

# RECEIVED

Form 3160-3  
(August 1999)

OCD-HOBBS

MAR 19 2008

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

R-111-POTASH

HOBBS OCD

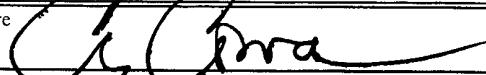
## APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of Work. <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5 Lease Serial No <b>NM-63016</b>	
b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator <b>Yates Petroleum Corporation</b>		7. If Unit or CA Agreement, Name and No.	
3A Address <b>105 South Fourth Street Artesia, New Mexico 88210</b>		8. Lease Name and Well No <b>&lt;2027&gt; Belco AIA Federal</b>	
3b. Phone No. (include area code) <b>(505) 748-1471</b>		9 API Well No <b>30-025-38818</b>	
4 Location of Well (Report location clearly and in accordance with any State requirements *) At surface <b>330' FSL &amp; 1150' FWL, SWSW Pilot Hole Unit M</b> At proposed prod. Zone <b>660' FSL &amp; 330' FEL, SESE Bottom Hole Unit P</b>		10. Field and Pool, or Exploratory <b>Salt Lake Delaware</b>	
14. Distance in miles and direction from nearest town or post office* <b>This well is located approximately 50 miles east of Carlsbad, NM.</b>		11. Sec., T., R., M., or Blk, and Survey or Area <b>Section 14-T20S-R32E</b>	
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) <b>330</b>	16. No. of Acres in lease <b>640</b>	17. Spacing Unit dedicated to this well <b>S2S2</b>	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft <b>150'</b>	19 Proposed Depth <b>5094' TVD 8823MD</b>	20 BLM/BIA Bond No on file <b>NMB000434</b>	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>3530' GL</b>	22 Approximate date work will start* <b>ASAP</b>	23. Estimated duration <b>60 days</b>	


### 24. Attachments

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

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

25 Signature 	Name (Printed/Typed) <b>Cy Cowan</b>	Date <b>1/28/2008</b>
--	---	--------------------------

### Regulatory Agent

Approved by (Signature) 	Name (Printed/Typed) <b>Tony J Herrell</b>	Date <b>MAR 17 2008</b>
Title <b>NM STATE OFFICE</b>	Office <b>STATE DIRECTOR</b>	

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

\*(Instructions on reverse)

C-144 attached

SEE ATTACHED FOR  
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED

## DISTRICT I

1625 N. French Dr., Hobbs, NM 88240

## DISTRICT II

1301 W. Grand Avenue, Artesia, NM 88210

## DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

## DISTRICT IV

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

State of New Mexico  
Energy, Minerals and Natural Resources Department

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.  
Santa Fe, New Mexico 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <b>30-025-38818</b>	Pool Code <b>53565</b>	Pool Name <b>Salt Lake Delaware</b>
Property Code <b>12027</b>	Property Name <b>BELCO "AIA" FEDERAL</b>	Well Number <b>44</b>
GRID No. <b>025575</b>	Operator Name <b>YATES PETROLEUM CORP.</b>	Elevation <b>3530'</b>

## Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
<b>M</b>	<b>14</b>	<b>20 S</b>	<b>32 E</b>		<b>330</b>	<b>SOUTH</b>	<b>1150</b>	<b>WEST</b>	<b>LEA</b>

## 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
<b>P</b>	<b>14</b>	<b>20 S</b>	<b>32 E</b>		<b>660</b>	<b>SOUTH</b>	<b>330</b>	<b>EAST</b>	<b>LEA</b>

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
<b>120</b>			

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

<p><b>SURFACE LOCATION</b> Lat - N32°34'00.64" Long - W103°44'30.25" SPC- N.: 570453.360 E.: 723592.513 (NAD-83)</p>		<p><b>BOTTOM HOLE LOCATION</b> Lat - N32°34'03.87" Long - W103°43'45.59" SPC- N.: 570801.080 E.: 727385.551 (NAD-83)</p>		<p><b>OPERATOR CERTIFICATION</b></p> <p>I hereby certify that the information contained 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 pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the Division.</p> <p><i>Cy Cowan</i> 1/28/08 Signature Date</p> <p>Cy Cowan Printed Name</p>
<p><b>SURVEYOR CERTIFICATION</b></p> <p>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.</p> <p><b>JANUARY 18, 2008</b></p> <p>Date Signed</p> <p><i>Gary L. Jones</i> Signature of State Professional Surveyor</p> <p><b>7977</b> Certificate No.</p>		<p><b>7977</b> Certificate No.</p>		<p><b>7977</b> Certificate No.</p>

**YATES PETROLEUM CORPORATION**  
**Belco AIA Federal #4-H**  
 330' FSL & 1050' FWL (Surface Location)  
 660' FSL & 330' FEL (Bottom Hole Location)  
 Section 14-T20S-R32E  
 Lea County, New Mexico

1. The estimated tops of geologic markers are as follows:
 

Rustler	1200'	Cherry Canyon	5001' MD
Yates	2700'	Belco B Sand	5288' MD
CPTN	3500'	TD	8822' MD
Delaware	4763' MD		
2. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:
 

Water: 125'

Oil or Gas: Delaware formations: Cherry Canyon & Belco B Sand.
3. Pressure Control Equipment: BOPE will be installed on the 13 3/8", 9 5/8", 7" casing and rated for 3000# BOP systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings, which are set and cemented in place. Blowout Preventor controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventors will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. See Exhibit B.

**Auxiliary Equipment:**

A. Auxiliary Equipment: Kelly cock, pit level indicators, flow sensor equipment and a sub with full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when kelly is not in use.

4. **THE PROPOSED CASING AND CEMENTING PROGRAM:**

A. Casing Program: (All New)

<u>Hole Size</u>	<u>Casing Size</u>	<u>Wt./Ft</u>	<u>Grade</u>	<u>Coupling</u>	<u>Interval</u>	<u>Length</u>
17.5"	13.325"	48.0#	H-40	ST&C	0-1200'	1200'
12.25"	9.625"	36.0#	J-55	ST&C	0-3450'	3450'
8.75"	7"	23.0#	J-55	LT&C	0-4750' MD	4750'
6.125"	4.5"	11.6#	HCP-110	LT&C	0-8822' MD	8822'

- 1, Minimum Casing Design Factors: Burst 1.0, Tensile Strength 1.8 and Collapse 1.125
2. A 3,000 psi BOP will be nipped up on the 13 3/8", 9 5/8", and 7" casing and tested to 3000 psi .  
 It is requested to test the BOP on the 13 3/8" casing to 1000psi using rig pumps.

B. **CEMENTING PROGRAM:**

Surface Casing: Cement with 700 sx C Lite (WT 12.6 YLD 1.99). Tail in with 225 sx class "C" (WT 14.8 YLD 1.32 ). TOC-Surface

Intermediate Casing: 950 SX Hal LtPr+C (Wt 12.6 YLD 1.99) and tail in with 200 sx class C (WT 14.8 YLD 1.32). TOC-Surface.

Intermediate Casing 2: 525 SX C Lite (WT 12.6 YLD 1.99) and tail in with 300 SX C (WT 14.8 YLD 1.32). TOC surface.

Production Casing: 550 SX Super C (WT 13.0 YLD 1.51). TOC 4400'.

A full string of 4 1/2" 11.6#/ft HCP-110 will be run to 8822' with a DV tool at approx. 4400'. Cement will be circulated through DV tool. There will not be a second stage. Once the lateral has been stimulated, the 4 1/2" casing will be cut and pulled from 0'-4400'.

5. MUD PROGRAM AND AUXILIARY EQUIPMENT:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0-1200'	Fresh Water Gel	8.4-8.90	32-34	N/C
1200'-3450'	Brine Water	10.0-10.0	28-29	N/C
3450'-4750'	<del>Cut Brine</del>	8.7-8.8	28-32	N/C
Lateral Section	<i>see COF</i>			
4750'-8822'	Cut Brine	8.7-9.2	28-29	15CC

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blow out will be available at the well site during drilling operations. Rig personnel will check mud hourly.

6. EVALUATION PROGRAM:

Samples: 10' samples out from under surface casing.  
Logging: Platform Express-CMR FMI for dips  
Coring: None  
DST's: None

7. ABNORMAL CONDITIONS, BOTTOM HOLE PRESSURE, AND POTENTIAL HAZARDS:

Anticipated BHP:

From: 0	TO: 1200'	Anticipated Max. BHP: 555 PSI
From: 1200'	TO: 3450'	Anticipated Max. BHP: 1722 PSI
From: 3450	TO: 4750'	Anticipated Max. BHP: 2174 PSI
From: 4750'	TO: 5094'	Anticipated Max. BHP: 2437 PSI

Abnormal Pressures Anticipated: None

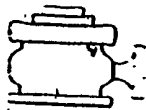
Lost Circulation Zones Anticipated: None.

H2S Zones Anticipated: None Anticipated

Maximum Bottom Hole Temperature: 99 F

8. ANTICIPATED STARTING DATE:

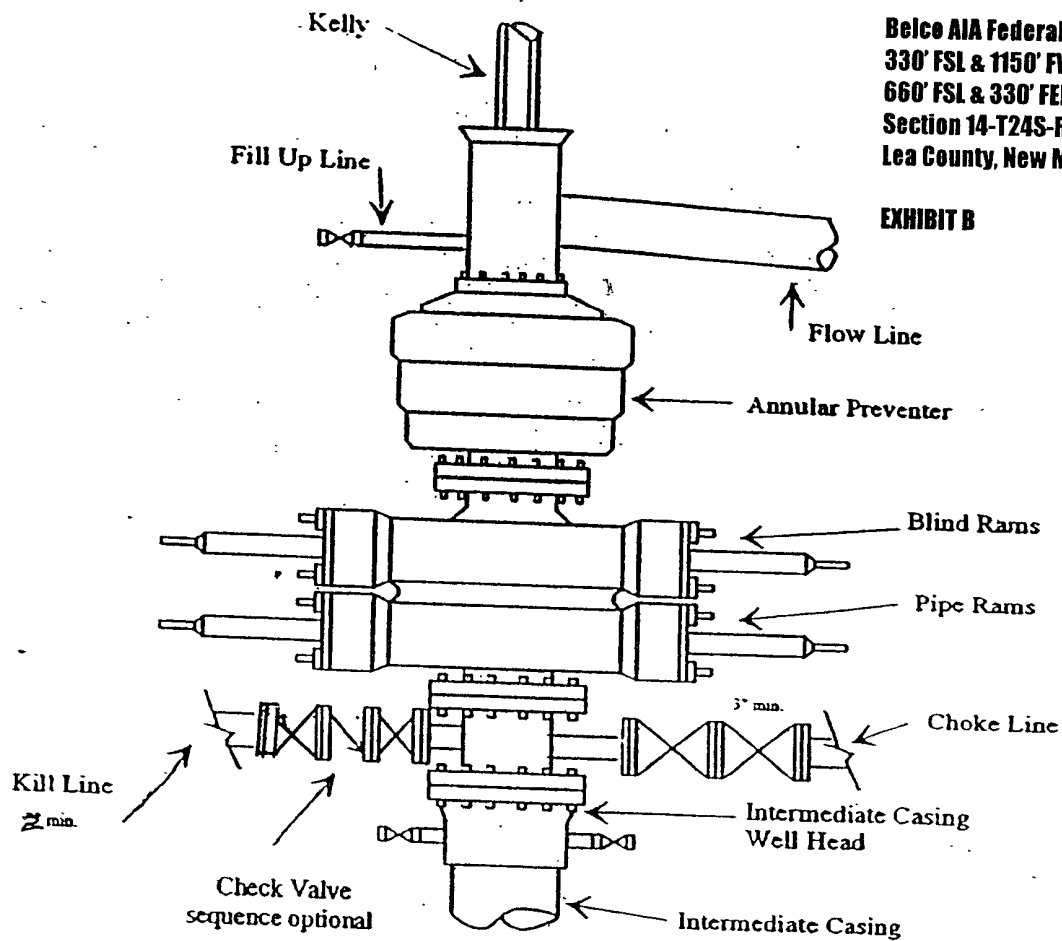
Plans are to drill this well as soon as possible after receiving approval. It should take approximately 60 days to drill the well with completion taking another 40 days.



# Yates Petroleum Corporation

BOP-3

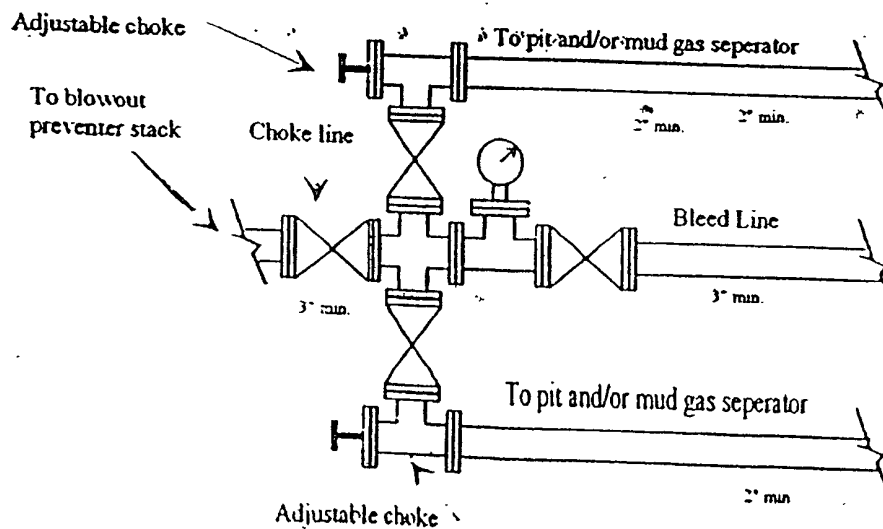
## Typical 3,000 psi Pressure System Schematic Annular with Double Ram Preventer Stack



Belco AIA Federal #4H  
330' FSL & 1150' FWL (Surface Location)  
660' FSL & 330' FEL (Bottomhole Location)  
Section 14-T24S-R32E  
Lea County, New Mexico

EXHIBIT B

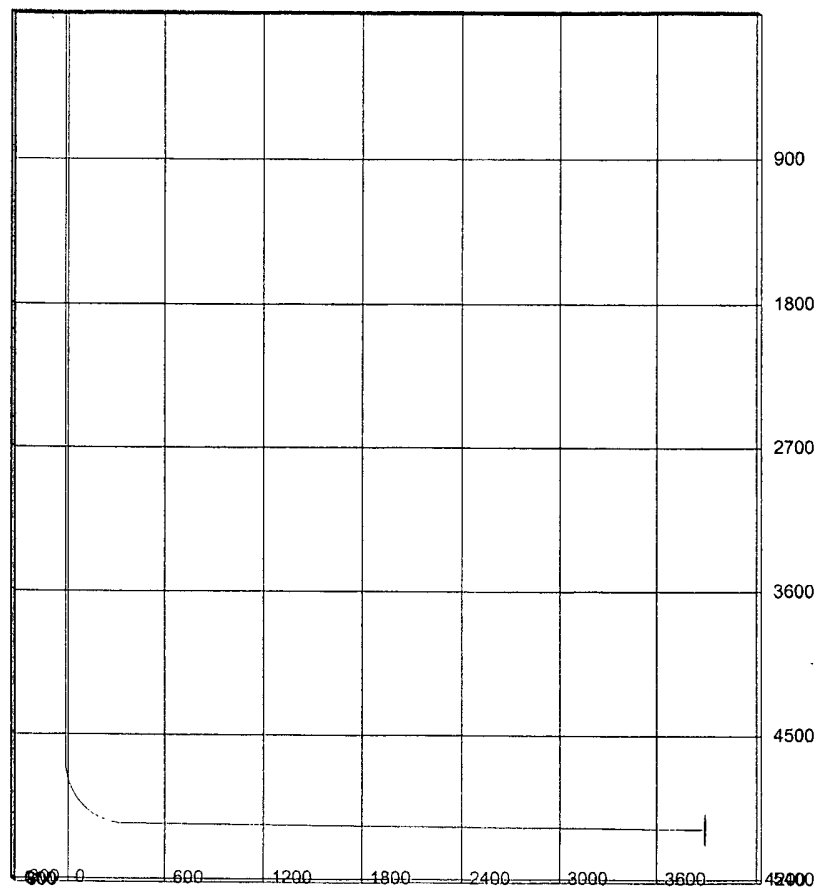
## Typical 3,000 psi choke manifold assembly with at least these minimum features



	M.D. [ft]	Inclination [°]	Azimuth [°]	T.V.D. [ft]	N+/S- [ft]	E+/W- [ft]	D.L.S. [°/100ft]	ToolFace [°]	T.F. Ref. [HS/GN]
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	4690.00	0.00	0.00	4690.00	0.00	0.00	15.00	85	GN
3	4700.00	1.50	85.16	4700.00	0.01	0.13	15.00	0	HS
4	4725.00	5.25	85.16	4724.95	0.14	1.60	15.00	360	HS
5	4750.00	9.00	85.16	4749.75	0.40	4.69	15.00	0	HS
6	4775.00	12.75	85.16	4774.30	0.79	9.38	15.00	360	HS
7	4800.00	16.50	85.16	4798.49	1.33	15.67	15.00	360	HS
8	4825.00	20.25	85.16	4822.21	1.99	23.53	15.00	0	HS
9	4850.00	24.00	85.16	4845.36	2.78	32.91	15.00	360	HS
10	4875.00	27.75	85.16	4867.85	3.70	43.78	15.00	0	HS
11	4900.00	31.50	85.16	4889.58	4.75	56.09	15.00	0	HS
12	4925.00	35.25	85.16	4910.45	5.91	69.79	15.00	360	HS
13	4950.00	39.00	85.16	4930.38	7.18	84.82	15.00	360	HS
14	4975.00	42.75	85.16	4949.28	8.56	101.12	15.00	0	HS
15	5000.00	46.50	85.16	4967.07	10.04	118.62	15.00	360	HS
16	5025.00	50.25	85.16	4983.68	11.61	137.23	15.00	0	HS
17	5050.00	54.00	85.16	4999.02	13.28	156.89	15.00	0	HS
18	5075.00	57.75	85.16	5013.04	15.02	177.51	15.00	360	HS
19	5100.00	61.50	85.16	5025.68	16.84	199.00	15.00	360	HS
20	5125.00	65.25	85.16	5036.89	18.72	221.27	15.00	0	HS
21	5150.00	69.00	85.16	5046.60	20.66	244.21	15.00	0	HS
22	5175.00	72.75	85.16	5054.79	22.66	267.74	15.00	360	HS
23	5200.00	76.50	85.16	5061.42	24.69	291.76	15.00	0	HS
24	5225.00	80.25	85.16	5066.46	26.75	316.16	15.00	360	HS
25	5250.00	84.00	85.16	5069.88	28.84	340.83	15.00	0	HS
26	5275.00	87.75	85.16	5071.68	30.94	365.67	15.00	360	HS
27	5287.62	89.64	85.16	5071.96	32.00	378.24	15.00	360	HS
28	8822.03	89.64	85.16	5094.00	330.00	3900.00	0.00		

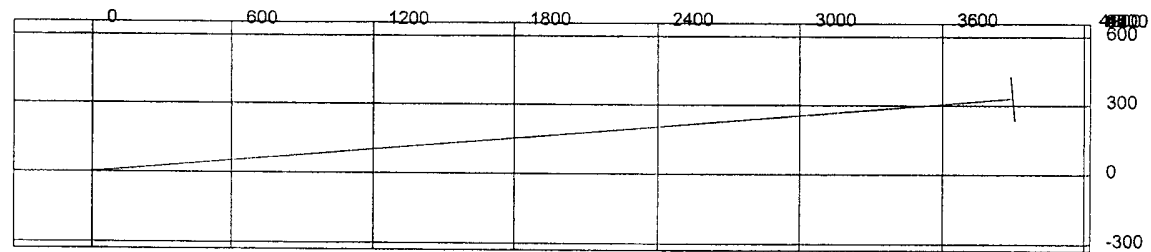
Company: Yates Petroleum Corporation  
Well: Belco AIA Federal #4H

### 3D<sup>3</sup> Directional Drilling Planner - 3D View



### 3D<sup>3</sup> Directional Drilling Planner - 3D View

Company: Yates Petroleum Corporation  
Well: Belco AIA Federal #4H





# **Yates Petroleum Corporation**

**105 S. Fourth Street  
Artesia, NM 88210**

## **Hydrogen Sulfide (H<sub>2</sub>S) Contingency Plan**

**For**

**Belco AIA Federal #4H**

**330' FSL and 1150' FWL SWSW Pilot Hole**

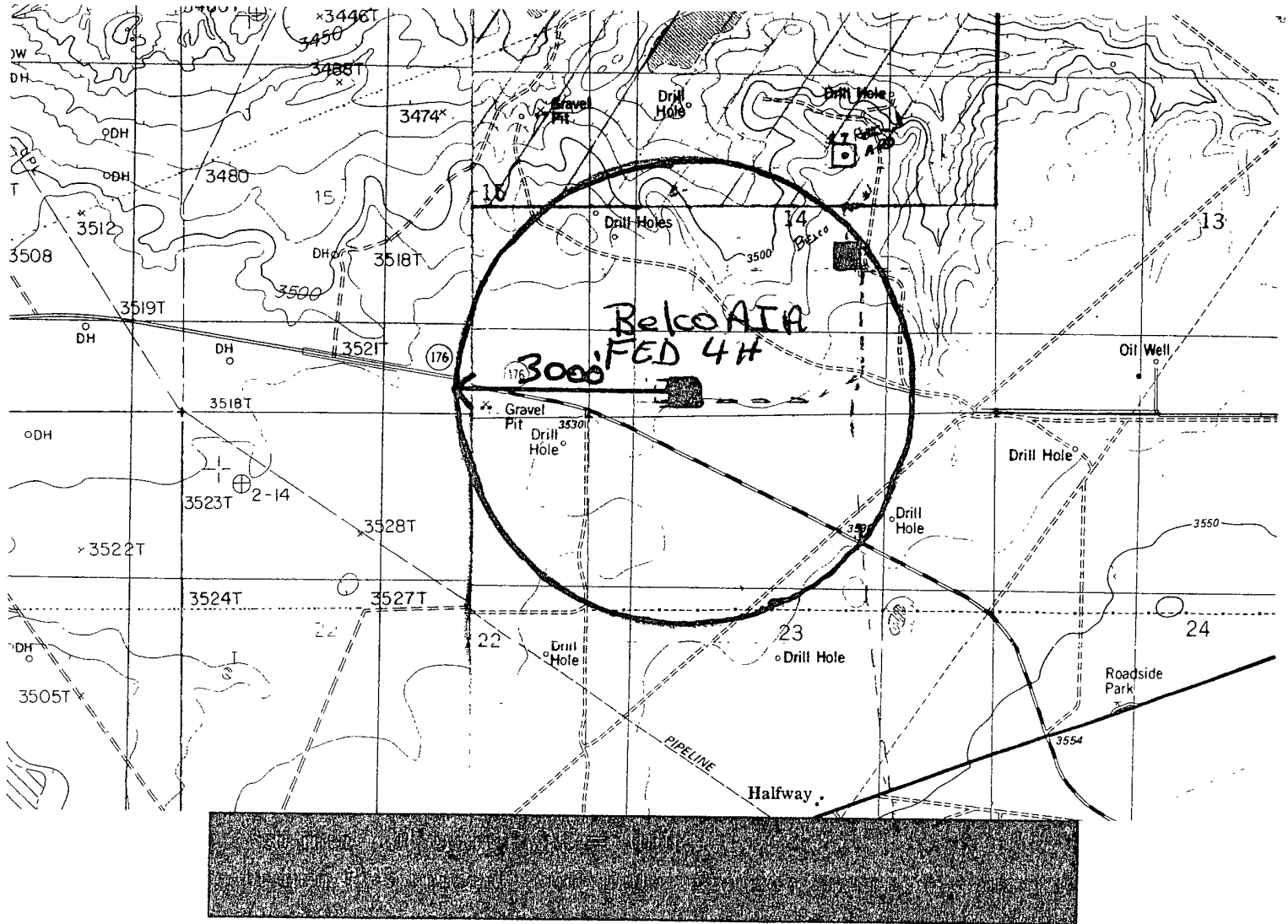
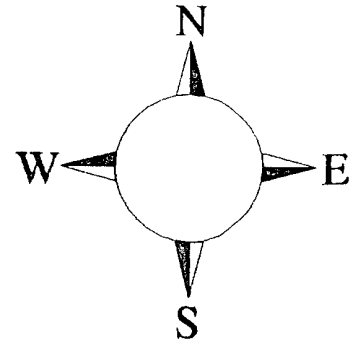
**660' FSL and 330' FEL, SESE Bottom Hole Location**

**Section 14, T-20S, R-32E**

**Lea County NM**

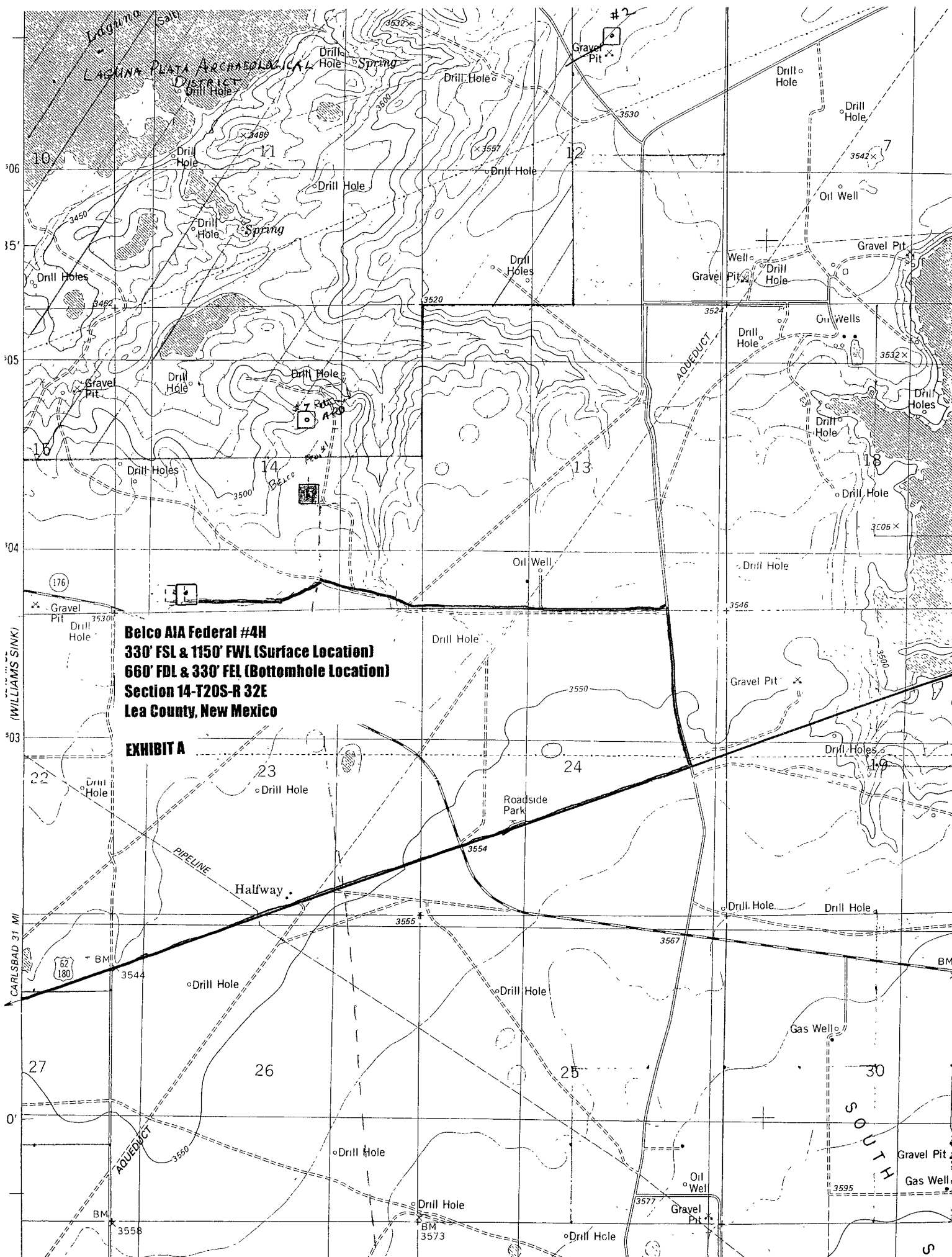
## Belco AIA Federal #4H Location

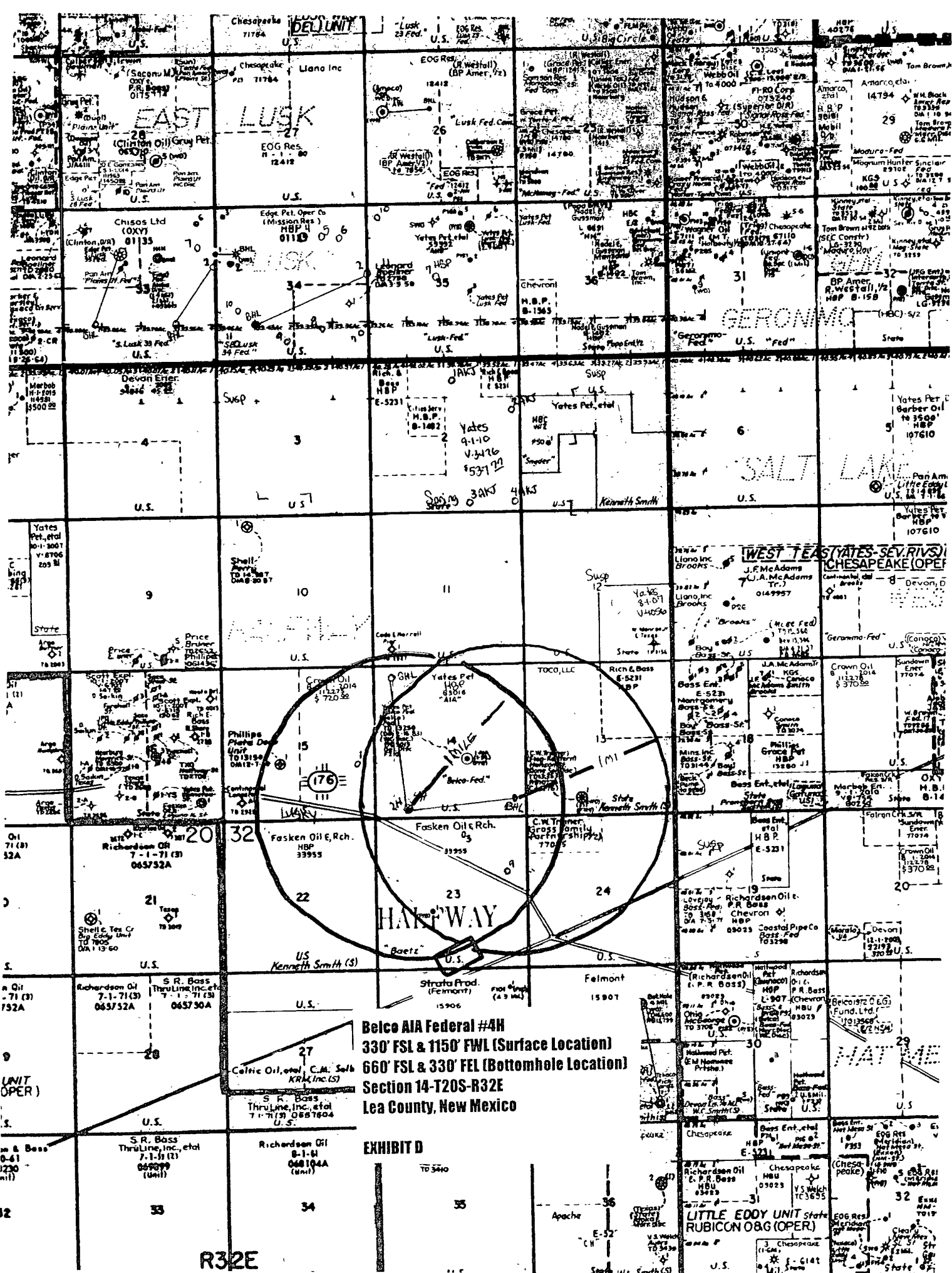
This is an open drilling site. H<sub>2</sub>S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H<sub>2</sub>S, including warning signs, wind indicators and H<sub>2</sub>S monitor.



**Belco AIA Federal #4H**  
**330' FSL & 1150' FWL (Surface Location)**  
**660' FDL & 330' FEL (Bottomhole Location)**  
**Section 14-T20S-R 32E**  
**Lea County, New Mexico**

**EXHIBIT A**





MARTIN YATES, III  
1912-1985

FRANK W. YATES  
1936-1986



105 SOUTH FOURTH STREET  
ARTESIA, NEW MEXICO 88210-2118  
TELEPHONE (575) 748 1471

S. P. YATES  
CHAIRMAN EMERITUS  
JOHN A. YATES  
CHAIRMAN OF THE BOARD  
FRANK YATES, JR.  
PRESIDENT  
PEYTON YATES  
DIRECTOR  
JOHN A. YATES, JR.  
DIRECTOR

January 14, 2008

Mr. Dan Morehouse  
Mosaic Potash Carlsbad Inc.  
P. O. Box 71  
Carlsbad, New Mexico 88220

**Certified Mail-Return Requested**

Dear Mr. Morehouse:

Yates Petroleum Corporation is the operator of the Oil and Gas Lease NM-63016. We have staked the following location:

Belco AIA Federal #4-H  
330' FSL & 1150' FEL (Surface Location)  
660' FSL & 330' FEL (Bottom hole Location)  
Section 14-T20S-R32E  
Lea County, New Mexico

The Belco AIA Federal #4-H well will be 5200' Delaware prospect. This will be a horizontal well with the pilot hole being a vertical borehole approximately 5200' TD. The horizontal borehole will be approximately 3000' in length to the bottom hole footages.

Yates has been advised that your company is the owner of record of certain potash leases in this area. We respectfully request that you waive any objection you may have to this proposed well location and so indicate by signing and returning one copy of this letter in the enclosed envelope.

Your favorable consideration of this request will be greatly appreciated.

Sincerely,

Yates Petroleum Corporation

  
Cy Cowan, Regulatory Agent

NO OBJECTIONS OFFERED  
MOSAIC POTASH

OBJECTIONS OFFERED  
MOSAIC POTASH

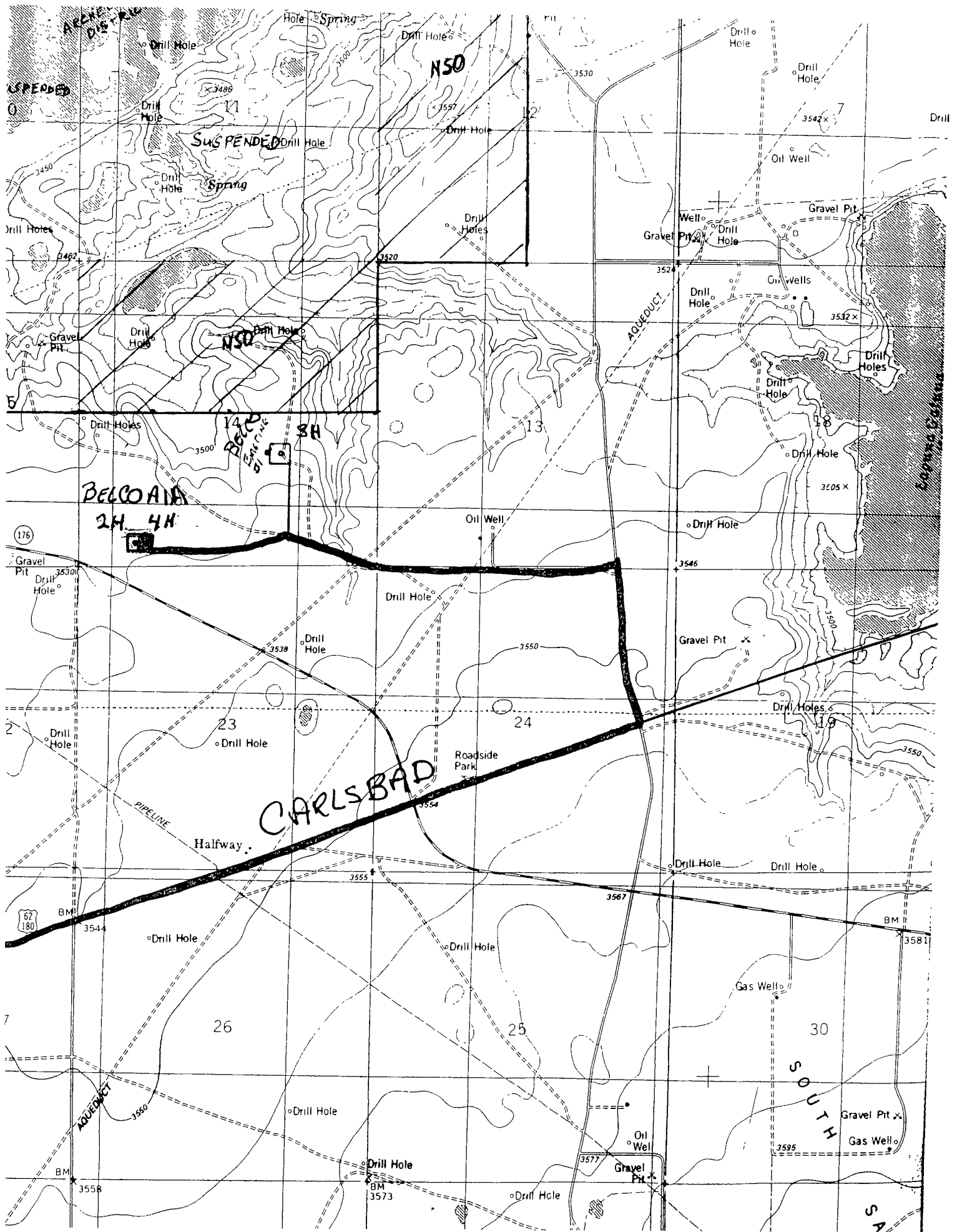
By: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

By: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

RANDY G. PATTERSON  
SECRETARY

DAVID LANNING  
CHIEF OPERATING OFFICER

DENNIS G. KINSEY  
TREASURER



7007 2680 0000 5030 9456

U.S. Postal Service <small>TM, ®</small>	
<b>CERTIFIED MAIL <small>TM</small> RECEIPT</b>	
<i>(Domestic Mail Only; No Insurance Coverage Provided)</i>	
For delivery information visit our website at <a href="http://www.usps.com">www.usps.com</a>	
<b>OFFICIAL USE</b>	
Postage \$	Belco 516, Fed.
Certified Fee	4H~
Return Receipt Fee (Endorsement Required)	Cy Cowan
Restricted Delivery Fee (Endorsement Required)	Postmark JAN 17 2008
Total Postage & Fees \$5.21	USPS 98210

Sent To	
Mr. Dan Morehouse / Mosaic	
Street, Apt. No., or PO Box No.	P.O. Box 71
City, State, ZIP+4	Carlsbad, New Mexico 88220

PS Form 3800, August 2006 See Reverse for Instructions

<b>SENDER: COMPLETE THIS SECTION</b>		<b>COMPLETE THIS SECTION ON DELIVERY</b>	
<ul style="list-style-type: none"> <li>■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li> <li>■ Print your name and address on the reverse so that we can return the card to you.</li> <li>■ Attach this card to the back of the mailpiece, or on the front if space permits.</li> </ul>		<p>A. Signature x Natosha Lester <input type="checkbox"/> Agent <input type="checkbox"/> Addressee</p> <p>B. Received by (Printed Name) Natosha Lester</p> <p>C. Date of Delivery 01/16/08</p> <p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p>	
<p>1. Article Addressed to:</p> <p>Mr. Dan Morehouse Mosaic Potash Carlsbad Inc. P.O. Box 71 Carlsbad, New Mexico 88220</p>		<p>3. Service Type</p> <p><input type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail</p> <p><input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise</p> <p><input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.</p>	
<p>2. Article Number (Transfer from service label) 7007 2680 0000 5030 9456</p>		<p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>	

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540

## PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Yates Petroleum Corp
LEASE NO.:	NM-63016
WELL NAME & NO.:	4H-Belco AIA Federal
SURFACE HOLE FOOTAGE:	330' FSL & 1150' FWL
BOTTOM HOLE FOOTAGE	660' FSL & 330' FEL
LOCATION:	Section 14, T. 20 S., R 32 E., NMPM
COUNTY:	Lea 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.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☐ **Special Requirements**
- ☐ **Construction**
  - Notification
  - Topsoil
  - Reserve Pit
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
- ☐ **Production (Post Drilling)**
  - Well Structures & Facilities
- ☐ **Reserve Pit Closure/Interim Reclamation**
- ☐ **Final Abandonment/Reclamation**



## **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. CONSTRUCTION**

### **A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 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 stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 6 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

### **C. RESERVE PITS**

The reserve pit shall be constructed and closed in accordance with the NMOCD rules.

The reserve pit shall be constructed 175' X 150' on the North side of the well pad.

The reserve pit shall be constructed, so that upon completion of drilling operations, the dried pit contents shall be buried a minimum depth of three feet below ground level. Should the pit content level not meet the three foot minimum depth requirement, the excess contents shall be removed until the required minimum depth of three feet below ground level has been met. The operator shall properly dispose of the excess contents at an authorized disposal site.

The reserve pit shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.

The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

### **D. FEDERAL MINERAL MATERIALS PIT**

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 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.

## VI. DRILLING

### A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Lea County**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,  
(575) 393-3612

1. **Although Hydrogen Sulfide has not been reported in this section, it has been reported in the township to the north measuring 200-3000 ppm in gas streams and 200-3000 ppm in STVs. These measurements have been from the Yates and Delaware formations.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
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 are located, this does not include the dog house or stairway area.
4. Gamma-Ray/Neutron logs shall be run from the base of the Salado formation to the surface. The logs shall be run at a speed which allows the logs to be legible and no faster than manufactures of the logging tools recommended speed. (R-111-P area only)

### B. CASING

1. The 13-3/8 inch surface casing shall be set **at approximately 1200 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface. **BLM geologist is picking the Rustler Anhydrite at approximately 900 feet based on wells located in Section 15. Centralizers required on surface casing per Onshore Order 2.III.B.1.f.**

- a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
- b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, **24 hours in the potash area**, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement). **Please provide WOC times to inspector for cement slurries.**
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial action will be done prior to drilling out that string.

**Possible lost circulation in the Artesia Group and the Capitan Reef.  
Possible water flows in the Artesia and Salado Groups.**

2. The minimum required fill of cement behind the **9-5/8** inch first intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a-d above.

**The first intermediate casing is to be set in the Basal Anhydrite to properly isolate the Capitan Reef.**

**Please provide WOC times to inspector for cement slurries.**

**Fresh water mud to be used drilling between set point of 9-5/8" casing and setting of 7" casing.**

3. The minimum required fill of cement behind the **7** inch second intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a-d above.

**The 7 inch casing is to be set in the Lamar Limestone to isolate the Capitan Reef from the Delaware formations.**

**Please provide WOC times to inspector for cement slurries.**

4. The minimum required fill of cement behind the **4-1/2** inch production casing is:

☒ Cement to circulate to DV tool. Operator shall provide method of verification. The 4-1/2" casing will be removed above 4400' after lateral stimulation.

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
6. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

#### **C. 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.
2. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. The tests shall be done by an independent service company.
  - b. The results of the test shall be reported to the appropriate BLM office.
  - c. 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.
  - d. 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.
  - e. A variance to test the surface casing and BOP/BOPE to the reduced pressure of **1000** psi with the rig pumps is approved.

#### **D. DRILL STEM TEST**

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

**WWI 030608**

## **VII. 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.

#### **Containment Structures**

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

#### **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, Munsell Soil Color Chart # 5Y 4/2

## **VIII. INTERIM RECLAMATION & RESERVE PIT CLOSURE**

### **A. INTERIM RECLAMATION**

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting 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.

At the time reserve pits are to be reclaimed, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions 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 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.

### **B. RESERVE PIT CLOSURE**

The reserve pit, when dried and closed, shall be recontoured, all trash removed, and reseeded as follows:



## Seed Mixture 1, for Loamy 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 regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/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:

<u>Species</u>	<u>lb/acre</u>
Plains lovegrass ( <i>Eragrostis intermedia</i> )	0.5
Sand dropseed ( <i>Sporobolus cryptandrus</i> )	1.0
Sideoats grama ( <i>Bouteloua curtipendula</i> )	5.0

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent gemination = pounds pure live seed  
(Insert Seed Mixture Here)

## **X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS**

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.