



PHOENIX
TECHNOLOGY SERVICES

October 21, 2014

Oil Conservation Division
State of New Mexico
1625 N. French Drive
Hobbs, New Mexico 88240

HOBBS OCD
OCT 24 2014
RECEIVED

Dear District 1 - Hobbs

Re: Chevron North America Exploration
Prodigal Sun 17-24-34 #1H
Lea County, NM
~~API #30-025-41957~~
Job No. 1410098

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. Other information required by your office is as follows:

Name & Title of Surveyor	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Zak Dawson	1H	5,325	15,198	08/22/14	08/31/14	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,

Dana Robinson

Dana Robinson
Operations Administrator

Certified mail receipt number: 7011 1570 0001 4365 2506

AUG 20 2015

PHOENIX TECHNOLOGY SERVICES SURVEY DATA CERTIFICATION

HOBBS OCD

OCT 24 2014



PHOENIX
TECHNOLOGY SERVICES

RECEIVED

PHOENIX JOB NUMBER 1410098

OPERATOR Chevron

WELL NAME Prodigal Sun 17-24-34 #1H

COUNTY & STATE

Lea County, NM

API WELL NUMBER	30-025-41957
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PROPOSED DIRECTION	179.49
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TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
5,183 ft	5,180.09 ft	3.4	129.7	38.85S	37.77E	Teledrift

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
22-Aug-14	5,325 ft	3.16	129.02

SURVEY INSTRUMENT
TYPE
QDT

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
31-Aug-14	15,198 ft	90.73	177.06

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

PROJECTED	PROJECTED		
TD SURVEY	TD SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
31-Aug-14	15,250 ft	90.73	177.06

Zak Dawson

PRINT YOUR NAME ABOVE

Zak Dawson

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	6.71
DECLINATION OR GRID	GRID

8/31/2014

TODAY'S DATE

MWD SUPERVISOR 1 Zak Dawson

DIRECTIONAL DRILLER 1

Keith Scheppler

MWD SUPERVISOR 2 Edward LaGarce

DIRECTIONAL DRILLER 2

Craig Cannon

1805 Brittmore Road

Houston, Texas 77043

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3469 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

☐ AMENDED REPORT

RECEIVED

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-41951		² Pool Code	³ Pool Name
⁴ Property Code	⁵ Property Name PRODIGAL SUN 17 24 34		⁶ Well Number 1H
⁷ OGRID No.	⁸ Operator Name CHEVRON U.S.A. INC.		⁹ Elevation 3564'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	17	24 SOUTH	34 EAST, N.M.P.M.		330'	NORTH	1660'	EAST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	17	24 SOUTH	34 EAST, N.M.P.M.		330'	SOUTH	1660'	EAST	LEA

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.

	¹⁷ 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 _____ E-mail Address _____
	¹⁸ 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. Oct 2, 2013 Date of Survey Signature and Seal of Professional Surveyor: Certificate Number: 15078



Chevron

Lea County NM (NAD27 NME)

Prodigal Sun 17-24-34

#1H

WB1/Job #1410098

Survey: Phoenix MWD Survey

Standard Survey Report

02 September, 2014

HOBBS OCD

OCT 24 2014

RECEIVED





Phoenix Technology Services

Survey Report



Company:	Chevron	Local Co-ordinate Reference:	Well #1H
Project:	Lea County NM (NAD27 NME)	TVD Reference:	KB @ 3588.50usft (Ensign 153)
Site:	Prodigal Sun 17-24-34	MD Reference:	KB @ 3588.50usft (Ensign 153)
Well:	#1H	North Reference:	Grid
Wellbore:	WB1/Job #1410098	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Ensign 153)	Database:	GCR DB

Project	Lea 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	Prodigal Sun 17-24-34		
Site Position:		Northing:	446,164.00 usft
From:	Map	Easting:	761,308.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 13' 25.67035 N
		Longitude:	103° 29' 18.03959 W
		Grid Convergence:	0.45 °

Well	#1H		
Well Position	+N/-S	0.00 usft	Northing: 446,164.00 usft
	+E/-W	0.00 usft	Easting: 761,308.00 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 13' 25.67035 N
		Longitude:	103° 29' 18.03959 W
		Ground Level:	3,564.00 usft

Wellbore	WB1/Job #1410098				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	08/06/14	7.16	60.12	48,309

Design	Surveys (Ensign 153)				
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	179.49	

Survey Program	Date	09/02/14			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
69.00	5,138.00	Teledrift Survey (WB1/Job #1410098)	MWD	MWD - Standard	
5,138.00	15,250.00	Phoenix MWD Survey (WB1/Job #1410098)	PHX+MWD+IGRF	PHX+MWD+IGRF v3:standard declination	

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)
	5,183.00	3.40	129.70	5,180.09	-38.85	37.77	39.18	0.00	0.00	0.00
Tie-on to Teledrift Survey										
	5,325.00	3.16	129.02	5,321.86	-44.00	44.05	44.39	0.17	-0.17	-0.48
First Phoenix MWD Survey										
	5,503.00	2.16	155.30	5,499.67	-50.14	49.26	50.58	0.87	-0.56	14.76
	5,682.00	1.10	126.13	5,678.60	-54.22	52.06	54.68	0.73	-0.59	-16.30
	5,862.00	0.76	22.18	5,858.58	-54.13	53.91	54.61	0.82	-0.19	-57.75
	6,040.00	0.78	22.61	6,036.57	-51.92	54.82	52.40	0.01	0.01	0.24
	6,219.00	2.32	319.96	6,215.51	-48.02	52.96	48.49	1.16	0.86	-35.00



Phoenix Technology Services

Survey Report



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Site:	Prodigal Sun 17-24-34	MD Reference:	KB @ 3588.50usft (Ensign 153)
Well:	#1H	North Reference:	Grid
Wellbore:	WB1/Job #1410098	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Ensign 153)	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)
6,398.00	2.26	318.79	6,394.36	-42.59	48.30	43.02	0.04	-0.03	-0.65
6,577.00	2.27	317.36	6,573.22	-37.33	43.57	37.71	0.03	0.01	-0.80
6,755.00	2.41	318.13	6,751.08	-31.95	38.69	32.29	0.08	0.08	0.43
6,935.00	2.19	317.08	6,930.93	-26.61	33.82	26.91	0.12	-0.12	-0.58
7,114.00	2.26	315.30	7,109.80	-21.60	29.01	21.85	0.05	0.04	-0.99
7,293.00	2.27	309.94	7,288.66	-16.81	23.81	17.02	0.12	0.01	-2.99
7,472.00	2.11	303.70	7,467.53	-12.71	18.35	12.87	0.16	-0.09	-3.49
7,651.00	2.20	296.35	7,646.40	-9.36	12.53	9.47	0.16	0.05	-4.11
7,830.00	2.30	287.58	7,825.26	-6.75	6.03	6.80	0.20	0.06	-4.90
8,009.00	2.14	282.12	8,004.13	-4.96	-0.67	4.95	0.15	-0.09	-3.05
8,188.00	2.07	276.02	8,183.01	-3.92	-7.15	3.85	0.13	-0.04	-3.41
8,368.00	2.36	306.18	8,362.88	-1.39	-13.37	1.27	0.66	0.16	16.76
8,547.00	1.79	341.46	8,541.77	3.44	-17.24	-3.59	0.77	-0.32	19.71
8,726.00	1.78	321.32	8,720.68	8.26	-19.86	-8.43	0.35	-0.01	-11.25
8,905.00	2.16	314.24	8,899.58	12.78	-24.02	-12.99	0.25	0.21	-3.96
9,084.00	2.38	299.31	9,078.44	16.95	-29.67	-17.22	0.35	0.12	-8.34
9,263.00	2.75	286.99	9,257.26	20.03	-37.02	-20.36	0.37	0.21	-6.88
9,442.00	2.68	280.14	9,436.06	22.02	-45.25	-22.42	0.19	-0.04	-3.83
9,621.00	0.97	311.14	9,614.96	23.75	-50.51	-24.20	1.07	-0.96	17.32
9,800.00	0.98	21.78	9,793.94	26.17	-51.08	-26.63	0.63	0.01	39.46
9,979.00	1.05	265.66	9,972.93	27.47	-52.15	-27.93	0.96	0.04	-64.87
10,158.00	1.60	276.49	10,151.88	27.63	-56.27	-28.13	0.34	0.31	6.05
10,243.00	1.63	272.18	10,236.85	27.81	-58.66	-28.33	0.15	0.04	-5.07
10,334.00	4.05	207.00	10,327.75	24.99	-61.41	-25.54	4.04	2.66	-71.63
10,379.00	9.41	189.69	10,372.42	19.95	-62.75	-20.50	12.60	11.91	-38.47
10,424.00	13.58	186.20	10,416.51	11.06	-63.94	-11.63	9.39	9.27	-7.76
10,468.00	18.77	178.65	10,458.76	-1.16	-64.33	0.59	12.70	11.80	-17.16
10,513.00	23.51	178.00	10,500.72	-17.37	-63.85	16.81	10.55	10.53	-1.44
10,557.00	28.34	181.17	10,540.28	-36.60	-63.76	36.03	11.42	10.98	7.20
10,602.00	32.91	180.36	10,579.00	-59.51	-64.05	58.94	10.20	10.16	-1.80
10,647.00	38.47	175.00	10,615.54	-85.71	-62.91	85.15	14.17	12.36	-11.91
10,691.00	43.34	171.90	10,648.79	-114.31	-59.58	113.78	11.99	11.07	-7.05
10,736.00	48.19	172.19	10,680.17	-146.24	-55.13	145.74	10.79	10.78	0.64
10,781.00	48.78	173.79	10,710.00	-179.68	-51.02	179.22	2.97	1.31	3.56
10,826.00	53.80	174.21	10,738.13	-214.59	-47.35	214.16	11.18	11.16	0.93
10,870.00	59.89	174.54	10,762.18	-251.23	-43.75	250.83	13.86	13.84	0.75
10,915.00	67.50	174.67	10,782.11	-291.36	-39.96	291.00	16.91	16.91	0.29
10,959.00	72.67	174.91	10,797.09	-332.55	-36.20	332.21	11.76	11.75	0.55
11,003.00	77.30	176.66	10,808.49	-374.92	-33.09	374.61	11.20	10.52	3.98
11,048.00	82.49	177.45	10,816.38	-419.14	-30.82	418.85	11.66	11.53	1.76
11,137.00	88.57	178.25	10,823.32	-507.77	-27.49	507.50	6.89	6.83	0.90
11,227.00	89.38	178.31	10,824.93	-597.71	-24.79	597.47	0.90	0.90	0.07
11,316.00	89.41	181.81	10,825.87	-686.69	-24.88	686.45	3.93	0.03	3.93



Phoenix Technology Services

Survey Report



Company:	Chevron	Local Co-ordinate Reference:	Well #1H
Project:	Lea County NM (NAD27 NME)	TVD Reference:	KB @ 3588.50usft (Ensign 153)
Site:	Prodigal Sun 17-24-34	MD Reference:	KB @ 3588.50usft (Ensign 153)
Well:	#1H	North Reference:	Grid
Wellbore:	WB1/Job #1410098	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Ensign 153)	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)
11,406.00	90.25	179.35	10,826.13	-776.68	-25.79	776.42	2.89	0.93	-2.73
11,495.00	90.78	179.27	10,825.33	-865.67	-24.72	865.42	0.60	0.60	-0.09
11,585.00	91.93	178.97	10,823.21	-955.63	-23.34	955.39	1.32	1.28	-0.33
11,674.00	92.04	180.25	10,820.12	-1,044.58	-22.73	1,044.33	1.44	0.12	1.44
11,764.00	91.73	181.39	10,817.16	-1,134.52	-24.02	1,134.26	1.31	-0.34	1.27
11,853.00	89.78	181.96	10,815.99	-1,223.47	-26.62	1,223.18	2.28	-2.19	0.64
11,943.00	90.53	182.23	10,815.75	-1,313.41	-29.91	1,313.09	0.89	0.83	0.30
12,032.00	89.92	182.15	10,815.40	-1,402.34	-33.31	1,401.99	0.69	-0.69	-0.09
12,122.00	90.08	182.46	10,815.40	-1,492.27	-36.93	1,491.88	0.39	0.18	0.34
12,211.00	89.16	181.63	10,815.99	-1,581.21	-40.11	1,580.79	1.39	-1.03	-0.93
12,300.00	88.77	179.74	10,817.59	-1,670.18	-41.17	1,669.75	2.17	-0.44	-2.12
12,390.00	88.80	179.78	10,819.50	-1,760.16	-40.80	1,759.73	0.06	0.03	0.04
12,479.00	87.73	178.68	10,822.20	-1,849.11	-39.60	1,848.68	1.72	-1.20	-1.24
12,569.00	88.49	176.56	10,825.17	-1,938.98	-35.87	1,938.58	2.50	0.84	-2.36
12,658.00	89.30	176.34	10,826.88	-2,027.79	-30.36	2,027.44	0.94	0.91	-0.25
12,748.00	90.22	176.56	10,827.26	-2,117.61	-24.78	2,117.31	1.05	1.02	0.24
12,837.00	91.06	176.69	10,826.26	-2,206.45	-19.54	2,206.19	0.96	0.94	0.15
12,926.00	91.76	177.21	10,824.07	-2,295.30	-14.81	2,295.08	0.98	0.79	0.58
13,016.00	92.21	177.36	10,820.96	-2,385.14	-10.55	2,384.96	0.53	0.50	0.17
13,105.00	90.90	178.34	10,818.54	-2,474.05	-7.21	2,473.88	1.84	-1.47	1.10
13,195.00	89.38	179.14	10,818.32	-2,564.02	-5.23	2,563.87	1.91	-1.69	0.89
13,284.00	89.47	179.36	10,819.22	-2,653.01	-4.07	2,652.87	0.27	0.10	0.25
13,373.00	88.07	180.06	10,821.13	-2,741.98	-3.62	2,741.84	1.76	-1.57	0.79
13,463.00	87.85	180.15	10,824.33	-2,831.93	-3.78	2,831.78	0.26	-0.24	0.10
13,552.00	88.32	180.35	10,827.30	-2,920.88	-4.17	2,920.72	0.57	0.53	0.22
13,642.00	89.10	180.90	10,829.33	-3,010.85	-5.15	3,010.68	1.06	0.87	0.61
13,731.00	88.88	179.18	10,830.90	-3,099.83	-5.21	3,099.66	1.95	-0.25	-1.93
13,820.00	89.36	179.25	10,832.27	-3,188.81	-4.00	3,188.65	0.55	0.54	0.08
13,910.00	88.99	178.25	10,833.56	-3,278.78	-2.03	3,278.63	1.18	-0.41	-1.11
13,999.00	87.12	178.37	10,836.58	-3,367.68	0.59	3,367.56	2.11	-2.10	0.13
14,089.00	87.23	179.23	10,841.02	-3,457.55	2.47	3,457.44	0.96	0.12	0.96
14,178.00	87.82	179.43	10,844.86	-3,546.46	3.51	3,546.35	0.70	0.66	0.22
14,267.00	88.07	179.47	10,848.05	-3,635.40	4.37	3,635.30	0.28	0.28	0.04
14,357.00	88.35	179.46	10,850.86	-3,725.35	5.21	3,725.25	0.31	0.31	-0.01
14,446.00	88.52	179.97	10,853.29	-3,814.32	5.65	3,814.22	0.60	0.19	0.57
14,536.00	89.61	180.17	10,854.76	-3,904.31	5.54	3,904.20	1.23	1.21	0.22
14,625.00	89.13	178.92	10,855.74	-3,993.30	6.25	3,993.19	1.50	-0.54	-1.40
14,715.00	88.35	177.82	10,857.72	-4,083.24	8.80	4,083.15	1.50	-0.87	-1.22
14,804.00	88.46	177.94	10,860.20	-4,172.14	12.10	4,172.08	0.18	0.12	0.13
14,893.00	88.69	177.67	10,862.41	-4,261.05	15.50	4,261.02	0.40	0.26	-0.30
14,983.00	89.16	177.84	10,864.10	-4,350.96	19.03	4,350.96	0.56	0.52	0.19
15,072.00	89.44	177.49	10,865.19	-4,439.88	22.65	4,439.91	0.50	0.31	-0.39
15,161.00	90.17	177.39	10,865.49	-4,528.79	26.63	4,528.85	0.83	0.82	-0.11
15,198.00	90.73	177.06	10,865.20	-4,565.75	28.42	4,565.82	1.76	1.51	-0.89



Phoenix Technology Services

Survey Report



Company: Chevron
Project: Lea County NM (NAD27 NME)
Site: Prodigal Sun 17-24-34
Well: #1H
Wellbore: WB1/Job #1410098
Design: Surveys (Ensign 153)

Local Co-ordinate Reference: Well #1H
TVD Reference: KB @ 3588.50usft (Ensign 153)
MD Reference: KB @ 3588.50usft (Ensign 153)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
Last Phoenix MWD Survey									
15,250.00	90.73	177.06	10,864.54	-4,617.67	31.09	4,617.77	0.00	0.00	0.00
Projection to TD									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,183.00	5,180.09	-38.85	37.77	Tie-on to Teledrift Survey
5,325.00	5,321.86	-44.00	44.05	First Phoenix MWD Survey
15,198.00	10,865.20	-4,565.75	28.42	Last Phoenix MWD Survey
15,250.00	10,864.54	-4,617.67	31.09	Projection to TD

Checked By: _____ Approved By: _____ Date: _____