13-503

OCD Artesia

Form 3160-3
(August 2007)

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMLC-064050-A

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 ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
EAGLE 34 I FEDERAL #62 (308955)

2. Name of Operator LIME ROCK RESOURCES II-A, L.P. (277558)

9. API Well No.
30-015-41285

3a. Address 1111 BAGBY ST., STE. 4600
HOUSTON, TX 77070

3b. Phone No. *(include area code)*
(713) 292-9526

10. Field and Pool, or Exploratory
RED LAKE; GLORIETA-YESO NE (96836)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 2280' FSL & 1110' FEL
At proposed prod. zone 2310' FSL & 990' FEL

11. Sec., T. R. M. or Blk. and Survey or Area
UNIT I-SEC.34-T17S-R27E

14. Distance in miles and direction from nearest town or post office*
9 MILES SOUTHEAST OF ARTESIA, NM

12. County or Parish
EDDY

13. State
NM

15. Distance from proposed* 210'
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any)

16. No. of acres in lease
160

17. Spacing Unit dedicated to this well
40

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft. 114'

19. Proposed Depth
MD 4816'
TVD 4800'

20. BLM/BIA Bond No. on file
NMB-000716
NMB-000756

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3581' GL

22. Approximate date work will start*
8/17/13

23. Estimated duration
2-3 WEEKS

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 Lisa Barfield
Name *(Printed/Typed)* LISA BARFIELD dba PETRO ENERGY GROUP
Date 3/21/2013

Title
POA AGENT FOR LIME ROCK RESOURCES II-A, L.P.

Approved by *(Signature)* /s/ James Stovall
Name *(Printed/Typed)* /s/ James Stovall
Date APR 22 2013

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)

RECEIVED
APR 23 2013
NMOCD ARTESIA

*(Instructions on page 2)

Roswell Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

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 operation proposed herein will be performed in the 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 18U.S.C. 1001 for the filing of a false statement.

Executed this 1/17/2013

Lisa Barfield

Lisa Barfield
POA Agent for Lime Rock Resources II-A, L.P.
12777 Jones Rd., Ste. 385
Houston, TX 77070
281-890-1818 (office)

SIGNATURE AND ACKNOWLEDGEMENT

Lime Rock Resources II-A, L.P.

By: _____

Name: Charles Adcock

Title: Co-Chief Executive Officer

Date: 4/13/2012

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

State of TEXAS
County of HARRIS

This instrument was acknowledged before me on April 13, 2012 by Stella Shows, Charles Adcock of Lime Rock Resources II-A, L.P. acting on behalf of said limited partnership.

Signature of notarial officer: Stella Shows
My commission expires: June 23, 2015

STELLA SHOWS
Notary Public, State of Texas
My Commission Expires
June 23, 2015

POWER OF ATTORNEY

DESIGNATION OF AGENT

Lime Rock Resources II-A, L.P. hereby names the following person as its agent:

Name of Agent: Lisa Barfield dba Petro Energy Group

Agent's Address: 12777 Jones Road Suite 385 Houston, Texas 77070

Agent's Telephone Number: 281-890-1818

GRANT OF SPECIAL AUTHORITY

Lime Rock Resources II-A, 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. Executing 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.

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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised October 15,2009
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-015-41285	96836	RED LAKE;GLORIETA-YESO NE

4 Property Code	5 Property Name	6 Well Number
308955	EAGLE "34" I FEDERAL	62

7 OGRID No.	8 Operator Name	9 Elevation
277558	LIME ROCK RESOURCES II-A, L.P.	3581.4

10 Surface Location

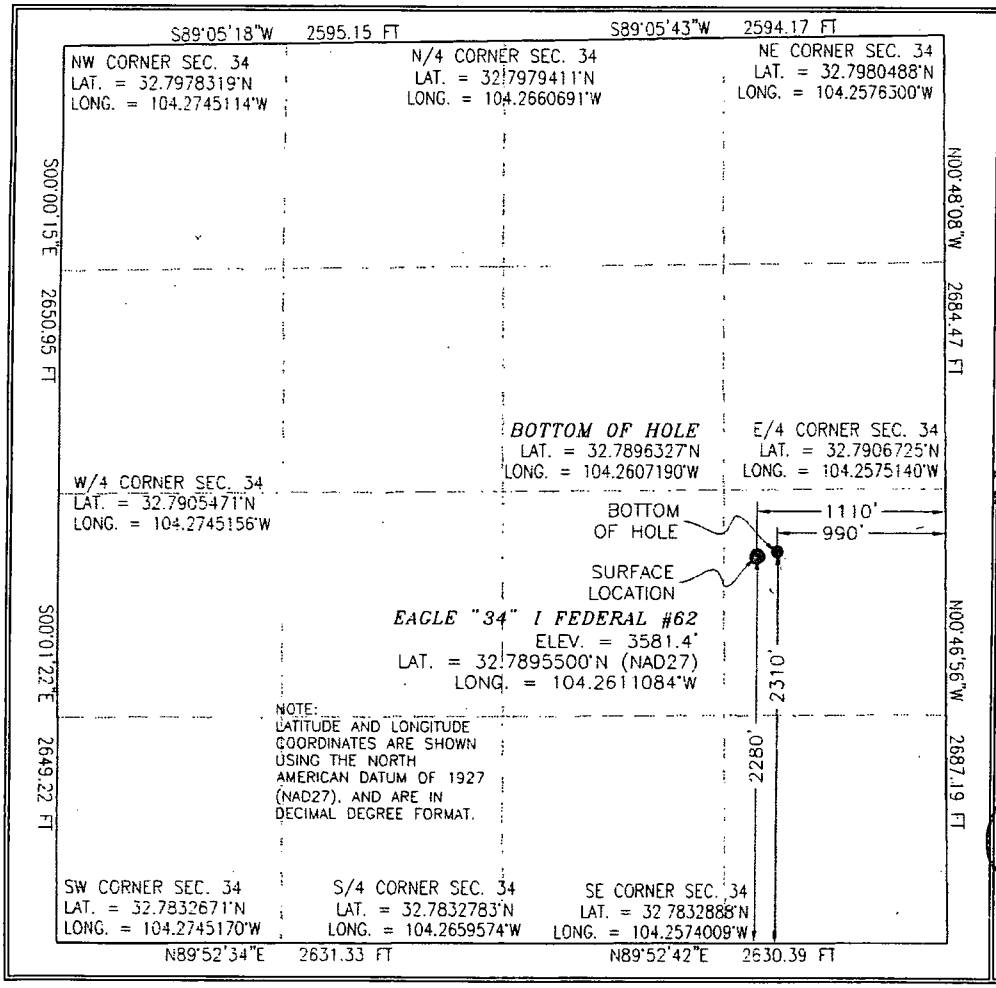
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	34	17 S	27 E		2280	SOUTH	1110	EAST	EDDY

11 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
I	34	17 S	27 E		2310	SOUTH	990	EAST	EDDY

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 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.



17 OPERATOR CERTIFICATION

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 or has a right to drill this well at this 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.

Signature 1/17/13 Date

Printed Name RICHARD LOGAN BOURHAL

18 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.

APRIL 28, 2012
Date of Survey

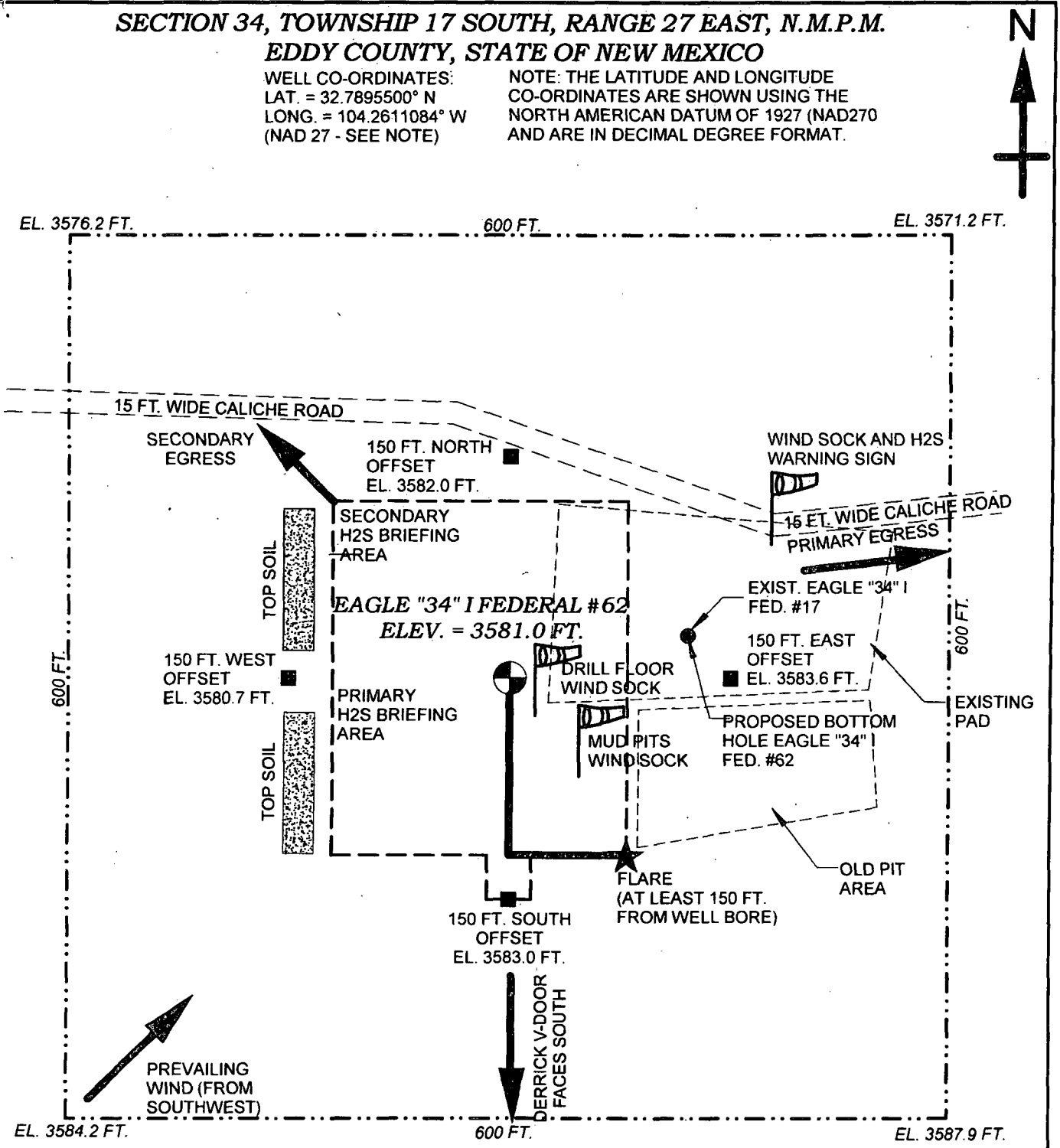
Signature and Seal of Professional Surveyor: FIDEL JARAMILLO NEW MEXICO REGISTERED LAND SURVEYOR

Certificate Number: FIDEMON F. JARAMILLO, PLS 12797 SURVEY NO. 819

SECTION 34, TOWNSHIP 17 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

WELL CO-ORDINATES:
LAT. = 32.7895500° N
LONG. = 104.2611084° W
(NAD 27 - SEE NOTE)

NOTE: THE LATITUDE AND LONGITUDE CO-ORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1927 (NAD270 AND ARE IN DECIMAL DEGREE FORMAT.



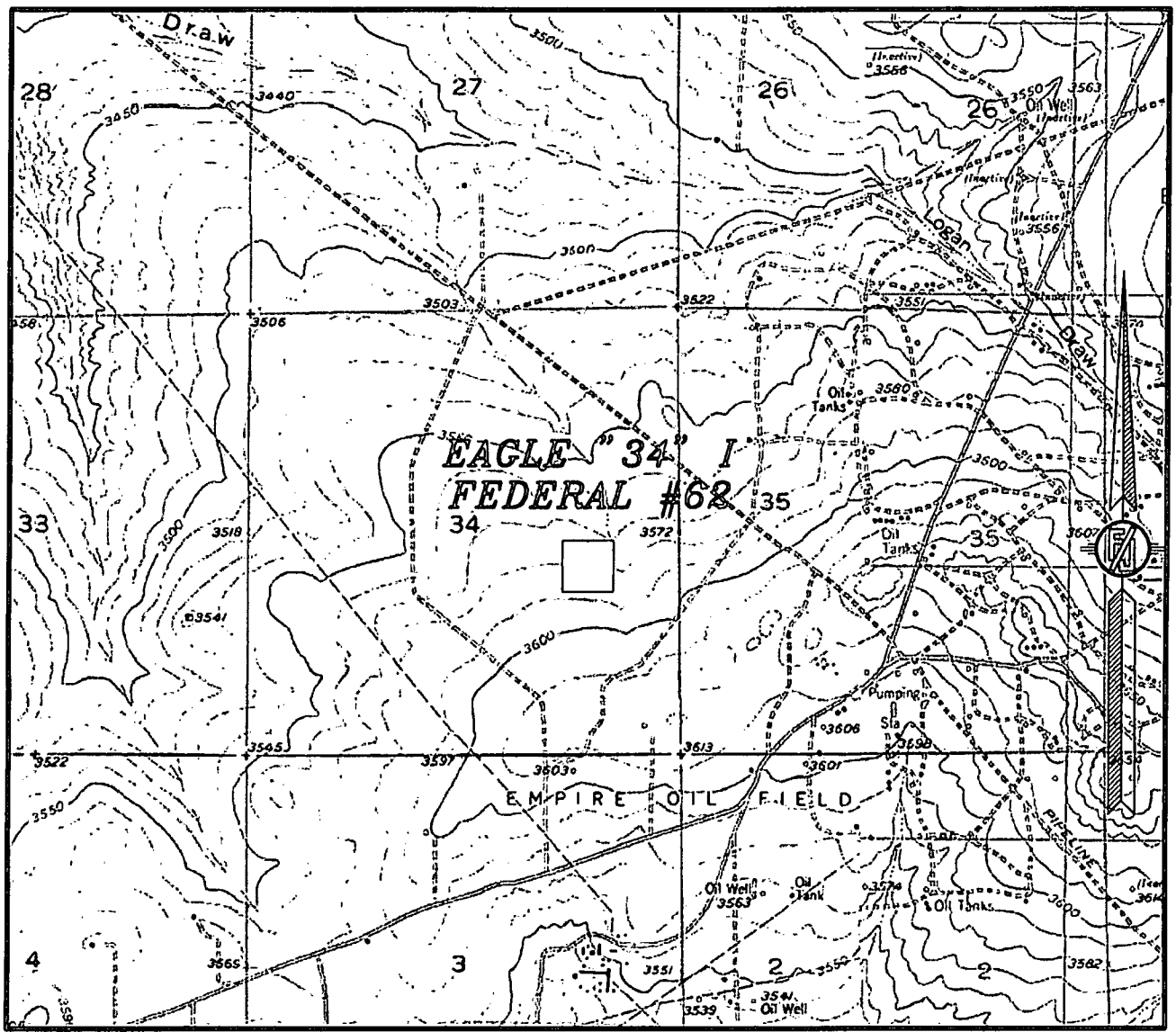
Directions to Location:
From paved County Road 225 (Empire) and paved County Road 226 (Evans), go North on County 225 200 ft. Turn left and go Northwest 0.25 miles. Bend left and go West 0.55 miles. Turn right and go North 350 ft. Turn left and go West 0.36 miles.and location is 145 ft. Southwest.

peg
Petro Energy Group
12777 Jones Road,
Suite 385,
Houston TX 77070
Tel. 281 890 1818
www.peg-us.com

LEASE: EAGLE 34 "I" FEDERAL #62	CLIENT: **Lime Rock Resouces II-A, L.P.**
COUNTY / PARISH AND STATE: EDDY COUNTY NEW MEXICO	TITLE: **EAGLE "34" I FEDERAL #62**
SURVEY INFORMATION: MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO SURVEY NO. 834. 5/2/2012	LOCATED 2280 FT. FROM THE SOUTH LINE AND 1110 FT. FROM THE EAST LINE OF SECTION 34, TOWNSHIP 17 SOUTH, RANGE 27 EAST, N.M.P.M. EDDY COUNTY STATE OF NEW MEXICO
DRAWING NO. AND REVISION: **2013-LR-E34I-62-001 REV. 4**	100 50 0 FT. 100 200 300 — SCALE AT LETTER PAPER SIZE 1 INCH = 100 FEET

SECTION 34, TOWNSHIP 17 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

LOCATION VERIFICATION MAP



USGS QUAD MAP:
SPRING LAKE

NOT TO SCALE

LIME ROCK RESOURCES II-A, L.P.

EAGLE "34" I FEDERAL #62

LOCATED 2280 FT. FROM THE SOUTH LINE
AND 1110 FT. FROM THE EAST LINE OF
SECTION 34, TOWNSHIP 17 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

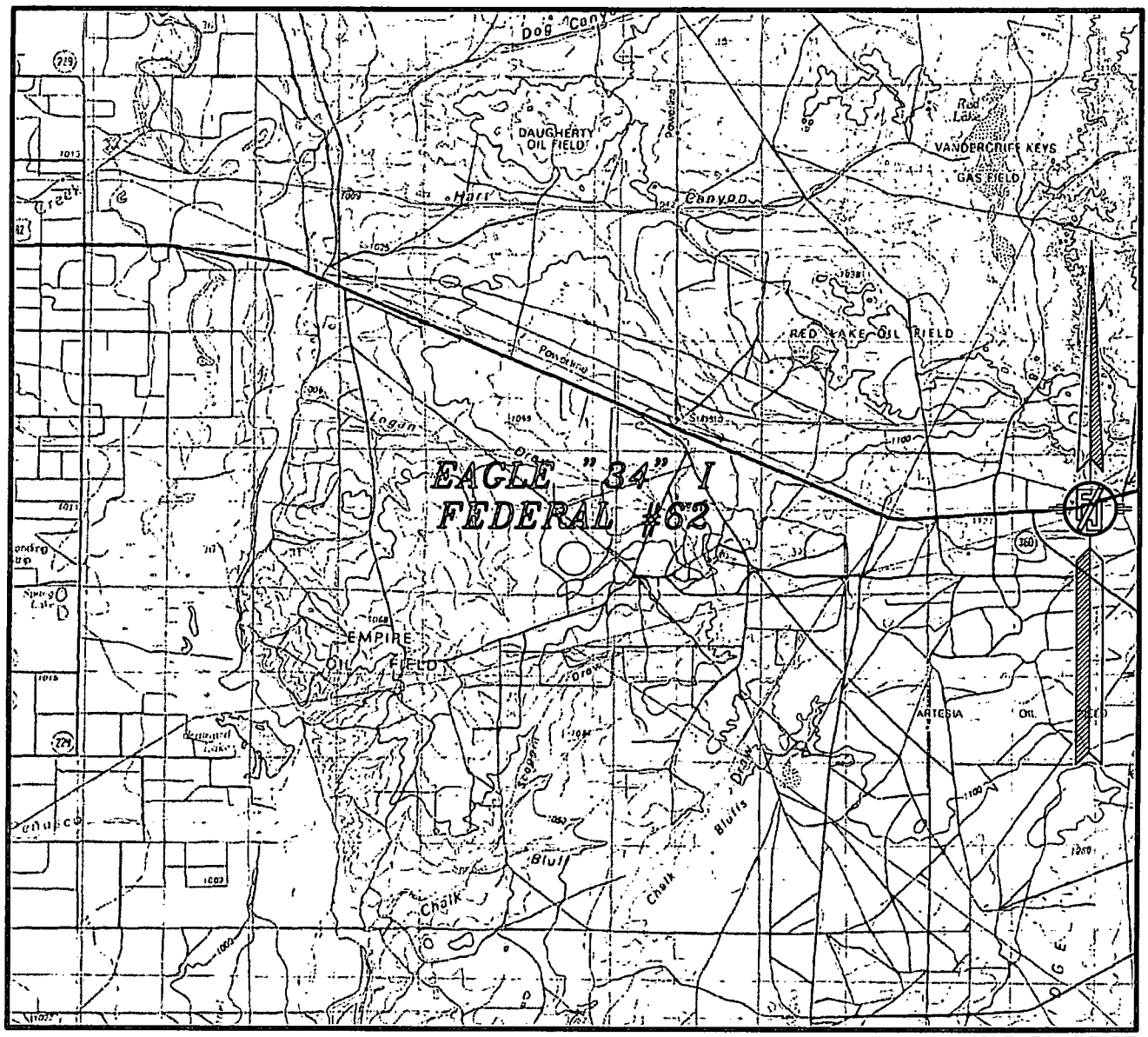
APRIL 28, 2012

SURVEY NO. 819

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 34, TOWNSHIP 17 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

VICINITY MAP



NOT TO SCALE

LIME ROCK RESOURCES II-A, L.P.

EAGLE "34" I FEDERAL #62

LOCATED 2280 FT. FROM THE SOUTH LINE
AND 1110 FT. FROM THE EAST LINE OF
SECTION 34, TOWNSHIP 17 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

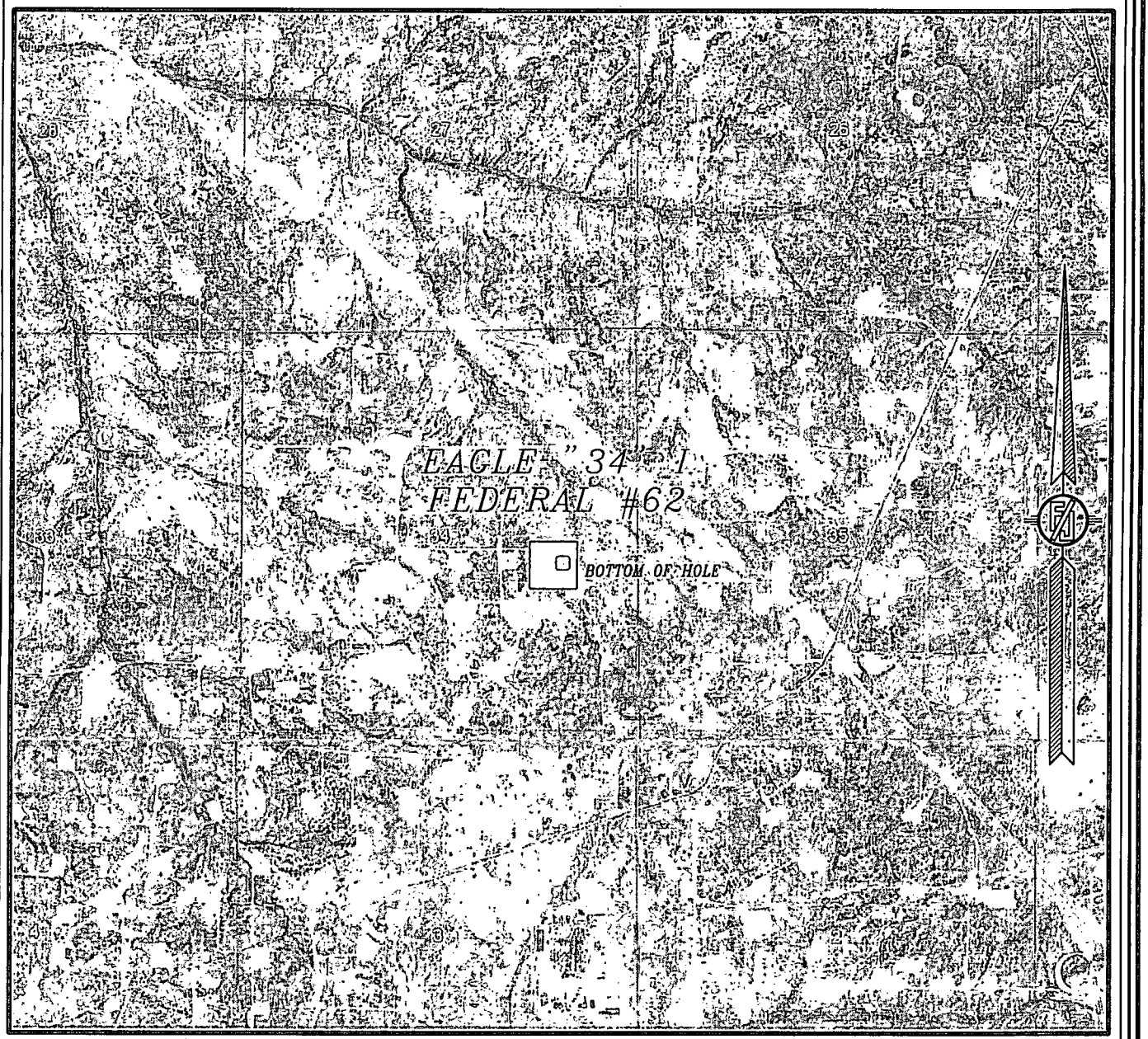
APRIL 28, 2012

SURVEY NO. 819

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 34, TOWNSHIP 17 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
JUNE, 2011

LIME ROCK RESOURCES II-A, L.P.

EAGLE "34" I FEDERAL #62

LOCATED 2280 FT. FROM THE SOUTH LINE
AND 1110 FT. FROM THE EAST LINE OF
SECTION 34, TOWNSHIP 17 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

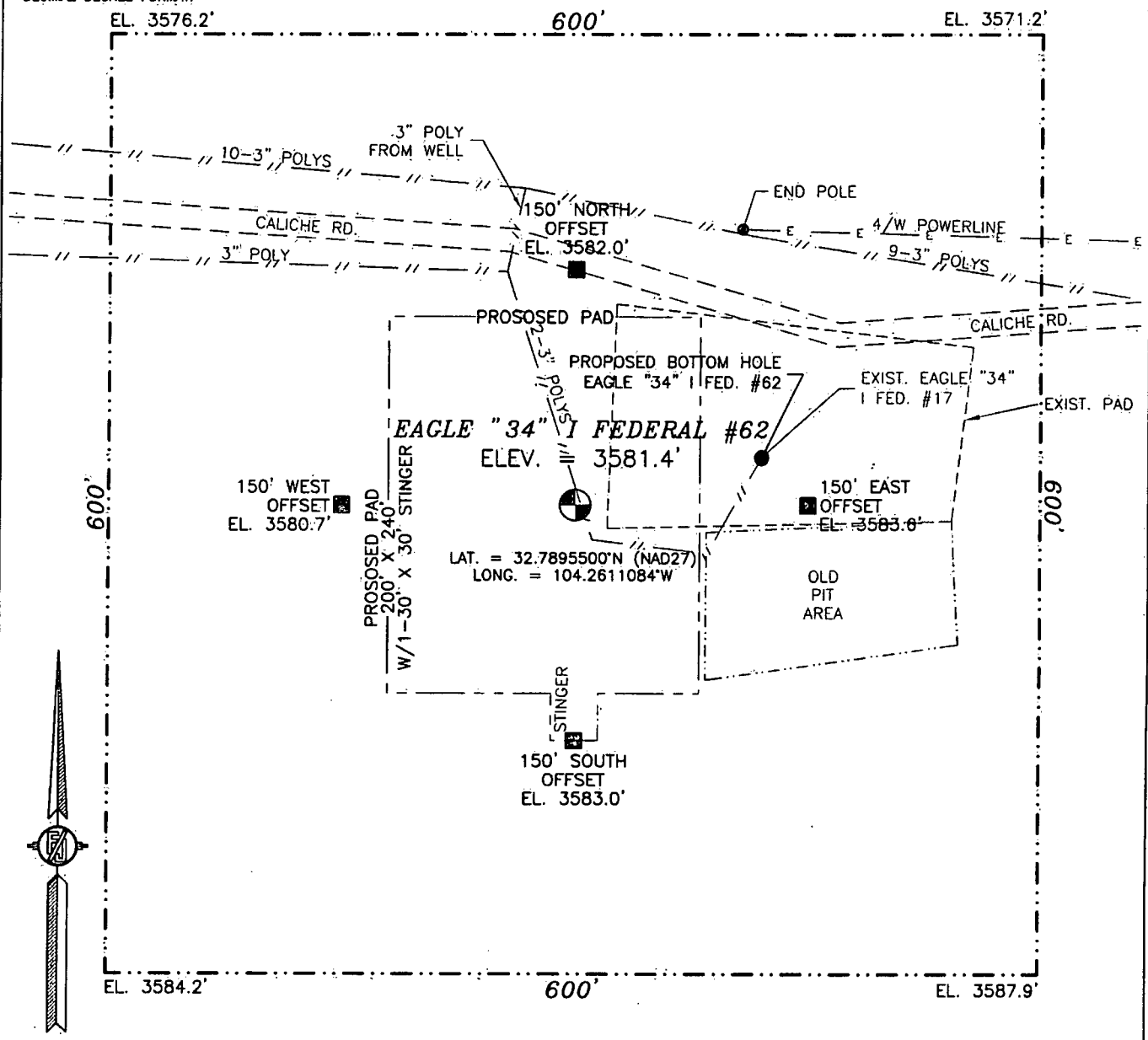
APRIL 28, 2012

SURVEY NO. 819

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 34, TOWNSHIP 17 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

NOTE: THE LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1927 (NAD27), AND ARE IN DECIMAL DEGREE FORMAT.



010 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM PAVED CR 225 (EMPIRE) AND PAVED CR 226 (EVANS) GO NORTH ON CR 225 200 FT, TURN LEFT AND GO NORTHWEST 0.25 MILES, BEND LEFT AND GO WEST 0.55 MILES, TURN RIGHT AND GO NORTH 350 FT, TURN LEFT AND GO WEST 0.36 MILES AND LOCATION IS 145 FT SOUTHWEST.

LIME ROCK RESOURCES II-A, L.P.

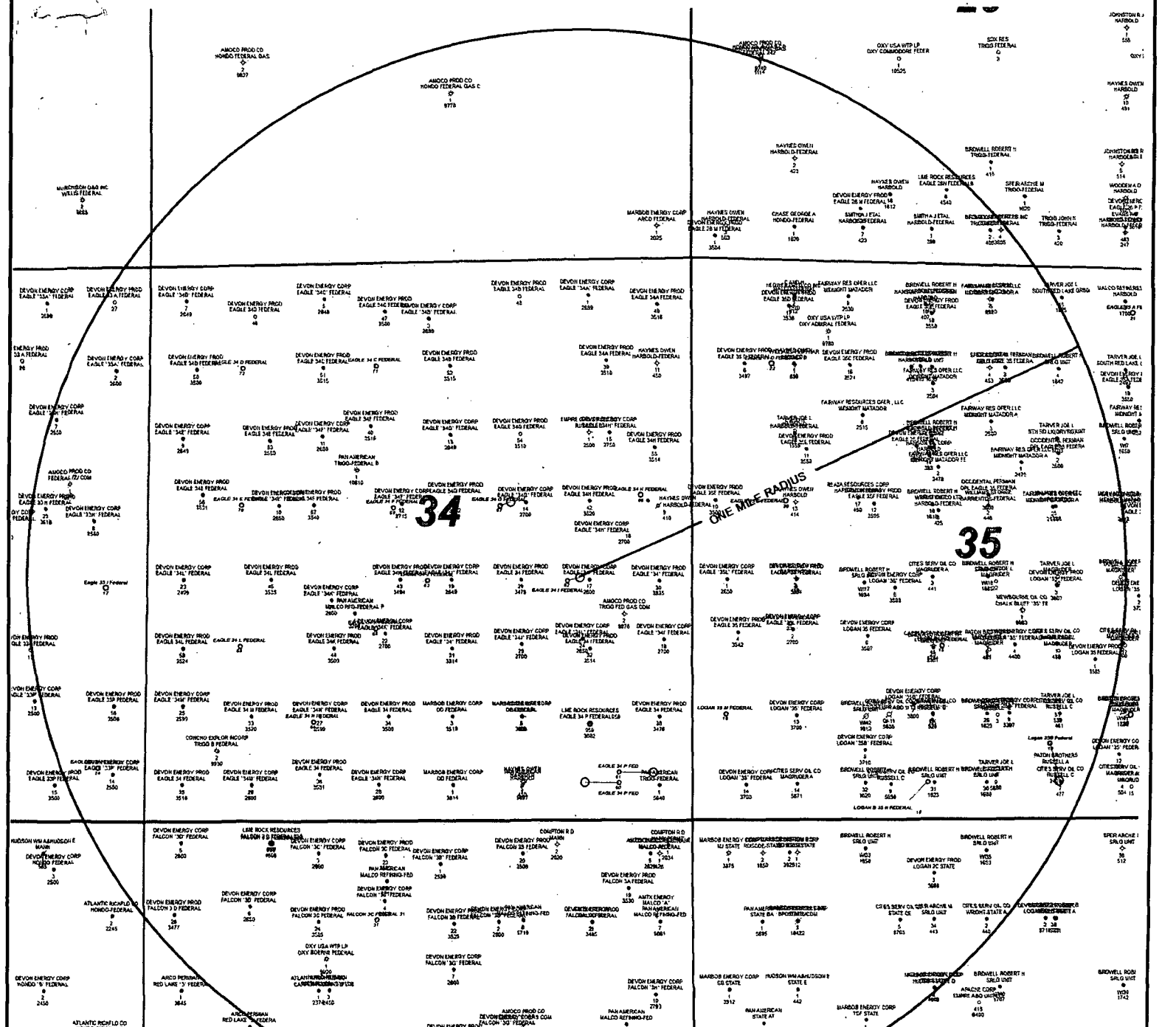
EAGLE "34" I FEDERAL #62

LOCATED 2280 FT. FROM THE SOUTH LINE AND 1110 FT. FROM THE EAST LINE OF SECTION 34, TOWNSHIP 17 SOUTH, RANGE 27 EAST, N.M.P.M. EDDY COUNTY, STATE OF NEW MEXICO

APRIL 28, 2012

SURVEY NO. 819

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*



(I) S34-T17S-R27E

1 inch = 1400 feet

1000 0 1000 ft

LIME ROCK RESOURCES

LIME ROCK RESOURCES II-A, L.P.
ONE MILE RADIUS AROUND
EAGLE 34 I FEDERAL 62

Author: <name>		Date: 12 July, 2012
	Scale: <scale>	

MAP DETAILING FLOWLINE
From Eagle 34 I Federal #62
to Eagle 33/34 Federal Tank Battery

LIME ROCK RESOURCES II-A, L.P.
Eagle 34 I Federal #62
LOCATED 2280' FROM THE NORTH LINE
AND 1110' FROM THE EAST LINE OF
SECTION 34, TOWNSHIP 17 SOUTH,
RANGE 27 EAST, N.M.P.M.,
EDDY COUNTY, NM

N

——— FLOW LINE

LIME ROCK RESOURCES II- A, L.P
APD DRILLING PLAN

OPERATOR: LIME ROCK RESOURCES II- A, L.P
WELL: Eagle 34 I Federal #62
LOCATION: Surface Location: 2280' FSL & 1110' FEL
Bottom Hole Location: 2310' FSL & 990' FEL
Unit I-Sec. 34-T17S-R27E
Eddy County, NM
LEASE NUMBER: NMLC-064050-A

In attachment and accordance to BLM Form 3160-3, we respectfully submit the following information to drill the subject well as a "shallow S" deviated well with rotary tools to a total vertical depth of 4816', set production casing, and then move the rig off to use a work over rig to complete the well:

1. & 2. ESTIMATED TOPS OF GEOLOGIC FORMATIONS AND MARKERS:

Formation	MD	TVD	Formation Content
Quaternary – Alluvium	Surface	Surface	
7 Rivers	327'	327'	
Surface Casing	400'	400'	
Kick Off Point (3°/100' BUR)	500'	500'	
Queen	860'	857'	Oil/Gas
End of Inclination Build 12.01° Inc.	912'	908'	
End of Tangent	1112'	1101'	Oil/Gas
Grayburg	1361'	1346'	Oil/Gas
San Andres	1593'	1577'	Oil/Gas
Return to Vertical	1593'	1577	
Glorieta	2971'	2955'	Oil/Gas
Yeso	3071'	3055'	Oil/Gas
Tubb	4534'	4518'	Oil/Gas
TD	4816'	4800'	Oil/Gas

The surface formation Geologic name is recent Permian with Quaternary Alluvium, which includes other surficial deposits. The elevation of the unprepared ground is 3581 feet above Sea Level. The distance to the nearest Fresh Water Well is 1.58 miles, with usable water depth recorded to 140'. Usable water will be protected from salts, anhydrites along with oil and gas contamination with a surface casing string cemented to surface at 400'.

3. PRESSURE CONTROL:
(2000 psi BOPE SYSTEM WITH SCHEMATIC ATTACHED)
The blowout preventer equipment (BOP) will consist of a 2000 psi rated, "XLT" type, National VARCO double ram preventer that will be tested to a maximum pressure of 2000 psi. The unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and drill pipe rams on bottom. The 2M BOP will be installed on the 8 5/8" surface casing and utilized continuously until total depth is reached. All casing strings will be tested as per Onshore Order #2. This also includes a thirty-day (30) test, should the rig still be operating on the same well for thirty days.

Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily drilling logs.

The BOP equipment will consist of the following:

- Double ram with blind rams (top) and pipe rams (bottom),
- Drilling spool, or blowout preventer with 2 side outlets (choke side shall be a 2" minimum diameter, kill side will be at least 2 inch diameter),
- Kill line (2 inch minimum),
- A minimum of 2 choke line valves (2 inch minimum),
- 2 inch diameter choke line,
- 2 kill valves, one of which will be a check valve (2 inch minimum),
- 2 chokes, one of which will be capable of remote operation, pressure gauge on choke manifold,
- Upper Kelly cock valve with handle available,
- Safety valve and subs to fit all drill string connections in use,
- All BOPE connections subjected to well pressure will be flanged, welded, or clamped,
- A Fill-up line above the uppermost preventer.

4. PROPOSED CASING ("CSG")

CASING TYPE	CASING DEPTH, FT	HOLE SIZE, IN.	CASING SIZE, IN.	CASING WEIGHT, LBS/FT	CASING GRADE	CASING THREAD	API, (Y) OR (N)	NEW (N) OR USED (U)
CONDUCTOR	80	26.000	20.000	91.5	B	WELDED	N	N
SURFACE	400	12.250	8.625	24.0	J-55	ST&C	Y	N
PRODUCTION	4816	7.875	5.500	17.0	J-55	LT&C	Y	N

All casing designed with a minimum of:

BURST SAFETY FACTOR	COLLAPSE SAFETY FACTOR	TENSION SAFETY FACTOR
1.18	1.2	2.0

5. PROPOSED CEMENT ("CMT") PROGRAM

CASING TYPE	CASING DEPTH, FT	# SACKS CMT **	CMT TOP	CMT DENSITY, ppg	CMT YIELD, CU. FT. PER SACK	CMT EXCESS %	CMT BLEND *
CONDUCTOR	80	NA	SURF	READY MIX			
SURFACE	400	280	SURF	14.8	1.34	200	1
PRODUCTION	4816	300	SURF	12.8	1.903	80	2
		630	1636	14.8	1.328	50	3

* **CMT BLENDS:**

(1) Cl C Cmt +0.25 lbs/sk Cello Flake +2% CaCl2

(2) Production casing lead slurry: (35:65)Poz/Cl C Cmt + 5% NaCl +.25lb/sk Cello Flake+ 5lbs/sk LCM-1+ 0.4% R-3 +6% Gel

(3) Production casing tail slurry: Class C w/ 0.6% R-3 and 1/4 pps cello flake

** Cement volumes will be adjusted based on caliper log volumes and depths of casing; and adjusted proportionately for depth changes of the multi stage tool if applicable.

*** A 13 3/8", 48#, H-40, ST&C, New, API contingency string will be set at 375' in a reamed 17 ½" hole if circulation is lost in cave or karst (cave & karst potential to 350') and not regained. Contingency string will be cemented to the surface with 400 sacks (536 cubic feet) Class C + ¼ pound per sack cello flake +2% CaCl2 mixed to yield 1.34 cubic feet per sack and 14.8 pounds per gallon. Excess >100%

Upon the setting of a 13 3/8" contingency casing string, a 13 5/8" x 13 3/8" weld on wellhead will be installed. A 13 3/8" to 11" adapter flange will be installed and the 11" XLT 2000 psi NOV double ram BOP/BOPE (Schematic attached) will be installed. The BOP will be tested against the casing to 70% of the internal yield pressure of the 13 3/8", 48#, H-40, ST&C (1211 psi) casing and held for 30 min before drilling out the 13 3/8" casing shoe.

6. TYPE(S) AND CHARACTERISTIC(S) OF MUD SYSTEM:

An electronic/mechanical mud monitor with a minimum pit volume totalizer, stroke counter, and flow sensor will be used. All necessary mud products will be onsite to handle any abnormal hole conditions that could possibly be encountered during the drilling of this well

Expected Drilling and Mud Properties			
Depth	0-400	400-4650	4650-4816
Mud Type	Fresh Water	Salt Water w/ Gel	Salt Water w/ Gel & Starch
Properties			
MW	8.5-9.2	9.9-10.2	9.9-10.2
pH	10	10-11.5	10-11.5
WL	NC	NC	15-20
Vis	28-34	30-32	32-35
MC	NC	NC	1
Solids	NC	<2%	<3%
Pump Rate	300-350gpm	350-400gpm	400-450gpm
Special	LCM as Req	Salt Gel, Acid & MF as req'd. Pmp Hi Vis sweeps to control Solids	Salt Gel, Acid & MF as req'd. Pmp Hi Vis sweeps to control Solids

7. TESTING, CORING, and LOGGING PROCEDURES:

Testing Program: None

Electric Logging Program: Gamma Ray – Dual Laterlog – Compensated Neutron/Density Log from total depth to surface casing
Surface casing to surface: Gamma Ray – Neutron log

Coring Program: None

8. EXPECTED BOTTOM HOLE PRESSURE and TEMPERATURE:

Expected BHP: BHP 2112 psi based on 0.44 x TD (4800')

Expected BHT: 135°F.

9. ABNORMAL CONDITIONS:

Lost Circulation- Well to be drilled in a cave/karsts area, thus loss of circulation down to 350' is possible during the drilling phase. See contingency casing string in item 5.

No Abnormal Temperature or Pressure Expected during the drilling or completion stage.

H_2S is present in producing wells in the area. H_2S is not expected in the wellbore during the drilling of this well, but a H2S drilling plan will be in place and a summary of the plan is attached, and will be followed according to Onshore Oil and Gas Order No. 6. All personnel will be familiar with all aspects of the safe operation of equipment being used to drill this well.

Spud Date and Duration of Operations:

Anticipated spud date is August 17, 2013. Move in operations and drilling is expected to take 10 days. An additional 14 days will be needed it complete the well and to construct surface facilities.

Wellpath ENERGY SERVICES, LLC
A HORIZONTAL & DIRECTIONAL DRILLING COMPANY

Well Plan Details

Lime Rock Resources

Wellpath Energy Services

AFE

Well: Eagle_34I_Fed62

Job

Rig:

Eddy Cty, NM

St. Plane - NAD27

2/14/2013

Well Information

Rig:		Well: Eagle_34I_Fed62		Map Details		Magnetics	
Northing	650956.852	Northing	650956.850	System	2 - St. Plane	Decl., °	7.744
Easting	522195.395	Easting	522195.400	Datum	1927 - NAD27	Dip, °	60.549
Elevation	3594.800	Elevation	3594.800	Zone	3001 - New Mexico East	True N.	0.000
Latitude	32.789550	Latitude	32.789550	Scale. Fac	0.999910	Mag N	7.744
Longitude	104.261108	Longitude	104.261108	Converg.	0.039114	Field, nT	48739.42
Units	Feet	TVD Ref	3581.4' MSL+KB			Date	02/14/13

Target Information

Type	TVD	+N/S-	+E/W-	Latitude	Longitude	Northing	Easting	Description
Radius:0	4800.00	47.30	154.50	32.789680	104.260606	651004.257	522349.863	TD

Section Details: Eagle_34I_Fed62

MD	INC	AZI	TVD	NS	EW	VS72.98	BR	TR	DLS	Comments
0.00	0.00	0.00	0.00	0.00	0.00	0.00				SURFACE
327.00	0.00	0.00	327.00	0.00	0.00	0.00	0.00	0.00	0.00	7 RIVERS
500.00	0.00	72.98	500.00	0.00	0.00	0.00	0.00	14.60	0.00	Build 3.5°/100'
859.89	12.60	72.98	857.00	11.53	37.68	39.40	3.50	0.00	3.50	QUEEN
912.29	14.43	72.98	907.94	15.12	49.38	51.64	3.50	0.00	3.50	Hold 14.43°
1111.66	14.43	72.98	1101.03	29.66	96.89	101.33	0.00	0.00	0.00	Drop 3°/100'
1361.14	6.95	72.98	1346.00	43.20	141.10	147.56	-3.00	0.00	3.00	GRAYBURG
1592.66	0.00	72.98	1576.96	47.30	154.50	161.58	-3.00	0.00	3.00	Hold 0° to TD
1592.70	0.00	72.98	1577.00	47.30	154.50	161.58	-0.24	-0.24	0.24	SAN ANDRES
2970.70	0.00	72.98	2955.00	47.30	154.50	161.58	0.00	0.00	0.00	GLORIETA
3070.70	0.00	72.98	3055.00	47.30	154.50	161.58	0.00	0.00	0.00	YESO
4533.70	0.00	72.98	4518.00	47.30	154.50	161.58	0.00	0.00	0.00	TUBB
4815.70	0.00	72.98	4800.00	47.30	154.50	161.58	0.00	0.01	0.00	4800' TD

Well	Operating Company	Rig
Eagle 34I Federal #62	Lime Rock Resources	

Magnetics		Location			Other	
Curr. Datum IGRF 2011	Decl., ° 7.74	Northing, ft 650,956.85	Latitude 32.789550	Map System St. Plane	DD co Wellpath Energy Services	
Mag Date 14-Feb-2013	Dip Angle, ° 60.55	Easting, ft 522,195.40	Longitude 104.261108	Map Datum NAD27	Slot	
Field Str, nT 48739.42	Convergence, ° 0.0391138	Elevation, ft 3594.80	TVD Ref 3581.4' MSL+KB	Map Zone 3001 - New Mexico East	Vert. Sect, ° 72.98	DATE Thursday, February 14, 2013

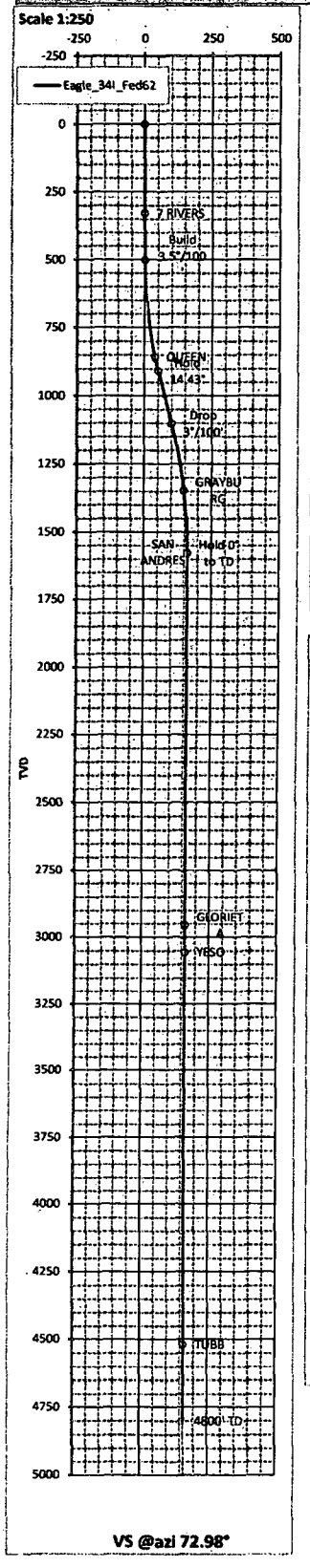
Wellpath
ENERGY SERVICES, LLC
A HORIZONTAL & DIRECTIONAL DRILLING COMPANY

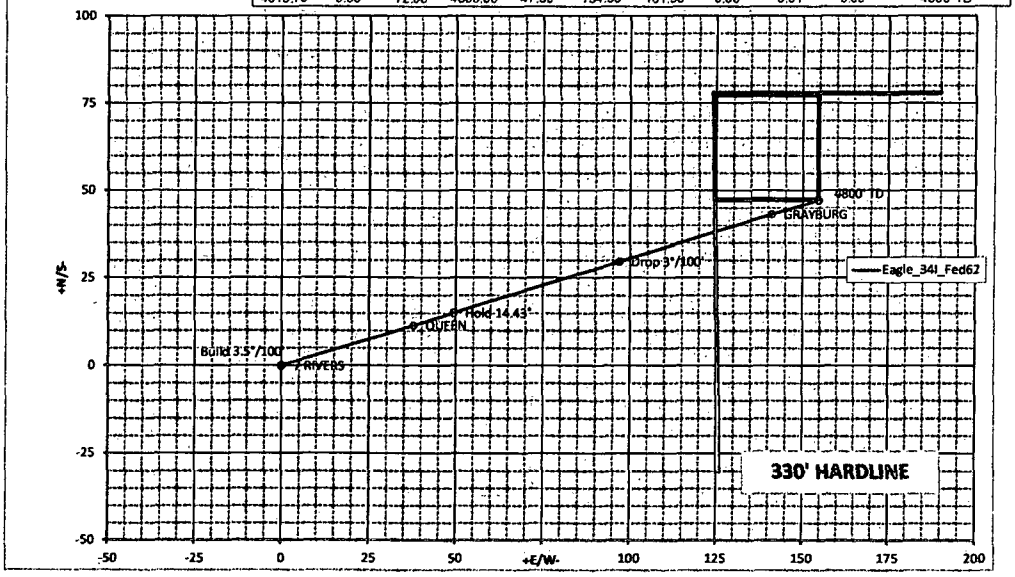
Target Information

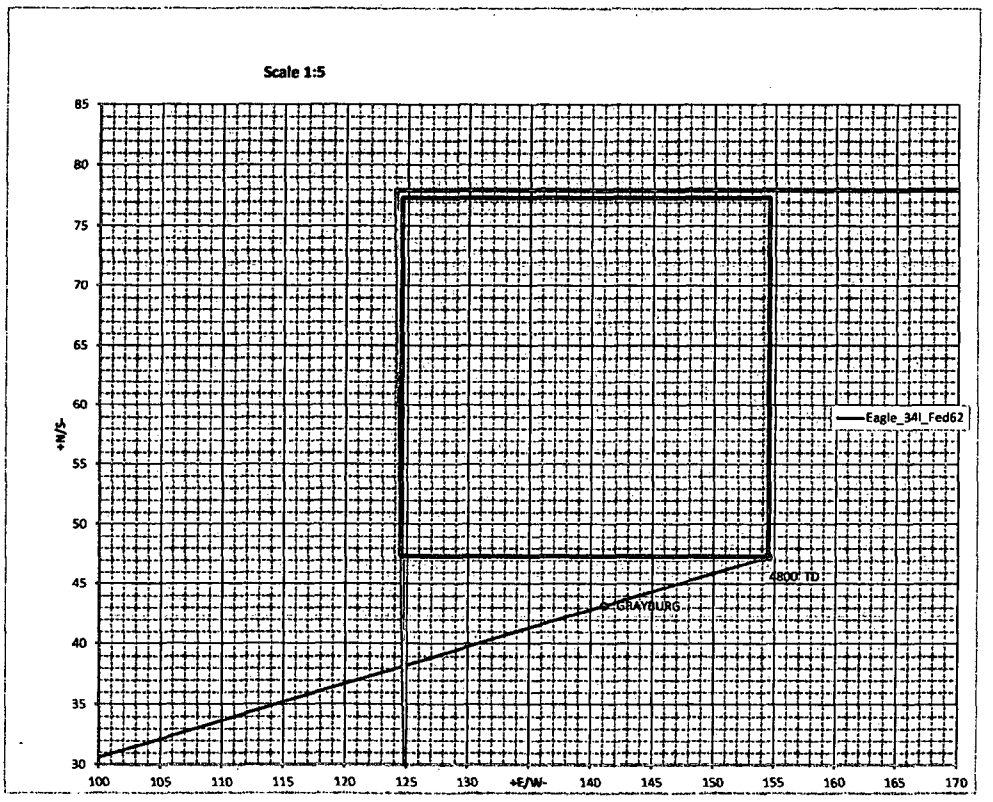
Type	TVD	+N/S	+E/W	Latitude	Longitude	Northing	Easting	Description
Radius:0	4800.00	47.30	154.50	32.789680	-104.260606	651004.257	522349.863	TD

Section Details: Eagle_34I_Fed62

MD	INC	AZI	TVD	+N/S	+E/W	VS72.98	BR	TR	DLS	Comments
0.00	0.00	0.00	0.00	0.00	0.00	0.00				SURFACE
327.00	0.00	0.00	327.00	0.00	0.00	0.00	0.00	0.00	0.00	7 RIVERS
500.00	0.00	72.98	500.00	0.00	0.00	0.00	0.00	14.60	0.00	Build 3.5°/100'
859.89	12.60	72.98	857.00	11.53	37.68	39.40	3.50	0.00	3.50	QUEEN
912.29	14.43	72.98	907.94	15.12	49.38	51.64	3.50	0.00	3.50	Hold 14.43°
1111.66	14.43	72.98	1101.03	29.66	96.89	101.33	0.00	0.00	0.00	Drop 3°/100'
1361.14	6.95	72.98	1346.00	43.20	141.10	147.56	-3.00	0.00	3.00	GRAYBURG
1592.66	0.00	72.98	1576.96	47.30	154.50	161.58	-3.00	0.00	3.00	Hold 0° to TD
1592.70	0.00	72.98	1577.00	47.30	154.50	161.58	-0.24	-0.24	0.24	SAN ANDRES
2970.70	0.00	72.98	2955.00	47.30	154.50	161.58	0.00	0.00	0.00	GLORIETA
3070.70	0.00	72.98	3055.00	47.30	154.50	161.58	0.00	0.00	0.00	YESO
4533.70	0.00	72.98	4518.00	47.30	154.50	161.58	0.00	0.00	0.00	TUBB
4815.70	0.00	72.98	4800.00	47.30	154.50	161.58	0.00	0.01	0.00	4800' TD







Prepared by: Eric Trant 214.250.6854
Eric@TrantLogistics.com
Feb. 14, 2013

Wellpath
ENERGY SERVICES, LLC
A HORIZONTAL & DIRECTIONAL DRILLING COMPANY

Survey/Planning Report

Operator	Lime Rock Resources	Northing	650956.850	Date	14-Feb-13
Dir. Co.	Wellpath Energy Services	Easting	522195.400	System	2 - St. Plane
Well Name	Eagle_34I_Fed62	Elevation	3594.80	Datum	1927 - NAD27
Location	Eddy Cty, NM	Latitude	32.789550	Zone	3001 - New Mexico East
Rig		Longitude	104.261108	Scale Fac.	0.999910
Job		Units	Feet	Converg.	0.039114

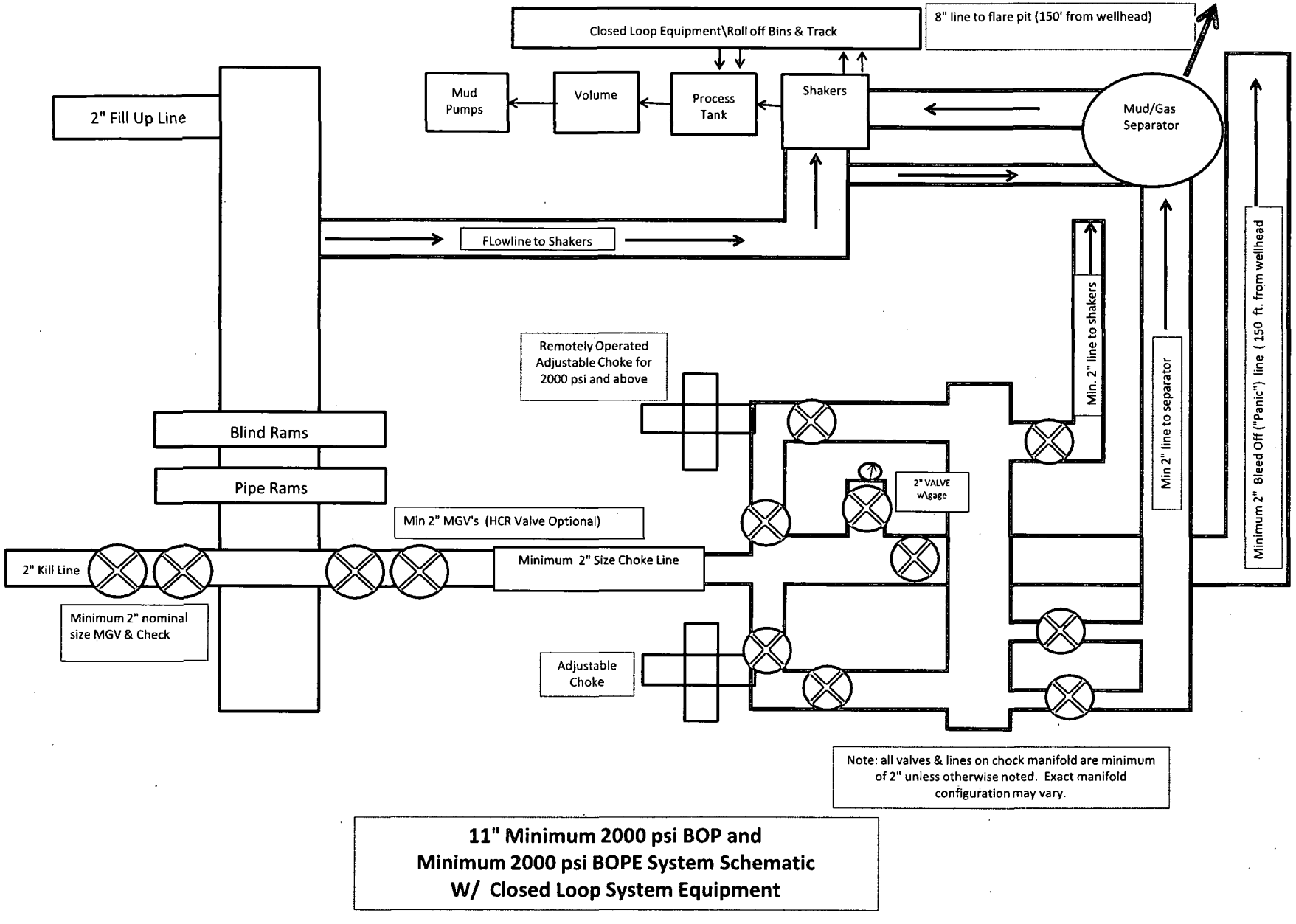
MD	INC	AZI	TVD	+N/S-	+E/W-	VS@72.98°	BR	TR	DLS
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0: SURFACE									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
327.00	0.00	0.00	327.00	0.00	0.00	0.00	0.00	0.00	0.00
327: 7 RIVERS									
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	72.98	500.00	0.00	0.00	0.00	0.00	14.60	0.00
500: Build 3.5°/100'									
600.00	3.50	72.98	599.94	0.89	2.92	3.05	3.50	0.00	3.50
700.00	7.00	72.98	699.50	3.57	11.67	12.20	3.50	0.00	3.50
800.00	10.50	72.98	798.32	8.03	26.21	27.41	3.50	0.00	3.50
859.89	12.60	72.98	857.00	11.53	37.68	39.40	3.50	0.00	3.50
859.89: QUEEN									
900.00	14.00	72.98	896.03	14.24	46.50	48.63	3.50	0.00	3.50
912.29	14.43	72.98	907.94	15.12	49.38	51.64	3.50	0.00	3.50
912.29: Hold 14.43°									
1000.00	14.43	72.98	992.89	21.52	70.28	73.50	0.00	0.00	0.00
1100.00	14.43	72.98	1089.73	28.81	94.11	98.42	0.00	0.00	0.00
1111.66	14.43	72.98	1101.03	29.66	96.89	101.33	0.00	0.00	0.00
1111.66: Drop 3°/100'									
1200.00	11.78	72.98	1187.06	35.53	116.04	121.36	-3.00	0.00	3.00
1300.00	8.78	72.98	1285.44	40.75	133.10	139.20	-3.00	0.00	3.00
1361.14	6.95	72.98	1346.00	43.20	141.10	147.56	-3.00	0.00	3.00
1361.14: GRAYBURG									
1400.00	5.78	72.98	1384.62	44.46	145.22	151.87	-3.00	0.00	3.00
1500.00	2.78	72.98	1484.33	46.64	152.35	159.33	-3.00	0.00	3.00
1592.66	0.00	72.98	1576.96	47.30	154.50	161.58	-3.00	0.00	3.00
1592.66: Hold 0° to TD									
1592.70	0.00	72.98	1577.00	47.30	154.50	161.58	-0.24	-0.24	0.24
1592.7: SAN ANDRES									
1600.00	0.00	72.98	1584.30	47.30	154.50	161.58	0.00	0.00	0.00
1700.00	0.00	72.98	1684.30	47.30	154.50	161.58	0.00	0.00	0.00
1800.00	0.00	72.98	1784.30	47.30	154.50	161.58	0.00	0.00	0.00
1900.00	0.00	72.98	1884.30	47.30	154.50	161.58	0.00	0.00	0.00
2000.00	0.00	72.98	1984.30	47.30	154.50	161.58	0.00	0.00	0.00
2100.00	0.00	72.98	2084.30	47.30	154.50	161.58	0.00	0.00	0.00
2200.00	0.00	72.98	2184.30	47.30	154.50	161.58	0.00	0.00	0.00
2300.00	0.00	72.98	2284.30	47.30	154.50	161.58	0.00	0.00	0.00
2400.00	0.00	72.98	2384.30	47.30	154.50	161.58	0.00	0.00	0.00
2500.00	0.00	72.98	2484.30	47.30	154.50	161.58	0.00	0.00	0.00
2600.00	0.00	72.98	2584.30	47.30	154.50	161.58	0.00	0.00	0.00
2700.00	0.00	72.98	2684.30	47.30	154.50	161.58	0.00	0.00	0.00
2800.00	0.00	72.98	2784.30	47.30	154.50	161.58	0.00	0.00	0.00
2900.00	0.00	72.98	2884.30	47.30	154.50	161.58	0.00	0.00	0.00
2970.70	0.00	72.98	2955.00	47.30	154.50	161.58	0.00	0.00	0.00
2970.7: GLORIETA									
3000.00	0.00	72.98	2984.30	47.30	154.50	161.58	0.00	0.00	0.00
3070.70	0.00	72.98	3055.00	47.30	154.50	161.58	0.00	0.00	0.00

Wellpath
ENERGY SERVICES, LLC
A HORIZONTAL & DIRECTIONAL DRILLING COMPANY

Survey/Planning Report

Operator	Lime Rock Resources	Northing	650956.850	Date	14-Feb-13
Dir. Co.	Wellpath Energy Services	Easting	522195.400	System	2 - St. Plane
Well Name	Eagle_34I_Fed62	Elevation	3594.80	Datum	1927 - NAD27
Location	Eddy Cty, NM	Latitude	32.789550	Zone	3001 - New Mexico East
Rig		Longitude	104.261108	Scale Fac.	0.999910
Job		Units	Feet	Converg.	0.039114

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@72.98°	BR	TR	DLS
3070.7: YESO									
3100.00	0.00	72.98	3084.30	47.30	154.50	161.58	0.00	0.00	0.00
3200.00	0.00	72.98	3184.30	47.30	154.50	161.58	0.00	0.00	0.00
3300.00	0.00	72.98	3284.30	47.30	154.50	161.58	0.00	0.00	0.00
3400.00	0.00	72.98	3384.30	47.30	154.50	161.58	0.00	0.00	0.00
3500.00	0.00	72.98	3484.30	47.30	154.50	161.58	0.00	0.00	0.00
3600.00	0.00	72.98	3584.30	47.30	154.50	161.58	0.00	0.00	0.00
3700.00	0.00	72.98	3684.30	47.30	154.50	161.58	0.00	0.00	0.00
3800.00	0.00	72.98	3784.30	47.30	154.50	161.58	0.00	0.00	0.00
3900.00	0.00	72.98	3884.30	47.30	154.50	161.58	0.00	0.00	0.00
4000.00	0.00	72.98	3984.30	47.30	154.50	161.58	0.00	0.00	0.00
4100.00	0.00	72.98	4084.30	47.30	154.50	161.58	0.00	0.00	0.00
4200.00	0.00	72.98	4184.30	47.30	154.50	161.58	0.00	0.00	0.00
4300.00	0.00	72.98	4284.30	47.30	154.50	161.58	0.00	0.00	0.00
4400.00	0.00	72.98	4384.30	47.30	154.50	161.58	0.00	0.00	0.00
4500.00	0.00	72.98	4484.30	47.30	154.50	161.58	0.00	0.00	0.00
4533.70	0.00	72.98	4518.00	47.30	154.50	161.58	0.00	0.00	0.00
4533.7: TUBB									
4600.00	0.00	72.98	4584.30	47.30	154.50	161.58	0.00	0.00	0.00
4700.00	0.00	72.98	4684.30	47.30	154.50	161.58	0.00	0.00	0.00
4800.00	0.00	72.98	4784.30	47.30	154.50	161.58	0.00	0.00	0.00
4815.70	0.00	72.98	4800.00	47.30	154.50	161.58	0.00	0.01	0.00
4815.7: 4800' TD									



11" Minimum 2000 psi BOP and Minimum 2000 psi BOPE System Schematic W/ Closed Loop System Equipment

LIME ROCK RESOURCES II-A, L.P

Design: Closed Loop System with roll-off steel bins (pits)

CRI/HOBBS will supply (2) bins (100 bbl) volume, rails and transportation relating to the Close Loop System. Specification of the Closed Loop System is attached.

Contacts: Gary Wallace (432) 638-4076 Cell (575) 393-1079 Office

Scomi Oil Tool: Supervisor – Armando Soto (432) 553-7979 Hobbs, NM

Monitoring 24 Hour service

Equipment:

Centrifuges – Derrick Brand
Rig Shakers – Brandt Brand
D-watering Unit
Air pumps on location for immediate remediation process
Layout of Close Loop System with bins, centrifuges and shakers attached.

Cuttings and associated liquids will be hauled to a State regulated third party disposal site (CRI or Controlled Recovery, Inc.). The disposal site permit is DFP = #R9166.

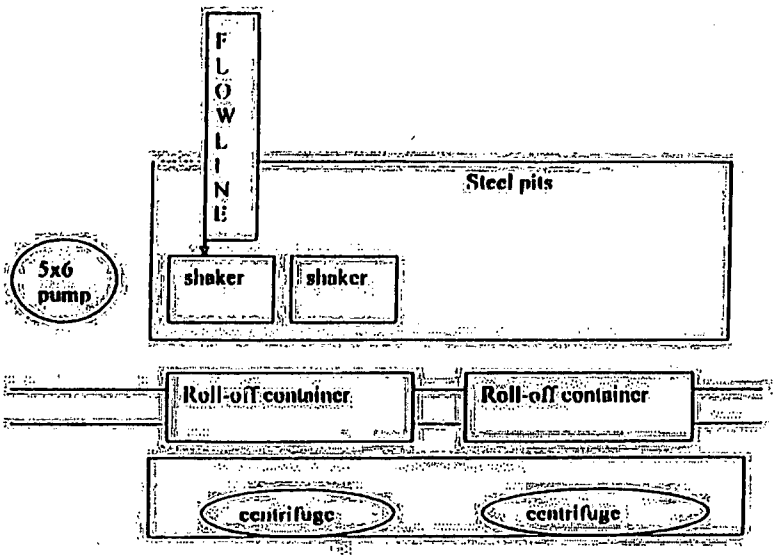
2- (250 bbl) tanks to hold fluid
2-CRI bins with track system
2-500 bbl frac tanks with fresh water
2-500 bbl frac tanks for brine water

Operations:

Closed Loop System equipment will be inspected daily by each tour and any necessary maintenance performed. Any leak in system will be repaired and/or contained immediately. OCD will be notified within 48 hours of any spill. Remediation process will start immediately.

Closure:

During drilling operations all liquids, drilling fluids and cuttings will be hauled off via CRI equipment to DFP #R9166.Close Loop System. Specification of the Closed Loop System is attached.



This will be maintained by 24 hour solids control personnel that stay on location.

TOMMY WILSON
CLS
CLOSED LOOP SPECIALTY
Office: 575.746.1689 Cell: 575.748.6167

Hydrogen Sulfide Drilling Plan Summary

A. All personnel shall receive proper H2S training in accordance with Onshore Order 6 III.C.3.a.

B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.

C. Required Emergency Equipment:

- Well control equipment
  a. Flare line 150' from wellhead to be ignited by flare gun.
  b. Choke manifold with a remotely operated choke.
  c. Mud/gas separator

- Protective equipment for essential personnel.

  Breathing apparatus:
  a. Rescue Packs (SCBA) — 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
  b. Work/Escape packs — 4 packs shall be stored on the rig floor and contain sufficiently long air hoses as to not to restrict work activity.
  c. Emergency Escape Packs —4 packs shall be stored in the doghouse for emergency evacuation.

  Auxiliary Rescue Equipment:
  a. Stretcher
  b. Two OSHA full body harness
  c. 100 ft 5/8 inch OSHA approved rope
  d. 1-20# class ABC fire extinguisher

- H2S detection and monitoring equipment:
  The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.
  (Gas sample tubes will be stored in the safety trailer)

- Visual warning systems.
  a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
  b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
  c. Two wind socks will be placed in strategic locations, visible from all angles.

- Mud program:
  The mud program has been designed to minimize the volume of H2S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H2S bearing zones.

- Metallurgy:
  a. All drill strings, casings, tubing, wellhead, blowout preventer; drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
  b. All elastomers used for packing and seals shall be H2S trim.

- Communication:
  Communication will be via two way radio in emergency and company vehicles. Cell phones and land lines where available.

H2S CONTINGENCY DRILLING PLAN EMERGENCY CONTACTS

Company Offices -	Lime Rock Houston Office	713·292·9510
	Answering Service (After Hours)	713·292-9555
	Artesia, NM Office	575-748-9724
	Roswell, NM	575-623-8424

KEY PERSONNEL					
Name	**Title**	**Location**	**Office #**	**Cell #**	**Home #**
SPENCER COX	PRODUCTION ENGINEER	HOUSTON	713-292-9528	432-254-5140	SAME AS CELL
ERIC MCCLUSKY	PRODUCTION ENGINEER	HOUSTON	713-360-5714	405-821-0534	832-491-3079
JERRY SMITH	ASSISTANT PRODUCTION SUPERVISOR	ARTESIA	575-748-9724	505-918-0556	575-746-2478
MICHAEL BARRETT	PRODUCTION SUPERVISOR	ROSWELL	575-623-8424	505-353-2644	575-623-4707
DALE KENNARD	WELL SITE SUPERVISOR	ROTATES ON SITE	NA	575-420-1651	NA
GARY MCCELLAND	WELL SITE SUPERVISOR	ROTATES ON SITE	NA	903-503-8997	NA
BRAD TATE	WELL SITE SUPERVISOR	ROTATES ON SITE	NA	575-441-1966	NA
DAVE WILLIAMSON	WELL SITE SUPERVISOR	ROTATES ON SITE	NA	575-308-9980	NA

Agency Call List		
City	Agency or Office	Telephone Number
Artesia	Ambulance	911
Artesia	State Police	575-746-2703
Artesia	Sheriff's Office	575-746-9888
Artesia	City Police	575-746-2703
Artesia	Fire Department	575-746-2701
Artesia	Local Emergency Planning Committee	575-746-2122
Artesia	New Mexico OCD District II	575-748-1283
Carlsbad	Ambulance	911
Carlsbad	State Police	575-885-3137
Carlsbad	Sheriff's Office	575-887-7551
Carlsbad	City Police	575-885-2111
Carlsbad	Fire Department	575-885-2111
Carlsbad	Local Emergency Planning Committee	575-887-3798
Carlsbad	US DOI Bureau of Land Management	575-887-6544
State Wide	New Mexico Emergency Response Commission ("NMERC")	505-476-9600
State Wide	NMERC 24 hour Number	505-827-9126
State Wide	New Mexico State Emergency Operations Center	505-476-9635
National	National Emergency Response Center (Washington, D.C.)	800-424-8802

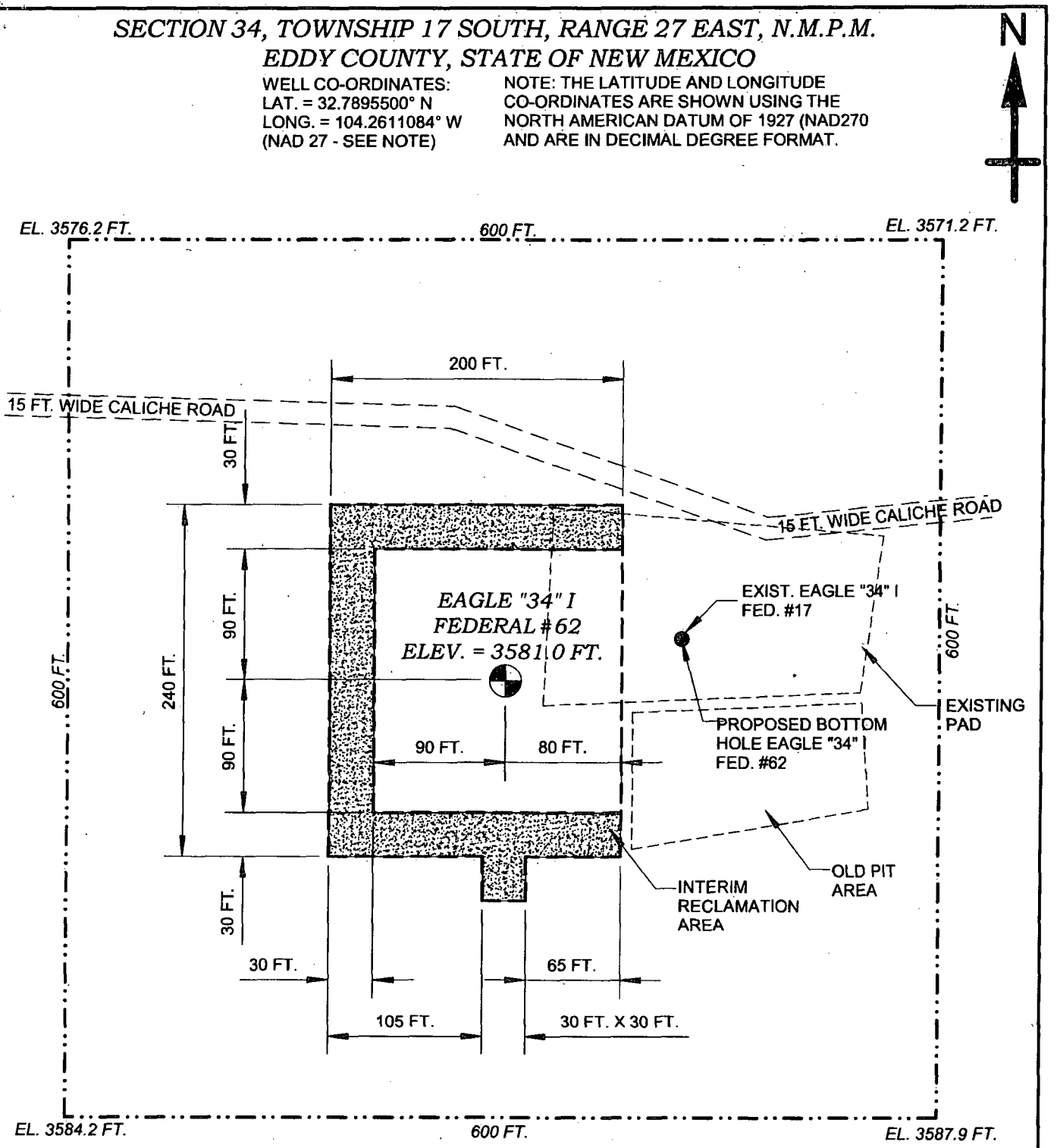
H2S CONTINGENCY DRILLING PLAN EMERGENCY CONTACTS

Emergency Services				
Name	**Service**	**Location**	**Telephone Number**	**Alternate Number**
Boots & Coots International Well Control	Well Control	Houston / Odessa	1-800-256-9688	281-931-8884
Cudd Pressure Control	Well Control & Pumping	Odessa	915-699-0139	915-563-3356
Baker Hughes Inc.	Pumping Service	Artesia, Hobbs and Odessa	575-746-2757	SAME
Total Safety	Safety Equipment and Personnel	Artesia	575-746-2847	SAME
Cutter Oilfield Services	Drilling Systems Equipment	Midland	432-488-6707	SAME
Assurance Fire & Safety	Safety Equipment and Personnel	Artesia	575-396-9702	575-441-2224
Flight for Life	Emergency Helicopter Evacuation	Lubbock	806-743-9911	SAME
Aerocare	Emergency Helicopter Evacuation	Lubbock	806-747-8923	SAME
Med Flight Air Ambulance	Emergency Helicopter Evacuation	Albuquerque	505-842-4433	SAME
Artesia General Hospital	Emergency Medical Care	Artesia	575-748-3333	702 North 13 Street

SECTION 34, TOWNSHIP 17 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

WELL CO-ORDINATES:
LAT. = 32.7895500° N
LONG. = 104.2611084° W
(NAD 27 - SEE NOTE)

NOTE: THE LATITUDE AND LONGITUDE CO-ORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1927 (NAD270 AND ARE IN DECIMAL DEGREE FORMAT.



Directions to Location:
From paved County Road 225 (Empire) and paved County Road 226 (Evans), go North on County 225 200 ft. Turn left and go Northwest 0.25 miles. Bend left and go West 0.55 miles. Turn right and go North 350 ft. Turn left and go West 0.36 miles.and location is 145 ft. Southwest.

peg
Petro Energy Group
12777 Jones Road,
Suite 385,
Houston TX 77070
Tel. 281 890 1818
www.peg-us.com

LEASE EAGLE 34 "I" FEDERAL #62	CLIENT **Lime Rock Resouces II-A, L.P.**
COUNTY / PARISH AND STATE EDDY COUNTY NEW MEXICO	TITLE **EAGLE "34" I FEDERAL #62** LOCATED 2280 FT. FROM THE SOUTH LINE AND 1110 FT. FROM THE EAST LINE OF SECTION 34, TOWNSHIP 17 SOUTH, RANGE 27 EAST, N.M.P.M. EDDY COUNTY STATE OF NEW MEXICO
SURVEY INFORMATION MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO SURVEY NO. 834. 5/2/2012	
DRAWING NO. AND REVISION **2013-LR-E34I-62-002** **REV. 4**	100 50 0 FT. 100 200 300 SCALE AT LETTER PAPER SIZE 1 INCH = 100 FEET

MULTI POINT SURFACE USE AND OPERATIONS PLAN

LIME ROCK RESOURCES II- A, L.P

Eagle 34 I Federal #62
Unit I - Sec. 34-T17S-R27E
Surface Location: 2280' FSL & 1110' FEL
Bottom Hole Location: 2310' FSL & 990' FEL
Eddy County, NM
Lease No.: NMLC 064050-A

This plan is submitted with the Application for Permit to Drill the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan to be followed in rehabilitating the surface and environmental effects associated with the operations.

1. **EXISTING ROADS:**

   a. Existing roads are shown on the enclosed portion of a BLM topo map, showing the location of the proposed well as staked. The well site location is approximately 12.3 road miles east of Artesia, NM. Traveling east of Artesia on U.S. Hwy 82 there will be approximately 9.2 miles of existing highway 0.7 mile of County Rd. 204 and 225.

   b. Directions: From paved Cr. 225 (Empire) and paved Cr. 226 (Evans) go north on Cr. 225 200 feet, turn left and go northwest 0.25 miles, bend left and go west 0.55 miles, turn right and go north 350 feet, turn left and go west 0.36 miles and location is 145 feet southwest.

2. **PLANNED ACCESS ROAD:**

   a. Length and Width: No access road will be built. The existing roads are color coded on the Vicinity Map. Entry will be through an existing location, Eagle 34 I Federal #17.

   b. Construction: The existing access road will be upgraded, as needed, by grading, and topping with compacted caliche. The surface will be properly drained.

   c. Turnout: None will be required.

   d. Culverts: None.

   e. Cuts and Fills: None required

   f. Gates, Cattle guards: None will be required.

   g. ~~Off Lease right-of-way: None required.~~ LS 9-1-2013

3. **LOCATION OF EXISITING WELLS**

   a. Locations of existing wells are shown on One Mile Radius Map.

4. **LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:**

a. Lime Rock Resources II-A, L.P. has production facilities on the lease at this time

b. If the well proves to be commercial, the necessary production facilities will be run parallel to the road and other flow lines to the Eagle 33/34 Federal Tank Battery in the same quarter.

5. LOCATION AND TYPE OF WATER SUPPLY:

a. It is planned to drill the proposed well with fresh water that will be obtained from private or commercial sources and will be transported over the existing and proposed access roads.

6. SOURCE OF CONSTRUCTION MATERIALS:

a. Caliche for surfacing the proposed access road and well site pad will be obtained from an approved private pit in the SW4/SW4 Sec. 32-T17S-R28E or a closer pit if available. No surface materials will be disturbed except those necessary to for grading and leveling the pad area and access road.

7. METHODS OF HANDLING WASTE DISPOSAL

a. Drill cuttings and liquids will be stored in steel tanks of the closed loop mud system during the drilling operating and delivered to CRI, Permit No. R-9166, as needed, and at closure.

b. There will be no mud pits to be fenced.

c. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or a separate disposal application will be submitted to the BLM for approval.

d. Oil produced during operations will be stored in tanks until sold.

e. Current laws and regulations pertaining to the disposal of human waste will be complied with.

f. Trash, waste paper, garbage, and junk will be contained in trash bins to prevent scattering by the wind and will be removed for deposit in an approved sanitary landfill within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES:

a. None required.

9. WELL SITE LAYOUT:

a. Refer to plat that shows the relative location and dimension of the well pad, closed loop system, and major rig components. The pad and pit area has been staked and flagged, ~~600'~~ 200' x ~~600'~~ 240'. 4-1-2013

b. Cut & Fill: The location will require approximately a 2' cut on the north with fill to the south.

c. The surface will be topped with compacted caliche.

10. PLANS FOR RESTORATION OF THE SURFACE:

a. After completion of drilling and/or completion operations, all equipment and other material not required for operations will be removed. The location will be cleaned of all trash and junk to leave the well site in an aesthetically pleasing a condition as possible.

b. There will be no unguarded pits containing fluids.

c. If the proposed well is found commercially viable, the location will be reduced to a square 170' by 180', with exception of road access, centered at the well, allowing for environmental reclamation.

d. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible. Mud from the closed system will be disposed of as required.

11. OTHER INFORMATION:

a. Onsite inspection was held March 3, 2012 with John Fast (BLM).

b. Topography: The proposed well site and access roads are located on an overall 2.0% slope to the south. The location has an elevation of 3581.4' GL.

c. Soil: The topsoil at the well site is a tan loamy soil. The soil is part of the Reeves-Gypsum land complex.

d. Flora and Fauna: The location has a fair grass cover of grama, three-awn fluff grass alkali sacaton along with plant of mesquite, yucca, broomweed, cacti, and miscellaneous weeds and wildflowers. The wildlife consists of rabbits, coyotes, antelopes, deer, rattlesnakes, lizards, dove, quail, and other wildlife typical of the semi-arid desert land.

e. Ponds and Streams: None.

f. Residences and Other Structures: None in the immediate vicinity, except producing oil wells surrounding the location of the Eagle 34 I Federal, Well No. 62.

g. Land Use: Mostly oil production and possible cattle grazing.

h. Surface Ownership: The proposed well site and access road is on Federal surface and minerals.

i. There is no immediate evidence of an archaeological site on the location of the staked area. An archaeological survey is being conducted and has or will be submitted to the appropriate government agencies.

12. OPERATOR'S REPRESENTATIVE

a. The field representative for assuring compliance with the approved use and operations plan is as follows:

Spencer Cox
LIME ROCK RESOURCES II- A, L.P.
Heritage Plaza
1111 Bagby Street, Suite 4600
Houston, TX 77002
Office Phone: 713-292-9528
Cell Phone: 432-254-5140

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Lime Rock Resources II-A, L.P.**
LEASE NO.:	**NMLC-064050A**
WELL NAME & NO.:	**Eagle 34 I Federal 62**
SURFACE HOLE FOOTAGE:	**2280' FSL & 1110' FEL**
BOTTOM HOLE FOOTAGE:	**2310' FSL & 0990' FEL**
LOCATION:	**Section 34, T. 17 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.

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)

Right-of-Way

A Right-of-Way will be obtained prior to laying the surface pipeline to the Eagle 33/34 Federal Tank Battery.

Cave and Karst

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:
In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:
No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:
The pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad. All sides will be bermed.

Tank Battery Liners and Berms:
Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:
A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:
Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:
Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:
Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:
ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:
Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:
Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

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 stockpile the topsoil in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be used 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. 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.

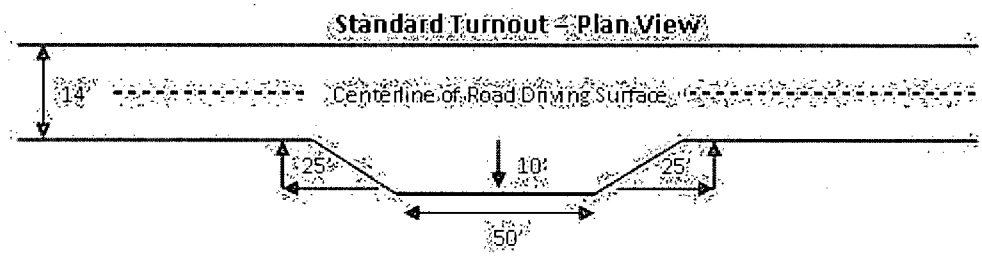
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

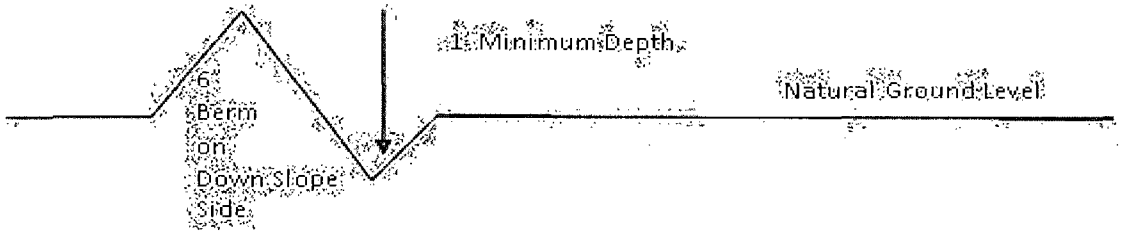
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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

Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road 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 cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

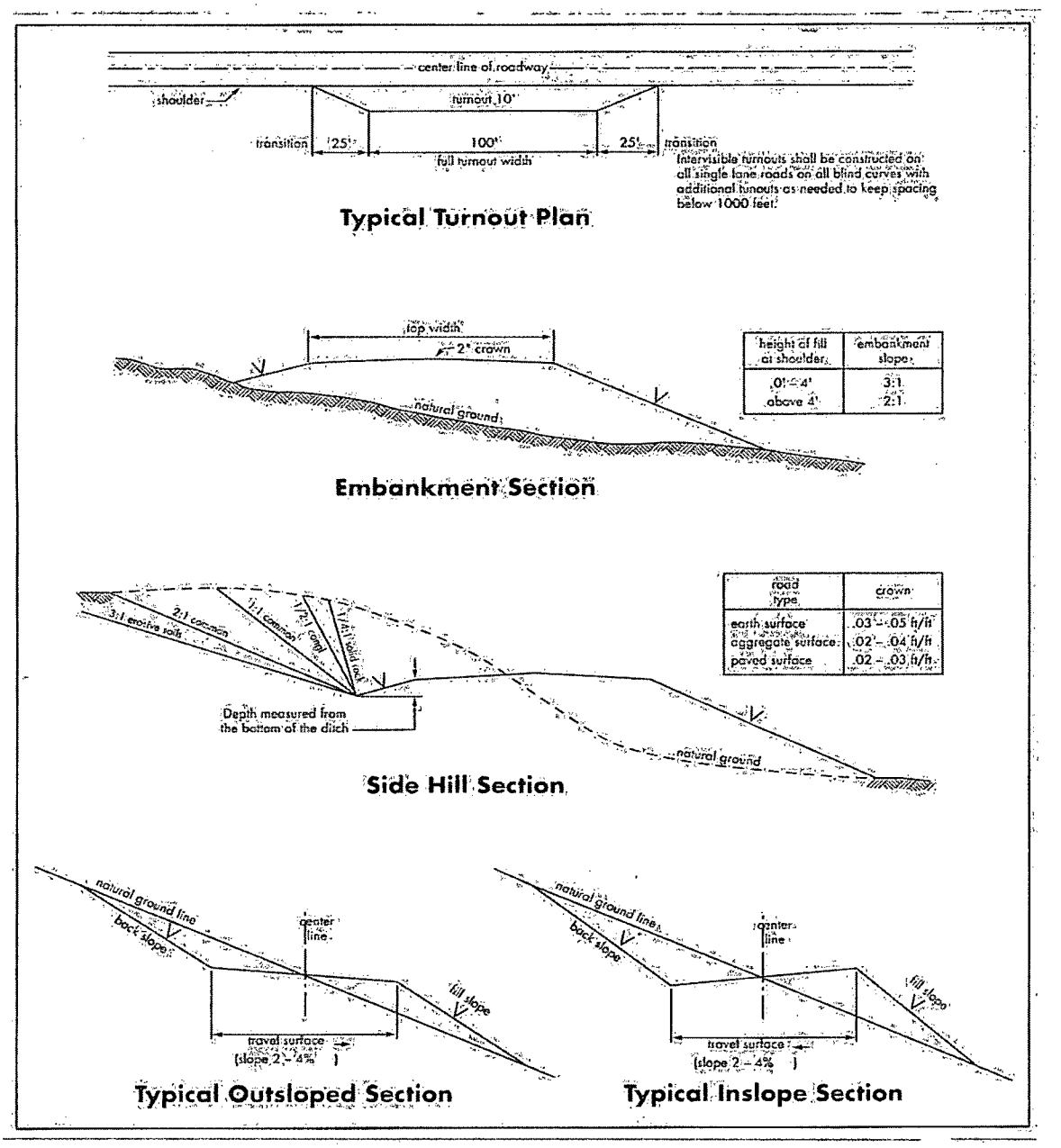
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access

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

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. 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

☒ **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 500 feet prior to drilling into the **Queen** formation. **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, please provide measured values and formations to the BLM.**

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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. **The record of the drilling rate along with the GR/N well log run from TD to surface shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. 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.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out 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 for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

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

HIGH CAVE/KARST – OPERATOR HAS PROPOSED A CONTINGENCY CASING IF LOST CIRCULATION OCCURS WHILE DRILLING THE SURFACE HOLE. IF LOST CIRCULATION OCCURS WHILE DRILLING THE 7-7/8" HOLE, THE CEMENT PROGRAM FOR THE 5-1/2" CASING WILL NEED TO BE MODIFIED AND THE BLM IS TO BE CONTACTED PRIOR TO RUNNING THE CASING. A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH THEREFORE, ONE INCH OPERATIONS WILL NOT BE PERMITTED. A DV TOOL WILL BE REQUIRED

Possible lost circulation in the Grayburg and San Andres formations.

Contingency Surface Casing Plan:

1. The **13-3/8** inch **contingency surface casing** shall be set at approximately **375** feet and cemented to the surface.

    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 surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

    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 cementing will be done prior to drilling out that string.

Casing Plan without Contingency:

2. The **8-5/8** inch surface casing shall be set at approximately **400** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.

    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 surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

    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 cementing will be done prior to drilling out that string.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

    ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

4. 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.

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. **Contingency -** Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8 inch** surface casing shoe shall be **2000 (2M)** psi. Operator is approved to test against the casing for the contingency plan.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **8-5/8 inch** surface casing shoe shall be **2000 (2M)** psi.

4. 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.

    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.

D. DRILL STEM TEST

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

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.

JAM 041513

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.

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 from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES (requires a Right-of-Way)

C. ELECTRIC LINES (not applied for in APD)

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).

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:

Species	lb/acre
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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