylbenzene-Xylenes (BTEX) and Total Petroleum Hydrocarbons (TPH) were performed on the water samples as per the accompanying Chain of Custody document.

BTEX analysis on the samples was performed by EPA Method 5030, Purge and Trap, and EPA Method 8020, Aromatic Volatile Hydrocarbons, using an OI Analytical 4560 Purge and Trap and a Hewlett-Packard 5890 Gas Chromatograph, equipped with a photoionization detector. Detectable levels of BTEX analytes were found in the sample, as indicated on the report sheets.

The Total Petroleum Hydrocarbon samples were extracted by Method 3550, "Sonication Extraction", with 1,1,2-trichloro 1,2,2-trifluoroethane (Freon) as the extraction solvent. Analysis was by Method 418.1, "Total Recoverable Petroleum Hydrocarbons", using a Beckman Acculab 10 Infrared Spectro-photometer. Petroleum hydrocarbons were detected in the samples as indicated in the enclosed report.

It is the policy of this laboratory to employ, whenever possible, preparatory and analytical methods which have been approved by regulatory agencies. The methods used in the analyses of the samples reported herein are found in Test Methods for Evaluation of Solid Waste, SW-846, USEPA, 1986 and Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, USEPA, 1983.

Quality control reports appear at the end of the analytical package and may be identified by title. If there are any questions regarding the information presented in this package, please feel free to call at your convenience.

Sincerely,

Austin Wallace
Organic Analyst

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
EPA METHOD 418.1

Merrion Oil and Gas

Project: Canada Mesa 2&3
Matrix: Water\Soil
Condition: Intact/Cool

Date Reported: 06/12/94
Date Sampled: 06/01-02/94
Date Received: 06/03/94
Date Extracted: 06/10/94
Date Analyzed: 06/10/94

ground water sample
center of pit.

Sample ID	Lab ID	Result (mg/L)	Detection Limit
Canada Mesa 3 #1	G00646	42	10
Old Rock 3 #1	G00647	ND	19

ND - Analyte not detected at stated detection level.

References:

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

Method 3510: Separatory Funnel Liquid - Liquid Extraction, USEPA SW-846, Test Methods for Evaluating Solid Waste, Rev. 1, July 1992.

Analyst: _____ Reviewed: _____

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Merrion Oil and Gas

Project ID:	Canada Mesa 2&3	Report Date:	06/12/94
Sample ID:	Canada Mesa 3 #1	Date Sampled:	06/01/94
Lab ID:	G00646	Date Received:	06/03/94
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	06/10/94

Ground water center of pit

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	0.2
Toluene	0.4 ok	0.2
Ethylbenzene	ND	0.2
m,p-Xylenes	0.5 ok	0.2
o-Xylene	5.4	0.2

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	108.6	86 -115%

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:

Austin Ward
Analyst

mh
Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

QUALITY ASSURANCE / QUALITY CONTROL

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
Quality Assurance/Quality Control

Merrion Oil and Gas

Project: Canada Mesa 2&3
Matrix: Water\Soil
Condition: Intact/Cool

Date Reported: 06/12/94
Date Sampled: 06/01-02/94
Date Received: 06/03/94
Date Extracted: 06/10/94
Date Analyzed: 06/10/94

Duplicate Analysis

Lab ID	Sample Result	Duplicate Result	Units	% Difference
G00646	ND	ND	ppm	NA

Matrix Spike Analysis

Lab ID	Sample Result	Spike Result	Spike Added	% Recovery
G00646	0.10	9.60	10	95.0%

Method Blank Analysis

Lab ID	Result	Detection Limit
MB	ND	20

ND - Analyte not detected at stated detection level.

References:

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

Method 3510: Separatory Funnel Liquid - Liquid Extraction, USEPA SW-846, Test Methods for Evaluating Solid Waste, Rev. 1, July. 1992.

Analyst: _____ Reviewed: mh

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Duplicate Analysis

Lab ID: G00646
Sample Matrix: Water
Condition: Cool/Intact

Report Date: 06/12/94
Date Sampled: 06/01/94
Date Received: 06/03/94
Date Extracted: NA
Date Analyzed: 06/10/94

Target Analyte	Duplicate Concentration (ppb)	Original Concentration (ppb)	% Difference
Benzene	ND	ND	NA
Toluene	0.4	0.4	0.0
Ethylbenzene	ND	ND	NA
m,p-Xylenes	0.5	0.5	NE
o-Xylene	4.1	5.4	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Duplicate acceptance range not established by the EPA.

Quality Control

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	104.0	86 -115%

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

mh
Review

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS
QUALITY CONTROL REPORT

Method Blank Analysis

Merrion Oil and Gas

Sample Matrix: Water
Lab ID: MB

Report Date: 06/12/94
Date Analyzed: 06/12/94

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	100.5	74-121%

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

mh
Review

Inter-Mountain
Laboratories, Inc.

2506 West Main Street
Farmington, New Mexico 87401
Tel. (505) 326-4737

22 June 1994

Margi Sullivan
Merrion Oil and Gas
610 Reilly
Farmington, NM 87401

Mrs. Sullivan :

Enclosed please find the report for the samples received by our laboratory for analysis on June 10, 1994.

If you have any questions about the results of these analyses, please don't hesitate to call me at your convenience.

Sincerely,

Austin Wallace
Organic Analyst/IML-Farmington

Enclosure

xc: File

Inter- Mountain Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
Merrion Oil & Gas	Canada Mesa #3

Sampler: (Signature)	Chain of Custody Tape No.
Jay Archer	

Sample No./ Identification	Date	Time	Lab Number	Matrix	No. of Containers	TPH	BTEX			Remarks
#1	6-9-94	10:00		H2O	2	✓	✓			
#2	6-9-94	10:00			2	✓	✓			
#3	6-9-94	10:00			2	✓	✓			
#4	6-9-94	10:00			2	✓	✓			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Jay Archer	6/10/94	9:50	Jay Archer		
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
			Andrea Wal	6/10	950
Relinquished by: (Signature)	Date	Time	Received by laboratory: (Signature)	Date	Time

Inter-Mountain Laboratories, Inc.

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☐ 11183 SH 30, College Station, TX 77845, Telephone (409) 776-8945

☐ 3304 Longmire Drive, College Station, TX 77845, Telephone (409) 774-4999

21510

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Merrion Oil and Gas

Case Narrative

On June 10, 1994, four samples were submitted to Inter-Mountain Laboratories - Farmington for analysis. The samples were received cool and intact and were designated #1, #2, #3, #4. Analyses for Benzene-Toluene-Ethylbenzene-Xylenes (BTEX) and Total Petroleum Hydrocarbons (TPH) were performed on the water samples as per the accompanying Chain of Custody document.

BTEX analysis on the samples was performed by EPA Method 5030, Purge and Trap, and EPA Method 8020, Aromatic Volatile Hydrocarbons, using an OI Analytical 4560 Purge and Trap and a Hewlett-Packard 5890 Gas Chromatograph, equipped with a photoionization detector. Detectable levels of BTEX analytes were found in the sample as indicated in the enclosed report.

The Total Petroleum Hydrocarbon samples were extracted by Method 3550, "Sonication Extraction", with 1,1,2-trichloro 1,2,2-trifluoroethane (Freon) as the extraction solvent. Analysis was by Method 418.1, "Total Recoverable Petroleum Hydrocarbons", using a Beckman Acculab 10 Infrared Spectro-photometer. Petroleum hydrocarbons were detected in the samples as indicated in the enclosed report.

It is the policy of this laboratory to employ, whenever possible, preparatory and analytical methods which have been approved by regulatory agencies. The methods used in the analyses of the samples reported herein are found in Test Methods for Evaluation of Solid Waste, SW-846, USEPA, 1986 and Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, USEPA, 1983.

Quality control reports appear at the end of the analytical package and may be identified by title. If there are any questions regarding the information presented in this package, please feel free to call at your convenience.

Sincerely,

Austin Wallace
Organic Analyst

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
EPA METHOD 418.1

Merrion Oil and Gas

Project: Canada Mesa #3
Matrix: Water
Condition: Intact/Cool

Date Reported: 06/22/94
Date Sampled: 06/09/94
Date Received: 06/10/94
Date Extracted: 06/13/94
Date Analyzed: 06/14/94

Sample ID	Lab ID	Result (mg/L)	Detection Limit
#1	G00688	ND	1
#2	G00689	ND	1
#3	G00690	ND	1
#4	G00691	4.0	1

ND - Analyte not detected at stated detection level.

References:

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

Method 3510: Separatory Funnel Liquid - Liquid Extraction, USEPA SW-846, Test Methods for Evaluating Solid Waste, Rev. 1, July 1992.

Analyst: _____ Reviewed: MK

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Merrion Oil and Gas

Project ID:	Canada Mesa #3	Report Date:	06/22/94
Sample ID:	#1	Date Sampled:	06/09/94
Lab ID:	G00688	Date Received:	06/10/94
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	06/17/94

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	104.4	86 -115%

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

Merrion Oil and Gas

Project ID:	Canada Mesa #3	Report Date:	06/22/94
Sample ID:	#2	Date Sampled:	06/09/94
Lab ID:	G00689	Date Received:	06/10/94
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	06/17/94

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	0.4	0.2
Toluene	ND	0.2
Ethylbenzene	2.7	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	113.8	86 -115%

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

Merrion Oil and Gas

Project ID:	Canada Mesa #3	Report Date:	06/22/94
Sample ID:	#3	Date Sampled:	06/09/94
Lab ID:	G00690	Date Received:	06/10/94
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	06/17/94

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	110.2	86 -115%

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, I

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Merrion Oil and Gas

Project ID:	Canada Mesa #3	Report Date:	06/22/94
Sample ID:	#4	Date Sampled:	06/09/94
Lab ID:	G00691	Date Received:	06/10/94
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	06/18/94

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	0.2
Toluene	0.2	0.2
Ethylbenzene	ND	0.2
m,p-Xylenes	0.3	0.2
o-Xylene	ND	0.2

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	111.7	86 -115%

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

QUALITY ASSURANCE / QUALITY CONTROL

Inter-Mountain Laboratories, Inc

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
Quality Assurance/Quality Control

Merrion Oil and Gas

Project: Canada Mesa #3
Matrix: Water
Condition: Intact/Cool

Date Reported: 06/21/94
Date Sampled: 06/09/94
Date Received: 06/10/94
Date Extracted: 06/13/94
Date Analyzed: 06/14/94

Method Blank Analysis

Lab ID	Result	Detection Limit
MB	ND	1

ND - Analyte not detected at stated detection level.

References:

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

Method 3510: Separatory Funnel Liquid - Liquid Extraction, USEPA SW-846, Test Methods for Evaluating Solid Waste, Rev. 1, July. 1992.

Analyst: Kristine Wolf

Reviewed: MK

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Duplicate Analysis

Lab ID:	G00690	Report Date:	06/22/94
Sample Matrix:	Water	Date Sampled:	06/09/94
Condition:	Cool/Intact	Date Received:	06/10/94
		Date Extracted:	NA
		Date Analyzed:	06/17/94

Target Analyte	Duplicate Concentration (ppb)	Original Concentration (ppb)	% Difference
Benzene	ND	ND	NA
Toluene	ND	ND	NA
Ethylbenzene	ND	ND	NA
m,p-Xylenes	ND	ND	NE
o-Xylene	ND	ND	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Duplicate acceptance range not established by the EPA.

Quality Control	Surrogate	Percent Recovery	Acceptance Limits
	Bromofluorobenzene	113.3%	86 -115%

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

Matrix Spike Analysis

Lab ID: G00691
Sample Matrix: Water
Condition: Cool/Intact

Report Date: 06/22/94
Date Sampled: 06/09/94
Date Received: 06/10/94
Date Extracted: NA
Date Analyzed: 06/18/94

Target Analyte	Spiked Sample Result in ng	Sample result in ng	Spike Added (ng)	% Recovery	Acceptance Limits (%)
Benzene	44.74	0.00	45	99.4%	39-150
Toluene	46.63	1.00	45	101.4%	32-160
Ethylbenzene	46.79	0.33	45	103.2%	46-148
m,p-Xylenes	93.71	1.64	90	102.3%	NE
o-Xylene	96.80	0.20	90	107.3%	NE

ND - Analyte not detected at the stated detection limit.
NA - Not applicable or not calculated.
NE - Spike acceptance range not established by the EPA.

Quality Control

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	111.8%	86 -115%

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

Method Blank Analysis

Merrion Oil and Gas

Sample Matrix:	Water	Report Date:	06/22/94
Lab ID:	MB	Date Analyzed:	06/18/94

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	105.6	74-121%

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

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

July 10, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. Z-235-437-310

Ms. Rachel Dunn
Merrion Oil & Gas
P.O. Box 840
Farmington, New Mexico 87499

RE: GROUND WATER CONTAMINATION
OSBORN #1, CLU #302 AND CANADA MESA #3 WELL SITES

Dear Ms. Dunn:

On August 23, 1994, the New Mexico Oil Conservation Division (OCD) requested information from Merrion Oil & Gas (MOG) regarding ground water contamination at the Osborn #1, CLU #302 and Canada Mesa #3 well sites. A review of the OCD's files shows that to date the OCD has not received this requested information.

The OCD requires that MOG submit this previously required information to the OCD by August 7, 1998. The information will be submitted to the OCD Santa Fe Office with a copy provided to the OCD Aztec District Office.

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

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: Denny Foust, OCD Aztec District Office

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

DRUG FREE

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

August 23, 1994

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

CERTIFIED MAIL
RETURN RECEIPT NO. P-111-334-157

Ms. Rachel Dunn
Merrion Oil & Gas
P.O. Box 840
Farmington, New Mexico 87499

RE: GROUND WATER CONTAMINATION
OSBORN #1, FAWKES #1, CLU #302, CANADA MESA #3 WELL SITES
SAN JUAN COUNTY, NEW MEXICO

Dear Ms. Dunn:

The New Mexico Oil Conservation Division (OCD) is in the process of reviewing Merrion Oil & Gas' (MOG) June 20, 1994 and April 28, 1994 correspondence. These documents present the results of water quality sampling of ground water during the closure of unlined pits at the Osborn #1, Fawkes #1, CLU #302 and Canada Mesa #3 well sites which are operated by MOG.

In order to complete a review of the above referenced documents, the OCD requests that MOG provide the following information:

1. A map for each well site showing the locations of all soil and ground water sampling points.

2. The ground water sampling procedures used at each site.

3. An explanation for the discrepancy in ground water analytical sampling results between different sampling events at the Osborn #1 and Fawkes #1 well sites.

Submission of the above information will allow the OCD to complete a review of these documents.

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

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: OCD Aztec District Office

MERRION

OIL & GAS

June 20, 1994

Mr. Bill Olson
NMOCD
PO Box 2088
Santa Fe, NM 87504

Dear Mr. Olson:

As you requested, I am sending you a list of wells that we have encountered ground water on along with the laboratory results.

1. **Osborn #1:** The first water samples taken were analyzed by Envirotech. We feel that these samples are not accurate due to improper sampling procedures. (Dirt in the sample jars.) The second set of samples were taken to Intermountain Lab, these show a small amount of contamination.

2. **Fawkes #1:** The first set of samples on this well were also taken to Envirotech and we feel are not accurate due to sampling procedures. The second set of samples taken to Intermountain Lab show no contamination in the ground water. We have already submitted a closure report for this well.

3. **CLU #302:** One ground water sample was taken from the center of the pit, this shows contamination. A second ground water sample was taken from the center of the pit which shows slight contamination and a third water sample taken approx. 10' down gradient shows no contamination.

4. **Canada Mesa #3:** (See attached location diagram). Over 800 cubic yards of stained soil was excavated from the large pit and composted on location. Ground water sample at location #1 showed a small amount of contamination and sample #2 showed no contamination. We estimated that the hydrocarbons hit the ground water and moved along the water surface approx. 30' in all directions from the pit. Since the water samples were not overly contaminated we feel that the water itself did not absorb the heavy hydrocarbons.

Sincerely,

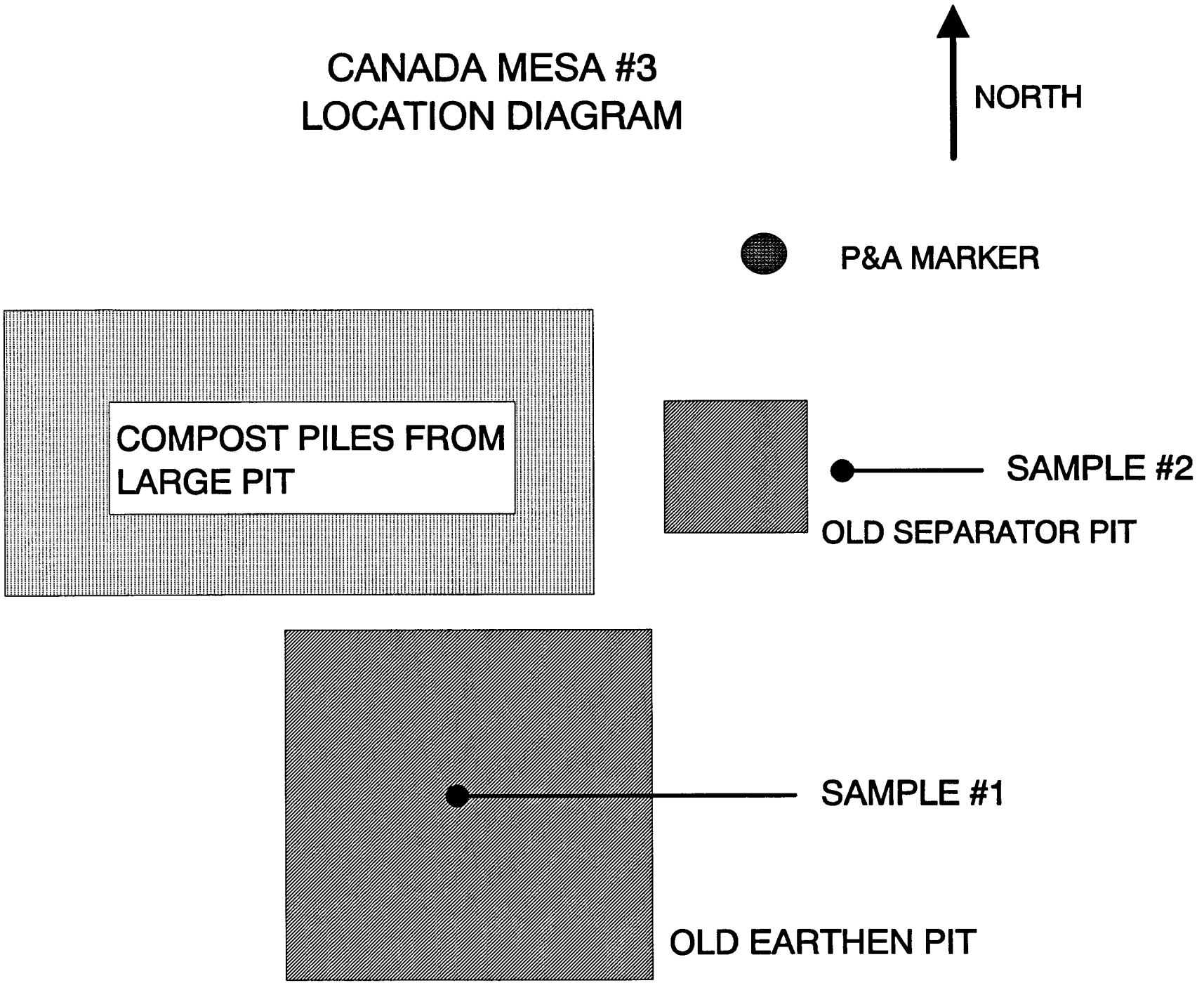
Margi Sullivan
Engineering Technician

Cc: *Denny Foust*

Attachments

610 Reilly Avenue • P.O. Box 840 • Farmington, New Mexico 87499 • 505-327-9801 / 505-326-5900 (Fax)

CANADA MESA #3
LOCATION DIAGRAM



Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
EPA METHOD 418.1

Merrion Oil and Gas

Project: Canada Mesa 2&3
Matrix: Water\Soil
Condition: Intact/Cool

Date Reported: 06/12/94
Date Sampled: 06/01-02/94
Date Received: 06/03/94
Date Extracted: 06/10/94
Date Analyzed: 06/10/94

ground water sample
center of pit.

Sample ID	Lab ID	Result (mg/L)	Detection Limit
Canada Mesa 3 #1	G00646	42	10
Old Rock 3 #1	G00647	ND	19

ND - Analyte not detected at stated detection level.

References:

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

Method 3510: Separatory Funnel Liquid - Liquid Extraction, USEPA SW-846, Test Methods for Evaluating Solid Waste, Rev. 1, July 1992.

Analyst: _____ Reviewed: mk

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Merrion Oil and Gas

Project ID:	Canada Mesa 2&3	Report Date:	06/12/94
Sample ID:	Canada Mesa 3 #1	Date Sampled:	06/01/94
Lab ID:	G00646	Date Received:	06/03/94
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	06/10/94

Ground water center of pit

Target Analyte	Concentration (ppb)	Detection Limit (ppb)
Benzene	ND	0.2
Toluene	0.4 ok	0.2
Ethylbenzene	ND	0.2
m,p-Xylenes	0.5 ok	0.2
o-Xylene	5.4	0.2

ND - Analyte not detected at the stated detection limit.

Quality Control:

Surrogate	Percent Recovery	Acceptance Limits
Bromofluorobenzene	108.6	86 -115%

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

mh
Review

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

TOTAL PETROLEUM HYDROCARBONS
EPA METHOD 418.1

Merrion Oil and Gas

Project: CLU 302, Canada Mesa 3
Matrix: Water
Condition: Intact/Cool

Date Reported: 06/14/94
Date Sampled: 6/6-7/1994
Date Received: 06/08/94
Date Extracted: 06/10/94
Date Analyzed: 06/10/94

Ground water sample outside east edge of small pit

Sample ID	Lab ID	Result (mg/L)	Detection Limit
CLU 302 #1	G00657	98	25
CLU 302 #2	G00658	ND	1
Canada Mesa #3	G00659	ND	1

ND - Analyte not detected at stated detection level.

References:

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

Method 3510: Separatory Funnel Liquid - Liquid Extraction, USEPA SW-846, Test Methods for Evaluating Solid Waste, Rev. 1, July 1992.

Analyst: [signature]

Reviewed: mh

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

VOLATILE AROMATIC HYDROCARBONS

Merrion Oil and Gas

Project ID:	CLU 302, Canada Mesa 3	Report Date:	06/14/94
Sample ID:	Canada Mesa 3	Date Sampled:	06/07/94
Lab ID:	G00659	Date Received:	06/08/94
Sample Matrix:	Water	Date Extracted:	NA
Condition:	Cool/Intact	Date Analyzed:	06/13/94

Ground water sample outside east edge of small pit

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	94.8	86 -115%

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

mh
Review