3R - <u>312</u>

REPORTS

DATE: 2001

12212



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 0 4 2002

ENVIRONMENTAL BUREAU OIL CONSERVATION DIVISION

RE: 2001 GROUND WATER SUMMARY REPORT

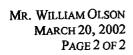
Dear Mr. Olson:

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,

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

Attachment Enclosure

Mark B. Harvey

Project Coordinator

Mark.Harvey@Williams.com

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

		Unit						OCD Initial
Count	Site Name	Letter	Section	Township	Range	Longitude	Latitude	Notification
1	Blanco 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	С	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	В	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	Н	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	С	10	31N	13W	-108.193158	36.91846	5-Jun-98
18	Zachry 18E	0	11	28N	10W	-107.860007	36.670885	6-Sep-96

Table 1. List of Active Sites for 2001 Report

Table 2.	List of	Sites	Closed	in 2001

1

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		Unit						OCD Initial	
Count	Site Name	Letter	Section	Township	Range	Longitude	Latitude	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

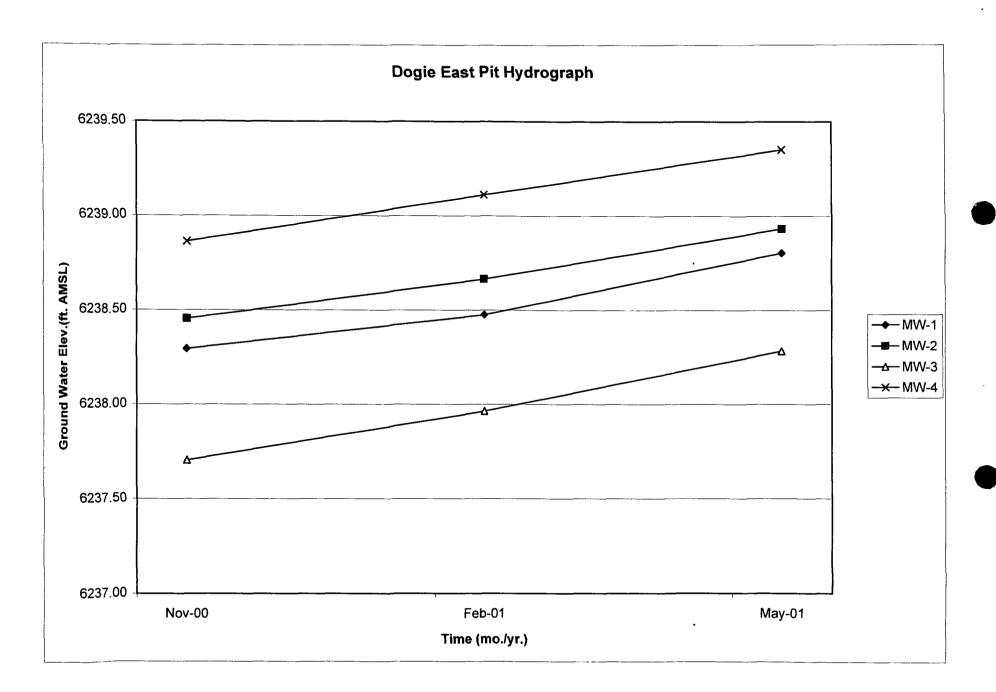
Site Name: Dogie East Pit

Location: Unit D, Sec 4, Twn 25N, Rng 6W Canyon: Largo Operator: Williams Vulnerable Class: original OCD Ranking: 40 Lead Agency: NMOCD

Status Narrative

This site has eight monitoring wells installed, with thirteen quarters of ground water monitoring completed to date. Contaminant levels remain above WQCC standards at the northeastern edge of the plume. Total BTEX levels in MW-2 demonstrated a decreasing trend and are now below WQCC standards. Downgradient wells MW-3, MW-4 and MW-6 remain above WQCC standards and have not demonstrated any trend. The sentinel well, MW-8, has had no detectable BTEX.

Reporting Period: 2001





Site Name:

Dogie East Pit

Well ID

MW-2

MW-3

MW-4

2/16/01

2/16/01

5/10/01

5/10/01

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

Sample Date Sample ID Benzene Toluene Ethylbenzene Xylene (Total) ug/l ug/l ug/l ug/l 11/2/00 153102NOV00 16.8 <1 2.07 <1 111516FEB01 6.91 2.97 <1 <1 5/10/01 110710MAY01 3.76 <1 4.46 <1 10/31/01 110831OCT01 5.9 <2.0 <2.0 <2.0 68 277 11/3/00 132103NOV00 3270 4350 552 113216FEB01 148 2470 328 2580 113710MAY01 205 3080 593 5820 11/2/00 151402NOV00 257 332 19.0 196 2/16/01 112116FEB01 54.0 17.8 1.01 19.8 111810MAY01 2660 2130 34.6 792 10/31/01 1046310CT01 210 420 10 260

MW-5						
	11/2/00	163802NOV00	30.9	92.2	37.3	225
	2/16/01	113716FEB01	39.4	210	83.0	509
	5/10/01	114610MAY01	<1	439	218	1180
	10/31/01	114131OCT01	<1.0	16	44	110
MW-6						
iy waa oo ji iyo dhaladada ku dadaaa	11/3/00	131003NOV00	2570	109	226	1690
	2/16/01	112716FEB01	171	11.0	12.5	33.5
	5/10/01	112710MAY01	506	23.2	122	384
	10/31/01	112731OCT01	1900	120	160	480
MW-7		4				
in an airthight an ann an Annaichteann an Annaichteann an Annaichteann an Annaichteann an Annaichteann an Annai	11/3/00	125403NOV00	2.62	<1	<1	<1
	2/22/01	145822FEB01	13.0	1.16	1.40	2.97
	5/10/01	120710MAY01	23.4	<1	2.63	3.74
	10/31/01	120531OCT01	6.2	<2.0	<2.0	<2.0
MW-8						
	11/2/00	164702NOV00	<1	<1	<1	
	2/16/01	114216FEB01	<1	<1	<1	<1
	5/10/01	115710MAY01	<1	<1	<1	<1
	10/31/01	115231OCT01	<1.0	<2.0	<2.0	<2.0

LABORATORIES, OWAL INC.

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

LABORATORY REPORT:

REFERENCE #: 0011125

SENT WILLIAMS FIELD SERVICES	DATE REPORTED: 11/09/00
TO: 187 CNTY RD #4980	DATE COLLECTED: 11/02/00
BLOOMFIELD, NM 87413	DATE RECEIVED: 11/04/00
JIM STRUHS	
PROJECT: WES/DOGIE EAST PIT-NORTH PIT	

Reference Fraction:0011125-07A Sample ID: DOGE-SA-MW2 Sample Date Collected: 11/02/0015:31:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	вч
BTEX	OA1/8021B		· · · · · · · · · · · · · · · · · · ·	3.()	
BENZENE		16.8	UG/L	1.0	11/07/00	KKI
TOLUENE		ND	UG/L	1.0) 11/07/00	KKI
ETHYLBENZENE		2.07	UG/L	1.0) 11/07/00	KKI
TOTAL XYLENES		ND	UG/L	1.0	11/07/00	KKI
BFB (SURROGATE)		82	125	75	5	

ND=NONE DETECTED

=PRACTICAL QUANTITAION LIMIT STANDARD UNITS

B=DETECTED IN METHOD BLANK

APPROVED BY:

TERRY KOESTER LABORATORY DIRECTOR QL

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

LABORATORY REPORT:

REFERENCE #: 0011125

DATE COLLECTED: 11/03/00

DATE REPORTED:

DATE RECEIVED:

11/09/00

11/04/00

SENT	WILL	IAMS	FIE	LD S	ERV	ICES			
то:	187	CNTY	RD	#498	0				
	BLOC	MFIEI	ЪD,	NM	874	13			
	JIM	STRU	IS						
PROJE	CT: W	IES/DO	GIE	EAS	T P	IT-NO	DRTH	PIT	

Reference Fraction:0011125-03A Sample ID: DOGE-DG-MW3 Sample Date Collected: 11/03/0013:21:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		277	UG/L	10	11/07/00	KKI
TOLUENE		3270	UG/L	10	11/07/00	KKI
ETHYLBENZENE		552	UG/L	10	11/07/00	KKI
TOTAL XYLENES		4350	UG/L	10	11/07/00	KKI
BFB (SURROGATE)		113	125	75	· ·	

PRACTICAL QUANTITAION LIMIT SU=STANDARD UNITS B=DETECTED IN METHOD BLANK

APPROVED BY: TERRY KOESTER ABORATORY DIRECTOR

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

LABORATORY REPORT:

REFERENCE #: 0011125

SENT	WILLIAMS FIELD SERVICES	DATE	REPORTED:	11/09/00
TO:	187 CNTY RD #4980	DATE	COLLECTED:	11/02/00
	BLOOMFIELD, NM 87413	DATE	RECEIVED:	11/04/00
	JIM STRUHS			
PROJE	CT: WES/DOGIE EAST PIT-NORTH PIT			

Reference Fraction:0011125-06A Sample ID: DOGE-CG-MW4 Sample Date Collected: 11/02/0015:14:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3	. 0	
BENZENE		257	UG/L	1.	.0 11/07/00	KKL
TOLUENE		332	UG/L	1.	.0 11/07/00	KKL
ETHYLBENZENE		19.0	UG/L	1.	.0 11/07/00	KKL
TOTAL XYLENES		196	UG/L	1.	0 11/07/00	KKL
BFB (SURROGATE)		94	125	-	75	

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

APPROVED BY:

LABORATORY DIRECTOR

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

LABORATORY REPORT:

SENT

TO:

REFERENCE #: 0011125

WILLIAMS FIELD SERVICES	DATE REPORTED: 11/09/00
187 CNTY RD #4980	DATE COLLECTED: 11/02/00
<i>BLOOMFIELD, NM 87413</i> JIM STRUHS	DATE RECEIVED: 11/04/00

PROJECT: WES/DOGIE EAST PIT-NORTH PIT

Reference Fraction:0011125-05A Sample ID: DOGE-DG-MW5 Sample Date Collected: 11/02/0016:38:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B		<u></u>	3.0		
BENZENE		30.9	UG/L	10	11/07/00	KKI
TOLUENE		92.2	UG/L	10	11/07/00	KKI
ETHYLBENZENE		37.3	UG/L	10	11/07/00	KKI
TOTAL XYLENES		225	UG/L	10	11/07/00	KKI
BFB (SURROGATE)		80	125	75		

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

APPROVED BY:

TERRY KOESTER LABORATORY DIRECTOR Ph

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

LABORATORY REPORT:

REFERENCE #: 0011125

DATE COLLECTED: 11/03/00

DATE REPORTED:

DATE RECEIVED:

11/09/00

11/04/00

SENT	WILLIAMS FIELD SERVICES	
TO:	187 CNTY RD #4980	
	BLOOMFIELD, NM 87413	
	JIM STRUHS	
PROJE	CT: WES/DOGIE EAST PIT-NORTH PIT	

Reference Fraction:0011125-01A Sample ID: DOGE-CG-MW6 Sample Date Collected: 11/03/0013:10:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0	· · · · · · · · · · · · · · · · · · ·	
BENZENE	·	2570	UG/L	10	11/09/00	KKI
TOLUENE		109	UG/L	10	11/09/00	KKI
ETHYLBENZENE		226	UG/L	10	11/09/00	KKI
TOTAL XYLENES		1690	UG/L	10	11/09/00	KKI
BFB (SURROGATE)		121	125	75	. ,	

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

APPROVED BY: TERRÝ KOESTER LABORATORY DIRECTOR PU

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

LABORATORY REPORT:

REFERENCE #: 0011125

SENT	WILLIAMS FIELD SERVICES	DATE REPORTED:	11/09/00
TO:	187 CNTY RD #4980	DATE COLLECTED:	
	BLOOMFIELD, NM 87413	DATE RECEIVED:	11/04/00
	JIM STRUHS		
PROJE	CT: WES/DOGIE EAST PIT-NORTH PIT		

Reference Fraction:0011125-02A Sample ID: DOGE-DG-MW7 Sample Date Collected: 11/03/0012:54:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.()	
BENZENE	•	2.62	UG/L	1.(11/07/00	KKL
TOLUENE		ND	UG/L	1.0	11/07/00	KKL
ETHYLBENZENE		ND	UG/L	1.() 11/07/00	KKL
TOTAL XYLENES		ND	UG/L	1.(11/07/00	KKL
BFB (SURROGATE)		78	125	75	• •	

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

APPROVED BY: TERRY KOESTER ABORATORY DIRECTOR

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

LABORATORY REPORT:

REFERENCE #: 0011125

DATE COLLECTED: 11/02/00

11/09/00

11/04/00

DATE REPORTED:

DATE RECEIVED:

SENT	WIL	LIAMS	FIE	LD SE	RVICI	$\overline{s}S$		
TO:	187	CNTY	RD	#4980				
	BLO	OMFIEI	LD,	NM 8	7413			
	JIM	STRU	IS					
PROJE	CT:	WES/DO	DGIE	EAST	PIT-	-NORTH	PIT	

Reference Fraction:0011125-04A Sample ID: DOGE-DG-MW8 Sample Date Collected: 11/02/0016:47:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.	0	
BENZENE		ND	UG/L	1.	0 11/07/00	KKL
TOLUENE		ND	UG/L	1.	0 11/07/00	KKI
ETHYLBENZENE		ND	UG/L	1.	0 11/07/00	KKL
TOTAL XYLENES		ND	UG/L	1.	0 11/07/00	KKL
BFB (SURROGATE)		77	125	7	5	

ND-NONE DETECTED

=PRACTICAL QUANTITAION LIMIT S0=STANDARD UNITS B=DETECTED IN METHOD BLANK

APPROVED BY: RY KOESTER ABORATORY DIRECTOR

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

LABORATORY REPORT:

REFERENCE #: 0102506

DATE COLLECTED: 02/16/01

DATE REPORTED:

DATE RECEIVED:

02/26/01

02/21/01

SENT	WII	LIAMS	GAS	PIPEI	LINE
TO:	18:	COUN	ry Ro	DAD #	4980
	BLC	OOMFIEI	5D, 1	VM 87	7413
	JIN	I STRUI	IS		
PROJE	CT:	WES/DO	OGIE	EAST	PIT

Reference Fraction:0102506-01A Sample ID: DOGE-SA-MW-2 Sample Date Collected: 02/16/0111:15:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B	· · · · · · · · · · · · · · · · · · ·		3.0		
BENZENE		2.97	UG/L	1.0	02/22/01	KKI
TOLUENE		6.91	UG/L	1.0	02/22/01	KKI
ETHYLBENZENE		ND	UG/L	1.0	02/22/01	KKI
TOTAL XYLENES		ND	UG/L	1.0	02/22/01	KKI
BFB (SURROGATE)		91	125	75		

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

APPROVED BY: KOESTER ŔRY

LABORATORY DIRECTOR

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

LABORATORY REPORT:

REFERENCE #: 0102506

DATE COLLECTED: 02/16/01 DATE RECEIVED: 02/21/01

02/26/01

DATE REPORTED:

SENT	WII	LIAMS (AS PI	PEl	LINE	
TO:	187	COUNTY	(ROAD	#	4980	
	BLC	OMFIELI), NM	87	7413	
	JIM	I STRUHS	5			
PROJE	CT:	WES/DOG	JIE EA	ST	PIT	

Reference Fraction:0102506-03A Sample ID: DOGE-CG-MW-3 Sample Date Collected: 02/16/0111:32:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B	·····		3.0		
BENZENE	•	148	UG/L	10	02/23/01	KKI
TOLUENE		2470	UG/L	10	02/23/01	KKI
ETHYLBENZENE		328	UG/L	10	02/23/01	KKL
TOTAL XYLENES		2580	UG/L	10	02/23/01	
BFB (SURROGATE)		111	125	75	· ·	

ND=NONE DETECTED = PRACTICAL QUANTITAION LIMIT S0=STANDARD UNITS B=DETECTED IN METHOD BLANK

APPROVED BY: TERRY KOESTER LABORATORY DIRECTOR

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

LABORATORY REPORT:

REFERENCE #: 0102506

DATE COLLECTED: 02/16/01 DATE RECEIVED: 02/21/01

DATE REPORTED:

02/26/01

SENT	WILLIAMS GAS PIPELINE
TO:	187 COUNTY ROAD # 4980
	BLOOMFIELD, NM 87413
	JIM STRUHS
PROJEC	T: WES/DOGIE EAST PIT

Reference Fraction:0102506-02A Sample ID: DOGE-CG-MW-4 Sample Date Collected: 02/16/0111:21:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	3.0		
BENZENE	·	54.0	UG/L	1.0	02/22/01	KKI
TOLUENE		17.8	UG/L	1.0		
ETHYLBENZENE		1.01	UG/L	1.0	· · · · ·	
TOTAL XYLENES		19.8	UG/L	1.0		
BFB (SURROGATE)		94	125	75	, ,	

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

APPROVED BY: TERRY KOESTER

LABORATORY DIRECTOR

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

LABORATORY REPORT:

REFERENCE #: 0102506

DATE COLLECTED: 02/16/01

DATE REPORTED:

DATE RECEIVED:

SENT	WTI	LIAMS	GAS	PIP	EL.	INE	
TO:	187	7 COUNI	CY RC	DAD	# •	4980	
	BLC	DOMFIEI	D, N	M	87	413	
	JIN	A STRUP	is				
PROJEC	CT:	WES/DO	GIE	EAS	T I	PIT	

Reference Fraction:0102506-05A Sample ID: DOGE-DG-MW-5 Sample Date Collected: 02/16/0111:37:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0)	
BENZENE		39.4	UG/L	1.0	02/23/01	KKL
TOLUENE		210	UG/L	1.0) 02/23/01	KKL
ETHYLBENZENE		83.0	UG/L	1.0) 02/23/01	KKL
TOTAL XYLENES		509	UG/L	1.0) 02/23/01	KKL
BFB (SURROGATE)		111	125	75		

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

APPROVED BY: RRY KOESTER

LABORATORY DIRECTOR

02/26/01

02/21/01

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

LABORATORY REPORT:

REFERENCE #: 0102506

DATE COLLECTED: 02/16/01

DATE REPORTED:

DATE RECEIVED:

02/26/01

02/21/01

SENT	WILLIAMS GAS PIP	ELINE
TO:	187 COUNTY ROAD	# 4980
	BLOOMFIELD, NM	87413
	JIM STRUHS	
PROJE	CT: WES/DOGIE EAS	Г PIT

Reference Fraction:0102506-04A Sample ID: DOGE-CG-MW-6 Sample Date Collected: 02/16/0111:27:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B	<u> </u>		3.0		
BENZENE		171	UG/L	1.0	02/22/01	KKL
TOLUENE		11.0	UG/L	1.0	· · · ·	
ETHYLBENZENE		12.5	UG/L	1.0	02/22/01	KKL
TOTAL XYLENES		33.5	UG/L	1.0		
BFB (SURROGATE)		92	125	75	• •	

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

APPROVED BY: PÉRRY KOESTER LABORATORY DIRECTOR



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

Sample Matrix: WATER

LABOR	ATORY REPORT:	REFERENCE #:	0102614	
SENT	WILLIAMS GAS PIPELINE	DATE REPORTED:	02/27/01	
TO:	187 COUNTY ROAD # 4980	DATE COLLECTED:	02/22/01	
	BLOOMFIELD, NM 87413	DATE RECEIVED:	02/24/01	
	JIM STRUHS	P.O. #:	SWA-022301-01	
PROJE	CT:WES/DOGIE EAST			

Sample ID: DOGE-DG-MW7 Collection Date: 02/22/01 14:58:00

TEST METHOD-CAS # RESULT UNITS PQL ANALYZED EXTRACTED BTEX OA1/8021B 3.0 BENZENE 71-43-2 13.0 UG/L 1.0 02/26/01KKL TOLUENE 108-88-3 1.16 UG/L 1.0 02/26/01KKL ETHYLBENZENE 100-41-4 1.40 UG/L 1.0 02/26/01KKL TOTAL XYLENES UG/L 02/26/01KKL 1330-20-7 2.97 1.0 BFB (SURROGATE) 102 125 75

ND=NONE DETECTED

PRACTICAL QUANTITATION LIMIT SUSSEMENTION UNITS *BACKGROUND CONTAMINATION SUR=SURROGATE Q=OUTSIDE LIMITS B=DETECTED IN METHOD BLANK

TERRY ROESTERING APPROVED BY :--

TERRY KOESTER LABORATORY DIRECTOR

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

LABORATORY REPORT:

REFERENCE #: 0102506

DATE COLLECTED: 02/16/01 DATE RECEIVED: 02/21/01

DATE REPORTED:

SENT	WILLIAMS GAS PIPELINE
TO:	187 COUNTY ROAD # 4980
	BLOOMFIELD, NM 87413
	JIM STRUHS
PROJE	CT: WES/DOGIE EAST PIT

Reference Fraction:0102506-06A Sample ID: DOGE-DG-MW-8 Sample Date Collected: 02/16/0111:42:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0)	
BENZENE		ND	UG/L	1.0	02/22/01	KKL
TOLUENE		ND	UG/L	1.0	02/22/01	KKL
ETHYLBENZENE		ND	UG/L	1.0) 02/22/01	KKL
TOTAL XYLENES		ND	UG/L	1.0	02/22/01	KKL
BFB (SURROGATE)		90	125	75	5	

ND=NONE DETECTED PRACTICAL QUANTITAION LIMIT S0=STANDARD UNITS B=DETECTED IN METHOD BLANK

APPROVED BY: RRY KOESTER

LABORATORY DIRECTOR

02/26/01

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

LABORATORY REPORT:

REFERENCE #: 0105416

DATE COLLECTED: 05/10/01

DATE REPORTED:

DATE RECEIVED:

05/22/01

05/15/01

SENT	WILLIAMS GAS PIPELINE
TO:	187 COUNTY ROAD # 4980
	BLOOMFIELD, NM 87413
	JIM STRUHS
PROJE	CT: WES/DOGIE EAST

Reference Fraction:0105416-07A Sample ID: DOGE-SA-MW2 Sample Date Collected: 05/10/0111:07:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		3.76	UG/L	1.0	05/17/01	MB
TOLUENE		4.46	UG/L	1.0	05/17/01	MB
ETHYLBENZENE		ND	UG/L	1.0	05/17/01	MB
TOTAL XYLENES		ND	UG/L	1.0	05/17/01	MB
BFB (SURROGATE)		90	125	75	. ,	

ND-NONE DETECTED

SUSSTANDARD UNITS

B=DETECTED IN METHOD BLANK

APPROVED BY: ERRY KOESTER LABORATORY DIRECTOR

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

LABORATORY REPORT:

REFERENCE #: 0105416

DATE COLLECTED: 05/10/01

DATE REPORTED:

DATE RECEIVED:

05/22/01

05/15/01

SENT	WILLIAMS GAS PIPELINE				
TO:	187 COUNTY ROAD # 4980				
	BLOOMFIELD, NM 87413				
JIM STRUHS					
PROJE	CT: WES/DOGIE EAST				

Reference Fraction:0105416-02A Sample ID: DOGE-DG-MW3 Sample Date Collected: 05/10/0111:37:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0	<u> </u>	
BENZENE	·	205	UG/L	10	05/17/01	MB
TOLUENE		3080	UG/L	10	05/17/01	MB
ETHYLBENZENE		593	UG/L	10	05/17/01	MB
TOTAL XYLENES		5820	UG/L	10	05/17/01	MB
BFB (SURROGATE)		89	125	75	- ·	

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

APPROVED BY: **K**RY' KOESTER ABORATORY DIRECTOR

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

LABORATORY REPORT:

REFERENCE #: 0105416

DATE COLLECTED: 05/10/01

05/22/01

05/15/01

i i

DATE REPORTED:

DATE RECEIVED:

SENT	WILLIAMS GAS PIPELINE	
TO:	187 COUNTY ROAD # 4980	
	BLOOMFIELD, NM 87413	
	JIM STRUHS	
PROJE	CT: WES/DOGIE EAST	

Reference Fraction:0105416-06A Sample ID: DOGE-SA-MW4 Sample Date Collected: 05/10/0111:18:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B	·····		3.0		
BENZENE		2660	UG/L	10	05/17/01	MB
TOLUENE		2130	UG/L	10	05/17/01	MB
ETHYLBENZENE		34.6	UG/L	10	05/17/01	MB
TOTAL XYLENES		792	UG/L	10	05/17/01	MB
BFB (SURROGATE)		91	125	75	· ·	

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

APPROVED BY: RRY KOESTER LABORATORY DIRECTOR

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

LABORATORY REPORT:

REFERENCE #: 0105416

DATE COLLECTED: 05/10/01

05/22/01

05/15/01

DATE REPORTED:

DATE RECEIVED:

SENT	WILLIAMS GAS PIPELINE
TO:	187 COUNTY ROAD # 4980
	BLOOMFIELD, NM 87413
	JIM STRUHS
PROJE	CT: WES/DOGIE EAST

Reference Fraction:0105416-03A Sample ID: DOGE-DG-MW5 Sample Date Collected: 05/10/0111:46:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		ND	UG/L	1.0	05/18/01 1	MB
TOLUENE		439	UG/L	1.0	05/18/01 1	MB
ETHYLBENZENE		218	UG/L	1.0	05/18/01 1	MB
TOTAL XYLENES		1180	UG/L	1.0	05/18/01 1	MB
BFB (SURROGATE)		105	125	75		

ND=NONE DETECTED

=PRACTICAL QUANTITAION LIMIT

B=DETECTED IN METHOD BLANK

APPROVED BY: RRÝ KOESTER LABORATORY DIRECTOR ah

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

LABORATORY REPORT:

SENT

REFERENCE #: 0105416

DATE COLLECTED: 05/10/01

05/22/01

05/15/01

DATE REPORTED:

DATE RECEIVED:

SENT	WILLIAMS GAS PIPELINE
TO:	187 COUNTY ROAD # 4980
	BLOOMFIELD, NM 87413
	JIM STRUHS
PROJE	CT: WES/DOGIE EAST

Reference Fraction:0105416-01A Sample ID: DOGE-CG-MW6 Sample Date Collected: 05/10/0111:27:00

Sample Matrix: WATER

TEST METHOD RESULT UNITS PQL ANALYZED BY BTEX OA1/8021B 3.0 BENZENE 506 UG/L 10 05/17/01 MB TOLUENE 05/17/01 MB 23.2 UG/L 10 ETHYLBENZENE 05/17/01 MB 122 UG/L 10 TOTAL XYLENES 05/17/01 MB 384 UG/L 10 BFB (SURROGATE) 105 125 75

ND_NONE DETECTED PRACTICAL QUANTITAION LIMIT SU=STANDARD UNITS B=DETECTED IN METHOD BLANK

APPROVED BY: ERRY KOESTER LABORATORY DIRECTOR

LABORATORIES, INC. OW AL

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

LABORATORY REPORT:

REFERENCE #: 0105416

DATE COLLECTED: 05/10/01

DATE REPORTED:

DATE RECEIVED:

05/22/01

05/15/01

SENT	WILLIAMS GAS PIPELINE
TO:	187 COUNTY ROAD # 4980
	BLOOMFIELD, NM 87413
	JIM STRUHS
PROJE	CT: WES/DOGIE EAST

Reference Fraction:0105416-05A Sample ID: DOGE-DG-MW7 Sample Date Collected: 05/10/0112:07:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0)	
BENZENE		23.4	UG/L	1.0	05/17/01	MB
TOLUENE		ND	UG/L	1.(05/17/01	MB
ETHYLBENZENE		2.63	UG/L	1.0	05/17/01	MB
TOTAL XYLENES		3.74	UG/L	1.0	05/17/01	MB
BFB (SURROGATE)		84	125	75	5	

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

APPROVED BY: TERRY KOESTER LABORATORY DIRECTOR

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

LABORATORY REPORT:

REFERENCE #: 0105416

DATE COLLECTED: 05/10/01

05/22/01

05/15/01

DATE REPORTED:

DATE RECEIVED:

SENT	WILLIAMS GAS PIPELINE	
TO:	187 COUNTY ROAD # 4980	
	BLOOMFIELD, NM 87413	
	JIM STRUHS	
PROJE	CT: WES/DOGIE EAST	

Reference Fraction:0105416-04A Sample ID: DOGE-DG-MW8 Sample Date Collected: 05/10/0111:57:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B	<u> </u>	- <u> </u>	3.0	<u> </u>	
BENZENE	·	ND	UG/L	1.0	05/17/01	MB
TOLUENE		ND	UG/L	1.0	05/17/01	MB
ETHYLBENZENE		ND	UG/L	1.0	05/17/01	MB
TOTAL XYLENES		ND	UG/L	1.0	05/17/01	MB
BFB (SURROGATE)		99	125	75	- •	

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

APPROVED BY: ERRY KOESTER LABORATORY DIRECTOR 10





AMERICAN WEST ANALYTICAL LABORATORIES Client: Mile High Environmental Collected: October 31, 2001 Received: November 6, 2001 Contact: Jim Struhs Analyzed: November 14, 2001

Lab Sample ID: L48279-01A Field Sample ID: DOGE-SA-MW-2 Site ID: Dogie East/JPS-110501-3

Analysis Requested: SW8260B/5030A

463 West 3600 South Salt Lake City, Utah 84115

 $\frac{\text{Analytical Results}}{\text{Units} = mg/L}$ Final Dilution Factor: 1

MBTEXN/TPH-P

	Final Dilution Factor: 1	Reporting	Amount
	Compound	Limit	Detected
	Benzene	0.0010	0.0059
(801) 263-8686 oll Free (888) 263-8686 Fax (801) 263-8687	Toluene	0.0020	< 0.0020
Kyle F. Gross Laboratory Director	Ethylbenzene	0.0020	< 0.0020
	Total Xylene	0.0020	< 0.0020
	Surr: Surr 1,2-Dichloroethane	71-136	97.3 %
Peggy McNicol	Surr: Surr Toluene-d8	87-111	97.9 %

QA Officer

Released by:

Laboratory Supervisor

Report Date:

November 19, 2001 Page 1 of 1

All analysis applicable to the CWA, SDWA and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached Chain-of-Custody. This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the republication of this report for any purpose other for the addressee will be granted only on contact. This company accepts no table of the trade and of estiment.

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ORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES Client: Mile High Environmental Collected: October 31, 2001 Received: November 6, 2001

Analysis Requested: SW8260B/5030A

Lab Sample ID: L48279-03A Field Sample ID: **DOGE-CG-MW-4** Site ID: Dogie East/JPS-110501-3

463 West 3600 South Salt Lake City, Utah 84115

QA Officer

Analytical Results84115Units = mg/LFinal Dilution Factor

Contact: Jim Struhs Analyzed: November 14, 2001

MBTEXN/TPH-P

	Final Dilution Factor: 1	Reporting	Amount
	Compound	Limit	Detected
	Benzene	0.0010	0.21
(801) 263-8686 Toll Free (888) 263-8686 Fox (801) 263-8687	Toluene	0.010	0.42 *
Fax (801) 263-8687 :-mail: awal@xmission.com	Ethylbenzene	0.0020	0.010
Kyle F. Gross Laboratory Director	Total Xylene	0.0020	0.26
	Surr: Surr 1,2-Dichloroethane	71-136	97.8 %
Peggy McNicol	Surr: Surr Toluene-d8	87-111	104 %

* This analyte was obtained from a 1:5 dilution.



Released by:

Laboratory Supervisor

Report Date:

November 19, 2001 Page 1 of 1

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ORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES

Client: Mile High Environmental Collected: October 31, 2001 Received: November 6, 2001 Analysis Requested: SW8260B/5030A

Contact: Jim Struhs Analyzed: November 14, 2001

101 %

87-111

Lab Sample ID: L48279-04A Field Sample ID: DOGE-DG-MW-5 Site ID: Dogie East/JPS-110501-3

463 West 3600 South Salt Lake City, Utah	Analytical Results	I	MBTEXN/TPH-P
84115	Units = mg/L Final Dilution Factor: 1	Reporting	Amount
	Compound	Limit	Detected
	Benzene	0.0010	< 0.0010
(801) 263-8686 Toll Free (888) 263-8686 Fax (801) 263-8687 e-mail: awal@xmission.com	Toluene	0.0020	0.016
	Ethylbenzene	0.0020	0.044
Kyle F. Gross Laboratory Director	Total Xylene	0.0020	0.11
	Surr: Surr 1,2-Dichloroethane	71-136	97.3 %

Surr: Surr Toluene-d8

Peggy McNicol QA Officer

Released by:

Laboratory Supervisor

Report Date:

November 19, 2001

Page 1 of 1

All analysis applicable to the CWA, SDWA and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached Chain-of-Custody This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement. promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other for the addressee will be granted only on contact. This company accepts no جارمير خطاكم

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AMERICAN WEST ANALYTICAL LABORATORIES Client: Mile High Environmental Collected: October 31, 2001 Received: November 6, 2001 Analysis Requested: SW8260B/5030A Contact: Jim Struhs Analyzed: November 14, 2001

Lab Sample ID: L48279-05A Field Sample ID: DOGE-CG-MW-6 Site ID: Dogie East/JPS-110501-3

463 West 3600 South Salt Lake City, Utah 84115

QA Officer

 $\frac{\text{Analytical Results}}{\text{Units} = mg/L}$

MBTEXN/TPH-P

	Final Dilution Factor: 1	Reporting	Amount
	Compound	Limit	Detected
	Benzene	0.020	1.9 *
(801) 263-8686 Toll Free (888) 263-8686 Fax (801) 263-8687 e-mail: awal@xmission.com	Toluene	0.0020	0.12
	Ethylbenzene	0.0020	0.16
Kyle F. Gross Laboratory Director	Total Xylene	0.0020	0.48
	Surr: Surr 1,2-Dichloroethane	71-136	91.6 %
Peggy McNicol	Surr: Surr Toluene-d8	87-111	99.2 %

* This analyte was obtained from a 1:20 dilution.

Released by:

Laboratory Supervisor

Report Date:

November 19, 2001 Page 1 of 1

All analysis applicable to the CWA, SDWA and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached Chain-of-Custody. This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement promotion or safe of any product or process, or in connection with the re-publication of this report for any purpose other for the addressee will be granted only on contact. This company accepts no





ORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES

Client: Mile High Environmental Collected: October 31, 2001 Received: November 6, 2001 Analysis Requested: SW8260B/5030A Contact: Jim Struhs Analyzed: November 14, 2001

Reporting

Limit

0.0010

0.0020

0.0020

0.0020

71-136

87-111

MBTEXN/TPH-P

Amount

Detected

0.0062

< 0.0020

< 0.0020

< 0.0020

99.5 %

98.0 %

Lab Sample ID: L48279-06A Field Sample ID: DOGE-DG-MW-7 Site ID: Dogie East/JPS-110501-3

463 West 3600 South Salt Lake City, Utah 84115

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

> Kyle F. Gross Laboratory Director

> > Peggy McNicol

Toluene Ethylbenzene Total Xylene

Analytical Results

Final Dilution Factor: 1

Surr: Surr 1,2-Dichloroethane

Units = mg/L

Compound

Benzene

Surr: Surr Toluene-d8 QA Officer

Released by:

Laboratory Supervisor

Report Date:

November 19, 2001 Page 1 of 1

All analysis applicable to the CWA, SDWA and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached Chain-of-Custody. This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement. promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other for the addressee will be granted only on contact. This company accepts no exponsibility excent for the due performance of inspection and or analysis in used faith and according to the subsect the tende and of



ORGANIC ANALYSIS REPORT

AMERICAN WEST ANALYTICAL LABORATORIES Client: Mile High Environmental Collected: October 31, 2001 Received: November 6, 2001 Analysis Requested: SW8260B/5030A Contact: Jim Struhs Analyzed: November 14, 2001

MBTEXN/TPH-P

99.7 %

Lab Sample ID: L48279-07A Field Sample ID: DOGE-DG-MW-8 Site ID: Dogie East/JPS-110501-3

463 West 3600 South Salt Lake City, Utah 84115

Analytical Results

Surr: Surr Toluene-d8

Units = mg/LFinal Dilution Factor: 1 Reporting Amount Limit Compound Detected Benzene 0.0010 < 0.0010 (801) 263-8686 Toluene 0.0020 < 0.0020 foll Free (888) 263-8686 Fax (801) 263-8687 Ethylbenzene -mail: awal@xmission.com 0.0020 < 0.0020 **Total Xylene** 0.0020 < 0.0020 Kyle F. Gross Laboratory Director Surr: Surr 1,2-Dichloroethane 71-136 98.1 %

Peggy McNicol QA Officer

Released by:

Laboratory Supervisor

Report Date:

87-111

November 19, 2001 Page 1 of 1

All analysis applicable to the CWA. SDWA and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached Chain-of-Custody. This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement, promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other for the addressee will be granted only on contact. This company accepts no





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 0 4 2002

ENVIRONMENTAL BUREAU

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.



MR. WILLIAM OLSON MARCH 20, 2002 PAGE 2 OF 2

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

		Unit						OCD Initial
Count	Site Name	Letter	Section	Township	Range	Longitude	Latitude	Notification
1	Blanco 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	С	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	В	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	Н	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	0	11	28N	10W	-107.860007	36.670885	6-Sep-96

Table 1. List of Active Sites for 2001 Report

Table 2. List of Sites Closed in 2001

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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

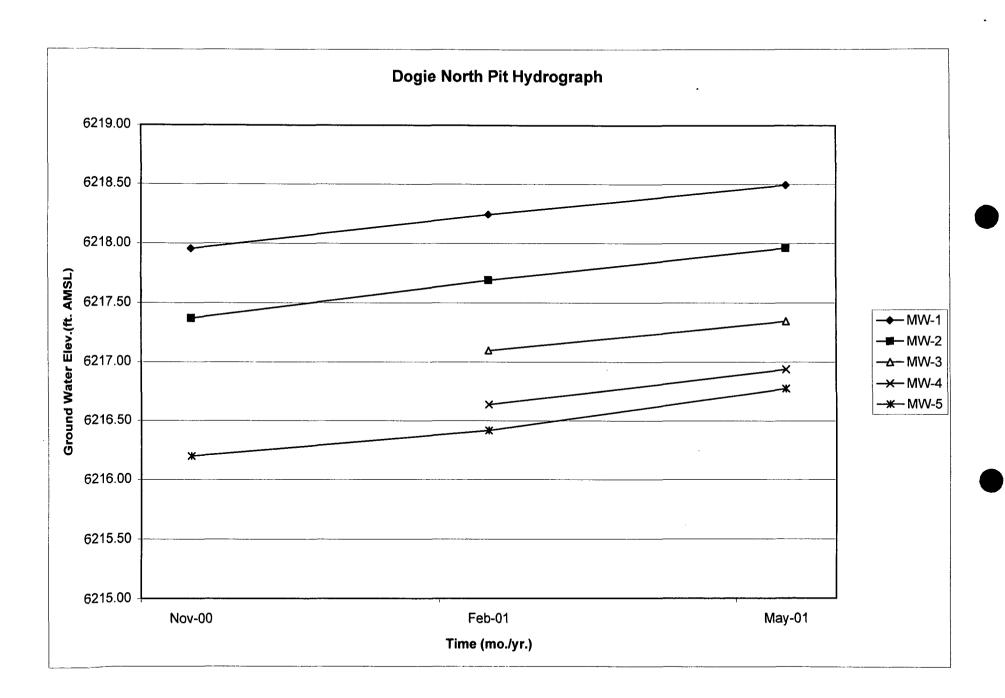
Site Name: Dogie North Pit

Location: Unit D, Sec 4, Twn 25N, Rng 6W Canyon: Largo Operator: Williams Vulnerable Class: original OCD Ranking: 40 Lead Agency: NMOCD

Status Narrative

This site has five monitoring wells and one temporary water-point installed, with sixteen quarters of ground water monitoring completed to date. Well MW-2, the source area well, had BTEX levels below WQCC standards for the first two quarters of the period. In the third quarter, Benzene exceeded the standard at 15.8 ppb. In the last quarter, the BTEX levels were once again below WQCC standards. All the other monitoring wells have been below WQCC standards for more than four consecutive quarters.

Reporting Period: 2001





Site Name:

Dogie North Pit

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
MW-2		Name - Energy - Hardware Mari			A second s	
	11/3/00	134803NOV00	<1	<1	<1	<1
	2/16/01	133916FEB01	3.89	1.17	<1.0	2.23
	5/10/01	131310MAY01	15.8	2.08	1.78	6.37
	10/31/01	131031OCT01	2.1	<2.0	<2.0	2.3

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

LABORATORY REPORT:

REFERENCE #: 0011125

DATE COLLECTED: 11/03/00

11/09/00

11/04/00

DATE REPORTED:

DATE RECEIVED:

SENT	WIL	<i>LIAMS</i>	FIE	ĽD	SER	<i>IVICI</i>	$\overline{s}S$	
TO:	187	CNTY	RD	#49	980			
BLOOMFIELD, NM 87413								
JIM STRUHS								
PROJEC	CT:	WES/DO	OGIE	EZ	Λ ST	PIT	-NORTH	PIT

Reference Fraction:0011125-08A Sample ID: DOGN-SA-MW2 Sample Date Collected: 11/03/0013:48:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B	•••••••••••••••••••••••••••••••••••••••		3.	0	
BENZENE		1.17	UG/L	1.	0 11/07/00	KKI
TOLUENE		ND	UG/L	1.	0 11/07/00	KKI
ETHYLBENZENE		ND	UG/L	1.	0 11/07/00	KKI
TOTAL XYLENES		ND	UG/L	1.	0 11/07/00	KKL
BFB (SURROGATE)		75	125	7	5	

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

APPROVED BY: TERRY KOESTER ABORATORY DIRECTOR



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

Sample Matrix: WATER

LABOR	ATORY REPORT:	REFERENCE #:	0102508	
SENT	WILLIAMS GAS PIPELINE	DATE REPORTED:	: 02/23/01	
TO:	187 COUNTY ROAD # 4980	DATE COLLECTEI	D: 02/16/01	
	BLOOMFIELD, NM 87413	DATE RECEIVED:	: 02/21/01	
	JIM STRUHS	P.O. #:	: SWA-022001-02	
PROJE	CT:WES/DOGIE NORTH PIT			

Sample ID: DOGN-SA-MW2 Collection Date: 02/16/01 13:39:00

METHOD-CAS # TEST RESULT UNITS PQL ANALYZED EXTRACTED BTEX OA1/8021B 3.0 BENZENE 71-43-2 3.89 UG/L 1.0 02/22/01KKL 02/22/01KKL TOLUENE 108-88-3 1.17 UG/L 1.0 ETHYLBENZENE 100-41-4 UG/L 02/22/01KKL ND 1.0 TOTAL XYLENES 1330-20-7 2.23 UG/L 02/22/01KKL 1.0 BFB (SURROGATE) 90 125 75

NONE DETECTED

PRACTICAL QUANTITATION LIMIT SU=STANDARD UNITS *BACKGROUND CONTAMINATION SUR=SURROGATE Q=OUTSIDE LIMITS B=DETECTED IN METHOD BLANK

APPROVED BY:

TERRY KOESTER LABORATORY DIRECTOR

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

LABORATORY REPORT:

REFERENCE #: 0105415

DATE COLLECTED: 05/10/01 DATE RECEIVED: 05/15/01

05/22/01

DATE REPORTED:

SENT	WILLIAMS GAS PIPELI	(NE				
TO:	187 COUNTY ROAD # 4	1980				
	BLOOMFIELD, NM 874	13				
JIM STRUHS						
PROJEC	T: WES/DOGIE NORTH					

Reference Fraction:0105415-01A Sample ID: DOGN-SA-MW2 Sample Date Collected: 05/10/0113:13:00

Sample Matrix: WATER

TEST	METHOD	RESULT	UNITS	PQL	ANALYZED	BY
BTEX	OA1/8021B			3.0		
BENZENE		15.8	UG/L	1.0	05/18/01	MB
TOLUENE		2.08	UG/L	1.0	05/18/01	
ETHYLBENZENE		1.78	UG/L	1.0	05/18/01	
TOTAL XYLENES		6.37	UG/L	1.0	05/18/01	
BFB (SURROGATE)		94	125	75	, ,	

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

APPROVED BY: ERRY KOESTER LABORATORY DIRECTOR





AMERICAN WEST ANALYTICAL **LABORATORIES**

Client: Mile High Environmental Collected: October 31, 2001 Received: November 6, 2001 Analysis Requested: SW8260B/5030A

Contact: Jim Struhs Analyzed: November 14, 2001

Lab Sample ID: L48278-01A Field Sample ID: DOGN-SA-MW-2 Site ID: Dogie North/JPS-110501-4

463 West 3600 South Salt

Toll Free Fax e-mail: awa

Lab

Peggy McNicol QA Officer

t Lake City, Utah	Analytical Results	Ν	MBTEXN/TPH		
84115	Units = mg/L Final Dilution Factor: 1	Reporting	Amount		
	Compound	Limit	Detected		
	Benzene	0.0010	0.0021		
(801) 263-8686 e (888) 263-8686 x (801) 263-8687 val@xmission.com	Toluene	0.0020	< 0.0020		
	Ethylbenzene	0.0020	< 0.0020		
Kyle F. Gross poratory Director	Total Xylene	0.0020	0.0023		
	Surr: Surr 1,2-Dichloroethane	71-136	100 %		
Peggy McNicol	Surr: Surr Toluene-d8	87-111	99.3 %		

Released by: Laboratory Supervisor

Report Date:

November 19, 2001

Page 1 of 1

All analysis applicable to the CWA, SDWA and RCRA are performed in accordance to NELAC protocols. Pertinent sampling information is located on the attached Chain-of-Custody. This report is provided for the exclusive use of the addressee. Privileges of subsequent use of the name of this company or any member of its staff, or reproduction of this report in connection with the advertisement. promotion or sale of any product or process, or in connection with the re-publication of this report for any purpose other for the addressee will be granted only on contact. This company accepts no C. 1.1.