District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 1220 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

Revised October 10, 2003

Form C-141

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

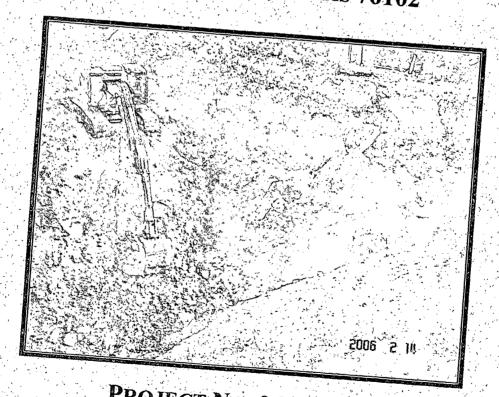
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WI#	30-0	39-23	368			OPERA				l Report	XX Final Report
Name of Co		Kimbell (Contact Mr. Earl North (Bloomfield,NM): Jon Stickland (Ft. Worth)					
			P-IIA, F	t. Worth, TX 76	102	Telephone No. 505-320-3579: 817-335-2591 X 30 Facility Type Production Tank Battery area inside of earthen berms					
Facility Nar	ne Salaza	ar No. 4E				Facility Type	Production	l ank Ba	attery area	inside of e	arthen berms
Surface Ow	ner BLM	(Federal)		Mineral O	wner	BLM (Fede	eral)		Lease N	lo. SF-08	0136
_				LOCA	TIO	N OF REL	EASE				
Unit Letter	Section	Township	Range	Feet from the	North	/South Line	Feet from the	East/V	Vest Line	County	
F	34	25N	6W	1600 1600	NORTH 1510 WEST RIO ARRIBA					IRΔ	
	1	231			1101			1120		RIO MICIC	DA.
			Lat	itude	TIDE	Longitude OF RELE					
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Berms/walls.		`\	·	•		183.06 1			0.0 Bb		
				. (Valve froze and	split		our of Occurrence	-		Hour of Dis	
With accumul Was Immedia		water inside va	alve)				2, 2006, Unkno	wn	January 1	2, 2006 @	1630 HRS MST
Was Immedia Within 24			Yes 🔲 🖰	No 🔲 Not Requ	uired	If YES, To Mr. Charles	wnom? Perrin, NMOCI	D, Distri	ct #3, Azte	c, NM @ 11	.57 Hrs MST
By Whom?	Jonathan M	1. Stickland				Date and Ho	our January 13,	2006 @	1157 Hrs.	MST	
Was a Water	course Read	ched?					ume Impacting t				
		ained within b	ermed/wa	lled area around ta	anks		27/4				
Yes X							N/A				
		pacted, Descr	ibe Fully.*								
	NOT IMPA	CIED									
		em and Reme					-				
				actions are detail					f Spill Clea	inup as sup	ervised by
Envirotech 1	nc., rarmi	ngton, Nivi ai	nd as appi	oved onsite by b	oth NY	viocd and re	derai BLM per	sonnei.			
		and Cleanup A									
				ntaminated soils N AND CLEANU					ed as per S	tate and Fe	deral Guidelines.
***SEE AJ	IACHED	FINAL EXC.	AVAIIO	N AND CLEANU	PRE	PORT BY EN	VIROTECH, II	NC"""			
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Printed Name	/ Jonathar	n M. Stickland	l 🗸			Approved by I	District Supervis	or: 😿	J A	cevli	2 Perry
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SPILL CLEANUP REPORT

SALAZAR NO. 4E API No. 30-039-23368 UNIT F, SEC 34, TWP 25N, RNG 6W RIO ARRIBA COUNTY, NEW MEXICO

For:

MR. JONATHAN STICKLAND KIMBELL OIL COMPANY OF TEXAS 777 TAYLOR STREET, SUITE P-IIA FORT WORTH, TEXAS 76102



PROJECT NO. 06011-001

MARCH 2006



March 24, 2006

Project No. 06011-001

Mr. Jonathan M. Stickland Kimbell Oil Company of Texas 777 Taylor Street, Suite P-IIA Fort Worth, Texas 76102

Phone: (817) 335-2593 Fax: (817) 338-1355

RE: SPILL CLEANUP AT THE SALAZAR NO. 4E, UNIT F, SEC 34, TWP 25N, RNG 6W, RIO ARRIBA COUNTY, NEW MEXICO

Dear Mr. Stickland:

Enclosed please find one (1) original and three (3) copies of the report entitled, *Spill Cleanup Report*, for Spill Cleanup and Site Restoration activities completed at the Salazar No. 4E, Unit F, Sec 34, Twp 25N, Rng 6W, Rio Arriba County, New Mexico.

In addition, there is a C-144, *Pit or Below-Grade Tank Registration or Closure* and a Form 3160-5, *Sundry Notices and Reports on Wells*. Please sign both of these documents and forward along with a copy of the above mentioned report to the respective agencies listed below.

We appreciate the opportunity to be of service. If you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully Submitted,

ENVIROTECH. INC.

Michael P. Marquez

Environmental Scientist / Safety Officer

mmarquez@envirotech-inc.com

Enclosures: Four (4) Reports and Two (2) Aforementioned Forms

Cc: Mr. Denny Foust, NMOCD (C-144 and copy of the report)

Mr. Bart Dodson, BLM (Form 3160-5 and copy of the report)

Client File No. 06011



INTRODUCTION

Envirotech, Inc. of Farmington, New Mexico, was contracted by Kimbell Oil Company of Texas to provide environmental spill response and cleanup services at the Salazar No. 4E, Unit F, Sec 34, Twp 25N, Rng 6W, Rio Arriba County, New Mexico; see *Figure 1, Vicinity Map.* A ball valve on a 300 barrel (bbl) production tank had frozen, forcing the valve to push through the threadings releasing approximately 183 bbls of condensate. Cleanup activities included the environmental excavation of contaminated soil, transportation of contaminated soils, acquisition of backfill soils, continual confirmation sampling, and the documentation of site activities.

ACTIVITIES PERFORMED

Envirotech was contacted with a request to respond to a release of 183 bbls of condensate at the above referenced location. An initial site assessment was completed by Mr. Morgan Killion, General Superintendent for Envirotech. His assessment enabled the proper planning of the estimated scope of work necessary to respond accordingly to the environmental incident.

On January 18, 2006, Mr. Michael Marquez, Environmental Scientist for Envirotech, traveled to the site to hand auger four (4) borings to three (3) feet below ground surface (BGS). These borings were completed in an attempt to determine what site equipment, if any, would need to be relocated. The hand auger locations are noted as S1 through S4; see *Figure 2*, *Site Map*. At the required depth, a sample was taken and screened in the field using an Organic Vapor Meter (OVM). The samples were collected into quart-size Ziplock baggies, filled approximately halffull, allowed to heat to approximately 65 degrees Fahrenheit, and the peak measurement recorded. Field screening showed all hand auger locations exceeded the 100 parts per million (ppm) criteria determined from the New Mexico Oil Conservation Division (NMOCD) guidelines found in a publication titled *Guidelines for Remediation of Leaks, Spills, and Releases*, dated August 13, 1993. These ranking criteria were determined by the following field observations:

- 1. Depth to Ground Water; < 50 vertical feet; NMOCD Ranking of 20 points
- 2. Distance to Surface Water Body; < 200 horizontal feet; NMOCD Ranking of 20 points

Following the guidelines in the aforementioned publication, any ranking which exceeds 20 points is required to have closure sample analysis of Total Petroleum Hydrocarbons (TPH) < 100 ppm and a Total Benzene, Toluene, Ethlybenzene, and Xylenes (BTEX) of < 50,000 ppb.

On the same day hand auguring was completed, Mr. Bart Dodson, with the Bureau of Land Management (BLM), Farmington District Office, arrived on-site to determine what stipulations and requirements would be required from the BLM while excavation activities commenced. Mr. Dodson expressed a concern due to the proximity of the Salazar No. 4E to the Largo Wash. Because of this concern, he requested all impacted soils be transported away from the flood plain, to sites without the concern for surface water patterns. Additionally, he also began the task of finding borrow soil locations to be used as a source for local backfill material.

Mr. Marquez also completed an additional assessment of the berm containment area surrounding the Aboveground Storage Tanks (AST). Measurements were taken of the width and length of the berm as well as the lowest point found vertically throughout the bermed area. Field calculations found that the berm complied with SPCC requirements and had sufficient area to hold the largest capacity of the two (2) AST's present, see *Section 4, Containment Calculations*.

To respond accordingly to the field data and observations identified by the BLM, Envirotech initially transported a track-hoe and two (2) front-end loaders to the Salazar No. 4E for the environmental excavation of impacted soils. One (1) front-end loader was taken to the first of many locations needed to gather backfill material and to create a biopile for impacted soils. The remaining equipment was kept at the Salazar No. 4E and the environmental excavation commenced.

Upon initial penetration of the ground surface, strong hydrocarbon odors were detected. Overwhelming hydrocarbon vapors present indicated impacted soils being removed were from the release of the 183 bbls of condensate. A field assessment concluded the release would have an area equal to that of the bermed area surrounding the aboveground storage tanks (AST) and would migrate through subsurface soils in a conical pattern.

At approximately nine (9) feet below ground surface (BGS), dark grey to black soils were encountered; see *Section 3*, *Site Photography*. Additional excavation visually verified we had encountered substantially more impacted soils than previously anticipated. With this new site information, environmental excavation would follow all contaminants until remaining soils were below NMOCD guidelines.

As contaminated soils were excavated with the track-hoe, the front-end loader piled then loaded 20 cubic yard (yd³) belly dump trucks to minimize the accumulation of soils on-site. Impacted soils were transported to other Kimbell Oil Company of Texas lease sites within the immediate area to be placed into bio-piles. To minimize the unnecessary removal of non-impacted soil, overburden was removed as applicable, depending on contamination patterns, and stockpiled on-site to be later used as backfill material.

On February 1, 2006, a discrete sample was taken from 22 feet BGS and analyzed for TPH in the field using USEPA Method 418.1 as well as an OVM. Field TPH determination showed a TPH value of 4,930 ppm and an OVM measurement of 676 ppm; see *Section 2, 418.1 Field Analysis*. Based on this field data, continued vertical excavation was necessary to fully remove contaminated soils.

To determine the approximate amount of impacted soils remaining, five (5) test holes were dug and screened using an OVM and visual observations surrounding the extent of excavation on February 3, 2006. These test holes, identified as TH-1 through TH-5, see *Figure 2, Site Map*, gave verifiable data to develop further excavation planning. Although TH-2 showed an OVM measurement above screening level, the west wall was later determined to be below NMOCD guidelines for TPH. The data provided by the test holes was an invaluable resource in directing the continued excavation of soils.

A sample was taken at 28 feet BGS on February 6, 2006. The sample was screened in the field using an OVM following the referenced field method. The sample passed the established 100 ppm screening standard, therefore the soil was transferred into a four (4) ounce glass jar, placed inside an ice chest, and transported under a Chain of Custody document to Envirotech's Laboratory for analysis by USEPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons and by USEPA Method 8021 Aromatic Volatile Organics. Upon review of laboratory analysis, the sample showed measurements of 5.1 ppm TPH and Total BTEX of 1,050 parts per billion (ppb), both of which are below NMOCD established guidelines; see **Section 1, Laboratory Analysis**. Based on the laboratory data, it was established that 28 feet BGS would be the vertical extent of contamination.

Mr. Denny Foust of the NMOCD inspected the site on February 7, 2006. Mr. Foust gave instructions for the continued excavation of the site until all impacted soils had been removed to the greatest extent possible. Also completed on this day was the additional closure sampling of the south wall and southern portion of the east wall. A review of laboratory analysis showed both areas were below regulatory guidelines; see *Section 1, Laboratory Analysis*. Both of these wall areas were the furthest up-gradient as determined by surface geology. The surface was relatively planar with a slight slope to the northeast. As an additional safety measure, Mr. Foust requested a four (4) inch piping barricade to be constructed as a barrier and placed around the wellhead; see *Section 3, Site Photography*. This would prevent the accidental contact of any mobile site equipment with the wellhead. Contact with the wellhead would be detrimental to site activities. Mr. Earl North made the appropriate arrangements for construction of the barrier the following day.

Excavation continued in a northeasterly direction throughout the following days. A sampling event was completed on February 15, 2006. An area of concern was found on the northern area of the east wall, although TPH was at 152 ppm, a Total BTEX analysis showed a measurement of 101,710 ppb; see **Section 1, Laboratory Analysis**. This amount is twice the regulatory level as determined by the NMOCD publication referenced on page one (1) of this report. Field screening was completed throughout this time period to guide the excavation to prevent the unnecessary removal of non-impacted soils.

On February 21, 2006, a meeting with Mr. Denny Foust, NMOCD, Mr. Mike Stahle, Field Superintendent for Envirotech, and Mr. Michael Marquez was conducted. The purpose of the meeting was to determine the status of the project and to discuss upcoming planning and necessary work steps to complete the excavation. A site map was presented showing the overall progress with the estimated contamination still assumed to be present. Mr. Foust agreed the process was being completed as required and then asked for additional test holes to be dug. These test holes (TH) can be identified as: TH 10 feet west from meter (TH-6), TH 25 feet NE of wellhead (TH-7), and TH 20 feet N of wellhead (TH-8); see *Figure 2, Site Map and Section 1, Laboratory Analysis*. Test holes TH-6 and TH-7 were well below established criteria. TH-8, at a depth of 15 feet, showed a TPH value of 4,570 ppm which exceeded NMOCD standards of 100 ppm. Based on this data, additional excavation would need to continue in an easterly direction until all impacted soils greater than established standards had been removed. An additional test hole was completed approximately 17 feet east of the meter house (TH-9) with OVM measurements below the 100 ppm standards; see *Figure 2, Site Map and Section 3, Site Photography*.

Special concern was taken when excavating near the wellhead during the following days. A spotter was used on the ground to guide the track hoe operator when the equipment was in the vicinity of the wellhead barriers.

The last sampling event was completed on March 6, 2006. Samples were taken of the remaining walls. The walls in question were the north and east walls. A review of laboratory analysis showed TPH levels to be Non Detectible (ND) in both walls. Permission was given to backfill the excavation and start compacting soils for the re-construction of well site equipment.

Backfill was pushed into the excavation with the front-end loader so that a ramp could safely be constructed. This ramp would allow the semi-trucks to release the backfill soil directly into the excavation. As the soils were released, the front-end loader would level and compact the soils with the pneumatic tires as well as the weight of the machine. Some of the backfill material used initially came from a stock pond; this material had a sufficient moisture content to optimize compaction of the backfill materials.

The site activities were completed on March 13, 2006. The area was returned to original grade and conditions; see *Section 3*, *Site Photography*.

SOIL IMPACT

An estimated 12,500 yd³ of soils has been removed from the Salazar No. 4E and placed in four (4) bio-piles. These four (4) bio-piles are on the same lease as the Salazar No. 4E. All impacted soils have been removed in accordance with NMOCD guidelines and will be treated, monitored and sampled until levels are below regulatory guidance.

GROUNDWATER IMPACT

Although groundwater was not visibly encountered, the upper portion of the water / soil interface was believed to have occurred at 26 feet BGS. This can be seen in **Section 2**, **Site Photography**. A sample taken at 28 feet BGS shows levels below regulatory guidelines. Based on the extensive amount of contamination encountered, it is feasible to assume groundwater has been impacted. It is recommended that a series of three (3) monitors be drilled and completed as monitor wells to define the horizontal extent of contamination. The proposed locations can be referenced on **Figure 3, PMW Locations**.

RECOMMENDATIONS

Envirotech, Inc. recommends the monthly mixing and blending of the above stated bio-piles. To further aide in the breakdown of the residual hydrocarbons, urea nitrate will be added to the piles during the on-site blending process. In addition, quarterly sampling will be completed in coordination with field activities to accurately determine the appropriate monitoring time remaining. As a cost saving measure, five (5) point composite samples will be taken for approximately every 500 yd³ to monitor the progress of the contaminated soil. Samples will be delivered to Envirotech's Laboratory and analyzed by the following methods:

- 1. USEPA Method 8015;
- 2. USPEA Method 8021

At the time when the contaminants fall below regulatory guidelines in the previously stated amounts, final closure sampling will consist of a five (5) point composite sample for approximately every 200 yd³ of contamination present. When the piles fall below regulatory guidelines, the soil will be released to be used as Kimbell Oil Company of Texas sees fit.

Envirotech further recommends that monitor wells be placed to determine the horizontal and vertical extent of groundwater contamination. These monitor wells will also monitor the natural attenuation of the groundwater to verify that the site has been successfully remediated.

STATEMENT OF LIMITATIONS

Envirotech has completed the environmental excavation from an initial release of 183 barrels of condensate from the Salazar No. 4E, Unit F, Sec 34, Township 25N, Range 6W, Rio Arriba County, New Mexico, and restored the site to pre-incident conditions. The work and services provided by Envirotech were in accordance with the NMOCD standards. All observations and conclusions provided here are based on the information and current site conditions found at the site throughout the spill response activities.

The undersigned has conducted this service at the above referenced site. This work has been conducted and reported in accordance with generally accepted professional practices in geology, engineering, environmental chemistry, and hydrogeology.

We appreciate the opportunity to be of service. Should you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully Submitted, ENVIROTECH INC.

Reviewed by:

Environmental Scientist \Safety Officer

mmarquez@envirotech-inc.com

Chief Environmental Scientis

NMCES #038

NMCES #050
cjcollins@envirotech-inc.com

profile SCIENT

W MEXICO

098

Morris D.

President

NMCES #098

myoung@envirotech-inc.com

KIMBELL OIL COMPANY OF TEXAS SPILL CLEANUP REPORT SALAZAR NO. 4E

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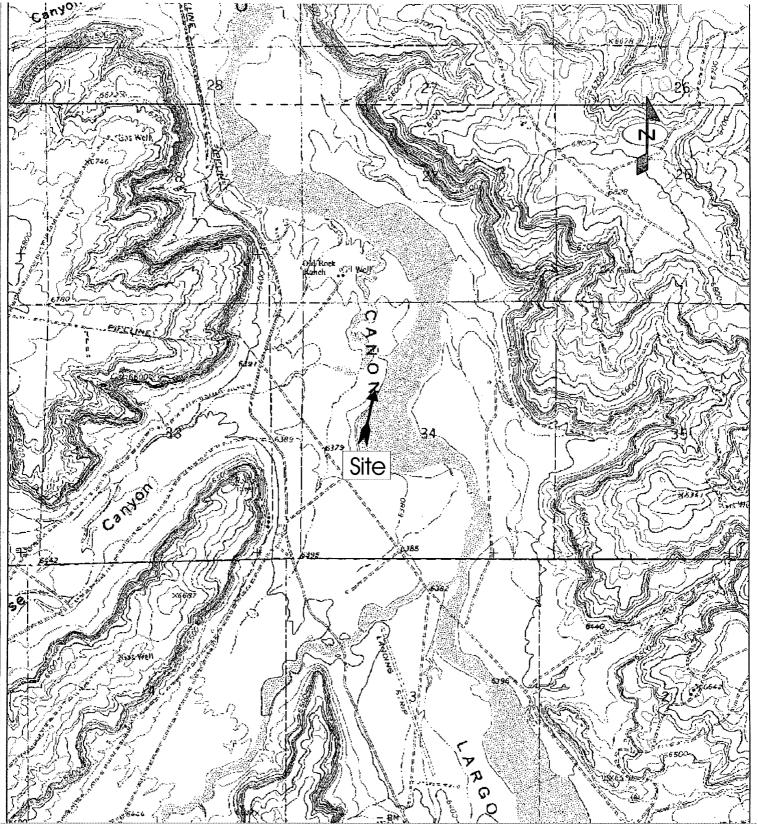
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Groundwate	er Impact	5
	dations	
	f Limitations	
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Sections:	Section 1, Laboratory Analysis Section 2, 418.1 Field TPH Analysis Section 3, Site Photography Section 4, Secondary Containment Calculations	

Figures

Figure 1, Vicinity Map

Figure 2, Site Map

Figure 3, PMW Locations



Source: Tafoya Canyon, New Mexico 7.5 Minute U.S.G.S. Topographic Quadrangle Map

Scale: 1:24,000 1" = 2000'

Kimbell Oil Company of Texas Salazar No. 4E Unit F, Sec 34, Twp 25N, Rng 6W Rio Arriba County, New Mexico

PROJECT # 06011-001 | Date Drawn: 1/30/06

ENVIROTECH INC

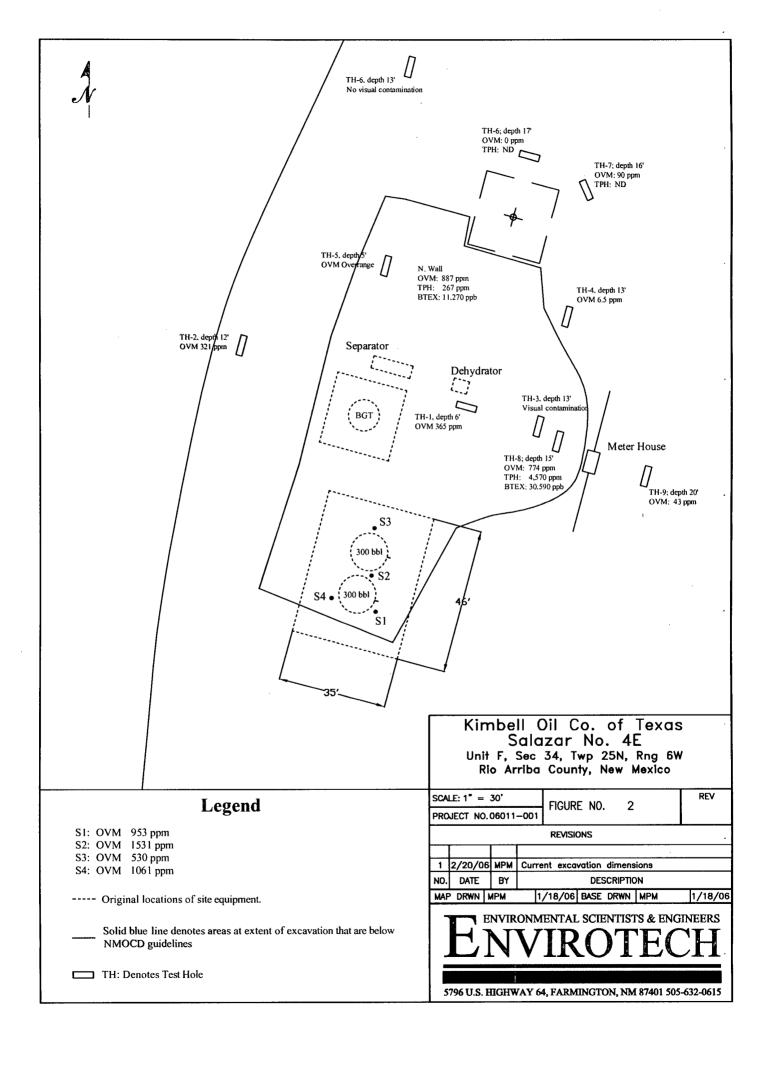
ENVIRONMENTAL SCIENTISTS & ENGINEERS 5796 U.S. HIGHWAY 64 FARMINGTON, NEW MEXICO 87401

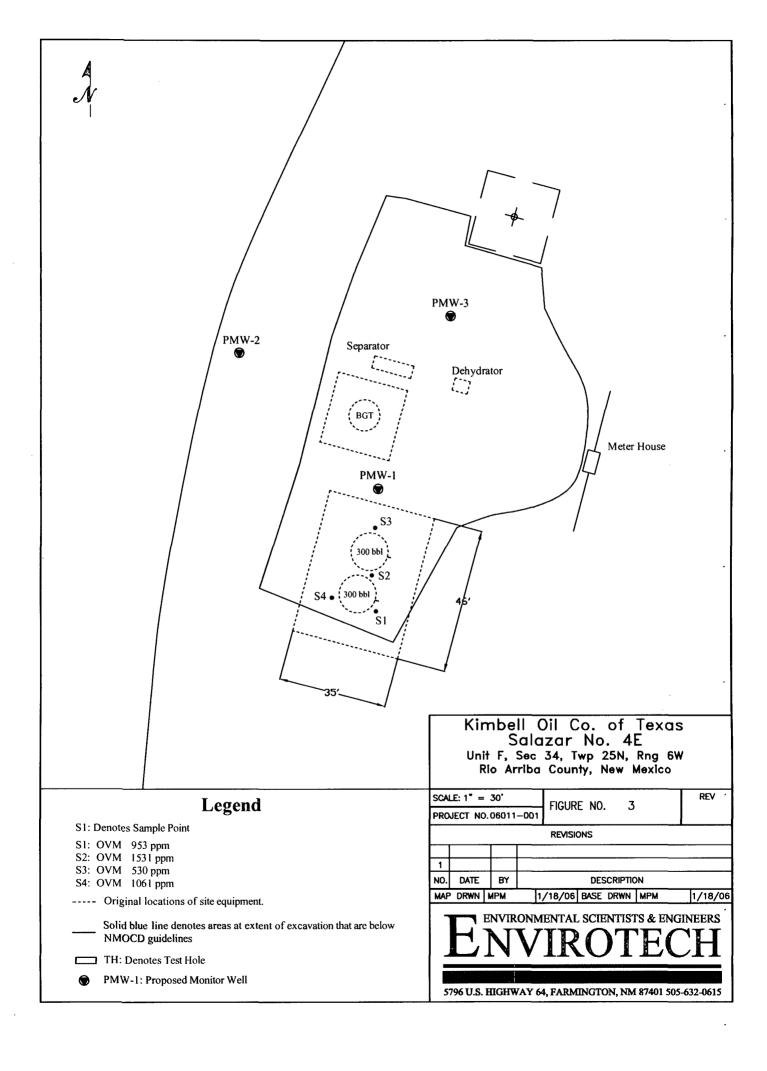
PHONE (505) 632-0615

Vicinity Map

Figure 1

DRAWN BY: Michael P. Marquez PROJECT MANAGER: C. Jack Collins





Section 1

Laboratory Analysis



Client:	Kimbell Oil	Proiect #:	06011-001
Sample ID:	Bottom @ 28'	Date Reported:	02-07-06
Laboratory Number:	36145	Date Sampled:	02-06-06
Chain of Custody No:	15506	Date Received:	02-06-06
Sample Matrix:	Soil	Date Extracted:	02-07-06
Preservative:	Cool	Date Analyzed:	02-07-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	5.1	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	5.1	0.2

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

Salazar 4E.

Analyst

Misture of Wattles
Review



Quality Assurance Report

Client:	QA/QC		Project #:		N/A
Sample ID:	02-07-06 QA/	QC	Date Reported:		02-07-06
Laboratory Number:	36145		Date Sampled:		N/A
Sample Matrix:	Methylene Chlo	ride	Date Received:		N/A
Preservative:	N/A		Date Analyzed:		02-07-06
Condition:	N/A		Analysis Reques	ited:	TPH
	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	02-04-05	9.9711E+002	9.9811E+002	0.10%	0 - 15%
Diesel Range C10 - C28	02-04-05	1.0004E+003	1.0024E+003	0.20%	0 - 15%
Blank Conc. (mg/L - mg/Kg)		Concentration		Detection Limit	
Gasoline Range C5 - C10		ИD		0.2	
Diesel Range C10 - C28		ND		0.1	
Total Petroleum Hydrocarbons		ND		0.2	
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range	
Gasoline Range C5 - C10	5.1	5.2	2.0%	0 - 30%	0-
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%	
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	5.1	250	255	99.9%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

QA/QC for Samples 36145 - 36148.

Analyst C. Green

Mistane m Waeters
Review



Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	Bottom @ 28'	Date Reported:	02-07-06
Laboratory Number:	36145	Date Sampled:	02-06-06
Chain of Custody:	15506	Date Received:	02-06-06
Sample Matrix:	Soil	Date Analyzed:	02-07-06
Preservative:	Cool	Date Extracted:	02-07-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)	
Benzene	15.4	4.0	
Toluene	176	1.8 1.7	
Ethylbenzene	101	1.5	
p,m-Xylene	599	2.2	
o-Xylene	158	1.0	
Total BTEX	1,050		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

References:

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA,

December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846,

USEPA, December 1996.

Comments:

Salazar 4E.

Analyst

Mistine m Watters
Review



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client: Sample ID:	N/A 02-07-BTEX QA/QC	Project #: Date Reported:	N/A 02-07-06
Laboratory Number:	36145	Date Sampled: Date Received:	N/A
Sample Matrix:	Soil		N/A
Preservative:	N/A	Date Analyzed:	02-07-06
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF: page 1	C-Cal RF: Accept. Rang	%Diff. je 0 - 15%	Blank Conc	Detect.
Benzene	5.2367E+007	5.2472E+007	0.2%	ND	0.2
Toluene	4.7468E+007	4.7564E+007	0.2%	ND	0.2
Ethylbenzene	3.5401E+007	3.5472E+007	0.2%	ND	0.2
p,m-Xylene	7.2386E+007	7.2531E+007	0.2%	ND	0.2
o-Xylene	3.4900E+007	3.4970E+007	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample Di	uplicate	%Diff.	Accept Range	Detect. Limit
Benzene	15.4	15.3	0.6%	0 - 30%	1.8
Toluene	176	175	0.5%	0 - 30%	1.7
Ethylbenzene	101	100	0.7%	0 - 30%	1.5
p,m-Xylene	599	598	0.1%	0 - 30%	2.2
o-Xylene	158	157	0.4%	0 - 30%	1.0

Spike Conc. (ug/Kg)	Sample Amo	ount Spiked Spik	ed Sample	% Recovery	Accept Range
Benzene	15.4	50.0	65.3	99.8%	39 - 150
Toluene	176	50.0	226	100.0%	46 - 148
Ethylbenzene	101	50.0	151	99.9%	32 - 160
p,m-Xylene	599	100	697	99.8%	46 - 148
o-Xylene	158	50.0	207	99.9%	46 - 148

ND - Parameter not detected at the stated detection limit.

References:

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA,

December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using

Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments:

QA/QC for Samples 36145 - 36148.

Analyst

CHAN OF CUSTODY BECOND

Client / Project Name	0%.1		Project Location	<i>3h</i>			ANALYSIS / PARAMETERS	ARAMETERS		
Sampler: M- Marguz			Client No. 04011-00	00 1	o .of siners	_511	हा र		Remarks	
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Botton e 28'	2/4/04	1325	36145	Soil	_))			
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				5796 U.S. Highway 64 Farmington, New Mexico 87401	Jhway 6	4 37401		Received Intact	7	
				(505) 632-0615	0615			Cool - Ice/Blue Ice	<u> </u>	
									can interpretation 678, 100	120 420



Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	S. Wall	Date Reported:	02-09-06
Laboratory Number:	36172	Date Sampled:	02-07-06
Chain of Custody No:	15517	Date Received:	02-08-06
Sample Matrix:	Soil	Date Extracted:	02-08-06
Preservative:	Cool	Date Analyzed:	02-09-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

Salazar 4E.

Analyst

Review Bruce



Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	E. Wall, Southern Area	Date Reported:	02-09-06
Laboratory Number:	36173	Date Sampled:	02-07-06
Chain of Custody No:	15517	Date Received:	02-08-06
Sample Matrix:	Soil	Date Extracted:	02-08-06
Preservative:	Cool	Date Analyzed:	02-09-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

Salazar 4E.

Analyst



Quality Assurance Report

Client:	QA/QC		Project #:		N/A
Sample ID:	02-09-06 QA/0	QC	Date Reported:		02-09-06
Laboratory Number:	36169		Date Sampled:		N/A
Sample Matrix:	Methylene Chlor	ride	Date Received:		N/A
Preservative:	N/A		Date Analyzed:		02-09-06
Condition:	N/A		Analysis Reques	ted:	TPH
	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept, Range
Gasoline Range C5 - C10	02-04-05	9.9402E+002	9.9501E+002	0.10%	0 - 15%
Diesel Range C10 - C28	02-04-05	9.9029E+002	9.9228E+002	0.20%	0 - 15%
Blank Conc. (mg/L - mg/Kg)		Concentration		Detection Lim	i
Gasoline Range C5 - C10		ND		0.2	
Diesel Range C10 - C28		ND		0.1	
Total Petroleum Hydrocarbons		ND		0.2	
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range	
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%	
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%	
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

QA/QC for Samples 36169 - 36173.

Analyst

CHAIN OF CUSTODY RECORD

Client / Project Name Kimbull Oil	Project Location	1 73 d		ANALYSIS / PARAMETERS	RAMETERS	
Sampler: Margust	Client No. 02011-	100-1	o. of ainers		СС	Remarks
Sample No./ Sample Sample Identification Date Time	Lab Number	Sample Matrix	Cont			
5. Wall 2/1/06 1305	34172	50.1	_			
E. Will, Somen 2/1/04 1420	36173	1:05	7			
Relinquished by: (Signature)		Date Time Re	Received by: (Signature)	1. Ja 0 /m		Date Time
Relinquished by: (Signature)			Received by: (Signature)		\$	
Relinquished by: (Signature)		Д	Received by: (Signature)			
					Sample Receipt	Receipt
	- 120-					N/A
		5796 U.S. Highway 64 Farmington, New Mexico 87401	lighway 64 Mexico 87401		Received Intact	7
		(505) 632-0615	2-0615		Cool - Ice/Blue Ice	7
					San	san iuan reproduction 578-129



Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	W. Wall (Composite)	Date Reported:	02-17-06
Laboratory Number:	36245	Date Sampled:	02-15-06
Chain of Custody No:	15556	Date Received:	02-15-06
Sample Matrix:	Soil	Date Extracted:	02-16-06
Preservative:	Cool	Date Analyzed:	02-17-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

Salazar 4 E.

Analyst

Review (



Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	E. Wall (Composite)	Date Reported:	02-17-06
Laboratory Number:	36246	Date Sampled:	02-15-06
Chain of Custody No:	15556	Date Received:	02-15-06
Sample Matrix:	Soil	Date Extracted:	02-16-06
Preservative:	Cool	Date Analyzed:	02-17-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	141	0.2
Diesel Range (C10 - C28)	11.0	0.1
Total Petroleum Hydrocarbons	152	0.2

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

Salazar 4 E.

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Quality Assurance Report

Client:	QA/QC		Decidat #		N/A
	02-17-06 QA/0	20	Project #:		
Sample ID:		AC.	Date Reported:		02-17-06
Laboratory Number:	36244		Date Sampled:		N/A
Sample Matrix:	Methylene Chlor	ide	Date Received:		N/A
Preservative:	N/A		Date Analyzed:		02-17-06
Condition:	N/A		Analysis Reques	ted:	TPH
	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	02-04-05	1.0056E+003	1.0066E+003	0.10%	0 - 15%
Diesel Range C10 - C28	02-04-05	1.0006E+003	1.0026E+003	0.20%	0 - 15%
Blank Conc. (mg/L - mg/Kg)	Sagar Kappas Salik	Concentration		Detection Limi	
Gasoline Range C5 - C10		ND		0.2	elia e
Diesel Range C10 - C28		ND		0.1	
Total Petroleum Hydrocarbons		ND		0.2	
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range	
Gasoline Range C5 - C10	ND	ND	0.0%	0 - 30%	•••
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%	
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	ND	250	250	100.0%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

QA/QC for Samples 36244 - 36246.

Analyst



•			
Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	W. Wall (Composite)	Date Reported:	02-17-06
Laboratory Number:	36245	Date Sampled:	02-15-06
Chain of Custody:	15556	Date Received:	02-15-06
Sample Matrix:	Soil	Date Analyzed:	02-17-06
Preservative:	Cool	Date Extracted:	02-16-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)	
Benzene	ND	1.8	
Toluene	2.0	1.7	
Ethylbenzene	ND	1.5	
p,m-Xylene	55.4	2.2	
o-Xylene	28.7	1.0	
Total BTEX	86.1		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
1 2	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

References:

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA,

December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846,

USEPA, December 1996.

Comments:

Salazar 4E.

Aleur C. Cofund Analyst



Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	E. Wall (Composite)	Date Reported:	02-17-06
Laboratory Number:	36246	Date Sampled:	02-15-06
Chain of Custody:	15556	Date Received:	02-15-06
Sample Matrix:	Soil	Date Analyzed:	02-17-06
Preservative:	Cool	Date Extracted:	02-16-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

		Det.	
	Concentration	Limit	
Parameter	(ug/Kg)	(ug/Kg)	
Benzene	207	1.8	
Toluene	22,580	1.7	
Ethylbenzene	8,240	1.5	
p,m-Xylene	57,460	2.2	
o-Xylene	13,220	1.0	
Total BTEX	101,710		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99.0 %
	1,4-difluorobenzene	99.0 %
	Bromochlorobenzene	99.0 %

References:

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA,

December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846,

USEPA, December 1996.

Comments:

Salazar 4E.

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Client: Sample ID:	N/A 02-17-BTEX QA/QC	Project #: Date Reported:	N/A 02-17-06
Laboratory Number:	36244	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-17-06
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	Section of the sectio	C-Cal RF: Accept. Rang	%Diff. ge 0 - 15%	Blank Conc	Detect. Limit
Benzene	3.3143E+006	3.3209E+006	0.2%	ND	0.2
Toluene	3.3143E+006	3.3209E+006	0.2%	ND	0.2
Ethylbenzene	1.3592E+007	1.3619E+007	0.2%	ND	0.2
p,m-Xylene	4.8154E+007	4.8251E+007	0.2%	ND	0.2
o-Xylene	3.1896E+007	3.1960E+007	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample D	uplicate	%Diff.	Accept Range	Detéct. Limit	
Benzene	ND	ND	0.0%	0 - 30%	1.8	
Toluene	15.5	15.4	0.6%	0 - 30%	1.7	
Ethylbenzene	5.4	5.4	0.0%	0 - 30%	1.5	
p,m-Xylene	16.7	16.6	0.6%	0 - 30%	2.2	
o-Xylene	6.4	6.4	0.0%	0 - 30%	1.0	

Spike Conc. (ug/Kg)	Sample Amo	ount Spiked - Spik	ed Sample	% Recovery	Accept Range
Benzene	ND	50.0	49.9	99.8%	39 - 150
Toluene	15.5	50.0	65.5	100.0%	46 - 148
Ethylbenzene	5.4	50.0	55.3	99.8%	32 - 160
p,m-Xylene	16.7	100	116	99.7%	46 - 148
o-Xylene	6.4	50.0	56.4	100.0%	46 - 148

ND - Parameter not detected at the stated detection limit.

References:

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA,

December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using

Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments:

QA/QC for Samples 36244 - 36246.

Analyst

CHAN OF CUSTODY RECORD

Client / Project Name Kinbull & I	Project Location	1r 4E			ANALYSIS / PARAMETERS	ARAMETERS		
Sampler: M. Marquet	Client No.	100-	to .of	اکہ	श्राट		Remarks	
Sample No./ Sample Sample Identification Date Time	Lab Number	Sample Matrix		08	ol			
W. Well (Composite) 2/15/06 1252	36245	5021		7)			
E. Wall (Carposite) 2/15/66 1250		1108		7	7			
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			_					
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						Samp	Sample Receipt	
	. (254						z ≻	Z/A
		5796 U.S. Highway 64 Farmington New Mexico 87401	Highway Wexico	64 87401		Received Intact	>	
		(505) 632-0615	32-0615	5		Cool - Ice/Blue Ice	lce	
							san juan reproduction 578-129	578-129



Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	TH, 10' from Meter	Date Reported:	02-22-06
Laboratory Number:	36284	Date Sampled:	02 - 20-06
Chain of Custody No:	15567	Date Received:	02-20-06
Sample Matrix:	Soil	Date Extracted:	02-21-06
Preservative:	Cool	Date Analyzed:	02-22-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	
Gasoline Range (C5 - C10)	4,020	0.2	
Diesel Range (C10 - C28)	550	0.1	
Total Petroleum Hydrocarbons	4,570	0.2	

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

Salazar 4E.

Analyst

Muture m Walter Review



Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	N. Wall Grab	Date Reported:	02-22-06
Laboratory Number:	36285	Date Sampled:	02-20-06
Chain of Custody No:	15567	Date Received:	02-20-06
Sample Matrix:	Soil	Date Extracted:	02-21-06
Preservative:	Cool	Date Analyzed:	02-22-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	
Gasoline Range (C5 - C10)	253	0.2	
Diesel Range (C10 - C28)	13.5	0.1	
Total Petroleum Hydrocarbons	267	0.2	

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

Salazar 4E.

Analyst

Mistane m Walters
Review



	•		
Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	TH, 25' NE of Wellhead	Date Reported:	02-22-06
Laboratory Number:	36286	Date Sampled:	02-20-06
Chain of Custody No:	15567	Date Received:	02-20-06
Sample Matrix:	Soil	Date Extracted:	02-21-06
Preservative:	Cool	Date Analyzed:	02-22-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

Salazar 4E.

Analyst

Review Muniture m Walters



Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	TH, 20' N of Wellhead	Date Reported:	02-22-06
Laboratory Number:	36287	Date Sampled:	02-20-06
Chain of Custody No:	15567	Date Received:	02-20-06
Sample Matrix:	Soil	Date Extracted:	02-21-06
Preservative:	Cool	Date Analyzed:	02-22-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	
Gasoline Range (C5 - C10)	ND	0.2	
Diesel Range (C10 - C28)	ND	0.1	
Total Petroleum Hydrocarbons	ND	0.2	

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

Salazar 4E.

Analyst

Misture M Walter
Review



Quality Assurance Report

Client:	QA/QC		Project #:		N/A
Sample ID:	02-22-06 QA/0	JC	Date Reported:		02-22-06
Laboratory Number:	36284		Date Sampled:		N/A
Sample Matrix:	Methylene Chlor	ride	Date Received:		N/A
Preservative:	N/A		Date Analyzed:		02-22-06
Condition:	N/A		Analysis Reques	sted:	TPH
	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept, Range
Gasoline Range C5 - C10	02-04-05	1.0031E+003	1.0042E+003	0.10%	0 - 15%
Diesel Range C10 - C28	02-04-05	1.0043E+003	1.0063E+003	0.20%	0 - 15%
Blank Conc. (mg/L - mg/Kg)		Concentration		Detection Limit	
Gasoline Range C5 - C10		ND		0.2	9-
Diesel Range C10 - C28		ND		0.1	
Total Petroleum Hydrocarbons		ND		0.2	
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range	
Gasoline Range C5 - C10	4,020	4,030	0.2%	0 - 30%	
Diesel Range C10 - C28	550	548	0.3%	0 - 30%	,
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	4,020	250	4,260	99.8%	75 - 125%
Diesel Range C10 - C28	550	250	799	99.9%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

QA/QC for Samples 36284 - 36289.

Ånalvst



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	TH, 10' from Meter	Date Reported:	02-22-06
Laboratory Number:	36284	Date Sampled:	02-20-06
Chain of Custody:	15567	Date Received:	02-20-06
Sample Matrix:	Soil	Date Analyzed:	02-22-06
Preservative:	Cool	Date Extracted:	02-21-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)	
Benzene	3,410	1.8	
Toluene	8,480	1.7	
Ethylbenzene	4,580	1.5	
p,m-Xylene	10,040	2.2	
o-Xylene	4,080	1.0	
Total BTEX	30,590		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	97.0 %
	1,4-difluorobenzene	97.0 %
	Bromochlorobenzene	97.0 %

References:

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA,

December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846,

USEPA, December 1996.

Comments:

Salazar 4E.

Analyst C. Og

Review Walter



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	N. Wall, Grab	Date Reported:	02-22-06
Laboratory Number:	36285	Date Sampled:	02-20-06
Chain of Custody:	15567	Date Received:	02-20-06
Sample Matrix:	Soil	Date Analyzed:	02-22-06
Preservative:	Cool	Date Extracted:	02-21-06
Condition:	Cool & Intact	Analysis Requested:	BTEX

	Concentration	Det. Limit	
Parameter	(ug/Kg)	(ug/Kg)	
Benzene	934	1.8	
Toluene	2,860	1.7	
Ethylbenzene	1,360	1.5	
p,m-Xylene	4,810	2.2	
o-Xylene	1,310	1.0	
Total BTEX	11,270		

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	98.0 %
	1,4-difluorobenzene	98.0 %
	Bromochlorobenzene	98.0 %

References:

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA,

December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846,

USEPA, December 1996.

Comments:

Salazar 4E.

Analyst C. Oyluna

(Mislim mb) alter Review



EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	02-22-BTEX QA/QC	Date Reported:	02-22-06
Laboratory Number:	36284	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	02-22-06
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	l-Cal RF:	C-Cal RF: Accept. Rang	%Diff. ge 0 - 15%	Blank Conc	Defect. Limit
Benzene	3.4447E+007	3.4516E+007	0.2%	ND	0.2
Toluene	5.0748E+007	5.0850E+007	0.2%	ND	0.2
Ethylbenzene	4.7430E+007	4.7525E+007	0.2%	ND	0.2
p,m-Xylene	1.1635E+008	1.1659E+008	0.2%	ND	0.2
o-Xylene	6.6789E+007	6.6923E+007	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit	
Benzene	3,410	3,410	0.0%	0 - 30%	1.8	
Toluene	8,480	8,480	0.0%	0 - 30%	1.7	
Ethylbenzene	4,580	4,580	0.0%	0 - 30%	1.5	
p,m-Xylene	10,040	10,040	0.0%	0 - 30%	2.2	
o-Xylene	4,080	4,080	0.0%	0 - 30%	1.0	

Spike Conc. (ug/Kg)	Sample Amo	ount Spiked Sp	iked Sample	% Recovery	Accept Range
Benzene	3,410	50.0	3,450	99.7%	39 - 150
Toluene	8,480	50.0	8,510	99.8%	46 - 148
Ethylbenzene	4,580	50.0	4,620	99.8%	32 - 160
p,m-Xylene	10,040	100	10,120	99.8%	46 - 148
o-Xylene	4,080	50.0	4,120	99.8%	46 - 148

ND - Parameter not detected at the stated detection limit.

References:

Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA,

December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using

Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments:

QA/QC for Samples 36284 - 36285, 36288 - 36289.

Analyst

CHAIN OF CUSTODY RECORD

Client / Project Name Lindpell Oil Sampler:		Project Location Salazar Client No.	4E	1	کہ ا		ANALYSIS / PARAMETERS		Remarks	
Sample	Sample	Lab Number		.oN Contai	891	Z08				
3	1354	36284	1,108		7)				
:	1357	36285	50:1	-))				
,	1400	3,579,8	1 505		7					
=	1404	3687	301	****	7					
			Date Time Re 2/20/06 1/2 1/6 Re	Received by: (Signature)	(Signatu	(e)		0 2/2	Date Time	Time 6 / 6
			ä	Received by: (Signature)	(Signatu	ıre)				
								Sample Receipt	ceipt	
									z ≻	N N
			5796 U.S. Highway 64	lighway (34		Ğ	Received Intact	1	
			(505) 632-0615	2-0615	P S	_	Ö	Cool - Ice/Blue Ice	1	
								san ji	san juan reproduction 578-129	578-129



EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	E. Wall Composite	Date Reported:	03-07-06
Laboratory Number:	36390	Date Sampled:	03-06-06
Chain of Custody No:	15648	Date Received:	03-06-06
Sample Matrix:	Soil	Date Extracted:	03-06-06
Preservative:	Cool	Date Analyzed:	03-07-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)		
Gasoline Range (C5 - C10)	ND	0.2		
Diesel Range (C10 - C28)	ND	0.1		
Total Petroleum Hydrocarbons	ND	0.2		

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

Lybrook.

Analyst

Review

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865



EPA METHOD 8015 Modified Nonhalogenated Volatile Organics **Total Petroleum Hydrocarbons**

Client:	Kimbell Oil	Project #:	06011-001
Sample ID:	N. Wall Comp.	Date Reported:	03-07-06
Laboratory Number:	36391	Date Sampled:	03-06-06
Chain of Custody No:	15648	Date Received:	03-06-06
Sample Matrix:	Soil	Date Extracted:	03-06-06
Preservative:	Cool	Date Analyzed:	03-07-06
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

Lybrook.



EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC		Project #:		N/A
Sample ID:	03-07-06 QA/0	QC .	Date Reported:		03-07-06
Laboratory Number:	36386		Date Sampled:		N/A
Sample Matrix:	Methylene Chlor	ride	Date Received:		N/A
Preservative:	N/A		Date Analyzed:		03-07-06
Condition:	N/A		Analysis Reques	sted:	TPH
	I-Cal Date	I-Cal RF:	©-Cal RF:	% Difference	Accept Range
Gasoline Range C5 - C10	02-04-05	1.0011E+003	1.0021E+003	0.10%	0 - 15%
Diesel Range C10 - C28	02-04-05	1.0067E+003	1.0087E+003	0.20%	0 - 15%
Blank Conc. (mg/L - mg/Kg)		Concentration		Detection Limit	
Gasoline Range C5 - C10		ND		0.2	
Diesel Range C10 - C28		ND		0.1	
Total Petroleum Hydrocarbons		ND		0.2	
Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range	
Gasoline Range C5 - C10	5.1	5.1	0.0%	0 - 30%	
Diesel Range C10 - C28	97.7	99.2	1.5%	0 - 30%	
Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	5.1	250	255	99.9%	75 - 125%
Diesel Range C10 - C28	97.7	250	347	99.9%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

QA/QC for Samples 36386 - 36391.

Ånalvst

Review

CHAN OF CUSTODY RECORD

Client / Project Name		ANALYSIS / PARAMETERS
	Client Ne.	Remarks
35	to .co	
Sample No./ Sample Sample Identification Date Time	Sample Z Lab Number Matrix	
E WILL CAMPOSITE 3466 1115	36390 Sil	
N (1) GIT CAMP 36/40 1135	36391	
	-	
Relinquished by: (Signature)	Date Time Received by: (Signature)	
Relinquished by: (Signature)		26/06 1333
Dollar ind bod by (Circusture)	Booker (Signature)	
reinquisited by: (orginature)	neceived by. (orginalus)	
		Sample Receipt
		A/N N Y
	5796 U.S. Highway 64 Earmington, New Mexico 87401	Received Intact
	(505) 632-0615	Cool - Ice/Blue Ice
		san juan reproduction 578-129

Section 2

418.1 Field TPH Analysis



EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client:

Kimbell Oil Company of Texas

Project #:

06011-001

Sample No.:

1

Date Reported:

2/1/2006

Sample ID:

Grab, 22' BGS

Date Sampled:

2/1/2006

Sample Matrix:

Soil

Date Sampled:

Date Analyzed:

2/1/2006

Preservative:

Cool

Analysis Needed:

TPH-418.1

Condition:

Cool and Intact

		Det.
	Concentration	Limit
Parameter	(mg/kg)	(mg/kg)

Total Petroleum Hydrocarbons

4,930

50.0

ND = Parameter not detected at the stated detection limit.

References:

Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water

and Waste, USEPA Storet No. 4551, 1978.

Comments:

Salazar No. 4E

Analyst

5796 U.S. Highway 64 · Farmington, NM 87401 · Tel 505 · 632 · 0615 · Fax 505 · 632 · 1865



EPA METHOD 418.1 TOTAL PETROLEUM HYROCARBONS QUALITY ASSURANCE REPORT

Client:

Kimbell Oil Company of TX

Project #:

06011-001

Sample ID:

QA/QC

Date Reported:

2/1/2006

Laboratory Number:

01-24-TPH.QA/QC

Date Sampled:

N/A

Sample Matrix:

Freon-113

Date Analyzed:

1/24/2005

Preservative: Condition:

N/A N/A

Date Extracted: Analysis Needed: 1/24/2005

Calibration

I-Cal Date

C-Cal Date

I-Cal RF:

C-Cal RF: % Difference Accept. Range

TPH

05-22-04

1/24/2005

1,735

1,639

5.5%

+/- 10%

Blank Conc. (mg/Kg)

TPH

Concentration

ND

Detection Limit

5.0

Duplicate Conc. (mg/Kg)

TPH

Sample 2,471

Duplicate 2,352

% Difference Accept. Range

4.8% +/- 30%

Spike Conc. (mg/Kg)

Sample

Spike Added

Spike Result

% Recovery Accept Range

TPH

2,471

2,000

5,030

112.5% 80 - 120%

ND = Parameter not detected at the stated detection limit.

References:

Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis os Water

and Waste, USEPA Storet No. 4551, 1978.

Comments:

QA/QC for Salazar No. 4E

Section 3

Site Photography

Kimbell Oil Company of Texas Spill Clean-Up at the Salazar No. 4E Project No. 06011-001

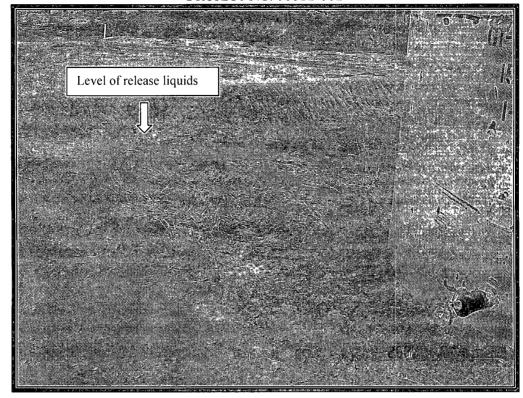


Photo 1: View of the initial release and level visible on inside of berm

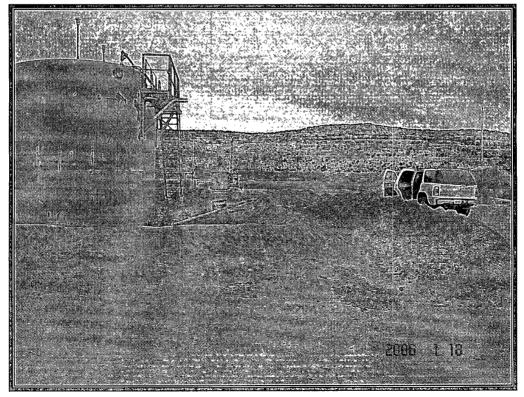


Photo 2: A trench dug at site before Envirotech's arrival

Kimbell Oil Company of Texas Spill Clean-Up at the Salazar No. 4E Project No. 06011-001

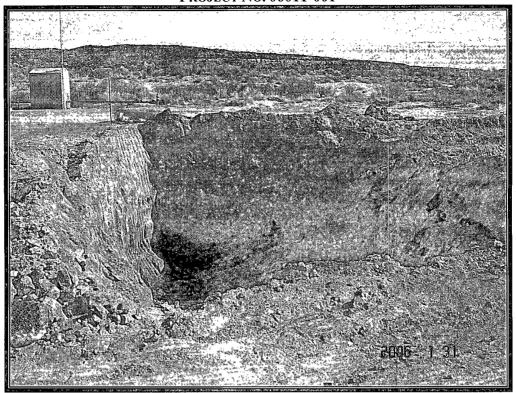


Photo 3: Initial excavation, visible contamination at 10' BGS

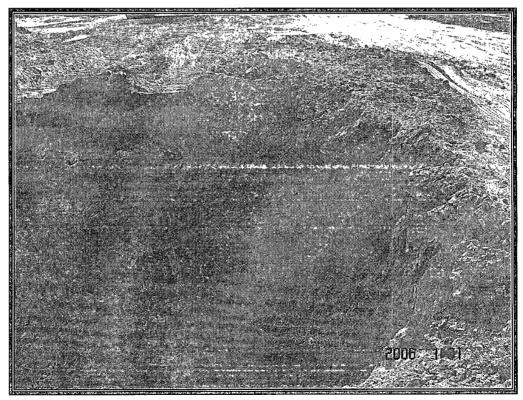


Photo 4: Penetration of condensate release visible



Photo 5: Initial benchdown on southwestern side of excavation

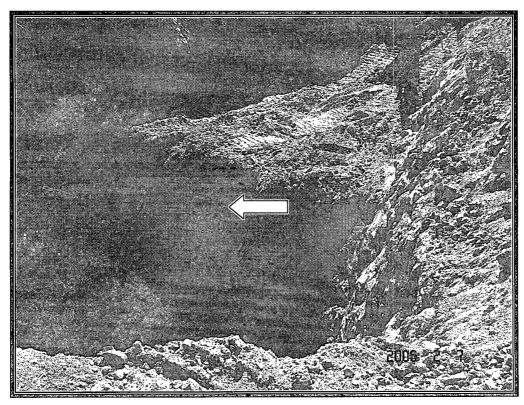


Photo 6: Indentation in middle of picture shows sample location of south wall

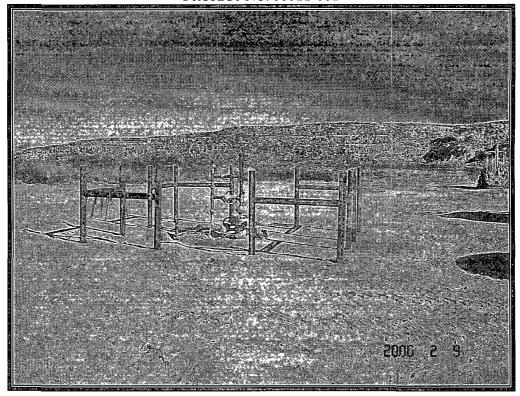


Photo 7: Barrier placed to protect wellhead as requested by Mr. Denny Foust, NMOCD

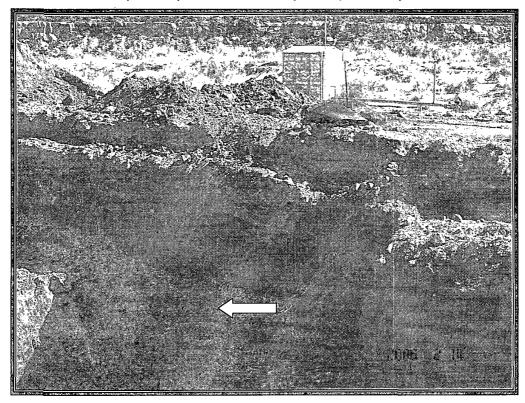


Photo 8: East wall area, approximate area when BTEX was 101,710 ppb

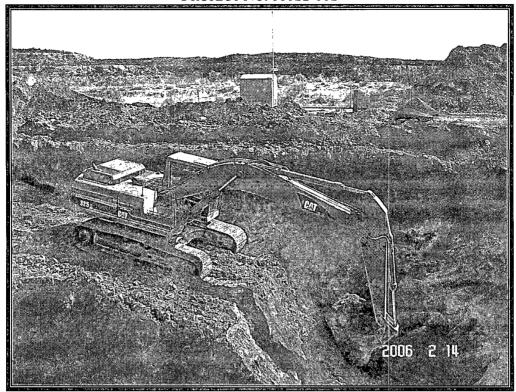


Photo 9: Note, a Cat 325B Excavator benched down to reach depth of contamination

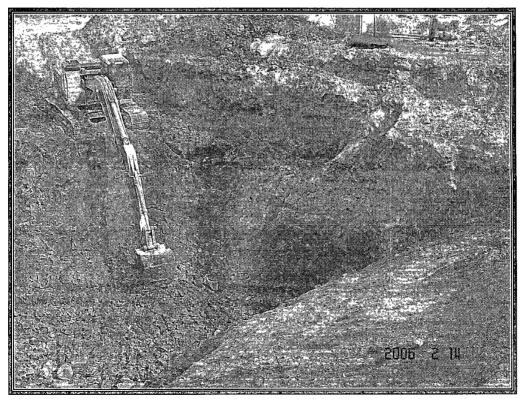


Photo 10: Cat 325B Excavator with boom near full extension, bottom is 28' BGS

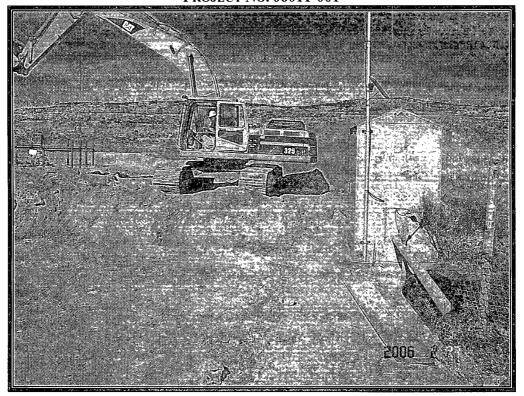


Photo 11: Note proximity of meter house to excavation

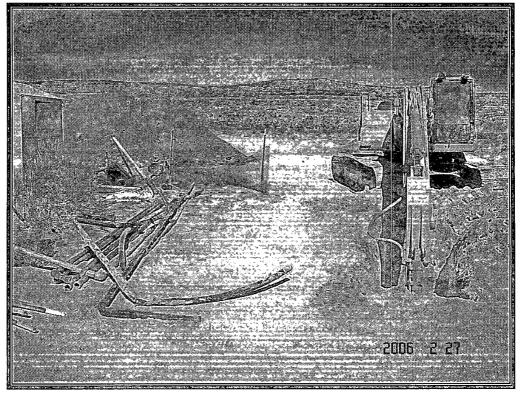


Photo 12: Test Hole (TH-9), approximately 17' east of meter house, at 20' depth; OVM 43 ppm

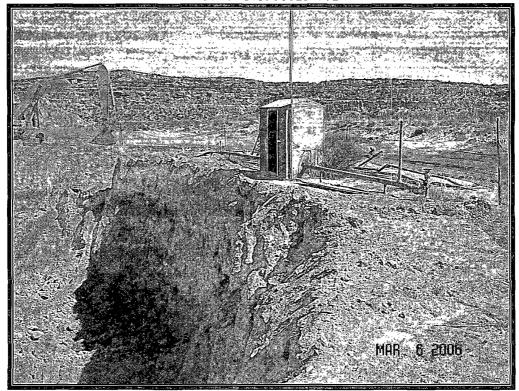


Photo 13: East wall, excavated to below NMOCD guidelines

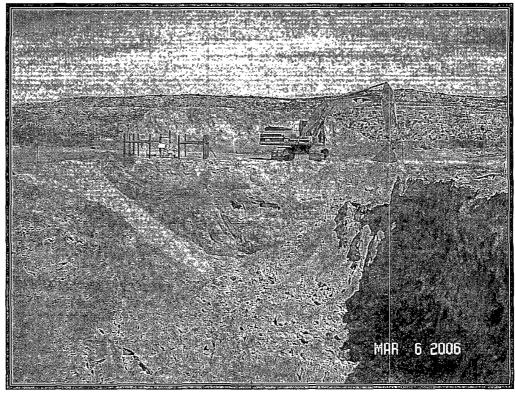


Photo 14: North wall, extent of excavation is below NMOCD guidelines

Kimbell Oil Company of Texas Spill Clean-Up at the Salazar No. 4E • Project No. 06011-001

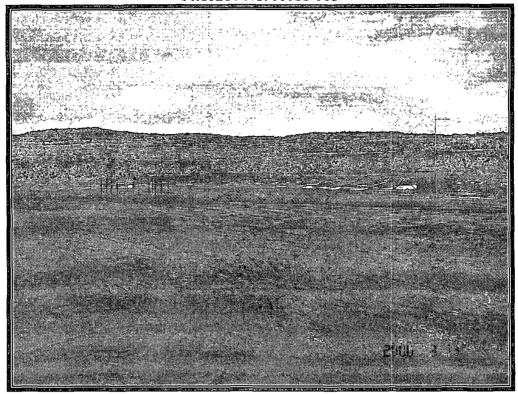


Photo 15: Excavation returned to pre-incident grade and conditions

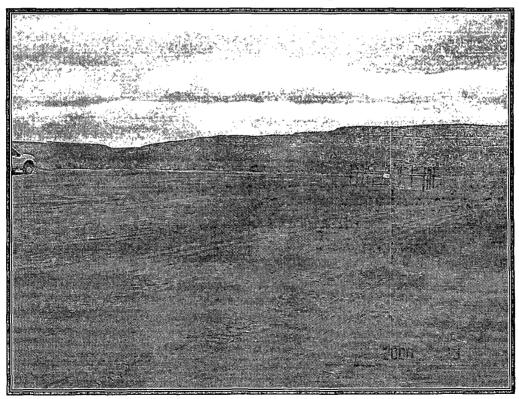


Photo 16: Excavation returned to pre-incident grade and conditions

Section 4

Secondary Containment Calculations

Section 4 Containment Calculation - Salazar No. 4E Oil and Gas Production Well

Secondary Containment Calculations for Diked Storage Areas

Note: Two (2) 300 bbl tanks on site, the tanks are not interconnected but controlled by valves.

Total Required Volume Calculated from One (1) 300 bbl Crude Oil Tank

Tank Battery

Dike Specifications (fee	et)				equired Volume (bbl adius (feet):):	300
Length		46			adius (reet): r of Tanks:		6 2
Width		35					
Height of Berm		1.5					
			Base of	f Tank Area = 3.14	1(r²)		113.1 ft²
Sufficient Freeboard:							
100 yr.; 24 Hour Storm	Event = 2" ((estimate)					
Displacement from 100) year Storm	n = (Berm Length:	x Berm Width x	2 inches) =		268.3 ft ³	
1) Total Dike Volume =	= Length >	x Width x Height					
	46 feet	x	35 feet	x	1.5 feet	=	2,415 ft ³
Displacement volume due to tanks = (Number of Tanks - 1) x Tank Base Area x Berm Height NOTE: Displacement volume due to tanks = 0 ft³ if only one tank is inside containment, due to hydrostatic equilibrium							
	1 tank(s)	x	113.1 ft²	x	1.5 ft =		169.6 ft ³
3) Available Dike Volume = (Total Dike Volume) - (Displacement Volume due to tanks) - (Displacement from 100yr Storm)							
	=	2,415 ft ³	-	169.6 ft ³ -		268.3 ft ³	
	=	1,977.0 ft ³					
4) Available dike volum		than the required	352 bbl	dume of	1977 ft³		14788 gallons
	is more	tinan the required	300 bbl	nume or	1684 ft ³		12600 gallons