



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

## Drilling Plan Data Report

07/20/2017

APD ID: 10400007697

Submission Date: 11/18/2016

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRONGHORN 15 B3AP FED COM

Well Number: 1H

Well Type: OIL WELL

Well Work Type: Drill

### Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
17691	UNKNOWN	3387	27	27		NONE	No
17746	RUSTLER	1510	1877	1877	DOLOMITE, ANHYDRITE	USEABLE WATER	No
17718	TOP SALT	1175	2212	2212	SALT	NONE	No
17723	BOTTOM SALT	-1235	4622	4622	SALT	NONE	No
17719	LAMAR	-1595	4982	4982	LIMESTONE	NATURAL GAS, OIL	No
15332	BELL CANYON	-1723	5110	5110	SANDSTONE	NATURAL GAS, OIL	No
15316	CHERRY CANYON	-2549	5936	5936	SHALE, SANDSTONE	NATURAL GAS, OIL	No
17713	BRUSHY CANYON	-3805	7192	7192	SANDSTONE	NATURAL GAS, OIL	No
17688	BONE SPRING	-5080	8467	8467	SANDSTONE	NATURAL GAS, OIL	No
15338	BONE SPRING 1ST	-6235	9622	9622	SANDSTONE	NATURAL GAS, OIL	No
17737	BONE SPRING 2ND	-6697	10084	10084	SANDSTONE	NATURAL GAS, OIL	No
17738	BONE SPRING 3RD	-7585	10972	10976	SANDSTONE	NATURAL GAS, OIL	Yes

### Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M

Rating Depth: 4907

Equipment: Annular, Pipe Ram, Blind Ram

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold.

Testing Procedure: Test Annular to 1500#. Test Rams to 3000#.

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** PRONGHORN 15 B3AP FED COM

**Well Number:** 1H

**BOP Diagram Attachment:**

Pronghorn 15 B3AP Fed Com 1H\_3M BOPE Schematic\_11-08-2016.pdf

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**Pressure Rating (PSI):** 3M

**Rating Depth:** 1700

**Equipment:** Annular

**Requesting Variance?** NO

**Variance request:**

**Testing Procedure:** Test to 2000#

**Choke Diagram Attachment:**

Pronghorn 15 B3AP Fed Com 1H\_3M Surface BOPE Choke Diagram\_11-14-2016.pdf

**BOP Diagram Attachment:**

Pronghorn 15 B3AP Fed Com 1H\_3M Surface BOPE Schematic\_11-17-2016.pdf

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**Pressure Rating (PSI):** 5M

**Rating Depth:** 15860

**Equipment:** Annular, Pipe Ram, Blind Ram

**Requesting Variance?** YES

**Variance request:** A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold.

**Testing Procedure:** Test Annular to 2500# Test Rams to 5000#

**Choke Diagram Attachment:**

**BOP Diagram Attachment:**

Pronghorn 15 B3AP Fed Com 1H\_5M BOPE Schematic\_11-14-2016.pdf

Pronghorn 15 B3AP Fed Com 1H\_Flex Line Specs\_11-14-2016.pdf

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**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** PRONGHORN 15 B3AP FED COM

**Well Number:** 1H

### Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	Y	0	1700	0	1700	-7952	-9652	1700	H-40	48	STC	1.13	2.53	DRY	3.83	DRY	8.56
2	INTERMEDIATE	12.25	9.625	NEW	API	Y	0	3450	0	3450	-7952	-11402	3450	J-55	36	LTC	1.13	1.96	DRY	2.48	DRY	4.54
3	PRODUCTION	8.75	7.0	NEW	API	N	0	11538	0	11538	-7952	-19490	11538	P-110	26	LTC	1.39	1.77	DRY	2.17	DRY	2.77
4	LINER	6.125	4.5	NEW	API	N	10750	15830	10750	11339	-18702	-19291	5080	P-110	13.5	LTC	1.39	1.62	DRY	4.97	DRY	6.2

#### Casing Attachments

**Casing ID:** 1      **String Type:** SURFACE

**Inspection Document:**

**Spec Document:**

**Taperd String Spec:**

Pronghorn 15 B3AP Fed Com 1H\_Surface Tapered String Diagram\_11-17-2016.pdf

**Casing Design Assumptions and Worksheet(s):**

Pronghorn 15 B3AP Fed Com 1H\_drilling program\_11-17-2016.pdf

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** PRONGHORN 15 B3AP FED COM

**Well Number:** 1H

#### Casing Attachments

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**Casing ID:** 2      **String Type:** INTERMEDIATE

**Inspection Document:**

**Spec Document:**

**Taperd String Spec:**

Pronghorn 15 B3AP Fed Com 1H\_Intermediate Tapered String Diagram\_11-17-2016.pdf

**Casing Design Assumptions and Worksheet(s):**

Pronghorn 15 B3AP Fed Com 1H\_drilling program\_11-17-2016.pdf

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**Casing ID:** 3      **String Type:** PRODUCTION

**Inspection Document:**

**Spec Document:**

**Taperd String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Pronghorn 15 B3AP Fed Com 1H\_drilling program\_11-17-2016.pdf

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**Casing ID:** 4      **String Type:** LINER

**Inspection Document:**

**Spec Document:**

**Taperd String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Pronghorn 15 B3AP Fed Com 1H\_drilling program\_11-17-2016.pdf

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**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** PRONGHORN 15 B3AP 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	1314	1000	2.12	12.5	2120	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail		1314	1700	200	1.34	14.8	268	100	Class C	Retarder
INTERMEDIATE	Lead		0	4051	800	2.12	12.5	424	25	Class C	Salt, Gel, Extender, LCM
INTERMEDIATE	Tail		4051	4907	200	1.34	14.8	268	25	Class C	LCM
PRODUCTION	Lead		4700	8410	400	2.12	12.5	848		Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		8410	11550	400	1.18	15.6	472	25	Class H	Retarder, Fluid Loss, Defoamer
LINER	Lead		10750	15820	205	2.97	11.2	609		Class C	Salt, Gel, Fluid Loss, Retarder, Dispersant,

## Section 5 - Circulating Medium

**Mud System Type:** Closed

**Will an air or gas system be Used?** NO

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

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

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

**Describe the mud monitoring system utilized:** Visual Monitoring

## Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1700	SPUD MUD	8.6	8.8							

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** PRONGHORN 15 B3AP FED COM

**Well Number:** 1H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1700	4900	SALT SATURATED	10	10							
4900	10800	WATER-BASED MUD	8.6	9.5							
10800	11339	WATER-BASED MUD	8.6	9.5							

## Section 6 - Test, Logging, Coring

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

Will run GR/CNL from KOP (10,795') to surface

**List of open and cased hole logs run in the well:**

CNL,DS,GR,MWD,MUDLOG

**Coring operation description for the well:**

None

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 4865

**Anticipated Surface Pressure:** 2370.42

**Anticipated Bottom Hole Temperature(F):** 140

**Anticipated abnormal proessures, temperatures, or potential geologic hazards?** NO

**Describe:**

**Contingency Plans geoharzards description:**

**Contingency Plans geohazards attachment:**

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations plan:**

Pronghorn 15 B3AP Fed Com 1H\_H2S Plan\_11-17-2016.pdf

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** PRONGHORN 15 B3AP FED COM

**Well Number:** 1H

## **Section 8 - Other Information**

**Proposed horizontal/directional/multi-lateral plan submission:**

Pronghorn 15 B3AP Fed Com 1H\_Wall Plot\_11-17-2016.pdf

Pronghorn 15 B3AP Fed Com 1H\_Well Plan\_11-18-2016.pdf

**Other proposed operations facets description:**

**Other proposed operations facets attachment:**

**Other Variance attachment:**

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**

**Sec 15, T23S, R34E**

**SL: 185' FNL & 660' FEL, Sec 15**

**BHL: 330' FSL & 450' FEL, Sec 15**

**1. Geologic Formations**

TVD of target	11,273'	Pilot hole depth	NA
MD at TD:	15,838'	Deepest expected fresh water:	325'

**Basin**

<b>Formation</b>	<b>Depth (TVD) from KB</b>	<b>Water/Mineral Bearing/ Target Zone?</b>	<b>Hazards*</b>
Quaternary Fill	Surface		
Rustler	1,877'	Water	
Top of Salt	2,212'		
Castile	2,822'		
Base of Salt	4,622'		
Delaware (Lamar)	4,982'	Oil/Gas	
Bell Canyon	5,110'	Oil/Gas	
Cherry Canyon	5,936'	Oil/Gas	
Manzanita Marker	6,037'		
Brushy Canyon	7,192'	Oil/Gas	
Bone Spring	8,467'	Oil/Gas	
1 <sup>st</sup> Bone Spring Sand	9,622'	Oil/Gas	
2 <sup>nd</sup> Bone Spring Sand	10,084'	Oil/Gas	
3 <sup>rd</sup> Bone Spring Sand	10,972'	Target Zone	
Abo			
Wolfcamp		Will Not Penetrate	
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

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



**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**  
**Sec 15, T23S, R34E**  
**SL: 185' FNL & 660' FEL, Sec 15**  
**BHL: 330' FSL & 450' FEL, Sec 15**

**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'	1,315'	13.375"	48	H40	STC	1.13	2.53	3.83	8.56
17.5"	1,315'	1,700'	13.375"	54.5	J55	STC	1.28	3.09	24.58	40.78
12.25"	0'	3,450'	9.625"	36	J55	LTC	1.13	1.96	2.48	4.54
12.25"	3,450'	4,390'	9.625"	40	J55	LTC	1.13	1.73	8.94	16.75
12.25"	4,390'	4,907'	9.625"	40	N80	LTC	1.21	2.25	35.86	44.57
8.75"	0'	10,750'	7"	26	P110	LTC	1.39	1.77	2.17	2.77
8.75"	10,750'	11,550'	7"	26	P110	BTC	1.33	1.7	44.16	42.97
6.125"	10,750'	15,830'	4.5"	13.5	P110	LTC	1.39	1.62	4.97	6.2
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?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> 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 <sup>nd</sup> 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?	N
(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, Pronghorn 15 B3AP Fed Com #1H**

**Sec 15, T23S, R34E**

**SL: 185' FNL & 660' FEL, Sec 15**

**BHL: 330' FSL & 450' FEL, Sec 15**

**3. Cementing Program**

Casing	# Sks	Wt. lb/ gal	Yld ft <sup>3</sup> / sack	H <sub>2</sub> O gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	1,000	12.5	2.12	11	10	Lead: Class C + 4.0% Bentonite + 0.6% CD-32 + 5% Sodium Chloride + 0.25lb/sk Cello-Flake
	200	14.8	1.34	6.3	8	Tail: Class C + 0.005 pps Static Free + 1% CaCl <sub>2</sub> + 0.25 pps Cello Flake + 0.005 gps FP-6L
Inter.	800	12.5	2.12	11	10	Lead: Class C (35:65:4) + 5% Sodium Chloride + 5#/sk LCM + 0.25 lb/sk Cello Flake
	200	14.8	1.34	6.3	8	Tail: Class C + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
Prod.	400	12.5	2.12	11	9	Lead: Class C (60:40:0) + 15.0 lb/sk BA-90 + 4.0% MPS-5 + 3.0% SMS + 5.0% A-10 + 1.0% BA-10A + 0.8% ASA-301 + 2.9% R-21 + 8.0 lb/sk LCM-1 + 0.005 lb/sk Static Free
	400	15.6	1.18	5.2	10	Tail: Class H + 0.65% FL-52 + 0.1% R-3 + 0.005 lb/sk Static Free
Liner	200	11.2	2.97	17	16	Class C (60:40:0) + 4% MPA5 + 1.2% BA10A + 10#/sk BA90 + 5% A10 + 0.65% ASA301 + 1.5%SMS + 1.2% R21

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	4,700'	25%
Liner	10,800'	25%

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**  
**Sec 15, T23S, R34E**  
**SL: 185' FNL & 660' FEL, Sec 15**  
**BHL: 330' FSL & 450' FEL, Sec 15**

**4. Pressure Control Equipment**

Variance: None
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BOP installed and tested before drilling which hole?	Size?	System Rated WP	Type	✓	Tested to:
12-1/4"	13-5/8"	3M	Annular	X	1,500#
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4"	13-5/8"	3M	Annular	X	2,500#
			Blind Ram	X	5,000#
			Pipe Ram	X	
			Double Ram		
			Other*		
6-1/8"	13-5/8"	3M	Annular	X	2,500#
			Blind Ram	X	5,000#
			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.

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**

**Sec 15, T23S, R34E**

**SL: 185' FNL & 660' FEL, Sec 15**

**BHL: 330' FSL & 450' FEL, Sec 15**

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
N	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. <ul style="list-style-type: none"> <li>• Provide description here</li> </ul> See attached schematic.

**5. Mud Program**

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	1,700'	FW Gel	8.6-8.8	28-34	N/C
1,700'	4,900'	Saturated Brine	10.0	28-34	N/C
4,900'	10,800'	Cut Brine	8.6-9.5	28-34	N/C
10,800	15,837'	FW w/ Polymer	8.6-9.5	30-40	<20cc

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

What will be used to monitor the loss or gain of fluid?	Visual Monitoring
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**6. Logging and Testing Procedures**

Logging, Coring and Testing.	
X	Will run GR/CNL from KOP (10,795') to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned	Interval
X Gamma Ray	10,795' (KOP) to TD
Density	
CBL	
Mud log	
PEX	

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**  
**Sec 15, T23S, R34E**  
**SL: 185' FNL & 660' FEL, Sec 15**  
**BHL: 330' FSL & 450' FEL, Sec 15**

**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	4,865 psi
Abnormal Temperature	No

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

Hydrogen Sulfide (H<sub>2</sub>S) monitors will be installed prior to drilling out the surface shoe. If H<sub>2</sub>S 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.

	H <sub>2</sub> S is present
X	H <sub>2</sub> S Plan attached

**8. Water & Waste Volumes**

Fresh Water Required: 31,700 bbl

Waste Water: 31,700 bbl

Waste Solids: 1,650 bbl

**9. Other facets of operation**

Is this a walking operation? If yes, describe.

Will be pre-setting casing? If yes, describe.

Attachments

☐ Directional Plan

☐ Other, describe

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**

**Sec 15, T23S, R34E**

**SL: 185' FNL & 660' FEL, Sec 15**

**BHL: 330' FSL & 450' FEL, Sec 15**

**1. Geologic Formations**

TVD of target	11,273'	Pilot hole depth	NA
MD at TD:	15,838'	Deepest expected fresh water:	325'

**Basin**

<b>Formation</b>	<b>Depth (TVD) from KB</b>	<b>Water/Mineral Bearing/ Target Zone?</b>	<b>Hazards*</b>
Quaternary Fill	Surface		
Rustler	1,877'	Water	
Top of Salt	2,212'		
Castile	2,822'		
Base of Salt	4,622'		
Delaware (Lamar)	4,982'	Oil/Gas	
Bell Canyon	5,110'	Oil/Gas	
Cherry Canyon	5,936'	Oil/Gas	
Manzanita Marker	6,037'		
Brushy Canyon	7,192'	Oil/Gas	
Bone Spring	8,467'	Oil/Gas	
1 <sup>st</sup> Bone Spring Sand	9,622'	Oil/Gas	
2 <sup>nd</sup> Bone Spring Sand	10,084'	Oil/Gas	
3 <sup>rd</sup> Bone Spring Sand	10,972'	Target Zone	
Abo			
Wolfcamp		Will Not Penetrate	
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

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

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**  
**Sec 15, T23S, R34E**  
**SL: 185' FNL & 660' FEL, Sec 15**  
**BHL: 330' FSL & 450' FEL, Sec 15**

**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'	1,315'	13.375"	48	H40	STC	1.13	2.53	3.83	8.56
17.5"	1,315'	1,700'	13.375"	54.5	J55	STC	1.28	3.09	24.58	40.78
12.25"	0'	3,450'	9.625"	36	J55	LTC	1.13	1.96	2.48	4.54
12.25"	3,450'	4,390'	9.625"	40	J55	LTC	1.13	1.73	8.94	16.75
12.25"	4,390'	4,907'	9.625"	40	N80	LTC	1.21	2.25	35.86	44.57
8.75"	0'	10,750'	7"	26	P110	LTC	1.39	1.77	2.17	2.77
8.75"	10,750'	11,550'	7"	26	P110	BTC	1.33	1.7	44.16	42.97
6.125"	10,750'	15,830'	4.5"	13.5	P110	LTC	1.39	1.62	4.97	6.2
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?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> 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 <sup>nd</sup> 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?	N
(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, Pronghorn 15 B3AP Fed Com #1H**

**Sec 15, T23S, R34E**

**SL: 185' FNL & 660' FEL, Sec 15**

**BHL: 330' FSL & 450' FEL, Sec 15**

**3. Cementing Program**

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H <sub>2</sub> O gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	1,000	12.5	2.12	11	10	Lead: Class C + 4.0% Bentonite + 0.6% CD-32 + 5% Sodium Chloride + 0.25lb/sk Cello-Flake
	200	14.8	1.34	6.3	8	Tail: Class C + 0.005 pps Static Free + 1% CaCl <sub>2</sub> + 0.25 pps Cello Flake + 0.005 gps FP-6L
Inter.	800	12.5	2.12	11	10	Lead: Class C (35:65:4) + 5% Sodium Chloride + 5#/sk LCM + 0.25 lb/sk Cello Flake
	200	14.8	1.34	6.3	8	Tail: Class C + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
Prod.	400	12.5	2.12	11	9	Lead: Class C (60:40:0) + 15.0 lb/sk BA-90 + 4.0% MPS-5 + 3.0% SMS + 5.0% A-10 + 1.0% BA-10A + 0.8% ASA-301 + 2.9% R-21 + 8.0 lb/sk LCM-1 + 0.005 lb/sk Static Free
	400	15.6	1.18	5.2	10	Tail: Class H + 0.65% FL-52 + 0.1% R-3 + 0.005 lb/sk Static Free
Liner	200	11.2	2.97	17	16	Class C (60:40:0) + 4% MPA5 + 1.2% BA10A + 10#/sk BA90 + 5% A10 + 0.65% ASA301 + 1.5%SMS + 1.2% R21

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	4,700'	25%
Liner	10,800'	25%



**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**

**Sec 15, T23S, R34E**

**SL: 185' FNL & 660' FEL, Sec 15**

**BHL: 330' FSL & 450' FEL, Sec 15**

**4. Pressure Control Equipment**

Variance: None
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BOP installed and tested before drilling which hole?	Size?	System Rated WP	Type	✓	Tested to:
12-1/4"	13-5/8"	3M	Annular	X	1,500#
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4"	13-5/8"	3M	Annular	X	2,500#
			Blind Ram	X	5,000#
			Pipe Ram	X	
			Double Ram		
			Other*		
6-1/8"	13-5/8"	3M	Annular	X	2,500#
			Blind Ram	X	5,000#
			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.

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**

**Sec 15, T23S, R34E**

**SL: 185' FNL & 660' FEL, Sec 15**

**BHL: 330' FSL & 450' FEL, Sec 15**

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
N	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. <ul style="list-style-type: none"> <li>• Provide description here</li> </ul> See attached schematic.

**5. Mud Program**

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	1,700'	FW Gel	8.6-8.8	28-34	N/C
1,700'	4,900'	Saturated Brine	10.0	28-34	N/C
4,900'	10,800'	Cut Brine	8.6-9.5	28-34	N/C
10,800	15,837'	FW w/ Polymer	8.6-9.5	30-40	<20cc

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

What will be used to monitor the loss or gain of fluid?	Visual Monitoring
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**6. Logging and Testing Procedures**

Logging, Coring and Testing	
X	Will run GR/CNL from KOP (10,795') to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned	Interval
X Gamma Ray	10,795' (KOP) to TD
Density	
CBL	
Mud log	
PEX	

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**  
**Sec 15, T23S, R34E**  
**SL: 185' FNL & 660' FEL, Sec 15**  
**BHL: 330' FSL & 450' FEL, Sec 15**

**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	4,865 psi
Abnormal Temperature	No

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

Hydrogen Sulfide (H<sub>2</sub>S) monitors will be installed prior to drilling out the surface shoe. If H<sub>2</sub>S 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.

	H <sub>2</sub> S is present
X	H <sub>2</sub> S Plan attached

**8. Water & Waste Volumes**

Fresh Water Required: 31,700 bbl

Waste Water: 31,700 bbl

Waste Solids: 1,650 bbl

**9. Other facets of operation**

Is this a walking operation? If yes, describe.

Will be pre-setting casing? If yes, describe.

Attachments

\_\_\_ Directional Plan

\_\_\_ Other, describe

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**

**Sec 15, T23S, R34E**

**SL: 185' FNL & 660' FEL, Sec 15**

**BHL: 330' FSL & 450' FEL, Sec 15**

**1. Geologic Formations**

TVD of target	11,273'	Pilot hole depth	NA
MD at TD:	15,838'	Deepest expected fresh water:	325'

**Basin**

<b>Formation</b>	<b>Depth (TVD) from KB</b>	<b>Water/Mineral Bearing/ Target Zone?</b>	<b>Hazards*</b>
Quaternary Fill	Surface		
Rustler	1,877'	Water	
Top of Salt	2,212'		
Castile	2,822'		
Base of Salt	4,622'		
Delaware (Lamar)	4,982'	Oil/Gas	
Bell Canyon	5,110'	Oil/Gas	
Cherry Canyon	5,936'	Oil/Gas	
Manzanita Marker	6,037'		
Brushy Canyon	7,192'	Oil/Gas	
Bone Spring	8,467'	Oil/Gas	
1 <sup>st</sup> Bone Spring Sand	9,622'	Oil/Gas	
2 <sup>nd</sup> Bone Spring Sand	10,084'	Oil/Gas	
3 <sup>rd</sup> Bone Spring Sand	10,972'	Target Zone	
Abo			
Wolfcamp		Will Not Penetrate	
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

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

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**

**Sec 15, T23S, R34E**

**SL: 185' FNL & 660' FEL, Sec 15**

**BHL: 330' FSL & 450' FEL, Sec 15**

**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'	1,315'	13.375"	48	H40	STC	1.13	2.53	3.83	8.56
17.5"	1,315'	1,700'	13.375"	54.5	J55	STC	1.28	3.09	24.58	40.78
12.25"	0'	3,450'	9.625"	36	J55	LTC	1.13	1.96	2.48	4.54
12.25"	3,450'	4,390'	9.625"	40	J55	LTC	1.13	1.73	8.94	16.75
12.25"	4,390'	4,907'	9.625"	40	N80	LTC	1.21	2.25	35.86	44.57
8.75"	0'	10,750'	7"	26	P110	LTC	1.39	1.77	2.17	2.77
8.75"	10,750'	11,550'	7"	26	P110	BTC	1.33	1.7	44.16	42.97
6.125"	10,750'	15,830'	4.5"	13.5	P110	LTC	1.39	1.62	4.97	6.2
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?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> 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 <sup>nd</sup> 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?	N
(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, Pronghorn 15 B3AP Fed Com #1H**

**Sec 15, T23S, R34E**

**SL: 185' FNL & 660' FEL, Sec 15**

**BHL: 330' FSL & 450' FEL, Sec 15**

**3. Cementing Program**

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H <sub>2</sub> O gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	1,000	12.5	2.12	11	10	Lead: Class C + 4.0% Bentonite + 0.6% CD-32 + 5% Sodium Chloride + 0.25lb/sk Cello-Flake
	200	14.8	1.34	6.3	8	Tail: Class C + 0.005 pps Static Free + 1% CaCl <sub>2</sub> + 0.25 pps Cello Flake + 0.005 gps FP-6L
Inter.	800	12.5	2.12	11	10	Lead: Class C (35:65:4) + 5% Sodium Chloride + 5#/sk LCM + 0.25 lb/sk Cello Flake
	200	14.8	1.34	6.3	8	Tail: Class C + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
Prod.	400	12.5	2.12	11	9	Lead: Class C (60:40:0) + 15.0 lb/sk BA-90 + 4.0% MPS-5 + 3.0% SMS + 5.0% A-10 + 1.0% BA-10A + 0.8% ASA-301 + 2.9% R-21 + 8.0 lb/sk LCM-1 + 0.005 lb/sk Static Free
	400	15.6	1.18	5.2	10	Tail: Class H + 0.65% FL-52 + 0.1% R-3 + 0.005 lb/sk Static Free
Liner	200	11.2	2.97	17	16	Class C (60:40:0) + 4% MPA5 + 1.2% BA10A + 10#/sk BA90 + 5% A10 + 0.65% ASA301 + 1.5% SMS + 1.2% R21

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	4,700'	25%
Liner	10,800'	25%

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**  
**Sec 15, T23S, R34E**  
**SL: 185' FNL & 660' FEL, Sec 15**  
**BHL: 330' FSL & 450' FEL, Sec 15**

**4. Pressure Control Equipment**

Variance: None
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BOP installed and tested before drilling which hole?	Size?	System Rated WP	Type	✓	Tested to:
12-1/4"	13-5/8"	3M	Annular	X	1,500#
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4"	13-5/8"	3M	Annular	X	2,500#
			Blind Ram	X	
			Pipe Ram	X	
			Double Ram		
			Other*		
6-1/8"	13-5/8"	3M	Annular	X	2,500#
			Blind Ram	X	
			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.

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**

**Sec 15, T23S, R34E**

**SL: 185' FNL & 660' FEL, Sec 15**

**BHL: 330' FSL & 450' FEL, Sec 15**

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
N	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. <ul style="list-style-type: none"> <li>• Provide description here</li> </ul> See attached schematic.

**5. Mud Program**

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	1,700'	FW Gel	8.6-8.8	28-34	N/C
1,700'	4,900'	Saturated Brine	10.0	28-34	N/C
4,900'	10,800'	Cut Brine	8.6-9.5	28-34	N/C
10,800	15,837'	FW w/ Polymer	8.6-9.5	30-40	<20cc

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

What will be used to monitor the loss or gain of fluid?	Visual Monitoring
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**6. Logging and Testing Procedures**

<b>Logging, Coring and Testing.</b>	
X	Will run GR/CNL from KOP (10,795') 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

<b>Additional logs planned</b>		<b>Interval</b>
X	Gamma Ray	10,795' (KOP) to TD
	Density	
	CBL	
	Mud log	
	PEX	



**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**  
**Sec 15, T23S, R34E**  
**SL: 185' FNL & 660' FEL, Sec 15**  
**BHL: 330' FSL & 450' FEL, Sec 15**

**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	4,865 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
X	H2S Plan attached

**8. Water & Waste Volumes**

Fresh Water Required: 31,700 bbl

Waste Water: 31,700 bbl

Waste Solids: 1,650 bbl

**9. Other facets of operation**

Is this a walking operation? If yes, describe.

Will be pre-setting casing? If yes, describe.

Attachments

\_\_\_ Directional Plan

\_\_\_ Other, describe

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**

**Sec 15, T23S, R34E**

**SL: 185' FNL & 660' FEL, Sec 15**

**BHL: 330' FSL & 450' FEL, Sec 15**

**1. Geologic Formations**

TVD of target	11,273'	Pilot hole depth	NA
MD at TD:	15,838'	Deepest expected fresh water:	325'

**Basin**

<b>Formation</b>	<b>Depth (TVD) from KB</b>	<b>Water/Mineral Bearing/ Target Zone?</b>	<b>Hazards*</b>
Quaternary Fill	Surface		
Rustler	1,877'	Water	
Top of Salt	2,212'		
Castile	2,822'		
Base of Salt	4,622'		
Delaware (Lamar)	4,982'	Oil/Gas	
Bell Canyon	5,110'	Oil/Gas	
Cherry Canyon	5,936'	Oil/Gas	
Manzanita Marker	6,037'		
Brushy Canyon	7,192'	Oil/Gas	
Bone Spring	8,467'	Oil/Gas	
1 <sup>st</sup> Bone Spring Sand	9,622'	Oil/Gas	
2 <sup>nd</sup> Bone Spring Sand	10,084'	Oil/Gas	
3 <sup>rd</sup> Bone Spring Sand	10,972'	Target Zone	
Abo			
Wolfcamp		Will Not Penetrate	
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

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

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**  
**Sec 15, T23S, R34E**  
**SL: 185' FNL & 660' FEL, Sec 15**  
**BHL: 330' FSL & 450' FEL, Sec 15**

**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'	1,315'	13.375"	48	H40	STC	1.13	2.53	3.83	8.56
17.5"	1,315'	1,700'	13.375"	54.5	J55	STC	1.28	3.09	24.58	40.78
12.25"	0'	3,450'	9.625"	36	J55	LTC	1.13	1.96	2.48	4.54
12.25"	3,450'	4,390'	9.625"	40	J55	LTC	1.13	1.73	8.94	16.75
12.25"	4,390'	4,907'	9.625"	40	N80	LTC	1.21	2.25	35.86	44.57
8.75"	0'	10,750'	7"	26	P110	LTC	1.39	1.77	2.17	2.77
8.75"	10,750'	11,550'	7"	26	P110	BTC	1.33	1.7	44.16	42.97
6.125"	10,750'	15,830'	4.5"	13.5	P110	LTC	1.39	1.62	4.97	6.2
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?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> 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 <sup>nd</sup> 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?	N
(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, Pronghorn 15 B3AP Fed Com #1H**

**Sec 15, T23S, R34E**

**SL: 185' FNL & 660' FEL, Sec 15**

**BHL: 330' FSL & 450' FEL, Sec 15**

**3. Cementing Program**

Casing	# Sk	Wt. lb/ gal	Yld ft <sup>3</sup> / sack	H <sub>2</sub> O gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	1,000	12.5	2.12	11	10	Lead: Class C + 4.0% Bentonite + 0.6% CD-32 + 5% Sodium Chloride + 0.25lb/sk Cello-Flake
	200	14.8	1.34	6.3	8	Tail: Class C + 0.005 pps Static Free + 1% CaCl <sub>2</sub> + 0.25 pps Cello Flake + 0.005 gps FP-6L
Inter.	800	12.5	2.12	11	10	Lead: Class C (35:65:4) + 5% Sodium Chloride + 5#/sk LCM + 0.25 lb/sk Cello Flake
	200	14.8	1.34	6.3	8	Tail: Class C + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
Prod.	400	12.5	2.12	11	9	Lead: Class C (60:40:0) + 15.0 lb/sk BA-90 + 4.0% MPS-5 + 3.0% SMS + 5.0% A-10 + 1.0% BA-10A + 0.8% ASA-301 + 2.9% R-21 + 8.0 lb/sk LCM-1 + 0.005 lb/sk Static Free
	400	15.6	1.18	5.2	10	Tail: Class H + 0.65% FL-52 + 0.1% R-3 + 0.005 lb/sk Static Free
Liner	200	11.2	2.97	17	16	Class C (60:40:0) + 4% MPA5 + 1.2% BA10A + 10#/sk BA90 + 5% A10 + 0.65% ASA301 + 1.5%SMS + 1.2% R21

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	4,700'	25%
Liner	10,800'	25%

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**  
**Sec 15, T23S, R34E**  
**SL: 185' FNL & 660' FEL, Sec 15**  
**BHL: 330' FSL & 450' FEL, Sec 15**

**4. Pressure Control Equipment**

Variance: None
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BOP installed and tested before drilling which hole?	Size?	System Rated WP	Type	✓	Tested to:
12-1/4"	13-5/8"	3M	Annular	X	1,500#
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4"	13-5/8"	3M	Annular	X	2,500#
			Blind Ram	X	5,000#
			Pipe Ram	X	
			Double Ram		
			Other*		
6-1/8"	13-5/8"	3M	Annular	X	2,500#
			Blind Ram	X	5,000#
			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.

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**

**Sec 15, T23S, R34E**

**SL: 185' FNL & 660' FEL, Sec 15**

**BHL: 330' FSL & 450' FEL, Sec 15**

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
N	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. <ul style="list-style-type: none"> <li>• Provide description here</li> </ul> See attached schematic.

**5. Mud Program**

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	1,700'	FW Gel	8.6-8.8	28-34	N/C
1,700'	4,900'	Saturated Brine	10.0	28-34	N/C
4,900'	10,800'	Cut Brine	8.6-9.5	28-34	N/C
10,800	15,837'	FW w/ Polymer	8.6-9.5	30-40	<20cc

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

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

**6. Logging and Testing Procedures**

Logging, Coring and Testing.	
X	Will run GR/CNL from KOP (10,795') to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
X	Gamma Ray	10,795' (KOP) to TD
	Density	
	CBL	
	Mud log	
	PEX	

**Mewbourne Oil Company, Pronghorn 15 B3AP Fed Com #1H**  
**Sec 15, T23S, R34E**  
**SL: 185' FNL & 660' FEL, Sec 15**  
**BHL: 330' FSL & 450' FEL, Sec 15**

**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	4,865 psi
Abnormal Temperature	No

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

Hydrogen Sulfide (H<sub>2</sub>S) monitors will be installed prior to drilling out the surface shoe. If H<sub>2</sub>S 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.

	H <sub>2</sub> S is present
X	H <sub>2</sub> S Plan attached

**8. Water & Waste Volumes**

Fresh Water Required: 31,700 bbl

Waste Water: 31,700 bbl

Waste Solids: 1,650 bbl

**9. Other facets of operation**

Is this a walking operation? If yes, describe.

Will be pre-setting casing? If yes, describe.

Attachments

\_\_\_ Directional Plan

\_\_\_ Other, describe

# 3M BOPE & Closed Loop Equipment Schematic

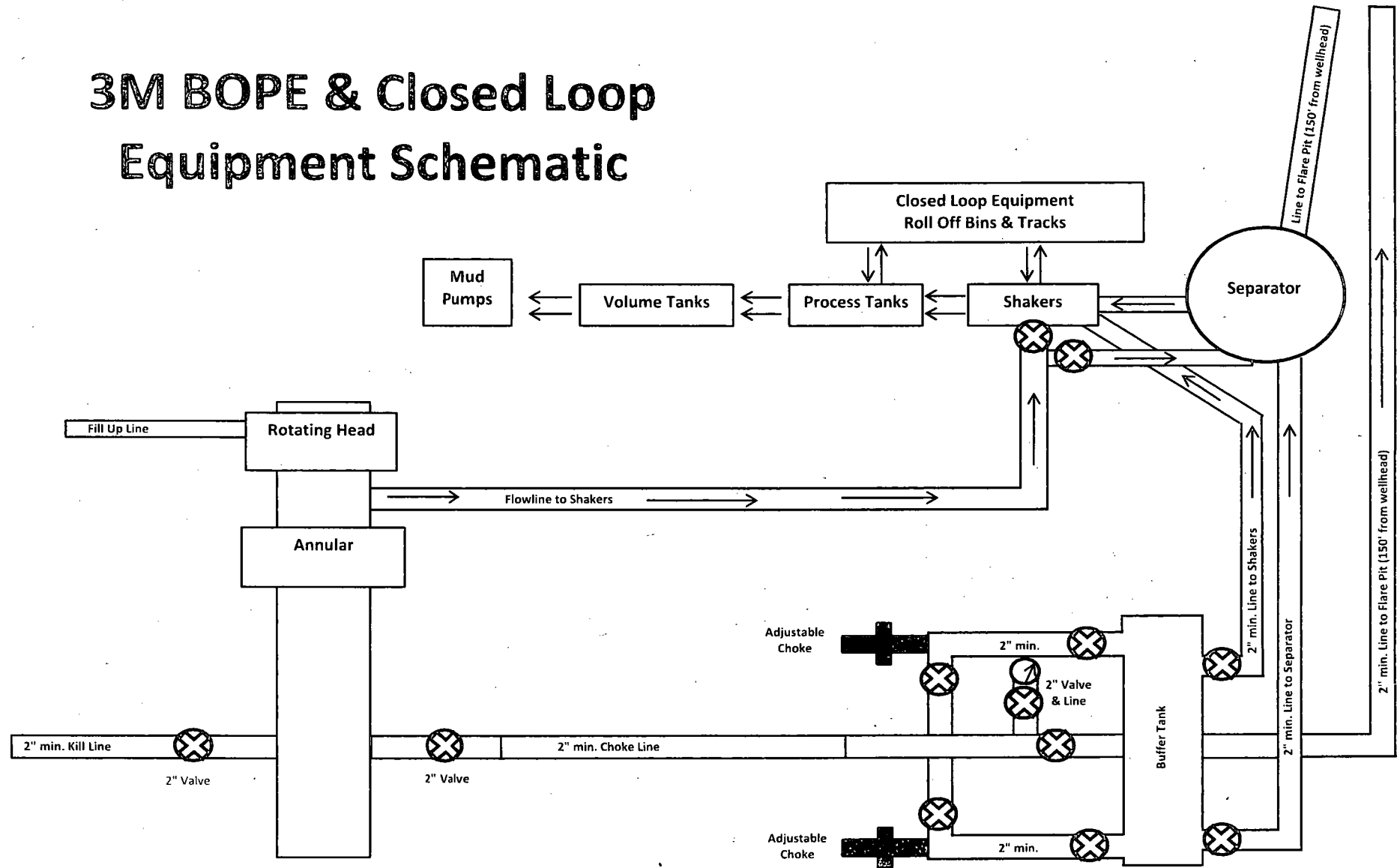
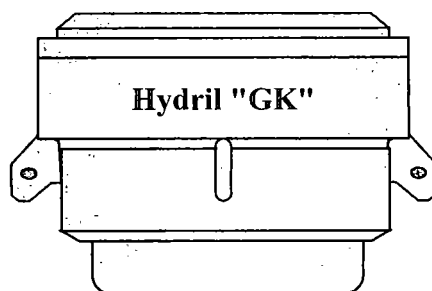
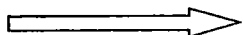


Exhibit "2"

**HOBBS OCD**  
 AUG 01 2017  
**RECEIVED**

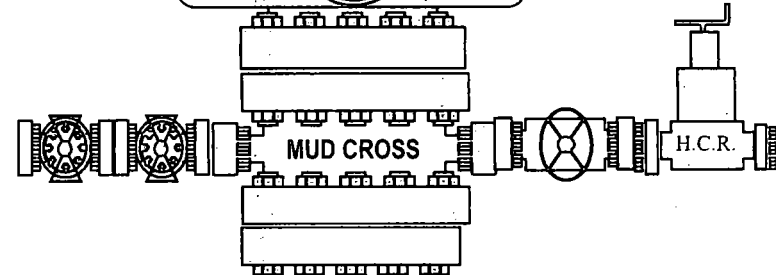
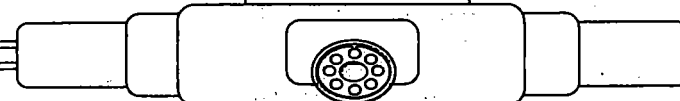
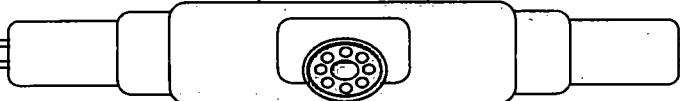


Hydril "GK"  
13 5/8" 3M



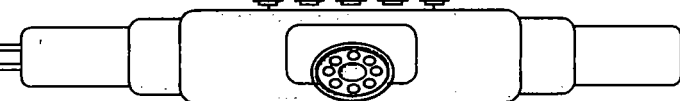
Hydril "GK"

Cameron Type U  
13 5/8" 3M



MUD CROSS

H.C.R.



4 1/2" x 5 7/8" VBR

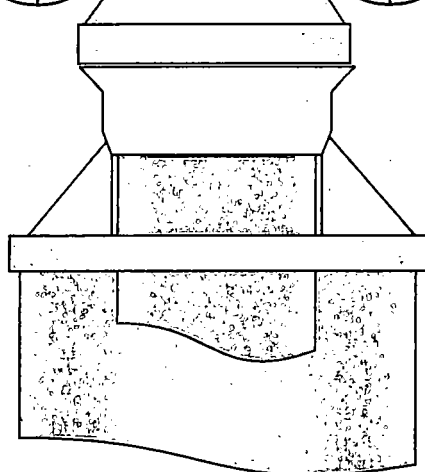
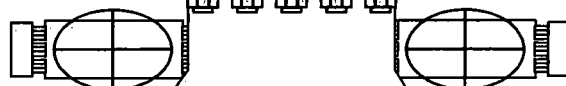
BLIND RAMS

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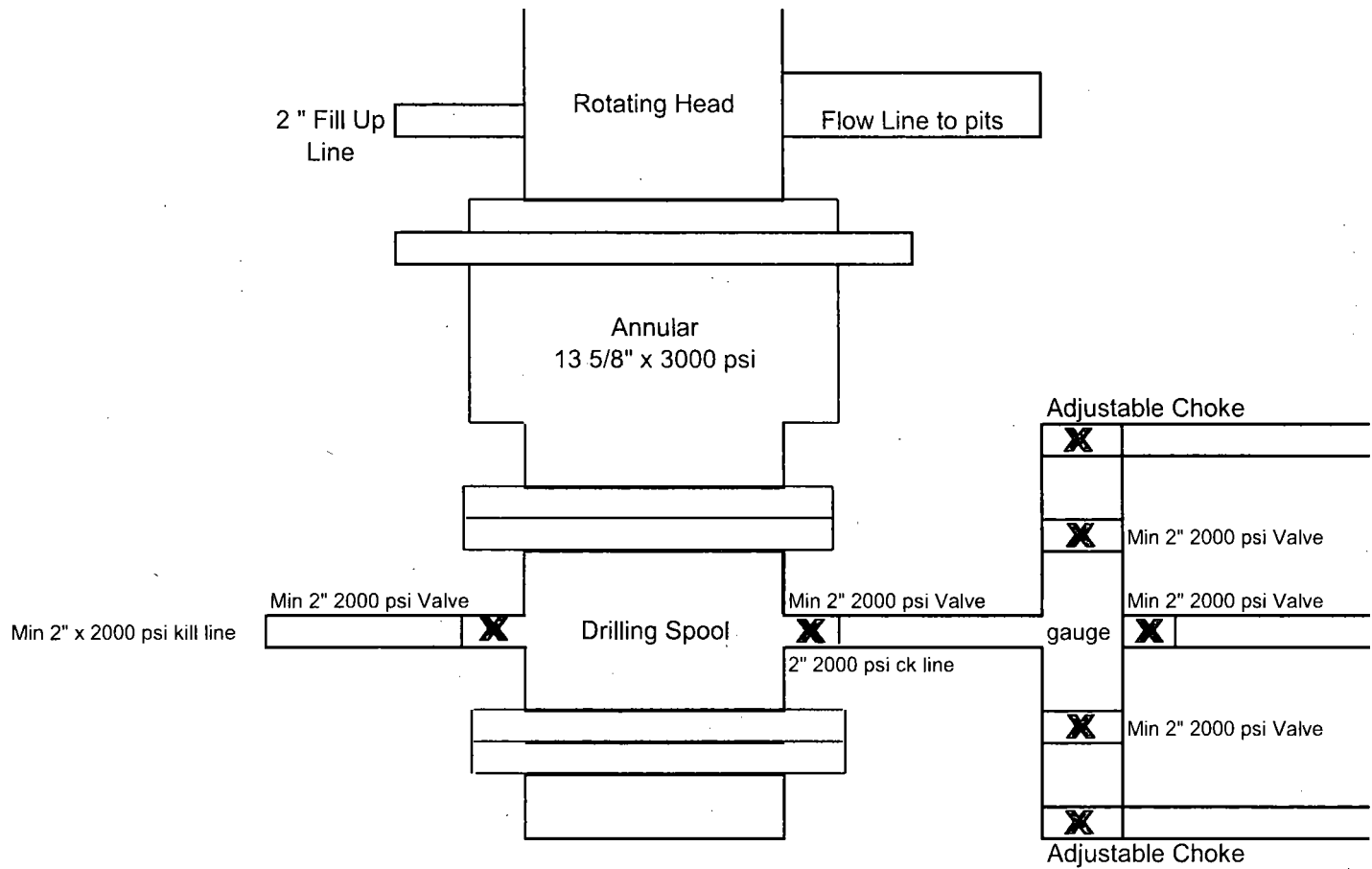
13 5/8" 3M

13 5/8" 3M

13 5/8" 3M

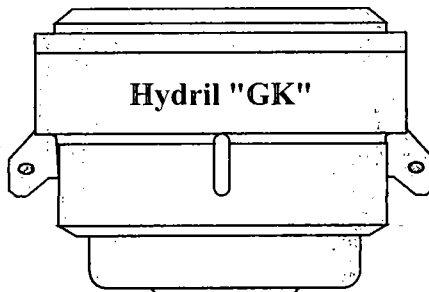
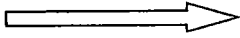


**Mewbourne Oil Company**  
BOP Schematic for

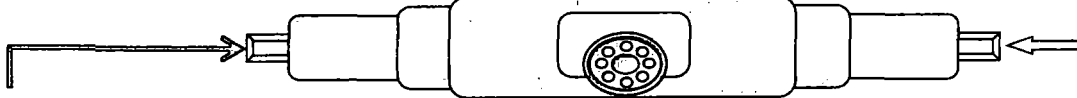
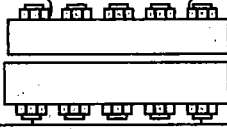


**Exhibit #2**

Hydril "GK"  
13 5/8" 5M

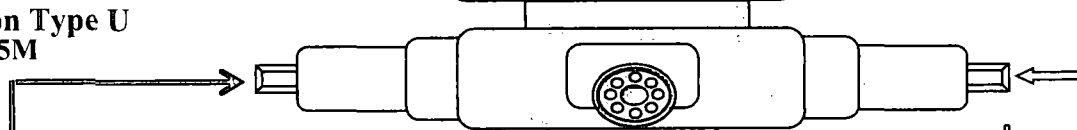


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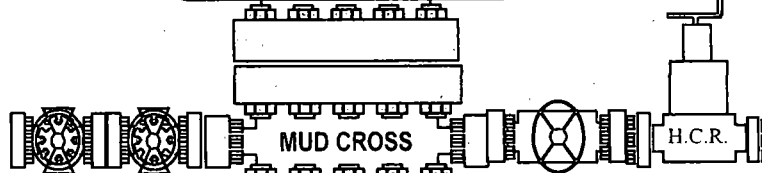


4 1/2" x 5 7/8" VBR

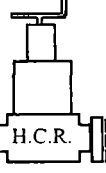
Cameron Type U  
13 5/8" 5M



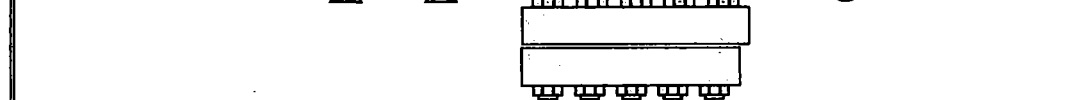
BLIND RAMS



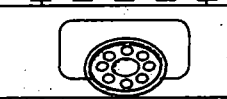
MUD CROSS



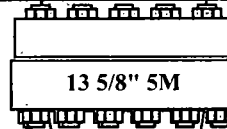
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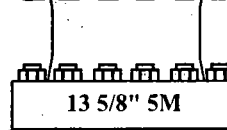
4 1/2" x 5 7/8" VBR



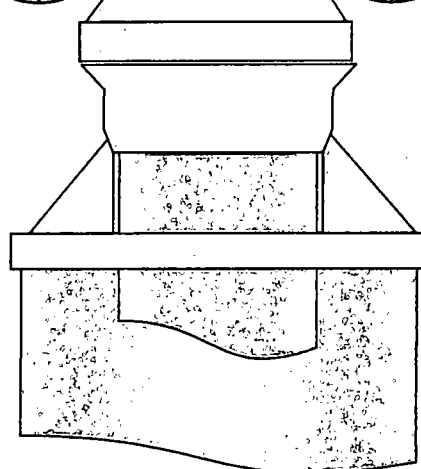
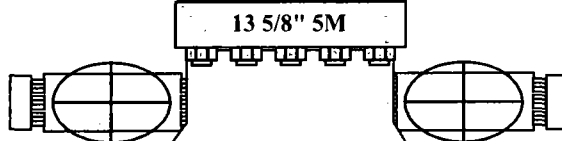
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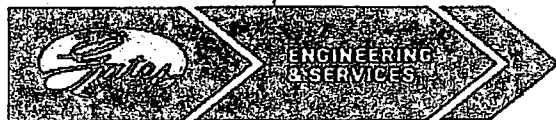


13 5/8" 5M



13 5/8" 5M





GATES E & S NORTH AMERICA, INC.  
134 44TH STREET  
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807  
FAX: 361-887-0812  
EMAIL: [Tim.Cantu@gates.com](mailto:Tim.Cantu@gates.com)  
WEB: [www.gates.com](http://www.gates.com)

### 10K CEMENTING ASSEMBLY PRESSURE TEST CERTIFICATE

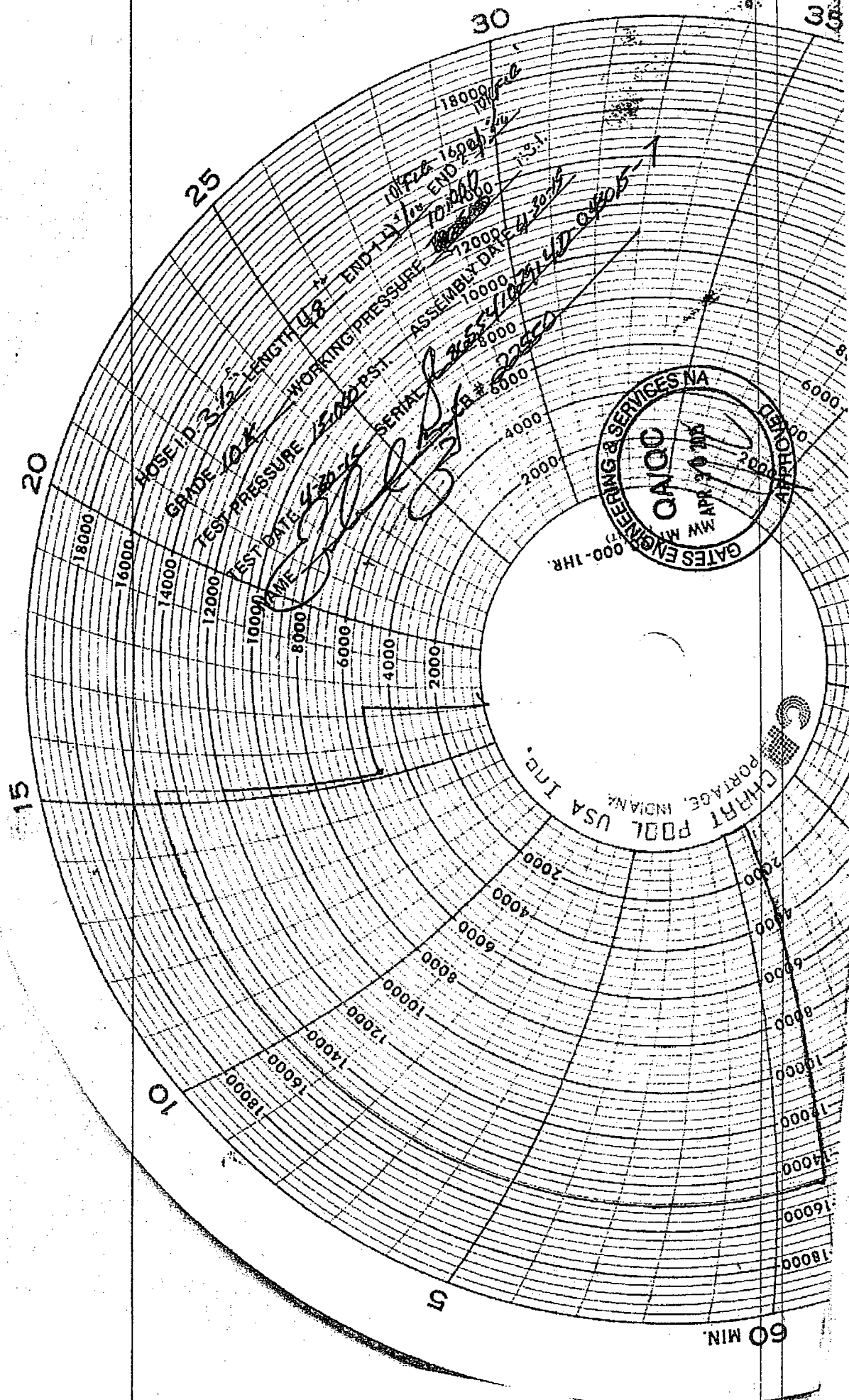
Customer :	AUSTIN DISTRIBUTING	Test Date:	4/30/2015
Customer Ref. :	4060578	Hose Serial No.:	D-043015-7
Invoice No. :	500506	Created By:	JUSTIN CROPPER
Product Description:	10K3.548.0CK4.1/1610KFLGE/E LE		
End Fitting 1 :	4 1/16 10K FLG	End Fitting 2 :	4 1/16 10K FLG
Gates Part No. :	4773-6290	Assembly Code :	L36554102914D-043015-7
Working Pressure :	10,000 PSI	Test Pressure :	15,000 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 15,000 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

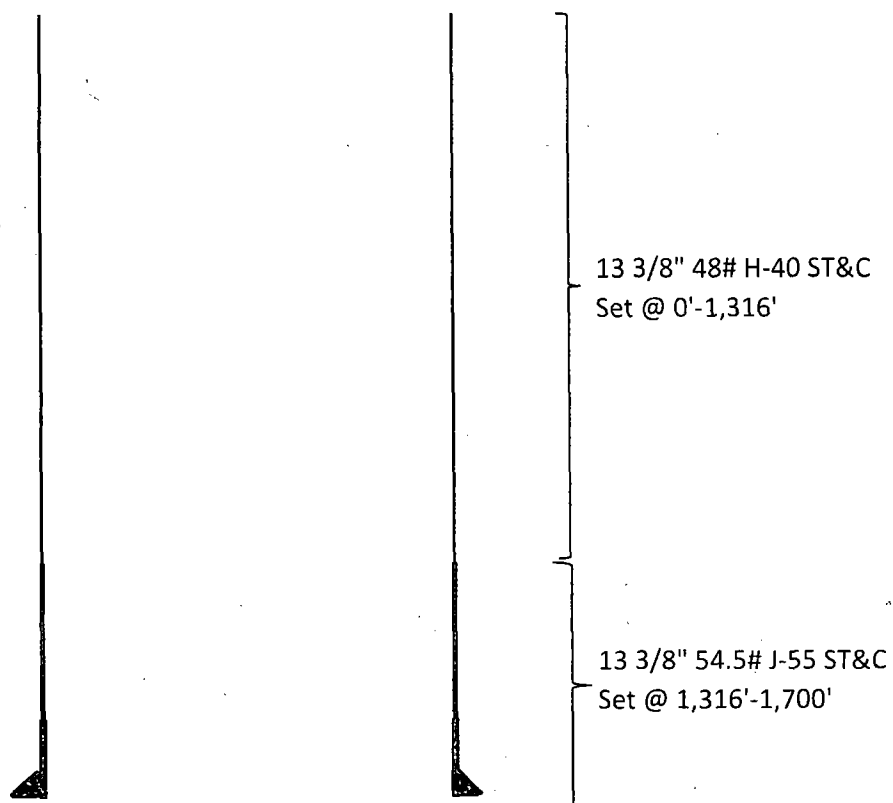
Quality Manager :	QUALITY	Production:	PRODUCTION
Date :	4/30/2015	Date :	4/30/2015
Signature :		Signature :	

Form PTC - 01 Rev.02



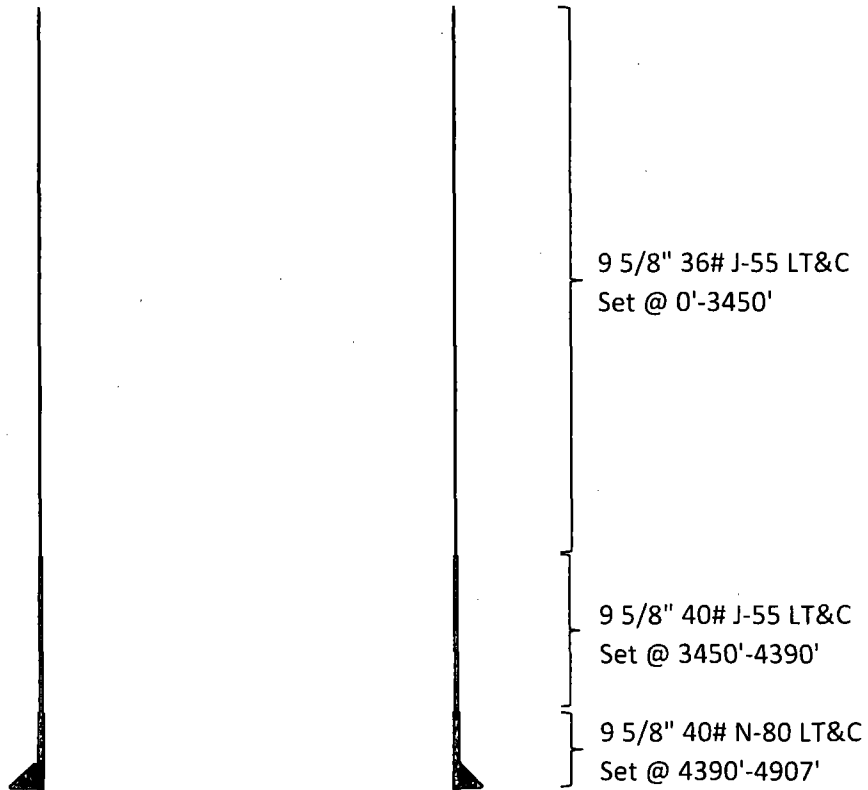


Pronghorn 15 B3AP Fed Com #1H  
Surface Casing



Casing	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
48# H-40	1.13	2.53	3.83	8.56
54.5# J-55	1.28	3.09	24.58	40.78

Pronghorn 15 B3AP Fed Com #1H  
Intermediate Casing



Casing	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
36# J-55	1.13	1.96	2.48	4.54
40# J-55	1.13	1.73	8.94	16.75
40# N-80	1.21	2.25	35.86	44.57