

NM OIL CONSERVATION

ARTESIA DISTRICT

AUG 17 2015

Phoenix Technology Services
SURVEY DATA CERTIFICATION

RECEIVED



PHOENIX
TECHNOLOGY SERVICES

PHOENIX JOB NUMBER

1412116

OPERATOR

Chevron

WELL NAME

Rustler Bluff 19 24 29 Federal 3H

COUNTY & STATE

Eddy County, New Mexico

API WELL NUMBER

30-015-42593

PROPOSED DIRECTION

359.38°

TIE-IN DATA						
MEASURED DEPTH	VERTICAL DEPTH	INCLIN	AZIMUTH	N-S COORD	E-W COORD	DATA SOURCE
0.00 ft	.00 ft	0.00°	0:00°	.00 ft	.00 ft	Surface

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
30-Oct-14	467.00 ft	1.58°	213.82°

SURVEY INSTRUMENT TYPE
Phoenix MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
9-Nov-14	8,328.00 ft	51.32°	320.90°

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
9-Nov-14	8,383.00 ft	54.91°	330.30°

Benjamin J. Maulding

PRINT YOUR NAME ABOVE

Benjamin J. Maulding

SIGN YOUR NAME ABOVE

11/12/2014

TODAY'S DATE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.39
DECLINATION OR GRID	GRID

MWD SUPERVISOR 1

Ben Maulding

DIRECTIONAL DRILLER 1

John Barnett

MWD SUPERVISOR 2

Joe Owens

DIRECTIONAL DRILLER 2

Carl Oetken

12329 Cutten Rd.,

Houston, Texas 777066

(713)337-0600 (Voice), (713)337-0599 (Fax)

Chevron

**Eddy County, NM (NAD27 NME)
Rustler Bluff 19 24 29 Federal
3H**

Wellbore #1 Job 1412116

Survey: Phoenix MWD Surveys

Standard Survey Report

22 November, 2014

Survey Report

Company:	Chevron	Local Co-ordinate Reference:	Well 3H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RKB @ 2949.00usft (Ensign 767)
Site:	Rustler Bluff 19 24 29 Federal	MD Reference:	RKB @ 2949.00usft (Ensign 767)
Well:	3H	North Reference:	Grid
Wellbore:	Wellbore #1 Job 1412116	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Ensign 767)	Database:	Compass 5000 GCR

Project: Eddy 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: Rustler Bluff 19 24 29 Federal			
Site Position:		Northing:	435,360.00 usft
From:	Map	Easting:	594,822.00 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 11' 47.58064 N
		Longitude:	104° 1' 36.46420 W
		Grid Convergence:	0.16 "

Well: 3H			
Well Position	+N/-S	0.00 usft	Northing: 435,360.00 usft
	+E/-W	0.00 usft	Easting: 594,822.00 usft
Position Uncertainty		0.00 usft	Wellhead Elevation: 0.00 usft
			Latitude: 32° 11' 47.58064 N
			Longitude: 104° 1' 36.46420 W
			Ground Level: 2,918.00 usft

Wellbore: Wellbore #1 Job 1412116					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	BGGM2014	10/24/2014	(°) 7.55	(°) 59.99	(nT) 48,170

Design: Surveys (Ensign 767)					
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	359.38	

Survey Program: Date 11/22/2014					
From	To	Survey (Wellbore)	Tool Name	Description	
(usft)	(usft)				
467.00	8,383.00	Phoenix MWD Surveys (Wellbore #1 Job 1	PHX+MWD+BGGM	PHX+MWD+BGGM v3.standard declination	

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	
467.00	1.58	213.82	466.94	-5.35	-3.58	-5.31	0.34	0.34	0.00	
WB1 First Phoenix Survey										
560.00	1.52	208.26	559.91	-7.50	-4.88	-7.45	0.17	-0.06	-5.98	
766.00	1.59	193.39	765.83	-12.69	-6.84	-12.61	0.20	0.03	-7.22	
947.00	1.48	185.88	946.77	-17.46	-7.66	-17.37	0.13	-0.06	-4.15	
1,137.00	1.26	190.28	1,136.71	-21.95	-8.28	-21.86	0.13	-0.12	2.32	
1,327.00	1.38	203.97	1,326.66	-26.10	-9.58	-25.99	0.18	0.06	7.21	
1,517.00	1.40	216.17	1,516.61	-30.06	-11.88	-29.93	0.16	0.01	6.42	
1,707.00	1.17	218.57	1,706.56	-33.45	-14.46	-33.29	0.12	-0.12	1.26	
1,897.00	1.23	222.50	1,896.52	-36.47	-17.05	-36.29	0.05	0.03	2.07	

Survey Report

Company:	Chevron	Local Co-ordinate Reference:	Well 3H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RKB @ 2949.00usft (Ensign 767)
Site:	Rustler Bluff 19 24 29 Federal	MD Reference:	RKB @ 2949.00usft (Ensign 767)
Well:	3H	North Reference:	Grid
Wellbore:	Wellbore #1 Job 1412116	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Ensign 767)	Database:	Compass 5000 GCR

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)	
2,087.00	1.05	173.61	2,086.48	-39.71	-18.23	-39.51	0.50	-0.09	-25.73	
2,277.00	1.33	163.46	2,276.44	-43.55	-17.41	-43.36	0.18	0.15	-5.34	
2,467.00	2.48	144.90	2,466.34	-49.03	-14.42	-48.87	0.68	0.61	-9.77	
2,561.00	1.65	142.56	2,560.27	-51.77	-12.43	-51.63	0.89	-0.88	-2.49	
2,753.00	1.29	122.70	2,752.21	-55.13	-8.93	-55.03	0.32	-0.19	-10.34	
2,943.00	0.31	235.92	2,942.20	-56.57	-7.56	-56.49	0.76	-0.52	59.59	
3,134.00	0.40	273.34	3,133.19	-56.82	-8.65	-56.73	0.13	0.05	19.59	
3,324.00	0.45	256.63	3,323.19	-56.96	-10.04	-56.84	0.07	0.03	-8.79	
3,515.00	1.59	350.23	3,514.16	-54.52	-11.22	-54.39	0.88	0.60	49.01	
3,704.00	1.51	347.77	3,703.09	-49.50	-12.19	-49.37	0.06	-0.04	-1.30	
3,895.00	1.86	347.80	3,894.01	-44.01	-13.38	-43.86	0.18	0.18	0.02	
4,085.00	0.59	66.35	4,083.97	-40.60	-13.13	-40.46	0.97	-0.67	41.34	
4,275.00	0.85	71.97	4,273.96	-39.78	-10.90	-39.66	0.14	0.14	2.96	
4,464.00	0.77	71.33	4,462.94	-38.94	-8.36	-38.84	0.04	-0.04	-0.34	
4,656.00	0.73	66.92	4,654.92	-38.04	-6.01	-37.98	0.04	-0.02	-2.30	
4,844.00	0.71	68.14	4,842.91	-37.14	-3.83	-37.10	0.01	-0.01	0.65	
5,034.00	1.01	102.56	5,032.89	-37.07	-1.10	-37.05	0.31	0.16	18.12	
5,224.00	0.95	113.96	5,222.86	-38.07	1.97	-38.09	0.11	-0.03	6.00	
5,413.00	0.93	122.29	5,411.83	-39.53	4.70	-39.57	0.07	-0.01	4.41	
5,603.00	0.91	340.06	5,601.82	-38.93	5.49	-38.99	0.92	-0.01	-74.86	
5,792.00	0.99	340.26	5,790.80	-35.98	4.43	-36.03	0.04	0.04	0.11	
5,981.00	1.07	340.88	5,979.77	-32.78	3.30	-32.81	0.04	0.04	0.33	
6,171.00	1.09	346.07	6,169.73	-29.35	2.28	-29.37	0.05	0.01	2.78	
6,360.00	0.82	343.83	6,358.71	-26.30	1.47	-26.32	0.14	-0.14	-1.19	
6,551.00	0.54	4.65	6,549.69	-24.10	1.16	-24.11	0.19	-0.15	10.90	
6,740.00	0.20	333.55	6,738.69	-22.91	1.09	-22.92	0.20	-0.18	-16.46	
6,930.00	0.59	266.39	6,928.68	-22.68	-0.04	-22.68	0.29	0.21	-35.35	
7,121.00	1.55	254.77	7,119.65	-23.42	-3.51	-23.38	0.51	0.50	-6.08	
7,311.00	1.17	289.33	7,309.60	-23.45	-7.82	-23.36	0.47	-0.20	18.19	
7,502.00	0.70	314.88	7,500.57	-21.98	-10.49	-21.87	0.32	-0.25	13.38	
7,690.00	0.81	288.72	7,688.56	-20.74	-12.56	-20.61	0.19	0.06	-13.91	
7,886.00	0.87	311.68	7,884.54	-19.31	-14.98	-19.15	0.17	0.03	11.71	
7,917.00	4.23	329.17	7,915.50	-18.17	-15.74	-18.00	11.00	10.84	56.42	
7,949.00	9.02	327.17	7,947.28	-15.05	-17.71	-14.86	14.98	14.97	-6.25	
7,981.00	11.83	328.84	7,978.75	-10.13	-20.77	-9.91	8.83	8.78	5.22	
8,013.00	13.16	325.96	8,009.99	-4.31	-24.51	-4.04	4.59	4.16	-9.00	
8,044.00	16.66	323.96	8,039.94	2.21	-29.10	2.53	11.41	11.29	-6.45	
8,076.00	20.44	319.73	8,070.28	10.19	-35.41	10.57	12.53	11.81	-13.22	
8,108.00	24.28	316.01	8,099.86	19.19	-43.59	19.66	12.78	12.00	-11.63	
8,140.00	27.83	315.13	8,128.61	29.22	-53.44	29.80	11.16	11.09	-2.75	
8,171.00	31.63	315.33	8,155.52	40.13	-64.26	40.83	12.26	12.26	0.65	
8,203.00	36.48	316.17	8,182.03	52.97	-76.75	53.80	15.23	15.16	2.63	
8,235.00	39.89	316.11	8,207.16	67.25	-90.48	68.22	10.97	10.97	-0.19	

Survey Report

Company:	Chevron	Local Co-ordinate Reference:	Well 3H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RKB @ 2949.00usft (Ensign 767)
Site:	Rustler Bluff 19 24 29 Federal	MD Reference:	RKB @ 2949.00usft (Ensign 767)
Well:	3H	North Reference:	Grid
Wellbore:	Wellbore #1 Job 1412116	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Ensign 767)	Database:	Compass 5000 GCR

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)	
8,266.00	42.56	315.97	8,230.45	81.97	-104.67	83.09	8.30	8.29	-0.45	
8,296.00	46.81	318.53	8,251.78	97.46	-118.97	98.74	15.38	14.17	8.53	
8,328.00	51.32	320.90	8,272.74	115.91	-134.58	117.36	15.16	14.09	7.41	
WB1 Final Phoenix Survey										
8,383.00	54.91	330.30	8,305.80	152.18	-159.31	153.89	15.14	6.53	17.09	
WB1 Projection to TD										

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
467.00	466.94	-5.35	-3.58	WB1 First Phoenix Survey	
8,328.00	8,272.74	115.91	-134.58	WB1 Final Phoenix Survey	
8,383.00	8,305.80	152.18	-159.31	WB1 Projection to TD	

Checked By: _____	Approved By: _____	Date: _____
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**Phoenix Technology Services
SURVEY DATA CERTIFICATION**



PHOENIX JOB NUMBER

1412116

OPERATOR

Chevron

WELL NAME

Rustler Bluff 19 24 29 Federal 3H

COUNTY & STATE

Eddy County, New Mexico

API WELL NUMBER

30-015-42593

PROPOSED DIRECTION

5.21°

TIE-IN DATA						
MEASURED DEPTH	VERTICAL DEPTH	INCLIN	AZIMUTH	N-S COORD	E-W COORD	DATA SOURCE
7,311.00 ft	7309.60 ft	1.17°	289.33°	23.45 ft S	7.82 ft W	Phoenix:MWD

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
13-Nov-14	7,507.00 ft	0.92°	320.12°

SURVEY INSTRUMENT TYPE
Phoenix MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
21-Nov-14	12,997.00 ft	86.64°	3.01°

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
21-Nov-14	13,058.00 ft	85.96°	3.95°

Benjamin J. Maulding

PRINT YOUR NAME ABOVE

Benjamin J. Maulding

SIGN YOUR NAME ABOVE

11/22/2014

TODAY'S DATE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.39
DECLINATION OR GRID	GRID

MWD SUPERVISOR 1

Ben Maulding

DIRECTIONAL DRILLER 1

John Barnett

MWD SUPERVISOR 2

Joe Owens

DIRECTIONAL DRILLER 2

Carl Oetken

12329 Cuten Rd.,

Houston, Texas 777066

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Chevron

**Eddy County, NM (NAD27 NME)
Rustler Bluff 19 24 29 Federal
3H**

Wellbore #2 Job #1412116

Survey: Phoenix MWD Surveys

Standard Survey Report

22 November, 2014

Survey Report

Company:	Chevron	Local Co-ordinate Reference:	Well 3H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RKB @ 2949.00usft (Ensign 767)
Site:	Rustler Bluff 19 24 29 Federal	MD Reference:	RKB @ 2949.00usft (Ensign 767)
Well:	3H	North Reference:	Grid
Wellbore:	Wellbore #2 Job #1412116	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Ensign 767)	Database:	Compass 5000 GCR

Project:	Eddy County, NM (NAD27 NME)		
Map System:	US State Plane 1827 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	Rustler Bluff 19 24 29 Federal				
Site Position:	Northing:	435,360.00 usft	Latitude:	32° 11' 47.58064 N	
From:	Map	Easting:	594,822.00 usft	Longitude:	104° 1' 36.46420 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.16 "

Well:	3H					
Well Position	+N/-S	0.00 usft	Northing:	435,360.00 usft	Latitude:	32° 11' 47.58064 N
	+E/-W	0.00 usft	Easting:	594,822.00 usft	Longitude:	104° 1' 36.46420 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	2,918.00 usft

Wellbore:	Wellbore #2 Job #1412116				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	10/24/2014	7.55	59.99	48,170

Design:	Surveys (Ensign 767)				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	7,311.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	5.21	

Survey Program	Date:	11/22/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
467.00	7,311.00	Phoenix MWD Surveys (Wellbore #1 Job 1	PHX+MWD+BGGM	PHX+MWD+BGGM v3: standard declination	
7,507.00	13,058.00	Phoenix MWD Surveys (Wellbore #2 Job #	PHX+MWD+BGGM	PHX+MWD+BGGM 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)	
7,311.00	1.17	289.33	7,309.60	-23.45	-7.82	-24.06	0.00	0.00	0.00	
Tie-in to WB1										
7,507.00	0.92	320.12	7,505.57	-21.58	-10.72	-22.46	0.31	-0.13	15.71	
WB2 First Phoenix Survey										
7,542.00	1.78	336.56	7,540.56	-20.87	-11.11	-21.79	2.67	2.46	46.97	
7,633.00	9.38	19.51	7,631.08	-12.57	-9.20	-13.35	8.97	8.35	47.20	
7,697.00	9.30	15.81	7,694.23	-2.67	-6.05	-3.21	0.95	-0.13	-5.78	
7,792.00	9.42	24.48	7,787.97	11.79	-0.73	11.67	1.49	0.13	9.13	
7,887.00	8.66	36.95	7,881.80	24.58	6.79	25.10	2.21	-0.80	13.13	

Survey Report

Company:	Chevron	Local Co-ordinate Reference:	Well 3H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RKB @ 2949.00usft (Ensign 767)
Site:	Rustler Bluff 19 24 29 Federal	MD Reference:	RKB @ 2949.00usft (Ensign 767)
Well:	3H	North Reference:	Grid
Wellbore:	Wellbore #2 Job #1412116	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Ensign 767)	Database:	Compass 5000 GCR

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)
7,919.00	8.22	34.72	7,913.45	28.39	9.54	29.14	1.71	-1.38	-6.97
7,951.00	9.53	35.06	7,945.07	32.44	12.37	33.42	4.10	4.09	1.06
7,982.00	11.87	35.29	7,975.53	37.14	15.68	38.41	7.55	7.55	0.74
8,014.00	15.01	31.53	8,006.65	43.36	19.75	44.97	10.18	9.81	-11.75
8,046.00	17.64	27.07	8,037.36	51.21	24.13	53.19	9.10	8.22	-13.94
8,077.00	20.32	23.29	8,066.67	60.34	28.39	62.67	9.51	8.65	-12.19
8,109.00	23.54	24.15	8,096.35	71.28	33.20	74.00	10.11	10.06	2.69
8,141.00	26.10	26.61	8,125.39	83.40	38.97	86.60	8.62	8.00	7.69
8,173.00	29.47	27.38	8,153.70	96.69	45.75	100.44	10.59	10.53	2.41
8,204.00	33.81	27.19	8,180.09	111.14	53.20	115.51	14.00	14.00	-0.61
8,236.00	37.87	25.88	8,206.02	127.90	61.56	132.96	12.91	12.69	-4.09
8,268.00	41.98	26.57	8,230.56	146.32	70.64	152.13	12.92	12.84	2.16
8,298.00	45.63	25.64	8,252.21	164.97	79.77	171.53	12.35	12.17	-3.10
8,329.00	49.40	25.15	8,273.14	185.62	89.57	192.98	12.22	12.16	-1.58
8,361.00	51.98	23.73	8,293.41	208.16	99.80	216.36	8.76	8.06	-4.44
8,392.00	55.64	23.26	8,311.71	231.10	109.77	240.11	11.87	11.81	-1.52
8,424.00	59.64	23.00	8,328.84	255.95	120.39	265.83	12.52	12.50	-0.81
8,456.00	61.15	22.91	8,344.64	281.57	131.24	292.32	4.73	4.72	-0.28
8,487.00	63.28	22.84	8,359.09	306.84	141.90	318.45	6.87	6.87	-0.23
8,519.00	65.62	22.26	8,372.89	333.50	152.97	346.01	7.49	7.31	-1.81
8,551.00	67.68	22.08	8,385.58	360.70	164.05	374.11	6.46	6.44	-0.56
8,583.00	71.09	21.73	8,396.84	388.49	175.23	402.80	10.71	10.66	-1.09
8,614.00	74.14	21.55	8,406.10	415.99	186.13	431.17	9.85	9.84	-0.58
8,646.00	77.80	21.03	8,413.86	444.91	197.40	460.99	11.55	11.44	-1.63
8,678.00	82.60	20.21	8,419.31	474.41	208.50	491.39	15.21	15.00	-2.56
8,771.00	90.67	19.53	8,424.76	561.65	240.03	581.13	8.71	8.68	-0.73
8,866.00	90.31	19.47	8,423.95	651.20	271.74	673.19	0.38	-0.38	-0.06
8,961.00	90.22	20.94	8,423.51	740.35	304.55	764.95	1.55	-0.09	1.55
9,056.00	89.64	20.38	8,423.62	829.24	338.07	856.51	0.85	-0.61	-0.59
9,151.00	88.69	18.84	8,425.01	918.72	369.95	948.51	1.90	-1.00	-1.62
9,245.00	88.18	15.45	8,427.58	1,008.49	397.64	1,040.43	3.65	-0.54	-3.61
9,340.00	87.17	12.30	8,431.43	1,100.63	420.40	1,134.28	3.48	-1.06	-3.32
9,434.00	87.65	10.59	8,435.68	1,192.66	439.04	1,227.60	1.89	0.51	-1.82
9,528.00	87.84	8.62	8,439.38	1,285.27	454.71	1,321.25	2.10	0.20	-2.10
9,623.00	88.38	5.47	8,442.51	1,379.49	466.35	1,416.14	3.36	0.57	-3.32
9,717.00	89.24	3.68	8,444.46	1,473.17	473.85	1,510.11	2.11	0.91	-1.90
9,812.00	89.72	1.80	8,445.33	1,568.05	478.39	1,605.01	2.04	0.51	-1.98
9,907.00	89.97	358.58	8,445.58	1,663.04	478.70	1,699.63	3.40	0.26	-3.39
10,001.00	91.01	357.30	8,444.78	1,756.97	475.32	1,792.87	1.75	1.11	-1.36
10,095.00	89.86	357.21	8,444.07	1,850.86	470.82	1,885.96	1.23	-1.22	-0.10
10,190.00	90.89	357.40	8,443.44	1,945.75	466.35	1,980.06	1.10	1.08	0.20
10,284.00	91.20	356.95	8,441.73	2,039.62	461.72	2,073.12	0.58	0.33	-0.48
10,379.00	91.48	357.93	8,439.51	2,134.49	457.48	2,167.22	1.07	0.29	1.03

Survey Report

Company:	Chevron	Local Co-ordinate Reference:	Well 3H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	RKB @ 2949.00usft (Ensign 767)
Site:	Rustler Bluff 19 24 29 Federal	MD Reference:	RKB @ 2949.00usft (Ensign 767)
Well:	3H	North Reference:	Grid
Wellbore:	Wellbore #2 Job #1412116	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Ensign 767)	Database:	Compass 5000 GCR

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)	
10,474.00	91.18	358.69	8,437.30	2,229.43	454.68	2,261.50	0.86	-0.32	0.80	
10,569.00	91.18	358.93	8,435.35	2,324.39	452.71	2,355.89	0.25	0.00	0.25	
10,664.00	91.17	358.51	8,433.40	2,419.34	450.59	2,450.26	0.44	-0.01	-0.44	
10,759.00	90.70	358.32	8,431.85	2,514.29	447.96	2,544.58	0.53	-0.49	-0.20	
10,855.00	89.24	356.01	8,431.90	2,610.17	443.21	2,639.63	2.85	-1.52	-2.41	
10,950.00	89.58	356.72	8,432.88	2,704.97	437.19	2,733.49	0.83	0.36	0.75	
11,044.00	89.19	356.65	8,433.89	2,788.81	431.75	2,826.45	0.42	-0.41	-0.07	
11,140.00	89.78	358.01	8,434.75	2,894.70	427.28	2,921.54	1.54	0.81	1.42	
11,235.00	89.55	358.60	8,435.30	2,989.65	424.47	3,015.85	0.67	-0.24	0.62	
11,330.00	90.00	358.28	8,435.68	3,084.62	421.89	3,110.18	0.58	0.47	-0.34	
11,425.00	91.85	359.18	8,434.14	3,179.58	419.78	3,204.56	2.17	1.95	0.95	
11,521.00	91.71	359.06	8,431.16	3,275.52	418.31	3,299.97	0.19	-0.15	-0.13	
11,616.00	90.42	358.85	8,429.40	3,370.48	416.57	3,394.39	1.38	-1.36	-0.22	
11,711.00	91.46	359.14	8,427.84	3,465.45	414.91	3,488.81	1.14	1.09	0.31	
11,805.00	90.59	358.66	8,426.16	3,559.42	413.10	3,582.23	1.06	-0.93	-0.51	
11,901.00	90.14	359.80	8,425.55	3,655.41	411.81	3,677.70	1.28	-0.47	1.19	
11,994.00	90.50	2.00	8,425.03	3,748.39	413.27	3,770.43	2.40	0.39	2.37	
12,088.00	91.23	2.06	8,423.61	3,842.32	416.60	3,864.28	0.78	0.78	0.06	
12,184.00	90.98	2.47	8,421.76	3,938.23	420.40	3,960.13	0.50	-0.26	0.43	
12,278.00	90.67	3.25	8,420.40	4,032.10	425.09	4,054.04	0.89	-0.33	0.83	
12,372.00	89.78	2.79	8,420.03	4,125.97	430.04	4,147.97	1.07	-0.95	-0.49	
12,468.00	89.72	2.86	8,420.45	4,221.85	434.77	4,243.89	0.10	-0.06	0.07	
12,562.00	89.92	1.86	8,420.75	4,315.77	438.64	4,337.77	1.08	0.21	-1.06	
12,658.00	89.22	1.43	8,421.47	4,411.72	441.40	4,433.58	0.86	-0.73	-0.45	
12,754.00	88.99	0.97	8,422.97	4,507.69	443.41	4,529.33	0.54	-0.24	-0.46	
12,849.00	88.35	1.37	8,425.17	4,602.65	445.35	4,624.07	0.79	-0.67	0.42	
12,944.00	87.23	2.19	8,428.84	4,697.53	448.29	4,718.83	1.46	-1.18	0.86	
12,997.00	86.64	3.01	8,431.67	4,750.40	450.69	4,771.70	1.90	-1.11	1.55	
WB2 Final Phoenix Survey										
13,058.00	85.96	3.95	8,435.61	4,811.15	454.39	4,832.54	1.90	-1.11	1.54	
WB2 Projection to TD										

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,311.00	7,309.60	-23.45	-7.82	Tie-in to WB1
7,507.00	7,505.57	-21.58	-10.72	WB2 First Phoenix Survey
12,997.00	8,431.67	4,750.40	450.69	WB2 Final Phoenix Survey
13,058.00	8,435.61	4,811.15	454.39	WB2 Projection to TD

Checked By: _____ Approved By: _____ Date: _____