

SECRETARY'S POTASH

UNORTHODOX
LOCATIONUNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

HOBBS OCD
DEC 19 2016
RECEIVEDFORM APPROVED
OMB No. 1004-0137
Expires July 31, 20105. Lease Serial No.
SHL: LC-065607 BHL: LC-064194

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No. 313886
North Lea 4 Fed Com #3H

9. API Well No. 30-025-43505 (50461)

10. Field and Pool, or Exploratory
Quail Ridge; Bone Spring, South11. Sec., T. R. M. or Blk. and Survey or Area
Sec. 4 T-20S R-34E12. County or Parish
Lea13. State
NM1a. Type of work: ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator Read and Stevens, Inc. (8917)

3a. Address 400 N. Pennsylvania Ave #1000
Roswell, NM 882013b. Phone No. (include area code)
575-622-3770

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

At surface 395' FNL 2515' FWL (C3)

At proposed prod. zone 330' FSL 2290' FWL (N)

14. Distance in miles and direction from nearest town or post office*
26 miles WSW of Hobbs15. Distance from proposed* location to nearest property or lease line, ft.
(Also to nearest drig. unit line, if any) 395'16. No. of acres in lease
2722.3917. Spacing Unit dedicated to this well
160.44

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'TVD / 14,941'MD20. BLM/BIA Bond No. on file
NM-231021. Elevations (Show whether DF, KDB, RT, GL, etc.)
GL - 3651.2' RKB - 3673.2'22. Approximate date work will start*
04/15/201723. 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.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature Name (Printed/Typed)
Rory McMinnDate
10/18/2016

Title

Project Manager

Approved by (Signature) /s/Cody Layton

Name (Printed/Typed)

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

Approval Subject to General Requirements
& Special Stipulations AttachedSEE ATTACHED FOR
CONDITIONS OF APPROVAL

**Read Operating Company LLC
Drilling Prognosis
North Lea 4 Fed Com #3H**

Revision date: October 19, 2016

Surface Location:	395' FNL, 2515' FWL Section 4, T-20-S, R-34-E Lea County, New Mexico
Bottom Hole:	330' FSL, 2290' FWL Section 4, T-20-S, R-34-E Lea County, New Mexico
Planned Total Depth:	10,825' TVD / 14,941' MD
RKB: 3673.2'	GL: 3651.2'
Preparer:	Rory McMinn


18 October 2016

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Article I. General Provisions:

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

Article II. Permit Expiration

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3106-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

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

Formation	TVD	Subsea	Thickness	Type
Rustler	1538'	-2133'		
Top of Salt	1745'	-1945'		
Base of Salt	3175'	-496'		
Tansil	3175'	-496'		
Yates	3660'	-11'		
Seven Rivers	3822'	151'		
Goat Seep Reef	4327'	656'		
Delaware	5459'	1788'	2771'	Hydrocarbon
Bone Spring Lime	8230'	4559'		
Avalon	8725'	5054'	699'	Hydrocarbon
1 st Bone Spring	9424'	5753'	533'	Hydrocarbon
2 nd Bone Spring	9957'	6286'	584'	Hydrocarbon
3 rd Bone Spring	10541'	6870'	683'	Hydrocarbon

POD, Water Column Reports attached.

Article IV. 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

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.

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

Minimum Working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 inch intermediate casing shoe shall be 5000 (5M) psi. 5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500PSI compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater prior to initiating the test (see casing segment as lead cement may be critical item).

- a. The results of the test shall be reported to the appropriate BLM office.
- b. All Tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- c. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

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



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	
3" coupling with		226 229		AISI 4130	
4 1/16" Swivel Flange end				AISI 4130	
Hub				AISI 4130	
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 Kft. Quality Control Dept. (1)	

ContiTech Rubber Industrial Kft

Phone: +36 62 508 737

The Court of Csongrád County is

Blank data

ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE

170, 203, 203, 200

Page: 1/1

Yaco

	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
GN	+19.26 °C																		
RD	+19.68 °C																		
BL	+1852. bar																		
GN	+19.79 °C																		
RD	+19.51 °C																		
BL	+1854. bar																		
GN	+19.13 °C																		
RD	+18.68 °C																		
BL	+1856. bar																		
GN	+18.73 °C																		
RD	+18.43 °C																		
BL	+1857. bar																		
GN	+18.88 °C																		
RD	+18.56 °C																		
BL	+1859. bar																		
GN	+18.87 °C																		
RD	+18.62 °C																		
BL	+1862. bar																		
GN	+19.25 °C																		
RD	+19.59 °C																		
BL	+1864. bar																		
9																			
8																			
	60293, 60295, 60296																		
	60293, 60295, 60296																		
7																			

A variance is requested to use 1502(15,000psi working pressure) hammer unions downstream of the Choke Manifold used to connect the mud/gas separator and panic line.

Article V. Casing Program (minimum):

All casing is new API casing.

Hole Size	Casing	Weight lb/ft	Grade	Conn	MD/RKB	
	20"				120'	
16"	13.375"	54.5	J-55	STC	1563'	Set 25' into Rustler
12.25"	9.625"	40	L-80	LTC	5439'	Set 20' above Delaware
8.5"	5.5"	17	P-110	BTC	15439'	

Size	Collapse psi	SF	Burst psi	SF	Tension Klbs	SF	Max Setting Depth TVD
13.375	1130	3.08	2730	3.54	514	5.66	2568
9.625	2570	1.24	3950	1.82	520	3.12	4985
9.625	3090	1.28	5750	2.03	727	3.33	7022
5.5	7480	1.55	10640	1.29	568	3.06	17000

13.375" casing will be set 25' into the Rustler
9.625" casing will be set 20' above the Delaware

Article VI. Cement Program:

Section 6.01 13.375" Surface Casing

Lead: 0 – 1263'

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
13.5ppg	1.93cuft/sk	590	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

Tail: 1263' – 1563'

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.

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

Section 6.02 9.625" Intermediate Casing

A DV tool and ECP will be used to cement this 9" 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'. Actual DV tool placement will be determined when and if losses are encountered. DV tool will be placed 150' above loss zone and a minimum of 100' below the last casing shoe.

Cement Stage 1

Lead: 3100' – 4439'

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
12.6ppg	2.13cuft/sk	730	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 : 4939' – 5439'

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

Cement Stage 2

Lead: 0-3100'

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: 0 – 4939'

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
12.5ppg	2.13cuft/sk	1500	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: 4939' – 5439'

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. As well, a temperature survey or CBL will be performed.

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

Section 6.03 5.5" Production Casing

Lead: 0 – 11000'

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
11.9ppg	2.38cuft/sk	2600	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: 11000 - TD

Slurry WT	Yield	Sx	Gallons/ Sack	Excess	Additives
13.2ppg	1.62cuft/sk	900	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. As well, a temperature survey or CBL will be performed.

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

Article VII. *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.

Article VIII. Mud Program:

Depth	Hole	Type	MW	PV	YP	WL	pH	Sol %
0-1563	16"	Fresh Water	8.4-8.9	10-12	12-15	NC	9.5	<3.0
1563-5439	12.25"	Brine	9.8-10	1-2	1-2	NC	9.5	<1.0
5560- KOP	8.5"	Cut Brine	8.4-8.6	1-2	1-2	NC	9.5	<1.0
KOP-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 IX. 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 X. Logging, Drill stem testing and Coring:

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

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

Article XI. Bottom Hole:

Temperature is expected to be 162°F, using a 0.76°/100' gradient. The bottom hole pressure is expected to be 4796psi 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 2398psi.

Article XII. Abnormal Conditions:

Temperature is expected to be normal. All zones are expected to be normal pressure.

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. Daily reports will be submitted to the BLM if losses are encountered.

Article XIII. H2S:

No H2S is expected. But there is the possibility of the presence of H2S. Attached is the H2S response plan. H2S response plan will be put into effect after surface casing has been set and BOPE has been nipped up.

Article XIV. Directional:

Directional survey plan and plot attached.

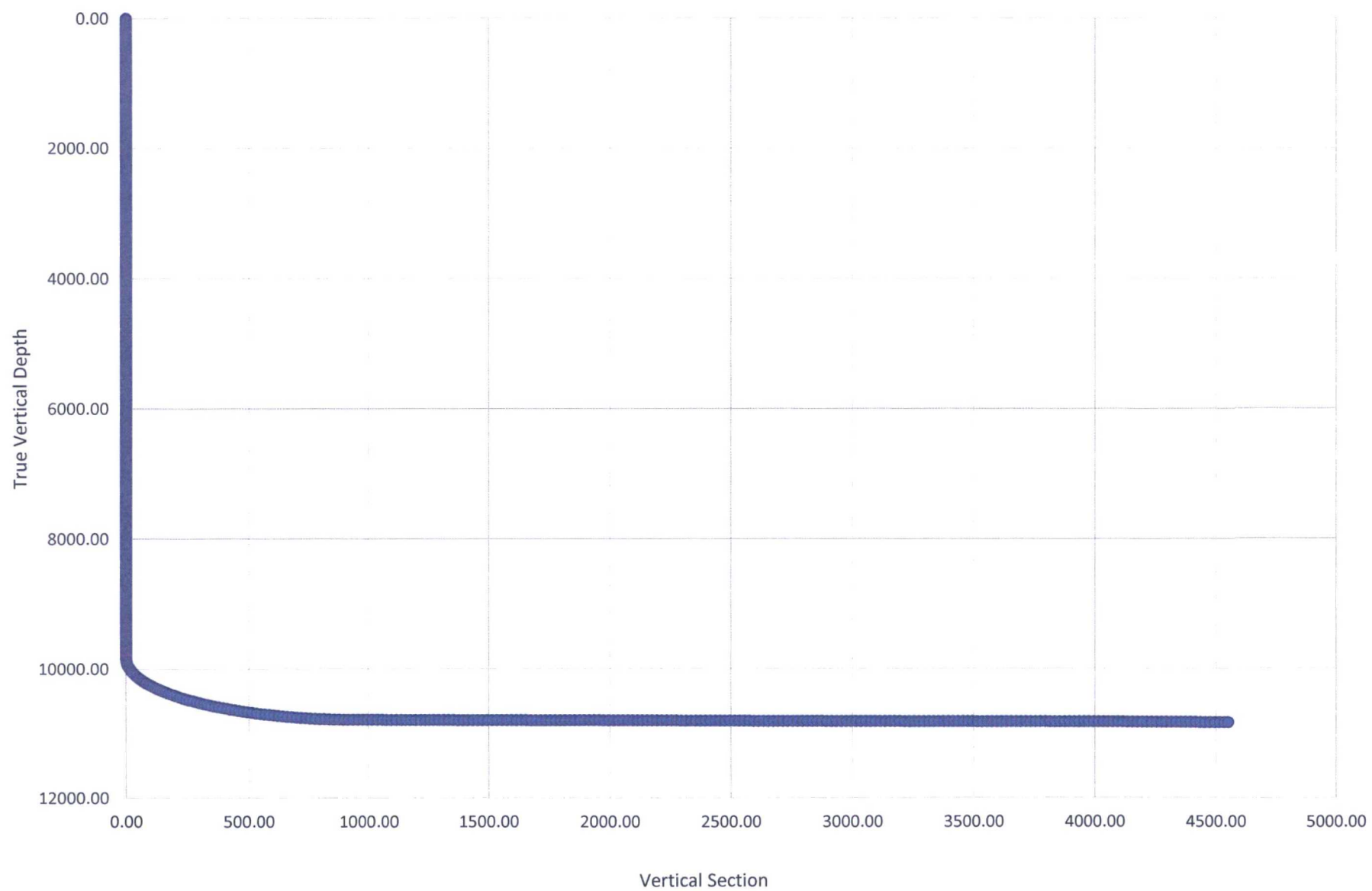
Article XV. Drilling Recorder:

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

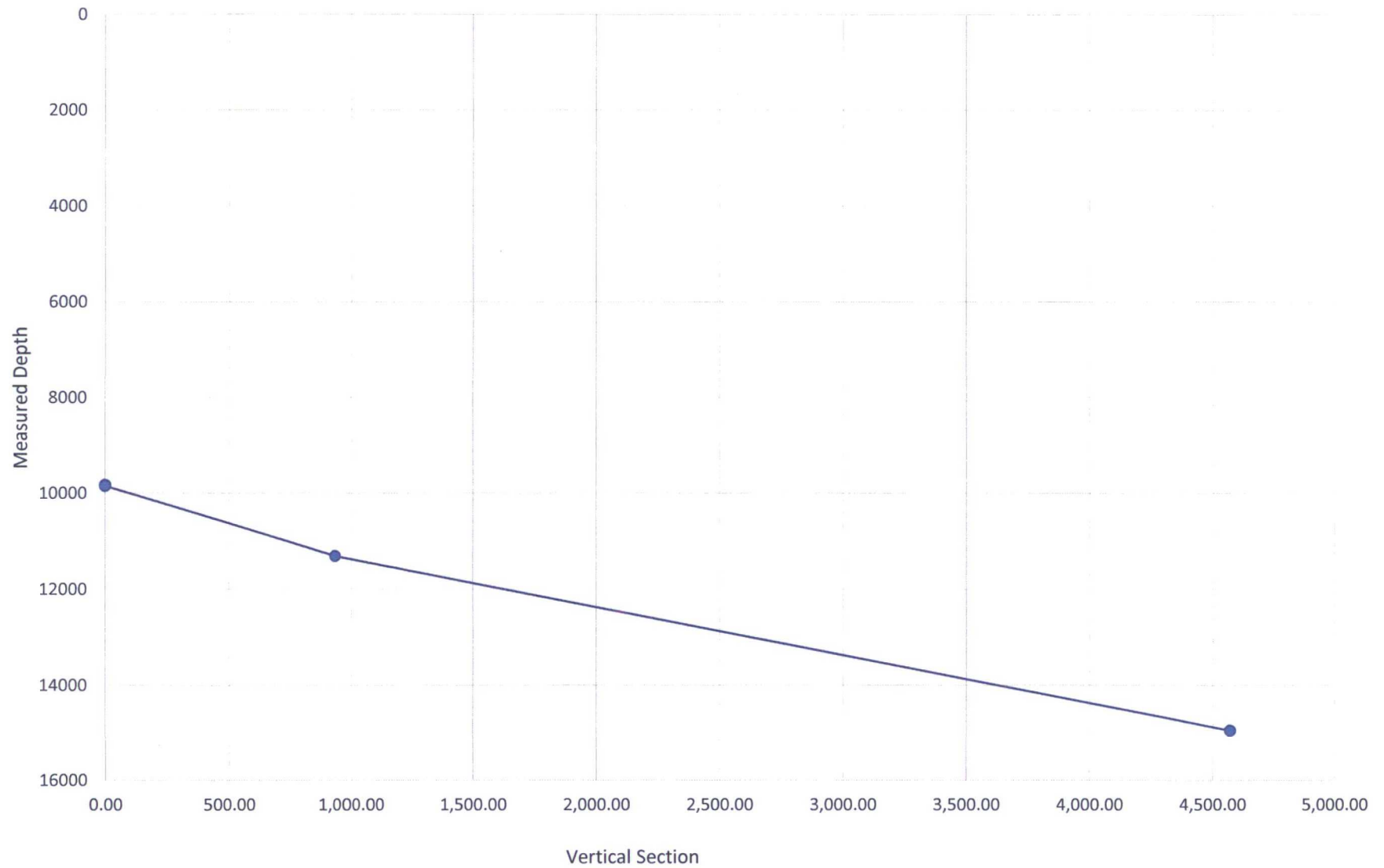
Lea 4 Fed 3H HORIZONTAL WELLBORE								Notes
MD	Inc	Az	TVD	N	E	DLS	V/S	
ft	deg	deg	ft	ft	ft	deg/100'	ft	
0	0	0	0.00	0.00	0.00			
9,826	0	0	9,826.00	0.00	0.00	0.00	0.00	
9,846	1.2	182.3	9,846.00	-0.21	0.01	6.00	0.00	
11,306	89.3	182.3	10,780.00	-934.00	-37.50	6.00	935.00	Intersection of Green sand
14,941	89.3	182.3	10,825.00	-4,566.00	-183.40	0.00	4,569.70	Wellbore dipping with sand


 13 October, 2016

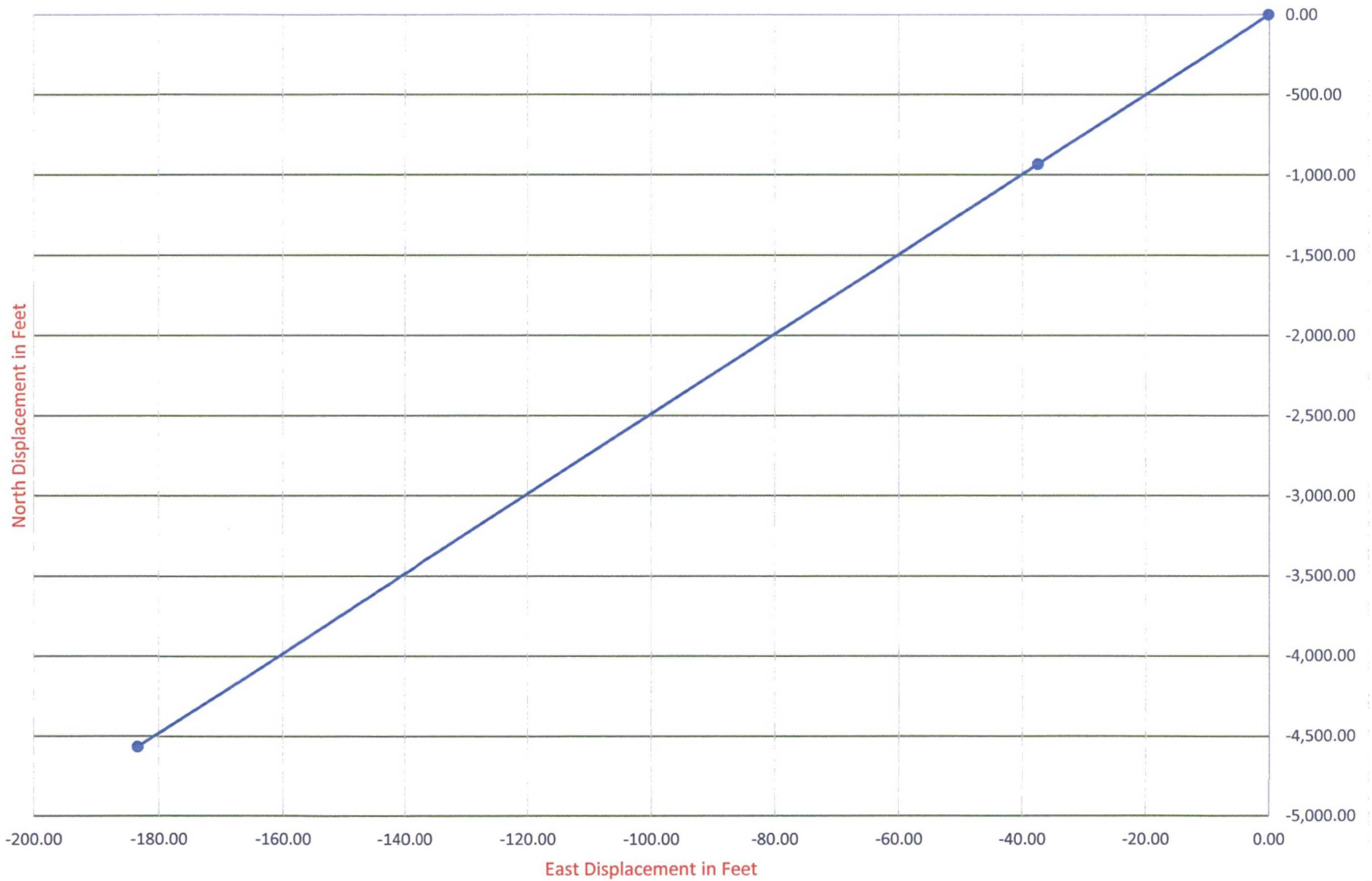
Lea 4 Fed 3H
Horizontal Well



Lea 4 Fed 3H
Vertical Section against Measured Depth
HORIZONTAL WELLBORE



Lea 4 Fed 3H
Horizontal Well



Lea 4 Fed 3H
Ground Level
Kelly Bushing
Subsea Wolfcamp top at intersection
TVD Wolfcamp top

3651.2

7180 top

10781 btm

10826

TVD 3rd Bone Spring horizontal 7" set
TVD 3rd Bone Spring horizontal into zone at TD
Build 6 Degree per 100 Feet

X (East)		Y (North)		X (East)		Y (North)	
Meters		Meters		Feet		Feet	
634586.6		3608779.4		2081444.0		11836796.4	
634530.7		3607386.9		2081260.7		11832229.0	

Ground Location

Bottom Hole

-55.9 -1392.5 -183.4 -4567.4
2081261.5 11832250.4

2.66666

+N/-S and +E/-W				TVD and Vertical Section			
s=a/h		N		s=a/h		a	
Sine	o	Sine	h	Sine	o	Sine	a

MD	Inc	Az	TVD	VS	+N/-S	+E/-W	VS	h	a	o	Sine	Adjusted h	Chord	Angle	Rad	Act
0.00	0.00	182.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
20.00	0.00	182.30	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
40.00	0.00	182.30	40.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
60.00	0.00	182.30	60.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
80.00	0.00	182.30	80.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
100.00	0.00	182.30	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
120.00	0.00	182.30	120.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
140.00	0.00	182.30	140.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
160.00	0.00	182.30	160.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
180.00	0.00	182.30	180.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
200.00	0.00	182.30	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
220.00	0.00	182.30	220.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
240.00	0.00	182.30	240.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
260.00	0.00	182.30	260.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
280.00	0.00	182.30	280.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
300.00	0.00	182.30	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
320.00	0.00	182.30	320.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
340.00	0.00	182.30	340.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
360.00	0.00	182.30	360.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
380.00	0.00	182.30	380.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
400.00	0.00	182.30	400.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
420.00	0.00	182.30	420.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
440.00	0.00	182.30	440.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
460.00	0.00	182.30	460.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
480.00	0.00	182.30	480.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
500.00	0.00	182.30	500.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
520.00	0.00	182.30	520.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
540.00	0.00	182.30	540.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
560.00	0.00	182.30	560.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
580.00	0.00	182.30	580.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
600.00	0.00	182.30	600.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
620.00	0.00	182.30	620.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
640.00	0.00	182.30	640.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
660.00	0.00	182.30	660.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
680.00	0.00	182.30	680.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
700.00	0.00	182.30	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
720.00	0.00	182.30	720.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
740.00	0.00	182.30	740.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
760.00	0.00	182.30	760.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
780.00	0.00	182.30	780.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
800.00	0.00	182.30	800.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
820.00	0.00	182.30	820.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
840.00	0.00	182.30	840.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
860.00	0.00	182.30	860.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
880.00	0.00	182.30	880.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
900.00	0.00	182.30	900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
920.00	0.00	182.30	920.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
940.00	0.00	182.30	940.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105
960.00	0.00	182.30	960.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.105

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10906.00	64.80	182.30	10690.06	548.35	-547.91	-22.01	2081422.0	11836248.5	1.20	1.80	0.040	0.733	17.992	18.006	64.2	20.000	20.000	64.800	18.006	8.705	18.006	0.105	100.0
10925.00	66.00	182.30	10698.39	566.54	-566.08	-22.74	2081421.3	11836230.4	1.20	1.80	0.040	0.730	18.170	18.185	65.4	20.000	20.000	66.000	18.185	8.326	18.185	0.105	100.0
10940.00	67.20	182.30	10706.33	584.89	-584.42	-23.47	2081420.6	11836212.0	1.20	1.80	0.040	0.737	18.340	18.355	66.6	20.000	20.000	67.200	18.355	7.943	18.355	0.105	100.0
10966.00	68.40	182.30	10713.89	603.41	-602.92	-24.22	2081419.8	11836193.5	1.20	1.80	0.040	0.743	18.502	18.517	67.8	20.000	20.000	68.400	18.517	7.557	18.517	0.105	100.0
10986.00	69.60	182.30	10721.05	622.08	-621.58	-24.97	2081419.1	11836174.9	1.20	1.80	0.040	0.749	18.657	18.672	69.0	20.000	20.000	69.600	18.672	7.167	18.672	0.105	100.0
11006.00	70.80	182.30	10727.83	640.99	-640.38	-25.72	2081418.3	11836156.1	1.20	1.80	0.040	0.755	18.802	18.818	70.2	20.000	20.000	70.800	18.818	6.775	18.818	0.105	100.0
11026.00	72.00	182.30	10734.21	659.85	-659.32	-26.48	2081417.6	11836137.1	1.20	1.80	0.040	0.761	18.940	18.955	71.4	20.000	20.000	72.000	18.955	6.379	18.955	0.105	100.0
11046.00	73.20	182.30	10740.19	678.94	-678.39	-27.25	2081416.8	11836118.0	1.20	1.80	0.040	0.766	19.069	19.085	72.6	20.000	20.000	73.200	19.085	5.981	19.085	0.105	100.0
11066.00	74.40	182.30	10745.77	698.14	-697.58	-28.02	2081416.0	11836098.5	1.20	1.80	0.040	0.771	19.190	19.206	73.8	20.000	20.000	74.400	19.206	5.580	19.206	0.105	100.0
11086.00	75.60	182.30	10750.95	717.46	-716.88	-28.79	2081415.3	11836079.5	1.20	1.80	0.040	0.775	19.303	19.319	75.0	20.000	20.000	75.600	19.319	5.176	19.319	0.105	100.0
11106.00	76.80	182.30	10755.72	736.88	-736.29	-29.57	2081414.5	11836060.1	1.20	1.80	0.040	0.783	19.407	19.423	76.2	20.000	20.000	76.800	19.423	4.771	19.423	0.105	100.0
11126.00	78.00	182.30	10760.08	756.40	-755.79	-30.36	2081413.7	11836040.6	1.20	1.80	0.040	0.789	19.503	19.518	77.4	20.000	20.000	78.000	19.518	4.363	19.518	0.105	100.0
11146.00	79.20	182.30	10764.03	776.01	-775.38	-31.14	2081412.9	11836021.0	1.20	1.80	0.040	0.787	19.590	19.605	78.6	20.000	20.000	79.200	19.605	3.953	19.605	0.105	100.0
11166.00	80.40	182.30	10767.57	795.69	-795.05	-31.93	2081412.1	11836001.4	1.20	1.80	0.040	0.793	19.668	19.684	79.8	20.000	20.000	80.400	19.684	3.542	19.684	0.105	100.0
11186.00	81.60	182.30	10770.70	815.45	-814.79	-32.73	2081411.3	11835981.6	1.20	1.80	0.040	0.799	19.753	19.754	81.0	20.000	20.000	81.600	19.754	3.129	19.754	0.105	100.0
11206.00	82.80	182.30	10773.42	835.26	-834.59	-33.52	2081410.5	11835961.8	1.20	1.80	0.040	0.795	19.789	19.815	82.2	20.000	20.000	82.800	19.815	2.714	19.815	0.105	100.0
11226.00	84.00	182.30	10775.72	855.13	-854.44	-34.32	2081409.7	11835942.0	1.20	1.80	0.040	0.799	19.851	19.867	83.4	20.000	20.000	84.000	19.867	2.299	19.867	0.105	100.0
11246.00	85.20	182.30	10777.06	875.04	-874.33	-35.12	2081408.9	11835922.1	1.20	1.80	0.040	0.799	19.895	19.911	84.6	20.000	20.000	85.200	19.911	1.882	19.911	0.105	100.0
11266.00	86.40	182.30	10779.06	894.99	-894.26	-35.92	2081408.1	11835902.2	1.20	1.80	0.040	0.800	19.930	19.946	85.8	20.000	20.000	86.400	19.946	1.465	19.946	0.105	100.0
11286.00	87.60	182.30	10780.11	914.96	-914.22	-36.72	2081407.3	11835882.2	1.20	1.80	0.040	0.802	19.957	19.973	87.0	20.000	20.000	87.600	19.973	1.047	19.973	0.105	100.0
11306.00	88.80	182.30	10780.74	934.95	-934.20	-37.52	2081406.5	11835862.2	1.20	1.80	0.040	0.802	19.974	19.990	88.2	20.000	20.000	88.800	19.990	0.628	19.990	0.105	100.0
11326.00	89.30	182.30	10781.07	954.95	-954.18	-38.32	2081405.7	11835842.3	0.50	0.75	0.040	0.803	19.981	19.997	89.05	20.000	20.000	89.300	19.997	0.332	19.997	0.105	100.0
11346.00	89.30	182.30	10781.31	974.94	-974.16	-39.13	2081404.9	11835822.3	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11366.00	89.30	182.30	10781.56	994.94	-994.14	-39.93	2081404.1	11835802.3	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11386.00	89.30	182.30	10781.80	1014.94	-1014.12	-40.73	2081403.3	11835782.3	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11406.00	89.30	182.30	10782.05	1034.94	-1034.11	-41.53	2081402.5	11835762.3	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11426.00	89.30	182.30	10782.27	1054.94	-1054.09	-42.34	2081401.7	11835742.3	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11446.00	89.30	182.30	10782.54	1074.94	-1074.07	-43.14	2081400.9	11835722.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11466.00	89.30	182.30	10782.78	1094.94	-1094.05	-43.94	2081400.1	11835702.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11486.00	89.30	182.30	10783.02	1114.93	-1114.04	-44.74	2081399.3	11835682.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11506.00	89.30	182.30	10783.27	1134.93	-1134.02	-45.55	2081398.5	11835662.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11526.00	89.30	182.30	10783.51	1154.93	-1154.00	-46.35	2081397.7	11835642.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11546.00	89.30	182.30	10783.76	1174.93	-1174.98	-47.15	2081396.9	11835622.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11566.00	89.30	182.30	10784.00	1194.93	-1193.96	-47.95	2081396.1	11835602.5	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11586.00	89.30	182.30	10784.25	1214.93	-1213.93	-48.76	2081395.3	11835582.5	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11606.00	89.30	182.30	10784.49	1234.92	-1233.93	-49.56	2081394.5	11835562.5	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11626.00	89.30	182.30	10784.73	1254.92	-1253.91	-50.36	2081393.7	11835542.5	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11646.00	89.30	182.30	10784.98	1274.92	-1273.89	-51.16	2081392.9	11835522.6	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11666.00	89.30	182.30	10785.22	1294.92	-1293.88	-51.97	2081392.1	11835502.6	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11686.00	89.30	182.30	10785.47	1314.92	-1313.86	-52.77	2081391.3	11835482.6	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11706.00	89.30	182.30	10785.71	1334.92	-1333.84	-53.57	2081390.5	11835462.6	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11726.00	89.30	182.30	10785.96	1354.92	-1353.82	-54.38	2081389.7	11835442.6	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11746.00	89.30	182.30	10786.20	1374.91	-1373.81	-55.18	2081388.9	11835422.6	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11766.00	89.30	182.30	10786.44	1394.91	-1393.79	-55.98	2081388.1	11835402.6	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11786.00	89.30	182.30	10786.69	1414.91	-1413.77	-56.78	2081387.3	11835382.7	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11806.00	89.30	182.30	10786.93	1434.91	-1433.75	-57.59	2081386.5	11835362.7	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
11826.00	89.30	182.30	10787.18	1454.91	-1453.74	-5																	

13386.00	89.30	182.30	10806.24	3014.79	-3012.36	-120.59			2081323.1	11833784.1	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13406.00	89.30	182.30	10806.48	3034.79	-3032.35	-121.79			2081322.3	11833764.1	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13426.00	89.30	182.30	10806.72	3054.79	-3052.33	-122.59			2081321.5	11833744.1	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13446.00	89.30	182.30	10806.97	3074.79	-3072.31	-123.40			2081320.7	11833724.1	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13466.00	89.30	182.30	10807.21	3094.79	-3092.29	-124.20			2081319.8	11833704.1	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13486.00	89.30	182.30	10807.46	3114.78	-3112.27	-125.00			2081319.0	11833684.2	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13506.00	89.30	182.30	10807.70	3134.78	-3122.26	-125.80			2081318.2	11833664.2	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13526.00	89.30	182.30	10807.95	3154.78	-3152.24	-126.61			2081317.4	11833644.2	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13546.00	89.30	182.30	10808.19	3174.78	-3172.22	-127.41			2081316.6	11833624.2	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13566.00	89.30	182.30	10808.44	3194.78	-3192.20	-128.21			2081315.8	11833604.2	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13586.00	89.30	182.30	10808.68	3214.78	-3212.19	-129.01			2081315.0	11833584.2	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13606.00	89.30	182.30	10808.92	3234.78	-3232.17	-129.82			2081314.2	11833564.2	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13626.00	89.30	182.30	10809.17	3254.77	-3252.15	-130.62			2081313.4	11833544.3	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13646.00	89.30	182.30	10809.41	3274.77	-3272.13	-131.42			2081312.6	11833524.3	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13666.00	89.30	182.30	10809.66	3294.77	-3292.12	-132.23			2081311.8	11833504.3	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13686.00	89.30	182.30	10809.90	3314.77	-3312.10	-133.03			2081311.0	11833484.3	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13706.00	89.30	182.30	10810.15	3334.77	-3332.08	-133.83			2081310.2	11833464.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13726.00	89.30	182.30	10810.39	3354.77	-3352.06	-134.63			2081309.4	11833444.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13746.00	89.30	182.30	10810.63	3374.76	-3372.05	-135.44			2081308.6	11833424.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13766.00	89.30	182.30	10810.88	3394.76	-3392.03	-136.24			2081307.8	11833404.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13786.00	89.30	182.30	10811.12	3414.76	-3412.01	-137.04			2081307.0	11833384.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13806.00	89.30	182.30	10811.37	3434.76	-3431.99	-137.84			2081306.2	11833364.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13826.00	89.30	182.30	10811.61	3454.76	-3451.98	-138.65			2081305.4	11833344.5	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13846.00	89.30	182.30	10811.86	3474.76	-3471.96	-139.45			2081304.6	11833324.5	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13866.00	89.30	182.30	10812.10	3494.76	-3491.94	-140.25			2081303.8	11833304.5	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13886.00	89.30	182.30	10812.34	3514.75	-3511.92	-141.05			2081302.9	11833284.5	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13906.00	89.30	182.30	10812.59	3534.75	-3531.91	-141.86			2081302.1	11833264.5	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13926.00	89.30	182.30	10812.83	3554.75	-3551.89	-142.66			2081301.4	11833244.5	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13946.00	89.30	182.30	10813.08	3574.75	-3571.87	-143.46			2081300.6	11833224.6	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13966.00	89.30	182.30	10813.32	3594.75	-3591.85	-144.26			2081299.8	11833204.6	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
13986.00	89.30	182.30	10813.57	3614.75	-3611.83	-145.07			2081299.0	11833184.6	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
14006.00	89.30	182.30	10813.81	3634.75	-3631.82	-145.87			2081298.2	11833164.6	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
14026.00	89.30	182.30	10814.06	3654.74	-3651.80	-146.67			2081297.4	11833144.6	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
14046.00	89.30	182.30	10814.30	3674.74	-3671.78	-147.47			2081296.6	11833124.6	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
14066.00	89.30	182.30	10814.54	3694.74	-3691.76	-148.28			2081295.8	11833104.7	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
14086.00	89.30	182.30	10814.79	3714.74	-3711.75	-149.08			2081295.0	11833084.7	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
14106.00	89.30	182.30	10815.03	3734.74	-3731.73	-149.88			2081294.2	11833064.7	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
14126.00	89.30	182.30	10815.28	3754.74	-3751.71	-150.68			2081293.4	11833044.7	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
14146.00	89.30	182.30	10815.52	3774.74	-3771.69	-151.49			2081292.6	11833024.7	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
14166.00	89.30	182.30	10815.77	3794.73	-3791.68	-152.29			2081291.8	11833004.8	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
14186.00	89.30	182.30	10816.01	3814.73	-3811.66	-153.09			2081291.0	11832984.8	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
14206.00	89.30	182.30	10816.25	3834.73	-3831.64	-153.89			2081290.2	11832964.8	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
14226.00	89.30	182.30	10816.50	3854.73	-3851.62	-154.70			2081289.4	11832944.8	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
14246.00	89.30	182.30	10816.74	3874.73	-3871.61	-155.50			2081288.6	11832924.8	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.105	100.0
14266.00	89.30	182.30	10816.99	3894.73	-3891.59	-156.30			2081287.7	11832904.8	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.00	20.00	89.300	19.999	0.244	19.999	0.	

14626.00	89.30	182.30	10821.39	4254.70	-4251.27	-170.75			2081273.3	11832545.2	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14646.00	89.30	182.30	10821.63	4274.70	-4271.25	-171.55			2081272.5	11832525.2	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14666.00	89.30	182.30	10821.87	4294.70	-4291.24	-172.35			2081271.7	11832505.2	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14686.00	89.30	182.30	10822.12	4314.69	-4311.22	-173.16			2081270.9	11832485.2	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14706.00	89.30	182.30	10822.36	4334.69	-4331.20	-173.96			2081270.1	11832465.2	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14726.00	89.30	182.30	10822.61	4354.69	-4351.18	-174.76			2081269.3	11832445.2	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14746.00	89.30	182.30	10822.85	4374.69	-4371.17	-175.56			2081268.5	11832425.3	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14766.00	89.30	182.30	10823.10	4394.69	-4391.15	-176.37			2081267.7	11832405.3	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14786.00	89.30	182.30	10823.34	4414.69	-4411.13	-177.17			2081266.9	11832385.3	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14806.00	89.30	182.30	10823.58	4434.69	-4431.11	-177.97			2081266.1	11832365.3	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14826.00	89.30	182.30	10823.83	4454.68	-4451.10	-178.77			2081265.3	11832345.3	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14846.00	89.30	182.30	10824.07	4474.68	-4471.08	-179.58			2081264.5	11832325.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14866.00	89.30	182.30	10824.32	4494.68	-4491.06	-180.38			2081263.7	11832305.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14886.00	89.30	182.30	10824.56	4514.68	-4511.04	-181.18			2081262.9	11832285.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14906.00	89.30	182.30	10824.81	4534.68	-4531.03	-181.98			2081262.1	11832265.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14921.00	89.30	182.30	10824.99	4549.68	-4546.01	-182.59			2081261.5	11832250.4	0.00	0.00	0.040	0.602	14.987	14.999	89.3	15.000	15.000	89.300	14.999	0.183	14.999	0.105	100.0
14941.00	89.30	182.30	10825.23	4569.68	-4565.99	-183.39			2081260.7	11832230.4	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14961.00	89.30	182.30	10825.48	4589.67	-4585.98	-184.19			2081259.9	11832210.5	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
14981.00	89.30	182.30	10825.72	4609.67	-4605.96	-184.99			2081259.1	11832190.5	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
15001.00	89.30	182.30	10825.97	4629.67	-4625.94	-185.80			2081258.3	11832170.5	0.00	0.00	0.040	0.803	19.982	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0
15021.00	89.30	182.30	10826.21	4649.67	#REF!	#REF!			#REF!	#REF!	0.00	0.00	#REF!	#REF!	#REF!	19.999	89.3	20.000	20.000	89.300	19.999	0.244	19.999	0.105	100.0

89.3



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



New Mexico Office of the State Engineer

Active & Inactive Points of Diversion

(with Ownership Information)

No PODs found.

POD Search:

POD Basin: Lea County

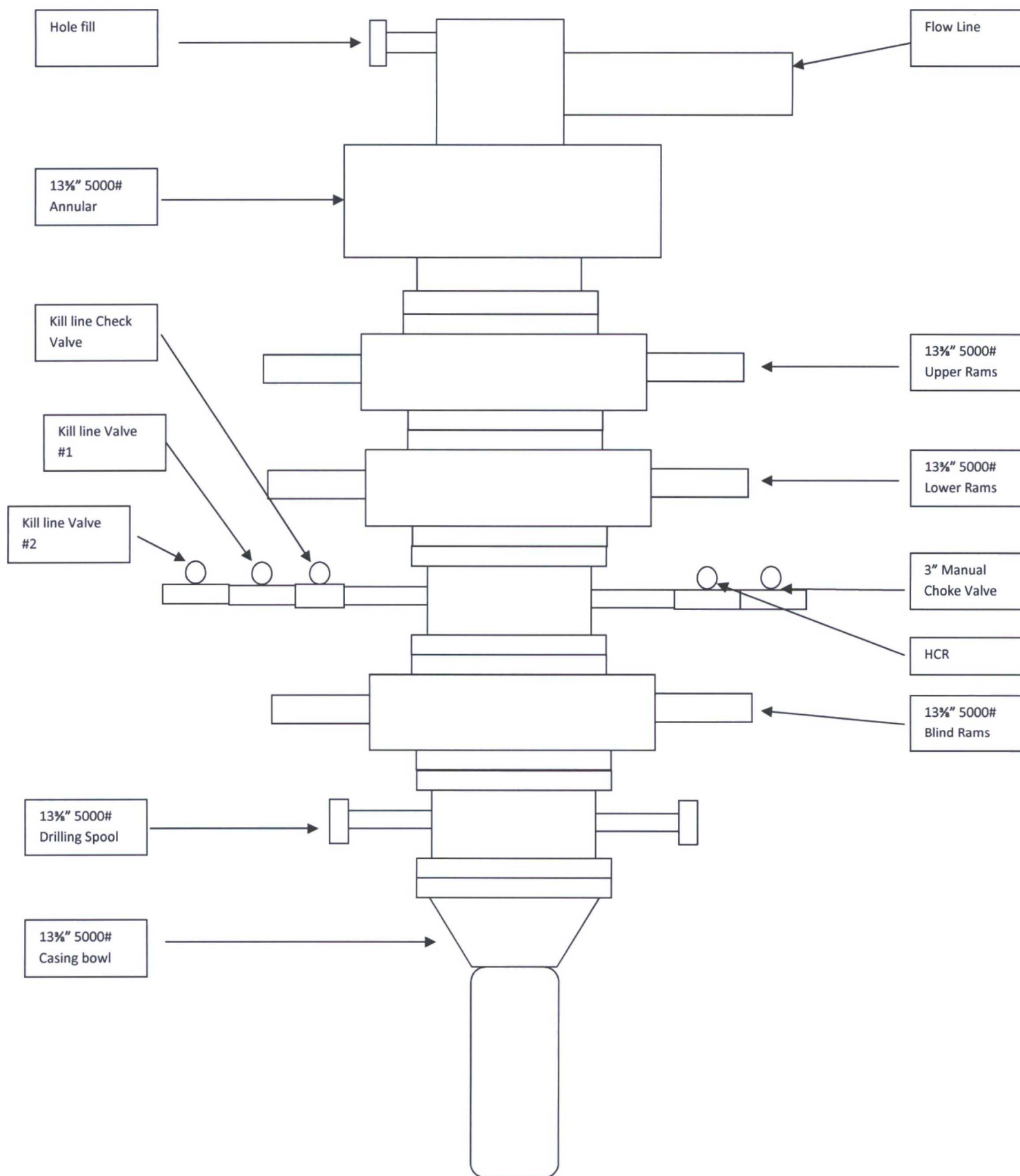
PLSS Search:

Section(s): 4

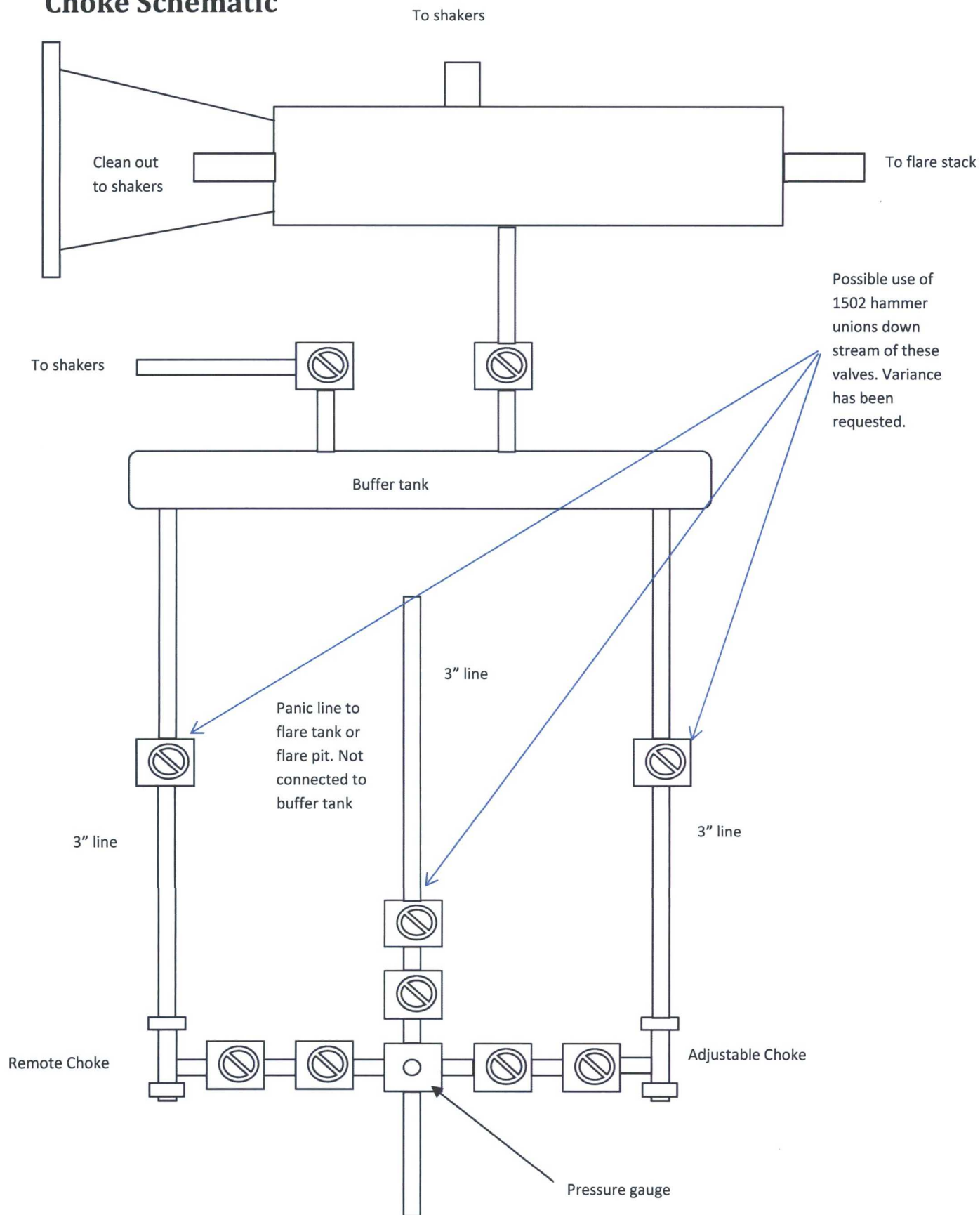
Township: 20S

Range: 34E

BOP Schematic



Choke Schematic



Closed Loop Diagram

Access Road

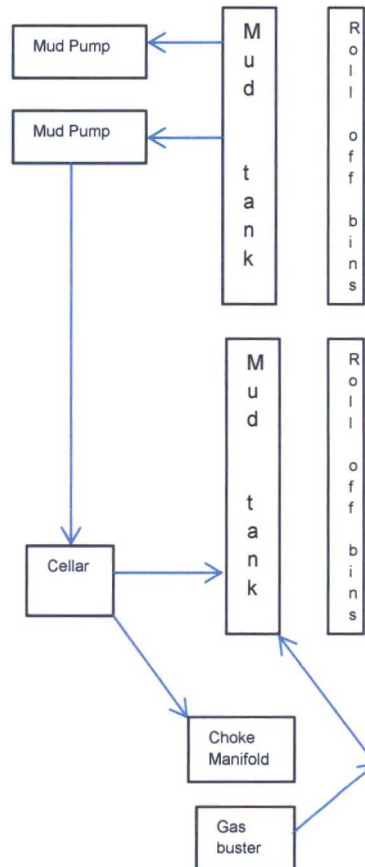
Access Road



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Flare
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Design Plan, Operating Plan and Maintenance Plan, and Closure Plan for the OCD form C-144

Design Plan:

Fluid and cuttings coming from drilling operations will pass over the shale shaker with the cuttings going to the haul off bin and the cleaned fluid returning to the working steel pits.

Equipment Includes:

- 1-670bbl steel working pit
- 2-100bbl steel working suction pits
- 2-500bbl steel tanks
- 2-20yd³ steel haul off bins
- 2-pumps (HHF-1600)
- 2-Shale shakers
- 1-Centrifuge
- 1-Desilter/Desander

Operating and Maintenance Plan:

Inspection to occur every tour for proper operation of system and individual components. If any problems are found they will be repaired and/or corrected immediately.

All drilling fluid circulated over shakers with cuttings discharged into roll off bins

Fluid and fines below shakers are circulated with transfer pump through centrifuge

Roll off bins are lined and de watered with fluids recirculated into system

Additional tank is used to capture unused drilling fluid or cement returns from casing jobs.

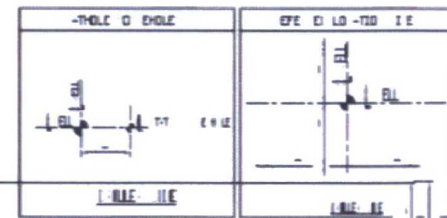
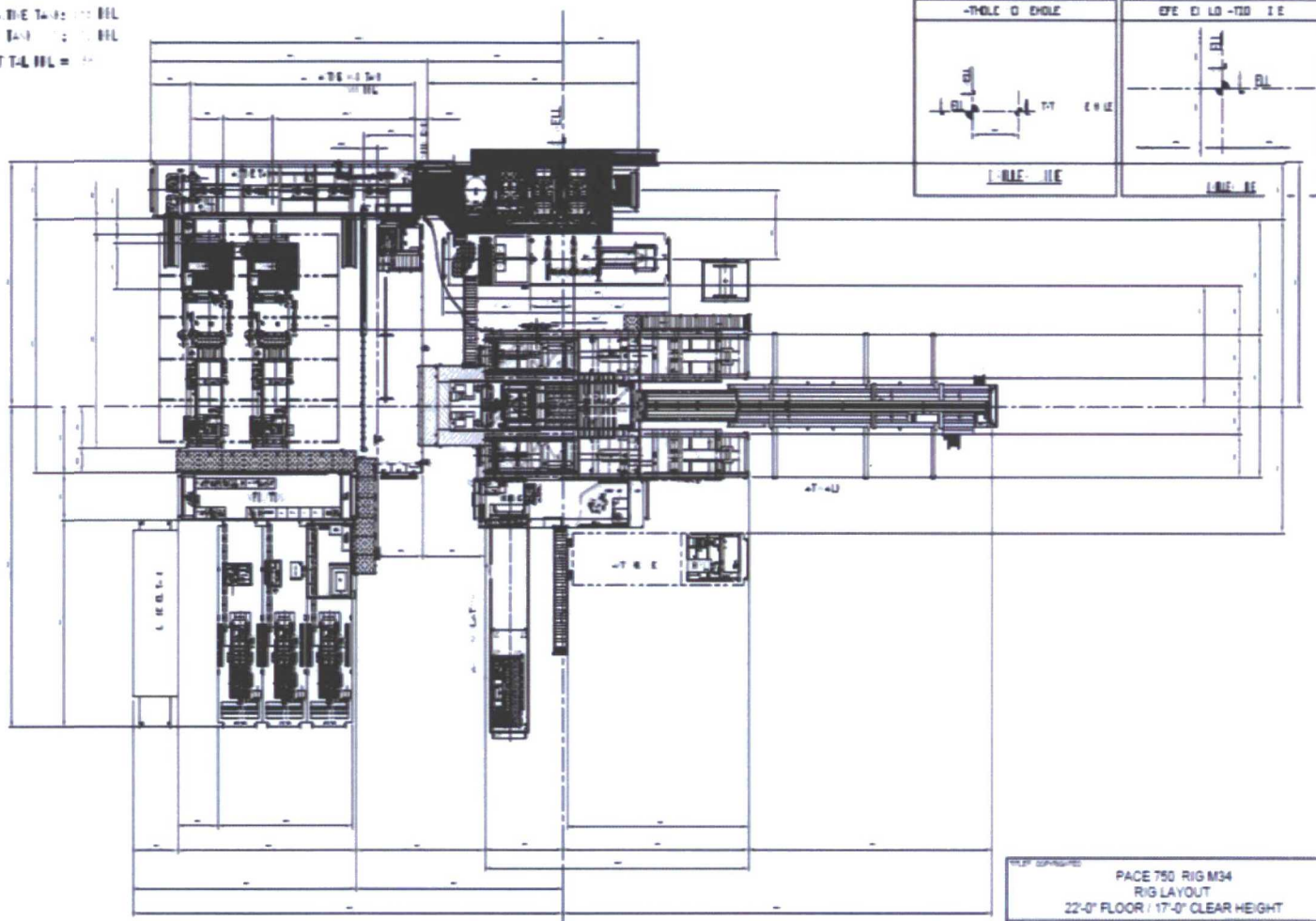
Closure Plan:

All haul off bins containing cuttings will be removed from location and hauled to:

R360 Permit number R9166/NM-01-0006

GMI Permit number 711-019-001/NM-01-0019

4 THE TAIL - 10' HIL
 10' TAIL - 10' HIL
 TAIL HIL = 10'



PACE 750 RIG M34
 RIG LAYOUT
 22'-0" FLOOR / 17'-0" CLEAR HEIGHT

THIS DRAWING IS SHOWN TRUE SCALE ONLY WHEN PRINTED ON THIS SIZE PAPER

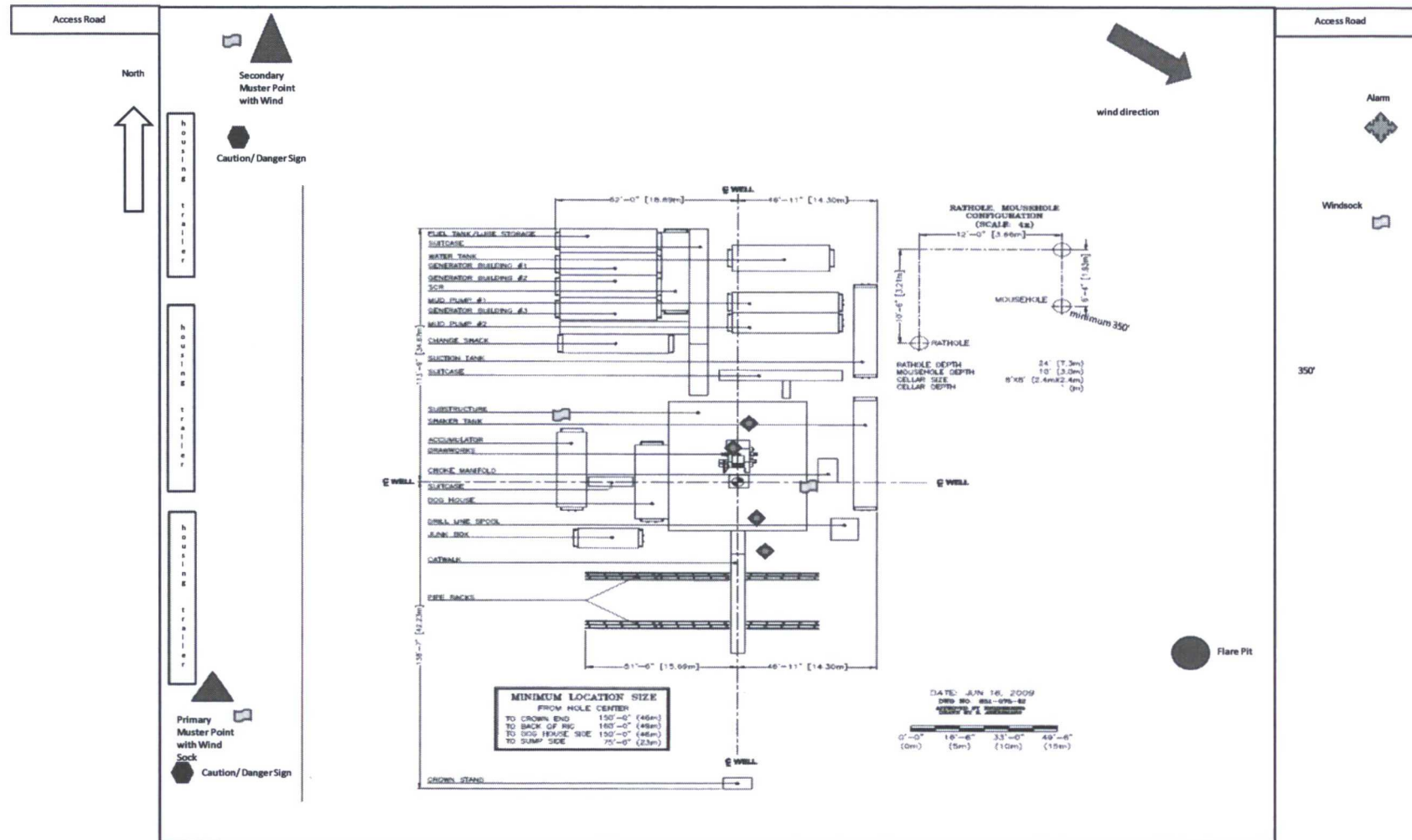
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North Lea 4 Fed Com 3H - Site Layout

350'



Read and Stevens, Inc.

400 N Pennsylvania Ave #1000, Roswell, NM 88201

Operator Certification: Application for Permit to Drill
North Lea 4 Fed Com #3H
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