

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☒ DRILL ☐ REENTER		CONFIDENTIAL		5. Lease Serial No. NMLC070125
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		Contact: LINDA GOOD Email: linda.good@chk.com		7. If Unit or CA Agreement, Name and No. NML 71016X
3a. Address P.O. BOX 18496 OKLAHOMA CITY, OK 73154-0496		3b. Phone No. (include area code) Ph: 405-935-4275		8. Lease Name and Well No. PLU ROSS RANCH 30 FEDERAL 1H (38438)
4. Location of Well (Report location clearly and in accordance with any State requirements) At surface SESE 150FSL 525FEL At proposed prod. zone NENE 330FSL 400FEL		RECEIVED DEC 02 2010 NMOCD ARTESIA		9. API Well No. 30-015-38356
14. Distance in miles and direction from nearest town or post office* 24.5 MILES SE OF MALAGA, NEW MEXICO				10. Field and Pool, or Exploratory WILDCAT (13354) Si Carrol Canyon Box Spring
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		16. No. of Acres in Lease 240.00		11. Sec., T., R., M., or Blk. and Survey or Area Sec 30 "
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.		19. Proposed Depth 13103 MD 8127 TVD BHL		12. County or Parish EDDY
21. Elevations (Show whether DF, KB, RT, GL, etc.) 3180 GL		22. Approximate date work will start		13. State NM
				17. Spacing Unit dedicated to this well 160:00 200.00
				20. BLM/BIA Bond No. on file NM2634
				23. Estimated duration

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 09/01/2010
Title SR. REGULATORY COMPLIANCE SPEC		
Approved by (Signature) /s/ Don Peterson	Name (Printed/Typed)	Date NOV 29 2010
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.

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)

Carlsbad Controlled Water Basin

Electronic Submission #92200 verified by the BLM Well Information System
For CHESAPEAKE AGENT FOR BOPCO, sent to the Carlsbad

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

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

ONSHORE ORDER NO. 1
Chesapeake Operating, Inc. Agent for BOPCO
PLU Ross Ranch 30 Federal 1H
SL: 150' FSL & 525' FEL
Section 19-25S-30E
BL: 330' FSL & 400' FEL
Section 30-25S-30E
Eddy County, New Mexico

CONFIDENTIAL – TIGHT HOLE
Lease Contract No. NMLC 70125

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ONSHORE 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 *Should show Rustler and Top of Salt.*

The estimated tops of important geologic markers are as follows:

Formation	Subsea KBTVD	KBTVD	MD
Base of Salt	-405'	3,607'	
Bell Canyon	-449'	3,651'	
Brushy Canyon	-2,880'	6,082'	
Lower Brushy Canyon	-3,954'	7,156'	
Bone Spring Lime	-4,203'	7,405'	
Upper Avalon	-4,433'	7,635'	
Lower Avalon	-4,754'	7,956'	
Lateral TD		8127'	13103'

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
Oil/Gas	Bell Canyon	3651'
Oil/Gas	Bone Spring	7405'

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

Operator shall show water depth on future APDs,

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3. BOP EQUIPMENT:

Will have a 13-5/8" x 5,000 psi BOP stack (see proposed schematic) for drilling below surface casing to well TD. The BOP equipment will be tested to 3,000 psi working pressure so no shoe tests will be conducted.

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, and
 - (d) Upper and lower kelly cock valves, inside BOP's and safety valves.

B. Test Frequency

1. All tests ^{shall} ~~should~~ 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, and
 - (d) at least once every 30 days while drilling.

C. Test Pressure

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.

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D. Test Duration

1. In each case, the individual components should be monitored for leaks for 10 minutes, with no observable pressure decline, once the test pressure as been applied.

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 Frequency

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

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:

3.

<u>System Operating Pressures</u>	<u>Precharge Pressure</u>
1500 PSI	750 PSI
2000 PSI	1,000 PSI
3000 PSI	1,000 PSI

3. Closing times for the Hydril 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.

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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:

<u>System Pressure</u>	<u>Remaining Pressure At Conclusion of Test</u>
1,500 PSI	950 PSI
2,000 PSI	1,200 PSI
3,000 PSI	1,200 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:

<u>Purpose</u>	<u>Interval</u> <i>EOC</i>	<u>Hole Size</u>	<u>Casing Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Thread</u>	<u>Condition</u>
Surface	Surface – 715'	17-1/2"	13-3/8"	48.0#	H-40	STC	New
Intermediate	Surface – 3,625' <i>3,580</i>	11"	8-5/8"	32.0#	J-55	LTC	New
Production	Surface – 13,103'	7-7/8"	5-1/2"	20.0#	L-80	LTC	New

- b. Casing design subject to revision based on geologic conditions encountered.
- c. Casing Safety Factors:
 13-3/8" Surface Casing: SFb = 1.44, SFc = 2.38 and SFt = 1.52
 9-5/8" Intermediate Casing: SFb = 2.15, SFc = 1.61 and SFt = 1.88
 5-1/2" Production Casing: SFb = 1.21, SFc = 2.39 and SFt = 1.74
- d. The cementing program will be as follows:

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 5. Cementing Program

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<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Amount</u>	<u>Yield</u>	<u>Top Of Cement</u>	<u>Excess</u>
Surface	C+4%Gel	13.5 ppg	730 sks	1.73	Surface	150%
Inter-mediate	Lead: TXL	12.0 ppg	855 sks	1.82	Surface	150%
	Tail: 50/50 C/Poz +2%Gel, 5%Salt	14.2 ppg	464 sks	1.37	2,625'	150%
Production 1 st Stage	Lead: TXL + 1% Salt	12.0 ppg	440 sks	1.83	4,100'(DV)	60%
	Tail: 50/50 H/Poz +6%Gel, 5%Salt	13.2 ppg	972 sks	1.74	7,000'	60%
Production 2 nd Stage	Lead: TXL	12.0 ppg	125 sks	1.83	3,000'	200%
	Tail: C	14.8 ppg	100 sks	1.33	3,850'	200%

- 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 two stages with DV tool placed at 4,100'.
- 4) Production casing will have centralizer on every other joint.

Pilot Hole Plugging Plan:

No pilot hole planned.

6. MUD PROGRAM

a. The proposed circulating mediums to be used in drilling are as follows:

see
COA

<u>Interval</u>	<u>Mud Type</u>	<u>Mud Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0' - 715' 800	FW/Gel	8.4 - 8.7	28-32	NC
715' - 3,625' 200	Native/Brine	8.7 - 10.1	28-30	NC
3,625' - 7734'	KCl water	8.5 - 8.7	28-29	NC
7734'-TD	FW/Cut Brine	8.7-9.5	34-38	12-20

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 in an approved sanitary landfill. Sanitary wastes will be contained in a chemical porta-toilet and then hauled to an approved sanitary landfill.

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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

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

- See
CO/A*
- a. Drill stem tests are not planned.
 - b. The logging program will consist of Natural GR, Density-Neutron, PE & Dual Laterolog from pilot hole TD to surface casing; Neutron-GR surface casing to surface. GR in lateral.
 - c. Cores samples are not planned.
 - d. A Directional Survey will be run.

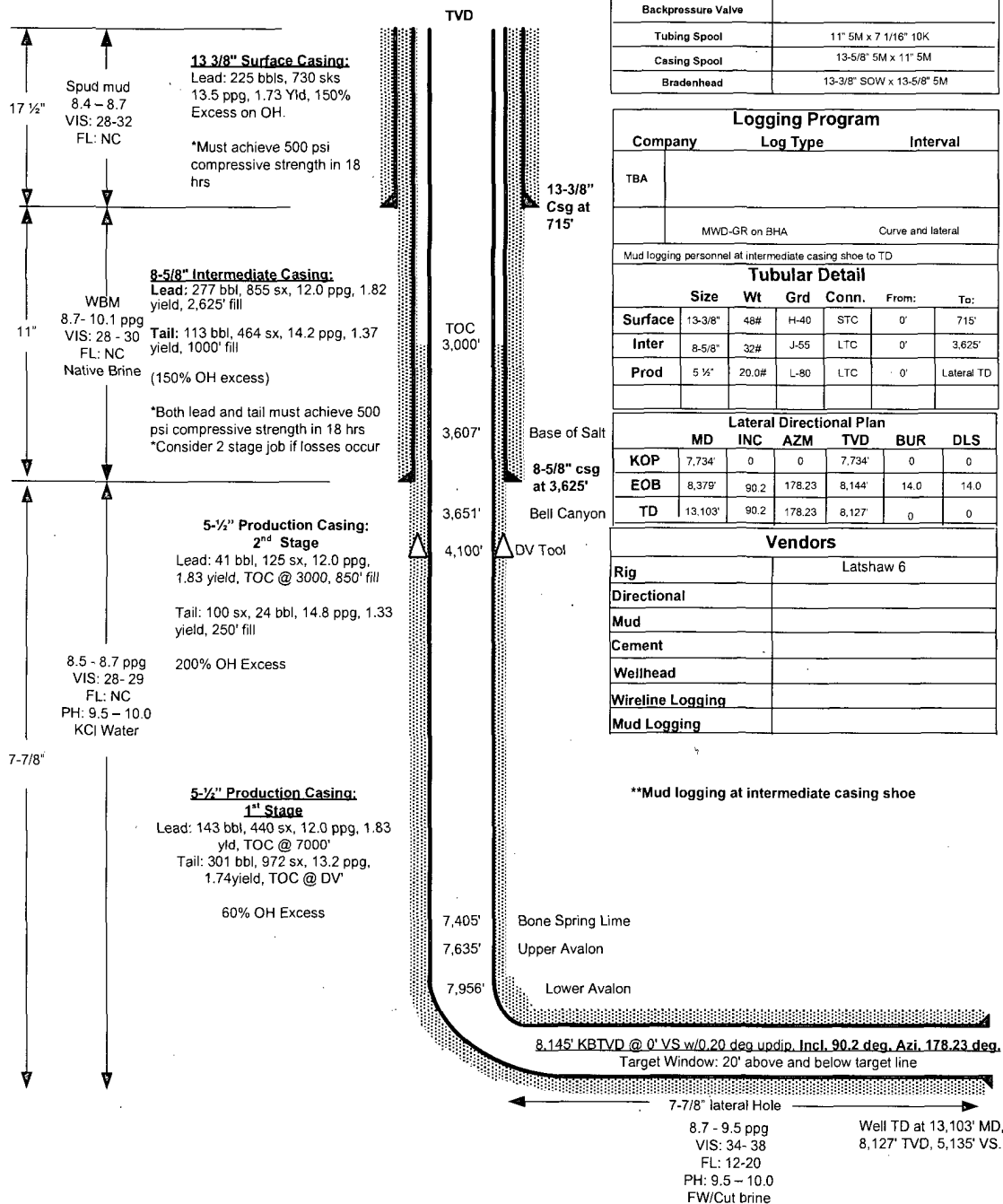
8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE

- a. The estimated bottom hole pressure is 3850 psi. No abnormal pressures or temperatures are anticipated.
- b. Hydrogen sulfide gas is not anticipated.

Chesapeake Operating Inc

Proposed Drilling Program

Well : PLU Ross Ranch 30 Fed 1H
Field : Delaware Basin North
County : Eddy State : NM
Surf Locat : Section 19-25S-30E, 150' FSL & 525' FEL Lat: N32.108649° Long: W103.913773° (NAD83)
BH Locat : Section 30-25S-30E, 330' FSL & 400' FEL Lat: N32.094542° Long: W103.913332° (NAD83)
KB Elev : 3,202' (Latshaw 6) Grd Elev : 3,180'



Drawn by:

CG

Date:

Rev #: 8/30/10

AFE No:

153019

Property No:

632364

Drilling Engineer:

Chris Gray

Drilling Superintendent:

Cecil Luttrull

Geologist:

Robert Martin

Permian District

Poker Lake

PLU Ross Ranch 30 Fed 1H

PLU Ross Ranch 30 Fed 1H

Wellbore #1

Plan: Plat

Standard Planning Report

30 August, 2010

Chesapeake Energy Corporation

Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Well PLU Ross Ranch 30 Fed 1H
Company:	Permian District	TVD Reference:	WELL @ 3202.0ft (Original Well Elev)
Project:	Poker Lake	MD Reference:	WELL @ 3202.0ft (Original Well Elev)
Site:	PLU Ross Ranch 30 Fed 1H	North Reference:	Grid
Well:	PLU Ross Ranch 30 Fed 1H	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 Ross Ranch 30 Fed 1H		
Site Position:	From: Map	Northing:	403,515.63 usft
		Easting:	671,243.01 usft
Position Uncertainty:	0.0 ft	Spot Radius:	0.000 in
		Latitude:	32.10864875
		Longitude:	-103.91377331
		Grid Convergence:	0.2230279 °

Well:	PLU Ross Ranch 30 Fed 1H		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft	Wellhead Elevation:	3,180.0 ft
		Ground Level:	3,180.0 ft

Wellbore:	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF200510	8/30/2010	7.8158370
			Dip Angle
			60.0593555
			Field Strength
			48.599

Design:	Plat		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0.0
			Direction
			178.23

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.0000000	
7,734.2	0.00	0.00	7,734.2	0.0	0.0	0.00	0.00	0.00	0.0000000	
8,378.5	90.20	178.23	8,143.5	-410.5	12.7	14.00	14.00	0.00	178.2253199	
13,102.6	90.20	178.23	8,127.0	-5,132.3	159.0	0.00	0.00	0.00	0.0000000	BHL- original target

Chesapeake Energy Corporation

Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Well PLU Ross Ranch 30 Fed 1H
Company:	Permian District	TVD Reference:	WELL @ 3202.0ft (Original Well Elev)
Project:	Poker Lake	MD Reference:	WELL @ 3202.0ft (Original Well Elev)
Site:	PLU Ross Ranch 30 Fed 1H	North Reference:	Grid
Well:	PLU Ross Ranch 30 Fed 1H	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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Chesapeake Energy Corporation

Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Well PLU Ross Ranch 30 Fed 1H
Company:	Permian District	TVD Reference:	WELL @ 3202.0ft (Original Well Elev)
Project:	Poker Lake	MD Reference:	WELL @ 3202.0ft (Original Well Elev)
Site:	PLU Ross Ranch 30 Fed 1H	North Reference:	Grid
Well:	PLU Ross Ranch 30 Fed 1H	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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00
7,734.2	0.00	0.00	7,734.2	0.0	0.0	0.0	0.00	0.00	0.00
7,800.0	9.21	178.23	7,799.7	-5.3	0.2	5.3	14.00	14.00	0.00
7,900.0	23.21	178.23	7,895.5	-33.1	1.0	33.1	14.00	14.00	0.00
8,000.0	37.21	178.23	7,981.7	-83.3	2.6	83.3	14.00	14.00	0.00
8,100.0	51.21	178.23	8,053.2	-152.8	4.7	152.9	14.00	14.00	0.00
8,200.0	65.21	178.23	8,105.8	-237.5	7.4	237.7	14.00	14.00	0.00
8,300.0	79.21	178.23	8,136.3	-332.5	10.3	332.6	14.00	14.00	0.00
8,378.5	90.20	178.23	8,143.5	-410.5	12.7	410.7	14.00	14.00	0.00
8,400.0	90.20	178.23	8,143.4	-432.0	13.4	432.2	0.00	0.00	0.00
8,500.0	90.20	178.23	8,143.1	-531.9	18.5	532.2	0.00	0.00	0.00
8,600.0	90.20	178.23	8,142.7	-631.9	19.6	632.2	0.00	0.00	0.00
8,700.0	90.20	178.23	8,142.4	-731.8	22.7	732.2	0.00	0.00	0.00
8,800.0	90.20	178.23	8,142.0	-831.8	25.8	832.2	0.00	0.00	0.00
8,900.0	90.20	178.23	8,141.7	-931.7	28.9	932.2	0.00	0.00	0.00
9,000.0	90.20	178.23	8,141.3	-1,031.7	32.0	1,032.2	0.00	0.00	0.00
9,100.0	90.20	178.23	8,141.0	-1,131.6	35.1	1,132.2	0.00	0.00	0.00
9,200.0	90.20	178.23	8,140.6	-1,231.6	38.2	1,232.2	0.00	0.00	0.00
9,300.0	90.20	178.23	8,140.3	-1,331.5	41.3	1,332.2	0.00	0.00	0.00
9,400.0	90.20	178.23	8,139.9	-1,431.5	44.4	1,432.2	0.00	0.00	0.00
9,500.0	90.20	178.23	8,139.6	-1,531.4	47.4	1,532.2	0.00	0.00	0.00
9,600.0	90.20	178.23	8,139.2	-1,631.4	50.5	1,632.2	0.00	0.00	0.00
9,700.0	90.20	178.23	8,138.9	-1,731.3	53.6	1,732.2	0.00	0.00	0.00
9,800.0	90.20	178.23	8,138.5	-1,831.3	56.7	1,832.2	0.00	0.00	0.00
9,900.0	90.20	178.23	8,138.2	-1,931.2	59.8	1,932.2	0.00	0.00	0.00
10,000.0	90.20	178.23	8,137.8	-2,031.2	62.9	2,032.2	0.00	0.00	0.00
10,100.0	90.20	178.23	8,137.5	-2,131.1	66.0	2,132.2	0.00	0.00	0.00
10,200.0	90.20	178.23	8,137.1	-2,231.1	69.1	2,232.2	0.00	0.00	0.00
10,300.0	90.20	178.23	8,136.8	-2,331.1	72.2	2,332.2	0.00	0.00	0.00
10,400.0	90.20	178.23	8,136.4	-2,431.0	75.3	2,432.2	0.00	0.00	0.00
10,500.0	90.20	178.23	8,136.1	-2,531.0	78.4	2,532.2	0.00	0.00	0.00

Chesapeake Energy Corporation

Planning Report

Database:	Drilling Database	Local Co-ordinate Reference:	Well PLU Ross Ranch 30 Fed 1H
Company:	Permian District	TVD Reference:	WELL @ 3202.0ft (Original Well Elev)
Project:	Poker Lake	MD Reference:	WELL @ 3202.0ft (Original Well Elev)
Site:	PLU Ross Ranch 30 Fed.1H	North Reference:	Grid
Well:	PLU-Ross Ranch 30 Fed.1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat		

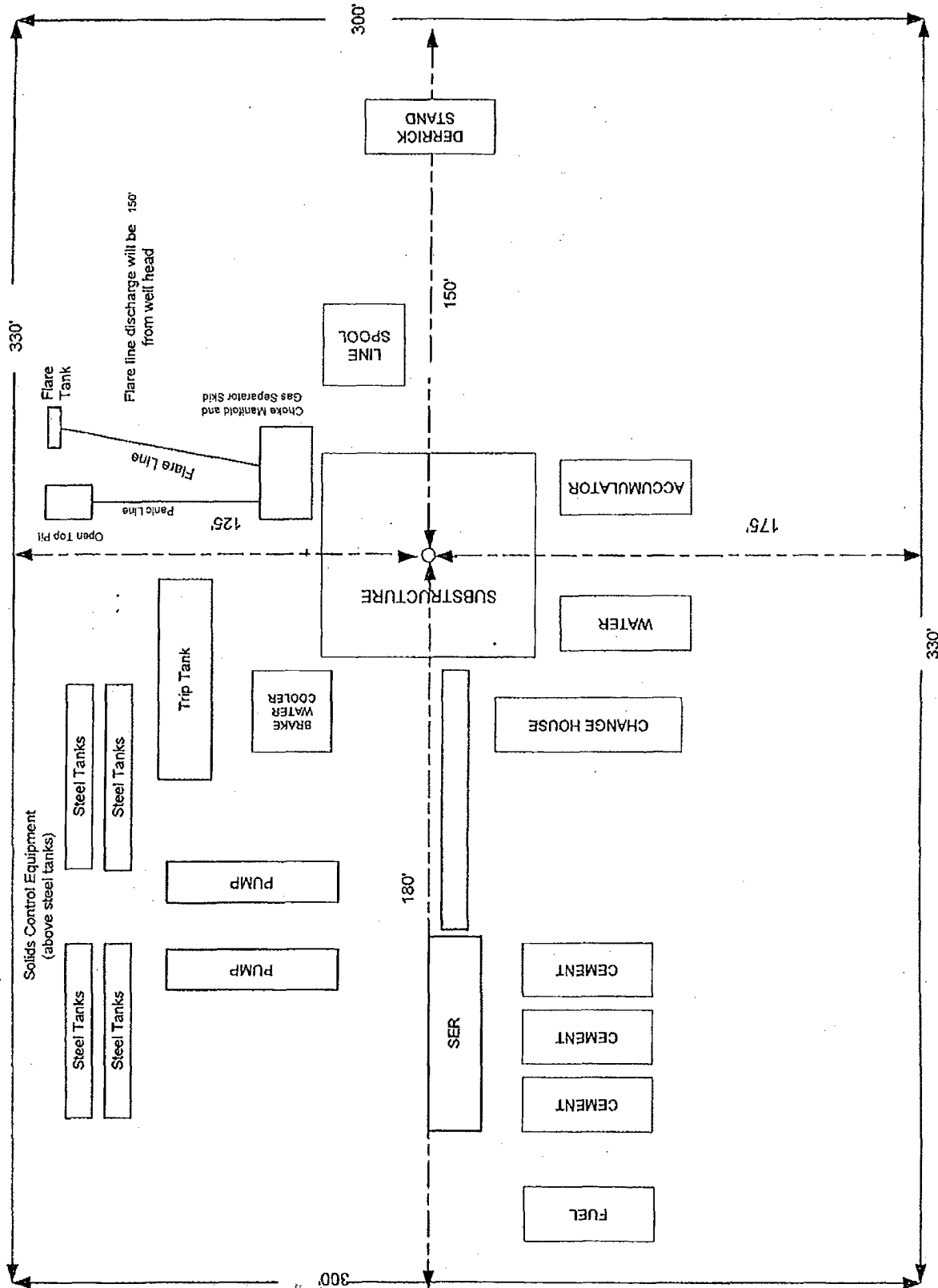
Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,600.0	90.20	178.23	8,135.7	-2,630.9	81.5	2,632.2	0.00	0.00	0.00
10,700.0	90.20	178.23	8,135.4	-2,730.9	84.6	2,732.2	0.00	0.00	0.00
10,800.0	90.20	178.23	8,135.0	-2,830.8	87.7	2,832.2	0.00	0.00	0.00
10,900.0	90.20	178.23	8,134.7	-2,930.8	90.8	2,932.2	0.00	0.00	0.00
11,000.0	90.20	178.23	8,134.3	-3,030.7	93.9	3,032.2	0.00	0.00	0.00
11,100.0	90.20	178.23	8,134.0	-3,130.7	97.0	3,132.2	0.00	0.00	0.00
11,200.0	90.20	178.23	8,133.6	-3,230.6	100.1	3,232.2	0.00	0.00	0.00
11,300.0	90.20	178.23	8,133.3	-3,330.6	103.2	3,332.2	0.00	0.00	0.00
11,400.0	90.20	178.23	8,132.9	-3,430.5	106.3	3,432.2	0.00	0.00	0.00
11,500.0	90.20	178.23	8,132.6	-3,530.5	109.4	3,532.2	0.00	0.00	0.00
11,600.0	90.20	178.23	8,132.2	-3,630.4	112.5	3,632.2	0.00	0.00	0.00
11,700.0	90.20	178.23	8,131.9	-3,730.4	115.6	3,732.2	0.00	0.00	0.00
11,800.0	90.20	178.23	8,131.5	-3,830.3	118.7	3,832.2	0.00	0.00	0.00
11,900.0	90.20	178.23	8,131.2	-3,930.3	121.8	3,932.2	0.00	0.00	0.00
12,000.0	90.20	178.23	8,130.8	-4,030.2	124.9	4,032.2	0.00	0.00	0.00
12,100.0	90.20	178.23	8,130.5	-4,130.2	128.0	4,132.2	0.00	0.00	0.00
12,200.0	90.20	178.23	8,130.2	-4,230.1	131.1	4,232.2	0.00	0.00	0.00
12,300.0	90.20	178.23	8,129.8	-4,330.1	134.2	4,332.2	0.00	0.00	0.00
12,400.0	90.20	178.23	8,129.5	-4,430.0	137.3	4,432.2	0.00	0.00	0.00
12,500.0	90.20	178.23	8,129.1	-4,530.0	140.4	4,532.2	0.00	0.00	0.00
12,600.0	90.20	178.23	8,128.8	-4,629.9	143.5	4,632.2	0.00	0.00	0.00
12,700.0	90.20	178.23	8,128.4	-4,729.9	146.6	4,732.2	0.00	0.00	0.00
12,800.0	90.20	178.23	8,128.1	-4,829.8	149.6	4,832.2	0.00	0.00	0.00
12,900.0	90.20	178.23	8,127.7	-4,929.8	152.7	4,932.2	0.00	0.00	0.00
13,000.0	90.20	178.23	8,127.4	-5,029.7	155.8	5,032.2	0.00	0.00	0.00
13,100.0	90.20	178.23	8,127.0	-5,129.7	158.9	5,132.2	0.00	0.00	0.00
13,102.6	90.20	178.23	8,127.0	-5,132.3	159.0	5,134.7	0.00	0.00	0.00

Design Targets

Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BHL - original target		0.00	0.00	8,127.0	-5,132.3	159.0	398,383.36	671,402.02	32.09453901	-103.91332431
- plan hits target center										
- Point										
SHL		0.00	0.00	8,145.0	0.0	0.0	403,515.63	671,243.01	32.10864875	-103.91377331
- plan misses target center by 170.6ft at 8059.1ft MD (5026.1 TVD, -122.3 N, 3.8 E)										
- Point										

Prevailing Winds from the North in Winter and from the South in Summer.



LATSHAW #6

Not to scale

Exhibit D

Exhibit D Revised

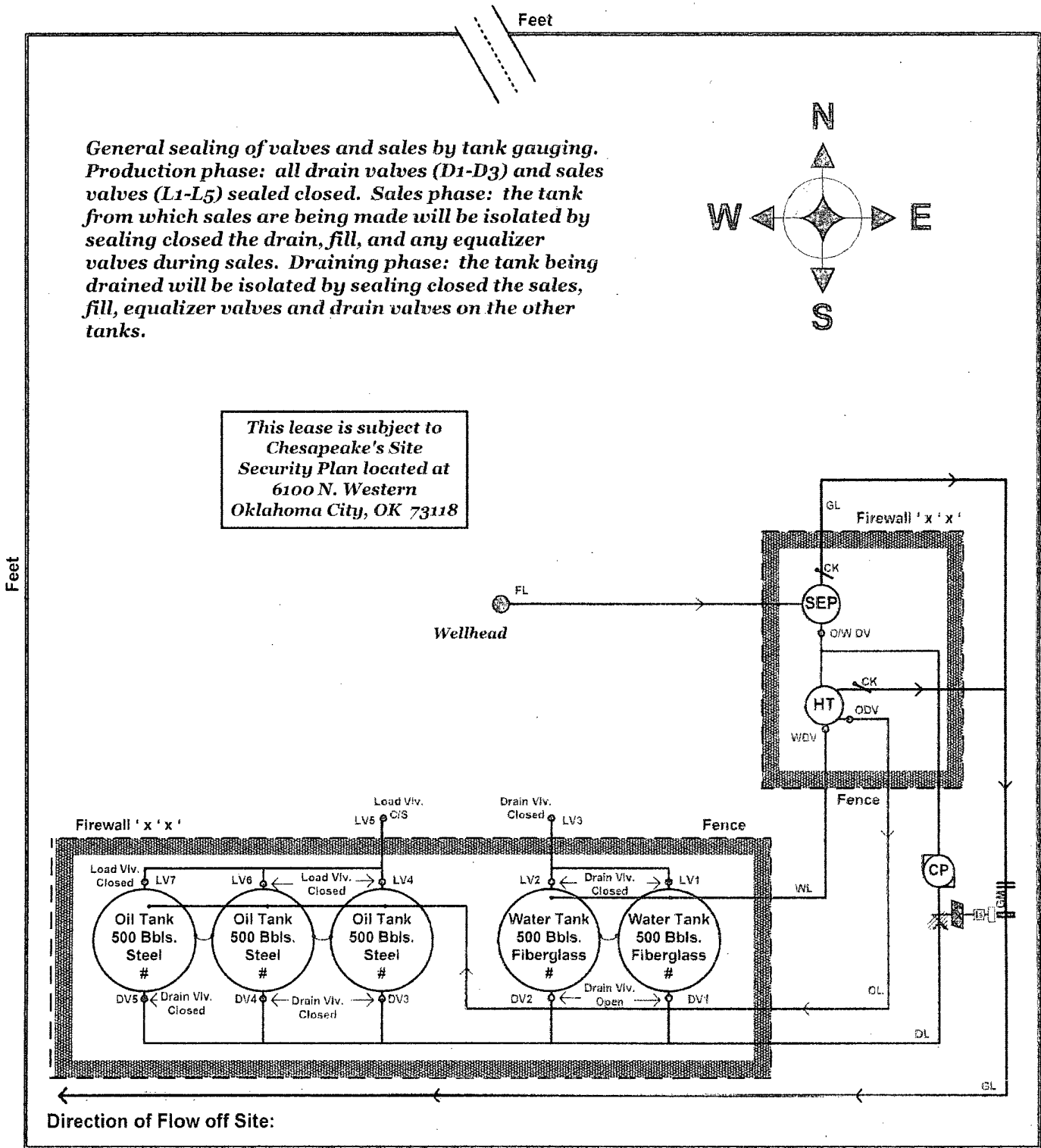
CHESAPEAKE OPERATING, INC.

Site Name: PLU Ross Ranch 30 Federal #1H

Section 19/Township 25S/Range 30 East

Property Number: 632364

150 FSL & 525' FEL



Prepared by: Jackie Reynolds
 Date: 6-30-2010

Approved by:
 Date:

EXHIBIT C

BLOWOUT PREVENTOR SCHEMATIC

CHESAPEAKE OPERATING INC

Permian District-Minimum Requirements

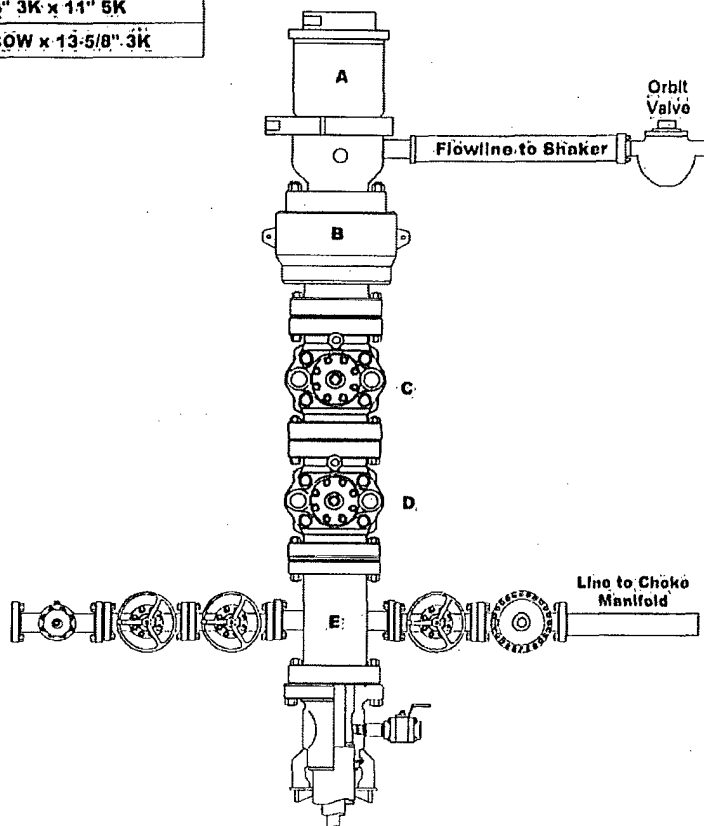
FIELD : Avalon

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" 5K		
A-Sec	13-3/8" SOW 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

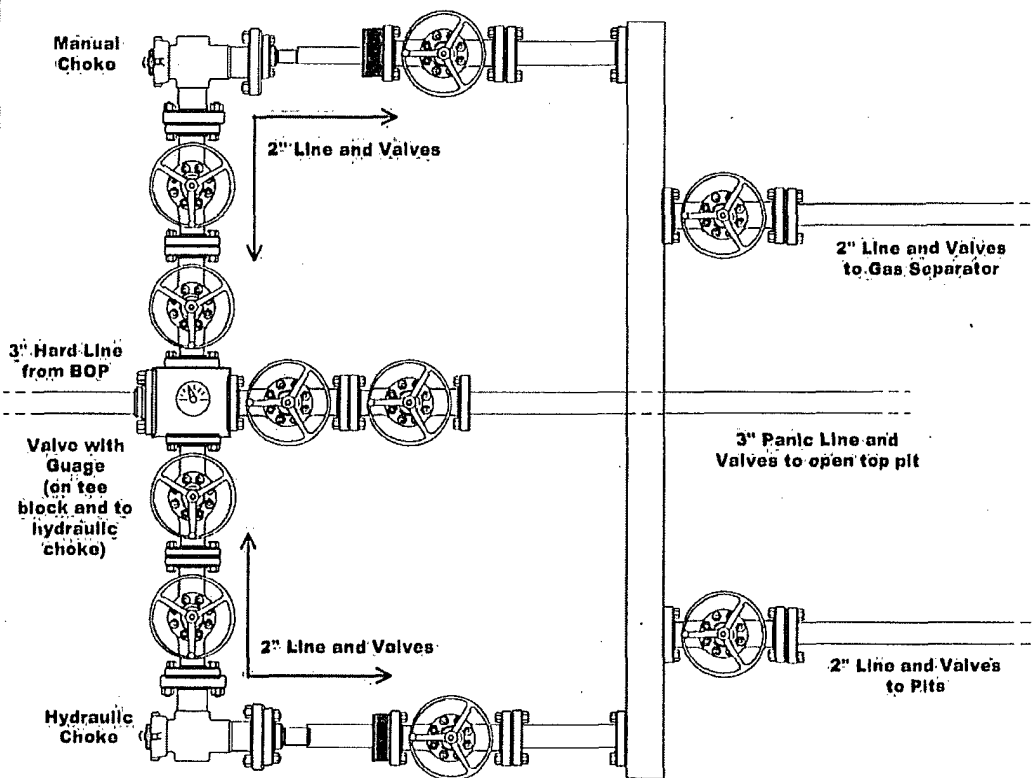
SIZE	PRESSURE	DESCRIPTION
2"	5,000	Check Valve
2"	5,000	Gate Valve
2"	5,000	Gate Valve

Choke Line

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

Revised EXHIBIT F-1

CHOKE MANIFOLD SCHEMATIC
CHESAPEAKE OPERATING INC
 Permian District
 Avalon Minimum Requirements



Choke Manifold

SIZE	PRESSURE	DESCRIPTION
2" or 3"	5,000	Gate Valves
3'x15'		Gas Separator
8"		Gas Separator vent line (anchored)