

SECRETARY'S POTASH

14-555

HOBBS OCD
DEC 19 2016
RECEIVED

OCD Hobbs

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. SHL: LC065607 BHL: LC064194
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Read and Stevens, Inc. (18917)		7. If Unit or CA Agreement, Name and No.
3a. Address 400 N. Pennsylvania Ave #1000 Roswell, NM 88201	3b. Phone No. (include area code) 575-622-3770	8. Lease Name and Well No. 313886 North Lea 4 Fed Com #2H
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 570' FNL 1395' FEL (B2) At proposed prod. zone 330' FSL 1670' FEL (O)		9. API Well No. 30-025 43504
14. Distance in miles and direction from nearest town or post office* 26 miles WSW of Hobbs		10. Field and Pool, or Exploratory Quail Ridge; Bone Spring, South (50461)
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 570'	16. No. of acres in lease 2722.39	11. Sec., T. R. M. or Blk. and Survey or Area Sec. 4 T-20S R-34E
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. See raduis maps attached.	19. Proposed Depth 10,825.50'TVD / 14,792'MD	12. County or Parish Lea
21. Elevations (Show whether DF, KDB, RT, GL, etc.) GL - 3650.3' RKB - 3672.3'	22. Approximate date work will start* 03/15/2017	13. State NM
17. Spacing Unit dedicated to this well 160.66		
20. BLM/BIA Bond No. on file NM-2310		
23. Estimated duration 60 days until completion		

24. Attachments

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

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

25. Signature 	Name (Printed/Typed) Rory McMinn	Date 10/18/2016
Title Project Manager		
Approved by (Signature) /s/Cody Layton	Name (Printed/Typed)	Date DEC 09 2016
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

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

APPROVAL FOR TWO YEARS

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

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached

**Read and Stevens, Inc.
Drilling Prognosis
North Lea 4 Fed Com #2H**

Revision date: October 28, 2016

Surface Location:	570' FNL, 1395' FEL Section 4, T-20-S, R-34-E Lea County, New Mexico
Bottom Hole:	330' FSL, 1670' FEL Section 4, T-20-S, R-34-E Lea County, New Mexico
Planned Total Depth:	10,825.50' TVD / 14,792' MD
RKB: 3672.3	GL: 3650.3
Preparer:	Rory McMinn

HOBBS OCD

DEC 19 2016

RECEIVED

RL
18 October 2016

Contents

Article I.	Well Overview:	3
Article II.	Estimated Formation Tops (geoprognois with TVD's adjusted to actual KB):	3
Article III.	Pressure Control:	3
Article IV.	Casing Program (minimum):	6
Article V.	Cement Program:	6
Section 5.01	13.375" Surface Casing	6
Section 5.02	9.625" Intermediate Casing	7
(i)	Cement detail if DV tool is used: Assuming losses at 3200'. DV tool and ECP will be placed at 3100'.	7
(ii)	Cement detail if no DV tool is used:	8
Section 5.03	5.5" Production Casing	8
Article VI.	Product Descriptions:	9
Article VII.	Mud Program:	10
Article VIII.	Mud Monitoring System:	10
Article IX.	Logging, Drill stem testing and Coring:	10
Article X.	Bottom Hole:	10
Article XI.	Abnormal Conditions:	11
Article XII.	H2S:	11
Article XIII.	Directional:	11
Article XIV.	Drilling Recorder:	11

Article I. Well Overview:

The North Lea 4 Fed Com #2H will be a horizontal well. 5.5" production casing will be used with ported subs for the completion. See attached WBS for spacing of ported subs.

Article II. Estimated Formation Tops (geoprognois with TVD's adjusted to actual KB):

Formation	TVD	Subsea	Thickness	Type
Rustler	1542'	-2134'		
Top of Salt	1627'	-2049'		
Base of Salt	3205'	-471'		
Tansil	3205'	-471'	1968'	Possible Fresh Water
Yates	3430'	-246'		
Seven Rivers	3570'	-106'		
Queen	4665'	989'		
Penrose	5022'	1346'		
Grayburg	5173'	1497'		
Delaware	5460'	1784'	2750'	Hydrocarbon
Bone Spring Lime	8210'	4534'		
Avalon	8700'	5024'	957'	Hydrocarbon
1 st Bone Spring	9657'	5981'	283'	Hydrocarbon
2 nd Bone Spring	9940'	6264'	600'	Hydrocarbon
3 rd Bone Spring	10540'	6864'	610'	Hydrocarbon

No shallow water zones as per the attached POD and water column report.

Article III. Pressure Control:

A 13-5/8" 5M BOP and 5M choke manifold will be used. See schematics below.
BOP test shall be conducted:

- A. when initially installed
- B. whenever any seal subject to test pressure is broken
- C. following related repairs
- D. at 30 day intervals

See
COA

BOP, choke, kill lines, Kelly cock, inside BOP, etc. will be hydro tested to 250psi(low) and 5,000psi(high). The annular will be tested to 250psi (low) and 2500psi (high).

BOP will be function tested on each trip. Annular and Pipe Rams will be tested tourly.

A multi-bowl well head will NOT be used.

A Co-Flex hose may be used from the BOP to the Choke Manifold. If this is used the manufacturer specifications and certifications will be furnished prior to use. A variance is requested for use of a Co-Flex hose. Below is an example of a typical test sheet. Actual test and certification will be on the rig prior to use.

See
COA



Fluid Technology

Quality Document

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 205	
PURCHASER: ContiTech Beattie Co.				P.O. N°: 004790	
CONTITECH ORDER N°: 493177		HOSE TYPE: 3" ID		Choke and Kill Hose	
HOSE SERIAL N°: 60295		NOMINAL / ACTUAL LENGTH: 10,67 m / 10,67 m			
W.P. 68,9 MPa 10000 psi		T.P. 103,4 MPa 15000 psi		Duration: 60 min.	
Pressure test with water at ambient temperature					
See attachment. (1 page)					
↑ 10 mm = 10 Min. → 10 mm = 20 MPa					
COUPLINGS Type	Serial N°	Quality	Heat N°		
3" coupling with	226 229	AISI 4130	H0434		
4 1/16" Swivel Flange end		AISI 4130	31742		
Hub		AISI 4130	G9496		
ASSET NO.: 66-0628			API Spec 16 C Temperature rate: "B"		
All metal parts are flawless					
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.					
COUNTRY OF ORIGIN HUNGARY/EU					
Date:	Inspector	Quality Control			
21. February 2011.		ContiTech Rubber Industrial Kit, Quality Control Dept. (1)			

ContiTech Rubber Industrial Kit

Phone: +36 62 555 737

The Court of County Court as

Bank data

ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE

NO. 203, 203, 200

Page: 1/1

Yakov

				40	50	60	70	80	
GN	+19.29	°C	141.50						ContiTech Rubber Industrial Kft. Quality Control Dept. (1)
RD	+19.29	°C	141.50						
BL	+1052.	bar	141.50						
GN	+19.73	°C	141.50						
RD	+19.73	°C	141.50						
BL	+1054.	bar	141.50						
GN	+19.13	°C	141.10						
RD	+19.13	°C	141.10						
BL	+1056.	bar	141.10						
GN	+19.73	°C	141.00						
RD	+19.73	°C	141.00						
BL	+1057.	bar	141.00						
GN	+19.89	°C	131.50						
RD	+19.89	°C	131.50						
BL	+1059.	bar	131.50						
GN	+19.87	°C	131.50						
RD	+19.87	°C	131.50						
BL	+1062.	bar	131.50						
GN	+19.25	°C	131.30						
RD	+19.25	°C	131.30						
BL	+1064.	bar	131.30						
9									
8									
60293, 60295, 60296			3:50						
60293, 60295, 60296			2:50						
7									

Downstream of the Choke Manifold assembly 1502(15,000psi working pressure) hammer unions will be used to connect the mud/gas separator. See Choke Manifold diagram. A variance is requested for use of hammer unions downstream of the choke manifold.

See COA
Article IV.

Casing Program (minimum):

All casing is new API casing.

Hole Size	Casing	Weight lb/ft	Grade	Conn	MD/RKB	Stage
	20"				120'	Conductor
16"	13.375"	54.5	J-55	STC	1567' ^{1650'}	Surface
12.25"	9.625"	40	L-80	LTC	5525' ^{5400'}	Intermediate
8.5"	5.5"	17	P-110	BTC	15577'	Production

Size	Collapse psi	SF	Burst psi	SF	Tension Klbs	SF
13.375	1130	3.08	2730	3.54	514	5.66
9.625	3090	1.28	5750	2.03	727	3.33
5.5	7480	1.55	10640	1.29	568	3.06

casing will be fluid filled per Steve Morris 7-11-14
13.375" casing will be set 25' into the Rustler
9.625" casing will be set 20' above the Delaware

Article V.

Cement Program:

Section 5.01

13.375" Surface Casing

~~Lead:~~

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
13.5ppg	1.93cuft/sk	660	9.71	100%	Class C + 4% bwoc Bentonite II + 2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.005% bwoc Static Free + 0.005 gps FP- 6L

See 2.01 & comment

~~Tail:~~

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
14.8ppg	1.34cuft/sk	166	6.35	100%	Class C + 1.5% bwoc Calcium Chloride + 0.005 lbs/sack Static Free + 0.005 gps FP-6L

~~Circulate cement to surface. If cement does not circulate a 1" grout string will be used to perform a top job. 1" line will be run to bottom of the conductor.~~

Cement volumes will be adjusted respectively once actual casing depth is determined and washout from a fluid caliper.

Self
COA

Section 5.02 9.625" Intermediate Casing

A DV tool and ECP will be used to cement this 9 5/8" casing if losses are encountered in the Capitan Reef. DV tool and ECP placement will be determined if and when the loss circulation is encountered. DV tool and ECP placement will be a minimum of 100' above the lost circulation zone and a minimum of 100' from the previous casing shoe.

- (i) Cement detail if DV tool is used: Assuming losses at 3200'. DV tool and ECP will be placed at 3100'.

Cement Stage 1

Lead:

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
12.6ppg	2.13cuft/sk	639	8.81	80%	Class C (35:65) + Poz (Fly Ash) + 4% bwoc Bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL-52 + 5 lbs/sack LCM-1 + 0.125 lbs/sack Cello Flake + 0.005 lbs/sack Static Free + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride

Tail :

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
14.8ppg	1.33cuft/sk	220	6.35	80%	Class C

Cement Stage 2

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
12.6ppg	2.13cuft/sk	690	8.81	80%	Class C (35:65) + Poz (Fly Ash) + 4% bwoc Bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL-52 + 5 lbs/sack LCM-1 + 0.125 lbs/sack Cello Flake + 0.005 lbs/sack Static Free + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride

Once DV tool placement is determined cement volumes will be adjusted accordingly.

(ii) Cement detail if no DV tool is used:

Lead:

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
12.5ppg	2.13cuft/sk	1327	8.81	80%	Class C (35:65) + Poz (Fly Ash) + 4% bwoc Bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL-52 + 5 lbs/sack LCM-1 + 0.125 lbs/sack Cello Flake + 0.005 lbs/sack Static Free + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride

Tail:

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
14.8ppg	1.33cuft/sk	222	6.35	80%	Class C

Circulate cement to surface. If cement does not circulate to surface a top squeeze job or casing perforation will be used.

This will be discussed with the BLM prior to commencing remedial cement job. As well, a temperature survey or CBL will be performed. This will be discussed with the BLM prior to either being run.

Cement volumes will be adjusted accordingly once actual casing depth is determined and washout from a fluid caliper.

Section 5.03 5.5" Production Casing

Lead: Surface-10,900'

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
11.9ppg	2.38cuft/sk	1536	13.22	80%	Class H (50:50) + Poz (Fly Ash) + 10% bwoc Bentonite II + 5% bwow Sodium Chloride + 5 lbs/sack LCM-1 + 0.005 lbs/sack Static Free + 0.005 gps FP-6L

Tail: 10900'-TD

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
13.2ppg	1.62cuft/sk	801	9.45	20%	Class H (15:61:11) Poz (Fly Ash):Class H Cement:CSE-2 + 4% bwow Sodium Chloride + 3 lbs/sack LCM-1 + 0.6% bwoc FL-25 + 0.005 gps FP-6L + 0.005% bwoc Static Free

Circulate cement to surface. If cement does not circulate to surface a top squeeze job or casing perforation will be used.

This will be discussed with the BLM prior to commencing remedial cement job. As well, a temperature survey or CBL will be performed. This will be discussed with the BLM prior to either being run.

Cement volumes will be adjusted accordingly once actual casing depth is determined and washout from a fluid caliper.

Article VI. Product Descriptions:

Bentonite II
P105

CSE-2

An additive which contributes to low density, high compressive strength development of cement slurries at all temperature ranges. This material also controls free water without the need for standard extenders.

Calcium Chloride

A powdered, flaked or pelletized material used to decrease thickening time and increase the rate of strength development.

Cello Flake

Graded (3/8 to 3/4 inch) cellophane flakes used as a lost circulation material.

Class C Cement

Intended for use from surface to 6000 ft., and for conditions requiring high early strength and/or sulfate resistance.

Class H Cement

Class H cement is an API type, all purpose oil well cement which is used without modification in wells up to 8,000 ft. It possesses a moderate sulfate resistance. With the use of accelerators or retarders, it can be used in a wide range of well depths and temperatures.

FL-25

An all purpose salt-tolerant fluid loss additive that provides exceptional fluid loss control across a wide range of temperatures and salinity conditions and remedial cementing applications.

FL-52

A water soluble, high molecular weight fluid loss additive used in medium to low density slurries. It is functional from low to high temperature ranges.

FP-6L

A clear liquid that decreases foaming in slurries during mixing.

LCM-1

A graded (8 to 60 mesh) naturally occurring hydrocarbon, asphaltite. It is used as a lost circulation material at low to moderate temperatures and will act as a slurry extender. Cement compressive strength is reduced.

MPA-5

Used to enhanced compressive, tensile, flexural strength development and reduced permeability

Poz (Fly Ash)

A synthetic pozzolan, (primarily Silicon Dioxide). When blended with cement, Pozzolan can be used to create lightweight cement slurries used as either a filler slurry or a sulfate resistant completion cement.

Sodium Chloride

At low concentrations, it is used to protect against clay swelling.

Sodium Metasilicate

An extender used to produce economical, low density cement slurry.

Static Free

An anti-static additive used to prevent air entrainment due to agglomerated particles. Can be used in Cementing and Fracturing operations to aid in the flow of dry materials.

See COA
Article VII. Mud Program:

Depth	Hole	Type	MW	PV	YP	WL	pH	Sol %
0-1567 ^{1650'}	16"	Fresh Water	8.4-8.9	10-12	12-15	NC	9.5	<3.0
1567-5525 ^{540'}	12.25"	Brine	9.8-10	1	1	NC	9.5	<1.0
5525-10400	8.5"	Cut Brine	8.4-8.6	1	1	NC	9.5	<1.0
10400-TD	8.5"	Cut Brine	8.9-9.1	4-6	4-6	18-20	9.5	<3.0

Sufficient mud will be on location to control any abnormal conditions encountered. Such as but not limited to a kick, lost circulation and hole sloughing.

Article VIII. Mud Monitoring System:

A Pason PVT system will be rigged up prior to spudding the well. A volume monitoring system that measures, calculates, and displays readings from the mud system on the rig to alert the rig crew of impending gas kicks and lost circulation issues.

Components**a) PVT Pit Bull monitor:**

Acts as the heart of the system, containing all the controls, switches, and alarms. Typically, it is mounted near the driller's console.

b) Junction box:

Provides a safe, convenient place for making the wiring connections.

c) Mud probes:

Measure the volume of drilling fluid in each individual tank.

d) Flow sensor:

Measures the relative amount of mud flowing in the return line.

Article IX. Logging, Drill stem testing and Coring:

2 man mud logging will start after surface casing has been set.

8.5" hole will have LWD (Gamma Ray) to section TD.

Article X. Bottom Hole:

Temperature is expected to be 162°F, using a 0.76°/100' gradient. The bottom hole pressure is expected to be 5192psi maximum using a pressure gradient of 0.44psi/ft. With a partially evacuated hole and a gradient of 0.22psi the maximum surface pressure would be 2596psi.

Article XI. Abnormal Conditions:

No abnormal conditions are expected. Temperature is expected to be normal. All zones are expected to be normal pressure.

See
CWA

Lost circulation is possible in both the 16" and 12.25" hole sections. 20ppb of LCM will be maintained in the active system at all times while drilling these sections. As well, a 50bbl pill of 50ppb LCM will be premixed in the slug pit in case lost circulation is encountered. If complete loss circulation is encountered in the Capitan Reef the Brine will be switched over to fresh water. The BLM will be notified of this and an inspector requested to witness the drilling fluid swap.

Article XII. H2S:

No H2S is expected. But there is the possibility of the presence of H2S. Attached is the H2S response plan.

Article XIII. Directional:

Directional survey plan and plot attached.

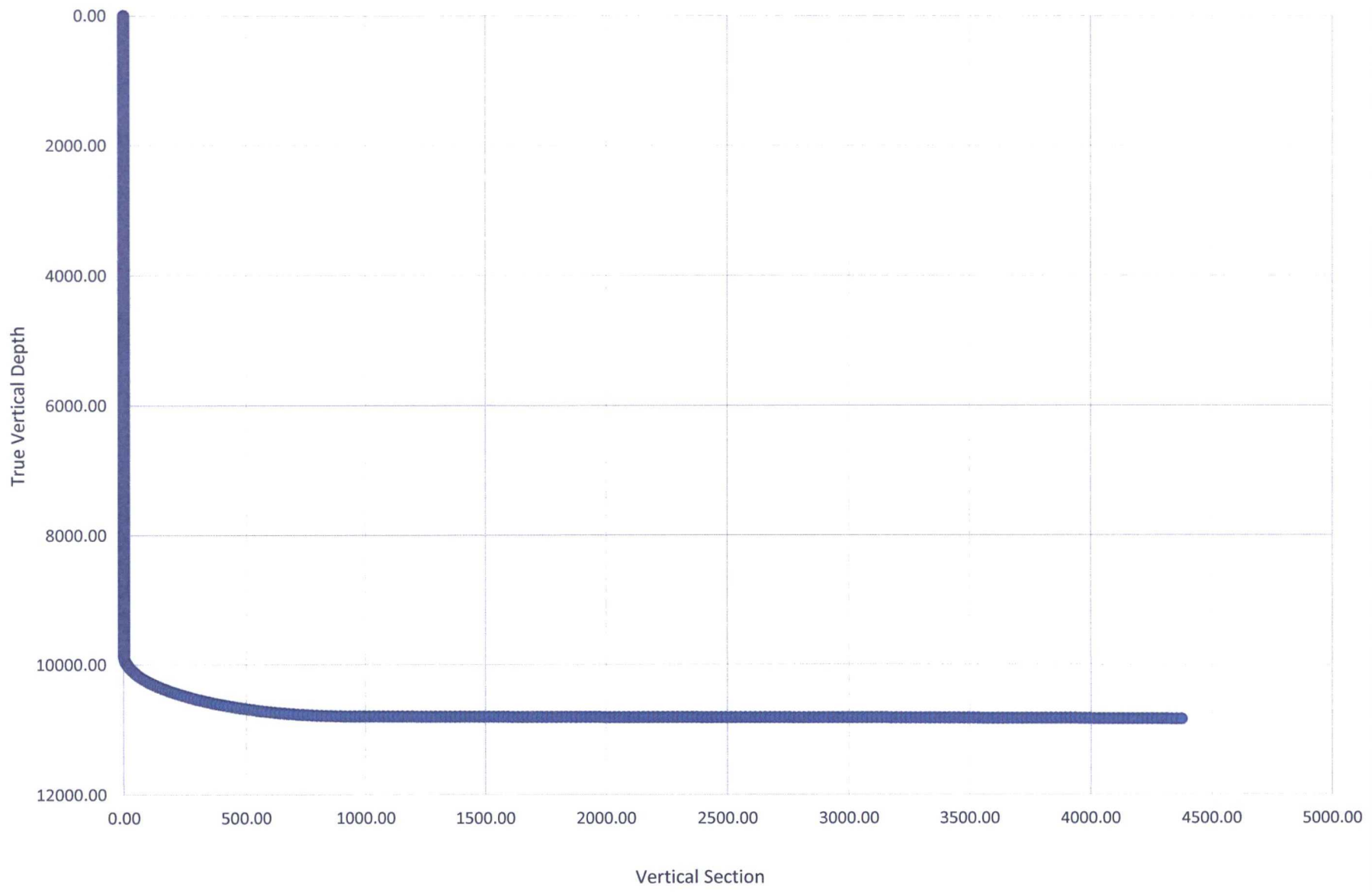
Article XIV. Drilling Recorder:

Rig up EDR & PVT prior to spud to record drilling times and other drilling parameters from surface to TD.

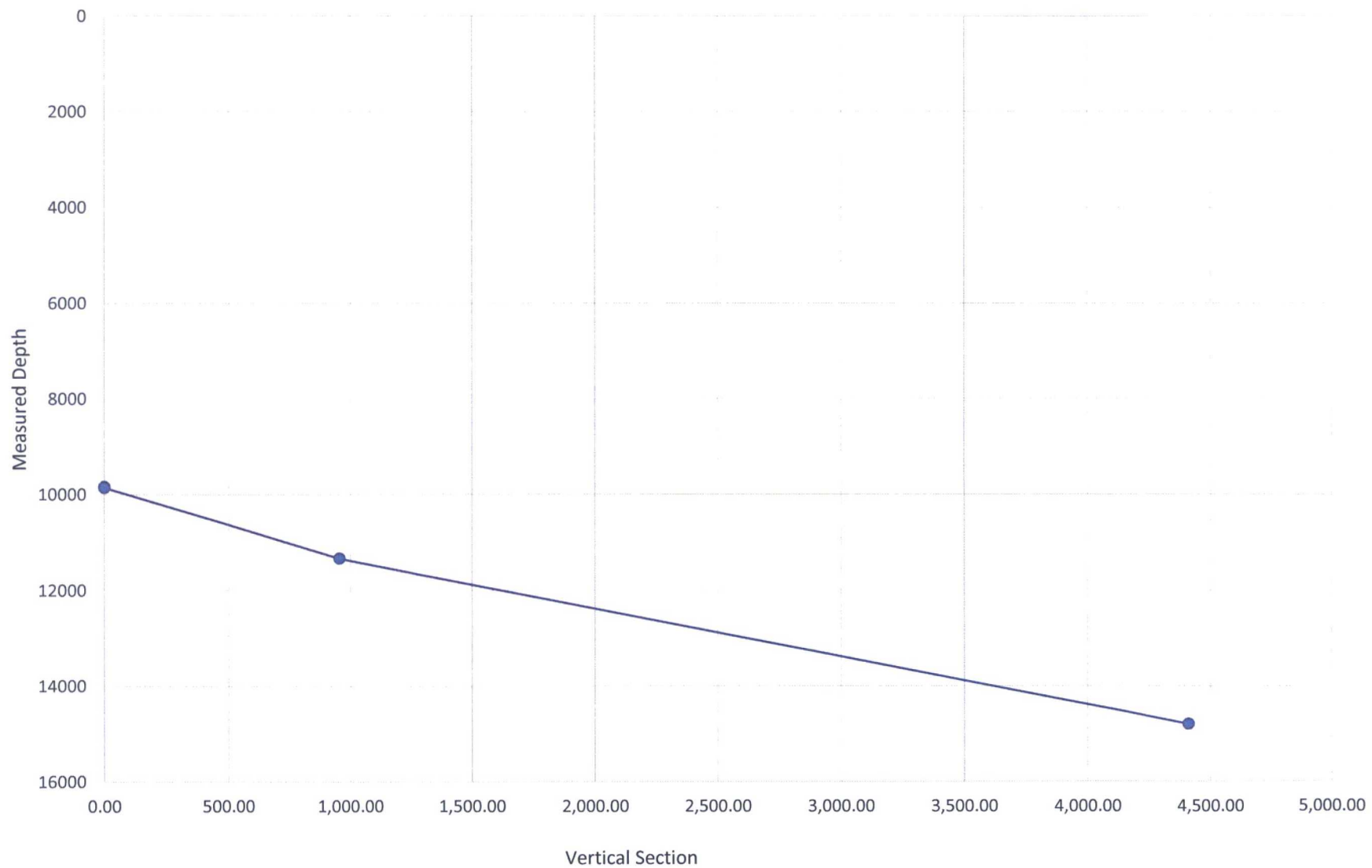
Lea 4 Fed 2H HORIZONTAL WELLBORE								Notes
MD	Inc	Az	TVD	N	E	DLS	V/S	
ft	deg	deg	ft	ft	ft	deg/100'	ft	
0	0	0	0.00	0.00	0.00			
9,836	0	0	9,836.00	0.00	0.00	0.00	0.00	
9,856	1.2	182.8	9,856.00	-0.21	-0.02	6.00	0.21	
11,336	89.45	182.8	10,791.00	-953.80	-46.60	6.00	955.00	Intersection of Green sand
14,792	89.45	182.8	10,825.50	-4,405.00	-215.50	0.00	4,410.80	Wellbore dipping with sand

3L
15 Oct 2016

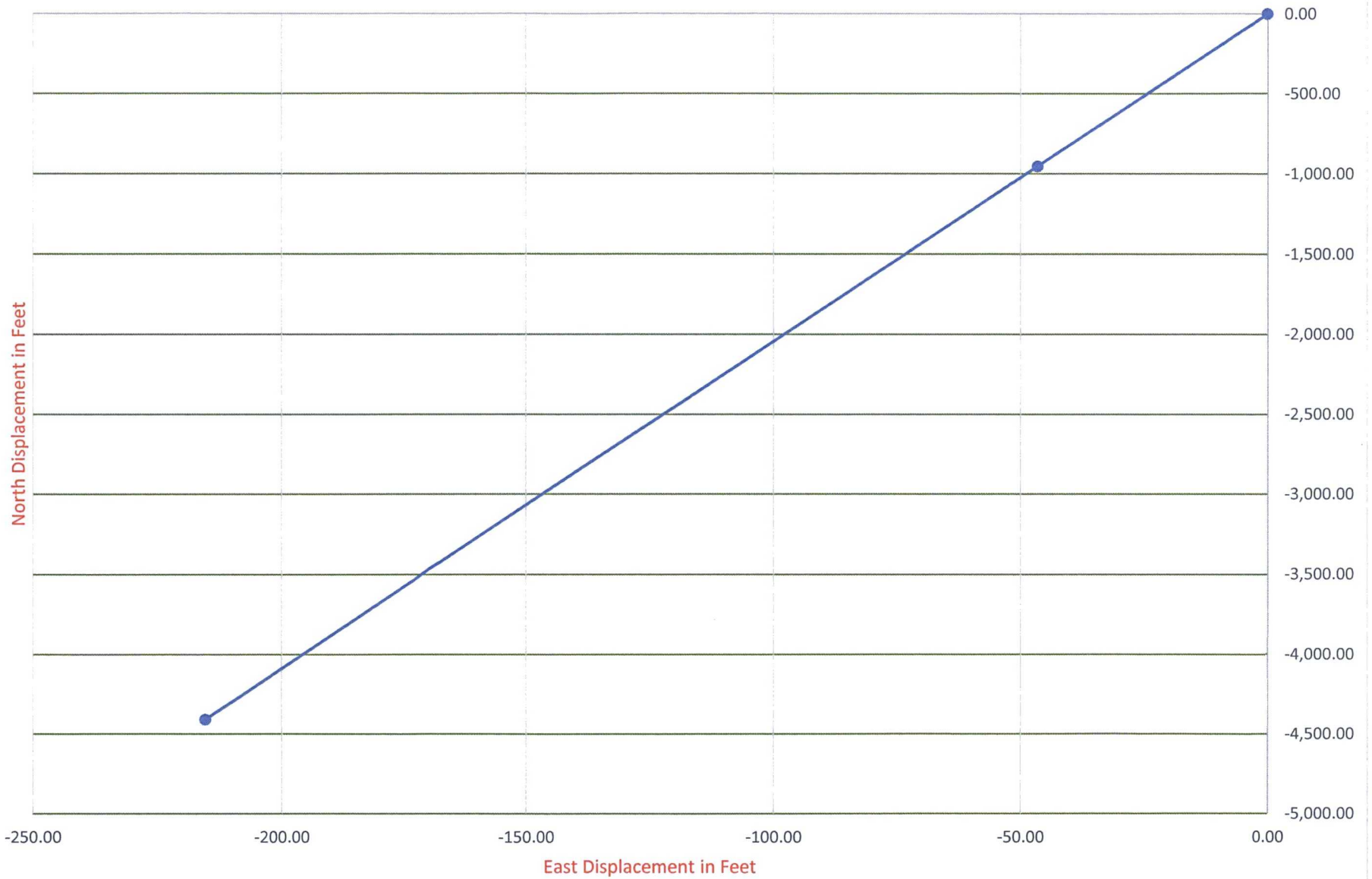
Lea 4 Fed 2H
Horizontal Well



Lea 4 Fed 2H
Vertical Section against Measured Depth
HORIZONTAL WELLBORE



Lea 4 Fed 2H
Horizontal Well



[illegible]

9660.00	0.00	182.80	9660.00	0.00	0.00	0.00			2082832.8	11836644.2	0.00	0.00	0.049	0.000	0.000	0.000	0	20.000	20.000	0.000	0.000	20.000	0.000	0.105	100.000	954.930	477.465
9680.00	0.00	182.80	9680.00	0.00	0.00	0.00			2082832.8	11836644.2	0.00	0.00	0.049	0.000	0.000	0.000	0	20.000	20.000	0.000	0.000	20.000	0.000	0.105	100.000	954.930	477.465
9700.00	0.00	182.80	9700.00	0.00	0.00	0.00			2082832.8	11836644.2	0.00	0.00	0.049	0.000	0.000	0.000	0	20.000	20.000	0.000	0.000	20.000	0.000	0.105	100.000	954.930	477.465
9720.00	0.00	182.80	9720.00	0.00	0.00	0.00			2082832.8	11836644.2	0.00	0.00	0.049	0.000	0.000	0.000	0	20.000	20.000	0.000	0.000	20.000	0.000	0.105	100.000	954.930	477.465
9740.00	0.00	182.80	9740.00	0.00	0.00	0.00			2082832.8	11836644.2	0.00	0.00	0.049	0.000	0.000	0.000	0	20.000	20.000	0.000	0.000	20.000	0.000	0.105	100.000	954.930	477.465
9760.00	0.00	182.80	9760.00	0.00	0.00	0.00			2082832.8	11836644.2	0.00	0.00	0.049	0.000	0.000	0.000	0	20.000	20.000	0.000	0.000	20.000	0.000	0.105	100.000	954.930	477.465
9780.00	0.00	182.80	9780.00	0.00	0.00	0.00			2082832.8	11836644.2	0.00	0.00	0.049	0.000	0.000	0.000	0	20.000	20.000	0.000	0.000	20.000	0.000	0.105	100.000	954.930	477.465
9800.00	0.00	182.80	9800.00	0.00	0.00	0.00			2082832.8	11836644.2	0.00	0.00	0.049	0.000	0.000	0.000	0	20.000	20.000	0.000	0.000	20.000	0.000	0.105	100.000	954.930	477.465
9816.00	0.00	182.80	9816.00	0.00	0.00	0.00			2082832.8	11836644.2	0.00	0.00	0.049	0.000	0.000	0.000	0	16.000	16.000	0.000	0.000	16.000	0.000	0.105	100.000	954.930	477.465
9836.00	0.00	182.80	9836.00	0.00	0.00	0.00			2082832.8	11836644.2	0.00	0.00	0.049	0.000	0.000	0.000	0	20.000	20.000	0.000	0.000	20.000	0.000	0.105	100.000	954.930	477.465
9856.00	1.20	182.80	9856.00	0.21	-0.21	-0.01			2082832.8	11836644.0	1.20	1.80	0.049	0.010	0.209	0.209	0.6	20.000	20.000	1.200	0.209	19.999	0.209	0.105	100.000	954.930	477.465
9876.00	2.40	182.80	9875.99	0.84	-0.84	-0.04			2082832.8	11836643.4	1.20	1.80	0.049	0.031	0.627	0.628	1.8	20.000	20.000	2.400	0.628	19.990	0.628	0.105	100.000	954.930	477.465
9896.00	3.60	182.80	9895.96	1.88	-1.88	-0.09			2082832.7	11836642.4	1.20	1.80	0.049	0.051	1.045	1.047	3	20.000	20.000	3.600	1.047	19.973	1.047	0.105	100.000	954.930	477.465
9916.00	4.80	182.80	9915.91	3.35	-3.35	-0.16			2082832.6	11836640.9	1.20	1.80	0.049	0.072	1.463	1.465	4.2	20.000	20.000	4.800	1.465	19.946	1.465	0.105	100.000	954.930	477.465
9936.00	6.00	182.80	9935.82	5.23	-5.23	-0.26			2082832.5	11836639.0	1.20	1.80	0.049	0.092	1.880	1.882	5.4	20.000	20.000	6.000	1.882	19.911	1.882	0.105	100.000	954.930	477.465
9956.00	7.20	182.80	9955.69	7.53	-7.52	-0.37			2082832.4	11836636.7	1.20	1.80	0.049	0.112	2.296	2.299	6.6	20.000	20.000	7.200	2.299	19.867	2.299	0.105	100.000	954.930	477.465
9976.00	8.40	182.80	9975.50	10.24	-10.23	-0.50			2082832.3	11836634.0	1.20	1.80	0.049	0.133	2.711	2.714	7.8	20.000	20.000	8.400	2.714	19.815	2.714	0.105	100.000	954.930	477.465
9996.00	9.60	182.80	9995.26	13.37	-13.36	-0.65			2082832.1	11836630.9	1.20	1.80	0.049	0.153	3.125	3.129	9	20.000	20.000	9.600	3.129	19.754	3.129	0.105	100.000	954.930	477.465
10016.00	10.80	182.80	10014.94	16.91	-16.89	-0.83			2082832.0	11836627.3	1.20	1.80	0.049	0.173	3.537	3.542	10.2	20.000	20.000	10.800	3.542	19.684	3.542	0.105	100.000	954.930	477.465
10036.00	12.00	182.80	10034.54	20.87	-20.84	-1.02			2082831.8	11836623.4	1.20	1.80	0.049	0.193	3.948	3.953	11.4	20.000	20.000	12.000	3.953	19.605	3.953	0.105	100.000	954.930	477.465
10056.00	13.20	182.80	10054.06	25.23	-25.20	-1.23			2082831.6	11836619.0	1.20	1.80	0.049	0.213	4.358	4.363	12.6	20.000	20.000	13.200	4.363	19.518	4.363	0.105	100.000	954.930	477.465
10076.00	14.40	182.80	10073.49	30.00	-29.97	-1.47			2082831.3	11836614.3	1.20	1.80	0.049	0.233	4.765	4.771	13.8	20.000	20.000	14.400	4.771	19.423	4.771	0.105	100.000	954.930	477.465
10096.00	15.60	182.80	10092.80	35.18	-35.14	-1.72			2082831.1	11836609.1	1.20	1.80	0.049	0.253	5.170	5.176	15	20.000	20.000	15.600	5.176	19.319	5.176	0.105	100.000	954.930	477.465
10116.00	16.80	182.80	10112.01	40.76	-40.71	-1.99			2082830.8	11836603.5	1.20	1.80	0.049	0.273	5.573	5.580	16.2	20.000	20.000	16.800	5.580	19.206	5.580	0.105	100.000	954.930	477.465
10136.00	18.00	182.80	10131.09	46.74	-46.68	-2.28			2082830.5	11836597.6	1.20	1.80	0.049	0.292	5.974	5.981	17.4	20.000	20.000	18.000	5.981	19.085	5.981	0.105	100.000	954.930	477.465
10156.00	19.20	182.80	10150.05	53.12	-53.05	-2.59			2082830.2	11836591.2	1.20	1.80	0.049	0.312	6.372	6.379	18.6	20.000	20.000	19.200	6.379	18.955	6.379	0.105	100.000	954.930	477.465
10176.00	20.40	182.80	10168.87	59.89	-59.82	-2.93			2082829.9	11836584.4	1.20	1.80	0.049	0.331	6.767	6.775	19.8	20.000	20.000	20.400	6.775	18.818	6.775	0.105	100.000	954.930	477.465
10196.00	21.60	182.80	10187.54	67.06	-66.98	-3.28			2082829.5	11836577.3	1.20	1.80	0.049	0.350	7.159	7.167	21	20.000	20.000	21.600	7.167	18.672	7.167	0.105	100.000	954.930	477.465
10216.00	22.80	182.80	10206.06	74.62	-74.53	-3.65			2082829.2	11836569.7	1.20	1.80	0.049	0.369	7.548	7.557	22.2	20.000	20.000	22.800	7.557	18.517	7.557	0.105	100.000	954.930	477.465
10236.00	24.00	182.80	10224.41	82.56	-82.46	-4.03			2082828.8	11836561.8	1.20	1.80	0.049	0.388	7.933	7.943	23.4	20.000	20.000	24.000	7.943	18.355	7.943	0.105	100.000	954.930	477.465
10256.00	25.20	182.80	10242.60	90.89	-90.78	-4.44			2082828.4	11836553.5	1.20	1.80	0.049	0.407	8.316	8.326	24.6	20.000	20.000	25.200	8.326	18.185	8.326	0.105	100.000	954.930	477.465
10276.00	26.40	182.80	10260.60	99.59	-99.47	-4.86			2082827.9	11836544.8	1.20	1.80	0.049	0.425	8.694	8.705	25.8	20.000	20.000	26.400	8.705	18.006	8.705	0.105	100.000	954.930	477.465
10296.00	27.60	182.80	10278.42	108.67	-108.54	-5.31			2082827.5	11836535.7	1.20	1.80	0.049	0.444	9.069	9.080	27	20.000	20.000	27.600	9.080	17.820	9.080	0.105	100.000	954.930	477.465
10316.00	28.80	182.80	10296.05	118.12	-117.98	-5.77			2082827.0	11836526.3	1.20	1.80	0.049	0.462	9.440	9.451	28.2	20.000	20.000	28.800	9.451	17.626	9.451	0.105	100.000	954.930	477.465
10336.00	30.00	182.80	10313.47	127.94	-127.79	-6.25			2082826.6	11836516.5	1.20	1.80	0.049	0.480	9.806	9.818	29.4	20.000	20.000	30.000	9.818	17.424	9.818	0.105	100.000	954.930	477.465
10356.00	31.20	182.80	10330.69	138.12	-137.95	-6.75			2082826.1	11836506.3	1.20	1.80	0.049	0.497	10.169	10.181	30.6	20.000	20.000	31.200	10.181	17.215	10.181	0.105	100.000	954.930	477.465
10376.00	32.40	182.80	10347.69	148.66	-148.48	-7.26			2082825.5	11836495.8	1.20	1.80	0.049	0.515	10.527	10.539	31.8	20.000	20.000	32.400	10.539	16.998	10.539	0.105	100.000	954.930	477.465
10396.00	33.60	182.80	10364.46	159.55	-159.36	-7.79			2082825.0	11836484.9	1.20	1.80	0.049	0.532	10.880	10.893	33	20.000	20.000	33.600	10.893	16.773	10.893	0.105	100.000	954.930	477.465
10416.00	34.80	182.80	10381.00	170.79	-170.59	-8.34			2082824.5	11836473.7	1.20	1.80	0.049	0.549	11.228	11.242	34.2	20.000	20.000	34.800	11.242	16.542	11.242	0.105	100.000	954.930	477.465
10436.00	36.00	182.80	10397.30	182.38	-182.16	-8.91			2082823.9	11836462.1	1.20	1.80	0.049	0.566	11.572	11.586	35.4	20.000	20.000	36.000	11.586	16.303	11.586	0.105	100.000	954.930	477.465
10456.00	37.20	182.80	10413.36	194.30	-194.07	-9.49			2082823.3	11836450.2	1.20	1.80	0.049	0.583	11.910	11.924	36.6	20.000	20.000	37.200	11.924	16.056	11.924	0.105	100.000	954.930	477.465
10476.00	38.40	182.80	10429.16	206.56	-206.31	-10.09			2082822.7	11836437.9	1.20	1.80	0.049	0.599	12.244	12.258	37.8	20.000	20.000	38.400	12.258	15.803	12.258	0.105	100.000	954.930	477.465
10496.00	39.60	182.80	10444.71	219.15	-218.89	-10.71			2082822.1	11836425.4																	

12116.00	89.45	182.80	10798.53	1734.91	-1732.84	-84.75				2082748.1	11834911.4
12096.00	89.45	182.80	10798.34	1714.91	-1712.86	-83.77				2082749.0	11834931.4
12076.00	89.45	182.80	10798.15	1694.91	-1692.89	-82.80				2082750.0	11834951.4
12056.00	89.45	182.80	10797.95	1674.91	-1672.91	-81.82				2082751.0	11834971.3
12036.00	89.45	182.80	10797.76	1654.91	-1652.94	-80.84				2082752.0	11834991.3
12016.00	89.45	182.80	10797.57	1634.91	-1632.96	-79.87				2082752.9	11835011.3
11996.00	89.45	182.80	10797.38	1614.92	-1612.99	-78.89				2082753.9	11835031.3
11976.00	89.45	182.80	10797.19	1594.92	-1593.01	-77.91				2082754.9	11835051.2
11956.00	89.45	182.80	10796.99	1574.92	-1573.04	-76.93				2082755.9	11835071.2
11936.00	89.45	182.80	10796.80	1554.92	-1553.06	-75.96				2082756.8	11835091.2
11916.00	89.45	182.80	10796.61	1534.92	-1533.09	-74.98				2082757.8	11835111.2
11896.00	89.45	182.80	10796.42	1514.92	-1513.11	-74.00				2082758.8	11835131.1
11876.00	89.45	182.80	10796.23	1494.92	-1493.14	-73.03				2082759.8	11835151.1
11856.00	89.45	182.80	10796.03	1474.92	-1473.16	-72.05				2082760.8	11835171.1
11836.00	89.45	182.80	10795.84	1454.92	-1453.19	-71.07				2082761.7	11835191.7
11816.00	89.45	182.80	10795.65	1434.92	-1433.21	-70.10				2082762.7	11835211.0
11796.00	89.45	182.80	10795.46	1414.92	-1413.24	-69.12				2082763.7	11835231.0
11776.00	89.45	182.80	10795.27	1394.93	-1393.26	-68.14				2082764.7	11835251.0
11756.00	89.45	182.80	10795.07	1374.93	-1373.29	-67.16				2082765.6	11835271.0
11736.00	89.45	182.80	10794.88	1354.93	-1353.31	-66.19				2082766.6	11835290.9
11716.00	89.45	182.80	10794.69	1334.93	-1333.33	-65.21				2082767.6	11835310.9
11696.00	89.45	182.80	10794.50	1314.93	-1313.36	-64.23				2082768.6	11835330.9
11676.00	89.45	182.80	10794.31	1294.93	-1293.38	-63.26				2082769.5	11835350.9
11656.00	89.45	182.80	10794.11	1274.93	-1273.41	-62.28				2082770.5	11835370.8
11636.00	89.45	182.80	10793.92	1254.93	-1253.43	-61.30				2082771.5	11835390.8
11616.00	89.45	182.80	10793.73	1234.93	-1233.46	-60.33				2082772.5	11835410.8
11596.00	89.45	182.80	10793.54	1214.93	-1213.48	-59.35				2082773.5	11835430.8
11576.00	89.45	182.80	10793.35	1194.93	-1193.51	-58.37				2082774.4	11835450.7
11556.00	89.45	182.80	10793.15	1174.94	-1173.53	-57.40				2082775.4	11835470.7
11536.00	89.45	182.80	10793.96	1154.94	-1153.56	-56.42				2082776.4	11835490.7
11516.00	89.45	182.80	10792.77	1134.94	-1133.58	-55.44				2082777.4	11835510.7
11496.00	89.45	182.80	10792.58	1114.94	-1113.61	-54.46				2082778.3	11835530.6
11476.00	89.45	182.80	10792.39	1094.94	-1093.63	-53.49				2082779.3	11835550.6
11456.00	89.45	182.80	10792.19	1074.94	-1073.66	-52.51				2082780.3	11835570.6
11436.00	89.45	182.80	10792.00	1054.94	-1053.68	-51.53				2082781.3	11835590.6
11416.00	89.45	182.80	10791.81	1034.94	-1033.71	-50.56				2082782.2	11835610.5
11396.00	89.45	182.80	10791.62	1014.94	-1013.73	-49.58				2082783.2	11835630.5
11376.00	89.45	182.80	10791.43	994.94	-993.76	-48.60				2082784.2	11835650.5
11356.00	89.45	182.80	10791.24	974.94	-973.78	-47.63				2082785.2	11835670.5
11336.00	89.45	182.80	10791.04	954.94	-953.81	-46.65				2082786.2	11835690.4
11316.00	88.80	182.80	10790.74	934.95	-933.83	-45.67				2082787.1	11835710.4
11296.00	87.60	182.80	10790.11	914.96	-913.87	-44.70				2082788.1	11835730.4
11276.00	86.40	182.80	10789.06	894.99	-893.92	-43.72				2082789.1	11835750.3
11256.00	85.20	182.80	10787.60	875.04	-873.99	-42.75				2082790.1	11835770.2
11236.00	84.00	182.80	10785.72	855.13	-854.11	-41.77				2082791.0	11835790.1
11216.00	82.80	182.80	10783.42	835.26	-834.26	-40.80				2082792.0	11835810.0
11196.00	81.60	182.80	10780.70	815.45	-814.47	-39.83				2082793.0	11835829.8
11176.00	80.40	182.80	10777.57	795.69	-794.74	-38.87				2082793.9	11835849.5
11156.00	79.20	182.80	10774.03	776.01	-775.08	-37.91				2082794.9	11835869.2
11136.00	78.00	182.80	10770.08	756.40	-755.50	-36.95				2082795.8	11835888.7
11116.00	76.80	182.80	10766.72	736.88	-736.00	-36.00				2082796.8	11835908.2
11096.00	75.60	182.80	10760.95	717.46	-716.60	-35.05				2082797.8	11835927.6
11076.00	74.40	182.80	10755.77	698.14	-697.31	-34.10				2082798.7	11835946.9
11056.00	73.20	182.80	10750.19	678.94	-678.13	-33.17				2082799.6	11835966.1
11036.00	72.00	182.80	10744.21	659.85	-659.06	-32.23				2082800.6	11835985.2
11016.00	70.80	182.80	10737.83	640.90	-640.13	-31.31				2082801.5	11836004.1
10996.00	69.60	182.80	10731.05	621.34	-621.34	-30.39				2082802.4	11836022.9
10976.00	68.40	182.80	10723.89	603.41	-602.69	-29.48				2082803.3	11836041.6
10956.00	67.20	182.80	10716.33	584.89	-584.19	-28.57				2082804.2	11836060.0
10936.00	66.00	182.80	10708.39	566.54	-565.66	-27.68				2082805.1	11836078.4
10916.00	64.80	182.80	10700.06	548.35	-547.70	-26.91				2082806.0	11836096.5
10896.00	63.60	182.80	10691.36	530.34	-529.71	-26.91				2082806.9	11836114.5

13376.00	89.45	182.80	10810.63	2994.85	-2991.28	-146.30		2082686.5	11833653.0	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
13396.00	89.45	182.80	10810.82	3014.85	-3011.25	-147.27		2082685.5	11833633.0	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
13416.00	89.45	182.80	10811.01	3034.85	-3031.23	-148.25		2082684.5	11833613.0	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
13436.00	89.45	182.80	10811.20	3054.85	-3051.20	-149.23		2082683.6	11833593.0	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
13456.00	89.45	182.80	10811.39	3074.85	-3071.18	-150.21		2082682.6	11833573.1	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
13476.00	89.45	182.80	10811.59	3094.85	-3091.15	-151.18		2082681.6	11833553.1	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
13496.00	89.45	182.80	10811.78	3114.85	-3111.13	-152.16		2082680.6	11833533.1	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
13516.00	89.45	182.80	10811.97	3134.85	-3131.10	-153.14		2082679.7	11833513.1	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
13536.00	89.45	182.80	10812.16	3154.84	-3151.08	-154.11		2082678.7	11833493.2	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
13556.00	89.45	182.80	10812.35	3174.84	-3171.05	-155.09		2082677.7	11833473.2	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
13576.00	89.45	182.80	10812.55	3194.84	-3191.03	-156.07		2082676.7	11833453.2	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
13596.00	89.45	182.80	10812.74	3214.84	-3211.00	-157.04		2082675.8	11833433.2	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
13616.00	89.45	182.80	10812.93	3234.84	-3230.98	-158.02		2082674.8	11833413.3	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
13636.00	89.45	182.80	10813.12	3254.84	-3250.95	-159.00		2082673.8	11833393.3	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.00									

14616.00	89.45	182.80	10822.53	4234.79	-4229.74	-206.87			2082625.9	11832414.5	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
14636.00	89.45	182.80	10822.72	4254.79	-4249.71	-207.85			2082625.0	11832394.5	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
14656.00	89.45	182.80	10822.91	4274.79	-4269.69	-208.82			2082624.0	11832374.6	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
14676.00	89.45	182.80	10823.10	4294.79	-4289.66	-209.80			2082623.0	11832354.6	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
14696.00	89.45	182.80	10823.30	4314.79	-4309.64	-210.78			2082622.0	11832334.6	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
14716.00	89.45	182.80	10823.49	4334.79	-4329.62	-211.75			2082621.0	11832314.6	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
14736.00	89.45	182.80	10823.68	4354.79	-4349.59	-212.73			2082620.1	11832294.6	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
14756.00	89.45	182.80	10823.87	4374.79	-4369.57	-213.71			2082619.1	11832274.7	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
14772.00	89.45	182.80	10824.03	4390.79	-4385.55	-214.49			2082618.3	11832258.7	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
14792.00	89.45	182.80	10824.22	4410.79	-4405.52	-215.47			2082617.3	11832238.7	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
14812.00	89.45	182.80	10824.41	4430.79	-4425.50	-216.44			2082616.4	11832218.7	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
14832.00	89.45	182.80	10824.60	4450.78	-4445.47	-217.42			2082615.4	11832198.8	0.00	0.00	0.049	0.977	19.975	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465
14852.00	89.45	182.80	10824.79	4470.78	#REF!	#REF!			#REF!	#REF!	0.00	0.00	#REF!	#REF!	#REF!	19.999	89.45	20.000	20.000	89.450	19.999	0.192	19.999	0.105	100.000	954.930	477.465



New Mexico Office of the State Engineer Water Column/Average Depth to Water

No records found.

Basin/County Search:

Basin: Lea County

County: Lea

PLSS Search:

Section(s): 4

Township: 20S

Range: 34E

HOBBS OCD
DEC 19 2016
RECEIVED

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

9/25/13 12:30 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER



New Mexico Office of the State Engineer
Active & Inactive Points of Diversion
(with Ownership Information)

No PODs found.

POD Search:

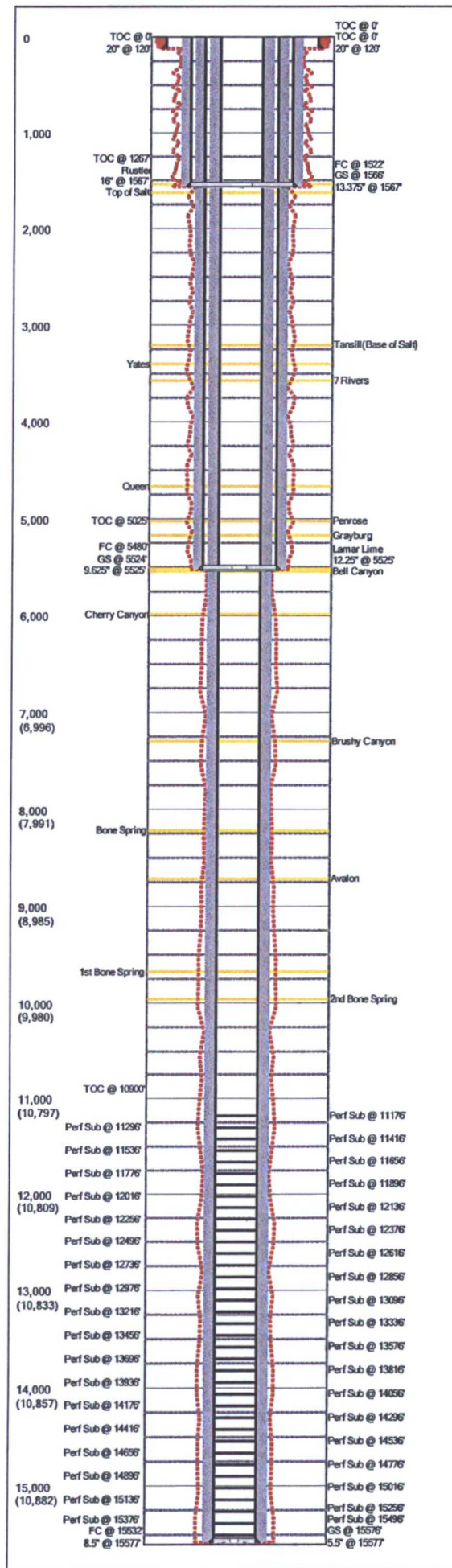
POD Basin: Lea County

PLSS Search:

Section(s): 4

Township: 20S

Range: 34E



Last Updated: 2/6/2014 01:36 PM

Field Name	Lease Name	Well No.
North Lea	North Lea 4 Fed	2H
County, State	API No.	
Lea, New Mexico	0023232626161	
Version	Version Tag	
1		
G.L. (ft)	K.B. (ft)	Sec.
3,654.0	3,676.0	4
Township/Block	Range/Survey	
20S	34E	
Operator	Well Status	Latitude
Read and Stevens	Planning	32.60836
Longitude		103.561218
Footage Call		
400' FNL & 1420' FEL From Section		
PropNum	Spud Date	Comp. Date
Additional Information		
Prepared By	Updated By	Last Updated
Steve Morris	Steve Morris	2/6/2014 1:36 PM

Hole Summary

Date	O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
	20.000	0	120	
	16.000	120	1,567	Surface
	12.250	1,567	5,525	Intermediate
	8.500	5,525	15,577	Production

Tubular Summary

Date	Description	O.D. (in)	Wt (lb/ft)	Grade	Top (MD ft)	Bottom (MD ft)
	Conductor Casing	20.000	54.50	J-55	0	120
	Surface Casing	13.375	54.50	J-55	0	1,567
	Intermediate Casing	9.625	40.00	L-80	0	5,525
	Production Casing	5.500	85.00	P-110	0	15,577

Casing Cement Summary

Date	No. Sx	Csg. O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
	660	13.375	0	1,267	120' Lead casing in conductor with no excess 126.7cuft 22.6bbls 66sx
					1147' Lead casing in open hole with 100% excess 964.8cuft 171.8bbls 594sx
	166	13.375	1,267	1,567	300' Tail casing in open hole with 100% excess 187.9cuft 33.5bbls 139sx
					40' Tail in shoe track with no excess 34.7cuft 6.2bbls 27sx
	1,327	9.625	0	5,025	1567' Lead casing in casing with no excess 568.3cuft 101.2bbls 267sx
					3458' Lead casing in open hole with 80% excess 2257cuft 402.1bbls 1060sx
	222	9.625	5,025	5,525	500' Tail casing in open hole with 80% excess 281.9cuft 50.2bbls 209sx
					40' Tail shoe track with no excess 17cuft 3bbls 13sx
	1,536	5.500	0	10,900	5525' Lead casing in casing with no excess 1440.6cuft 256.6bbls 605sx
					5375' Lead casing in open hole with 80% excess 2216.3cuft 394.7bbls 931sx
	801	5.500	10,900	15,577	4677' Tail casing in open hole with 20% excess 1285.7cuft 229bbls 794sx
					80' Tail shoe track with no excess 10.4cuft 1.9bbls 7sx

Tools/Problems Summary

Date	Tool Type	O.D. (in)	I.D. (in)	Top (MD ft)	Bottom (MD ft)
	FC	13.375	0.000	1,522	0
	GS	13.375	0.000	1,566	0
	FC	9.625	0.000	5,480	0

Last Updated: 2/6/2014 01:36 PM

Date	Tool Type	O.D. (in)	I.D. (in)	Top (MD ft)	Bottom (MD ft)
	GS	9.625	0.000	5,524	0
	Perf Sub	5.500	0.000	11,176	11,192
	Perf Sub	5.500	0.000	11,296	11,312
	Perf Sub	5.500	0.000	11,416	11,432
	Perf Sub	5.500	0.000	11,536	11,552
	Perf Sub	5.500	0.000	11,656	11,672
	Perf Sub	5.500	0.000	11,776	11,792
	Perf Sub	5.500	0.000	11,896	11,912
	Perf Sub	5.500	0.000	12,016	12,032
	Perf Sub	5.500	0.000	12,136	12,152
	Perf Sub	5.500	0.000	12,256	12,272
	Perf Sub	5.500	0.000	12,376	12,392
	Perf Sub	5.500	0.000	12,496	12,512
	Perf Sub	5.500	0.000	12,616	12,632
	Perf Sub	5.500	0.000	12,736	12,752
	Perf Sub	5.500	0.000	12,856	12,872
	Perf Sub	5.500	0.000	12,976	12,992
	Perf Sub	5.500	0.000	13,096	13,112
	Perf Sub	5.500	0.000	13,216	13,232
	Perf Sub	5.500	0.000	13,336	13,352
	Perf Sub	5.500	0.000	13,456	13,472
	Perf Sub	5.500	0.000	13,576	13,592
	Perf Sub	5.500	0.000	13,696	13,712
	Perf Sub	5.500	0.000	13,816	13,832
	Perf Sub	5.500	0.000	13,936	13,952
	Perf Sub	5.500	0.000	14,056	14,072
	Perf Sub	5.500	0.000	14,176	14,192
	Perf Sub	5.500	0.000	14,296	14,312
	Perf Sub	5.500	0.000	14,416	14,432
	Perf Sub	5.500	0.000	14,536	14,552
	Perf Sub	5.500	0.000	14,656	14,672
	Perf Sub	5.500	0.000	14,776	14,792
	Perf Sub	5.500	0.000	14,896	14,912
	Perf Sub	5.500	0.000	15,016	15,032
	Perf Sub	5.500	0.000	15,136	15,152
	Perf Sub	5.500	0.000	15,256	15,272
	Perf Sub	5.500	0.000	15,376	15,392
	Perf Sub	5.500	0.000	15,496	15,512
	FC	5.500	0.000	15,532	0
	GS	5.500	0.000	15,576	0

Formation Tops Summary

Formation	Top (MD ft)	Comments
Rustler	1,542	Interbedded Anhydrite, Gypsum and Halite beds.
Top of Salt	1,627	Interbedded Halite with stringers of other evaporite minerals
Tansill (Base of Salt)	3,205	Chiefly consisting of Evaporites, breaks of dolomite, silt and fine sand to shale, transitions to chiefly dolomite higher in the section
Yates	3,400	Interbedded red and grey sandstones, shale and anhydrite, as well as some dolomite facies
7 Rivers	3,570	Contains mostly gypsum and red sandstones, however shelfward the seven rivers contains halite as well
Queen	4,665	Interbedded Sandstones & Carbonate beds with varying depositional system
Penrose	5,022	Interbedded Sandstones & Carbonate beds with varying depositional system
Grayburg	5,173	Interbedded Sandstones & Carbonate beds with varying depositional system
Lamar Lime	5,515	Limestone
Bell Canyon	5,545	Interbedded Carbonate and Sandstone layers
Cherry Canyon	5,986	Interbedded Sandstone layers with several limestone beds
Brushy Canyon	7,290	Interbedded Carbonate and Sandstone layers
Bone Spring	8,210	Marker bed for the top of the Leonardian age rocks
Avalon	8,700	Interbedded Organic-rich Siltstones with interbedded carbonate, and quartz-rich silts, Deposition setting often described as benthic or "deep-water"

Last Updated: 2/6/2014 01:36 PM

Formation	Top (MD ft)	Comments
1st Bone Spring	9,657	Interbedded Argillaceous quartz-rich siltstones with interbedded organic-rich silt beds (often colloquially described as shales).
2nd Bone Spring	9,940	Interbedded Argillaceous quartz-rich siltstones with interbedded organic-rich silt beds (often colloquially described as shales).
3rd Bone Spring	10,540	Interbedded Argillaceous quartz-rich siltstones with interbedded organic-rich silt beds (often colloquially described as shales).

Last Updated: 2/6/2014 01:36 PM

Field Name	Lease Name	Well No.	County, State	API No.
North Lea	North Lea 4 Fed	2H	Lea, New Mexico	0023232626161
Version	Version Tag	Spud Date	Comp. Date	G.L. (ft) K.B. (ft)
1				3,654.0 3,676.0
Sec.	Township/Block	Range/Survey	Footage Call	
4	20S	34E	400' FNL & 1420' FEL From Section	
Operator	Well Status	Latitude	Longitude	PropNum
Read and Stevens	Planning	32.60836	103.561218	
Last Updated	Prepared By	Updated By		
02/06/2014 1:36 PM	Steve Morris	Steve Morris		
Additional Information				

Hole Summary

Date	O.D. (in)	Top (MD ft)	Bottom (MD ft)	Comments
	20.000	0	120	
	16.000	120	1,567	Surface
	12.250	1,567	5,525	Intermediate
	8.500	5,525	15,577	Production

Tubular Summary

Date	Description	No. Jts	O.D. (in)	Wt (lb/ft)	Grade	Top (MD ft)	Bottom (MD ft)	Comments
	Conductor Casing		20.000	54.50	J-55	0	120	
	Surface Casing		13.375	54.50	J-55	0	1,567	Burst 2730psi SF 3.54 Collapse 1130psi SF 3.08 Tensile 514kbs SF 5.66 ID 12.615" Drift 12.459"
	Intermediate Casing		9.625	40.00	L-80	0	5,525	Burst 5750psi SF 2.03 Collapse 300psi SF 1.28 Tensile 727kbs SF 3.33 ID 8.835" Drift 8.679"
	Production Casing		5.500	85.00	P-110	0	15,577	Burst 10640psi SF 1.29 Collapse 7480psi SF 1.55 Tensile 568kbs SF 3.06 ID 4.892" Drift 4.767"

Casing Cement Summary

Date	No. Sx	Yield (cuft/sk)	Vol. (cuft)	Csg. O.D. (in)	Top (MD ft)	Bottom (MD ft)	Description	Comments
	660	1.93	1,274	13.375	0	1,267	Lead 13.5ppg 9.71gps Class C + 4% bwoc Bentonite II + 2% bwoc Calcium Chloride + 0.25 lbs/sack CelloFlake + 0.005% bwoc StaticFree + 0.005gps FP-6L	120' Lead casing in conductor with no excess 126.7cuft 22.6bbbls 66sx 1147' Lead casing in open hole with 100% excess 964.8cuft 171.8bbbls 594sx
	166	1.35	224	13.375	1,267	1,567	Tail 14.8ppg 6.35gps Class C + 1.5% bwoc Calcium Chloride + 0.005 lbs/sack StaticFree + 0.005 gps FP-6L	300' Tail casing in open hole with 100% excess 187.9cuft 33.5bbbls 139sx 40' Tail in shoe track with no excess 34.7cuft 6.2bbbls 27sx
	1,327	2.13	2,827	9.625	0	5,025	Lead 12.6ppg 2.13gps Class C (35:65) + Poz (Fly Ash) + 4% bwoc Bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL-52 + 5 lbs/sack LCM-1 + 0.125 lbs/sack CelloFlake + 0.005 lbs/sack StaticFree + 0.005gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium	1567' Lead casing in casing with no excess 568.3cuft 101.2bbbls 267sx 3458' Lead casing in open hole with 80% excess 2257cuft 402.1bbbls 1060sx
	222	1.35	300	9.625	5,025	5,525	Tail 14.8ppg 6.35gps Class C	500' Tail casing in open hole with 80% excess 281.9cuft 50.2bbbls 209sx 40' Tail shoe track with no excess 17cuft 3bbbls 13sx
	1,536	2.38	3,656	5.500	0	10,900	Lead 11.9ppg 13.22gps Class H (50:50) + Poz (Fly Ash) + 10% bwoc Bentonite II + 5% bwow Sodium Chloride + 5 lbs/sack LCM-1 + 0.005lbs/sack StaticFree + 0.00	5525' Lead casing in casing with no excess 1440.6cuft 256.6bbbls 605sx 5375' Lead casing in open hole with 80% excess 2216.3cuft 394.7bbbls 931sx
	801	1.62	1,298	5.500	10,900	15,577	Tail 13.2ppg 9.45gps Class H (15:61:11) Poz (Fly Ash): Class H Cement: CSE-2 + 4% bwow Sodium Chloride + 3 lbs/sack LCM-1 + 0.6% bwoc FL-25 + 0.005 gps FP-6L + 0.005% bwoc	4677' Tail casing in open hole with 20% excess 1285.7cuft 229bbbls 794sx 80' Tail shoe track with no excess 10.4cuft 1.9bbbls 7sx

Tools/Problems Summary

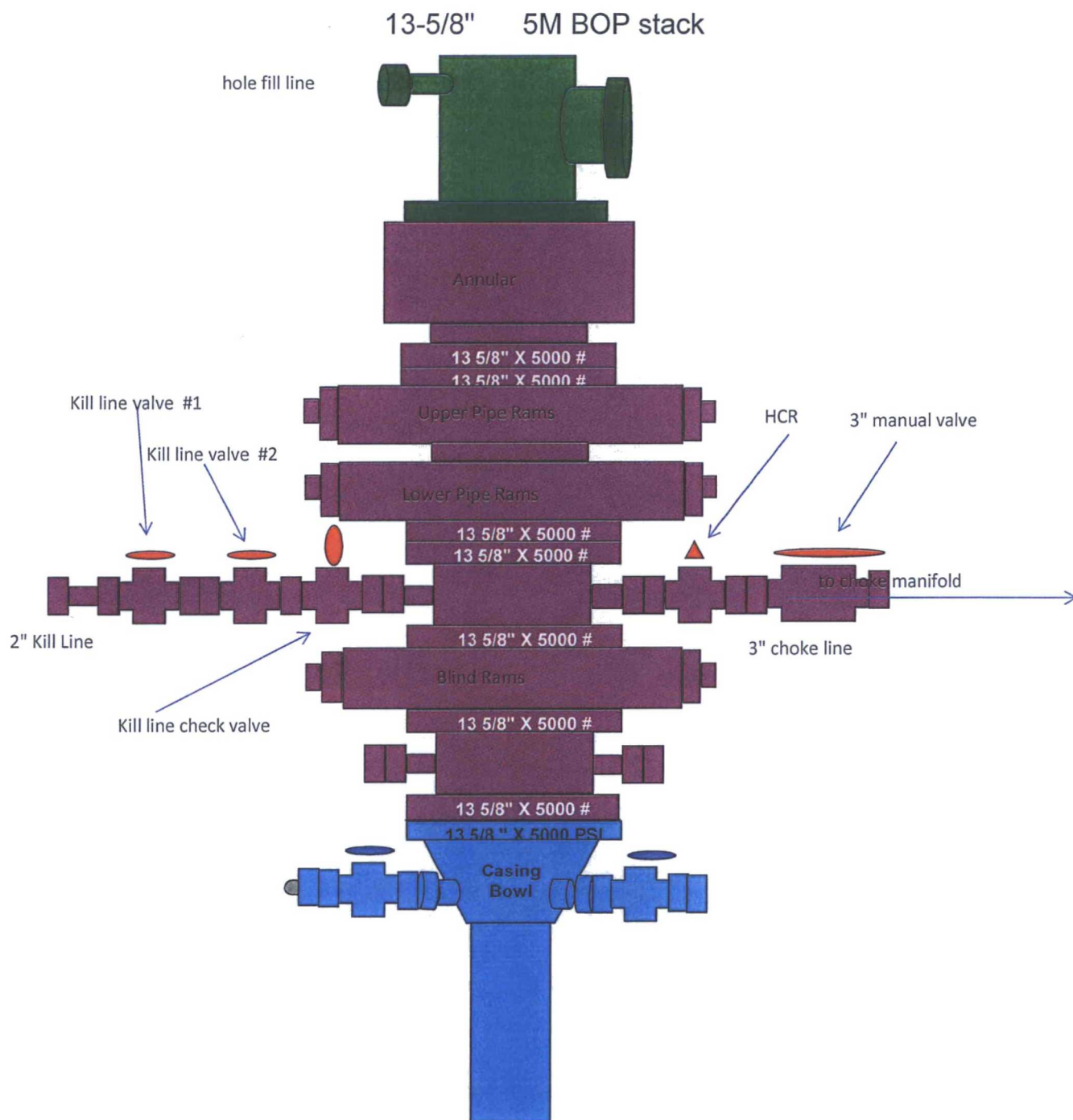
Date	Tool Type	O.D. (in)	I.D. (in)	Top (MD ft)	Bottom (MD ft)	Description	Comments
	Float Collar	13.375	0.000	1,522	0		
	Guide Shoe	13.375	0.000	1,566	0		
	Float Collar	9.625	0.000	5,480	0		
	Guide Shoe	9.625	0.000	5,524	0		
	Perforated Sub	5.500	0.000	11,176	11,192	Opti-Port	Stage 37
	Perforated Sub	5.500	0.000	11,296	11,312	Opti-Port	Stage 36
	Perforated Sub	5.500	0.000	11,416	11,432	Opti-Port	Stage 35
	Perforated Sub	5.500	0.000	11,536	11,552	Opti-Port	Stage 34
	Perforated Sub	5.500	0.000	11,656	11,672	Opti-Port	Stage 33
	Perforated Sub	5.500	0.000	11,776	11,792	Opti-Port	Stage 32
	Perforated Sub	5.500	0.000	11,896	11,912	Opti-Port	Stage 31

Last Updated: 2/6/2014 01:36 PM

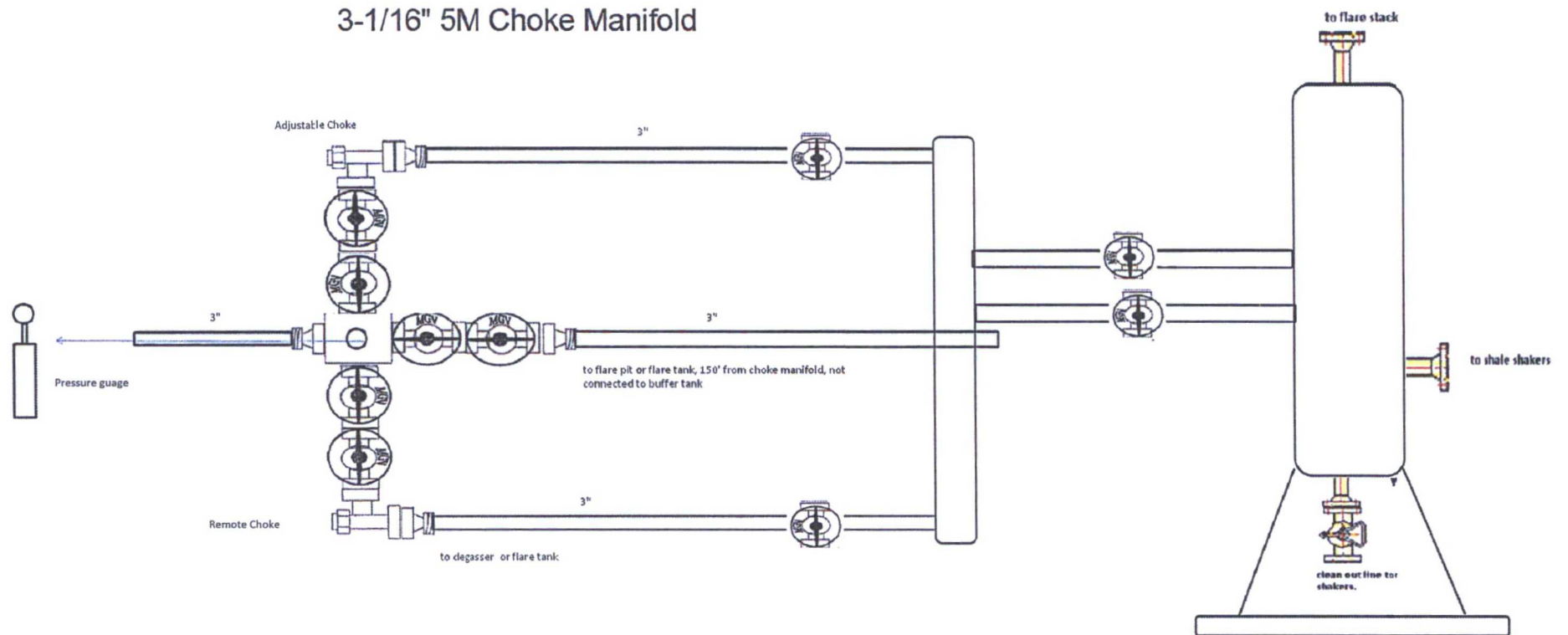
Date	Tool Type	O.D. (in)	I.D. (in)	Top (MD ft)	Bottom (MD ft)	Description	Comments
	Perforated Sub	5.500	0.000	12,016	12,032	Opti-Port	Stage 30
	Perforated Sub	5.500	0.000	12,136	12,152	Opti-Port	Stage 29
	Perforated Sub	5.500	0.000	12,256	12,272	Opti-Port	Stage 28
	Perforated Sub	5.500	0.000	12,376	12,392	Opti-Port	Stage 27
	Perforated Sub	5.500	0.000	12,496	12,512	Opti-Port	Stage 26
	Perforated Sub	5.500	0.000	12,616	12,632	Opti-Port	Stage 25
	Perforated Sub	5.500	0.000	12,736	12,752	Opti-Port	Stage 24
	Perforated Sub	5.500	0.000	12,856	12,872	Opti-Port	Stage 23
	Perforated Sub	5.500	0.000	12,976	12,992	Opti-Port	Stage 22
	Perforated Sub	5.500	0.000	13,096	13,112	Opti-Port	Stage 21
	Perforated Sub	5.500	0.000	13,216	13,232	Opti-Port	Stage 20
	Perforated Sub	5.500	0.000	13,336	13,352	Opti-Port	Stage 19
	Perforated Sub	5.500	0.000	13,456	13,472	Opti-Port	Stage 18
	Perforated Sub	5.500	0.000	13,576	13,592	Opti-Port	Stage 17
	Perforated Sub	5.500	0.000	13,696	13,712	Opti-Port	Stage 16
	Perforated Sub	5.500	0.000	13,816	13,832	Opti-Port	Stage 15
	Perforated Sub	5.500	0.000	13,936	13,952	Opti-Port	Stage 14
	Perforated Sub	5.500	0.000	14,056	14,072	Opti-Port	Stage 13
	Perforated Sub	5.500	0.000	14,176	14,192	Opti-Port	Stage 12
	Perforated Sub	5.500	0.000	14,296	14,312	Opti-Port	Stage 11
	Perforated Sub	5.500	0.000	14,416	14,432	Opti-Port	Stage 10
	Perforated Sub	5.500	0.000	14,536	14,552	Opti-Port	Stage 9
	Perforated Sub	5.500	0.000	14,656	14,672	Opti-Port	Stage 8
	Perforated Sub	5.500	0.000	14,776	14,792	Opti-Port	Stage 7
	Perforated Sub	5.500	0.000	14,896	14,912	Opti-Port	Stage 6
	Perforated Sub	5.500	0.000	15,016	15,032	Opti-Port	Stage 5
	Perforated Sub	5.500	0.000	15,136	15,152	Opti-Port	Stage 4
	Perforated Sub	5.500	0.000	15,256	15,272	Opti-Port	Stage 3
	Perforated Sub	5.500	0.000	15,376	15,392	Opti-Port	Stage 2
	Perforated Sub	5.500	0.000	15,496	15,512	Opti-Port	Stage 1
	Float Collar	5.500	0.000	15,532	0		
	Guide Shoe	5.500	0.000	15,576	0		

Formation Top Summary

Formation Name	Top (MD ft)	Comments
Rustler	1,542	Interbedded Anhydrite, Gypsum and Halite beds.
Top of Salt	1,627	Interbedded Halite with stringers of other evaporite minerals
Tansill(Base of Salt)	3,205	Chiefly consisting of Evaporites, breaks of dolomite, silt and fine sand to shale, transitions to chiefly dolomite higher in the section
Yates	3,400	Interbedded red and grey sandstones, shale and anhydrite, as well as some dolomite facies
7 Rivers	3,570	Contains mostly gypsum and red sandstones, however shelfward the seven rivers contains halite as well
Queen	4,665	Interbedded Sandstones & Carbonate beds with varying depositional system
Penrose	5,022	Interbedded Sandstones & Carbonate beds with varying depositional system
Grayburg	5,173	Interbedded Sandstones & Carbonate beds with varying depositional system
Lamar Lime	5,515	Limestone
Bell Canyon	5,545	Interbedded Carbonate and Sandstone layers
Cherry Canyon	5,986	Interbedded Sandstone layers with several limestone beds
Brushy Canyon	7,290	Interbedded Carbonate and Sandstone layers
Bone Spring	8,210	Marker bed for the top of the Leonardian age rocks
Avalon	8,700	Interbedded Organic-rich Siltstones with interbedded carbonate, and quartz-rich silts, Deposition setting often described as benthic or "deep-water"
1st Bone Spring	9,657	Interbedded Argillaceous quartz-rich siltstones with interbedded organic-rich silt beds (often colloquially described as shales).
2nd Bone Spring	9,940	Interbedded Argillaceous quartz-rich siltstones with interbedded organic-rich silt beds (often colloquially described as shales).
3rd Bone Spring	10,540	Interbedded Argillaceous quartz-rich siltstones with interbedded organic-rich silt beds (often colloquially described as shales).



3-1/16" 5M Choke Manifold



Read and Stevens, Inc.

400 N Pennsylvania Ave #1000, Roswell, NM 88201

Operator Certification: Application for Permit to Drill
North Lea 4 Fed Com #2H
Read and Stevens, Inc.
Lea County, New Mexico

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in the Application for Permit to Drill (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 by Read and Stevens, Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. I also certify responsibility for the operations conducted on that portion of the leased lands associated with this application with bond coverage provided by BLM Bond Number NM-2310. This statement is subject to the provisions of the 18U.S.C.1001 for filing a false statement.

Signed:  _____
Rory McMinn
President of Read Operating Company LLC,
Agent for Read & Stevens, Inc.

Dated: 18 October 2016