Form 3160-5
(August 2007)

EC

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMNM02862

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
PLU BIG SINKS 27 FEDERAL 1H

2. Name of Operator
CHESAPEAKE AGENT FOR BOPCO
Contact: LINDA GOOD
E-Mail: linda.good@chk.com

9. API Well No.
30-015-38319

3a. Address
P.O. BOX 18496
OKLAHOMA CITY, OK 73154-0496

3b. Phone No. (include area code)
Ph: 405-935-4275

10. Field and Pool, or Exploratory
UNDESIGNATED

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 27 T24S R30E SESE 215FSL 400FEL

11. County or Parish, and State
EDDY COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

CHESAPEAKE, RESPECTFULLY, REQUESTS PERMISSION TO CHANGE THE FOLLOWING:

Attached please find the updated schematic, rig plat and rig inventory. We are eliminating our pilot hole and have updated our casing depths based on changes to formation tops.

We have a proposed Spud date of 1/1/2011.

(CHK PN 632407)

RECEIVED
DEC 29 2010
NMOCD ARTESIA

SEE ATTACHED FOR CONDITIONS OF APPROVAL Engr. Review GGF 12/22/10

14. I hereby certify that the foregoing is true and correct.
Electronic Submission #99401 verified by the BLM Well Information System
For CHESAPEAKE AGENT FOR BOPCO, sent to the Carlsbad

Name *(Printed/Typed)* LINDA GOOD — Title SR. REGULATORY COMPLIANCE SPEC

Signature (Electronic Submission) — Date 12/21/2010

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By — Title AFM — Date 12/22/10

Conditions of approval, if any, are attached. Approval of this notice 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.

Office CARLSBAD FIELD OFFICE

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.

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

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

The estimated tops of important geologic markers are as follows:

Formation	SUBSEA	KBTVD	MD
Rustler	2350'	980'	
Top of Salt	1540'	1790'	
Lamar	-600'	3930'	
Bell Canyon	-630'	3960'	
Cherry Canyon	-1340'	4670'	
Brushy Canyon	-2900'	6230'	
Bone Spring*	-4390'	7643'	
Avalon*	-4455'	7785'	
First Bone Spring Sand*	-5240'	8570'	
First Bone Spring Shale*	-5755'	8570'	
No Pilot Hole			
Lateral TD		9190'	13739'

SEE ATTACHED FOR CONDITIONS OF APPROVAL

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	Brushy Canyon	6230'
Oil/Gas	Bone Spring	7643'

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

3. BOP EQUIPMENT:

Will have a 5000 psi rig stack (see proposed schematic) for drill out below surface casing, but this system will be tested to 3000 psi working pressure and 3000 psi working pressure for the annular preventer; therefore, 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 to 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 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.

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.

System Operating Pressures	Precharge Pressure
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.

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 Pressure	Remaining Pressure At Conclusion of Test
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:

Purpose	Interval	Hole Size	Casing Size	Weight	Grade	Thread	Condition
Surface	Surface – 1355'	17-1/2"	13-3/8"	48.0#	H-40	STC	New
Intermediate	Surface – 3945'	11"	8-5/8"	32.0#	J-55	LTC	New
Production	Surface – 13,466'	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 = 1.43, SFc = 1.26 and SFt = 1.35
8-5/8" Intermediate Casing: SFb = 2.11, SFc = 1.48 and SFt = 1.81
5-1/2" Production Casing: SFb = 1.29, SFc = 2.19 and SFt = 1.65

d. The cementing program will be as follows:

5. Cementing Program

Interval	Type	Weight	Amount	Yield	Top Of Cement	Excess
Surface	C+ 4% Gel	13.5 ppg	1383 sks	1.73	Surface	150%
Inter-mediate	Lead: TXL	12.0 ppg	920 sks	1.82	Surface	150%
	Tail: 50/50 C/Poz +2%Gel, 5% Salt	14.2 ppg	510 sks	1.37	2,900'	150%
Production 1st Stage	Lead: TXL + 1% Salt	12.0 ppg	465 sks	1.83	4,625'(DV)	60%
	Tail: 50/50 C/Poz +6%Gel, 5% Salt	13.2 ppg	852 sks	1.74	7,400'	60%
Production 2nd Stage	Lead: TXL	12.0 ppg	176 sks	1.83	3,445'	200%
	Tail: C	14.8 ppg	100 sks	1.33	4,375'	200%

Final cement volumes will be determined by caliper.
Surface casing shall have at least one centralizer installed on each of the bottom three joints starting with the shoe joint.

Pilot Hole Plugging Plan:

No pilot hole.

6. MUD PROGRAM

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

Interval	Mud Type	Mud Weight	Viscosity	Fluid Loss
0' – 1355'	FW/Gel	8.4 – 8.7	32-34	NC
1355' – 3,945'	Brine	9.8 – 10.1	28-29	NC
3,945' – TD	KCL Water	8.5 – 8.9	28-29	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 in an approved sanitary landfill. Sanitary wastes

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

* All fluids and cuttings will be disposed of in accordance with New Mexico Oil Conservation Division rules and regulations. see attached COA - NMOCD

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 COA

a. Drill stem tests are not planned.
b. The logging program will consist of Spectral Gamma, Induction, Laterolog, Neutron, Density from pilot hole TD to intermediate casing; Neutron-GR intermediate casing to surface. GR in lateral.
c. Cores samples are not planned.

8. ABNORMAL PRESSURES AND HYDROGEN SULFIDE

a. The estimated bottom hole pressure is 3800 psi.
b. No abnormal pressures or temperatures are anticipated.

Chesapeake ENERGY

Drilling Engineer:	Chris Gray
Superintendent:	Cecil Luttrull
Geologist:	Chima Nzewunwah

Well Name:	**PLU Big Sinks 27 Federal 1H**
County, State:	Eddy County, NM
Surface Location:	215' FSL 400' FEL, Section 27, Township 24S, Range 30E
BH Location:	330' FNL 400' FEL, Section 27, Township 24S, Range 30E

SHL Latitude:	32.182227	**SHL North:**	430348
SHL Longitude:	-103.861576	**SHL East:**	687287
BHL Latitude:	32.1952134	**BHL North:**	435073
BHL Longitude:	-103.861596	**BHL East:**	687260
Coordinates:	NAD 83	**Coordinates:**	NMSPCE

Drilling Rig:	Patterson 62
Dir. Drilling:	Phoenix
Drilling Mud:	Nova
Cement:	Schlumberger
Wellhead:	Sunbelt
Property Number:	632407
AFE Number:	153063

KB Elevation: 3,372'
Ground Elevation: 3,352'

Surface
Bit Size: 17 1/2"

Surface Casing — **Depth** 1,355'
13 3/8" 48.# H-40 STC

Intermediate
Bit Size: 11"

Intermediate Casing — **Depth** 3,945'
8 5/8" 32.# J-55 LTC

Vertical Production
Bit Size: 7 7/8"

Curve
Bit Size: 7 7/8"

980'	Rustler
1,790'	Top of Salt
3,930'	Lamar Limestone
3,960'	Bell Canyon
4,625'	
4,670'	Cherry Canyon
6,230'	Brushy Canyon
7,643'	Bone Spring
7,785'	Avalon
8,570'	1st Bone Spring Sand
9,085'	First Bone Spring Shale

Production Casing
5 1/2" 20.# L-80 LTC
Depth
13,739'

Lateral
Bit Size: 7 7/8"

Wellhead Equipment	
Casing Head	13-3/8" x 13-5/8" 5K SOW
Casing Spool	13-5/8" 5K x 11" 5K
Tubing Spool	11" 5K x 7-1/16" 10K
Required BOP Stack	
13-5/8" 5K- Double, Annular, Rot Head w/Orbit Valve	

Mud

Depth	Type	Weight	F. Vis	FL
0' - 1,355'	Spud Mud	8.4-8.7	32-34	NC-NC
1,355' - 3,945'	Brine	9.8-10.1	28-29	NC-NC
3,945' - 8,781'	KCl Water	8.7-8.9	28-29	NC-NC
8,781' - 10,100'	KCl Water	8.7-8.9	28-29	NC-NC
8,781' - 9,424'	KCl Water	8.7-8.9	28-29	NC-NC
9,424' - 13,739'	KCl Water	8.7-8.9	28-32	NC-NC

Cement

Slurry	Top	Btm	Wt	Yld	%Exc	Bbl	Sx
Surface							
Lead	0'	1,355'	13.5	1.73	150	426	1383
Intermediate							
Lead	0'	2,900'	12.0	1.82	150	290	894
Tail	2,900'	3,945'	14.2	1.37	150	124	507
Production							
1st Stage Lead	4,650'	7,400'	12.0	1.83	60	152	465
1st Stage Tail	7,400'	12,710'	13.2	1.74	60	264	852
2nd Stage Lead	3,445'	4,375'	12.0	1.8	200	55.6	173
2nd Stage Tail	4,375'	4,625'	14.8	1.33	200	23	98

Notes:

Directional Plan

Target Line:	9190' TVD at 0'VS w/0.0 deg dip					
Target Window:	20' above and 20' below					
	MD	**INC**	**AZM**	**TVD**	**VS**	**DLS**
KOP	8,781'	0.00	0.00	8,781'	0'	0.00
EOB	9,424'	90.00	359.67	9,190'	409'	14.00
TD	13,739'	90.00	359.67	9,190'	4,725'	0.00
Hardlines:	Lateral- 330' from all lease lines. Vertical- Actual Lease Lines					
Notes:	Please note SHL and BHL distance from lease lines					

LOGS

Type	Logs	Interval	Timing	Vendor
Mudlog	Mudlogging	Int Shoe to Base of Curve	After set Int Casing	TBD
OH	GR/Ind/Neutron/Density	Curve to Surf	After drilling curve	TBD
LWD	Gamma/MWD	Curve and Lateral	While Drilling	Phoenix

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CHESAPEAKE AGENT FOR BOPCO
LEASE NO.:	**NM-02862**
WELL NAME & NO.:	PLU Big Sinks 27 FEDERAL 1H
SURFACE HOLE FOOTAGE:	**215' FSL & 400' FEL**
BOTTOM HOLE FOOTAGE	**330' FNL & 400' FEL**
LOCATION:	**Section 27, T.24 S., R 30 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **Although Hydrogen Sulfide has not been reported in this section, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Medium cave/karst
Possible water flows in the Castile, Salado, Delaware and Bone Springs Groups
Possible lost circulation in the Delaware and Bone Spring formations

1. The **13-3/8** inch surface casing shall be set at approximately **1355** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If the salt is encountered at a shallower depth, the casing must be set 25 feet above the top of the salt. Fresh water mud to be used to setting depth.**

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

a. First stage to DV tool, cement shall:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool, cement shall:

☒ Cement should tie-back at least **500** feet into previous casing string. Operator shall provide method of verification.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. 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.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi. **Operator installing a 5M and testing as a 3M.**.

    a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

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

    a. 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 or where the float does not hold, the minimum wait time before cut-off is eight hours after bumping the plug or when the cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. BOP/BOPE testing can begin after the above conditions are satisfied.

    b. 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) prior to initiating the test.

    c. The results of the test shall be reported to the appropriate BLM office.

    d. 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.**

    e. 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.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

EGF 120110

NEW MEXICO OIL CONSERVATION DIVISION
DISTRICT 2 OFFICE
1301 W. GRAND AVENUE
ARTESIA, NM 88210
(575)748-1283

CONDITIONS OF APPROVAL

Chesapeake- Agent for BOPCO
PLU Big Sinks 27 Fed. #1H 30-015-38319

1. Trucking companies being used to haul oilfield waste – produced water, drilling fluids, or cuttings to disposal facilities- private or commercial- shall have an approved NMOCD Form C-133 (authorization to move produced water). A copy of this form shall be available in each truck being used to transport waste products.

   It is the responsibility of the operator, as well as the hauling company to verify that this permit is in place.

DG

1/3/2011

Permian District

Poker Lake
PLU Big Sinks 27 Fed 1H
PLU Big Sinks 27 Fed 1H

PLU Big Sinks 27 Fed 1H

Plan: Plat

Standard Planning Report

22 December, 2010

Chesapeake Energy Corporation

Planning Report

Database:	Drilling Database	**Local Co-ordinate Reference:**	Well PLU Big Sinks 27 Fed 1H
Company:	Permian District	**TVD Reference:**	well2 @ 3374.0ft
Project:	Poker Lake	**MD Reference:**	well2 @ 3374.0ft
Site:	PLU Big Sinks 27 Fed 1H	**North Reference:**	Grid
Well:	PLU Big Sinks 27 Fed 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	PLU Big Sinks 27 Fed 1H		
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 27 Fed 1H

Site Position:		**Northing:**	430,348.72 usft	**Latitude:**	32.18222656
From:	Map	**Easting:**	687,287.36 usft	**Longitude:**	-103.86157609
Position Uncertainty:	0.0 ft	**Slot Radius:**	0.000 in	**Grid Convergence:**	0.2512885 °

Well PLU Big Sinks 27 Fed 1H

Well Position	**+N/-S**	0.0 ft	**Northing:**	430,348.72 usft	**Latitude:**	32.18222656
	+E/-W	0.0 ft	**Easting:**	687,287.36 usft	**Longitude:**	-103.86157609
Position Uncertainty		0.0 ft	**Wellhead Elevation:**	3,352.0 ft	**Ground Level:**	3,352.0 ft

Wellbore PLU Big Sinks 27 Fed 1H

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/13/2010	7.8431138	60.1452509	48,685

Design Plat

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	359.67

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	
8,780.7	0.00	0.00	8,780.7	0.0	0.0	0.00	0.00	0.00	0.0000000	
9,423.6	90.00	359.67	9,190.0	409.2	-2.3	14.00	14.00	0.00	359.6740598	
13,738.8	90.00	359.67	9,190.0	4,724.4	-26.9	0.00	0.00	0.00	0.0000000	BS 27- BHL

Chesapeake Energy Corporation

Planning Report

Database:	Drilling Database	**Local Co-ordinate Reference:**	Well PLU Big Sinks 27 Fed 1H
Company:	Permian District	**TVD Reference:**	well2 @ 3374.0ft
Project:	Poker Lake	**MD Reference:**	well2 @ 3374.0ft
Site:	PLU Big Sinks 27 Fed 1H	**North Reference:**	Grid
Well:	PLU Big Sinks 27 Fed 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	PLU Big Sinks 27 Fed 1H		
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 Big Sinks 27 Fed 1H
Company:	Permian District	**TVD Reference:**	well2 @ 3374.0ft
Project:	Poker Lake	**MD Reference:**	well2 @ 3374.0ft
Site:	PLU Big Sinks 27 Fed 1H	**North Reference:**	Grid
Well:	PLU Big Sinks 27 Fed 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	PLU Big Sinks 27 Fed 1H		
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
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00
8,780.7	0.00	0.00	8,780.7	0.0	0.0	0.0	0.00	0.00	0.00
8,800.0	2.70	359.67	8,800.0	0.5	0.0	0.5	13.99	13.99	0.00
8,900.0	16.70	359.67	8,898.3	17.3	-0.1	17.3	14.00	14.00	0.00
9,000.0	30.70	359.67	8,989.7	57.3	-0.3	57.4	14.00	14.00	0.00
9,100.0	44.70	359.67	9,068.6	118.3	-0.7	118.3	14.00	14.00	0.00
9,200.0	58.70	359.67	9,130.4	196.6	-1.1	196.6	14.00	14.00	0.00
9,300.0	72.70	359.67	9,171.5	287.5	-1.6	287.5	14.00	14.00	0.00
9,400.0	86.70	359.67	9,189.3	385.7	-2.2	385.7	14.00	14.00	0.00
9,423.6	90.00	359.67	9,190.0	409.2	-2.3	409.3	14.01	14.01	0.00
9,500.0	90.00	359.67	9,190.0	485.7	-2.8	485.7	0.00	0.00	0.00
9,600.0	90.00	359.67	9,190.0	585.7	-3.3	585.7	0.00	0.00	0.00
9,700.0	90.00	359.67	9,190.0	685.7	-3.9	685.7	0.00	0.00	0.00
9,800.0	90.00	359.67	9,190.0	785.7	-4.5	785.7	0.00	0.00	0.00
9,900.0	90.00	359.67	9,190.0	885.7	-5.0	885.7	0.00	0.00	0.00
10,000.0	90.00	359.67	9,190.0	985.7	-5.6	985.7	0.00	0.00	0.00
10,100.0	90.00	359.67	9,190.0	1,085.7	-6.2	1,085.7	0.00	0.00	0.00
10,200.0	90.00	359.67	9,190.0	1,185.7	-6.7	1,185.7	0.00	0.00	0.00
10,300.0	90.00	359.67	9,190.0	1,285.7	-7.3	1,285.7	0.00	0.00	0.00
10,400.0	90.00	359.67	9,190.0	1,385.7	-7.9	1,385.7	0.00	0.00	0.00
10,500.0	90.00	359.67	9,190.0	1,485.7	-8.5	1,485.7	0.00	0.00	0.00

Chesapeake Energy Corporation

Planning Report

Database:	Drilling Database	**Local Co-ordinate Reference:**	Well PLU Big Sinks 27 Fed 1H
Company:	Permian District	**TVD Reference:**	well2 @ 3374.0ft
Project:	Poker Lake	**MD Reference:**	well2 @ 3374.0ft
Site:	PLU Big Sinks 27 Fed 1H	**North Reference:**	Grid
Well:	PLU Big Sinks 27 Fed 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	PLU Big Sinks 27 Fed 1H		
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	90.00	359.67	9,190.0	1,585.6	-9.0	1,585.7	0.00	0.00	0.00
10,700.0	90.00	359.67	9,190.0	1,685.6	-9.6	1,685.7	0.00	0.00	0.00
10,800.0	90.00	359.67	9,190.0	1,785.6	-10.2	1,785.7	0.00	0.00	0.00
10,900.0	90.00	359.67	9,190.0	1,885.6	-10.7	1,885.7	0.00	0.00	0.00
11,000.0	90.00	359.67	9,190.0	1,985.6	-11.3	1,985.7	0.00	0.00	0.00
11,100.0	90.00	359.67	9,190.0	2,085.6	-11.9	2,085.7	0.00	0.00	0.00
11,200.0	90.00	359.67	9,190.0	2,185.6	-12.4	2,185.7	0.00	0.00	0.00
11,300.0	90.00	359.67	9,190.0	2,285.6	-13.0	2,285.7	0.00	0.00	0.00
11,400.0	90.00	359.67	9,190.0	2,385.6	-13.6	2,385.7	0.00	0.00	0.00
11,500.0	90.00	359.67	9,190.0	2,485.6	-14.1	2,485.7	0.00	0.00	0.00
11,600.0	90.00	359.67	9,190.0	2,585.6	-14.7	2,585.7	0.00	0.00	0.00
11,700.0	90.00	359.67	9,190.0	2,685.6	-15.3	2,685.7	0.00	0.00	0.00
11,800.0	90.00	359.67	9,190.0	2,785.6	-15.8	2,785.7	0.00	0.00	0.00
11,900.0	90.00	359.67	9,190.0	2,885.6	-16.4	2,885.7	0.00	0.00	0.00
12,000.0	90.00	359.67	9,190.0	2,985.6	-17.0	2,985.7	0.00	0.00	0.00
12,100.0	90.00	359.67	9,190.0	3,085.6	-17.6	3,085.7	0.00	0.00	0.00
12,200.0	90.00	359.67	9,190.0	3,185.6	-18.1	3,185.7	0.00	0.00	0.00
12,300.0	90.00	359.67	9,190.0	3,285.6	-18.7	3,285.7	0.00	0.00	0.00
12,400.0	90.00	359.67	9,190.0	3,385.6	-19.3	3,385.7	0.00	0.00	0.00
12,500.0	90.00	359.67	9,190.0	3,485.6	-19.8	3,485.7	0.00	0.00	0.00
12,600.0	90.00	359.67	9,190.0	3,585.6	-20.4	3,585.7	0.00	0.00	0.00
12,700.0	90.00	359.67	9,190.0	3,685.6	-21.0	3,685.7	0.00	0.00	0.00
12,800.0	90.00	359.67	9,190.0	3,785.6	-21.5	3,785.7	0.00	0.00	0.00
12,900.0	90.00	359.67	9,190.0	3,885.6	-22.1	3,885.7	0.00	0.00	0.00
13,000.0	90.00	359.67	9,190.0	3,985.6	-22.7	3,985.7	0.00	0.00	0.00
13,100.0	90.00	359.67	9,190.0	4,085.6	-23.2	4,085.7	0.00	0.00	0.00
13,200.0	90.00	359.67	9,190.0	4,185.6	-23.8	4,185.7	0.00	0.00	0.00
13,300.0	90.00	359.67	9,190.0	4,285.6	-24.4	4,285.7	0.00	0.00	0.00
13,400.0	90.00	359.67	9,190.0	4,385.6	-24.9	4,385.7	0.00	0.00	0.00
13,500.0	90.00	359.67	9,190.0	4,485.6	-25.5	4,485.7	0.00	0.00	0.00
13,600.0	90.00	359.67	9,190.0	4,585.6	-26.1	4,585.7	0.00	0.00	0.00
13,700.0	90.00	359.67	9,190.0	4,685.6	-26.7	4,685.7	0.00	0.00	0.00
13,738.8	90.00	359.67	9,190.0	4,724.4	-26.9	4,724.5	0.00	0.00	0.00

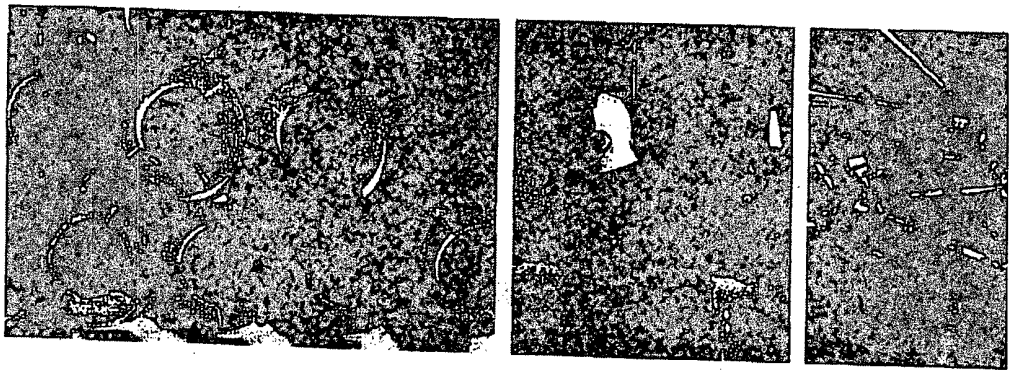
Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BS 27- BHL - plan hits target center - Point	0.00	0.00	9,190.0	4,724.4	-26.9	435,073.10	687,260.49	32.19521339	-103.86159598

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
850.0	850.0	13 3/8" Surface Casing	13.375	17.500
3,900.0	3,900.0	8 5/8" Intermediate Casing	8.625	11.000
13,465.8	9,190.0	5 1/2" Production Casing	5.500	7.875

Database:	Drilling Database	**Local Co-ordinate Reference:**	Well PLU Big Sinks 27 Fed 1H
Company:	Permian District	**TVD Reference:**	well2 @ 3374.0ft
Project:	Poker Lake	**MD Reference:**	well2 @ 3374.0ft
Site:	PLU Big Sinks 27 Fed 1H	**North Reference:**	Grid
Well:	PLU Big Sinks 27 Fed 1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	PLU Big Sinks 27 Fed 1H		
Design:	Plat		



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 Hydril 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 (400 Ton)

ROTARY TABLE
National (27 1/2")

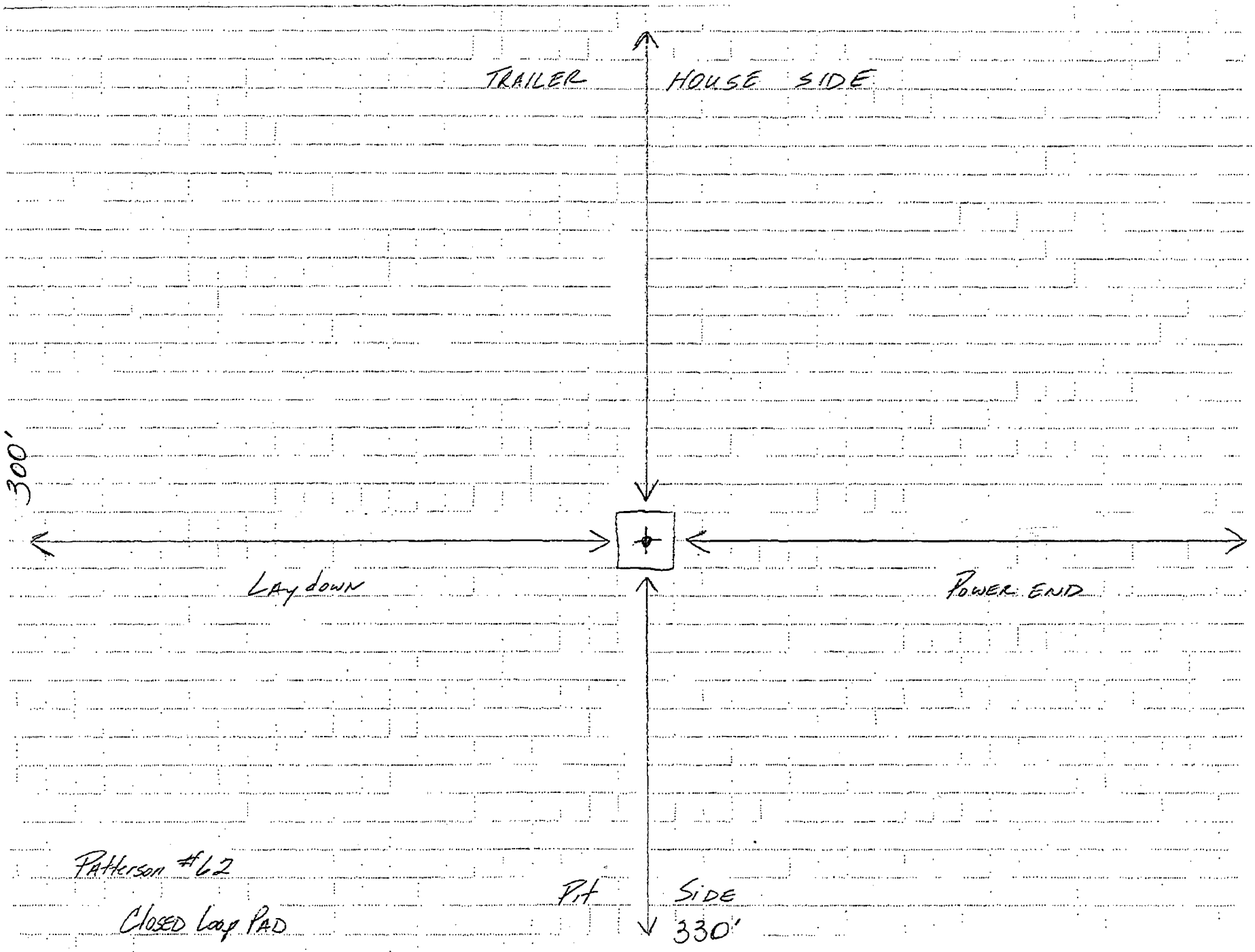
DRILL PIPE
4 1/2" drill pipe

DRILL COLLARS
8" and 6 1/2" drill collars
*quantity subject to availibility

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


TRAILER
HOUSE SIDE
300'
Lay down
Power End
Patterson #62
Closed Loop Pad
Pit
Side
330'