Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM016104

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.:

8. Lease Name and Well No.: MALAGA 13 A2CN FED COM 1H

2. Name of Operator: MEWBOURNE OIL COMPANY

9. API Well No.: 30 015 47494

3a. Address: PO Box 5270 Hobbs NM 88240

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

10. Field and Pool, or Exploratory: ~~SOUTHWEST~~ EAST WILLOW LAKE BONE SPR

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

At surface: NENW / 57 FNL / 1605 FWL / LAT 32.1372491 / LONG -104.0442348

At proposed prod. zone: SESW / 330 FSL / 2310 FWL / LAT 32.1236916 / LONG -104.0419292

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 13 / T25S / R28E / NMP

14. Distance in miles and direction from nearest town or post office*: 15 miles

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): 57 feet

16. No of acres in lease: 1520.06

17. Spacing Unit dedicated to this well: 160

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 50 feet

19. Proposed Depth: 6781 feet / 11537 feet

20. BLM/BIA Bond No. in file: FED: NM1693

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 2894 feet

22. Approximate date work will start*: 09/29/2017

23. Estimated duration: 60 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

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 requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Bradley Bishop / Ph: (575)393-5905	06/30/2017

Title: Regulatory

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	08/26/2020

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

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.

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.

Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud drilling fluids and solids must be contained in a steel closed loop system.

Will require a directional survey with the C-104
SL

APPROVED WITH CONDITIONS

Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string

KP 9/20/2020 GEO Rev

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 08/26/2020

Entered - KMS NMOCD

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 47494	96217	EAST SOUTHWEST WILLOW LAKE BONE SPRING

4 Property Code	5 Property Name	6 Well Number
329716	MALAGA 13 A2CN FEDERAL COM	1H

7 OGRID NO.	8 Operator Name	9 Elevation
14744	MEWBOURNE OIL COMPANY	2894'

10 Surface Location

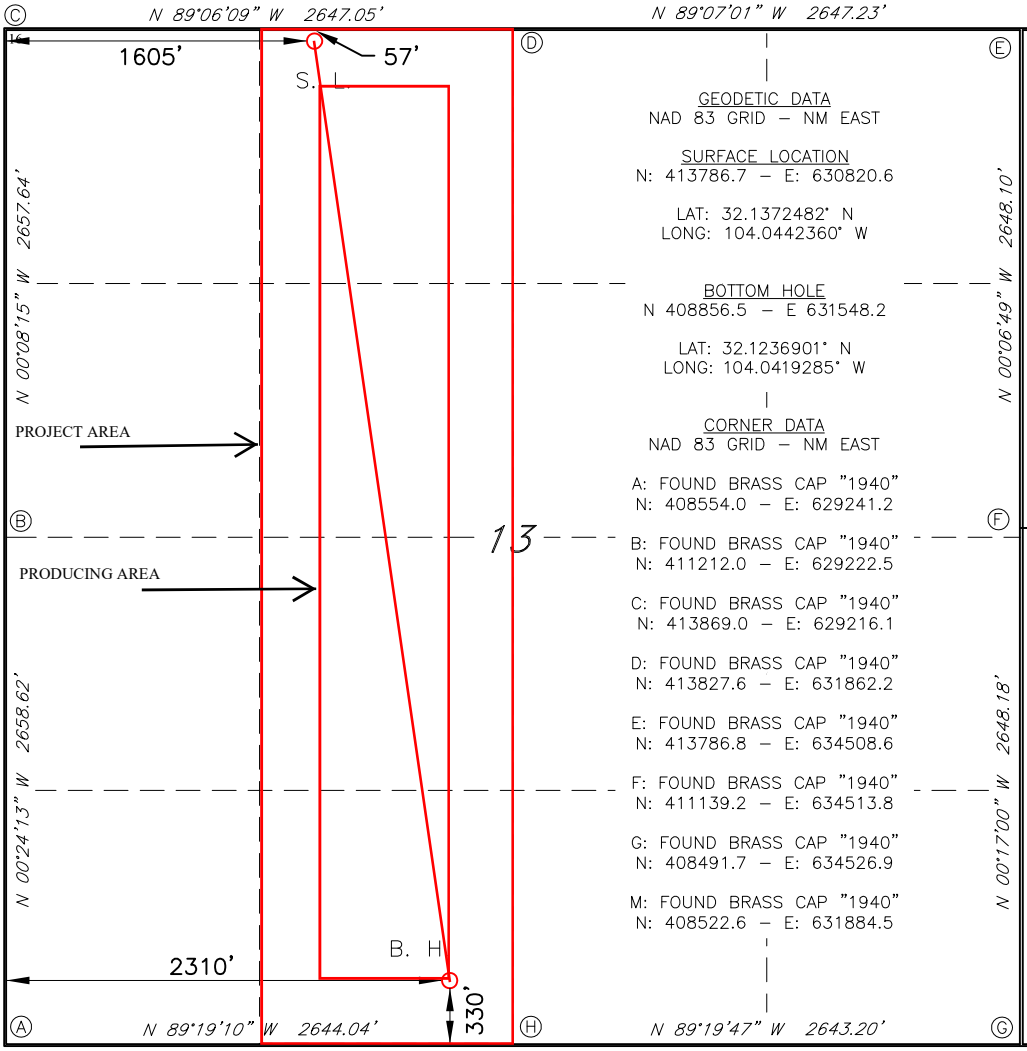
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
C	13	25S	28E		57	NORTH	1605	WEST	EDDY

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
N	13	25S	28E		330	SOUTH	2310	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.



GEODETIC DATA
NAD 83 GRID – NM EAST

SURFACE LOCATION
N: 413786.7 – E: 630820.6

LAT: 32.1372482° N
LONG: 104.0442360° W

BOTTOM HOLE
N 408856.5 – E 631548.2

LAT: 32.1236901° N
LONG: 104.0419285° W

CORNER DATA
NAD 83 GRID – NM EAST

A: FOUND BRASS CAP "1940"
N: 408554.0 – E: 629241.2

B: FOUND BRASS CAP "1940"
N: 411212.0 – E: 629222.5

C: FOUND BRASS CAP "1940"
N: 413869.0 – E: 629216.1

D: FOUND BRASS CAP "1940"
N: 413827.6 – E: 631862.2

E: FOUND BRASS CAP "1940"
N: 413786.8 – E: 634508.6

F: FOUND BRASS CAP "1940"
N: 411139.2 – E: 634513.8

G: FOUND BRASS CAP "1940"
N: 408491.7 – E: 634526.9

M: FOUND BRASS CAP "1940"
N: 408522.6 – E: 631884.5

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.

Bradley A. Bishop
Signature

7-6-18
Date

BRADLEY BISHOP
Printed Name

BBISHOP@MEWBOURNE.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.

5-22-2017
Date of Survey

Signature and Seal of Professional Surveyor:

ROBERT M. HOWETT
NEW MEXICO
19680
PROFESSIONAL SURVEYOR

19680
Certificate Number

RRC – Job No.: LS1704216D

Operator Name:	Property Name:	Well Number
Mewbourne Oil Co.	Malaga 13 A2CN Fed Com	1H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
C	13	25S	28E		10	N	2310	W	Eddy

Latitude	Longitude	NAD
32.1372137	-104.0419573	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
C	13	25S	28E		330	N	2310	W	Eddy

Latitude	Longitude	NAD
32.1364934	-104.0419558	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
N	13	25S	28E		330	S	2310	W	Eddy

Latitude	Longitude	NAD
32.1236916	-104.0419292	83

Is this well the defining well for the Horizontal Spacing Unit? [ ]

Is this well an infill well? [Y]

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #
30-015-40974

Operator Name:	Property Name:	Well Number
Mewbourne Oil Co.	Malaga 13 CN Fed Com	1H

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1625 N. French Dr., Hobbs, NM 88240
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District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 9-14-20

☒ Original
☐ Amended - Reason for Amendment: _____

Operator & OGRID No.: Mewbourne Oil Company - 14744

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
MALAGA 13 A2CN FEDERAL COM 1H		C-13-25S-28E	57' FNL & 1605' FWL	0	NA	ONLINE AFTER FRAC

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Enterprise Field Services and will be connected to Enterprise Field Services low/high pressure gathering system located in LEA County, New Mexico. It will require 500 ' of pipeline to connect the facility to low/high pressure gathering system. Mewbourne Oil Company provides (periodically) to Enterprise Field Services a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Mewbourne Oil Company and Enterprise Field Services have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Enterprise Field Services Processing Plant located in Sec. 17, Twn. 19S, Rng. 31E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Enterprise Field Svc system at that time. Based on current information, it is Operator's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Mewbourne Oil Company**
LEASE NO.:	**NMNM16104**
WELL NAME & NO.:	**1H-Malaga 13 A2CN Federal Com**
SURFACE HOLE FOOTAGE:	**57'/N & 1605'/W**
BOTTOM HOLE FOOTAGE	**330'/S & 2310'/W**
LOCATION:	**Section 13,T.25S, R.28E,NMPM**
COUNTY:	**Eddy, New Mexico**

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	○ Medium	◉ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

A. Hydrogen Sulfide

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **410** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

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. **Additional cement may be required. Excess calculates to be 24%**

   ❖ In High Cave/Karst Areas if cement does not circulate to surface on the first two casing strings , the cement on the 3rd casing string must come to surface.

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

   Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.
   - First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
   - Second stage above DV tool:Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

4. The minimum required fill of cement behind the **4-1/2** inch production liner is:
   - Cement should tie-back 100' into the previous casing. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

GENERAL 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. 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.
   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. 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. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. 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.

2. Wait on cement (WOC) for Potash Areas: 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 for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. 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. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

6. 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. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. 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.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

5. 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. In potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug. The results of the test shall be reported to the appropriate BLM office.

d. 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.

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. This test shall be performed prior to the test at full stack pressure.

g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. 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.

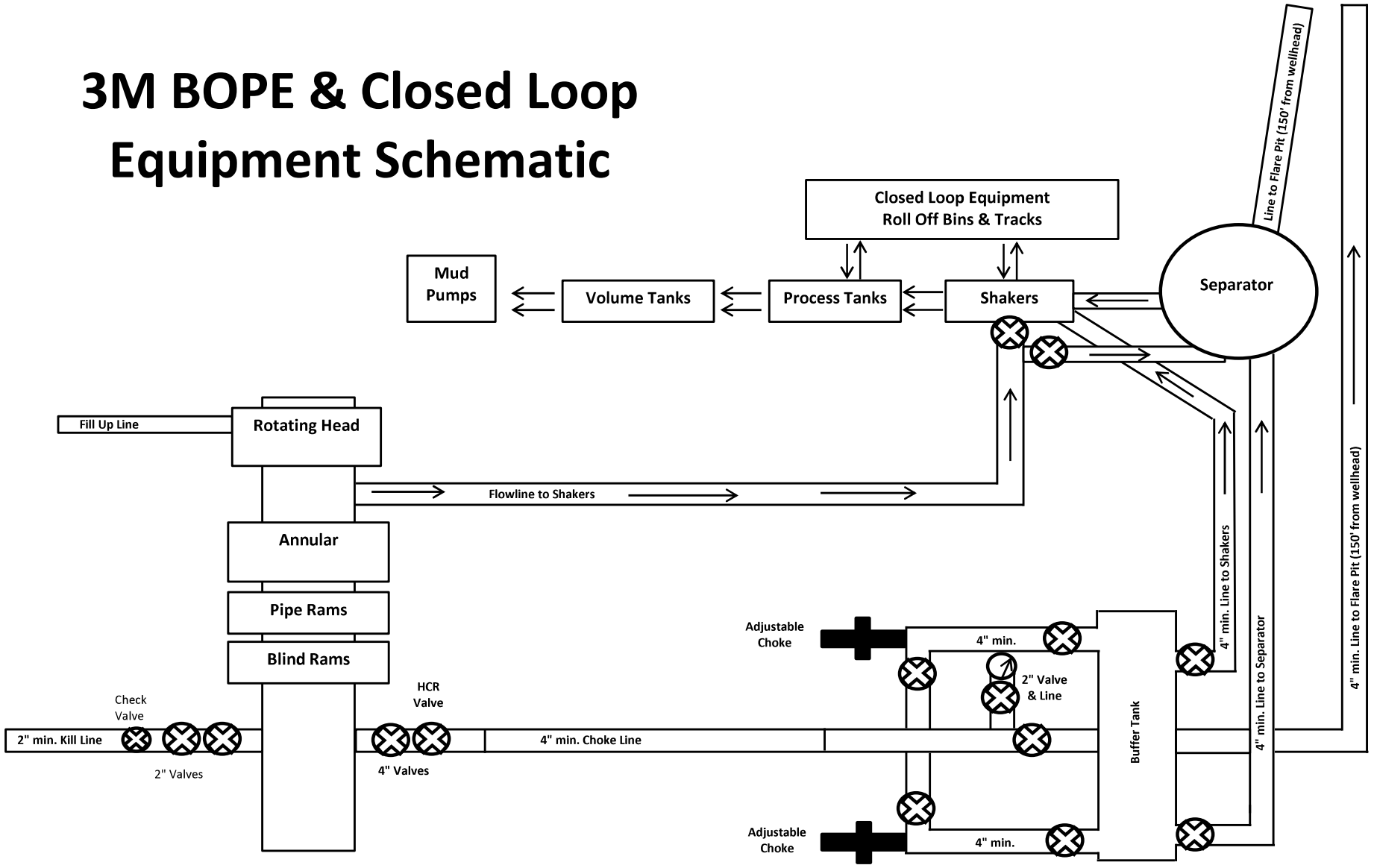
Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

Waste Minimization Plan (WMP)

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

ZS 091118

3M BOPE & Closed Loop Equipment Schematic



Drawing not to scale

Mewbourne Oil Company

Eddy County, New Mexico NAD 83
Malaga 13 A2CN Fed Com #1H
Sec 13, T25S, R28E
SL: 57' FNL & 1605' FWL
BHL: 330' FSL & 2310' FWL

Plan: Design #1

Standard Planning Report

24 May, 2018

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Malaga 13 A2CN Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 2921.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 2921.0usft (Original Well Elev)
Site:	Malaga 13 A2CN Fed Com #1H	**North Reference:**	Grid
Well:	Sec 13, T25S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FSL & 2310' FWL		
Design:	Design #1		

Project Eddy County, New Mexico NAD 83

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Malaga 13 A2CN Fed Com #1H

Site Position:		**Northing:**	413,787.00 usft	**Latitude:**	32.1372491
From:	Map	**Easting:**	630,821.00 usft	**Longitude:**	-104.0442348
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.15 °

Well Sec 13, T25S, R28E

Well Position	**+N/-S**	0.0 usft	**Northing:**	413,787.00 usft	**Latitude:**	32.1372491
	+E/-W	0.0 usft	**Easting:**	630,821.00 usft	**Longitude:**	-104.0442348
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	2,921.0 usft	**Ground Level:**	2,894.0 usft

Wellbore BHL: 330' FSL & 2310' FWL

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/24/2018	6.94	59.85	47,826

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	171.61

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	
2,650.0	0.00	0.00	2,650.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,700.4	15.76	90.89	3,687.3	-2.2	143.5	1.50	1.50	0.00	90.89	
5,239.8	15.76	90.89	5,168.8	-8.8	561.5	0.00	0.00	0.00	0.00	
6,290.3	0.00	0.00	6,206.0	-11.0	705.0	1.50	-1.50	0.00	180.00	KOP @ 6206'
7,190.0	89.97	179.74	6,779.0	-583.7	707.6	10.00	10.00	0.00	179.74	
11,536.4	89.97	179.74	6,781.0	-4,930.0	727.0	0.00	0.00	0.00	0.00	BHL: 330' FSL & 231(

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Malaga 13 A2CN Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 2921.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 2921.0usft (Original Well Elev)
Site:	Malaga 13 A2CN Fed Com #1H	**North Reference:**	Grid
Well:	Sec 13, T25S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FSL & 2310' FWL		
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
SL: 57' FNL & 1605' FWL									
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
2,650.0	0.00	0.00	2,650.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.75	90.89	2,700.0	0.0	0.3	0.1	1.50	1.50	0.00
2,800.0	2.25	90.89	2,800.0	0.0	2.9	0.5	1.50	1.50	0.00
2,900.0	3.75	90.89	2,899.8	-0.1	8.2	1.3	1.50	1.50	0.00
3,000.0	5.25	90.89	2,999.5	-0.2	16.0	2.6	1.50	1.50	0.00
3,100.0	6.75	90.89	3,099.0	-0.4	26.5	4.3	1.50	1.50	0.00
3,200.0	8.25	90.89	3,198.1	-0.6	39.5	6.4	1.50	1.50	0.00
3,300.0	9.75	90.89	3,296.9	-0.9	55.2	8.9	1.50	1.50	0.00
3,400.0	11.25	90.89	3,395.2	-1.1	73.4	11.8	1.50	1.50	0.00
3,500.0	12.75	90.89	3,493.0	-1.5	94.2	15.2	1.50	1.50	0.00
3,600.0	14.25	90.89	3,590.2	-1.8	117.5	19.0	1.50	1.50	0.00
3,700.0	15.75	90.89	3,686.8	-2.2	143.4	23.1	1.50	1.50	0.00
3,700.4	15.76	90.89	3,687.3	-2.2	143.5	23.2	1.50	1.50	0.00
3,800.0	15.76	90.89	3,783.1	-2.7	170.5	27.5	0.00	0.00	0.00
3,900.0	15.76	90.89	3,879.3	-3.1	197.7	31.9	0.00	0.00	0.00
4,000.0	15.76	90.89	3,975.6	-3.5	224.8	36.3	0.00	0.00	0.00
4,100.0	15.76	90.89	4,071.8	-3.9	252.0	40.7	0.00	0.00	0.00
4,200.0	15.76	90.89	4,168.0	-4.4	279.2	45.0	0.00	0.00	0.00
4,300.0	15.76	90.89	4,264.3	-4.8	306.3	49.4	0.00	0.00	0.00
4,400.0	15.76	90.89	4,360.5	-5.2	333.5	53.8	0.00	0.00	0.00
4,500.0	15.76	90.89	4,456.8	-5.6	360.6	58.2	0.00	0.00	0.00
4,600.0	15.76	90.89	4,553.0	-6.1	387.8	62.6	0.00	0.00	0.00
4,700.0	15.76	90.89	4,649.2	-6.5	414.9	66.9	0.00	0.00	0.00
4,800.0	15.76	90.89	4,745.5	-6.9	442.1	71.3	0.00	0.00	0.00
4,900.0	15.76	90.89	4,841.7	-7.3	469.2	75.7	0.00	0.00	0.00
5,000.0	15.76	90.89	4,938.0	-7.7	496.4	80.1	0.00	0.00	0.00

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Malaga 13 A2CN Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 2921.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 2921.0usft (Original Well Elev)
Site:	Malaga 13 A2CN Fed Com #1H	**North Reference:**	Grid
Well:	Sec 13, T25S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FSL & 2310' FWL		
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)
5,100.0	15.76	90.89	5,034.2	-8.2	523.5	84.5	0.00	0.00	0.00
5,200.0	15.76	90.89	5,130.5	-8.6	550.7	88.8	0.00	0.00	0.00
5,239.8	15.76	90.89	5,168.8	-8.8	561.5	90.6	0.00	0.00	0.00
5,300.0	14.85	90.89	5,226.8	-9.0	577.4	93.1	1.50	-1.50	0.00
5,400.0	13.35	90.89	5,323.8	-9.4	601.7	97.1	1.50	-1.50	0.00
5,500.0	11.85	90.89	5,421.4	-9.7	623.6	100.6	1.50	-1.50	0.00
5,600.0	10.35	90.89	5,519.5	-10.0	642.8	103.7	1.50	-1.50	0.00
5,700.0	8.85	90.89	5,618.1	-10.3	659.5	106.4	1.50	-1.50	0.00
5,800.0	7.35	90.89	5,717.1	-10.5	673.6	108.7	1.50	-1.50	0.00
5,900.0	5.85	90.89	5,816.5	-10.7	685.1	110.5	1.50	-1.50	0.00
6,000.0	4.35	90.89	5,916.1	-10.8	694.0	112.0	1.50	-1.50	0.00
6,100.0	2.85	90.89	6,015.9	-10.9	700.3	113.0	1.50	-1.50	0.00
6,200.0	1.35	90.89	6,115.8	-11.0	703.9	113.6	1.50	-1.50	0.00
6,290.3	0.00	0.00	6,206.0	-11.0	705.0	113.7	1.50	-1.50	0.00
KOP @ 6206'									
6,300.0	0.97	179.74	6,215.8	-11.1	705.0	113.8	10.00	10.00	0.00
6,400.0	10.97	179.74	6,315.1	-21.5	705.0	124.1	10.00	10.00	0.00
6,500.0	20.97	179.74	6,411.1	-49.0	705.2	151.3	10.00	10.00	0.00
6,600.0	30.97	179.74	6,500.9	-92.7	705.4	194.6	10.00	10.00	0.00
6,700.0	40.97	179.74	6,581.7	-151.4	705.6	252.7	10.00	10.00	0.00
6,800.0	50.97	179.74	6,651.1	-223.2	705.9	323.8	10.00	10.00	0.00
6,861.6	57.13	179.74	6,687.3	-273.0	706.2	373.1	10.00	10.00	0.00
FTP: 330' FNL & 2310' FWL, Sec 13									
6,900.0	60.97	179.74	6,707.0	-305.9	706.3	405.7	10.00	10.00	0.00
7,000.0	70.97	179.74	6,747.7	-397.2	706.7	496.0	10.00	10.00	0.00
7,100.0	80.97	179.74	6,771.9	-494.1	707.2	591.9	10.00	10.00	0.00
7,190.0	89.97	179.74	6,779.0	-583.7	707.6	680.7	10.00	10.00	0.00
LP: 641' FNL & 2310' FWL									
7,200.0	89.97	179.74	6,779.0	-593.7	707.6	690.6	0.00	0.00	0.00
7,300.0	89.97	179.74	6,779.1	-693.7	708.1	789.6	0.00	0.00	0.00
7,400.0	89.97	179.74	6,779.1	-793.7	708.5	888.6	0.00	0.00	0.00
7,500.0	89.97	179.74	6,779.1	-893.7	708.9	987.5	0.00	0.00	0.00
7,600.0	89.97	179.74	6,779.2	-993.7	709.4	1,086.5	0.00	0.00	0.00
7,700.0	89.97	179.74	6,779.2	-1,093.7	709.8	1,185.5	0.00	0.00	0.00
7,800.0	89.97	179.74	6,779.3	-1,193.7	710.3	1,284.5	0.00	0.00	0.00
7,900.0	89.97	179.74	6,779.3	-1,293.7	710.7	1,383.5	0.00	0.00	0.00
8,000.0	89.97	179.74	6,779.4	-1,393.7	711.2	1,482.5	0.00	0.00	0.00
8,100.0	89.97	179.74	6,779.4	-1,493.7	711.6	1,581.5	0.00	0.00	0.00
8,200.0	89.97	179.74	6,779.5	-1,593.7	712.1	1,680.5	0.00	0.00	0.00
8,300.0	89.97	179.74	6,779.5	-1,693.7	712.5	1,779.5	0.00	0.00	0.00
8,400.0	89.97	179.74	6,779.6	-1,793.7	713.0	1,878.5	0.00	0.00	0.00
8,500.0	89.97	179.74	6,779.6	-1,893.7	713.4	1,977.5	0.00	0.00	0.00
8,600.0	89.97	179.74	6,779.6	-1,993.7	713.9	2,076.5	0.00	0.00	0.00
8,700.0	89.97	179.74	6,779.7	-2,093.7	714.3	2,175.5	0.00	0.00	0.00
8,800.0	89.97	179.74	6,779.7	-2,193.7	714.8	2,274.5	0.00	0.00	0.00
8,900.0	89.97	179.74	6,779.8	-2,293.7	715.2	2,373.5	0.00	0.00	0.00
9,000.0	89.97	179.74	6,779.8	-2,393.7	715.7	2,472.5	0.00	0.00	0.00
9,100.0	89.97	179.74	6,779.9	-2,493.7	716.1	2,571.5	0.00	0.00	0.00
9,200.0	89.97	179.74	6,779.9	-2,593.7	716.6	2,670.5	0.00	0.00	0.00
9,208.3	89.97	179.74	6,779.9	-2,602.0	716.6	2,678.7	0.00	0.00	0.00
PPP2: 2658' FSL & 2310' FWL, Sec 13									
9,300.0	89.97	179.74	6,780.0	-2,693.7	717.0	2,769.4	0.00	0.00	0.00
9,400.0	89.97	179.74	6,780.0	-2,793.7	717.4	2,868.4	0.00	0.00	0.00

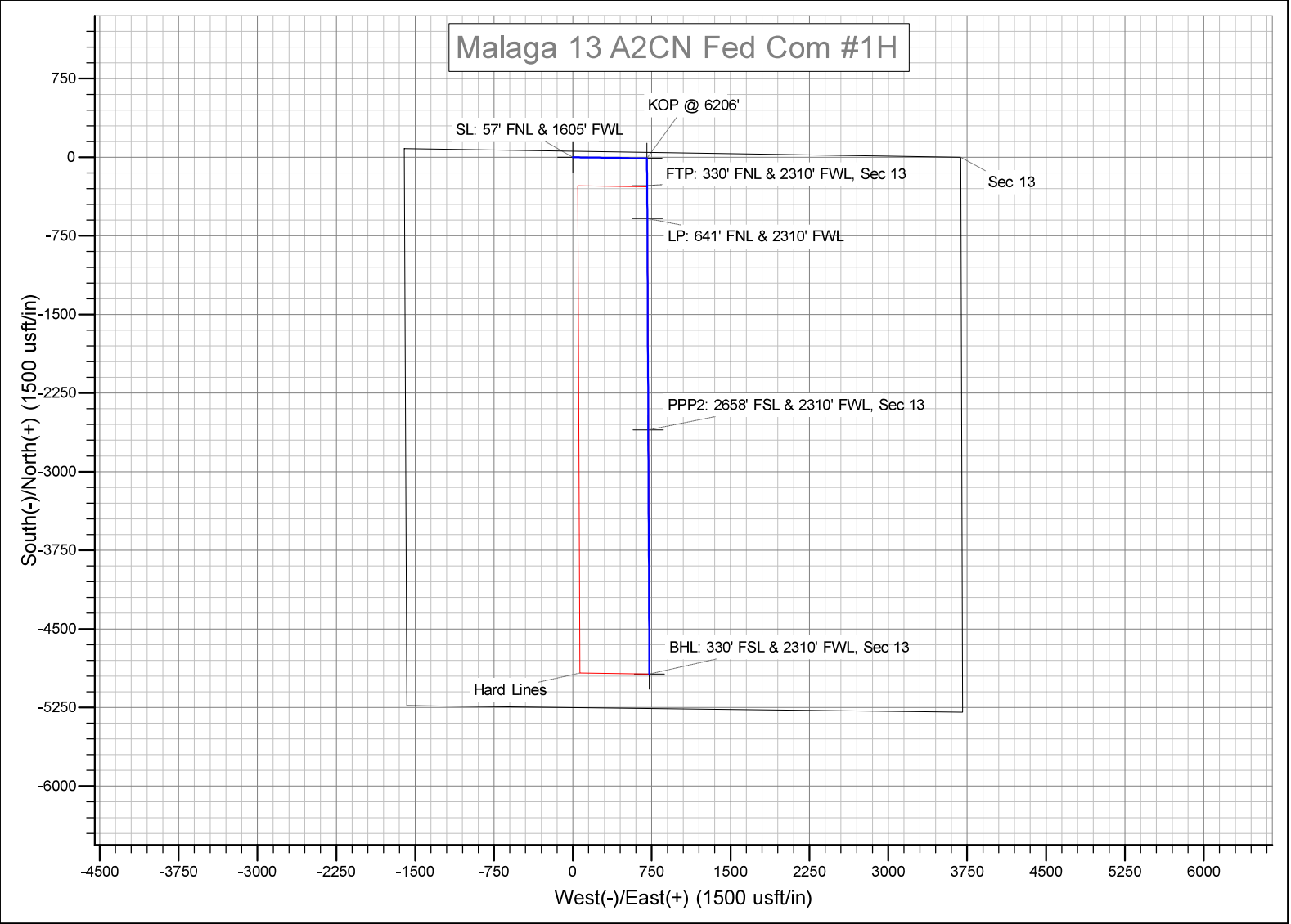
Database:	Hobbs	**Local Co-ordinate Reference:**	Site Malaga 13 A2CN Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 2921.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 2921.0usft (Original Well Elev)
Site:	Malaga 13 A2CN Fed Com #1H	**North Reference:**	Grid
Well:	Sec 13, T25S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FSL & 2310' FWL		
Design:	Design #1		

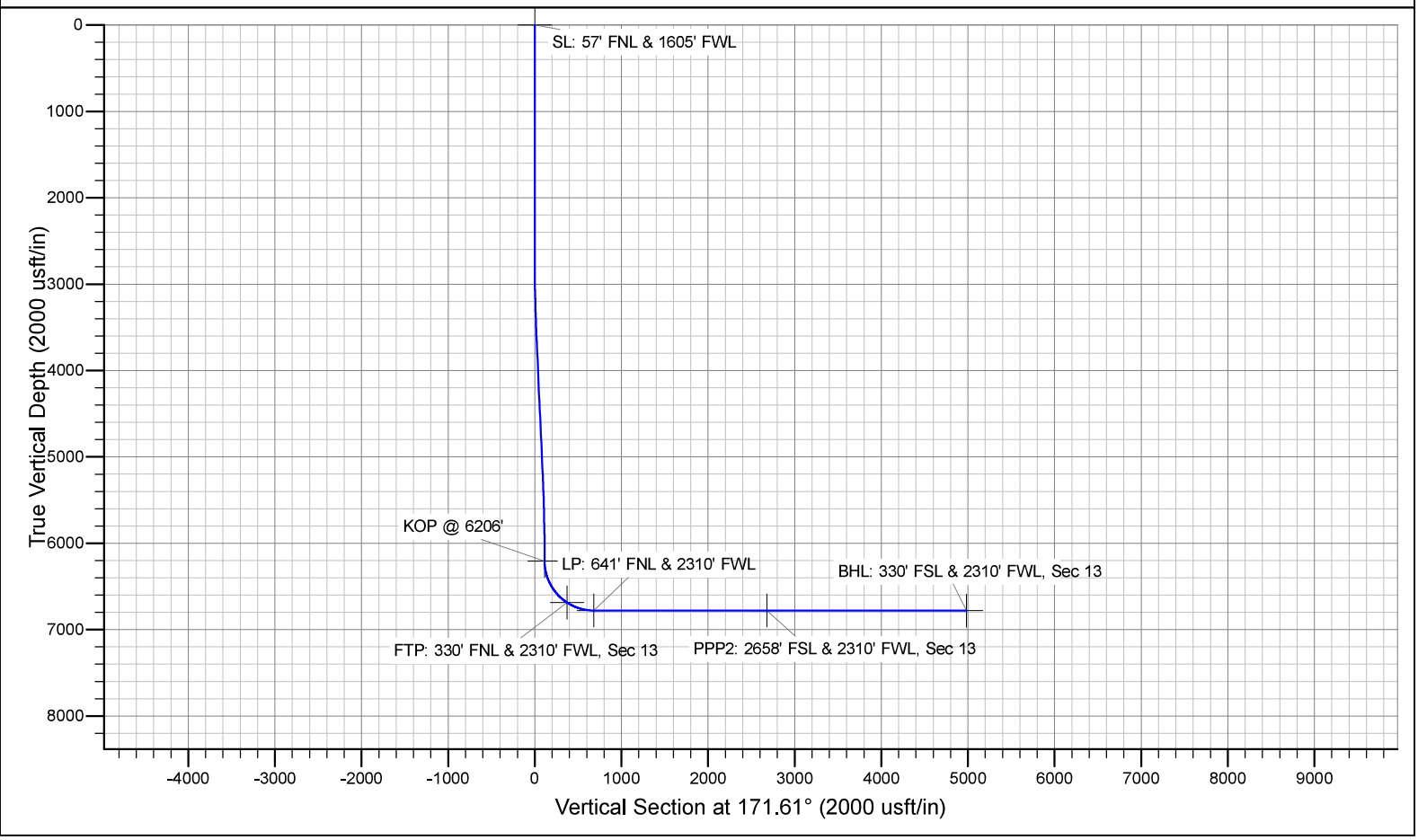
Planned Survey

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)
9,500.0	89.97	179.74	6,780.1	-2,893.7	717.9	2,967.4	0.00	0.00	0.00
9,600.0	89.97	179.74	6,780.1	-2,993.7	718.3	3,066.4	0.00	0.00	0.00
9,700.0	89.97	179.74	6,780.2	-3,093.7	718.8	3,165.4	0.00	0.00	0.00
9,800.0	89.97	179.74	6,780.2	-3,193.7	719.2	3,264.4	0.00	0.00	0.00
9,900.0	89.97	179.74	6,780.2	-3,293.7	719.7	3,363.4	0.00	0.00	0.00
10,000.0	89.97	179.74	6,780.3	-3,393.7	720.1	3,462.4	0.00	0.00	0.00
10,100.0	89.97	179.74	6,780.3	-3,493.7	720.6	3,561.4	0.00	0.00	0.00
10,200.0	89.97	179.74	6,780.4	-3,593.7	721.0	3,660.4	0.00	0.00	0.00
10,300.0	89.97	179.74	6,780.4	-3,693.7	721.5	3,759.4	0.00	0.00	0.00
10,400.0	89.97	179.74	6,780.5	-3,793.7	721.9	3,858.4	0.00	0.00	0.00
10,500.0	89.97	179.74	6,780.5	-3,893.7	722.4	3,957.4	0.00	0.00	0.00
10,600.0	89.97	179.74	6,780.6	-3,993.7	722.8	4,056.4	0.00	0.00	0.00
10,700.0	89.97	179.74	6,780.6	-4,093.6	723.3	4,155.4	0.00	0.00	0.00
10,800.0	89.97	179.74	6,780.7	-4,193.6	723.7	4,254.4	0.00	0.00	0.00
10,900.0	89.97	179.74	6,780.7	-4,293.6	724.2	4,353.4	0.00	0.00	0.00
11,000.0	89.97	179.74	6,780.8	-4,393.6	724.6	4,452.3	0.00	0.00	0.00
11,100.0	89.97	179.74	6,780.8	-4,493.6	725.0	4,551.3	0.00	0.00	0.00
11,200.0	89.97	179.74	6,780.8	-4,593.6	725.5	4,650.3	0.00	0.00	0.00
11,300.0	89.97	179.74	6,780.9	-4,693.6	725.9	4,749.3	0.00	0.00	0.00
11,400.0	89.97	179.74	6,780.9	-4,793.6	726.4	4,848.3	0.00	0.00	0.00
11,500.0	89.97	179.74	6,781.0	-4,893.6	726.8	4,947.3	0.00	0.00	0.00
11,536.4	89.97	179.74	6,781.0	-4,930.0	727.0	4,983.3	0.00	0.00	0.00
BHL: 330' FSL & 2310' FWL, Sec 13									

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
SL: 57' FNL & 1605' FWI - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	413,787.00	630,821.00	32.1372491	-104.0442348
KOP @ 6206' - plan hits target center - Point	0.00	0.00	6,206.0	-11.0	705.0	413,776.00	631,526.00	32.1372137	-104.0419573
FTP: 330' FNL & 2310' F - plan hits target center - Point	0.00	0.00	6,687.3	-273.0	706.2	413,514.00	631,527.18	32.1364934	-104.0419558
LP: 641' FNL & 2310' FV - plan hits target center - Point	0.00	0.00	6,779.0	-583.7	707.6	413,203.30	631,528.60	32.1356393	-104.0419539
PPP2: 2658' FSL & 231(- plan hits target center - Point	0.00	0.00	6,779.9	-2,602.0	716.6	411,185.00	631,537.59	32.1300911	-104.0419425
BHL: 330' FSL & 2310' F - plan hits target center - Point	0.00	0.00	6,781.0	-4,930.0	727.0	408,857.00	631,548.00	32.1236916	-104.0419292


Malaga 13 A2CN Fed Com #1H
KOP @ 6206'
SL: 57' FNL & 1605' FWL
FTP: 330' FNL & 2310' FWL, Sec 13
Sec 13
LP: 641' FNL & 2310' FWL
PPP2: 2658' FSL & 2310' FWL, Sec 13
BHL: 330' FSL & 2310' FWL, Sec 13
Hard Lines
South(-)/North(+) (1500 usft/in)
West(-)/East(+) (1500 usft/in)
750
0
-750
-1500
-2250
-3000
-3750
-4500
-5250
-6000
-4500
-3750
-3000
-2250
-1500
-750
0
750
1500
2250
3000
3750
4500
5250
6000


SL: 57' FNL & 1605' FWL
KOP @ 6206'
LP: 641' FNL & 2310' FWL
BHL: 330' FSL & 2310' FWL, Sec 13
FTP: 330' FNL & 2310' FWL, Sec 13
PPP2: 2658' FSL & 2310' FWL, Sec 13
True Vertical Depth (2000 usft/in)
Vertical Section at 171.61° (2000 usft/in)
0
1000
2000
3000
4000
5000
6000
7000
8000
-4000
-3000
-2000
-1000
0
1000
2000
3000
4000
5000
6000
7000
8000
9000

Mewbourne Oil Company Malaga 13 A2CN Fed Com #1H
Sec 13, T25S, R28E
SL: 57' FNL & 1605' FWL
BHL: 330' FSL & 2310' FWL

1. Geologic Formations

TVD of target	6781'	Pilot hole depth	NA
MD at TD:	11,537'	Deepest expected fresh water:	75'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface		
Rustler		Water	
Top Salt			
Castile	1210		
Base Salt	2435		
Yates		Oil/Gas	
Seven Rivers			
Queen			
Lamar	2650	Oil/Gas	
Bell Canyon	2685	Oil/Gas	
Cherry Canyon	3580	Oil/Gas	
Manzanita Marker	3690		
Brushy Canyon	4825	Oil/Gas	
Bone Spring	6395	Target Zone	
1st Bone Spring Sand			
2nd Bone Spring Sand			
3rd Bone Spring Sand			
Abo			
Wolfcamp			
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

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

Mewbourne Oil Company Malaga 13 A2CN Fed Com #1H
Sec 13, T25S, R28E
SL: 57' FNL & 1605' FWL
BHL: 330' FSL & 2310' FWL

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	410'	13.375"	48	H40	STC	4.01	9.02	16.36	27.49
12.25"	0'	2575'	9.625"	36	J55	LTC	1.51	2.64	4.91	6.11
8.75"	0'	7190'	7"	26	P110	LTC	2.21	3.05	3.29	4.44
6.125"	6290'	11,537'	4.5"	13.5	P110	LTC	3.03	3.52	4.77	5.96
BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet	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?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
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?	Y
If yes, are there two strings cemented to surface?	Y
(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.	150	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	200	14.8	1.34	6.3	8	Tail: Class C + Retarder
Inter.	370	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	200	14.8	1.34	6.3	8	Tail: Class C + Retarder
Prod. Stg 1	95	12.5	2.12	11	9	Lead: Class C + Gel + Retarder + Defoamer + Extender
	400	15.6	1.18	5.2	10	Tail: Class H + Retarder + Fluid Loss + Defoamer
ECP/DV Tool @ 3690'						
Prod. Stg 2	60	12.5	2.12	11	9	Lead: Class C + Gel + Retarder + Defoamer + Extender
	100	14.8	1.34	6.3	8	Tail: Class C + Retarder
Liner	215	11.2	2.97	17	16	Class C + Salt + Gel + Fluid Loss + Retarder + Dispersant + Defoamer + Anti-Settling Agent

A copy of cement test will be available on location at time of cement job providing pump times, compressive strengths, etc.

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	25%
Production	2365'	25%
Liner	6290'	25%

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"	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.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
Y	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

TVD		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0'	410'	Spud Mud	8.6-8.8	28-34	N/C
410'	2565'	BW	10.0	28-34	N/C
2565'	6206'	FW w/ Polymer	8.6-9.7	28-34	N/C
6206'	6781'	OBM	8.6-10.0	30-40	<10cc

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?	Pason/PVT/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
X	Will run GR/CNL from KOP (6290') 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	6290' (KOP) to TD
	Density	
	CBL	
	Mud log	
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	3526 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers in surface hole. Weighted mud for possible over-pressure in Wolfcamp formation.

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
X	H2S Plan attached

8. Other facets of operation

Is this a walking operation? If yes, describe.
Will be pre-setting casing? If yes, describe.

Attachments

___ Directional Plan
___ Other, describe

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
	96217	SOUTHWEST WILLOW LAKE BONE SPRING

4 Property Code	5 Property Name	6 Well Number
	MALAGA 13 A2CN FEDERAL COM	1H

7 OGRID NO.	8 Operator Name	9 Elevation
14744	MEWBOURNE OIL COMPANY	2894'

10 Surface Location

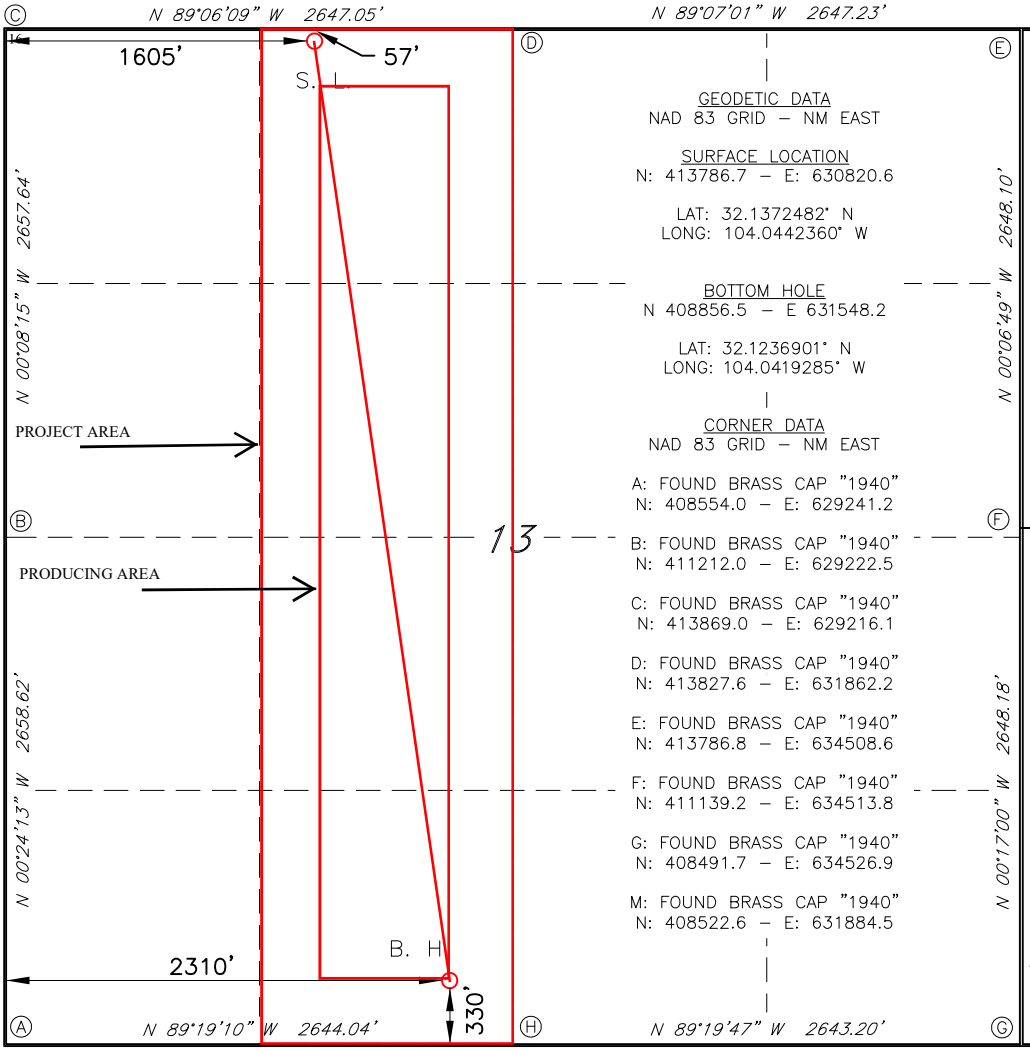
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
C	13	25S	28E		57	NORTH	1605	WEST	EDDY

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
N	13	25S	28E		330	SOUTH	2310	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.



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.

Bradley A. Bishop
Signature

7-6-18
Date

BRADLEY BISHOP
Printed Name

BBISHOP@MEWBOURNE.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.

5-22-2017
Date of Survey

Signature and Seal of Professional Surveyor:

ROBERT M. HOWETT
NEW MEXICO
19680
PROFESSIONAL SURVEYOR

19680
Certificate Number

RRC – Job No.: LS1704216D