

RAM SERVICES CORPORATION

CIMAREX ENERGY CO.

WINNINGHAM NO. 9 WELL SITE

C-141 REMEDIATION

SOIL INVESTIGATION PLAN

PROJECT REF: RAM-06-001

UL-B (NW¼ OF THE NE¼) OF SECTION 30 T25S R37E

LATITUDE: N32° 06.411' LONGITUDE: 103° 11.980'

~1.1 MILES SW (BEARING 214°) OF THE INTERSECTION OF NM HWY 18
AND NM HWY 128

CITY OF JAL

LEA COUNTY, NEW MEXICO

November 7, 2006

PREPARED FOR RAM SERVICES INCORPORATED BY:

Hungry Horse, LLC

P.O. Box 1058, Hobbs, New Mexico 88241

Phone/Fax (505) 393-3386; Mobile (505) 390-6149



RP#1065

Revised

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1.0 Introduction and Background

This report addresses a proposed Soil and Ground Water Investigation prior to submittal of a C-141 Remediation Plan for the 60-bbl release of production well work-over fluids that occurred at the Cimarex Energy Co. (CIMAREX) Winningham No. 9 well-site. The release occurred during the night of August 22, 2006 when the valves of a parked Ram Services Inc. (RAM) vacuum truck were maliciously opened. This plan proposes to delineate the vertical and horizontal extents of the chloride contamination on the CIMAREX location that resulted from the above described release.

The CIMAREX Willingham No. 9 production well and associated drilling pit are located on State owned land in Unit Letter B, (NW¼ of the NE¼), Section 30, T25S, R37E. . The GPS coordinates are: Latitude: N32° 06.411'; Longitude: 103° 11.980'. A location map, topographical map, aerial photo of the site and a site detail drawing are included as Plates 1-4 in the Attachments.

CONTACT INFORMATION

RAM Services Incorporated:

Brad Roberts, RAM Services Inc., Owner
Phone: 505-395-3502 email: ariesbradstar@aol.com
Mailing Address: P.O. Drawer 1265, Jal, NM 88252-1265

Hungry Horse, LLC:

Jerry Brian, General Manager/Registered Environmental Manager
Phone: 505-393-3386 email: jrbrian@verizon.net
Mailing Address: P.O. Box 1058, Hobbs, NM 88241

2.0 Site Description

2.1 Geological Description

The United States Geological Survey (USGS) Ground-Water Report 6, "Geology and Ground-Water Conditions in Southern Lea County, New Mexico," A. Nicholson and A. Clebsch, 1961, describes the near surface geology of southern Lea County as "an intergrade of the Quaternary Alluvium (QA) sediments, i.e., fine to medium sand, with the mostly eroded Cenozoic Ogallala (CO) formation. Typically, the QA and CO formations in the area are capped by a thick interbed of caliche and generally overlain by sandy soil." The release site is located at the southern extent of the Eunice Plain physiographic subdivision, described by Nicholson & Clebsch as an area "underlain by a hard caliche surface that is almost entirely covered by reddish-brown dune sand". The thickness of the sand cover ranges from 2-5 feet in most areas to as much as 20-30 feet in drift areas. (*Nicholson & Clebsch - 1961*).

2.2 Ecological Description

The area is typical of the Upper Chihuahuan Desert Biome consisting primarily of hummocky sand hills covered with Harvard Shin Oak (*Quercus harvardi*) interspersed with Honey Mesquite (*Prosopis glandulosa*) along with typical desert grasses, flowering annuals and flowering perennials. Mammals represented, include Orrd's and Merriam's Kangaroo Rat, Deer Mouse, White Throated Wood Rat, Cottontail Rabbit, Black Tailed Jackrabbit, Mule Deer, Bobcat, Red Fox and Coyote. Reptiles, Amphibians, and Birds are numerous

and typical of area. A survey of Listed, Threatened, or Endangered species was not conducted.

2.3 Area Ground Water

Based on available evidence, depth to ground water is projected to be >175-feet below ground surface (bgs).

2.4 Area Water Wells

There are no recorded or observed water wells within 1000 horizontal feet of the site.

2.5 Area Surface Water Features

No permanent surface water bodies exist within 1000 horizontal feet of the site.

3.0 Contaminant and Size of Area

The primary Contaminants of Concern (COC's) are total chlorides and, to a lesser extent, petroleum based hydrocarbons. The release affected area is irregular in shape with one area extending approximately 120-ft north of the battery fence line. The east-west extent is a maximum of 210-ft just north of the battery fence line. The calculated area of the total release is ~19,091-ft² (see Plate 4, Attachments).

The work-over fluids associated with this release are considered RCRA Exempt oilfield waste. No evidence of other contaminants was observed.

4.0 NMOCD Site Ranking Table

Preliminary investigation and evaluation of this site indicate that the chemical parameters of the soil and the physical parameters of the ground water are characterized consistent with the characterization and remediation/abatement goals and objectives set forth in the following New Mexico Oil Conservation Division (NMOCD) publications:

- *Guidelines for Remediation of Leaks, Spills and Releases (August 13, 1993)*
- *Unlined Surface Impoundment Closure Guidelines (February 1993)*

Acceptable thresholds for contaminants/constituents of concern (CoCs), i.e., TPH^{8015m}, Benzene, and the mass sum of Benzene, Toluene, Ethyl Benzene, and total Xylenes (BTEX⁸²⁶⁰), was determined based on the NMOCD Ranking Criteria as follows:

- *Depth to Ground water, i.e., distance from the lower most acceptable concentration to the ground water.*
- *Wellhead Protection Area, i.e., distance from fresh water supply wells.*
- *Distance to Surface Water Body, i.e., horizontal distance to all down gradient surface water bodies.*

Based on the proximity of the site to area water wells, surface water bodies, and depth to ground water from the lower most contamination, the NMOCD ranking score for the site is 0 points with the soil remedial goals highlighted in the Site Ranking Table on the following page

NMOCD Site Ranking Table

1. GROUND WATER		2. WELLHEAD PROTECTION		3. DISTANCE TO SURFACE WATER	
DEPTH TO GW <50 FEET: 20 POINTS		IF <1000' FROM WATER SOURCE, OR; <200' FROM PRIVATE DOMESTIC WATER SOURCE: 20 POINTS		<200 HORIZONTAL FEET: 20 POINTS	
DEPTH TO GW 50 TO 99 FEET: 10 POINTS				200-1000 HORIZONTAL FEET: 10 POINTS	
DEPTH TO GW >100 FEET: 0 POINTS		IF >1000' FROM WATER SOURCE, OR; >200' FROM PRIVATE DOMESTIC WATER SOURCE: 0 POINTS		>1000 HORIZONTAL FEET: 0 POINTS	
GROUND WATER SCORE = 0		WELLHEAD PROTECTION SCORE= 0		SURFACE WATER SCORE= 0	
SITE RANK (1+2+3) = 0 + 0 + 0 = 0 POINTS					
TOTAL SITE RANKING SCORE AND ACCEPTABLE REMEDIAL GOAL CONCENTRATIONS					
PARAMETER	200	10			0
BENZENE	10 PPM	10 PPM			10 PPM
BTEX	50 PPM	10 PPM			50 PPM
TPH	100 PPM	100 PPM			5000 PPM

5.0 Proposed Soil Investigation

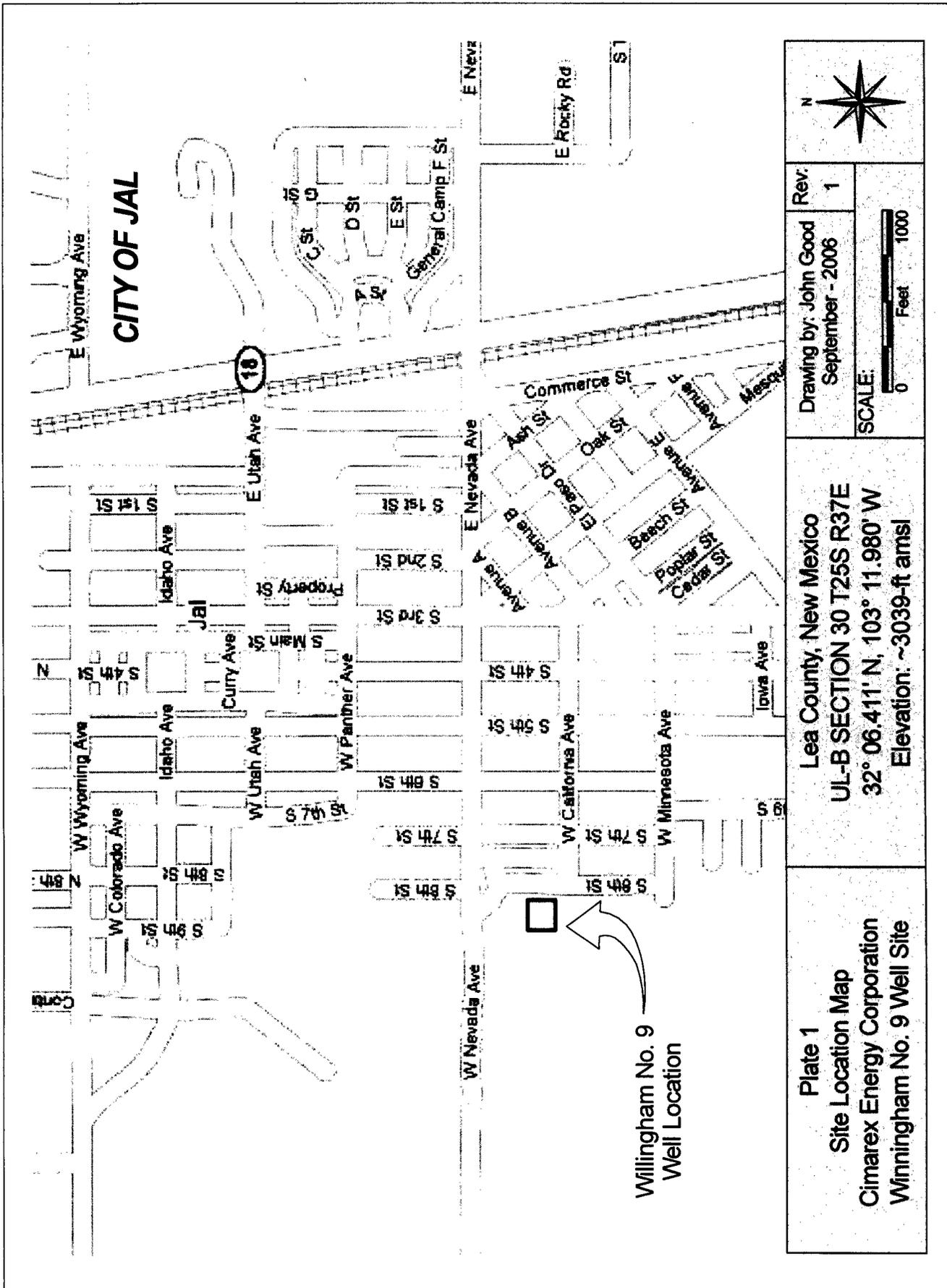
The delineation of the vertical and horizontal contamination extents will be accomplished with the drilling and sampling of thirteen boreholes within or beyond the perimeter of the contaminated area. Drilling will be accomplished with the use of a hollow stem auger. The release affected area is readily identifiable due to significant NaCl crystallization on the surface of the area. The release area extents and proposed boreholes are displayed in Plate 5- Attachments.

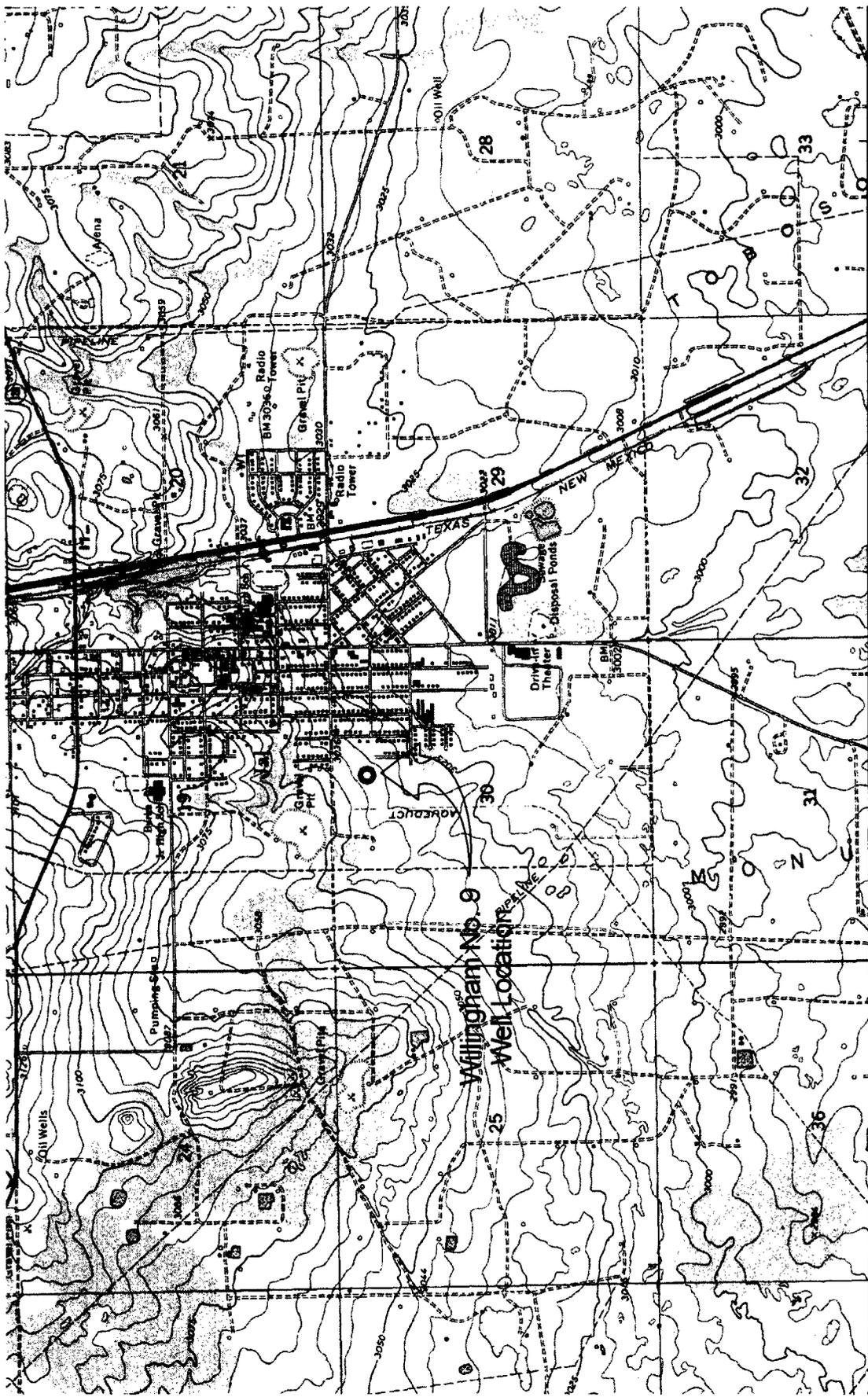
Four boreholes will be drilled several feet beyond the perimeter of the release area to determine background total chloride concentrations. Three boreholes will be drilled at the perimeter of the release area and six boreholes will be drilled within the release area. (See Plate 5) All boreholes will be sampled at 5-ft intervals. Each sample will be field-tested for Total Chlorides utilizing high and low range test strips. Final depth of each boring will be determined by the achievement of a <250-ppm chloride concentration. All samples from this delineation process will be submitted to Cardinal Laboratories, Hobbs, NM under Chain of Custody for certified analysis.

Hydrocarbon delineation will be accomplished by obtaining several representative near-surface (0-3 ft) samples from the release area and analyzing them for TPH⁸⁰¹⁵; BTEX⁸²⁷⁰ and Benzene. Near-surface sampling locations will be logged and included with the borehole sampling results in the C141 Remediation Work Plan to be submitted subsequent to the findings of this Soil Investigation Plan.

ATTACHMENTS

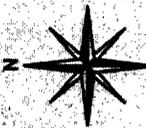
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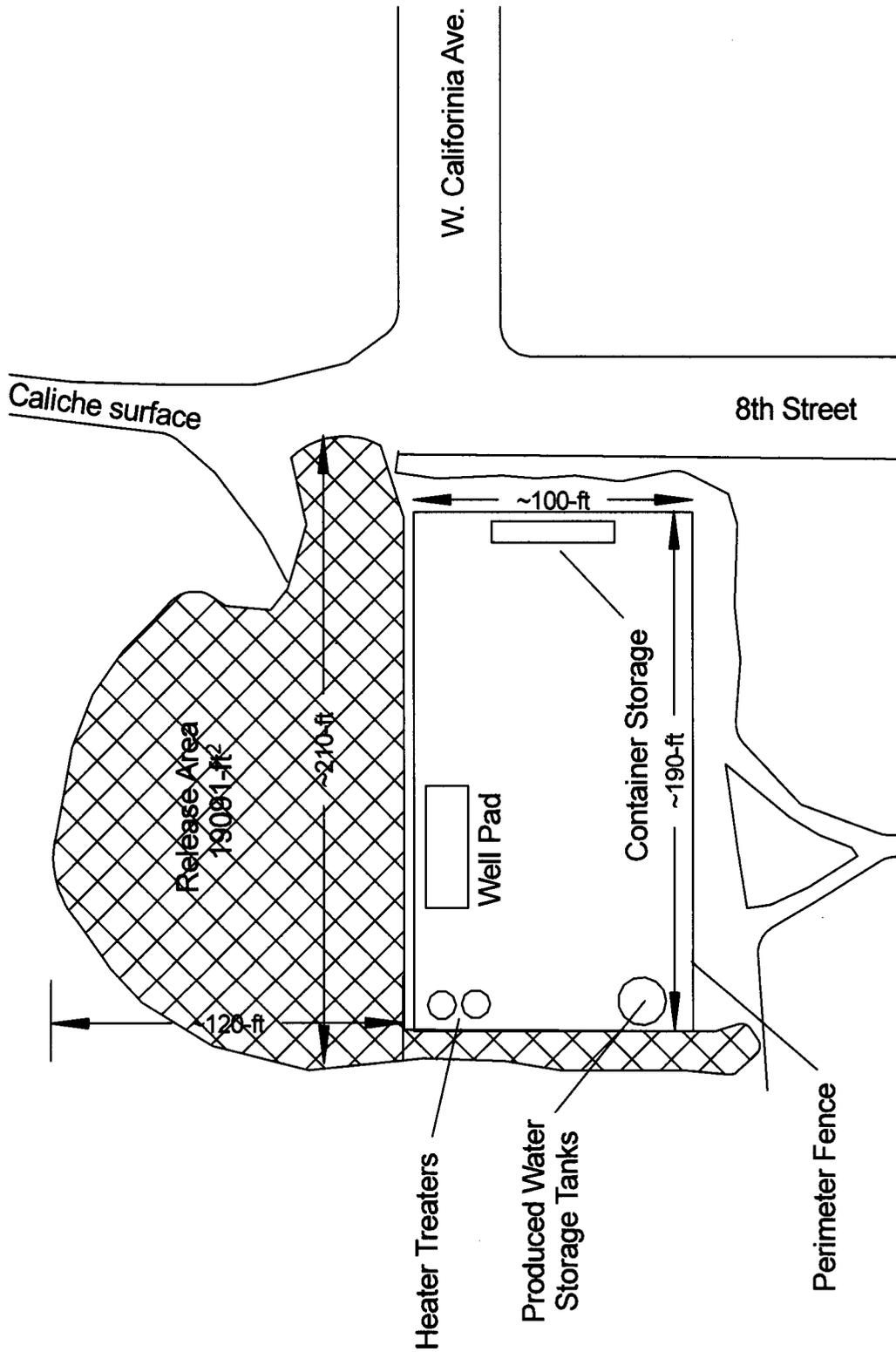




<p>Plate 2</p> <p>USGS Site Topography Map</p> <p>Cimarex Energy Corporation</p> <p>Winningham No. 9 Well Site</p>	<p>Lea County, New Mexico</p> <p>UL-B SECTION 30 T25S R37E</p> <p>32° 06.411' N, 103° 11.980' W</p> <p>Elevation: ~3039-ft amsl</p>		<p>Rev: 1</p> <p>Drawing by: John Good</p> <p>September - 2006</p> <p>SCALE:</p> <p>0 Feet 4000</p>
	<p>Drawing by: John Good</p> <p>September - 2006</p>		

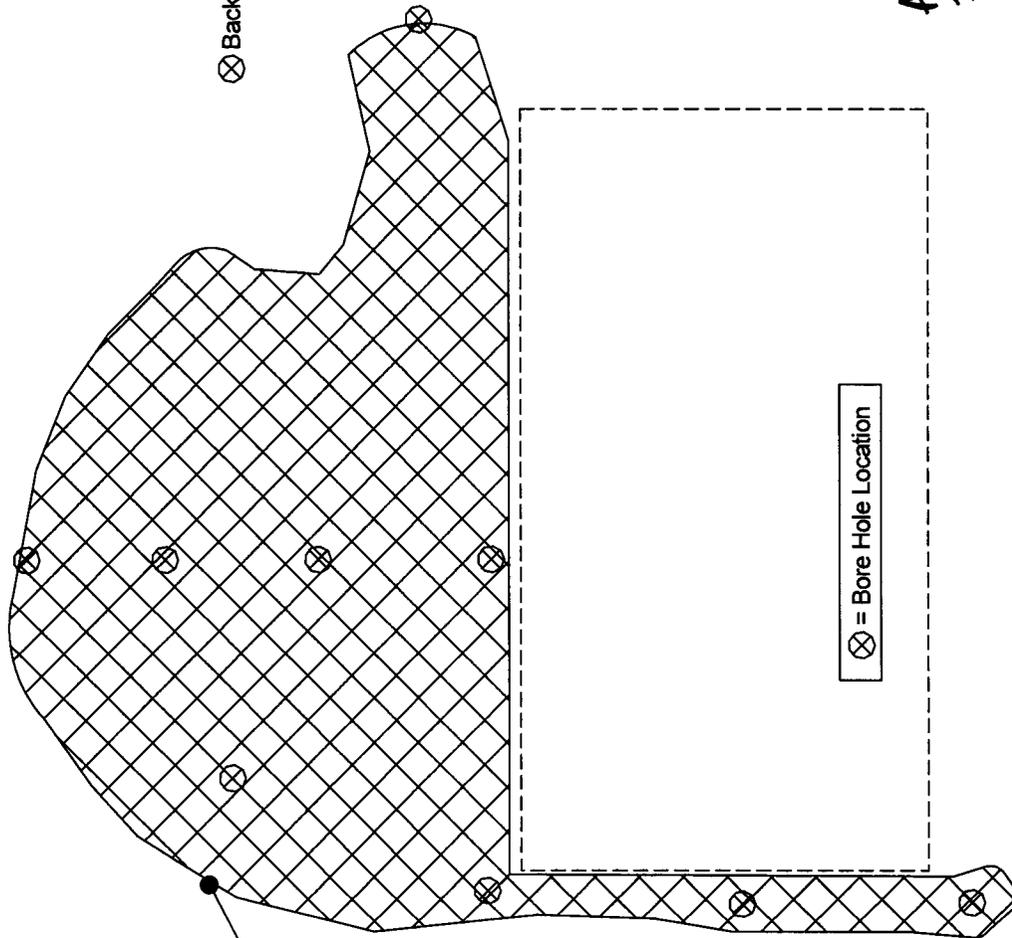


<p>Plate 3 Well Site/Pit Aerial Photo Cimarex Energy Corporation Winningham No. 9 Well Site</p>	<p>Lea County, New Mexico UL-B SECTION 30 T25S R37E 32° 06.411' N, 103° 11.980' W Elevation: ~3039-ft amsl</p>	<p>Drawing by: John Good November - 2006</p> <p>Rev: 2</p> <p>SCALE: 0 Feet 200</p> 
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<p>Plate 4</p> <p>Site Detail Drawing</p> <p>Cimarex Energy Corporation</p> <p>Winningham No. 9 Well Site</p>	<p>Lea County, New Mexico</p> <p>UL-B SECTION 30 T25S R37E</p> <p>32° 06.41' N, 103° 11.980' W</p> <p>Elevation: ~3039-ft amsl</p>		
	<p>Drawing by: John Good</p> <p>November - 2006</p>	<p>Rev: 2</p>	

⊗ Background



⊗ Background

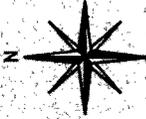
Point of Release

⊗ Background

⊗ = Bore Hole Location

⊗ Background

AS DIRECTOR
 1.31.07
 (1) 10072741
 188
 SUREWATER

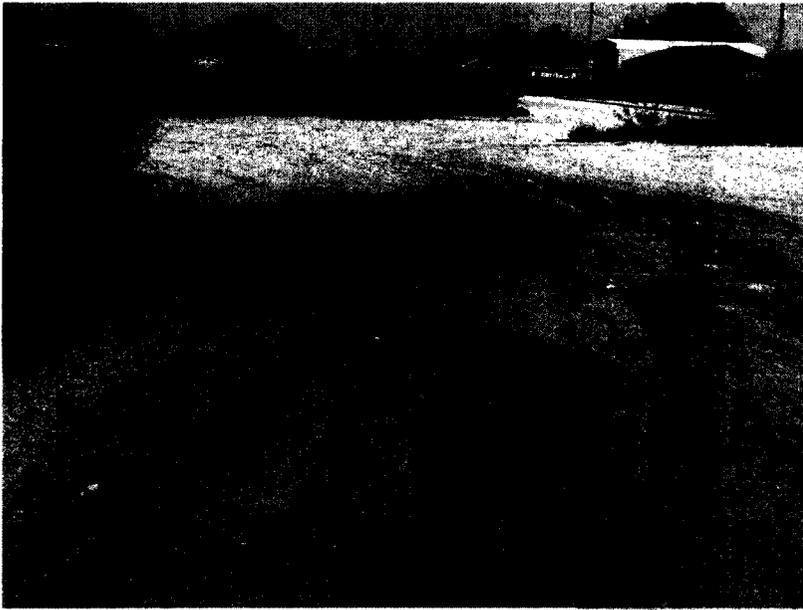
Plate 5 Proposed Bore Hole Locations Cimarex Energy Corporation Winningham No. 9 Well Site	Drawing by: John Good November - 2006		 SCALE: 
	Rev. 2		

Lea County, New Mexico
 UL-B SECTION 30 T25S R37E
 32° 06.411' N, 103° 11.980' W
 Elevation: ~3039-ft amsl



Hungry Horse, LLC

Cimarex Winningham #9 (revised)



District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Huerfano Road, Alamo, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-141
Revised October 10, 2003

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

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

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company <u>Ram Services, Inc.</u>	Contact <u>Clint Widner</u>
Address <u>PO Drawer 1445 Jal, NM</u>	Telephone No. <u>505 431-8886</u>
Facility Name <u>Ram Truck Yard</u>	Facility Type
Surface Owner <u>E. Fulger</u>	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
<u>B</u>	<u>30</u>	<u>25-5</u>	<u>37-E</u>	<u>660</u>	<u>North Line</u>	<u>980</u>	<u>East Line</u>	<u>Lea</u>

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release <u>WORK OVER FLUID</u>	Volume of Release <u>60 BBL</u>	Volume Recovered <u>NONE</u>
Source of Release <u>VACUUM TRUCK</u>	Date and Hour of Occurrence <u>8-28-06</u>	Date and Hour of Discovery <u>8-28-06</u>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? <u>Noon</u>	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.

Describe Cause of Problem and Remedial Action Taken.

OPEN VALVES ON VACUUM TRUCK

Describe Area Affected and Cleanup Action Taken.

ORDERED BY STATE TROOPER - OFFICER RAYNES FIRST RESPONDER

COVER FLUIDS THAT WAS LEFT ON SOIL - ON LOCATION

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.

OIL CONSERVATION DIVISION

Signature: <u>Clint Widner</u>	Approved by District Supervisor:	
Printed Name: <u>Clint Widner</u>	Approval Date:	Expiration Date:
Title: <u>Station Manager</u>	Conditions of Approval:	
E-mail Address:	Attached <input type="checkbox"/>	
Date: <u>8-28-06</u> Phone: <u>505 431-8886</u>		

* Attach Additional Sheets If Necessary

ORIGINAL C-141

THIS WAS TO BE SUBMITTED BY OLE ENRIK TO OGD

BUT WAS NOT SENT 9 1.31.07

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
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1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
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Oil Conservation Division
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Form C-141
Revised October 10, 2003

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with Rule 116 on back
side of form

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company – Ram Services, Inc	Contact – Clint Widner
Address – P.O. Drawer 1265 Jal, NM	Telephone No. – 505-631-8886
Facility Name – Ram Truck Yard	Facility Type
Surface Owner – G. Fulfer	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 - Lea
B	30	25S	37E	660	North Line	980	East Line	

Latitude N 32° 06.411' Longitude 103° 11.980'

NATURE OF RELEASE

Type of Release – Work Over Fluids	Volume of Release – 60 bbl	Volume Recovered - None
Source of Release – Vacuum Truck	Date/Hour of Occurrence – 8/22/06	Date/Hour of Discovery – 8/23/06; 12:00 pm
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

INCIDENT OCCURRED 8.23.06

Open Valves on Vacuum Truck

Describe Area Affected and Cleanup Action Taken.*

Ordered by State Trooper – Officer Raynes First Responder
Cover Fluids that were left on soil – on location



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: <i>J Brian - Ram Services</i>	OIL CONSERVATION DIVISION	
Printed Name: <i>Jerry Brian</i>	Approved by District Supervisor: <i>[Signature]</i>	
Title: <i>Project Manager</i>	Approval Date: <i>1.31.07</i>	Expiration Date: <i>4.1.07</i>
E-mail Address: <i>jrbrian@verizon.net</i>	Conditions of Approval: <i>COMPLETION REPORT</i>	Attached <input type="checkbox"/>
Date: <i>1/30/07</i> Phone: <i>390-6149</i>		<i>RP# 1065</i>

* Attach Additional Sheets If Necessary

SECOND SUBMITTAL BY HH. FOR RECORD - INITIAL WAS SUBMITTED BY OCO, BUT RAM RELEASED THEM.