

As Drilled Bottom Hole Location

334'

B.H.

2321'

Project Area

Producing Area

3115.1'

3117.9'

3110.0'

3125.5'

Project Area

Producing Area

250'

217'

S.I.

SURFACE LOCATION
 Lat - N 32.2254783'
 Long - W 103.9301931'
 NMSPCE - N 445996.634
 E 665999.873
 (NAD-83)

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 is a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Bryan Arrant 07/19/2010
 Signature Date

Bryan Arrant
 Printed Name

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.

NOVEMBER 20, 2009
 Date Surveyed

Gary L. Jones
 Signature & Seal of Professional Surveyor

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

REFERENCE SHEET FOR
UNDESIGNATED WELLS

	Fm	Pm	N	Pc
22-26 E	XX	XX	XX	

1. Date:	8/30/2010
2. Type of Well:	
Oil:	XX
Gas:	
3. County:	EDDY

paragraph

4. Operator:	CHESAPEAKE OPERATING INC			APT NUMBER:	30 - 015 - 37518
5. Address of Operator	PO BOX 18496 OKLAHOMA CITY, OK 73154-0496				
6. Lease name or Unit Agreement Name	>> PLU PIERCE CANYON 12 FEDERAL				7. Well Number # - 1H
8. Well Location	Unit Letter: P/B ,250/334 feet from the S/N line and 217/2321 feet from the E line Section 12 Township 24S Range 29E				
9. Completion Date:	7/1/2010	11. Perfs	Top 8100	Bottom 12600	TD 12934
10. Name of Producing Formation(s)	BONE SPRING	12. Open Hole Casing shoe		Bottom	PBTD 12900
13. C-123 Filed:	Date	15. Name of Pool Requested or temporary Wildcat designation:	Pool ID num		
Y	N	PIERCE CROSSING;BONE SPRING, EAST	96473		
16. Remarks:	EXTEND				

TO BE COMPLETED BY DISTRICT GEOLOGIST																										
17. Action taken	18. Pool Name				Pool ID num																					
EXTEND	PIERCE CROSSING;BONE SPRING, EAST				96473																					
<table border="0"> <tr> <td>T 24 S, R 29 E</td> <td>T 24 S, R 30 E</td> <td>T 25 S, R 29 E</td> </tr> <tr> <td>SEC 1: SW/4 & N/2</td> <td>SEC 6: N/2</td> <td>SEC 1: S/2</td> </tr> <tr> <td>SEC 9: SW/4</td> <td>SEC 32: SE/4</td> <td>SEC 12: SE/4 & N/2</td> </tr> <tr> <td>SEC 12: SE/4 & N/2</td> <td>SEC 33: W/2</td> <td></td> </tr> <tr> <td>SEC 13: E/2</td> <td></td> <td>T 25 S, R 30 E</td> </tr> <tr> <td>SEC 16: N/2</td> <td></td> <td>SEC 5: All</td> </tr> <tr> <td>SEC 28: N/2</td> <td></td> <td>SEC 6: NE/4</td> </tr> </table>						T 24 S, R 29 E	T 24 S, R 30 E	T 25 S, R 29 E	SEC 1: SW/4 & N/2	SEC 6: N/2	SEC 1: S/2	SEC 9: SW/4	SEC 32: SE/4	SEC 12: SE/4 & N/2	SEC 12: SE/4 & N/2	SEC 33: W/2		SEC 13: E/2		T 25 S, R 30 E	SEC 16: N/2		SEC 5: All	SEC 28: N/2		SEC 6: NE/4
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SEC 28: N/2		SEC 6: NE/4																								

19. Advertised for HEARING:	20. Case Number
21. Name of pool for which was advertised.	Pool ID num
PIERCE CROSSING;BONE SPRING, EAST	96473
22. Placed in Pool	23. By order number
	R-

RECEIVED
AUG 30 2010UNITED 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.

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMLC070175A
2. Name of Operator CHESAPEAKE OPERATING, INC. Contact: LINDA GOOD E-Mail: linda.good@chk.com		6. If Indian, Allottee or Tribe Name
3a. Address OKLAHOMA CITY, OK 73154-0496	3b. Phone No. (include area code) Ph: 405-935-4275	7. If Unit or CA/Agreement, Name and/or No. NMNM71016X
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 12 T24S R29E SESE 250FSL 217FEL		8. Well Name and No. PLU PIERCE CANYON 12 FEDERAL 1
		9. API Well No. 30-015-37518-00-S1
		10. Field and Pool, or Exploratory UNKNOWN WILDCAT
		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 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 recompleat 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 recompleat 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.)

PERF & FRAC TREATMENT:

4/29 - 5/18/2010 Perforated from 8100' - 12,902' w/650 holes total. Frac w/65,000 gal acid, 128,767 bbl water and 4,523,901# sand.

CBL Log too large to attach, emailing a copy to Wesley Ingram sending original being overnighted to BLM.

(CHK PN 630487)

14. I hereby certify that the foregoing is true and correct. Electronic Submission #91005 verified by the BLM Well Information System For CHESAPEAKE OPERATING, INC., sent to the Carlsbad Committed to AFMSS for processing by KURT SIMMONS on 08/06/2010 (10KMS1939SE)	
Name (Printed/Typed) LINDA GOOD	Title SR. REGULATORY COMPLIANCE SPEC
Signature (Electronic Submission)	Date 08/06/2010

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By ACCEPTED	Title CHRISTOPHER WALLS PETROLEUM ENGINEER	Date 08/25/2010
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

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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

RECEIVED

Form 3163-4
(August 2007)

CONFIDENTIAL

OCT 29 2010

UNITED STATES

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

630487

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG 2010

5. Lease Serial No. NMLC070175A
6. If Indian, Allottee or Tribe Name
7. Unit or CA Agreement Name and No. NMMN71016X
8. Lease Name and Well No. PLU PIERCE CANYON 12 FEDERAL 1H
9. API Well No. 30-015-37518-00-S1
10. Field and Pool, or Exploratory PIERCE CROSSING, B5, EAST
11. Sec., T., R., M., or Block and Survey or Area Sec 12 T24S R29E Mer NMP
12. County or Parish EDDY
13. State NM
17. Elevations (DF, KB, RT, GL)* 3116 GL

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr. Other

2. Name of Operator
CHESAPEAKE OPERATING, INC. E-Mail: linda.good@chk.com

Contact: LINDA GOOD

3. Address
OKLAHOMA CITY, OK 73154-0496

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

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

At surface Sec 12 T24S R29E Mer NMP
SESE 250FSL 217FEL

At top prod interval reported below
Sec 12 T24S R29E Mer NMP

At total depth NWNE 330FNL 2310FEL

14. Date Spudded
02/08/2010

15. Date T.D. Reached
03/12/2010

16. Date Completed
☐ D & A ☒ Ready to Prod.
06/22/2010

18. Total Depth: MD
TVD 12934
7893

19. Plug Back T.D.: MD
TVD 12900
7861

20. Depth Bridge Plug Set: MD
TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
ZDL CN DSLDLL MLLHDILRCORXMAC

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cement Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17.500	13.375 H-40	48.0	0	700		1313		0	
12.250	9.625 J-55	40.0	0	3375	2045	1565		0	
8.750	5.500 L-80	20.0	0	12934	4410	2150		2750	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.875	3061							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) BONE SPRING	8100	12600	8100 TO 12600		650	OPEN
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
8100 TO 12600	FRAC W/65,000 GAL ACID, 128,767 BBL WATER & 4,523,901# SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
07/01/2010	07/01/2010	24	→	245.0	218.0	3160.0			ELECTRIC PUMP SUB-SURFACE
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→	245	218	3160		POW	

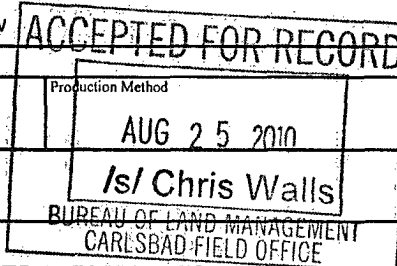
28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #91006 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **



28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

29. Disposition of Gas(Sold, used for fuel, vented, etc.)

SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
BONE SPRING	7092	8115	LIMESTONE & SHALE	TOP SALT	940
FIRST BONE SPRING SAND	8115	12934	SS W/SOME LS & MINOR SHALE	BASE OF SALT	3375
				BELL CANYON	3410
				CHERRY CANYON	4220
				BRUSHY CANYON	5528
				BONE SPRING	7092
				FIRST BONE SPRING SAND	8115

32. Additional remarks (include plugging procedure):

CONFIDENTIAL

FIELD: PIERCE CROSSING; BONE SPRING, EAST

LOGS BEING SENT VIA OVERNIGHT TO JERRY FANT.

ATTACHMENTS: WELLBORE SCHEMATIC, DIRECTIONAL SURVEY AND CONFIDENTIAL LETTER.

33. Circle enclosed attachments:

- | | | | |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.) | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis | 7. Other: | |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #91006 Verified by the BLM Well Information System.
For CHESAPEAKE OPERATING, INC., sent to the Carlsbad
Committed to AFMSS for processing by KURT SIMMONS on 08/06/2010 (10KMS1942SE)

Name (please print) LINDA GOOD

Title SR. REGULATORY COMPLIANCE SPEC

Signature (Electronic Submission)

Date 08/06/2010

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** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED **

A Gyrodata Directional Survey

Field Copy Only, not definitive

for

30-015-37518

CHESAPEAKE OPERATING

Lease: P.L.U. Pierce Canyon 12 FED Well: # 1H, 4.5" Drillpipe
Location: Latshaw # 6, Eddy County, New Mexico

Job Number: MD0210GBM138

Run Date: 25 Feb 2010

Surveyor: Ron Bellar

Calculation Method: MINIMUM CURVATURE

Survey surface coordinates obtained from: Directional Drilling Company
Survey Latitude: 32.225478 deg. N Longitude: 103.930194 deg. W

Azimuth Correction:

Gyro: -0.21000 deg to Grid North

Proposed Well Direction: 360.000 deg

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

A Gyrodata Directional Survey

Chesapeake Operating

Lease: P.L.U. Pierce Canyon 12 FED Well: # 1H, 4.5" Drillpipe

Location: Latshaw # 6, Eddy County, New Mexico

Job Number: MD0210GBM138

MEASURED IN C LAZIMUTH DEPTH feet	deg.	deg.	DOGLEG VERTICAL SEVERITY deg./ 100 ft.	VERTICAL DEPTH feet	CLOSURE DIST. AZIMUTH feet deg.	HORIZONTAL COORDINATES feet
0.00	0.00	0.00	0.00	0.00	0.0 0.0	0.00 N 0.00 E
0 - 8234 FT. RATE-GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 4.5" DRILLPIPE ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO LATSHAW # 6 R.K.B. HT. OF 25 FT.						
109.96	0.33	181.30	0.30	109.96	0.3 181.3	0.32 S 0.01 W
209.96	0.21	203.65	0.16	209.96	0.8 186.4	0.77 S 0.09 W
309.96	0.32	273.43	0.32	309.96	1.0 205.4	0.92 S 0.44 W
409.96	1.02	205.86	0.95	409.95	2.0 212.9	1.71 S 1.11 W
509.96	1.42	194.88	0.46	509.93	4.1 206.1	3.71 S 1.81 W
609.96	0.90	220.76	0.73	609.91	6.1 205.7	5.50 S 2.64 W
705.30	0.86	237.29	0.27	705.24	7.5 210.1	6.45 S 3.73 W
799.24	0.86	239.73	0.04	799.17	8.7 214.5	7.19 S 4.94 W
895.04	0.83	242.50	0.05	894.96	10.0 218.1	7.87 S 6.17 W
991.00	0.80	241.03	0.04	990.91	11.3 220.9	8.52 S 7.38 W
1086.95	0.80	240.88	0.00	1086.85	12.5 223.0	9.17 S 8.55 W
1181.86	0.80	237.55	0.05	1181.75	13.8 224.5	9.85 S 9.68 W
1277.31	0.81	235.23	0.04	1277.19	15.1 225.6	10.59 S 10.80 W
1372.75	0.83	228.40	0.10	1372.62	16.5 226.1	11.43 S 11.87 W
1468.35	0.83	222.12	0.10	1468.21	17.9 226.0	12.40 S 12.85 W
1563.97	0.85	221.49	0.02	1563.82	19.3 225.7	13.45 S 13.79 W
1659.28	0.38	241.96	0.54	1659.12	20.3 225.8	14.13 S 14.54 W
1754.82	0.44	8.45	0.77	1754.66	20.3 226.7	13.91 S 14.76 W
1850.65	0.70	25.64	0.32	1850.49	19.5 228.0	13.02 S 14.45 W
1946.45	0.78	25.10	0.08	1946.28	18.3 229.5	11.90 S 13.92 W
2042.16	0.62	1.72	0.34	2041.98	17.4 231.6	10.80 S 13.63 W
2137.41	0.65	345.04	0.20	2137.23	16.9 234.6	9.76 S 13.76 W
2233.05	0.70	336.86	0.11	2232.86	16.6 238.4	8.70 S 14.13 W
2328.49	0.76	333.76	0.08	2328.29	16.5 242.6	7.59 S 14.64 W
2423.95	0.78	338.21	0.07	2423.74	16.5 247.0	6.42 S 15.16 W
2519.48	0.75	349.80	0.16	2519.26	16.4 251.5	5.20 S 15.51 W
2614.81	0.64	47.91	0.72	2614.59	15.8 254.5	4.23 S 15.22 W
2709.96	1.15	97.93	0.93	2709.73	14.5 253.9	4.01 S 13.88 W
2805.60	1.43	108.39	0.38	2805.34	12.6 249.1	4.52 S 11.80 W
2901.22	1.66	117.78	0.36	2900.93	10.9 239.6	5.54 S 9.44 W

A Gyrodata Directional Survey

Chesapeake Operating

Lease: P.L.U. Pierce Canyon 12 FED Well: # 1H, 4.5" Drillpipe

Location: Latshaw # 6, Eddy County, New Mexico

Job Number: MD0210GBM138

MEASURED IN CLAZIMUTH			DOGLEG	VERTICAL	CLOSURE		HORIZONTAL	
DEPTH			SEVERITY	DEPTH	DIST.	AZIMUTH	COORDINATES	
feet	deg.	deg.	deg./ 100 ft.	feet	feet	deg.	feet	
2996.84	1.76	126.71	0.30	2996.51	10.0	224.9	7.06 S	7.04 W
3092.12	1.88	133.81	0.27	3091.74	10.2	207.7	9.02 S	4.74 W
3187.40	1.50	136.37	0.41	3186.98	11.3	194.0	11.00 S	2.75 W
3282.36	0.87	142.12	0.67	3281.92	12.6	186.6	12.47 S	1.45 W
3378.04	0.72	151.67	0.21	3377.59	13.6	183.0	13.57 S	0.72 W
3473.52	0.64	157.83	0.11	3473.06	14.6	180.9	14.60 S	0.23 W
3569.32	0.68	161.01	0.06	3568.85	15.6	179.4	15.63 S	0.15 E
3760.03	0.53	186.24	0.16	3759.55	17.6	178.6	17.58 S	0.42 E
3855.69	0.42	186.85	0.12	3855.21	18.4	179.0	18.36 S	0.33 E
3950.57	0.47	165.79	0.18	3950.09	19.1	178.8	19.09 S	0.39 E
4045.82	0.52	155.70	0.11	4045.33	19.9	178.1	19.86 S	0.66 E
4141.22	0.61	147.22	0.13	4140.73	20.7	176.9	20.68 S	1.12 E
4236.19	0.54	150.47	0.08	4235.69	21.6	175.7	21.50 S	1.61 E
4331.63	0.47	156.56	0.09	4331.13	22.3	174.9	22.25 S	1.99 E
4427.28	0.46	157.71	0.01	4426.78	23.1	174.3	22.96 S	2.29 E
4522.77	0.34	158.39	0.13	4522.27	23.7	173.9	23.58 S	2.54 E
4618.28	0.34	151.91	0.04	4617.77	24.3	173.4	24.09 S	2.78 E
4713.80	0.27	143.97	0.09	4713.29	24.7	172.9	24.52 S	3.04 E
4809.25	0.15	158.45	0.14	4808.74	25.0	172.6	24.82 S	3.22 E
4904.54	0.17	191.92	0.10	4904.03	25.3	172.6	25.08 S	3.24 E
4999.74	0.20	214.24	0.08	4999.23	25.5	173.0	25.35 S	3.11 E
5094.99	0.28	214.64	0.08	5094.48	25.8	173.6	25.68 S	2.89 E
5190.49	0.34	197.87	0.11	5189.98	26.3	174.2	26.14 S	2.67 E
5285.77	0.41	170.58	0.20	5285.26	26.9	174.4	26.75 S	2.64 E
5381.51	0.53	165.49	0.13	5380.99	27.7	174.2	27.51 S	2.81 E
5476.09	0.54	163.77	0.02	5475.57	28.5	173.9	28.37 S	3.04 E
5571.20	0.45	173.59	0.13	5570.68	29.3	173.7	29.17 S	3.21 E
5666.81	0.33	177.65	0.13	5666.28	30.0	173.8	29.82 S	3.26 E
5762.19	0.34	171.35	0.04	5761.66	30.6	173.8	30.37 S	3.31 E
5857.50	0.42	187.28	0.14	5856.97	31.2	173.9	31.00 S	3.31 E
5952.49	0.40	184.58	0.03	5951.96	31.8	174.2	31.67 S	3.24 E
6047.62	0.41	145.83	0.28	6047.09	32.5	174.0	32.28 S	3.41 E
6143.13	0.44	127.67	0.14	6142.59	33.0	173.2	32.79 S	3.89 E
6238.81	0.53	126.24	0.10	6238.27	33.6	172.2	33.27 S	4.53 E
6334.31	0.58	132.68	0.08	6333.76	34.3	171.2	33.86 S	5.24 E

A Gyrodata Directional Survey

Chesapeake Operating

Lease: P.L.U. Pierce Canyon 12 FED Well: # 1H, 4.5" Drillpipe

Location: Latshaw # 6, Eddy County, New Mexico

Job Number: MD0210GBM138

MEASURED IN C LAZIMUTH				DOGLEG VERTICAL		CLOSURE		HORIZONTAL	
DEPTH			SEVERITY	DEPTH	DIST.	AZIMUTH		COORDINATES	
feet	deg.	deg.	deg./ 100 ft.	feet	feet	deg.		feet	
6429.60	0.48	145.19	0.16	6429.05	35.0	170.4		34.52 S	5.82 E
6525.43	0.55	163.06	0.18	6524.88	35.8	170.1		35.29 S	6.19 E
6621.15	0.60	169.86	0.09	6620.59	36.8	170.0		36.22 S	6.41 E
6715.61	0.76	157.57	0.23	6715.05	37.9	169.8		37.29 S	6.74 E
6809.76	1.05	154.06	0.31	6809.18	39.3	169.2		38.64 S	7.35 E
6904.17	0.98	171.66	0.34	6903.58	41.0	169.0		40.21 S	7.85 E
6998.35	0.97	184.35	0.23	6997.75	42.5	169.3		41.81 S	7.90 E
7092.41	0.69	201.60	0.40	7091.80	43.8	170.0		43.13 S	7.63 E
7186.42	0.45	239.80	0.46	7185.80	44.4	170.8		43.84 S	7.11 E
7280.63	0.57	261.53	0.24	7280.01	44.5	171.8		44.09 S	6.32 E
7374.86	0.66	260.61	0.10	7374.23	44.6	173.1		44.25 S	5.32 E
7468.99	0.50	230.59	0.36	7468.36	44.8	174.3		44.60 S	4.47 E
7562.83	0.72	196.77	0.44	7562.19	45.6	175.0		45.43 S	3.99 E
7656.94	1.17	230.89	0.75	7656.29	46.7	176.2		46.60 S	3.07 E
7750.92	2.16	203.57	1.32	7750.23	48.9	178.1		48.83 S	1.62 E
7845.02	1.92	214.93	0.50	7844.27	51.7	180.0		51.74 S	0.00 E
7938.95	1.73	234.96	0.70	7938.15	53.9	182.2		53.85 S	2.06 W
8032.90	2.42	247.96	0.88	8032.04	55.6	185.2		55.41 S	5.06 W
8126.82	2.17	251.04	0.30	8125.89	57.4	188.6		56.73 S	8.58 W
8189.38	2.02	242.05	0.58	8188.41	58.6	190.5		57.63 S	10.67 W
8234.38	1.90	241.29	0.27	8233.38	59.6	191.6		58.36 S	12.03 W

Final Station Closure: Distance: 59.59 ft Az: 191.64 deg.



Survey Report

MIN. CURVATURE CALCULATIONS (SPE-3362)

OPERATOR: Chesapeake
WELL: PLU Pierce Canyon 12 Fed#1H
LOCATION: Pierce Canyon

START: 2/28/2010
FINISH: 3/12/2010
JOB #: 2010007

PROPOSED DIRECTION: 336.10
MAGNETIC TO TRUE: 7.9

STATION NUMBER	SURVEY DEPTH	INC	AZMTH	TVD	N-S	E-W	VERT. SECTION	DLS/ 100
Tie-In	7469.00	0.50	230.59	7468.36	-44.61	4.48		
1	7507.00	2.60	334.90	7506.35	-43.93	3.99	-41.78	7.28
2	7539.00	8.30	339.40	7538.19	-41.11	2.86	-38.75	17.85
3	7570.00	14.60	339.20	7568.56	-35.36	0.69	-32.61	20.32
4	7601.00	20.70	338.80	7598.08	-26.59	-2.68	-23.22	19.68
5	7633.00	25.70	338.30	7627.49	-14.86	-7.30	-10.63	15.64
6	7664.00	29.70	337.50	7654.93	-1.52	-12.72	3.77	12.96
7	7695.00	33.80	336.80	7681.28	13.51	-19.06	20.07	13.28
8	7727.00	37.90	336.80	7707.22	30.73	-26.44	38.81	12.81
9	7758.00	41.80	337.80	7731.01	49.05	-34.10	58.66	12.75
10	7789.00	44.90	337.70	7753.55	68.75	-42.16	79.93	10.00
11	7821.00	48.00	336.60	7775.60	90.11	-51.17	103.12	10.00
12	7852.00	50.20	335.60	7795.89	111.53	-60.66	126.55	7.50
13	7884.00	52.00	334.20	7815.99	134.08	-71.23	151.44	6.57
14	7915.00	55.00	335.60	7834.42	156.65	-81.79	176.35	10.34
15	7946.00	58.30	336.80	7851.47	180.34	-92.24	202.24	11.13
16	7978.00	62.20	336.80	7867.34	205.87	-103.18	230.02	12.19
17	8009.00	66.30	336.80	7880.81	231.53	-114.18	257.93	13.23
18	8041.00	70.20	337.50	7892.66	258.91	-125.71	287.64	12.36
19	8072.00	74.20	337.50	7902.14	286.18	-137.01	317.15	12.90
20	8103.00	78.10	337.10	7909.56	313.94	-148.62	347.23	12.64
21	8135.00	81.90	337.00	7915.11	342.95	-160.91	378.74	11.88
22	8166.00	85.70	336.50	7918.46	371.26	-173.07	409.55	12.36
23	8200.00	91.10	335.30	7921.08	457.00	-211.43	503.47	5.88
24	8354.00	89.70	335.60	7920.43	542.50	-250.48	597.46	1.52
25	8448.00	90.40	335.70	7920.34	628.14	-289.24	691.46	0.75
26	8543.00	91.10	335.60	7919.10	714.68	-328.40	786.45	0.74
27	8636.00	90.40	336.70	7917.88	799.73	-366.00	879.44	1.40
28	8730.00	90.60	336.60	7917.06	886.03	-403.26	973.43	0.24
29	8824.00	90.20	337.20	7916.41	972.49	-440.14	1067.42	0.77
30	8919.00	90.50	337.30	7915.83	1060.09	-476.87	1162.40	0.33
31	9012.00	89.90	337.20	7915.50	1145.86	-512.84	1255.38	0.65
32	9106.00	90.50	337.60	7915.17	1232.64	-548.96	1349.35	0.77
33	9201.00	88.90	336.40	7915.67	1320.08	-586.08	1444.33	2.11
34	9295.00	89.30	336.30	7917.15	1406.17	-623.78	1538.32	0.44
35	9388.00	90.40	337.00	7917.39	1491.56	-660.64	1631.31	1.40
36	9483.00	88.50	336.40	7918.30	1578.80	-698.21	1726.30	2.10
37	9577.00	89.60	336.10	7919.86	1664.83	-736.06	1820.28	1.21
38	9670.00	89.80	335.60	7920.35	1749.69	-774.11	1913.28	0.58
39	9764.00	90.30	335.60	7920.27	1835.29	-812.94	2007.28	0.53
40	9858.00	91.30	335.70	7918.95	1920.92	-851.70	2101.26	1.07



Survey Report

MIN. CURVATURE CALCULATIONS (SPE-3362)

OPERATOR: Chesapeake
WELL: PLU Pierce Canyon 12 Fed#1H
LOCATION: Pierce Canyon

START: 2/28/2010
FINISH: 3/12/2010
JOB #: 2010007

PROPOSED DIRECTION: 336.10
MAGNETIC TO TRUE: 7.9

STATION NUMBER	SURVEY DEPTH	INC	AZMTH	TVD	N-S	E-W	VERT. SECTION	DLS/ 100
41	9952.00	90.60	335.70	7917.40	2006.58	-890.37	2195.25	0.74
42	10046.00	90.10	336.00	7916.82	2092.35	-928.83	2289.25	0.62
43	10140.00	89.90	336.30	7916.82	2178.32	-966.84	2383.25	0.38
44	10234.00	90.30	336.20	7916.66	2264.36	-1004.70	2477.24	0.44
45	10328.00	91.30	336.20	7915.34	2350.36	-1042.63	2571.23	1.06
46	10422.00	90.00	335.40	7914.28	2436.09	-1081.16	2665.22	1.62
47	10516.00	89.80	334.80	7914.44	2521.35	-1120.73	2759.21	0.67
48	10610.00	90.30	334.20	7914.36	2606.19	-1161.20	2853.17	0.83
49	10704.00	89.40	334.40	7914.61	2690.89	-1201.96	2947.12	0.98
50	10798.00	90.60	334.50	7914.61	2775.70	-1242.51	3041.08	1.28
51	10892.00	92.00	334.90	7912.47	2860.66	-1282.67	3135.03	1.55
52	10986.00	90.60	335.20	7910.34	2945.86	-1322.31	3228.99	1.52
53	11080.00	90.50	335.80	7909.44	3031.39	-1361.29	3322.98	0.65
54	11174.00	88.50	335.20	7910.26	3116.92	-1400.26	3416.96	2.22
55	11268.00	88.80	335.10	7912.47	3202.19	-1439.75	3510.92	0.34
56	11362.00	91.50	336.10	7912.23	3287.79	-1478.58	3604.91	3.06
57	11456.00	91.40	336.70	7909.85	3373.90	-1516.20	3698.88	0.65
58	11550.00	92.90	336.70	7906.32	3460.17	-1553.36	3792.80	1.60
59	11644.00	91.70	337.50	7902.55	3546.69	-1589.90	3886.71	1.53
60	11738.00	91.90	336.80	7899.60	3633.27	-1626.39	3980.65	0.77
61	11832.00	89.70	337.00	7898.29	3719.72	-1663.26	4074.62	2.35
62	11926.00	89.70	336.10	7898.78	3805.95	-1700.67	4168.62	0.96
63	12019.00	90.30	336.20	7898.78	3891.01	-1738.27	4261.62	0.65
64	12113.00	89.30	336.20	7899.11	3977.02	-1776.20	4355.62	1.06
65	12208.00	89.70	336.00	7899.93	4063.87	-1814.69	4450.61	0.47
66	12302.00	90.00	336.00	7900.18	4149.74	-1852.92	4544.61	0.32
67	12396.00	91.20	335.50	7899.20	4235.44	-1891.53	4638.60	1.38
68	12490.00	89.70	334.90	7898.46	4320.76	-1930.95	4732.59	1.72
69	12584.00	90.40	334.30	7898.38	4405.68	-1971.27	4826.55	0.98
70	12678.00	90.40	334.10	7897.72	4490.30	-2012.18	4920.50	0.21
71	12772.00	91.30	333.80	7896.33	4574.75	-2053.46	5014.42	1.01
72	12867.00	91.20	333.60	7893.82	4677.82	-2104.40	5129.29	0.19
PBHL	12934.00	91.20	333.60	7892.83	4719.91	-2125.29	5176.24	0.00