

NSL

RECEIVED

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

JUL 09 2012 dw

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER		3. Lease Serial No. NMNM030458	
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name	
2. Name of Operator: CHESAPEAKE AGENT FOR BOPCO		7. If Unit or CA Agreement, Name and No. NMNM71016X	
3a. Address: P.O. BOX 18496 OKLAHOMA CITY, OK 73154-0496		8. Lease Name and Well No. PLU BIG SINKS 7 25 31 USA 1H	
3b. Phone No. (include area code) Ph: 405-935-4275		9. AP# Well No. 30-015-40447	
4. Location of Well (Report location clearly and in accordance with any State requirements.)		10. Field and Pool, or Exploratory WILDCAT; BONE SPRING	
At surface NENW 150FNL 1980FWL		11. Sec., T., R., M., or Bk. and Survey or Area Sec 7 T25S R31E Mer NMP	
At proposed prod. zone SESW 100FSL 1980FWL		12. County or Parish EDDY	
14. Distance in miles and direction from nearest town or post office APPROXIMATELY 35 MILES SE OF LOVING, NEW MEXICO		13. State NM	
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) SHL 150' FNL OF UNIT		17. Spacing Unit dedicated to this well 160.00	
16. No. of Acres in Lease 1679.90		18. BLM/BIA Bond No. on file ESB000159	
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 5487' NW EL PASO POKER LAKE UT 2, 1-25S		19. Proposed Depth 30E14341 MD 9429 TVD	
21. Elevations (Show whether DF, KB, RT, GL, etc) 3369 GL		20. Estimated duration 30 DAYS	
22. Approximate date work will start 12/29/2012		23. Estimated duration 30 DAYS	

24. Attachments

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

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

25. Signature (Electronic Submission)	Name (Printed/Typed) LINDA GOOD Ph: 405-935-4275	Date 03/28/2012
---------------------------------------	--	-----------------

Title REGULATORY ANALYST III

Approved by (Signature)	Name (Printed/Typed) James A. Ames	Date 7-3-12
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Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE
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Application approval does not warrant or certify 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.

Additional Operator Remarks (see next page)

NSL

Electronic Submission #134163 verified by the BLM Well Information System
For CHESAPEAKE AGENT FOR BOPCO, sent to the Carlsbad

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

RECEIVED

JUL 09 2012

MOCD ARTES

ATS-12-422

FORM APPROVED
OMB No. 1004-0136
Expires July 31, 2010

EC

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR RE

a. type of well ☒ ☐1b. Type of Well. ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zoneoperator
CHESAPEAKE AGENT FOR BOPCO
contact:
Email linda.good@chk.comP.O. BOX 18496
OKLAHOMA CITY, OK 73154-0496

Ph: 405-935-4275

<147179>

NMNM71016X

PLU BIG SINKS 7 25 31 USA 1H

WILDCAT, BONE SPRING <97913>
WC; B-06 52530020 B.S.

location of proposed location of well in accordance with any state requirements.

At surface NENW 150FNL 1980FWL

At proposed prod. zone SESW 100FSL 1980FWL

distance in miles at location from nearest town or post office
APPROXIMATELY 35 MILES SE OF LOVING, NEW MEXICOdistance from proposed location to nearest property or lease line, ft. (Also to nearest drilg. unit line, if any)
SHL 150' FNL OF UNIT 1679.90distance from proposed location to nearest well completed, applied for, on this lease, ft.
5487' NW EL PASO POKER LAKE UT 2, 1-25 30E 4341 MD 9429 TVDvarious other well etc. approximate date well was started
3369 GL 12/29/2012

EDDY NM

spacing in feet to nearest well

160.00

ESB000159

30 DAYS

24. Attachments

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

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2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall 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 authorized officer

25. Signature (Electronic Submission)	Name (Printed/Typed) LINDA GOOD Ph: 405-935-4275	Date 03/28/2012
Title REGULATORY ANALYST III		
Approved by (Signature) /s/ James A. Amos	Name (Printed/Typed)	Date JUL 3 2012
Title FIELD MANAGER	Office CARLSBAD FIELD OFFICE	

Application approval does not warrant or certify 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.

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Additional Operator Remarks (see next page)

Electronic Submission #134163 verified by the BLM Well Information System
For CHESAPEAKE AGENT FOR BOPCO, sent to the Carlsbad

Carlsbad Controlled Water Basin

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

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

ONSHORE ORDER NO. 1
Chesapeake Agent for BOPCO
PLU Big Sinks 7 25 31 USA 1H
Section 7-25S-31E
Eddy County, NM

CONFIDENTIAL – TIGHT HOLE
OPERATOR CERTIFICATION

Lease No. NMNM30458

CERTIFICATION

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

Executed this 17th day of February, 2012

Name:

Toby Reid
Toby Reid – Field Representative

Address: 1616 W. Bender, Hobbs, NM 88241

Telephone: 575-725-8497

E-mail: toby.reid@chk.com

Additional Operator Remarks:

Chesapeake Operating, Inc. respectfully requests permission to drill a well to 14,341' to test the Bone Spring formation. If productive, casing will be run and the well completed. If dry, the well will be plugged and abandoned as per BLM and New Mexico Oil Conservation Division requirements.

Please find the Surface Use Plan and Drilling Plan as required by Onshore Order No. 1.

Attached are the Exhibit A-1 to A-4 Survey plats, Exhibit B 1 mile radius plat, Exhibit C Production facility, Exhibit D Patterson Rig #62 layout, Exhibit Temporary Fresh Water Line, Exhibit F-1 to F-2 BOP & Choke Manifold, Exhibit G Standard Planning Report, Wellbore Schematic and Form C-144 Closed Loop System Permit.

Archeological Survey will be delivered to the BLM when completed.

Chesapeake Operating, Inc. has an agreement with the grazing lessee.

Please be advised that Chesapeake Operating, Inc. is the Designated Agent for BOPCO, the Operator of this unit. Chesapeake Operating, Inc. agrees to be responsible under the terms and conditions of the lease for the operations conducted upon the lease lands.

(CHK PN 643671)

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone (505) 393-5161 Fax: (505) 393-0720

DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (505) 740-1283 Fax: (505) 740-0720

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-5178 Fax: (505) 334-5170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3400 Fax: (505) 476-3402

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-40447	Pool Code 96403	Well Name WC; G-06 S25-30020; B.S. WILDCAT, BONE SPRING
Property Code 39322	Property Name PLU BIG SINKS 7 25 31 USA	Well Number 1H
GRID No. 147179	Operator Name CHESAPEAKE OPERATING CO.	Elevation 3369'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	7	25 S	31 E		150	NORTH	1980	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	7	25 S	31 E		100	SOUTH	1980	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			9429' 7/3

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

LOT 1 1980' 3371.0' 3371.2' 3369.1' 5116.8' 100'	Projected Penetration Point 330' FNL & 1980' FWL	SURFACE LOCATION Lat - N 32.152005312' Long - W 103.819398879' NMSPEC - N 419414.492 E 700388.587 (NAD-83) Lat - N 32.151881342' Long - W 103.818917730' NMSPEC - N 419356.166 E 659203.616 (NAD-27)	OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature <u>Bryan Arrant</u> Date <u>02/16/2012</u> Printed Name <u>bryan.arrant@chk.com</u> Email Address _____
LOT 2			SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief. FEBRUARY 16 2012 Date Surveyed Signature & Seal of Professional Surveyor Certificate No. <u>20053</u> Basin Surveys 26053
LOT 3			
LOT 4			
		PROPOSED BOTTOM HOLE LOCATION Lat - N 32.137940113' Long - W 103.819473436' NMSPEC - N 414297.704 E 700389.930 (NAD-83) Lat - N 32.137816008' Long - W 103.818992927' NMSPEC - N 414239.494 E 659204.782 (NAD-27)	

EXHIBIT A-1

ONSHORE ORDER NO. 1
Chesapeake Operating, Inc. Agent for BOPCO
PLU Big Sinks 7 25 31 USA 1H

CONFIDENTIAL -- TIGHT HOLE
Lease No: 030458

Eddy, NM

DRILLING PLAN
PAGE: 1

OHSORE OIL & GAS ORDER NO. 1
Approval of Operations on Onshore
Federal and Indian Oil and Gas Leases

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (CFR 43, Part 3160) and the approved Application for Permit to Drill. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling and completion operations.

Approval of this application 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.

1. FORMATION TOPS

The estimated tops of important geologic markers are as follows:

FORMATION	SUB-SEA	KBTVD	MD
Rustler	2684	706	
Top of Salt	2336	1054	
Base of Salt	-580	3970	
Lamar	-789	4179	
Bell Canyon	-806	4196	
Cherry Canyon	-1706	5096	
Brushy Canyon	-3142	6532	
Bone Spring	-4642	8032	
1st Bone Spring Sand	-5640	9030	
Pilot TD	-6410	9800	
Lateral TD	-6039	9429	14341

2. ESTIMATED DEPTH OF WATER, OIL, GAS & OTHER MINERAL BEARING FORMATIONS

The estimated depths at which the top and bottom of the anticipated water, oil, gas, or other mineral bearing formations are expected to be encountered are as follows:

Substance	Formation	Depth
Water	Rustler	706
Oil/Gas	Brushy Canyon	6532
Oil/Gas	Bone Spring	8032

All shows of fresh water and minerals will be reported and protected.

Eddy, NM

DRILLING PLAN
PAGE: 2

3. BOP EQUIPMENT

Will have a 5000 psi rig stack (see proposed schematic) for drill out below surface casing. Stack will be tested as specified below. Surface casing and Intermediate Casing shoes will be tested to 10.5 ppg equivalent after drilling out 10' of new formation.

Chesapeake Operating Inc.'s minimum specifications for pressure control equipment are as follows:

I. BOP, Annular, Choke Manifold Pressure Test - See Exhibit F-1 and F-2

A. Equipment

1. The equipment to be tested includes all of the following that is installed on the well:
 - (a) Ram-type and annular preventers
 - (b) Choke manifolds and valves
 - (c) Kill lines and valves
 - (d) Upper and lower kelly cock valves, inside BOP's and safety valves

B. Frequency

1. All tests shall be performed with clear water
 - (a) when installed
 - (b) before drilling out each casing string
 - (c) at any time that there is a repair requiring a pressure seal to be broken in the assembly
 - (d) at least once every 30 days while drilling

C. Frequency

1. In some drilling operations, the pressures to be used for low and high pressure testing of preventers and casing may be different from those given below due to governmental regulations or approved local practices.
2. If an individual component does not test at the low pressure, do not test to the high pressure and then drop back down to the low pressure.
3. All valves located downstream of a valve being tested must be placed in the open position.
4. All equipment will be tested with an initial "low pressure" test at 250 psi.
5. The subsequent "high pressure" test will be conducted at the rated working pressure of the equipment for all equipment except the annular preventer.
6. The "high pressure" test for the annular preventer will be conducted at 70% of the rated working pressure.
7. A record of all pressures will be made on a pressure-recording chart.

II. Accumulator Performance Test

A. Scope

1. The purpose of this test is to check the capabilities of the Bop control systems and to detect deficiencies in the hydraulic oil volume and recharge time.

B. Test Requency

1. The accumulator is to be tested each time the BO's are tested, or any time a major repair is performed.

Eddy, NM

DRILLING PLAN
PAGE 3

C. Minimum Requirements

1. The accumulator should be of sufficient volume to supply 1.5 times the volume to close and hold all BOP equipment in sequence, without recharging and the pump turned off, and have remaining pressures of 200 psi above the precharge pressure.
2. Minimum precharge pressures for the various accumulator systems per manufacturers recommended specifications are as follows:

System Operating Pressure	Precharge Pressure
1500 psi	750 psi
2000 psi	1000 psi
3000 psi	1000 psi

3. Closing times for the annular preventer should be less than 20 seconds and for the ram-type preventers less than 10 seconds.
4. System recharge time should not exceed 10 minutes.

D. Test Procedure

1. Shut accumulator pumps off and record accumulator pressure.
2. In sequence, close the annular and one set of properly sized pipe rams, and open the HCR valve
3. Record time to close or open each element and the remaining accumulator pressure after each operation.
4. Record the remaining accumulator pressure at the end of the test sequence. Per the previous requirement, this pressure should not be less than the following pressures:

System Operating Pressure	Remaining Pressure After Test
1500 psi	950 psi
2000 psi	1200 psi
3000 psi	1200 psi

5. Turn the accumulator pumps on and record the recharge time. This time should not exceed 10 minutes.
6. Open annular and ram-type preventers. Close HCR valve.
7. Place all 4-way control valves in full open or full closed position. Do not leave in neutral position

4. CASING PROGRAM

- a. The proposed casing program will be as follows:

Purpose	From	To	Hole Size	Csg Size	Weight	Grade	Thread	Condition
Surface	0'	825'	17-1/2"	13-3/8"	48 #	H-40	STC	New
Shallow Intermediate	0'	4,100'	11"	8-5/8"	32 #	J-55	LTC	New
Production	0'	14,341'	7-7/8"	5-1/2"	17.0 #	P-110	LTC	New

- b. Casing design subject to revision based on geologic conditions encountered.

Eddy, NM

DRILLING PLAN
 PAGE: 4

c. Casing Safety Factors

Casing String	Min SF Burst	Min SF Collapse	Min SF Tension
Surface	1.36	2.06	2.4
Shallow Intermediate	2.12	1.19	1.97
Production	1.36	1.7	1.87

Min SF is the smallest of a group of safety factors that include the following considerations:

Burst Design

	Surf	Int	Prod
Pressure Test- Surface, Int, Prod Csg P external: Water P internal: Test psi + next section heaviest mud in csg	X	X	X
Displace to Gas- Surf Csg P external: Water P internal: Dry Gas from Next Csg Point	X		
Frac at Shoe, Gas to Surf- Int Csg P external: Water P internal: Dry Gas, 15 ppg Frac Gradient		X	
Stimulation (Frac) Pressures- Prod Csg P external: Water P internal: Max inj pressure w/ heaviest injected fluid			X
Tubing leak- Prod Csg (packer at KOP) P external: Water P internal: Leak just below surf, 8.7 ppg packer fluid			X

Collapse Design

Full Evacuation P external: Water gradient in cement, mud above TOC P internal: none	X	X	X
Cementing- Surf, Int, Prod Csg P external: Wet cement P internal: water	X	X	X

Tension Design

100k lb overpull	X	X	X
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DRILLING PLAN

Eddy, NM

PAGE: 5

5. CEMENTING PROGRAM

Slurry	Type	Top	Btm	Wt	Yld	%Exc	Sx
Surface				(ppg)	(sx/cu ft)	Open Hole	
Single Slurry	C + 4% Gel	0'	825'	13.5	1.73	200	969
Shallow Int							
Lead	TXI + 5% Salt	0'	3,600'	12	1.99	200	1255
Tail	50C/50Poz +5% Salt	3,600'	4,100'	14.2	1.37	200	290
Production							
Lead	35/65Poz H +8% Gel	3,600'	8,952'	12.4	2.11	75	739
Tail	50/50Poz H +2% Gel	8,952'	14,341'	14.5	1.27	75	1296

1. Final cement volumes will be determined by caliper.
2. Surface casing shall have at least one centralizer installed on each of the bottom three joints starting with the shoe joint.
3. The production casing will be cemented in a single stage.
4. Production casing will have one centralizer on every other joint from TD to KOP (horizontal type) and from KOP to intermediate casing (bowspring type).

Pilot Hole Plugging Plan:

Pilot hole will be plugged back from TD of 9,800' TVD to KOP of 8,952' TVD with a single balanced plug using tubing that will be cemented in place on the bottom of the Smith Trackmaster OH-Openhole whipstock cementing system (previously approved by BLM). This will be accomplished using 400 sx (40% excess) of 17.0 ppg 0.99 cuft/sk yield Class H cement.

Eddy, NM

DRILLING PLAN
PAGE. 6

6. MUD PROGRAM

From	To	Type	Weight	F. Vis	Filtrate
0'	825'	Spud Mud	8.4 - 8.7	32 - 34	NC - NC
825'	4,100'	Brine	9.5 - 10.1	28 - 29	NC - NC
4,100'	8,952'	Cut Brine	8.3 - 9	28 - 29	NC - NC
8,952'	9,800'	Cut Brine	8.3 - 9	28 - 29	NC - NC
8,952'	9,702'	Cut Brine	8.3 - 9	28 - 29	NC - NC
9,702'	14,341'	Cut Brine	8.3 - 9	28 - 29	NC - NC

A closed system will be utilized consisting of above ground steel tanks. All wastes accumulated during drilling operations will be contained in a portable trash cage and removed from location and deposited

All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations.

A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

7. TESTING, LOGGING, AND CORING See COA

The anticipated type and amount of testing, logging, and coring are as follows:

- Drill stem tests are not planned.
- The logging program will be as follows:

TYPE	Logs	Interval	Timing	Vendor
Mud Log	2 man Mudlog	Surf to TD	Spud	Suttles
OH	Triple Combo	Pilot TD to Int Csg	After Pilot TD	TBD
OH	GR/Neutron	Int Cas to Surf	After Pilot TD	TBD
LWD	MWD Gamma	Curve and Lateral	While Drilling	Phoenix

- Core samples are not planned.
- A Directional Survey will be run.

8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE

- No abnormal pressures or temperatures are expected. Estimated BHP is: 4168 psi
- Hydrogen sulfide gas is not anticipated.

Permian District

Poker Lake

PLU Big Sinks 7-25-31 USA 1H

Well #1

Wellbore #1

Plan: Plat

Standard Planning Report

27 March, 2012

Chesapeake Operating

Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Well Well #1
Company:	Permian District	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Project:	Poker Lake	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	PLU Big Sinks 7-25-31 USA 1H	North Reference:	Grid
Well:	Well #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat		

Project:	Poker Lake, Eddy County, NM		
Map System:	US State Plane 1983	System Datum:	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	PLU Big Sinks 7-25-31 USA 1H
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Site Position:		Northing:	419,414.49 usft	Latitude:	32.152005
From:	Map	Easting:	700,388.58 usft	Longitude:	-103.819399
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.27 °

Well:	Well: #1					
Well Position	+N/-S	0.00 ft	Northing:	419,414.49 usft	Latitude:	32 152005
	+E/-W	0.00 ft	Easting:	700,388.58 usft	Longitude:	-103 819399
Position Uncertainty	0.00 ft	Wellhead Elevation:		Ground Level:		0.00 ft

Wellbore:	Wellbore #1
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Magnetics:	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	1/17/2012	7.61	60.09	48,528

Design:	Plat
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Audit Notes:

Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
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Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
(ft)	(ft)	(ft)	(ft)	(°)
0.00	0.00	0.00	0.00	179.98

Plan Sections:										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(%/100usft)	(%/100usft)	(%/100usft)	(°)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,951.53	0.00	0.00	8,951.53	0.00	0.00	0.00	0.00	0.00	0.00	
9,701.54	90.00	179.98	9,429.00	-477.47	0.13	12.00	12.00	0.00	179.98	
14,340.87	90.00	179.98	9,429.00	-5,116.80	1.34	0.00	0.00	0.00	0.00 BHL	

Chesapeake Operating

Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Well Well #1
Company:	Permian District	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Project:	Poker Lake	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	PLU Big Sinks 7-25-31 USA 1H	North Reference:	Grid
Well:	Well #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (%/100usft)	Build Rate (%/100usft)	Turn Rate (%/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Chesapeake Operating

Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Well Well #1
Company:	Permian District	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Project:	Poker Lake	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	PLU Big Sinks 7-25-31 USA 1H	North Reference:	Grid
Well:	Well #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,951.53	0.00	0.00	8,951.53	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	5.82	179.98	8,999.92	-2.46	0.00	2.46	12.00	12.00	0.00
9,100.00	17.82	179.98	9,097.62	-22.90	0.01	22.90	12.00	12.00	0.00
9,200.00	29.82	179.98	9,188.94	-63.20	0.02	63.20	12.00	12.00	0.00
9,300.00	41.82	179.98	9,269.88	-121.61	0.03	121.61	12.00	12.00	0.00
9,400.00	53.82	179.98	9,336.91	-195.58	0.05	195.58	12.00	12.00	0.00
9,500.00	65.82	179.98	9,387.09	-281.86	0.07	281.86	12.00	12.00	0.00
9,600.00	77.82	179.98	9,418.24	-376.69	0.10	376.69	12.00	12.00	0.00
9,700.00	89.82	179.98	9,429.00	-475.93	0.12	475.93	12.00	12.00	0.00
9,701.54	90.00	179.98	9,429.00	-477.47	0.13	477.47	12.00	12.00	0.00
9,800.00	90.00	179.98	9,429.00	-575.93	0.15	575.93	0.00	0.00	0.00
9,900.00	90.00	179.98	9,429.00	-675.93	0.18	675.93	0.00	0.00	0.00
10,000.00	90.00	179.98	9,429.00	-775.93	0.20	775.93	0.00	0.00	0.00
10,100.00	90.00	179.98	9,429.00	-875.93	0.23	875.93	0.00	0.00	0.00
10,200.00	90.00	179.98	9,429.00	-975.93	0.26	975.93	0.00	0.00	0.00
10,300.00	90.00	179.98	9,429.00	-1,075.93	0.28	1,075.93	0.00	0.00	0.00
10,400.00	90.00	179.98	9,429.00	-1,175.93	0.31	1,175.93	0.00	0.00	0.00
10,500.00	90.00	179.98	9,429.00	-1,275.93	0.33	1,275.93	0.00	0.00	0.00

Chesapeake Operating Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Well Well #1
Company:	Permian District	TVD Reference:	WELL @ 0'00ft (Original Well Elev)
Project:	Poker Lake	MD Reference:	WELL @ 0'00ft (Original Well Elev)
Site:	PLU Big Sinks 7-25-31 USA 1H	North Reference:	Grid
Well:	Well #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,600.00	90.00	179.98	9,429.00	-1,375.93	0.36	1,375.93	0.00	0.00	0.00	
10,700.00	90.00	179.98	9,429.00	-1,475.93	0.39	1,475.93	0.00	0.00	0.00	
10,800.00	90.00	179.98	9,429.00	-1,575.93	0.41	1,575.93	0.00	0.00	0.00	
10,900.00	90.00	179.98	9,429.00	-1,675.93	0.44	1,675.93	0.00	0.00	0.00	
11,000.00	90.00	179.98	9,429.00	-1,775.93	0.47	1,775.93	0.00	0.00	0.00	
11,100.00	90.00	179.98	9,429.00	-1,875.93	0.49	1,875.93	0.00	0.00	0.00	
11,200.00	90.00	179.98	9,429.00	-1,975.93	0.52	1,975.93	0.00	0.00	0.00	
11,300.00	90.00	179.98	9,429.00	-2,075.93	0.54	2,075.93	0.00	0.00	0.00	
11,400.00	90.00	179.98	9,429.00	-2,175.93	0.57	2,175.93	0.00	0.00	0.00	
11,500.00	90.00	179.98	9,429.00	-2,275.93	0.60	2,275.93	0.00	0.00	0.00	
11,600.00	90.00	179.98	9,429.00	-2,375.93	0.62	2,375.93	0.00	0.00	0.00	
11,700.00	90.00	179.98	9,429.00	-2,475.93	0.65	2,475.93	0.00	0.00	0.00	
11,800.00	90.00	179.98	9,429.00	-2,575.93	0.68	2,575.93	0.00	0.00	0.00	
11,900.00	90.00	179.98	9,429.00	-2,675.93	0.70	2,675.93	0.00	0.00	0.00	
12,000.00	90.00	179.98	9,429.00	-2,775.93	0.73	2,775.93	0.00	0.00	0.00	
12,100.00	90.00	179.98	9,429.00	-2,875.93	0.75	2,875.93	0.00	0.00	0.00	
12,200.00	90.00	179.98	9,429.00	-2,975.93	0.78	2,975.93	0.00	0.00	0.00	
12,300.00	90.00	179.98	9,429.00	-3,075.93	0.81	3,075.93	0.00	0.00	0.00	
12,400.00	90.00	179.98	9,429.00	-3,175.93	0.83	3,175.93	0.00	0.00	0.00	
12,500.00	90.00	179.98	9,429.00	-3,275.93	0.86	3,275.93	0.00	0.00	0.00	
12,600.00	90.00	179.98	9,429.00	-3,375.93	0.89	3,375.93	0.00	0.00	0.00	
12,700.00	90.00	179.98	9,429.00	-3,475.93	0.91	3,475.93	0.00	0.00	0.00	
12,800.00	90.00	179.98	9,429.00	-3,575.93	0.94	3,575.93	0.00	0.00	0.00	
12,900.00	90.00	179.98	9,429.00	-3,675.93	0.96	3,675.93	0.00	0.00	0.00	
13,000.00	90.00	179.98	9,429.00	-3,775.93	0.99	3,775.93	0.00	0.00	0.00	
13,100.00	90.00	179.98	9,429.00	-3,875.93	1.02	3,875.93	0.00	0.00	0.00	
13,200.00	90.00	179.98	9,429.00	-3,975.93	1.04	3,975.93	0.00	0.00	0.00	
13,300.00	90.00	179.98	9,429.00	-4,075.93	1.07	4,075.93	0.00	0.00	0.00	
13,400.00	90.00	179.98	9,429.00	-4,175.93	1.10	4,175.93	0.00	0.00	0.00	
13,500.00	90.00	179.98	9,429.00	-4,275.93	1.12	4,275.93	0.00	0.00	0.00	
13,600.00	90.00	179.98	9,429.00	-4,375.93	1.15	4,375.93	0.00	0.00	0.00	
13,700.00	90.00	179.98	9,429.00	-4,475.93	1.17	4,475.93	0.00	0.00	0.00	
13,800.00	90.00	179.98	9,429.00	-4,575.93	1.20	4,575.93	0.00	0.00	0.00	
13,900.00	90.00	179.98	9,429.00	-4,675.93	1.23	4,675.93	0.00	0.00	0.00	
14,000.00	90.00	179.98	9,429.00	-4,775.93	1.25	4,775.93	0.00	0.00	0.00	
14,100.00	90.00	179.98	9,429.00	-4,875.93	1.28	4,875.93	0.00	0.00	0.00	
14,200.00	90.00	179.98	9,429.00	-4,975.93	1.31	4,975.93	0.00	0.00	0.00	
14,300.00	90.00	179.98	9,429.00	-5,075.93	1.33	5,075.93	0.00	0.00	0.00	
14,340.87	90.00	179.98	9,429.00	-5,116.80	1.34	5,116.80	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
SHL - hit/miss target center - Point	0.00	0.00	0.00	0.00	0.00	419,414.49	700,388.58	32.152005	-103.819399	
BHL - plan hits target center - Point	0.00	0.00	9,429.00	-5,116.80	1.34	414,297.70	700,389.93	32.137940	-103.819474	

Chesapeake Operating

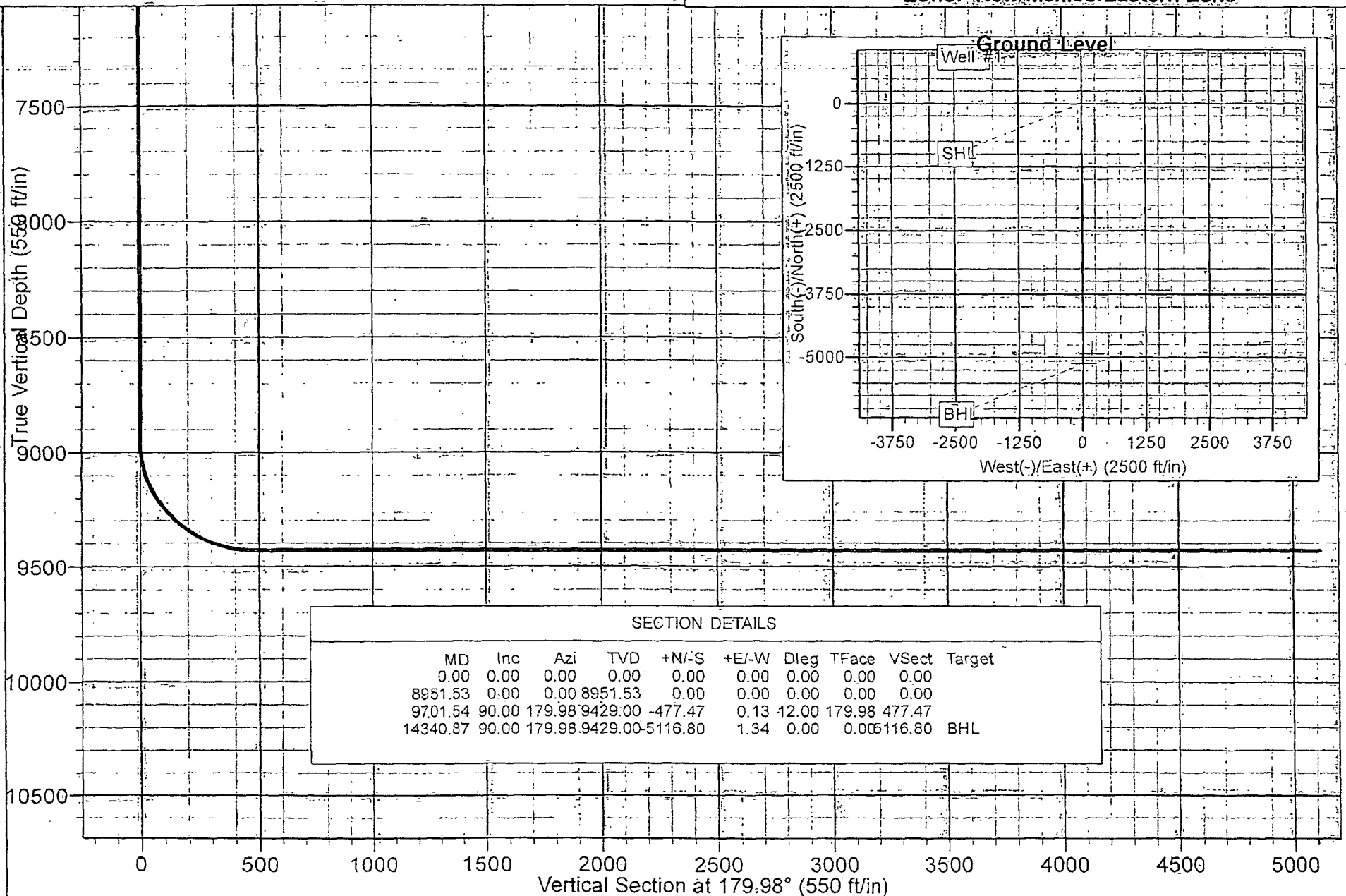
Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Well Well #1
Company:	Permian District	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Project:	Poker Lake	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	PLU Bg Sinks 7-25-31 USA 1H	North Reference:	Grid
Well:	Well #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat		

Project: Poker Lake
 Site: PLU Big Sinks 7-25-31 USA 1H
 Well: Well #1
 Wellbore: Wellbore #1
 Design: Plat

PROJECT DETAILS: Poker Lake

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone

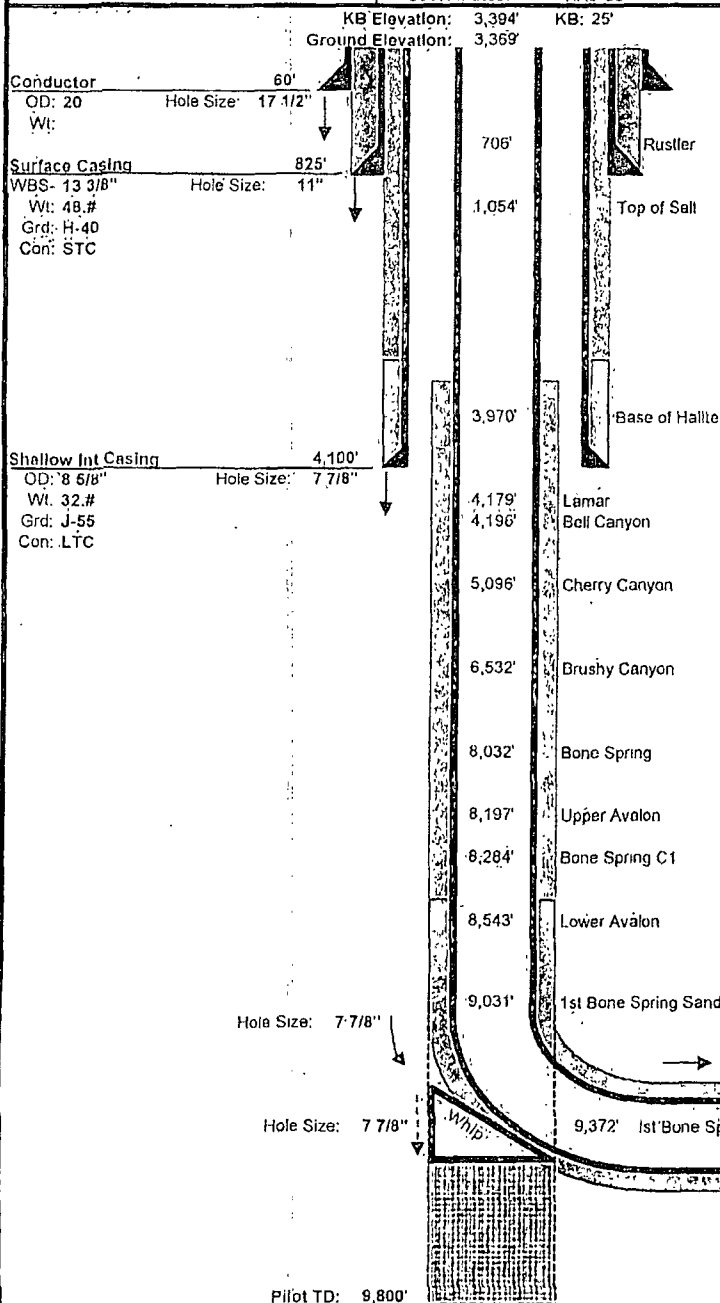




Drilling Engineer: Chris Gray
Superintendent: Daniel Gipson
Geologist: Chris Persellin

Well Name: PLU Big Sinks 7-25-31 USA 1H
Target: First Bone Spring Shale
County, State: Eddy, NM
Surface Location: 150' FNL 1980' FWL, Section 7, Township 25S, Range 31 E
BH Location: 100 FSL 1980' FWL, Section 7, Township 25S, Range 31 E
SHL Latitude: 32.152005 SHL North: 419414
SHL Longitude: -103.819399 SHL East: 700389
BHL Latitude: 32.13794011 BHL North: 414298
BHL Longitude: -103.8194734 BHL East: 700390
Coordinates: NAD 83 Coordinates: NMSPCE

Drilling Rig: Patterson 62
Directional: Phoenix
Drilling Mud: Nova
Cement: Schlumberger
Wellhead: Sunbelt
Property Number: 643671
AFE Number: 161027



Wellhead Equipment	
A Section	13-3/8" x 13-5/8" 5K SOW (Multibowl)
B Section	N/A (Multibowl)
C Section	11" 5K X 7-1/16" 10K w/10k gate valve
D Section	N/A
Required BOP Stack	13-5/8" 5K Double, Annular, Rot Head w/orbit valve

Mud				
Depth	Type	Weight	F. Vis	FL
0' - 825'	Spud Mud	8.4 - 8.7	32 - 34	NC - NC
825' - 4,100'	Brine	9.5 - 10.1	28 - 29	NC - NC
4,100' - 8,952'	Cut Brine	8.3 - 9	28 - 29	NC - NC
8,952' - 9,800'	Cut Brine	8.3 - 9	28 - 29	NC - NC
8,952' - 9,702'	Cut Brine	8.3 - 9	28 - 29	NC - NC
9,702' - 14,341'	Cut Brine	8.3 - 9	28 - 29	NC - NC

Cement							
Slurry	Top	Blm	Wt	Yld	%Exc	Bbl	Sx
Surface							
Single Slurry	0'	825'	13.5	1.73	200	299	969
Shallow Int.							
Lead	0'	3,600'	12.0	1.99	200	445	1255
Tail	3,600'	4,100'	14.2	1.37	200	71	290
Production							
Lead	3,600'	8,952'	12.4	2.11	75	278	739
Tail	8,952'	14,341'	14.5	1.27	75	293	1296

Type	Logs	Interval	Vendor
Mud Log	2 man Mudlog	Surf to TD	Suttles
OH	Triple Combo	Pilot TD to Int Csg	TBD
OH	GR/Neutron	Int Cas to Surf	TBD
LWD	MWD Gamma	Curve and Lateral	Phoenix

Directional Plan					
Target Line:	9429' @ 0' VS w/90.0 deg Inclination				
Target Window:	20' above, 20' below, 50' left, 50' right				
	MD	INC	AZM	TVD	VS
KOP	8,952'	0.00	0.00	8,952'	0
EOB	9,702'	90.00	180.00	9,429'	477
TD	14,341'	90.00	180.00	9,429'	5,117
Hardlines:	Lateral: 330' from parallel lease lines				
	Vertical: Actual Lease Lines				
Notes:	Please note SHL and BHL distance from lease lines				

Chesapeake Minimum BOPE Requirements

Wellname: PLU Big Sinks 7-25-31 USA 1H

Operation: Intermediate and Production Hole Sections

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

Permian District-Minimum Requirements

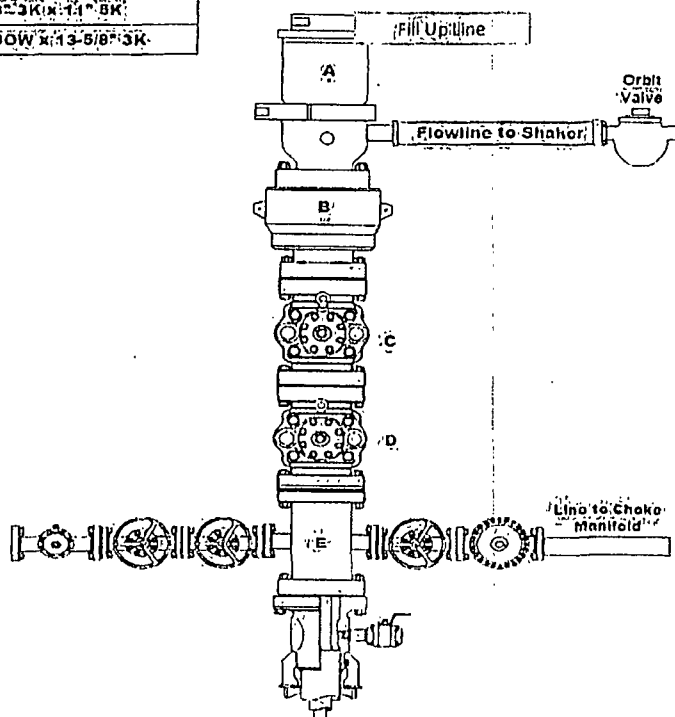
FIELD : Avalon

OPERATION: Intermediate and Production Hole Sections

	SIZE	PRESSURE	DESCRIPTION
A		500	Rotating Head
B	13 5/8"	5,000	Annular
C	13 5/8"	5,000	Pipe Ram
D	13 5/8"	5,000	Blind Ram
E	13 5/8"	5,000	Mud Cross
F			
DSA As required for each hole size			
C-Sec			
B-Sec 13 5/8" 3K x 11" BK			
A-Sec 13 3/8" 80W x 13 5/8" 3K			

Test Notes:

- Pressure test to rating of BOP or wellhead every 21 days.
- Function test on trips
- H2S service trim required



Kill Line

SIZE	PRESSURE	DESCRIPTION
2"	5,000	Check Valve
2"	5,000	Gate Valve
2"	5,000	Gate Valve

Choke Line

SIZE	PRESSURE	DESCRIPTION
3"	5,000	Gate Valve
3"	5,000	HCR Valve
3"	5,000	Steel Line Only

EXHIBIT F-1

Chesapeake Minimum BOPE Requirements

Wellname: PLU Big Sinks 7-25-31 USA 1H

Operation: Intermediate and Production Hole Sections

CHOKE MANIFOLD SCHEMATIC

CHESAPEAKE OPERATING INC

Permian District

Avalon Minimum Requirements

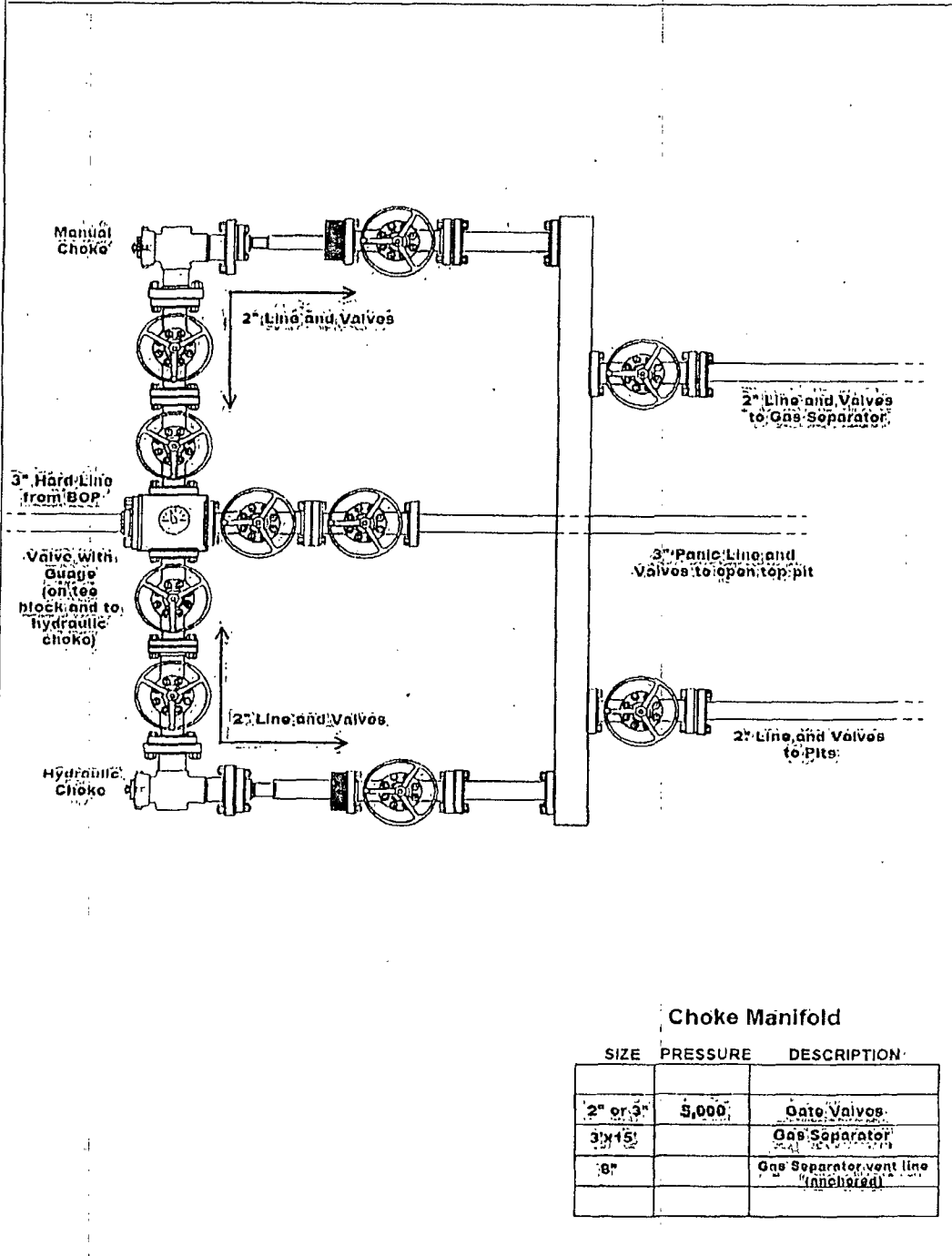
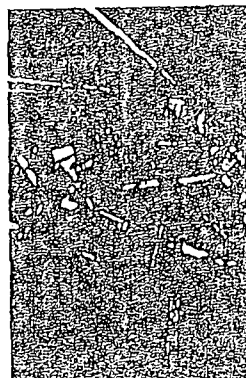


EXHIBIT F-2



RIG #62

DRAWWORKS

Skytop Brewster N-75-M (1000HP)
1 1/4" drill line, Parmac 342 auxiliary brake

POWER

(2) Caterpillar 379 engines (550HP each)

LIGHT PLANTS

(2) Caterpillar C-15 engines w/ 320 KW generators

MAST

Ideal 137' w/ 622,000# capacity on 10 lines

SUBSTRUCTURE

Ideal 15' box on box
KB, 17' Rotary beam clearance 12' 3"

BLOCK HOOK

McKissick (300 Ton) combo

PUMPS

(2) National 10-P-130 (1300HP each) triplex pumps
Each independently powered by (1) Caterpillar 3512 engine

MUD PITS

(2) tank system - 980 bbl capacity w/ 100 bbl slug pit

SOLIDS EQUIPMENT

Derrick FLC-503 Dual Shaker
Derrick 3-cone desander
Derrick 20-cone desilter
Atmospheric degasser
(5) mud agitators

BOP'S

13 5/8" X 5,000 psi Hydriil annular
13 5/8" X 5,000 psi Shaffer double

ACCUMULATOR

Koomey 5-Station, 110 gallon accumulator

CHOKE MANIFOLD

5,000 psi choke manifold

SWIVEL

Continental Emsco (100 Ton)

ROTARY TABLE

National (27 1/2")

DRILL PIPE

4 1/2" drill pipe

DRILL COLLARS

8" and 6 1/2" drill collars
*quantity subject to availability

AUXILIARY EQUIPMENT

Pason EDR (base system)
Fuel Tank - 10,000 gallon capacity
Water Tank - (2) 500 barrel capacity each
Rig Manager Quarters
NOV ST-80 Iron Roughneck
Satellite automatic driller
Mathey survey unit

Revised 10.01.09



**PATTERSON-UTI
DRILLING COMPANY**

**Chesapeake Operating, Inc.'s Closed Loop System
PLU BIG SINKS 7 25 31 USA 1H
Unit C, Sec. 7, T-25-S R-31-E
Eddy Co., NM
API # TBD**

Equipment & Design:

Chesapeake Operating, Inc. is to use a closed loop system with roll-off steel pits.

This rig has:

One Derrick FLC-503 Dual Shale Shaker

One Derrick 3-Cone Desander

One Atmospheric Degasser

One 500 bbl frac tank for fresh water

One 500 bbl frac tank brine water

Operations & Maintenance:

During each and every tour, the rig's drilling crew will inspect and monitor closely the drilling fluids contained within the steel pits and visually monitor any spill which may occur.

Within 48 hours should a spill, release or leak occur, the NMOCD District II office in Artesia (575-748-1283) will be notified. Please note that notifications may be made earlier to the district office should a greater release occur.

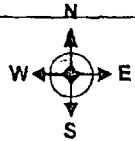
Closure:

During and after drilling operations, liquids (which apply), all drill cuttings and drilling fluids will be hauled and disposed to the Controlled Recovery, Inc.'s location.

The permit number for Controlled Recovery, Inc. is: NM-01-0006

The alternative disposal facility will be Sundance Disposal.

Their permit # is: NM-01-0003.



Patterson RIG 62

Top Soil

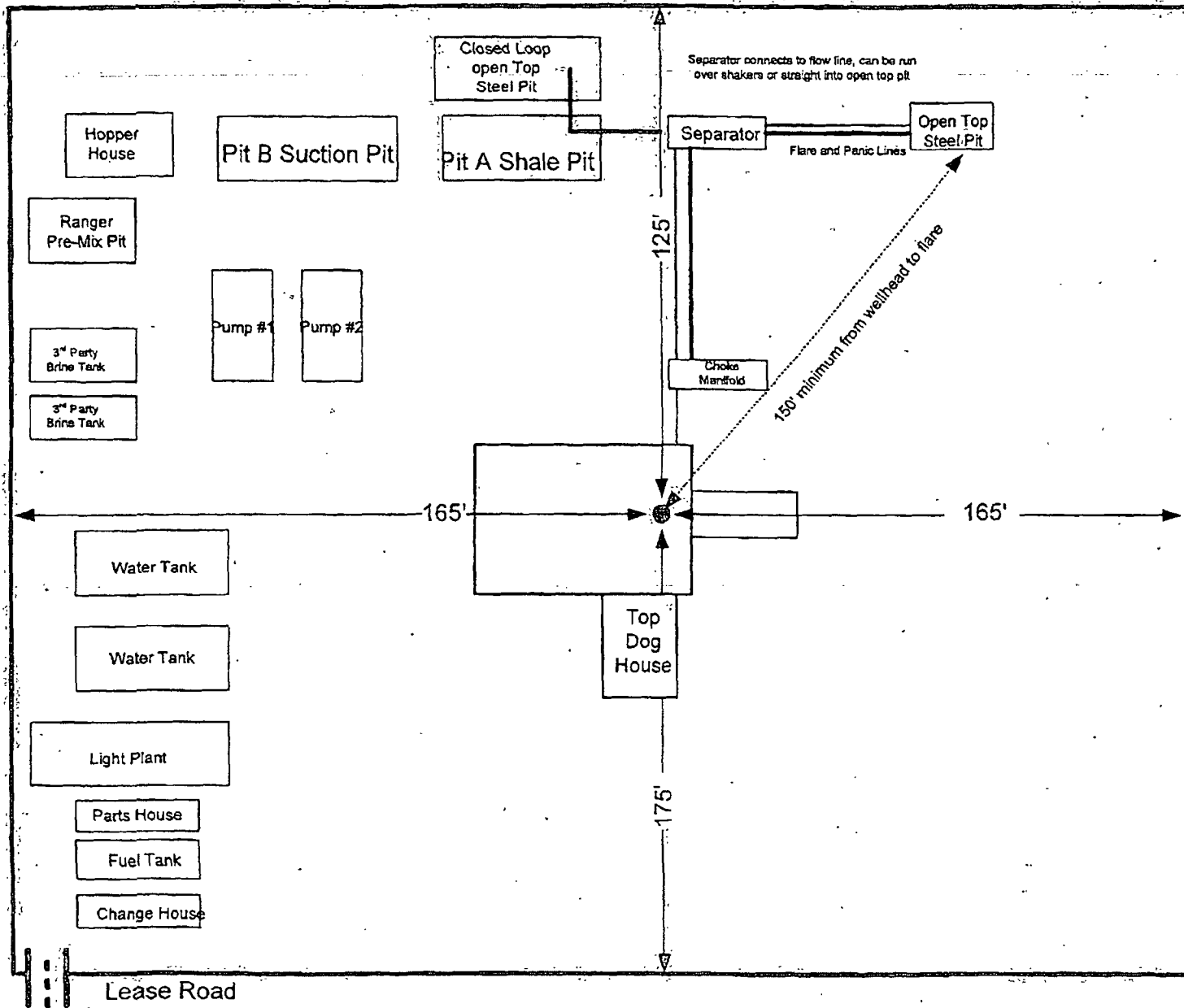


EXHIBIT. 1



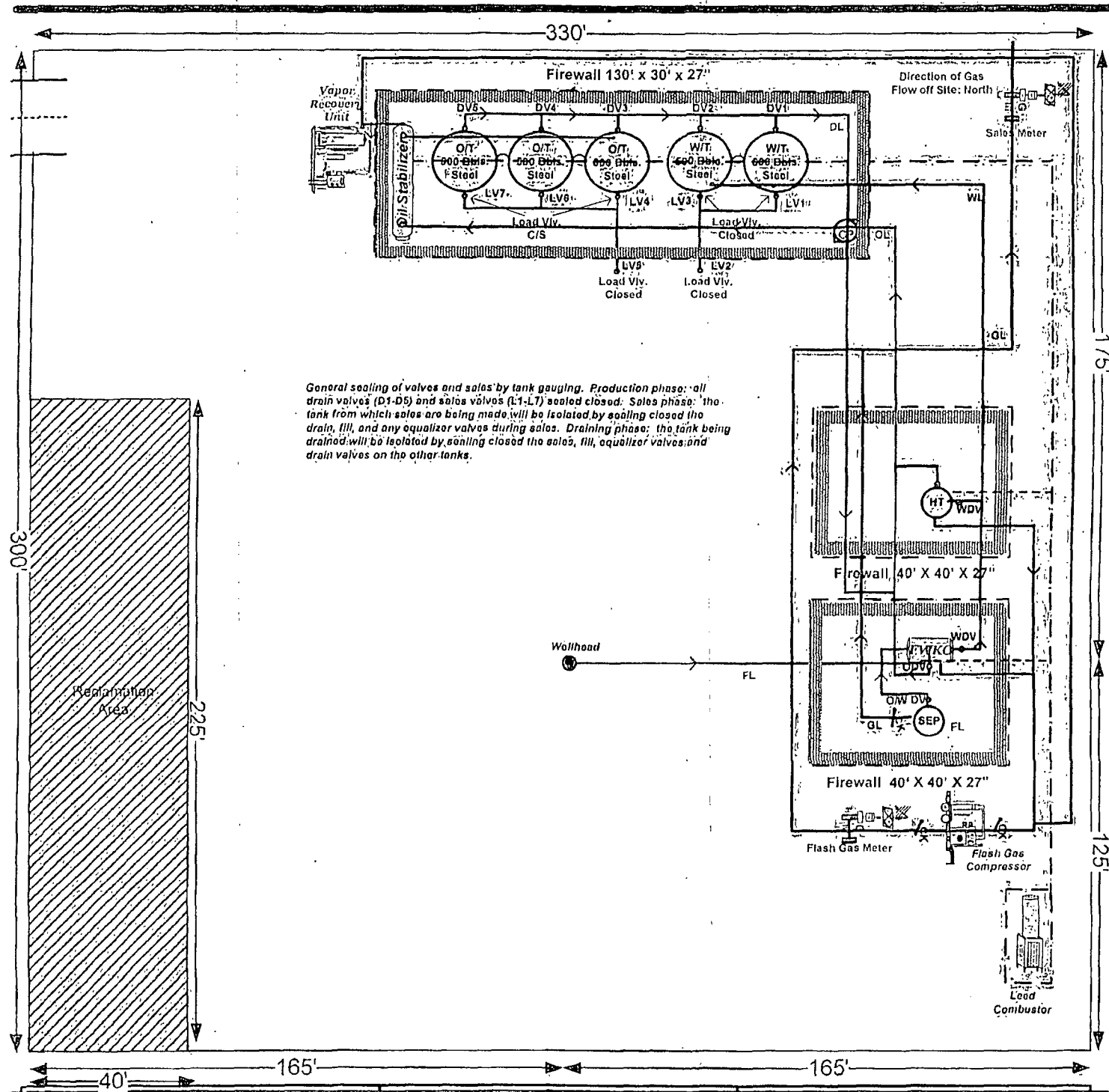
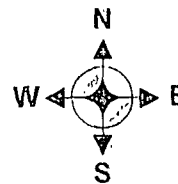
PLU Big Sinks 7-25-31 USA 1H

Property # 643671

Lat.: N 32.1518" – Long.: W 103.8189"

S07/T25S/R31E - 150' FNL & 1980' FWL

Eddy Co., New Mexico



General sealing of valves and sales by tank gauging. Production phase: all drain valves (D1-D5) and sales valves (L1-L7) sealed closed. Sales phase: the tank from which sales are being made will be isolated by sealing closed the drain, fill, and any equalizer valves during sales. Draining phase: the tank being drained will be isolated by sealing closed the sales, fill, equalizer valves and drain valves on the other tanks.

Prepared by: Donny Lowry Date: 3/5/2012	This lease is subject to Chesapeake's Site Security Plan located at 6100 N. Western Oklahoma City, OK 73118	All equipment shown will be on location, but subject to changes in positioning
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EXHIBIT C

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Chesapeake
LEASE NO.:	NM031385
WELL NAME & NO.:	1H PLU Big Sinks 7 25 31 USA
SURFACE HOLE FOOTAGE:	150' FNL & 1980' FWL
BOTTOM HOLE FOOTAGE:	100' FSL & 1980' FWL
LOCATION:	Section 7, T.25 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - Lesser Prairie-Chicken Timing Stipulations
 - Ground-level Abandoned Well Marker
 - Commercial Well Determination
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - Logging requirements
 - Waste Material and Fluids
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**