

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

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

5. Lease Serial No.
NMNM120357

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

8. Lease Name and Well No.
NEREID 1 FEDERAL 1H

9. API Well No.
30-005-29145-00-S1

10. Field and Pool, or Exploratory
UNDESIGNATED-WOLFCAMP

11. Sec., T., R., M., or Block and Survey
or Area Sec 1 T15S R31E Mer NMP

12. County or Parish
CHAVES

13. State
NM

17. Elevations (DF, KB, RT, GL)*
4367 GL

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

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 Contact: ERIN CARSON
CHESAPEAKE OPERATING INC E-Mail: erin.carson@chk.com

3. Address PO BOX 18496
OKLAHOMA CITY, OK 73154-0496

3a. Phone No. (include area code)
Ph: 405-935-2896

4. Location of Well (Report location clearly and in accordance with Federal requirements)
At surface SESE 660FSL 100FEL
At top prod interval reported below SESE 691FSL 358FEL
At total depth SWSW 657FSL 383FWL

14. Date Spudded
03/12/2012

15. Date T.D. Reached
03/30/2013

16. Date Completed
☐ D & A ☒ Ready to Prod.
06/07/2013

18. Total Depth: MD 13480
TVD 8929

19. Plug Back T.D.: MD
TVD

20. Depth Bridge Plug Set: MD
TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
4367 GL

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

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
12.250	9.625 J-55	40.0	20	4003		2425	749	20	
8.750	5.500 P-110	17.0	3130	13460		1600	511	3130	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) WOLFCAMP SHALE	9623	13032	9623 TO 13032			
B)						
C)						
D)						

26. Perforation Record

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

Depth Interval	Amount and Type of Material
9623 TO 13032	

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
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

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 #215207 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

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

ACCEPTED FOR 6 MONTH PERIOD
ENDING DEC 07 2013

ACCEPTED FOR RECORD

DAVID R. GLASS

JUL 31 2013

DAVID R. GLASS
PETROLEUM ENGINEER

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.)
UNKNOWN

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
WOLFCAMP SHALE	9623	13032		RUSTLER YATES QUEEN ABO SHALE WOLFCAMP SHALE	1421 2484 3290 7617 8911

32. Additional remarks (include plugging procedure):
Confidential

Chesapeake Operating Inc., agent for Chevron, respectfully submits this partial Completion Report. Chevron will submit the final completion report with fracture and production information.

Attached are the Final as-drilled plat and the Directional Survey. Logs are being sent via UPS overnight

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 #215207 Verified by the BLM Well Information System.
For CHESAPEAKE OPERATING INC, sent to the Roswell
Committed to AFMSS for processing by DAVID GLASS on 07/31/2013 (13DRG0607SE)

Name (please print) ERIN CARSONTitle AUTHORIZED REPRESENTATIVE

Signature _____ (Electronic Submission)

Date 07/30/2013

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.

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

Additional data for transaction #215207 that would not fit on the form

32. Additional remarks, continued

Revisions to Operator-Submitted EC Data for Well Completion #215207

	Operator Submitted	BLM Revised (AFMSS)
Lease:	NMNM120357	NMNM120357
Agreement:		
Operator:	CHESAPEAKE AGENT FOR CHEVRON PO BOX 18496 OKLAHOMA CITY, OK 73154-0496 Ph: 405-935-2896	CHESAPEAKE OPERATING INC PO BOX 18496 OKLAHOMA CITY, OK 73154-0496 Ph: 405-767-4275
Admin Contact:	ERIN CARSON AUTHORIZED REPRESENTATIVE E-Mail: erin.carson@chk.com Ph: 405-935-2896	ERIN CARSON AUTHORIZED REPRESENTATIVE E-Mail: erin.carson@chk.com Ph: 405-935-2896
Tech Contact:	ERIN CARSON AUTHORIZED REPRESENTATIVE E-Mail: erin.carson@chk.com Ph: 405-935-2896	ERIN CARSON AUTHORIZED REPRESENTATIVE E-Mail: erin.carson@chk.com Ph: 405-935-2896
Well Name: Number:	NEREID 1 FEDERAL 1H	NEREID 1 FEDERAL 1H
Location: State: County: S/T/R: Surf Loc:	NM CHAVES Sec 1 T15S R31E Mer NMP SESE 660FSL 100FEL	NM CHAVES Sec 1 T15S R31E Mer NMP SESE 660FSL 100FEL
Field/Pool:	WILDCAT WOLFCAMP	UNDESIGNATED-WOLFCAMP
Logs Run:		4367 GL
Producing Intervals - Formations:	WOLFCAMP SHALE	WOLFCAMP SHALE
Porous Zones:		WOLFCAMP SHALE
Markers:		RUSTLER YATES QUEEN ABO SHALE WOLFCAMP SHALE

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

OPERATOR CERTIFICATION

I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature

Date

Printed Name

E-mail Address

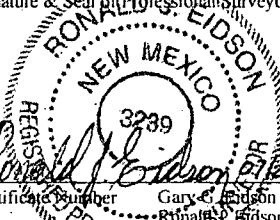
SURVEYOR CERTIFICATION

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.

MARCH 30, 2010

Date of Survey

Signature & Seal of Professional Surveyor:


Certificate Number Gary S. Eidson 12641
Ronald S. Eidson 3239

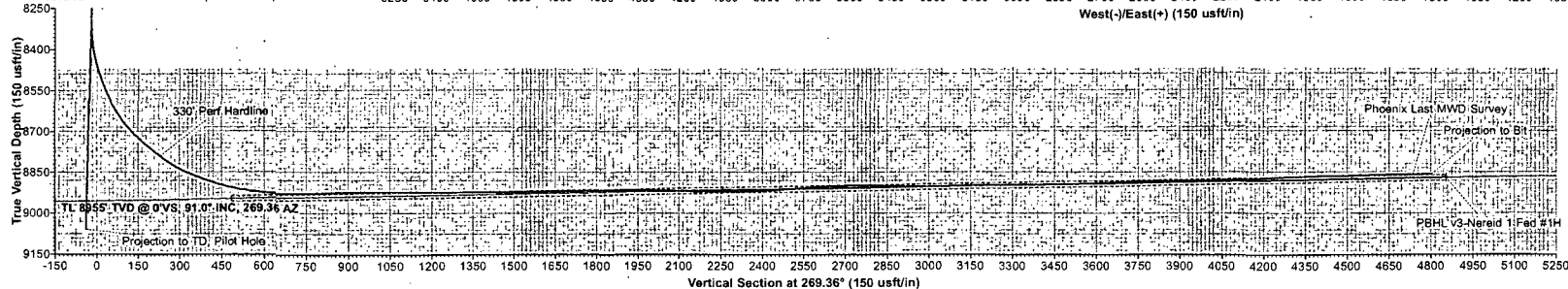
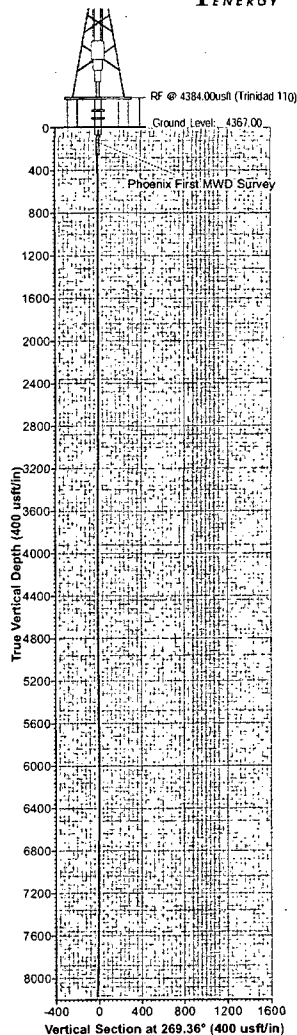
BKL REL. W.O. 11-11-0863



Project: Chaves County, NM (NAD27 NME)
Site: Nereid 1 Federal
Well: #1H
Wellbore: Wellbore #1 / Job #1310232
Design: Plan #3 04-06-13



Azimuths to Grid North
True North: -0.31°
Magnetic North: 7.22°
Magnetic Field
Strength: 48909.06nT
Dip Angle: 60.86°
Date: 02/21/2013
Model: IGRF2010_14



WELL DETAILS									
				Ground Level	4367.00				
				Eastings	673770.30	Latitude	33° 2' 22.320228 N	Longitude	103° 45' 58.635673 W

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N-S	-E-W	Dleg	TFace	VSecl
1	10445.00	90.90	267.00	8917.51	-10.65	-1770.11	0.00	0.00	1770.12
2	10591.86	89.00	269.24	8917.64	-15.48	-1916.87	2.00	130.30	1916.93
3	10651.86	89.00	269.24	8918.69	-16.27	-1976.96	0.00	0.00	1916.92
4	10751.79	91.00	269.25	8918.69	-17.59	-2076.77	2.00	0.37	2076.84
5	13529.47	91.00	269.25	8870.28	-53.80	-4853.80	0.00	0.00	4854.10
PBHL v3-Nereid 1 Fed #1H TD at 13529.47									
Annotation									
Tie-on & Start DLS 2.00 TFO 130.30									
Start 60.00 hold at 10591.86 MD									
Start DLS 2.00 TFO 0.37									
Start 2777.68 hold at 10751.79 MD									
TD at 13529.47									

DESIGN TARGET DETAILS									
Name	TVD	+N-S	-E-W	Northings	Eastings	Latitude	Longitude	Shape	
PBHL v3-Nereid 1 Fed #1H	8870.28	-53.80	-4853.80	742310.70	668916.50	33° 2' 22.043433 N	103° 46' 55.056619 W	Rectangle (Sides: L20.00 W100.00)	
plan hits target center									

PROJECT DETAILS: Chaves County, NM (NAD27 NME)									
Geodetic System: US State Plane 1927 (Exact solution)									
Datum: NAD 1927 (NADCON CONUS)									
Ellipsoid: Clarke 1866									
Zone: New Mexico East 3001									
System Datum: Mean Sea Level									

SITE DETAILS: Nereid 1 Federal									
Site Centre Northing: 742364.50									
Easting: 673770.30									
Positional Uncertainty: 0.00									
Convergence: 0.31									
Local North: Grid									

CASING DETAILS									
TVD	MD	Name	Size						
400.00		13 3/8" Surface	13-3/8						
120.00		20"	20						
4000.00		9 5/8" Intermediate	9-5/8						
13607.49		5 1/2" Production	5-1/2						

Map System: US State Plane 1927 (Exact solution)									
Datum: NAD 1927 (NADCON CONUS)									
Ellipsoid: Clarke 1866									
Zone Name: New Mexico East 3001									
Local Origin: Well #1H, Grid North									
Latitude: 33° 2' 22.320228 N									
Longitude: 103° 45' 58.635673 W									
Grid East: 673770.30									
Grid North: 742364.50									
Scale Factor: 1.000									
Geomagnetic Model: IGRF2010_14									
Sample Date: 21-Feb-13									
Magnetic Declination: 7.53°									
Dip Angle from Horizontal: 60.86°									
Magnetic Field Strength: 48909									
To convert a Magnetic Direction to a Grid Direction, Add 7.22°									
To convert a Magnetic Direction to a True Direction, Add 7.53° East									
To convert a True Direction to a Grid Direction, Subtract 0.31°									

LEGEND									
— #1H, Wellbore #1 / Job #1310232, Surveys (Trinidad 110) V0									
— #1H, Wellbore #1 / Job #1310232, Phoenix Pilot Hole MWD Survey									
— Plan #3 04-06-13									

FORMATION TOP DETAILS									
TVDPath	MDPath	Formation	DipAngle	DipDir					
8876.15	13192.58	TL 8955° TVD @ 0°VS, 91.0° INC, 269.36 AZ 1.00	269.36						



Chesapeake Operating Inc.

Chaves County, NM (NAD27 NME)

Nereid 1 Federal

#1H

Wellbore #1 / Job #1310232

Design: Phoenix Curve & Lateral Surveys

Standard Survey Report

10 April, 2013





Phoenix Technology Services

Survey Report



Company:	Chesapeake Operating Inc.	Local Co-ordinate Reference:	Well #1H
Project:	Chaves County, NM (NAD27 NME)	TVD Reference:	RF @ 4384.00usft (Trinidad 110)
Site:	Nereid 1 Federal	MD Reference:	RF @ 4384.00usft (Trinidad 110)
Well:	#1H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310232	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Trinidad 110)	Database:	GCR DB

Project	Chaves County, NM (NAD27 NME)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Nereid 1 Federal		
Site Position:		Northing:	742,364.50 usft
From:	Map	Easting:	673,770.30 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	33° 2' 22.320228 N
		Longitude:	103° 45' 58.635673 W
		Grid Convergence:	0.31 °

Well	#1H					
Well Position	+N/-S	0.00 usft	Northing:	742,364.50 usft	Latitude:	33° 2' 22.320228 N
	+E/-W	0.00 usft	Easting:	673,770.30 usft	Longitude:	103° 45' 58.635673 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,367.00 usft

Wellbore	Wellbore #1 / Job #1310232				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	02/21/13	7.53	60.86	48,909

Design	Surveys (Trinidad 110)				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	239.36	

Survey Program	Date 04/10/13				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
135.00	9,060.00	Phoenix Pilot Hole MWD Survey (Wellbore)	MWD	MWD - Standard	
8,249.00	13,480.00	Phoenix Curve & Lateral Surveys (Wellbor	MWD	MWD - Standard	

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
135.00	0.40	132.50	135.00	-0.32	0.35	-0.14	0.30	0.30	0.00	
Phoenix First MWD Survey										
292.00	0.70	190.30	291.99	-1.63	0.58	0.33	0.38	0.19	36.82	
481.00	0.60	185.10	480.98	-3.75	0.29	1.67	0.06	-0.05	-2.75	
671.00	0.50	168.20	670.97	-5.56	0.37	2.52	0.10	-0.05	-8.89	
861.00	0.40	180.60	860.97	-7.03	0.53	3.13	0.07	-0.05	6.53	
1,051.00	0.30	173.40	1,050.96	-8.19	0.58	3.67	0.06	-0.05	-3.79	
1,241.00	0.20	177.60	1,240.96	-9.01	0.65	4.03	0.05	-0.05	2.21	
1,431.00	0.20	145.40	1,430.96	-9.62	0.85	4.17	0.06	0.00	-16.95	



Phoenix Technology Services

Survey Report



Company:	Chesapeake Operating Inc.	Local Co-ordinate Reference:	Well #1H
Project:	Chaves County, NM (NAD27 NME)	TVD Reference:	RF @ 4384.00usft (Trinidad 110)
Site:	Nereid 1 Federal	MD Reference:	RF @ 4384.00usft (Trinidad 110)
Well:	#1H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310232	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Trinidad 110)	Database:	GCR DB

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,623.00	0.10	273.40	1,622.96	-9.88	0.88	4.28	0.14	-0.05	66.67
1,814.00	0.10	296.00	1,813.96	-9.80	0.56	4.51	0.02	0.00	11.83
2,005.00	0.10	193.00	2,004.96	-9.89	0.37	4.72	0.08	0.00	-53.93
2,196.00	0.50	85.40	2,195.96	-9.99	1.17	4.09	0.28	0.21	-56.34
2,387.00	0.30	100.00	2,386.95	-10.01	2.49	2.96	0.12	-0.10	7.64
2,577.00	0.20	100.80	2,576.95	-10.15	3.30	2.33	0.05	-0.05	0.42
2,769.00	0.30	93.00	2,768.95	-10.24	4.14	1.66	0.05	0.05	-4.06
2,960.00	0.20	58.00	2,959.95	-10.09	4.92	0.91	0.09	-0.05	-18.32
3,150.00	0.20	35.30	3,149.95	-9.65	5.39	0.28	0.04	0.00	-11.95
3,341.00	0.20	61.10	3,340.94	-9.21	5.87	-0.36	0.05	0.00	13.51
3,532.00	0.20	61.10	3,531.94	-8.89	6.46	-1.03	0.00	0.00	0.00
3,722.00	0.10	33.10	3,721.94	-8.59	6.84	-1.51	0.06	-0.05	-14.74
3,912.00	0.30	5.10	3,911.94	-7.96	6.97	-1.94	0.11	0.11	-14.74
3,935.00	0.20	9.40	3,934.94	-7.86	6.99	-2.01	0.44	-0.43	18.70
4,107.00	0.50	27.20	4,106.94	-6.89	7.38	-2.83	0.18	0.17	10.35
4,296.00	0.80	357.60	4,295.93	-4.84	7.70	-4.16	0.23	0.16	-15.66
4,487.00	1.00	352.20	4,486.90	-1.86	7.42	-5.43	0.11	0.10	-2.83
4,677.00	0.80	352.80	4,676.88	1.10	7.03	-6.61	0.11	-0.11	0.32
4,867.00	1.00	335.00	4,866.86	3.92	6.16	-7.30	0.18	0.11	-9.37
5,058.00	0.80	335.10	5,057.83	6.64	4.89	-7.59	0.10	-0.10	0.05
5,248.00	0.90	328.80	5,247.81	9.12	3.56	-7.71	0.07	0.05	-3.32
5,438.00	0.80	323.50	5,437.79	11.46	2.00	-7.56	0.07	-0.05	-2.79
5,629.00	1.10	319.20	5,628.76	13.92	0.01	-7.10	0.16	0.16	-2.25
5,819.00	1.10	347.80	5,818.73	17.08	-1.57	-7.36	0.29	0.00	15.05
6,010.00	1.10	352.70	6,009.69	20.69	-2.19	-8.66	0.05	0.00	2.57
6,201.00	1.00	5.20	6,200.66	24.17	-2.27	-10.37	0.13	-0.05	6.54
6,387.00	0.70	2.60	6,386.64	26.92	-2.07	-11.94	0.16	-0.16	-1.40
6,568.00	0.90	43.10	6,567.63	29.07	-1.05	-13.91	0.32	0.11	22.38
6,748.00	0.70	28.80	6,747.61	31.06	0.45	-16.21	0.16	-0.11	-7.94
6,928.00	0.70	21.80	6,927.59	33.05	1.38	-18.03	0.05	0.00	-3.89
7,109.00	0.70	28.10	7,108.58	35.05	2.31	-19.85	0.04	0.00	3.48
7,290.00	0.60	17.50	7,289.57	36.93	3.12	-21.50	0.09	-0.06	-5.86
7,470.00	0.90	34.70	7,469.55	38.99	4.21	-23.49	0.21	0.17	9.56
7,651.00	1.10	57.70	7,650.53	41.09	6.49	-26.52	0.25	0.11	12.71
7,831.00	1.50	55.00	7,830.48	43.36	9.88	-30.60	0.22	0.22	-1.50
8,012.00	1.50	54.50	8,011.42	46.09	13.75	-35.32	0.01	0.00	-0.28
8,192.00	1.50	54.90	8,191.36	48.82	17.59	-40.01	0.01	0.00	0.22
8,249.00	1.40	51.40	8,248.34	49.68	18.75	-41.45	0.23	-0.18	-6.14
8,294.00	0.90	29.90	8,293.33	50.33	19.35	-42.30	1.45	-1.11	-47.78
8,339.00	2.90	298.50	8,338.31	51.18	18.53	-42.02	6.79	4.44	-203.11
8,384.00	6.30	277.00	8,383.16	52.02	15.08	-39.48	8.34	7.56	-47.78
8,429.00	12.10	272.30	8,427.56	52.51	7.91	-33.57	12.99	12.89	-10.44
8,474.00	17.40	272.20	8,471.06	52.96	-3.54	-23.95	11.78	11.78	-0.22



Phoenix Technology Services

Survey Report



Company:	Chesapeake Operating Inc.	Local Co-ordinate Reference:	Well #1H
Project:	Chaves County, NM (NAD27 NME)	TVD Reference:	RF @ 4384.00usft (Trinidad 110)
Site:	Nereid 1 Federal	MD Reference:	RF @ 4384.00usft (Trinidad 110)
Well:	#1H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310232	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Trinidad 110)	Database:	GCR DB

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,520.00	19.30	272.00	8,514.72	53.49	-18.01	-11.77	4.13	4.13	-0.43
8,565.00	22.90	269.00	8,556.70	53.60	-34.20	2.11	8.35	8.00	-6.67
8,610.00	29.10	264.40	8,597.13	52.38	-53.87	19.65	14.48	13.78	-10.22
8,655.00	32.80	262.80	8,635.72	49.78	-76.86	40.76	8.42	8.22	-3.56
8,700.00	37.70	262.60	8,672.46	46.48	-102.61	64.60	10.89	10.89	-0.44
8,730.00	42.40	262.30	8,695.41	43.94	-121.74	82.35	15.68	15.67	-1.00
8,775.00	47.60	261.90	8,727.22	39.56	-153.25	111.69	11.57	11.56	-0.89
8,820.00	50.20	263.20	8,756.80	35.17	-186.87	142.85	6.17	5.78	2.89
8,865.00	52.30	264.10	8,784.97	31.30	-221.75	174.84	4.92	4.67	2.00
8,875.45	52.87	264.40	8,791.32	30.47	-230.00	182.37	5.89	5.42	2.90
330' Perf Hardline									
8,911.00	54.80	265.40	8,812.30	27.92	-258.59	208.26	5.89	5.44	2.81
8,956.00	60.70	266.70	8,836.30	25.31	-296.54	242.24	13.34	13.11	2.89
9,001.00	66.60	268.40	8,856.26	23.60	-336.81	277.75	13.54	13.11	3.78
9,046.00	70.00	269.10	8,872.90	22.70	-378.60	314.18	7.69	7.56	1.56
9,091.00	72.00	269.30	8,887.55	22.10	-421.14	351.08	4.46	4.44	0.44
9,136.00	74.50	269.00	8,900.52	21.46	-464.23	388.48	5.59	5.56	-0.67
9,182.00	79.50	268.90	8,910.86	20.64	-509.03	427.44	10.87	10.87	-0.22
9,227.00	80.90	268.50	8,918.52	19.63	-553.36	466.09	3.23	3.11	-0.89
9,272.00	84.00	269.40	8,924.43	18.82	-597.95	504.88	7.17	6.89	2.00
9,317.00	88.00	271.10	8,927.57	19.02	-642.83	543.39	9.65	8.89	3.78
9,362.00	89.50	270.90	8,928.55	19.80	-687.81	581.69	3.36	3.33	-0.44
9,452.00	91.60	270.00	8,927.69	20.51	-777.80	658.76	2.54	2.33	-1.00
9,543.00	92.00	269.20	8,924.83	19.87	-868.75	737.33	0.98	0.44	-0.88
9,633.00	90.10	268.30	8,923.18	17.91	-958.71	815.73	2.34	-2.11	-1.00
9,723.00	90.30	269.40	8,922.87	16.10	-1,048.69	894.07	1.24	0.22	1.22
9,814.00	89.30	267.80	8,923.19	13.88	-1,139.66	973.47	2.07	-1.10	-1.76
9,904.00	90.20	268.10	8,923.58	10.66	-1,229.60	1,052.50	1.05	1.00	0.33
9,994.00	90.90	268.50	8,922.72	7.99	-1,319.55	1,131.25	0.90	0.78	0.44
10,084.00	89.90	268.00	8,922.09	5.24	-1,409.51	1,210.05	1.24	-1.11	-0.56
10,174.00	90.00	267.50	8,922.17	1.71	-1,499.44	1,289.23	0.57	0.11	-0.56
10,264.00	91.20	267.80	8,921.22	-1.98	-1,589.36	1,368.47	1.37	1.33	0.33
10,355.00	91.30	267.10	8,919.24	-6.03	-1,680.24	1,448.73	0.78	0.11	-0.77
10,445.00	90.90	267.00	8,917.51	-10.66	-1,770.11	1,528.41	0.46	-0.44	-0.11
10,535.00	91.90	266.40	8,915.31	-15.84	-1,859.93	1,608.33	1.30	1.11	-0.67
10,626.00	89.40	268.90	8,914.28	-19.57	-1,950.83	1,688.44	3.88	-2.75	2.75
10,716.00	87.90	268.60	8,916.40	-21.53	-2,040.78	1,766.84	1.70	-1.67	-0.33
10,806.00	88.30	268.70	8,919.38	-23.65	-2,130.71	1,845.29	0.46	0.44	0.11
10,896.00	89.80	269.30	8,920.88	-25.22	-2,220.68	1,923.50	1.80	1.67	0.67
10,987.00	89.80	268.90	8,921.19	-26.65	-2,311.67	2,002.51	0.44	0.00	-0.44
11,077.00	93.30	269.50	8,918.76	-27.91	-2,401.61	2,080.54	3.95	3.89	0.67
11,168.00	94.70	269.80	8,912.41	-28.46	-2,492.39	2,158.92	1.57	1.54	0.33
11,258.00	94.40	269.70	8,905.27	-28.85	-2,582.10	2,236.31	0.35	-0.33	-0.11
11,348.00	92.40	269.00	8,899.93	-29.87	-2,671.93	2,314.12	2.35	-2.22	-0.78



Phoenix Technology Services

Survey Report



Company:	Chesapeake Operating Inc.	Local Co-ordinate Reference:	Well #1H
Project:	Chaves County, NM (NAD27 NME)	TVD Reference:	RF @ 4384.00usft (Trinidad 110)
Site:	Nereid 1, Federal	MD Reference:	RF @ 4384.00usft (Trinidad 110)
Well:	#1H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310232	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Trinidad 110)	Database:	GCR DB

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
11,438.00	89.60	269.10	8,898.36	-31.36	-2,761.90	2,392.28	3.11	-3.11	0.11
11,529.00	88.60	269.20	8,899.79	-32.71	-2,852.88	2,471.25	1.10	-1.10	0.11
11,619.00	88.30	268.50	8,902.23	-34.52	-2,942.82	2,549.56	0.85	-0.33	-0.78
11,709.00	90.90	268.90	8,902.86	-36.56	-3,032.79	2,628.01	2.92	2.89	0.44
11,799.00	92.40	269.60	8,900.26	-37.74	-3,122.74	2,706.00	1.84	1.67	0.78
11,889.00	91.00	268.50	8,897.59	-39.23	-3,212.69	2,784.15	1.98	-1.56	-1.22
11,979.00	91.00	268.10	8,896.02	-41.90	-3,302.63	2,862.90	0.44	0.00	-0.44
12,070.00	89.20	266.80	8,895.86	-45.95	-3,393.54	2,943.17	2.44	-1.98	-1.43
12,160.00	91.80	267.90	8,895.08	-50.11	-3,483.43	3,022.63	3.14	2.89	1.22
12,250.00	92.80	268.10	8,891.47	-53.25	-3,573.30	3,101.56	1.13	1.11	0.22
12,341.00	92.10	266.70	8,887.58	-57.37	-3,664.12	3,181.80	1.72	-0.77	-1.54
12,431.00	92.10	267.90	8,884.28	-61.61	-3,753.96	3,261.25	1.33	0.00	1.33
12,521.00	90.20	268.50	8,882.47	-64.43	-3,843.89	3,340.07	2.21	-2.11	0.67
12,611.00	90.20	268.60	8,882.16	-66.71	-3,933.86	3,418.64	0.11	0.00	0.11
12,701.00	91.60	271.10	8,880.74	-66.95	-4,023.84	3,496.18	3.18	1.56	2.78
12,792.00	91.60	270.70	8,878.20	-65.52	-4,114.80	3,573.71	0.44	0.00	-0.44
12,882.00	93.30	270.80	8,874.36	-64.34	-4,204.70	3,650.46	1.89	1.89	0.11
12,973.00	92.90	271.20	8,869.44	-62.76	-4,295.55	3,727.82	0.62	-0.44	0.44
13,063.00	90.20	270.50	8,867.00	-61.42	-4,385.50	3,804.53	3.10	-3.00	-0.78
13,153.00	91.60	271.00	8,865.59	-60.24	-4,475.48	3,881.35	1.65	1.56	0.56
13,243.00	92.30	270.60	8,862.53	-58.99	-4,565.42	3,958.09	0.90	0.78	-0.44
13,333.00	90.20	270.00	8,860.56	-58.52	-4,655.39	4,035.26	2.43	-2.33	-0.67
13,413.00	91.40	271.20	8,859.45	-57.68	-4,735.38	4,103.65	2.12	1.50	1.50
Phoenix Last MWD Survey									
13,480.00	91.40	271.20	8,857.81	-56.28	-4,802.34	4,160.55	0.00	0.00	0.00
Projection to Bit									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
135.00	135.00	-0.32	0.35	Phoenix First MWD Survey
8,875.45	8,791.32	30.47	-230.00	330' Perf Hardline
13,413.00	8,859.45	-57.68	-4,735.38	Phoenix Last MWD Survey
13,480.00	8,857.81	-56.28	-4,802.34	Projection to Bit

Checked By: _____	Approved By: _____	Date: _____
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