OCD Artesia

14-415

Form 3160-3
(March 2012)

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMLC-029395B

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☑ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☑ Other SWD ☐ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
Oxy Doc Slawin Fed #1

2. Name of Operator Judah Oil, LLC
<245872>

9. API Well No.
30-015-33180

3a. Address Box 568 Artesia NM 88210

3b. Phone No. *(include area code)*
575-748-5488

10. Field and Pool, or Exploratory
SWD: Bone Springs-Wolfcamp

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 460 FSL 640 FWL UL-M
At proposed prod. zone 626 FSL 620 FWL (bottom injection perf) BHL: 660'S + 660'W - original

11. Sec., T. R. M. or Blk. and Survey or Area
Sect 29 - T17S - R31E

14. Distance in miles and direction from nearest town or post office*
6 miles east Loco Hills

12. County or Parish
Eddy

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) SL-460 BHL- 620 FWL

16. No. of acres in lease
1786.15

17. Spacing Unit dedicated to this well
40

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. BHL 2680' Biscuit Hil SWD1 API30-015-28142

19. Proposed Depth
9360' MD (bottom perf)

20. BLM/BIA Bond No. on file
NMB000451

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
KB 3709' GL 3691'

22. Approximate date work will start*
06/30/2013

23. Estimated duration
30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National. Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature
Name *(Printed/Typed)* James B Campanella
Date 5-13-2014

Title
Managing Member

Approved by *(Signature)* Steve Caffey
Name *(Printed/Typed)*
Date MAR 4 2015

Title FIELD MANAGER
Office CARLSBAD FIELD OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

NM OIL CONSERVATION
ARTESIA DISTRICT
MAR 9 2015
RECEIVED

*(Instructions on page 2)

Roswell Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in the APD/ReEntry Package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD/ReEntry Package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 13 day of May, 2014.

Name James B. Campanella

Position Title Member/Manager

Address PO Box 568

Artesia, NM 88211-0568

Telephone (575)748-4730 Office/(575)748-5488 Cell

Field Representative *(If not above signatory)*

Address *(If different from above)*

Telephone *(If different from above)*

E-mail *(optional)* jbc@judahoil.com

Signature

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax (575) 393-0720
DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (575) 748-1283 Fax (575) 748-9720
DISTRICT III
1000 Rio Brazos Road, Aztec, NM 87410
Phone (505) 334-6178 Fax (505) 334-6170
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

NM OIL CONSERVATION
ARTESIA DISTRICT
MAR 9 2015
RECEIVED

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT Re -Entry

API Number	Pool Code	Pool Name	
30-015-33180	96096	SWD: L. Bone Spring-Wolfcamp	
Property Code	**Property Name**		**Well Number**
309597	OXY DOC SLAWIN FEDERAL		1
OGRID No.	**Operator Name**		**Elevation**
245872	JUDAH OIL, LLC		3691'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	29	17-S	31-E		460	SOUTH	640	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	29	17-S	31-E		660	SOUTH	660	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

GEODETIC COORDINATES
NAD 27 NME

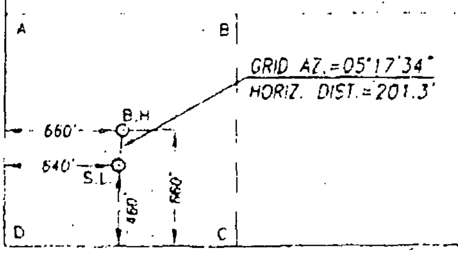
SURFACE LOCATION
Y=654801.5 N
X=633829.3 E

LAT.=32.799381° N
LONG.=103.897799° W

BOTTOM HOLE LOCATION
Y=655001.9 N
X=633847.8 E

CORNER COORDINATES TABLE

A - Y=655657.2 N, X=633184.2 E
B - Y=655666.1 N, X=634503.6 E
C - Y=654346.7 N, X=634511.0 E
D - Y=654337.4 N, X=633191.8 E



OPERATOR CERTIFICATION

I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature [signature] Date 5-13-2014

Printed Name [signature]

E-mail Address jbc@judahoil.com

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

SEPTEMBER 22, 2003

Date of Survey
Signature & Seal of Professional Surveyor

[seal] [signature] 5/21/14

Certificate Number Gary G. Eidson 12641
Ronald J. Eidson 3239

ACK REL W.O. 03121039 JWSC W.O. 14.13.0254

OLD PLAT (NOT CURRENT)

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
P.O. Box 2088, Santa Fe, N.M. 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-015-	74605	Undesignated Cedar Lake Morrow, East

Property Code	Property Name	Well Number
31063	OXY DOC SLAWIN FEDERAL	1

OGRID No.	Operator Name	Elevation
192463	OXY U.S.A. W.T.P., LP	3691'

Surface Location

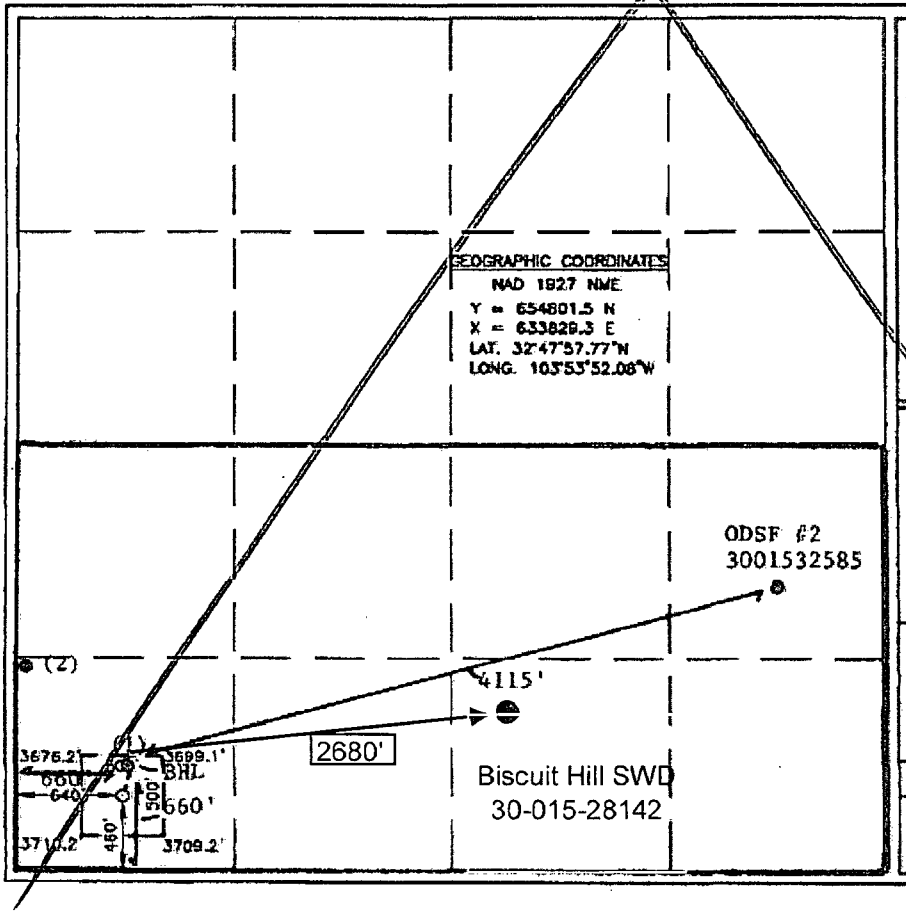
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	29	17-S	31-E		460'	SOUTH	640'	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	29	17S	31E		660	south	660	east	Eddy

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320	Y		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

Signature

David Stewart
Printed Name

Sr. Regulatory Analyst
Title

12/5/03
Date

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.

September 22, 2003
Date Surveyed AWB

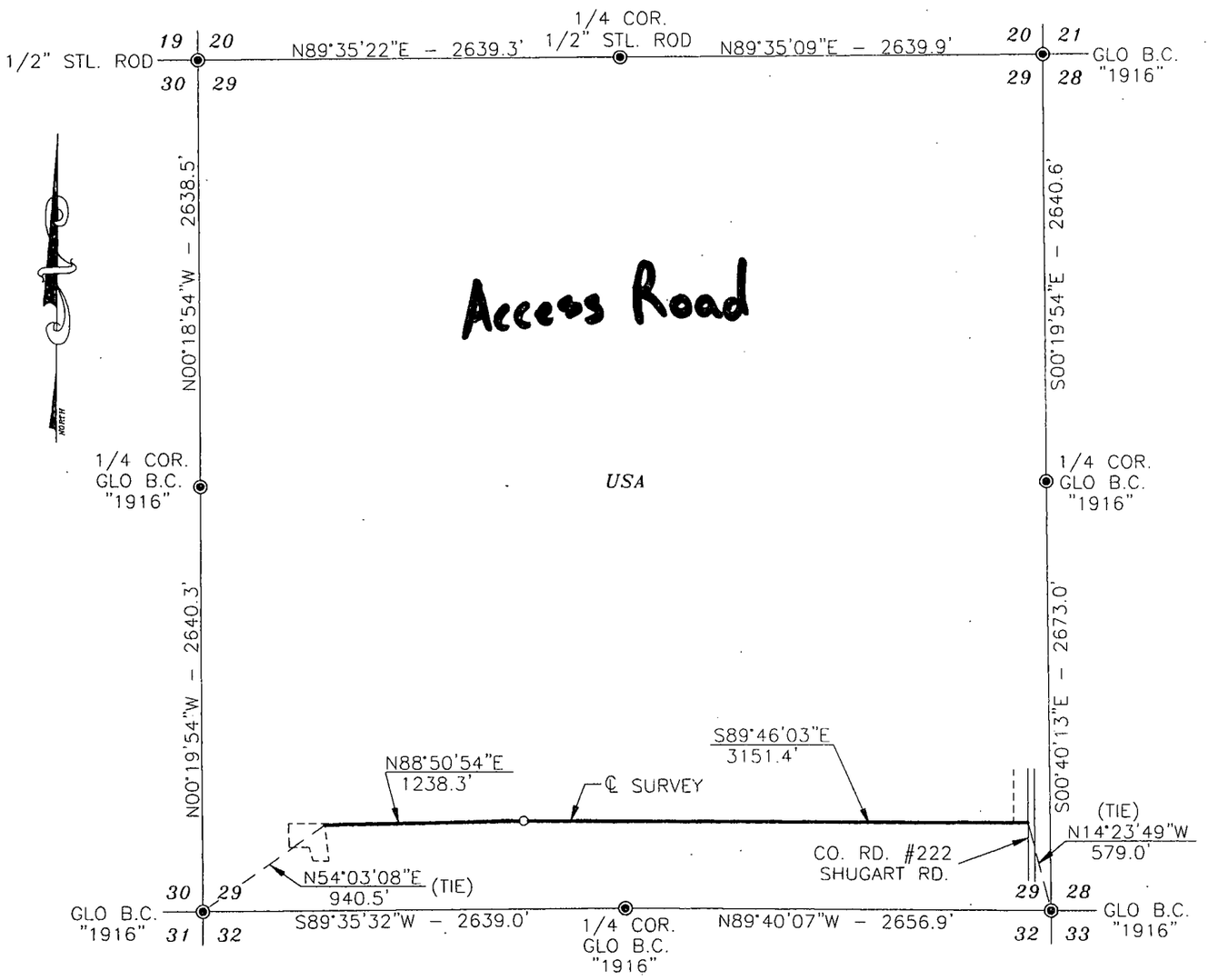
Signature & Seal of Professional Surveyor

Gary L. Jones 9/25/03

03.11.1039

Certificate No. RONALD J. EIDSON 3239
GARY L. JONES 7977

SECTION 29, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 50.0 FEET WIDE AND 4389.7 FEET OR 0.831 MILES IN LENGTH CROSSING USA LAND IN SECTION 29, TOWNSHIP 17 SOUTH, RANGE 31 EAST, NMPM, EDDY COUNTY, NEW MEXICO AND BEING 25.0 FEET LEFT AND 25.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

NOTE: BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

1000 0 1000 2000 FEET

Scale: 1" = 1000'

I HEREBY CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, DATA THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

NEW MEXICO 3239 REGISTERED PROFESSIONAL SURVEYOR

Ronald J. Eidson 04/28/2016

RONALD J. EIDSON NM PROFESSIONAL No. 3239

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117

JUDAH OIL, LLC

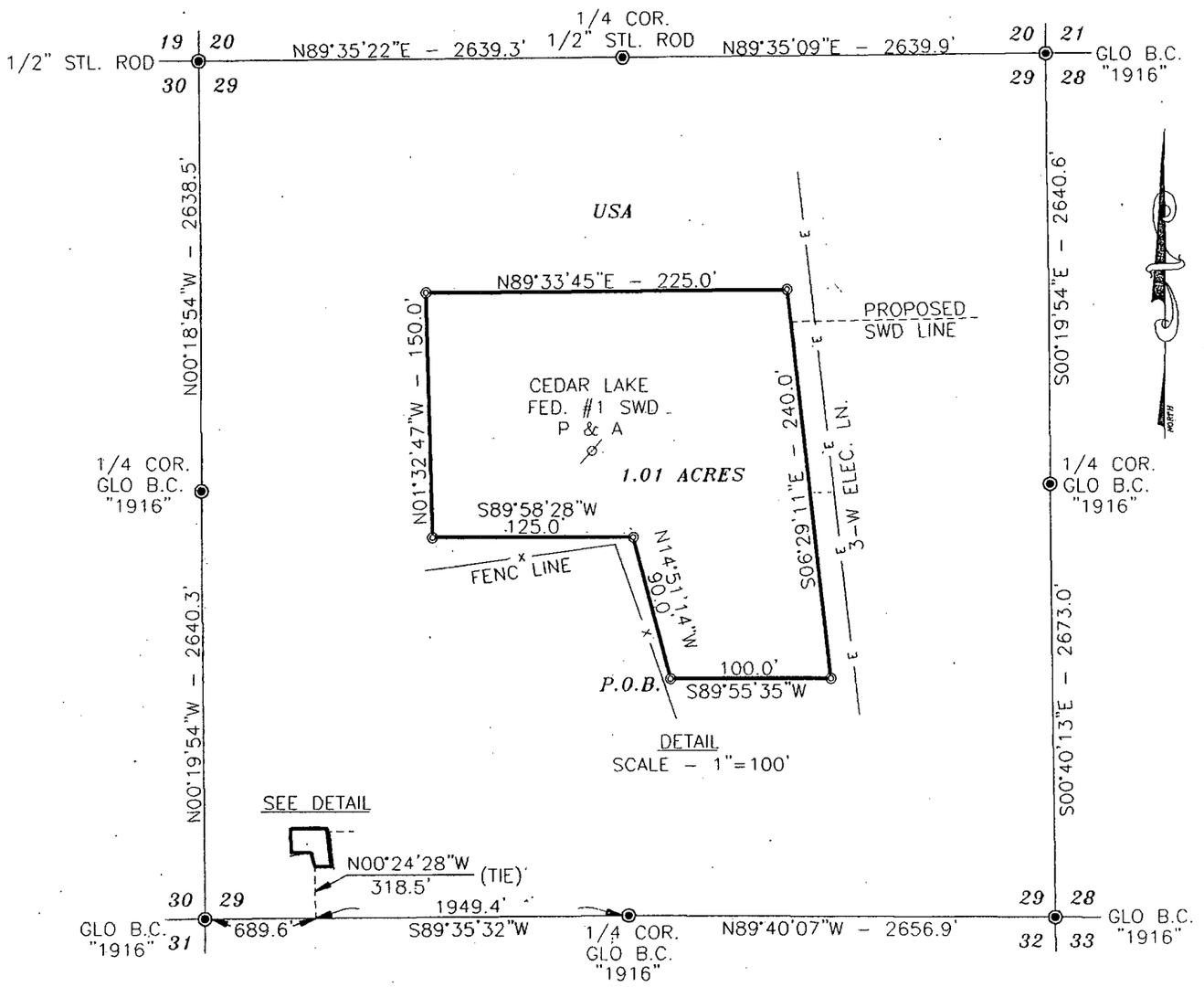
Oxy Doc Shows Federal #1 **ACCESS ROAD**

SURVEY OF AN ACCESS ROAD CROSSING
SECTION 29, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 4/8/10	Sheet 1 of 1 Sheets
W.O. Number: 10.11.0479	Drawn By: LA
Date: 4/27/10	10110479

SECTION 29, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

Exhibit A



DESCRIPTION

A TRACT OF LAND LOCATED IN THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 29, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF THIS TRACT, WHICH LIES N89°35'32"E ALONG THE SOUTH LINE OF SAID SECTION A DISTANCE OF 689.6 FEET AND N00°24'28"W 318.5 FEET FROM THE SOUTHWEST CORNER OF SAID SECTION; THEN N14°51'14"W 90.0 FEET; THEN S89°58'28"W 125.0 FEET; THEN N01°32'47"W 150.0 FEET; THEN N89°33'45"E 225.0 FEET; THEN S06°29'11"E 240.0 FEET; THEN S89°55'35"W 100.0 FEET TO THE POINT OF BEGINNING AND CONTAINING 1.01 ACRES MORE OR LESS.

LEGEND

- ◉ – DENOTES FOUND MONUMENT AS NOTED
- ⊕ – DENOTES SET 1/2" STL. ROD W/CAP MKD. "JWSC PS 12641"

NOTE: BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

I HEREBY CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

12641 REGISTERED PROFESSIONAL SURVEYOR

Gary G. Eidson 4/20/10

GARY G. EIDSON N.M.P.S. No. 12641

PROVIDING SURVEYING SERVICES SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117

1000 0 1000 2000 FEET
Scale: 1"=1000'

JUDAH OIL, LLC

SURVEY OF A SWD WELL TRACT OF LAND SITUATED IN SECTION 29, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 4/8/10	Sheet 1 of 1 Sheets
W.O. Number: 10.11.0479	Drawn By: LA
Date: 4/16/10	10110479

NO. 1
COMPLETED FORM 3160-3
APPLICATION FOR PERMIT TO
DRILL/RE-ENTER

Plat w/ formation & pool code

Judah Oil, LLC
Oil and Gas Producing
jbc@judahoil.com

May 13, 2014

United States Department of the Interior
Bureau of Land Management
Carlsbad District Office
620 E. Greene Street
Carlsbad, NM 88220

RE: Application for Permit to Drill (Re-Enter)
Judah Oil, LLC
Oxy Doc Slawin Federal #1
T-17-S, R-30-E
Section 29, Surface – 460' FSL, 640' FWL, Bottom Hole – 626' FSL, 620' FWL
Eddy County, New Mexico

Gentlemen:

Judah Oil, LLC respectfully requests permission to re-enter the Oxy Doc Slawin Federal #1 surface location 460 FSL and 640 FWL (BHL 626 FSL and 620 FWL), Unit Letter M, Section 29, T-17-S, R-31-E, Eddy County, New Mexico. This well was drilled by Marbob Energy Corp on 05/11/04 as a dry hole. The Morrow, Wolfcamp and Bone Spring formation were all tested without any commercial production. The well was P/A'd by Marbob in August 2004.

Judah plans to re-enter the Oxy Doc Slawin Federal #I wellbore and convert to a Commercial SWD with the proposed injection zones being in the Bone Springs and Wolfcamp Formations, the perforations 7262'-9360'. The work area and location have been surveyed (attached). The location is approximately 6 miles east of Loco Hills, New Mexico.

In accordance with requirements stipulated in Federal Onshore Oil and Gas Order No. 1 under 43 CFR 3162.1, our Application for Permission to Drill (Re-Enter) and supporting evidence is hereby submitted.

Please contact Mr. James B Campanella at 575-748-4730 should you have any questions concerning this application.

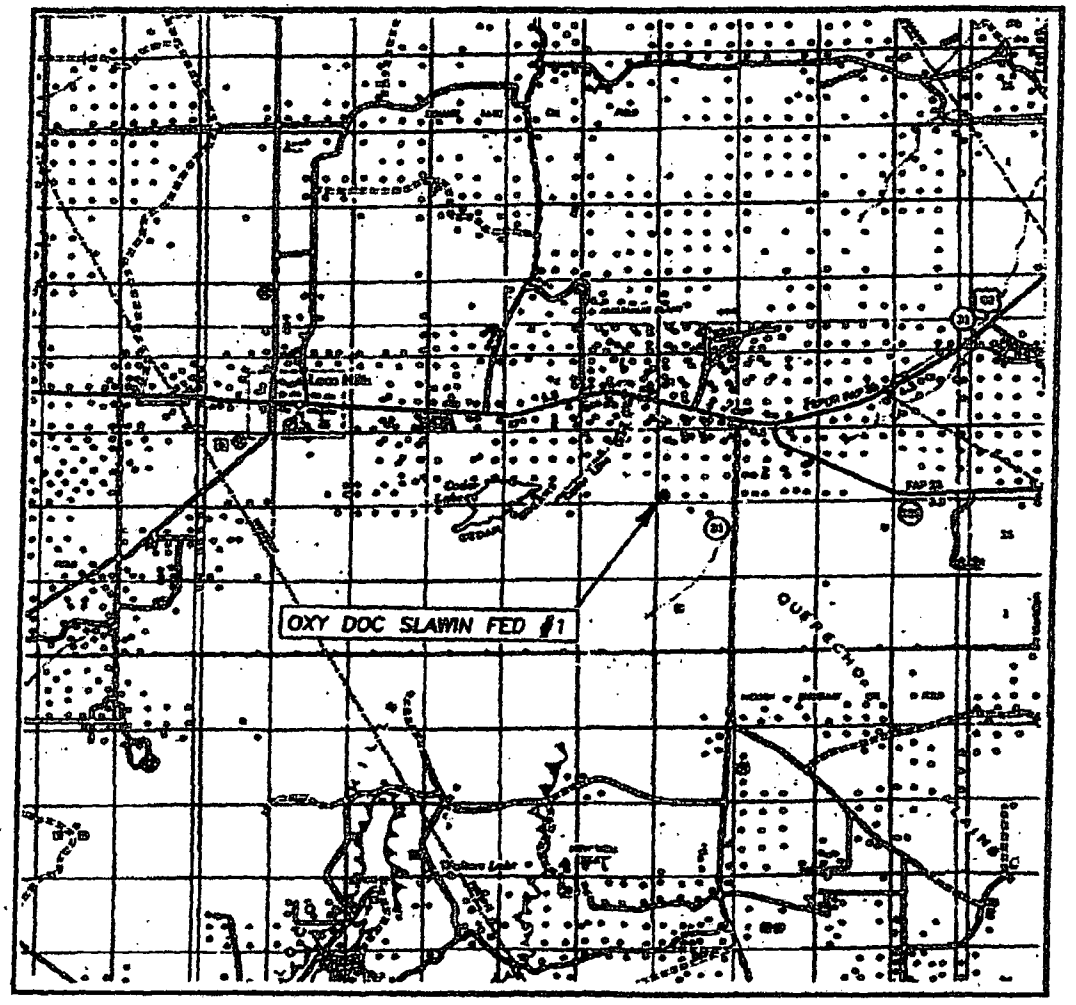
Sincerely

James B Campanella
Member/Manager

Fax 575-748-4731
Phone 575-748-4730
P.O. Box 568
Artesia, NM 88211

EXHIBIT A
Judah Oil, LLC
Oxy Doc Slawin Fed #1
API - 30-015-33180

VICINITY MAP



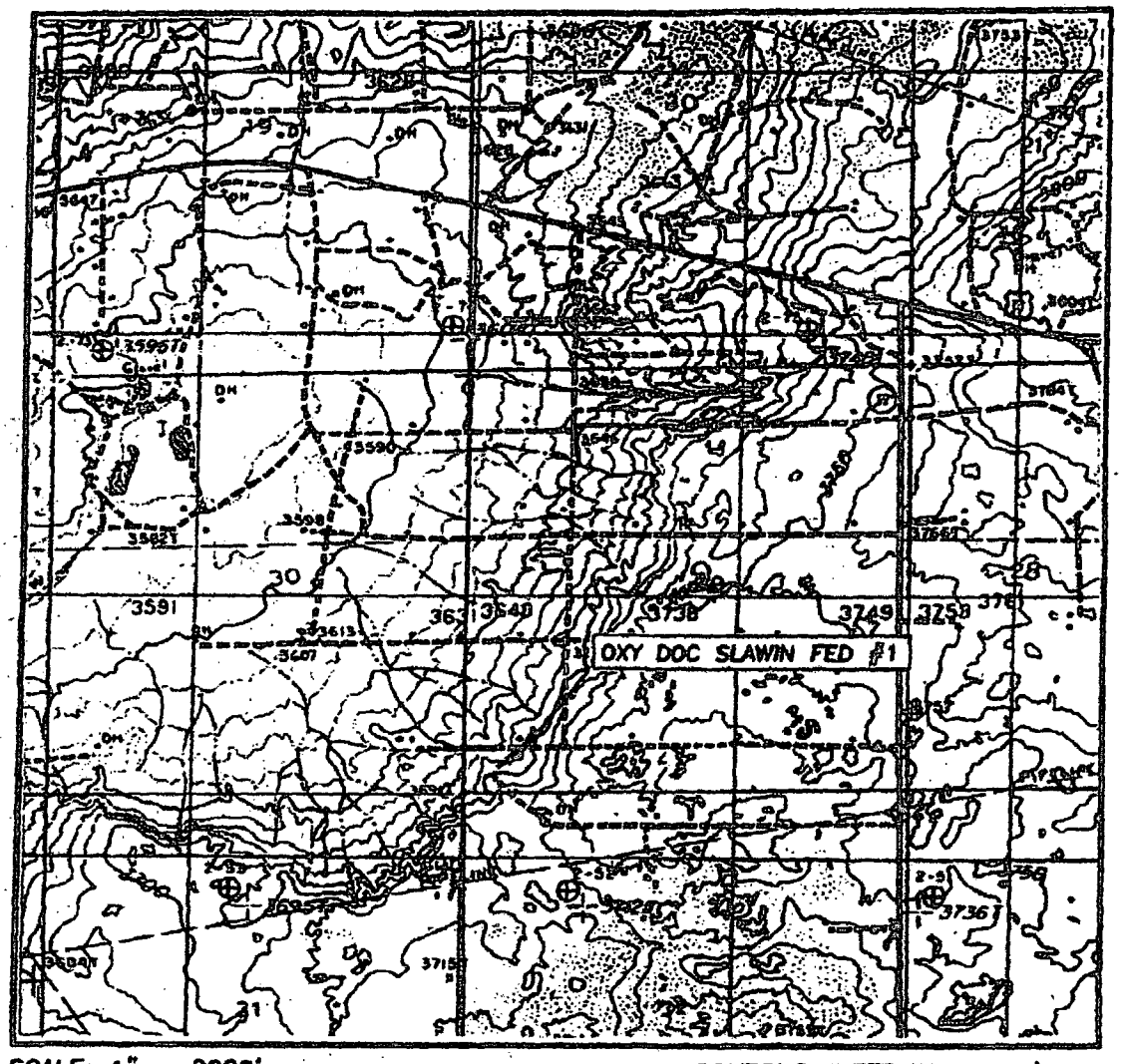
SCALE: 1" = 2 MILES

SEC. 29 TWP. 17-S RGE. 31-E
SURVEY N.M.P.M.
COUNTY EDDY
DESCRIPTION 460' FSL & 640' FWL
ELEVATION 3691'
OPERATOR OXY U.S.A. W.T.P., LP
LEASE OXY DOC SLAWIN FEDERAL

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117

EXHIBIT A
Judah Oil, LLC
Oxy Doc Slawin Fed #1
API - 30-015-33180

LOCATION VERIFICATION MAP



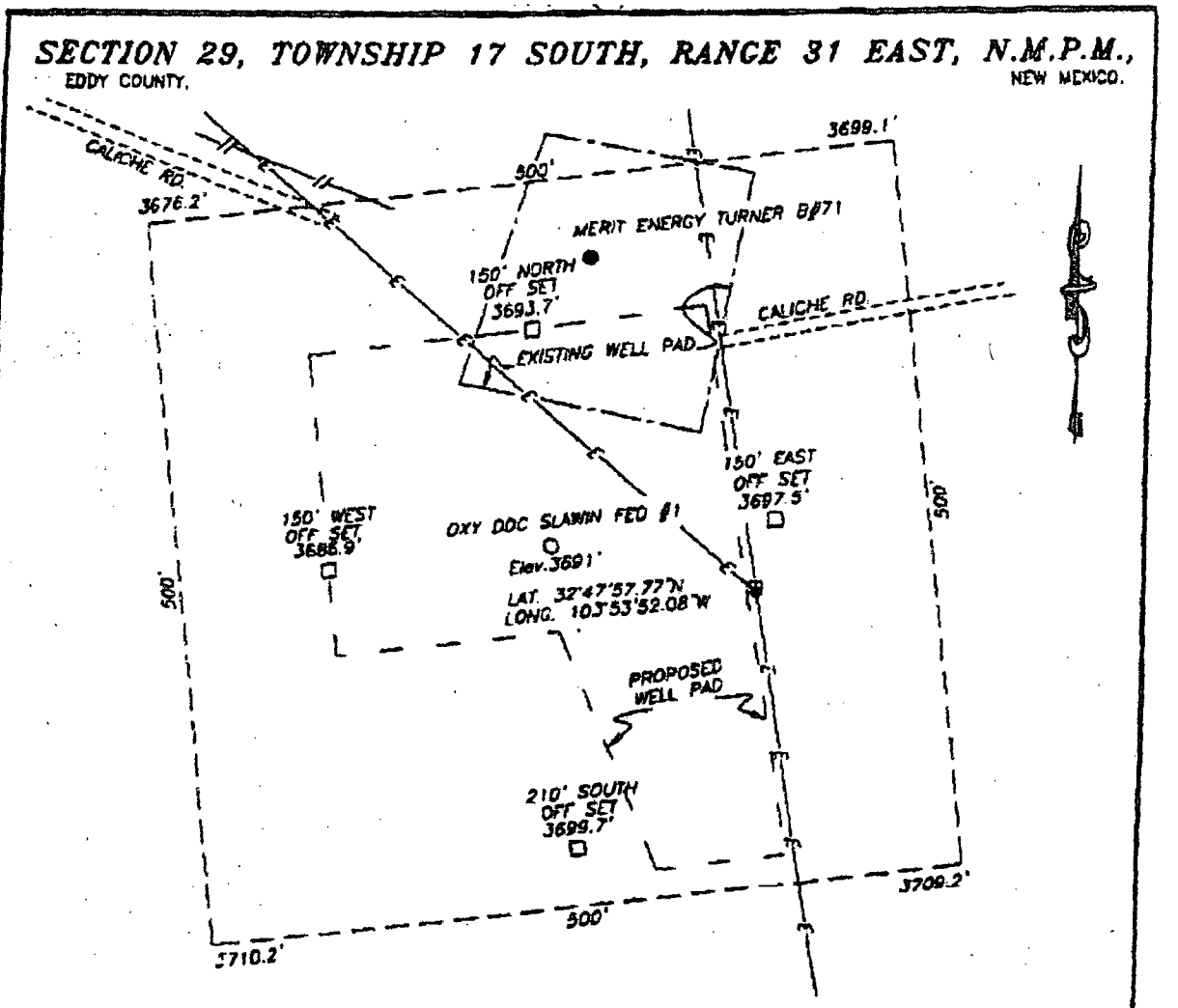
SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'
LOCO HILLS, N.M.

SEC. 29 TWP. 17-S RGE. 31-E
SURVEY N.M.P.M.
COUNTY EDDY
DESCRIPTION 460' FSL & 640' FWL
ELEVATION 3691'
OPERATOR OXY U.S.A. W.T.P., LP
LEASE OXY DOC SLAWIN FEDERAL
U.S.G.S. TOPOGRAPHIC MAP
LOCO HILLS, N.M.

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117

EXHIBIT A
Judah Oil, LLC
Oxy Doc Slawin Fed #1
API - 30-015-33180



DIRECTIONS TO LOCATION:

FROM THE INTERSECTION OF STATE H.W.Y 529 AND U.S H.W.Y 82, GO WEST APPROXIMATELY 0.5 MILES ON U.S 82 TO EDDY CO. RD #222 (SHUGART RD.) GO SOUTH APPROXIMATELY 0.8 MILES TO A CALICHE ROAD. GO WEST APPROXIMATELY 0.9 MILES TO THE EXISTING MERIT ENERGY "TURNER B #71" WELL PAD AND GO SOUTH 200' TO LOCATION.

100 0 100 200 FEET

Scale:1"=100'

OXY U.S.A. W.T.P., LP

OXY DOC SLAWIN FEDERAL #1 WELL LOCATED 460' FROM THE SOUTH LINE AND 640' FROM THE WEST LINE OF SECTION 29, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 09/22/03		Sheet 1 of 1 Sheets	
W.O. Number: 03.11.1039		DRAWN BY: A.B Rev. 12/22/03	
Date:09/24/03	DISK: CD#9	OxyU.S.A.1039	Scale:1"=100'

JOHN WEST SURVEYING COMPANY
412 N. DAL PASO - HOBBS, NEW MEXICO - 505-393-3117

EXHIBIT A
Judah Oil, LLC
Oxy Doc Slawin Fed #1
API - 30-015-33180

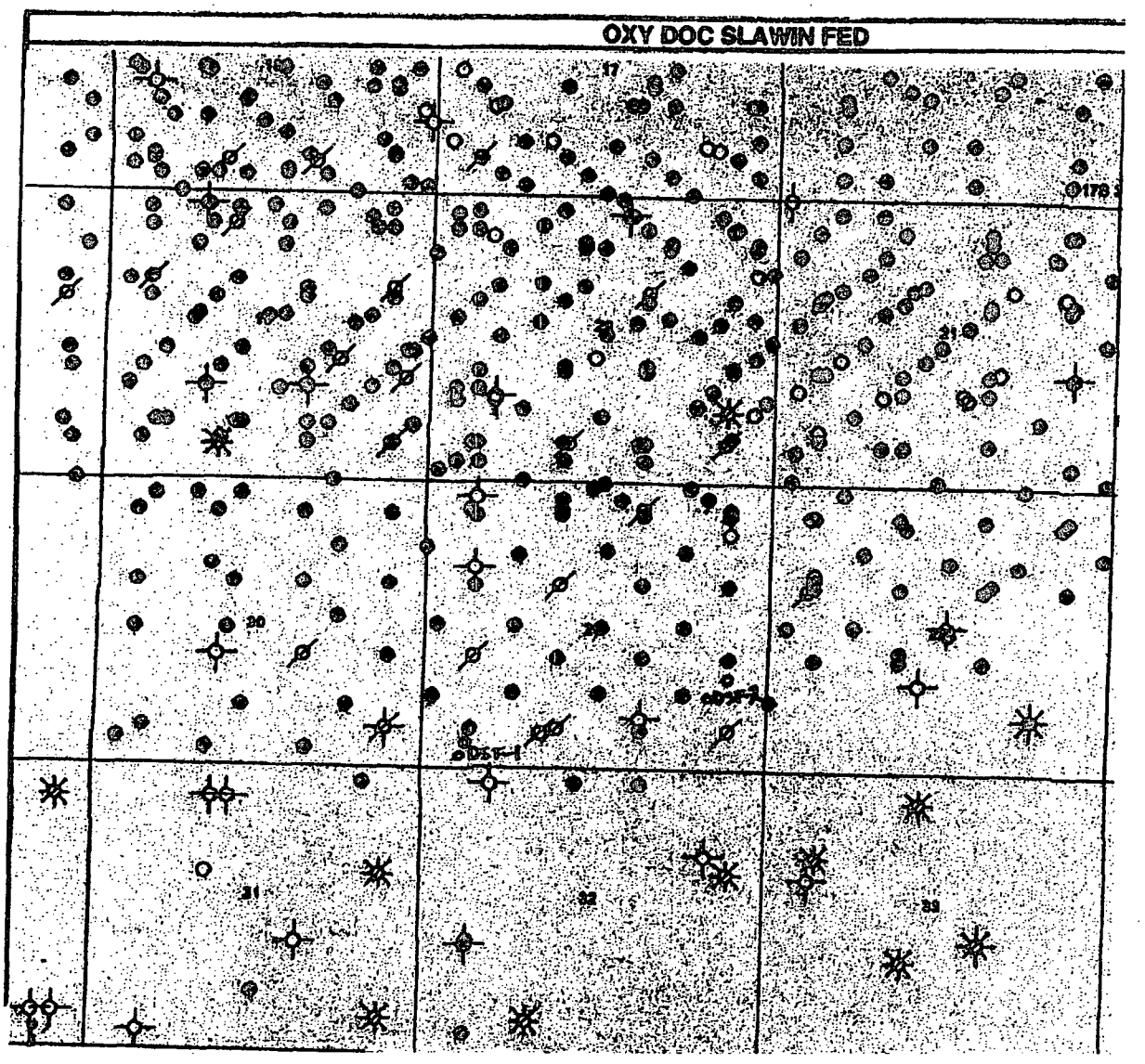
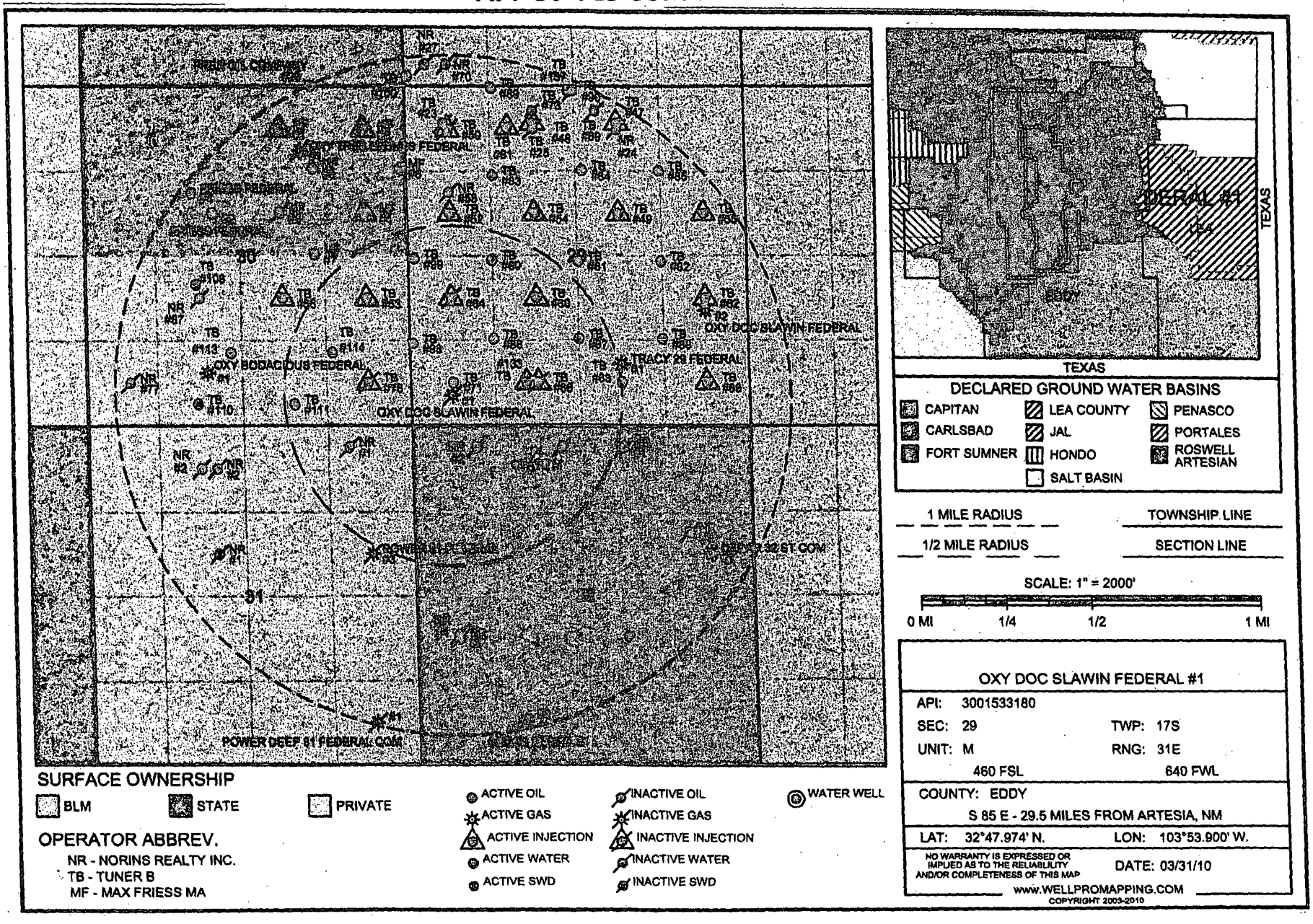


EXHIBIT B
Judah Oil, LLC
Oxy Doc Slawin Fed #1
API 30-015-33180



OXY DOC SLAWIN FEDERAL #1

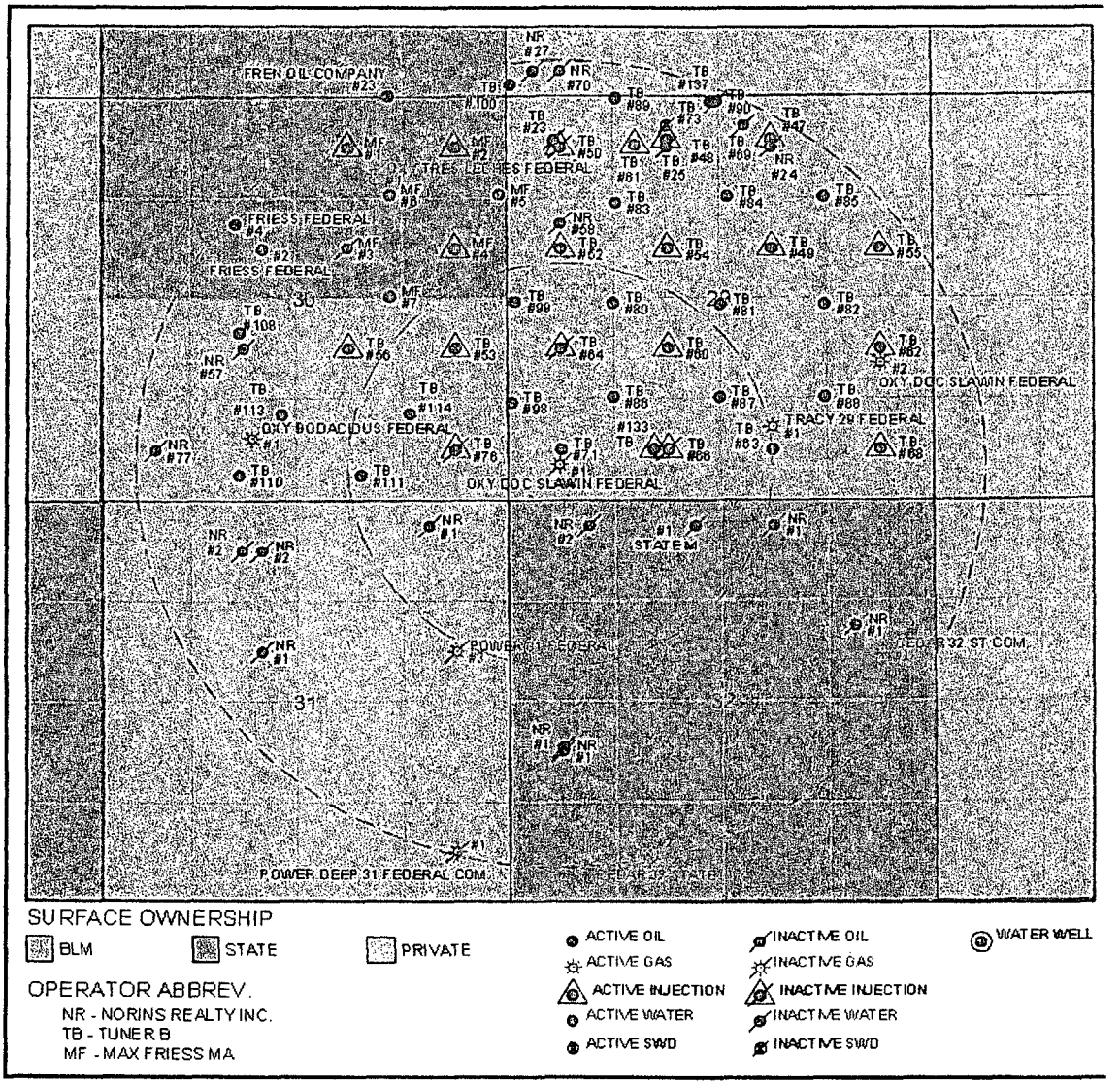
API: 3001533180	
SEC: 29	TWP: 17S
UNIT: M	RNG: 31E
460 FSL	640 FWL
COUNTY: EDDY	
S 85 E - 29.5 MILES FROM ARTESIA, NM	
LAT: 32°47.974' N.	LON: 103°53.900' W.

NO WARRANTY IS EXPRESSED OR IMPLIED AS TO THE RELIABILITY AND/OR COMPLETENESS OF THIS MAP

DATE: 03/31/10

www.WELLPROMAPPING.COM

EXHIBIT B
Judah Oil, LLC
Oxy Doc Slawin Fed #1
API - 30-015-33180



1. APD 3160-3 (attached)

2. WELL PLAT (Exhibit B) * See COAs for multiple *

3. DRILLING PLAN / RE-ENTRY changes

A & B) Formation Tops and Estimated Fresh Water:

The tops of important geologic markers.(Previously submitted by Marbob on Form 3160-4 dated July 20, 2004, **Exhibit C**.

Formation	Tops	Possible oil and or gas bearing zones
Rustler	430'	
Yates	1737'	
Seven Rivers	2086'	
Bowers	2708'	
Queen	3729'	x
San Andres	3590'	x
Bones Springs	5000' (estimated)	Tested. No shows
Wolfcamp	8944'	Tested No shows
Penn	9805'	No shows
Strawn	10,647'	No shows
Atoka	10,895'	No shows
Morrow	11,376'	Tested Not economical
Chester	11,614'	No shows

No usable fresh water wells are located within 2 miles of this proposed SWD location.
The surface water zone is protected by;

a) 16" J-55 casing set from surface to the depth of 422' and was covered by cement circulated to surface.

b) 11 ¾" H40 intermediate casing was set to the depth of 1645'and was covered by cement circulated to surface.

c) 8 5/8" J-55 intermediate casing was set to the depth of 4256' and was covered by cement circulated to surface.

All hydrocarbon potential producing formations were previously tested by Marbob before well was plugged and abandoned.

C) Pressure Control Equipment

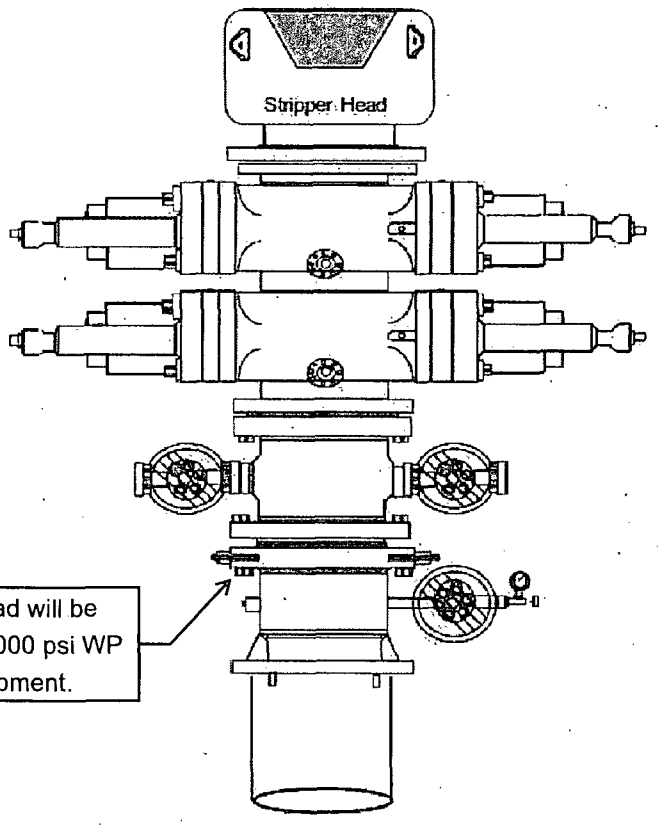
A 8-5/8" blowout preventer (BOP) shown in **Exhibit D** will consist of a hydraulic double ram type ~~(5000 psi WP)~~,consisting of 2 3/8" pipe rams on top and blind rams on bottom. Both units can also be manually operated. ~~The BOP and Manifold will be tested to 1000 psi for 30 minutes and 250 psi for 30 minutes before drilling top cement plug.~~ Once the depth of 500' is reached, surface casing shoe will be tested to 1000 psi for 30 minutes. 3M tested to 2,000psi

The 8 5/8 BOP will be replaced with a 5-½" hydraulic double ram type ~~(5000# WP)~~ BOP consisting of 2 3/8 pipe rams on top and blind rams on bottom once the new 5-½" 17# production casing has been tied into the current 5-½" casing (which was cut at 3000' when well was P/Ad) stub. Both pipe rams and blind rams can also be manually operated. ~~The BOP will be tested to 1500 psi for 30 minutes and 250 psi for 30 minutes before re-entry proceeds. The 5-½" casing will be tested to 1800 psi before drilling out cement plug at 4115'~~. All BOP and associated equipment will 3M tested to 3,000psi.

See next page for BOP details

See COAs for BOP testing and CITs.

Judah Oil LLC
Oxy Doc Slawin Fed #1
460' FSL & 640' FWL
Sec 29 17S 31E
Eddy Co., NM



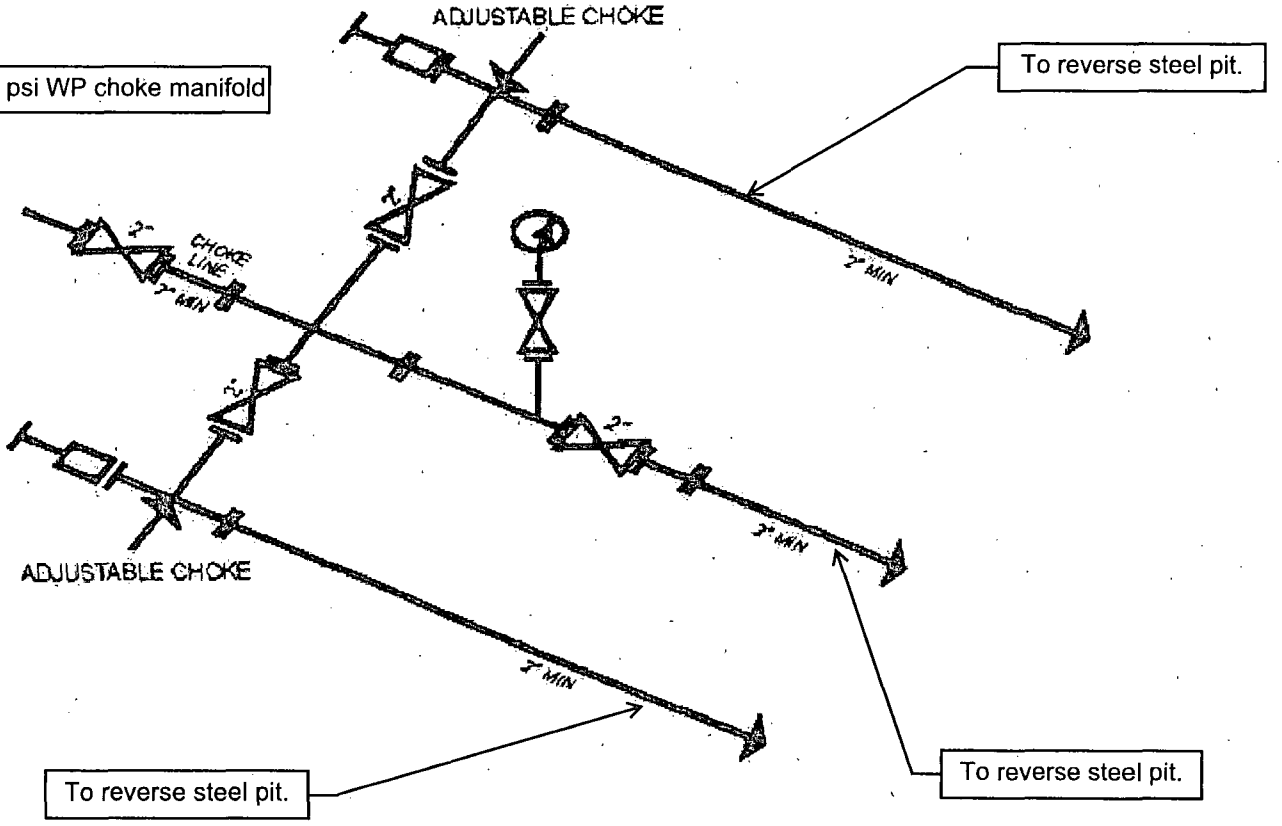
Wellhead will be flanged 3000 psi WP equipment.

The 1st BOP will consist of a 9" 3000 psi WP double hydraulic ram w/ one set of pipe rams and one set of blind rams, coupled w/ a 2" 5000 psi WP steel line to a 3000 psi WP choke manifold. The choke manifold will be functionally equivalent to that shown below. After nipple up the BOP & manifold will be tested to 250 psi low and 2,000 psi high.

After tying back into the 5 1/2" casing the 9" 3000 will be ND and a 2nd - 7 1/6" 5000 psi WP double ram BOP will be NU. The choke manifold will be reconnected and will be functionally equivalent to that shown below. Prior to drilling out additional cement plugs, the BOP will be tested to 250 psi low and 5,000 psi high, the manifold to 250 psi low, 3000 psi high.

Both BOP & manifold ratings exceed the minimum pressure rating required at depth per Onshore Order No. 2, III.A.1. All testing will be done by an independent service company per Onshore Order No. 2.

3000 psi WP choke manifold



be tested before all perforating procedures begin. Pipe rams will be operated and checked each 24 hours and each time the workover string is pulled out of the hole.

These functions will be documented on daily work-over reports. A 2" kill line and a 2" choke line will be installed on the casing spool below the ram type BOP. Other accessory BOP equipment will include a choke manifold shown in **Exhibit E** and choke line having a WP rating of 3000 psi,.

D) Casing Program (existing)

Surface:

Hole Size	Interval	OD Csg	Weight	Collar	Grade	Collapse DF	Burst DF	Tension DF
20"	0-422'	16"	65#	ST&C	J55	1.97	3.70	9.01

Intermediate I:

Hole Size	Interval	OD Csg	Weight	Collar	Grade	Collapse DF	Burst DF	Tension DF
14-3/4"	0-1645'	11-3/4"	42#	ST&C	H40	1.97	3.70	9.01

Intermediate II:

Hole Size	Interval	OD Csg	Weight	Collar	Grade	Collapse DF	Burst DF	Tension DF
11"	0-4256'	8-5/8"	32#	ST&C	J55	1.97	3.70	9.01

Production Casing:

Hole Size	Interval	OD Csg	Weight	Collar	Grade	Collapse DF	Burst DF	Tension DF
7 7/8	0 - 11797'	5 ½	17#	ST&C	S95/P110	1.97	3.70	9.01

1st stage cmt determined by circ 25 sx to surface after opening DV tool at 8992'. 2nd stage TOC determined by temp survey and found to be 3800' fs.

Casing Program (Proposed)

Surface, Intermediate I, Intermediate II casing strings are the same as above.
5 ½" Production Casing was cut and pulled at 3000'. Propose to mill over cut joint and wash over a minimum of 100'. Will tie into 5 ½ casing with lead patch and circulate cement a minimum of 100' below lead patch to surface.

E) Cement Program:

16"	Surface-Cement circulated with 250 sxs H/L, tailed in with 200 sx P+
11 ¾"	Intermediate I-Cement circulated with 550 sx H/L, tailed in with 200 sx P+
8 5/8"	Intermediate II-Cement circulated with 670 sx Interfil C, tailed in with 200 sx P+
5 ½"	Production- DV tool @ 8992'
	Cemented in 2 stages: 1st stg - 400 sxs / 2nd stg - 770 sxs TOC 3800' (TS)

After dressing off the 5 1/2" csg stub at 3000', a lead seal cementable csg patch will be run on new 5 1/2" 17 ppf J55 STC csg (int yield 5320 psi - SF=3.4, collapse 4910 psi - SF=3.1, body yield 273k lbs - SF=5.4) from the stub to surface. The lead seal will be engaged and sealed, then the 5 1/2" and patch cemented per the cement program.

Cement the casing patch and new 5 1/2" casing w/ 465 sx Class C plus 2% CaCl (yield 1.32 ft3/sx, dens 14.8 ppg, calculated excess 15%).

* See COA* Morrow plug added

CIBP shown in schematic

F) Drilling Fluid Program

Drilling fluid: 10 ppg brine, 28 sec viscosity, no water loss additives. The pit system will be closed loop and drilling returns will be hauled to a NMOCD approved solid drilling waste disposal site.

If a viscosifier or weighting agent is needed for any reason the viscosifier will be salt gel (viscosities range 28 sec to 60 sec) and the weighting agent will be barite as needed.

G) Testing

No other logs are expected to be ran during re-entry or completion procedures.
After perforating, zones will be swabbed tested for hydrocarbons and results will be documented is daily report. If hydrocarbons are detected, BLM will be notified of results before proceeding.

H) Bottom Hole Pressure

Maximum BHP is expected would be 4400 psi.
No abnormal temperatures or H2S was encountered during the original drilling and completion of this well therefore no abnormal temperatures or H2S gas are anticipated. As a precaution, H2S detection equipment will be utilized during the re-entry and completion procedures.
Fluids will be constantly visually monitored for losses or gains.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-101
Revised July 18, 2013

NM OIL CONSERVATION
ARTESIA DISTRICT
MAR 9 2015
RECEIVED

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address	2. OGRID Number
Judah Oil, LLC PO Box 568 Artesia, NM 88211-0568	245872
	3. API Number 30-015-33180

4. Property Code	5. Property Name	6. Well No.
33349	Oxy Doc Slawin Federal	1

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
M	29	17S	31E		460	FLS	640	FWL	Eddy

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
M	29	17S	31E		626	FSL	620	FWL	Eddy

9. Pool Information

Pool Name	Pool Code
SWD LBone Springs – Wolfcamp	96096

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
E	S	R	Federal	3691'
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
No	9450'	Bone-Springs/Wolfcamp	n/a	3-16-04

Depth to Ground water	Distance from nearest fresh water well	Distance to nearest surface water
430'	12 miles, Maljamar	No one in area

☐ **We will be using a closed-loop system in lieu of lined pits**

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surface	20"	16"	J55-65#	422'	450	Circulated
Intermediate 1	14 – ¾"	11 – ¾"	H40-42#	1645'	750	Circulated
Intermediate 2	11"	8-5.8"	J55-32#	4256'	870	Circulated

Casing/Cement Program: Additional Comments

7 7/8" hole to TD 11797' 5 1/2" S95/P110 @ TD. TOC 3800' and 5 1/2" cut at 3000'. Will tie back into 5 ½" and circulate cement to surface

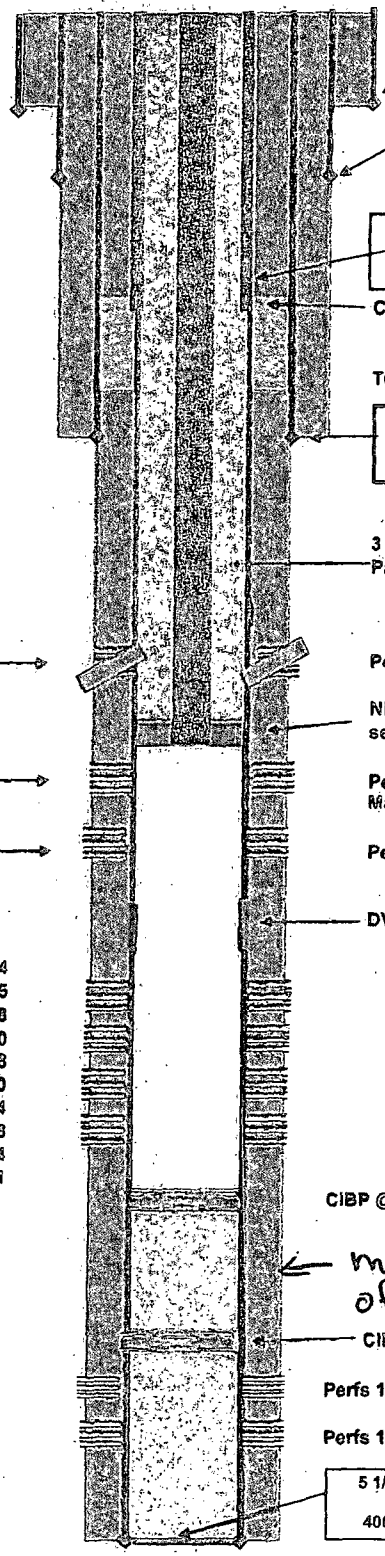
22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
7 1/16" 5000# Hydraulic Double Ram	5000#	5000#	Townsend

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. **I further certify that I have complied with 19.15.14.9 (A) NMAC ☐ and/or 19.15.14.9 (B) NMAC ☐, if applicable.** Signature:	OIL CONSERVATION DIVISION
Printed name: James B. Campanella	Title:
Title: Member/Manager	Approved Date: / Expiration Date:
E-mail Address: jbc@judahoil.com	
Date: 5-13-2014 / Phone: 575-748-4730	Conditions of Approval Attached

Judah Oil, LLC
Oxy Doc Slawin Fed No 1
API # 30-015-33180
460 FSL X 640 FWL
Unit Letter "M", Section 29, T17S, R31E
Eddy County, New Mexico
Spud 03/16/2004 as Morrow Test
Plugged and Abandoned 08/06/2004
Proposed Wellbore

KB - 3709'
GL - 3691'
ALL MEASUREMENTS AR KB



16"J55 csg at 422 ft in 20" hole
Cmt w/ 450 sx (Circ)

11 3/4" H40 csg at 1645 ft in 14 3/4" hole
Cmt w/ 750 sx (Circ)

Yates 1737

7 Rivers 2080
Queen 2740

SA 3590

Tie-Into Cut 5-1/2" Csg
Perforate below Csg Patch
Circulate Cmt to Surface

Cut and pull 5 1/2 csg at 3000 ft

TOC 3800' (Temp Survey)

8 5/8" J55 csg at 4256 ft in 11" Hole
Cmt w/ 870 sx (Circ)

3 1/2"Duoline tubing
Packer Fluid

Bone Springs 5000

Bone Springs 1 Perfs

Perfs 5624-40' (10 shts) sqz 72 sxs

Nickel Coated Arrowset Packer
set at 7600 +/-

Bone Springs 2 Perfs

Perfs 7762-8128' (20 shts) OPEN
Maximum Injection Pressure 1552 ps

Bone Springs 3 Perfs

Perfs 8275-8385' (15 shts) OPEN

DV Tool @ 8992 ft

Wolf Camp 8944

Perforations

9048-52	4
9061-66	5
9106-14	8
9134-64	30
9172-200	28
9238-48	10
9264-78	14
9296-326	28
9356-9360	4
	131

CIBP @ 9450 ft w/35' cmt

Cisco 9580
Penn 9805
Strawn 10647
Atoka 10695

← must have cement plug on top of CIBP @ 11,375'. See COAs

Morrow 11376

CIBP @ 11375 ft w/35' cmt

Perfs 11422-11502' (24 shts) OPEN

Morrow Perfs

Perfs 11565-11588' (24 shts) OPEN

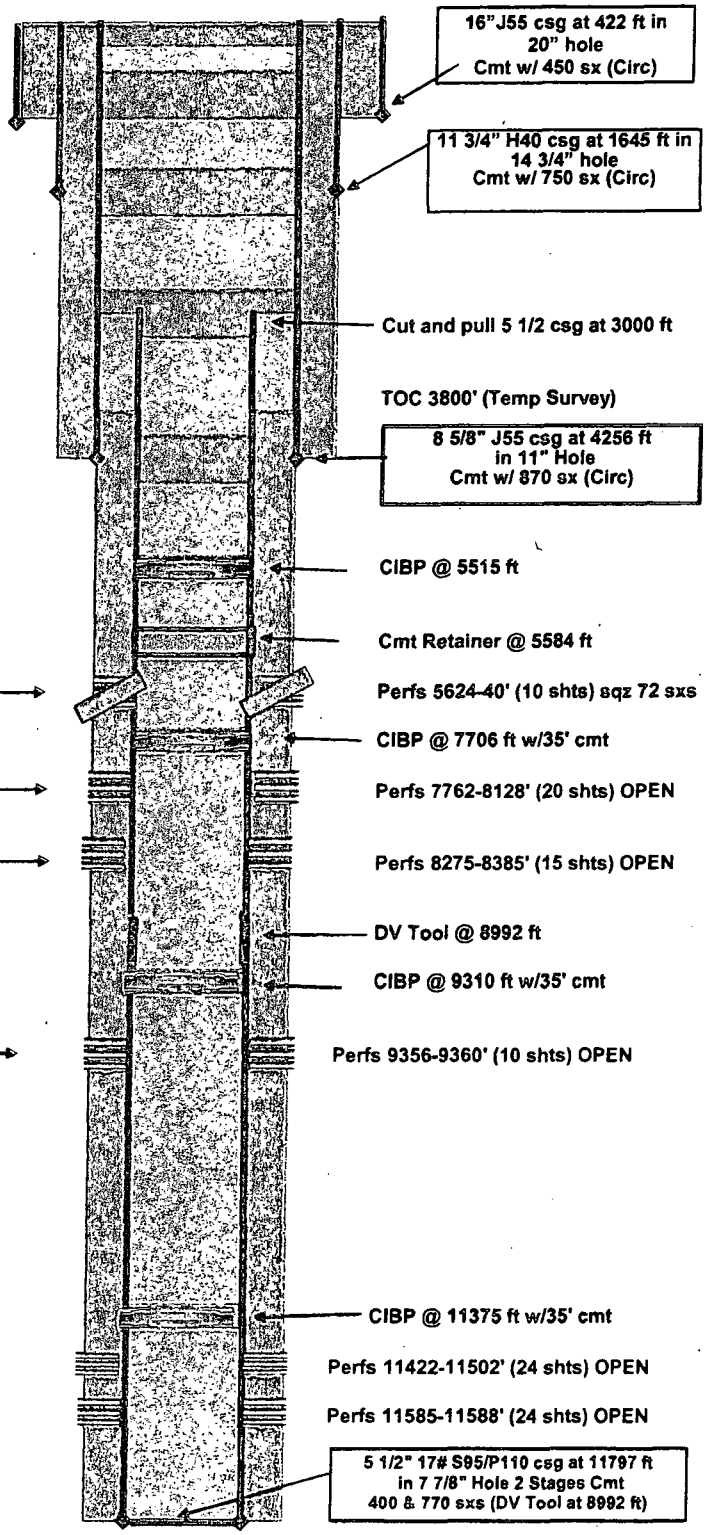
Chester 10647

5 1/2" 17# S95/P110 csg at 11797 ft
in 7 7/8" Hole 2 Stages Cmt
400 & 770 sxs (DV Tool at 8992 ft)

Drawing not to scale

3/25/2014
VSW2

Judah Oil, LLC
Oxy Doc Slawin Fed No 1
API # 30-015-33180
460 FSL X 640 FWL
Unit Letter "M", Section 29, T17S, R31E
Eddy County, New Mexico
Spud 03/161/2004 as Morrow Test
Plugged and Abandoned 08/06/2004
Current Wellbore



Drawing not to scale

3/25/2014
VSW2

Exhibit C
Judah Oil, LLC
Oxy Doc Slawin Fed #1
API - 30-015-33180

Form 3160-4
(July 1992)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

N.M. Oil Cons. DIV. Dist. 2
W. Grand Avenue
Artesia, NM 88210

FORM APPROVED
OMB NO. 1004-0137
Expires: February 28, 1995

5. LEASE DESIGNATION AND SERIAL NO.
NMLC029395B

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL __ GAS WELL X DRY __ Other __

b. TYPE OF COMPLETION: NEW WELL X WORK OVER __ DEEP-EN __ PLUG BACK __ DIFF. RESVR. __ Other __

7. UNIT AGREEMENT NAME

2. NAME OF OPERATOR
MARBOB ENERGY CORPORATION

8. FARM OR LEASE NAME, WELL NO.
OXY DOC SLAWIN FEDERAL #1

3. ADDRESS AND TELEPHONE NO.
PO BOX 227, ARTESIA, NM 88211-0227 (505) 748-3303

9. API WELL NO.
30-015-33180

ACCEPTED FOR RECORD
JUL 21 2004
ALEXIS C. SWOBODA
PETROLEUM ENGINEER

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface 460 FSL 640 FWL, UNIT M

10. FIELD AND POOL, OR WILDCAT
HACKBERRY

At top prod. interval reported below
SAME

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA
SEC. 29-T17S-R31E

At total depth
691 FSL 690 FWL, UNIT M

14. PERMIT NO.

12. COUNTY OR PARISH
EDDY

13. STATE
NM

15. DATE SPUDDED 3/16/04
16. DATE T.D. REACHED 4/20/04
17. DATE COMPL. (Ready to prod.) 6/11/04
18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 3691' GL
19. ELEV. CASINGHEAD

20. TOTAL DEPTH, MD & TVD	21. PLUG, BACK T.D., MD & TVD	22. IF MULTIPLE COMPL., HOW MANY*	23. INTERVALS DRILLED BY	ROTARY TOOLS	CABLE TOOLS
11800'	7706'		→	0 - 11800'	

24. PRODUCING INTERVAL(S), OF THIS COMPLETION-TOP, BOTTOM, NAME (MD AND TVD)*
NON-PRODUCTIVE - TO BE P&A

25. WAS DIRECTIONAL SURVEY MADE
NO

26. TYPE ELECTRIC AND OTHER LOGS RUN
DLL, CSNG

27. WAS WELL CORED
NO

28. CASING RECORD (Report all strings set in well)

CASING SIZE/GRADE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	TOP OF CEMENT, CEMENTING RECORD	AMOUNT PULLED
16" J55	65#	422'	20"	450 SX, CIRC	NONE
11 3/4" H40	42#	1645'	14 3/4"	750 SX, CIRC	NONE
8 5/8" J55	32#	4256'	11"	870 SX, CIRC	NONE
5 1/2" S95/P110	17#	11797'	7 7/8"	1170 SX, CIRC	NONE

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
NONE		

31. PERFORATION RECORD (Interval, size and number)
11585-11588 (24 SHOTS) 5624-5640 (9 SHOTS)
11422-11502 (24 SHOTS)
9356-9360 (10 SHOTS)
8275-8385 (15 SHOTS)
7762-8128 (20 SHOTS)

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
11585-11588'	ACDZ W/ 500 GAL CLAY SAFE H ACID
11422-11502'	ACDZ W/ 2500 GAL CLAY SAFE H ACID
8275-8385'	ACDZ W/ 4500 GAL 20% NEFE ACID
8275-8385'	SQZ W/ 75 SX CMT
5624-5640'	SQZ W/ 72 SX CMT

33. PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping--size and type of pump)	WELL STATUS (Producing or shut-in)
		SHUT IN

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N FOR TEST PERIOD →	OIL--BBL.	GAS--MCF.	WATER--BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL--BBL.	GAS--MCF.	WATER--BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)
SHUT IN

TEST WITNESSED BY

RECEIVED
JUL 28 2004
OCD-ARTESIA

35. LIST OF ATTACHMENTS
LOGS, DEVIATION SURVEY, GYROSCOPIC SURVEY, WELLBORE SKETCH

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED Diana J. Cannon TITLE PRODUCTION ANALYST DATE 7/20/04

*(See Instructions and Spaces for Additional Data on Reverse Side)

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

3/25/2014
VSW2

EXHIBIT C
Judah Oil, LLC
Oxy Doc Slawin Fed #1
API - 30-015-33180

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
			SET CIBP @ 11375'. DUMP 35 SX CMT ON TOP. SET CIBP @ 9310'. DUMP 35 SX CMT ON TOP. SET CIBP @ 7706'. SET CEMENT RETAINER @ 5584'

38. GEOLOGICAL MARKERS			38. GEOLOGICAL MARKERS		
NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH	NAME	TOP MEAS. DEPTH	TOP TRUE VERT. DEPTH
RUSTLER	430'				
YATES	1737'				
SEVEN RIVERS	2086'				
BOWERS	2508'				
QUEEN	2739'				
SAN ANDRES	3590'				
WOLFCAMP	8944'				
PENN SHALE	9805'				
STRAWN	10647'				
ATOKA	10895'				
MORROW CLASTICS	11376'				
CHESTER	11614'				

U.S GOVERNMENT PRINTING OFFICE 1992 – 774-672

3/25/2014
VSW2

Judah Oil
Wells with in AOR
Oxy Doc Slawin Fed # 1

	RAD	API	OPER	LEASE	WELL	T	S	TWN	RNG	SEC		UNT	TVD
		3001533180	MARBOB	OXY DOC SLAWIN FEDERAL	#1	G	P	17S	31E	29		M	11800
1	**201**	**3001505454**	**LINN**	**TURNER B**	**#71**	**O**	**A**	**17S**	**31E**	**29**	**1**	**M**	**3672**
2	**866**	**3001505488**	**JB&A**	**NORINS REALTY INC**	**#2**	**O**	**P**	**17S**	**31E**	**32**		**D**	**3654**
3	**1002**	**3001526620**	**LINN**	**TURNER B**	**#98**	**O**	**A**	**17S**	**31E**	**29**	**2**	**M**	**3750**
4	**1102**	**3001526392**	**LINN**	**TURNER B**	**#86**	**O**	**A**	**17S**	**31E**	**29**	**3**	**L**	**3730**
5	**1182**	**3001529649**	**LINN**	**TURNER B**	**#133**	**I**	**A**	**17S**	**31E**	**29**	**4**	**N**	**3953**
6	**1321**	**3001505475**	**LINN**	**TURNER B**	**#76**	**I**	**U**	**17S**	**31E**	**30**		**P**	**3597**
7	**1361**	**3001504902**	**AVON**	**TURNER B**	**#66**	**I**	**P**	**17S**	**31E**	**29**	**5**	**N**	**3706**
8	**1521**	**3001505451**	**DEVON**	**TURNER B**	**#64**	**I**	**P**	**17S**	**31E**	**29**	**6**	**L**	**3576**
9	**1817**	**3001505481**	**MCCLELL**	**NORINS REALTY INC**	**#1**	**O**	**P**	**17S**	**31E**	**31**		**A**	**3599**
10	**1857**	**3001505489**	**ME-TEX**	**STATE M**	**#1**	**O**	**P**	**17S**	**31E**	**32**		**C**	**3704**
11	**1987**	**3001529187**	**LINN**	**TURNER B**	**#114**	**O**	**A**	**17S**	**31E**	**30**		**P**	**3738**
12	**2004**	**3001505472**	**LINN**	**TURNER B**	**#53**	**I**	**A**	**17S**	**31E**	**30**		**I**	**3524**
13	**2029**	**3001505447**	**LINN**	**TURNER B**	**#60**	**I**	**A**	**17S**	**31E**	**29**	**7**	**K**	**3626**
14	**2178**	**3001526387**	**LINN**	**TURNER B**	**#87**	**O**	**A**	**17S**	**31E**	**29**	**8**	**K**	**3727**
15	**2198**	**3001526621**	**LINN**	**TURNER B**	**#99**	**O**	**A**	**17S**	**31E**	**29**	**9**	**L**	**3690**
16	**2209**	**3001526388**	**LINN**	**TURNER B**	**#80**	**O**	**A**	**17S**	**31E**	**29**	**10**	**L**	**3600**
17	**2480**	**3001529530**	**LINN**	**TURNER B**	**#111**	**O**	**A**	**17S**	**31E**	**30**		**O**	**3795**
18	2657	3001505450	LINN	TURNER B	#63	O	A	17S	31E	29	11	O	
19	2691	3001528142	YESO	TRACY 29 FEDERAL	#1	S	A	17S	31E	29	12	O	11857
20	2764	3001531806	DEVON	POWER 31 FEDERAL	#3	G	P	17S	31E	31		H	11875
21	2766	3001505484	ARCO	NORINS REALTY INC	#1	O	P	17S	31E	32		B	
22	2831	3001505442	LINN	TURNER B	#52	I	A	17S	31E	29	13	E	
23	2894	3001526389	LINN	TURNER B	#81	O	A	17S	31E	29	14	J	
24	3042	3001505473	LINN	TURNER B	#56	I	A	17S	31E	30		J	3527
25	3051	3001526883	LINN	MAX FRIESS MA	#7	O	A	17S	31E	30		G	3740
26	3121	3001505471	LINN	MAX FRIESS MA	#4	I	A	17S	31E	30		H	3602
27	3133	3001505443	LINN	TURNER B	#54	I	A	17S	31E	29	15	F	
28	3162	3001505445	ARCO	NORINS REALTY INC	#58	O	P	17S	31E	29	16	E	
29	3410	3001526571	LINN	TURNER B	#88	O	A	17S	31E	29	17	J	
30	3497	3001526390	LINN	TURNER B	#83	O	A	17S	31E	29	18	F	
31	3518	3001529573	LINN	TURNER B	#113	O	A	17S	31E	30		N	3835
32	3619	3001526656	LINN	MAX FRIESS MA	#5	O	A	17S	31E	30		A	
33	3700	3001525053	HEYCO	NORINS REALTY INC	#1	O	P	17S	31E	32		L	
34	3751	3001505485	HANSON	NORINS REALTY INC	#1	O	P	17S	31E	32		L	

Judah Oil
Wells with in AOR
Oxy Doc Slawin Fed # 1

	RAD	API	OPER	LEASE	WELL	T	S	TWN	RNG	SEC		UNT	TVD
35	3844	3001533849	OXY	OXY BODACIOUS FEDERAL	#1	G	A	17S	31E	30		N	11749
36	3873	3001505480	SCHUSTEI	NORINS REALTY INC	#2	O	P	17S	31E	31		C	
37	3875	3001505436	LINN	TURNER B	#49	I	A	17S	31E	29	19	G	
38	3889	3001505470	DEVON	MAX FRIESS MA	#3	O	U	17S	31E	30		G	
39	3901	3001526385	LINN	TURNER B	#82	O	A	17S	31E	29	20	J	
40	3978	3001505452	LINN	TURNER B	#68	I	A	17S	31E	29	21	P	
41	3991	3001529572	LINN	TURNER B	#110	O	A	17S	31E	30		N	3824
42	4085	3001526391	LINN	TURNER B	#84	O	A	17S	31E	29	22	B	
43	4111	3001505479	ENGLISH	NORINS REALTY INC	#2	O	P	17S	31E	31		C	
44	4126	3001526882	LINN	MAX FRIESS MA	#6	O	A	17S	31E	30		B	3937
45	4151	3001505437	LINN	TURNER B	#50	I	P	17S	31E	29	23	D	
46	4185	3001532585	OXY	OXY DOC SLAWIN FEDERAL	#2	G	A	17S	31E	29	24	I	11880
47	4215	3001505482	A&H	NORINS REALTY INC	#1	O	P	17S	31E	32		H	
48	4217	3001505474	ARCO	NORINS REALTY INC	#57	O	P	17S	31E	30		K	
49	4246	3001505438	LINN	TURNER B	#23	O	T	17S	31E	29	25	D	2102
50	4253	3001505449	LINN	TURNER B	#62	I	A	17S	31E	29	26	I	
51	4280	3001505448	LINN	TURNER B	#61	I	A	17S	31E	29	27	J	3550
52	4348	3001528984	LINN	TURNER B	#108	O	A	17S	31E	30		K	3870
53	4355	3001505469	LINN	MAX FRIESS MA	#2	I	A	17S	31E	30		A	
54	4364	3001505434	LINN	TURNER B	#25	O	T	17S	31E	29	28	C	2163
55	4440	3001505478	HANSON	NORINS REALTY INC	#1	O	P	17S	31E	31		J	
56	4457	3001505458	LINN	TURNER B	#48	I	A	17S	31E	29	29	C	
57	4463	3001533850	OXY	OXY TRES LECHES FEDERAL	#1	G	P	17S	31E	30		B	
58	4631	3001505455	MARBOB	TURNER B	#73	S	P	17S	31E	29	30	C	
59	4663	3001505466	G PLEMON	FRIESS FEDERAL	#2	O	A	17S	31E	30		F	
60	4667	3001527929	HEYCO	CEDAR 32 ST COM	#1	G	A	17S	31E	32		H	11900
61	4685	3001538985	Apache	Apache State SWD	#1	S	ND	17S	31E	32		J	
62	4808	3001526386	LINN	TURNER B	#85	O	A	17S	31E	29	31	B	
63	4835	3001526595	LINN	TURNER B	#89	O	A	17S	31E	29	32	C	
64	4877	3001505444	LINN	TURNER B	#55	I	A	17S	31E	29	33	H	
65	4919	3001505459	LINN	MAX FRIESS MA	#1	I	A	17S	31E	30		B	3439
66	4921	3001505433	ARCO	NORINS REALTY INC	#24	O	P	17S	31E	29	34	B	
67	4998	3001505453	MARBOB	TURNER B	#69	O	P	17S	31E	29	35	B	
68	5000	3001526617	LINN	TURNER B	#100	O	A	17S	31E	20		M	
69	5007	3001505435	LINN	TURNER B	#47	I	A	17S	31E	29	36	B	
70	5037	3001505476	ARCO	NORINS REALTY INC	#77	O	P	17S	31E	30		M	

Judah Oil
Wells with in AOR
Oxy Doc Slawin Fed # 1

71	5103	3001529954	LINN	TURNER B	#137	O	A	17S	31E	29	37	B	3650
	RAD	API	OPER	NAME	#	T	S	TWN	RNG	SEC		UNT	
72	5126	3001505465	G PLEMON	FRIESS FEDERAL	#4	O	A	17S	31E	30		F	
73	5131	3001526606	DEVON	TURNER B	#90	O	P	17S	31E	29	38	C	
74	5141	3001505301	ARCO	NORINS REALTY INC	#70	O	P	17S	31E	20		M	
75	5151	3001505295	ARCO	NORINS REALTY INC	#27	O	P	17S	31E	20		M	
76	5176	3001531808	HEYCO	CEDAR 32 STATE	#2	G	A	17S	31E	32		N	11950
77	5232	3001531572	HEYCO	POWER DEEP 31 FEDERAL COM	#1	G	P	17S	31E	31		P	11832
78	5272	3001528822	LINN	FREN OIL COMPANY	#23	O	A	17S	31E	19		O	3735

#61 Permitted but not drill as of this date 1/3/2014

Scientific Drilling

Scientific Drilling
Survey Report

Company:	MARBOB ENERGY	**Date:** 5/6/2004	**Time:** 11:53:47	**Page:**	1
Field:	Hackberry, E	**Co-ordinate(NE) Reference:**	Site: Eddy County, NM, Grid North		
Site:	Eddy County, NM	**Vertical (TVD) Reference:**	SITE 0.0		
Well:	Oxy DOC Slawin Fed. #1	**Section (VS) Reference:**	Well (0.00N,0.00E,15.64Azi)		
Wellpath:	VH - Job #32K0404234	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Survey:	04/07/04 KSRG 0'-7100'	**Start Date:**	4/7/2004
Company:	Scientific Drilling	**Engineer:**	Gonzales/P&M
Tool:	Keeper,Keeper Gyro	**Tied-to:**	From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.0	0.00	359.76	0.0	0.0	0.0	0.0	0.00	0.0	0.00
100.0	0.09	139.68	100.0	0.0	-0.1	0.1	0.09	0.1	139.68
200.0	0.17	186.70	200.0	-0.2	-0.3	0.1	0.13	0.3	162.48
300.0	0.19	183.49	300.0	-0.5	-0.6	0.1	0.02	0.6	174.39
400.0	0.76	136.54	400.0	-1.0	-1.2	0.5	0.65	1.3	157.71
500.0	0.78	140.93	500.0	-1.8	-2.2	1.4	0.06	2.6	148.17
600.0	0.78	128.19	600.0	-2.4	-3.2	2.4	0.17	4.0	143.56
700.0	0.65	126.90	700.0	-2.9	-3.9	3.3	0.13	5.2	139.76
800.0	0.82	117.48	800.0	-3.3	-4.6	4.4	0.21	6.4	136.20
900.0	0.86	116.07	900.0	-3.5	-5.3	5.7	0.05	7.8	132.61
1000.0	0.78	108.93	999.9	-3.7	-5.8	7.1	0.13	9.2	129.56
1100.0	0.77	102.16	1099.9	-3.7	-6.2	8.4	0.09	10.4	126.53
1200.0	0.69	103.14	1199.9	-3.6	-6.5	9.6	0.08	11.6	123.98
1300.0	0.80	80.03	1299.9	-3.3	-6.5	10.9	0.32	12.7	120.81
1400.0	0.99	66.55	1399.9	-2.5	-6.0	12.4	0.28	13.7	115.98
1500.0	1.26	60.01	1499.9	-1.1	-5.1	14.1	0.30	15.0	109.99
1600.0	1.31	58.28	1599.9	0.5	-4.0	16.0	0.06	16.5	103.94
1700.0	1.12	47.33	1699.8	2.2	-2.7	17.7	0.30	17.9	98.71
1800.0	0.86	35.77	1799.8	3.7	-1.4	18.9	0.33	18.9	94.37
1900.0	0.92	26.04	1899.8	5.2	-0.1	19.7	0.16	19.7	90.33
2000.0	0.84	11.06	1999.8	6.7	1.3	20.2	0.24	20.2	86.23
2100.0	0.84	353.90	2099.8	8.1	2.8	20.2	0.25	20.4	82.18
2200.0	1.01	344.32	2199.8	9.6	4.4	19.9	0.23	20.4	77.66
2300.0	1.03	350.17	2299.8	11.1	6.1	19.5	0.11	20.4	72.67
2400.0	0.99	335.25	2399.7	12.6	7.8	19.0	0.27	20.5	67.78
2500.0	1.20	330.67	2499.7	14.0	9.5	18.1	0.23	20.4	62.44
2600.0	1.19	333.77	2599.7	15.5	11.3	17.1	0.07	20.5	56.62
2700.0	1.18	325.19	2699.7	16.9	13.1	16.1	0.18	20.7	50.92
2800.0	1.21	313.53	2799.7	18.1	14.6	14.7	0.24	20.8	45.19
2900.0	1.18	317.24	2899.6	19.1	16.1	13.3	0.08	20.9	39.47
3000.0	1.16	313.14	2999.6	20.1	17.6	11.8	0.09	21.2	33.97
3100.0	1.19	315.40	3099.6	21.1	19.0	10.4	0.06	21.7	28.63
3200.0	1.19	306.65	3199.6	22.0	20.4	8.8	0.18	22.2	23.40
3300.0	1.11	315.31	3299.6	22.8	21.7	7.3	0.19	22.9	18.62
3400.0	1.00	311.23	3399.5	23.7	22.9	6.0	0.13	23.7	14.57
3500.0	1.02	315.83	3499.5	24.5	24.2	4.7	0.08	24.6	10.98
3600.0	1.02	315.27	3599.5	25.4	25.4	3.4	0.01	25.7	7.71
3700.0	1.11	321.07	3699.5	26.4	26.8	2.2	0.14	26.9	4.71
3800.0	1.25	319.58	3799.5	27.6	28.4	0.9	0.14	28.4	1.80
3900.0	1.04	323.06	3899.4	28.7	30.0	-0.4	0.22	30.0	359.31
4000.0	1.12	314.11	3999.4	29.8	31.4	-1.6	0.19	31.4	357.06
4100.0	1.23	302.40	4099.4	30.5	32.6	-3.2	0.26	32.8	354.37
4200.0	1.16	296.73	4199.4	31.0	33.6	-5.0	0.14	34.0	351.50
4300.0	1.43	297.27	4299.4	31.5	34.7	-7.0	0.27	35.4	348.52
4400.0	1.36	298.28	4399.3	32.0	35.8	-9.2	0.07	37.0	345.60
4500.0	1.49	301.19	4499.3	32.6	37.0	-11.4	0.15	38.7	342.96
4600.0	1.52	302.09	4599.3	33.3	38.4	-13.6	0.04	40.8	340.52
4700.0	1.33	300.06	4699.2	34.0	39.7	-15.7	0.20	42.7	338.41
4800.0	1.44	304.50	4799.2	34.7	41.0	-17.8	0.15	44.7	336.58

Scientific Drilling

Scientific Drilling
Survey Report

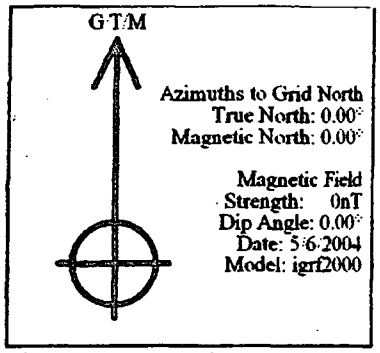
Company:	MARBOB ENERGY	**Date:**	5/6/2004	**Time:**	11:53:47	**Page:**	2
Field:	Hackberry, E	**Co-ordinate(NE) Reference:**	Site: Eddy County, NM, Grid North				
Site:	Eddy County, NM	**Vertical (TVD) Reference:**	SITE 0.0				
Well:	Oxy DOC Slawin Fed. #1	**Section (VS) Reference:**	Well (0.00N,0.00E,15.64Azi)				
Wellpath:	VH - Job #32K0404234	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase		

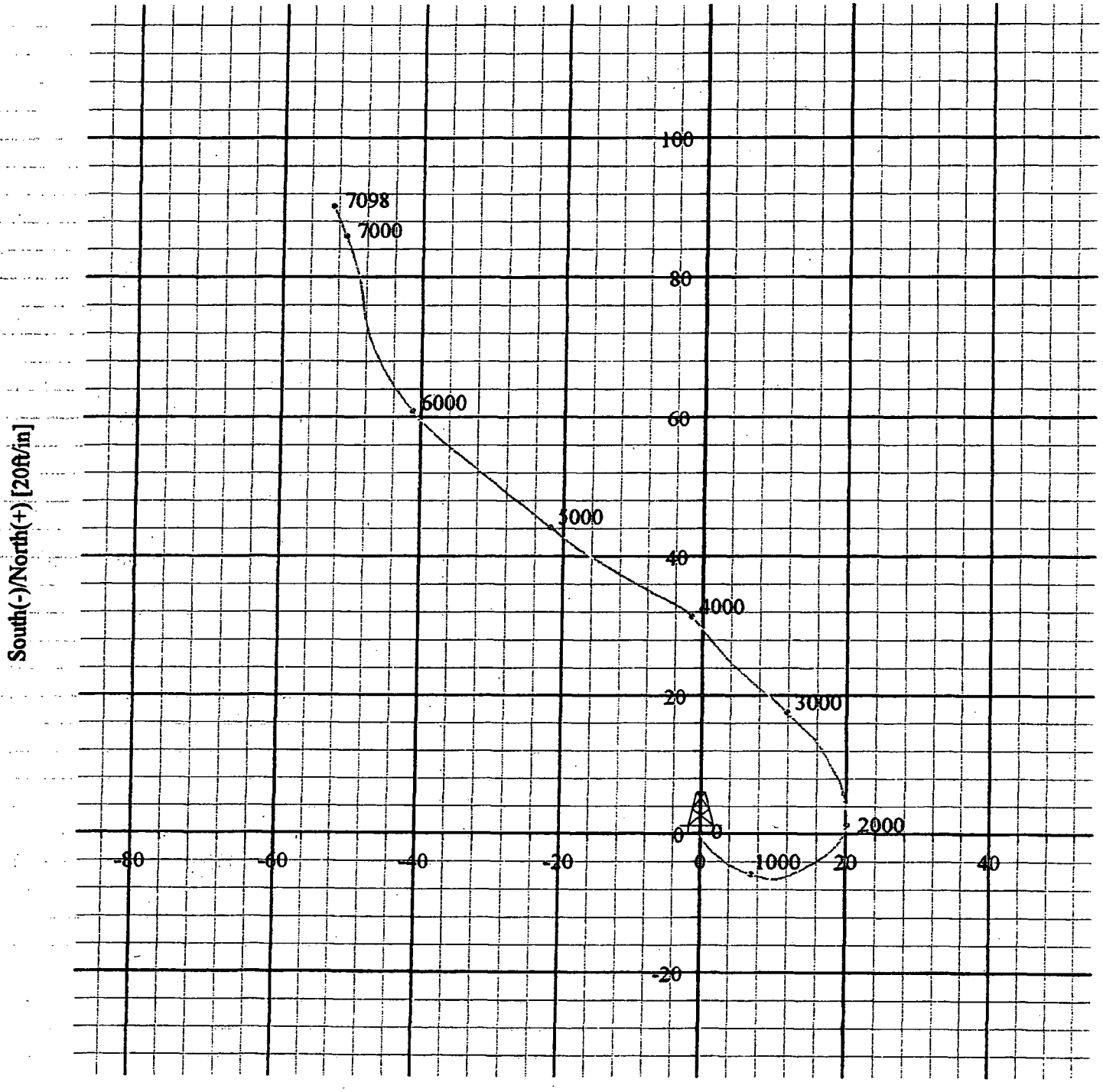
Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
4900.0	1.49	308.18	4899.2	35.6	42.5	-19.8	0.11	46.9	335.01
5000.0	1.46	310.07	4999.1	36.6	44.1	-21.8	0.06	49.2	333.70
5100.0	1.41	308.35	5099.1	37.6	45.7	-23.7	0.07	51.5	332.55
5200.0	1.42	309.75	5199.1	38.6	47.3	-25.7	0.04	53.8	331.50
5300.0	1.51	307.37	5299.0	39.6	48.9	-27.7	0.11	56.2	330.48
5400.0	1.44	311.39	5399.0	40.6	50.5	-29.7	0.12	58.6	329.58
5500.0	1.44	309.11	5499.0	41.7	52.1	-31.6	0.06	60.9	328.79
5600.0	1.48	310.46	5598.9	42.7	53.8	-33.5	0.05	63.4	328.04
5700.0	1.57	308.52	5698.9	43.8	55.4	-35.6	0.10	65.9	327.31
5800.0	1.56	313.07	5798.9	45.0	57.2	-37.7	0.12	68.5	326.66
5900.0	1.49	313.12	5898.8	46.2	59.0	-39.6	0.07	71.1	326.15
6000.0	1.31	321.34	5998.8	47.5	60.8	-41.3	0.27	73.5	325.85
6100.0	1.49	322.24	6098.8	48.9	62.7	-42.8	0.18	75.9	325.72
6200.0	1.44	328.78	6198.7	50.5	64.8	-44.2	0.17	78.5	325.71
6300.0	1.49	331.03	6298.7	52.3	67.1	-45.5	0.08	81.0	325.85
6400.0	1.32	336.91	6398.7	54.1	69.3	-46.6	0.22	83.5	326.08
6500.0	1.56	340.41	6498.7	56.1	71.6	-47.5	0.26	85.9	326.45
6600.0	1.47	350.37	6598.6	58.4	74.1	-48.2	0.28	88.4	327.00
6700.0	1.44	354.23	6698.6	60.7	76.7	-48.5	0.10	90.7	327.68
6800.0	1.59	349.80	6798.6	63.2	79.3	-48.9	0.19	93.1	328.35
6900.0	1.91	341.22	6898.5	65.8	82.2	-49.7	0.41	96.1	328.87
7000.0	2.45	338.66	6998.4	68.9	85.8	-51.0	0.55	99.8	329.29
7100.0	2.98	336.73	7098.3	72.6	90.2	-52.8	0.54	104.5	329.66

Scientific Drilling

Field: Hackberry, E
Site: Eddy County, NM
Well: Oxy DOC Slawin Fed. #1
Wellpath: VH - Job #32K0404234
Survey: 04/07/04





PathFinder Energy Services

Survey Report

Job No: J-WT-0404-0032
Date: 4/20/2004
Time: 6:40 am
Wellpath ID: oxydoc
Date Created: 4/7/2004
Last Revision: 4/20/2004

Calculated using the Minimum Curvarture Method
Computed using PDS VER2.2.6
Vertical Section Plane: 15.64 deg.

Survey Reference: WELLHEAD
Vertical Section Reference: WELLHEAD
Closure Reference: WELLHEAD
TVD Reference: WELLHEAD

Marbob Energy
Eddy County, N.M.
Oxy Doc Slawin Fed #1
Oxy Doc Slawin Fed #1
Original

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	Course Length (ft)	TVD (ft)	TOTAL Rectangular Offsets (ft)	(ft)	DLS (dg/100ft)	Vertical Section (ft)	Closure Dist. (ft)	Dir. (deg.)
Tie into SDI Gyro										
7100.00	2.98	336.97	0.00	7098.32	90.39 N	52.39W	0.00	72.92	104.48	@329.90
7138.00	2.64	328.91	38.00	7136.27	92.05 N	53.23W	1.37	74.29	106.33	@329.96
7170.00	2.29	329.87	32.00	7168.24	93.23 N	53.93W	1.10	75.24	107.71	@329.95
7202.00	2.11	340.33	32.00	7200.22	94.34 N	54.45W	1.37	76.17	108.93	@330.01
7232.00	2.29	342.44	30.00	7230.20	95.43 N	54.82W	0.66	77.12	110.05	@330.13
7263.00	2.37	1.16	31.00	7261.17	96.66 N	54.99W	2.46	78.26	111.21	@330.37
7293.00	1.93	16.02	30.00	7291.15	97.77 N	54.84W	2.36	79.37	112.10	@330.71
7323.00	2.58	20.06	30.00	7321.13	98.89 N	54.47W	2.23	80.54	112.90	@331.15
7354.00	2.81	24.37	31.00	7352.10	100.24 N	53.91W	0.99	81.99	113.82	@331.73
7386.00	2.81	20.32	32.00	7384.06	101.69 N	53.32W	0.62	83.55	114.82	@332.33
7417.00	2.90	29.02	31.00	7415.02	103.08 N	52.67W	1.43	85.07	115.76	@332.93
7510.00	2.37	19.36	93.00	7507.92	106.96 N	50.89W	0.74	89.28	118.45	@334.55
7541.00	2.46	20.32	31.00	7538.89	108.18 N	50.45W	0.32	90.58	119.37	@335.00
7572.00	2.99	24.45	31.00	7569.86	109.54 N	49.89W	1.82	92.04	120.37	@335.52
7604.00	2.99	23.49	32.00	7601.81	111.07 N	49.21W	0.16	93.69	121.48	@336.11
7664.00	2.20	40.54	60.00	7661.75	113.38 N	47.84W	1.83	96.29	123.06	@337.13
7725.00	2.20	47.39	61.00	7722.71	115.06 N	46.21W	0.43	98.34	124.00	@338.12
7787.00	2.81	43.88	62.00	7784.65	116.96 N	44.28W	1.01	100.69	125.07	@339.26
7849.00	2.64	35.35	62.00	7846.58	119.22 N	42.40W	0.71	103.38	126.54	@340.42
7911.00	2.20	15.67	62.00	7908.52	121.53 N	41.26W	1.51	105.91	128.35	@341.25
7975.00	2.20	359.93	64.00	7972.48	123.95 N	40.93W	0.94	108.32	130.53	@341.73
8006.00	1.76	1.34	31.00	8003.46	125.02 N	40.92W	1.43	109.36	131.54	@341.88
8068.00	2.11	47.13	62.00	8065.43	126.74 N	40.06W	2.48	111.25	132.92	@342.46
8129.00	3.08	49.06	61.00	8126.36	128.58 N	38.00W	1.60	113.58	134.08	@343.54
8191.00	2.37	35.62	62.00	8188.29	130.72 N	35.99W	1.53	116.17	135.58	@344.61
8254.00	1.06	48.19	63.00	8251.26	132.16 N	34.80W	2.15	117.89	136.67	@345.25
8317.00	1.06	52.05	63.00	8314.25	132.91 N	33.90W	0.11	118.85	137.17	@345.69
8380.00	1.41	96.70	63.00	8377.24	133.18 N	32.67W	1.58	119.44	137.13	@346.22
8441.00	2.64	83.43	61.00	8438.20	133.25 N	30.53W	2.14	120.09	136.70	@347.09

PathFinder Energy Services

Survey Report

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	Course Length (ft)	TVD (ft)	TOTAL Rectangular Offsets (ft)	(ft)	DLS (dg/100ft)	Vertical Section (ft)	Closure Dist. (ft)	Dir. (deg.)
8503.00	2.64	79.65	62.00	8500.14	133.67 N	27.71W	0.28	121.25	136.51@	348.29
8564.00	2.73	79.03	61.00	8561.07	134.20 N	24.90W	0.16	122.52	136.49@	349.49
8626.00	2.64	79.47	62.00	8623.00	134.74 N	22.05W	0.15	123.81	136.53@	350.71
8688.00	2.81	87.30	62.00	8684.93	135.07 N	19.13W	0.66	124.92	136.42@	351.94
8751.00	3.78	90.55	63.00	8747.83	135.13 N	15.51W	1.57	125.94	136.01@	353.45
8814.00	3.96	82.99	63.00	8810.68	135.37 N	11.27W	0.86	127.32	135.84@	355.24
8874.00	4.66	68.49	60.00	8870.51	136.52 N	6.95W	2.15	129.59	136.70@	357.09
8936.00	5.98	60.75	62.00	8932.25	139.02 N	1.79W	2.42	133.39	139.03@	359.26
8998.00	5.10	49.50	62.00	8993.96	142.39 N	3.13 E	2.25	137.96	142.42@	1.26
9059.00	4.40	30.52	61.00	9054.75	146.17 N	6.38 E	2.80	142.47	146.31@	2.50
9121.00	4.40	27.53	62.00	9116.57	150.32 N	8.68 E	0.37	147.10	150.57@	3.31
9182.00	4.92	25.07	61.00	9177.37	154.77 N	10.87 E	0.91	151.97	155.15@	4.02
9244.00	3.96	26.04	62.00	9239.18	159.10 N	12.94 E	1.55	156.70	159.63@	4.65
9306.00	3.87	42.82	62.00	9301.04	162.56 N	15.30 E	1.85	160.67	163.28@	5.38
9369.00	3.96	43.79	63.00	9363.89	165.69 N	18.25 E	0.18	164.47	166.69@	6.29
9431.00	3.52	39.75	62.00	9425.76	168.70 N	20.95 E	0.83	168.10	169.99@	7.08
9493.00	3.61	35.18	62.00	9487.64	171.76 N	23.29 E	0.48	171.68	173.33@	7.72
9524.00	3.96	29.29	31.00	9518.57	173.49 N	24.38 E	1.69	173.64	175.19@	8.00
9556.00	4.57	32.28	32.00	9550.48	175.53 N	25.60 E	2.03	175.93	177.39@	8.30
9617.00	4.48	30.61	61.00	9611.29	179.63 N	28.11 E	0.26	180.56	181.82@	8.89
9678.00	4.40	28.23	61.00	9672.11	183.75 N	30.43 E	0.33	185.15	186.25@	9.40
9741.00	3.85	22.87	63.00	9734.95	187.82 N	32.40 E	1.07	189.60	190.60@	9.79
9804.00	2.90	23.49	63.00	9797.84	191.23 N	33.85 E	1.51	193.28	194.21@	10.04
9835.00	2.20	28.67	31.00	9828.80	192.48 N	34.45 E	2.38	194.64	195.53@	10.15
9865.00	2.46	27.44	30.00	9858.78	193.55 N	35.02 E	0.88	195.83	196.70@	10.26
9896.00	3.34	23.66	31.00	9889.74	194.97 N	35.69 E	2.90	197.37	198.21@	10.37
9927.00	2.90	30.08	31.00	9920.69	196.48 N	36.45 E	1.81	199.03	199.83@	10.51
9959.00	2.02	24.02	32.00	9952.67	197.69 N	37.08 E	2.86	200.37	201.14@	10.62
9991.00	1.85	21.47	32.00	9984.65	198.69 N	37.50 E	0.60	201.44	202.20@	10.69
10022.00	2.20	31.57	31.00	10015.63	199.66 N	38.00 E	1.61	202.51	203.24@	10.78
10054.00	2.99	37.90	32.00	10047.59	200.84 N	38.83 E	2.62	203.87	204.56@	10.94
10086.00	3.08	38.60	32.00	10079.55	202.17 N	39.88 E	0.30	205.44	206.07@	11.16
10117.00	2.99	31.22	31.00	10110.51	203.51 N	40.82 E	1.29	206.98	207.57@	11.34
10147.00	2.64	35.27	30.00	10140.47	204.75 N	41.62 E	1.34	208.39	208.94@	11.49
10179.00	2.81	33.33	32.00	10172.43	206.00 N	42.48 E	0.60	209.83	210.34@	11.65
10210.00	3.25	52.14	31.00	10203.39	207.18 N	43.59 E	3.49	211.26	211.71@	11.88
10240.00	2.81	48.36	30.00	10233.35	208.19 N	44.81 E	1.61	212.56	212.96@	12.15
10272.00	2.73	30.69	32.00	10265.31	209.37 N	45.79 E	2.67	213.96	214.31@	12.34
10303.00	2.55	6.26	31.00	10296.28	210.69 N	46.24 E	3.65	215.35	215.70@	12.38
10334.00	2.64	3.36	31.00	10327.25	212.08 N	46.36 E	0.51	216.73	217.08@	12.33
10366.00	2.55	15.58	32.00	10359.21	213.51 N	46.59 E	1.75	218.16	218.53@	12.31
10397.00	2.47	18.48	31.00	10390.19	214.80 N	46.99 E	0.48	219.52	219.88@	12.34

PathFinder Energy Services

Survey Report

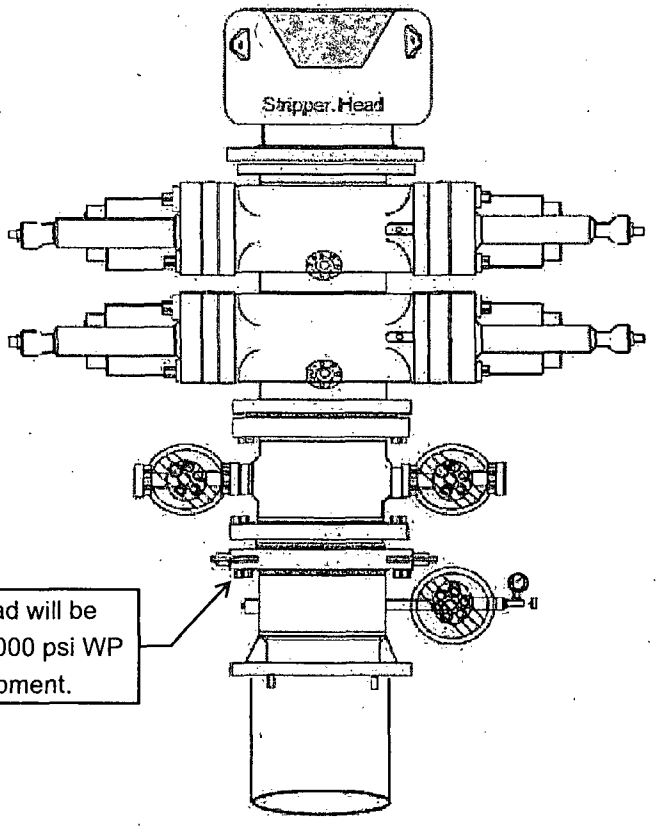
Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	Course Length (ft)	TVD (ft)	TOTAL Rectangular Offsets (ft)	(ft)	DLS (dg/100ft)	Vertical Section (ft)	Closure Dist. (ft)	Dir. (deg.)
10428.00	2.90	31.84	31.00	10421.15	216.10 N	47.61 E	2.44	220.94	221.29@	12.43
10460.00	2.37	25.86	32.00	10453.12	217.39 N	48.33 E	1.86	222.37	222.69@	12.53
10492.00	2.37	18.21	32.00	10485.09	218.61 N	48.83 E	0.99	223.68	224.00@	12.59
10523.00	2.73	32.63	31.00	10516.06	219.84 N	49.42 E	2.36	225.03	225.33@	12.67
10553.00	2.55	34.56	30.00	10546.03	220.99 N	50.19 E	0.67	226.34	226.62@	12.79
10588.00	3.25	50.56	35.00	10580.98	222.26 N	51.40 E	3.04	227.89	228.13@	13.02
10618.00	2.81	54.60	30.00	10610.94	223.23 N	52.65 E	1.63	229.16	229.35@	13.27
10650.00	2.73	50.82	32.00	10642.90	224.17 N	53.88 E	0.62	230.39	230.55@	13.52
10681.00	2.37	46.25	31.00	10673.87	225.08 N	54.92 E	1.33	231.55	231.68@	13.71
10712.00	2.11	40.45	31.00	10704.85	225.95 N	55.75 E	1.11	232.62	232.73@	13.86
10743.00	1.85	41.33	31.00	10735.83	226.76 N	56.45 E	0.84	233.59	233.68@	13.98
10806.00	1.85	39.75	63.00	10798.80	228.31 N	57.77 E	0.08	235.43	235.50@	14.20
10868.00	1.67	35.35	62.00	10860.77	229.81 N	58.94 E	0.36	237.19	237.25@	14.38
10930.00	1.32	28.23	62.00	10922.75	231.18 N	59.80 E	0.64	238.74	238.79@	14.50
10993.00	1.14	23.66	63.00	10985.73	232.39 N	60.39 E	0.33	240.07	240.11@	14.57
11056.00	0.97	1.34	63.00	11048.72	233.50 N	60.65 E	0.70	241.21	241.25@	14.56
11118.00	0.35	219.92	62.00	11110.72	233.88 N	60.55 E	2.04	241.54	241.59@	14.51
11179.00	0.09	189.51	61.00	11171.72	233.69 N	60.42 E	0.45	241.33	241.37@	14.50
11240.00	0.44	237.85	61.00	11232.72	233.52 N	60.21 E	0.63	241.10	241.16@	14.46
11303.00	0.62	230.03	63.00	11295.71	233.17 N	59.75 E	0.31	240.64	240.70@	14.37
11366.00	0.79	238.38	63.00	11358.71	232.72 N	59.11 E	0.31	240.04	240.11@	14.25
11429.00	0.88	247.08	63.00	11421.70	232.31 N	58.30 E	0.25	239.42	239.51@	14.09
11490.00	0.97	250.51	61.00	11482.69	231.95 N	57.38 E	0.17	238.83	238.95@	13.89
11552.00	1.14	270.99	62.00	11544.68	231.79 N	56.27 E	0.66	238.38	238.52@	13.65
11614.00	1.67	263.96	62.00	11606.67	231.70 N	54.75 E	0.90	237.89	238.09@	13.30
11678.00	1.58	261.58	64.00	11670.64	231.48 N	52.95 E	0.18	237.18	237.46@	12.89
11740.00	1.58	252.71	62.00	11732.62	231.10 N	51.29 E	0.39	236.37	236.72@	12.51
Projection To TD										
11800.00	1.58	252.71	60.00	11792.59	230.61 N	49.71 E	0.00	235.47	235.90@	12.17

PathFinder Energy Services

Survey Report

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	Course Length (ft)	TVD (ft)	TOTAL Rectangular Offsets (ft)	(ft)	DLS (dg/100ft)	Vertical Section (ft)	Closure Dist. (ft)	Dir. (deg.)
10428.00	2.90	31.84	31.00	10421.15	216.10 N	47.61 E	2.44	220.94	221.29@	12.43
10460.00	2.37	25.86	32.00	10453.12	217.39 N	48.33 E	1.86	222.37	222.69@	12.53
10492.00	2.37	18.21	32.00	10485.09	218.61 N	48.83 E	0.99	223.68	224.00@	12.59
10523.00	2.73	32.63	31.00	10516.06	219.84 N	49.42 E	2.36	225.03	225.33@	12.67
10553.00	2.55	34.56	30.00	10546.03	220.99 N	50.19 E	0.67	226.34	226.62@	12.79
10588.00	3.25	50.56	35.00	10580.98	222.26 N	51.40 E	3.04	227.89	228.13@	13.02
10618.00	2.81	54.60	30.00	10610.94	223.23 N	52.65 E	1.63	229.16	229.35@	13.27
10650.00	2.73	50.82	32.00	10642.90	224.17 N	53.88 E	0.62	230.39	230.55@	13.52
10681.00	2.37	46.25	31.00	10673.87	225.08 N	54.92 E	1.33	231.55	231.68@	13.71
10712.00	2.11	40.45	31.00	10704.85	225.95 N	55.75 E	1.11	232.62	232.73@	13.86
10743.00	1.85	41.33	31.00	10735.83	226.76 N	56.45 E	0.84	233.59	233.68@	13.98
10806.00	1.85	39.75	63.00	10798.80	228.31 N	57.77 E	0.08	235.43	235.50@	14.20
10868.00	1.67	35.35	62.00	10860.77	229.81 N	58.94 E	0.36	237.19	237.25@	14.38
10930.00	1.32	28.23	62.00	10922.75	231.18 N	59.80 E	0.64	238.74	238.79@	14.50
10993.00	1.14	23.66	63.00	10985.73	232.39 N	60.39 E	0.33	240.07	240.11@	14.57
11056.00	0.97	1.34	63.00	11048.72	233.50 N	60.65 E	0.70	241.21	241.25@	14.56
11118.00	0.35	219.92	62.00	11110.72	233.88 N	60.55 E	2.04	241.54	241.59@	14.51
11179.00	0.09	189.51	61.00	11171.72	233.69 N	60.42 E	0.45	241.33	241.37@	14.50
11240.00	0.44	237.85	61.00	11232.72	233.52 N	60.21 E	0.63	241.10	241.16@	14.46
11303.00	0.62	230.03	63.00	11295.71	233.17 N	59.75 E	0.31	240.64	240.70@	14.37
11366.00	0.79	238.38	63.00	11358.71	232.72 N	59.11 E	0.31	240.04	240.11@	14.25
11429.00	0.88	247.08	63.00	11421.70	232.31 N	58.30 E	0.25	239.42	239.51@	14.09
11490.00	0.97	250.51	61.00	11482.69	231.95 N	57.38 E	0.17	238.83	238.95@	13.89
11552.00	1.14	270.99	62.00	11544.68	231.79 N	56.27 E	0.66	238.38	238.52@	13.65
11614.00	1.67	263.96	62.00	11606.67	231.70 N	54.75 E	0.90	237.89	238.09@	13.30
11678.00	1.58	261.58	64.00	11670.64	231.48 N	52.95 E	0.18	237.18	237.46@	12.89
11740.00	1.58	252.71	62.00	11732.62	231.10 N	51.29 E	0.39	236.37	236.72@	12.51
Projection To TD										
11800.00	1.58	252.71	60.00	11792.59	230.61 N	49.71 E	0.00	235.47	235.90@	12.17

Judah Oil LLC
Oxy Doc Slawin Fed #1
460' FSL & 640' FWL
Sec 29 17S 31E
Eddy Co., NM



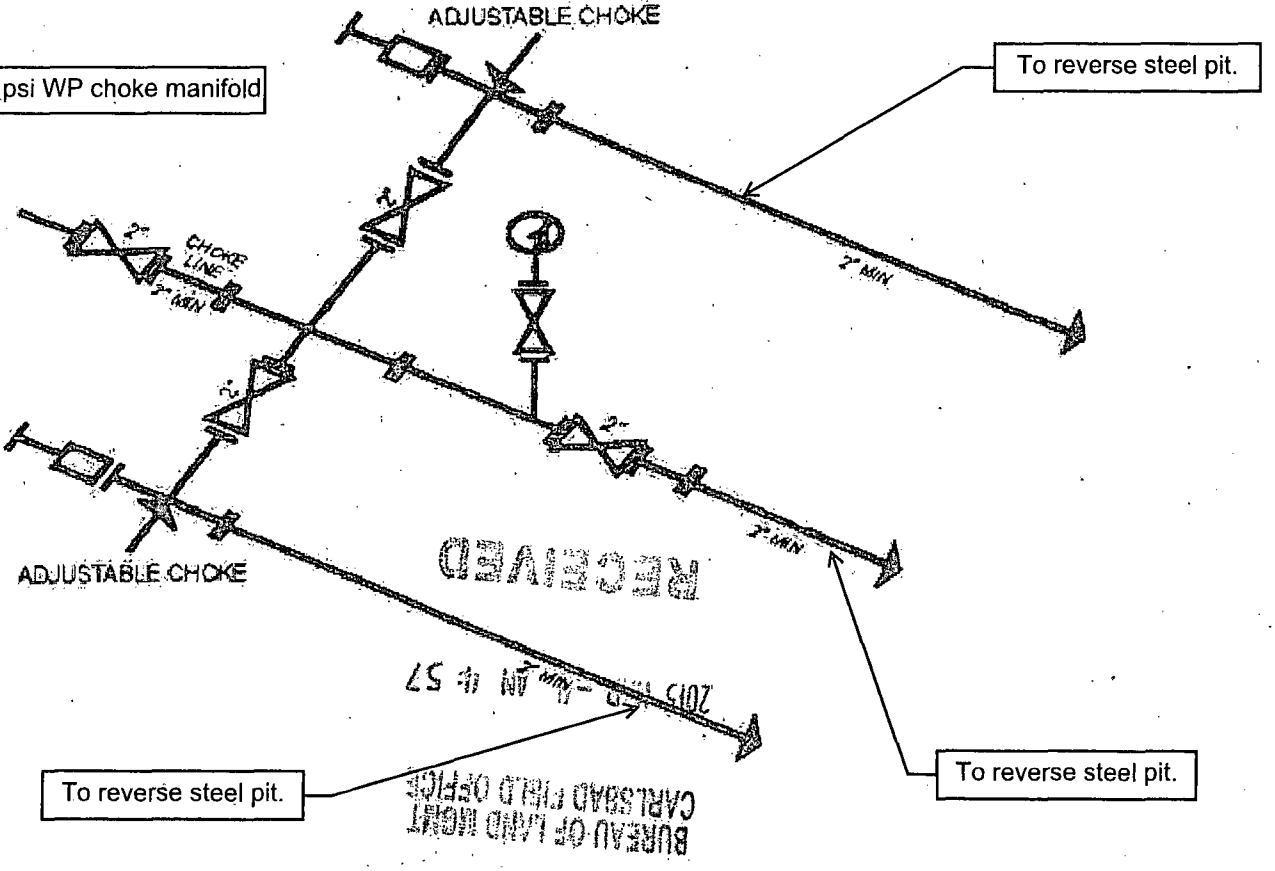
Wellhead will be flanged 3000 psi WP equipment.

The 1st BOP will consist of a 9" 3000 psi WP double hydraulic ram w/ one set of pipe rams and one set of blind rams, coupled w/ a 2" 5000 psi WP steel line to a 3000 psi WP choke manifold. The choke manifold will be functionally equivalent to that shown below. After nipple up the BOP & manifold will be tested to 250 psi low and 2,000 psi high.

After tying back into the 5 1/2" casing the 9" 3000 will be ND and a 2nd - 7 1/6" 5000 psi WP double ram BOP will be NU. The choke manifold will be reconnected and will be functionally equivalent to that shown below. Prior to drilling out additional cement plugs, the BOP will be tested to 250 psi low and 5,000 psi high, the manifold to 250 psi low, 3000 psi high.

Both BOP & manifold ratings exceed the minimum pressure rating required at depth per Onshore Order No. 2, III.A.1. All testing will be done by an independent service company per Onshore Order No. 2.

3000 psi WP choke manifold

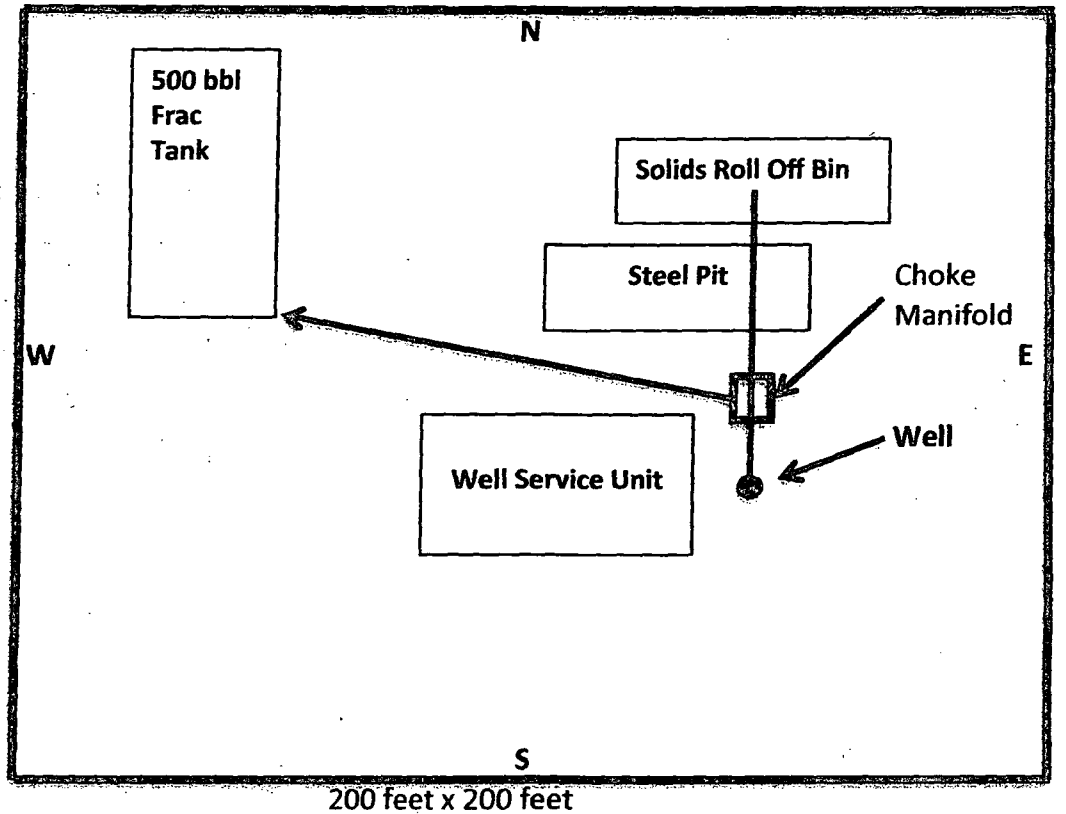


To reverse steel pit.

To reverse steel pit.

To reverse steel pit.

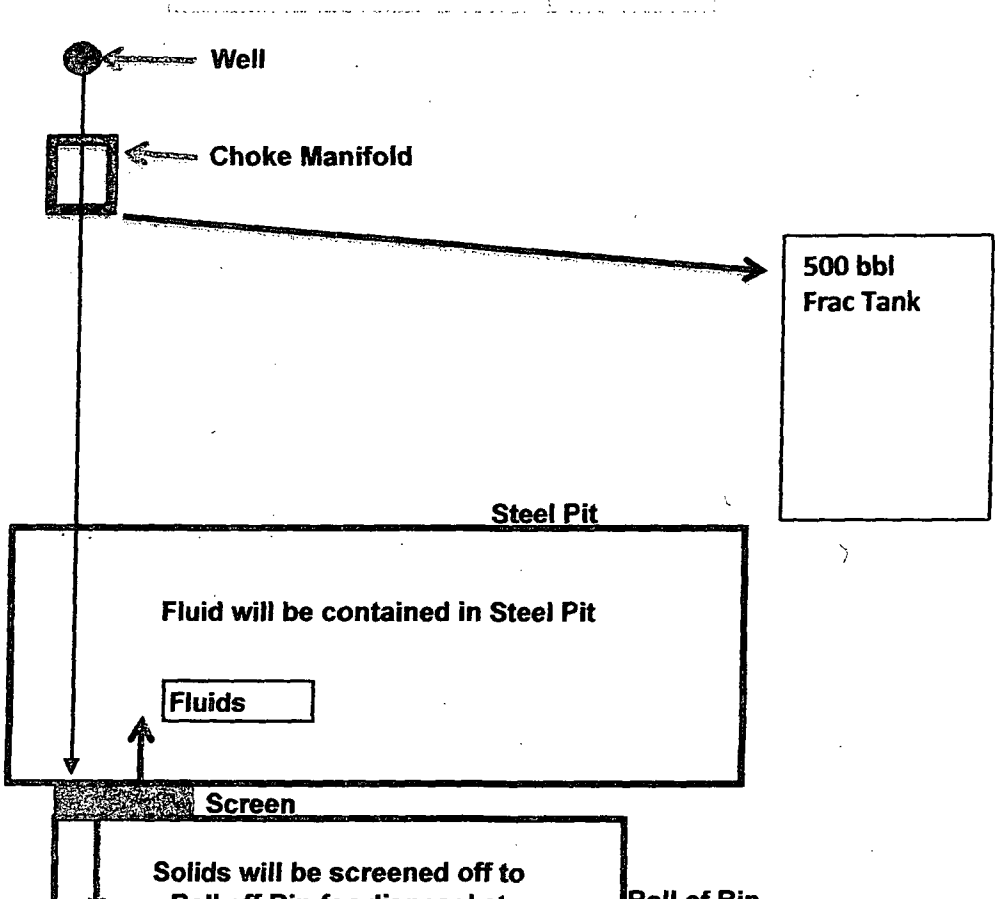
Exhibit C
Judah Oil,LLC
Oxy Doc Slawin Federal #1
API # 30-015-33180



200 feet x 200 feet

Doc 1 Correlations 16 apr12
Exhibits Multi-Point

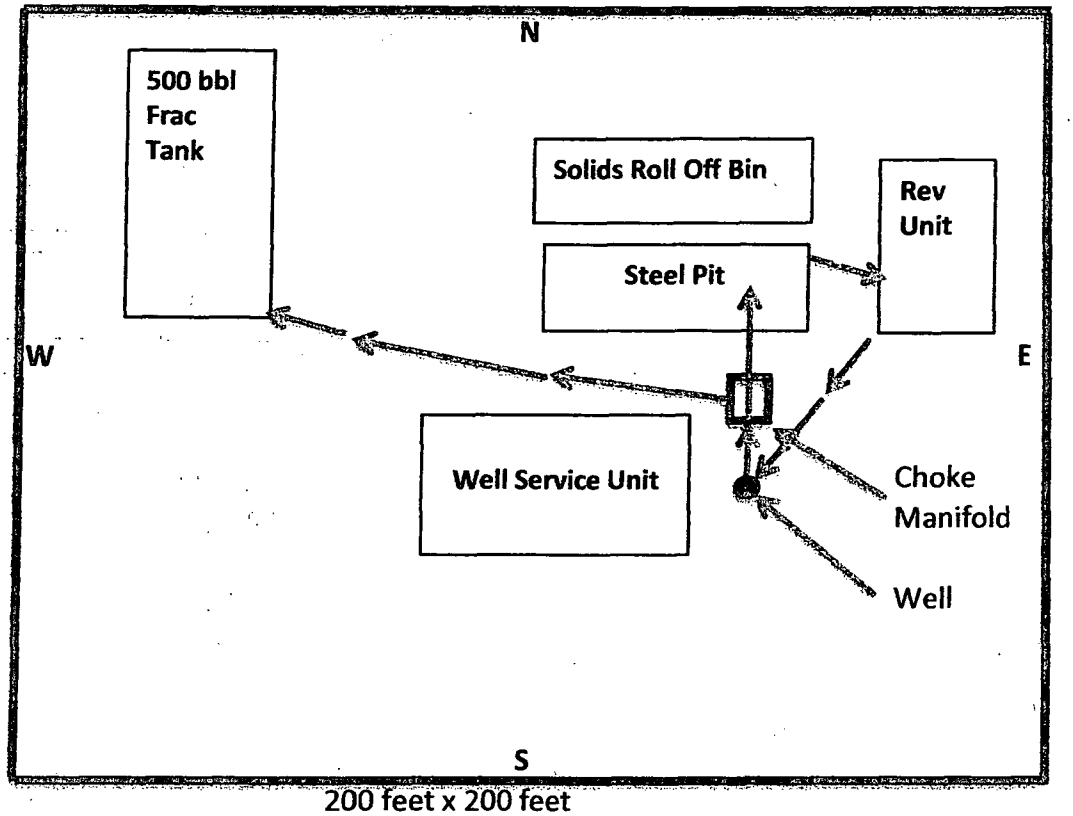
Exhibit C
Judah Oil,LLC
Oxy Doc Slawin Federal # 1
API # 30-015-33180



Pits and Roll off bins will be monitored during re-entry operations
Fluids will be hauled to Sundance Disposal NM-01-003
Solids will be hauled to Sundance Disposal NM-01-003

Drawing not to scale

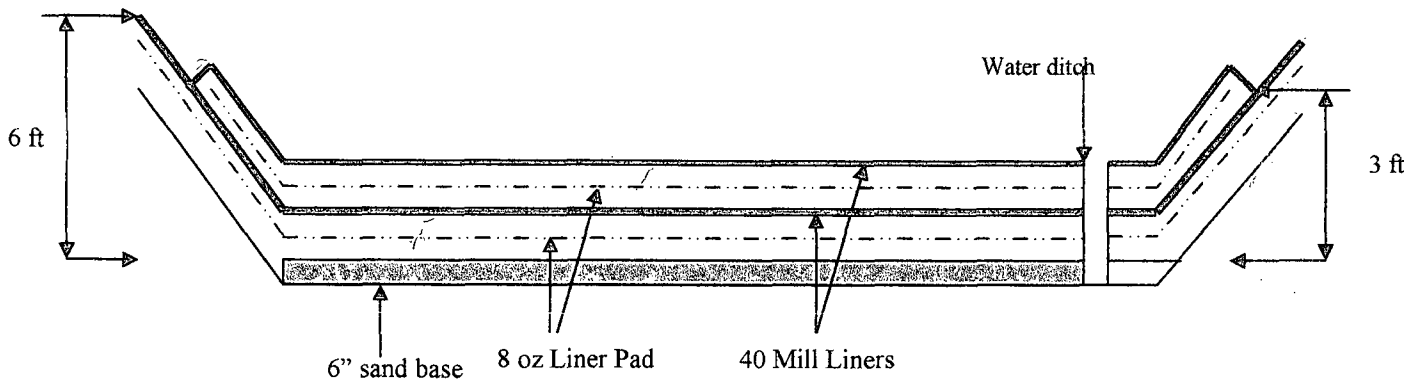
Exhibit C
Judah Oil,LLC
Oxy Doc Slawin Federal #1
API # 30-015-33180



200 feet x 200 feet

Doc 1 Correlations 16 apr12
Exhibits Multi-Point

Tank Pad Environmental Liner Schematic



Doc Fed #1 SWD Project

Judah Oil, LLC
UL-M, Section 29, T-17-S, R-31-E
Eddy County NM

Multi-Point Surface Use and Operation Plan
Judah Oil, LLC
Oxy Doc Slawin Fed #1
API #30-015-33180

This plan is submitted with the Application for Permit, to Re-enter the above described well. The purpose of the plan is to identify the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operation so that a complete appraisal may be made of the environmental effects associated with the operation.

The well, and work area have been staked by a registered New Mexico land surveyor. Geo-Marine Inc. conducted an archaeological reconnaissance of the work area for Oxy for the original application to drill the above well. Their findings concerning cultural resources were reported to the Bureau of Land Management in the report dated December 10, 2003 and prepared by Mesa Field Services. (This report is not resubmitted in this operation plan.)

1. *Existing Roads ,*
   A copy of a USGS "Red Lake, SE New Mexico" quadrangle maps is attached, as **Exhibit A**, showing the proposed location on a Vicinity Map, Location Verification Map, Land Platt and General Well Location Map. The well location is spotted on all maps, which also shows the existing road system.

   Directions to Location
   From the junction of US Hwy 82 and CR 222, go south on CR 222 approximately 7/8 mi and turn left (west) on lease road approximately 7/8 mi to the location.

2. *Planned Access Road*
   A. Will use existing access road.
   B. Surfacing material: Six inches of caliche and water, compacted and graded.
   C. Maximum Grade: Less than 3%.
   D. Turnouts: None needed
   E. Drainage Design: N/A
   F. Culverts: None needed
   G. Cuts and Fills: Leveling the location will require minimal cuts or fills.
   H. Gates or Cattle guards: None required

3. Existing wells within a 1 mile radius of the proposed SWD well are shown on **Exhibit B,** Well Location Map.

4. *Location of Existing and/or Proposed Facilities*
   A. If the injectivity test is successful, disposal facilities will be constructed on the well pad. The facility will consist of a 750 bbl gun barrel tank, one 300 bbl oil tank and three 300 bbl fiberglass water tanks. All permanent above ground facilities will be painted in accordance with the BLM's painting guidelines simulating the color of sandstone brown. (Sight Facility Attached)
   B. All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to and a site security plan will be submitted for the OXY Jamoca Federal #1 tank battery. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.

5. *Location and Type of Water Supply*

Fresh water and brine water will be used to re-enter this well. It will be purchased from a supply in Loco Hills and transported to the well site.

6. *Source of Construction Materials*
Caliche for surfacing the well pad will be obtained from State Pit No. 408A, located in Sec 16, T18S, R31E, Eddy County, New Mexico.

7 *Method of Handling Waste Disposal*
A. Drill Cuttings will be screened in to roll off bins and hauled to Lea Land Services.
B. Drilling fluids will be contained in steel pits and hauled to Sundance after the completion of re-entry and completion as salt water disposal well are concluded. NMOCD C144 CLEZ has been submitted and approved by the NMOCD with permit # 211117
C. Current laws and regulations pertaining to the disposal of human waste will be complied with.
D. Trash, waste paper, garbage and junk will be collected in steel trash bins and removed after drilling and completion operations are completed. All waste material will be contained to prevent scattering by the wind.
E. All trash and debris will be removed from the well site within 30 days after finishing drilling and/or completion operations.

8. *Ancillary Facilities*
A. None needed.

9. *Well site Layout*
A. The location and dimensions of the well pad and location of major rig components are shown on the well site layout sketches, **Exhibit C**.
B. Leveling of the well site will be required with minimal cuts or fills anticipated.

10. *Plans for Restoration of the Surface*
A. After completion of drilling and/or completion operations, all equipment and other materials not needed for operations will be removed.
B. Location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing condition as possible. Location will be reduced in Interim Reclamation. (Interim Reclamation Layout Diagram Attached)
C. After abandonment of the well, surface restoration will be in accordance with the land owner. This will be accomplished as expeditiously as possible.
D. Plans for Surface Reclamation

d.a. Reclamation Objectives:

i. The objective of interim reclamation is to restore vegetative cover and a portion of the landform sufficient to maintain healthy, biologically active topsoil; control erosion, and minimize habitat and forage loss, visual impact, and weed infestation, during the life of the well or facilities.

ii. The long-term objective of final reclamation is to return the land to a condition approximating that which existed prior to disturbance. This includes restoration

of the landform and natural vegetative community, hydrologic systems, visual resources, and wildlife habitats. To ensure that the long-term objective will be reached through human and natural processes, actions will be taken to ensure standards are met for site stability, visual quality, hydrological functioning, and vegetative productivity.

iii. The BLM will be notified at least 3 days prior to commencement of any reclamation procedures.

iv. If circumstances allow, interim reclamation and/or final reclamation actions will be completed no later than 6 months from when the final well on the location has been completed or plugged. We will gain written permission from the BLM if more time is needed.

d.b. Interim Reclamation

i. Interim reclamation will be performed on the well site after the well is drilled and completed. The production facility/interim reclamation layout depicts the location and dimensions of the planned interim reclamation for the well site.

ii. Within 30 days of well completion, the well location and surrounding areas will be cleared of, and maintained free of, all materials, trash, and equipment not required for production.

iii. In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.

iv. The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3.1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

v. Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 Inches within 24 hours prior to seeding, dozer tracking, or other imprinting in Order to break the soil crust and create seed germination micro-sites.

vi. Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area.

vii. The interim reclamation will be monitored periodically to ensure that vegetation has reestablished and that erosion is controlled.

d.c. Final Reclamation (well pad, buried pipelines, etc.)

i. Prior to final reclamation procedures, the well pad, road, and surrounding area will be cleared of material, trash, and equipment.

ii. All surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.

iii. All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be recontoured to the contour existing prior to initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

iv. After all the disturbed areas have been properly prepared, the areas will be seeded with the proper BLM seed mixture, free of noxious weeds. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

v. Proper erosion control methods will be used on the entire area to control erosion, runoff and siltation of the surrounding area.

vi. All unused equipment and structures including pipelines, electric line poles, tanks, etc. that serviced the well will be removed.

vii. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion is controlled.

11. Surface Ownership

The well site is on federal owned surface. The surface is leased to: Williams & Son Cattle Co., P.O. Box 30, Maljamar, NM 88264. They will be notified of our intention to re-enter prior to any activity.

12. Other Information

A. Topography: The location is a flat plain. GL elevation is 3692'.
B. Soil: Sandy clay loams. .
C. Flora and Fauna: The vegetative cover is generally sparse consisting of mesquite, yucca, shinnery oak, sand sage and perennial native range grasses. Wildlife in the area is also sparse consisting of coyotes, rabbits, rodents, reptiles, dove, and quail.
D. Ponds and Streams: There are no rivers, streams, lakes or ponds in the area.
E. Residences and Other Structures: No residence within 2 miles of the proposed location.

F. Archaeological, Historical and Cultural Sites: Cultural resources have been recorded in the area. Geo-Marine Inc. conducted an archaeological reconnaissance of the work area for Oxy for the original application to drill the original well. Their findings concerning cultural resources were reported to the Bureau of Land Management in the report dated December 10, 2003 and prepared by Mesa Field Services. (**Exhibit D**) Re-Entry operations will not impact any archaeological sites recognized in the report. If the well is successfully completed as an injector, all archaeological site will be fenced off and fully protected.
G. Land Use: Cattle ranching.

13. Operator's Representatives and Certification
The field representative responsible for assuring compliance with the approved surface use and operations plan are as follows (Letter Statement attached):

James B. Campanella
Member/Manager
PO Box 568
Artesia, New Mexico 88211
575-748-4730 office
575-748-5488 cellular

Ashley Niblett
Operations Superintendent
PO Box 6011
Midland, Texas 79711
432-561-9960 office
432-214-6005 cellular

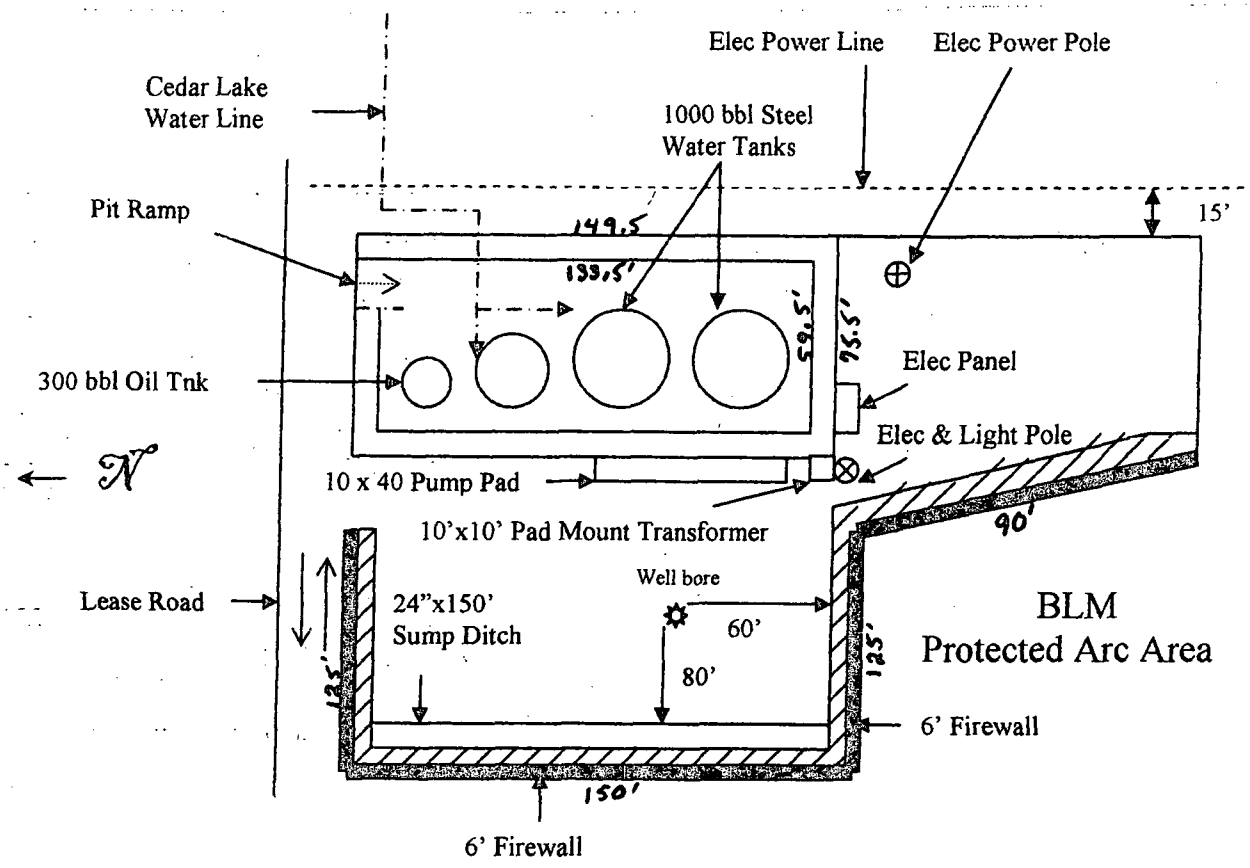
Kevin Rogers
Operations Manager
PO Box 1348
Artesia, New Mexico 88211
575-756-1280 office
575-200-7896 cellular

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Judah Oil, LLC and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

Date: 5-13-2014

James B. Campanella
Judah Oil, LLC
Managing/Member

NO. 4 PROPOSED FACILITY



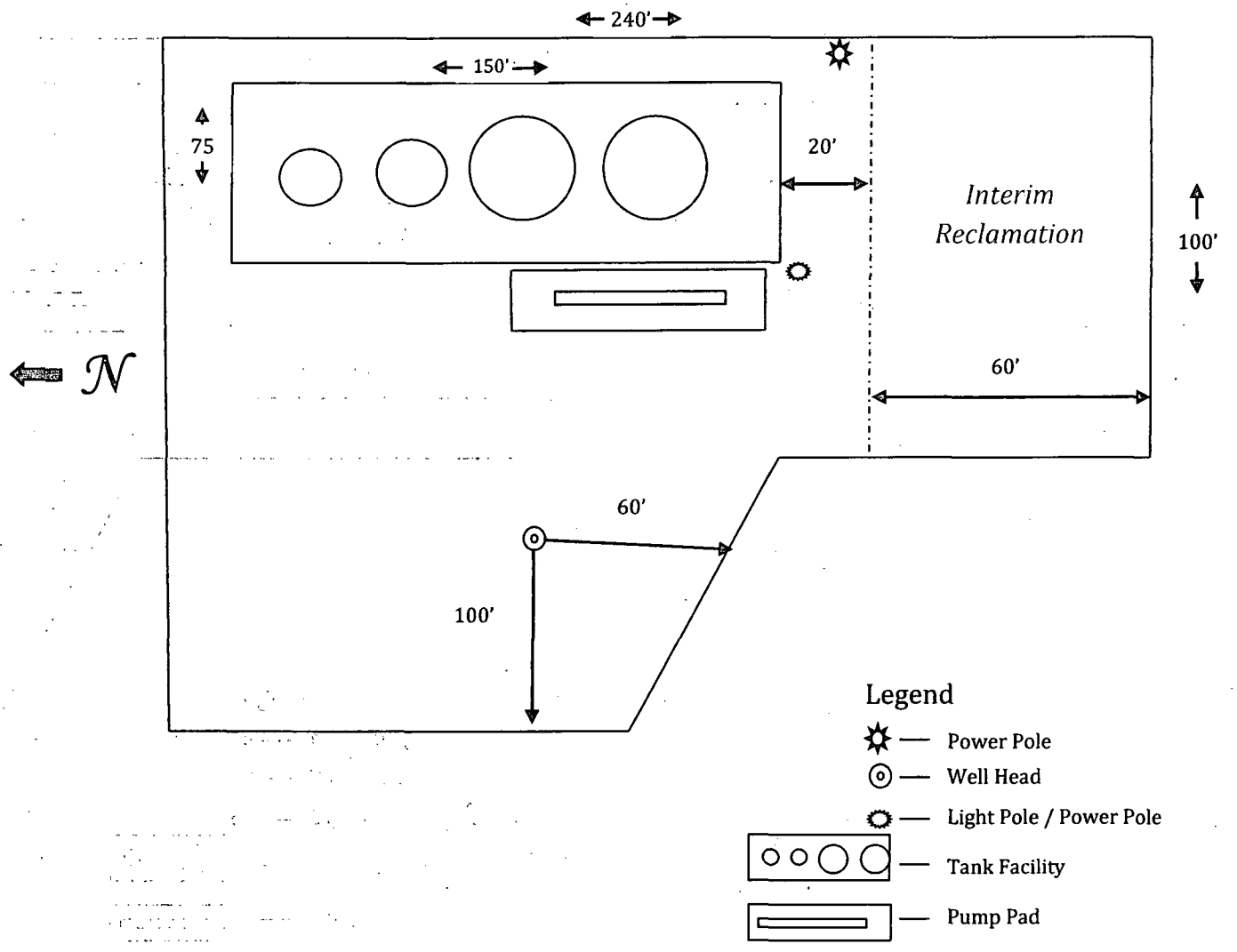
* Tank Facility will sit 6' below grade to provide extra containment. and will be Double Lined with 40 mill liner. (Diagram Attached)
* 6' Firewall will be constructed along the west side, 125' on the NW Side and 215' along the South side protecting the "Protected Area".
* 24" deep x 107' long cement ditch with 2 sump pumps will be along the inside West firewall to catch rain water or any potential spills.
* Tank facility, cement ditch and water tanks will have high level alarms.
* Water tanks will have tuning forks for high level hard shut off.

Judah Oil, LLC
Tank Facility Diagram

Doc Fed #1 SWD
API # 30-015-33180
UL-M, Section 29
T-17-S, R-31-E
Eddy County, NM NMOCD Administration Order SWD-1333

Drawing is not to scale
This drawing is for Judah Oil, LLC and Judah Oil, LLC makes no representation or warranties of any nature to the construction or working capacity of this SWD facility.

No. 10 d.b INTERIM RECLAMATION



Interim Reclamation Layout

Oxy Doc Slawin Federal #1

UL-M, Section 29, T-17-S, R-31-E

Scientific Drilling

MARBOB ENERGY

Field: Hackberry, E
Site: Eddy County, NM
Well: Oxy DOC Slawin Fed. #1
Wellpath: VH - Job #32K0404234
Survey: 04/07/04

This survey is correct to the best of my knowledge
and is supported by actual field data.

.....Company Representative

Notorized this date 6th of May, 2004.

Notary Signature
County of Midland
State of Texas

DEBORAH S BYNUM
Notary Public, State of Texas
My Commission Expires
05-09-2004

Exhibit D

AN ARCHAEOLOGICAL SURVEY FOR THE DOC SLAWIN FEDERAL COM. NO. 1 WELL

Prepared and Submitted by
Sean Simpson
Mesa Field Services
PO Box 3072
Carlsbad, NM 88221

Presented to

Terry Asel
OXY U.S.A. WTP LP
Attn: A\P 13th Fl.-Oracle
P.O. Box 1747
Addison, TX 75001-1747

New Mexico State Permit No. NM-03-104
Bureau of Land Management Permit No. 153-2920-03-M
NMCRIS No. 85389

Mesa Field Services Report No. 950
December 10, 2003

Table of Contents

Introduction

On the dates of September 15, 22, and 28, archaeologists with Mesa Field Services (MFS) conducted a pedestrian cultural resource survey for a proposed well pad for the Doc Slawin Federal Com. No 1 lease (NMCRIS Registration No. 85389). During the course of the survey two previously recorded sites and six isolated manifestations (IMs) were encountered and documented. The survey was requested, and plat sheets were provided, by Terry Asel with OXY (Appendix A).

The project is located in Township 17 South, Range 31 East, Section 29. It can be found on the Loco Hills, New Mexico Provisional Edition 1985 7.5' series USGS quadrangle (Figure 1). As staked, the center for the well location is at 460 ft from the south line and 640 ft from the west line of the section. The proposed pad overlaps the existing Turner B well. The project area is located entirely on federal land owned and administered by the Bureau of Land Management - Carlsbad Field Office (BLM-CFO).

The proposed impact area will be confined to a 300 ft by 350 ft area and an existing well pad overlapping the impact area. An existing lease road bisects the proposed location therefore no survey for access is required. Both archaeological sites, LA 43319 and LA 137777, retain additional research potential; therefore, they are recommended eligible for nomination to the National Register of Historic Places (NRHP) and should be avoided. Both sites are in close proximity to proposed activities. The BLM-CFO may require the construction of two separate permanent fences to protect each site and an archaeologist to monitor all or initial construction activities. A 100 ft buffer was surveyed outside of the proposed impact area for a 600 ft by 600 ft block totaling 8.26 acres.

This survey was conducted in order to comply with federal and state laws designed to protect sensitive cultural resources, including Section 106 of the National Historic Preservation Act of 1966 (as amended) and Executive Order 11593. The standards and procedures that were followed are designed to meet or exceed those set forth by the Bureau of Land Management and State of New Mexico. The project was conducted under New Mexico State Permit NM-03-104 and Bureau of Land Management Survey Permit 153-2920-03-M.

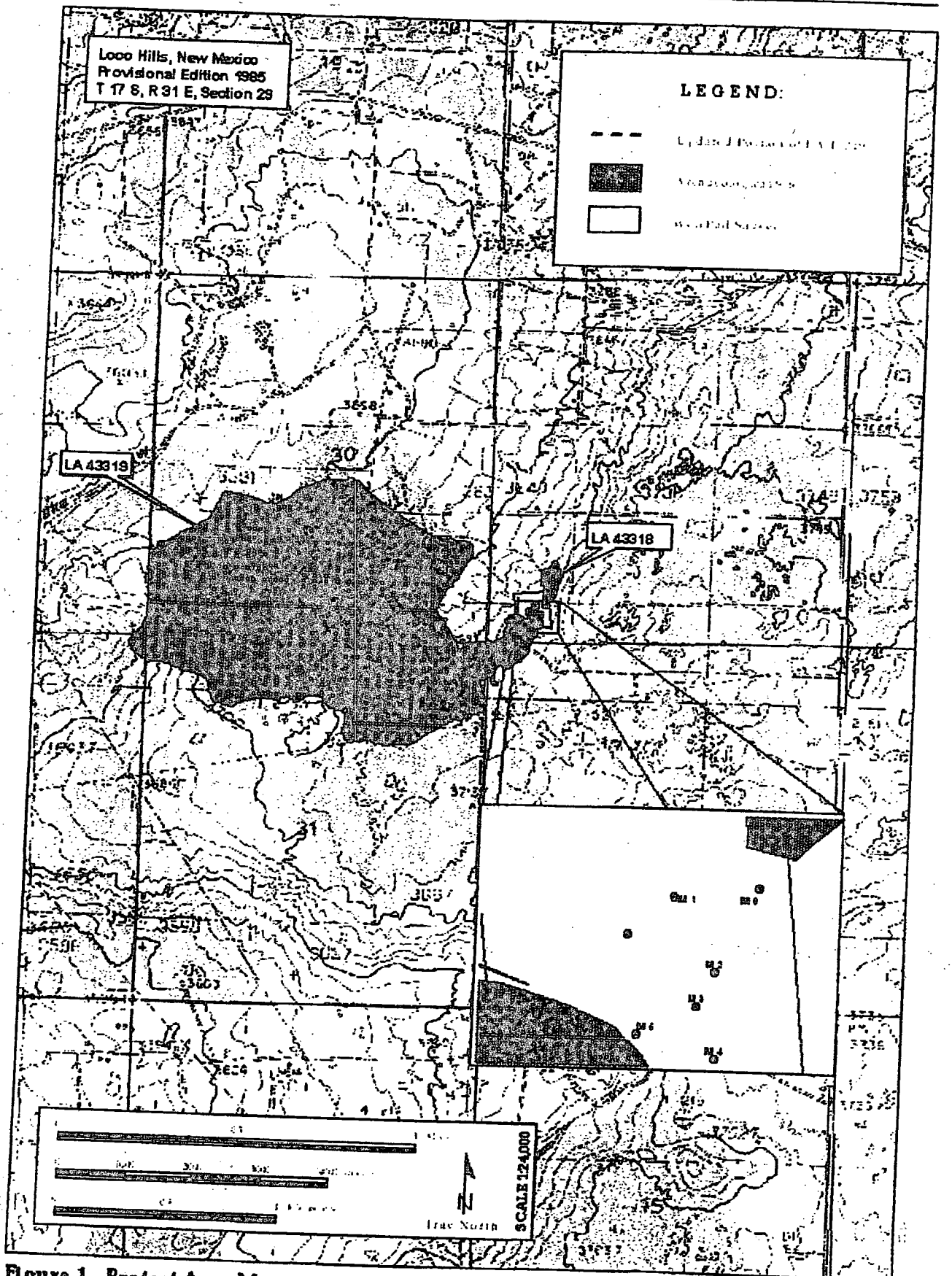


Figure 1. Project Area Map

Description of Undertaking

OXY U.S.A. intends to construct a well pad to drill their Doc Slawin Federal Com. No. 1 lease. The project is located in Township 17 South, Range 31 East, Section 29. It can be found on the Loco Hills, New Mexico Provisional Edition 1985 7.5' series USGS quadrangle. As staked, the center for the well location is at 460 ft from the south line and 640 ft from the west line of the section. A 100 ft buffer was surveyed outside of the proposed impact area for a 600 ft by 600 ft block totaling 8.26 acres. The proposed pad overlaps the existing Turner B well. The project area is located entirely on federal land owned and administered by the Bureau of Land Management – Carlsbad Field Office (BLM-CFO). The well pad will be built using standard heavy construction equipment. The survey was requested, and plat sheets were provided, by Terry Asel with OXY (Appendix A).

A previous survey encompassing a portion of this latest survey project was completed in 2002 by GeoMarine Inc. (NMCRIS # 81018). Due to the presence of a previously recorded site encountered during the GeoMarine survey the entire proposed location was surveyed to ensure the protection of cultural resources.

Environmental Setting

The project area is along the edge of an escarpment overlooking a large playa approximately three miles east of Loco Hills, New Mexico. The elevation averages 3,700 ft above mean sea level. Soils consist of deep sandy deposits of the Simano-Pajarito association as defined by the Soil Conservation Department of the U.S. Department of Agriculture. The soils have been wind-worked into dunes up to 3 m high. The project area slopes gently to the northwest at a grade of 3.5 percent.

Meteorological data was obtained for the nearby town of Maljamar, NM from the Western Regional Climate Center (n.d.) online database for the period of 1942 to 2000. Maljamar had an average annual high temperature of 76.4 degrees (F) and an average annual low temperature of 44.7 degrees (F). In the same time span, Maljamar received an average annual precipitation of 14.37 inches. Additionally, the wettest three months in Maljamar were July through September, while the driest three months were January through March. The month of July was the warmest with an average high of 94.3 degrees (F), while January was the coolest with an average high of 56.1 degrees (F).

The local vegetation varies across the project area and includes juniper, shin oak, mesquite, prickly pear, yucca, and various grasses and low forbes. These species are typical of Chihuahuan Desert scrub. The vegetation includes several species that are suitable for use as food, medicine, or for the manufacture of items requiring the use of

fibrous materials, such as basketry containers, clothing, and foot wear. Mesquite flowers and beans can be eaten, the leaves can be used to make a tea that helps relieve diarrhea, the sap makes a great adhesive, and the wood can be used to manufacture bows, mortars, and firewood (Cornett 1995:25). Yucca fibers can be woven into sandals, basketry, or used to make rope (Cornett 1995:15).

The contemporary environment provides adequate habitat for a variety of faunal species including mule deer, pronghorn antelope, coyote, badger, jackrabbit, desert cottontail, roadrunner, rattlesnake, and a variety of other small mammals and reptiles. Since the Historic Period, these species have shared their habitat with cattle, which currently graze in the project area.

Cultural Overview and Research Focus

Several overviews have been published of the archaeological and historical research performed in the southeastern part of New Mexico, providing a summary of the cultural characteristics of the region's inhabitants through time. Syntheses by Stuart and Gauthier (1988), Katz and Katz (1993), Sebastian and Larralde (1989), and others provide a valuable frame of reference within which cultural resource managers can assess the significance of archaeological resources and develop management strategies that address gaps in the current knowledge. Additionally, this background information can help field investigators identify areas of higher site location probability, and be aware of the expected resources in any given project area. To these ends, a brief summary of the known culture sequences and current avenues of research in southeastern New Mexico is provided below.

Paleoindian Period (ca. 9,500 - 5,500 B.C.)

The earliest conclusive evidence of human habitation in North America was discovered in eastern New Mexico, at the Blackwater Draw and Folsom sites. At the end of the Pleistocene, early hunter-gatherers and scavengers inhabited what was then a lush grassland interspersed with stands of evergreens and broad, shallow lakes (Sebastian and Larralde 1989:19). Mammoths, *bison antiquus*, and other now-extinct species were commonly exploited for food by these Paleoindian groups, as evidenced by the characteristically large, lanceolate spear points and butchering tools that can be found associated with the remains of these animals (Sebastian and Larralde 1989:19).

The cultural adaptations of this period have been categorized into several complexes based on the diagnostic traits of affiliated projectile points (Judge 1974:5). However, because of the limited number of radiocarbon dates and pristine stratigraphic contexts associated with Paleoindian finds, there are still unresolved questions as to whether

these point series are representative of temporal, cultural, or functional distinctions (Sebastian and Larralde 1989:23-26).

It is generally accepted that the Clovis complex represents the earliest known human occupation of this area, although a few New Mexico sites have been heavily debated as having a pre-Clovis component. Folsom and Midland points, similar in outline, are classified as diagnostic of the Folsom complex, which extends through the middle of the Paleoindian period. Later in the period, a diversification of projectile point forms has resulted in the identification of several (spatially and temporally overlapping) complexes in this region, including Plainview, Firstview, and Cody (Sebastian and Larralde 1989:32).

In addition to the confusion surrounding the material culture sequences of this area during the Paleoindian period, numerous other questions have been raised that are difficult or impossible to answer given the limited data from the small number of sites that have been excavated. For example, although the majority of Paleoindian remains consist of tools associated with the hunting and butchering of large mammals, the type of focal economy suggested by these remains is notoriously risky (Tainter and Gillio 1980:95). Therefore, it is highly probable that Paleoindian populations were exploiting a much broader range of resources, including plants and small game, but material evidence of this suspected pattern has not been conclusively identified. This is because any Paleoindian sites that were created by activities other than hunting or butchering would probably not contain the projectile points that are the only diagnostic indicators of this period, and would consequently be classified as having an unknown cultural/temporal association (Sebastian and Larralde 1989:33, 34).

A second research problem is in the location of known Paleoindian sites. Most Paleoindian sites or components in southeastern New Mexico have been discovered in contexts along the edges of landforms subject to heavy erosion, such as along the face of the Mescalero Pediment (Stuart and Gauthier 1988:289). At this point, there is insufficient data to determine whether these patterns of site location are an accurate reflection of Paleoindian occupation zones, or if their exposure in these areas is more a function of erosional processes that have so far left other Paleoindian use areas unexposed.

Archaic Period (ca. 5,500 B.C – A.D. 900)

The end of the Pleistocene was marked by a climatic shift toward a warmer, drier, and more seasonally variable environment closely resembling that of modern times. As a result of this change, vegetation types and distributions altered, sometimes dramatically. Furthermore, certain animal species died out, notably the megafauna that were a mainstay of the Paleoindian diet. Human adaptive strategies during this period changed as a necessity brought about by these environmental factors (Cordell 1997).

The Archaic period is characterized by a more visible reliance on small-bodied game and plant resources, while the remaining larger animals, such as deer and pronghorn, were exploited to a lesser extent (Sebastian and Larralde 1989). Overall, evidence suggests a subsistence strategy with considerably more variation than that in use during the Paleoindian period (Judge 1982). Mobility also changed, becoming more cyclical and restricted, rather than the free-ranging pattern characteristic of earlier Paleoindian complexes. Once established, favorable site locations were reused on a seasonal basis for the exploitation of one or a few locally abundant resources.

In general, the Archaic period is defined by a diversity of tool forms. Projectile points were typically smaller than those of the Paleoindian period, but larger than the forms used during the subsequent Ceramic period (Sebastian and Larralde 1989:42). Stemmed and corner-notched points became the standard, although Archaic points show evidence of greater morphological variability and less precision in the quality of manufacture than Paleoindian points (Cordell 1997). Furthermore, grinding implements were frequent additions to the Archaic tool kit, a trait seen at only a miniscule fraction of Paleoindian sites.

Many of the same identification and research problems typical of Paleoindian sites are also common to Archaic sites. In particular, there is considerable variation among recorders as to which sites are labeled as Archaic. Most recorders, when confronted with an artifact scatter that possess neither diagnostic projectile points nor ceramics, will assign that site to an unknown temporal period. However, there are those who will classify all aceramic scatters as Archaic, and others who will use varying criteria of lithic material type, reduction strategies, or spatial patterning of debitage to deduce an Archaic affiliation (Sebastian and Larralde 1989:41). While many of these site classifications are undoubtedly correct, they are (at best) ineffectually applied. The lack of a universal standard by which to determine Archaic affiliation has led to considerable inconsistencies in the site database for this region, and consequently, very little applicable knowledge of Archaic land use patterns (Sebastian and Larralde 1989:41-43, 56).

Ceramic Period (ca. A.D. 600/900 - 1540)

The beginning of the Ceramic, or Formative, period is not based on climatic change, but rather on a cultural and technological event: the introduction and use of pottery (Sebastian and Larralde 1989:41). Use of ceramics in southeastern New Mexico was initially believed to have occurred between A.D. 600-900 (Stuart and Gauthier 1988). However, a limited number of sites yielding radiocarbon dates of A.D. 150 or 200 indicate that ceramics may have appeared earlier, either through trade or local manufacture.

There has long been an underlying assumption that the appearance of pottery coincides with the adoption of agriculture and a more sedentary lifestyle (Sebastian and Larralde 1989). However, unlike many other parts of the American Southwest, Ceramic period sites in this region exhibit little if any visible evidence of agricultural dependency (Stuart and Gauthier 1988). This had led some researchers to postulate that Archaic subsistence patterns continued, largely unchanged, until historic times (Sebastian and Larralde 1989:41, 52, 82). Still others have argued that agriculture did in fact play a role in Ceramic period subsistence strategies, but that the physical evidence of this practice is more subtle than in other parts of the Southwest, and therefore largely overlooked (MacNeish and Beckett 1987).

Site typologies for this region fall into two broad types based on subsistence strategies. When agriculture was a significant part of subsistence, pithouses and surface structures became more prevalent. In areas less conducive to agriculture, populations remained more mobile and so used temporary or seasonal camps for hunting, gathering, and plant processing. A search of ARMS records completed in 1985 shows that 88.4 percent of the Jornada Mogollon Ceramic period sites were nonstructural (Sebastian and Larralde 1989). However, it is possible that evidence of structures has simply not been recognized.

A Ceramic period typology specifically for the Middle Pecos Valley was developed by Arthur Jelinek in 1967. This area was believed to be a local center of agricultural development during this time, and has been separated into four temporal phases (with each of the first three divided into early and late subphases). These phases are based primarily on differing architectural adaptations and ceramic assemblages (Jelinek 1967:144-164).

The Early and Late 18-Mile phases (A.D. 600-900 and A.D. 900-1000, respectively) are characterized by small pithouse villages, with some surface structures appearing in the late subphase. Ceramics from this time include Jornada Brown and Lino Gray, an Anasazi type, in the early subphase, with Middle Pecos Micaceous and Red Mesa Black-on-white appearing in the late subphase.

Early and Late Mesita Negra sites (A.D. 1000-1100 and A.D. 1100-1200) display a continuance of pithouse architecture, with surface roomblocks becoming gradually more common through time. Ceramic assemblages are distinguished by the introduction of Chupadero Black-on-white in the early subphase, with this type becoming more common in the late subphase. The micaceous wares typical of the Late 18-Mile phase gradually decline in frequency, while intrusive Santa Fe and Socorro Black-on-white ceramics from the middle and northern Rio Grande areas indicate increasing trade with these Puebloan groups.

occurrence of fewer than 10 artifacts (that predates 1950) with no potential for additional buried materials (BLM-New Mexico State Office 2002). The locations of all IMs were plotted on the appropriate USGS quadrangles and recorded using a Garmin 12 Global Positioning System (GPS) unit, with a margin of error no more than 100 ft (30 m). Isolated manifestations were recorded using the same analytical methods and the same level of detail as were used during site recording.

Site Recording and Artifact Analysis

When sites are encountered, artifacts are marked with pin-flags to determine the distribution of the assemblage and to delineate boundaries. Sites are recorded using the Laboratory of Anthropology's Site Record Form and Mesa Field Services' artifact analysis forms. A site datum is established and marked with an aluminum tag wired to a 12-inch metal spike placed in the ground. Locations of the datum, features, unique or diagnostic artifacts, and site boundaries are recorded with a Garmin 12 GPS unit. At minimum a general overview of the site will be photographed. Features and structures on site may also be photographed to help document the site.

Mesa Field Services' artifact analysis forms are designed to efficiently record those artifact attributes that are most useful in defining the type or use of the artifact. For debitage these attributes include flake condition/ degree of fragmentation, amount of dorsal cortex, reduction technology or stage, and platform type (when applicable). The recorded attributes of cores include core type, reduction method, and degree of reduction. Non-diagnostic tools are recorded with regard to parent object (core, cobble, or flake), tool type, and edge angle. These are attributes cited by leading flintknappers and researchers as being relevant to determining the function, and in some cases the age or cultural affiliation of the flaked-stone assemblage (Whittaker 1994, Crabtree 1972, Turner and Hester 1993).

Bifaces are recorded using reduction stages based upon work done by John Whittaker (1994). A Stage I biface has rough and or partial edges with cortex remaining. It will generally be fairly thick. A Stage II biface will have a continuous bifacial edge with the flake scars extending up to or past the centerline. Very little to no cortex will remain. A Stage III biface has been thinned and shaped without any cortex remaining. Whittaker's Stage IV biface is not used by Mesa Field Services.

Although the projectile point typologies for this region are incomplete (complicated by issues of corner-notched point forms continuing in time from the Archaic through the Ceramic periods), some local researchers have developed techniques for determining approximate age categories (Katz and Katz 1985, Roney 1985). This technique is based on the measurement of neck width, a value that appears to be largely independent of other point measurements, as neck width decreased through time due to changes in hafting techniques (Roxlau et al 1997). The groups that have been defined on this basis

are as follows: less than 9 mm= late prehistoric (arrow points), 9 to 14 mm= Transitional Archaic, 13 to 16 mm= Late Archaic, 16 mm or greater= Middle Archaic or earlier (Katz and Katz 1985).

All flaked-stone artifacts are recorded using a size scale that is based on the artifact's largest measurement in centimeters. The scale rounds this measurement up to the next whole centimeter and uses that number as the size category. For example, a flake that is 3.8 cm in length is considered a size 4. Material type and color are also recorded for all flaked-stone debitage, cores, and tools, and notes are taken regarding any unique characteristics of the artifact, such as heat treatment of material, specific fracture types, or flake terminations.

Groundstone tools are recorded with regard to basic form (mano, metate, or pestle) and specific type (slab, basin, trough, or bedrock metate; one-hand or two-hand mano, etc.). Formal preparation or shaping is noted, as is modification by burning. Size is measured using the scale described above, material type and grain size are recorded, and the condition of the tool is documented.

Ceramics are recorded using known types and wares. If the ware or type is unknown, sufficient descriptions of the paste, temper, and surface treatments are recorded so that ceramics can be matched to a known ware from a published description. Vessel and rim forms are noted, as these can be used to determine specific patterns of use and temporal affiliations.

Historic artifacts are described as to material type, original function (if known), and any identifying marks or characteristics. For ceramic or glass artifacts, maker's marks can be compared to a published typology, as can the size, shape, and sealing methods of cans (Simonis 1995).

When historic features are encountered, a Historic Cultural Properties Inventory (HCPI) Base Form (Form 1) is filled out. This form provides some basic information about a structure or historic feature with reference to dimensions and legal location, etc.

Results

Six IM's and two previously recorded sites (LA 43319, and LA 137777) were encountered and documented. Both sites retain additional research potential and are recommended eligible to the NRHP. Each of these resources is discussed below along with the results of the pre-field records search.

Table 1. Site Summary Table

Site #'s	Location/ UTM (Zone 13)	Ownership	Site Function/ Type	Cultural Affiliation	Chronological Site Placement	Use Category	Recorder	Date Recorded
LA 43319	602245 E/ 3629448 N (Center) 602918 E/ 3629708 N 602295 E/ 3629968 N 601381 E/ 3629200 N 602676 E/ 3628787 N 603223 E/ 3629321 N	BLM-CFO	Structural	Jornada/ Mogollon	<1,500 AD	2	MFS, Sean Simpson and Theresa Straight	September 28, 2003
LA 137777	603270 E/ 3629510 N	BLM-CFO	Structural	Unknown Prehistoric	900 AD- 1,400 AD to 1550 AD	2	MFS, Sean Simpson	September 28, 2003

Pre-field Investigations

A pre-field review was performed of the site files maintained at the BLM-CFO and the Archeological Records Management Section of the Historic Preservation Division in Santa Fe (online database search) by Sean Simpson on September 22. The National Register of Historic Places (NRHP) and the State Register of Cultural Properties were also consulted for any listed resources. These file searches were configured using the Public Land Survey System (PLSS) legal location of the project area and a 0.25 mile radius, so that all or portions of the following locations were searched: Township 17 South, Range 31 East, Sections 29, 30, 31, and 32. Four sites are within 0.25 miles of the proposed project including LA 43318, LA 43319, LA 83651, and LA 137777. According to the BLM-CFO records, LA 43319 overlaps LA 43318. After consultation with the BLM-CFO, it was determined due to an extensive number of updates for the location that LA 43319 should be used.

A previous survey encompassing a portion of this latest survey project was completely in 2002 by GeoMarine Inc. (NMCRIS # 81018). Due to the presence of a previously recorded site encountered during the GeoMarine survey the entire proposed location was surveyed to ensure the protection of cultural resources.

Isolated Manifestations (IMs)

Six isolated manifestations were encountered and recorded (Figure 2). In addition to a light general scatter of burned caliche consisting of 20 or so pieces within a 60-meter diameter area, several small concentrations were observed along with a single sherd and a hammerstone. In addition to this light broad scatter of burned caliche the resources are described below.

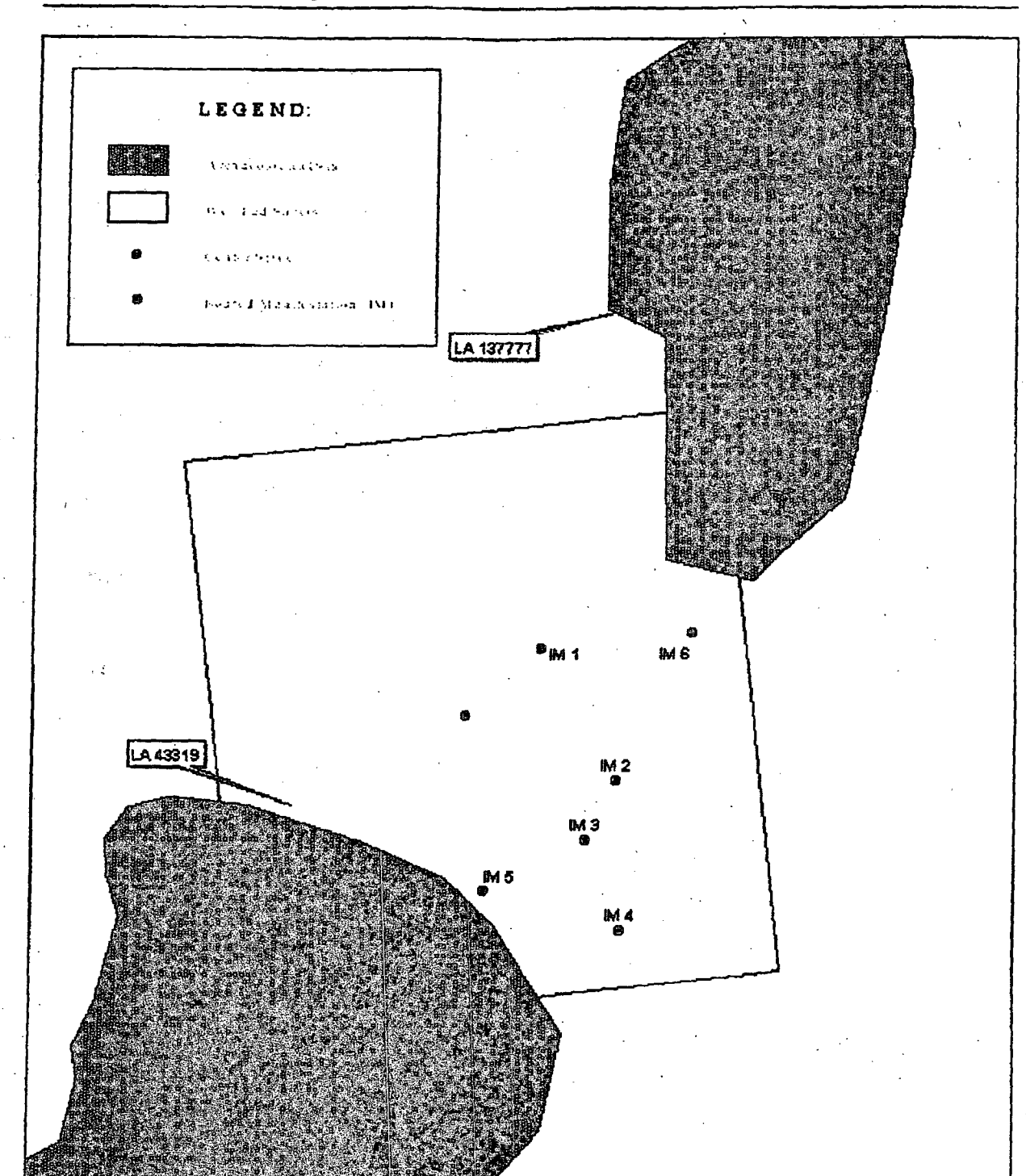


Figure 2. Isolated Manifestations *Mesa Field Services*

IM # 1 consists of a single brownware sherd. (Zone 13: 603215 E/ 3629415 N).

IM # 2 consists of fifty pieces of burned caliche in a two-meter diameter area. A trowel test failed to reveal any intact deposits (Zone 13: 603236 E/ 3629377 N).

IM # 3 consists of six pieces of burned caliche in a two-meter diameter area (Zone 13: 603227 E/ 3629361 N).

IM # 4 consists of four pieces of burned caliche in a one-meter diameter area (Zone 13: 603238 E/ 3629336 N).

IM # 5 consists of one quartzite hammerstone with pecking exhibited on either end (Zone 13: 603199 E/ 3629346 N).

IM # 6 includes twenty pieces of burned caliche in a one-meter diameter area. The location was trowel tested which failed to reveal any subsurface material (Zone 13: 603258 E/ 3629419 N).

Previously Recorded Sites

LA No.:	43319
Quadrangle:	Loco Hills, New Mexico Provisional Edition 1985 (32103-G8)
Legal Location:	T 17 S, 31 E, Section 29: SW¼ SW¼
UTM Coordinates:	Zone 13: 602245 E/ 3629448 N (Center)
	602918 E/ 3629708 N
	602295 E/ 3629968 N
	601381 E/ 3629200 N
	602676 E/ 3628787 N
	603223 E/ 3629321 N
Size:	1,237 m (N/S) by 1,980 m (E/W)
Ownership:	BLM-CFO
BLM Category:	2
NRHP Eligibility:	Eligible, criterion d

LA 43319 was originally documented in 1973 by the Lea County Archaeological Inventory Group. It has been updated 15 times since then by Pecos Archaeological Consultants (PAC), North Platte Archaeological Services, TRC Mariah Associates, Inc., Desert West Archaeological Services (DWAS), and Southern New Mexico Archaeological Services (SNMAS). Portions of the site were tested and excavated by DWAS in 1996 and 1997. Also in 1997, a well pad and access road were granted clearance for placement within the site boundaries because no artifacts were noted within the project boundaries.

The site is situated along an escarpment and down the escarpment slope (Figure 3). The elevation varies from 3,580 ft to 3,720 ft with the general aspect of the site being north. Cedar Lake Draw is to the northwest of the site and drains into a playa to the north. Local vegetation includes mesquite, shin oak, creosote, prickly pear, and various grasses.

LA 43319 has been described as a large scatter of burned caliche with a variety of artifact types, including flakes from all stages of reduction, groundstone, sherds, tools, cores, and diagnostic projectile points. Also noted were mortar holes. The pottery types noted are Chupadero Black on White, Chupadero Smooth, Lincoln Brown on Red, Jornada Brown, El Paso Brown, South Pecos Brown, and El Paso Polychrome.

Due to the immense size of the site, over one mile in diameter, only its eastern portion closest to the project area was updated (Figure 3). Cultural material is limited to the escarpment edge and down slope. Due to a very light artifact scatter, site boundaries were defined based on an extant scatter of burned caliche. The midden deposits are positioned along the edge of the escarpment itself. Deposits are confined to the dunal blowouts. Dune ridges in this area are up to three meters high. The midden deposits consist of thick charcoal deposits thirty meters in diameter or more. The culturally derived midden deposits are extensive and almost continuous along the escarpment edge for the 0.25 miles inspected during this update and they continue to the west.

The site consists of a very large, varied artifact assemblage with depth. It dates to the Jornada Mogollon based on the presence of the various types of sherds. The site retains additional research potential and is therefore recommended eligible for nomination to the NRHP under criterion d.

LA No.:	137777
Quadrangle:	Loco Hills, New Mexico Provisional Edition 1985 (32103-G8)
Legal Location:	T 17 S, 31 E, Section 29: SW¼ SW¼
UTM Coordinates:	Zone 13: 603270 E/ 3629510 N (Datum)
Size:	185 m (N/S) by 180 m (E/W)
Ownership:	BLM-CFO
BLM Category:	2
NRHP Eligibility:	Eligible, criterion d

This site was originally recorded by Ray Medlock with GeoMarine Inc. in October of 2002. The site consists of a variable density artifact and burned caliche scatter with thermal features. Ray Medlock initially outlined a series of 16 hearths, 18 possible structural remains, 41 burned caliche concentrations, and a sparse artifacts scatter in his description. A further description of feature types however, failed to correspond to the outline.

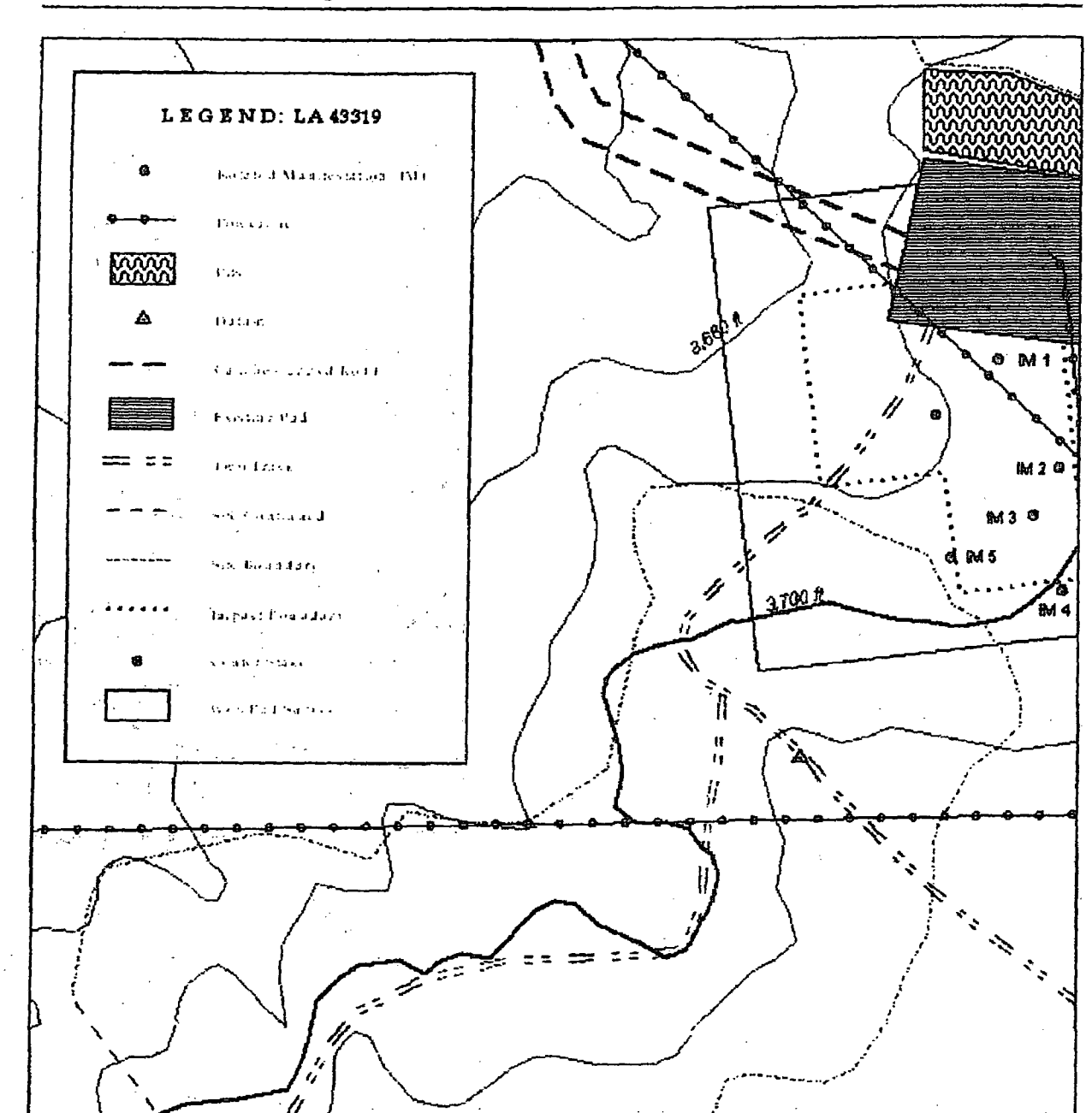


Figure 3. LA 43319 Site Map

Mesa Field Services

During the latest visit, the site appeared as described (Figure 4). Ray Medlock described the presence of juniper branches on or adjacent to 13 of the features. It is not clear if the features described correspond to the 18 possible structural remains or 41 burned caliche concentrations outlined in the initial paragraph of the site description. However, only four cultural features consisting of subsurface staining were relocated.

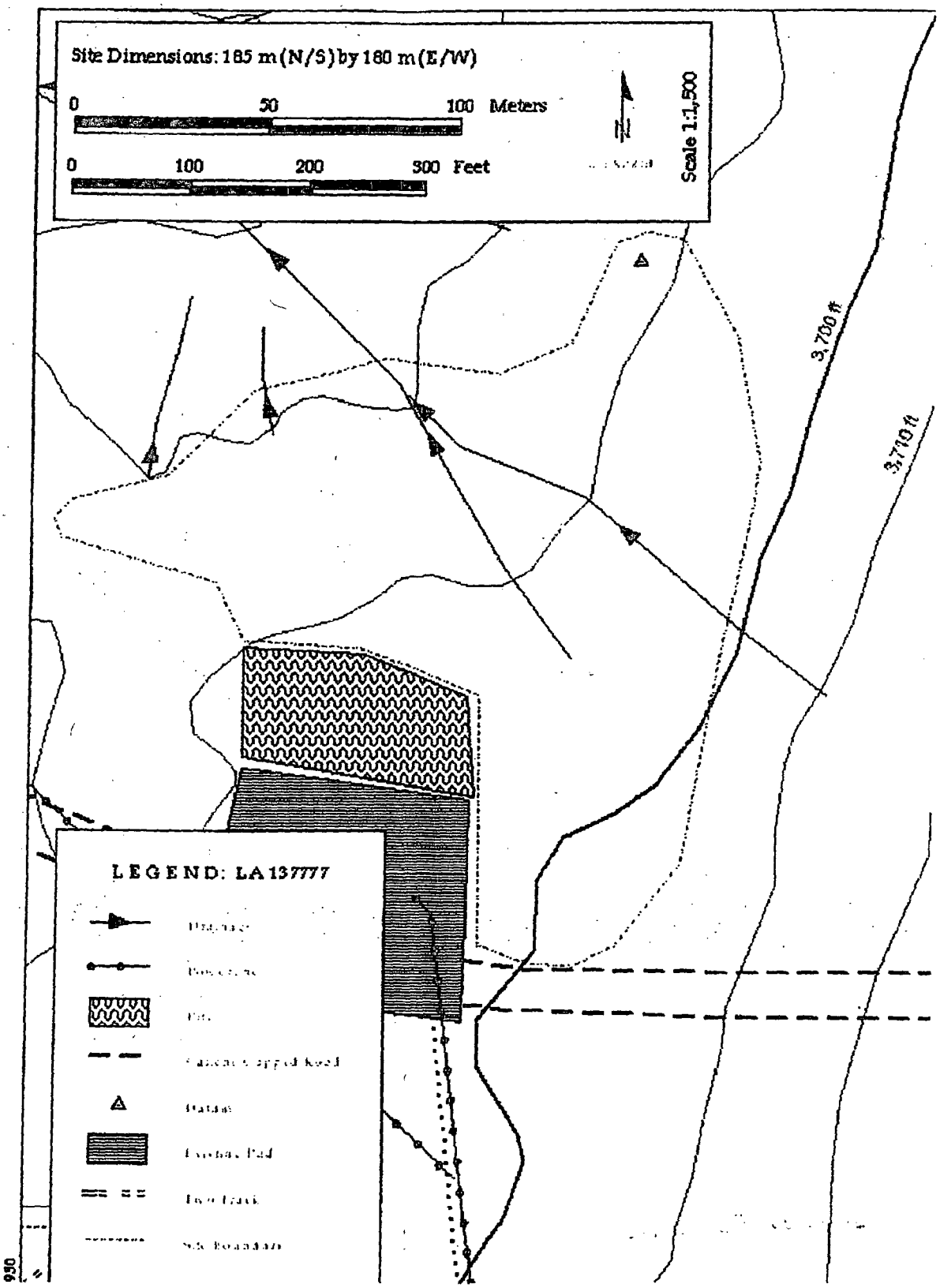
The southern boundary of the site was originally described as crossing the south side of the lease road to the existing well. One piece of burned caliche and a hearth was all that was recorded in this area during the original visit. This latest visit failed to reveal any staining. All that was observed were four pieces of burned caliche. For management purposes, this area was redefined as an IM with the boundary for LA 137777 being drawn at the north side of the lease road.

Due to the lack of cultural diagnostics, a temporal marker for the prehistoric site can not be determined. The site retains additional information potential in the form of buried cultural deposits. A time frame for the site could be obtained from one of the thermal features on site with datable charcoal fill. Therefore, LA 137777 is recommended eligible for nomination to the NRHP under criterion d.

Recommendations

During the course of the survey, two previously recorded sites, LA 43319 and LA 137777 were encountered and documented. Both sites are recommended eligible for nomination to the NRHP under criterion d and should be avoided. Although both sites are located within the survey corridor, they will not be impacted by proposed activities. The site LA 137777 is located north of the existing pad. Project activities will be restricted to the north within the pad limits. The north and eastern boundary for LA 43319 is within 30 ft of proposed activity to the south. Due to the close proximity of the sites to proposed activities, the BLM-CFO may require the position of a permanent fence and have an archaeological monitor for at least initial surface disturbing activities.

Survey for the Doc Slawin Federal Com. No. 1 Well



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1. (For BLM Use) BLM Report No.	2. (For BLM Use) Reviewer's Initials/Date_____ Accepted ( ) Rejected ( )	3. NMCRIS Number: 85389

4. Type of Report: Negative ( ) Positive (X)

5. Title of Report: An Archaeological Survey for the Doc Slawin Federal Com. No. 1 well Author(s): Sean Simpson	6. Fieldwork Date(s): September 15, 22, and 28, 2003 7. Report Date: December 10, 2003
8. Consultant Name/Address: Mesa Field Services Direct Charge: Sean Simpson Field Personnel Names: Sean Simpson and Theresa Straight Address: P.O. Box 3072 Carlsbad, New Mexico 88221-3072 Phone (505) 628-8885	9. Cultural Resource Permit No.: 153-2920-03-M 10. Consultant Report No.: MFS-950
11. Customer Name: OXY USA Inc. Responsible Individual: Terry Asel Address: OXY U.S.A. WTP LP P.O. Box 1747 Addison, TX 75001-1747 Phone: (505) 676-3506	12. Customer Project No.: Paykey # :FRONTER-59001-0x19 AFE#:90000000 General Ledger Account#:33230

13. Land Status	BLM	State	Private	Other	Total
a. Area Surveyed (acres)	8.26				8.26
b. Area of Effect (acres)	2.41				2.41

14. Linear Length_____ Width_____

15. Location (Map[s] Attached):

a. State: New Mexico

b. County: Eddy County

c. BLM Office: Carlsbad

d. Nearest City or Town: Loco Hills, NM

e. Legal Description: T 17 S, R 31 E, Section 29: SW¼ SW¼

f. Well Pad Footages: 460 FSL and 640 FWL

g. USGS 7.5' Map Name(s), Date(s), and Code(s): Loco Hills, New Mexico Provisional Edition 1985 (32103-G8)

16. **Project Data:**

a. **Records Search:** **Date(s) of BLM File Review:** September 22, 2003 **Name of Reviewer(s):** Sean Simpson
Date(s) of ARMS Data Review: September 22, 2003 **Name of Reviewer(s):** Sean Simpson
Findings (see Field Office requirements to determine area to be reviewed during records search): Four sites are within 0.25 miles of the proposed project including LA 43318, LA 43319, LA 83651, and LA 137777. According to the BLM-CFO records, LA 43319 overlaps LA 43318. After consultation with the BLM-CFO it was determined that since so much work had already been conducted un LA 43319, that designation would be used.

b. **Description of Undertaking:** OXY U.S.A. intends to construct a well pad to drill their Doc Slawin Federal Com. No. 1 lease. The project is located in Township 17 South, Range 31 East, Section 29. It can be found on the Loco Hills, New Mexico Provisional Edition 1985 7.5' series USGS quadrangle. As staked, the center for the well location is at 460 ft from the south line and 640 ft from the west line of the section. A 100 ft buffer was surveyed outside of the proposed impact area for a 600 ft by 600 ft block totaling 8.26 acres. The proposed pad overlaps the existing Turner B well. The project area is located entirely on federal land owned and administered by the Bureau of Land Management – Carlsbad Field Office (BLM-CFO). The well pad will be built using standard heavy construction equipment. The survey was requested, and plat sheets were provided, by Terry Asel with OXY (Appendix A).

A previous survey encompassing a portion of this latest survey project was completely in 2002 by GeoMarine Inc. (NMCRIS # 81018). Due to the presence of a previously recorded site encountered during the GeoMarine survey the entire proposed location was surveyed to ensure the protection of cultural resources.

c. **Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.):** The project area is along the edge of an escarpment overlooking a large playa approximately three miles east of Loco Hills, New Mexico. The elevation averages 3,700 ft above mean sea level. Soils consist of deep sandy deposits of the Simano-Pajarito association as defined by the Soil Conservation Department of the U.S. Department of Agriculture. The soils have been wind-worked into dunes up to 3 m high. The project area slopes gently to the northwest at a grade of 3.5 percent.

Meteorological data was obtained for the nearby town of Maljamar, NM from the Western Regional Climate Center (n.d.) online database for the period of 1942 to 2000. Maljamar had an average annual high temperature of 76.4 degrees (F) and an average annual low temperature of 44.7 degrees (F). In the same time span, Maljamar received an average annual precipitation of 14.37 inches. Additionally, the wettest three months in Maljamar were July through September, while the driest three months were January through March. The month of July was the warmest with an average high of 94.3 degrees (F), while January was the coolest with an average high of 56.1 degrees (F).

The local vegetation varies across the project area and includes juniper, shin oak, mesquite, prickly pear, yucca, and various grasses and low forbes. These species are typical of Chihuahuan Desert scrub. The vegetation includes several species that are suitable for use as food, medicine, or for the manufacture of items requiring the use of fibrous materials, such as basketry containers, clothing, and foot wear. Mesquite flowers and beans can be eaten, the leaves can be used to make a tea that helps relieve diarrhea, the sap makes a great adhesive, and the wood can be used to manufacture bows, mortars, and firewood (Cornett 1995:25). Yucca fibers can be woven into sandals, basketry, or used to make rope (Cornett 1995:15).

The contemporary environment provides adequate habitat for a variety of faunal species including mule deer, pronghorn antelope, coyote, badger, jackrabbit, desert cottontail, roadrunner, rattlesnake, and a variety of other small mammals and reptiles. Since the Historic Period, these species have shared their habitat with cattle, which currently graze in the project area.

d. **Field Methods (transect intervals; crew size; time in field; etc.):** A crew of one and two spent 10 hours surveying the project area and recording sites over a three day period. A 15 m transect interval was used.

e. **Artifacts Collected?:** None

17. **Cultural Resource Findings:** Two previously recorded sites, LA 43319, and LA 137777, and six isolated manifestations (IMs) were recorded during the survey.

a. **Location/Identification of Each Resource:** IM # 1 consists of a single brownware sherd. (Zone 13: 603215 E/ 3629415 N).

IM # 2 consists of fifty pieces of burned caliche in a two-meter diameter area. A trowel test failed to reveal any intact deposits (Zone 13: 603236 E/ 3629377 N).

IM # 3 consists of six pieces of burned caliche in a two-meter diameter area (Zone 13: 603227 E/ 3629361 N).

IM # 4 consists of four pieces of burned caliche in a one-meter diameter area (Zone 13: 603238 E/ 3629336 N).

IM # 5 consists of one quartzite hammerstone with pecking exhibited on either end (Zone 13: 603199 E/ 3629346 N).

IM # 6 includes twenty pieces of burned caliche in a one-meter diameter area. The location was trowel tested which failed to reveal any subsurface material (Zone 13: 603258 E/ 3629419 N).

LA 43319 is a large site some 1,237 m (N/S) by 1,980 m (E/W). The center for LA 43319 is located at (Zone 13) 602245 E/ 3629448 N). The periphery includes five other points including (Zone 13:) 602918 E/ 3629708 N, 602295 E/ 3629968 N, 601381 E/ 3629200 N, 602676 E/ 3628787 N, 603223 E/ 3629321 N

LA 137777 is a sparse artifact and feature scatter within a 88 m (N/S) by 90 m (E/W). The center location for the site is at (Zone 13) 603270 E/ 3629510 N).

b. **Evaluation of Significance of Each Resource:** Both sites are considered eligible for nomination to the NRHP under criterion d and should be avoided. The IMs are considered not eligible for nomination to the NRHP by their very nature.

18. **Management Summary (Recommendations):** During the course of the survey, two previously recorded sites, LA 43319 and LA 137777 were encountered and documented. Both sites are recommended eligible for nomination to the NRHP under criterion d and should be avoided. Although both sites are located within the survey corridor, they will not be impacted by proposed activities. The site LA 137777 is located north of the existing pad. Project activities will be restricted to the north within the pad limits. The north and eastern boundary for LA 43319 is within 30 ft of proposed activity to the south. Due to the close proximity of the sites to proposed activities, the BLM-CFO may require the position of a permanent fence and have an archaeological monitor for at least initial surface disturbing activities.

19. **I certify the information provided above is correct and accurate and meets all applicable BLM standards.**

Responsible Archaeologist_____ _____

Signature **Date**

THE ABOVE COMPLETES A NEGATIVE REPORT. IF ELIGIBLE OR POTENTIALLY ELIGIBLE PROPERTIES ARE INVOLEVED, THE ABOVE WILL BE THE TITLE PAGE AND ABSTRACT FOR A COMPLETE REPORT.

JUDAH OIL, LLC
Oil and Gas Operating
jbc@judahoil.com

United States Department of the Interior
Bureau of Land Management
Carlsbad District
620 E. Green Street
Carlsbad, New Mexico 88220

RE: **OXY Doc Slawin Federal #1**
Section 29, TI7S-R31E
Eddy County, New Mexico

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

OPERATOR NAME: JUDAH OIL, LLC
ADDRESS: P.O. BOX 568
ARTESIA, NEW MEXICO 88211-0568

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

SWDROWNO.: Pending

LEGAL DESCRIPTION: 460 FSL and 640 FWL, (UL M),
Section 29, T-17-S, R-31-E
Eddy County, New Mexico

FORMATIONS: Bone Springs and Wolfcamp

BOND COVERAGE: Single Well

BLM BOND FILE NO.: Submitted/Pending

JUDAH OIL, LLC

AUTHORIZED SIGNATURE: **BY:** _____
James B. Campanella

TITLE: Member/Manager
DATE: May 13, 2014

P.O. Box 568
1805 W. Jacobs
Artesia, NM 88211-0568

Office: (575) 748-4730
Fax: (575) 748-4731
E-Mail: judahoil@yahoo.com

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Judah Oil, LLC**
LEASE NO.:	**NMLC-029395B**
WELL NAME & NO.:	**Oxy Doc Slawin Fed 1**
SURFACE HOLE FOOTAGE:	**0460' FSL & 0640' FWL**
BOTTOM HOLE FOOTAGE	**0660' FSL & 0660' FWL**
LOCATION:	**Section 29, T. 17 S., R 31 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Existing Fence Requirement
The existing fence located along the south side of the well pad must stay intact and functional for the entire life of the well and well pad. The operator cannot move or disturb the existing fence line to increase the pad size.

Berm Well Pad
The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:
Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching:
Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

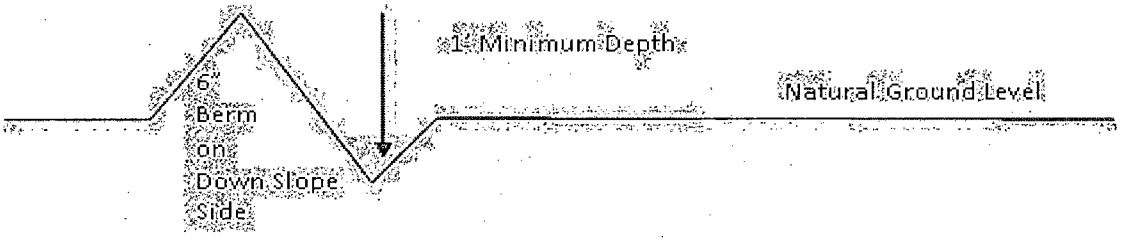
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Cattleguards

An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguards that are in place and are utilized during lease operations.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

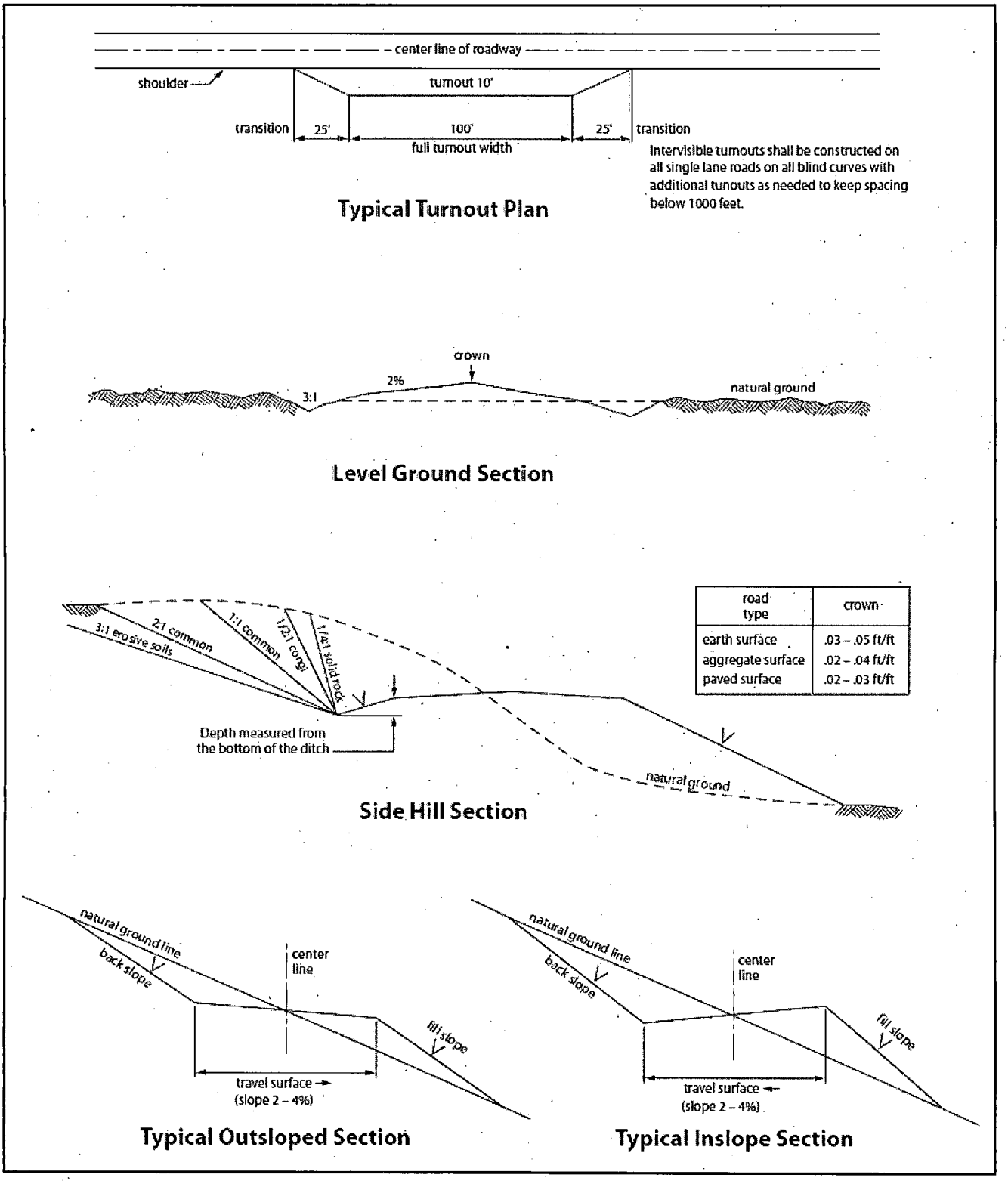


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Setting and/or Cementing production casing (minimum of 4 hours)
b. BOPE tests (minimum of 4 hours)
c. CIT test

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **A Hydrogen Sulfide (H2S) Drilling Plan shall be activated prior to drilling out the surface shoe. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.**

2. **If the drilling rig is removed prior to completing all approved drilling procedures – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

A. CASING – Re-entry

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Wait on cement (WOC) for Water Basin:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Possibility of water flows in the Salado, Artesia Group, and Queen.
Possibility of lost circulation in the Red Beds, Rustler, Artesia Group, San Andres, and Grayburg.
Abnormal pressures may be encountered within the Wolfcamp formation.

All casing is in place except for a portion of the 5-1/2'' that was pulled.

1. The 16" surface casing is set at 422 feet with cement circulated to surface.

2. The 11-3/4" intermediate casing is set at 1645 feet with cement circulated to surface

3. The 8-5/8" production casing is set at 4256 feet with cement circulated to surface.

4. The 5-1/2" production casing is set from approximately 3000' to 11797 feet with cement circulated to 3800 feet (casing was pulled from surface to 3000').

Re-entry/Plugback procedure:

1.) Operator has stated they will test casing to 1,000 psi once a depth of 500' is reached.

2.) Operator will replace pulled casing as stated in the drilling program, cement to surface, WOC, and preform a CIT per Onshore Oil and Gas Order 2.III.B.1.h prior to drilling out the next shoe plug.

Note: Operator shall provide method of verification for the cement behind 5-1/2'' casing replacement.

3.) A CIT is to be performed on the 5-1/2 inch casing per Onshore Oil and Gas Order 2.III.B.1.h prior to drilling out the last CIBP at 7706' before the open perforations are encountered.

4.) Operator to tag CIBP at approximately 11375'. Operator to place 200' Class H cement on top to seal the Morrow formation. WOC.

5.) Operator stated they will place a CIBP at 9450' with 35 feet Class H cement on top.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

1. **Prior to drilling out the surface plug, the BOP is to be tested.** Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2,000 (2M)** psi (**Operating installing 3M**).

2. **After replacing 5-1/2''casing, the BOP is to be test.** Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3,000 (3M)** psi.

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

    c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

    d. The results of the test shall be reported to the appropriate BLM office.

    e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

C. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

D. WELL COMPLETION

A NOI sundry with the completion procedure for this well shall be submitted and approved prior to commencing completion work. The procedure will be reviewed to verify that the completion proposal will allow the operator to:

1. **Properly evaluate the injection zone utilizing open hole logs, swab testing and/or any other method to confirm that hydrocarbons cannot be produced in paying quantities. This evaluation shall be reviewed by the BLM prior to injection commencing.**
2. **Restrict the injection fluid to the approved formation.**

If off-lease water will be disposed in this well, the operator shall provide proof of right-of-way approval.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the

largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed