

**3R - 338**

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# **REPORTS**

**DATE:**

2001

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3R338



*Environmental Services*  
187 County Road 4980  
Bloomfield, New Mexico 87413  
(505) 632-4409 (office)  
(505) 632-4405 (fax)

March 20, 2002

Mr. William Olson  
Hydrologist  
Oil Conservation Division  
1220 S. St. Francis Dr.  
Santa Fe, NM 87505

**RECEIVED**  
**APR 04 2002**  
ENVIRONMENTAL BUREAU  
OIL CONSERVATION DIVISION

**RE: 2001 GROUND WATER SUMMARY REPORT**

Dear Mr. Olson:

Enclosed for your review is the 2001 Ground Water Summary Report. The report presents monitoring data for eighteen sites having petroleum hydrocarbon impacted ground water, which resulted from the past use of unlined surface impoundments. The sites included in the report are listed in Table 1.

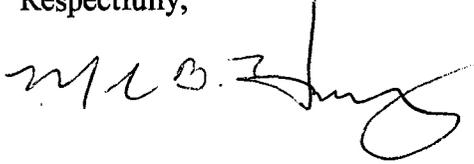
In 2001, three sites met the required remediation standards and were closed with OCD approval. The sites, listed in Table 2, achieved clean closure through a combination of contaminant source removal actions and monitored natural attenuation. Ground water cleanup objectives at each site were met in roughly three years, or less.

Of the eighteen active sites, five have accumulations of LNAPL in one or more monitoring well. In December 2001, the LNAPL accumulations were removed from these wells to evaluate LNAPL recovery rates and to augment the natural attenuation process. In 2002, passive LNAPL collection devices will be deployed or manual LNAPL removal events will be scheduled at some of the sites.

The remaining thirteen active sites either contain concentrations of dissolved BTEX in excess of cleanup standards or have met cleanup standards but have not yet demonstrated four consecutive clean quarters. Pursuant to discussions on the subject with OCD, Williams intends to implement various methods to accelerate the attenuation at select sites. These augmentation methods will be incorporated into an addendum to the Ground Water Management plan.

Thank you for your time to review this submittal. If you have any questions regarding the report, you may call me at (505) 632-4409 or Jim Struhs at (505) 632-4457.

Respectfully,



Mark B. Harvey  
Project Coordinator  
Mark.Harvey@Williams.com



James P. Struhs  
Project Hydrogeologist  
Jim.Struhs@Williams.com

Attachment  
Enclosure

c: Denny Foust, OCD Aztec District Office  
Bill Liess, BLM Farmington District Office

**Table 1. List of Active Sites for 2001 Report**

Count	Site Name	Unit Letter	Section	Township	Range	Longitude	Latitude	OCD Initial Notification
1	Bianco Wash Drip	J	31	27N	8W	-107.721574	36.530995	19-Feb-99
2	Chamberlain 1	F	14	32N	12W	-108.068853	36.990549	30-Sep-99
3	Davis 1	E	11	31N	12W	-108.068919	36.916257	2-Mar-99
4	Dogie East Pit	D	4	25N	6W	-107.478874	36.434196	7-Jul-97
5	Dogie North Pit	D	4	25N	6W	-107.479158	36.435784	7-Jul-97
6	Florance 124	C	27	29N	9W	-107.76698	36.70209	12-Aug-96
7	Florance 40	G	21	30N	8W	-107.67775	36.800088	27-Jan-97
8	Florance M 47X	G	5	30N	9W	-107.799823	36.843166	27-Jan-97
9	Grenier 4A	M	7	31N	11W	-108.036001	36.910167	18-Oct-99
10	Honolulu Drip	B	15	26N	4W	-107.238469	36.492341	18-Jun-96
11	Ice Canyon Drip	J	13	26N	7W	-107.52226	36.484972	1-Dec-97
12	Jicarilla Contract 147-6	C	6	25N	5W	-107.402363	36.433963	13-Aug-98
13	Kaufman 1	H	33	31N	13W	-108.202128	36.860121	9-Mar-00
14	O' Shea 1M	F	3	31N	13W	-108.193596	36.932228	6-Jun-98
15	Patterson A Com A1	G	2	31N	12W	-108.061165	36.930755	2-Mar-99
16	Pritchard 2	J	6	30N	8W	-107.712068	36.837817	22-Feb-99
17	Wilmerding 1M	C	10	31N	13W	-108.193158	36.91846	5-Jun-98
18	Zachry 18E	O	11	28N	10W	-107.860007	36.670885	6-Sep-96

**Table 2. List of Sites Closed in 2001**

Count	Site Name	Unit Letter	Section	Township	Range	Longitude	Latitude	OCD Initial Notification	Status
1	Albright #4 Drip	F	22	29N	10W	-107.868451	36.715299	9-Jul-99	Approved; Wells Abandoned
2	Miles Federal 1E Drip	N	5	26N	7W	-107.602489	36.510939	23-Jun-97	Approved; Wells Abandoned
3	Randleman 1	K	13	31N	11W	-107.945067	36.896329	9-May-97	Pending OCD Approval

## Site Summary Report

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**Site Name:** Patterson A Com A1

**Reporting Period:** 2001

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**Location:** Unit G, Sec 2, Twn 31N, Rng 12W

**Canyon:** Farmington Glade

**Operator:** Burlington

**Vulnerable Class:** original

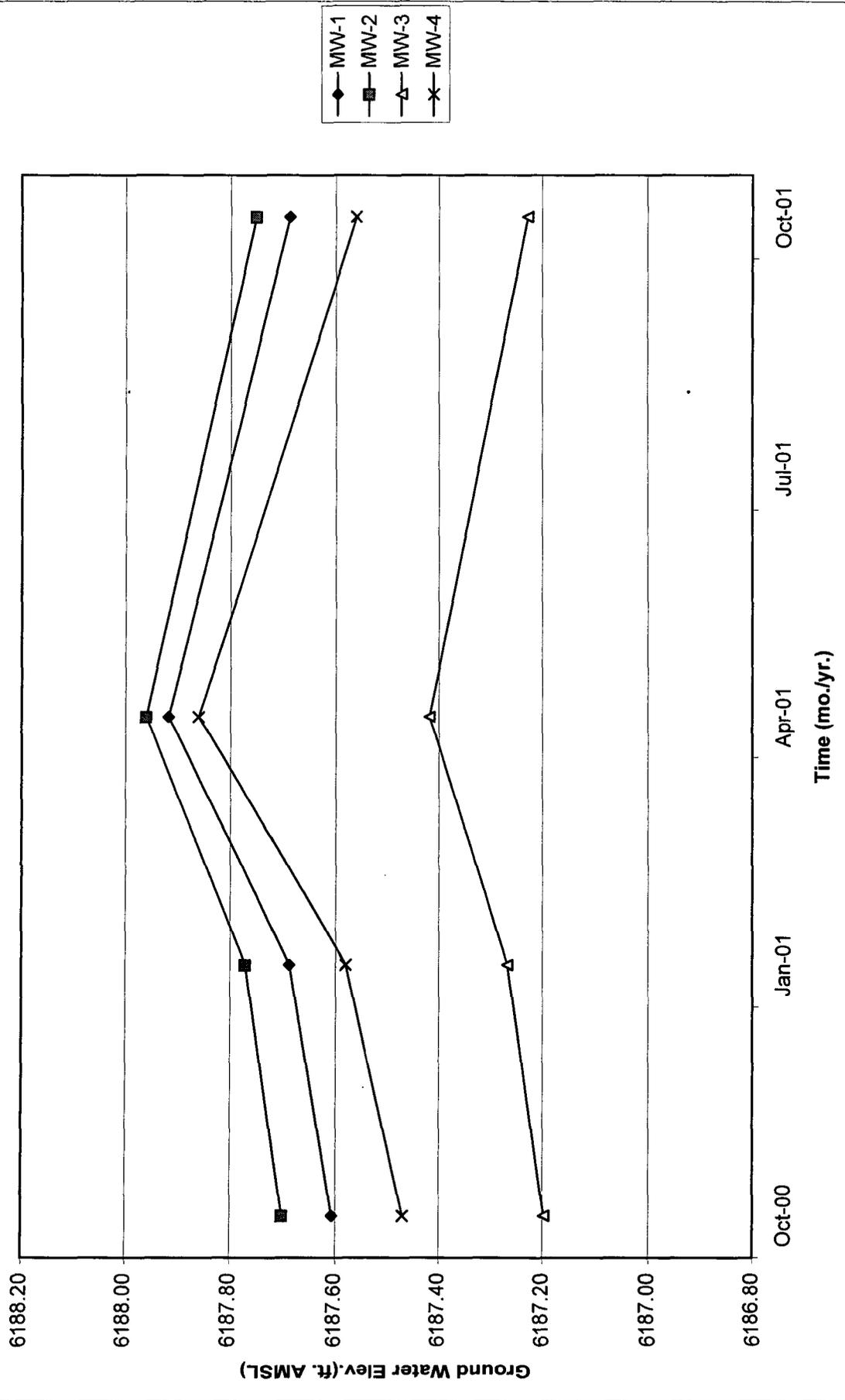
**OCD Ranking:** 40

**Lead Agency:** NMOCD

### Status Narrative

This site has seven monitoring wells, with nine quarters of ground water monitoring completed to date. Currently, only the source area well, MW-2, contains BTEX levels in excess of WQCC standards. Total BTEX levels in MW-2 have decreased from 9163.1 ug/l in October 2000 to 1735 ug/l in October 2001.

# Patterson A Com A1 Hydrograph



# Analytical Data Summary

Site Name:  
Patterson A Com A1

Reporting Period:  
7/1/00 To 12/31/01

Well ID	Sample Date	Sample ID	Benzene ug/l	Toluene ug/l	Ethylbenzene ug/l	Xylene (Total) ug/l
<b>MW-1</b>						
	10/29/00	141129OCT00	<1	<1	<1	<1
	1/11/01	154211JAN01	1.41	<1	<1	<1
	4/10/01	131410APR01	2.64	<1	<1	<1
	10/8/01	140008OCT01	2.5	<2.0	<2.0	<2.0
<b>MW-2</b>						
	10/29/00	134329OCT00	5410	2620	13.1	1120
	1/11/01	154911JAN01	4190	799	7.22	893
	4/10/01	132210APR01	3580	98.1	4.62	753.9
	10/8/01	141008OCT01	1400	74	<2.0	260
<b>MW-3</b>						
	10/29/00	143729OCT00	2.03	3.56	<1	2.22
	1/11/01	160811JAN01	2.15	3.16	<1	<1
	4/10/01	133010APR01	<1	1.32	<1	<1
	10/8/01	140508OCT01	6.1	4.1	<2.0	<2.0
<b>MW-7</b>						
	10/29/00	150929OCT00	13.2	3.30	5.59	13.1
	1/11/01	162411JAN01	15.5	13.1	<1	3.98
	4/10/01	134110APR01	3.25	4.67	<1	1.28
	10/8/01	135508OCT01	9.6	<2.0	<2.0	<2.0

Q W A L L A B O R A T O R I E S, I N C.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0010871

SENT WILLIAMS FIELD SERVICES  
 TO: 187 CNTY RD #4980  
 BLOOMFIELD, NM 87413  
 JIM STRUHS

DATE REPORTED: 11/06/00  
 DATE COLLECTED: 10/29/00  
 DATE RECEIVED: 10/31/00

PROJECT: WES/PATTERSON 1A

Reference Fraction:0010871-02B  
 Sample ID: PTRN1A-UG-MW-1  
 Sample Date Collected: 10/29/0014:11:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		ND	UG/L	1.0	11/02/00	MB
TOLUENE		ND	UG/L	1.0	11/02/00	MB
ETHYLBENZENE		ND	UG/L	1.0	11/02/00	MB
TOTAL XYLENES		ND	UG/L	1.0	11/02/00	MB
BFB (SURROGATE)		124	125	75		

NONE DETECTED  
 P= PRACTICAL QUANTITATION LIMIT  
 SU= STANDARD UNITS  
 B= DETECTED IN METHOD BLANK

APPROVED BY: Terry Koester  
 TERRY KOESTER  
 LABORATORY DIRECTOR

Q W A L L A B O R A T O R I E S , I N C .

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0010871

SENT WILLIAMS FIELD SERVICES  
TO: 187 CNTY RD #4980  
BLOOMFIELD, NM 87413  
JIM STRUHS  
PROJECT: WES/PATTERSON 1A

DATE REPORTED: 11/06/00  
DATE COLLECTED: 10/29/00  
DATE RECEIVED: 10/31/00

Reference Fraction:0010871-01A  
Sample ID: PTRN1A-SA-MW-2  
Sample Date Collected: 10/29/0013:43:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED BY
BTEX	OA1/8021B			3.0	
BENZENE		5410 D	UG/L	1.0	11/02/00 MB
TOLUENE		2620 D	UG/L	1.0	11/02/00 MB
ETHYLBENZENE		13.1	UG/L	1.0	11/02/00 MB
TOTAL XYLENES		1120	UG/L	1.0	11/02/00 MB
BFB (SURROGATE)		118	125	75	

NONE DETECTED  
P= PRACTICAL QUANTIFICATION LIMIT  
SU= STANDARD UNITS  
B= DETECTED IN METHOD BLANK

APPROVED BY:

*Terry Koester*  
TERRY KOESTER  
LABORATORY DIRECTOR

Q W A L L A B O R A T O R I E S , I N C .

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0010871

SENT WILLIAMS FIELD SERVICES  
 TO: 187 CNTY RD #4980  
 BLOOMFIELD, NM 87413  
 JIM STRUHS

DATE REPORTED: 11/06/00  
 DATE COLLECTED: 10/29/00  
 DATE RECEIVED: 10/31/00

PROJECT: WES/PATTERSON 1A

Reference Fraction:0010871-03A

Sample ID: PTRN1A-DG-MW-3

Sample Matrix: WATER

Sample Date Collected: 10/29/0014:37:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		2.03	UG/L	1.0	11/02/00	MB
TOLUENE		3.56	UG/L	1.0	11/02/00	MB
ETHYLBENZENE		ND	UG/L	1.0	11/02/00	MB
TOTAL XYLENES		2.22	UG/L	1.0	11/02/00	MB
BFB (SURROGATE)		125	125	75		

ND=NONE DETECTED

PQL=PRACTICAL QUANTITAION LIMIT

SU=STANDARD UNITS

B=DETECTED IN METHOD BLANK

APPROVED BY:

*Terry Koester*

TERRY KOESTER  
 LABORATORY DIRECTOR

Q W A L L A B O R A T O R I E S , I N C .

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0010871

SENT WILLIAMS FIELD SERVICES  
 TO: 187 CNTY RD #4980  
 BLOOMFIELD, NM 87413  
 JIM STRUHS

DATE REPORTED: 11/06/00  
 DATE COLLECTED: 10/29/00  
 DATE RECEIVED: 10/31/00

PROJECT: WES/PATTERSON 1A

Reference Fraction:0010871-04A

Sample ID: PTRN1A-UG-MW-7

Sample Matrix: WATER

Sample Date Collected: 10/29/0015:09:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED BY
BTEX	OA1/8021B			3.0	
BENZENE		13.2	UG/L	1.0	11/02/00 MB
TOLUENE		3.30	UG/L	1.0	11/02/00 MB
ETHYLBENZENE		5.59	UG/L	1.0	11/02/00 MB
TOTAL XYLENES		13.1	UG/L	1.0	11/02/00 MB
BFB (SURROGATE)		124	125	75	

ND=NONE DETECTED  
 P=PRACTICAL QUANTITAION LIMIT  
 SU=STANDARD UNITS  
 B=DETECTED IN METHOD BLANK

APPROVED BY: *Terry Koester*  
 TERRY KOESTER  
 LABORATORY DIRECTOR

Q W A L L A B O R A T O R I E S , I N C .

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0101412

SENT WILLIAMS GAS PIPELINE  
 TO: 187 COUNTY ROAD # 4980  
 BLOOMFIELD, NM 87413  
 JIM STRUHS

DATE REPORTED: 01/22/01  
 DATE COLLECTED: 01/11/01  
 DATE RECEIVED: 01/17/01

PROJECT: WES/PATTERSON A COM A1

Reference Fraction:0101412-01A

Sample ID: PTRN1A-CG-MW1

Sample Matrix: WATER

Sample Date Collected: 01/11/0115:42:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		1.41	UG/L	1.0	01/19/01	KKL
TOLUENE		ND	UG/L	1.0	01/19/01	KKL
ETHYLBENZENE		ND	UG/L	1.0	01/19/01	KKL
TOTAL XYLENES		ND	UG/L	1.0	01/19/01	KKL
BFB (SURROGATE)		89	125	75		

ND=NONE DETECTED

PQL=PRACTICAL QUANTITAION LIMIT

U=STANDARD UNITS

B=DETECTED IN METHOD BLANK

APPROVED BY:

  
 TERRY KOESTER  
 LABORATORY DIRECTOR

Q W A L L A B O R A T O R I E S , I N C .

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0101412

SENT WILLIAMS GAS PIPELINE  
 TO: 187 COUNTY ROAD # 4980  
 BLOOMFIELD, NM 87413  
 JIM STRUHS

DATE REPORTED: 01/22/01  
 DATE COLLECTED: 01/11/01  
 DATE RECEIVED: 01/17/01

PROJECT: WES/PATTERSON A COM A1

Reference Fraction: 0101412-02A  
 Sample ID: PTRN1A-SA-MW2  
 Sample Date Collected: 01/11/01 15:49:00

Sample Matrix: .WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		4190	UG/L	10	01/19/01	KKL
TOLUENE		799	UG/L	10	01/19/01	KKL
ETHYLBENZENE		7.22	UG/L	10	01/19/01	KKL
TOTAL XYLENES		893	UG/L	10	01/19/01	KKL
BFB (SURROGATE)		89	125	75		

NR=NONE DETECTED  
 PL=PRACTICAL QUANTITATION LIMIT  
 SU=STANDARD UNITS  
 B=DETECTED IN METHOD BLANK

APPROVED BY:   
 TERRY KOESTER  
 LABORATORY DIRECTOR

Q W A L L A B O R A T O R I E S , I N C .

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0101412

SENT **WILLIAMS GAS PIPELINE**  
 TO: **187 COUNTY ROAD # 4980**  
**BLOOMFIELD, NM 87413**  
**JIM STRUHS**

DATE REPORTED: 01/22/01  
 DATE COLLECTED: 01/11/01  
 DATE RECEIVED: 01/17/01

PROJECT: WES/PATTERSON A COM A1

Reference Fraction: 0101412-04A

Sample ID: PTRN1A-DG-MW3

Sample Matrix: WATER

Sample Date Collected: 01/11/01 16:08:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		2.15	UG/L	1.0	01/19/01	KKL
TOLUENE		3.16	UG/L	1.0	01/19/01	KKL
ETHYLBENZENE		ND	UG/L	1.0	01/19/01	KKL
TOTAL XYLENES		ND	UG/L	1.0	01/19/01	KKL
BFB (SURROGATE)		88	125	75		

ND=NONE DETECTED  
 =PRACTICAL QUANTITAION LIMIT  
 SU=STANDARD UNITS  
 B=DETECTED IN METHOD BLANK

APPROVED BY:

*Terry Koester*  
 TERRY KOESTER  
 LABORATORY DIRECTOR

Q W A L L A B O R A T O R I E S , I N C .

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0101412

SENT WILLIAMS GAS PIPELINE  
 TO: 187 COUNTY ROAD # 4980  
 BLOOMFIELD, NM 87413  
 JIM STRUHS

DATE REPORTED: 01/22/01  
 DATE COLLECTED: 01/11/01  
 DATE RECEIVED: 01/17/01

PROJECT: WES/PATTERSON A COM A1

Reference Fraction: 0101412-03A

Sample ID: PTRN1A-UG-MW7

Sample Matrix: WATER

Sample Date Collected: 01/11/01 16:24:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		15.5	UG/L	1.0	01/19/01	KKL
TOLUENE		13.1	UG/L	1.0	01/19/01	KKL
ETHYLBENZENE		ND	UG/L	1.0	01/19/01	KKL
TOTAL XYLENES		3.98	UG/L	1.0	01/19/01	KKL
BFB (SURROGATE)		89	125	75		

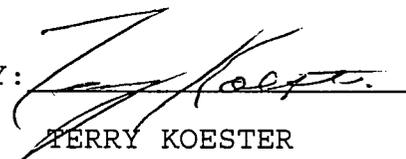
ND=NONE DETECTED

=PRACTICAL QUANTITAION LIMIT

SS=STANDARD UNITS

B=DETECTED IN METHOD BLANK

APPROVED BY:



TERRY KOESTER  
 LABORATORY DIRECTOR

Q W A L L A B O R A T O R I E S, I N C.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0104298

SENT WILLIAMS GAS PIPELINE  
 TO: 187 COUNTY ROAD #4980  
 BLOOMFIELD, NM 87413  
 JIM STRUHS

DATE REPORTED: 04/20/01  
 DATE COLLECTED: 04/10/01  
 DATE RECEIVED: 04/13/01

PROJECT: WES/PATTERSON A COM1A

Reference Fraction: 0104298-04A

Sample ID: PTRN1A-UG-MW1

Sample Matrix: WATER

Sample Date Collected: 04/10/01 13:14:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		2.64	UG/L	1.0	04/17/01	MB
TOLUENE		ND	UG/L	1.0	04/17/01	MB
ETHYLBENZENE		ND	UG/L	1.0	04/17/01	MB
TOTAL XYLENES		ND	UG/L	1.0	04/17/01	MB
BFB (SURROGATE)		92	125	75		

ND=NONE DETECTED

P=PRACTICAL QUANTITATION LIMIT

S=STANDARD UNITS

B=DETECTED IN METHOD BLANK

APPROVED BY: TERRY KOESTER

TERRY KOESTER  
 LABORATORY DIRECTOR

Q W A L L A B O R A T O R I E S, I N C.

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0104298

SENT WILLIAMS GAS PIPELINE  
 TO: 187 COUNTY ROAD #4980  
 BLOOMFIELD, NM 87413  
 JIM STRUHS

DATE REPORTED: 04/20/01  
 DATE COLLECTED: 04/10/01  
 DATE RECEIVED: 04/13/01

PROJECT: WES/PATTERSON A COM1A

Reference Fraction: 0104298-03A

Sample ID: PTRN1A-SA-MW2

Sample Matrix: WATER

Sample Date Collected: 04/10/01 13:22:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		3580	UG/L	10	04/17/01	MB
TOLUENE		98.1	UG/L	10	04/17/01	MB
ETHYLBENZENE		4.62	UG/L	10	04/17/01	MB
TOTAL XYLENES		753.9	UG/L	10	04/17/01	MB
BFB (SURROGATE)		93	125	75		

ND=NONE DETECTED

=PRACTICAL QUANTITATION LIMIT

SU=STANDARD UNITS

B=DETECTED IN METHOD BLANK

APPROVED BY: TERRY KOESTER

TERRY KOESTER  
 LABORATORY DIRECTOR

Q W A L L A B O R A T O R I E S , I N C .

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0104298

SENT *WILLIAMS GAS PIPELINE*  
 TO: *187 COUNTY ROAD #4980*  
*BLOOMFIELD, NM 87413*  
*JIM STRUHS*

DATE REPORTED: 04/20/01  
 DATE COLLECTED: 04/10/01  
 DATE RECEIVED: 04/13/01

PROJECT: WES/PATTERSON A COM1A

Reference Fraction: 0104298-02A

Sample ID: PTRN1A-DG-MW3

Sample Matrix: WATER

Sample Date Collected: 04/10/01 13:30:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		ND	UG/L	1.0	04/17/01	MB
TOLUENE		1.32	UG/L	1.0	04/17/01	MB
ETHYLBENZENE		ND	UG/L	1.0	04/17/01	MB
TOTAL XYLENES		ND	UG/L	1.0	04/17/01	MB
BFB (SURROGATE)		104	125	75		

ND=NONE DETECTED

PQL=PRACTICAL QUANTITATION LIMIT

SS=STANDARD UNITS

B=DETECTED IN METHOD BLANK

APPROVED BY: TERRY KOESTER

TERRY KOESTER  
 LABORATORY DIRECTOR

Q W A L L A B O R A T O R I E S , I N C .

2911 ROTARY TERRACE, P.O. BOX 562/PITTSBURG, KS 66762/(316)232-1970

LABORATORY REPORT:

REFERENCE #: 0104298

SENT WILLIAMS GAS PIPELINE  
 TO: 187 COUNTY ROAD #4980  
 BLOOMFIELD, NM 87413  
 JIM STRUHS

DATE REPORTED: 04/20/01  
 DATE COLLECTED: 04/10/01  
 DATE RECEIVED: 04/13/01

PROJECT: WES/PATTERSON A COM1A

Reference Fraction: 0104298-01A

Sample ID: PTRN1A-UG-MW7

Sample Matrix: WATER

Sample Date Collected: 04/10/01 13:41:00

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		3.25	UG/L	1.0	04/17/01	MB
TOLUENE		4.67	UG/L	1.0	04/17/01	MB
ETHYLBENZENE		ND	UG/L	1.0	04/17/01	MB
TOTAL XYLENES		1.28	UG/L	1.0	04/17/01	MB
BFB (SURROGATE)		90	125	75		

ND=NONE DETECTED  
 P=PRACTICAL QUANTITATION LIMIT  
 SU=STANDARD UNITS  
 B=DETECTED IN METHOD BLANK

APPROVED BY: TERRY KOESTER

TERRY KOESTER  
 LABORATORY DIRECTOR

ORGANIC ANALYSIS REPORT



Client: Mile High Environmental  
Collected: October 8, 2001  
Received: October 12, 2001

Contact: Jim Struhs  
Analyzed: October 19, 2001

AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES

Analysis Requested: SW8260B/5030A

Lab Sample ID: L47929-01A

Field Sample ID: PTRN 1A-UG-MW1

Site ID: Patterson #1A / JPS-101101-03

Analytical Results

MBTEXN/TPH-P

463 West 3600 South  
Salt Lake City, Utah  
84115

Units = mg/L

Final Dilution Factor: 1

Compound

Reporting  
Limit

Amount  
Detected

Benzene

0.0010

0.0025

Toluene

0.0020

< 0.0020

Ethylbenzene

0.0020

< 0.0020

Total Xylene

0.0020

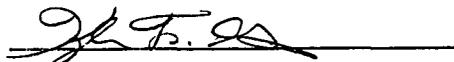
< 0.0020

(801) 263-8686  
Toll Free (888) 263-8686  
Fax (801) 263-8687  
e-mail: awal@xmission.com

Kyle F. Gross  
Laboratory Director

Peggy McNicol  
QA Officer

Released by:

  
Laboratory Supervisor

Report Date:

October 26, 2001

Page 1 of 1

ORGANIC ANALYSIS REPORT



Client: Mile High Environmental  
Collected: October 8, 2001  
Received: October 12, 2001

Contact: Jim Struhs  
Analyzed: October 20, 2001

AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES

Analysis Requested: SW8260B/5030A

Lab Sample ID: L47929-04A

Field Sample ID: PTRN 1A-SA-MW2

Site ID: Patterson #1A / JPS-101101-03

Analytical Results

MBTEXN/TPH-P

463 West 3600 South  
Salt Lake City, Utah  
84115

Units = mg/L

Final Dilution Factor: 1

Compound

Reporting  
Limit

Amount  
Detected

Benzene

0.050

1.4

\*

Toluene

0.0020

0.074

Ethylbenzene

0.0020

< 0.0020

Total Xylene

0.0020

0.26

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Kyle F. Gross  
Laboratory Director

Peggy McNicol  
QA Officer

\* This analyte was obtained from a 1:50 dilution.

Released by:

Laboratory Supervisor

Report Date:

October 26, 2001

Page 1 of 1



ORGANIC ANALYSIS REPORT

Client: Mile High Environmental  
Collected: October 8, 2001  
Received: October 12, 2001

Contact: Jim Struhs  
Analyzed: October 20, 2001

AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES

Analysis Requested: SW8260B/5030A

Lab Sample ID: L47929-02A  
Field Sample ID: PTRN 1A-DG-MW3  
Site ID: Patterson #1A / JPS-101101-03

463 West 3600 South  
Salt Lake City, Utah  
84115

Analytical Results

MBTEXN/TPH-P

Units = mg/L

Final Dilution Factor: 1

Compound

<u>Reporting Limit</u>	<u>Amount Detected</u>
------------------------	------------------------

Benzene

0.0010      0.0061

Toluene

0.0020      0.0041

Ethylbenzene

0.0020      < 0.0020

Total Xylene

0.0020      < 0.0020

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QA Officer

Released by:

Laboratory Supervisor

Report Date:

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Page 1 of 1

ORGANIC ANALYSIS REPORT



Client: Mile High Environmental  
Collected: October 8, 2001  
Received: October 12, 2001

Contact: Jim Struhs  
Analyzed: October 20, 2001

AMERICAN  
WEST  
ANALYTICAL  
LABORATORIES

Analysis Requested: SW8260B/5030A

Lab Sample ID: L47929-03A

Field Sample ID: PTRN 1A-UG-MW7

Site ID: Patterson #1A / JPS-101101-03

**Analytical Results**

**MBTEXN/TPH-P**

463 West 3600 South  
Salt Lake City, Utah  
84115

Units = mg/L

Final Dilution Factor: 1

Compound

Reporting  
Limit

Amount  
Detected

Benzene

0.0010

0.0096

Toluene

0.0020

< 0.0020

Ethylbenzene

0.0020

< 0.0020

Total Xylene

0.0020

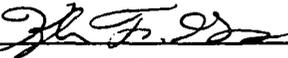
< 0.0020

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