NM OIL CONSERVATION
ARTESIA DISTRICT
OCD Artesia
MAY 11 2015
RECEIVED

ATS-15-105

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

HIGH CAVE/KARST

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NMNM 132928
Awaiting lease number from BLM

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.
Rio Bravo 8 B3MD Fed #1H

2. Name of Operator Mewbourne Oil Company

9. API Well No.
30-015-43108

3a. Address PO Box 5270
Hobbs, NM 88241

3b. Phone No. *(include area code)*
575-393-5905

10. Field and Pool, or Exploratory
Deadman Draw Bone Spring (97443)

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 400' FNL & 790' FWL Sec. 17, T21S, R25E
At proposed prod. zone 330' FNL & 660' FWL Sec. 8, T21S, R25E

11. Sec., T. R. M. or Blk. and Survey or Area
Sec. 17, T21S, R25E

14. Distance in miles and direction from nearest town or post office*
15.4 miles northwest of Carlsbad, NM

12. County or Parish
Eddy

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
400'

16. No. of acres in lease
640

17. Spacing Unit dedicated to this well
160

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

19. Proposed Depth
12,450.4'-MD
7,207'-TVD

20. BLM/BIA Bond No. on file
NM-1693 nationwide, NMB-000919

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3437'

22. Approximate date work will start*
10/01/2014

23. Estimated duration
60 Days

24. Attachments

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

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

25. Signature Bradley Bishop
Name *(Printed/Typed)* BRADLEY BISHOP
Date 8-29-14
Title

Approved by *(Signature)* Steve Caffey
Name *(Printed/Typed)*
Date MAY - 6 2015
Title FIELD MANAGER
Office CARLSBAD FIELD OFFICE

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

APPROVAL FOR TWO YEARS

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

(Continued on page 2)

*(Instructions on page 2)

RJD
5/19/15

Carlsbad Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

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

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, 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	2 Pool Code	3 Pool Name
30-015-43108	97443	DEADMAN DRAW BONE SPRING

4 Property Code	5 Property Name	6 Well Number
314831	RIO BRAVO 8 B3MD FED	1H

7 OGRID NO.	8 Operator Name	9 Elevation
14744	MEWBOURNE OIL COMPANY	3437'

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
D	17	21S	25E		400	NORTH	790	WEST	EDDY

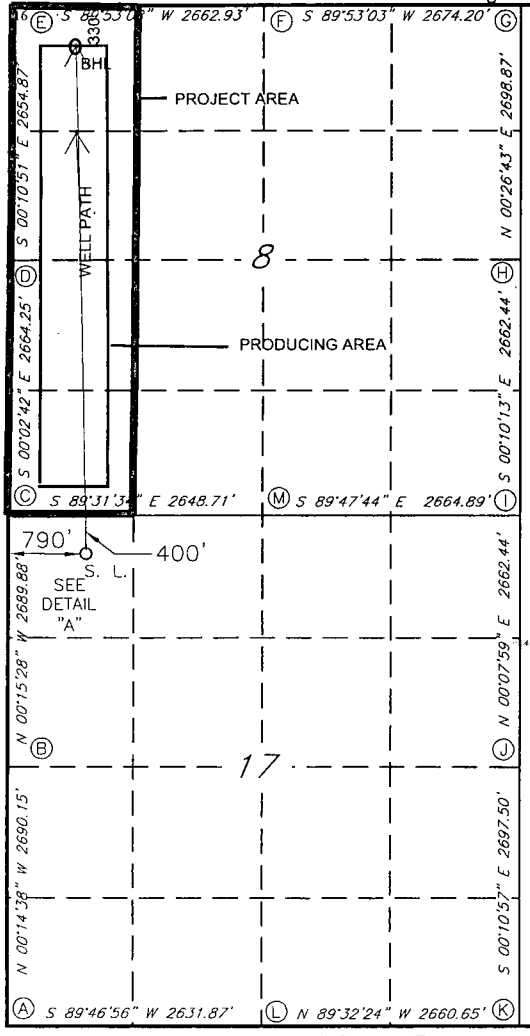
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	8	21S	25E		330	NORTH	660	WEST	EDDY

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
160			

No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

BHL: Latitude 32° 30' 1.685 N Longitude 104° 25' 25.233 W



CORNER DATA
NAD 27 GRID – NM EAST

A: FOUND BRASS CAP "1948"
N: 535426.5 – E: 471521.8

B: FOUND BRASS CAP "1948"
N: 538116.0 – E: 471510.3

C: FOUND BRASS CAP "1948" BENT
N: 540805.1 – E: 471498.2

D: FOUND BRASS CAP "1948"
N: 543468.7 – E: 471496.2

E: FOUND BRASS CAP "1948"
N: 546122.9 – E: 471487.8

F: FOUND BRASS CAP "1948"
N: 546128.2 – E: 474150.0

G: FOUND BRASS CAP "1948"
N: 546133.6 – E: 476823.5

H: FOUND BRASS CAP "1948"
N: 543435.5 – E: 476802.6

I: CALCULATED CORNER
N: 540773.7 – E: 476810.5

J: FOUND BRASS CAP "1948"
N: 538112.0 – E: 476804.3

K: FOUND BRASS CAP "1948"
N: 535415.2 – E: 476812.9

L: FOUND BRASS CAP "1948"
N: 535436.5 – E: 474153.0

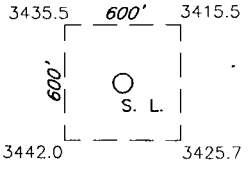
M: FOUND BRASS CAP "1948"
N: 540783.2 – E: 474146.2

GEODETIC DATA
NAD 27 GRID – NM EAST

SURFACE LOCATION
N: 540398.7 – E: 472289.7

LAT: 32.48563516° N
LONG: 104.42319966° W

DETAIL "A"



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 8-29-14 Date

BRADLEY BISHOP
Printed Name

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.

8-12-14
Date of Survey

Signature and Seal of Professional Surveyor

ROBERT M. HOWETT
NEW MEXICO
19680
PROFESSIONAL SURVEYOR

19680
Certificate Number

RRC – Firm No.: TX 10193838 NM 4655451 – Job No.: LS140328

Mewbourne Oil Company

PO Box 5270
Hobbs, NM 88241
(575) 393-5905

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

Executed this 29 day of August, 2014.

Name: Robin Terrell

Signature: for Robin Terrell

Position Title: Hobbs District Manager

Address: PO Box 5270, Hobbs NM 88241

Telephone: 575-393-5905

E-mail: rterrell@mewbourne.com

United States Department of the Interior
Bureau of Land Management
Roswell Field Office
2909 West Second Street
Roswell, New Mexico 88201-1287

Statement Accepting Responsibility for Operations

Operator Name: Mewbourne Oil Company
Street or Box: P.O. Box 5270
City, State: Hobbs, New Mexico
Zip Code: 88241

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

Lease Number: Awaiting lease number from BLM

Legal Description of Land: Section 17, T-21S, R-25E Eddy County, New Mexico
Location @ 400' FNL & 790' FWL

Formation (if applicable): Bone Spring

Bond Coverage: $150,000

BLM Bond File: NM1693 Nationwide, NMB-000919

Authorized Signature: FOR Robin Terrell
Name: Robin Terrell
Title: District Manager
Date: 8-29-14

Mewbourne Oil Company

Eddy County, New Mexico
Rio Bravo 8 B3MD Fed 1H
Sec 17, T21S, R25E
SL: 400 FNL & 790 FWL, Sec 17
BHL: 330 FNL & 660 FWL, Sec 8

Plan: Design #1

Standard Planning Report

22 August, 2014

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Rio Bravo 8 B3MD Fed 1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3457.0usft (Original Well Elev)
Project:	Eddy County, New Mexico	**MD Reference:**	WELL @ 3457.0usft (Original Well Elev)
Site:	Rio Bravo 8 B3MD Fed 1H	**North Reference:**	Grid
Well:	Sec 17, T21S, R25E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330 FNL & 660 FWL, Sec 8		
Design:	Design #1		

Project Eddy County, New Mexico

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		

Site Rio Bravo 8 B3MD Fed 1H

Site Position:		**Northing:**	540,398.70 usft	**Latitude:**	32° 29' 8.286 N
From:	Map	**Easting:**	472,289.70 usft	**Longitude:**	104° 25' 23.519 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.05 °

Well Sec 17, T21S, R25E

Well Position	**+N/-S**	0.0 usft	**Northing:**	540,398.70 usft	**Latitude:**	32° 29' 8.286 N
	+E/-W	0.0 usft	**Easting:**	472,289.70 usft	**Longitude:**	104° 25' 23.519 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	3,457.0 usft	**Ground Level:**	3,437.0 usft

Wellbore BHL: 330 FNL & 660 FWL, Sec 8

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	8/22/2014	7.60	60.24	48,413

Design Design #1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	358.49

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (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	0.0	0.0	0.00	0.00	0.00	0.00	
6,779.5	0.00	0.00	6,779.5	0.0	0.0	0.00	0.00	0.00	0.00	
7,534.5	90.58	358.49	7,257.0	482.2	-12.7	12.00	12.00	0.00	-1.51	
12,450.4	90.58	358.49	7,207.0	5,396.2	-142.2	0.00	0.00	0.00	0.00	BHL: 330 FNL & 660 I

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Rio Bravo 8 B3MD Fed 1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3457.0usft (Original Well Elev)
Project:	Eddy County, New Mexico	**MD Reference:**	WELL @ 3457.0usft (Original Well Elev)
Site:	Rio Bravo 8 B3MD Fed 1H	**North Reference:**	Grid
Well:	Sec 17 T21S R25E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL 330 FNL & 660 FWL Sec 8		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (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	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

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Wellbore:	BHL 330 FNL & 660 FWL Sec 8		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,779.5	0.00	0.00	6,779.5	0.0	0.0	0.0	0.00	0.00	0.00
KOP @ 6780									
6,800.0	2.46	358.49	6,800.0	0.4	0.0	0.4	12.00	12.00	0.00
6,900.0	14.46	358.49	6,898.7	15.1	-0.4	15.1	12.00	12.00	0.00
7,000.0	26.46	358.49	6,992.2	50.0	-1.3	50.0	12.00	12.00	0.00
7,100.0	38.46	358.49	7,076.5	103.5	-2.7	103.6	12.00	12.00	0.00
7,200.0	50.45	358.49	7,147.7	173.4	-4.6	173.5	12.00	12.00	0.00
7,300.0	62.45	358.49	7,202.9	256.6	-6.8	256.7	12.00	12.00	0.00
7,400.0	74.45	358.49	7,239.5	349.4	-9.2	349.5	12.00	12.00	0.00
7,500.0	86.45	358.49	7,256.1	447.8	-11.8	447.9	12.00	12.00	0.00
7,534.3	90.57	358.49	7,257.0	482.1	-12.7	482.3	12.00	12.00	0.00
LP: 82 FSL & 775 FWL									
7,534.5	90.58	358.49	7,257.0	482.2	-12.7	482.4	12.00	12.00	0.00
7,600.0	90.58	358.49	7,256.3	547.7	-14.4	547.9	0.00	0.00	0.00
7,700.0	90.58	358.49	7,255.3	647.7	-17.1	647.9	0.00	0.00	0.00
7,782.3	90.58	358.49	7,254.5	730.0	-19.2	730.3	0.00	0.00	0.00
First Take Point: (330 FSL & 770 FWL)									
7,800.0	90.58	358.49	7,254.3	747.7	-19.7	747.9	0.00	0.00	0.00
7,900.0	90.58	358.49	7,253.3	847.6	-22.3	847.9	0.00	0.00	0.00
8,000.0	90.58	358.49	7,252.3	947.6	-25.0	947.9	0.00	0.00	0.00
8,100.0	90.58	358.49	7,251.2	1,047.5	-27.6	1,047.9	0.00	0.00	0.00
8,200.0	90.58	358.49	7,250.2	1,147.5	-30.2	1,147.9	0.00	0.00	0.00
8,300.0	90.58	358.49	7,249.2	1,247.5	-32.9	1,247.9	0.00	0.00	0.00
8,400.0	90.58	358.49	7,248.2	1,347.4	-35.5	1,347.9	0.00	0.00	0.00
8,500.0	90.58	358.49	7,247.2	1,447.4	-38.1	1,447.9	0.00	0.00	0.00
8,600.0	90.58	358.49	7,246.2	1,547.3	-40.8	1,547.9	0.00	0.00	0.00
8,700.0	90.58	358.49	7,245.1	1,647.3	-43.4	1,647.9	0.00	0.00	0.00
8,800.0	90.58	358.49	7,244.1	1,747.3	-46.0	1,747.9	0.00	0.00	0.00
8,900.0	90.58	358.49	7,243.1	1,847.2	-48.7	1,847.9	0.00	0.00	0.00
9,000.0	90.58	358.49	7,242.1	1,947.2	-51.3	1,947.9	0.00	0.00	0.00
9,100.0	90.58	358.49	7,241.1	2,047.1	-53.9	2,047.8	0.00	0.00	0.00
9,200.0	90.58	358.49	7,240.1	2,147.1	-56.6	2,147.8	0.00	0.00	0.00
9,300.0	90.58	358.49	7,239.0	2,247.1	-59.2	2,247.8	0.00	0.00	0.00
9,400.0	90.58	358.49	7,238.0	2,347.0	-61.8	2,347.8	0.00	0.00	0.00
9,500.0	90.58	358.49	7,237.0	2,447.0	-64.5	2,447.8	0.00	0.00	0.00
9,600.0	90.58	358.49	7,236.0	2,546.9	-67.1	2,547.8	0.00	0.00	0.00
9,700.0	90.58	358.49	7,235.0	2,646.9	-69.8	2,647.8	0.00	0.00	0.00
9,800.0	90.58	358.49	7,234.0	2,746.9	-72.4	2,747.8	0.00	0.00	0.00
9,900.0	90.58	358.49	7,232.9	2,846.8	-75.0	2,847.8	0.00	0.00	0.00

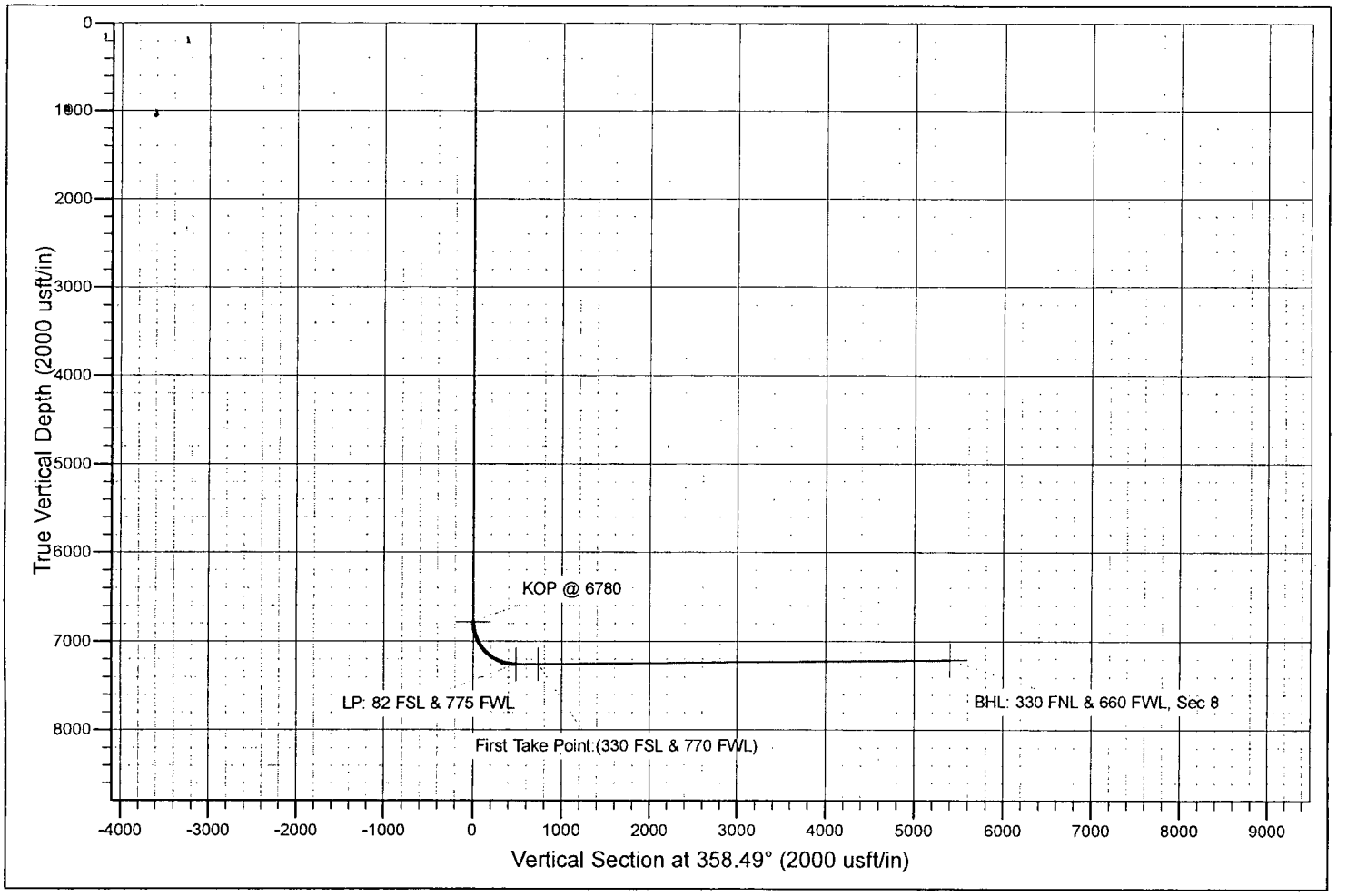
Database:	Hobbs	**Local Co-ordinate Reference:**	Site:Rio Bravo 8 B3MD Fed 1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3457.0usft (Original Well Elev)
Project:	Eddy County, New Mexico	**MD Reference:**	WELL @ 3457.0usft (Original Well Elev)
Site:	Rio Bravo 8 B3MD Fed 1H	**North Reference:**	Grid
Well:	Sec 17 T21S R25E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330 FNL & 660 FWL Sec 8		
Design:	Design #1		

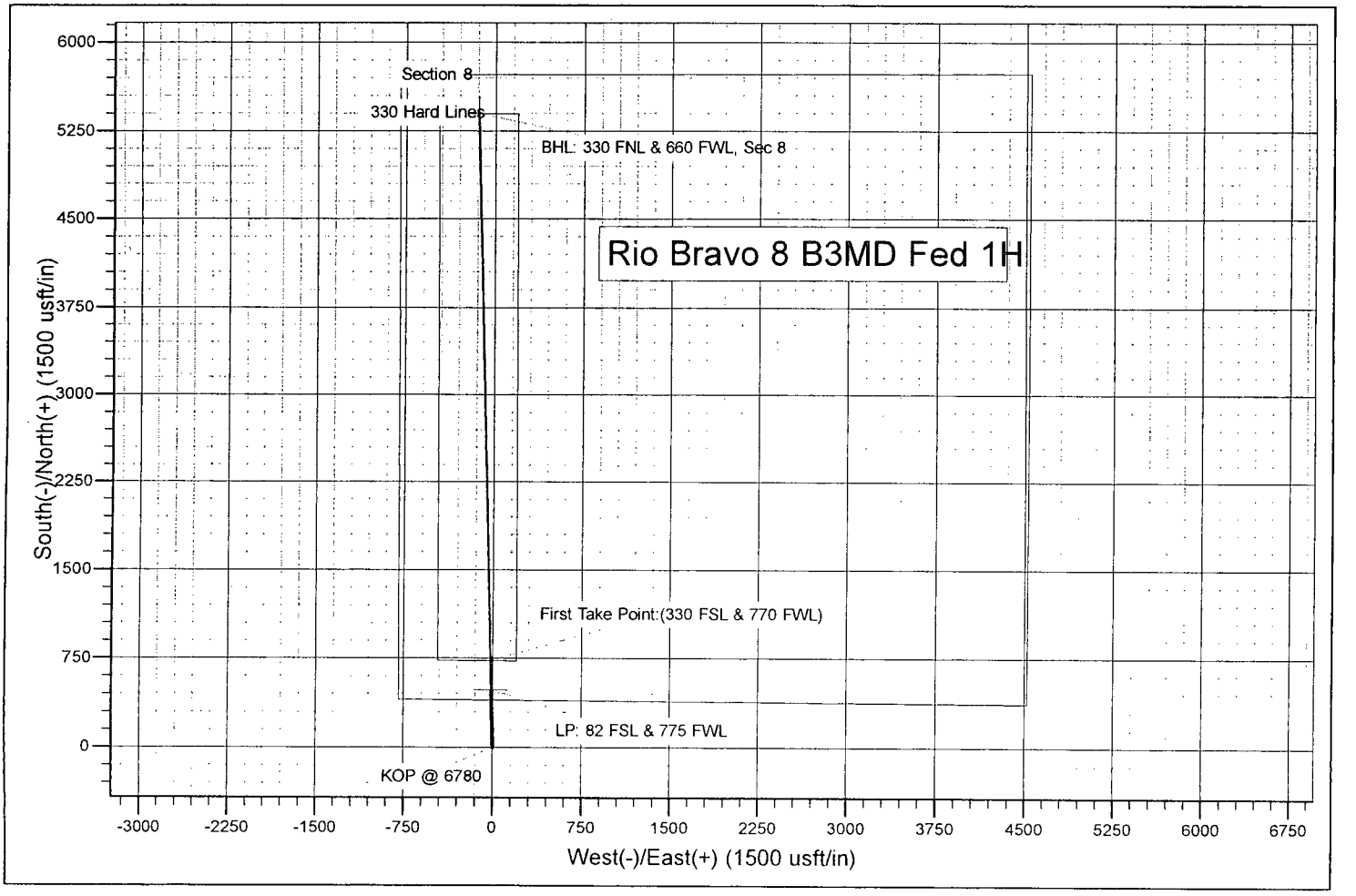
Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,000.0	90.58	358.49	7,231.9	2,946.8	-77.7	2,947.8	0.00	0.00	0.00
10,100.0	90.58	358.49	7,230.9	3,046.7	-80.3	3,047.8	0.00	0.00	0.00
10,200.0	90.58	358.49	7,229.9	3,146.7	-82.9	3,147.8	0.00	0.00	0.00
10,300.0	90.58	358.49	7,228.9	3,246.7	-85.6	3,247.8	0.00	0.00	0.00
10,400.0	90.58	358.49	7,227.9	3,346.6	-88.2	3,347.8	0.00	0.00	0.00
10,500.0	90.58	358.49	7,226.8	3,446.6	-90.8	3,447.8	0.00	0.00	0.00
10,600.0	90.58	358.49	7,225.8	3,546.5	-93.5	3,547.8	0.00	0.00	0.00
10,700.0	90.58	358.49	7,224.8	3,646.5	-96.1	3,647.8	0.00	0.00	0.00
10,800.0	90.58	358.49	7,223.8	3,746.5	-98.7	3,747.8	0.00	0.00	0.00
10,900.0	90.58	358.49	7,222.8	3,846.4	-101.4	3,847.8	0.00	0.00	0.00
11,000.0	90.58	358.49	7,221.8	3,946.4	-104.0	3,947.8	0.00	0.00	0.00
11,100.0	90.58	358.49	7,220.7	4,046.3	-106.6	4,047.7	0.00	0.00	0.00
11,200.0	90.58	358.49	7,219.7	4,146.3	-109.3	4,147.7	0.00	0.00	0.00
11,300.0	90.58	358.49	7,218.7	4,246.3	-111.9	4,247.7	0.00	0.00	0.00
11,400.0	90.58	358.49	7,217.7	4,346.2	-114.5	4,347.7	0.00	0.00	0.00
11,500.0	90.58	358.49	7,216.7	4,446.2	-117.2	4,447.7	0.00	0.00	0.00
11,600.0	90.58	358.49	7,215.6	4,546.1	-119.8	4,547.7	0.00	0.00	0.00
11,700.0	90.58	358.49	7,214.6	4,646.1	-122.4	4,647.7	0.00	0.00	0.00
11,800.0	90.58	358.49	7,213.6	4,746.1	-125.1	4,747.7	0.00	0.00	0.00
11,900.0	90.58	358.49	7,212.6	4,846.0	-127.7	4,847.7	0.00	0.00	0.00
12,000.0	90.58	358.49	7,211.6	4,946.0	-130.3	4,947.7	0.00	0.00	0.00
12,100.0	90.58	358.49	7,210.6	5,045.9	-133.0	5,047.7	0.00	0.00	0.00
12,200.0	90.58	358.49	7,209.5	5,145.9	-135.6	5,147.7	0.00	0.00	0.00
12,300.0	90.58	358.49	7,208.5	5,245.9	-138.2	5,247.7	0.00	0.00	0.00
12,400.0	90.58	358.49	7,207.5	5,345.8	-140.9	5,347.7	0.00	0.00	0.00
12,450.4	90.58	358.49	7,207.0	5,396.2	-142.2	5,398.1	0.00	0.00	0.00
BHL: 330 FNL & 660 FWL Sec 8									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP @ 6780 - plan hits target center - Point	0.00	360.00	6,779.5	0.0	0.0	540,398.70	472,289.70	32° 29' 8.286 N	104° 25' 23.519 W
BHL: 330 FNL & 660 FW - plan hits target center - Point	0.00	0.00	7,207.0	5,396.2	-142.2	545,794.88	472,147.50	32° 30' 1.685 N	104° 25' 25.233 W
First Take Point:(330 FS - plan misses target center by 0.5usft at 7782.3usft MD (7254.5 TVD, 730.0 N, -19.2 E) - Point	0.00	360.00	7,255.0	730.0	-19.1	541,128.72	472,270.58	32° 29' 15.510 N	104° 25' 23.750 W
LP: 82 FSL & 775 FWL - plan misses target center by 3.9usft at 7534.3usft MD (7257.0 TVD, 482.1 N, -12.7 E) - Point	0.00	360.00	7,257.0	482.0	-16.6	540,880.69	472,273.11	32° 29' 13.056 N	104° 25' 23.718 W


True Vertical Depth (2000 usft/in)
Vertical Section at 358.49° (2000 usft/in)
KOP @ 6780
LP: 82 FSL & 775 FWL
First Take Point:(330 FSL & 770 FWL)
BHL: 330 FNL & 660 FWL, Sec 8


Rio Bravo 8 B3MD Fed 1H
Section 8
330 Hard Lines
BHL: 330 FNL & 660 FWL, Sec 8
First Take Point:(330 FSL & 770 FWL)
LP: 82 FSL & 775 FWL
KOP @ 6780
South(-)/North(+) (1500 usft/in)
West(-)/East(+) (1500 usft/in)

Mewbourne Oil Company, Rio Bravo 8 B3MD Fed 1H
Sec 17, T21S, R25E
SL: 400' FNL & 790' FWL, Sec 17
BHL: 330' FNL & 660' FWL, Sec 8

1. Geologic Formations

TVD of target	7257	Pilot hole depth	NA
MD at TD:	12450	Deepest expected fresh water:	50

Reef

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Alluvium			
Rustler	NP		
Top of Salt	NP		
Tansill	NP		
Yates	Surface		
Queen	750		
Capitan Reef	825		
Grayberg	NP		
San Andres	NP		
Glorieta	NP		
Yeso	NP		
Delaware (Lamar)	1750	Oil/Gas	
Bone Spring	3200	Oil/Gas	
2nd Bone Spring			
3rd Bone Spring	7200	Target Zone	
Wolfcamp	Will Not Penetrate		

*H2S, water flows, loss of circulation, abnormal pressures, etc.

Mewbourne Oil Company, Rio Bravo 8 B3MD Fed 1H
Sec 17, T21S, R25E
SL: 400' FNL & 790' FWL, Sec 17
BHL: 330' FNL & 660' FWL, Sec 8

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17.5"	0	400	13.375"	48	H40	STC	3.56	8.32	16.77
12.25"	0	1650	9.625"	36	J55	LTC	2.35	4.10	7.63
8.75"	0	6780	7"	26	HCP110	LTC	2.21	2.83	3.93
8.75"	6780	7535	7"	26	HCP110	BTC	1.99	2.54	4.24
6.125"	7335	12450	4.5"	13.5	P110	LT&C	2.83	3.29	4.88
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	270	12.5	2.12	11	10	Lead: Class C Lite (35:65:4) w/5% Salt & LCM additives
	200	14.8	1.34	6.3	5	Tail: Class C w/2% CaCl
*Inter.	245	14.8	1.34	6.3	5	Class C w/2% CaCl
See COA	DV tool & ECP @ 775' (50' above Capitan Reef)					
	250	14.8	1.34	6.3	5	Class C w/2% CaCl
Prod.	375	12.5	2.12	11	10	Lead: Class C (60:40:0) w/3% Salt, Fluid loss additives & LCM additives
	400	15.6	1.18	5	5	Tail: Class H w/5#/sk Salt & Fluid loss additives
See COA						
Liner	None					Packer/Port system tied back 200' inside 7" csg. Liner top @ 7335'.

A copy of cement test will be on location at time of cement job proving compressive strengths, pump times, etc.
*Will only open DV tool if circulation is lost during cement job. Will pump one stage cement job if circulation is maintained.

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	25%
Production	775'	25%
Liner	7335'	None(Packer/Port system)

4. Pressure Control Equipment

	Variance: None

BOP installed and tested before drilling which hole?	Size?	System Rated WP	Type	✓	Tested to:
12-1/4"	13-5/8"	2M	Annular	X	1250
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4"	11"	3M	Annular	X	1500
			Blind Ram	X	3000
			Pipe Ram	X	
			Double Ram		
			Other*		
6-1/8"	11"	3M	Annular	X	1500
			Blind Ram	X	3000
			Pipe Ram	X	
			Double Ram		
			Other*		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in

	accordance with Onshore Oil and Gas Order #2 III.B.1.i.
N	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. • Provide description here See attached schematic.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	400	FW Gel	8.5-8.8	28-34	N/C
400	1650	FW	8.5-8.8	28-34	N/C
1650	TD	Cut Brine	8.5-9.3	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
x	Will run GR/CNL fromTD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
X	Gamma Ray	6780'(KOP) to TD

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	3120 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
✓	H2S is present
	H2S Plan attached

8. Other facets of operation

Is this a walking operation? If yes, describe. NO
Will be pre-setting casing? If yes, describe. NO

Attachments
✓ Directional Plan
___ Other, describe

Notes Regarding Blowout Preventer

Mewbourne Oil Company

Rio Bravo 8 B3MD Fed #1H

400' FNL & 790' FWL (SHL)

Sec 17-T21S-R25E

Eddy County, New Mexico

I. Drilling nipple (bell nipple) to be constructed so that it can be removed without the use of a welder through the opening of the rotary table, with minimum internal diameter equal to blowout preventer bore.

II. Blowout preventer and all fittings must be in good condition with a minimum 3000 psi working pressure on 9 5/8" and 7" casing.

III. Safety valve must be available on the rig floor at all times with proper connections to install in the drill string. Valve must be full bore with minimum 3000 psi working pressure.

IV. Equipment through which bit must pass shall be at least as large as internal diameter of the casing.

V. A kelly cock shall be installed on the kelly at all times.

Blowout preventer closing equipment to include and accumulator of at least 40 gallon capacity, two independent sources of pressure on closing unit, and meet all other API specifications.

Surface Use Plan of Operations

Introduction

The following surface use plan of operations will be followed and carried out once the APD is approved. No other disturbance will be created other than what was submitted in this surface use plan. If any other surface disturbance is needed after the APD is approved, a BLM approved sundry notice or right of way application will be acquired prior to any new surface disturbance.

Before any surface disturbance is created, stakes or flagging will be installed to mark boundaries of permitted areas of disturbance, including soil storage areas. As necessary, slope, grade, and other construction control stakes will be placed to ensure construction in accordance with the surface use plan. All boundary markers will be maintained in place until final construction cleanup is completed. If disturbance boundary markers are disturbed or knocked down, they will be replaced before construction proceeds.

If terms and conditions are attached to the approved APD and amend any of the proposed actions in this surface use plan, we will adhere to the terms and conditions.

1. Existing Roads

a. The existing access road route to the proposed project is depicted on Exhibit "3E". Improvements to the driving surface will be done where necessary. No new surface disturbance will be done, unless otherwise noted in the New or Reconstructed Access Roads section of this surface use plan..

b. The existing access road route to the proposed project does not cross lease or unit boundaries, so a BLM right-of-way grant will not be acquired for this proposed road route.

c. The operator will improve or maintain existing roads in a condition the same as or better than before operations begin. The operator will repair pot holes, clear ditches, repair the crown, etc. All existing structures on the entire access route such as cattleguards, other range improvement projects, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use.

d. We will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or wind events. BLM written approval will be acquired before application of surfactants, binding agents, or other dust suppression chemicals on roadways.

2. New or Reconstructed Access Roads

a. An access road will be needed for this proposed project. See the survey plat for the location of the access road.

b. The length of access road needed to be constructed for this proposed project is about 206 feet.

c. The maximum driving width of the access road will be 20 feet. The maximum width of surface disturbance when constructing the access road will not exceed 25 feet. All areas outside of the driving surface will be revegetated.

d. The access road will be constructed with 6 inches of compacted gravel & caliche.

e. The proposed access road will be constructed to BLM Gold Book standards and/or BLM CFO specifications.

f. The access road will be constructed with a ditch on each side of the road.

g. The maximum grade for the access road will be 0 percent.

h. No turnouts will be constructed on the proposed access road.

i. No cattleguards will be installed for this proposed access road.

j. No BLM right-of-way grant is needed for the construction of this access road.

k. No culverts will be constructed for this proposed access road.

l. No low water crossings will be constructed for the access road.

m. Since the access road is on level ground, no lead-off ditches will be constructed for the proposed access road.

n. Newly constructed or reconstructed roads, on surface under the jurisdiction of the Bureau of Land Management, will be constructed as outlined in the BLM "Gold Book" and to meet the standards of the anticipated traffic flow and all anticipated weather requirements as needed. Construction will include ditching, draining, crowning and capping or sloping and dipping the roadbed as necessary to provide a well-constructed and safe road.

3. Location of Existing Wells

a. Exhibit "4" of the APD depicts all known wells within a one mile radius of the proposed well.

b. There is no other information regarding wells within a one mile radius.

4. Location of Existing and/or Proposed Production Facilities

a. All permanent, lasting more than 6 months, above ground structures including but not limited to pumpjacks, storage tanks, barrels, pipeline risers, meter housing, etc. that are not subject to safety requirements will be painted a non-reflective paint color, Shale Green, from the BLM Standard Environmental Colors chart, unless another color is required in the APD Conditions of Approval.

b. If any type of production facilities are located on the well pad, they will be strategically placed to allow for maximum interim reclamation, recontouring, and revegetation of the well location.

c. A production facility is proposed to be installed off the proposed well location. Production from the well will be processed at this production facility. Rio Bravo Production Facility depicts the location of the production facilities.

d. The proposed production facility will have a secondary containment structure that is constructed to hold the capacity of 1-1/2 times the largest tank, plus freeboard to account for percipitation, unless more stringent protective requirements are deemed necessary.

e. There is no other diagram that depicts production facilities.

f. A pipeline to transport production will be installed from the proposed well to the existing production facility.

i. We plan to install a 4 inch surface polyethylene pipeline from the proposed well to the production facility. The proposed length of the pipeline will be 600 feet. The working pressure of the pipeline will be 125 psi or less. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline will be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline will be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

ii. Exhibit "3D" depicts the proposed production pipeline route from the well to the production facility.

iii. The proposed pipeline does not cross lease boundaries, so a right of way grant will not need to be acquired from the BLM.

If any plans change regarding the production facility or other infrastructure (pipeline, electric line, etc.),

we will submit a sundry notice or right of way (if applicable) prior to installation or construction.

Electric Line(s)

a. No electric line will be applied for with this APD.

5. Location and Types of Water

a. The source and location of the water supply are as follows: Water to be supplied for drilling purposes is unknown at this time.

b. The operator will use established or constructed oil and gas roads to transport water to the well site. The operator will try to utilize the identified access route in the surface use plan.

6. Construction Material

a. caliche and gravel present at location and from nearby caliche providers.

7. Methods for Handling Waste

a. Drilling fluids and produced oil and water from the well during drilling and completion operations will be stored safely and disposed of properly in an NMOCD approved disposal facility.

b. Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility. All trash on and around the well site will be collected for disposal.

c. Human waste and grey water will be properly contained and disposed of properly at a state approved disposal facility.

d. After drilling and completion operations, trash, chemicals, salts, frac sand and other waste material will be removed and disposed of properly at a state approved disposal facility.

e. The well will be drilled utilizing a closed loop system. Drill cutting will be properly disposed of into steel tanks and taken to an NMOCD approved disposal facility.

8. Ancillary Facilities

a. No ancillary facilities will be needed for this proposed project.

9. Well Site Layout

a. The following information is presented in the well site survey plat or diagram:

i. reasonable scale (near 1":50')
ii. well pad dimensions
iii. well pad orientation
iv. drilling rig components
v. proposed access road
vi. elevations of all points
vii. topsoil stockpile
viii. reserve pit location/dimensions if applicable

ix. other disturbances needed (flare pit, stinger, frac farm pad, etc.)

x. existing structures within the 600' x 600' archaeoligical surveyed area (pipelines, electric lines, well pads, etc

b. The proposed drilling pad was staked and surveyed by a professional surveyor. The attached survey plat of the well site depicts the drilling pad layout as staked.

c. The submitted survey plat does depict all the necessary information required by Onshore Order No. 1.

d. Topsoil Salvaging

i. Grass, forbs, and small woody vegetation, such as mesquite will be excavated as the topsoil is removed. Large woody vegetation will be stripped and stored separately and respread evenly on the site following topsoil respreading. Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location and along the perimeter of the access road to control run-on and run-off, to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils. Contaminated soil will not be stockpiled, but properly treated and handled prior to topsoil salvaging.

10. Plans for Surface Reclamation

Reclamation Objectives

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

ii. The long-term objective of final reclamation is to return the land to a condition similar to what existed prior to disturbance. This includes restoration of the landform and natural vegetative community, hydrologic systems, visual resources, and wildlife habitats. To ensure that the long-term objective will be reached through human and natural processes, actions will be taken to ensure standards are met for site stability, visual quality, hydrological functioning, and vegetative productivity.

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

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

v. Interim reclamation will be performed on the well site after the well is drilled and completed. Exhibit "6" depicts the location and dimensions of the planned interim reclamation for the well site.

Interim Reclamation Procedures (If performed)

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

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

3. The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be

much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

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

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

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

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

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

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

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

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

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

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

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

11. Surface Ownership

a. The surface ownership of the proposed project is Private.

1. **Surface Owner:** Gregory Rockhouse Ranch LLC attn: Bill Travelstead
   Phone Number: (432) 254-1260
   Address: 1108 W. Pierce Carlsbad, NM 88220

   a. A surface use agreement was obtained from the private surface owner regarding the proposed project.

   b. A good faith effort was made to provide a copy of the APD Surface Use Plan of Operations to the private surface owner.

12. Other Information

a. No other information is needed at this time.

13. Maps and Diagrams

Exhibit "3E" - Existing Road
Exhibit "4" - Wells Within One Mile
Exhibit "6" - Production Facilities Diagram
Exhibit "3D" - Production Pipeline
Exhibit "5" - Interim Reclamation

Hydrogen Sulfide Drilling Operations Plan

Mewbourne Oil Company

Rio Bravo 8 B3MD Fed #1H

400' FNL & 790' FWL (SL)

Sec 17-T21S-R25E

Eddy County, New Mexico

1. General Requirements

Rule 118 does not apply to this well because MOC has researched this area and no high concentrations of H2S were found. MOC will have on location and working all H2S safety equipment before the Delaware formation for purposes of safety and insurance requirements.

2. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will have received training from a qualified instructor in the following areas prior to entering the drilling pad area of the well:

1. The hazards and characteristics of hydrogen sulfide gas.
2. The proper use of personal protective equipment and life support systems.
3. The proper use of hydrogen sulfide detectors, alarms, warning systems, briefing areas, evacuation procedures.
4. The proper techniques for first aid and rescue operations.

Additionally, supervisory personnel will be trained in the following areas:

1 The effects of hydrogen sulfide on metal components. If high tensile tubular systems are utilized, supervisory personnel will be trained in their special maintenance requirements.

2 Corrective action and shut in procedures, blowout prevention, and well control procedures while drilling a well.

3 The contents of the Hydrogen Sulfide Drilling Operations Plan.

There will be an initial training session prior to encountering a know hydrogen sulfide source. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan.

3. Hydrogen Sulfide Safety Equipment and Systems

All hydrogen sulfide safety equipment and systems will be installed, tested, and operational prior to drilling below the 9-5/8" intermediate casing.

1. Well Control Equipment
   - A. Choke manifold with minimum of one adjustable choke/remote choke.
   - B. Blowout preventers equipped with blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
   - C. Auxiliary equipment including annular type blowout preventer.
2. Protective Equipment for Essential Personnel

   Thirty minute self contained work unit located in the dog house and at briefing areas.

Additionally: If H2S is encountered in concentrations less than 10 ppm, fans will be placed in work areas to prevent the accumulation of hazardous amounts of poisonous gas. If higher concentrations of H2S are detected the well will be shut in MOC will follow Onshore Order 6 and install a rotating head, mud/gas separator, remote choke and flare line with igniter will be installed.

3. Hydrogen Sulfide Protection and Monitoring Equipment
Two portable hydrogen sulfide monitors positioned on location for optimum coverage and detection. The units shall have audible sirens to notify personnel when hydrogen sulfide levels exceed 20 PPM.

4. Visual Warning Systems
A. Wind direction indicators as indicated on the well site diagram.
B. Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

4. Mud Program

The mud program has been designed to minimize the amount of hydrogen sulfide entrained in the mud system. Proper mud weight, safe drilling practices, and the use of hydrogen sulfide scavengers will minimize hazards while drilling the well.

5. Metallurgy

All tubular systems, wellheads, blowout preventers, drilling spools, kill lines, choke manifolds, and valves shall be suitable for service in a hydrogen sulfide environment when chemically treated.

6. Communications

State & County officials' phone numbers are posted on rig floor and supervisors trailer. Communications in company vehicles and toolpushers are either two way radios or cellular phones.

7. Well Testing

Drill stem testing is not an anticipated requirement for evaluation of this well. A drill stem test is required and will be conducted with a minimum number of personnel in the immediate vicinity. The test will be conducted during daylight hours only.

8. Emergency Phone Numbers

Lea County Sheriff's Office	**911 or 575-396-3611**
Ambulance Service	**911 or 575-885-2111**
Carlsbad Fire Dept	**911 or 575-885-2111**
Closest Medical Facility - Columbia Medical Center of Carlsbad	**575-492-5000**

Mewbourne Oil Company	**Hobbs District Office**	**575-393-5905**
	Fax	**575-397-6252**
	2nd Fax	**575-393-7259**
District Manager	**Robin Terrell**	**575-390-4816**
Drilling Superintendent	**Frosty Lathan**	**575-390-4103**
	Bradley Bishop	**575-390-6838**
Drilling Foreman	**Wesley Noseff**	**575-441-0729**

11" 3M BOPE & Closed Loop Equipment Schematic

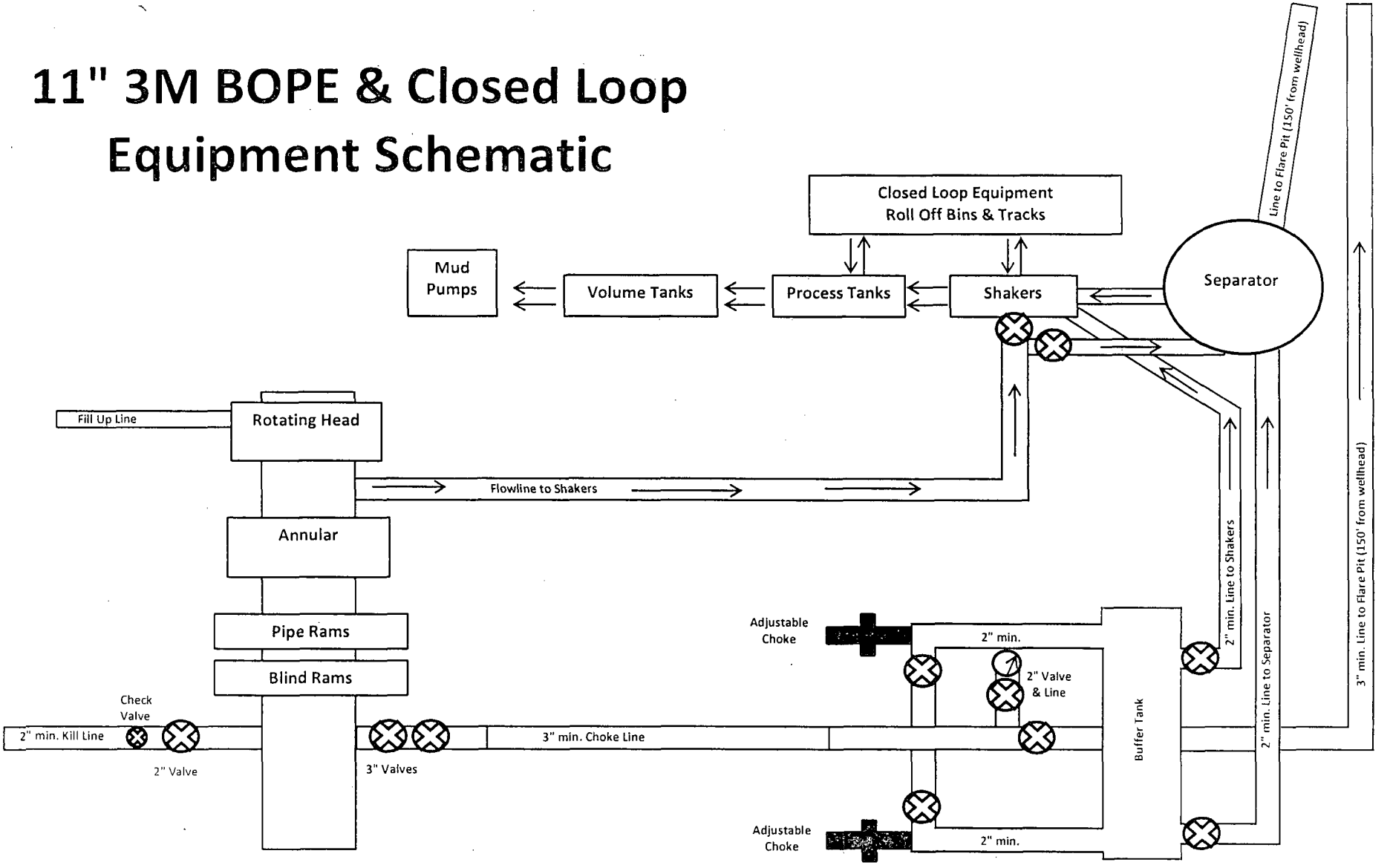


Exhibit "2"
Rio Bravo B3MD Fed #1H

Note: All valves & lines on choke manifold are 3" unless otherwise noted. Exact manifold configuration may vary.

13 ⅝" 2M BOPE & Closed Loop Equipment Schematic

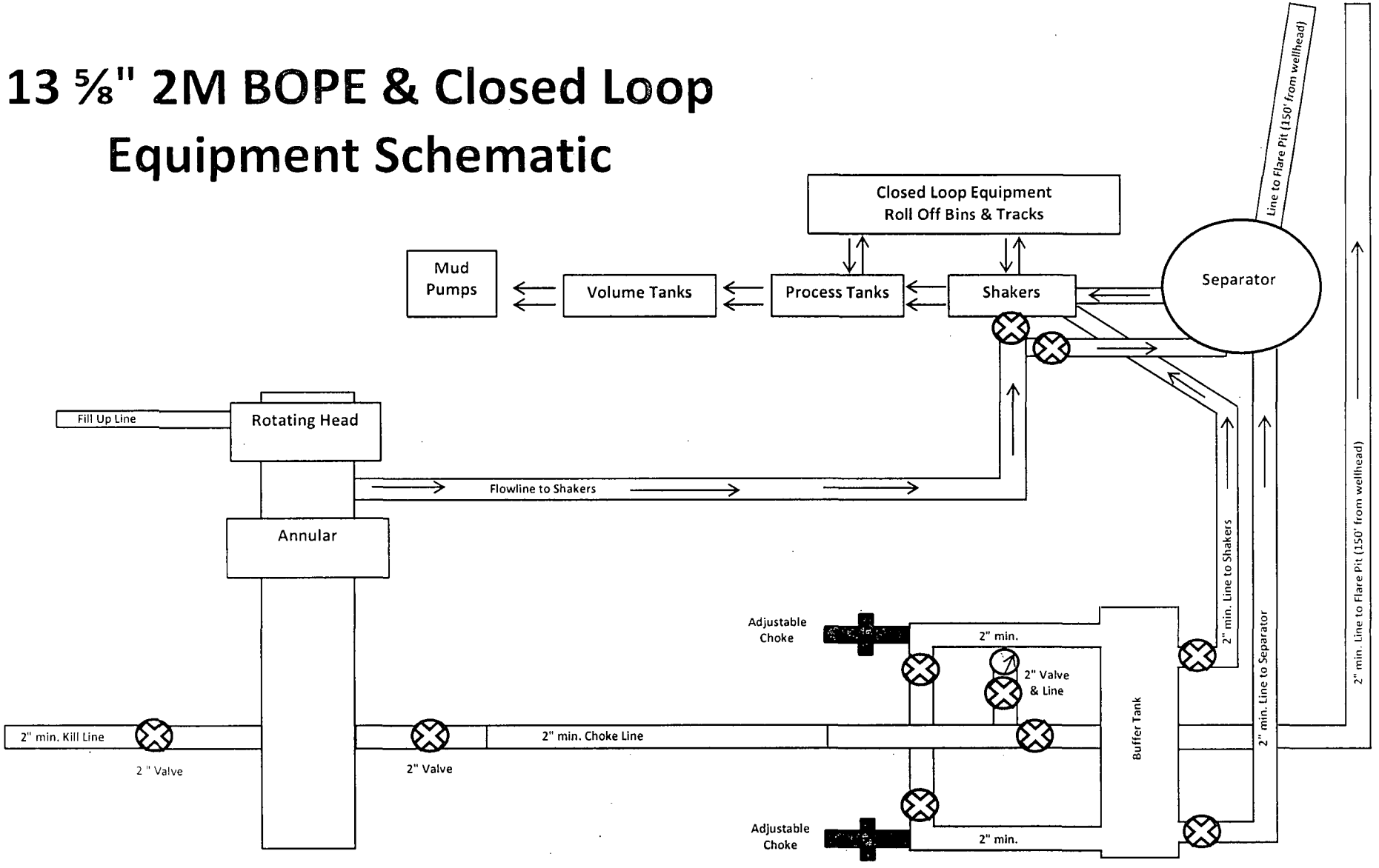
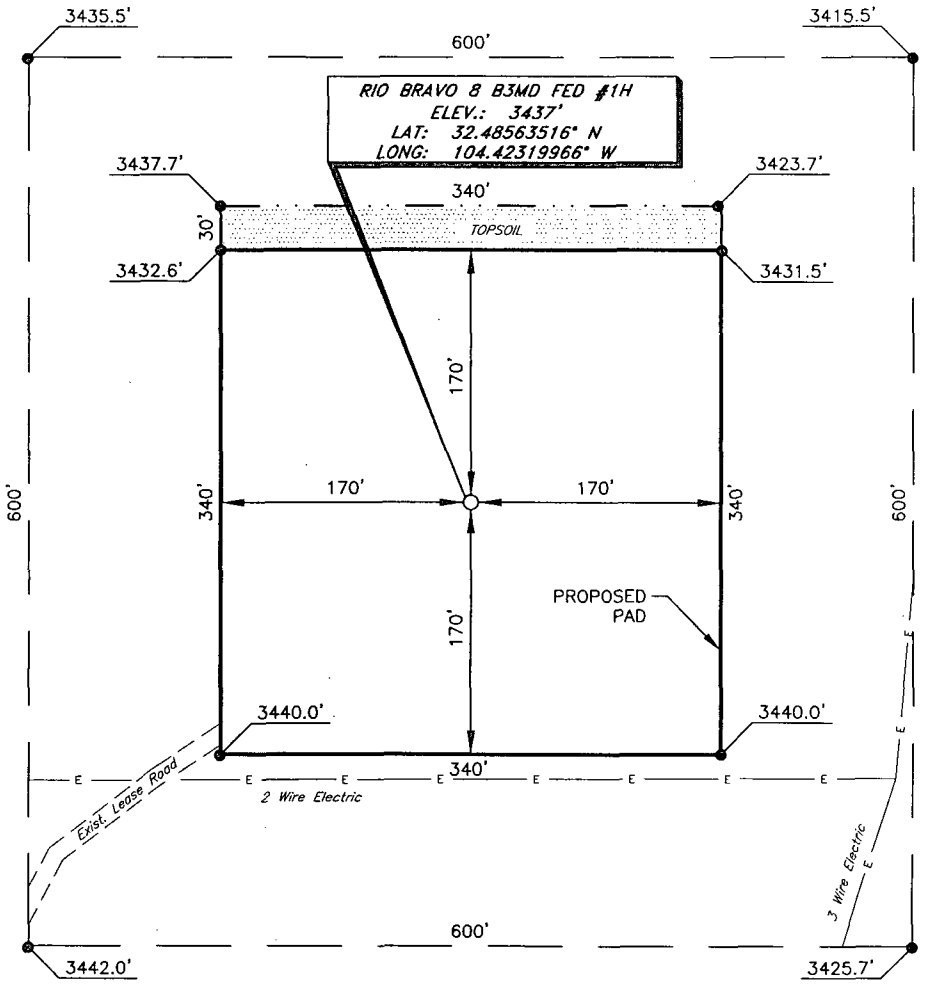


EXHIBIT "2"
Rio Bravo 8 B3MD Fed #1H

EXHIBIT "3"

MEWBOURNE OIL COMPANY

RIO BRAVO 8 B3MD FED #1H
(400' FNL & 790' FWL)
SECTION 17, T21S, R25E
N. M. P. M., EDDY CO., NEW MEXICO



DIRECTIONS TO LOCATION

From the intersection of State Hwy 137 (Queens Hwy.) and CR-406 (Waterhole);
Go Southwest on State Hwy 137 approx. 0.7 miles to lease road on left;
Turn left on lease road and go East approx. 300 feet to location on left.

SCALE: 1" = 100'
0 50 100

BEARINGS ARE NAD 27 GRID - NM EAST DISTANCES ARE GROUND.

Firm No.: TX 10193838 NM 4655451

NO.	REVISION	DATE

JOB NO.: LS140328
DWG. NO.: 140328_PAD

RRC

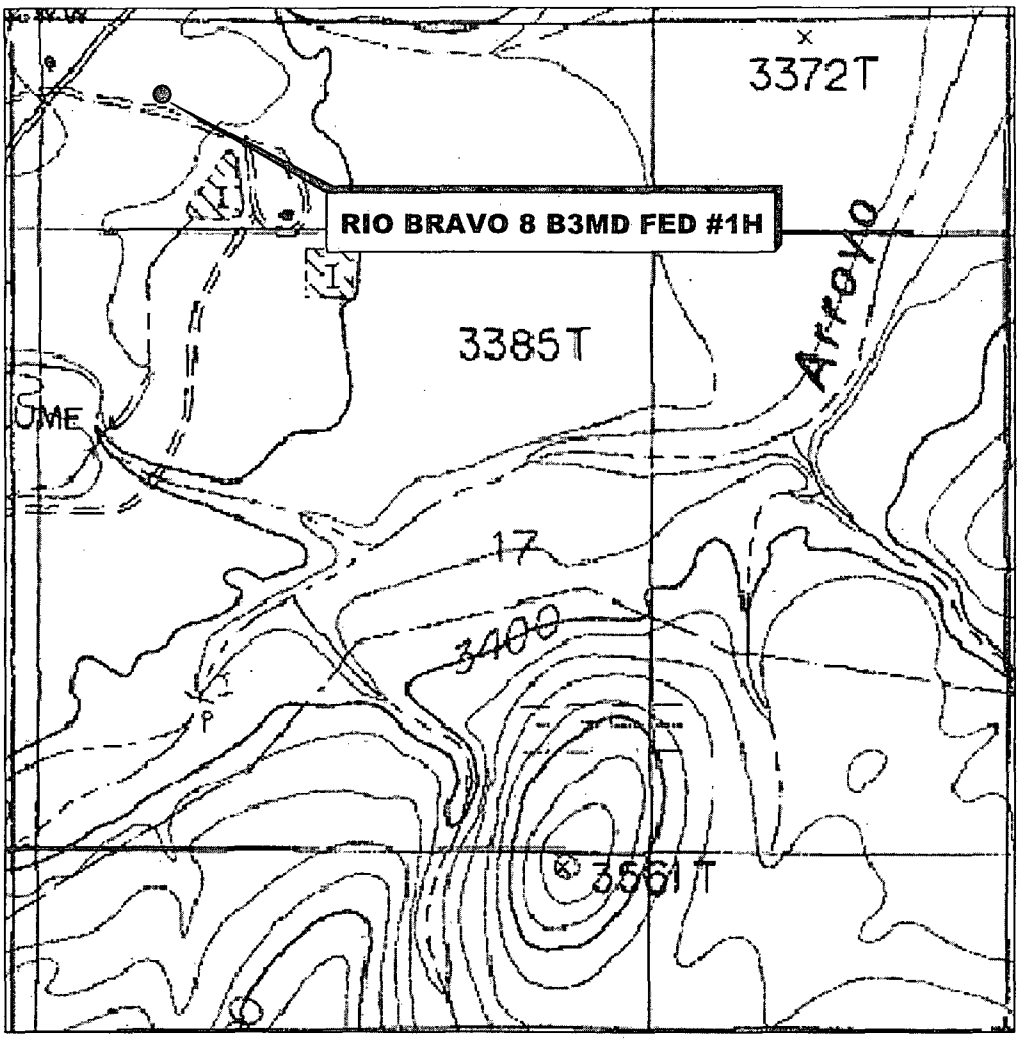
308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: 1" = 100'
DATE: 8-12-14
SURVEYED BY: BK/SM
DRAWN BY: LNY
APPROVED BY: RMH
SHEET : 1 OF 1

EXHIBIT "3A"

LOCATION VERIFICATION MAP

NOT TO SCALE



SECTION 17, TWP. 21 SOUTH, RGE. 25 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO

OPERATOR: Mewbourne Oil Company
LEASE: Rio Bravo 8 B3MD Fed
WELL NO.: 1H
ELEVATION: 3437'

LOCATION: 400' FNL & 790' FWL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
Azotea Peak, NM (P.E. 1985)

NO.	REVISION	DATE

JOB NO.: LS140328
DWG. NO.: 140328LVM

RRC

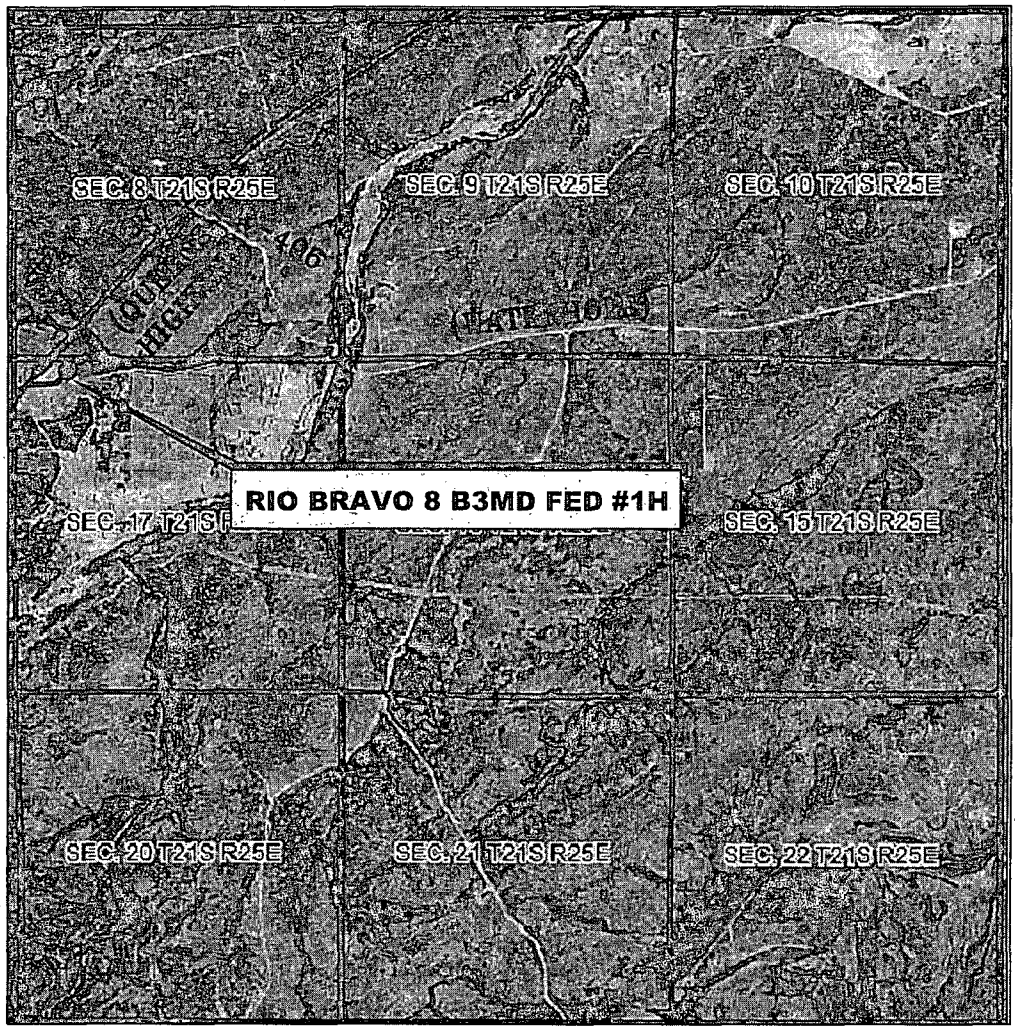
308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: N. T. S.
DATE: 8-12-14
SURVEYED BY: BK/SM
DRAWN BY: JC
APPROVED BY: RMH
SHEET : 1 OF 1

EXHIBIT "3B"

VICINITY MAP

NOT TO SCALE



SECTION 17, TWP. 21 SOUTH, RGE. 25 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO

OPERATOR: Mewbourne Oil Company
LEASE: Rio Bravo 8 B3MD Fed
WELL NO.: 1H

LOCATION: 400' FNL & 790' FWL
ELEVATION: 3437'

NO.	REVISION	DATE

JOB NO.: LS140328
DWG. NO.: 140328VM

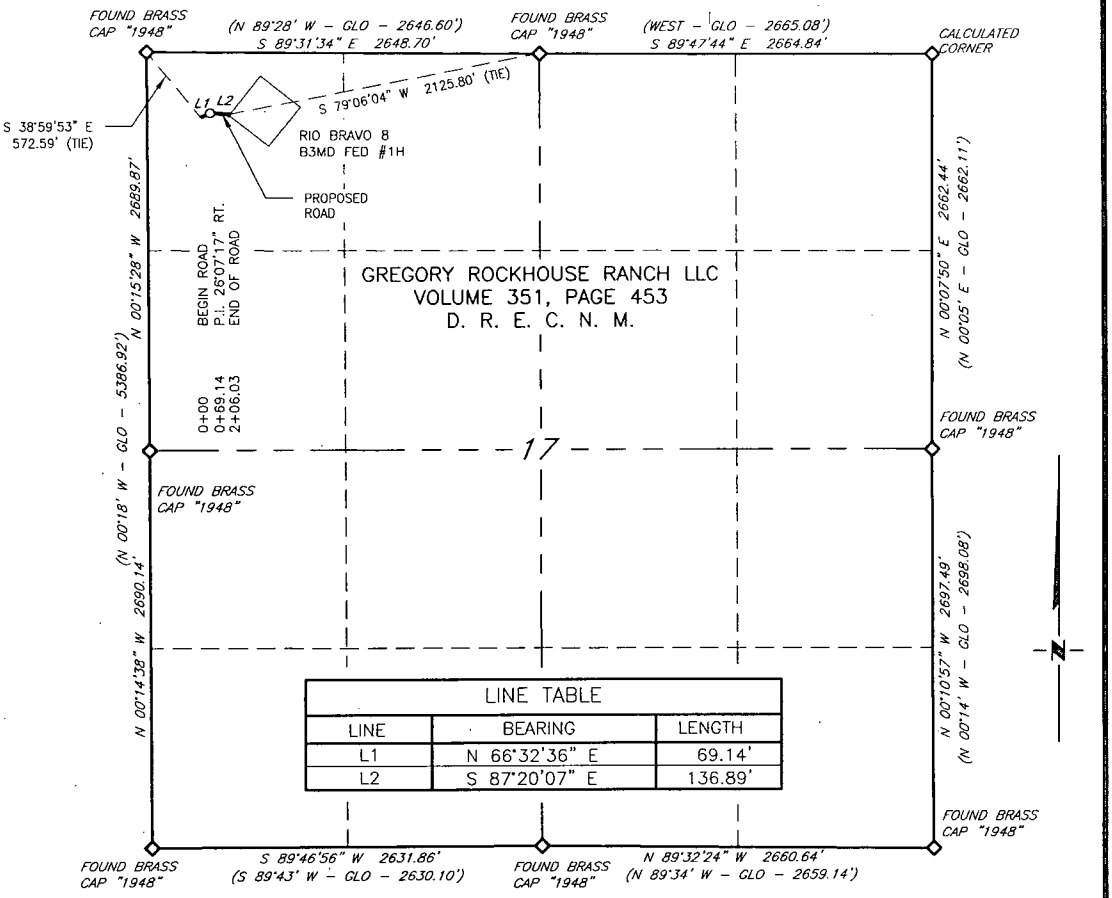
RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: N. T. S.
DATE: 8-12-2014
SURVEYED BY: BK/SM
DRAWN BY: JC
APPROVED BY: RMH
SHEET : 1 OF 1

EXHIBIT "3C"

MEWBOURNE OIL COMPANY
PROPOSED ACCESS ROAD FOR THE RIO BRAVO 8 B3MD FED #1
SEC. 17, T21S, R25E, N. M. P. M., EDDY CO., N. M.



LINE TABLE		
LINE	BEARING	LENGTH
L1	N 66°32'36" E	69.14'
L2	S 87°20'07" E	136.89'

DESCRIPTION

A strip of land 20 feet wide, being 206.03 feet or 12.487 rods in length lying in Section 17, Township 21 South, Range 25 East, N. M. P. M., Eddy County, New Mexico, being 10 feet left and 10 feet right of the following described survey of a centerline, of an existing lease road, across the lands of Gregory Rockhouse Ranch, LLC., according to a deed filed for record on Vol. 351, Pg. 453 of the Deed Records of Eddy County, New Mexico.

BEGINNING at Engr. Sta. 0+00, a point which bears S 38°59'53" E, 572.59.14 feet from a brass cap, stamped "1948", found for the Northwest corner of Section 17;

Thence N 66°32'36" E, 69.14 feet to Engr. Sta. 0+69.14, a P. I. of 26°07'17" right;

Thence S 87°20'07" E, 136.89 feet to Engr. Sta. 2+06.03, the End of Survey, a point which bears S 79°06'04" W, 2125.80 feet from a brass cap, stamped "1948", found for the North quarter corner of Section 17.

Said strip of land contains 0.095 acres, more or less, and is allocated by forties as follows::

NW 1/4 NW 1/4 0.095 Ac.

SCALE: 1" = 1000'
0 500 1000

BEARINGS ARE GRID NAD 27 NM EAST
DISTANCES ARE HORIZ. GROUND.

LEGEND

( ) RECORD DATA - GLO
◇ FOUND MONUMENT AS NOTED
PROPOSED ROAD
EXISTING BPL

I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this plat from an actual survey made on the ground under my direct supervision, said survey and plat meet the Min. Stds. for Land Surveying in the State of N. M. and are true and correct to the best of my knowledge and belief.

ROBERT M. HOWETT NEW MEXICO 19680 PROFESSIONAL SURVEYOR

Robert M. Howett
Robert M. Howett NM PS 19680

Firm No.: TX 10193838 NM 4655451

NO.	REVISION	DATE

JOB NO.: LS140328
DWG. NO.: 140328_RD

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: 1"=1000'
DATE: 8-12-14
SURVEYED BY: BH/SM
DRAWN BY: LNY
APPROVED BY: RMH
SHEET : 1 OF 1

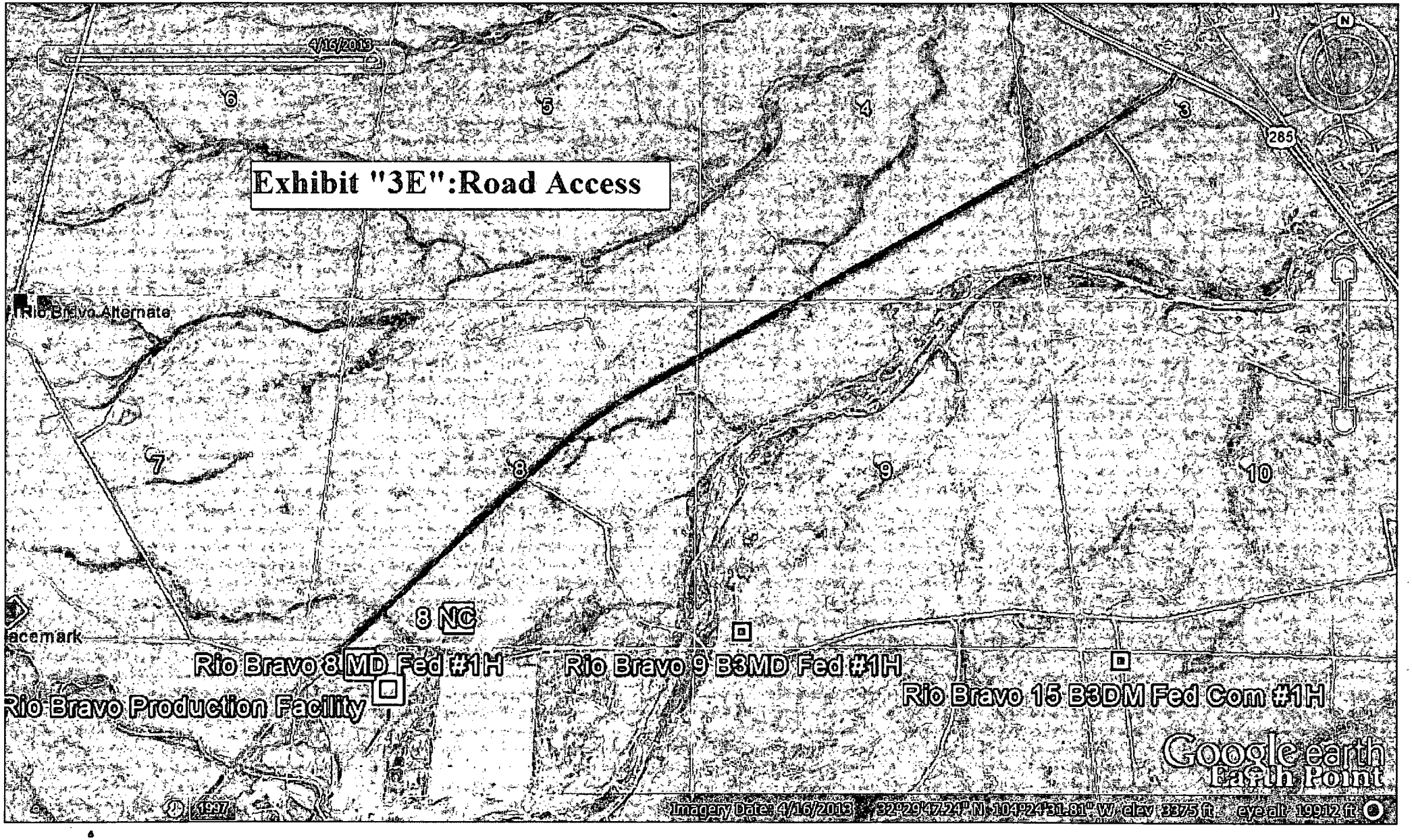


Exhibit "3E":Road Access
4/16/2013
6
5
4
3
285
Rio Bravo Alternate
7
8
9
10
8 NC
Rio Bravo 8 MD Fed #1H
Rio Bravo 9 B3MD Fed #1H
Rio Bravo 15 B3DM Fed Com #1H
Rio Bravo Production Facility
Google earth
Earth Point
1937
Imagery Date: 4/16/2013 32°29'47.24" N 104°24'31.81" W elev 3375 ft eye alt 19912 ft

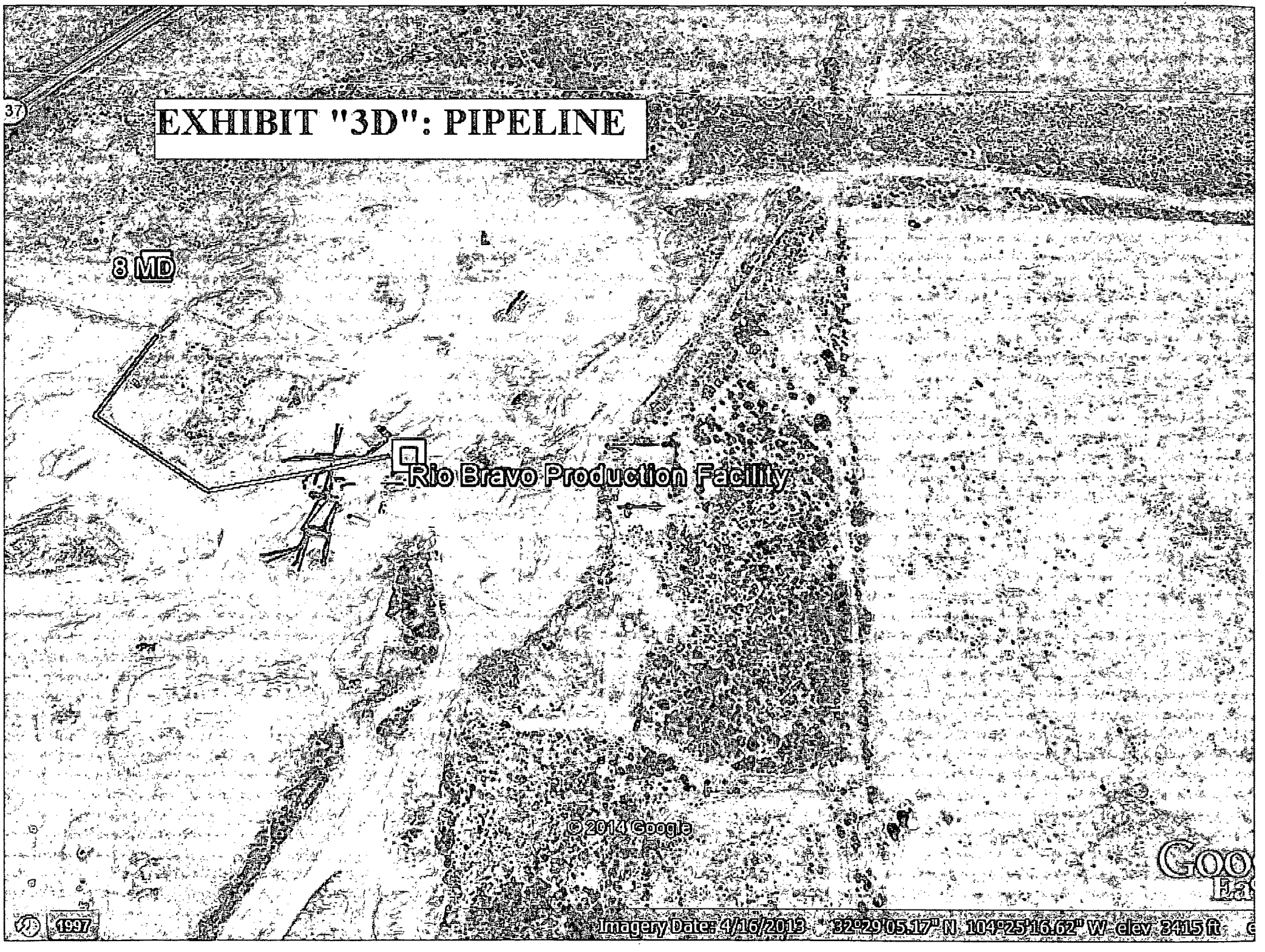
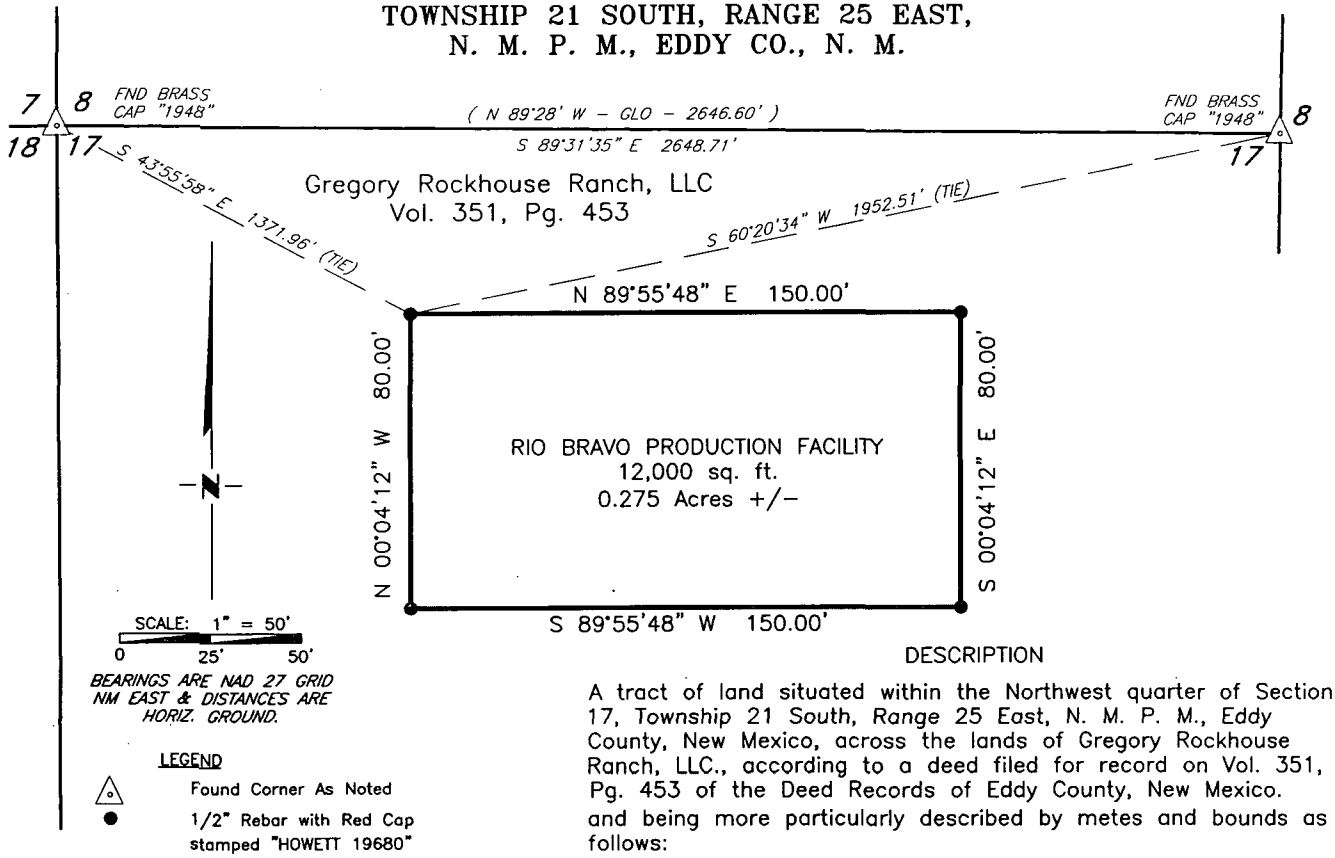


EXHIBIT "3D": PIPELINE
8 MD
Rio Bravo Production Facility
© 2014 Google
Imagery Date: 4/16/2013 32°29'05.17" N 104°25'16.62" W elev 3415 ft

EXHIBIT "3F"

MEWBOURNE OIL COMPANY
SURVEY OF THE RIO BRAVO PRODUCTION FACILITY
SITUATED WITHIN THE NW 1/4, SECTION 17,
TOWNSHIP 21 SOUTH, RANGE 25 EAST,
N. M. P. M., EDDY CO., N. M.



ROBERT M. HOWETT
NEW MEXICO
19680
PROFESSIONAL SURVEYOR

I, Robert M. Howett, New Mexico Professional Surveyor No. 19680, do hereby certify that this survey plat and the actual survey on the ground upon which it is based was performed under my direct supervision and this survey meets the minimum standards for surveying in the State of New Mexico and is true and correct to the best of my knowledge and belief.

Robert M. Howett

Robert M. Howett
Date: 8/29/14

Firm No.: TX 10193838 NM 4655451

DESCRIPTION

A tract of land situated within the Northwest quarter of Section 17, Township 21 South, Range 25 East, N. M. P. M., Eddy County, New Mexico, across the lands of Gregory Rockhouse Ranch, LLC., according to a deed filed for record on Vol. 351, Pg. 453 of the Deed Records of Eddy County, New Mexico. and being more particularly described by metes and bounds as follows:

BEGINNING at a 1/2" rebar with a red cap stamped "Howett 19680" set for a corner, which bears S 43°55'58" E, 1,371.96 feet, from a brass cap, stamped "1948", found for the Northwest corner of Section 17, and which bears S 60°20'44" E, 1,952.51 feet, from a brass cap, stamped "1948", found for the North quarter corner of Section 17;

Thence N 89°55'48" E, 150.00 feet, to a 1/2" rebar with a red cap stamped "Howett 19680" set for a corner;

Thence S 00°04'12" E, 80.00 feet, to a 1/2" rebar with a red cap stamped "Howett 19680" set for a corner;

Thence S 89°55'48" E, 150.00 feet, to a 1/2" rebar with a red cap stamped "Howett 19680" set for a corner;

Thence N 00°04'12" W, 80.00 feet, to the Point of Beginning.

Said tract of land contains 12,000 square feet or 0.275 acres, more or less.

NO.	REVISION	DATE

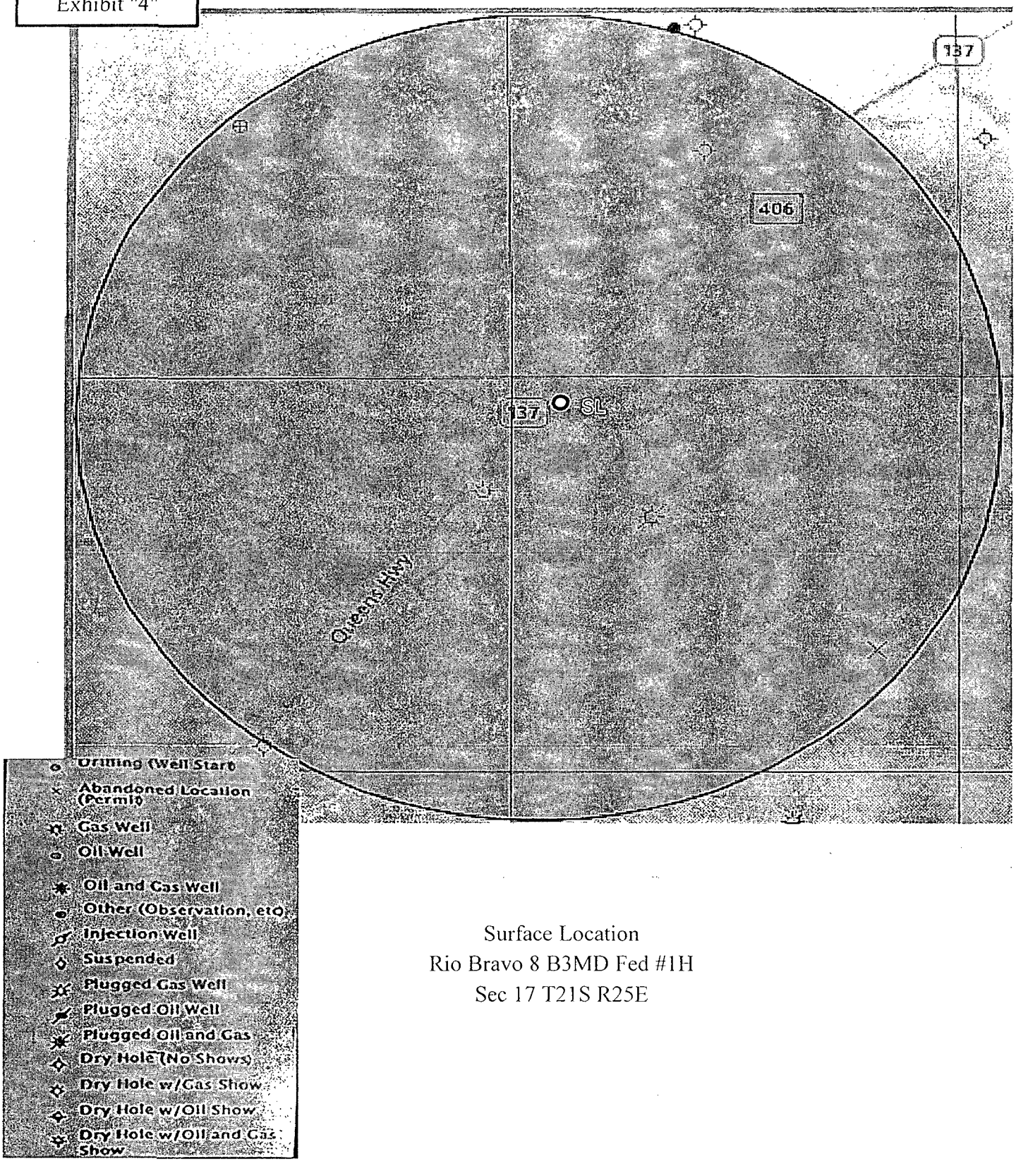
JOB NO.: LS140370
DWG. NO.: 140370BAT

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

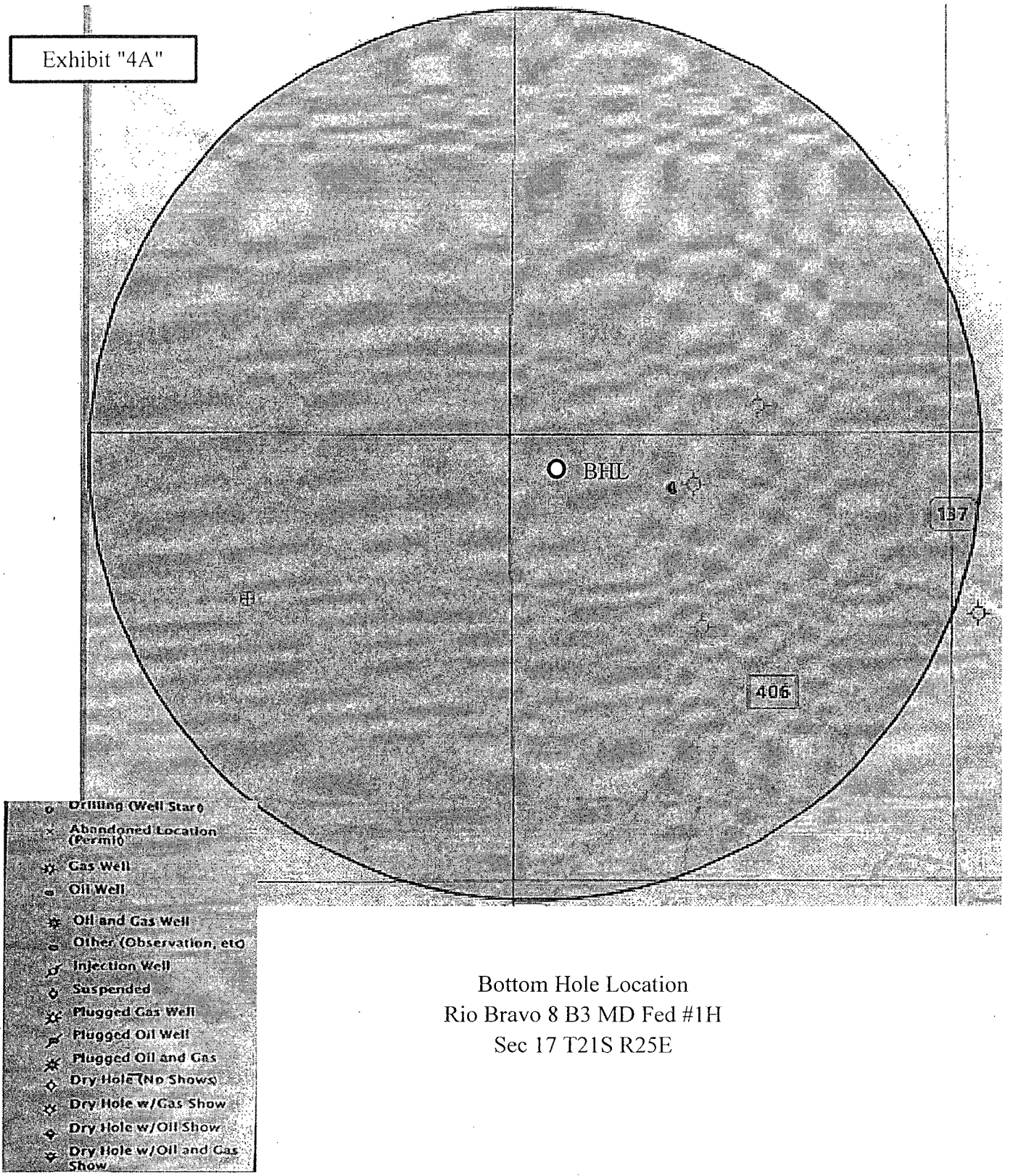
SCALE: 1" = 50'
DATE: 8/28/2014
SURVEYED BY: BK/SM
DRAWN BY: RMH
APPROVED BY: RMH
SHEET : 1 OF 1

Exhibit "4"



Surface Location
Rio Bravo 8 B3MD Fed #1H
Sec 17 T21S R25E

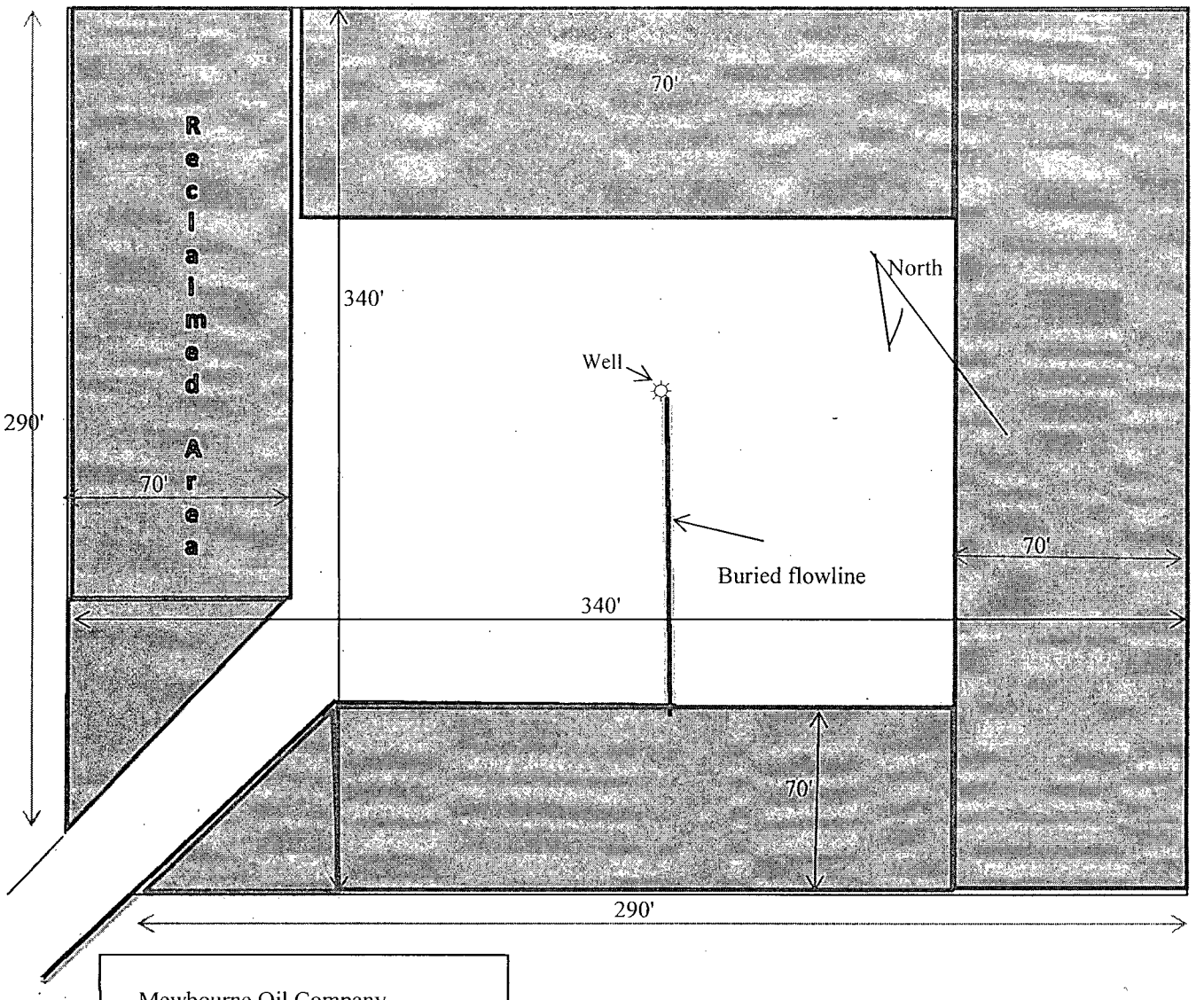
Exhibit "4A"



Bottom Hole Location
Rio Bravo 8 B3 MD Fed #1H
Sec 17 T21S R25E

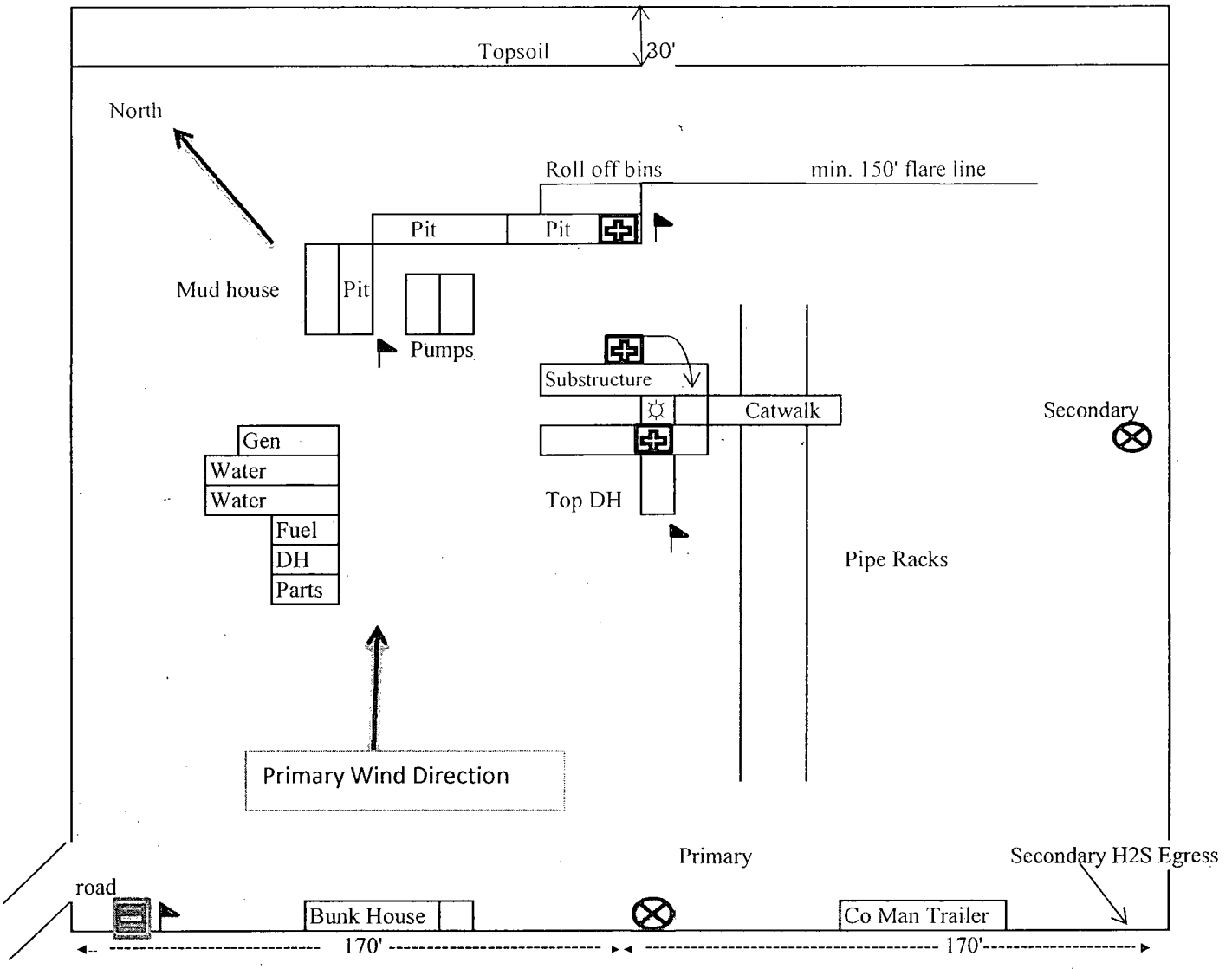
Exhibit 5

Closed Loop Pad Dimensions 340' x 340'



Mewbourne Oil Company
Rio Bravo 8 B3MD Fed #1H
400' FNL & 790' FWL
Sec. 17 T21S R25E
Eddy Co. NM

Exhibit 6: Production Facilities (H2S Diagram)
Closed Loop Pad Dimensions 340' x 340'



Mewbourne Oil Company
Rio Bravo B3MD Fed #1H
400' FNL & 790' FWL
Sec. 17, T-21S, R-25E
Eddy County, NM

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Mewbourne Oil Company**
LEASE NO.:	**NMNM-132928**
WELL NAME & NO.:	**Rio Bravo 8 B3MD Fed 1H**
SURFACE HOLE FOOTAGE:	**0400' FNL & 0790' FWL**
BOTTOM HOLE FOOTAGE	**0330' FNL & 0660' FWL Sec. 08, T. 21 S., R 25 E**
LOCATION:	**Section 17, T. 21 S., R 25 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)

Visual Resource Management Class III:
All above ground structures including but not limited to pumpjacks, storage tanks, production equipment, etc. would be shorter than 8 feet to minimize visual impacts to the natural features of the landscape.

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

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

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

G. ON LEASE ACCESS ROADS

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

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

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

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

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

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

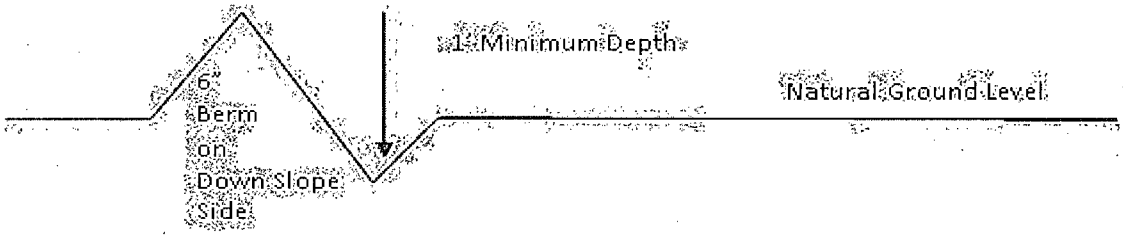
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattleguards

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

Fence Requirement

Where entry is granted 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 fences.

Public Access

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

Construction Steps

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

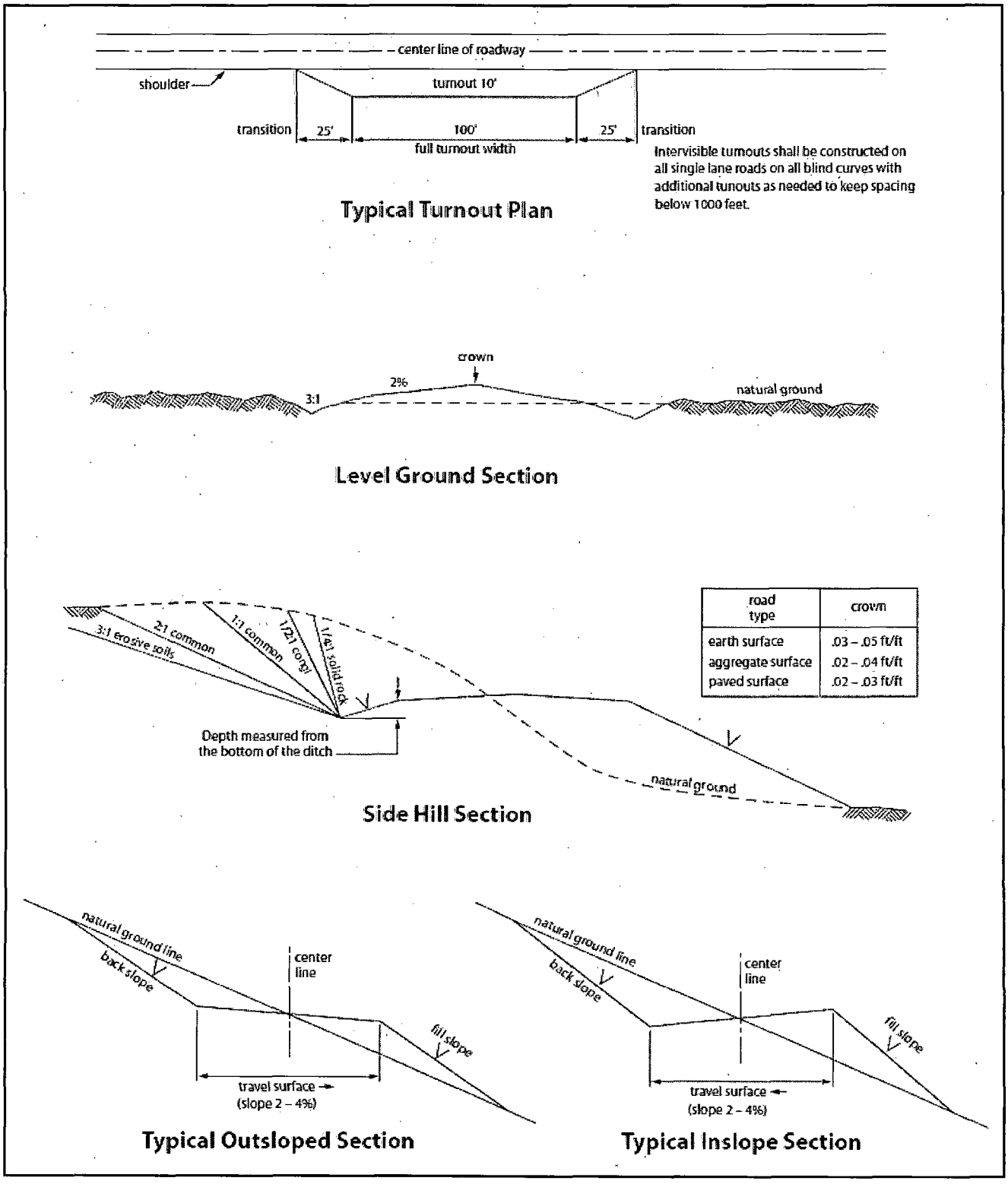


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

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

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, report measured amounts 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. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) 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.**

B. CASING

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

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

Wait on cement (WOC) for Water Basin:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. 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
Capitan Reef
Possibility of water flows in the San Andres
Possibility of lost circulation in the San Andres and Delaware
Abnormal pressure may be encountered within the 3rd Bone Spring Sandstone

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 ARE NOT SUFFICIENT TO PROTECT CAVE KARST RESOURCES. A CASING DESIGN THAT HAS A ONE INCH JOB PERFORMED DOES NOT COUNT AS A SOLID SHEATH. IF THE PRIMARY CEMENT JOB ON THE SURFACE CASING DOES NOT CIRCULATE, THEN THE NEXT TWO CASING STRINGS MUST BE CEMENTED TO SURFACE.

1. The **13-3/8** inch surface casing shall be set at approximately **400** 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.

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

   ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef. Excess calculates to negative 41% - Additional cement may be required.**

If lost circulation is encountered:

Operator has proposed DV tool at depth of 775'. Operator is to submit sundry if DV tool depth varies by more than 100' from approved depth.

   a. Stage above DV tool:

   ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef.**

Centralizers required through the curve and a minimum of one every other joint.

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

   ☒ Cement should tie-back at least **50 feet above the Capitan Reef**. Operator shall provide method of verification. **Excess calculates to 22% - Additional cement may be required.**

4. Cement not required on the **4-1/2"** casing. **Packer system being used.**

5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

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 53.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi **(Operator installing a 2M annular)**.

   a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be **3000 (3M)** 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**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

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

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

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

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

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.

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VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

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

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

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

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

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

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

VRM Facility Requirement
Low-profile tanks not greater than eight-feet-high shall be used.

IX. INTERIM RECLAMATION

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

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

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

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

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

X. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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

Seed Mixture 3, for Shallow Sites

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

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

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

	Species lb/acre
Plains Bristlegrass (*Setaria magrostachya*)	1.0
Green Spangletop (*Leptochloa dubia*)	2.0
Side oats Grama (*Bouteloua curtipendula)*	5.0

*Pounds of pure live seed:

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