

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

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. NMNM016104 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. MALAGA 13 B1CN FED COM 2H
2. Name of Operator MEWBOURNE OIL COMPANY		9. API Well No. 30-015-47465
3a. Address PO Box 5270 Hobbs NM 88240	3b. Phone No. (include area code) (575)393-5905	10. Field and Pool, or Exploratory EAST SOUTHWEST WILLOW LAKE BONE SPF
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NENW / 107 FNL / 1603 FWL / LAT 32.1371117 / LONG -104.0442417 At proposed prod. zone SESW / 330 FSL / 2310 FWL / LAT 32.1236916 / LONG -104.0419259		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
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 107 feet		16. No of acres in lease 1520.06
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 50 feet		17. Spacing Unit dedicated to this well 640
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 2893 feet		20. BLM/BIA Bond No. in file FED: NM1693
22. Approximate date work will start* 10/18/2017		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 (Electronic Submission)	Name (Printed/Typed) Bradley Bishop / Ph: (575)393-5905	Date 06/30/2017
Title Regulatory		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 08/26/2020
Title Assistant Field Manager Lands & Minerals		
Office 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.

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

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



KP 9/20/2020 GEO Rev

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 08/26/2020

Entered - KMS NMOC

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 30-015-47465		² Pool Code 96217		³ Pool Name WILLOW LAKE; BONE SPRING, SOUTHEAST	
⁴ Property Code 329717		⁵ Property Name MALAGA 13 B1CN FEDERAL COM			⁶ Well Number 2H
⁷ OGRID NO. 14744		⁸ Operator Name MEWBOURNE OIL COMPANY			⁹ Elevation 2893'

¹⁰ Surface Location

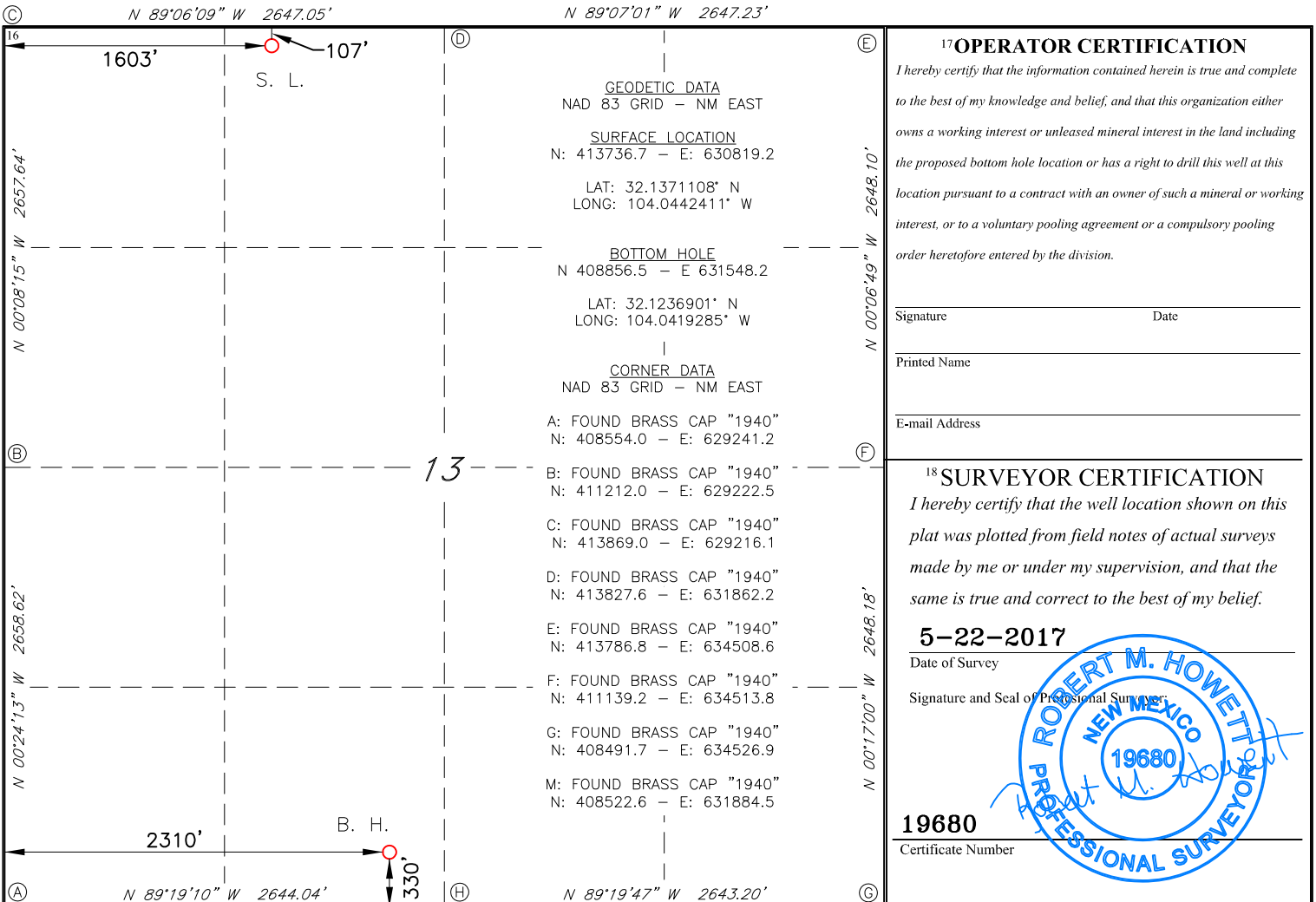
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
C	13	25S	28E		107	NORTH	1603	WEST	EDDY

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



Operator Name: Mewbourne Oil Co.	Property Name: Malaga 13 B1CN Fed Com	Well Number 2H
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Kick Off Point (KOP)

UL C	Section 13	Township 25S	Range 28E	Lot	Feet 60	From N/S N	Feet 2310	From E/W W	County Eddy
Latitude 32.1370762					Longitude -104.0419577				NAD 83

First Take Point (FTP)

UL C	Section 13	Township 25S	Range 28E	Lot	Feet 330	From N/S N	Feet 2310	From E/W W	County Eddy
Latitude 32.1364934					Longitude -104.0419563				NAD 83

Last Take Point (LTP)

UL N	Section 13	Township 25S	Range 28E	Lot	Feet 330	From N/S S	Feet 2310	From E/W W	County Eddy
Latitude 32.1236916					Longitude -104.0419259				NAD 83

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

Is this well an infill well?

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: Mewbourne Oil Co.	Property Name: Malaga 13 CN Fed Com	Well Number 1H
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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 Operator & OGRID No.: Mewbourne Oil Company - 14744
 Amended - Reason for Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple 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 B1CN FEDERAL COM 2H		C-13-25S-28E	107' FNL & 1603' 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.:	2H-Malaga 13 B1CN Federal Com
SURFACE HOLE FOOTAGE:	107'/N & 1603'/W
BOTTOM HOLE FOOTAGE:	330'/S & 2310'/W
LOCATION:	Section 13, T.25S, R.28E, NMPM
COUNTY:	Eddy, New Mexico

COA

H2S	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input type="radio"/> Low	<input type="radio"/> Medium	<input checked="" type="radio"/> High
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> 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 integrity 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 integrity 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

Operator Name: MEWBOURNE OIL COMPANY

Well Name: MALAGA 13 B1CN FED COM

Well Number: 2H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Malaga_13_B1CN_Fed_Com_2H_Dir_Plan_20180801105643.pdf

Malaga_13_B1CN_Fed_Com_2H_Dir_Plot_20180801105644.pdf

Other proposed operations facets description:

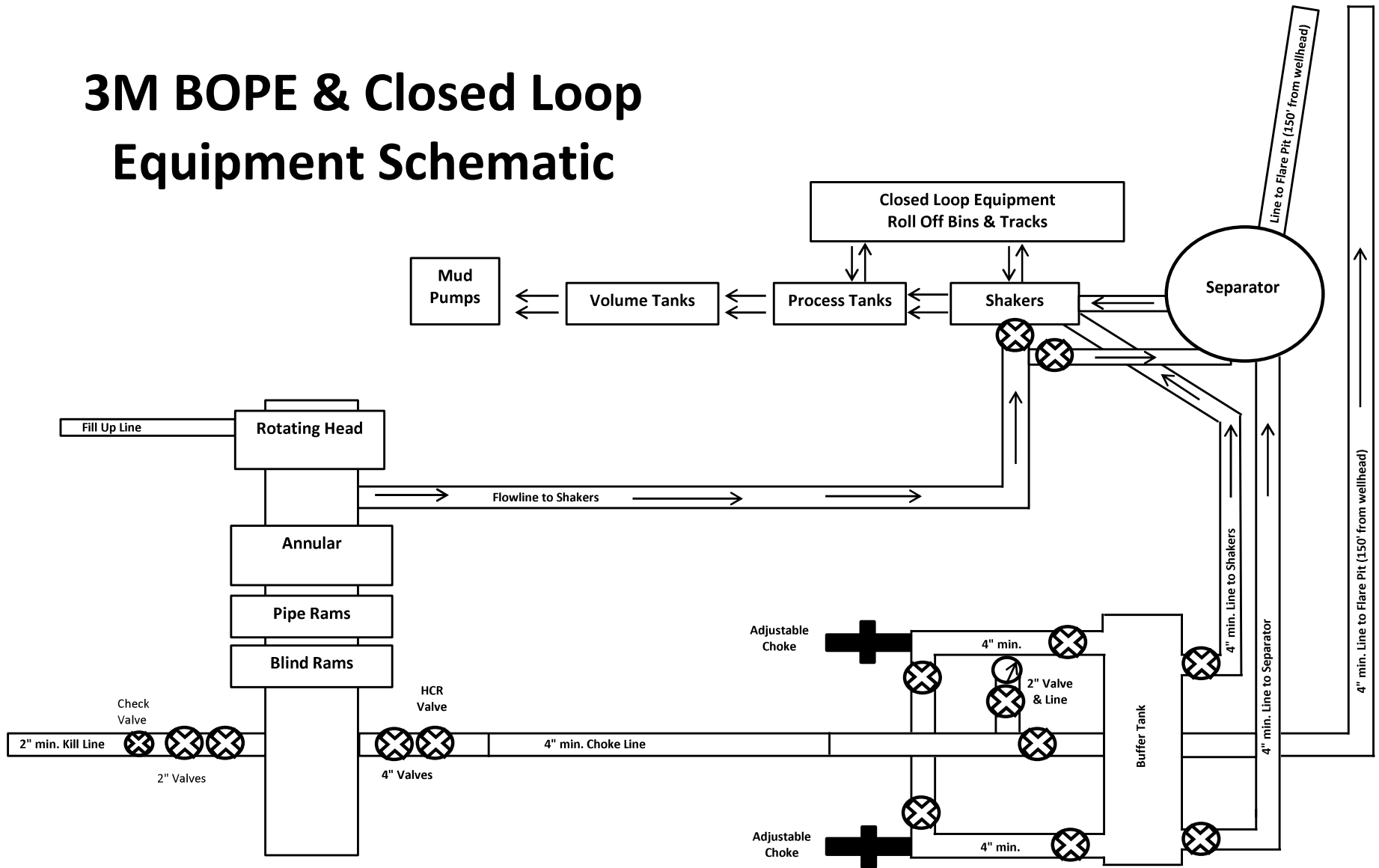
Other proposed operations facets attachment:

Malaga_13_B1CN_Fed_Com_2H_Drlg_Program_20180801105703.doc

Malaga_13_B1CN_Fed_Com_2H_C_101_20180801105832.pdf

Other Variance attachment:

3M BOPE & Closed Loop Equipment Schematic



Drawing not to scale

Mewbourne Oil Company Malaga 13 B1CN Fed Com #2H
Sec 13, T25S, R28E
SL: 107' FNL & 1603' FWL
BHL: 330' FSL & 2310' FWL

Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	410'	13.375"	48	H40	STC	4.01	9.02	16.36	27.49
12.25"	0'	2565'	9.625"	36	J55	LTC	1.51	2.64	4.91	6.11
8.75"	0'	7684'	7"	26	P110	LTC	2.16	2.76	3.16	4.15
6.125"	6937'	12,079'	4.5"	13.5	P110	LTC	2.78	3.23	4.87	6.08
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 3 rd 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 2 nd 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?	

Mewbourne Oil Company Malaga 13 B1CN Fed Com #2H
Sec 13, T25S, R28E
SL: 107' FNL & 1603' FWL
BHL: 330' FSL & 2310' FWL

Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	410'	13.375"	48	H40	STC	4.01	9.02	16.36	27.49
12.25"	0'	2565'	9.625"	36	J55	LTC	1.51	2.64	4.91	6.11
8.75"	0'	7684'	7"	26	P110	LTC	2.16	2.76	3.16	4.15
6.125"	6937'	12,079'	4.5"	13.5	P110	LTC	2.78	3.23	4.87	6.08
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 3 rd 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 2 nd 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?	

Mewbourne Oil Company Malaga 13 B1CN Fed Com #2H
Sec 13, T25S, R28E
SL: 107' FNL & 1603' FWL
BHL: 330' FSL & 2310' FWL

Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	410'	13.375"	48	H40	STC	4.01	9.02	16.36	27.49
12.25"	0'	2565'	9.625"	36	J55	LTC	1.51	2.64	4.91	6.11
8.75"	0'	7684'	7"	26	P110	LTC	2.16	2.76	3.16	4.15
6.125"	6937'	12,079'	4.5"	13.5	P110	LTC	2.78	3.23	4.87	6.08
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 3 rd 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 2 nd 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?	

Mewbourne Oil Company Malaga 13 B1CN Fed Com #2H
Sec 13, T25S, R28E
SL: 107' FNL & 1603' FWL
BHL: 330' FSL & 2310' FWL

Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	410'	13.375"	48	H40	STC	4.01	9.02	16.36	27.49
12.25"	0'	2565'	9.625"	36	J55	LTC	1.51	2.64	4.91	6.11
8.75"	0'	7684'	7"	26	P110	LTC	2.16	2.76	3.16	4.15
6.125"	6937'	12,079'	4.5"	13.5	P110	LTC	2.78	3.23	4.87	6.08
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 3 rd 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 2 nd 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?	

Hydrogen Sulfide Drilling Operations Plan
Mewbourne Oil Company

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 known 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 and 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 wellsite 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. If a drill stem test is required, it 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

Eddy County Sheriff's Office	911 or 575-887-7551
Ambulance Service	911 or 575-885-2111
Carlsbad Fire Dept	911 or 575-885-2111
Loco Hills Volunteer Fire Dept.	911 or 575-677-3266
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

Mewbourne Oil Company

Eddy County, New Mexico NAD 83

Malaga 13 B1CN Fed Com #2H

Sec 13, T25S, R28E

SL: 107' FNL & 1603' FWL

BHL: 330' FSL & 2310' FWL

Plan: Design #1

Standard Planning Report

23 May, 2018

Planning Report

Database:	Hobbs	Local Co-ordinate Reference:	Site Malaga 13 B1CN Fed Com #2H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 2920.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 2920.0usft (Original Well Elev)
Site:	Malaga 13 B1CN Fed Com #2H	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 B1CN Fed Com #2H				
Site Position:	Northing:	413,737.00 usft	Latitude:	32.1371117	
From: Map	Easting:	630,819.00 usft	Longitude:	-104.0442417	
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:	413,737.00 usft	Latitude:	32.1371117
	+E-W	0.0 usft	Easting:	630,819.00 usft	Longitude:	-104.0442417
Position Uncertainty		0.0 usft	Wellhead Elevation:	2,920.0 usft	Ground Level:	2,893.0 usft

Wellbore	BHL: 330' FSL & 2310' FWL				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/23/2018	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	171.49

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	
2,650.0	0.00	0.00	2,650.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,423.4	11.60	90.89	3,418.1	-1.2	78.0	1.50	1.50	0.00	90.89	
6,163.7	11.60	90.89	6,102.5	-9.8	629.0	0.00	0.00	0.00	0.00	
6,937.1	0.00	0.00	6,870.5	-11.0	707.0	1.50	-1.50	0.00	180.00	KOP @ 6871'
7,683.8	89.61	179.73	7,348.0	-485.2	709.2	12.00	12.00	0.00	179.73	
12,078.8	89.61	179.73	7,378.0	-4,880.0	730.0	0.00	0.00	0.00	0.00	BHL: 330' FSL & 2310'

Planning Report

Database:	Hobbs	Local Co-ordinate Reference:	Site Malaga 13 B1CN Fed Com #2H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 2920.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 2920.0usft (Original Well Elev)
Site:	Malaga 13 B1CN Fed Com #2H	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: 107' FNL & 1603' 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	6.5	1.50	1.50	0.00
3,300.0	9.75	90.89	3,296.9	-0.9	55.2	9.0	1.50	1.50	0.00
3,400.0	11.25	90.89	3,395.2	-1.1	73.4	12.0	1.50	1.50	0.00
3,423.4	11.60	90.89	3,418.1	-1.2	78.0	12.7	1.50	1.50	0.00
3,500.0	11.60	90.89	3,493.2	-1.5	93.4	15.3	0.00	0.00	0.00
3,600.0	11.60	90.89	3,591.1	-1.8	113.5	18.5	0.00	0.00	0.00
3,700.0	11.60	90.89	3,689.1	-2.1	133.6	21.8	0.00	0.00	0.00
3,800.0	11.60	90.89	3,787.0	-2.4	153.7	25.1	0.00	0.00	0.00
3,900.0	11.60	90.89	3,885.0	-2.7	173.8	28.4	0.00	0.00	0.00
4,000.0	11.60	90.89	3,982.9	-3.0	194.0	31.7	0.00	0.00	0.00
4,100.0	11.60	90.89	4,080.9	-3.3	214.1	35.0	0.00	0.00	0.00
4,200.0	11.60	90.89	4,178.9	-3.6	234.2	38.2	0.00	0.00	0.00
4,300.0	11.60	90.89	4,276.8	-4.0	254.3	41.5	0.00	0.00	0.00
4,400.0	11.60	90.89	4,374.8	-4.3	274.4	44.8	0.00	0.00	0.00
4,500.0	11.60	90.89	4,472.7	-4.6	294.5	48.1	0.00	0.00	0.00
4,600.0	11.60	90.89	4,570.7	-4.9	314.6	51.4	0.00	0.00	0.00
4,700.0	11.60	90.89	4,668.7	-5.2	334.7	54.7	0.00	0.00	0.00
4,800.0	11.60	90.89	4,766.6	-5.5	354.8	58.0	0.00	0.00	0.00
4,900.0	11.60	90.89	4,864.6	-5.8	374.9	61.2	0.00	0.00	0.00
5,000.0	11.60	90.89	4,962.5	-6.1	395.0	64.5	0.00	0.00	0.00

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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	11.60	90.89	5,060.5	-6.5	415.1	67.8	0.00	0.00	0.00	
5,200.0	11.60	90.89	5,158.4	-6.8	435.2	71.1	0.00	0.00	0.00	
5,300.0	11.60	90.89	5,256.4	-7.1	455.3	74.4	0.00	0.00	0.00	
5,400.0	11.60	90.89	5,354.4	-7.4	475.4	77.7	0.00	0.00	0.00	
5,500.0	11.60	90.89	5,452.3	-7.7	495.5	80.9	0.00	0.00	0.00	
5,600.0	11.60	90.89	5,550.3	-8.0	515.6	84.2	0.00	0.00	0.00	
5,700.0	11.60	90.89	5,648.2	-8.3	535.8	87.5	0.00	0.00	0.00	
5,800.0	11.60	90.89	5,746.2	-8.6	555.9	90.8	0.00	0.00	0.00	
5,900.0	11.60	90.89	5,844.1	-9.0	576.0	94.1	0.00	0.00	0.00	
6,000.0	11.60	90.89	5,942.1	-9.3	596.1	97.4	0.00	0.00	0.00	
6,100.0	11.60	90.89	6,040.1	-9.6	616.2	100.6	0.00	0.00	0.00	
6,163.7	11.60	90.89	6,102.5	-9.8	629.0	102.7	0.00	0.00	0.00	
6,200.0	11.06	90.89	6,138.0	-9.9	636.1	103.9	1.50	-1.50	0.00	
6,300.0	9.56	90.89	6,236.4	-10.2	654.0	106.8	1.50	-1.50	0.00	
6,400.0	8.06	90.89	6,335.2	-10.4	669.3	109.3	1.50	-1.50	0.00	
6,500.0	6.56	90.89	6,434.4	-10.6	682.0	111.4	1.50	-1.50	0.00	
6,600.0	5.06	90.89	6,533.9	-10.8	692.1	113.0	1.50	-1.50	0.00	
6,700.0	3.56	90.89	6,633.6	-10.9	699.6	114.3	1.50	-1.50	0.00	
6,800.0	2.06	90.89	6,733.5	-11.0	704.5	115.1	1.50	-1.50	0.00	
6,900.0	0.56	90.89	6,833.5	-11.0	706.8	115.4	1.50	-1.50	0.00	
6,937.1	0.00	0.00	6,870.5	-11.0	707.0	115.5	1.50	-1.50	0.00	
KOP @ 6871'										
7,000.0	7.55	179.73	6,933.3	-15.1	707.0	119.6	12.00	12.00	0.00	
7,100.0	19.55	179.73	7,030.3	-38.5	707.1	142.7	12.00	12.00	0.00	
7,200.0	31.55	179.73	7,120.4	-81.6	707.3	185.3	12.00	12.00	0.00	
7,300.0	43.55	179.73	7,199.5	-142.4	707.6	245.5	12.00	12.00	0.00	
7,400.0	55.55	179.73	7,264.3	-218.4	708.0	320.7	12.00	12.00	0.00	
7,405.6	56.22	179.73	7,267.4	-223.0	708.0	325.3	12.00	12.00	0.00	
FTP: 330' FNL & 2310' FWL										
7,500.0	67.55	179.73	7,311.8	-306.1	708.4	407.6	12.00	12.00	0.00	
7,600.0	79.55	179.73	7,340.1	-401.9	708.8	502.3	12.00	12.00	0.00	
7,683.8	89.61	179.73	7,348.0	-485.2	709.2	584.8	12.00	12.00	0.00	
LP: 592' FNL & 2310' FWL										
7,700.0	89.61	179.73	7,348.1	-501.4	709.3	600.8	0.01	0.01	0.00	
7,800.0	89.61	179.73	7,348.8	-601.4	709.8	699.8	0.00	0.00	0.00	
7,900.0	89.61	179.73	7,349.5	-701.4	710.3	798.7	0.00	0.00	0.00	
8,000.0	89.61	179.73	7,350.2	-801.4	710.7	897.7	0.00	0.00	0.00	
8,100.0	89.61	179.73	7,350.8	-901.4	711.2	996.7	0.00	0.00	0.00	
8,200.0	89.61	179.73	7,351.5	-1,001.4	711.7	1,095.6	0.00	0.00	0.00	
8,300.0	89.61	179.73	7,352.2	-1,101.4	712.2	1,194.6	0.00	0.00	0.00	
8,400.0	89.61	179.73	7,352.9	-1,201.4	712.6	1,293.6	0.00	0.00	0.00	
8,500.0	89.61	179.73	7,353.6	-1,301.4	713.1	1,392.5	0.00	0.00	0.00	
8,600.0	89.61	179.73	7,354.3	-1,401.4	713.6	1,491.5	0.00	0.00	0.00	
8,700.0	89.61	179.73	7,354.9	-1,501.4	714.0	1,590.5	0.00	0.00	0.00	
8,800.0	89.61	179.73	7,355.6	-1,601.4	714.5	1,689.4	0.00	0.00	0.00	
8,900.0	89.61	179.73	7,356.3	-1,701.4	715.0	1,788.4	0.00	0.00	0.00	
9,000.0	89.61	179.73	7,357.0	-1,801.4	715.5	1,887.4	0.00	0.00	0.00	
9,100.0	89.61	179.73	7,357.7	-1,901.3	715.9	1,986.3	0.00	0.00	0.00	
9,200.0	89.61	179.73	7,358.3	-2,001.3	716.4	2,085.3	0.00	0.00	0.00	
9,300.0	89.61	179.73	7,359.0	-2,101.3	716.9	2,184.3	0.00	0.00	0.00	
9,400.0	89.61	179.73	7,359.7	-2,201.3	717.3	2,283.2	0.00	0.00	0.00	
9,500.0	89.61	179.73	7,360.4	-2,301.3	717.8	2,382.2	0.00	0.00	0.00	
9,600.0	89.61	179.73	7,361.1	-2,401.3	718.3	2,481.2	0.00	0.00	0.00	

Planning Report

Database:	Hobbs	Local Co-ordinate Reference:	Site Malaga 13 B1CN Fed Com #2H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 2920.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 2920.0usft (Original Well Elev)
Site:	Malaga 13 B1CN Fed Com #2H	North Reference:	Grid
Well:	Sec 13, T25S, R28E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 330' FSL & 2310' FWL		
Design:	Design #1		

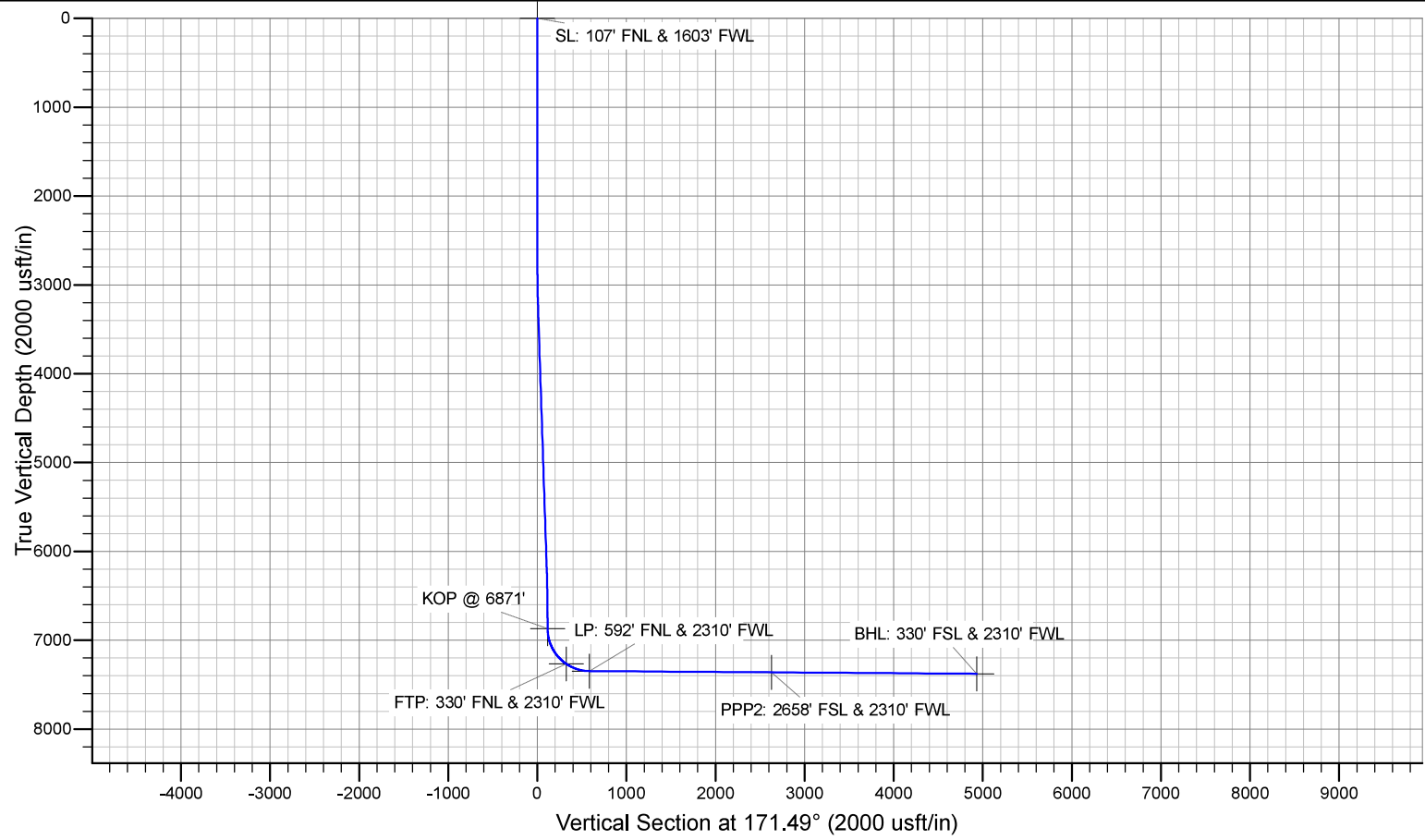
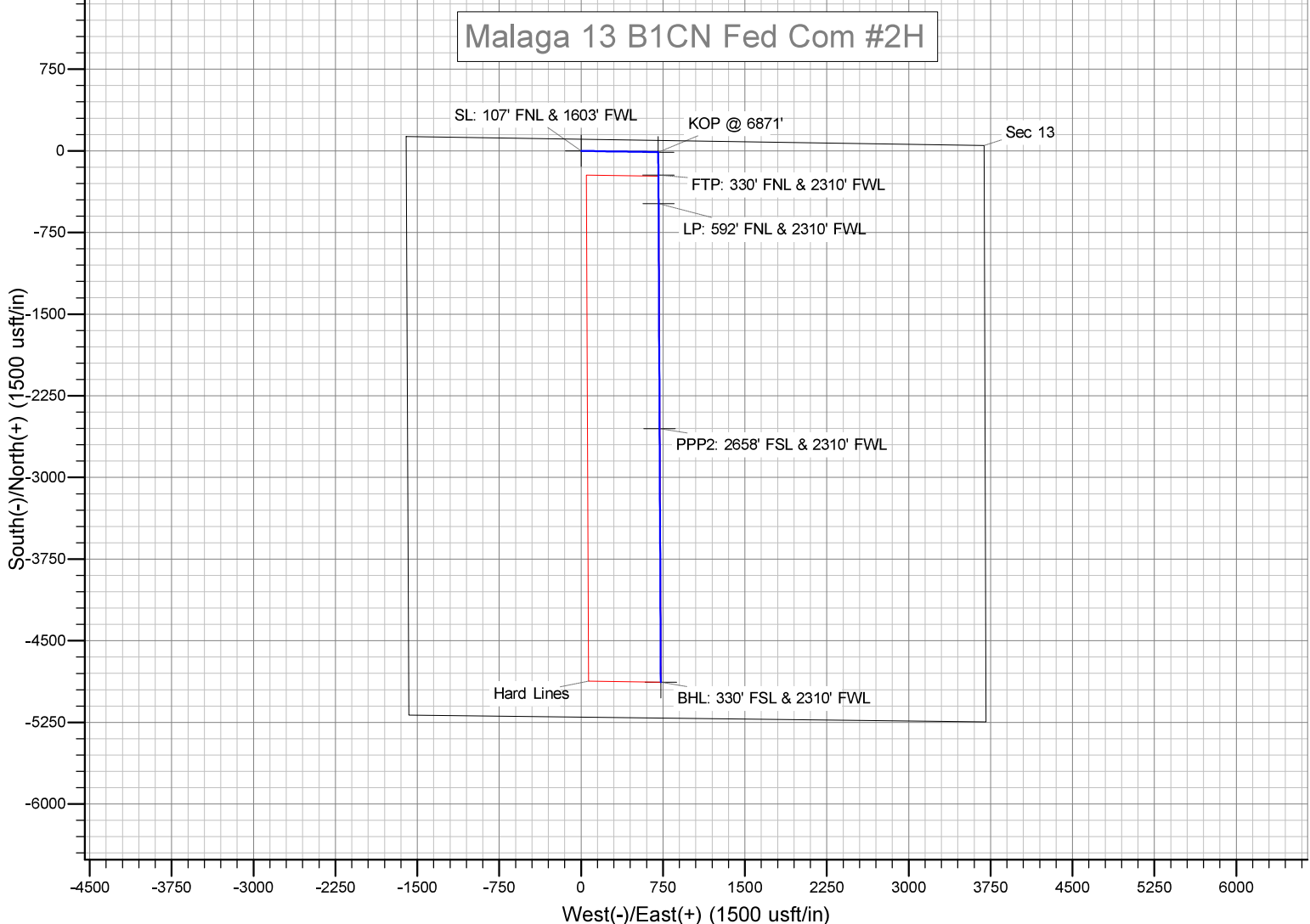
Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,700.0	89.61	179.73	7,361.8	-2,501.3	718.8	2,580.1	0.00	0.00	0.00	
9,750.7	89.61	179.73	7,362.1	-2,552.0	719.0	2,630.3	0.00	0.00	0.00	
PPP2: 2658' FSL & 2310' FWL										
9,800.0	89.61	179.73	7,362.4	-2,601.3	719.2	2,679.1	0.00	0.00	0.00	
9,900.0	89.61	179.73	7,363.1	-2,701.3	719.7	2,778.1	0.00	0.00	0.00	
10,000.0	89.61	179.73	7,363.8	-2,801.3	720.2	2,877.0	0.00	0.00	0.00	
10,100.0	89.61	179.73	7,364.5	-2,901.3	720.7	2,976.0	0.00	0.00	0.00	
10,200.0	89.61	179.73	7,365.2	-3,001.3	721.1	3,075.0	0.00	0.00	0.00	
10,300.0	89.61	179.73	7,365.9	-3,101.3	721.6	3,173.9	0.00	0.00	0.00	
10,400.0	89.61	179.73	7,366.5	-3,201.3	722.1	3,272.9	0.00	0.00	0.00	
10,500.0	89.61	179.73	7,367.2	-3,301.3	722.5	3,371.9	0.00	0.00	0.00	
10,600.0	89.61	179.73	7,367.9	-3,401.3	723.0	3,470.8	0.00	0.00	0.00	
10,700.0	89.61	179.73	7,368.6	-3,501.3	723.5	3,569.8	0.00	0.00	0.00	
10,800.0	89.61	179.73	7,369.3	-3,601.3	724.0	3,668.8	0.00	0.00	0.00	
10,900.0	89.61	179.73	7,370.0	-3,701.3	724.4	3,767.7	0.00	0.00	0.00	
11,000.0	89.61	179.73	7,370.6	-3,801.3	724.9	3,866.7	0.00	0.00	0.00	
11,100.0	89.61	179.73	7,371.3	-3,901.3	725.4	3,965.7	0.00	0.00	0.00	
11,200.0	89.61	179.73	7,372.0	-4,001.3	725.8	4,064.6	0.00	0.00	0.00	
11,300.0	89.61	179.73	7,372.7	-4,101.3	726.3	4,163.6	0.00	0.00	0.00	
11,400.0	89.61	179.73	7,373.4	-4,201.3	726.8	4,262.6	0.00	0.00	0.00	
11,500.0	89.61	179.73	7,374.0	-4,301.3	727.3	4,361.5	0.00	0.00	0.00	
11,600.0	89.61	179.73	7,374.7	-4,401.3	727.7	4,460.5	0.00	0.00	0.00	
11,700.0	89.61	179.73	7,375.4	-4,501.3	728.2	4,559.5	0.00	0.00	0.00	
11,800.0	89.61	179.73	7,376.1	-4,601.3	728.7	4,658.4	0.00	0.00	0.00	
11,900.0	89.61	179.73	7,376.8	-4,701.3	729.2	4,757.4	0.00	0.00	0.00	
12,000.0	89.61	179.73	7,377.5	-4,801.2	729.6	4,856.4	0.00	0.00	0.00	
12,078.8	89.61	179.73	7,378.0	-4,880.0	730.0	4,934.3	0.00	0.00	0.00	
BHL: 330' FSL & 2310' FWL										

Planning Report

Database:	Hobbs	Local Co-ordinate Reference:	Site Malaga 13 B1CN Fed Com #2H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 2920.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 2920.0usft (Original Well Elev)
Site:	Malaga 13 B1CN Fed Com #2H	North Reference:	Grid
Well:	Sec 13, T25S, R28E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 330' FSL & 2310' FWL		
Design:	Design #1		

Design Targets										
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)			
- Shape										
SL: 107' FNL & 1603' FV - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	413,737.00	630,819.00	32.1371117	-104.0442417	
KOP @ 6871' - plan hits target center - Point	0.00	0.00	6,870.5	-11.0	707.0	413,726.00	631,526.00	32.1370762	-104.0419577	
FTP: 330' FNL & 2310' F - plan hits target center - Point	0.00	0.01	7,267.4	-223.0	708.0	413,514.00	631,527.01	32.1364934	-104.0419563	
LP: 592' FNL & 2310' FV - plan hits target center - Point	0.00	0.00	7,348.0	-485.2	709.2	413,251.80	631,528.20	32.1357727	-104.0419547	
PPP2: 2658' FSL & 2310' F - plan hits target center - Point	0.00	0.00	7,362.1	-2,552.0	719.0	411,185.00	631,538.01	32.1300911	-104.0419411	
BHL: 330' FSL & 2310' F - plan hits target center - Point	0.00	0.00	7,378.0	-4,880.0	730.0	408,857.00	631,549.00	32.1236916	-104.0419259	

Malaga 13 B1CN Fed Com #2H



Mewbourne Oil Company Malaga 13 B1CN Fed Com #2H
Sec 13, T25S, R28E
SL: 107' FNL & 1603' FWL
BHL: 330' FSL & 2310' FWL

1. Geologic Formations

TVD of target	7378'	Pilot hole depth	NA
MD at TD:	12,079'	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	1205		
Base Salt	2430		
Yates		Oil/Gas	
Seven Rivers			
Queen			
Lamar	2650	Oil/Gas	
Bell Canyon	2685	Oil/Gas	
Cherry Canyon	3575	Oil/Gas	
Manzanita Marker	3685		
Brushy Canyon	4825	Oil/Gas	
Bone Spring	6390	Oil/Gas	
1 st Bone Spring Sand	7290	Target Zone	
2 nd Bone Spring Sand			
3 rd Bone Spring Sand			
Abo			
Wolfcamp			
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

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

Mewbourne Oil Company Malaga 13 B1CN Fed Com #2H
Sec 13, T25S, R28E
SL: 107' FNL & 1603' FWL
BHL: 330' FSL & 2310' FWL

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	410'	13.375"	48	H40	STC	4.01	9.02	16.36	27.49
12.25"	0'	2565'	9.625"	36	J55	LTC	1.51	2.64	4.91	6.11
8.75"	0'	7684'	7"	26	P110	LTC	2.16	2.76	3.16	4.15
6.125"	6937'	12,079'	4.5"	13.5	P110	LTC	2.78	3.23	4.87	6.08
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 3 rd 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 2 nd 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

Mewbourne Oil Company Malaga 13 B1CN Fed Com #2H
Sec 13, T25S, R28E
SL: 107' FNL & 1603' FWL
BHL: 330' FSL & 2310' FWL

If yes, are there three strings cemented to surface?	
--	--

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O 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	140	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 @ 3685'						
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	210	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	6937'	25%

Mewbourne Oil Company Malaga 13 B1CN Fed Com #2H
Sec 13, T25S, R28E
SL: 107' FNL & 1603' FWL
BHL: 330' FSL & 2310' FWL

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
----------	--

Mewbourne Oil Company Malaga 13 B1CN Fed Com #2H
Sec 13, T25S, R28E
SL: 107' FNL & 1603' FWL
BHL: 330' FSL & 2310' FWL

	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. <ul style="list-style-type: none"> • 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'	7348'	FW w/ Polymer	8.6-9.7	28-34	N/C
7348'	7378'	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 (6937') 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
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Mewbourne Oil Company Malaga 13 B1CN Fed Com #2H
Sec 13, T25S, R28E
SL: 107' FNL & 1603' FWL
BHL: 330' FSL & 2310' FWL

X	Gamma Ray	6937' (KOP) to TD
	Density	
	CBL	
	Mud log	
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	3837 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

Mewbourne Oil Company Malaga 13 B1CN Fed Com #2H
Sec 13, T25S, R28E
SL: 107' FNL & 1603' FWL
BHL: 330' FSL & 2310' FWL

- 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 B1CN FEDERAL COM			2H
7 OGRID NO.		8 Operator Name			9 Elevation
14744		MEWBOURNE OIL COMPANY			2893'

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		107	NORTH	1603	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.

