



28 January 2008

Mr. Larry Johnson
Environmental Engineer Specialist
New Mexico Oil Conservation Division
1625 North French Drive
Hobbs, NM 88240

RECEIVED

JAN 31 2008

HOBBS OCD

Re: Delineation Proposal
Apache Corporation – North Monument Grayburg San Andres Unit (NMGSAU) #368
1RP# 1746 [API # 30-025-038459, NMSLO ROE # 1638, EPI Ref. # 240017]
UL-O (SW¼ of the SE¼) Section 19, Township 19 South, Range 37 East
Latitude N 32° 38' 29.54" and Longitude W 103° 17' 24.07"

Dear Mr. Johnson:

In January 2008, Environmental Plus, Inc. (EPI) was retained by Apache Corporation to investigate a release of approximately 45 barrels of drilling brine (~25 barrels on location and ~20 barrels off location).

The site is located approximately 2 miles northwest of Monument, New Mexico (reference *Figure 1*) on land owned by the State of New Mexico (administered by the New Mexico State Land Office) and agriculturally leased by Mr. Jimmie T. Cooper.

Information obtained from the New Mexico Office of the State Engineer's website and United States Geological Survey (USGS) database indicates no water supply wells exist within a 1,000-foot radius of the release site. However, eight (8) water supply wells are located within a 1.0-mile radius of the release site (reference *Figure 2*). Groundwater level data indicates an average depth of approximately 40-feet below ground surface (reference *Table 1*). Utilizing this information, New Mexico Oil Conservation Division (NMOCD) Remedial Goals for this site are as follows:

Parameter	Remedial Goal*
Benzene	10 parts per million
BTEX	50 parts per million
TPH	100 parts per million

*Chloride residuals may not be capable of impacting local groundwater above NMWQCC Groundwater Standards of 250 mg/L.

Field Activities

On 3 January 2008, EPI conducted an initial site assessment of the site. Activities included photographing the site, recording surface features and surveying impacted surface area utilizing a hand held GPS (reference *Figure 3*).

ENVIRONMENTAL PLUS, INC.

On 7 January 2008, a total of fifteen (15) soil samples were collected from the pasture portion of the release area at a depth of approximately 6-inches below ground surface (bgs). Eight (8) soil samples were collected from within the release area and seven (7) background samples collected from approximately 3- to 8-feet outside of the release boundaries. Soil samples were analyzed in the field for chloride concentrations utilizing a La Motte Field Chloride Test Kit (titration type). Field chloride analyses indicated concentrations of 4,000 + mg/Kg for 14 of 15 sample locations within the release area. Background soil sample chloride concentrations were reported as 240 mg/Kg (reference *Figure 4*).

Proposed Delineation Activities

Based on assessment activities, EPI recommends further delineation of the site via pairs of North-South and East-West test trenches for the collection of soil samples to further establish horizontal and vertical extents of impacted soil (reference *Figure 5*). Soil samples will be collected from discreet locations within the test trench and submitted to an independent laboratory for chloride concentration analyses.

Upon approval, EPI will implement activities outlined in this *Delineation Proposal* and notify the NMOCD 48-hours prior to implementation of delineation activities. A *Remediation Proposal* will be developed based on data obtained from site delineation activities.

Should you have any questions or concerns, please contact me at (505) 394-3481 or via email at jstegemoller@envplus.net or Mr. Harold Swain at (505) 390-4368 or via email at harold.swain@usa.apachecorp.com. All official correspondence should be addressed to:

Mr. Harold Swain
Apache Corporation
P.O. Box 848
Wink, TX 79789

Sincerely,

ENVIRONMENTAL PLUS, INC.



Jason Stegemoller
Environmental Scientist

- cc: Harold Swain, Apache Corp. – Wink, TX
Jimmy Cooper, Agricultural Lessee – Monument, NM
Thaddeus Kostrubala, NMSLO – Sante Fe, NM
Myra Meyers, NMSLO – Hobbs, NM
File
- encl. Figure 1 – Area Map
Figure 2 – Site Location Map
Figure 3 – Site Map
Figure 4 – Pasture Area Sample Location and Field Analytical Data
Figure 5 – Test Trench Location Map (Proposed)
Table 1 – Well Data
Attachment I – Site Photographs
Attachment II – Information Copy of Initial C-141

FIGURES

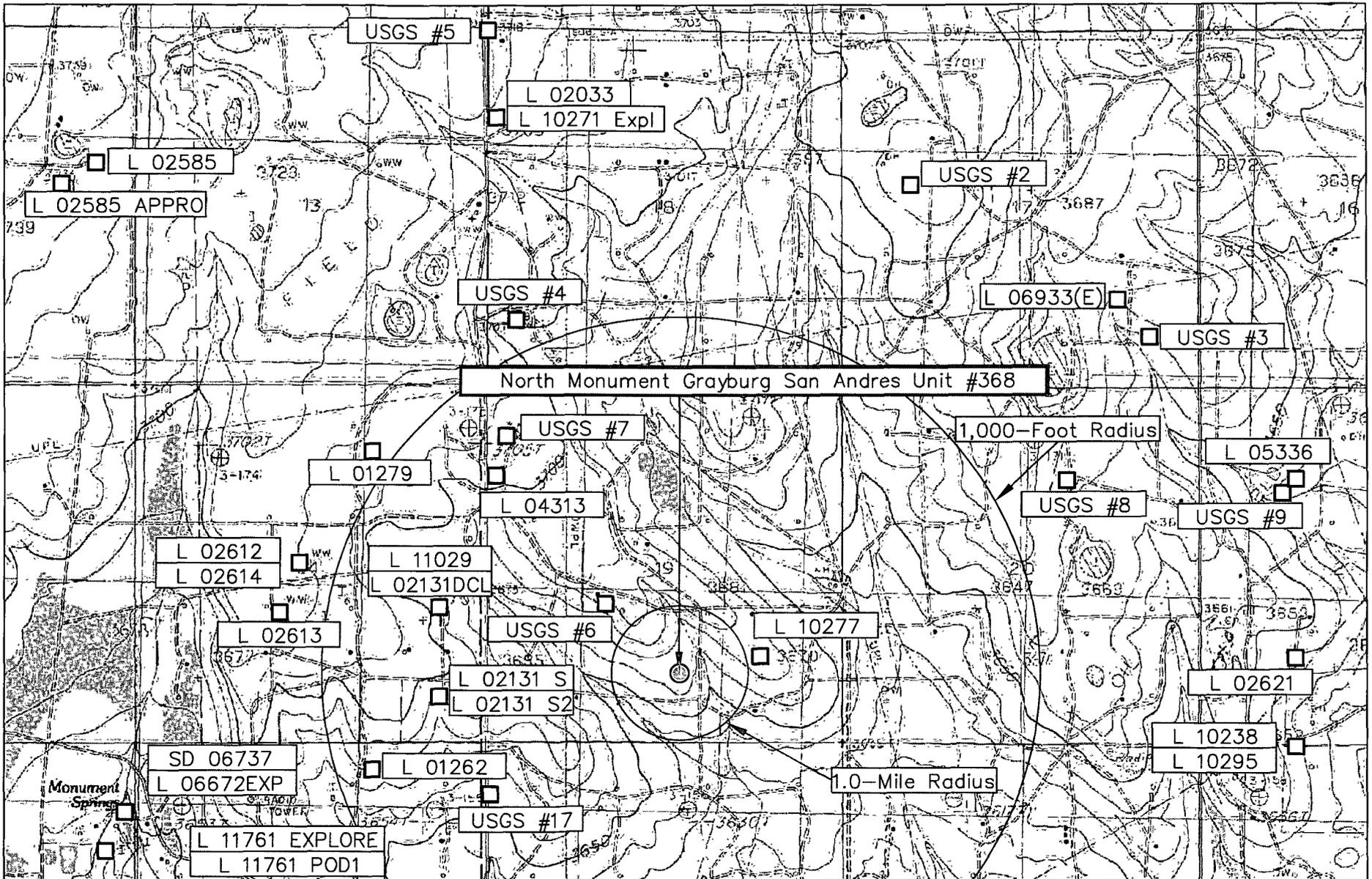
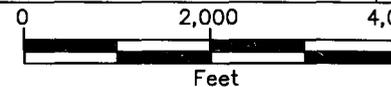


Figure 2
 Site Location Map
 Apache Corporation
 North Monument Grayburg
 San Andres Unit #368

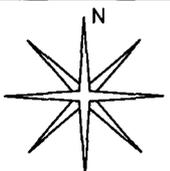
Lea County, New Mexico
 SW 1/4 of the SE 1/4, Sec. 19, T19S, R37E
 N 32° 38' 29.54" W 103° 17' 24.07"
 Elevation: 3,657 feet amsl

DWG By: Jason Stegemoller
 January 2008

REVISED:



SHEET
 1 of 1



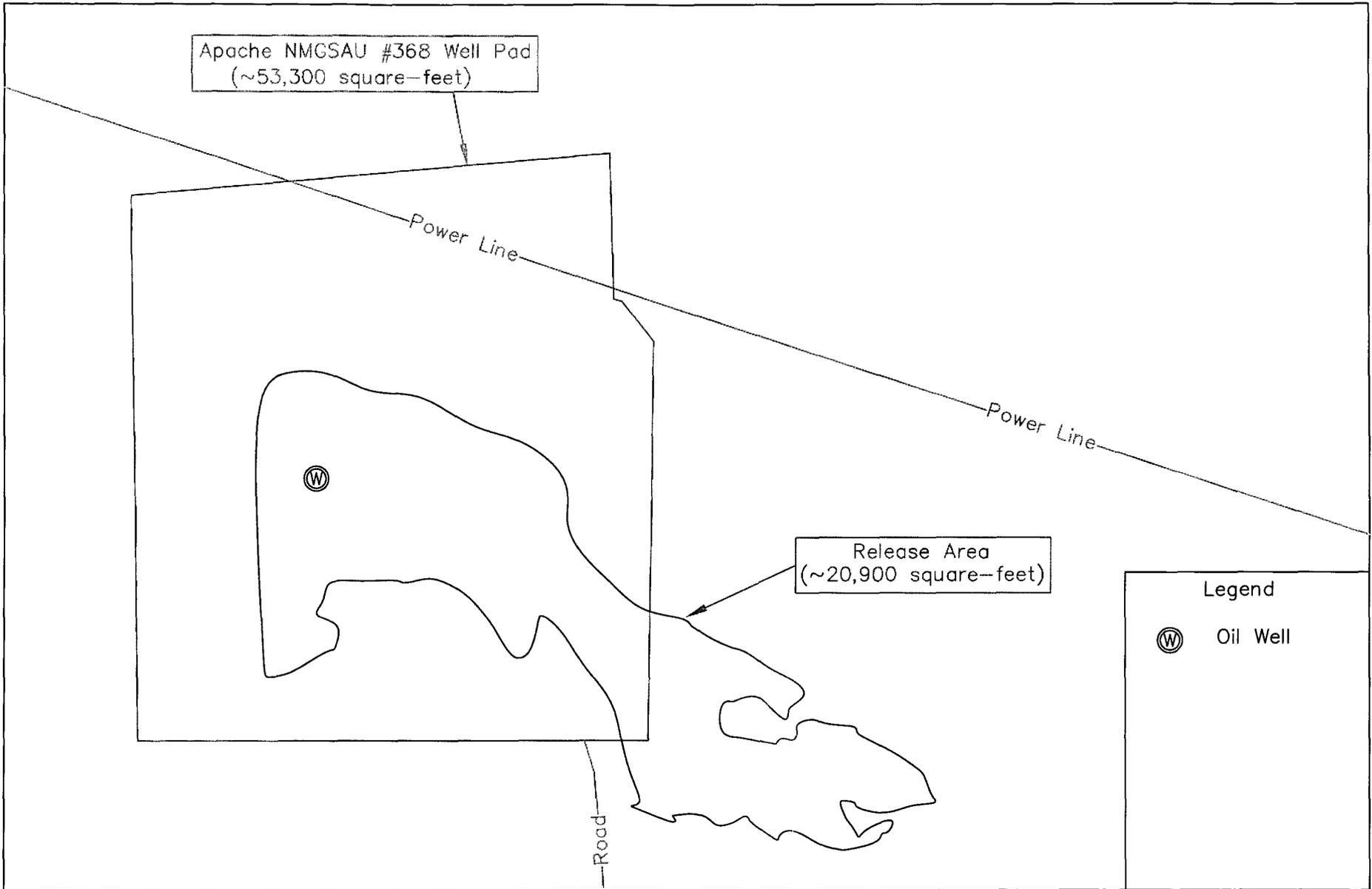
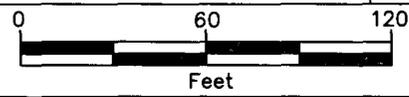


Figure 3
 Site Map
 Apache Corporation
 North Monument Grayburg
 San Andres Unit #368

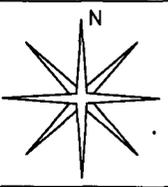
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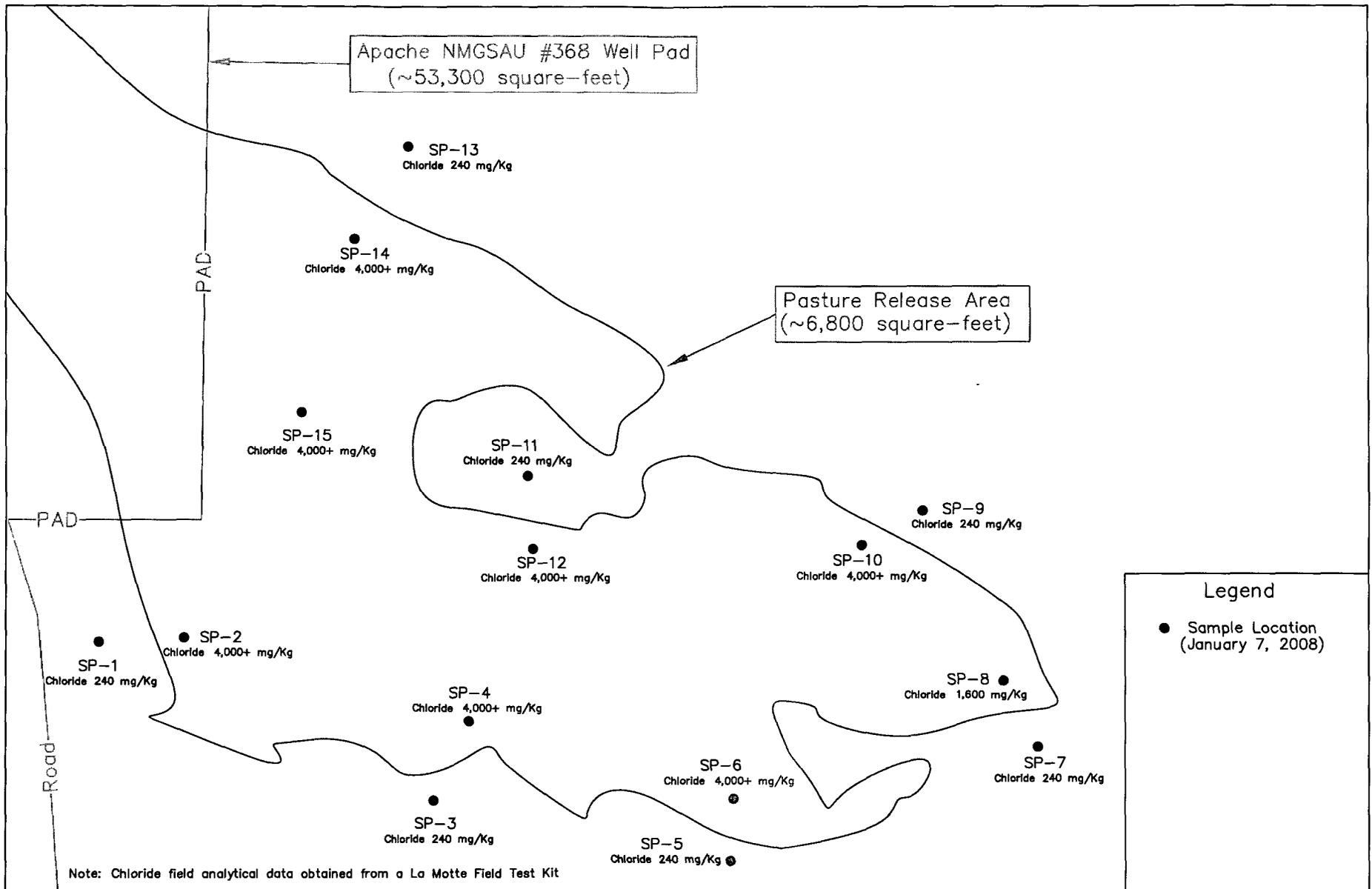
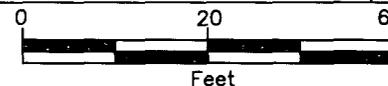


Figure 4
Pasture Area Sample Location
and Field Analytical Data
Apache Corporation
North Monument Grayburg
San Andres Unit #368

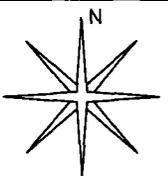
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1 of 1



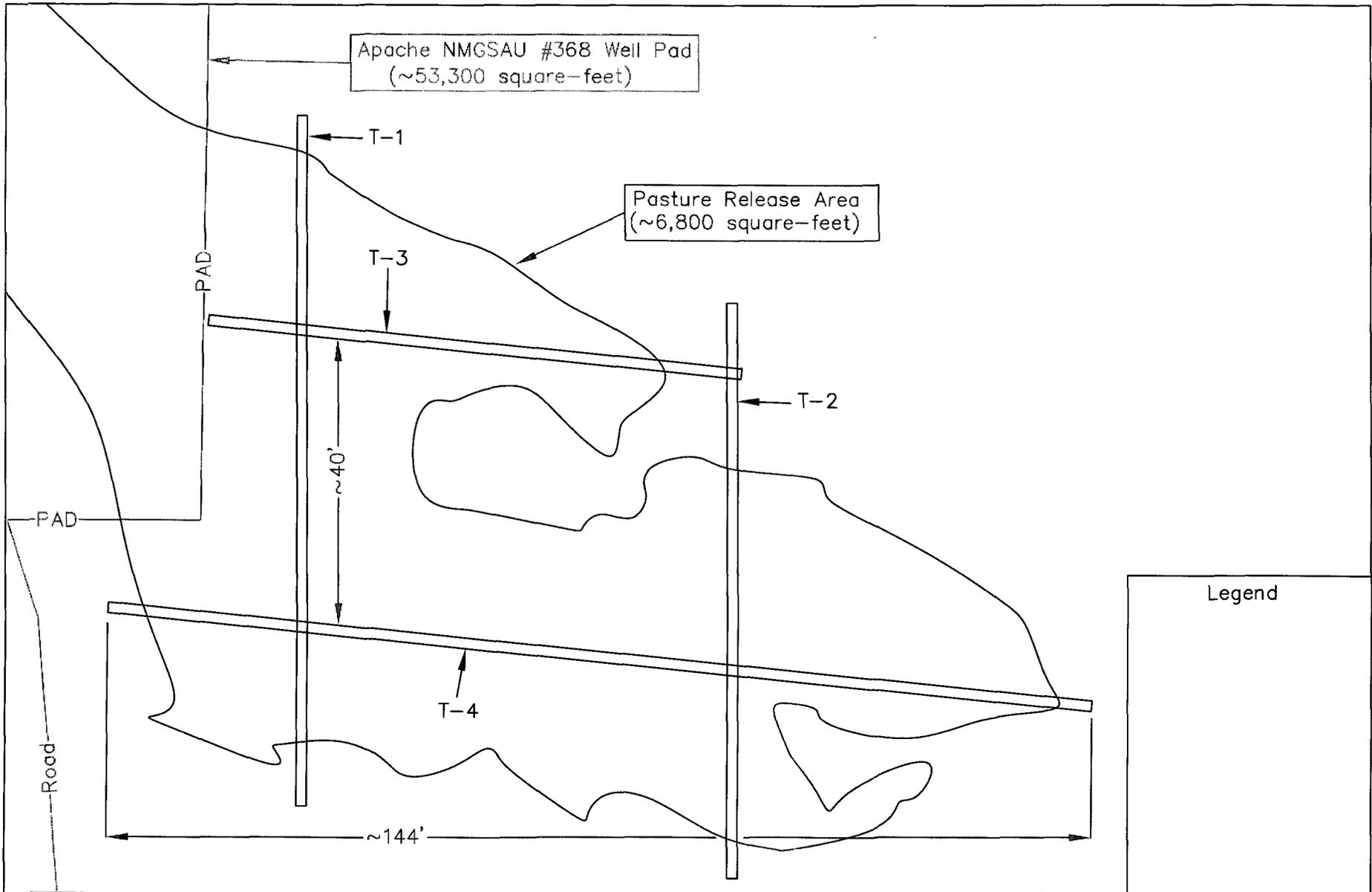
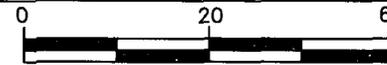


Figure 5
 Test Trench
 Location Map (Proposed)
 Apache Corporation
 North Monument Grayburg
 San Andres Unit #368

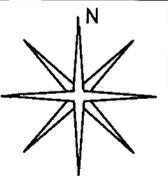
Lea County, New Mexico
 SW 1/4 of the SE 1/4, Sec. 19, T19S, R37E
 N 32° 38' 29.54" W 103° 17' 24.07"
 Elevation: 3,657 feet amsl

DWG By: Jason Stegemoller
 January 2008

REVISED:



SHEET
 1 of 1



TABLES

TABLE 1

Well Data

Apache Corporation - North Monument Grayburg San Andres Unit #368 (Ref. # 240017)

Well Number	Diversion ^A	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation ^B	Depth to Water
											(ft bgs)
L 06933 (E)	0	GULF OIL CORPORATION	PRO	19S	37E	17 4 2 3	N32° 39' 23.47"	W103° 16' 7 86"	12-Apr-72	3,678	65
USGS #2				19S	37E	17 1 3 4			27-Feb-96	3,706	62 54
USGS #3				19S	37E	17 4 3 1			24-Apr-91	3,670	36.96
USGS #4				19S	37E	18 3 3 1			18-Mar-54	3,701	51 93
USGS #5				19S	37E	18 1 1 1			22-Feb-91	3,716	63 87
L 02033	0	MONUMENT WATER USERS	DOM	19S	37E	18 1 1 1	N32° 39' 50 42"	W103° 17' 55.35"	12-Sep-47	3,717	35
L 10271 EXPL	0	INC. SNYDER RANCHES	EXP	19S	37E	18 1 1 1	N32° 39' 50 42"	W103° 17' 55 35"	13-Jul-92	3,717	70
USGS #6				19S	37E	19 3 2 1			21-Feb-91	3,670	58.43
USGS #7				19S	37E	19 1 1 3			06-Mar-96	3,702	57 31
L 04313	3	MCVAY AND STAFFORD DRILLING CO	PRO	19S	37E	19 1 1 1	N32° 38' 58.03"	W103° 17' 55 36"	23-Oct-59	3,704	52
L 10277	3	INC. SNYDER RANCHES	STK	19S	37E	19 4 2 2	N32° 38' 31.48"	W103° 17' 9.65"	10-Jul-92	3,678	40
USGS #8				19S	37E	20 2 3 1			19-Apr-68	3,662	47 85
L 02621	3	LA MANCE DRILLING COMPANY	PRO	19S	37E	21 3 2 3	N32° 38' 31.20"	W103° 15' 37.02"	14-Sep-54	3,642	40
L 05336	0	GULF OIL CORPORATION	PRO	19S	37E	21 1 2 4	N32° 38' 57.29"	W103° 15' 37.00"	15-Feb-64	3,639	30
L 10238	3	W. S ISRAEL	DOM	19S	37E	21 3 4 3	N32° 38' 18.16"	W103° 15' 37.03"	19-Mar-92	3,637	30
L 10295	3	TERRY ISRAEL	DOM	19S	37E	21 3 4 3	N32° 38' 18.16"	W103° 15' 37 03"	29-Oct-92	3,637	30
USGS #9				19S	37E	21 1 3 2			29-Feb-96	3,640	24 13
USGS #17				19S	37E	30 1 1 1			11-Feb-66	3,654	26 88
L 01262		GULF OIL CORPORATION	PRO	19S	36E	25 2 1 2				3,655	
L 01279		GULF OIL CORPORATION	PRO	19S	36E	24 2 1 4				3,707	
L 02131 DCL		THE TEXAS COMPANY	COM	19S	36E	24 4 2				3,695	
L 02131 S		THE TEXAS COMPANY		19S	36E	24 4 4				3,695	
L 02131 S 2		THE TEXAS COMPANY		19S	36E	24 4 4				3,695	
L 02585		DILLARD & WALTERMIRE DRILLING	PRO	19S	36E	14 2 4			13-Jul-54	3,735	63
L 02585 APPRO		DILLARD & WALTERMIRE DRILLING		19S	36E	14 2 4 3			13-Jul-54	3,735	63
L 02612		VERSADO GAS PROCESSORS, LLC	IND	19S	36E	24 3 2 2				3,710	
L 02613		VERSADO GAS PROCESSORS, LLC	IND	19S	36E	24 3 2 4				3,712	
L 11029		CHEVRON USA INC	POL	19S	36E	24 4 2			14-Oct-99	3,695	59
L 02614		VERSADO GAS PROCESSORS, LLC	IND	19S	36E	24 3 2 2				3,710	
L 06672 EXP		JINNIE T. COOPER	DOM	19S	36E	26 2 2 4				3,650	
L 11761 EXPLORE		JIM COOPER	EXP	19S	36E	26 2 4 2				3,645	
L 11761 PODI				19S	36E	26 2 4 2				3,645	
SD 06737		MONUMENT SPRINGS RANCH	PLS	19S	36E	26 2 2 4			12/31/1869	3,650	
L 05123 EXPL		CLIMAX CHEMICAL COMPANY	EXP	19S	36E	14 1 3			15-Feb-64		55
L 02881		HOWARD P. HOLMES DRILLING	PRO	19S	36E	14			30-May-55		50
L 02881 APPRO		HOWARD P. HOLMES DRILLING		19S	36E	14			30-May-55		50
L 03097		OSCAR BOURG DRILLING CO	PRO	19S	36E	14			11-Feb-56		50
L 03097 APPRO		OSCAR BOURG DRILLING CO		19S	36E	14			11-Feb-56		50
L 01140		ELLEN WEIR & SONS	STK	19S	36E	23 1			13-Oct-51		45
L 01140 APPRO		ELLEN WEIR & SONS		19S	36E	23 1			13-Oct-51		45
L 01140 REPAR		ELLEN WEIR & SONS		19S	36E	23 1	N32° 38' 44.26"	W104° 21' 37.39"	18-Jul-53		45
L 03098		THE TEXAS COMPANY	PRO	19S	36E	23 1 2			25-Jan-56		55
L 03098 APPRO		THE TEXAS COMPANY		19S	36E	23 1 2			25-Jan-56		55
L 04719		MONUMENT, LLC	IND	19S	36E	23 1 1	N32° 38' 58.04"	W103° 19' 59.05"			
L 04719		STATE OF NEW MEXICO	IND	19S	36E	23 1 1	N33° 38' 58.04"	W104° 19' 59.05"			
L 04746 EXPL		CLIMAX CHEMICAL COMPANY	EXP	19S	36E	23			29-Nov-61		57
L 04772 EXPL		CLIMAX CHEMICAL COMPANY	EXP	19S	36E	24			28-Dec-61		70

TABLE 1

Well Data

Apache Corporation - North Monument Grayburg San Andres Unit #368 (Ref. # 240017)

Well Number	Diversion ^A	Owner	Use	Twsp	Rng	Sec q q q	Latitude	Longitude	Date Measured	Surface Elevation ^B	Depth to Water (ft bgs)
L 01278		GULF OIL CORPORATION	MUL	19S	36E	26 4 1 2					
L 06121 EXP		W.B. BAUM	DOM	19S	36E	26 2					
L 03982 APPRO				19S	37E	28 3 3	N32°37'25.94"	W103°15'52.53"	10-Nov-58	3,606	31
L 03884	3	R.L. LEWIS	DOM	19S	37E	28	N32°37'25.94"	W103°15'52.53"	14-Jun-58	3,606	30
L 02596	3	MAKIN DRILLING COMPANY	PRO	19S	37E	29 3 2	N32°37'39.11"	W103°16'38.84"	20-Jul-54	3,609	20
L 03922	3	LEON DICKERSON	DOM	19S	37E	29			11-Aug-58	3,596	22
L 03949	3	ROY L. WHEELER	DOM	19S	37E	29	N32°37'26.10"	W103°16'54.28"	12-Aug-58	3,596	18
L 03956	3	DENNIS C. SMITH	DOM	19S	37E	29	N32°37'26.10"	W103°16'54.28"	13-Aug-58	3,596	20
L 03995	3	W.E. COPELAND	DOM	19S	37E	30 4 4	N32°37'26.16"	W103°17'9.72"	26-Sep-58	3,599	20
L 05995	3	H.L. STEPHENS	DOM	19S	37E	30 4 4 4	N32°37'26.16"	W103°17'9.72"	04-Aug-66	3,599	23
L 03905	3	LILLIE B. LONGNECKER	DOM	19S	37E	30 4 4	N32°37'26.16"	W103°17'9.72"	12-Aug-58	3,599	20
L 03906	3	ROBERT P. III SHORT	DOM	19S	37E	30 4 4	N32°37'26.16"	W103°17'9.72"	11-Aug-58	3,599	20
L 03954	3	K. W. LITTLE	DOM	19S	37E	30 4 4	N32°37'26.16"	W103°17'9.72"	10-Aug-58	3,599	20
L 01975 APPRO	3	O & W DRILLING CO.	PRO	19S	37E	16 4 3	N32°39'10.30"	W103°15'21.56"	12-Feb-53	3,638	20
L 03185	3	CARPER DRILLING CO.	PRO	19S	37E	16 2 4	N32°39'36.37"	W103°15'6.16"	24-Apr-56	3,668	45
L 03228	3	MAKIN DRILLING COMPANY	PRO	19S	37E	16 4 4	N32°39'10.26"	W103°15'6.14"	18-Jun-56	3,641	42
USGS #1				19S	37E	16 2 3 3			08-Mar-91	3,648	26.94
L 04108	3	R.H. HUSTON	PRO	19S	37E	21 4 2	N32°38'31.15"	W103°15'6.17"	01-Apr-59	3,619	22
L 09163	3	LEROY LOTT	DOM	19S	37E	21 2 3 2	N32°38'44.21"	W103°15'21.58"	16-Apr-83	3,632	47
USGS #10				19S	37E	21 4 3 1			09-Jan-86	3,614	16.19
USGS #11				19S	37E	28 4 2 4			18-Apr-91		20.30
USGS #12				19S	37E	29 3 2 2			16-Jan-81		17.50
USGS #13				19S	37E	29 3 4 4			23-Mar-60		21.50P
USGS #14				19S	37E	29 4 4 4			22-Feb-80		34.45
USGS #15				19S	37E	29 4 4 4			19-Jan-71		35.05
USGS #16				19S	37E	29 3 3 3			18-Apr-91		13.01

^A = In acre feet per annum

^B = Elevation interpolated from USGS topographical map based on referenced location

PRO = Prospecting or development of natural resource

DOM = Domestic

EXP = Exploration

STK = Livestock watering

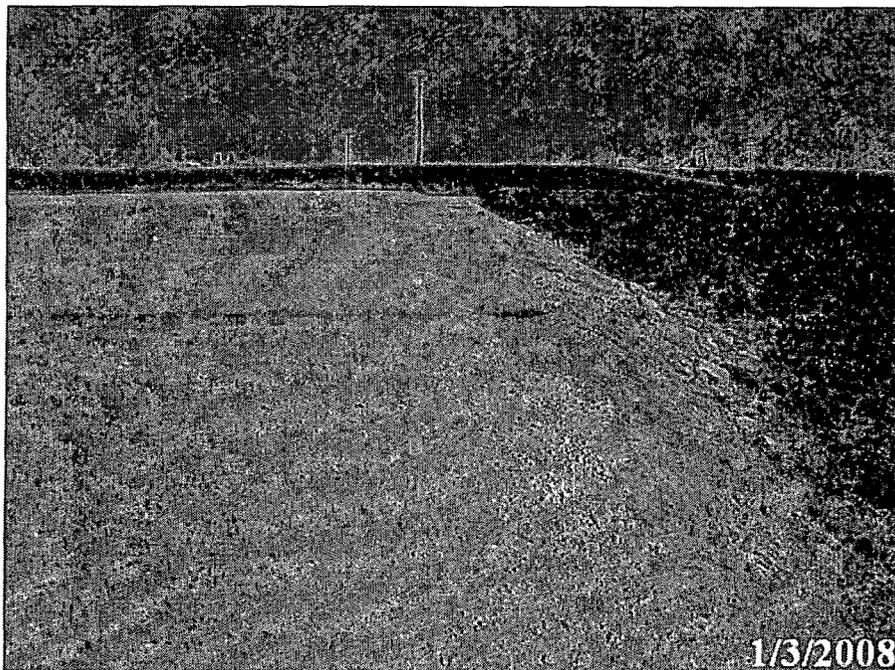
quarters are 1=NW, 2=NE, 3=SW, 4=SE; quarters are biggest to smallest

Shaded areas indicate wells not shown on Figure 2

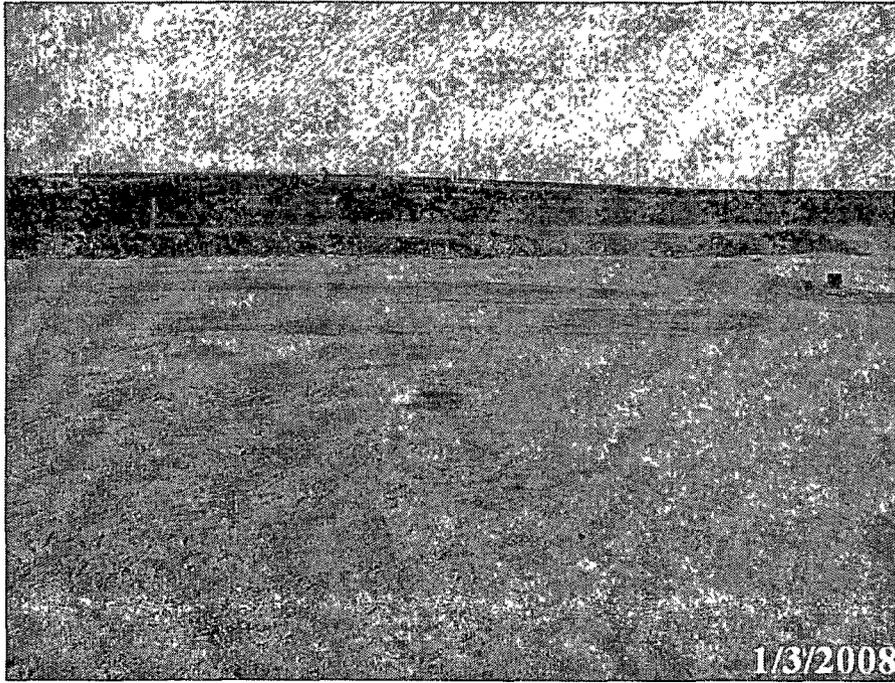
ATTACHMENT I
SITE PHOTOGRAPHS



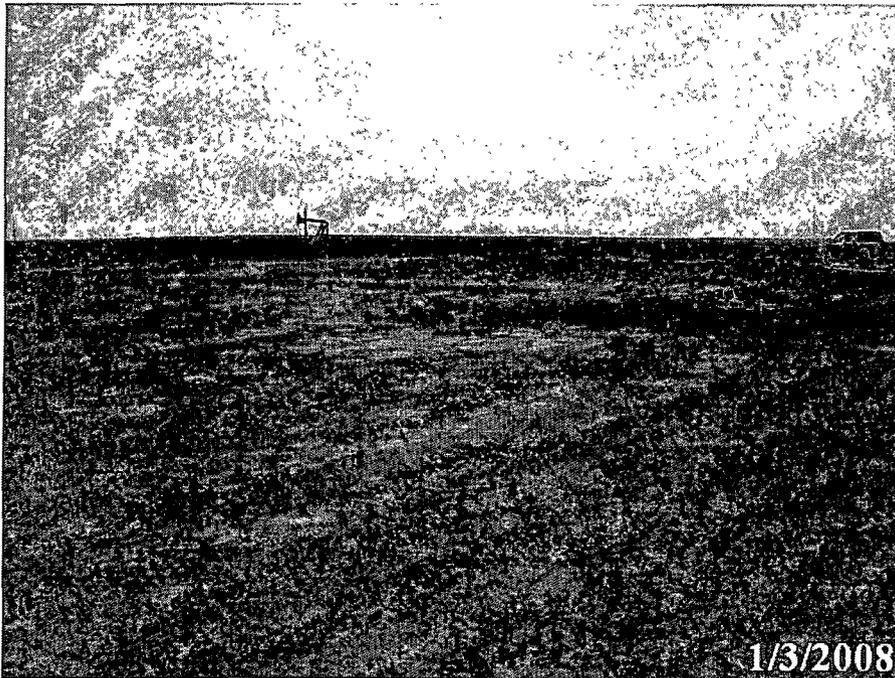
Photograph #1-Well Lease Sign



Photograph #2-Looking north across release area from southeast edge of well pad.



Photograph #3-Looking west across well pad release area.



Photograph #4-Looking southeasterly across well pad release area.

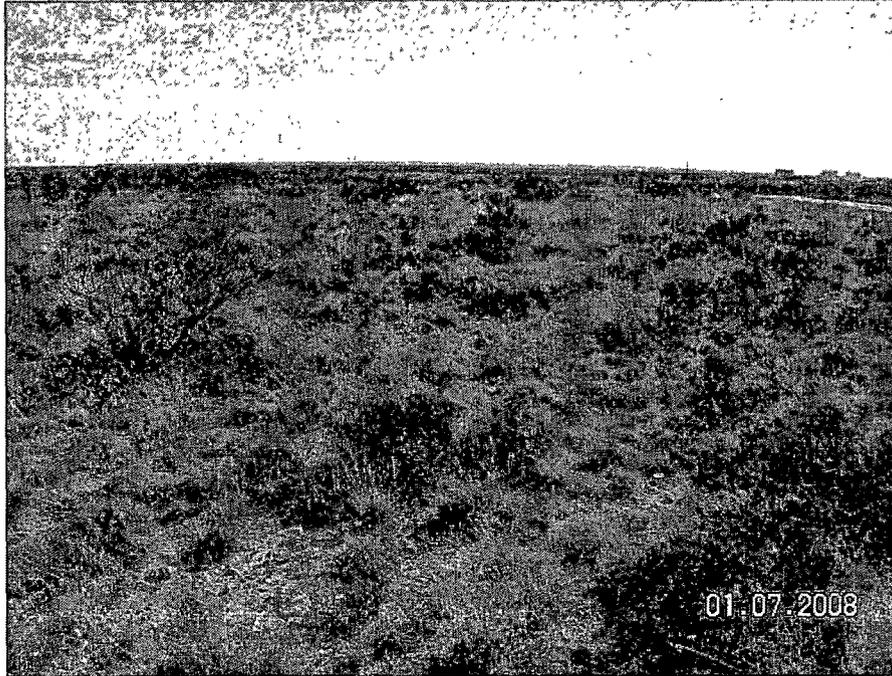


Photo #5- Looking easterly across pasture release area.



Photo #5- Looking northerly across pasture release area.

ATTACHMENT II

INFORMATIONAL COPY OF
INITIAL C-141

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
District IV
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

Form C-141
Revised October 10, 2003

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

Informational - Release Notification and Corrective Action

OPERATOR Initial Report Final Report

Name of Company: Apache Corporation	Contact: Harold Swain
Address: P.O. Box 848, Wink, TX 79789	Telephone No.: (915) 527-3311
Facility Name: North Monument Grayburg San Andres Unit (NMGSAU) #368	Facility Type: Well Pad (New Well) API #30-025-38459

Surface Owner: State of New Mexico	Mineral Owner:	Lease No.:
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	19	19S	37E	1,060	South	2,420	East	Lea

Latitude: N 32° 38' 29.54" **Longitude:** W 103° 17' 24.07"

NATURE OF RELEASE

Type of Release: Drilling brine	Volume of Release: ~45 bbls	Volume Recovered: >5 bbls
Source of Release: Overflow of closed loop-containment	Date and Hour of Occurrence: December 22, 2007 @ 09:00 hrs	Date and Hour of Discovery: December 22, 2007 @ 09:00 hrs
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Chris Williams, NMOCD - Hobbs	
By Whom? Billy L. Stockton	Date and Hour: December 22, 2007 @ 12:45 hrs	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse: Not Applicable	

If a Watercourse was Impacted, Describe Fully.* Not Applicable

Describe Cause of Problem and Remedial Action Taken.* Well bore flow back volume during new well logging was in excess of closed loop system capacity. Drilling brine was released onto location (well pad) and flowed southeast off location into pasture. A berm was built around well cellar to contain flow back while vacuum trucks recovered free fluid within bermed area. Well was cemented and flow back ceased. Approximately 45 barrels (~25 bbls on location and ~20 bbls off location) of drilling fluid were released from containment system during drilling operations.

Describe Area Affected and Cleanup Action Taken.* Approximately 20,900 ft² of area (~14,100 ft² of well pad and ~6,800 ft² of pasture) were impacted by the release. A backhoe was utilized to blend impacted well pad materials. No actions were performed upon pasture area.

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>Harold Swain</i>	OIL CONSERVATION DIVISION <i>Pat Richards</i> COMPLIANCE OFFICER	
Printed Name: Harold Swain	Approved by District Supervisor: <i>in accordance with...</i>	
Title: Drilling Foreman, Permian Basin	Approval Date: <i>1/17/08</i>	Expiration Date: <i>3/3/08</i>
E-mail Address: Harold.swain@usa.apachecorp.com	Conditions of Approval: <i>Reimbursement of well</i>	Attached <input type="checkbox"/>
Date: <i>1-10-08</i> Phone: 915-527-3311	<i>due by:</i>	

* Attach Additional Sheets If Necessary

RP# 17