PRELIMINARY SITE INVESTIGATION REPORT
and
REMEDIATION PLAN

PLAINS MARKETING L.P.
SAUNDERS 8" # 5
EMS No. 2004-00206
Lea County, New Mexico
UNIT H, Section 14, Township 14 South, Range 33 East
33°, 06', 21.8" North, 103°, 34', 47.6" West

Prepared For:

Plains Marketing, L.P.
333 Clay Street
Suite 1600
Houston, Texas 77002

Prepared By:
Basin Environmental Service Technologies, LLC
P. O. Box 301
Lovington, New Mexico 88260

Plains - 231735
facility - fPAC0604027357
incident - nPAC0604027470
application - pPAC0604027719

15 November 2004

Ken Dutton
Basin Environmental Service Technologies, LLC

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

November 29, 2004

Ms. Camille Reynolds cjreynolds@paalp.com
Plains All American Pipeline

Re: Plan Approval, Saunders 8" #5
Site Reference UL-H Sec-14 T-14S R-33E
Initial C-144 Dated: 10-1-04
Request Plan Dated: 11-15-04

Dear Ms. Reynolds,

The Remediation Work Plan Proposal submitted to the New Mexico Oil Conservation Division (OCD) by Basin Environmental for Plains All American Pipeline (PAAP) is **hereby approved for 120 days** with the following considerations:

- Immediate notification if additional contamination is discovered during excavation (any contamination undetected by borehole delineation)
- 48 hour notification to OCD prior to final sampling and also liner installation
- Progress reports of bio-mounds
- Disturbed areas to be seeded for re-vegetation of native grasses and other plants and demonstrate growth within a reasonable time after site remediation operations cease

Please be advised that OCD approval of this plan does not relieve PAAP of responsibility should their operations fail to adequately investigate and remediate contaminants that threaten ground water, surface water, human health or the environment. Additionally, OCD approval does not relieve PAAP of responsibility for compliance with any other federal, state, or local laws and/or regulations.

If you have any questions or need assistance please call (505) 393-6161, x111 or e-mail lwjohnson@state.nm.us

Sincerely,

Larry Johnson - Environmental Engineer

Cc:
Chris Williams - District I Supervisor
Ed Martin - Environmental Engineer
Paul Sheeley - Environmental Engineer
Ken Dutton – Basin Environmental Project Consultant kdutton@basinenv.com

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INTRODUCTION

Basin Environmental Service Technologies, LLC (Basin) responded to a pipeline release for Plains Marketing L.P. (Plains), located on the Saunders 8" Pipeline on 01 October 2004. The Saunders 8" Pipeline was clamped and the impacted soils were excavated and stockpiled on a poly liner.

This site is located in Unit H, Section 14, Township 14 South, Range 33 East, in Lea County, New Mexico (topographic Site Location Map is attached as Figure 1). The latitude is 33°, 06', 21.8" North, and longitude is 103°, 34', 47.6" West. The site is characterized by a right-of-way for the pipeline in a pasture utilized for cattle grazing. The stained area includes the release point and progresses south covering an area approximately 144 feet long by 82 feet wide. Approximately 15 barrels of crude oil were released from the Plains pipeline and 0 barrels were recovered.

An Emergency One-Call was initiated 01 October 2004 and all responding companies either cleared or marked their respective lines. Subsequent renewals of the one-call have been accomplished as required.

Mr. Larry Johnson and Gary Wink, New Mexico Oil Conservation Division (NMOCD), Hobbs District 1 were verbally notified of the release on 02 October 2004.

Mr. Leon Anderson and Ms. Myra Myers, New Mexico State Land Office (NMSLO), Hobbs Office, were notified 04 October 2004. A Right of Entry (ROE) permit was obtained from the New Mexico State Land Office, Santa Fe, 04 October 2004.

The lessee, Mr. Norman Hahn, was notified and informed of all activities that ~~have~~ have been accomplished and remedial actions that are being considered.

SUMMARY OF FIELD ACTIVITIES

On 01 October 2004, Basin employee Bobby Blackwood arrived at the Saunders 8" Pipeline release to repair and contain the crude oil pipeline release. After the release had been contained utilizing a pipeline repair clamp, excavation of the impacted soil was initiated. The impacted soil was placed on a poly liner adjacent to the release.

On 02 October 2004, Basin employee Bobby Blackwood began extended excavation of the impacted area. The release point was excavated to approximately 35 feet long by 12 feet wide and 3 to 4 feet below ground surface (bgs). All excavated soil was placed on a poly liner for future remedial action. Due to the extremely muddy conditions, further excavation of the site was delayed to allow drying of the area and prevent damage to the land from heavy equipment operations.

On 27 October 2004, Basin employees Bobby Blackwood and Ken Dutton excavated the release point to approximately 14 feet bgs to delineate the vertical extent of

contamination. Field screening with a Photoionization Detector (PID) indicated elevated concentrations of Volatile Organic Compounds (VOC) at the 14 feet bgs floor. The impacted flow path areas of the site (pipeline right-of-way/pooling area) were scrapped to approximately 1-foot bgs and the soil was placed on a poly liner. Based on the results of the excavation activities, Plains elected to delineate the vertical and horizontal impact on-site using a truck mounted drilling rig.

On 29 October 2004, Basin employee, Ken Dutton, installed 5 ~~boil~~ soil borings, utilizing Straub Corporation, of Stanton, Texas, collecting soil samples every 5 feet in order to delineate the horizontal and vertical extent of crude oil impacted soil at the pipeline release (see Site Map, Figure 2). The soil borings were installed at the release point, pooling area, and down gradient and up gradient of the source area. The soil borings ranged in depth from 20 feet bgs to 60 feet bgs (soil boring logs are attached as Appendix C). Each sample was screened with a PID, which was calibrated on 29 October 2004. The selected soil samples were analyzed for concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX), and total petroleum hydrocarbons – gasoline range organics/diesel range organics (TPH-GRO/DRO).

NEW MEXICO OIL CONSERVATION DIVISION (NMOCD) SOIL CLASSIFICATION

A search of the New Mexico State Engineers (NMSE) database revealed water depth information for that section averaged ~~100 feet bgs~~ (Appendix A). There are no surface water bodies or water wells within 1000 feet of the release site. Based on this data, the site has an NMOCD Ranking Score of 10 – 19, which sets the remediation levels at:

Benzene:	10 ppm
BTEX:	50 ppm
TPH:	1000 ppm

Distribution of Hydrocarbons in the Unsaturated Zone

The release point area has been excavated to a depth of approximately 4 feet bgs and evidence of crude oil impact still exist on the floor of the excavation. PID readings reflect elevated concentrations of VOC's remain. A backhoe was utilized to excavate approximately 14 feet bgs at the release point. The release point excavation was backfilled due to livestock in the area. A drill rig was utilized to delineate the vertical and horizontal extent of crude oil impacted soil. The soil borings were installed at the release point, pooling area, two down gradient and one up gradient of the site. Soil boring soil samples were collected from the subsurface rock/soil at 5 feet intervals. No visual observations of free phase hydrocarbons were encountered during the installation of the 5 soil borings (as indicated on Appendix C) or excavation of the site. PID field screenings were utilized to evaluate which soil samples were to be submitted to the laboratory for analysis. All samples were

analyzed for concentrations of BTEX and TPH. Laboratory data sheets and chain-of-custody forms are attached (Appendix B).

Soil Boring 1, as depicted on the Site Map (Figure 2), was installed at the release point. Samples collected at the 15, 20, 30, 40, 45 and 60 feet bgs were analyzed. Analytical results indicated that BTEX and TPH concentrations were above NMOCD regulatory standards at 15 and 20 feet bgs. Analytical results indicated that the soil samples were below NMOCD regulatory standards at 30 and 40 feet bgs for BTEX and TPH concentrations. Analytical results indicated that BTEX concentrations were not detected above laboratory method detection limits at 45 and 60 feet bgs and TPH was below NMOCD regulatory standards.

Soil Boring 2, as depicted on the Site Map (Figure 2), was installed at the pooling area, south of the release point. Soil samples collected at the 15, 20 and 30 feet bgs were analyzed. Analytical results indicated that BTEX was below NMOCD regulatory standards and TPH concentrations were above NMOCD regulatory standards at 15 feet bgs. Analytical results indicated that BTEX was not detected above the laboratory method detection limits and TPH concentrations were below NMOCD regulatory standards at 20 and 30 feet bgs.

Soil Boring 3, as depicted on the Site Map (Figure 2), was installed down gradient, southeast of the release point. Soil samples collected at the 10 and 20 feet bgs were analyzed. Analytical results indicated that BTEX and TPH concentrations were not detected above the laboratory method detection limits on the two soil samples.

Soil Boring 4, as depicted on the Site Map (Figure 2), was installed down gradient, south of the release point. Soil samples collected at the 10 and 20 feet bgs were analyzed. Analytical results indicated that BTEX and TPH concentrations were not detected above the laboratory method detection limits on the two soil samples.

Soil Boring 5, as depicted on the Site Map (Figure 2), was installed up gradient, northwest of the release point. Soil samples collected at the 10 and 20 feet bgs were analyzed. Analytical results indicated that BTEX and TPH concentrations were not detected above the laboratory method detection limits on the two soil samples.

RECOMMENDATIONS FOR REMEDIATION

Approximately 300 cubic yards of impacted soil and caliche rock have been excavated and stockpiled on-site. It is estimated that 1900 cubic yards of impacted caliche rock and soil remain on-site consisting of the release point and pooling area. The release point area is approximately 40 feet long by 35 feet wide and crude oil contaminates to a depth of 30 feet bgs, estimated to be 1555 cubic yards. The pooling area is approximately 25 feet long by 25 feet wide and crude oil contaminates to a depth of 15 feet bgs, estimated to be 350 cubic yards. Approximately 45% of the projected excavated soil consists of caliche rock. Due to the high content of caliche rock, screening of the stockpile is warranted to separate the rock and soil. Upon completion of the screening activities the caliche rock will be utilized as partial

backfill. The screened soil, estimated to be 700 cubic yards, will then be stockpiled in bio-mounds of approximately 250 cubic yards each. These bio-mounds will be placed on a poly liner and earthen berms will be placed around each individual bio-mound to prevent run-off of impacted soil during inclement weather. Nutrients will be added during the screening process to enhance the remediation process. Aeration tubing will be installed before the soil is screened to supply the required aeration for enhanced remediation. Approximately 3 bio-mounds will be required to facilitate the aeration of 700 cubic yards. These bio-mounds will be strategically placed around the excavation to limit land damage and the travel distance for backfilling. A header system will be connected to each bio-mound allowing individual aeration of the bio-mound. Initial soil sampling of the bio-mounds will be conducted to ascertain the level of contaminants and the bio-mounds will be aerated on a monthly basis. Soil sampling will be conducted on a monthly basis and once NMOCD regulatory standards, based on the ranking criteria, have been met, the remediated soil will be backfilled in the excavation. Approximately 10 inches to 1 foot of topsoil will be purchased and contoured to the original rangeland surrounding the site and reseeded with approved NMSLO grass seed. A closure report will be submitted to NMOCD upon completion of all tasks with appropriate documentation. Additionally, a Site Restoration Plan will be submitted to NMSLO outlining the procedures for restoring the site to pre-release status.

Based on the results of the soil delineation investigation, the release point and pooling area will require further excavation and confirmation soil sampling to adhere to NMOCD regulatory standards. The excavated soils will be placed on poly liner prior to the screening process. Field screening with a PID will be utilized to determine the depth at which soil samples will be collected to adhere to NMOCD regulatory standards. Plains proposes to mechanically separate the rock and soil and the rock will be placed back in the excavation. The separated (impacted) soil will be sampled and analyzed for concentrations of TPH and BTEX to determine if NMOCD regulatory standards have been met and be utilized as backfill. The soil borings indicate that deeper crude oil impact was limited to the immediate vicinity of the release point area. It is estimated that 600 cubic yards of impacted soil and rock will be present beneath the 15 feet bgs excavation. Due to the remote area of this location and lack of receptors it is recommended that the following actions be taken.

- Based on the results of the soil delineation investigation, it is recommended that an impermeable barrier be installed to inhibit vertical migration of contaminates in soil left in place below the cap. Plains proposes to mechanically separate the rock and soil and the rock will be placed back in the excavation over the barrier. The separated (impacted) soil will be sampled and analyzed for concentrations of TPH and BTEX to determine if NMOCD regulatory standards have been met or if additional remediation of the soil will be required.

CLOSURE PROPOSAL

It is estimated that 600 cubic yards of hydrocarbon-impacted soil will remain at the site and is represented by approximately ten-feet of impacted soil remaining beneath the proposed excavation floor at the release point. It is proposed to excavate the hydrocarbon-impacted soil at the release point to a depth of approximately 15 feet bgs. The excavation area at the release point measures approximately forty feet long and thirty-five feet wide. The pooling area measures approximately twenty-five feet long and twenty-five feet wide. Based on the results of the soil delineation investigation, excavating to a depth of 15 feet bgs will remove hydrocarbon-impacted soils at the pooling area. Confirmation soil samples will be collected to ascertain if NMOCD regulatory standards have been met at the pooling area. In conjunction with the excavation of the release point and pooling area, mechanical separation of the rock and soil will be on going. It is proposed to isolate the remaining source term with an impermeable barrier constructed of a minimum 40-ml poly liner. The barrier will extend a minimum of four feet beyond the edges of soil impacted above NMOCD remedial thresholds and will be permanently installed to prevent vertical migration. A 6-inch layer of fine sand will be installed beneath and above the 40-ml poly liner to prevent degrading the integrity of the poly liner. Installation of the 40-ml poly barrier at a depth of 15 feet bgs will protect the barrier from erosion and human intrusion for a term sufficient to allow natural biodegradation of contaminants in the soil. After the barrier has been installed, the excavation will be backfilled with rock separated from the stockpiled soil (pursuant to standard NMOCD practices). Soil separated from the rock will be sampled for concentrations of TPH and BTEX at a rate of one sample per 250 cubic yards. Soil with TPH concentration less than 1000 ppm, benzene concentrations less than 10 ppm and total BTEX concentrations less than 50 ppm will be utilized as backfill. Soil exceeding the site-specific cleanup levels will be aerated as previously described.

QA/QC PROCEDURES

Soil Sampling

Soil samples were delivered to Environmental Lab of Texas, Inc. in Midland, Texas for BTEX, TPH analyses using the methods described below. Soil samples were analyzed for BTEX, TPH-GRO/DRO within fourteen days following the collection date.

The soil samples were analyzed as follows:

- BTEX concentrations in accordance with EPA Method 8021B, 5030
- TPH concentrations in accordance with modified EPA Method 8015M GRO/DRO

Groundwater Sampling

As groundwater was not encountered during the investigation process, no water samples were obtained.

Decontamination Of Equipment

Cleaning of the sampling equipment was the responsibility of the environmental technician. Prior to use, and between each sample, the sampling equipment was cleaned with Liqui-Nox® detergent and rinsed with distilled water.

Laboratory Protocol

The laboratory was responsible for proper QA/QC procedures after signing the chain-of-custody form. These procedures were either transmitted with the laboratory reports or are on file at the laboratory.

LIMITATIONS

Basin Environmental Service Technologies, LLC has prepared this Preliminary Investigation Report and General Remediation Plan to the best of its ability. No other warranty, expressed or implied, is made or intended.

Basin Environmental Service Technologies, LLC has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. Basin Environmental Service Technologies, LLC has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. Basin Environmental Service Technologies, LLC has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. Basin Environmental Service Technologies, LLC also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of Plains Marketing, L.P. The information contained in this report including all exhibits and attachments, may not be used by any other party without the express consent of Basin Environmental Service Technologies, LLC, and Plains Marketing, L.P.

DISTRIBUTION

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Copy 3

TABLES

TABLE 1

SOIL CHEMISTRY, SOIL BORINGS

TABLE 1

SOIL CHEMISTRY, SOIL BORINGS

PLAINS MARKETING L.P.
SAUNDERS 8" # 5
LEA COUNTY, NEW MEXICO
EMS: 2004-00206

SAMPLE LOCATION	SAMPLE DEPTH	SAMPLE DATE	METHOD: EPA SW 846-8021B, 5030					METHOD: 8015M		TOTAL
			BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL-BENZENE (mg/kg)	M,P-XYLENES (mg/kg)	O-XYLENE (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	TPH (mg/kg)
SB-1	15' bgs	10/29/04	1.69	11.0	5.40	22.6	7.55	404	618	1020
SB-1	20' bgs	10/29/04	4.53	29.1	10.2	36.5	12.8	1710	2180	3890
SB-1	30' bgs	10/29/04	0.257	3.89	2.11	10.7	3.58	241	635	876
SB-1	40' bgs	10/29/04	<0.025	0.026	0.026	0.121	0.031	16	95.9	112
SB-1	45' bgs	10/29/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	123	123
SB-1	60' bgs	10/29/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	69.9	69.9
SB-2	15' bgs	11/01/04	0.135	2.82	1.86	8.64	2.90	343	675	1020
SB-2	20' bgs	11/01/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	44.1	44.1
SB-2	30' bgs	11/01/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	20.1	20.1
SB-3	10' bgs	11/01/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
SB-3	20' bgs	11/01/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
SB-4	10' bgs	11/01/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
SB-4	20' bgs	11/01/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
SB-5	10' bgs	11/01/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10
SB-5	20' bgs	11/01/04	<0.025	<0.025	<0.025	<0.025	<0.025	<10	<10	<10

FIGURES

FIGURE 1

SITE LOCATION MAP

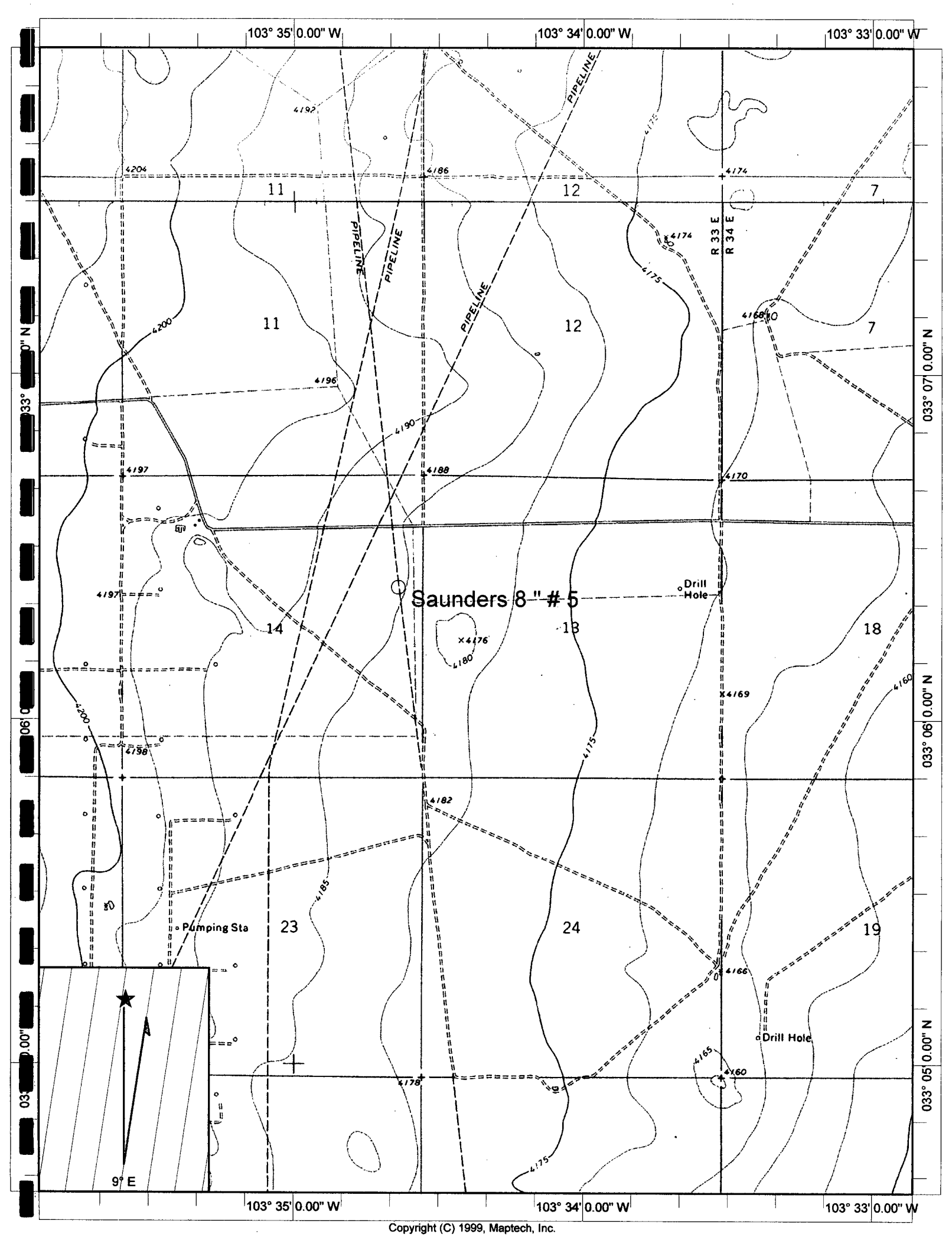
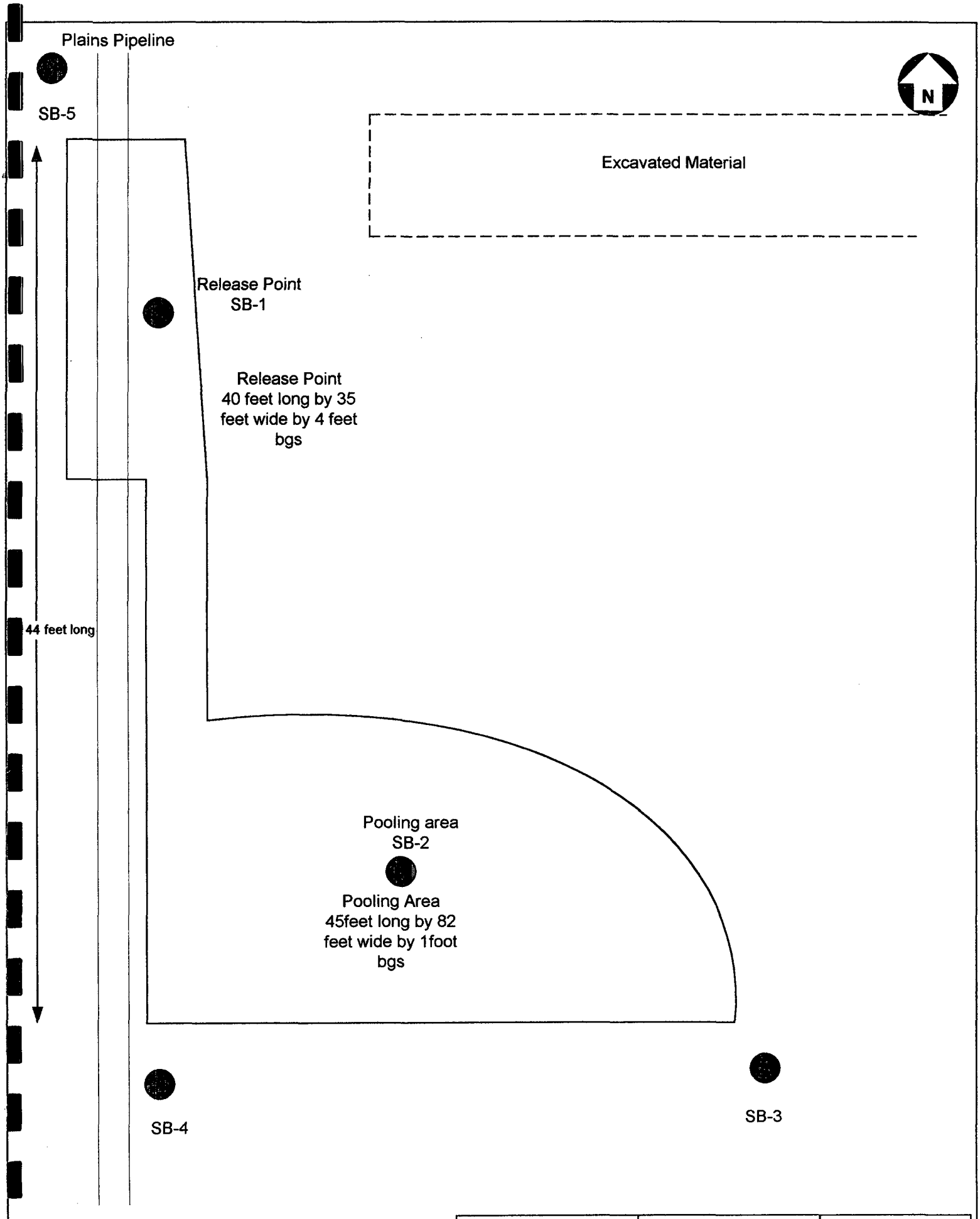


FIGURE 2

SITE MAP



TITLE	DRAWN BY	Date
Figure 2, Site Map Saunders 8" # 5	Basin Environmental Services KAD	15 Nov 04

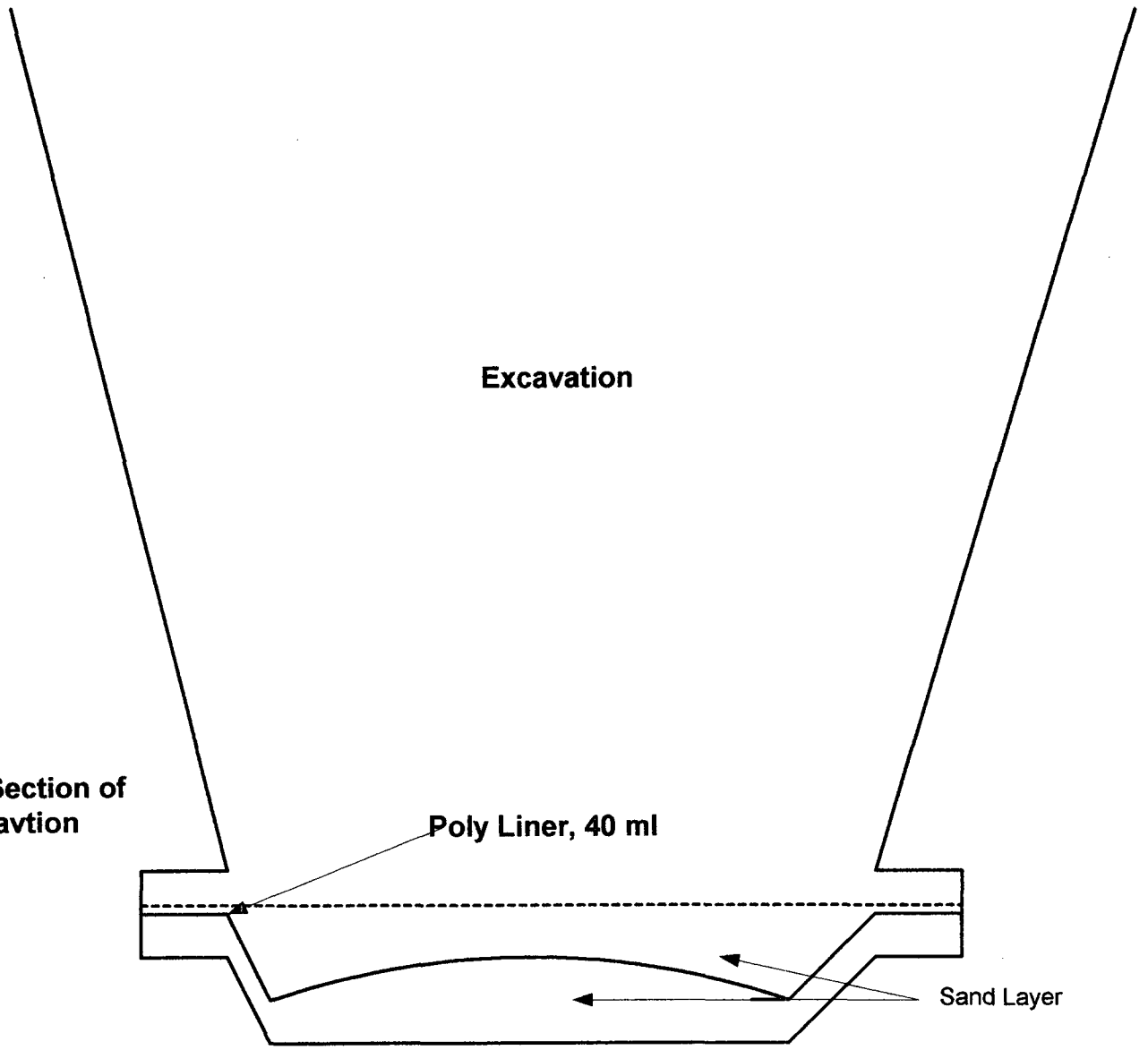
FIGURE 3

DIGITAL PHOTO OF SITE

Pooling Area
Release Point
Sanders #5
Unit H S14 T14S R33E

FIGURE 4

INSTALLATION OF 40-ml POLY LINER



Cross Section of Excavtion

TITLE	DATE
Saunders 8" # 5	12 Nov 04
DRAWN BY Basin Environmental Services KAD	LABEL Installation of 40 ml Poly Liner

APPENDICES

APPENDIX A

NEW MEXICO OFFICE OF THE STATE ENGINEER WATER WELL DATABASE

New Mexico Office of the State Engineer
Well Reports and Downloads

Township: 14S Range: 33E Sections: 14

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ○ Non-Domestic ○ Domestic
◉ All

Well / Surface Data Report | Avg Depth to Water Report | Water Column Report | Clear Form | WATERS Menu | Help

WATER COLUMN REPORT 10/02/2004

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are biggest to smallest)

Well Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Wate Colu
L 02787 APPRO	14S	33E	14	1	1	4				150	100	
L 02787	14S	33E	14	1	1	4				150	100	

Record Count: 2

APPENDIX B

ENVIRONMENTAL LABORATORY OF TEXAS
ANALYTICAL RESULTS

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Ken Dutton

Basin Environmental Services

P.O. Box 301

Lovington, NM 88260

Project: Saunders 8 inch #5

Project Number: EMS: 2004-00206

Location: Lea County, NM

Lab Order Number: 4K05013

Report Date: 11/11/04

Basin Environmental Services	Project: Saunders 8 inch #5	Fax: (505) 396-1429
P.O. Box 301	Project Number: EMS: 2004-00206	**Reported:**
Lovington NM, 88260	Project Manager: Ken Dutton	11/11/04 10:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-1 15'	4K05013-01	Soil	10/29/04 10:21	11/05/04 15:27
SB-1 20'	4K05013-02	Soil	10/29/04 14:30	11/05/04 15:27
SB-1 30'	4K05013-03	Soil	10/29/04 14:39	11/05/04 15:27
SB-1 40'	4K05013-04	Soil	10/29/04 14:59	11/05/04 15:27
SB-1 45'	4K05013-05	Soil	10/29/04 15:20	11/05/04 15:27
SB-1 60'	4K05013-06	Soil	10/29/04 15:36	11/05/04 15:27
SB-2 15'	4K05013-07	Soil	11/01/04 09:41	11/05/04 15:27
SB-2 20'	4K05013-08	Soil	11/01/04 09:51	11/05/04 15:27
SB-2 30'	4K05013-09	Soil	11/01/04 10:07	11/05/04 15:27
SB-3 10'	4K05013-10	Soil	11/01/04 10:36	11/05/04 15:27
SB-3 20'	4K05013-11	Soil	11/01/04 10:46	11/05/04 15:27
SB-4 10'	4K05013-12	Soil	11/01/04 11:06	11/05/04 15:27
SB-4 20'	4K05013-13	Soil	11/01/04 11:20	11/05/04 15:27
SB-5 10'	4K05013-14	Soil	11/01/04 11:40	11/05/04 15:27
SB-5 20'	4K05013-15	Soil	11/01/04 11:53	11/05/04 15:27

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Basin Environmental Services	Project: Saunders 8 inch #5	Fax: (505) 396-1429
P.O. Box 301	Project Number: EMS: 2004-00206	**Reported:**
Lovington NM, 88260	Project Manager: Ken Dutton	11/11/04 10:19

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1 15' (4K05013-01) Soil									
Benzene	**1.69**	0.0250	mg/kg dry	25	EK41002	11/05/04	11/05/04	EPA 8021B	
Toluene	**11.0**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**5.40**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**22.6**	0.0250	"	"	"	"	"	"	
Xylene (o)	**7.55**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*1030 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*149 %*	*80-120*		"	"	"	"	*S-04*
Gasoline Range Organics C6-C12	**404**	10.0	mg/kg dry	1	EK40508	11/05/04	11/05/04	EPA 8015M	
Diesel Range Organics >C12-C35	**618**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**1020**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*113 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*114 %*	*70-130*		"	"	"	"	
SB-1 20' (4K05013-02) Soil									
Benzene	**4.53**	0.0250	mg/kg dry	25	EK41002	11/05/04	11/05/04	EPA 8021B	
Toluene	**29.1**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**10.2**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**36.5**	0.0250	"	"	"	"	"	"	
Xylene (o)	**12.8**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*1000 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*124 %*	*80-120*		"	"	"	"	*S-04*
Gasoline Range Organics C6-C12	**1710**	10.0	mg/kg dry	1	EK40508	11/05/04	11/05/04	EPA 8015M	
Diesel Range Organics >C12-C35	**2180**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**3890**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*119 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*117 %*	*70-130*		"	"	"	"	
SB-1 30' (4K05013-03) Soil									
Benzene	**0.257**	0.0250	mg/kg dry	25	EK41002	11/05/04	11/05/04	EPA 8021B	
Toluene	**3.89**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**2.11**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**10.7**	0.0250	"	"	"	"	"	"	
Xylene (o)	**3.58**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*232 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*133 %*	*80-120*		"	"	"	"	*S-04*
Gasoline Range Organics C6-C12	**241**	10.0	mg/kg dry	1	EK40508	11/05/04	11/05/04	EPA 8015M	
Diesel Range Organics >C12-C35	**635**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**876**	10.0	"	"	"	"	"	"	

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Basin Environmental Services	Project: Saunders 8 inch #5	Fax: (505) 396-1429
P.O. Box 301	Project Number: EMS: 2004-00206	**Reported:**
Lovington NM, 88260	Project Manager: Ken Dutton	11/11/04 10:19

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1 30' (4K05013-03) Soil									
Surrogate: 1-Chlorooctane		*98.2 %*	*70-130*		*EK40508*	*11/05/04*	*11/05/04*	*EPA 8015M*	
Surrogate: 1-Chlorooctadecane		*105 %*	*70-130*		"	"	"	"	
SB-1 40' (4K05013-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK41002	11/05/04	11/09/04	EPA 8021B	
Toluene	**0.0263**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**0.0261**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**0.121**	0.0250	"	"	"	"	"	"	
Xylene (o)	**0.0312**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*94.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*95.7 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	**16.0**	10.0	mg/kg dry	1	EK40508	11/05/04	11/05/04	EPA 8015M	
Diesel Range Organics >C12-C35	**95.9**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**112**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*85.6 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*80.4 %*	*70-130*		"	"	"	"	
SB-1 45' (4K05013-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK41002	11/05/04	11/09/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*91.6 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*92.1 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	**J [7.98]**	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	J
Diesel Range Organics >C12-C35	**123**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**123**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*98.0 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*105 %*	*70-130*		"	"	"	"	

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Basin Environmental Services	Project: Saunders 8 inch #5	Fax: (505) 396-1429
P.O. Box 301	Project Number: EMS: 2004-00206	**Reported:**
Lovington NM, 88260	Project Manager: Ken Dutton	11/11/04 10:19

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1 60' (4K05013-06) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK41002	11/05/04	11/08/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*91.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*95.6 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	**J [9.89]**	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	J
Diesel Range Organics >C12-C35	**69.9**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**69.9**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*99.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*106 %*	*70-130*		"	"	"	"	
SB-2 15' (4K05013-07) Soil									
Benzene	**0.135**	0.0250	mg/kg dry	25	EK41002	11/05/04	11/08/04	EPA 8021B	
Toluene	**2.82**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**1.86**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**8.64**	0.0250	"	"	"	"	"	"	
Xylene (o)	**2.90**	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*203 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*133 %*	*80-120*		"	"	"	"	*S-04*
Gasoline Range Organics C6-C12	**343**	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	**675**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**1020**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*115 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*118 %*	*70-130*		"	"	"	"	
SB-2 20' (4K05013-08) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK41002	11/05/04	11/09/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*87.9 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*87.4 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	**44.1**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**44.1**	10.0	"	"	"	"	"	"	

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Basin Environmental Services	Project: Saunders 8 inch #5	Fax: (505) 396-1429
P.O. Box 301	Project Number: EMS: 2004-00206	**Reported:**
Lovington NM, 88260	Project Manager: Ken Dutton	11/11/04 10:19

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-2 20' (4K05013-08) Soil									
Surrogate: 1-Chlorooctane		*94.2 %*	*70-130*		*EK40508*	*11/05/04*	*11/06/04*	*EPA 8015M*	
Surrogate: 1-Chlorooctadecane		*102 %*	*70-130*		"	"	"	"	
SB-2 30' (4K05013-09) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK41002	11/05/04	11/09/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*92.9 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.5 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	**20.1**	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	**20.1**	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*102 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*107 %*	*70-130*		"	"	"	"	
SB-3 10' (4K05013-10) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK41002	11/05/04	11/09/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*95.6 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*87.4 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*99.0 %*	*70-130*		"	"	"	"	

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Basin Environmental Services	Project: Saunders 8 inch #5	Fax: (505) 396-1429
P.O. Box 301	Project Number: EMS: 2004-00206	**Reported:**
Lovington NM, 88260	Project Manager: Ken Dutton	11/11/04 10:19

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-3 20' (4K05013-11) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK41002	11/05/04	11/08/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*93.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*94.4 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*84.6 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*93.4 %*	*70-130*		"	"	"	"	
SB-4 10' (4K05013-12) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK41002	11/05/04	11/08/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*90.3 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.2 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*98.6 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*114 %*	*70-130*		"	"	"	"	
SB-4 20' (4K05013-13) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK41002	11/05/04	11/09/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*88.6 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*90.2 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	

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Basin Environmental Services	Project: Saunders 8 inch #5	Fax: (505) 396-1429
P.O. Box 301	Project Number: EMS: 2004-00206	**Reported:**
Lovington NM, 88260	Project Manager: Ken Dutton	11/11/04 10:19

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-4 20' (4K05013-13) Soil									
Surrogate: 1-Chlorooctane		*95.0 %*	*70-130*		*EK40508*	*11/05/04*	*11/06/04*	*EPA 8015M*	
Surrogate: 1-Chlorooctadecane		*105 %*	*70-130*		"	"	"	"	
SB-5 10' (4K05013-14) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK41002	11/05/04	11/08/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*100 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*95.2 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*96.8 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*109 %*	*70-130*		"	"	"	"	
SB-5 20' (4K05013-15) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EK41002	11/05/04	11/08/04	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*90.6 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*84.8 %*	*80-120*		"	"	"	"	
Gasoline Range Organics C6-C12	ND	10.0	mg/kg dry	1	EK40508	11/05/04	11/06/04	EPA 8015M	
Diesel Range Organics >C12-C35	ND	10.0	"	"	"	"	"	"	
Total Hydrocarbon C6-C35	ND	10.0	"	"	"	"	"	"	
Surrogate: 1-Chlorooctane		*108 %*	*70-130*		"	"	"	"	
Surrogate: 1-Chlorooctadecane		*120 %*	*70-130*		"	"	"	"	

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Basin Environmental Services	Project: Saunders 8 inch #5	Fax: (505) 396-1429
P.O. Box 301	Project Number: EMS: 2004-00206	**Reported:**
Lovington NM, 88260	Project Manager: Ken Dutton	11/11/04 10:19

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-1 15' (4K05013-01) Soil									
% Moisture	**25.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	
SB-1 20' (4K05013-02) Soil									
% Moisture	**25.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	
SB-1 30' (4K05013-03) Soil									
% Moisture	**23.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	
SB-1 40' (4K05013-04) Soil									
% Moisture	**24.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	
SB-1 45' (4K05013-05) Soil									
% Moisture	**11.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	
SB-1 60' (4K05013-06) Soil									
% Moisture	**22.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	
SB-2 15' (4K05013-07) Soil									
% Moisture	**7.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	
SB-2 20' (4K05013-08) Soil									
% Moisture	**7.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	
SB-2 30' (4K05013-09) Soil									
% Moisture	**22.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	
SB-3 10' (4K05013-10) Soil									
% Moisture	**1.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	
SB-3 20' (4K05013-11) Soil									
% Moisture	**2.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	

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Basin Environmental Services	Project: Saunders 8 inch #5	Fax: (505) 396-1429
P.O. Box 301	Project Number: EMS: 2004-00206	**Reported:**
Lovington NM, 88260	Project Manager: Ken Dutton	11/11/04 10:19

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SB-4 10' (4K05013-12) Soil									
% Moisture	**6.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	
SB-4 20' (4K05013-13) Soil									
% Moisture	**4.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	
SB-5 10' (4K05013-14) Soil									
% Moisture	**4.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	
SB-5 20' (4K05013-15) Soil									
% Moisture	**3.0**		%	1	EK40804	11/08/04	11/08/04	% calculation	

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Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK40508 - Solvent Extraction (GC)										
Blank (EK40508-BLK1)				Prepared & Analyzed: 11/05/04						
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	*42.8*		*mg/kg*	*50.0*		*85.6*	*70-130*			
Surrogate: 1-Chlorooctadecane	*52.7*		*"*	*50.0*		*105*	*70-130*			
Blank (EK40508-BLK2)				Prepared: 11/05/04 Analyzed: 11/06/04						
Gasoline Range Organics C6-C12	ND	10.0	mg/kg wet							
Diesel Range Organics >C12-C35	ND	10.0	"							
Total Hydrocarbon C6-C35	ND	10.0	"							
Surrogate: 1-Chlorooctane	*44.9*		*mg/kg*	*50.0*		*89.8*	*70-130*			
Surrogate: 1-Chlorooctadecane	*52.4*		*"*	*50.0*		*105*	*70-130*			
LCS (EK40508-BS1)				Prepared & Analyzed: 11/05/04						
Gasoline Range Organics C6-C12	446	10.0	mg/kg wet	500		89.2	75-125			
Diesel Range Organics >C12-C35	477	10.0	"	500		95.4	75-125			
Total Hydrocarbon C6-C35	923	10.0	"	1000		92.3	75-125			
Surrogate: 1-Chlorooctane	*52.2*		*mg/kg*	*50.0*		*104*	*70-130*			
Surrogate: 1-Chlorooctadecane	*50.9*		*"*	*50.0*		*102*	*70-130*			
LCS (EK40508-BS2)				Prepared: 11/05/04 Analyzed: 11/06/04						
Gasoline Range Organics C6-C12	430	10.0	mg/kg wet	500		86.0	75-125			
Diesel Range Organics >C12-C35	502	10.0	"	500		100	75-125			
Total Hydrocarbon C6-C35	932	10.0	"	1000		93.2	75-125			
Surrogate: 1-Chlorooctane	*53.0*		*mg/kg*	*50.0*		*106*	*70-130*			
Surrogate: 1-Chlorooctadecane	*45.7*		*"*	*50.0*		*91.4*	*70-130*			
LCS Dup (EK40508-BSD1)				Prepared & Analyzed: 11/05/04						
Gasoline Range Organics C6-C12	437	10.0	mg/kg wet	500		87.4	75-125	2.04	20	
Diesel Range Organics >C12-C35	477	10.0	"	500		95.4	75-125	0.00	20	
Total Hydrocarbon C6-C35	914	10.0	"	1000		91.4	75-125	0.980	20	
Surrogate: 1-Chlorooctane	*50.1*		*mg/kg*	*50.0*		*100*	*70-130*			
Surrogate: 1-Chlorooctadecane	*53.3*		*"*	*50.0*		*107*	*70-130*			

Basin Environmental Services	Project: Saunders 8 inch #5	Fax: (505) 396-1429
P.O. Box 301	Project Number: EMS: 2004-00206	**Reported:**
Lovington NM, 88260	Project Manager: Ken Dutton	11/11/04 10:19

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK40508 - Solvent Extraction (GC)										
Calibration Check (EK40508-CCV1)				Prepared & Analyzed: 11/05/04						
Gasoline Range Organics C6-C12	503		mg/kg	500		101	80-120			
Diesel Range Organics >C12-C35	551		"	500		110	80-120			
Total Hydrocarbon C6-C35	1050		"	1000		105	80-120			
Surrogate: 1-Chlorooctane	*55.5*		*"*	*50.0*		*111*	*70-130*			
Surrogate: 1-Chlorooctadecane	*53.2*		*"*	*50.0*		*106*	*70-130*			
Calibration Check (EK40508-CCV2)				Prepared: 11/05/04 Analyzed: 11/06/04						
Gasoline Range Organics C6-C12	493		mg/kg	500		98.6	80-120			
Diesel Range Organics >C12-C35	567		"	500		113	80-120			
Total Hydrocarbon C6-C35	1060		"	1000		106	80-120			
Surrogate: 1-Chlorooctane	*55.6*		*"*	*50.0*		*111*	*70-130*			
Surrogate: 1-Chlorooctadecane	*54.5*		*"*	*50.0*		*109*	*70-130*			
Matrix Spike (EK40508-MS2)		**Source: 4K05013-14**		Prepared: 11/05/04 Analyzed: 11/06/04						
Gasoline Range Organics C6-C12	*567*	10.0	mg/kg dry	521	ND	109	75-125			
Diesel Range Organics >C12-C35	593	10.0	"	521	ND	114	75-125			
Total Hydrocarbon C6-C35	1160	10.0	"	1040	ND	112	75-125			
Surrogate: 1-Chlorooctane	*58.8*		*mg/kg*	*50.0*		*118*	*70-130*			
Surrogate: 1-Chlorooctadecane	*56.0*		*"*	*50.0*		*112*	*70-130*			
Matrix Spike Dup (EK40508-MSD2)		**Source: 4K05013-14**		Prepared: 11/05/04 Analyzed: 11/06/04						
Gasoline Range Organics C6-C12	594	10.0	mg/kg dry	521	ND	114	75-125	4.65	20	
Diesel Range Organics >C12-C35	604	10.0	"	521	ND	116	75-125	1.84	20	
Total Hydrocarbon C6-C35	1200	10.0	"	1040	ND	115	75-125	3.39	20	
Surrogate: 1-Chlorooctane	*59.4*		*mg/kg*	*50.0*		*119*	*70-130*			
Surrogate: 1-Chlorooctadecane	*53.1*		*"*	*50.0*		*106*	*70-130*			

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK41002 - EPA 5030C (GC)										
Blank (EK41002-BLK1)				Prepared & Analyzed: 11/05/04						
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	*92.0*		*ug/kg*	*100*		*92.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*90.4*		"	*100*		*90.4*	*80-120*			
LCS (EK41002-BS1)				Prepared & Analyzed: 11/05/04						
Benzene	89.9		ug/kg	100		89.9	80-120			
Toluene	93.9		"	100		93.9	80-120			
Ethylbenzene	96.3		"	100		96.3	80-120			
Xylene (p/m)	213		"	200		106	80-120			
Xylene (o)	101		"	100		101	80-120			
Surrogate: a,a,a-Trifluorotoluene	*102*		"	*100*		*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*117*		"	*100*		*117*	*80-120*			
Calibration Check (EK41002-CCV1)				Prepared: 11/05/04 Analyzed: 11/09/04						
Benzene	92.5		ug/kg	100		92.5	80-120			
Toluene	102		"	100		102	80-120			
Ethylbenzene	100		"	100		100	80-120			
Xylene (p/m)	220		"	200		110	80-120			
Xylene (o)	103		"	100		103	80-120			
Surrogate: a,a,a-Trifluorotoluene	*106*		"	*100*		*106*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*107*		"	*100*		*107*	*80-120*			
Matrix Spike (EK41002-MS1)	**Source: 4K05013-12**			Prepared: 11/05/04 Analyzed: 11/08/04						
Benzene	98.5		ug/kg	100	ND	98.5	80-120			
Toluene	108		"	100	ND	108	80-120			
Ethylbenzene	107		"	100	ND	107	80-120			
Xylene (p/m)	235		"	200	ND	118	80-120			
Xylene (o)	111		"	100	ND	111	80-120			
Surrogate: a,a,a-Trifluorotoluene	*115*		"	*100*		*115*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*118*		"	*100*		*118*	*80-120*			

Basin Environmental Services	Project: Saunders 8 inch #5	Fax: (505) 396-1429
P.O. Box 301	Project Number: EMS: 2004-00206	**Reported:**
Lovington NM, 88260	Project Manager: Ken Dutton	11/11/04 10:19

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK41002 - EPA 5030C (GC)										
Matrix Spike Dup (EK41002-MSD1)	**Source: 4K05013-12**			Prepared: 11/05/04 Analyzed: 11/08/04						
Benzene	94.9		ug/kg	100	ND	94.9	80-120	3.72	20	
Toluene	103		"	100	ND	103	80-120	4.74	20	
Ethylbenzene	103		"	100	ND	103	80-120	3.81	20	
Xylene (p/m)	225		"	200	ND	112	80-120	5.22	20	
Xylene (o)	104		"	100	ND	104	80-120	6.51	20	
Surrogate: a,a,a-Trifluorotoluene	*103*		"	*100*		*103*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*116*		"	*100*		*116*	*80-120*			

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Basin Environmental Services	Project: Saunders 8 inch #5	Fax: (505) 396-1429
P.O. Box 301	Project Number: EMS: 2004-00206	**Reported:**
Lovington NM, 88260	Project Manager: Ken Dutton	11/11/04 10:19

General Chemistry Parameters by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EK40804 - General Preparation (Prep)										
Blank (EK40804-BLK1)				Prepared & Analyzed: 11/08/04						
% Moisture	0.0		%							
Duplicate (EK40804-DUP1)		**Source: 4K05006-01**		Prepared & Analyzed: 11/08/04						
% Moisture	20.0		%		20.0			0.00	20	

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Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	Matrix Spike
Dup	Duplicate

Report Approved By: Raland K Tuttle Date: 11/11/2004

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
Sandra Sanchez, Lab Tech.

Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: KEN DUTTON
Company Name: BES
Company Address: P.O. BOX 301
City/State/Zip: LOVINGTON, NM 88260
Telephone No: (505) 441-2124 Fax No: (505) 396-1429
Sampler Signature: Ken Dutton

Project Name: SAUNDERS 8" #5
Project #: EMS: 2004 00206
Project Loc: LEA COUNTY, NM
PO #:

4K05013

LAB # (lab use only)	FIELD CODE	Date Sampled (2004)	Time Sampled	No. of Containers (4oz 8/4oz)	Preservative: Ice	Preservative: HNO_3	Preservative: HCl	Preservative: NaOH	Preservative: H_2SO_4	Preservative: None	Preservative: Other (Specify)	Matrix: Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify)	Analyze For: TCLP: TPH: 418.1 (8015M) 1005 1006	Analyze For: TOTAL: TPH: 418.1 (8015M) 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule)	Standard TAT
-01	SB-1 15'	29 OCT	1021	1	X									X		X								X				X
-02	SB-1 20'		1430																									
-03	SB-1 30'		1439																									
-04	SB-1 40'		1459																									
-05	SB-1 45'		1520																									
-06	SB-1 60'		1534																									
-07	SB-2 15'	01 NOV	0941																									
-08	SB-2 20'		0951																									
-09	SB-2 30'		1007																									
-10	SB-3 10'		1036																									

Special Instructions:

Sample Containers Intact? (Y) N
Temperature Upon Receipt:
Laboratory Comments: 1.0 C

Relinquished by	Date	Time	Received by	Date	Time
Ken Dutton	05 Nov 04	1157		11-5-04	1157
Relinquished by	Date	Time	Received by ELOT	Date	Time
	11-5-04	1527		11-5-04	1527

Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: KEN DUTTON
Company Name: BES
Company Address: P. O. BOX 301
City/State/Zip: LOVINGTON, NM 88260
Telephone No: (505) 441-2124
Fax No: (505) 396-1429
Sampler Signature: Ken Dutton

Project Name: SAUNDERS 8" #5
Project #: EMS: 2004-000206
Project Loc: LEA COUNTY, NM
PO #:

4K0513

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	Preservative: HNO_3	Preservative: HCl	Preservative: NaOH	Preservative: H_2SO_4	Preservative: None	Preservative: Other (Specify)	Matrix: Water	Matrix: Sludge	Matrix: Soil	Analyze For: Other (specify):	TPH: 418.1 / 8015M / 1005 / 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	RUSH TAT (Pre-Schedule)	Standard TAT
-11	SB-3 20'	04 NOV	1046	1	X									X		X							X				X
-12	SB-4 10'		1106																								
-13	SB-4 20'		1120																								
-14	SB-5 10'		1140																								
-15	SB-5 20'		1153																								

Special Instructions:

Sample Containers Intact? (Y) N
Temperature Upon Receipt:
Laboratory Comments: 1.0°C

Relinquished by	Date	Time	Received by	Date	Time
Ken Dutton	05 Nov 04	1157		11-5-04	1157
Relinquished by	Date	Time	Received by ELOT:	Date	Time
	11-5-04	1527		11-5-04	1527

Environmental Lab of Texas
Variance / Corrective Action Report – Sample Log-In

Client: Basin Environmental

Date/Time: 11-05-04 @ 1545

Order #: 4K05013

Initials: JMM

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	C
Shipping container/cooler in good condition?	Yes	No	
Custody Seals intact on shipping container/cooler?	Yes	No	Not present
Custody Seals intact on sample bottles?	Yes	No	Not present
Chain of custody present?	Yes	No	
Sample Instructions complete on Chain of Custody?	Yes	No	
Chain of Custody signed when relinquished and received?	Yes	No	
Chain of custody agrees with sample label(s)	Yes	No	
Container labels legible and intact?	Yes	No	
Sample Matrix and properties same as on chain of custody?	Yes	No	
Samples in proper container/bottle?	Yes	No	
Samples properly preserved?	Yes	No	
Sample bottles intact?	Yes	No	
Preservations documented on Chain of Custody?	Yes	No	
Containers documented on Chain of Custody?	Yes	No	
Sufficient sample amount for indicated test?	Yes	No	
All samples received within sufficient hold time?	Yes	No	
VOC samples have zero headspace?	Yes	No	Not Applicable

Other observations:

Variance Documentation:

Contact Person: - ______ Date/Time: ______ Contacted by: ______

Regarding:

Corrective Action Taken:

APPENDIX C

SOIL BORING LOGS

Saunders 8" # 5
Soil Boring 1

Depth	Soil Column	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
		1053 ppm	Heavy	Heavy	Caliche Layer, with16" topsoil, moist
10		972 ppm	Heavy	Moderate	Caliche Layer, moist
		944 ppm	Heavy	Moderate	Caliche layer, dry
20		1040 ppm	Moderate	None	Sand (SP) Red-Brown, Very Fine Grained, Well Sorted, Dry,
		907 ppm	Moderate	None	Sand (SP) Red-Brown, Very Fine Grained, Well Sorted, Dry,
30		775 ppm	Slight	None	Sand (SP) Tan-Brown, Very Fine Grained, Well Sorted, Dry
		232 ppm	Slight	None	
40		242 ppm	Slight	None	
		38.6 ppm	Slight	None	
50		42.2 ppm	Slight	None	
		56.3 ppm	None	None	
60	TD	37.9 ppm	None	None	

Installed: 29 Oct 04, Basin Environmental Services, LLC

TD: 60 feet bgs

Soil Boring plugged with 13 bags of Bentonite

☐ Samples selected for analysis

TITLE	DESCRIPTION
Saunders 8" # 5	**Soil Boring 1**
DRAWN BY **KAD**	DATE **15 Nov 04**

Saunders 8" # 5
Soil Boring 2

Depth	Soil Column	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
5		1106 ppm	Heavy	Moderate	Caliche layer, with 15-16" topsoil, moist
10		972 ppm	Heavy	Slight	Caliche layer, dry
15		776 ppm	Heavy	Slight	Caliche layer, dry
20		6.5 ppm	Slight	None	Sand (SP) Red-Brown, Very Fine Grained, Well Sorted, Dry
25		10.6ppm	None	None	
30	TD	8.5 ppm	None	None	Sand (SP) Tan-Brown, Very Fine Grained, Well Sorted, Dry

Installed: 01 Nov 04, Basin Environmental Services, LLC

TD: 30 feet bgs

Soil Boring plugged with 6 bags of Bentonite

☐ Samples selected for analysis

TITLE	DESCRIPTION
Saunders 8" # 5	**Soil Boring 2**
DRAWN BY **KAD**	DATE **15 Nov 04**

Saunders 8" # 5
Soil Boring 3

Depth	Soil Column	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
5		1.8 ppm	None	None	Caliche layer, with 15-16" topsoil, moist
10		0.9 ppm	None	None	Caliche layer, dry
15		0.6 ppm	None	None	
20 TD		0.5 ppm	None	None	Sand (SP) Red-Brown, Very Fine Grained, Well Sorted, Dry

Installed: 01 Nov 04, Basin Environmental Services, LLC

TD: 20 feet bgs

Soil Boring plugged with 4 bags of Bentonite

☐ Samples selected for analysis

TITLE	DESCRIPTION
Saunders 8" # 5	**Soil Boring 3**
DRAWN BY **KAD**	DATE **15 Nov 04**

Saunders 8" # 5
Soil Boring 4

Depth	Soil Column	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
5		1.2 ppm	None	None	Caliche layer, with 15-16" topsoil, moist
10		0.8 ppm	None	None	Caliche layer, dry
15		0.5 ppm	None	None	
20 TD		0.3 ppm	None	None	Sand (SP) Red-Brown, Very Fine Grained, Well Sorted, Dry

Installed: 01 Nov 04, Basin Environmental Services, LLC

TD: 20 feet bgs

Soil Boring plugged with 4 bags of Bentonite

☐ Samples selected for analysis

TITLE	DESCRIPTION
Saunders 8" # 5	**Soil Boring 4**
DRAWN BY **KAD**	DATE **15 Nov 04**

Saunders 8" # 5
Soil Boring 5

Depth	Soil Column	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
5		0.9 ppm	None	None	Caliche layer, with 15-16" topsoil, moist
10		0.7 ppm	None	None	Caliche layer, dry
15		0.3 ppm	None	None	
20 TD		0.4 ppm	None	None	Sand (SP) Red-Brown, Very Fine Grained, Well Sorted, Dry

Installed: 01 Nov 04, Basin Environmental Services, LLC

TD: 20 feet bgs

Soil Boring plugged with 4 bags of Bentonite

☐ Samples selected for analysis

TITLE	DESCRIPTION
Saunders 8" # 5	**Soil Boring 5**
DRAWN BY **KAD**	DATE **15 Nov 04**

APPENDIX D

NMOCD C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

x Initial Report ☐ Final Report

Name of Company Plains Marketing, LP	Contact Camille Reynolds
Address 5805 East Hwy. 80, Midland, TX 79706	Telephone No. 505-441-0965
Facility Name Saunders 8" #5	Facility Type 8"Steel Pipeline

Surface Owner State Of New Mexico	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	14	14S	33E					Lea

Latitude 33°06'21.8" Longitude 103°34'47.6"

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 15barrels	Volume Recovered 0 barrels
Source of Release 8" Steel Pipeline	Date and Hour of Occurrence 10-1-04 @ 15:00	Date and Hour of Discovery 10-1-04 @ 17:50
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Gary Wink	
By Whom? Ken Dutton	Date and Hour 10-2-04 @ 10:15	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.* Internal corrosion of the 8" steel pipeline. A line clamp was installed to mitigate the release. The line is an 8 inch steel transmission pipeline that produces approximately 1,400 barrels of crude per day. The pressure on the line varies from 25 to 30 psi and the gravity of the sweet crude oil is 38-42. The sweet crude has an H_2S content of less than 10 ppm

Describe Area Affected and Cleanup Action Taken.* The impacted soil was excavated and stockpiled on plastic. Aerial extent of surface impact was 2,220 ft^2.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Camille Reynolds	OIL CONSERVATION DIVISION
Printed Name: Camille Reynolds	Approved by District Supervisor:
Title: Remediation Coordinator	Approval Date: / Expiration Date:
E-mail Address: cjreynolds@paalp.com	Conditions of Approval: / Attached ☐
Date: 10/ 4/04 Phone:505-441-0965	

Attach Additional Sheets If Necessary