Chevron

Lea County, NM (NAD27 NME)
Salado Draw 18 26 33 Fed
1H

OH / Job 1513943

Survey: Phoenix MWD Surveys

Standard Survey Report

28 September, 2015

PHOENIX
TECHNOLOGY SERVICES

Company:	Chevron	**Local Co-ordinate Reference:**	Well 1H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	RKB @ 3203.00usft (Pace X30)
Site:	Salado Draw 18 26 33 Fed	**MD Reference:**	RKB @ 3203.00usft (Pace X30)
Well:	1H	**North Reference:**	Grid
Wellbore:	OH / Job 1513943	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys (Pace X30)	**Database:**	Compass 5000 GCR

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	Salado Draw 18 26 33 Fed				
Site Position:		**Northing:**	377,410.00 usft	**Latitude:**	32° 2' 8.11866 N
From:	Map	**Easting:**	722,122.00 usft	**Longitude:**	103° 36' 59.50691 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.38 °

Well	1H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	377,410.00 usft	**Latitude:**	32° 2' 8.11866 N
	+E/-W	0.00 usft	**Easting:**	722,122.00 usft	**Longitude:**	103° 36' 59.50691 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,176.00 usft

Wellbore	OH / Job 1513943				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	HDGM	7/11/2015	7.05	59.77	48,115

Design	Surveys (Pace X30)					
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	353.95		

Survey Program	**Date** 9/28/2015			
From (usft)	**To (usft)**	**Survey (Wellbore)**	**Tool Name**	**Description**
160.00	14,042.00	Phoenix MWD Surveys (OH / Job 1513943	PHX+MWD+HDGM	PHX+MWD+HDGM

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
160.00	1.25	193.75	159.99	-1.70	-0.41	-1.64	0.78	0.78	0.00
First Phoenix Survey									
312.00	1.27	191.71	311.95	-4.96	-1.15	-4.81	0.03	0.01	-1.34
500.00	1.09	187.81	499.91	-8.77	-1.82	-8.53	0.10	-0.10	-2.07
685.00	1.05	177.59	684.88	-12.20	-1.98	-11.93	0.11	-0.02	-5.52
801.00	1.07	174.96	800.86	-14.34	-1.84	-14.07	0.05	0.02	-2.27
948.00	1.34	184.36	947.83	-17.43	-1.85	-17.13	0.23	0.18	6.39
1,126.00	0.28	327.43	1,125.81	-19.13	-2.25	-18.79	0.88	-0.60	80.38
1,303.00	1.94	20.43	1,302.77	-15.96	-1.43	-15.72	1.01	0.94	29.94
1,480.00	2.78	3.56	1,479.62	-8.87	-0.12	-8.81	0.61	0.47	-9.53

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Well:	1H	**North Reference:**	Grid
Wellbore:	OH / Job 1513943	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys (Pace X30)	**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)
1,657.00	3.39	342.93	1,656.37	0.42	-1.39	0.56	0.71	0.34	-11.66
1,835.00	3.97	296.86	1,834.04	8.23	-8.43	9.08	1.64	0.33	-25.88
2,012.00	4.48	290.40	2,010.56	13.41	-20.38	15.48	0.39	0.29	-3.65
2,189.00	4.71	288.23	2,186.99	18.09	-33.76	21.55	0.16	0.13	-1.23
2,366.00	4.28	287.48	2,363.45	22.35	-46.96	27.18	0.25	-0.24	-0.42
2,543.00	4.29	283.59	2,539.95	25.89	-59.70	32.04	0.16	0.01	-2.20
2,720.00	4.68	285.26	2,716.41	29.35	-73.10	36.89	0.23	0.22	0.94
2,898.00	3.99	283.79	2,893.90	32.73	-86.12	41.63	0.39	-0.39	-0.83
3,075.00	4.13	279.54	3,070.46	35.26	-98.39	45.43	0.19	0.08	-2.40
3,253.00	3.64	289.52	3,248.05	38.21	-110.03	49.59	0.47	-0.28	5.61
3,430.00	3.39	296.15	3,424.72	42.39	-120.03	54.81	0.27	-0.14	3.75
3,608.00	3.84	298.30	3,602.36	47.54	-130.00	60.97	0.26	0.25	1.21
3,785.00	3.35	299.35	3,779.01	52.88	-139.72	67.31	0.28	-0.28	0.59
3,962.00	4.91	293.34	3,955.55	58.42	-151.19	74.03	0.91	0.88	-3.40
4,139.00	4.32	292.70	4,131.98	63.99	-164.29	80.95	0.33	-0.33	-0.36
4,316.00	4.00	291.53	4,308.51	68.83	-176.19	87.02	0.19	-0.18	-0.66
4,494.00	4.12	295.72	4,486.06	73.88	-187.72	93.26	0.18	0.07	2.35
4,616.00	4.38	296.75	4,607.73	77.88	-195.83	98.09	0.22	0.21	0.84
4,773.00	4.41	298.88	4,764.27	83.50	-206.47	104.79	0.11	0.02	1.36
4,951.00	3.93	300.32	4,941.79	89.88	-217.73	112.33	0.28	-0.27	0.81
5,128.00	4.96	296.11	5,118.26	96.31	-229.83	120.00	0.61	0.58	-2.38
5,306.00	4.45	292.88	5,295.66	102.38	-243.11	127.44	0.32	-0.29	-1.81
5,483.00	4.00	291.31	5,472.18	107.30	-255.18	133.59	0.26	-0.25	-0.89
5,660.00	3.54	293.58	5,648.79	111.73	-265.94	139.13	0.27	-0.26	1.28
5,838.00	4.08	283.54	5,826.40	115.41	-277.14	143.97	0.48	0.30	-5.64
6,015.00	3.72	282.90	6,002.99	118.16	-288.86	147.95	0.20	-0.20	-0.36
6,192.00	4.66	285.48	6,179.52	121.36	-301.38	152.45	0.54	0.53	1.46
6,369.00	5.58	297.57	6,355.81	127.27	-315.94	159.86	0.80	0.52	6.83
6,547.00	4.84	295.26	6,533.08	134.48	-330.40	168.55	0.43	-0.42	-1.30
6,724.00	4.07	289.13	6,709.54	139.72	-343.09	175.10	0.51	-0.44	-3.46
6,902.00	4.82	285.43	6,887.01	143.78	-356.27	180.53	0.45	0.42	-2.08
7,079.00	3.60	278.12	7,063.53	146.54	-368.94	184.61	0.75	-0.69	-4.13
7,257.00	4.49	284.41	7,241.08	149.07	-381.22	188.42	0.56	0.50	3.53
7,434.00	4.32	291.22	7,417.56	153.20	-394.14	193.89	0.31	-0.10	3.85
7,611.00	3.94	282.85	7,594.10	156.97	-406.29	198.92	0.40	-0.21	-4.73
7,789.00	3.73	292.50	7,771.71	160.55	-417.60	203.66	0.38	-0.12	5.42
7,967.00	4.04	299.39	7,949.30	165.84	-428.41	210.07	0.31	0.17	3.87
8,144.00	4.31	295.76	8,125.83	171.79	-439.83	217.19	0.21	0.15	-2.05
8,322.00	4.56	296.82	8,303.29	177.89	-452.17	224.55	0.15	0.14	0.60
8,499.00	3.14	293.34	8,479.89	182.98	-462.90	230.75	0.81	-0.80	-1.97
8,635.00	4.10	293.40	8,615.62	186.39	-470.78	234.97	0.71	0.71	0.04
8,653.00	3.96	292.55	8,633.57	186.88	-471.95	235.58	0.85	-0.78	-4.72
8,697.00	4.52	307.80	8,677.45	188.53	-474.72	237.51	2.85	1.27	34.66

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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)
8,741.00	8.94	332.49	8,721.15	192.63	-477.67	241.90	11.79	10.05	56.11
8,786.00	16.04	351.09	8,765.07	201.89	-480.26	251.38	17.94	15.78	41.33
8,830.00	21.03	359.60	8,806.78	215.80	-481.25	265.32	12.87	11.34	19.34
8,874.00	29.02	2.88	8,846.62	234.38	-480.77	283.75	18.42	18.16	7.45
8,918.00	34.39	1.47	8,884.04	257.48	-479.92	306.63	12.32	12.20	-3.20
8,963.00	40.56	357.67	8,919.74	284.83	-480.18	333.86	14.64	13.71	-8.44
9,007.00	46.19	356.49	8,951.71	315.00	-481.74	364.02	12.93	12.80	-2.68
9,051.00	51.60	355.62	8,980.63	348.06	-484.03	397.14	12.39	12.30	-1.98
9,096.00	58.24	355.22	9,006.48	384.75	-486.97	433.93	14.77	14.76	-0.89
9,140.00	63.90	356.23	9,027.76	423.13	-489.83	472.40	13.02	12.86	2.30
9,185.00	69.48	356.72	9,045.56	464.37	-492.37	513.67	12.44	12.40	1.09
9,229.00	74.41	357.58	9,059.19	506.13	-494.45	555.43	11.36	11.20	1.95
9,273.00	75.29	357.89	9,070.69	548.57	-496.12	597.81	2.11	2.00	0.70
9,318.00	75.11	357.32	9,082.18	592.04	-497.94	641.22	1.29	-0.40	-1.27
9,362.00	75.98	356.99	9,093.17	634.59	-500.06	683.76	2.11	1.98	-0.75
9,407.00	80.49	356.18	9,102.34	678.56	-502.68	727.76	10.18	10.02	-1.80
9,451.00	84.38	357.89	9,108.13	722.11	-504.94	771.30	9.64	8.84	3.89
9,507.00	84.82	357.31	9,113.40	777.81	-507.27	826.94	1.30	0.79	-1.04
9,552.00	85.65	357.65	9,117.14	822.61	-509.24	871.70	1.99	1.84	0.76
9,640.00	86.30	358.44	9,123.32	910.34	-512.24	959.26	1.16	0.74	0.90
9,729.00	87.40	358.76	9,128.21	999.18	-514.41	1,047.83	1.29	1.24	0.36
9,817.00	88.69	1.39	9,131.21	1,087.12	-514.29	1,135.27	3.33	1.47	2.99
9,906.00	89.13	0.86	9,132.90	1,176.08	-512.54	1,223.55	0.77	0.49	-0.60
9,995.00	88.52	0.09	9,134.73	1,265.06	-511.81	1,311.96	1.10	-0.69	-0.87
10,083.00	90.17	359.99	9,135.73	1,353.05	-511.74	1,399.45	1.88	1.88	-0.11
10,172.00	90.17	359.81	9,135.47	1,442.05	-511.90	1,487.97	0.20	0.00	-0.20
10,260.00	90.61	359.44	9,134.87	1,530.05	-512.48	1,575.54	0.65	0.50	-0.42
10,349.00	90.90	359.19	9,133.70	1,619.03	-513.54	1,664.14	0.43	0.33	-0.28
10,437.00	92.04	359.24	9,131.44	1,706.99	-514.75	1,751.74	1.30	1.30	0.06
10,526.00	91.37	0.33	9,128.79	1,795.95	-515.08	1,840.24	1.44	-0.75	1.22
10,615.00	90.42	359.95	9,127.40	1,884.94	-514.86	1,928.71	1.15	-1.07	-0.43
10,703.00	91.15	359.23	9,126.20	1,972.93	-515.49	2,016.27	1.17	0.83	-0.82
10,792.00	92.21	358.06	9,123.59	2,061.86	-517.59	2,104.93	1.77	1.19	-1.31
10,880.00	91.49	357.98	9,120.75	2,149.76	-520.63	2,192.66	0.82	-0.82	-0.09
10,969.00	87.65	355.57	9,121.41	2,238.60	-525.64	2,281.53	5.09	-4.31	-2.71
11,058.00	89.13	357.32	9,123.91	2,327.38	-531.15	2,370.40	2.57	1.66	1.97
11,146.00	90.73	359.46	9,124.02	2,415.34	-533.63	2,458.13	3.04	1.82	2.43
11,235.00	89.75	357.50	9,123.65	2,504.30	-535.99	2,546.85	2.46	-1.10	-2.20
11,324.00	91.20	358.93	9,122.91	2,593.25	-538.76	2,635.59	2.29	1.63	1.61
11,412.00	90.87	359.34	9,121.32	2,681.23	-540.09	2,723.22	0.60	-0.38	0.47
11,501.00	90.28	0.62	9,120.43	2,770.22	-540.12	2,811.72	1.58	-0.66	1.44
11,590.00	90.50	1.18	9,119.82	2,859.21	-538.72	2,900.06	0.68	0.25	0.63
11,678.00	91.07	0.26	9,118.62	2,947.19	-537.61	2,987.44	1.23	0.65	-1.05

Chevron

Phoenix Technology Services LP

Survey Report

PHOENIX TECHNOLOGY SERVICES

Company:	Chevron	**Local Co-ordinate Reference:**	Well 1H
Project:	Lea County, NM (NAD27 NME)	**TVD Reference:**	RKB @ 3203.00usft (Pace X30)
Site:	Salado Draw 18 26 33 Fed	**MD Reference:**	RKB @ 3203.00usft (Pace X30)
Well:	1H	**North Reference:**	Grid
Wellbore:	OH / Job 1513943	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys (Pace X30)	**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)
11,767.00	91.26	0.85	9,116.81	3,036.17	-536.75	3,075.83	0.70	0.21	0.66
11,856.00	91.59	0.27	9,114.59	3,125.14	-535.88	3,164.21	0.75	0.37	-0.65
11,945.00	91.54	1.40	9,112.16	3,214.09	-534.59	3,252.53	1.27	-0.06	1.27
12,033.00	89.83	1.44	9,111.11	3,302.06	-532.41	3,339.78	1.94	-1.94	0.05
12,122.00	90.06	1.26	9,111.20	3,391.03	-530.31	3,428.04	0.33	0.26	-0.20
12,210.00	90.03	2.07	9,111.13	3,478.99	-527.75	3,515.24	0.92	-0.03	0.92
12,299.00	88.01	1.47	9,112.65	3,567.93	-525.00	3,603.39	2.37	-2.27	-0.67
12,388.00	88.26	1.59	9,115.55	3,656.85	-522.63	3,691.57	0.31	0.28	0.13
12,477.00	88.41	1.26	9,118.13	3,745.79	-520.42	3,779.78	0.41	0.17	-0.37
12,565.00	88.38	0.59	9,120.60	3,833.74	-519.00	3,867.09	0.76	-0.03	-0.76
12,654.00	88.71	359.98	9,122.86	3,922.71	-518.55	3,955.52	0.78	0.37	-0.69
12,742.00	88.23	359.75	9,125.21	4,010.68	-518.76	4,043.02	0.60	-0.55	-0.26
12,831.00	87.84	357.90	9,128.26	4,099.61	-520.58	4,131.64	2.12	-0.44	-2.08
12,920.00	89.13	357.78	9,130.61	4,188.51	-523.94	4,220.40	1.46	1.45	-0.13
13,008.00	89.94	358.28	9,131.33	4,276.45	-526.96	4,308.17	1.08	0.92	0.57
13,097.00	90.67	358.87	9,130.85	4,365.42	-529.18	4,396.88	1.05	0.82	0.66
13,186.00	92.30	359.15	9,128.55	4,454.38	-530.71	4,485.50	1.86	1.83	0.31
13,274.00	91.01	358.58	9,126.00	4,542.32	-532.46	4,573.14	1.60	-1.47	-0.65
13,363.00	92.16	357.92	9,123.54	4,631.24	-535.17	4,661.85	1.49	1.29	-0.74
13,452.00	90.39	357.74	9,121.56	4,720.15	-538.54	4,750.62	2.00	-1.99	-0.20
13,540.00	90.92	357.77	9,120.56	4,808.08	-541.99	4,838.42	0.60	0.60	0.03
13,629.00	91.62	357.73	9,118.58	4,896.99	-545.48	4,927.21	0.79	0.79	-0.04
13,718.00	91.31	357.69	9,116.31	4,985.89	-549.04	5,015.99	0.35	-0.35	-0.04
13,806.00	91.77	357.97	9,113.94	5,073.79	-552.37	5,103.75	0.61	0.52	0.32
13,895.00	92.86	357.82	9,110.35	5,162.66	-555.63	5,192.47	1.24	1.22	-0.17
13,984.00	93.78	357.36	9,105.19	5,251.43	-559.37	5,281.14	1.16	1.03	-0.52
Final Phoenix Survey									
14,042.00	93.78	357.36	9,101.37	5,309.24	-562.04	5,338.91	0.00	0.00	0.00
Projection to TD									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
160.00	159.99	-1.70	-0.41	First Phoenix Survey
13,984.00	9,105.19	5,251.43	-559.37	Final Phoenix Survey
14,042.00	9,101.37	5,309.24	-562.04	Projection to TD

Checked By: _____ Approved By: _____ Date: _____

Phoenix Technology Services
SURVEY DATA CERTIFICATION

PHOENIX TECHNOLOGY SERVICES

PHOENIX JOB NUMBER	1513943	OPERATOR	Chevron
WELL NAME	Salado Draw 18-26-33 Fed 1H	COUNTY & STATE	Lea County, NM

API WELL NUMBER	30-025-42659	PROPOSED DIRECTION	353.95

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

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
12-Jul-15	160 ft	1.25	193.75

SURVEY INSTRUMENT TYPE
APS/QDT

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
27-Sep-15	13,984 ft	93.78	357.36

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
27-Sep-15	14,042 ft	93.78	357.36

Alex Boggess

PRINT YOUR NAME ABOVE

Alex Boggess

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	6.67
DECLINATION OR GRID	GRID

9/27/2015

TODAY'S DATE

MWD SUPERVISOR 1	Greg Hurst / Alex Boggess	DIRECTIONAL DRILLER 1	Keith Scheppler / Casey Tubbe
MWD SUPERVISOR 2	Jared Hojem	DIRECTIONAL DRILLER 2	Justin Jackson

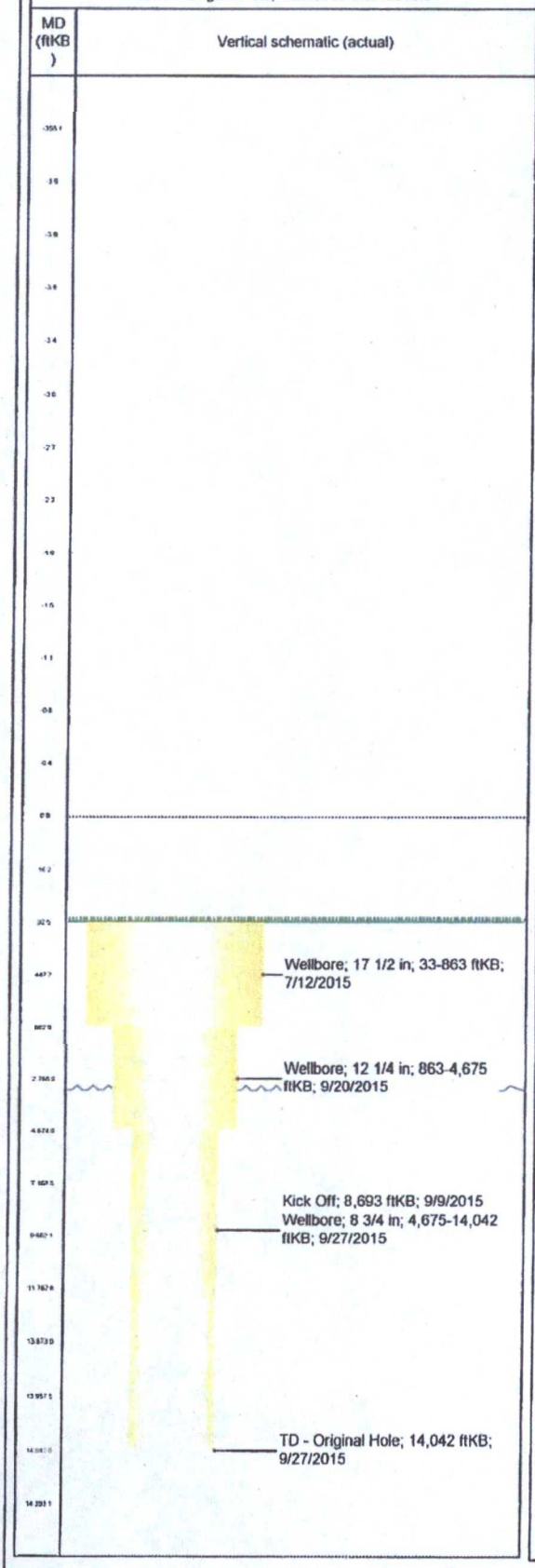
12329 Cutten Road Houston, Texas 77066 (713)337-0609 (Voice), (713)337-0599 (Fax)

QC Wellbore Rpt

Well Name	Field Name	Area	Business Unit	Location Type	Well Class	Surface UWI
SALADO DRAW 18-26-33 FED 001H	WILDCAT (HOBBS)	Delaware Basin	Mid-Continent	Land	Development	3002542659

Original RKB (ft)	Current RKB	Mud Line Elevation (ft)	Water Depth (ft)	Ground Elevation (ft)	CF Elev (ft)	TH Elev (ft)	Total Depth (ftKB)
3,208.60	3,208.60, 7/1/2015			3,176.00			14,042.0

Land - Original Hole, 4/27/2016 8:57:02 AM



Original Hole

Wellbore Name	Parent Wellbore	Min Kick Off Depth (ftKB)
Original Hole	Original Hole	8,693.0

Wellbore UWI	Wellbore ChevNo	Casing Configuration
300254265900	PF3658-00	Class 2

Wellbore Sections

Start Date	End Date	Hole Size (in)	Act Top (ftKB)	Act Btm (ftKB)
7/12/2015 07:00	7/12/2015 17:00	17 1/2	32.6	863.0
9/17/2015 07:00	9/20/2015 16:30	12 1/4	863.0	4,675.0
9/20/2015 16:30	9/27/2015 08:00	8 3/4	4,675.0	14,042.0

Report Printed: 4/27/2016

Casing Summary

Well Name	Lease	Field Name	Business Unit
SALADO DRAW 18-26-33 FED 001H	Salado Draw 18-26-33 Fed	WILDCAT (HOBBS)	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)
3,176.00	3,208.60	3,208.60, 7/1/2015		

Surface, Planned?-N, 853ftKB

Set Depth (MD) (ftKB)	Set Tension (kips)	String Nominal OD (in)	String Min Drift (in)	Centralizers	Scratchers
853		13 3/8	12.563	9	

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)	Len (ft)	P Burst (psi)	P Collapse (psi)
1	Casing Joint	13 3/8	12.719	48.00	H-40	ST&C	-3	-3	0.00	1,730.0	740.0
1	Landing JT & WH	13 3/8	12.719	48.00	H-40	ST&C	-3	43	45.37	1,730.0	740.0
19	Casing Joint	13 3/8	12.719	48.00	H-40	ST&C	43	812	769.42	1,730.0	740.0
1	Float Collar	13 3/8	12.719	48.00	H-40	ST&C	812	814	1.51	1,730.0	740.0
1	Casing Joint	13 3/8	12.719	48.00	H-40	ST&C	814	852	37.98	1,730.0	740.0
1	Float Shoe	13 3/8	12.719	48.00	H-40	ST&C	852	853	1.34	1,730.0	740.0

Intermediate Casing 1, Planned?-N, 4,665ftKB

Set Depth (MD) (ftKB)	Set Tension (kips)	String Nominal OD (in)	String Min Drift (in)	Centralizers	Scratchers
4,665		9 5/8	8.688	29	

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)	Len (ft)	P Burst (psi)	P Collapse (psi)
1	Landing Joint	9 5/8	8.844	40.00	HCK-55		-4	38	41.61	5,750.0	3,090.0
1	Pup Joint + Hanger	9 5/8	8.844	40.00	HCK-55		38	43	4.86	5,750.0	3,090.0
102	Casing Joint	9 5/8	8.844	40.00	HCK-55		43	4,314	4,270.96	5,750.0	3,090.0
1	Pup Joint	9 5/8	8.844	40.00	HCK-55		4,314	4,319	5.00	5,750.0	3,090.0
4	Casing Joint	9 5/8	8.844	40.00	HCK-55		4,319	4,490	171.33	5,750.0	3,090.0
1	Pup Joint	9 5/8	8.844	40.00	HCK-55		4,490	4,495	5.02	5,750.0	3,090.0
2	Casing Joint	9 5/8	8.844	40.00	HCK-55		4,495	4,581	85.60	5,750.0	3,090.0
1	Float Collar	9 5/8	8.844	40.00	HCK-55		4,581	4,582	1.48	5,750.0	3,090.0
2	Casing Joint	9 5/8	8.844	40.00	HCK-55		4,582	4,663	81.22	5,750.0	3,090.0
1	Float Shoe	9 5/8	8.844	40.00	HCK-55		4,663	4,665	1.64	3,950.0	4,230.0

Production Casing, Planned?-N, 14,030ftKB

Set Depth (MD) (ftKB)	Set Tension (kips)	String Nominal OD (in)	String Min Drift (in)	Centralizers	Scratchers
14,030		5 1/2	4.656	73	

Jts	Item Des	OD (in)	ID (in)	Wt (lb/ft)	Grade	Top Thread	Top Depth (MD) (ftKB)	Btm Depth (MD) (ftKB)	Len (ft)	P Burst (psi)	P Collapse (psi)
1	PUP Jt	5 1/2	4.781	20.00	P-110	Buttress Thread	-3	-3	0.00	12,360.0	11,100.0
1	Casing Joint	5 1/2	4.781	20.00	P-110	Buttress Thread	-3	-3	0.00	12,360.0	11,100.0
1	Landing jt	5 1/2	4.781	20.00	P-110	Buttress Thread	-3	36	39.50	12,360.0	11,100.0
1	Hanger + PUP	5 1/2	4.781	20.00	P-110	Buttress Thread	36	40	3.69	12,360.0	11,100.0
199	Casing Joint	5 1/2	4.781	20.00	P-110	Buttress Thread	40	8,350	8,309.69	12,360.0	11,100.0
1	Marker Joint	5 1/2	4.781	20.00	P-110	Buttress Thread	8,350	8,360	10.10	12,360.0	11,100.0
4	Casing Joint	5 1/2	4.781	20.00	P-110	Buttress Thread	8,360	8,524	164.75	12,360.0	11,100.0
1	Marker jt	5 1/2	4.781	20.00	P-110	Buttress Thread	8,524	8,534	10.10	12,360.0	11,100.0
127	Casing Joint	5 1/2	4.781	20.00	P-110	Buttress Thread	8,534	13,861	5,326.79	12,360.0	11,100.0
1	PUP Jt	5 1/2	4.781	20.00	P-110	Buttress Thread	13,861	13,871	10.14	12,360.0	11,100.0
1	RSI Tool	5 1/2	4.781	20.00	P-110	Buttress Thread	13,871	13,878	6.65	12,360.0	11,100.0
1	PUP Jt	5 1/2	4.781	20.00	P-110	Buttress Thread	13,878	13,888	10.10	12,360.0	11,100.0
1	Casing Joint	5 1/2	4.781	20.00	P-110	Buttress Thread	13,888	13,925	36.56	12,360.0	11,100.0
1	PUP Jt	5 1/2	4.781	20.00	P-110	Buttress Thread	13,925	13,935	10.12	12,360.0	11,100.0
1	Landing collar	5 1/2	4.781	20.00	P-110	Buttress Thread	13,935	13,936	1.47	12,360.0	11,100.0
1	Casing Joint	5 1/2	4.781	20.00	P-110	Buttress Thread	13,936	13,979	42.90	12,360.0	11,100.0
1	Float Collar	5 1/2	4.781	20.00	P-110	Buttress Thread	13,979	13,982	2.40	12,360.0	11,100.0
1	CSG XRV	5 1/2	4.781	20.00	P-110	Buttress Thread	13,982	13,987	5.48	12,360.0	11,100.0
1	Casing Joint	5 1/2	4.781	20.00	P-110	Buttress Thread	13,987	14,027	40.22	12,360.0	11,100.0
1	Float Shoe	5 1/2	4.781	20.00	P-110	Buttress Thread	14,027	14,030	2.70	12,360.0	11,100.0

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