

OCD-ARTESIA

12-16
12-93Form 3160-3
(April 2004)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No 1004-0137
Expires March 31, 20075. Lease Serial No.
~~NMLC-067981~~ **NMLC 70678A**
6 If Indian, Allottee or Tribe Name **JH 10/11**1a. Type of work: ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone2. Name of Operator
Lime Rock Resources IIA, L.P.3a. Address **1111 Bagby St., Suite 4600
Houston, TX 77002**3b. Phone No. (include area code)
713-292-95267 If Unit or CA Agreement, Name and No
8 Lease Name and Well No **[309062]**
Hawk 8 L Federal, Well No. 15
9 API Well No. **30-015-39807**10 Field and Pool, or Exploratory
Red Lake; Glorieta-Yeso [51120]

4 Location of Well (Report location clearly and in accordance with any State requirements.)*

At surface **1650' FSL & 680' FWL**At proposed prod zone **same**

11. Sec., T. R. M. or Blk and Survey or Area

Sec. 8 T18S-R27E14 Distance in miles and direction from nearest town or post office*
15 miles SE of Artesia, NM12 County or Parish
Eddy13 State
NM15 Distance from proposed*
location to nearest
property or lease line, ft **630'**
(Also to nearest drg unit line, if any) **630'**16 No. of acres in lease
8017 Spacing Unit dedicated to this well
4018. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft. **1980'**19 Proposed Depth
4,200'20 BLM/BIA Bond No. on file
NMB-000715 & NMB-00075621 Elevations (Show whether DF, KDB, RT, GL, etc.)
3398' GL22 Approximate date work will start*
12/14/201123 Estimated duration
2-3 weeks

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 officer |

25 Signature **George R. Smith**Name (Printed/Typed)
George R. SmithDate
09/26/2011Title
POA Agent for Lime Rock Resources IIA, L.P.Approved by (Signature) **/s/George MacDonell**

Name (Printed/Typed)

Date **DEC 21 2011**Title **Sgt FIELD MANAGER**

Office

CARLSBAD FIELD OFFICEApplication 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 page 2)

Roswell Controlled Water Basin

RECEIVED**DEC 21 2011****NMOCD ARTESIA**Approval Subject to General Requirements
& Special Stipulations AttachedSEE ATTACHED FOR
CONDITIONS OF APPROVAL **COH**

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
11885 S. ST. FRANCIS DR., SANTA FE, NM 87505

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

Form C-102
Revised July 16, 2010
Submit to Appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-39807	Pool Code 51120	Pool Name Red Lake; Glorieta-Yeso
Property Code 309002	Property Name HAWK 8 L FEDERAL	Well Number 15
OGRID No. 277558	Operator Name LIME ROCK RESOURCES A, L.P.	Elevation 3398'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	8	18-S	27-E		1650	SOUTH	680	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
Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.						


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>GEODETIC COORDINATES NAD 27 NME</p> <p>Y=640008.2 N X=508273.2 E</p> <p>LAT.=32.759473° N LONG.=104.306421° W</p> <p>680'</p> <p>1650'</p> <p>DETAIL</p> <p>3386.4' 3399.8' 600' 3376.4' 3388.5'</p>	<p>OPERATOR CERTIFICATION</p> <p>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.</p> <p><i>George R. Smith</i> 9/26/11 Signature Date</p> <p>George R. Smith POA agent Printed Name</p> <p>E-mail Address</p>
	<p>SURVEYOR CERTIFICATION</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>APRIL 21, 2011</p>
	<p>Date of Survey</p> <p>Signature & Seal of Professional Surveyor:</p> <p><i>Ronald J. Eidson</i></p> <p>3239</p> <p>Certificate Number Gary G. Eidson 12641 Ronald J. Eidson 3239</p>
	<p>LA JWSC W.O.: 11.11.0823</p>

CERTIFICATION:

I hereby certify that I have inspected the proposed drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have knowledge of state and Federal laws applicable to this operation; that the statements made in the APD 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 package and the terms and conditions which it is approved. I also certify that I, or the company I represent, am/is 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 a false statement.

Executed this September 22, 2011


George R. Smith

POA agent for Lime Rock Resources IIA, L.P.

P.O. Box 458

Roswell, NM 88202

575-623-4940

Sid Ashworth

1111 Bagby St., Suite 4600

Houston, TX 77002

713-292-9526 (office)

713-906-7750 (cell)

POWER OF ATTORNEY

DESIGNATION OF AGENT

LIME ROCK RESOURCES A-II, L.P. hereby names the following person as its agent:

Name of Agent: George R. Smith d/b /a/ Energy Administrative Services Company

Agent's Address: P.O. Box 458, Roswell, NM 88202

Agent's Telephone Number: (575) 623-4940

GRANT OF SPECIAL AUTHORITY

LIME ROCK RESOURCES A-II, L.P. grants its agent the authority to act for it with the respect to the following only:

1. Executing forms required to be filed with the Oil Conservation Division of the New Mexico Energy, Minerals, and Natural Resources Department.
2. Executive forms required to be filed with the Bureau of Land Management of the Department of Interior of the United States of America.

EFFECTIVE DATE

This power of attorney is effective immediately.

RELIANCE ON THIS POWER OF ATTORNEY

Any person, including the agent, may rely upon the validity of this power of attorney or a copy of it unless that person knows it has terminated or is invalid.

SIGNATURE AND ACKNOWLEDGEMENT

LIME ROCK RESOURCES A-II, L.P.

By: 

Name: Charles Adcock

Title: Managing Director – Lime Rock Resources, G.P.

Date: 09/19/2011

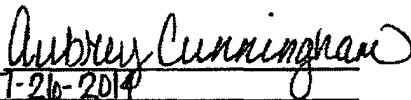
Address: 1111 Bagby Street, Suite 4600, Houston, TX 77002

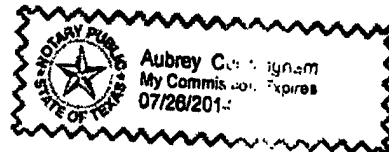
Telephone Number: (713)292-9512

State of TEXAS
County of HARRIS

This instrument was acknowledged before me on September 19th, 2011 by Charles Adcock,
Managing Director of LIME ROCK RESOURCES A-II, L.P. acting on behalf of said limited
partnership.

Signature of notarial officer:
My commission expires:


07-26-2014



**APPLICATION FOR DRILLING
LIME ROCK RESOURCES IIA, L.P.**
Hawk 8 L Federal, Well No. 15
1650' FSL & 680' FWL, Sec. 8-T18S-R27E
Eddy County, New Mexico
Lease No.: NMNM-29270
(Development Well)

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Lime Rock Resources IIA, L.P. submits the following items of pertinent information in accordance with BLM requirements:

1. The geologic surface formation is recent Permian with quaternary alluvium and other surficial deposits.

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

Yates	70'	San Andres	1,202'
Seven Rivers	0'	Glorieta	2,610'
Queen	568'	Yeso	2,684'
Grayburg	940'	TD	4,200'

3. The estimated depths at which water, oil or gas formations are anticipated to be encountered:

Water: Surface water possible in the Triassic between 80' - 230'.

Oil: Possible in the San Andres, Glorieta below 1,202'

Gas: Possible in the San Andres, Glorieta-Yeso below 1,202'

4. Proposed New Casing Program:

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH FACTOR	COLLAPSE DESIGN FACTOR	BURST DESIGN FACTOR	TENSION DESIGN FACTOR
12 1/4"	8 5/8"	24.0#	J-55	ST&C	350'	1.2	1.18	2.0
7 7/8"	5 1/2"	17.0#	J-55	LT&C	4,200'	1.2	1.18	2.0

5. Proposed Control Equipment: A 2M Shaffer Type "E" Double Gate 10" BOP will be installed on the 8 5/8" casing. Casing and BOP will be tested as a 2M system as per Onshore Oil & Gas Order #2 before drilling out with the 7 7/8". The Pipe Rams will be operated and checked daily, plus each time drill pipe is out of hole. This will be documented on driller's log. See Exhibit "E".

6. Cement Program

CASING	SETTING DEPTH	QUANTITY OF CEMENT	TOC	YEILD
8 5/8"	350	375 sx "C"+2%CaCl2+.125 pps Poly-E Flake	Surface	1.35
		150% excess		
5 1/2"	4,200'	Lead 450 sx 35'65 (Poz.C)+.6% Gel + 0.125 pps PE Flake +3pps NaCl+3 pps Gilsontite + 0.5% Halad 9		1.87
		Tail 550 sx "C"+0.4% LAP-1+ 0.5% CFR-3, + 0.25 pps D-AIR +0.125 pps Poly E Flake 100% excess	Surface	1.335

7. Mud Program:

MUD PROGRAM		MUD WEIGHT	VIS.	W/L CONTROL
DEPTH	MUD			
0 – 350'	Fresh water mud:	8.4 – 9.2 ppg	28 - 34	No W/L control
350' – 3000'	Brine water	9.8 – 10.2 ppg	28 - 29	No W/L control
3000' – 4200'	Brine, Salt Gel, Starch	9.8 – 10.2 ppg	30 - 32	W/L control 20-30 cc w/starch

8. Auxiliary Equipment: Blowout Preventer, gas detector, Kelly cock.

9. Testing, Logging, and Coring Program: *See COA*

Drill Stem Tests: None planned unless warranted.

Logging: T.D –Surface Casing: GR-DLL, GR-CND

350' to surface: G/R/Neutron

Coring: None planned unless warranted..

10. No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered the proposed mud program will be modified to increase the mud weight. Estimated Surface Pressure = 1357 psi (evac. hole) and BHP of 2387 psi (evac) with temperature of 105°.

See COA **11. H₂S:** The mud log unit will be cautioned to use a gas trap to detect H₂S and if any is detected the mud weight will be increased along with H₂S inhibitors sufficient to control the gas. H₂S monitoring equipment will be installed before drilling out from the 8 5/8" casing. If H₂S is detected in concentrations requiring activation of the contingency program, a mud separator and flare line will be installed on the choke manifold and the H₂S gas contingency program will be not only be activated, but enforced. See Exhibit "D".

12. Anticipated starting date: December 14, 2011.

Anticipated completion of drilling operations: Approx. 3 weeks

2000 psi System

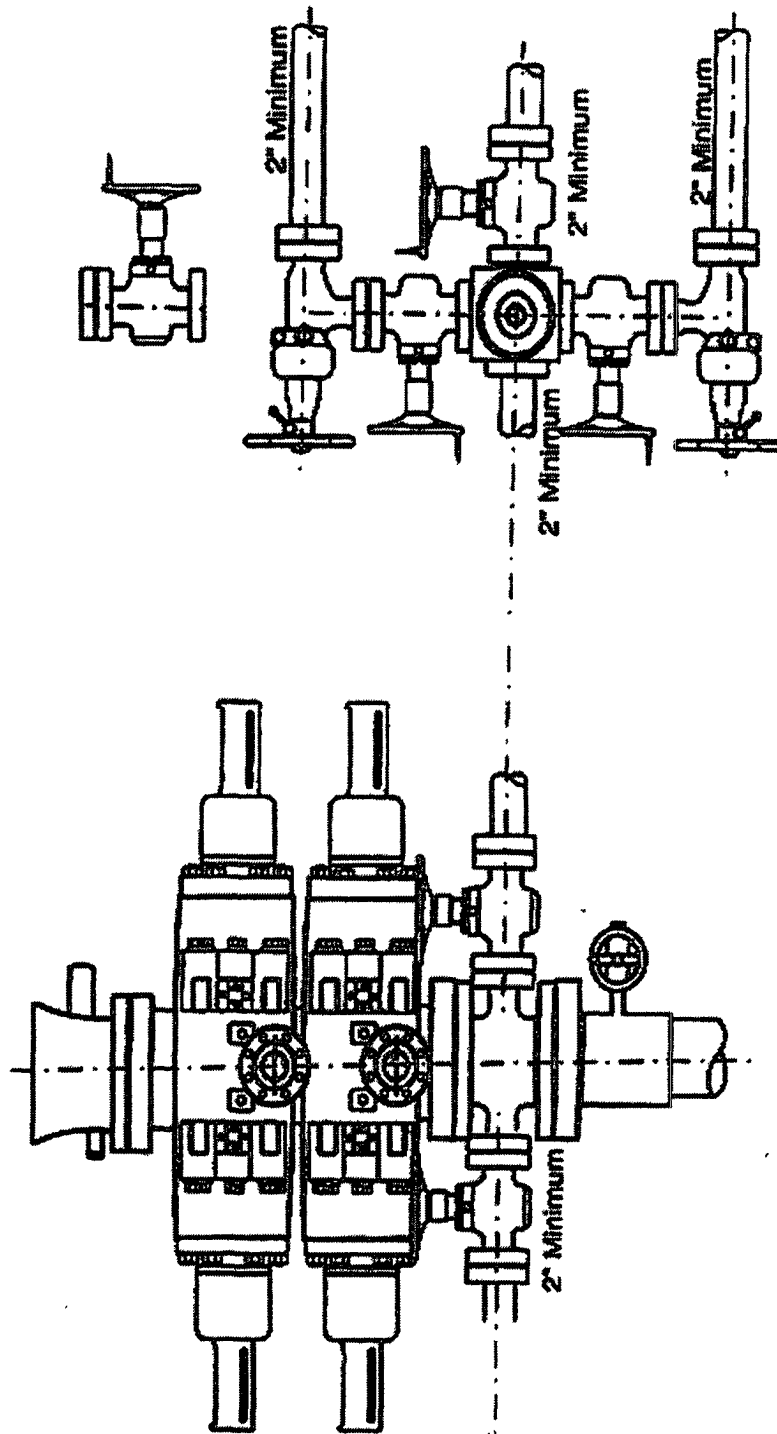
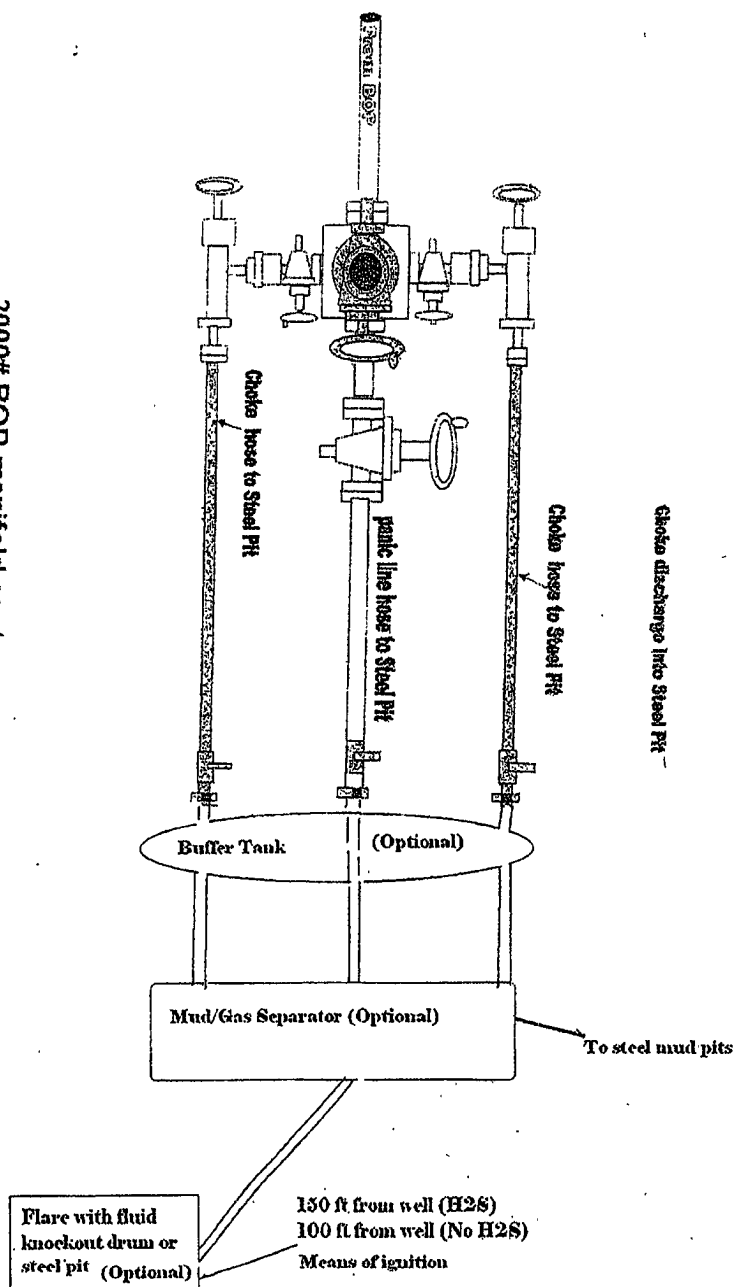
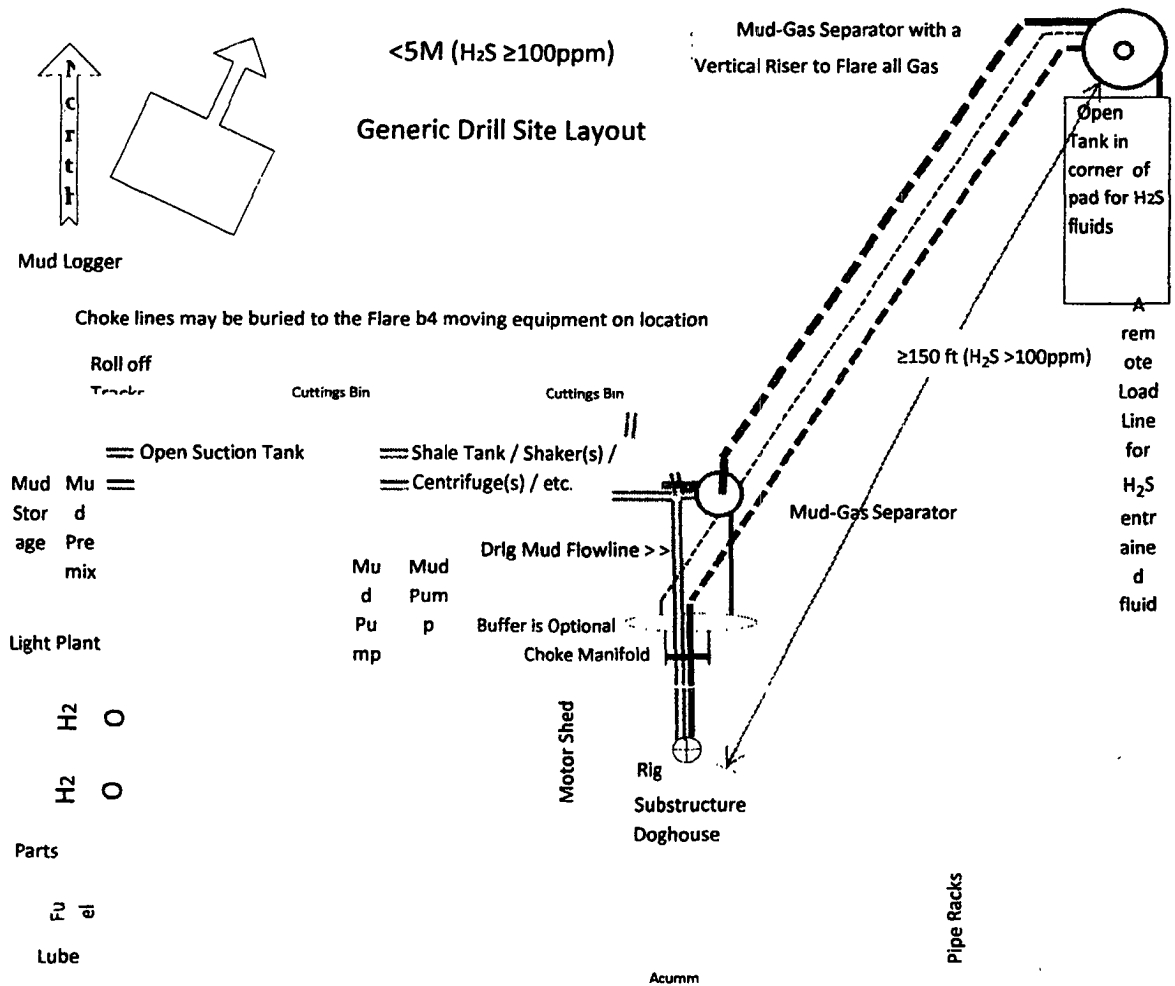


Figure 3-1

2000# BOP manifold system
(Suggested configuration)



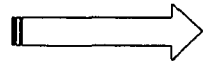
For a vertical gas vent or flare to be 150ft from the wellbore, the well needs to be centered in a square 250ft min on a side. To be 100ft from the wellbore, the well needs to be centered in a square 150ft min on a side.



Preplanning reasonable accommodations to achieve necessary and useable "Closed Loop" drillsite features is challenging. Specific considerations must be custom fitted to each wellsite. This generic plat was prepared to emphasize desired APD planning elements for lower pressure wells with the potential for H_2S gas. As a minimum the plat should include: a north arrow, prevailing wind direction, access road, a mud-gas separator, and steel tank location or blowdown pit for overpressured fluids. Include truck routing for removal of cuttings bins. Consider an overpressured situation, with the BOPE being closed. Show the choke manifold and a piping system for venting overpressured fluid through a gas/liquid separator to burn gas and flow liquids into the steel tank. Also consider the need for fluid/gas separation during normal drilling with fluid discharged to mud tanks and H_2S gas from the flowline venting to the flare.

Tool Pusher Housing

Company man Housing



PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Lime Rock Resources, IIA, L.P.
LEASE NO.:	NMLC70678A
WELL NAME & NO.:	Hawk 8 L Federal No. 15
SURFACE HOLE FOOTAGE:	1650' FSL & 680' FWL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 8, T. 18 S., R. 27 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.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Cave/karst
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - H2S – Onshore Order 6 requirements
 - High cave/karst
 - Waste Material and Fluids
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☒ **Interim Reclamation**
- ☒ **Final Abandonment & Reclamation**