



PHOENIX
TECHNOLOGY SERVICES

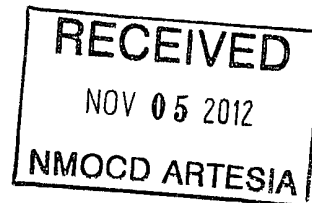
October 29, 2012

Oil Conservation Division
State of New Mexico
811 S. First St.
Artesia, New Mexico 88210

30-015-40581

Dear District 2 - Artesia

Re: Chesapeake Operating Inc.
PLU Big Sinks 3-25-30
Eddy Co., NM
API #30-015-40581
Job No. 1210896



Enclosed please find the Survey Data Certification, and the original Plat and one copy of the Survey Report performed on the above referenced Well by Phoenix Technology Services, Inc. (P-5 No. 606018). Other information required by your office is as follows:

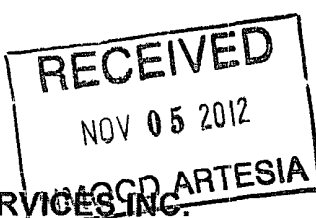
Name & Title of Surveyor	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Spencer Brown	1	203	13,884	09/27/10	10/16/12	MWD

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

Amy Pope
Operations Administrator

Certified mail receipt number: 7011 1570 0001 4364 9223



PHOENIX TECHNOLOGY SERVICES INC.
SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER 1210896

OPERATOR Chesapeake

WELL NAME PLU Big Sinks 3-25-30 USA 1H

COUNTY & STATE

Eddy Co., NM

API WELL NUMBER 3001540581

PROPOSED DIRECTION 0.22

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
ft	ft	0	0	0	0	Surface

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
27-Sep-12	203 ft	0.4	242.7

SURVEY INSTRUMENT TYPE
MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
16-Oct-12	13,884 ft	90.2	359

TO THE BEST OF MY KNOWLEDGE I
CERTIFY THIS SURVEY DATA TO BE
TRUE AND CORRECT.

PROJECTED TD SURVEY DATE	PROJECTED TD SURVEY DEPTH	INCLIN	AZIMUTH
16-Oct-12	13,934 ft	90.2	359

Spencer Brown

PRINT YOUR NAME ABOVE

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.31
DECLINATION OR GRID	Grid

10/17/2012

TODAY'S DATE

MWD SUPERVISOR 1 Spencer Brown

DIRECTIONAL DRILLER 1

Jay Stanley

MWD SUPERVISOR 2 Mike Layfield

DIRECTIONAL DRILLER 2

Brady Welch

1805 Brittmore Road

Houston, Texas 77043

(713)3370609 (Voice), (713)337-0599 (Fax)

NOV 05 2012

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

DISTRICT I
1025 N French Dr., Hobbs, NM 88240
Phone (505) 393-8181 Fax: (505) 393-0720

DISTRICT II
811 S. First St., Artesia, NM 88210
Phone (505) 748-1283 Fax (505) 740-9720

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-6170 Fax (505) 334-6170

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3460 Fax (505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources Department

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORTPLU BIG SINKS 3 25 30 USA

CHESAPEAKE OPERATING CO.

3317'

Surface Location

0

Bottom Hole Location If Different From Surface

LOT 2

Dedicated Acres
163.72

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

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature _____ Date _____

Printed Name _____

Email Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision and that the same is true and correct to the best of my belief

FEBRUARY 13 2012

Date Surveyed 11/11/68

Signature & Seal of _____

Professional Supervisor

1000



WFO 100-26052

Q 1141 A 38 0 1 1

Certificate No. Gary L. Jones

BASIN SURVEYS

BASIN SURVEYS 26052

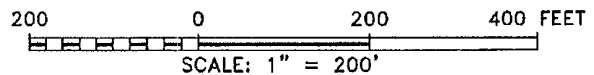
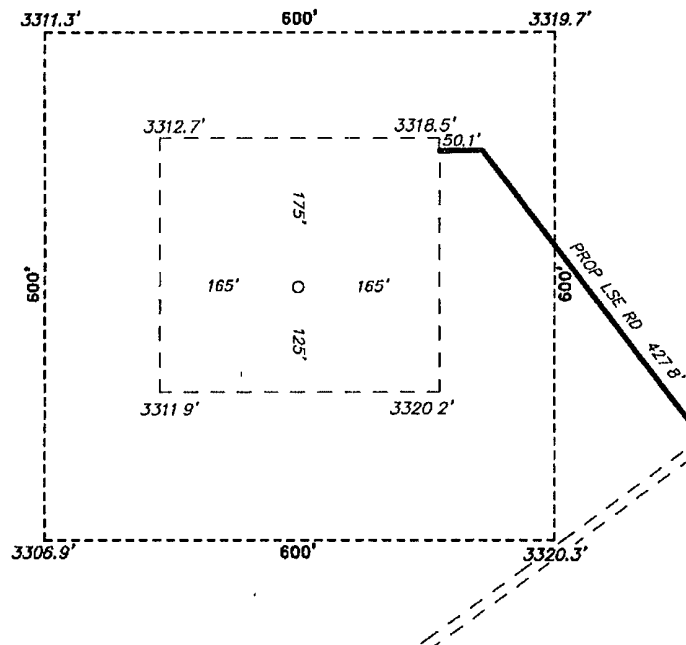
EXIST A-1

SECTION 3, TOWNSHIP 25 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



CHESAPEAKE OPERATING CO.
PLU BIG SINKS 3 25 30 USA #1H
ELEV. - 3317'

Lat - N 32.152969578°
Long - W 103.867131160°
NMSPCE- N 419698.033
E 685614.857
(NAD-83)
Lat - N 32.152845726°
Long - W 103.866648474°
NMSPCE- N 419639.873
E 644430.024
(NAD-27)



Directions to Location:

FROM THE JUNCTION OF TWIN WELLS AND BUCK JACKSON, GO NORTH 0.1 MILES ON TWIN WELLS TO LEASE ROAD, ON LEASE ROAD GO SOUTHWEST 1.6 MILES TO PROPOSED LEASE ROAD.

BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 26052 Drawn By: J. SMALL

Date: 02-14-2012 Disk: JMS 26052

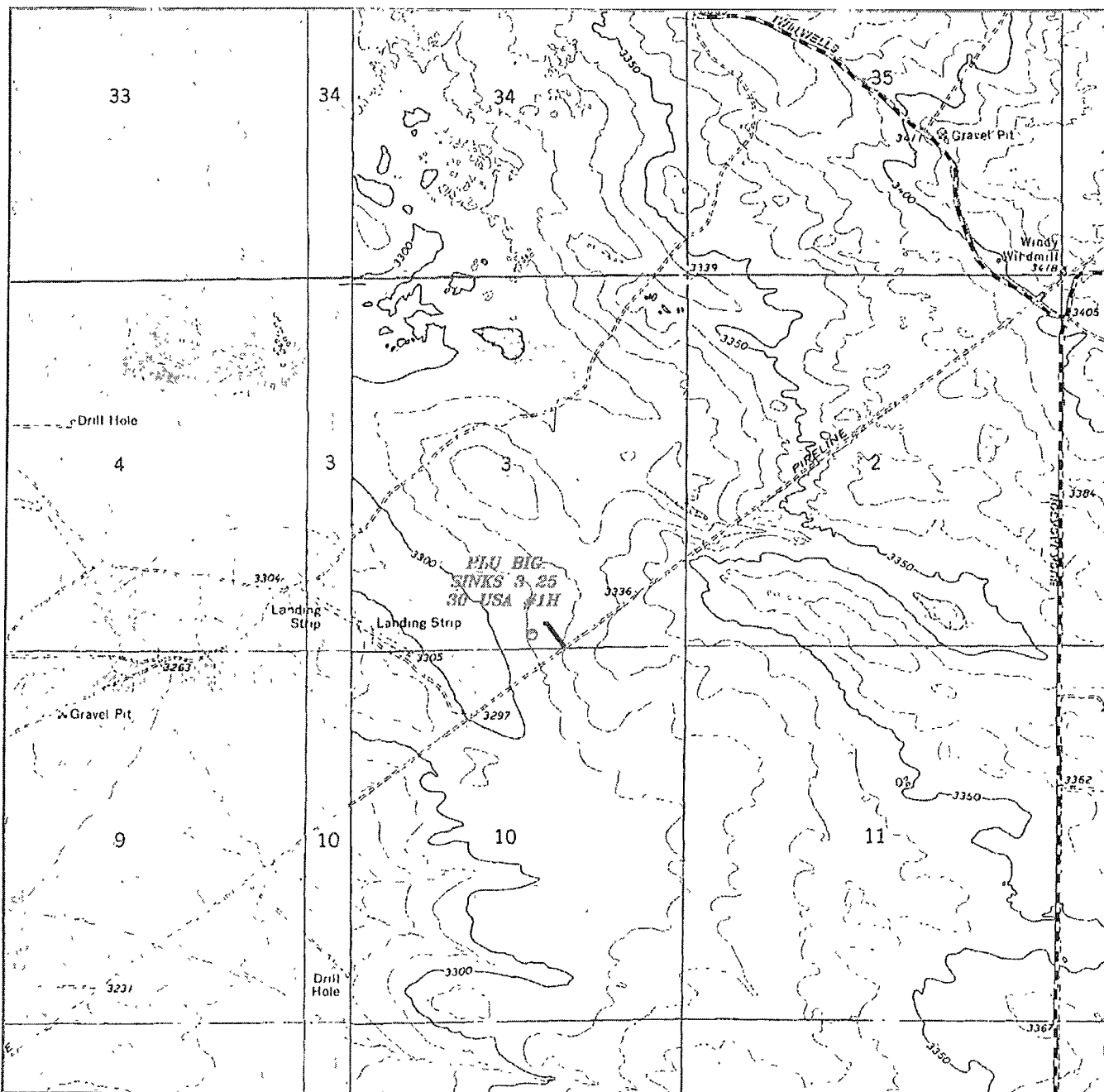
CHESAPEAKE OPERATING CO.

REF: PLU BIG SINKS 3 25 30 USA #1H / WELL PAD TOPO

THE PLU BIG SINKS 3 25 30 USA #1H LOCATED 200'
FROM THE SOUTH LINE AND 2130' FROM THE EAST LINE OF
SECTION 3, TOWNSHIP 25 SOUTH, RANGE 30 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 02-13-2012 Sheet 1 of 1 Sheets

EXHIBIT A-2



PLU BIG SINKS 3 25 30 USA #1H
 Located 200' FSL and 2130' FEL
 Section 3, Township 25 South, Range 30 East,
 N.M.P.M., Eddy County, New Mexico.

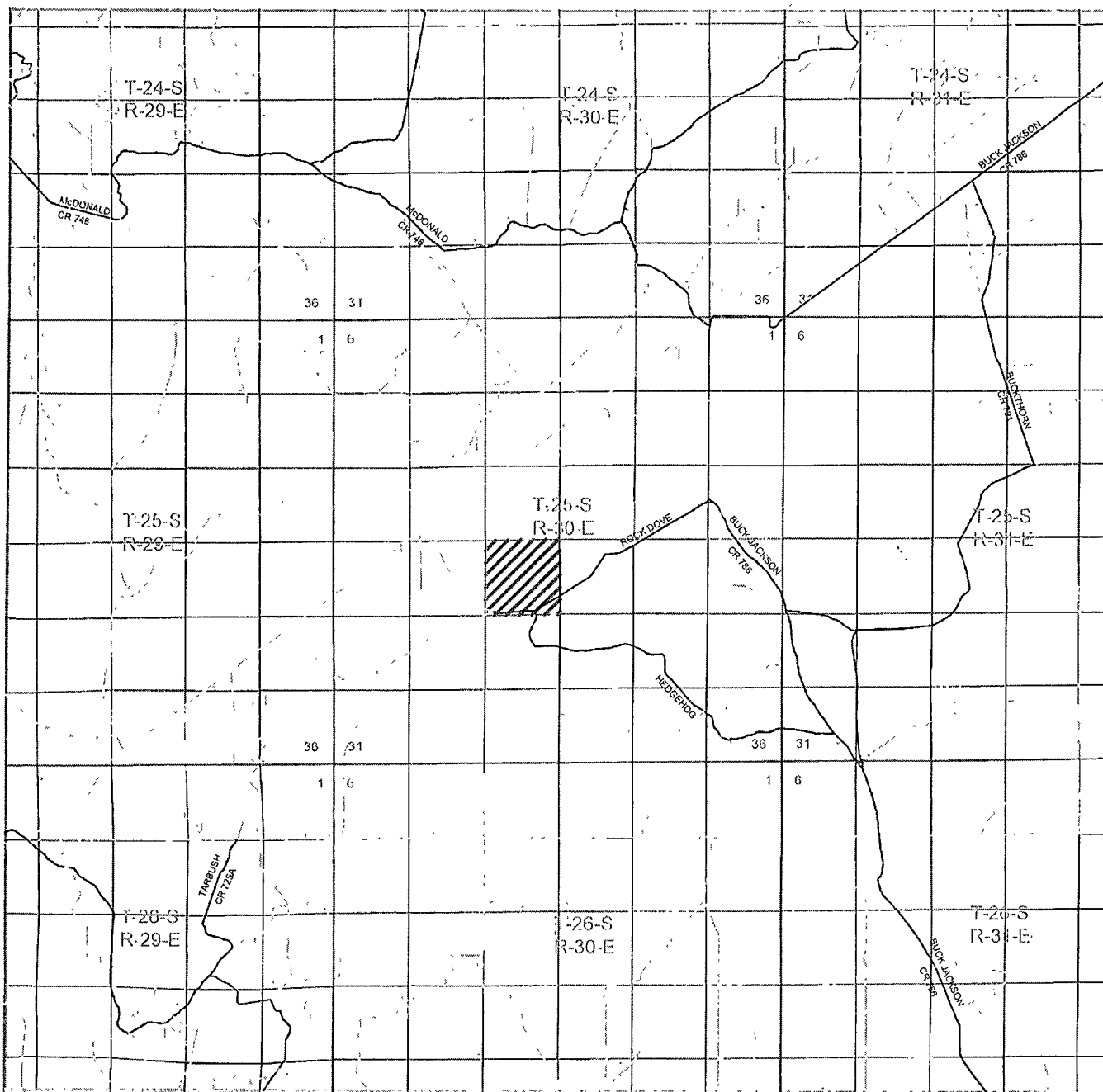


P.O. Box 1786
 1120 H. West County Rd.
 Hobbs, New Mexico 88241
 (575) 393-7316 • Office
 (575) 392-2206 • Fax
 basinsurveys.com

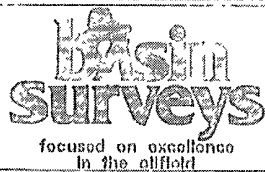
W.O. Number: JMS 26052
 Survey Date: 02-13-2012
 Scale: 1" = 2000'
 Date 02-14-2012

CHESAPEAKE
 OPERATING CO.

EX-137 A-3



PLU BIG SINKS 3 25 30 USA #1H
 Located 200' FSL and 2130' FEL
 Section 3, Township 25 South, Range 30 East,
 N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (575) 393-7316 - Office
 (575) 392-2206 - Fax
 basinsurveys.com

W.O. Number: JMS 26052

Survey Date: 02-13-2012

Scale: 1" = 2 Miles

Date: 02-14-2012

CHESAPEAKE
 OPERATING CO.

EXT A-4



PHOENIX
TECHNOLOGY SERVICES

Chesapeake Operating Inc.

Eddy County, New Mexico (NAD 1983)

PLU Big Sinks 3-25-30 USA 1H

Job # 1210896

Rig: Latshaw 14

Survey: Phoenix MWD Surveys

Chesapeake Energy, Survey Report

17 October, 2012





Chesapeake Energy, Survey Report



Company: Chesapeake Operating Inc
Project: Eddy County, New Mexico (NAD 1983)
Site: PLU Big Sinks 3-25-30 USA 1H
Well: Job # 1210896
Wellbore: Rig Latshaw 14
Design: Rig Latshaw 14

Local Co-ordinate Reference: Well Job # 1210896
TVD Reference: WELL @ 3340 00usft (Latshaw 14)
MD Reference: WELL @ 3340 00usft (Latshaw 14)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass5000

Project: Eddy County, New Mexico (NAD 1983)

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site: PLU Big Sinks 3-25-30 USA 1H

Site Position	Map	Northing	419 698 00 usft	Latitude	32° 9' 10 6902 N
From		Easting	685,614 86 usft	Longitude	103° 52' 1 6722 W
Position Uncertainty	0 00 usft	Slot Radius	13-3/16 "	Grid Convergence	0 25 °

Well: Job # 1210896

Well Position	+N/-S	0 00 usft	Northing:	419,698 00 usft	Latitude:	32° 9' 10 6902 N
	+E/-W	0 00 usft	Easting:	685,614 86 usft	Longitude	103° 52' 1 6722 W
Position Uncertainty	0 00 usft		Wellhead Elevation:	23 00 usft	Ground Level:	3,317 00 usft

Wellbore: Rig Latshaw 14

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	09/14/12	7 56	60 04	48,417

Design: Rig Latshaw 14

Audit Notes.

Version:	1 0	Phase:	ACTUAL	Tie On Depth:	0 00
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Vertical Section	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0 00	0 00	0 00	0 22

Survey Program: Date 10/17/12

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
203 00	13,934 00	Phoenix MWD Surveys (Rig Latshaw 14)	MWD	MWD - Standard



Chesapeake Energy, Survey Report

Chesapeake

Company: Chesapeake Operating Inc
Project: Eddy County, New Mexico (NAD 1983)
Site: PLU Big Sinks 3-25-30 USA 1H
Well: Job # 1210896
Wellbore: Rig Latshaw 14
Design: Rig Latshaw 14

Local Co-ordinate Reference:
TVD Reference: WELL @ 3340 00usft (Latshaw 14)
MD Reference: WELL @ 3340 00usft (Latshaw 14)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass5000

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
0 00	0 00	0 00	3,340 00	0 00	0 00	0 00	0 00	0 00	419,698 00	685,614 86	
203 00	0 40	242 70	3,137 00	203 00	-0 32	-0 63	-0 33	0 20	419,697 68	685,614 23	
First Phoenix MWD Surveys @ 203' MD											
390 00	0 40	224 70	2,950 01	389 99	-1 09	-1 67	-1 09	0 07	419,696 91	685,613 19	
544 00	0 40	284 10	2,796 01	543 99	-1 34	-2 57	-1 35	0 26	419,696 66	685,612 29	
734 00	0 80	3 70	2,606 02	733 98	0 15	-3 13	0 13	0 44	419,698 15	685,611 73	
925 00	1 20	15 00	2,415 05	924 95	3 41	-2 52	3 40	0 23	419,701 41	685,612 33	
1 015 00	1 30	357 40	2,325 07	1,014 93	5 34	-2 32	5 33	0 44	419,703 34	685,612 53	
1,241 00	1 50	326 00	2,099 13	1,240 87	10 35	-4 10	10 34	0 35	419,708 35	685,610 76	
1,431 00	1 10	318 60	1,909 18	1,430 82	13 78	-6 69	13 76	0 23	419,711 78	685,608 17	
1 621 00	1 20	305 70	1,719 22	1 620 78	16 31	-9 51	16 27	0 15	419,714 31	685,605 34	
1 812 00	1 40	311 80	1,528 27	1,811 73	19 03	-12 88	18 98	0 13	419,717 03	685,601 98	
2,002 00	1 20	315 70	1 338 32	2,001 68	22 00	-16 00	21 94	0 12	419,720 00	685,598 86	
2 192 00	1 20	297 10	1,148 36	2 191 64	24 33	-19 16	24 26	0 20	419,722 33	685,595 70	
2,382 00	1 50	266 70	958 41	2,381 59	25 10	-23 41	25 01	0 40	419,723 10	685,591 45	
2 573 00	1 70	255 30	767 48	2,572 52	24 23	-28 65	24 12	0 20	419,722 23	685,586 21	
2 762 00	1 20	250 80	578 54	2,761 46	22 87	-33 23	22 74	0 27	419,720 87	685,581 63	
2,951 00	1 20	259 80	389 59	2,950 41	21 87	-37 05	21 73	0 10	419,719 87	685,577 81	
3 139 00	1 00	255 70	201 62	3 138 38	21 12	-40 57	20 96	0 11	419,719 12	685,574 28	
3 328 00	0 80	174 30	12 64	3,327 36	19 40	-42 04	19 24	0 63	419,717 40	685,572 82	
3,517 00	1 20	155 90	-176 33	3,516 33	16 28	-41 10	16 12	0 27	419,714 28	685,573 76	
3 706 00	1 80	154 00	-365 27	3,705 27	11 80	-38 99	11 65	0 32	419,709 80	685,575 87	
3,919 00	1 20	158 30	-578 19	3,918 19	6 72	-36 70	6 58	0 29	419,704 72	685,578 16	
4,109 00	1 20	151 80	-768 15	4,108 15	3 12	-35 02	2 99	0 07	419,701 12	685,579 83	
4 299 00	1 10	149 70	-958 11	4,298 11	-0 21	-33 16	-0 33	0 06	419,697 79	685,581 69	
4,489 00	1 00	148 50	-1 148 08	4,488 08	-3 19	-31 38	-3 32	0 05	419,694 81	685,583 48	
4,680 00	1 10	139 90	-1 339 05	4,679 05	-6 02	-29 33	-6 13	0 10	419,691 98	685,585 53	



Chesapeake Energy, Survey Report

Chesapeake

Company: Chesapeake Operating Inc
Project: Eddy County, New Mexico (NAD 1983)
Site: PLU Big Sinks 3-25-30 USA 1H
Well: Job # 1210896
Wellbore: Rig Latshaw 14
Design: Rig Latshaw 14

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MD Reference: WELL @ 3340 00usft (Latshaw 14)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass5000

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
4,870 00	0 70	152 60	-1,529 03	4,869 03	-8 44	-27 62	-8 55	0 23	419,689 56	685,587 24
5,060 00	0 50	148 40	-1,719 02	5,059 02	-10 18	-26 65	-10 28	0 11	419,687 82	685,588 21
5,250 00	0 40	151 20	-1,909 01	5,249 01	-11 47	-25 89	-11 57	0 05	419,686 53	685,588 96
5,441 00	0 50	156 80	-2 100 01	5,440 01	-12 82	-25 24	-12 91	0 06	419,685 18	685,589 61
5,631 00	0 60	182 10	-2,290 00	5,630 00	-14 57	-24 95	-14 67	0 14	419,683 43	685,589 90
5,821 00	0 50	168 90	-2,479 99	5,819 99	-16 38	-24 83	-16 48	0 08	419,681 62	685,590 03
6,011 00	0 70	160 60	-2 669 98	6,009 98	-18 29	-24 29	-18 38	0 11	419,679 71	685,590 57
6,201 00	1 00	174 50	-2,859 96	6,199 96	-21 03	-23 74	-21 13	0 19	419,676 97	685,591 12
6,392 00	0 90	189 30	-3 050 93	6,390 93	-24 17	-23 82	-24 27	0 14	419,673 83	685,591 03
6,582 00	1 00	202 10	-3 240 90	6,580 90	-27 18	-24 69	-27 28	0 12	419,670 82	685,590 17
6,772 00	1 30	217 40	-3,430 87	6,770 87	-30 43	-26 62	-30 53	0 22	419,667 57	685,588 23
6,962 00	1 30	206 60	-3 620 82	6,960 82	-34 07	-28 90	-34 18	0 13	419,663 93	685,585 96
7,152 00	1 40	207 10	-3,810 77	7,150 77	-38 06	-30 92	-38 18	0 05	419,659 94	685,583 94
7,342 00	1 40	201 50	-4 000 71	7,340 71	-42 29	-32 83	-42 42	0 07	419,655 71	685,582 03
7,532 00	1 30	208 40	-4 190 66	7,530 66	-46 35	-34 70	-46 48	0 10	419,651 65	685,580 15
7,723 00	1 70	211 70	-4,381 59	7,721 59	-50 66	-37 22	-50 80	0 21	419,647 34	685,577 64
7,912 00	1 20	221 70	-4 570 53	7,910 53	-54 52	-40 01	-54 68	0 30	419,643 48	685,574 85
8,103 00	1 90	258 70	-4 761 46	8,101 46	-56 64	-44 45	-56 81	0 62	419,641 36	685,570 41
8,293 00	0 60	269 80	-4,951 41	8,291 41	-57 26	-48 53	-57 44	0 69	419,640 74	685,566 33
8,483 00	0 60	255 90	-5,141 40	8,481 40	-57 50	-50 49	-57 70	0 08	419,640 50	685,564 37
8,561 00	3 80	350 30	-5 219 35	8,559 35	-55 06	-51 32	-55 25	4 99	419,642 94	685,563 53
8,593 00	9 10	352 20	-5,251 13	8,591 13	-51 50	-51 84	-51 70	16 57	419,646 50	685,563 01
8,625 00	13 50	351 10	-5 282 50	8,622 50	-45 30	-52 77	-45 50	13 77	419,652 70	685,562 09
8,656 00	17 80	355 20	-5,312 35	8,652 35	-37 00	-53 72	-37 21	14 31	419,661 00	685,561 13
8,688 00	21 70	358 40	-5,342 46	8,682 46	-26 21	-54 30	-26 42	12 64	419,671 79	685,560 56
8,720 00	22 70	1 20	-5,372 09	8,712 09	-14 12	-54 33	-14 33	4 55	419,683 88	685,560 52
8,751 00	24 10	359 70	-5,400 54	8,740 54	-1 81	-54 24	-2 02	4 91	419,696 19	685,560 62



Chesapeake Energy, Survey Report

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8,783 00	25 40	358 70	-5,429 60	8,769 60	11 58	-54 43	11 38	4 27	419,709 58	685,560 43	
8,815 00	26 40	1 00	-5 458 39	8,798 39	25 56	-54 46	25 35	4 43	419,723 56	685,560 39	
8 847 00	29 00	2 30	-5 486 72	8,826 72	40 43	-54 03	40 22	8 34	419,738 43	685,560 83	
8 878 00	33 60	1 10	-5,513 20	8 853 20	56 52	-53 56	56 31	14 97	419,754 52	685,561 30	
8,910 00	37 50	359 00	-5,539 23	8,879 23	75 12	-53 56	74 91	12 77	419,773 12	685,561 30	
8 942 00	41 70	358 70	-5,563 88	8 903 88	95 51	-53 97	95 30	13 14	419,793 51	685,560 88	
8,973 00	45 40	359 00	-5,586 34	8,926 34	116 86	-54 40	116 65	11 95	419,814 86	685,560 46	
9,005 00	49 10	0 30	-5,608 06	8,948 06	140 35	-54 54	140 14	11 94	419,838 35	685,560 32	
9 037 00	52 30	1 60	-5,628 33	8 968 33	165 11	-54 12	164 90	10 48	419,863 11	685,560 74	
9,068 00	56 20	1 40	-5,646 44	8,986 44	190 25	-53 46	190 04	12 59	419,888 25	685,561 40	
9 100 00	60 00	1 70	-5,663 34	9 003 34	217 40	-52 72	217 20	11 90	419,915 40	685,562 13	
9,132 00	63 30	1 10	-5,678 54	9,018 54	245 55	-52 04	245 35	10 44	419,943 55	685,562 82	
9,163 00	67 40	0 70	-5,691 46	9,031 46	273 72	-51 60	273 52	13 28	419,971 72	685,563 26	
9 195 00	71 10	1 10	-5 702 80	9 042 80	303 63	-51 13	303 44	11 62	420,001 63	685,563 73	
9,227 00	75 00	1 20	-5 712 13	9,052 13	334 23	-50 51	334 04	12 19	420,032 23	685,564 34	
9 259 00	78 40	0 50	-5,719 49	9,059 49	365 37	-50 05	365 17	10 84	420,063 37	685,564 81	
9 290 00	81 60	0 00	-5 724 87	9 064 87	395 89	-49 92	395 70	10 44	420,093 89	685,564 94	
9,322 00	84 50	359 70	-5,728 74	9,068 74	427 65	-50 00	427 46	9 11	420,125 65	685,564 85	
9 354 00	86 90	359 70	-5 731 14	9,071 14	459 56	-50 17	459 36	7 50	420,157 56	685,564 69	
9 385 00	90 00	358 70	-5,731 98	9,071 98	490 54	-50 60	490 34	10 51	420,188 54	685,564 25	
9,417 00	90 60	358 60	-5 731 81	9,071 81	522 53	-51 36	522 33	1 90	420,220 53	685,563 50	
9,449 00	91 90	358 80	-5 731 11	9,071 11	554 51	-52 08	554 31	4 11	420,252 51	685,562 77	
9 544 00	92 80	358 70	-5,727 22	9 067 22	649 41	-54 15	649 20	0 95	420,347 41	685,560 70	
9,639 00	92 30	358 30	-5 722 99	9,062 99	744 28	-56 64	744 06	0 67	420,442 28	685,558 22	
9 734 00	92 40	359 00	-5,719 10	9 059 10	839 18	-58 87	838 94	0 74	420,537 18	685,555 98	
9,829 00	94 20	0 50	-5 713 63	9,053 63	934 01	-59 29	933 78	2 46	420,632 01	685,555 57	
9 924 00	94 50	0 00	-5,706 42	9 046 42	1,028 74	-58 88	1,028 50	0 61	420,726 74	685,555 98	



Chesapeake Energy, Survey Report



Company: Chesapeake Operating Inc
Project: Eddy County, New Mexico (NAD 1983)
Site: PLU Big Sinks 3-25-30 USA 1H
Well: Job # 1210896
Wellbore: Rig Latshaw 14
Design: Rig Latshaw 14

Local Co-ordinate Reference: Well Job # 1210896
TVD Reference: WELL @ 3340 00usft (Latshaw 14)
MD Reference: WELL @ 3340 00usft (Latshaw 14)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass5000

Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northings (usft)	Easting (usft)		
10,019 00	93 10	0 70	-5,700 13	9,040 13	1,123 52	-58 30	1,123 29	1 65	420,821 52	685,556 56		
10,115 00	92 10	2 00	-5,695 77	9,035 77	1,219 39	-56 04	1,219 17	1 71	420,917 39	685,558 82		
10,210 00	91 30	1 00	-5,692 95	9,032 95	1,314 32	-53 55	1,314 10	1 35	421,012 32	685,561 31		
10,305 00	90 90	0 50	-5,691 13	9,031 13	1,409 29	-52 31	1,409 08	0 67	421,107 29	685,562 55		
10,400 00	91 60	1 50	-5,689 06	9,029 06	1,504 25	-50 65	1,504 05	1 28	421,202 25	685,564 21		
10,495 00	90 20	2 90	-5,687 56	9,027 56	1,599 17	-47 00	1,598 97	2 08	421,297 17	685,567 85		
10,591 00	89 10	3 90	-5,688 15	9,028 15	1,694 99	-41 31	1,694 82	1 55	421,392 99	685,573 55		
10,686 00	87 90	3 90	-5,690 64	9,030 64	1,789 74	-34 85	1,789 59	1 26	421,487 74	685,580 01		
10,781 00	88 20	3 10	-5,693 87	9,033 87	1,884 51	-29 05	1,884 38	0 90	421,582 51	685,585 80		
10,876 00	87 90	2 70	-5,697 10	9,037 10	1,979 33	-24 25	1,979 22	0 53	421,677 33	685,590 61		
10,971 00	89 00	0 70	-5,699 67	9,039 67	2,074 25	-21 43	2,074 15	2 40	421,772 25	685,593 42		
11,066 00	87 80	0 50	-5,702 32	9,042 32	2,169 20	-20 44	2,169 11	1 28	421,867 20	685,594 42		
11,161 00	89 40	0 50	-5,704 65	9,044 65	2,264 17	-19 61	2,264 08	1 68	421,962 17	685,595 25		
11,256 00	88 00	0 10	-5,706 80	9,046 80	2,359 14	-19 11	2,359 05	1 53	422,057 14	685,595 74		
11,351 00	89 50	359 60	-5,708 87	9,048 87	2,454 11	-19 36	2,454 02	1 66	422,152 11	685,595 49		
11,447 00	91 30	359 90	-5,708 20	9,048 20	2,550 11	-19 78	2,550 01	1 90	422,248 11	685,595 08		
11,542 00	91 60	359 20	-5,705 80	9,045 80	2,645 07	-20 53	2,644 97	0 80	422,343 07	685,594 33		
11,637 00	90 30	358 70	-5,704 22	9,044 22	2,740 04	-22 27	2,739 93	1 47	422,438 04	685,592 59		
11,732 00	91 40	359 10	-5,702 81	9,042 81	2,835 01	-24 09	2,834 90	1 23	422,533 01	685,590 77		
11,826 00	91 10	358 70	-5,700 76	9,040 76	2,928 97	-25 90	2,928 85	0 53	422,626 97	685,588 96		
11,922 00	90 80	0 40	-5,699 17	9,039 17	3,024 95	-26 65	3,024 83	1 80	422,722 95	685,588 21		
12,017 00	89 60	0 70	-5,698 84	9,038 84	3,119 94	-25 74	3,119 82	1 30	422,817 94	685,589 12		
12,112 00	88 40	0 50	-5,700 50	9,040 50	3,214 92	-24 74	3,214 80	1 28	422,912 92	685,590 11		
12,207 00	90 20	1 20	-5,701 66	9,041 66	3,309 90	-23 33	3,309 79	2 03	423,007 90	685,591 52		
12,302 00	88 70	0 40	-5,702 57	9,042 57	3,404 88	-22 01	3,404 77	1 79	423,102 88	685,592 85		
12,397 00	89 40	1 00	-5,704 15	9,044 15	3,499 86	-20 85	3,499 76	0 97	423,197 86	685,594 01		
12,492 00	90 20	1 20	-5,704 48	9,044 48	3,594 84	-19 02	3,594 74	0 87	423,292 84	685,595 83		



Chesapeake Energy, Survey Report



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Design: Rig Latshaw 14

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well Job # 1210896
WELL @ 3340 00usft (Latshaw 14)
WELL @ 3340 00usft (Latshaw 14)
Grid
Minimum Curvature
Compass5000

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
12,587 00	89 50	0 70	-5,704 73	9,044 73	3,689 83	-17 45	3,689 73	0 91	423,387 83	685,597 41	
12,682 00	89 30	359 90	-5 705 72	9 045 72	3,784 82	-16 95	3,784 73	0 87	423,482 82	685,597 91	
12,777 00	88 90	359 00	-5,707 21	9,047 21	3 879 80	-17 86	3,879 71	1 04	423,577 80	685,596 99	
12 872 00	89 80	358 60	-5,708 29	9 048 29	3 974 78	-19 85	3,974 67	1 04	423,672 78	685,595 00	
12,967 00	91 30	359 80	-5 707 38	9,047 38	4,069 76	-21 18	4 069 65	2 02	423,767 76	685,593 68	
13 062 00	92 10	1 40	-5,704 56	9 044 56	4,164 71	-20 18	4,164 60	1 88	423,862 71	685,594 67	
13,157 00	92 00	0 80	-5,701 16	9,041 16	4,259 63	-18 36	4,259 53	0 64	423,957 63	685,596 50	
13 252 00	91 80	0 80	-5,698 01	9 038 01	4 354 57	-17 04	4,354 47	0 21	424,052 57	685,597 82	
13 347 00	92 00	359 30	-5,694 86	9 034 86	4 449 51	-16 95	4,449 41	1 59	424,147 51	685,597 90	
13,442 00	91 50	0 30	-5 691 96	9,031 96	4,544 47	-17 28	4,544 37	1 18	424,242 47	685,597 57	
13 538 00	91 10	1 30	-5,689 78	9 029 78	4 640 43	-15 94	4,640 33	1 12	424,338 43	685,598 91	
13,633 00	90 50	0 50	-5 688 46	9,028 46	4,735 41	-14 45	4,735 32	1 05	424,433 41	685,600 40	
13 727 00	90 20	0 50	-5,687 88	9 027 88	4 829 40	-13 63	4,829 31	0 32	424,527 40	685,601 22	
13 823 00	90 30	359 50	-5,687 46	9 027 46	4,925 40	-13 63	4,925 31	1 05	424,623 40	685,601 22	
13,884 00	90 20	359 00	-5 687 20	9,027 20	4,986 39	-14 43	4,986 30	0 84	424,684 39	685,600 43	
Last Phoenix MWD Surveys @ 13884' MD											
13,934 00	90 20	359 00	-5,687 02	9,027 02	5 036 39	-15 30	5,036 29	0 00	424,734 39	685,599 55	
Projection to TD @ 13934' MD											

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			Comment
		+N/-S (usft)	+E/-W (usft)		
203 00	203 00	-0 32	-0 63		First Phoenix MWD Surveys @ 203' MD
13 884 00	9,027 20	4 986 39	-14 43		Last Phoenix MWD Surveys @ 13884' MD
13 934 00	9,027 02	5,036 39	-15 30		Projection to TD @ 13934' MD



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Checked By _____	Approved By _____	Date _____
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