3R - 205

REPORTS

DATE: 1997



Certified Mail: #Z 295 387 297; #Z 295 387 296

RECEIVED

February 27, 1998

MAR 0 2 1998

Environmental Bureau
Oil Conservation Division

Mr. William C. Olson New Mexico Oil Conservation Division 2040 S. Pacheco Santa Fe, NM 87504

Re: 1997 Groundwater Annual Report

Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual updates for 57 groundwater impacted locations that were identified during our pit closure project of 1994/1995.

Of the 57 reports, EPFS hereby requests your approval for closure of 11 of these locations. The 11 reports for which EPFS requests closure, are in 2 separate binders entitled "Request for Closure".

After you have had an opportunity to review these updates, EPFS would like to schedule a meeting with you to discuss issues related to closure criteria for some of the more complex locations that are currently being addressed.

If you have any questions regarding this information, please call me at 505/599-2141. I will contact you within the next quarter to schedule a meeting.

Sincerely,

Sandra D. Miller

Environmental Manager

xc: Mr. Bill Liesse, BLM w/o enclosures

Sinde Willes

Mr. Denny Foust, NMOCD - Aztec w/enclosures; Certified Mail #Z 295 387 298; #Z 295 387 299

Ms. Charmaine Tso, Navajo EPA w/enclosures; Certified Mail #Z 295 387 292

SAN JUAN BASIN PIT CLOSURES San Juan Basin, New Mexico

El Paso Field Services Pit Project Groundwater Report Annual Report

March 1998

Prepared For

El Paso Field Services Farmington, New Mexico

Project 17520



EPFS GROUNDWATER PITS 1997 ANNUAL GROUNDWATER REPORT

K-31 LINE DRIP Meter/Line ID - LD087

SITE DETAILS

Legals - Twn: 25N

Rng: 6W

Unit: N

NMOCD Hazard Ranking: 40

Land Type: STATE

Operator: EL PASO FIELD SERVICES

PREVIOUS ACTIVITIES

Site Assessment: Jul-94

Excavation: Aug-94 (90 cy)

Sec: 16

Soil Boring: Sep-95

Monitor Well: Mar-97

Re-excavation: Nov-95 (1,786 cy)

1997 ACTIVITIES

Monitor Well Installation - One groundwater monitor well was installed in the center of the former pit.

Quarterly Groundwater Monitoring - Quarterly groundwater monitoring was initiated on 6/6/97. Groundwater analytical data are presented in Table 1.

Well Point Installation - Groundwater samples were collected from temporary monitoring wells. In addition, groundwater gradient was determined using the temporary monitoring wells.

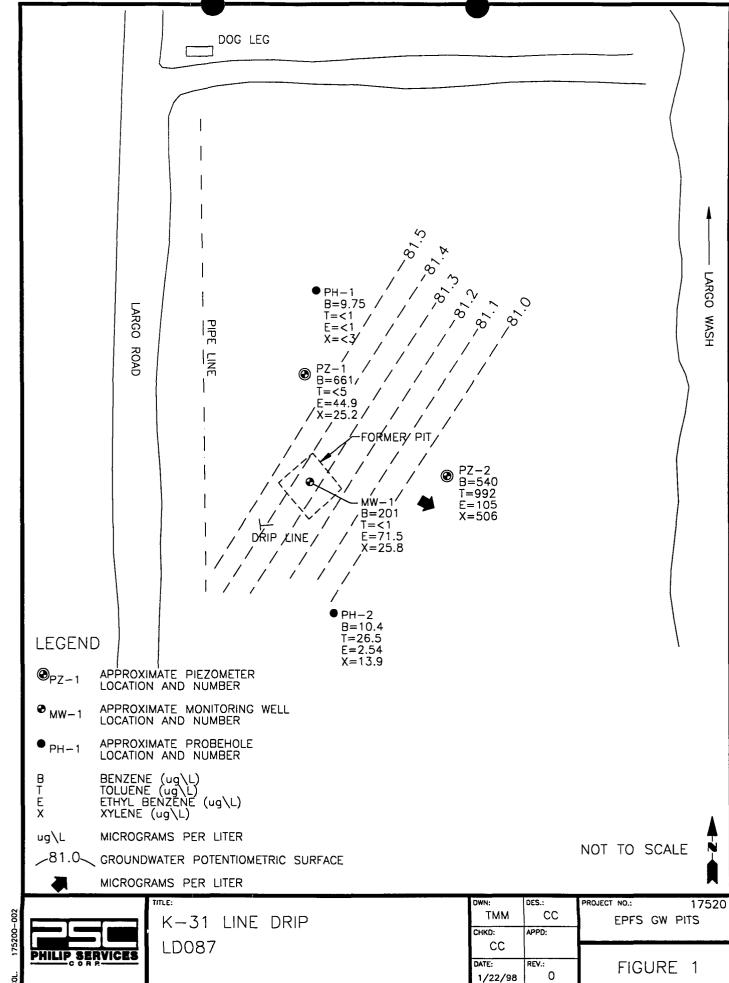
CONCLUSIONS

Based on groundwater levels collected from Well Point data, the groundwater flow trends to the southeast on this site, as presented in Figure 1. The pit is approximately 100-200 yards from Largo Wash and is in a very remote location.

Groundwater samples collected from MW-1 have been in excess of standards for benzene since quarterly sampling was initiated. Four groundwater samples were collected from temporary monitoring wells up and down-gradient of MW-1. It appears that some downgradient migration of contaminants has occurred at this site.

RECOMMENDATIONS

- Collect groundwater sample further downgradient of MW-1. If no further migration has occurred, site may be candidate for risk based closure based on location of pit.
- Discontinue quarterly sampling and initiate sampling on an annual basis.



Total BŦEX	360	229	452	298
	5	r.		
Total Aylenes (PPB)	206	76.1	58.4	25.8 =
	_ 1	- 3		
Ethyl Benžene (PPB)	43.6	37.8	124	71.5
	0	ji ji		
Foluene (PPB)	25.7	-	= 10.8 =	201 < 1
	11		_	\dashv
Benzene (PPB)	84.9	115	259	
	н)) b	# .	_"
Project	Phase II Drilling - Initial	Sample 4 - 1st Qtr	Sample 4 - 2nd Qtr	Sample 4 - 3rd Qtr
MW#	1	-	-	-
Sample Date MW#	4/16/97	26/9/9	9/11/97	12/9/97
Site Name	K-31 Line Drip	K-31 Line Drip	K-31 Line Drip	K-31 Line Drip
Meter/ Line#	L.D087	LD087	LD087	LD087
Sample#	970316 L.D087	970528 LD087	970970 LD087	971291 LD087

	ORATION				Borehole Well #	8H- Z
PHILIP ENVIRONMENTAL SERVICES II	NC.				Page	
armington, New Mexico 87401 5061 326-2262 FAX (506) 326-2388		Project N Project N	umber	175		
		Project Lo	ocation	<u>K-31</u>	LINEDRI	P- LD087
levation		Well Logg			D CESA	
Borehole Location T25 R 6 - S16		Personnel			D CHAR	CLEY, S ARCHULE
GWL Depth 21' 86	<u>-></u>		ors On-Site	Ci	TON	y
ogged By // CESARK Drilled By // NONOHUE		Client Per	rsonnel On-S	oira	10/	L
Date/Time Started 3/0/97 —	1400	Dritting M	ethod	4 1/4"	ID HSA	
Date/Time Completed	1600	_	oring Metho		PID, CGI	
						
Depth Sample Sample Type &	Sample Description	uscs	Depth Lithology	Δ.,	Monitoring	Drilling Conditions
(Feet) Number Interval Recovery	Classification System: USCS	Symbol	Change	ı	nits: PPM	& Blow Counts
(inches)			(feet)	ВZ	вн ѕ	
0						
-						
- 1	DACHELL	1 :	ł	1 1	1 1	1
5	BACKFILL					
5	BACKFILL					
5 5	BACKFILL					

21' 15 GWC 21'BGS 25 TD=30' 30 35 40

Comments:

GW ENCOUNTERED (21 BGS; OVER-DRILLED TO 30 BGS & SET MW. NO SAMPLES COLLECTED. PLEASE REFER TO WELL COMPLETION DIAGRAM.

	 <u> </u>	
Geologist Signature		

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services, Inc. 4000 Morroe Rd.

Farmington, NM 87401

Comments:

(505) 326-2262 FAX (505) 326-2388

Date/Time Started 3/10/97 - 1600
Date/Time Completed is - 1745

Project Name
Project Number
Site Location

FPFS GW PITS 17520 Phase 6002.77 1-31 LINE DRIP - LD087

On-Site Geologist
Personnel On-Site
Contractors On-Site
Client Personnel On-Site

D CESARK D CHARLEY, S ARCHULETA

Top of Protective Casing Bottom of Protective Casing Top of Permanent Borehole Casing Top of Concrete Bottom of Grout Bottom of Grout Bottom of Well Riser SCH HO NC +3' Bottom of Well Riser Top of Well Screen 1010 5.07 - 13' Bottom of Well Screen 1010 5.07 - 13' Bottom of Peltonite Seal Environment Screen 1 10' Top of Gravel Pack Top of Gravel Pack Top of Natural Cave-In Bottom of Natural Cave-In Bottom of Groundwater Bottom of Groundwater Bottom of Groundwater Bottom of Screen A8' Bottom of Natural Cave-In Bottom of Groundwater Bottom of Groundwater Bottom of Groundwater Bottom of Screen Bottom of Screen			
Bottom of Protective Casing Fop of Permanent Borehole Casing Bottom of Permanent Borehole Casing N/A Top of Concrete Bottom of Grout Bottom of Grout Top of Well Riser SCH 40 P/C + 3' Bottom of Well Riser 10/10 500T - 13' Bottom of Well Screen 10/10 500T - 13' Sch tild public - 8' Top of Peltonite Seal Bottom of Peltonite Seal 10/20 5.54 D-10' Bottom of Gravel Pack 10/20 5.54 D-10' Bottom of Gravel Pack 10/20 5.54 D-10' Bottom of Gravel Pack 10/20 5.54 D-10' Bottom of Natural Cave-in	Item	Material	i ' 1
Top of Permanent Borehole Casing Bottom of Permanent Borehole Casing NI/A Top of Concrete Bottom of Concrete Bottom of Grout Top of Well Riser SCH 40 P/C +3' Bottom of Well Riser 1-13' Top of Well Screen 1010 5-07 - 13' Bottom of Well Screen 1010 5-07 - 13' X X X X X X X X X X X X X X X X X X X	Top of Protective Casing		
Permanent Borehole Casing Bottom of Permanent Borehole Casing N/A Top of Concrete Bottom of Concrete Bottom of Grout Top of Grout Bottom of Well Riser Top of Well Riser Top of Well Screen Top of Peltonite Seal ENVIROPUG - 8' South of Peltonite Seal Top of Gravel Pack Top of Natural Cave-In Bottom of Natural Cave-In South of Natural Cave-In N/A N/A N/A N/A N/A N/A N/A N/			
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Top of Concrete Bottom of Concrete Top of Grout Bottom of Grout Top of Well Riser SCH 40 PC +3' Bottom of Well Riser 1010 5007 -13' Bottom of Well Screen 1010 5007 -13' X X X X X X X X X X X X X X X X X X X			1
Bottom of Concrete Top of Grout Bottom of Grout Top of Well Riser SCH 40 P/C + 3' Bottom of Well Riser 1010 5007 - 13' Bottom of Well Screen 1010 5007 - 13' X X X X X X X X X X X X X X X X X X X	Permanent Borehole Casing		N/A
Top of Grout Top of Well Riser SCH 40 P/C +3' Bottom of Well Riser 10 - 13' Top of Well Screen 10 - 28' Top of Peltonite Seal Bottom of Peltonite Seal 10 - 30 S. SN D - 10' Bottom of Gravel Pack Top of Natural Cave-In Bottom of Natural Cave-In Top of Screen Top of Grout Top of Gravel Pack Top of Natural Cave-In	Top of Concrete		
Bottom of Grout Top of Well Riser SCH 40 PC +3' Bottom of Well Riser 1010 5 0 7 - 13' Bottom of Well Screen 1028' Top of Peltonite Seal Environment - 8' Bottom of Peltonite Seal 10-30 5 5 5 1 2 - 16' Bottom of Gravel Pack Top of Natural Cave-In Bottom of Natural Cave-In Top of Natural Cave-In SCH 40 PC +3' X X X X X X X X X X X X X X X X X X X	Bottom of Concrete		
Top of Well Riser SCH 40 P/C +3' Bottom of Well Riser 1010 5 0 7 - 13' Top of Well Screen 1010 5 0 7 - 13' Bottom of Well Screen 1028' Top of Peltonite Seal ENVIROPUG - 8' Sottom of Peltonite Seal 10-30 5. SND - 10' Bottom of Gravel Pack 10-30 5. SND - 10' Bottom of Natural Cave-In Bottom of Natural Cave-In - 30' Top of Natural Cave-In	Top of Grout		
Bottom of Well Riser Top of Well Screen 1010 Scott - 13' Bottom of Well Screen 11 - 28' Top of Peltonite Seal Environmed - 8' Bottom of Peltonite Seal 11 - 10' Top of Gravel Pack 10 - 30 S. Shi D - 10' Bottom of Gravel Pack Top of Natural Cave-In Bottom of Natural Cave-In - 30' Top of Natural Cave-In - 30' Top of Natural Cave-In - 30'	Bottom of Grout		
Top of Well Screen Top of Well Screen Top of Peltonite Seal Emiliappus - 8' Bottom of Peltonite Seal Top of Gravel Pack Top of Natural Cave-In Bottom of Natural Cave-In Top of Natural Cave-In Top of Well Screen Top of Seal X X X X X X X X X X X X X X X X X X X	Top of Well Riser	SCH 40 P/C	+3'
Bottom of Well Screen 11 - 28' Top of Peltonite Seal ENVIROPMG - 8' X X X X X X X X X X X X X X X X X X X	Bottom of Well Riser	,,	13'
Bottom of Well Screen Top of Peltonite Seal Environment - 28' X X X X X X X X X X X X X X X X X X X	Top of Well Screen	1010 SLOT -	13'
Top of Peltonite Seal ENVIROPUE - 8' Bottom of Peltonite Seal I' - 10' Top of Gravel Pack IO - 30 S. SND - 10' Bottom of Gravel Pack Top of Natural Cave-In Bottom of Natural Cave-In - 30' X X X X X X X X X X X X X X X X X X X	Bottom of Well Screen	.1	28'
Top of Gravel Pack 10-30 \$ \cdot \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Top of Peltonite Seal	ENVIROPUG.	8'
Top of Gravel Pack 10-30 \$ \cdot \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Bottom of Peltonite Seal	i,	10'
Top of Natural Cave-In Bottom of Natural Cave-In 30'	Top of Gravel Pack	10-20 S. SND.	10'
Bottom of Natural Cave-In - 30'	Bottom of Gravel Pack	,,,	- a8'
	Top of Natural Cave-In		128
Top of Groundwater -28	Bottom of Natural Cave-In		30'
	Top of Groundwater		+a1'

Geologist Signature

WELLPOINTS

EII SEO Natural Gas Company

WELL POINTS

CHAIN OF CUSTODY RECORD

PZZ EL PASO NATURAL GAS COMPANY P. O. BOX 4990 FARMINGTON, NEW MEXICO 87499 I PZI FAX: 505-599-2261 HESULTS & INVOICES TO:
FIELD SERVICES LABORATORY ECEIVED OF LABORATORY K-31 Line Orine LDO87 RECEIVED BY: (Signatu REMARKS SEP - 9 1997 CONTRACT LABORATORY P. O. NUMBER ហ្វ 08/1/6/82/4 08/11 /14/20/r \ -DATE/TIME) (O samo # ZEONENCE 505-599-2144 REQUESTED ANALYSIS RELINQUISHED BY: (Signature) **CAB PID** 81EX EPA 8020 EPA 418.1 رو HqT f 20 SAMPLE 2 76 12 29 SAMPLE RECEIPT REMARKS TOTAL NUMBER 4 6 4 46 RECEIVED BY: (Signature) RECEIVED BY: (Signature) CHARGE CODE CMC322 (MC 32) TACORT Water CMC321 77/4 FIELD ID 00911 26/001 Pit Closure Project MATRIX (Jeg 970702 1762/1/1030 1055 TIME 1 PROJECT NAME DATE REQUESTED TURNAROUND TIME: cmc 1/13 O RUSH SAMPLEPS; (Signature) 201 OLK 270703 400 oct PROJECT NUMBER LABID / # 24324 CARRIER CO. C ROUTINE BILL NO.:

White . Testing Laboratory Canary . EPNG Lab Pink . Field Sampler

FM-08-0565 A (Rev. 05-94)





SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC321	970702
MTR CODE SITE NAME:	LD087	K-31 Line Drip
SAMPLE DATE TIME (Hrs):	7/22/97	1030
PROJECT:	Welli	Points
DATE OF BTEX EXT. ANAL.:	7/24/97	7/24/97
TYPE DESCRIPTION:	PZ-1	Water

Field Remarks:		
	•	

RESULTS

PARAMETER	RESULT UNITS		QUALIFIERS			
			DF	· Q		
BENZENE	661	PPB	5	D		
TOLUENE	< 5	PPB	5	D		
ETHYL BENZENE	44.9	PPB	5	D		
TOTAL XYLENES	25.2	PPB	5	D		
TOTAL BTEX	731	PPB				

		BIEA IS DY EFA MEUROU	5020	
The Surrogate Recovery was at	98.0	for this sample	All QA/QC was acceptable.	
DF = Dilution Factor Used				
The "D" qualifier indiciates that the	e analyte calculat	ed is based on a sec	ondary dilution factor.	
Narrative:				
	2			
•	_		1 .	

970702.XLS,7/30/97

Approved By: ____

Date: $\frac{7}{31/97}$





SAMPLE IDENTIFICATION

_	Fiel	d ID		Lab ID		
SAMPLE NUMBER:	CMC	322				
MTR CODE SITE NAME:	LD	087	K-3	K-31 Line Drip		
SAMPLE DATE TIME (Hrs):	7/2:	2/97		1055		
PROJECT:		WellP	oints	pints		
DATE OF BTEX EXT. ANAL.:	7/2	4/97				
TYPE DESCRIPTION:	PZ-2			Water		
Field Remarks: _		RESULTS				
PARAMETER	RESULT	UNITS		QUALIFIER	•	
AMMETER			DF	Q		
BENZENE	540	PPB	10	D		
TOLUENE	992	PPB	10	D		
ETHYL BENZENE	105	PPB	10	D	_	
TOTAL XYLENES	506	PPB	10	· D		
TOTAL BTEX	2140	PPB				
The Surrogate Recovery was at	96.5	BTEX is by EPA Metho		was acceptab	le.	
DE - Dilution Easter Used						

Narrative:

Approved By: Autobalian Date: 7/31/97

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.





SAMPLE IDENTIFICATION

_	Fiel	d ID		Lab ID	
SAMPLE NUMBER:	СМС	2323		970704	
MTR CODE SITE NAME:	LD:	LD087		K-31 Line Drip	
SAMPLE DATE TIME (Hrs):	7/2	2/97		1220	
PROJECT:		Wellf	Points	pints	
DATE OF BTEX EXT. ANAL.:	7/2	4/97			
TYPE DESCRIPTION:	Pl	PH-1		Water	
Field Remarks:					
		RESULTS			
PARAMETER	RESULT	UNITS		QUALIF	ERS
			DF .	<u>Q</u>	
BENZENE	9.75	PPB			
TOLUENE	<1	PPB			
ETHYL BENZENE	<1	PPB			
TOTAL XYLENES	<3	PPB			
TOTAL BTEX	9.75	PPB			
		BTEX is by EPA Metho		was accept	rable
he Surrogate Recovery was at F = Dilution Factor Used	99.6	_ for this sampl	e All CA/CC	, was accept	able.

970704.XLS,7/30/97



SAMPLE IDENTIFICATION

	Field	10		Lab ID	
SAMPLE NUMBER:	N/A	Α			
MTR CODE SITE NAME:	LD0	LD087		K-31 Line Drip	
SAMPLE DATE TIME (Hrs):	7/22	/97		1220	
PROJECT:		WellPo	oints		
DATE OF BTEX EXT. ANAL.:	7/24	/97	7/24/97		
TYPE DESCRIPTION:	Blar	nk		Water	
Field Remarks:	F	RESULTS			
PARAMETER	RESULT	UNITS	DF	QUALIF	IERS
BENZENE	<1	PPB			
TOLUENE	<1	PPB			
ETHYL BENZENE	<1	РРВ			
TOTAL XYLENES	<3	РРВ			
TOTAL BTEX	< 6	PPB			
The Surrogate Recovery was at	103	BTEX is by EPA Method for this sample		C was accep	table.
DF = Dilution Factor Used					

970705.XLS,7/30/97



QUALITY CONTROL REPORT EPA METHOD 8020 - BTEX

Samples: 970702 - 970705

QA/QC for 7/24/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE		EXPECTED	ANALYTICAL		ACC	EPTAB	LE
NUMBER	TYPE	RESULT	RESULT	%R		*	
ICV LA-52589		PPB	PPB	11		YES	NO
50 PPB	·				RANGE		
Benzene	Standard	50.0	50.6	101	75 - 125 %	Χ	
Toluene	Standard	50.0	50.4	101	75 - 125 %	Χ	
Ethylbenzene	Standard	50.0	50.6	101	75 - 125 %	X	
m & p - Xylene	Standard	100	99.9	100	75 - 125 %.	X	
o - Xylene	Standard	50.0	50.8	102	75 - 125 %	X	
SAMPLE		EXPECTED	ANALYTICAL		AC	CEPTAE	BLE
NUMBER	TYPE	RESULT	RESULT	%R			
LCS LA-45476		PPB:	PPB			YES	NO
25 PPB					RANGE		
Benzene	Standard	25.0	25.7	103	39 - 150	X	
Toluene	Standard	25.0	25.8	103	46 - 148	X	
Ethylbenzene	Standard	25.0	25.8	103	32 - 160	X	
m & p - Xylene	Standard	50.0	50.9	102	Not Given	X	
o - Xylene	Standard	25.0	26.1	104	Not Given	X	
SAMPLE		EXPECTED	ANALYTICAL		AC	CEPTAE	LE
NUMBER	TYPE	RESULT	RESULT	%R			
CCV LA-52589		PPB	PPB			YES	NO
50 PPB					RANGE		
Benzene	Standard	50.0	51.3	103	75 - 125 %	X	
Toluene	Standard	50.0	51.0	102	75 - 125 %	X	
Ethylenzene	Standard	50.0	51.1	102	75 - 125 %	X	
m & p - Xylene	Standard	100	100	100	75 - 125 %	X	
a Vidana	Canadasa	500		100	75 - 125 %	Х	
o - Xylene	Standard	50.0	51.5	103	170 120 70		
o - Xylene SAMPLE	Standard	EXPECTED	ANALYTICAL	103	†	CEPTAI	BLE
	TYPE	†	 	%R	†	CEPTAI	BLE
SAMPLE		EXPECTED	ANALYTICAL	%R	†	CEPTAI YES	NO
SAMPLE NUMBER		EXPECTED RESULT	ANALYTICAL RESULT		†		
SAMPLE NUMBER CCV LA-52589		EXPECTED RESULT PPB	ANALYTICAL RESULT	%R	AC		
SAMPLE NUMBER CCV LA-52589 50 PPB	ТҮРЕ	EXPECTED RESULT PPB	ANALYTICAL RESULT	%R	AC RANGE		
SAMPLE NUMBER CCV LA-52589 50 PPB Benzene	TYPE Standard	EXPECTED RESULT PPB	ANALYTICAL RESULT	%R 0.0	RANGE 75 - 125 % 75 - 125 %	YES	
SAMPLE NUMBER CCV LA-52589 50 PPB Benzene Toluene	TYPE Standard Standard	EXPECTED RESULT PPB 50.0 50.0	ANALYTICAL RESULT	% R 0.0 0.0	RANGE 75 - 125 % 75 - 125 % 75 - 125 %	YES	

Narrative: Acceptable.



Samples: 970702 - 970705

ORATORY DUPLICATES:

SAMPLE		SAMPLE	DUPLICATE		AC	CEPTAB	LE
1D 970704	TYPE	RESULT PPB	RESULT PPB	RPD	RANGE	YES	NO
Benzene	Matrix Duplicate	9.75	9.85	1.02	+/- 20 %	Χ	
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	Χ	
m & p - Xylene	Matrix Duplicate	<2	< 2	0.00	+/- 20 %	Χ	
o - Xylene	Matrix Duplicate	<1	< 1	0.00	+/- 20 %	Х	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE	SPIKE	SAMPLE	SPIKE		ACCEPTABLE
ID	ADDED	RESULT	SAMPLE	%R	
2nd Analysis 970704	PPB	PPB	RESULT PPB		YES NO RANGE
Benzene	50	9.75	60.1	101	75 - 125 % X
Toluene	50	< 1	50.7	101	75 - 125 % X
Ethylbenzene	50	<1	51.0	102	75 - 125 % X
m & p - Xylene	100	< 2	101	101	75 - 125 % X
o - Xylene	50	<1	51.3	103	75 - 125 % X

ative: Acceptable

ADDITIONAL ANALYTICAL BLANKS:

AUTO BLANK	SOURCE	РРВ	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene Total Xylenes	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (None analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	< 3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (One analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	< 3.0	ACCEPTABLE

rative: Acceptable.

Reported By: Ma

Approved By: _

Jen Holle

7/31/97 Date: 49/00 XIS

(1) Mints

BEIL SO Natural Gas Company

CHAIN OF CUSTODY RECORD

SEIVED OF LABORATORY BX: (Signature) EL PASO NATURAL GAS COMPANY P. O. BOX 4990 FARMINGTON, NEW MEXICO 87499 FAX: 505-599-2261 RESULTS & INVOICES TO: FIELD SERVICES LABORATORY K-31 Line Dais LOOR? RECEIVED BY: (Signature) REMARKS CONTRACT LABORATORY P. O. NUMBER 1/28/97 1035 2501 Lb/86/1 Trip Blank 505-599-2144 # SEONENCE 2) (glassing REQUESTED ANALYSIS RELINQUISHED BY: (Signature) CAB PID X3T8 EPA 8020 FPA 418.1 HqT SAMPLE SAMPLE RECEIPT REMARKS TOTAL NUMBER 6 RECEIVED BY: (Signature) RECEIVED BY: (Signation) Iria Blank 1072 \$5 76497 1130 Matil CMC 334 CHARGE CODE 7 P/26 FIELD ID 125/97 150p Water PROJECT NAME
PIT Closure Project MATRIX TIME DATE REQUESTED TURNAROUND TIME: O RUSH 197072A6 SAMPLERS: (Signature) PROJECT NUMBER # 24324 C ROUTINE CARRIER CO. BILL NO.:

White - Testing Laboratory Canary - EPNG Lab Pink - Field Sampler

FM-08-0565 A (Rev. 05-94)





SAMPLE IDENTIFICATION

7/30	087 5/97 WellPo		970725 -31 Line Drip 1130] - - -
7/25	5/97 WellPo				-
	WellPo	pints	1130	 	-
7/30	1	pints			
7/30					4
)/9/		7/30/97		
PH	12		Water		
	RESULTS				
ESULT	UNITS	QUALIFIERS			:
10.4	PPB				
26.5	PPB				
2.54	PPB				
13.9	PPB				
53.3	PPB				
84.1	· ·		C was accepta	ıble.	
	10.4 26.5 2.54 13.9	10.4 PPB 26.5 PPB 2.54 PPB 13.9 PPB 53.3 PPB BTEX is by EPA Method	ESULT UNITS DF 10.4 PPB 26.5 PPB 2.54 PPB 13.9 PPB 53.3 PPB -BTEX is by EPA Method 8020	ESULT UNITS DF Q 10.4 PPB 26.5 PPB 2.54 PPB 13.9 PPB 53.3 PPB -BTEX is by EPA Method 8020	ESULT UNITS QUALIFIERS DF Q 10.4 PPB 26.5 PPB 2.54 PPB 13.9 PPB 53.3 PPB -BTEX is by EPA Method 8020

970725.XLS,8/6/97



SAMPLE IDENTIFICATION

<u> </u>	Field	I ID		Lab ID		
SAMPLE NUMBER:	N/	Α		970726		
MTR CODE SITE NAME:	LD0)87	К	K-31 Line Drip		
SAMPLE DATE TIME (Hrs):	7/25	5/97		1130		
PROJECT:		Well	Points			
DATE OF BTEX EXT. ANAL.:	7/29	9/97		7/29/97]
TYPE DESCRIPTION:	Bla	nk		Water		
Field Remarks:		RESULTS				
		nL30L13				
PARAMETER	RESULT	UNITS	DF	QUALIFI	ERS	
BENZENE	<1	РРВ				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	< 6	PPB				
ne Surrogate Recovery was at F = Dilution Factor Used	96.2	BTEX is by EPA Meth for this samp		C was accept	table.	

970726.XLS,8/6/97



QUALITY CONTROL REPORT EPA METHOD 8020 - BTEX

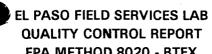
Samples: 970717, 970725, 970753, 970759-970763

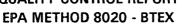
QA/QC for 7/30/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE		EXPECTED	ANALYTICAL		ACC	EPTAB	E
NUMBER	TYPE	RESULT	RESULT	%R			
ICV LA-52589		PPB	PPB			YES	NO
50 PPB					RANGE		
Benzene	Standard	50.0	45.3	90.6	75 - 125 %	Χ	
Toluene	Standard	50.0	50.3	101	75 - 125 %	X	
Ethylbenzene	Standard	50.0	50.7	101	75 - 125 %	X	
m & p - Xylene	Standard	100	100	100	75 - 125 %	X	
o - Xylene	Standard	50.0	51.0	102	75 - 125 %	Χ	
SAMPLE		EXPECTED	ANALYTICAL		AC	CEPTAB	LE.
NUMBER	TYPE	RESULT	RESULT	%R			
LCS LA-45476	•	PPB	PPB			YES	NO.
25 PPB					RANGE		
Benzene	Standard	25.0	25.0	100	39 - 150	X	
Toluene	Standard	25.0	25.8	103	46 - 148	X	
Ethylbenzene	Standard	25.0	26.0	104	32 - 160	X	
m & p - Xylene	Standard	50.0	51.2	102	Not Given	Χ	
o - Xylene	Standard	25.0	26.3	105	Not Given	X	
SAMPLE		EXPECTED	ANALYTICAL		AC	CEPTAB	LE
NUMBER	TYPE	RESULT	RESULT	%R			
CCV LA-52589		PPB	PPB			YES	NO
50 PPB					RANGE		
Benzene	Standard	50.0	45.1	90.2	75 - 125 %	X	
Toluene	Standard	50.0	50.5	101	75 - 125 %	X	
Ethylenzene	Standard	50.0	50.5	101	75 - 125 %	X	
m & p - Xylene	Standard	100	99.5	99.5	75 - 125 %	X	
o - Xylene	Standard	50.0	51.0	102	75 - 125 %	X	
SAMPLE		EXPECTED	ANALYTICAL		AC	CEPTAB	LE .
NUMBER	TYPE	RESULT	RESULT	%R			
CCV LA-52589		PPB	PPB			YES	NO
50 PPB					RANGE	<u> </u>	
Benzene	Standard	50.0	48.4	96.8	75 - 125 %	Χ	
Toluene	Standard	50.0	49.6	99.2	75 - 125 %	Χ	
Ethylbenzene	Standard	50.0	49.5	99.0	75 - 125 %	Χ	
m & p - Xylene	Standard	100	96.8	96.8	75 - 125 %	Х	
o - Xylene	Standard	50.0	50.0	100	75 - 125 %	X	

Narrative: Acceptable.





Samples: 970717, 970725, 970753, 970759-970763

DRATORY DUPLICATES:

SAMPLE		SAMPLE	DUPLICATE		AC	CEPTABL	84
ID 970725	TYPE	RESULT PPB	RESULT PPB	RPD	RANGE	YES	NO
Benzene	Matrix Duplicate	10.4	10.5	0.96	+/- 20 %	Х	
Toluene	Matrix Duplicate	26.5	26.7	0.75	+ /- 20 %	Χ	
Ethylbenzene	Matrix Duplicate	2.54	2.52	0.79	+ /- 20 %	Χ	
m & p - Xylene	Matrix Duplicate	9. 9 9	10.0	0.10	+/- 20 %	Χ	
o - Xylene	Matrix Duplicate	3.90	3.89	0.26	+ /- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED	SAMPLE RESULT	SPIKE SAMPLE	%R	ACCE	PTABLE
2nd Analysis 970725	PPB	PPB	RESULT PPB	/411	RANGE	'ES NO
Benzene	50	10.4	53.1	85.4	75 - 125 %	X
Toluene	50	26.5	73.3	93.6	75 - 125 %	X
Ethyibenzene	50	2.54	52.2	99.3	75 - 125 %	X
m & p - Xylene	100	9. 9 9	107	97.0	75 - 125 %	Χ
o - Xylene	50	3.90	53.7	99.6	75 - 125 %	X

rative: Acceptable

ASSITIONAL ANALYTICAL BLANKS:

AUTO BLANK	SOURCE	РРВ	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene Total Xylenes	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot WB1461	PPB	STATUS
SOIL VIAL BLANK	LOU NIO 140 I	(None analyzed with this set)	
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (None analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

ative: Acceptable.

Reported By: Mdw

Approved By:

1997 GROUNDWATER ANALYTICAL

EI Paso Natural Gas Company

4/16/97 - INITHE WATER SAMPLING

CHAIN OF CUSTODY RECORD

28 CANDADO 23 (MV, CH) -93196/93195/AM-1 RECEIVED OF LABORATORY BY: (Signature) 29 K-31 LINE DRIP - LD087 - (MW-) EL PASO NATURAL GAS COMPANY P. O. BOX 4990 FARMINGTON, NEW MEXICO 87499 FIELD SERVICES LABORATORY RECEIVED BY: (Signature) 17971125-18 Marle REMARKS CONTRACT LABORATORY P. O. NUMBER TRIP BLANK 350 RESULTS & INVOICES TO: 28 # SEGNENCE REQUESTED ANALYSIS (ELINQUISHED BY: (Signatura) CAB PID 81EX 0208 A93 × X F.814 A93 HdT SAMPLE 2 Σ Σ SAMPLE RECEIPT REMARKS 4 4 TOTAL NUMBER RECLIVED BY: (Signuture) RECEIVED BY: (Signature) CHARGE CODE DRC 40 Dec 39 DRC 38 FIELD ID 1530 PROJECT NAME | Pit Closure Project MATRIX 9//5 \$ 3 8 970316 WILL 1340 970315 4116 1030 TIME HI6 1035 DATE REQUESTED TURNAROUND TIME: **RELINQUISHED BY: (Signature)** O RUSH 970314 PROJECT NUMBER # 24324 LABID RELINQUISHED C) ROUTINE CARRIER CO. BILL NO.:

White - Testing Laboraton' Canani - FDNG Lab Pint - Field Comming





FIELD SERVICES LABORATORY ANALYTICAL REPORT

	SAMPLE	IDENTIFICAT	TION	· · · · · · · · · · · · · · · · · · ·		
	Field	d ID		Lab ID		
SAMPLE NUMBER:	DRC			970316		7
MTR CODE SITE NAME:	LDC	087	K-:	31 Line Drip		1
SAMPLE DATE TIME (Hrs):	4/16	6/97		1340		
PROJECT:		Phase II Drill	ing - Initial]
DATE OF BTEX EXT. ANAL.:	4/18	3/97		4/18/97		_
TYPE DESCRIPTION:	Monito	or Well		Water		
Field Remarks:		RESULTS				
PARAMETER	RESULT	UNITS		QUALIFI	ERS	
			DF	Q		
BENZENE	84.9	РРВ	DF	0		
BENZENE TOLUENE	84.9 25.7	PPB	DF	<u> </u>		
			DF	0		
TOLUENE	25.7	РРВ	DF	<u>Q</u>		
TOLUENE ETHYL BENZENE	25.7 43.6	PPB PPB	DF	<u>Q</u>		
TOLUENE ETHYL BENZENE TOTAL XYLENES	25.7 43.6 206 360	PPB PPB PPB			ble.	

970316.XLS,4/21/97

Date:

Acot of Serial No. (If applicable) ŏ Comments Phase. Task No. 6003 17520 Date Page evier inthey but not ideced 15 + BAILER MAS CLEME, lead ved BAILED DET & 3 YOLAMEST WITE, ELEPTED -UP - NO EXIDENCE OF HICE **做** Conductivity Meter X Temperature Meter Project No. Reviewer_ Dissolved Oxygen (mg/L) Water Disposal Well Number ☐ DO Monitor X pH Meter Instruments Conductivity Wmhos/cml 000 30 143 Other 1.67 1,29 7,33 X Development X Purging Gallons to be CHANCE Removed Temperature (°C) **Gravel Pack** BES Bes Height of Water Column in Well (feet) _ Increment Comulative Product Volume Removed (gallons) Gallons Well Development and Purging Data Water Volume in Well 8.5 Water Volume Calculation Project Manager Initial Depth to Water (feet) Initial Depth of Well (feet) Diameter (inches): Well HSite Address Cubic Feet 2015 3.0236 Cumulative Water Volume Removed 9 Total **Drilling Fluids** 17-53 Well Casing Gravel Pack 1935 5 Increment Item 9 180 Q7 Removel Rete Inteke Depth Weier Depth (feet) Circle the date and time that the development criteria are met. ☐ Stainless-steel Kemmerer casing Volumes of Water Removal K-31 LINE DRIP X Bottom Valve □ Double Check Valve Comments WELL WES PURD W Stabilization of Indicator Parameters + MUD SICT SAND. WELL GW PITS Scriel No. WDPD. EPFS Pump Baller Methods of Development Method Development Criteria 队3人6人2asing Volun Developer's Signature(s) Water Removal Data 1245 1223 309 1323 Tine ☐ Submersible ☐ Centrifugal Client Company □ Peristaltic Project Name Site Name O Other Other Date

EAVE	ORMENIA	V	Vater	Sa	mpli	ng I	Da	ta				Loca	ition l	۷o	MW-1
			Serial No. W												er
Sampl	е Туре	: X	Groundw	ater (] Surfac	e Wate	ra	Oth	er				_	Date	4/16/97
Projec	t Name	:	EP	FS_	GW P	175						Projec	t No.	175	20
															6003 .77
Site Na	me _	K-31	LINE	DRIP	<u> </u>	70	08	2_	·						
Red D Red	queste epth la queste	d Samp nterval (d Wait f	cations ling feet) following urging (hou			-	Tim Initia	e Ela _l al Wa	ater D	From epth	Final (feet)				hours)
Wate	r Qua	lity/W	ater Colle	ection								DO = Diss	olved (Oxγgen; C	Cond. = Conducti
				W	ater Qua	lity Rea	dings			v	Vater	Collection	Data		
Dat	e	Time	Sampler Initials	Temp.	Hq	DO (mg/L)	(µm	ond. nhos/ m)	Volu Remo (gallo	oved	Remo Rate (gal/m	e Depth	Bail	Final Water Depth (feet)	Notes (Explain in Comments Belo
													·		
Sampl	e Cor	ntainer		-		; N = H				A = 1	NaOH; poled	tic; V = V(O = Other			D = Other (Spec None
9	elytical		Co	ontainer		Filt	ered			1	ring ection				
	8020	2 100		~ 	Volume (m	U Yes		}	erved	· -	No	}		Comment	
	EX		2 6	IVV	40		X)	/	X		DRC L			
•					11		X			X		DRC 3	8 -	- TRI	O BLANK
														· · · · · · · · · · · · · · · · · · ·	
ilter Ty	pe	1					l Chain	 of-C	ustod	ly Fo	ıl ıcın Nı	umber			
					•									-	FORM.

CHAIN OF CUSTODY RECORD

A 2475

rroject No.	Project Name	Ó	1111	010	KLINK	Туре		\		Req	Requested Analysis	\		
Samplers: (Signature)	1/2	4.	N. O.	180	110 Date: 6-5-97	and No. of	18	nolieveed euplina		AN AN	AND		Remarks	
MHTRY Date	Time	Comp. GRAB	AB	San	Sample Number	Contain- ers	4		爱					
4.57ER 65-87	121.7	X		9%	970528	250	700	×	メメ		K-3/6	10 3VK	<u> </u>	MC 60087
WATTER 6597		X					200	×			1121	BUAN	RID BLANK	
											••			•
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Relinguished by: (Signature)	gnature)	1	۵	Date/Time	Received by: (Signature)		Relinqu	Relinquished by: (Signature)	(Signatu	re)		Date/Time	Received by: (Signature)	ure)
Meren de	Disp	1	65-6	65-97 1745										
Relinquished by: (Signature)	ignature)		Ö	Date∕Time 	Received by: (Signature)		Relinqu	Relinquished by: (Signature)	(Signatu	re)		Date/Time	Received by: (Signature)	lure)
Relinquished by: (Signature)	ignature)		ă	Date/Time	Received for Laboratory by: (\$	by: (Signature)	6/6	Date/Time		Remarks:				
Carrier Co:					Carrief Mone No.	one No.				Date Resu	ilts Reported /	Date Results Reported / by: (Signature)		
Air Bill No.:														san linn morn Form 71-55 A





SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970528
MTR CODE SITE NAME:	LD087	K-31 Line Drip MW-1
SAMPLE DATE TIME (Hrs):	6/5/97	1217
PROJECT:	Sample 4	- 1st Quarter
DATE OF BTEX EXT. ANAL.:	6/6/97	6/6/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:	 	 	 	

RESULTS

PARAMETER	RESULT	UNITS		QUALIF	IERS	
			DF	0		1 2 2
BENZENE	115	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	37.8	PPB				
TOTAL XYLENES	76.1	PPB				
TOTAL BTEX	229	PPB			İ	

The Surrogate Recovery was at DF = Dilution Factor Used	94.4 for this sample	All QA/QC was acceptable.
Narrative:		
Approved By: Jan	970528,6/13/97	Date:





Field Services Laboratory Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970528	
DATE SAMPLED:	06/05/97	
TIME SAMPLED (Hrs):	1217	
SAMPLED BY:	N/A	
MATRIX:	Water	
METER CODE:	LD087	
SAMPLE SITE NAME:	K-31 Line Drip	
SAMPLE POINT:	MW-1	

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.8	Units	06/09/97
Alkalinity as C0 ₃	0.0	PPM	06/09/97
Alkalinity as HC0 ₃	886	PPM	06/09/97
Calcium as Ca	357	PPM	06/09/97
Magnesium as Mg	142	PPM	06/09/97
Total Hardness as CaC0 ₃	1,476	PPM	06/09/97
Chloride as Cl	67	PPM	06/06/97
Sulfate as SO ₄	6,040	PPM	06/06/97
Fluoride as F	1.9	PPM	06/10/97
Nitrate as N0 ₃ -N	<1.1	PPM	06/06/97
Nitrite as N0 ₂ -N	<1.1	PPM	06/06/97
Ammonium as NH ₄ ⁺	<0.6	PPM	06/09/97
Phosphate as PO ₄	<1.1	PPM	06/06/97
Potassium as K	3	PPM	06/09/97
Sodium as Na	2760	PPM	06/11/97
Total Dissolved Solids	9,670	PPM	06/09/97
Conductivity	10,300	umhos/cm	06/06/97
Anion/Cation %	2.5%	%, <5.0 Accepted	06/13/97

Remarks:

Reported By: Mds

Approved By: John Jalle

______ Date: 4/





7-21-97

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

970528 **SAMPLE NUMBER:** 06/05/97 SAMPLE DATE: 1217 **SAMPLE TIME (Hrs): SAMPLED BY:** N/A Water **MATRIX:** LD087 **METER CODE:** K-31 Line Drip SAMPLE SITE NAME: **SAMPLE POINT:** MW-1

REMARKS:

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<.029	0.100
BARIUM	<.019	1.00
CADMIUM	<0.0002	0.010
CHROMIUM	0.005	0.050
LEAD	<.002	0.050
MERCURY	<0.0002	0.002
SELENIUM	<0.005	0.050
SILVER	0.0020	0.050

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

d 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.
Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Reported By: Snde

Approved By:

Then Level On

Date: 7/17/97



QUALITY CONTROL REPORT

Sample ID: 970528 Date Reported: 07/16/97

LABORATORY CONTROL SAMPLE

Analyte	Found Result (mg/L)	Known Value (mg/L)	% Recovery
Arsenic	0.031	0.032	97%
Barium	0.062	0.065	96%
Cadmium	0.0025	0.0024	104%
Chromium	0.0049	0.0048	103%
Lead	0.033	0.030	111%
Mercury	0.0043	0.0046	93%
Selenium	0.038	0.041	94%
Silver	0.0051	0.0043	118%

DUPLICATE ANALYSIS (mg/L)

	DOI LION LE MINE	olo (iligiz)	<u> </u>
Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	ND	ND	l NA
Barium	ND	ND	NA I
Cadmium	ND	ND	l NA i
Chromium	0.0052	0.0048	8.3%
Lead	ND	ND	l NA i
Mercury	ND	ND	NA I
Selenium	ND	ND	NA
Silver	0.0024	0.0023	4.3%

SPIKE ANALYSIS (mg/L)

	OI IKE AIGAETOIC	(111974)		
Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	0.012	0.107	0.100	95.1%
Barium	0.018	0.960	1.00	94.2%
Cadmium	ND	0.0091	0.010	91.2%
Chromium	0.005	0.054	0.050	96.9%
Lead	ND	0.039	0.050	77.3%
Mercury	ND	0.0017	0.0020	84.5%
Selenium	ND	0.047	0.050	93.2%
Silver	0.0020	0.0509	0.050	97.8%

METHOD BLANK

	- 11100 DUTION	
	Found	Detection
Analyte	Result	Level
	(mg/L)	(mg/L)
Arsenic	ND	0.027
Barium	ND	0.019
Cadmium	ND	0.0002
Chromium	ND	0.004
Lead	ND	0.002
Mercury	ND	0.0002
Selenium	ND	0.011
Silver	ND	0 0005

ND: Not Detected at stated detection level.

NA: Not Applicable.

Reported By: __mh___

Approved By:_

Date: 7/0/97



Well Development and Purging Data

Site Name K-3/ CINE OPIP	1			Development Purging	Well Number MW-/ Meter Code $\angle JOS7$
Development Criteria X 3 to 5 Casing Volumes of Water Removel Stabilization of Indicator Parameters Other	Water Volume Ca Initial Depth of Well (feet)	Water Volume Calculation Initial Depth of Well (feet)	ulation 29.50		Instruments PH Meter
velopm	Height of Wate Diameter (Inche	Height of Water Column in Well (feet) // C Diameter (Inches): Well & Gravel Pack	(feet) 7.5/ Gravel Pack	72	Conductivity Meter
Pump Bailer Centifugal X Bottom Valve	Item	Water Volume in Well	Gallons	Gallons to be Removed	Notice D. O. C. KENETS KIT
Submersible Double Check Valve	Well Casing		9%	22.8	Water Disposal
Peristattic Stainless-steel Kemmerer	Gravel Pack				KUTZ SCOMPATOR
	Drilling Fluids				
Other	Total				

Water Removal Data	emova	I Data													
Date	Time	Development Method	me nt	Removal	Intake	Ending Water Depth	Water Volume Removed (pa)	olume	Product	Product Volume	Temperature		Conductivity Dissolved	Dissolved	
		Pump	Baller	(dal/min)	(feet)	(Leet)	Increment	Increment Cumulativ	Increment	Increment Quillons	ر 	Ī.	mp/oumr	_	Comments
459	7///									Curringative	100	4/	47/201	mg/L	
4.5.8	6/11						2	3			2/0/	100			
45.5	1130						20%	100			2/2/	100	115/6		
A651797	1306						1	1			0 10	100	10001		
			T				70	12.0			14.0	12/	61/0001	1.5	
Comments	BALL	100%	2	010	000	COMMENTS BALLED DAY PIGO SALLONS	5.								

Date 6-5-97 Reviewer

Developer's Signature Welmin Good

SAMPLE 4 2MGTR



A 2075

CHAIN OF CUSTODY RECORD

Project No. Project Name				5	1001000	necond				
	#	10087		Туре		\ \	Requested Analysis			•
Samplers: (Signature)	mi	Sing	Date: 9-11-97	No. of Sample	Joseph A.	oneweeld and the second			Remarks	
MITTAIK Date Time C	Comp. GRAB		Sample Number	Contain- ers			\ \ \			
WATER 9-1497 1257	×		970970	1-5	000	×	 \	3/4WE	1-WM 0191	
MATER 9-11-97	×			1-9	Joh	×	7	PLP BUALL	K	
	1							,		
	/									
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	_	,					/			
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		Date/Time	Received by: (Signature)		Relinquist	Relinquished by: (Signature)	ure)	Date/Time	Received by: (Signature)	
of which is	1	1711/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/								
Helinquished by: (Signature)		Date/Time	Received by: (Signature)		Relinquist	Relinquished by: (Signature)	ure)	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)		Date/Time	Received for Laboratory by: (S	by: (Signature)	,	Date/Time	Remarks:			
			Marin Ray	7	4/2/97	0730				
Carrier Co:			3	Phone No.			Date Results Rep	Date Results Reported / by: (Signature)		
Air Bill No.:										
									is usual line	ons lises rance farm 74 RS A



SAMPLE IDENTIFICATION

_	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970970
MTR CODE SITE NAME:	LD087	K-31 Line Drip
SAMPLE DATE TIME (Hrs):	9/11/97	1207
PROJECT:	Sample 4	2nd Quarter
DATE OF BTEX EXT. ANAL.:	9/16/97	9/16/97
TYPE DESCRIPTION:	MW-1	Water

Field Remarks:			
	 		

RESULTS

PARAMETER	RESULT	UNITS		QUALIFI	ERS	
	#87		DF	<u></u>		
BENZENE	259	РРВ	D1			
TOLUENE	10.8	PPB				
ETHYL BENZENE	124	PPB				
TOTAL XYLENES	58.4	PPB				
TOTAL BTEX	452	PPB				

-BTEX is by EPA Method 8020 --

			-
The Surrogate Recovery was at	114.9	_% for this sample	All QA/QC was acceptable.
DF = Dilution Factor Used		_	
The "D1" qualifier indicates that the	e analyte concent	ration exceeded the	calibration curve limit.

Narrative:			
An array of Pro-	L. L.	5	6 22 67

970970BTEXMW,9/22/97



Well Development and Purging Data

Well Number	Instruments X	Semperature Meter	X 3ther 6.0. CH6/16/5 KI	Water Disposal	KUTZ SOPARATOR		
Development Purging	65	×	Gallons to be Removed	2/.9			
	ulation 29.50 29.00	<u>ē</u>	ne in Well Gallons	7.3			
	Water Volume Calculation Initial Depth of Well (feet) 7950 Initial Depth to Water (feet) 78.44 Height of Water Column in Well (feet)	s): Well	Water Volume in Well Cubic Feet Gallons				
ı	Water Volume Calunitial Depth of Well (feet)	Diameter (inches): Well	ten.	Well Casing	Gravel Pack	Drilling Fluids	Total
Site Name K-3/ CINE ORIP	ment Criteria 3 to 5 Casing Volumes of Water Removel Stabilization of Indicator Parameters Other	opment	Bailer	Double Check Valve	Stainless-steel Kemmerer		
Site Name	Development Criteria 3 to 5 Casing Volume Stabilization of Indica Other	Methods of Development	Pump Centrifugal	Submersible	☐ Peristaltic		ğ

Water Removal Data	emova	I Data														[
		Developn	nent	Development Removal	Intake	Ending Water	Water Volume	olume	Product \	Product Volume	Temperature		Conductivity Dissolved	Dissolved		
Date	Time	Method	77	Rate	Depth	Depth	Removed (gal)	d (gal)	Removed (gallons)	(gallons)	ပူ	됪	mpho/cm Oxygen	Oxygen	Comments	
		J dwnd	Bailer	(gal/min)	(feet)	(feet)	Increment Cumulative Increment Cumulative	Cumulative	Increment	Cumulative				mg/L		
8-11-97	9501										481	98'9	18,7 6,86 12,880			
267/26	4501						2:9	2.9			921	443	28/11			
9-11.97	11/3						0%	9.6			17.0	6.9%	01801			
8-11-97	1/56						5.0	140			183	702 681	9110	1.5		
i																1
ļ !																

Date 9-22-97

COMMON'S THE WELL BAILED ORY P 9:0 GALLONS.

Developer's Signature WRMW

SAMPLE 4 3 ROGIR



A 2162

			CHAIN	OF CUS	CUSTODY RECORD	٥			
Project No.	ect Name	NC# 10087	485	Type		Requested Analysis			
Samplera: (Signature)	Granis'	i Bird	Date: 12-9-97	Sample of Sample	en brutze			Remarks	
MATALK Date	Time Comp. GRAB		Sample Number	Contain- era					
1382	x @h!	× 97		1/3	4°C X	7	3/4/NE DI	1-19W 010	_
MATCH 12997	1420 4	K 97	<u> </u>	1/-5	YOC X	1/4-	31 CINE DI	PIPMUNI FIRM ONG	
									-
	/								
		/							
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Polinging April (Sing	i de la companya de l	The Control of the Co							
Johnson 1	Rind	129.99 1732.	neceived by: (Signature)		Kelinquished by: (Signature)	gnature)	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)	nature)	Date/Time	Received by: (Signature)		Relinquished by: (Signature)	gnature)	Date/Time	Received by: (Signature)	
Relinquished by: (Signature)	nature)	Date/Time	Received for Laboratory by: (Si	y by: (Signature)	12 Date/Time 12 0720	Remarks:			
Carrier Co:			Fig.	hone No.		Date Results Repor	Date Results Reported / by: (Signature)		
Air Bill No.:									
									7



SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971291
MTR CODE SITE NAME:	LD087	K-31 Line Drip
SAMPLE DATE TIME (Hrs):	12/9/97	1420
PROJECT:	Sample 4	3rd Quarter
DATE OF BTEX EXT. ANAL.:	12/15/97	12/15/97
TYPE DESCRIPTION:	MW-1	Water

Field Remarks:	

RESULTS

PARAMETER	RESULT	UNITS		QUALIFII	ERS	
			DF	<u> </u>		
BENZENE	201	PPB			ļ	
TOLUENE	<1	PPB				
ETHYL BENZENE	71.5	PPB	:			
TOTAL XYLENES	25.8	PPB				
TOTAL BTEX	298	РРВ				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at	107.4	% for this sample	All QA/QC was acceptable
DF = Dilution Factor Used			

		,		
Narrative:				
	P			

971291BTEXMW,12/16/97



SAMPLE IDENTIFICATION

_	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971292
MTR CODE SITE NAME:	LD087	K-31 Line Drip Field Dup
SAMPLE DATE TIME (Hrs):	12/9/97	1420
PROJECT:	Sample 4	4 3rd Quarter
DATE OF BTEX EXT. ANAL.:	12/15/97	12/15/97
TYPE DESCRIPTION:	MW-1	Water

Field Remarks:	 			
	 RESULTS	3		

PARAMETER	RESULT	UNITS	DF	QUALIFII Q	ERS	
BENZENE	206	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	69.8	PPB				
TOTAL XYLENES	26.0	PPB				
TOTAL BTEX	302	PPB				:

-BTEX is by EPA Method 8020 --

The Surrogate Recovery was at	107.7	_% for this sample	All QA/QC was acceptable.
DF = Dilution Factor Used		-	

Narrative:		
	1 Luco	

971292BTEXMW,12/16/97

Date: 1/2/98



Well Development and Purging Data

														,	
	,				!				Development	_	Vell Nur	nber	Well Number MW~		
Site Na	me /	Site Name X-31 CINE OPIP	INE	ORI	Q	1		X	Purging		Meter Code_	de	18007		
Develop	Development Criteria	riteria													
X	3 to 5 Casi	3 to 5 Casing Volumes of Water Removel	Mater R	emove		Water Vo	Volume Calculation	ulation				Instruments	nents		
	Other	Stabilization of indicator Parameters Other	Paramete	_	ļ	Initial Depth of Well (feet) Initial Depth to Water (feet)_	Well (feet) Water (feet)	12:00					pH Meter DO Monitor		
Method	s of Dev	Methods of Development	¥			Height of Water Column Diameter (inches): Well	Height of Water Column in Well (feet) Diameter (inches): Well & Gra	II (feet) / // Gravel Pack	17.47					/ Met	•
	Pump	•	iler				Water Volume in Well	me in Well	Gallons to be	o be][Other 00.0	0.07	CHEMETS KI
	Centrifugal	X	Bottom Valve	<u>o</u>		ltem	Cubic Feet	Gallons	Removed	_)
	Submersible		Double Check Valve	³ck Valve		Well Casing		7.5	226			Water I	Water Disposal		
	Peristaltic	™	tainless-st	Stainless-steel Kemmerer	erer	Gravel Pack						ガップ	UTZ SEDARATOR	OARX	170p
						Drilling Fluids									
	Other					Total									
Water F	Water Removal Data	Data													
Date	Time	Development Method		Removal Rate	Intake	Ending Water Depth	Water Volume	/olume	Product Volume		Temperature	7	—	Dissolved	
	1	Pump B	Bailer (ga	Īē	(feet)	(feet)	Increment	Cumulative	Increment Cumulati	Cumulative	כ	<u> </u>	mp/oumn	oxygen mg/l	Comment
12-9-27	1307		-						-	2	11.3	45%	1677	1	
166-21	13/8						5.0	5.0			11.3	6.51	17/20		
12-897	1335						5.0	001			101	6.73	14225		
12-897	1408						50	15.0			4.0	6.79	(3545)	51	
Comments	THE	WELL	BK	1/62	0	BAILED OPY @ 1.	10.0 GALLONS.	Non	5.						
,	7	Za Za	Cormer	1	, tak				17.9.97	22			1.0		1
Developer's Signature	Signature	1111	2		2)ate / 1/ /	Re	viewer	がた	KAUL		Date //2/98