Form 3160-3 HOBBS OCD		
Form 3160-3 HOBD		FORM APPROVED OMB No. 1004-0137
(June 2015)	50	Expires: January 31, 2018
		5. Lease Serial No.
DEPARTMENT OF THE		NMNM013641
APPLICATION FOR PERMIT TO		6. If Indian, Allotee or Tribe Name
		· · · · · · · · · · · · · · · · · · ·
		7. If Unit or CA Agreement, Name and No.
	REENTER	
Ib. Type of Well: Vil Well Gas Well	Other	8. Lease Name and Well No.
1c. Type of Completion: Hydraulic Fracturing	Single Zone 🔲 Multiple Zone	IBEX 15/10 B3PA FED COM
		327260
2. Name of Operator MEWBOURNE OIL COMPANY (14744)		9: API-Well No. 30-025-46748
3a. Address	3b. Phone No. (include area code)	10/Field and Pool, or Exploratory 2207
PO Box 5270, Hobbs, NM 88240	(575) 393-5905	ANTELOPE RIDGE WEST/BONE SPRIN
4. Location of Well (Report location clearly and in accordance		11. Sec., T. R. M. or Blk. and Survey or Area
At surface SESE / 140 FSL / 305 FEL / LAT 32.2977		SEC 15/T235/R34E/NMP
At proposed prod. zone NENE / 100 FNL / 600 FEL / L	AT 32.3261181 / LONG -103.4513604	
14. Distance in miles and direction from nearest town or post o 20 miles	office*	12. County or Parish 13. State LEA NM
15. Distance from proposed* 205 feet	16. No of acres in lease 17. S	pacing Unit dedicated to this well
location to nearest 200 leet property or lease line, ft.	400 160.	77
(Also to nearest drig. unit line, if any)		· · ·
18. Distance from proposed location*	19. Proposed Depth 20/B	LM/BIA Bond No. in file
to nearest well, drilling, completed, 30 feet applied for, on this lease, ft.	11304 Teet / 21523 feet FED	: NM1693
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3440 feet	10/20/2019	60 days
	24. Attachments	L
The following, completed in accordance with the requirements (as applicable)	of Onshore Oil and Gas Order No. 1, and	the Hydraulic Fracturing rule per 43 CFR 3162.3-3
1. Well plat certified by a registered surveyor.	4. Bond to cover the oper	ations unless covered by an existing bond on file (see
2. A Drilling Plan.	Item 20 above).	
 A Surface Use Plan (if the location is on National Forest Sys SUPO must be filed with the appropriate Forest Service Office 	tem Lands, the 5. Operator certification.	information and/or plans as may be requested by the
Sol o musi de med with the appropriate l'orest del vice ont	BLM.	
25. Signature	Name (Printed/Typed)	Date
(Electronic Submission)	Bradley Bishop / Ph: (575) 39	3-5905 08/27/2019
Title (
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575) 234-5	Date 959 02/27/2020
Title Assistant Field Manager Lands & Minerals	Office Carlsbad Field Office	· · · · · · · · · · · · · · · · · · ·
Application approval does not warrant or certify that the applic applicant to conduct operations thereon. Conditions of approval, if any, are attached.	ant holds legal or equitable title to those ri	ghts in the subject lease which would entitle the
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, of the United States any false, fictitious or fraudulent statement		te invision
6CN Rec 03/02/2020		
		15 KE/9/2020
	WITTE CONDITION	0 9910.0
44 INDR	OVED WITH CONDITION	
(Continued on page 2)		*(Instructions on page 2)
ppr	oval Date: 02/27/2020	

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Mewbourne Oil Company
LEASE NO.:	NMNM013641
WELL NAME & NO.:	IBEX 15/10 B3PA FED COM 1H
SURFACE HOLE FOOTAGE:	140'/S & 305'/E
BOTTOM HOLE FOOTAGE	100'/N & 600'/E
LOCATION:	Section 15, T.23 S., R.34 E., NMPM
COUNTY:	Lea County, New Mexico

COA

H2S	• Yes	C No	
Potash	None	C Secretary	C R-111-P
Cave/Karst Potential	• Low		High
Cave/Karst Potential	Critical		
Variance		Flex Hose	C Other
Wellhead	Conventional	Multibowl	C Both
Other		Capitan Reef	Г WIPP
Other	Fluid Filled	Cement Squeeze	F Pilot Hole
Special Requirements	☐ Water Disposal	COM	🔽 Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the Delaware formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

Casing Design:

- 1. The 13-3/8 inch surface casing shall be set at approximately 1350 feet (a minimum of 25 feet (Lea County) 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

Page 1 of 8

completing the cement job.

- b. Wait on cement (WOC) time for a primary cement job will be a minimum of <u>8</u> <u>hours</u> 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 9-5/8 inch intermediate casing shall be set at approximately 4985 feet. 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. Excess cement calculates to 17%, additional cement might be required.
- 3. The minimum required fill of cement behind the 7 inch production casing is:

Option 1 (Single Stage):

 Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.
 Excess cement calculates to 3%, additional cement might be required.

Option 2:

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.

- a. 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.
- b. Second stage above DV tool:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

Page 2 of 8

- 4. The minimum required fill of cement behind the 4-1/2 inch production liner is:
 - Cement should tie-back **100 feet** 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. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
 - 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.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. <u>When the Communitization Agreement number is known, it shall also be</u> <u>on the sign.</u>

Page 3 of 8

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
 - Lea County
 Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612
- 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.

Page 4 of 8

A. CASING

- Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
- <u>Wait on cement (WOC) for Potash Areas:</u> 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 <u>24 hours</u>. 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.
- <u>Wait on cement (WOC) for Water Basin:</u> 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 <u>8 hours</u>. 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.

Page 5 of 8

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. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. 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.
- 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

Page 6 of 8

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 not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- 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. The results of the test shall be reported to the appropriate BLM office.
- f. 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.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. 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.

Page 7 of 8

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.

OTA02182020

Page 8 of 8



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

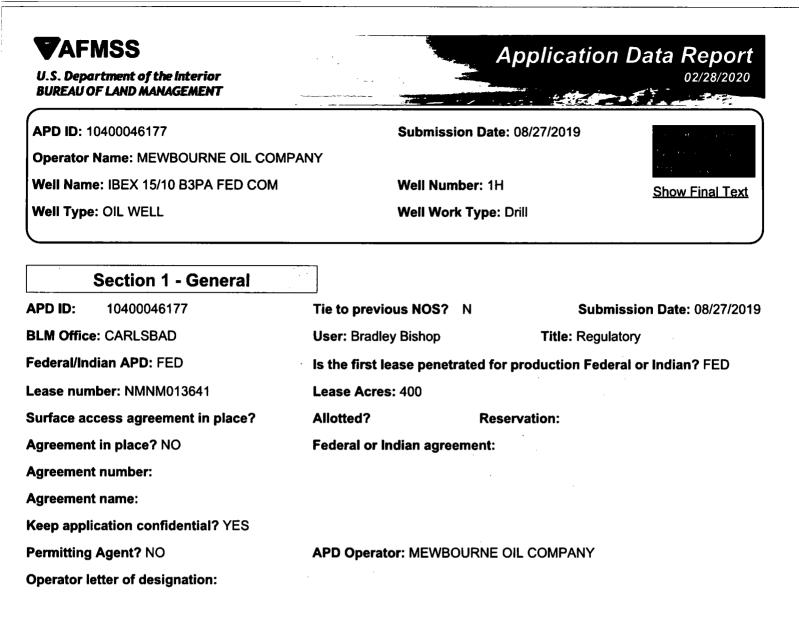
Operator Certification

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

perator Certification Data Report

02/28/2020

NAME: Bradley Bishop		Signed on: 08/27/2019
Title: Regulatory		
Street Address: PO Box 5270		
City: Hobbs	State: NM	Zip: 88260
Phone: (575)393-5905		
Email address: bbishop@mewbo	ume.com	
Field Representative Representative Name: Street Address: City: Phone: Email address:	State:	Zip:



Operator Info

Operator Organization Name: MEWBOURNE OIL COMPANY

Operator Address: PO Box 5270

Operator PO Box:

Operator City: Hobbs State: NM

Operator Phone: (575)393-5905

Operator Internet Address:

Section 2 - Well Information

Weil in Master Development Plan? NOMaster Development Plan name:Well in Master SUPO? NOMaster SUPO name:Well in Master Drilling Plan? NOMaster Drilling Plan name:Well Name: IBEX 15/10 B3PA FED COMWell Number: 1HWell API Number:Field/Pool or Exploratory? Field and PoolField Name: ANTELOPE RIDGE Pool Name: BONE SPRIING
WEST

Zip: 88240

Is the proposed well in an area containing other mineral resources? LISEARLE MATER MATURAL GAS OU

Operator Name: MEWBOURNE OIL COMPANY Well Name: IBEX 15/10 B3PA FED COM

Well Number: 1H

Is the proposed well in an area containing other mineral resources? USEABLE WATER, NATURAL GAS, OIL

Is the proposed well in a Helium production area? N	Use Ex

Use Existing Well Pad? N

New surface disturbance?

Distance to lease line: 205 FT

Type of Well Pad: MULTIPLE WELL Well Class: HORIZONTAL Multiple Well Pad Name: IBEX Number: 2 15/10 PA FED COM WELLS Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: APPRAISAL

Describe sub-type:

Distance to town: 20 Miles Distance to nearest well: 30 FT

Reservoir well spacing assigned acres Measurement: 160.77 Acres

Well plat: lbex15_10B3PAFedCom1H_wellplat_20190820112535.pdf

Well work start Date: 10/20/2019

Duration: 60 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Survey number:

Vertical Datum: NAVD88

Reference Datum: GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	DVT	Will this well produce from this lease?
SHL Leg #1	140	FSL	305	FEL	23S	34E	15	Aliquot SESE	32.29774 43	- 103.4503 861	LEA	1	NEW MEXI CO		NMNM 013641	344 0	0	0	Y
KOP Leg #1	10	FSL	600	FEL	235	34E	15	Aliquot SESE	32.29738 76	- 103.4513 413		1	NEW MEXI CO		NMNM 013641	- 735 2	107 92	107 92	Y
PPP Leg	132 0	FSL	600	FEL	23S	34E		Aliquot NESE	32.31589 76	- 103.4513		NEW MEXI	NEW MEXI		NMNM 035164	- 785	178 05	112 91	Y

Well Name: IBEX 15/10 B3PA FED COM

į.

Well Number: 1H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-2	0	FSL	600	FEL	235	34E	10	Aliquot SESE	32.31226 65	- 103.4513 514	LEA	NEW MEXI CO		F	NMNM 013641	- 784 7	164 84	112 87	Y
PPP Leg #1-3	264 0	FNL	600	FEL	23S	34E	15	Aliquot SENE	32.30461 68	- 103.4513 462	LEA	NEW MEXI CO		F	NMNM 013838	- 783 7	137 01	112 77	Y
PPP Leg #1-4	100	FSL	600	FEL	23S	34E	15	Aliquot SESE	32.29763 5	- 103.4513 415	LEA	NEW MEXI CO		F	NMNM 013641	- 763 2	110 96	110 72	Y
EXIT Leg #1	100	FNL	600	FEL	23S	34E	10	Aliquot NENE	32.32611 74	- 103.4513 607	LEA	NEW MEXI CO		F	NMNM 035164	- 786 4	215 23	113 04	Y
BHL Leg #1	100	FNL	600	FEL	23S	34E		Aliquot NENE	32.32611 81	- 103.4513 604	LEA	NEW MEXI CO		F	NMNM 035164	- 786 4	215 23	113 04	Y



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

Submission Date: 08/27/2019

Well Number: 1H

Show Final Text

02/28/2020

Drilling Plan Data Report

Operator Name: MEWBOURNE OIL COMPANY

Well Name: IBEX 15/10 B3PA FED COM

Well Type: OIL WELL

APD ID: 10400046177

Well Work Type: Drill

Section 1 - Geologic Formations

ormation			True Vertical	Measured			Producing
ID	Formation Name	Elevation	Depth	Depth	Lithologies	Mineral Resources	Formation
519167	UNKNOWN	3440	27	27	OTHER : Topsoil	NONE	N
519178	RUSTLER	2360	1080	1080	ANHYDRITE, DOLOMITE	NONE	N
519182	TOP SALT	2040	1400	1400	SALT	NONE	N
519181	LAMAR	-1620	5060	5060	LIMESTONE	NATURAL GAS, OIL	N
519166	BONE SPRING	-5100	8540	8540	SANDSTONE, SHALE	NATURAL GAS, OIL	N
519169	BONE SPRING 1ST	-6185	9625	9625	SANDSTONE	NATURAL GAS, OIL	N
521927	BONE SPRING 2ND	-6685	10125	10125	SANDSTONE	NATURAL GAS, OIL	N
521928	BONE SPRING 3RD	-7580	11020	11020	SANDSTONE	NATURAL GAS, OIL	Ŷ

Section 2 - Blowout Prevention

ressure Rating (PSI): 5M

Rating Depth: 21523

quipment: Annular, Pipe Ram, Blind Ram

equesting Variance? YES

'ariance request: A variance is requested for the use of a flexible choke line from the BOP to the choke manifold. Anchors re not required by manufacturer. A variance is also requested for the use of a multibowl wellhead. Please see attached chematics.

esting Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure idicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the orking pressure listed in the table above. If the system is upgraded all the components installed will be functional and ested. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out f the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly ock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

 $lbex_15_10_B3PA_Fed_Com_1H_5M_BOPE_Choke_Diagram_20190822152749.pdf$

lbex_15_10_B3PA_Fed_Com_1H_Flex_Line_Specs_API_16C_20200107103917.pdf

Well Name: IBEX 15/10 B3PA FED COM

Well Number: 1H

Ibex_15_10_B3PA_Fed_Com_1H_Flex_Line_Specs_20200107103917.pdf

OP Diagram Attachment:

lbex_15_10_B3PA_Fed_Com_1H_5M_BOPE_Schematic_20190822152800.pdf

lbex_15_10_B3PA_Fed_Com_1H_Multi_Bowl_WH_20200107103933.pdf

Section 3 - Casing

L Casing ID	String Type	Hole Size	S S S S S S S S S S S S S S S S S S S	A Condition	A Standard	Z Tapered String	Top Set MD	Bottom Set MD 1350	^o Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL 0602	Calculated casing length MD	04-H 64-H	48 Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	AD Body SF Type	8.3t
	INTERMED IATE	12.2 5	9.625	NEW	API	N	0.	4985	0	4985		-1545	4985	L-80	40	LT&C	1.19	2.22	DRY	3.65	DRY	4.55
	PRODUCTI ON	8.75	7.0	NEW	API	N	0	11400	0	11247		-7807	11400	HCP -110		LT&C	1.66	2.02	DRY	2.41	DRY	2.81
4	LINER	6.12 5	4.5	NEW	API	N	10792	21523	10792	11304	-7352	-7864	10731	P- 110	13.5	LT&C	1.82	2.11	DRY	2.33	DRY	2.91

Casing Attachments

Casing ID: 1 String Type: SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

lbex_10_15_B1AP_Fed_Com_2H_Surface_Tapered_String_Diagram_20190128145956.pdf

Casing Design Assumptions and Worksheet(s):

lbex_15_10_B3AP_Fed_Com_1H_Csg_assumptions_20190822153035.pdf

Well Name: IBEX 15/10 B3PA FED COM

Well Number: 1H

Casing Attachments

Casing ID: 2

String Type: INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

lbex_10_15_B1AP_Fed_Com_2H_Intermediate_Tapered_String_Diagram_20190128150518.pdf

Casing Design Assumptions and Worksheet(s):

lbex_15_10_B3AP_Fed_Com_1H_Csg_assumptions_20190822153125.pdf

Casing ID: 3 String Type: PRODUCTION Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Ibex_15_10_B3AP_Fed_Com_1H_Csg_assumptions_20190822153312.pdf

Casing ID: 4 String Type:LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

lbex_15_10_B3AP_Fed_Com_1H_Csg_assumptions_20190822153432.pdf

Section 4 - Cement

Well Name: IBEX 15/10 B3PA FED COM

Well Number: 1H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1105	570	2.12	12.5	1208	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail		1105	1350	200	1.34	14.8	268	100	Class C	Retarder
NTERMEDIATE	Lead		0	4290	780	2.12	12.5	1654	25	Class C	Salt, Gel, Extender, LCM
NTERMEDIATE	Tail		4290	4985	200	1.34	14.8	268	25	Class C	Retarder
RODUCTION	Lead	6100	4785	5425	100	2.12	12.5	212	25	Class C	Gel, Retarder, Defoamer, Extender
RODUCTION	Tail		5425	6100	100	1.34	15.6	134	25	Class H	Retarder, Fluid Loss, Defoamer
RODUCTION	Lead	6100	6100	8903	250	2.12	12.5	530	25	Class C	Gel, Retarder, Defoamer, Extender
RODUCTION	Tail		8903	1140 0	400	1.18	15.6	472	25	Class H	Retarder, Fluid Loss, Defoamer
INER	Lead		1079 2	2152 3	430	2.97	11.2	1277	25	Class C	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-Settling Agent

Section 5 - Circulating Medium

lud System Type: Closed

Vill an air or gas system be Used? NO

escription of the equipment for the circulating system in accordance with Onshore Order #2:

iagram of the equipment for the circulating system in accordance with Onshore Order #2:

escribe what will be on location to control well or mitigate other conditions: Lost circulation material Sweeps Mud cavengers in surface hole

escribe the mud monitoring system utilized: Visual monitoring

Circulating Medium Table

Well Name: IBEX 15/10 B3PA FED COM

Well Number: 1H

Top Depth	Bottom Depth	Mud Type	Min Weight (Ibs/gal)	Max Weight (Ibs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	На	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
· 0	1350	SPUD MUD	8.6	8.8							
1350	4985	SALT SATURATED	10	10							
4985	1124 7	WATER-BASED MUD	8.5	9.3							
1124 7	1130 4	OIL-BASED MUD	8.6	10					•		

Section 6 - Test, Logging, Coring

ist of production tests including testing procedures, equipment and safety measures:

vill run GR/CNL from KOP (10792') to surface

ist of open and cased hole logs run in the well:

OMPENSATED NEUTRON LOG, DIRECTIONAL SURVEY, GAMMA RAY LOG, MEASUREMENT WHILE DRILLING, MUD OG/GEOLOGIC LITHOLOGY LOG,

oring operation description for the well:

lone

Section 7 - Pressure

Inticipated Bottom Hole Pressure: 5878

Anticipated Surface Pressure: 3391

Inticipated Bottom Hole Temperature(F): 150

Inticipated abnormal pressures, temperatures, or potential geologic hazards? NO

escribe:

ontingency Plans geoharzards description:

ontingency Plans geohazards attachment:

lydrogen Sulfide drilling operations plan required? YES

lydrogen sulfide drilling operations plan:

lbex_15_10_B3PA_Fed_Com_1H_H2S_Plan_20190822154547.pdf

Well Name: IBEX 15/10 B3PA FED COM

Well Number: 1H

Section 8 - Other Information

roposed horizontal/directional/multi-lateral plan submission:

Ibex_15_10_B3PA_Fed_Com_1H_dir_plan_20190822154813.pdf Ibex_15_10_B3PA_Fed_Com_1H_dir_plot_20190822154813.pdf Ither proposed operations facets description:

Ither proposed operations facets attachment:

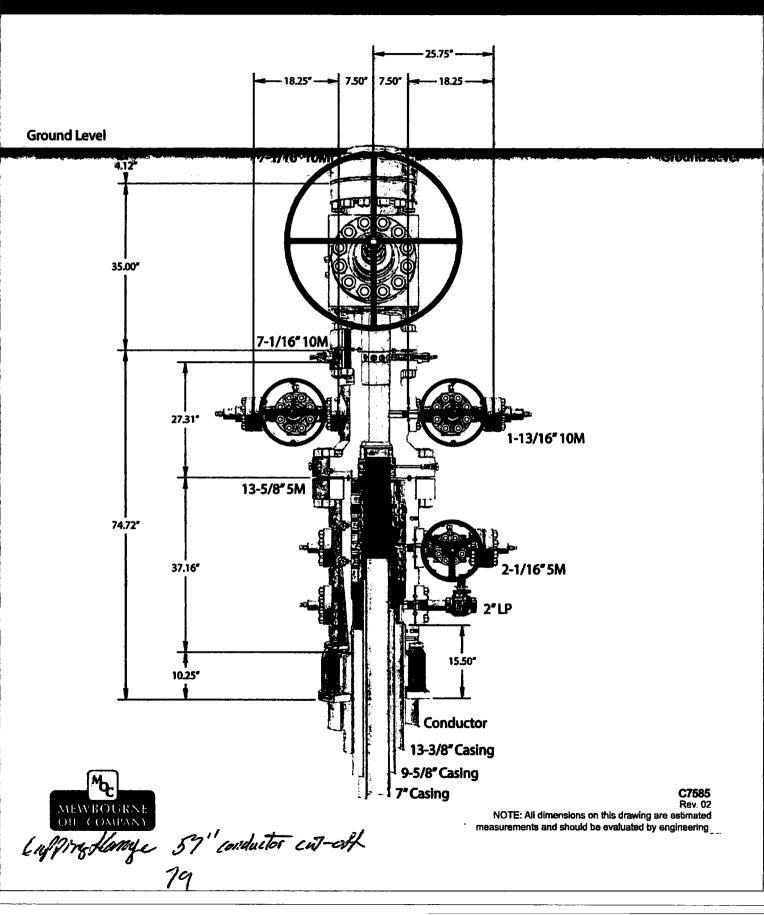
lbex_15_10_B3PA_Fed_Com_1H_Add_Info_20190822154732.pdf lbex_15_10_B3AP_Fed_Com_1H_Drlg_Program_20200107104450.doc ither Variance attachment:

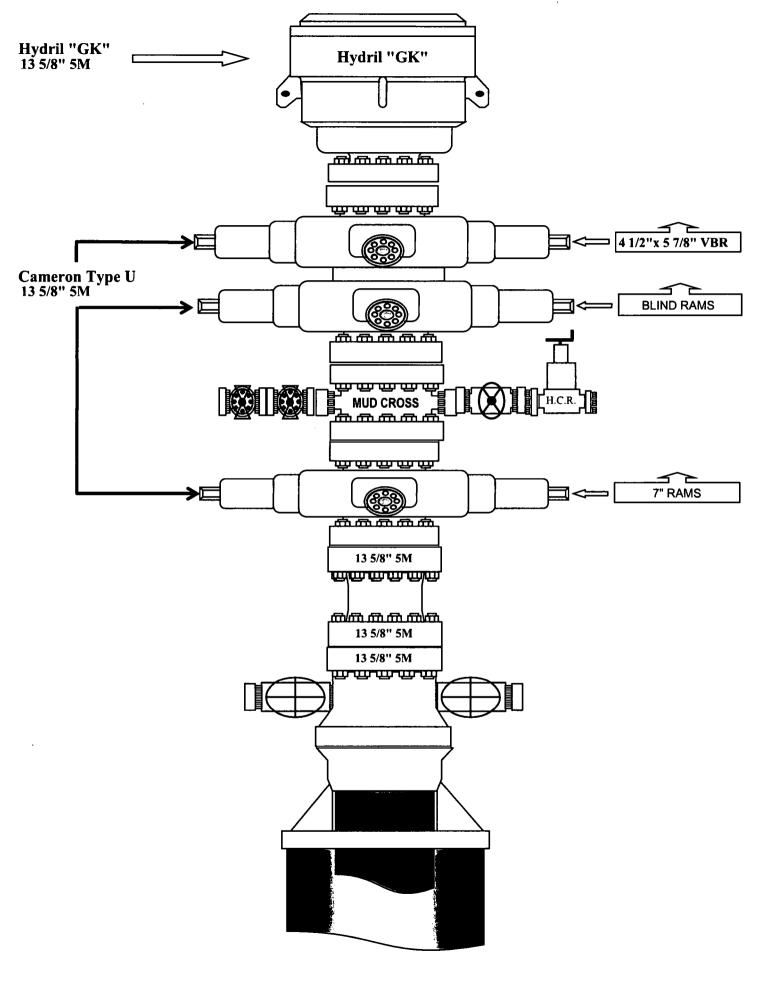
CAMERON

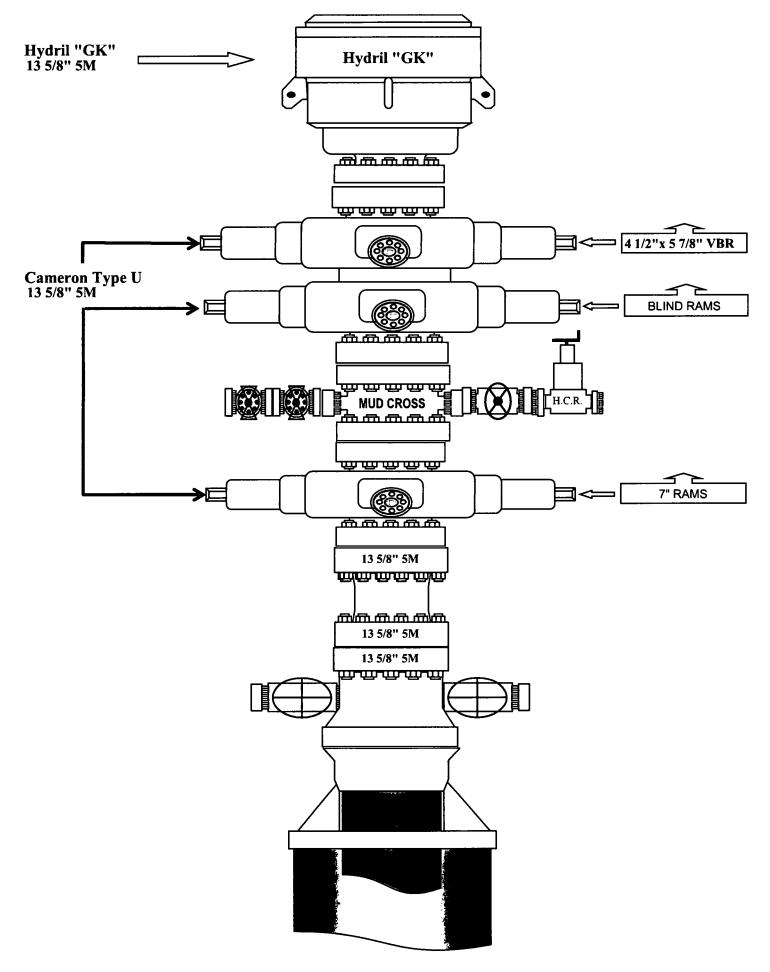
A Schlomberger Company

13-5/8" MN-DS Wellhead System









-

Casing Program

Hole	Casing Interval		Csg.	Weight	Grade	Conn.	SF	SF	SF Jt	SF Body
Size	From	To	Size	(lbs)			Collapse	Burst	Tension	Tension
17.5"	0'	1350'	13.375"	48	H40	STC	1.25	2.80	4.97	8.35
12.25"	0'	4985'	9.625"	40	L80	LTC	1.19	2.22	3.65	4.59
8.75"	0'	11400'	7"	26	HCP110	LTC	1.66	2.02	2.41	2.81
6.125"	10792'	21523'	4.5"	13.5	P110	LTC	1.82	2.11	2.33	2.91
		· • · · · · · · · ·		BLM Min	imum Safe	ty Factor	1.125	1	1.6 Dry	1.6 Dry
						•			1.8 Wet	1.8 Wet

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

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

Casing Program

Hole	Casing Interval		Csg.	Weight	Grade	Conn.	SF	SF	SF Jt	SF Body
Size	From	То	Size	(lbs)			Collapse	Burst	Tension	Tension
17.5"	0'	1350'	13.375"	48	H40	STC	1.25	2.80	4.97	8.35
12.25"	0'	4985'	9.625"	40	L80	LTC	1.19	2.22	3.65	4.59
8.75"	0'	11400'	7"	26	HCP110	LTC	1.66	2.02	2.41	2.81
6.125"	10792'	21523'	4.5"	13.5	P110	LTC	1.82	2.11	2.33	2.91
				BLM Min	imum Safe	y Factor	1.125	1	1.6 Dry	1.6 Dry
						-			1.8 Wet	1.8 Wet

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

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

Casing Program

Hole	Casing Interval		Csg.	Weight	Grade	Conn.	SF	SF	SF Jt	SF Body
Size	From	To	Size	(lbs)			Collapse	Burst	Tension	Tension
17.5"	0'	1350'	13.375"	48	H40	STC	1.25	2.80	4.97	8.35
12.25"	0'	4985'	9.625"	40	L80	LTC	1.19	2.22	3.65	4.59
8.75"	0'	11400'	7"	26	HCP110	LTC	1.66	2.02	2.41	2.81
6.125"	10792'	21523'	4.5"	13.5	P110	LTC	1.82	2.11	2.33	2.91
				BLM Min	imum Safet	y Factor	1.125	1	1.6 Dry	1.6 Dry
						-			1.8 Wet	1.8 Wet

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

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

Casing Program

Hole	Casing Interval		Csg.	Weight	Grade	Conn.	SF	SF	SF Jt	SF Body
Size	From	То	Size	(lbs)			Collapse	Burst	Tension	Tension
17.5"	0'	1350'	13.375"	48	H40	STC	1.25	2.80	4.97	8.35
12.25"	0'	4985'	9.625"	40	L80	LTC	1.19	2.22	3.65	4.59
8.75"	0'	11400'	7"	26	HCP110	LTC	1.66	2.02	2.41	2.81
6.125"	10792'	21523'	4.5"	13.5	P110	LTC	1.82	2.11	2.33	2.91
				BLM Min	imum Safet	y Factor	1.125	1	1.6 Dry	1.6 Dry
						-			1.8 Wet	1.8 Wet

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

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

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 know hydrogen sulfide source. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan.

3. Hydrogen Sulfide Safety Equipment and Systems

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

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

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

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

3. <u>Hydrogen Sulfide Protection and Monitoring Equipment</u> 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. <u>Visual Warning Systems</u>

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 Office911 or 575-887-7551Ambulance Service911 or 575-885-2111Carlsbad Fire Dept911 or 575-885-2111Loco Hills Volunteer Fire Dept.911 or 575-677-3266Closest Medical Facility - Columbia Medical Center of Carlsbad575-492-5000

Mewbourne Oil Company	Hobbs District Office Fax 2 nd Fax	575-393-5905 575-397-6252 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 Ibex 15/10 B3PA Fed Com #1H Sec 15, T23S, R34E SHL: 140' FSL & 305' FEL, Sec 15 BHL: 100' FNL & 600' FEL, Sec 10

Plan: Design #1

Standard Planning Report

21 August, 2019

							· · · · _ · · _ · · _ · · _ · · _ · · _ · · _ · · _ · · _ · · _ · · _ · · _ · · _ · · _ · · _ · · _ · · _ ·					
Database:	Hobb	-				-ordinate Refe		Site Ibex 15/10 B3PA Fed Com #1H				
Company:		ourne Oil Com				TVD Reference:			WELL @ 3440.0usft (Original Well Elev)			
Project: Site:	-	5/10 B3PA Fe	Aexico NAD 83		MD Refer			WELL @ 3440.0usft (Original Well Elev)				
Site: Well:						North Reference: Grid						
well: Welibore:		5, T23S, R34E	: 0' FEL, Sec 10		Survey C	Survey Calculation Method: Minimum Curvature						
Design:	Desig		U FEL, Sec IU									
Design:	Desig			· · · ·								
Project	Eddy C	County, New M	exico NAD 83									
Map System:		e Plane 1983			System Da	tum:	Gr	ound Level				
Geo Datum:		nerican Daturn										
Map Zone:	New Me	xico Eastern Zo	опе									
Site	lbex 15	/10 B3PA Fed	Com #1H									
Site Position:			North	-		473,175.00 usft Latitude:				32.297743		
From:	Maj		Eastir	-	814	,157.00 usft	Longitude:			-103.4503864		
Position Uncert	ainty:	0.	0 usft Slot R	adius:		13-3/16 "	Grid Converg	ence:		0.47		
Well	Sec 15,	T23S, R34E										
Well Position +N/-S 0.0 usft).0 usft No	rthing:	473,175.00 usft			itude:	32.297743				
	+E/-W	+E/-W 0.0 usft Easting:			814,157.00 usft Lo			ongitude: -1				
Position Uncert	Position Uncertainty 0.0 usft).0 usft 🛛 ₩	ellhead Eleva	tion:	3,440.0	usft Gro	und Level:		3,413.0 usi		
Wellbore	BHL: 1	00' FNL & 600	' FEL, Sec 10									
Magnetics	Mc	del Name	Sampl	e Date	Declina	ation	Dip A	nale	Field			
					(°)			') ')		(nT)		
		IGRF2010		8/19/2019		6.52		60.06		47,829		
Design	Design	#1										
Audit Notes:												
Version:			Phase	9: F	PROTOTYPE	Tie	On Depth:		0.0			
Vertical Section			Depth From (T)	(D)	+N/-S	+E	/-₩	Dire	ection			
	••	-	(usft)	-1	(usft)		sft)		(°)			
			0.0		0.0		.0		7.86	······		
Plan Sections												
			Vertical			Dealer	Build	Ture				
Measured	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TEO			
	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target		
Measured Depth			Depth			Rate	Rate	Rate		Target		
Measured Depth (usft)	(°)	(°)	Depth (usft)	(usft)	(usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)	(°)	Target		
Measured Depth (usft) 0.0	(°) 0.00	(°) 0.00	Depth (usft) 0.0	(usft) 0.0	(usft) 0.0	Rate (°/100usft) 0.00	Rate {°/100usft) 0.00	Rate (°/100usft) 0.00	(°) 0.00	Target		
Measured Depth (usft) 0.0 1,200.0	(°) 0.00 0.00	(°) 0.00 0.00	Depth (usft) 0.0 1,200.0	(usft) 0.0 0.0	(usft) 0.0 0.0	Rate (*/100usft) 0.00 0.00	Rate (°/100usft) 0.00 0.00	Rate (°/100usft) 0.00 0.00	(°) 0.00 0.00	Target		
Measured Depth (usft) 0.0 1,200.0 1,330.0	(°) 0.00 0.00 1.95	(°) 0.00 0.00 245.82	Depth (usft) 0.0 1,200.0 1,330.0	(usft) 0.0 0.0 -0.9	(usft) 0.0 0.0 -2.0	Rate (°/100usft) 0.00 0.00 1.50	Rate (°/100usft) 0.00 0.00 1.50	Rate (°/100usft) 0.00 0.00 0.00	(°) 0.00 0.00 245.82 0.00			
Measured Depth (usft) 0.0 1,200.0 1,330.0 10,668.0	(°) 0.00 0.00 1.95 1.95	(°) 0.00 0.00 245.82 245.82	Depth (usft) 0.0 1,200.0 1,330.0 10,662.5	(usft) 0.0 0.0 -0.9 -131.1	(usft) 0.0 0.0 -2.0 -292.0	Rate (°/100usft) 0.00 0.00 1.50 0.00	Rate (°/100usft) 0.00 0.00 1.50 0.00	Rate (°/100usft) 0.00 0.00 0.00 0.00	(°) 0.00 0.00 245.82 0.00	Target KOP: 10' FSL & 600'		

Database:	Hobbs	Local Co-ordinate Reference
Company:	Mewbourne Oil Company	TVD Reference:
Project:	Eddy County, New Mexico NAD 83	MD Reference:
Site:	Ibex 15/10 B3PA Fed Com #1H	North Reference:
Well:	Sec 15, T23S, R34E	Survey Calculation Method:
Wellbore:	BHL: 100' FNL & 600' FEL, Sec 10	
Design:	Design #1	

Site Ibex 15/10 B3PA Fed Com #1H WELL @ 3440.0usft (Original Well Elev) WELL @ 3440.0usft (Original Well Elev) Grid Minimum Curvature

Planned Survey

Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
SL: 140' FS	L & 305' FEL (15)								
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	1,000.0	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	1.50	245.82	1,300.0	-0.5	-1.2	-0.5	1.50	1.50	0.00
1,330.0	1.95	245.82	1,330.0	-0.9	-2.0	-0.8	1.50	1.50	0.00
1,400.0	1.95	245.82	1,399.9	-1. 9	-4.2	-1.7	0.00	0.00	0.00
1,500.0	1.95	245.82	1,499.9	-3.3	-7.3	-3.0	0.00	0.00	0.00
1,600.0	1.95	245.82	1,599.8	-4.7	-10.4	-4.3	0.00	0.00	0.00
1,700.0	1.95	245.82	1,699.8	-6.1	-13.5	-5.6	0.00	0.00	0.00
1,800.0	1.95	245.82	1,799.7	-7.5	-16.6	-6.8	0.00	0.00	0.00
1,900.0	1.95	245.82	1,899.6	-8.9	-19.7	-8.1	0.00	0.00	0.00
2,000.0	1.95	245.82	1,999.6	-10.2	-22.8	-9.4	0.00	0.00	0.00
2,100.0	1.95	245.82	2,099.5	-11.6	-25.9	-10.7	0.00	0.00	0.00
2,200.0	1.95	245.82	2,199.5	-13.0	-29.0	-11.9	0.00	0.00	0.00
2,300.0	1.95	245.82	2,299.4	-14.4	-32.1	-13.2	0.00	0.00	0.00
2,400.0 2,500.0	1.95 1.95	245.82 245.82	2,399.4 2,499.3	-15.8 -17.2	-35.2 -38.3	-14.5 -15.8	0.00 0.00	0.00 0.00	0.00 0.00
				-17.2					
2,600.0 2,700.0	1.95 1.95	245.82 245.82	2,599.2 2,699.2	-18.6	-41.5 -44.6	-17.0 -18.3	0.00 0.00	0.00 0.00	0.00 0.00
2,800.0	1.95	245.82	2,099.2	-20.0 -21.4	-47.7	-18.5	0.00	0.00	0.00
2,900.0	1.95	245.82	2,899.1	-22.8	-50.8	-20.9	0.00	0.00	0.00
3,000.0	1.95	245.82	2,999.0	-24.2	-53.9	-22.2	0.00	0.00	0.00
3,100.0	1.95	245.82	3,098.9	-25.6	-57.0	-23.4	0.00	0.00	0.00
3,200.0	1.95	245.82	3,198.9	-27.0	-60.1	-24.7	0.00	0.00	0.00
3,300.0	1.95	245.82	3,298.8	-28.4	-63.2	-26.0	0.00	0.00	0.00
3,400.0	1.95	245.82	3,398.8	-29.8	-66.3	-27.3	0.00	0.00	0.00
3,500.0	1.95	245.82	3,498.7	-31.2	-69.4	-28.5	0.00	0.00	0.00
3,600.0	1.95	245.82	3,598.7	-32.6	-72.5	-29.8	0.00	0.00	0.00
3,700.0	1.95	245.82	3,698.6	-33.9	-75.6	-31.1	0.00	0.00	0.00
3,800.0	1.95	245.82	3,798.5	-35.3	-78.7	-32.4	0.00	0.00	0.00
3,900.0	1.95	245.82	3,898.5	-36.7	-81.8	-33.7	0.00	0.00	0.00
4,000.0	1.95	245.82	3,998.4	-38.1	-84.9	-34.9	0.00	0.00	0.00
4,100.0	1.95	245.82	4,098.4	-39.5	-88.0	-36.2	0.00	0.00	0.00
4,200.0	1.95	245.82	4,198.3	-40.9	-91.1	-37.5	0.00	0.00	0.00
4,300.0	1.95	245.82	4,298.3	-42.3	-94.2	-38.8	0.00	0.00	0.00
4,400.0	1.95	245.82	4,398.2	-43.7	-97.3	-40.0	0.00	0.00	0.00
4,500.0	1.95	245.82	4,498.1	-45.1	-100.5	-41.3	0.00	0.00	0.00
4,600.0	1.95	245.82	4,598.1	-46.5	-103.6	-42.6	0.00	0.00	0.00
4,700.0	1.95	245.82	4,698.0	-47.9	-106.7	-43.9	0.00	0.00	0.00
4,800.0	1.95	245.82	4,798.0	-49.3	-109.8	-45.1	0.00	0.00	0.00
4,900.0	1.95	245.82	4,897.9	-50.7	-112.9	-46.4	0.00	0.00	0.00
5,000.0	1.95	245.82	4,997.8	-52.1	-116.0	-47.7	0.00	0.00	0.00
5,100.0	1.95	245.82	5,097.8	-53.5	-119.1	-49.0	0.00	0.00	0.00

Database:	Hobbs	Local Co-ordinate Reference:	Site Ibex 15/10 B3PA Fed Com #1H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 3440.0usft (Original Well Elev
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 3440.0usft (Original Well Elev
Site:	Ibex 15/10 B3PA Fed Com #1H	North Reference:	Grid
Well:	Sec 15, T23S, R34E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 100' FNL & 600' FEL, Sec 10	-	
Design:	Design #1		

Planned	Survey
---------	--------

Į.

ł.

Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate	
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	
5,200.0	1.95	245.82	5,197.7	-54.9	-122.2	-50.3	0.00	0.00	0.00	
5,300.0	1.95	245.82	5,297.7	-56.3	-125.3	-51.5	0.00	0.00	0.00	
5,400.0	1.95	245.82	5,397.6	-57.6	-128.4	-52.8	0.00	0.00	0.00	
5,500.0	1.95	245.82	5,497.6	-59.0	-131.5	-54.1	0.00	0.00	0.00	
5,600.0	1.95	245.82	5,597.5	-60.4	-134.6	-55.4	0.00	0.00	0.00	
5,700.0	1.95	245.82	5,697.4	-61.8	-137.7	-56.6	0.00	0.00	0.00	
5,800.0	1.95	245.82	5,797.4	-63.2	-140.8	-57.9	0.00	0.00	0.00	
5,900.0	1.95	245.82	5,897.3	-64.6	-143.9	-59.2	0.00	0.00	0.00	
•	1.95	245.82	5,897.3	-66.0	-143.9 -147.0	-59.2 -60.5	0.00	0.00	0.00	
6,000.0										
6,100.0	1.95	245.82	6,097.2	-67.4	-150.1	-61.7	0.00	0.00	0.00	
6,200.0	1.95	245.82	6,197.2	-68.8	-153.2	-63.0	0.00	0.00	0.00	
6,300.0	1.95	245.82	6,297.1	-70.2	-156.3	-64.3	0.00	0.00	0.00	
6,400.0	1.95	245.82	6,397.0	-71.6	-159.5	-65.6	0.00	0.00	0.00	
6,500.0	1.95	245.82	6,497.0	-73.0	-162.6	-66.9	0.00	0.00	0.00	
6,600.0	1.95	245.82	6,596.9	-74.4	-165.7	-68.1	0.00	0.00	0.00	
6,700.0	1.95	245.82	6,696.9	-75.8	-168.8	-69.4	0.00	0.00	0.00	
6,800.0	1.95	245.82	6,796.8	-77.2	-171.9	-70.7	0.00	0.00	0.00	
6,900.0	1.95	245.82	6,896.7	-78.6	-175.0	-72.0	0.00	0.00	0.00	
7,000.0	1.95	245.82	6,996.7	-80.0	-178.1	-73.2	0.00	0.00	0.00	
7,100.0	1.95	245.82	7,096.6	-81.3	-18 1.2	-74.5	0.00	0.00	0.00	
7,200.0	1.95	245.82	7,196.6	-82.7	-184.3	-75.8	0.00	0.00	0.00	
7,300.0	1.95	245.82	7,296.5	-84.1	-187.4	-77.1	0.00	0.00	0.00	
7,400.0	1.95	245.82	7,396.5	-85.5	-190.5	-78.4	0.00	0.00	0.00	
7,500.0	1.95	245.82	7,496.4	-86.9	-193.6	-79.6	0.00	0.00	0.00	
	1.95	245.82	7,496.4	-88.3	-195.6 -196.7	-79.8	0.00	0.00	0.00	
7,600.0	1.95	245.82 245.82	7,596.3	-89.7	-198.7 -199.8	-80.9	0.00	0.00	0.00	
7,700.0 7,800.0	1.95	245.82	7,796.2	-09.7 -91.1	-202.9	-83.5	0.00	0.00	0.00	
7,900.0	1.95	245.82	7,896.2	-92.5	-206.0	-84.7	0.00	0.00	0.00	
8,000.0	1.95	245. 82	7,996.1	-93.9	-20 9 .1	-86.0	0.00	0.00	0.00	
8,100.0	1.95	245.82	8,096.1	-95.3	-212.2	-87.3	0.00	0.00	0.00	
8,200.0	1.95	245.82	8,196.0	-96.7	-215.3	-88.6	0.00	0.00	0.00	
8,300.0	1.95	245.82	8,295.9	-98.1	-218.5	-89.8	0.00	0.00	0.00	
8,400.0	1.95	245.82	8,395.9	-99.5	-221.6	-91.1	0.00	0.00	0.00	
8,500.0	1.95	245.82	8,495.8	-100.9	-224.7	-92.4	0.00	0.00	0.00	
8,600.0	1.95	245.82	8,595.8	-102.3	-227.8	-93.7	0.00	0.00	0.00	
8,700.0	1.95	245.82	8,695.7	-103.7	-230.9	-95.0	0.00	0.00	0.00	
8,800.0	1.95	245.82	8,795.6	-105.1	-234.0	-96.2	0.00	0.00	0.00	
8,900.0	1.95	245.82	8,895.6	-106.4	-237.1	-97.5	0.00	0.00	0.00	
9,000.0	1.95	245.82	8,995.5	-107.8	-240.2	-98.8	0.00	0.00	0.00	
9,100.0	1.95	245.82	9,095.5	-109.2	-243.3	-100.1	0.00	0.00	0.00	
9,200.0	1.95	245.82	9,195.4	-110.6	-246.4	-101.3	0.00	0.00	0.00	
9,300.0	1.95	245.82	9,295.4	-112.0	-249.5	-102.6	0.00	0.00	0.00	
9,400.0	1.95	245.82	9,395.3	-113.4	-252.6	-103.9	0.00	0.00	0.00	
9,500.0	1.95	245.82	9,495.2	-114.8	-255.7	-105.2	0.00	0.00	0.00	
9,600.0	1.95	245.82	9,595.2	-116.2	-258.8	-106.4	0.00	0.00	0.00	
9,700.0	1.95	245.82	9,695.1	-117.6	-261.9	-107.7	0.00	0.00	0.00	
9,800.0	1.95	245.82	9,795.1	-119.0	-265.0	-109.0	0.00	0.00	0.00	
9,900.0	1.95	245.82	9,895.0	-120.4	-268.1	-110.3	0.00	0.00	0.00	
10,000.0	1.95	245.82	9,995.0	-121.8	-271.2	-111.6	0.00	0.00	0.00	
10,100.0	1.95	245.82	10,094.9	-123.2	-274.3	-112.8	0.00	0.00	0.00	
10,200.0	1.95	245.82	10,194.8	-124.6	-277.4	-114.1	0.00	0.00	0.00	
10,300.0	1.95	245.82	10,294.8	-126.0	-280.6	-115.4	0.00	0.00	0.00	
10,400.0	1.95	245.82	10,394.7	-127.4	-283.7	-116.7	0.00	0.00	0.00	
10,500.0	1.95	245.82	10,494.7	-128.8	-286.8	-117.9	0.00	0.00	0.00	

COMPASS 5000.1 Build 72

Database:	Hobbs	Local Co-ordinate Reference:	Site Ibex 15/10 B3PA Fed Com #1H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 3440.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 3440.0usft (Original Well Elev)
Site:	Ibex 15/10 B3PA Fed Com #1H	North Reference:	Grid
Well:	Sec 15, T23S, R34E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 100' FNL & 600' FEL, Sec 10	-	
Design:	Design #1		

Planned Survey	Survey	Planned
----------------	--------	---------

Depth (usft)	Inclination	Azimuth	Depth (usft)	+N/-S	+E/-W	Section (usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
(usit)	(°)	(°)	(usit)	(usft)	(usft)	(usn)	(71000511)	(71000511)	(/1000810)
10,600.0	1.95	245.82	10,594.6	-130.1	-289.9	-119.2	0.00	0.00	0.00
10,668.0	1.95	245.82	10,662.5	-131.1	-292.0	-120.1	0.00	0.00	0.00
10,700.0	1.47	245.82	10,694.5	-131.5	-292.9	-120.4	1.50	-1.50	0.00
10,798.0	0.00	0.00	10,792.5	-132.0	-294.0	-120.9	1.50	-1.50	0.00
KOP: 10' FS	L & 600' FEL (15))							
10,800.0	0.24	359.50	10,794.5	-132.0	-294.0	-120.9	12.00	12.00	0.00
10,900.0	12.24	359.50	10,893.8	-121.1	-294.1	-110.1	12.00	12.00	0.00
11,000.0	24.24	359.50	10,988.6	-89.9	-294.4	-78.8	12.00	12.00	0.00
11,096.0	35.76	359.50	11,071.6	-42.0	-294.8	-30.9	12.00	12.00	0.00
FTP: 100' FS	L & 600' FEL (15	5)							
11,100.0	36.24	359.50	11,074.8	-39.6	-294.8	-28.6	12.00	12.00	0.00
11,200.0	48.24	359.50	11,148.7	27.5	-295.4	38.5	12.00	12.00	0.00
11,300.0	60.24	359.50	11,207.0	108.5	-296.1	119.4	12.00	12.00	0.00
11,400.0	72.24	359.50	11,247.2	199.8	-296.9	210.8	12.00	12.00	0.00
11,500.0	84.24	359.50	11,267.6	297.5	-297.8	308.5	12.00	12.00	0.00
-									
11,546.4	89.80	359.50	11,270.0	343.8	-298.2	354.7	12.00	12.00	0.00
	. & 600' FEL (15)		44 070 0	207 4	000 7	400.0	0.00	0.00	A 44
11,600.0	89.80	359.50	11,270.2	397.4	-298.7	408.3	0.00	0.00	0.00
11,700.0	89.80	359.50	11,270.5	497.4	-299.5	508.3	0.00	0.00	0.00
11,800.0	89.80	359.50	11,270.9	597.4	-300.4	608.2	0.00	0.00	0.00
11,900.0	89.80	359.50	11,271.2	697.4	-301.3	708.2	0.00	0.00	0.00
12,000.0	89.80	359.50	11,271.5	797.4	-302.2	808.2	0.00	0.00	0.00
12,100.0	89.80	359.50	11,271.9	897.4	-303.1	908.1	0.00	0.00	0.00
12,200.0	89.80	359.50	11,272.2	997.4	-303.9	1,008.1	0.00	0.00	0.00
12,300.0	89.80	359.50	11,272.6	1,097.4	-304.8	1,108.0	0.00	0.00	0.00
12,400.0	89.80	359.50	11,272.9	1,197.4	-305.7	1,208.0	0.00	0.00	0.00
12,500.0	89.80	359.50	11,273.2	1,297.4	-306.6	1,308.0	0.00	0.00	0.00
12,600.0	89.80	359.50	11,273.6	1,397.4	-307.5	1,407.9	0.00	0.00	0.00
12,700.0	89.80	359.50	11,273.9	1,497.4	-308.3	1,507.9	0.00	0.00	0.00
12,800.0	89.80	359.50	11,274.3	1,597.4	-309.2	1,607.8	0.00	0.00	0.00
12,900.0	89.80	359.50	11,274.6	1,697.4	-310.1	1,707.8	0.00	0.00	0.00
13,000.0	89.80	359.50	11,275.0	1,797.4	-311.0	1,807.7	0.00	0.00	0.00
13,100.0	89.80	359.50	11,275.3	1,897.4	-311.9	1,907.7	0.00	0.00	0.00
13,200.0	89.80	359.50	11,275.6	1,997.4	-312.7	2,007.7	0.00	0.00	0.00
13,300.0	89.80	359.50	11,276.0	2,097.4	-313.6	2,107.6	0.00	0.00	0.00
13,400.0	89.80	359.50	11,276.3	2,197.4	-314.5	2,207.6	0.00	0.00	0.00
13,500.0	89.80	359.50	11,276.7	2,297.4	-315.4	2,307.5	0.00	0.00	0.00
13,600.0	89.80	359.50	11,277.0	2,397.4	-316.3	2,407.5	0.00	0.00	0.00
13,700.0	89.80	359.50	11,277.3	2,497.4	-317.1	2,507.5	0.00	0.00	0.00
13,700.6	89.80	359.50	11,277.3	2,498.0	-317.1	2,508.1	0.00	0.00	0.00
PPP2: 2640'	FNL & 600' FEL	(15)							
13,800.0	89.80	359.50	11,277.7	2,597.3	-318.0	2,607.4	0.00	0.00	0.00
13,900.0	89.80	359.50	11,278.0	2,697.3	-318.9	2,707.4	0.00	0.00	0.00
14,000.0	89.80	359.50	11,278.4	2,797.3	-319.8	2,807.3	0.00	0.00	0.00
14,100.0	89.80	359.50	11,278.7	2,897.3	-320.7	2,907.3	0.00	0.00	0.00
14,200.0	89.80	359.50	11,279.0	2,997.3	-321.5	3,007.3	0.00	0.00	0.00
14,300.0	89.80	359.50	11,279.4	3,097.3	-322.4	3,107.2	0.00	0.00	0.00
14,400.0	89.80	359.50	11,279.7	3,197.3	-323.3	3,207.2	0.00	0.00	0.00
14,500.0	89.80	359.50	11,280.1	3,297.3	-324.2	3,307.1	0.00	0.00	0.00
14,600.0	89.80	359.50	11,280.4	3,397.3	-325.1	3,407.1	0.00	0.00	0.00
14,700.0	89.80	359.50	11,280.7	3,497.3	-325.9	3,507.0	0.00	0.00	0.00
14,800.0	89.80	359.50	11,281.1	3,597.3	-326.8	3,607.0	0.00	0.00	0.00
				· · -		,			

Database:	Hobbs	Local Co-ordinate Reference:	Site Ibex 15/10 B3PA Fed Com #1H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 3440.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 3440.0usft (Original Well Elev)
Site:	Ibex 15/10 B3PA Fed Com #1H	North Reference:	Grid
Well:	Sec 15, T23S, R34E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 100' FNL & 600' FEL, Sec 10		
Design:	Design #1		

Planned	Survey
---------	--------

Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
15,000.0	89.80	359.50	11,281.8	3,797.3	-328.6	3,806.9	0.00	0.00	0.00
15,100.0	89.80	359.50	11,282.1	3,897.3	-329.5	3,906.9	0.00	0.00	0.00
15,200.0	89.80	359.50	11,282.5	3,997.3	-330.3	4,006.8	0.00	0.00	0.00
15,300.0	89.80	359.50	11,282.8	4,097.3	-331.2	4,106.8	0.00	0.00	0.00
15,400.0	89.80	359.50	1 1,283 .1	4,197.3	-332.1	4,206.8	0.00	0.00	0.00
15,500.0	89.80	359.50	11,283.5	4,297.3	-333.0	4,306.7	0.00	0.00	0.00
15,600.0	89.80	359.50	11,283.8	4,397.3	-333.9	4,406.7	0.00	0.00	0.00
15,700.0	89.80	359.50	11,284.2	4,497.3	-334.7	4,506.6	0.00	0.00	0.00
15,800.0	89.80	359.50	11,284.5	4,597.3	-335.6	4,606.6	0.00	0.00	0.00
15,900.0	89.80	359.50	11,284.8	4,697.3	-336.5	4,706.5	0.00	0.00	0.00
16,000.0	89.80	359.50	11,285.2	4,797.2	-337.4	4,806.5	0.00	0.00	0.00
16,100.0	89.80	359.50	11,285.5	4,897.2	-338.3	4,906.5	0.00	0.00	0.00
16,200.0	89.80	359.50	11,285.9	4,997.2	-339.1	5,006.4	0.00	0.00	0.00
16,300.0	89.80	359.50	11,286.2	5,097.2	-340.0	5,106.4	0.00	0.00	0.00
16,400.0	89.80	359.50	11,286.5	5,197.2	-340.9	5,206.3	0.00	0.00	0.00
16,483.8	89.80	359.50	11,286.8	5,281.0	-341.6	5,290.1	0.00	0.00	0.00
	L & 600' FEL (10)					_			
16,500.0	89.80	359.50	11,286.9	5,297.2	-341.8	5,306.3	0.00	0.00	0.00
16,600.0	89.80	359.50	11,287.2	5,397.2	-342.7	5,406.3	0.00	0.00	0.00
16,700.0	89.80	359.50	11,287.6	5,497.2	-343.5	5,506.2	0.00	0.00	0.00
16,800.0	89.80	359.50	11,287.9	5,597.2	-344.4	5,606.2	0.00	0.00	0.00
16,900.0	89.80	359.50	11,288.2	5,697.2	-345.3	5,706.1	0.00	0.00	0.00
17,000.0	89.80	359.50	11,288.6	5,797.2	-346.2	5,806.1	0.00	0.00	0.00
17,100.0	89.80	359.50	11,288.9	5,897.2	-347.1	5,906.1	0.00	0.00	0.00
17,200.0	89.80	359.50	11,289.3	5,997.2	-348.0	6,006.0	0.00	0.00	0.00
17,300.0	89.80	359.50	11,289.6	6,097.2	-348.8	6,106.0	0.00	0.00	0.00
17,400.0	89.80	359.50	11,289.9	6,197.2	-349.7	6,205.9	0.00	0.00	0.00
17,500.0	89.80	359.50	11,290.3	6,297.2	-350.6	6,305.9	0.00	0.00	0.00
17,600.0	89.80	359.50	11,290.6	6,397.2	-351.5	6,405.8	0.00	0.00	0.00
17,700.0	89.80	359.50	11,291.0	6,497.2	-352.4	6,505.8	0.00	0.00	0.00
17,800.0	89.80	359.50	11,291.3	6,597.2	-353.2	6,605.8	0.00	0.00	0.00
17,804.8	89.80	359.50	11,291.3	6,602.0	-353.3	6,610.6	0.00	0.00	0.00
	FSL & 600' FEL	• •	11 201 7	6 607 2	-354.1	6,705.7	0.00	0.00	0.00
17,900.0	89.80 89.80	359.50 359.50	11,291.7	6,697.2 6,797.2	-354.1 -355.0	6,805.7	0.00	0.00	0.00
18,000.0 18,100.0	89.80	359.50	11,292.0 11,292.3	6,897.2	-355.0	6,905.6	0.00	0.00	0.00
18,200.0	89.80	359.50	11,292.7	6,997.1	-356.8	7,005.6	0.00	0.00	0.00
18,300.0	89.80	359.50	11,293.0	7,097.1	-357.6	7,105.6	0.00	0.00	0.00
18,400.0	89.80	359.50	11,293.4	7,197.1	-358.5	7,205.5	0.00	0.00	0.00
18,500.0	89.80	359.50	11,293.7	7,297,1	-359.4	7,305.5	0.00	0.00	0.00
18,600.0	89.80	359.50	11,294.0	7,397.1	-360.3	7,405.4	0.00	0.00	0.00
18,700.0	89.80	359.50	11,294.4	7,497.1	-361.2	7,505.4	0.00	0.00	0.00
18,800.0	89.80	359.50	11,294.7	7,597.1	-362.0	7,605.3	0.00	0.00	0.00
18,900.0	89.80	359.50	11,295.1	7,697.1	-362.9	7,705.3	0.00	0.00	0.00
19,000.0	89.80	359.50	11,295.4	7,797.1	-363.8	7,805.3	0.00	0.00	0.00
19,100.0	89.80	359.50	11,295.7	7,897.1	-364.7	7,905.2	0.00	0.00	0.00
19,200.0	89.80	359.50	11,296.1	7,997.1	-365.6	8,005.2	0.00	0.00	0.00
19,300.0	89.80	359.50	11,296.4	8,097.1	-366.4	8,105.1	0.00	0.00	0.00
19,400.0	89.80	359.50	11,296.8	8,197.1	-367.3	8,205.1	0.00	0.00	0.00
19,500.0	89.80	359.50	11,297.1	8,297.1	-368.2	8,305.1	0.00	0.00	0.00
19,600.0	89.80	359.50	11,297.4	8,397.1	-369.1	8,405.0	0.00	0.00	0.00
								0.00	0.00
19,700.0 19,800.0	89.80 89.80	359.50 359.50	11,297.8 11,298.1	8,497.1 8,597.1	-370.0 -370.8	8,505.0 8,604.9	0.00 0.00	0.00	0.00
13,000.0	03,00	239.30	11,230.1	0,397.1	-370.8	0,004.9	0.00	0.00	0.00

Database: Company: Project: Site: Well: Well: Wellbore:	Hobbs Mewbourne Oil Company Eddy County, New Mexico NAD 83 Ibex 15/10 B3PA Fed Com #1H Sec 15, T23S, R34E BHL: 100' FNL & 600' FEL, Sec 10	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Site Ibex 15/10 B3PA Fed Com #1H WELL @ 3440.0usft (Original Well Elev) WELL @ 3440.0usft (Original Well Elev) Grid Minimum Curvature
Design:	Design #1		

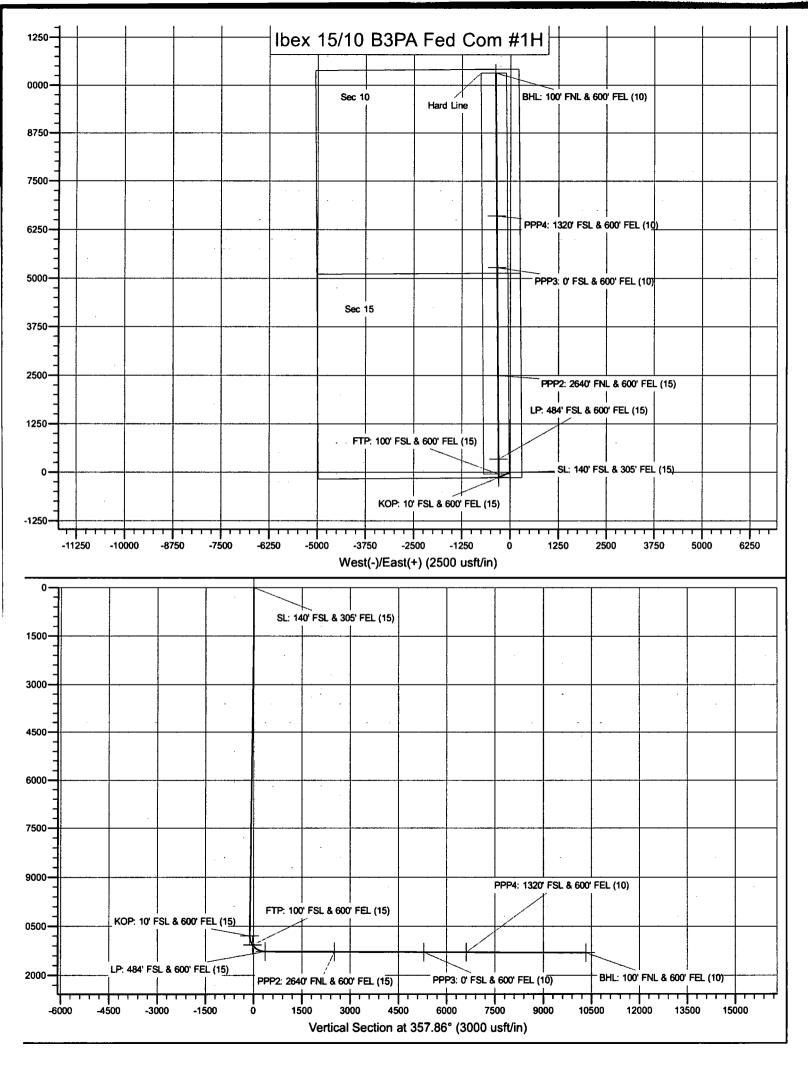
Planned Survey

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
20,000.0	89.80	359.50	11,298.8	8,797.1	-372.6	8,804.8	0.00	0.00	0.00
20,100.0	89.80	359.50	11,299.2	8,897.1	-373.5	8,904.8	0.00	0.00	0.00
20,200.0	89.80	359.50	11,299.5	8,997.1	-374.4	9,004.8	0.00	0.00	0.00
20,300.0	89,80	359.50	11,299.8	9,097.1	-375.2	9,104.7	0.00	0.00	0.00
20,400.0	89.80	359,50	11,300.2	9,197.1	-376.1	9,204.7	0.00	0.00	0.00
20,500.0	89.80	359.50	11,300.5	9,297.0	-377.0	9,304.6	0.00	0.00	0.00
20,600.0	89.80	359.50	11,300.9	9,397.0	-377.9	9,404.6	0.00	0.00	0.00
20,700.0	89.80	359.50	11,301.2	9,497.0	-378.8	9,504.6	0.00	0.00	0.00
20,800.0	89.80	359.50	11,301.5	9,597.0	-379.6	9,604.5	0.00	0.00	0.00
20,900.0	89.80	359.50	11,301.9	9,697.0	-380.5	9,704.5	0.00	0.00	0.00
21,000.0	89.80	359.50	11,302.2	9,797.0	-381.4	9,804.4	0.00	0.00	0.00
21,100.0	89.80	359.50	11,302.6	9,897.0	-382.3	9,904.4	0.00	0.00	0.00
21,200.0	89.80	359.50	11,302.9	9,997.0	-383.2	10,004.4	0.00	0.00	0.00
21,300.0	89.80	359.50	11,303.2	10,097.0	-384.0	10,104.3	0.00	0.00	0.00
21,400.0	89.80	359.50	11,303.6	10,197.0	-384.9	10,204.3	0.00	0.00	0.00
21,500.0	89.80	359.50	11,303.9	10,297.0	-385.8	10,304.2	0.00	0.00	0.00
21,523.0	89.80	359.50	11,304.0	10,320.0	-386.0	10,327.2	0.00	0.00	0.00

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: 140' FSL & 305' FEL - plan hits target cente - Point	0.00 er	0.00	0.0	0.0	0.0	473,175.00	814,157.00	32.2977438	-103.450386
KOP: 10' FSL & 600' FE - plan hits target cente - Point	0.00 er	0.00	10,792.5	-132.0	-294.0	473,043.00	813,863.00	32.2973876	-103.451341
FTP: 100' FSL & 600' FE - plan hits target cente - Point	0.00 er	0.00	11,071.5	-42.0	-294.8	473,133.00	813,862.21	32.2976350	-103.45134
LP: 484' FSL & 600' FEL - plan hits target cente - Point	0.00 er	0.00	11,270.0	343.8	-298.2	473,518.80	813,858.80	32.2986955	-103.451342
PPP2: 2640' FNL & 600' - plan hits target cente - Point	0.00 er	0.00	11,277.3	2,498.0	-317.1	475,673.00	813,839.85	32.3046168	-103.451346
PPP3: 0' FSL & 600' FEl - plan hits target cente - Point	0.00 er	0.00	11,286.8	5,281.0	-341.6	478,456.00	813,815.35	32.3122665	-103.451351
PPP4: 1320' FSL & 600' - plan hits target cente - Point	0.00 r	0.00	11,291.3	6,602.0	-353.3	479,777.00	813,803.72	32.3158976	-103.451353
3HL: 100' FNL & 600' FE - plan hits target cente - Point	0.00 r	0.00	11,304.0	10,320.0	-386.0	483,495.00	813,771.00	32.3261174	-103.451360

ſ

COMPASS 5000.1 Build 72



1. 1.82 Geologic Formations

TVD of target	11,304'	Pilot hole depth	NA
MD at TD:	21,523'	Deepest expected fresh water:	275'

Basin	

Formation	Depth (TVD)	Water/Mineral Bearing/	Hazards*
	from KB	Target Zone?	
Quaternary Fill	Surface		
Rustler	1080		
Top of Salt	1400		
Base of Salt			
Delaware (Lamar)	5060	Oil	
Bell Canyon			
Cherry Canyon			
Manzanita Marker			
Brushy Canyon			
Bone Spring	8540	Oil/Gas	
1 st Bone Spring Sand	9625		
2 nd Bone Spring Sand	10125		
3 rd Bone Spring Sand	11020	Target Zone	
Abo			
Wolfcamp			
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

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

2. Casing Program

Hole	Casing Interval		Csg.	Weight	Grade	Conn.	SF	SF	SF Jt	SF Body
Size	From	То	Size	(lbs)			Collapse	Burst	Tension	Tension
17.5"	0'	1350'	13.375"	48	H40	STC	1.25	2.80	4.97	8.35
12.25"	0'	4985'	9.625"	40	L80	LTC	1.19	2.22	3.65	4.59
8.75"	0'	11400'	7"	26	HCP110	LTC	1.66	2.02	2.41	2.81
6.125"	10792'	21523'	4.5"	13.5	P110	LTC	1.82	2.11	2.33	2.91
	BLM Min	imum Safety	Factor 1.1	125	i 1	.6 Dry	1.6 Dry	••••••••••••••••••••••••••••••••••••••	A	• • • •
		-			1	.8 Wet	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	Y
justification (loading assumptions, casing design criteria).	
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the	Y
collapse pressure rating of the casing?	
Is well located within Capitan Reef?	Y
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?	N
If yes, are there two strings cemented to surface?	

(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ 0 gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	570	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.	780	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	250	12.5	2.12	11	9	Lead: Class C + Gel + Retarder + Defoamer + Extender
U	400	15.6	1.18	5.2	10	Tail: Class H + Retarder + Fluid Loss + Defoamer
			·		ECP/DV T	ool @ 6100'
Prod.	100	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
Stg 2	100	14.8	1.34	6.3	8	Tail: Class C + Retarder
Liner	430	11.2	2.97	18	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.

Casing String	TOC	% Excess	
Surface	0'	100%	
Intermediate	0'	25%	
Production	4785'	25%	
Liner	10792'	25%	

4. Pressure Control Equipment

N Variance: A variance is requested for use of a 5000 psi annular BOP with the 10,000 psi BOP stack. Please see attached description and procedure.

BOP installed and tested before drilling which hole?	Size?	System Rated WP	Туре		-	Tested to:
			A	nnular	X	2,500#
			Blin	nd Ram	X	
12-1/4"	13-5/8"	5M	Pip	e Ram	X	5 000#
			Double Ram			5,000#
			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.

Χ	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.

Drilling Plan

Order #2 after a maximum of ted.

5. Mud Program

TVD		Туре	Weight (ppg)	Viscosity	Water Loss	
From	То					
0	1350	FW Gel	8.6-8.8	28-34	N/C	
1350	4985	Saturated Brine	10.0	28-34	N/C	
4985	11247	Cut Brine	8.6-9.5	28-34	N/C	
11247	11304	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	Pason/PVT/Visual Monitoring
of fluid?	

6. Logging and Testing Procedures

Log	Logging, Coring and Testing.	
X	Will run GR/CNL from KOP (10,792') 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

Drilling Plan

5

X	Gamma Ray	10,792' (KOP) to TD	
	Density		
	CBL		
	Mud log		
	PEX		

7. Drilling Conditions

Condition	Specify what type and where?	
BH Pressure at deepest TVD	5878 psi	
Abnormal Temperature	No	

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

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	
Χ	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

Drilling Plan

6

7

____ Directional Plan ____ Other, describe

Drilling Plan



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

APD ID: 10400046177

Operator Name: MEWBOURNE OIL COMPANY

Well Name: IBEX 15/10 B3PA FED COM

Well Type: OIL WELL

Well Number: 1H Well Work Type: Drill

Submission Date: 08/27/2019

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? N **Produced Water Disposal (PWD) Location:** PWD surface owner: Lined pit PWD on or off channel: Lined pit PWD discharge volume (bbl/day): Lined pit specifications: **Pit liner description:** Pit liner manufacturers information: **Precipitated solids disposal:** Decribe precipitated solids disposal: Precipitated solids disposal permit: Lined pit precipitated solids disposal schedule: Lined pit precipitated solids disposal schedule attachment: Lined pit reclamation description: Lined pit reclamation attachment: Leak detection system description: I eak detection evetem attachment

PWD disturbance (acres):

Operator Name: MEWBOURNE OIL COMPANY

Well Name: IBEX 15/10 B3PA FED COM

Well Number: 1H

Lined pit Monitor description: Lined pit Monitor attachment: Lined pit: do you have a reclamation bond for the pit? Is the reclamation bond a rider under the BLM bond? Lined pit bond number: Lined pit bond amount: Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres):

PWD surface owner:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Operator Name: MEWBOURNE OIL COMPANY

Well Name: IBEX 15/10 B3PA FED COM

Well Number: 1H

Is the reclamation bond a rider under the BLM bond?	
Unlined pit bond number:	
Unlined pit bond amount:	
Additional bond information attachment:	
Destion A Injection	
Section 4 - Injection	
Would you like to utilize Injection PWD options? N	
Produced Water Disposal (PWD) Location:	
PWD surface owner:	PWD disturbance (acres):
Injection PWD discharge volume (bbl/day):	
Injection well mineral owner:	
Injection well type:	
Injection well number:	Injection well name:
Assigned injection well API number?	Injection well API number:
Injection well new surface disturbance (acres):	
Minerals protection information:	
Mineral protection attachment:	
Underground Injection Control (UIC) Permit?	
UIC Permit attachment:	
Section 5 - Surface Discharge	
Would you like to utilize Surface Discharge PWD options? N	
Produced Water Disposal (PWD) Location:	
PWD surface owner:	PWD disturbance (acres):
Surface discharge PWD discharge volume (bbl/day):	
Surface Discharge NPDES Permit?	
Surface Discharge NPDES Permit attachment:	
Surface Discharge site facilities information:	
Surface discharge site facilities map:	
Section 6 - Other	
Would you like to utilize Other PWD options? N	
Produced Water Disposal (PWD) Location:	

PWD disturbance (acres):

PWD surface owner:

Operator Name: MEWBOURNE OIL COMPANY

Well Name: IBEX 15/10 B3PA FED COM

Well Number: 1H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

APD ID: 10400046177

Operator Name: MEWBOURNE OIL COMPANY

Well Name: IBEX 15/10 B3PA FED COM

Well Type: OIL WELL

Bond Information

Federal/Indian APD: FED

BLM Bond number: NM1693

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

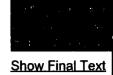
Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

Submission Date: 08/27/2019

Well Number: 1H Well Work Type: Drill



02/28/2020

حبة لا المسلح

Bond Info Data Report