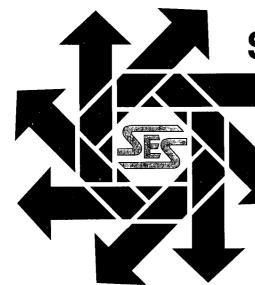
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REPORTS

DATE: 2000



Safety & Environmental

Solutions, Inc.



APR 07 2000

ENVIRONMENTAL BUREAU OIL CONSERVATION DIVISION

KOCH PIPELINE CO., L.P. Crouch Station Lea County, New Mexico

Annual Report - April 1, 2000



Safety & Environmental Solutions, Inc. 703 E. Clinton Suite 103 Hobbs, New Mexico 88240 (505) 397-0510

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Purpose

The purpose of this report is to present a summary of site monitoring at the Crouch Station in Section 18 Township 18S Range 36E in Lea County, New Mexico for the past year. (See Vicinity Map)

Background

This report is the result of the requirement of the New Mexico Oil Conservation Division to report the results of the investigation to delineate the possibility of groundwater contamination at the Crouch Station site. Three additional monitor wells were installed at the Crouch Station on May 1 and May 2, 1998, supplementing two monitor wells drilled initially in 1997 by Western Technologies. (See Monitor Well Site Rlan)

Work Performed

The monitor wells were sampled biannually as per the approved Work Plan. Three to five casing volumes of water in each well was bailed prior to sample collection with a properly decontaminated bailer to completely develop the monitor wells. The samples were placed in the appropriate containers, preserved, and transported under chain of custody to the laboratory for analysis. The first sampling of the reporting year was performed on August 31, 1999, and the results were reported in *Crouch Station Monitor Well Report, September 20, 1999*. The ground water samples were analyzed for the contaminates Benzene, Chromium and Barium as identified in the initial sampling. (See Attached September 20, 1999 Monitor Well Report)

The wells were again sampled on February 21, 2000, following proper SOPs and these results area included in this report. The ground water samples were again analyzed for the contaminates BTEX, Chromium and Barium as identified in the initial sampling.

In addition to the sampling, SESI also measured the depth to the top of the water table and the total depth of each well. The depth to the top of ground water was measured using a Solinst water level indicator. The total depth of each well was measured in order to compute the proper casing volumes. (See Cumulative Depth to Water Table)

Additional Work

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Beginning in October 1997, Safety & Environmental Solutions, Inc. was contracted by Koch Oil Company to monitor the installed Soil Vapor Extraction Unit setup on a prior spill. The air emissions are sampled weekly with a MTIP Photovac PID for BTEX. A quarterly air sample is taken to a third party laboratory for confirmation using standard protocols, then a quarterly report is filed with the New-Mexico Environment Department Air Quality Bureau. (See Quarterly Air Sampling Reports – April 1999 to January 2000)

Summary

The analysis of the groundwater samples performed by Cardinal Laboratories indicated elevated levels of Barium in **all** wells as well as elevated levels of Benzene in Monitor Wells #3, the upgradient well for the first test period. Additionally, Monitor Well #3 exhibited elevated levels of Benzene during the second sampling period and slightly elevated levels of Barium (1.07 ppm with an allowable 1.00 ppm limit).

Once again, the follow up testing revealed no elevated Chromium levels in any well above the NMWQCC limit.

The Benzene contamination has entered the property at the northwest property line in the water table that flows from the northwest to the southeast at a bearing of approximately 140°. This contamination is almost certainly the result of a source that is located clearly outside the property boundaries of the Crouch Station. The obvious suspected source of the contamination entering this area is the historical leak to the northwest of Crouch Station. This leak occurred approximately 10 years ago and is currently undergoing remediation by Texas New Mexico Pipeline Company and Southwestern Public Service. The most current report of sampling of the 18 monitor wells installed at that site indicate the contamination may have traveled past the most down-gradient well.

The Air Monitoring program has regularly shown that the Soil Vapor Extraction Unit is performing according to its specifications. The historical spill that this SVE unit is remediating is unrelated to the Monitor Well program.

Figures and Appendices

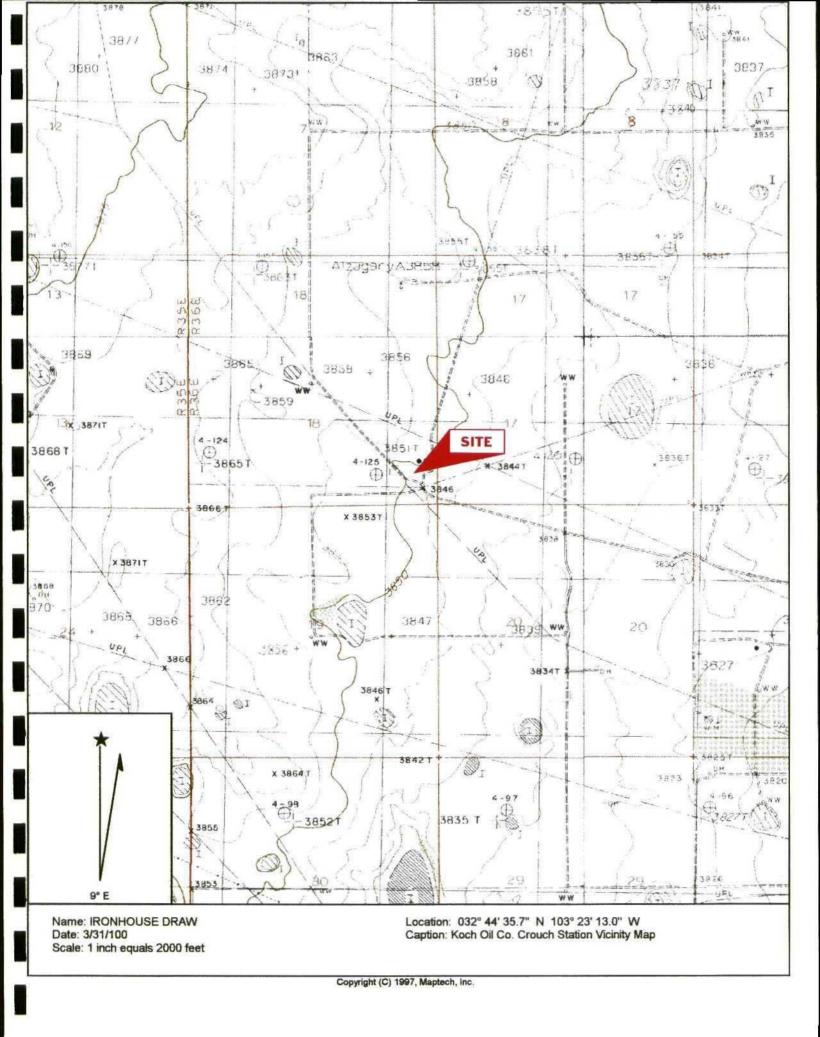
Figures: Vicinity Map Monitor Well Site Plan Potentiometric Map for February 21, 2000

Appendices:

Interim Monitor Well Report of September 20, 1999 Crouch Cumulative Depth to Water Table Crouch Station Cumulative Well Data Laboratory Analyticals for February 21, 2000 Water Samples Quarterly Air Sampling Reports Annual Report Crouch Station, Lea County, New Mexico

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Figure 1 Vicinity Map



Annual Report Crouch Station, Lea County, New Mexico

KOCH PIPELINE CO., L.P. March 24, 2000

Figure 2 Monitor Wells Site Plan

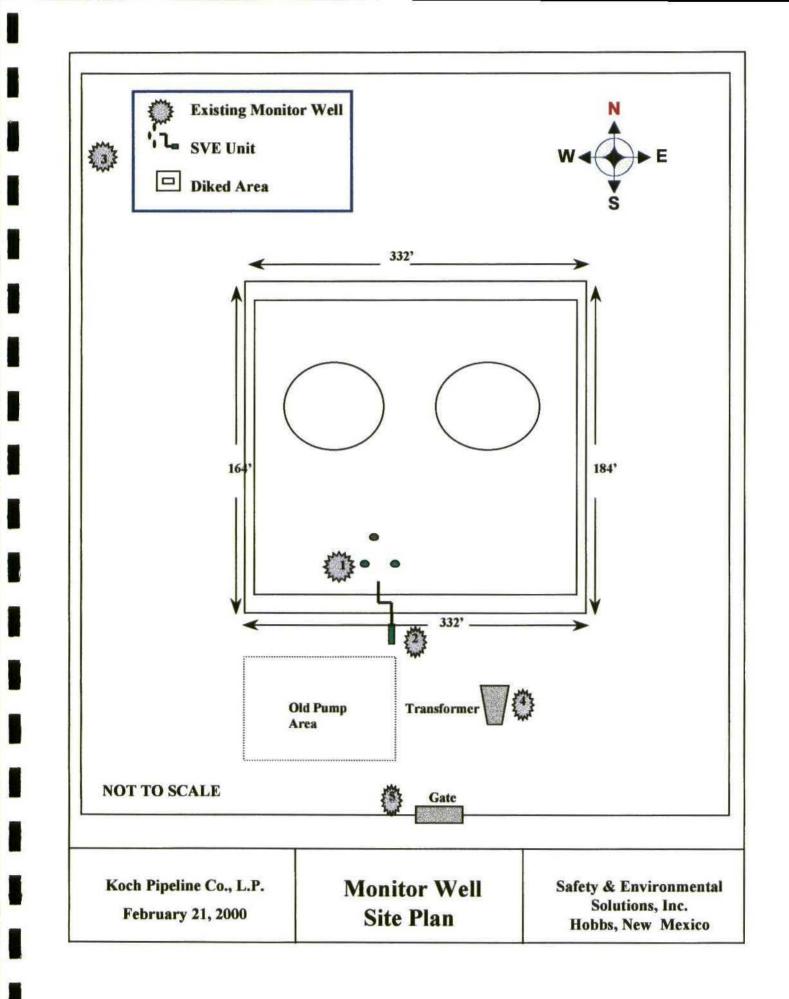
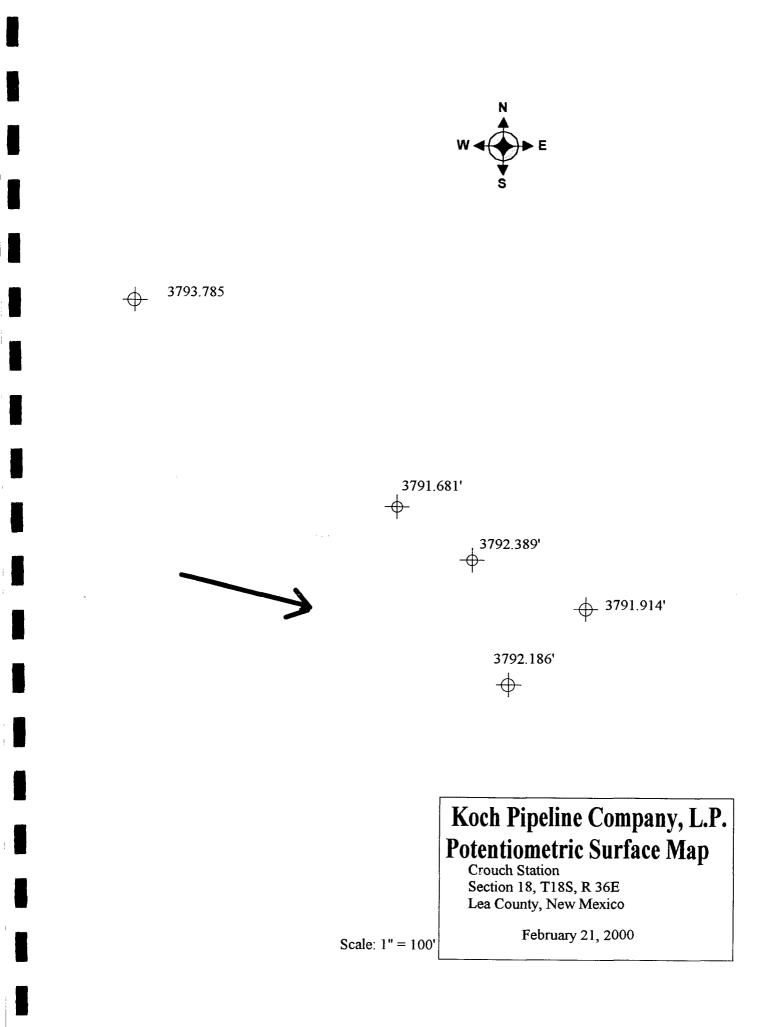


Figure 3 Potentiometric Map for February 21, 2000



Annual Report Crouch Station, Lea County, New Mexico

Appendix A Monitor Well Report of September 20, 1999



Koch Pipeline Company, L.P.

Crouch Station Monitor Well Report Lea County, New Mexico

September 20, 1999

Safety & Environmental Solutions, Inc. 703 E. Clinton Suite 103 Hobbs, New Mexico 88240 (505) 397-0510

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I. Background

The purpose of this report is to present analytical results from ground water samples collected for compliance with NMOCD requirements on the monitor wells at Koch Pipeline Company's Crouch Station located in Section 18 Township 18S Range 36E in Lea County, New Mexico (See Vicinity Map).

Safety & Environmental Solutions, Inc. (SESI) performed sampling and data collection on the five (5) ground water monitor wells previously installed by SESI in 1998 and Western Technologies in 1997. The casing size in all wells is 2".

II. Work Performed

On August 31, 1999, SESI environmental technician W. Dee Whatley arrived at the site. Ground water samples were taken from each well after a hand bailer was used to develop the wells. Three to five casing volumes of water were removed from each well until pH and temperature of the water were stabilized. The samples were obtained and placed in appropriate containers, preserved and transported under chain of custody to Cardinal Laboratories of Hobbs, New Mexico for analysis of the contaminants identified in the initial sampling of April 1998. (See Analytical Data)

In addition to the sampling, SESI also measured the depth to the top of the water table and the total depth of each well. The depth to the top of ground water was measured using a Solinst water level indicator. The total depth of each well was measured in order to compute the proper casing volumes. This information will be included in the annual report due each April for the Crouch Station.

	Date	Depth to Water	Total Well Free Product Depth Thickness						
MW – 1	8/31/99	58.10'	63.51'	0.00					
MW – 2	8/31/99	56.76'	61.21'	0.00					
MW – 3	8/31/99	59.82'	67.95'	0.00					
MW – 4	8/31/99	59.79'	64.62'	0.00					
MW – 5	8/31/99	59.00'	67.25'	0.00					

A summary of this data follows:

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III. Analytical Results

The analysis of the groundwater samples performed by Cardinal Laboratories are summarized as follows:

Contaminant	WQCC	MW	MW	MW	MW	MW
	Standard	. #1	#2	#3	#4	#5
Barium	1.00 ppm	5.179ppm	3.748ppm	6.095ppm	6.974ppm	5.285ppm
Benzene	0.01 ppm	N/A	N/A	0.628 ppm	N/A	N/A
Chromium	0.05 ppm	<0.05ppm	<0.05ppm	<0.05ppm	<0.05ppm	<0.05ppm

IV. Figures and Appendices

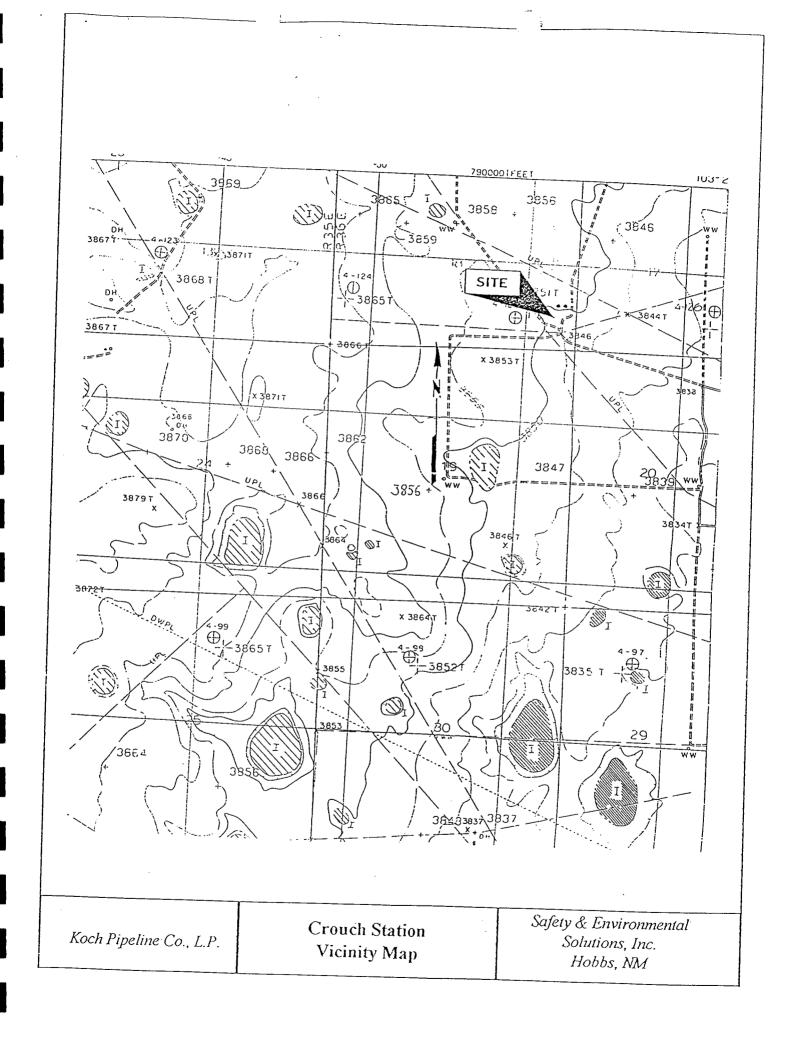
Figures: Vicinity Map Potentiometric Map

Appendices: Analytical Results

Koch Pipeline Company, L.P. Lea County, New Mexico

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Figure 1 Vicinity Map

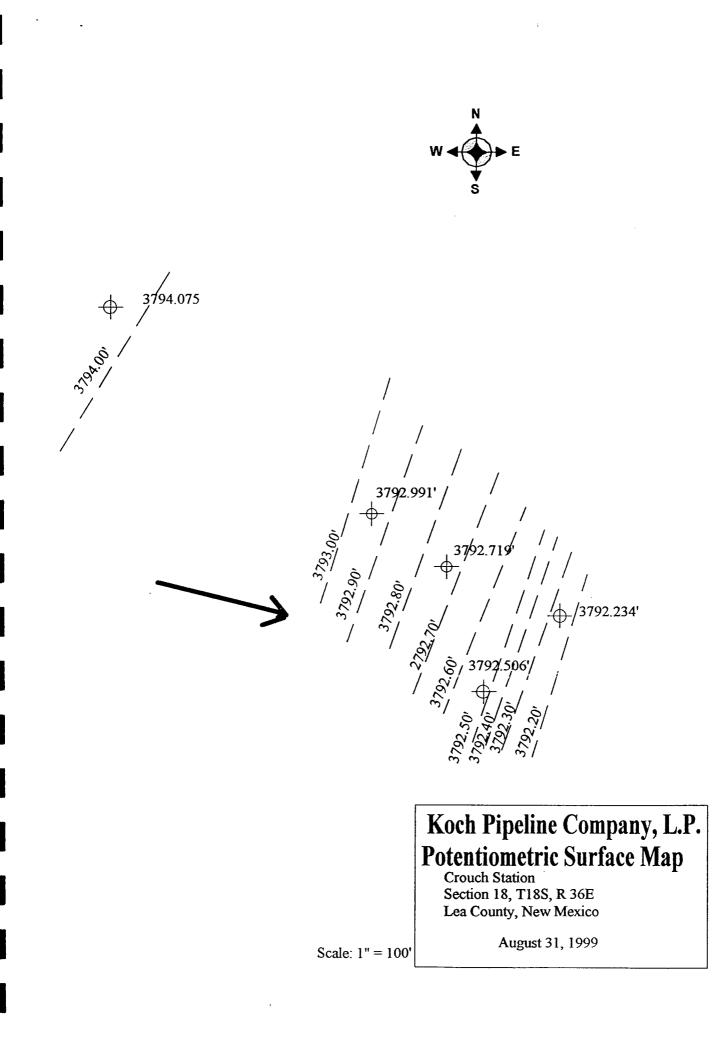


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Koch Pipeline Company, L.P. Lea County, New Mexico

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Figure 2 Potentiometric Map



Crouch Station Semi-annual Monitor Well Report September 20, 1999 Koch Pipeline Company, L.P. Lea County, New Mexico Į.

Appendix A Analytical Results



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: DEE WHATLEY 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO:

Receiving Date: 08/31/99 Reporting Date: 08/31/99 Project Owner: KOCH OIL Project Name: CROUCH STATION MW Project Location: CROUCH STATION Sample ID: MW #3 Lab Number: H4311-3 Analysis Date: 08/31/99 Sampling Date: 08/31/99 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: BC

	Sample Result	Method		Т	rue Value
BENZENE (mg/L)	H4311-3	Blank	QC %Re	cov.	QC
Benzene	0.628	<0.002	0.093	93	0.100

· · · · · · · · · · · · · · · · · · ·	% RECOVERY
Dibromofluoromethane	112
Toluene - d8	101
Bromofluorobenzene	104

METHODS: EPA SW-846 8260

Date

PLEASE NOTE: Llability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.



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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: DEE WHATLEY 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO:

Receiving Date: 08/31/99 Reporting Date: 09/01/99 Project Owner: KOCH OIL Project Name: CROUCH STATION MW Project Location: CROUCH STATION Sampling Date: 08/31/99 Sample Type: GROUNDWATER Sample Condition: COOL & INTACT Sample Received By: BC Analyzed By: AH

	Ba	Cr
LAB NUMBER SAMPLE ID	(mg/L)	(mg/L)
ANALYSIS DATE:	09/01/99	09/01/99
H4311-1 MW #1	5.179	<0.05
H4311-2 MW #2	3.748	< 0.05
H4311-3 MW #3	6.095	< 0.05
H4311-4 MW #4	6.974	<0.05
H4311-5 MW #5	5.285	< 0.05
Quality Control	24.36	4.880
True Value QC	25.00	5.000
% Recovery	97.4	97.6
Relative Percent Difference	3.7	1.7
METHODS: EPA 600/4-79-020	208.1	218.1

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09/01/99

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST	43// Page	ANALYSIS REQUEST																		Terms and Conditions: literest will be charged on all accounts more than 30 days pest due at the rate of 24% per annum from the original date of invoice	and all costs of collections, including attorney's fees.	NO Additional Fax #. No				
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	ARDINAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020	TEST.	Dor - What the	Cluth !!	State:////ZIp: <	-0510	Y389	Project Owner:	rouch Station	Crouch 5t		Sample I.D.	N/4/# /		<u>9, U # 3 6</u>	VUH S	INTS K			es. Cardnafs lightly and chent's exclusive ren x negligence and any other cause whatsoever	• Fable for incidental or consequental damages, or related to the performance of services here.	1. 1911 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Date:	Time:	rcle One)	s - Other:
P	ARDIN 2	Company Name: 5	Project Manager:	Address: 7 63 6.	city: 1 to //1	Phone #: 367 -	Fax#: 323-	Project #:	Project Name:	Project Location:	FOR LAB USE ONLY	LAB I.D.	+++311-1		<u><</u> ~ 1	17	× ×			PLEASE NOTE: Lisuility and Damage analyses. All claims including those for	service. In no every shall can chall be failed for inclobentation conseque affiliates or successors artisting out of or related to the performance of several performance of the several sever		Relinquished By:			Sampler - UPS - Bus

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Appendix B Crouch Cumulative Depth to Water Table

Crouch Cumulative Depth to Water Table March 24, 2000

Monitor Well	Total Well Depth	Depth to Water 8/31/99	Depth to Water 2/21/00
#1	63.51'	58.10'	59.41'
#2	61.21'	56 .76'	57.09'
#3	67.95 '	59.82'	60.11'
#4	64.62'	59.79'	60.11'
#5	67.25'	59.00'	59.32'

Annual Report Crouch Station, Lea County, New Mexico

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Appendix C Crouch Station Cumulative Well Data

Crouch Station Cumulative Well Data March 24, 2000

Monitor Well #1

Contaminant	WQCC Standard	Test Date 8/31/99	Test Date 2/21/00
Barium	1.0 ppm	5.179 ppm	<1.0 ppm
Chromium	0.05 ppm	<0.05 ppm	<0.05 ppm
Benzene	0.01 ppm	n/a	<.002 ppm
Toluene	0.75 ppm	n/a	<.002 ppm
E. Benzene	0.75 ppm	n/a	<.002 ppm
Total Xylenes	0.62 ppm	n/a	<.006 ppm

Contaminant	WQCC Standard	Test Date 8/31/99	Test Date 2/21/00
Barium	1.0 ppm	3.748 ppm	<1.0 ppm
Chromium	0.05 ppm	<0.05 ppm	<0.05 ppm
Benzene	0.01 ppm	n/a	0.002 ppm
Toluene	0.75 ppm	n/a	<.002 ppm
E. Benzene	0.75 ppm	n/a	<.002 ppm
Total Xylenes	0.62 ppm	n/a	<.006 ppm

Contaminant	WQCC Standard	Test Date 8/31/99	Test Date 2/21/00
Barium	1.0 ppm	6.095 ppm	1.070 ppm
Chromium	0.05 ppm	<0.05 ppm	<0.05 ppm
Benzene	0.01 ppm	0.628 ppm	2.02 ppm
Toluene	0.75 ppm	n/a	<.002 ppm
E. Benzene	0.75 ppm	n/a	<.002 ppm
Total Xylenes	0.62 ppm	n/a	<.006 ppm

Contaminant	WQCC Standard	Test Date 8/31/99	Test Date 2/21/00
Barium	1.0 ppm	6.974 ppm	<1.0 ppm
Chromium	0.05 ppm	<0.05 ppm	<0.05 ppm
Benzene	0.01 ppm	n/a	<.002 ppm
Toluene	0.75 ppm	n/a	<.002 ppm
E. Benzene	0.75 ppm	n/a	<.002 ppm
Total Xylenes	0.62 ppm	n/a	<.006 ppm

Contaminant	WQCC Standard	Test Date 8/31/99	Test Date 2/21/00
Barium	1.0 ppm	5.285 ppm	<1.0 ppm
Chromium	0.05 ppm	<0.05 ppm	<0.05 ppm
Benzene	0.01 ppm	n/a	<.002 ppm
Toluene	0.75 ppm	n/a	<.002 ppm
E. Benzene	0.75 ppm	n/a	<.002 ppm
Total Xylenes	0.62 ppm	n/a	<.006 ppm

Annual Report Crouch Station, Lea County, New Mexico

Appendix D Analytical Results of February 21, 2000



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 02/21/00 Reporting Date: 02/28/00 Project Owner: KOCH Project Name: NOT GIVEN Project Location: CROUCH STATION Sampling Date: 02/21/00 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: AH

Cr

(mg/L)

Ba (mg/L)

ANALYSIS DA	TE:	02/28/00	02/28/00
H4659-1	MW #1	<1	< 0.005
H4659-2	MW #2	<1	< 0.005
H4659-3	MW #3	1.07	<0.005
H4659-4	MW #4	<1	<0.005
H4659-5	MW #5	<1	<0.005
Quality Contro	1	24.49	4.921
True Value QC	<u>}</u>	25.00	5.000
% Recovery		98	98
Relative Perce	ent Difference	3.0	0.6
METHODS: EPA	600/4-79-020	208.1	218.1

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 02/21/00 Reporting Date: 02/22/00 Project Owner: KOCH Project Name: NOT GIVEN Project Location: CROUCH STATION Sampling Date: 02/21/00 Sample Type: WATER Sample Condition: COOL & INTACT Sample Received By: AH Analyzed By: BC

				ETHYL	TOTAL
		BENZENE	TOLUENE	BENZENE	XYLENES
LAB NO.	SAMPLE ID	(mg/L)	(mg/L)	(mg/L)	(mg/L)
ANALYSIS D	DATE	02/21/00	02/21/00	02/21/00	02/21/00
H4659-1	MW #1	<0.002	< 0.002	<0.002	<0.006
H4659-2	MW #2	0.002	<0.002	<0.002	<0.006
H4659-3	MW #3	2.02	<0.002	<0.002	<0.006
H4659-4	MW #4	0.004	<0.002	<0.002	< 0.006
H4659-5	MW #5	<0.002	<0.002	< 0.002	<0.006
	· · · · · · · · · · · · · · · · · · ·				
	•			ļ	·
Quality Cont	rol	0.098	0.092	0.086	0.267
True Value C		0.100	0.100	0.100	0.300
% Recovery	······	98.4	91.5	86.3	88.8
Relative Per	cent Difference	2.2	8.3	14.7	11.7

METHOD: EPA SW 846-8021B, 5030, 5021 Gas Chromatography

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H4659B.XLS

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Company Name: SI Project Manager: Address: 703 E. City: HOBBS	INAL LABORATOF 2111 Beechwood, Abilen (915) 673-7001 Fax (91 EST CLINTON, #103 State: NM Zlp:		101 East Marland, Hobbs, NM 882 (505) 393-2326 Fax (505) 393-2476 <i>BJLH_TO</i> PO #: Company: SAME Attn:		CHAIN-OF-CUSTODY AND ANALYSIS REQUEST Pageot ANALYSIS REQUEST
Phone #: (505) ; Fax #: (505) 30 Project #: Project Name: Project Location: For LAB USE ONLY	397-0510 393-4388 Project Owner: C 1724 L 5 to tran	Kach MATRIX	Address: City: State: Zip: Phone #: Fax #: PRES. SAMPLING		
LAB I.D.	Sample I.D. (כ)RAB OR (C)OMP.	SLUDGE SCUNDWATER MASTEWATER SOIL SOIL	NCID: NCID: NCID: DATER: DATER: DATER:	TIME A DUIL	
14659-1 -2 -2 -2	MNLNH HNLNHZ ANNHZ PNLUHU MUCHTS S		A A A A A A A A A A A A A A A A A A A	120 m 1 × × × × × × × × × × × × × × × × × ×	
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Reymonished BV: 2Delivered BVS/CI Sampler - UPS - Bu	June Yans Du Titme: Control Date: Control Da	Sample Condition	Staff) CHECKED BY: (Initials)	⊂	Ŷ

Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.

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Annual Report Crouch Station, Lea County, New Mexico

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Appendix E Quarterly Air Sampling Reports



KOCH PIPELINE CO., L.P. Crouch Station



Quarterly Report

January 2000 Air Monitoring Program Lea County, New Mexico

Safety & Environmental Solutions, Inc. 703 E. Clinton Suite 103 Hobbs, New Mexico 88240 (505) 397-0510

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Observations	<u>1</u>
Figures	<u>2</u>

Purpose

The purpose of this project is to monitor the air quality from the SVE unit at the Crouch Station in Section 18 Township 18S Range 36E in Lea County, New Mexico and provide quarterly reports of the findings.

Background

Koch Pipeline, Co., L.P., had previously installed a SVE Unit at the Crouch Station, as required by the New Mexico Oil Conservation Division. Safety and Environmental Solutions was contracted to monitor the air quality of the SVE unit beginning in October 1997 and to report the findings on a quarterly basis.

Method

A Photovac MicroTIP Photo Ionization Detector is used for air sampling at the SVE Unit for BTEX detection, following the SOP delineated by the manufacturer. The procedure for sampling is as follows:

- The PID sets its zero point using Zero Grade Gas, which is placed, in a SKC Tedlar sample bag. After setting zero point, the concentration of the isobutylene Span Gas, 100ppm, is entered into the PID and the PID is then calibrated with the Span Gas which is placed in a new SKC Tedlar sample bag that has been purged with Span Gas prior to sampling.
- Three samples of air from the SVE Unit are collected in the SKC Tedlar sample bags, then tested using the MicroTIP PID. The first result is thrown out, to accommodate any purging, and the next two samples are recorded. (See Sampling Log)

Sampling was done on a weekly basis at the SVE Unit, following the same protocol for each test.

Observations

The readings have stayed in the 180-250ppm range, with the highest reading on October 29, 1999, at 250ppm. Readings on January 8, 2000 and January 14, 2000 were the lowest during the quarter at 172ppm and 180ppm and 196ppm and 180ppm respectively. (See Air Sampling Report) On November 12, 1999, readings of 1400ppm and 1415ppm were obtained. These anomalous readings were attributed to faulty calibration of the PID unit. Except for the anomaly on November 12, 1999, the readings have stayed in the above-mentioned range through January 24, 2000, the end of the sampling for this quarter. The flow rate for the system is currently $23scfm_c$

Crouch Station	
Quarterly Sampling Report	

Water is being removed from the unit on a weekly basis with the volume remaining consistent. This water is stored onsite in drums until such time that it will be taken for disposal to an NMOCD approved disposal facility.

On January 24, 2000, an air sample was collected using the correct SOPs and taken to Cardinal Laboratories for third party analysis and confirmation of our results. Our results on January 22, 2000 ranged from 180ppm to 196ppm (See Analytical Results). The following table represents the results of the air sample:

ANALYTES	AIR
	SAMPUD
Sample Date	1/24/00
BTEX	
Benzene	12.7
Toluene	10.3
Ethyl Benzene	4.14
Total Xylenes	5.50

These results are reported as mg/M^3 or parts per million (ppm).

Figures

Air Sampling Report Sampling Log Laboratory Analyticals Crouch Station Quarterly Sampling Report KOCH PIPELINE CO., L.P. January 30, 2000

Figure 1 Air Sampling Report

Safety & Environmental Solutions, Inc.

Koch Operations Group Crouch Station Quarterly Air Sampling Report January 2000

Detector Type: Photoionization Tester Brand: Microtip1Tester Model: MP 100 Serial Number: NA890005 Manufacture Date: 8/97

Date Sampled	Time Sampled	1 st Sample Results	2 nd Sample Results
10-22-99	1520	209ppm	228ppm
10-29-99	1636	228ppm	250ppm
11-05-99	1550	230ppm	241ppm
11-12-99*	1400	1400ppm	1415ppm
11-19-99	1230	240ppm	243ppm
11-26-99	1152	217ppm	199ppm
12-03-99	1020	202ppm	181ppm
12-10-99	0725	239ppm	231ppm
12-17-99	0815	186ppm	192ppm
12-23-99	0725	188ppm	191ppm
12-30-99	1550	222ppm	219ppm
01-08-00	1422	172ppm	180ppm
01-14-00	1420	190ppm	205ppm
01-22-00	0900	196ppm	180ppm

Monitor is calibrated with 100ppm Isobutelyne prior to testing on each sampling date.

*There was a problem with the calibration of the PID unit.

703 E. Clinton, Suite 103 Phone (505) 397-0510 Crouch Station Quarterly Sampling Report

KOCH PIPELINE CO., L.P. January 30, 2000

Figure 2 Sampling Log

320, 2 ZSppr 209 16-2295 0-29-54 228 3 \circ e_{n} -5-99 Э Q nm 102 7 12.99 200 pm 00 14 1: (p) 34 Oppu 11-19.99 230pin 10. 21 SZam 1. 16 99 Or Prit 10:20 AM 1550 -13.79 7gd & ISum 94 310 X 7 350, \overline{q} 7 \mathcal{F} Y Y Co-1 Û N 12/10 19 2:70pm O205 -14-00 13 54. 196 9:00 m 2200 Safety & Environmental **Koch Pipeline Crouch Station** Koch Operations Group Solutions, Inc. Copy of Sampling Log Hobbs, NM

Figure 3 Laboratory Analyticals



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 01/24/00 Reporting Date: 01/25/00 Project Owner: KOCH Project Name: CROUCH STATION Project Location: NOT GIVEN Sampling Date: 01/24/00 Sample Type: AIRBAG Sample Condition: INTACT Sample Received By: BC Analyzed By: BC

LAB NO.	SAMPLE ID	BENZENE (mg/M ³)	TOLUENE (mg/M ³)	ETHYL BENZENE (mg/M ³)	TOTAL XYLENES (mg/M ³)
ANALYSIS D	DATE	01/24/00	01/24/00	01/24/00	01/24/00
H4603-1	AIR SAMPLE	12.7	10.3	4.14	5.50
			+		
			1		
Quality Conti		92.0	94.6	93.1	290
True Value C	JC	100	100	100	300
% Recovery		92.0	94.6	93.1	96.5
Relative Per	cent Difference	3.9	7.3	2.7	1.4

METHOD: EPA SW-846 8260

Roohe

25/00

Date

H4603.XLS

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

Æ					CHAIN-OF-CI	CHAIN-OF-CUSTODY AND ANALYSIS REQUEST	IS REQUEST	
ARD	ARDINAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79803 (915) 673-7001 Fax (915) 673-7020	101.E (505)	st Marland, Hobbs, NM 93-2326 Fax (505) 393-2	ast Marland, Hobbs, NM 88240 393-2328 Fax (505) 393-2476		Page	C of L	,
Company Name: S	SEST					ANALYSIS REQUEST		<u> </u>
Project Manager:			BILL TO	PO#:				<u> </u>
Address: 703 E.	CLINTON, #103	ŭ	Company: S	SAME				
city: HOBBS	ö	At						
Phone #: (505)	397-0510	Ac	Address:					
Fax #: (505) 3	<u> 393–4388</u>	C	city:					
	Project Owner: 10-6	St	State:	Zip:	5			
Project Name: (Crouch Stall	ta	Phone #:) (
Project Location:		Fa	Fax #:					
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service, in the error shell Cardha. affiliates of succession artisting out	it be table for incidental of connectantal contacter, including written & of or failated to the particimance of services hereunder by Cardinal, including	on, business internut dess of whether euc	ch claim is bese of use, of x	ructions, but of use, or but of positi incurred by clear, its subsidiances such claim is based upon any of the above staled nersors or otherwise.		and all costs of colections, including attorney's feet.		I
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KOCH PIPELINE CO., L.P. Crouch Station

Quarterly Report

October 1999 Air Monitoring Program Lea County, New Mexico

Safety & Environmental Solutions, Inc. 703 E. Clinton Suite 103 Hobbs, New Mexico 88240 (505) 397-0510

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Method	<u>1</u>
Observations	<u>1</u>
Figures	<u>2</u>

Purpose

The purpose of this project is to monitor the air quality from the SVE unit at the Crouch Station in Section 18 Township 18S Range 36E in Lea County, New Mexico and provide quarterly reports of the findings.

Background

Koch Pipeline, Co., L.P., had previously installed a SVE Unit at the Crouch Station, as required by the New Mexico Oil Conservation Division. Safety and Environmental Solutions was contracted to monitor the air quality of the SVE unit beginning in October 1997 and to report the findings on a quarterly basis.

Method

A Photovac MicroTIP Photo Ionization Detector is used for air sampling at the SVE Unit for BTEX detection, following the SOP delineated by the manufacturer. The procedure for sampling is as follows:

- The PID sets its zero point using Zero Grade Gas, which is placed, in a SKC Tedlar sample bag. After setting zero point, the concentration of the isobutylene Span Gas, 100ppm, is entered into the PID and the PID is then calibrated with the Span Gas which is placed in a new SKC Tedlar sample bag that has been purged with Span Gas prior to sampling.
- Three samples of air from the SVE Unit are collected in the SKC Tedlar sample bags, then tested using the MicroTIP PID. The first result is thrown out, to accommodate any purging, and the next two samples are recorded. (See Sampling Log)

Sampling was done on a weekly basis at the SVE Unit, following the same protocol for each test.

Observations

The readings have stayed in the 220-460ppm range, with the highest reading on September 17, 1999, at 457ppm. Readings on October 8, 1999 and October 15, 1999 were the lowest during the quarter at 234ppm and 280ppm and 218ppm and 261ppm respectively. (See Air Sampling Report) They have stayed in the above mentioned range through October 15, 1999, the end of the sampling for this quarter. The flow rate for the system is currently 23scfm.

Crouch Station Quarterly Sampling Report

On July 30, 1999, the system was inadvertently shut down when a contractor onsite caused the unit to be turned off. Power was turned on at the unit on August 3, 1999, and the system continued to operate smoothly.

Water is being removed from the unit on a sporadic basis with the volume increasing towards the end of the quarter.

On October 8, 1999, an air sample was collected using the correct SOPs and taken to Cardinal Laboratories for third party analysis and confirmation of our results. Our results on that date ranged from 234ppm to 280ppm. The following table represents the results of the air sample:

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Children Children	
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Toluene	140.V
	CO
Ethyl Benzene	31
Total Xylenes	
TOTAL 27 AICHOS	1V.Z

These results are reported as mg/M^3 or parts per million (ppm).

Figures

Air Sampling Report Sampling Log Laboratory Analyticals Crouch Station Quarterly Sampling Report

Figure 1 Air Sampling Report

Safety & Environmental Solutions, Inc.

Koch Operations Group Crouch Station Quarterly Air Sampling Report October 1999

Detector Type: Photoionization Tester Brand: Microtip Tester Model: MP 100 Serial Number: NA890005 Manufacture Date: 8/97

Monitor is calibrated with 100ppm Isobutelyne prior to testing on each sampling date.

Date Sampled	Time Sampled	1 st Sample Results	2 nd Sample Results
7-23-99	1332	307ppm	314ppm
7-30-99	1302	*****	*****
8-06-99	1122	309ppm	329ppm
8-13-99	1045	341ppm	363ppm
8-20-99	1336	349ppm	361ppm
8-27-99	1400	439ppm	442ppm
9-03-99	1550	387ppm	399ppm
9-10-99	0730	436ppm	448ppm
9-17-99	1507	450ppm	457ppm
9-24-99	1340	438ppm	437ppm
10-01-99	1115	248ppm	272ppm
10-08-99	0732	234ppm	280ppm
10-15-99	1500	218ppm	261ppm

**The power was inadvertently shut off to the SVE unit by contractors. It was restored on 6/28/99.

703 E. Clinton, Suite 103 Phone (505) 397-0510 Hobbs, New Mexico 88240 Fax (505) 393-4388 Crouch Station Quarterly Sampling Report KOCH PIPELINE CO., L.P. October 29, 1999

Figure 2 Sampling Log

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			:
4-20.99	245 0.0.0	376 00.	6:45 pm
	345 ppm	270 P.M.	2:18 pm
<u>. 7-29-99</u> 5-17.99	353 ppm	3/1 pp	2.10.pm
	Jor por	Jojpon	428
5-14.97 120	298pp-	304ppm	1055am
5.21.99	315ppm	Baleson	9489m
5.2999 W20	296ppm	317ppm	1/120-
6-4-99320	DOLANT	319	1122am
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7-2-99 water	303,00	313000	1120an
7.9.99 135	290000	273700	20m
1-16-99,00	295 ppm	323Par	Mason
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8-27-99	43900 km	44211	2000
9-3-99	387 ppm	399 5000	3:50 pm
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		14.00	

Koch Operations Group

Koch Pipeline Crouch Station Copy of Sampling Log

Safety & Environmental Solutions, Inc. Hobbs, NM Crouch Station Quarterly Sampling Report

KOCH PIPELINE CO., L.P. October 29, 1999

Figure 3 Laboratory Analyticals



PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 10/08/99 Reporting Date: 10/09/99 Project Owner: KOCH Project Name: CROUCH STATION Project Location: NOT GIVEN Sampling Date: 10/08/99 Sample Type: GAS (TEDLAR BAG) Sample Condition: INTACT Sample Received By: AH Analyzed By: BC

LAB NO.	SAMPLE ID	BENZENE (mg/M ³)	TOLUENE (mg/M ³)	ETHYL BENZENE (mg/M ³)	TOTAL XYLENES (mg/M ³)
ANALYSIS	DATE	10/08/99	10/08/99	10/08/99	10/08/99
H4391-1	SVE AIR SAMPLE	190	148	53.2	70.9
-					
Quality Cont	trol	88.2	95.6	93.3	286
True Value		100	100	100	300
% Recovery	· ·	88.2	95.6	93.3	95.3
Relative Per	cent Difference	8.7	0.2	2.7	1.7

METHOD: EPA SW 846-8021B, 5030, 5021 Gas Chromatography

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H4391.XLS

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

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ARD	ARDINAL LABORATORIES, INC.	•		
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Company Name: S	1		ANALYSIS REQUEST	
Project Manager:		#04 ØLT718		
Address: 703 E.	CLINTON, #103	Company: SAME		
city: HOBBS	State: NM ZIp: 88240	Attn:		
Phone #: (505)	397-0510	Address:		
Fax#: (505) 3	<u> 393–4388</u>	City:		
. 1	کر Project Owner: اکر	State: Zlp:		
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KOCH PIPELINE CO., L.P. Crouch Station



July 1999 Air Monitoring Program Lea County, New Mexico

Safety & Environmental Solutions, Inc. 703 E. Clinton Suite 103 Hobbs, New Mexico 88240 (505) 397-0510

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Purpose

The purpose of this project is to monitor the air quality from the SVE unit at the Crouch Station in Section 18 Township 18S Range 36E in Lea County, New Mexico and provide quarterly reports of the findings.

Background

Koch Pipeline, Co., L.P., had previously installed a SVE Unit at the Crouch Station, as required by the New Mexico Oil Conservation Division. Safety and Environmental Solutions was contracted to monitor the air quality of the SVE unit beginning in October 1997 and to report the findings on a quarterly basis.

Method

A Photovac MicroTIP Photo Ionization Detector is used for air sampling at the SVE Unit for BTEX detection, following the SOP delineated by the manufacturer. The procedure for sampling is as follows:

- The PID sets its zero point using Zero Grade Gas, which is placed, in a SKC Tedlar sample bag. After setting zero point, the concentration of the isobutylene Span Gas, 100ppm, is entered into the PID and the PID is then calibrated with the Span Gas which is placed in a new SKC Tedlar sample bag that has been purged with Span Gas prior to sampling.
- Three samples of air from the SVE Unit are collected in the SKC Tedlar sample bags, then tested using the MicroTIP PID. The first result is thrown out, to accommodate any purging, and the next two samples are recorded. (See Sampling Log)

Sampling was done on a weekly basis at the SVE Unit, following the same protocol for each test.

Observations

The readings have stayed in the 280-380ppm range, with the highest reading on April 29, 1999, at 371ppm. Readings on July 7, 1999 and July 16, 1999 were the lowest during the quarter at 290ppm and 283ppm and 295ppm and 282ppm respectively. (See Air Sampling Report) They have stayed in the above mentioned range through July 16, 1999, the end of the sampling for this quarter. The flow rate for the system is currently 23scfm.

Crouch Station Quarterly Sampling Report

On June 26, 1999, the system was inadvertently shut down when the electricity to the unit was turned off. Power was turned on at the unit on June 28, 1999, and the system continued to operate smoothly.

Beginning with the sampling on May 14, 1999, water is no longer being accumulated in the system. This could be in part a response to the spring growing season or in increased irrigation.

On July 16, 1999, an air sample was collected using the correct SOPs and taken to Cardinal Laboratories for third party analysis and confirmation of our results. Our results on that date ranged from 295ppm to 282ppm. The following table represents the results of the air sample:

ANAVAYIDA
SAMU250
Sample Date 7/16/99
DTCV
DICA
Benzene 158.0
Toluene 86.4
Ethyl Benzene 20.4
Lotal Xvienes 25.8

These results are reported in parts per million (ppm).

Figures

Air Sampling Report Sampling Log Laboratory Test Results Chain of Custody

Safety & Environmental Solutions, Inc.

Koch Operations Group Crouch Station Quarterly Air Sampling Report

Detector Type: Photoionization Tester Brand: Microtip Tester Model: MP 100 Serial Number: NA890005 Manufacture Date: 8/97

Date Sampled	Time Sampled	1 st Sample Results	2 nd Sample Results
4-29-99	1448	353ppm	371ppm
5-07-99	1628	359ppm	351ppm
5-14-99	1055	298ppm	304ppm
5-21-99	0948	315ppm	326ppm
5-29-99	1112	296ppm	317ppm
6-04-99	1122	307ppm	319ppm
6-11-99	1308	330ppm	312ppm
6-18-99	1638	316ppm	307ppm
6-26-99	0930	***ppm	***ppm
7-02-99	1120	303ppm	313ppm
7-09-99	1410	290ppm	283ppm
7-16-99	1125	295ppm	282ppm

Monitor is calibrated with 100ppm Isobutelyne prior to testing on each sampling date.

**The power was inadvertently shut off to the SVE unit by contractors. It was restored on 6/28/99.

703 E. Clinton, Suite 103 Phone (505) 397-0510 Hobbs, New Mexico 88240 Fax (505) 393-4388 ļ

			· ·	
4-20-79	345 ppm	376 P.P.M.	6.45 PM	
. 7-29-9	ig 353 ppm	371 pp	2.18 pm	
5-17.9	9 359000	359pm	429,00	
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6-4-0	79 120 307 Am	319ppm	1122an	
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PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603

PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, SUITE 103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 07/16/99 Reporting Date: 07/19/99 Project Number: NOT GIVEN Project Name: KOCH CROUCH STATION **Project Location: NOT GIVEN**

Sampling Date: 07/16/99 Sample Type: AIR (TEDLAR BAG) Sample Condition: INTACT Sample Received By: BC Analyzed By: BC

LAB NO.	SAMPLE ID	BENZENE (mg/M ³)	TOLUENE (mg/M ³)	ETHYL BENZENE (mg/M ³)	TOTAL XYLENES (mg/M ³)
ANALYSIS D	DATE	07/16/99	07/16/99	07/16/99	07/16/99
H4235-1	AIR SAMPLE	158	86.4	20.8	25.8
Quality Contr	ml	90.3	97.4	95.4	285
True Value C		100	100	100	300
% Recovery		90.3	97.4	95.4	95.1
	cent Difference	4.5	1.1	3.1	4.9

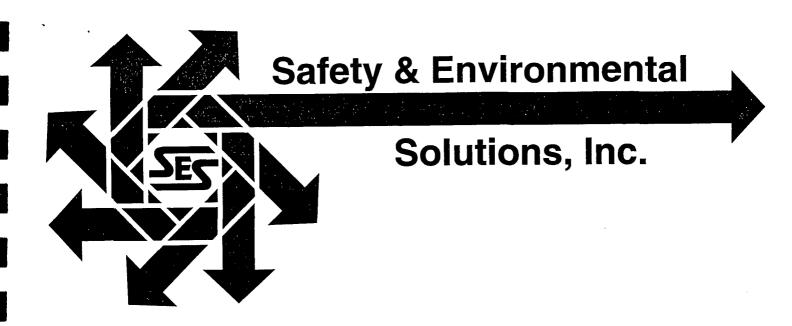
METHOD: EPA SW-846 8260

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PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, atfiliates or successors arising out of or related to the performance of services hereunder by CardInal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise.

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ARD	ARDINAL LABORATORIES, INC. 2111 Beechwood, Abilene, TX 79603 101 E (915) 673-7001 Fax (915) 673-7020 (505)	101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476	
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Project Location:		Fax #:	
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t Cardinal canr	Cardinal cannot accept verbal changes. Please fax written chang	ges to 915-673-7020.	



KOCH PIPELINE CO., L.P. Crouch Station

Quarterly Report

April 1999 Air Monitoring Program Lea County, New Mexico

Safety & Environmental Solutions, Inc. 703 E. Clinton Suite 103 Hobbs, New Mexico 88240 (505) 397-0510

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Purpose

The purpose of this project is to monitor the air quality from the SVE unit at the Crouch Station in Section 18 Township 18S Range 36E in Lea County, New Mexico and provide quarterly reports of the findings.

Background

Koch Pipeline, Co., L.P., had previously installed a SVE Unit at the Crouch Station, as required by the New Mexico Oil Conservation Division. Safety and Environmental Solutions was contracted to monitor the air quality of the SVE unit beginning in October 1997 and to report the findings on a quarterly basis.

Method

A Photovac MicroTIP Photo Ionization Detector is used for air sampling at the SVE Unit for BTEX detection, following the SOP delineated by the manufacturer. The procedure for sampling is as follows:

- The PID sets its zero point using Zero Grade Gas, which is placed, in a SKC Tedlar sample bag. After setting zero point, the concentration of the isobutylene Span Gas, 100ppm, is entered into the PID and the PID is then calibrated with the Span Gas which is placed in a new SKC Tedlar sample bag that has been purged with Span Gas prior to sampling.
- Three samples of air from the SVE Unit are collected in the SKC Tedlar sample bags, then tested using the MicroTIP PID. The first result is thrown out, to accommodate any purging, and the next two samples are recorded. (See Sampling Log)

Sampling was done on a weekly basis at the SVE Unit, following the same protocol for each test.

Observations

The readings have stayed in the 180-380ppm range, with the highest reading on April 20, 1999, at 376ppm. Readings on January 27, 1999 and February 26, 1999 were the lowest during the quarter at 184ppm and 195ppm and 194ppm and 186ppm respectively. (See Air Sampling Report) They have stayed in the above mentioned range through April 20, 1999, the end of the sampling for this quarter. The flow rate for the system is currently 23scfm.

Crouch Station	
Quarterly Sampling Report	

On April 20, 1999, an air sample was collected using the correct SOPs and taken to Cardinal Laboratories for third party analysis and confirmation of our results. Our results on that date ranged from 212ppm to 217ppm. The following table represents the results of the air sample:

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Sample Date	··· · / /	20/99
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and a second		
BTEX	2.2	1.1
	1.1	14
	· · · · · · · · · · · · · · · · · · ·	
Benzene	1	43.1
		- J.1
	. 1. 1. T	
Toluene		29.5
	· : ·	2
Ethyl Benzene	· · · · ·	5.22
		J. 22
APR - 1 37-1	- 1 Miles	C 10
Total Xylenes		6.13
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These results are reported in parts per million (ppm).

Figures

Air Sampling Report Sampling Log Laboratory Test Results Chain of Custody

Safety & Environmental Solutions, Inc.

Koch Operations Group Crouch Station Quarterly Air Sampling Report

Detector Type: Photoionization Tester Brand: Microtip Tester Model: MP 100 Serial Number: NA890005 Manufacture Date: 8/97

Date Sampled	Time Sampled	1 st Sample Results	2 nd Sample Results
1-27-99	0800	184ppm	195ppm
2-02-99	1300	201ppm	199ppm
2-12-99	1200	224ppm	225ppm
2-19-99	0816	211ppm	212ppm
2-26-99	1206	194ppm	186ppm
3-04-99	1532	222ppm	217ppm
3-11-99	0713	208ppm	210ppm
3-19-99	1030	192ppm	210ppm
3-26-99	1338	295ppm	296ppm
4-01-99	1530	300ppm	291ppm
4-07-99	1335	315ppm	300ppm
4-15-99	1705	328ppm	331ppm
4-20-99	1845	345ppm	376ppm

Monitor is calibrated with 100ppm Isobutelyne prior to testing on each sampling date.

703 E. Clinton, Suite 103 Phone (505) 397-0510 Hobbs, New Mexico 88240 Fax (505) 393-4388

8:00 M ς 5 2 PA. 6,9 1.4. Ga 1. 99 9.99 20 :38 PM lr • Q Q 29 FAR 300,2212 44 2 opm _ 91 3 30 pm 2 300 4 200 3 - 4 4-20-99 345 376 -29-99 Ń Safety & Environmental Koch Pipeline Crouch Station Solutions, Inc. Koch Operations Group **Copy of Sampling Log** Hobbs, NM



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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR SAFETY & ENVIRONMENTAL SOLUTIONS, INC. ATTN: BETH ALDRICH 703 E. CLINTON, SUITE #103 HOBBS, NM 88240 FAX TO: (505) 393-4388

Receiving Date: 04/20/99 Reporting Date: 04/21/99 Project Number: NOT GIVEN Project Name: KOCH Project Location: CROUCH STATION Sampling Date: 04/20/99 Sample Type: AIR (TEDLAR BAG) Sample Condition: INTACT Sample Received By: BC Analyzed By: BC

LAB NO.	SAMPLE ID	BENZENE (mg/M ³)	TOLUENE (mg/M ³)	ETHYL BENZENE (mg/M ³)	TOTAL XYLENES (mg/M ³)
ANALYSIS [DATE	04/20/99	04/20/99	04/20/99	04/20/99
H4112-1	AIR SAMPLE	43.1	29.5	5.22	6.13
		1.			
Quality Cont	~	91.4	91.2	91.0	268
True Value C		100	100	100	300
% Recovery		91.4	91.2	91.0	89.4
	cent Difference	5.5	0.1	11.0	10.4

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METHOD: EPA SW-846 8260

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