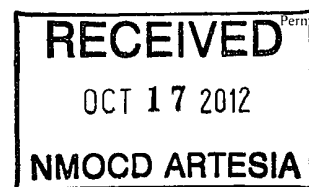


District I
1625 N French Dr Hobbs, NM 88240
Phone (575) 393-6161 Fax (575) 393-0720
District II
811 S First St, Artesia NM 88210
Phone (575) 748-1283 Fax (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone (505) 334-6178 Fax (505) 334-6170
District IV
1220 S St Francis Dr, Santa Fe,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

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

Form C-101
Revised December 16, 2011



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

Operator Name and Address Lime Rock Resources II-A, L.P., 1111 Bagby Street, Ste 4600, Houston, Texas 77002		OGRID Number 277558
Property Code 39508		Property Name Kaiser 18 A
Well No #15		API Number 30-015-90296

Surface Location

U.L. - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
A	18	18S	27E		330	N	800	East	EDDY

Pool Information

Red Lake Gloneta-Yeso	51120
-----------------------	-------

Additional Well Information

Work Type N	Well Type Oil	Cable/Rotary Rotary	Lease Type State	Ground Level Elevation 3291.51
Multiple No	Proposed Depth 4,421'	Formation Yeso	Contractor United Drilling Inc	Spud Date 10-19-2012
Depth to Ground water 18'	Distance from nearest fresh water well 1.08 Miles	Distance to nearest surface water 0.20 Miles		

Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Conductor	26"	20"	91.5	80	Ready Mix	Surface
Surface	12 1/4"	8 5/8"	24	400	300 sv	Surface
Production	7 7/8"	5 1/2"	17	4421	850 sv	Surface

Casing/Cement Program: Additional Comments

See Attached Well Plan Documentation

Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
XLT 11"	5000 PSI	2000 PSI	National Varco

I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐ , a general permit ☐ , or an (attached) alternative OCD-approved plan ☒ .		OIL CONSERVATION DIVISION	
Signature:		Approved By:	
Printed name: Jerry Smith		Title: Geologist	
Title: Assistant Production Supervisor		Approved Date: 10/17/2012	Expiration Date: 10/17/2014
E-mail Address: jsmith@limerockresources.com			
Date: 10-16-2012	Phone: 575-748-9724	Conditions of Approval Attached	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone (575) 748-1283 Fax (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6175 Fax (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-40796	² Pool Code 51120	³ Pool Name Redlake; Gorieta-Yeso
⁴ Property Code 39508	⁵ Property Name KAISER "18" A	⁶ Well Number 15
⁷ OGRID No. 277558	⁸ Operator Name LIME ROCK RESOURCES II A, LP	⁹ Elevation 3291.5

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
A	18	18 S	27 E		330	NORTH	800	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
A	18	18 S	27 E		330	NORTH	330	EAST	EDDY

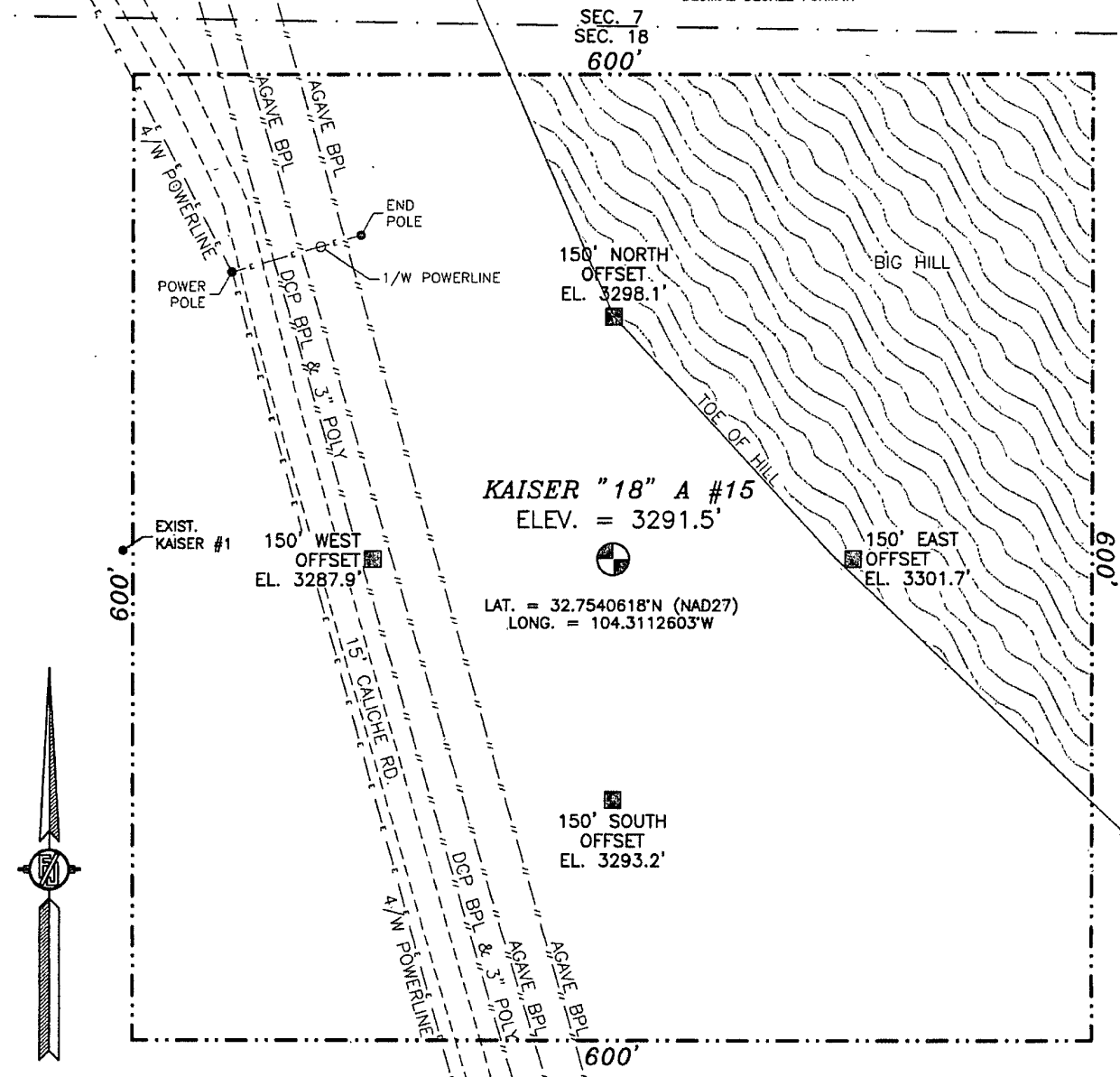
¹² Dedicated Acres 40	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

N89°02'14"W 2665.97 FT NW CORNER SEC. 18 LAT. = 32.7551800°N LONG. = 104.3259525°W N/4 CORNER SEC. 18 LAT. = 32.7550560°N LONG. = 104.3172842°W SURFACE LOCATION 800' 330' BOTTOM OF HOLE KAISER "18" A #15 ELEV. = 3291.5' LAT. = 32.7540618°N (NAD27) LONG. = 104.3112603°W NE CORNER SEC. 18 LAT. = 32.7549310°N LONG. = 104.3086393°W BOTTOM OF HOLE LAT. = 32.7540397°N LONG. = 104.3097321°W E/4 CORNER SEC. 18 LAT. = 32.7476750°N LONG. = 104.3087965°W NOTE LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1927 (NAD27), AND ARE IN DECIMAL DEGREE FORMAT. N01°02'06"E 2640.89 FT	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. <i>Jerry Smith</i> 10-16-12 Signature Date Jerry Smith Printed Name jsmith@limerockresources.com E-mail Address 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 JUNE 28 2012 Date of Survey <i>William F. Jaramillo</i> Signature and Seal of Professional Surveyor Certificate Number: WILLIAM F. JARAMILLO, PLS 12797 SURVEY NO 1095
--	---

SECTION 18, TOWNSHIP 18 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 CALICHE CR. #201 (CHALK BLUFF) AND CALICHE CR. #227 (LITTLE DIAMOND) GO NORTH ON CR. 201 0.5 MILES, TURN LEFT ON LEASE ROAD AND GO WEST 1.1 MILES, TURN LEFT AND GO SOUTHWEST 0.82 MILES, BEND LEFT AND GO SOUTHEAST 1.2 MILES AND LOCATION IS ON THE LEFT (EAST) 180'.

LIME ROCK RESOURCES II-A, L.P.

KAISER "18" A #15

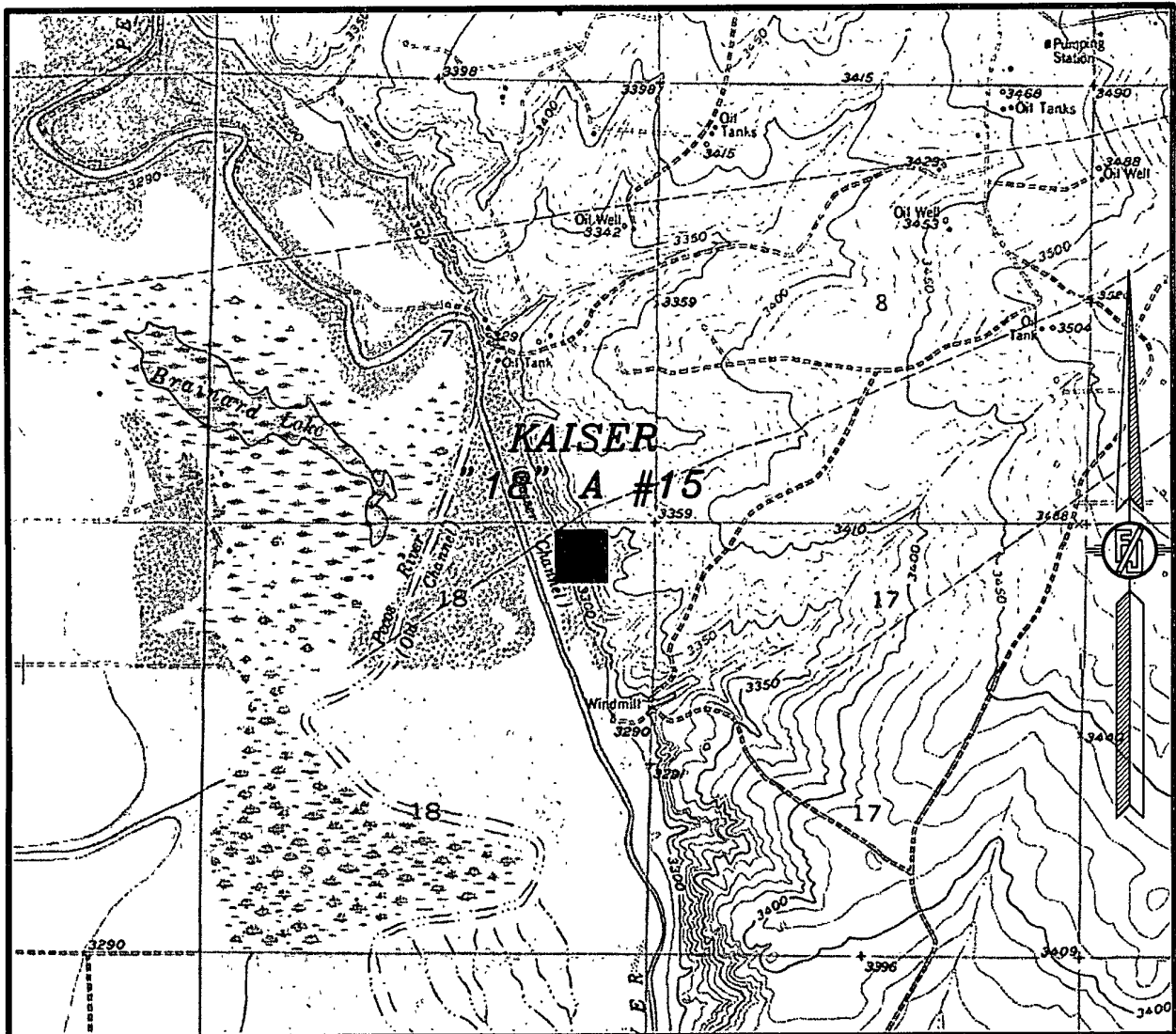
LOCATED 330 FT. FROM THE NORTH LINE
AND 800 FT. FROM THE EAST LINE OF
SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JUNE 28, 2012

SURVEY NO. 1095

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

SECTION 18, TOWNSHIP 18 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.
KAISER "18" A #15

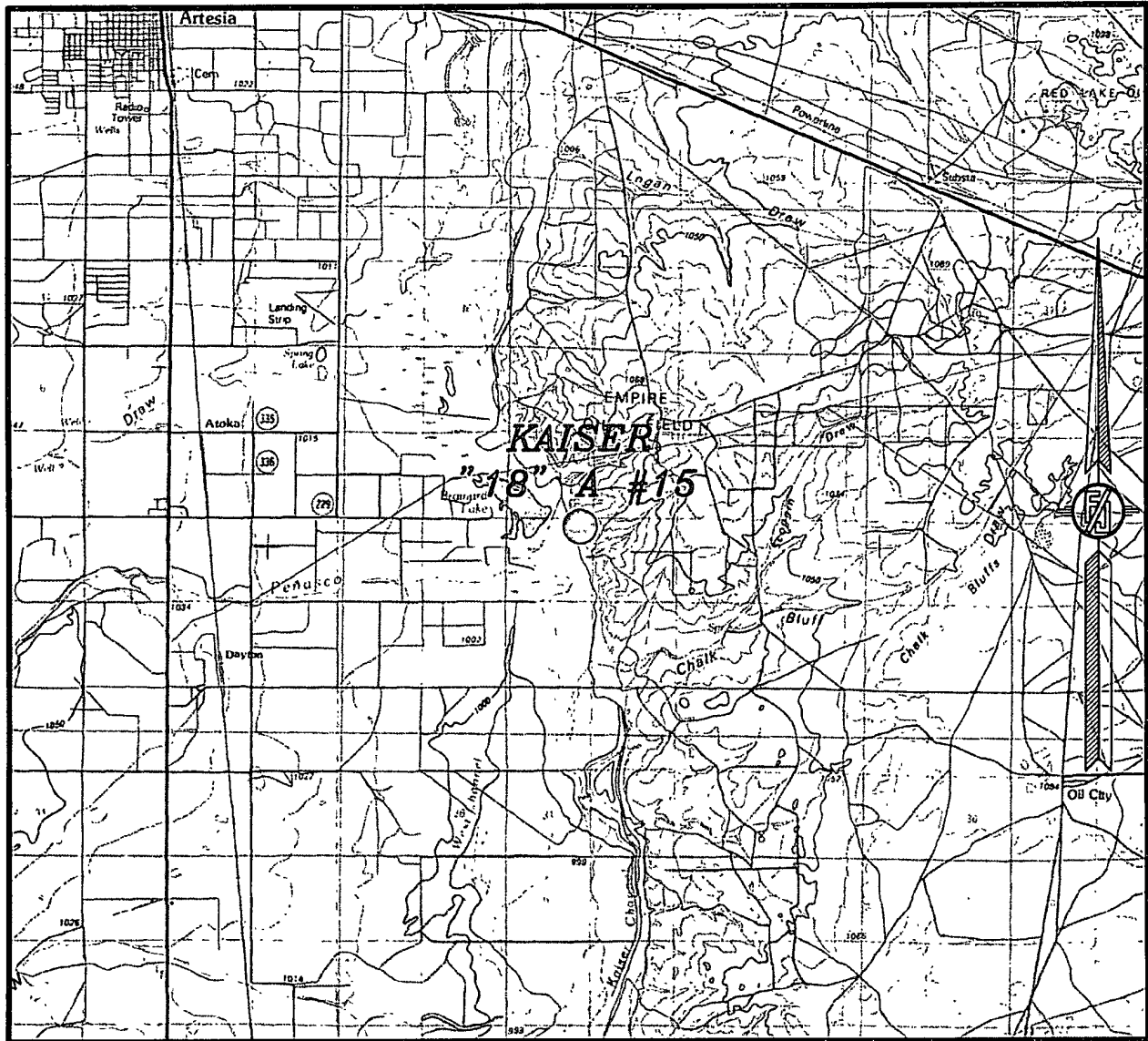
LOCATED 330 FT. FROM THE NORTH LINE
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SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

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SECTION 18, TOWNSHIP 18 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.

KAISER "18" A #15

LOCATED 330 FT. FROM THE NORTH LINE
AND 800 FT. FROM THE EAST LINE OF
SECTION 18, TOWNSHIP 18 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

JUNE 28, 2012

SURVEY NO. 1095

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

**Lime Rock Resources II-A, L.P.
Drilling Plan**

Kaiser 18 A #15

Surface Location: 330' FNL and 800' FEL

Bottom Hole Location: 330' FNL and 330' FEL

Unit A-S18-T18S-R27E

Eddy County, NM

1. The elevation of the unprepared ground is 3291.5 feet above sea level.
2. The geologic name of the surface formation is Quaternary – Alluvium
3. A rotary rig will be utilized to drill the well directionally to maximum of 4421' MD and run casing. This equipment will be rigged down and the well will be completed with a workover rig.
4. Proposed total depth is 4421'.
5. Estimated tops of geologic markers:

<u>POI or Formation</u>	<u>MD</u>	<u>TVD</u>	<u>Formation Content</u>
Quaternary – Alluvium	Surface	Surface	NA
Usable Water	18'	18'	Water
Surface Casing Point	400'	400'	Barren
Seven Rivers	NA'	NA'	Not Present
Kick Off Point	480'	480'	NA
Queen	538'	538'	Oil/Gas
Grayburg	914'	909'	Oil/Gas
San Andres	1195'	1173'	Oil/Gas
Glorieta	2689'	2618'	Oil/Gas
Yeso	2801'	2730'	Oil/Gas
Tubb	4121'	4050'	Saltwater
Total Depth	4421'	4350'	Casing Point

6. Proposed Casing and Cement program is as follows:

Type	Hole Size	Casing Size	Weight	Grade	Thread	Depth	Sacks	Density	Yield	Components
Conductor	26	20	91.5	B	Weld	80				Ready Mix to surface
Surface	12 1/4	8 5/8	24	J-55	ST&C	400	300	14.8	1.35	Cl C Cmt + 0.25 lbs/sk Cello Flake + 2% CaCl ₂
Production	7 7/8	5 1/2	17	J-55	ST&C	4421	250	12.8	1.90	(35:65) Poz/Cl C Cmt + 5% NaCl + 0.25 lbs/sk Cello Flake + 5 lbs/sk LCM-1 +0.4% R-3 + 6% Gel
							600	14.8	1.33	Class C w/ 0.40% R-3 and 1/4 pps cello flake

7. Pressure Control Equipment

The blowout preventer equipment (BOP) will consist of a 2000 psi double ram type preventer, hydraulically operated with blind rams on top and drill pipe rams on bottom. The 5000 psi rate, 11", XLT BOP will be installed on the 8 5/8" surface casing and utilized continuously until the depth is reached, and the BOP will be tested to 250 psi low pressure and 2000 psi high pressure. All casing strings will be tested as per state regulations before cement drill out.

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 and pipe rams.
- Drilling spool, or blowout preventer with 2 side outlets (choke side shall be a 2 inch 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
- 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.
- Fill-up line above the uppermost preventer.

8. Proposed Mud Program is as follows

Depth	0-400	400-4275	4275-4421
Mud Type	Fresh Water	Brine	Brine w/ Gel & Starch
Properties			
MW	8.5-9.2	9.8-10.0	9.9-10.2
pH	10	10-11.5	10-11.5
WL	NC	NC	20-30
Vis	28-34	28-32	34-36
MC	NC	NC	1
Solids	NC	<1%	<3%

9. Testing, Logging and Coring Program

Testing Program: No drill stem tests are anticipated.

Electric Logging Program: A Dual laterlog, spectral gamma-ray, neutron-density porosity log will be run from total depth to surface TVD.

Coring Program: None

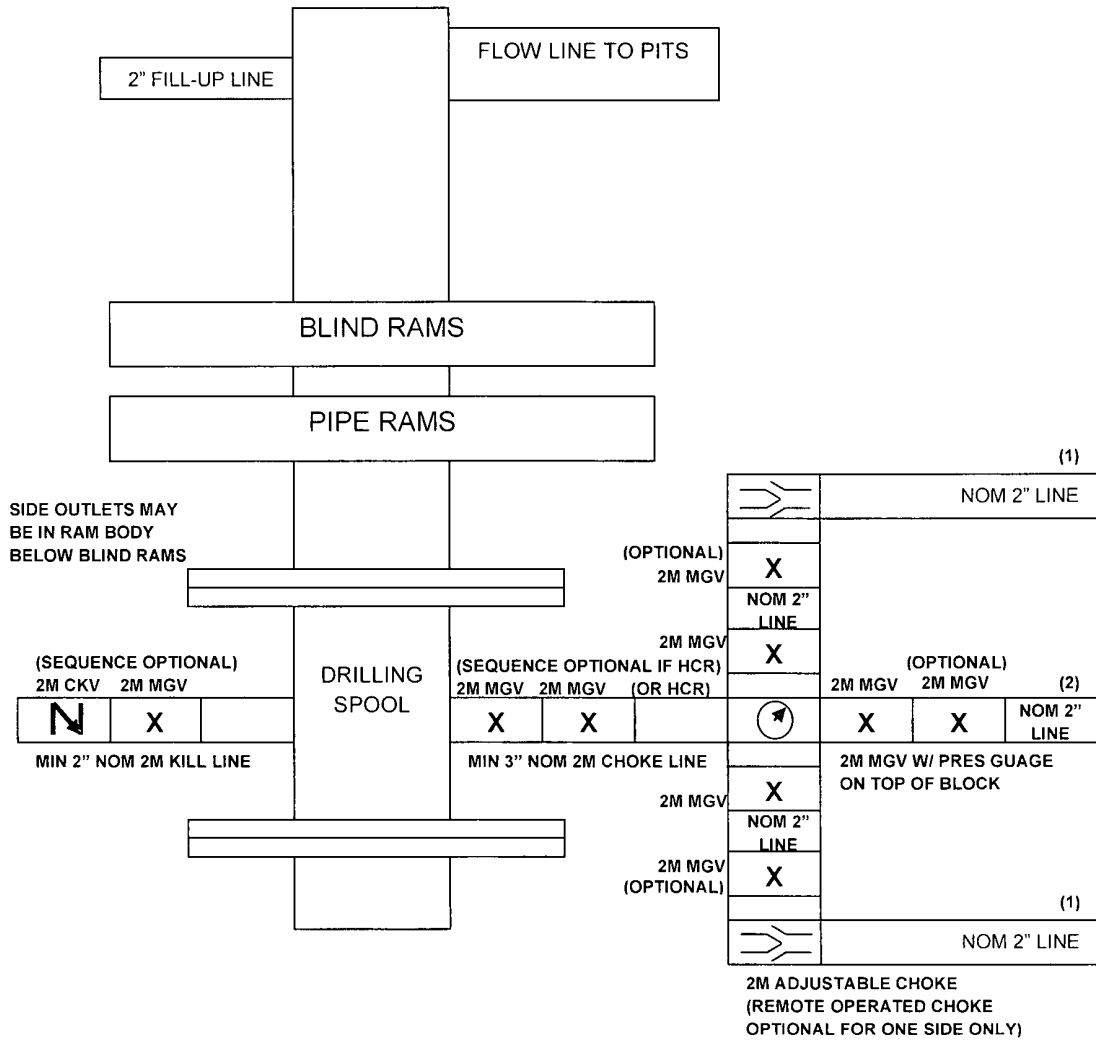
10. Potential Hazards:

No abnormal temperatures or pressures are expected. There is no known presence of H₂S in this area. If H₂S is encountered the operator will comply with the provisions of BLM Onshore Oil and Gas Order No. 6. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 1945 psi based on 0.44 x TD-TVD. The estimated BHT is 130 degrees F.

11. Duration of Operations:

Anticipated spud date will be soon after approval and as soon as a rig will be available. Move in operations and drilling is expected to take 9 days. An additional 20 days will be needed to complete the well and to construct surface facilities.

2M BOP SCHEMATIC



- (1) Line to mud gas separator and/or pit
 (2) Bleed line to pit

MGV = Manual Gate Valve
 CKV = Check Valve
 HCR = Hydraulically Controlled Remote Valve

LIME ROCK RESOURCES

EDDY COUNTY, NM (NAD 27)

SEC. 18 T18S RGE. 27E

KAISER "18" A #15

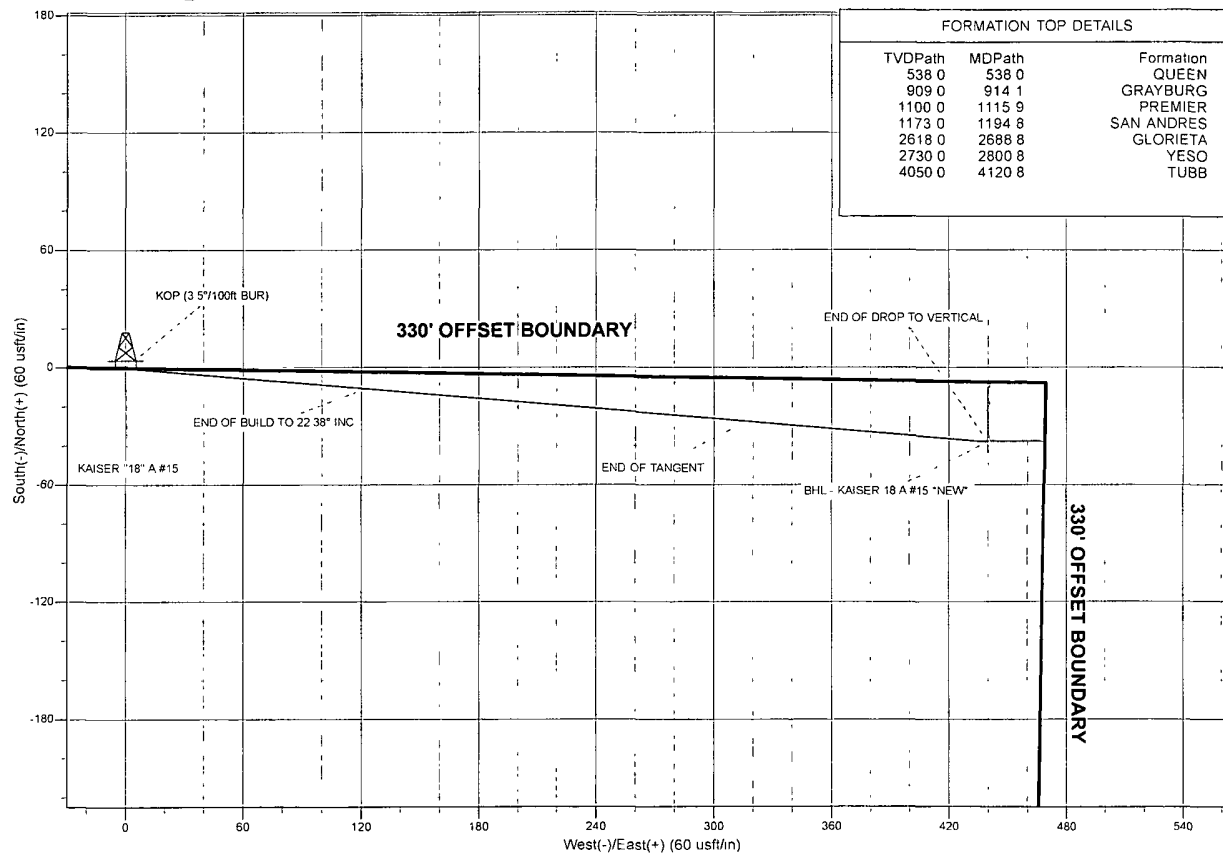
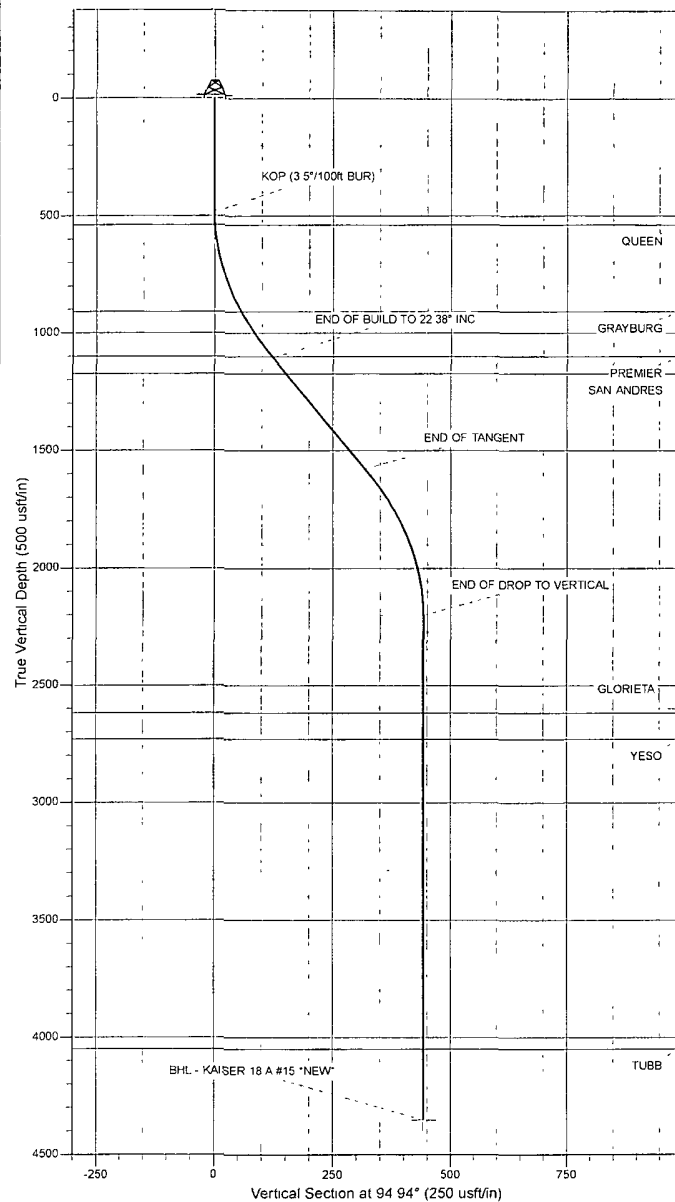
ORIGINAL WELLBORE

16 October, 2012

Plan: PROPOSAL #1



Project: EDDY COUNTY, NM (NAD 27)
 Site: SEC. 18 T18S RGE. 27E
 Well: KAISER "18" A #15
 Wellbore: ORIGINAL WELLBORE
 Design: PROPOSAL #1



FORMATION TOP DETAILS

TVDPath	MDPath	Formation
538 0	538 0	QUEEN
909 0	914 1	GRAYBURG
1100 0	1115 9	PREMIER
1173 0	1194 8	SAN ANDRES
2618 0	2688 8	GLORIETA
2730 0	2800 8	YESO
4050 0	4120 8	TUBB



Azimuths to True North
 Magnetic North 7 80°
 Magnetic Field
 Strength 48720 0nT
 Dip Angle 60 52°
 Date 16/10/2012
 Model IGRF2010

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Annotation
480 0	480 0	0 00	0 00	0 0	0 0	0 0	KOP (3 5'/100ft BUR)
1103 3	1119 4	22 38	94 94	-10 6	122 8	123 3	END OF BUILD TO 22 38' INC
1576 7	1631 4	22 38	94 94	-27 4	317 1	318 2	END OF TANGENT
2200 0	2270 8	0 00	0 00	-38 0	439 9	441 5	END OF DROP TO VERTICAL
4350 0	4420 8	0 00	0 00	-38 0	439 9	441 5	BHL - KAISER 18 A #15 "NEW"

Planning Report



Database:	EDM_5000_1_7	Local Co-ordinate Reference:	Well KAISER "18" A #15
Company:	LIME ROCK RESOURCES	TVD Reference:	KB-EST @ 3304 9usft (Original Well Elev)
Project:	EDDY COUNTY, NM (NAD 27)	MD Reference:	KB-EST @ 3304 9usft (Original Well Elev)
Site:	SEC. 18 T18S RGE 27E	North Reference:	True
Well:	KAISER "18" A #15	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Project	EDDY COUNTY, NM (NAD 27)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		Using geodetic scale factor

Site	SEC 18 T18S RGE. 27E		
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Site Position:		Northing:	638,039 33 usft	Latitude:	32° 45' 14 622 N
From:	Lat/Long	Easting:	506,785 93 usft	Longitude:	104° 18' 40 537 W
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0 01 °

Well	KAISER "18" A #15		
------	-------------------	--	--

Well Position	+N/-S	0.0 usft	Northing:	638,039 33 usft	Latitude:	32° 45' 14 622 N
	+E/-W	0 0 usft	Easting:	506,785.93 usft	Longitude:	104° 18' 40 537 W
Position Uncertainty		0 0 usft	Wellhead Elevation:	usft	Ground Level:	3,291 5 usft

Wellbore	ORIGINAL WELLBORE		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	16/10/2012	7.80	60 52	48,720

Design	PROPOSAL #1		
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Audit Notes:

Version: Phase: PROTOTYPE Tie On Depth: 0 0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	4,350.0	0.0	0 0	94 94

Plan Sections											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0 0	0.00	0 00	0 0	-3,304.9	0 0	0 0	0 00	0 00	0 00	0 00	
480 0	0 00	0 00	480 0	-2,824.9	0.0	0.0	0.00	0 00	0.00	0 00	
1,119.4	22 38	94 94	1,103 3	-2,201 6	-10.6	122 8	3 50	3 50	0 00	94 94	
1,631.4	22.38	94 94	1,576 7	-1,728 2	-27 4	317 1	0 00	0.00	0 00	0 00	
2,270.8	0.00	0 00	2,200.0	-1,104 9	-38 0	439 9	3 50	-3 50	0 00	180.00	
4,420 8	0.00	0.00	4,350 0	1,045 1	-38 0	439 9	0 00	0 00	0 00	0 00	BHL - KAISER 18 A

Database:	EDM_5000_1_7	Local Co-ordinate Reference:	Well KAISER "18" A #15
Company:	LIME ROCK RESOURCES	TVD Reference:	KB-EST @ 3304 9usft (Original Well Elev)
Project:	EDDY COUNTY, NM (NAD 27)	MD Reference:	KB-EST @ 3304 9usft (Original Well Elev)
Site:	SEC 18 T18S RGE 27E	North Reference:	True
Well:	KAISER "18" A #15	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	3,304.90	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	3,204.90	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	3,104.90	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	3,004.90	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	2,904.90	0.0	0.0	0.0	0.00	0.00	0.00
KOP (3.5°/100ft BUR)										
480.0	0.00	0.00	480.0	2,824.90	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.70	94.94	500.0	2,804.90	0.0	0.1	0.1	3.50	3.50	0.00
QUEEN										
538.0	2.03	94.94	538.0	2,766.90	-0.1	1.0	1.0	3.50	3.50	0.00
600.0	4.20	94.94	599.9	2,705.01	-0.4	4.4	4.4	3.50	3.50	0.00
700.0	7.70	94.94	699.3	2,605.56	-1.3	14.7	14.8	3.50	3.50	0.00
800.0	11.20	94.94	798.0	2,506.93	-2.7	31.1	31.2	3.50	3.50	0.00
900.0	14.70	94.94	895.4	2,409.49	-4.6	53.4	53.6	3.50	3.50	0.00
GRAYBURG										
914.1	15.19	94.94	909.0	2,395.90	-4.9	57.0	57.2	3.50	3.50	0.00
1,000.0	18.20	94.94	991.3	2,313.60	-7.0	81.6	81.9	3.50	3.50	0.00
1,100.0	21.70	94.94	1,085.3	2,219.62	-10.0	115.6	116.0	3.50	3.50	0.00
PREMIER										
1,115.9	22.26	94.94	1,100.0	2,204.90	-10.5	121.5	122.0	3.50	3.50	0.00
END OF BUILD TO 22.38° INC										
1,119.4	22.38	94.94	1,103.3	2,201.61	-10.6	122.8	123.3	3.50	3.50	0.00
SAN ANDRES										
1,194.8	22.38	94.94	1,173.0	2,131.90	-13.1	151.4	152.0	0.00	0.00	0.00
1,200.0	22.38	94.94	1,177.8	2,127.10	-13.3	153.4	154.0	0.00	0.00	0.00
1,300.0	22.38	94.94	1,270.3	2,034.64	-16.5	191.3	192.1	0.00	0.00	0.00
1,400.0	22.38	94.94	1,362.7	1,942.17	-19.8	229.3	230.1	0.00	0.00	0.00
1,500.0	22.38	94.94	1,455.2	1,849.70	-23.1	267.2	268.2	0.00	0.00	0.00
1,600.0	22.38	94.94	1,547.7	1,757.23	-26.4	305.1	306.3	0.00	0.00	0.00
END OF TANGENT										
1,631.4	22.38	94.94	1,576.7	1,728.19	-27.4	317.1	318.2	0.00	0.00	0.00
1,700.0	19.98	94.94	1,640.7	1,664.24	-29.5	341.7	343.0	3.50	-3.50	0.00
1,800.0	16.48	94.94	1,735.6	1,569.27	-32.2	372.9	374.3	3.50	-3.50	0.00
1,900.0	12.98	94.94	1,832.3	1,472.57	-34.4	398.2	399.7	3.50	-3.50	0.00
2,000.0	9.48	94.94	1,930.4	1,374.50	-36.1	417.6	419.2	3.50	-3.50	0.00
2,100.0	5.98	94.94	2,029.5	1,275.43	-37.2	431.0	432.6	3.50	-3.50	0.00
2,200.0	2.48	94.94	2,129.2	1,175.71	-37.9	438.4	440.0	3.50	-3.50	0.00
END OF DROP TO VERTICAL										
2,270.8	0.00	0.00	2,200.0	1,104.90	-38.0	439.9	441.5	3.50	-3.50	0.00
2,300.0	0.00	0.00	2,229.2	1,075.73	-38.0	439.9	441.5	0.00	0.00	0.00
2,400.0	0.00	0.00	2,329.2	975.73	-38.0	439.9	441.5	0.00	0.00	0.00
2,500.0	0.00	0.00	2,429.2	875.73	-38.0	439.9	441.5	0.00	0.00	0.00
2,600.0	0.00	0.00	2,529.2	775.73	-38.0	439.9	441.5	0.00	0.00	0.00
GLORIETA										
2,688.8	0.00	0.00	2,618.0	686.90	-38.0	439.9	441.5	0.00	0.00	0.00
2,700.0	0.00	0.00	2,629.2	675.73	-38.0	439.9	441.5	0.00	0.00	0.00
2,800.0	0.00	0.00	2,729.2	575.73	-38.0	439.9	441.5	0.00	0.00	0.00
YESO										
2,800.8	0.00	0.00	2,730.0	574.90	-38.0	439.9	441.5	0.00	0.00	0.00
2,900.0	0.00	0.00	2,829.2	475.73	-38.0	439.9	441.5	0.00	0.00	0.00
3,000.0	0.00	0.00	2,929.2	375.73	-38.0	439.9	441.5	0.00	0.00	0.00
3,100.0	0.00	0.00	3,029.2	275.73	-38.0	439.9	441.5	0.00	0.00	0.00
3,200.0	0.00	0.00	3,129.2	175.73	-38.0	439.9	441.5	0.00	0.00	0.00

Database:	EDM_5000_1_7	Local Co-ordinate Reference:	Well KAISER "18" A #15
Company:	LIME ROCK RESOURCES	TVD Reference:	KB-EST @ 3304 9usft (Original Well Elev)
Project:	EDDY COUNTY, NM (NAD 27)	MD Reference:	KB-EST @ 3304 9usft (Original Well Elev)
Site:	SEC. 18 T18S RGE 27E	North Reference:	True
Well:	KAISER "18" A #15	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,300 0	0 00	0 00	3,229 2	75.73	-38 0	439 9	441 5	0.00	0.00	0 00
3,400 0	0.00	0 00	3,329 2	-24.27	-38 0	439 9	441 5	0 00	0.00	0 00
3,500 0	0 00	0 00	3,429 2	-124.27	-38 0	439 9	441 5	0 00	0.00	0 00
3,600 0	0 00	0 00	3,529 2	-224 27	-38 0	439 9	441 5	0 00	0.00	0 00
3,700 0	0 00	0 00	3,629 2	-324 27	-38 0	439 9	441 5	0 00	0.00	0 00
3,800 0	0 00	0 00	3,729 2	-424 27	-38 0	439 9	441 5	0 00	0.00	0 00
3,900 0	0.00	0 00	3,829 2	-524 27	-38 0	439 9	441 5	0.00	0 00	0 00
4,000 0	0 00	0 00	3,929 2	-624 27	-38 0	439 9	441 5	0 00	0 00	0 00
4,100 0	0 00	0 00	4,029 2	-724 27	-38 0	439 9	441 5	0 00	0 00	0.00
TUBB										
4,120.8	0.00	0.00	4,050.0	-745.10	-38.0	439.9	441.5	0.00	0.00	0.00
4,200 0	0 00	0 00	4,129 2	-824 27	-38 0	439 9	441 5	0 00	0.00	0 00
4,300 0	0 00	0 00	4,229 2	-924 27	-38 0	439 9	441 5	0 00	0 00	0 00
4,400 0	0 00	0 00	4,329 2	-1,024.27	-38 0	439 9	441.5	0 00	0 00	0 00
BHL - KAISER 18 A #15 *NEW*										
4,420.8	0.00	0.00	4,350.0	-1,045.10	-38.0	439.9	441.5	0.00	0.00	0.00

Formations

MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
538 0	538 0	QUEEN		0 00	
914 1	909 0	GRAYBURG		0 00	
1,115 9	1,100 0	PREMIER		0 00	
1,194.8	1,173 0	SAN ANDRES		0 00	
2,688 8	2,618 0	GLORIETA		0 00	
2,800 8	2,730 0	YESO		0 00	
4,120 8	4,050 0	TUBB		0 00	

Plan Annotations

MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
480 0	480 0	0.0	0.0	KOP (3 5°/100ft BUR)
1,119 4	1,103 3	-10.6	122.8	END OF BUILD TO 22.38° INC
1,631 4	1,576 7	-27.4	317 1	END OF TANGENT
2,270 8	2,200 0	-38 0	439 9	END OF DROP TO VERTICAL
4,420 8	4,350.0	-38.0	439 9	BHL - KAISER 18 A #15 *NEW*

LIME ROCK RESOURCES II-A, L.P.

Kaiser 18 A #15

HYDROGEN SULFIDE (H₂S) CONTINGENCY DRILLING PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

This is an open drilling site. H₂S monitoring equipment and emergency response equipment will be rigged up and in use when the company drills out from under surface casing. H₂S monitors, warning signs, wind indicators and flags will be in use.

EMERGENCY PROCEDURES

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas, or if monitors indicate H₂S is present. Escape will take place via the entry road away from the flare stack, or a foot path marked and designated before the well is spud by on site personnel. Once crews and other personnel are a safe distance, the crews will move to evacuate any persons in the Radius of Exposure, followed by blocking access to the Radius of Exposure.

There are no homes or buildings within the Radius of Exposure ("ROE"), so efforts will be concentrated on evacuating any third parties within the ROE. Immediate response will include evacuation of any persons potentially affected by toxic or flammable gasses. Once evacuation is under way, perimeter monitoring and control of access will be executed to ensure safe areas and stage areas.

In the event of a release of gas containing H₂S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H₂S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
 - o Detection of H₂S, and
 - o Measures for protection against the gas,
 - o Equipment used for protection and emergency response.

H2S CONTINGENCY DRILLING PLAN EMERGENCY CONTACTS

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

Characteristics of H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	1.189 Air= 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21 Air= 1	2ppm	N/A	1000 ppm

Contacting Authorities

Lime Rock Resources personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. Lime Rock Resources response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER) and BLM Onshore Order #6.

H₂S Operations

Though no H₂S is anticipated during the drilling operation, this contingency plan will provide for methods to ensure the well is kept under control in the event an H₂S reading of 100 ppm or more are encountered. Once personnel are safe and the proper protective gear is in place and on personnel, the operator and rig crew essential personnel will ensure the well is under control, suspend drilling operations and shut-in the well (unless pressure build up or other operational situations dictate suspending operations will prevent well control), increase the mud weight and circulate all gas from the hole utilizing the mud/gas separator downstream of the choke, the choke manifold and the emergency flare system located 150' from the well. Bring the mud system into compliance and the H₂S level below 10 ppm, then notify all emergency officers that drilling ahead is practical and safe.

Proceed with drilling ahead only after all provisions of Onshore Order 6, Section III.C. have been satisfied.

H2S CONTINGENCY DRILLING PLAN EMERGENCY CONTACTS

<u>Company Offices</u> -	Lime Rock Houston Office Answering Service(After Hours) Artesia, NM Office Roswell, NM	713-292-9510 713-292-9555 575-748-9724 575-623-8424
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KEY PERSONNEL					
Name	Title	Location	Office #	Cell #	Home #
SID ASHWORTH	PRODUCTION ENGINEER	HOUSTON	713-292-9526	713-906-7750	713-783-1959
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
GARY FATHEREE	WELL SITE SUPERVISOR	ROTATES ON SITE	NA	940-389-6044	NA
GARY MCCCELLAND	WELL SITE SUPERVISOR	ROTATES ON SITE	NA	903-503-8997	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