API #30-015-43088
Sec. 9 T17S R31E
1710 FNL, & 85 FEL

Apache Corporation
303 Veterans Airpark Lane, #3000
Midland, TX 79705

NFE Federal #058H
Eddy County, New Mexico

263	2.63	0.50	0.88	2.30	2.30
500	2.37	0.75	1.31	3.11	5.41
551	0.51	0.50	0.88	0.45	5.86
822	2.71	0.40	0.70	1.90	7.76
1334	5.12	1.70	2.98	15.23	22.99
1505	1.71	1.60	2.80	4.79	27.78
1721	2.16	1.30	2.28	4.91	32.69
1934	2.13	0.80	1.40	2.98	35.67
2104	1.70	1.80	3.15	5.36	41.03
2357	2.53	0.10	0.18	0.44	41.47
2571	2.14	0.30	0.53	1.12	42.59
2830	2.59	0.30	0.53	1.36	43.95
3086	2.56	0.30	0.53	1.34	45.30
3296	2.10	0.20	0.35	0.74	46.03
3472	1.76	0.10	0.18	0.31	46.34
3802	3.30	0.20	0.35	1.16	47.49
4058	2.56	0.50	0.88	2.24	49.73
4314	2.56	0.60	1.05	2.69	52.42

Archie Brown - General Manager

The attached instrument was acknowledged before me on the 15th day of July, 2015 by Archie Brown - General Manager, CapStar Drilling, Inc.

Jacki Ann Zent
Notary Public

JACKI ANN ZENT
My Commission Expires
March 3, 2019

PHOENIX
TECHNOLOGY SERVICES USA INC.
3610 Elkins Road, Midland, Texas 79705 T. 432.684.0057 F. 432.686.7964 www.phxtech.com

Celebrating 20 Years of Focused Solutions

July 9, 2015

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

Dear District 2 - Artesia

Attention: Regulatory Department

Re: Apache Corporation
NFE Federal #58H
Eddy County, NM
API #30-015-43088
Job No. 1513896

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. 664171). 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	
Noe Garza	58H	0	4,559.18	07/06/15	07/06/15	Gyro

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,

Alicia Marquez
Operations Administrator

SURVEY CERTIFICATION FORM

3610 Elkins Road Midland, TX 79705 t:432-684-0057 f: 432-686-7964

PHOENIX TECHNOLOGY SERVICES

Company: Apache

Job #: 1513896

Well Name: NFE Federal Com # 58H

County/State: Eddy Co., New Mexico

Survey Instrument Type: North Seek Rate Gyro

API #: 30-015-43088

TIE-IN DATA

Measure Depth (ft)	Vertical Depth (ft)	Inclination (°)	Azimuth (°)	N-S Coordinates	E-W Coordinates	Data Source
0	0	0	0	0	0	Surface

First Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
2015-07-06	0	0	0

Last Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
2015-07-06	4559.18	0.78	230.66

Projected TD Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
0	0	0	0

Grid Correction
-0.24

Gyro Operator: Phoenix Technology Services USA ltd.

Gyro Supervisor: Jaime Stephenson

To the best of my knowledge I certify this survey data to be correct and true

Date: 07-06-15

Print Name: Noe Garza

Signature:

Gyro

PHOENIX TECHNOLOGY SERVICES

Company:	Apache	Job Number:	1513896	Calculation Method	Minimum Curvature
Well:	NFE Federal Com # 58H	Grid Corr.:	-0.24	Proposed Azimuth	
Location:	Sec8 T17S R31E	Lat:	32.85	RKB - MSL in feet	11 Feet
Rig:	Capstar 114	Long:	-103.88	Tie Into:	

Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Angle (deg)	Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
Enter Tie-In Survey on Line 10							**Field Copy Non Definitive**						
TIE IN	0	0.00	0	0	0	0	0	0					
Gyro	84.03	0.29	120.29	84	84.03	-0.11	0.11 S	0.18 E	0.21	120.29	0.35	0.35	143.15
	168.46	0.33	118.30	84	168.46	-0.33	0.33 S	0.58 E	0.67	119.57	0.05	0.05	-2.36
	252.90	0.78	119.90	84	252.89	-0.73	0.73 S	1.29 E	1.49	119.49	0.53	0.53	1.89
	337.34	0.74	91.83	84	337.33	-1.04	1.04 S	2.34 E	2.56	113.90	0.44	-0.05	-33.24
	421.77	0.78	82.81	84	421.75	-0.98	0.98 S	3.45 E	3.59	105.87	0.15	0.05	-10.68
	506.21	0.79	82.22	84	506.18	-0.83	0.83 S	4.60 E	4.67	100.24	0.02	0.01	-0.70
	590.65	0.75	86.60	84	590.61	-0.72	0.72 S	5.73 E	5.77	97.16	0.08	-0.05	5.19
	675.08	0.71	89.87	84	675.04	-0.69	0.69 S	6.80 E	6.84	95.75	0.07	-0.05	3.87
	759.52	0.60	86.94	84	759.47	-0.66	0.66 S	7.77 E	7.80	94.86	0.14	-0.13	-3.47
	843.96	0.69	78.03	84	843.91	-0.53	0.53 S	8.71 E	8.72	93.49	0.16	0.11	-10.55
	928.39	0.71	73.50	84	928.33	-0.28	0.28 S	9.71 E	9.71	91.64	0.07	0.02	-5.37
	1012.83	0.73	77.65	84	1012.76	-0.01	0.01 S	10.73 E	10.73	90.07	0.07	0.02	4.91
	1097.27	0.87	80.37	84	1097.20	0.21	0.21 N	11.89 E	11.89	89.00	0.17	0.17	3.22
	1181.71	0.87	85.86	84	1181.63	0.36	0.36 N	13.16 E	13.17	88.42	0.10	0.00	6.50
	1266.14	1.29	81.15	84	1266.04	0.55	0.55 N	14.74 E	14.75	87.85	0.51	0.50	-5.58
	1350.58	1.69	80.35	84	1350.45	0.91	0.91 N	16.91 E	16.93	86.92	0.47	0.47	-0.95
	1435.02	1.64	81.10	84	1434.86	1.31	1.31 N	19.33 E	19.37	86.14	0.06	-0.06	0.89
	1519.45	1.69	86.73	84	1519.25	1.56	1.56 N	21.76 E	21.82	85.89	0.20	0.06	6.67
	1603.89	1.84	88.92	84	1603.65	1.66	1.66 N	24.36 E	24.42	86.10	0.19	0.18	2.59
	1688.33	1.63	97.40	84	1688.05	1.53	1.53 N	26.91 E	26.95	86.74	0.39	-0.25	10.04
	1772.76	1.60	97.56	84	1772.45	1.22	1.22 N	29.27 E	29.29	87.61	0.04	-0.04	0.19
	1857.20	1.48	97.10	84	1856.86	0.93	0.93 N	31.52 E	31.53	88.31	0.14	-0.14	-0.54
	1941.64	1.28	97.24	84	1941.27	0.68	0.68 N	33.54 E	33.54	88.84	0.24	-0.24	0.17
	2026.07	1.11	92.07	84	2025.68	0.53	0.53 N	35.29 E	35.29	89.14	0.24	-0.20	-6.12
	2110.51	0.94	90.92	84	2110.11	0.49	0.49 N	36.80 E	36.80	89.24	0.20	-0.20	-1.36

PHOENIX TECHNOLOGY SERVICES

Company:	Apache	Job Number:	1513896	Calculation Method	Minimum Curvature
Well:	NFE Federal Com # 58H	Grid Corr.:	-0.24	Proposed Azimuth	
Location:	Sec8 T17S R31E	Lat:	32.85	RKB - MSL in feet	11 Feet
Rig:	Capstar 114	Long:	-103.88	Tie Into:	

Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Angle (deg)	Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
	2194.95	0.86	86.55	84	2194.54	0.52	0.52 N	38.12 E	38.13	89.23	0.12	-0.09	-5.18
	2279.38	0.72	78.39	84	2278.96	0.66	0.66 N	39.28 E	39.28	89.04	0.21	-0.17	-9.66
	2363.82	0.41	64.82	84	2363.40	0.90	0.90 N	40.07 E	40.08	88.72	0.40	-0.37	-16.07
	2448.26	0.35	36.08	84	2447.84	1.23	1.23 N	40.50 E	40.51	88.26	0.23	-0.07	-34.04
	2532.70	0.34	23.69	84	2532.27	1.67	1.67 N	40.75 E	40.78	87.65	0.09	-0.01	-14.67
	2617.13	0.29	18.39	84	2616.70	2.10	2.10 N	40.92 E	40.97	87.06	0.07	-0.06	-6.28
	2701.57	0.35	351.34	84	2701.14	2.56	2.56 N	40.94 E	41.02	86.42	0.19	0.07	394.30
	2786.01	0.36	6.21	84	2785.58	3.08	3.08 N	40.93 E	41.05	85.70	0.11	0.01	-408.73
	2870.44	0.39	352.41	84	2870.01	3.63	3.63 N	40.92 E	41.09	84.93	0.11	0.04	410.04
	2954.88	0.54	342.47	84	2954.45	4.29	4.29 N	40.77 E	40.99	83.99	0.20	0.18	-11.77
	3039.32	0.48	326.57	84	3038.88	4.97	4.97 N	40.45 E	40.76	83.00	0.18	-0.07	-18.83
	3123.75	0.50	326.92	84	3123.31	5.57	5.57 N	40.06 E	40.44	82.08	0.02	0.02	0.41
	3208.19	0.42	321.43	84	3207.75	6.12	6.12 N	39.66 E	40.13	81.23	0.11	-0.09	-6.50
	3292.63	0.37	325.72	84	3292.18	6.59	6.59 N	39.32 E	39.86	80.49	0.07	-0.06	5.08
	3377.06	0.41	334.86	84	3376.61	7.09	7.09 N	39.03 E	39.67	79.71	0.09	0.05	10.83
	3461.50	0.25	350.00	84	3461.05	7.54	7.54 N	38.87 E	39.60	79.02	0.21	-0.19	17.93
	3545.94	0.15	327.74	84	3545.49	7.82	7.82 N	38.78 E	39.56	78.60	0.15	-0.12	-26.36
	3630.37	0.16	331.69	84	3629.92	8.01	8.01 N	38.67 E	39.49	78.29	0.02	0.01	4.68
	3714.81	0.32	311.58	84	3714.36	8.27	8.27 N	38.44 E	39.32	77.85	0.21	0.19	-23.82
	3799.25	0.42	298.75	84	3798.80	8.58	8.58 N	37.99 E	38.94	77.27	0.15	0.12	-15.19
	3883.69	0.56	292.50	84	3883.23	8.89	8.89 N	37.34 E	38.38	76.61	0.18	0.17	-7.40
	3968.12	0.65	273.65	84	3967.66	9.07	9.07 N	36.48 E	37.59	76.03	0.26	0.11	-22.33
	4052.56	0.67	271.41	84	4052.09	9.12	9.12 N	35.50 E	36.66	75.60	0.04	0.02	-2.65
	4137.00	0.75	258.75	84	4136.53	9.02	9.02 N	34.47 E	35.63	75.33	0.21	0.09	-14.99
	4221.43	0.75	248.80	84	4220.95	8.71	8.71 N	33.41 E	34.53	75.38	0.15	0.00	-11.78
	4305.87	0.80	239.28	84	4305.38	8.21	8.21 N	32.39 E	33.41	75.77	0.16	0.06	-11.27
	4390.31	0.73	239.78	84	4389.81	7.64	7.64 N	31.42 E	32.33	76.33	0.08	-0.08	0.59

PHOENIX TECHNOLOGY SERVICES

Company:	Apache	Job Number:	1513896	Calculation Method	Minimum Curvature
Well:	NFE Federal Com # 58H	Grid Corr.:	-0.24	Proposed Azimuth	
Location:	Sec8 T17S R31E	Lat:	32.85	RKB - MSL in feet	11 Feet
Rig:	Capstar 114	Long:	-103.88	Tie Into:	

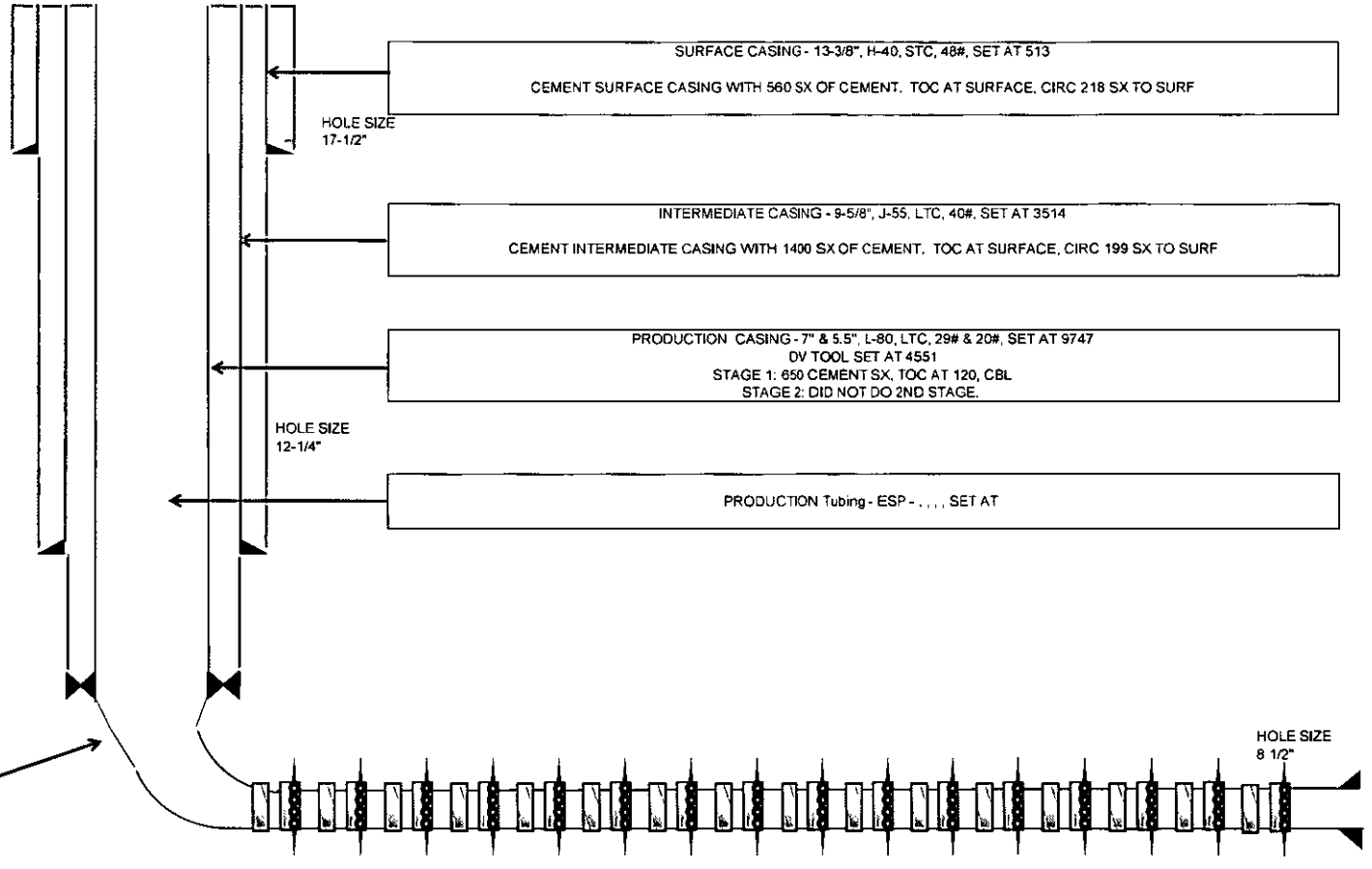
Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Angle (deg)	Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
	4474.74	0.78	235.63	84	4474.24	7.05	7.05 N	30.48 E	31.28	76.98	0.09	0.06	-4.92
	4559.18	0.78	230.66	84	4558.67	6.36	6.36 N	29.56 E	30.24	77.86	0.08	0.00	-5.89

WELL NAME: NFE FEDERAL COM 58H
API: 30-015-43088
SPUD DATE: 6/29/2015
PRODUCING FORMATION: YESO PADDOCK
FIELD: CEDAR LAKE (BP)
COUNTY: EDDY
STATE: NEW MEXICO
WORKING INTEREST 60.00%

SURFACE LOC: 1672' FNL & 85' FEL
SECTION: 8
TOWNSHIP: 17-S
RANGE: 31-E
SURVEY: JOHN WEST SURVEYING CO
BOTTOM HOLE LOC: 1823' FNL & 342' FWL
SECTION: 8
TOWNSHIP: 17-S
RANGE: 31-E
SURVEY: JOHN WEST SURVEYING CO

DRILL RIG: CAPSTAR 114
RIG RELEASE: 7/13/2015

KB (ft): 3,878.00
GL (ft): 3,867.00
KB/GL DIFF (ft): 11.00
TMD (ft): 9,785.00
TD OF PILOT HOLE (ft): N/A
FC DEPTH (ft): 9,738.00
PBMD (ft): 9,785.00
RDV DEPTH (ft): N/A
ORIO VALVE (ft): N/A
DEEPEST TVD (ft): 5,113.00



TAPERED CASING STRING:

7" 29# L-80 TO X-OVER @ 4,595'
TAPERING TO 5.5" 20# L-80 SET @ 9,747'

KOP (ft): 4,602
LATERAL LENGTH (ft): 4,345
TD OF PILOT HOLE (ft): N/A

PACKERS & SLEEVES
TOP PERF (MD): 5,440
BOTTOM PERF (MD): 9,738

TMD (ft): 9,785
FC DEPTH (ft): 9,738
PBMD (ft): 9,785
RDV DEPTH (ft): N/A
ORIO VALVE (ft): N/A

COMPLETION: PACKERS & SLEEVES - 16 STAGES

STIMULATON:

TOTAL ACID (bbl)	TOTAL LTR (bbl)	TOTAL PROPPANT (lbs)	MAX WH RATE (bpm)	MAX WH PRESSURE (psi)
2,862	70,421	3,034,560	96.00	5,876

STATUS:

PRODUCTION METHOD	LIFT TYPE	SETTING DEPTH
Pumping	ESP	0

COMMENTS: CROSSOVER SUB @ 4,595'

LAST UPDATED BY: HILLARI GOULD
LAST UPDATED: 10/27/2015

Apache
EXPLORING WHAT'S POSSIBLE

Apache Corporation

Eddy County, NM (NAD27 NME)
NFE Federal
#58H

OH / Job #1513674

gyro + mwd report

Design: Surveys (Capstar 114)

Standard Survey Report

11 July, 2015

Apache
EXPLORING WHAT'S POSSIBLE

Survey Report

Company:	Apache Corporation	**Local Co-ordinate Reference:**	Well #58H
Project:	Eddy County, NM (NAD27 NME)	**TVD Reference:**	KB @ 3879.00usft (Capstar 114)
Site:	NFE Federal	**MD Reference:**	KB @ 3879.00usft (Capstar 114)
Well:	#58H	**North Reference:**	Grid
Wellbore:	OH / Job #1513674	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys (Capstar 114)	**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 NFE Federal

Site Position:		**Northing:**	673,264.70 usft	**Latitude:**	32° 51' 0.49036 N
From:	Map	**Easting:**	633,303.50 usft	**Longitude:**	103° 53' 57.34966 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.24 °

Well #58H

Well Position	**+N/-S**	0.00 usft	**Northing:**	673,820.50 usft	**Latitude:**	32° 51' 5.78410 N
	+E/-W	0.00 usft	**Easting:**	638,275.20 usft	**Longitude:**	103° 52' 59.04266 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,868.00 usft

Wellbore OH / Job #1513674

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	7/5/2015	7.63	60.82	48,563

Design Surveys (Capstar 114)

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	267.88

Survey Program **Date** 7/11/2015

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
84.03	4,559.18	Phoenix Gyro Survey (OH / Job #1513674	PHX_SPT_GTD	PHX Continuous north-seeking gyro
4,599.00	9,785.00	Phoenix MWD Survey (OH / Job #1513674	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
84.03	0.29	120.29	84.03	-0.11	0.18	-0.18	0.35	0.35	0.00
168.46	0.33	118.30	168.46	-0.33	0.58	-0.57	0.05	0.05	-2.36
252.90	0.78	119.90	252.89	-0.73	1.29	-1.27	0.53	0.53	1.89
337.34	0.74	91.83	337.33	-1.04	2.34	-2.30	0.44	-0.05	-33.24
421.77	0.78	82.81	421.75	-0.98	3.45	-3.41	0.15	0.05	-10.68
506.21	0.79	82.22	506.18	-0.83	4.60	-4.57	0.02	0.01	-0.70
590.65	0.75	86.60	590.61	-0.72	5.73	-5.70	0.08	-0.05	5.19
675.08	0.71	89.87	675.04	-0.69	6.80	-6.77	0.07	-0.05	3.87
759.52	0.60	86.94	759.47	-0.66	7.77	-7.74	0.14	-0.13	-3.47

Company:	Apache Corporation	**Local Co-ordinate Reference:**	Well #58H
Project:	Eddy County, NM (NAD27 NME)	**TVD Reference:**	KB @ 3879.00usft (Capstar 114)
Site:	NFE Federal	**MD Reference:**	KB @ 3879.00usft (Capstar 114)
Well:	#58H	**North Reference:**	Grid
Wellbore:	OH / Job #1513674	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys (Capstar 114)	**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)
843.96	0.69	78.03	843.91	-0.53	8.71	-8.68	0.16	0.11	-10.55
928.39	0.71	73.50	928.33	-0.28	9.71	-9.69	0.07	0.02	-5.37
1,012.83	0.73	77.65	1,012.76	-0.01	10.73	-10.72	0.07	0.02	4.91
1,097.27	0.87	80.37	1,097.20	0.21	11.89	-11.89	0.17	0.17	3.22
1,181.71	0.87	85.66	1,181.63	0.36	13.16	-13.17	0.10	0.00	6.50
1,266.14	1.29	81.15	1,266.04	0.55	14.74	-14.75	0.51	0.50	-5.58
1,350.58	1.69	80.35	1,350.45	0.91	16.91	-16.93	0.47	0.47	-0.95
1,435.02	1.64	81.10	1,434.86	1.31	19.33	-19.36	0.06	-0.06	0.89
1,519.45	1.69	86.73	1,519.25	1.56	21.76	-21.81	0.20	0.06	6.67
1,603.89	1.84	88.92	1,603.65	1.66	24.36	-24.41	0.19	0.18	2.59
1,688.33	1.63	97.40	1,688.05	1.53	26.91	-26.95	0.39	-0.25	10.04
1,772.76	1.60	97.56	1,772.45	1.22	29.27	-29.29	0.04	-0.04	0.19
1,857.20	1.48	97.10	1,856.86	0.93	31.52	-31.53	0.14	-0.14	-0.54
1,941.64	1.28	97.24	1,941.27	0.68	33.54	-33.54	0.24	-0.24	0.17
2,026.07	1.11	92.07	2,025.68	0.53	35.29	-35.29	0.24	-0.20	-6.12
2,110.51	0.94	90.92	2,110.11	0.49	36.80	-36.79	0.20	-0.20	-1.36
2,194.95	0.86	86.55	2,194.54	0.52	38.12	-38.12	0.12	-0.09	-5.18
2,279.38	0.72	78.39	2,278.96	0.66	39.28	-39.27	0.21	-0.17	-9.66
2,363.82	0.41	64.82	2,363.40	0.90	40.07	-40.08	0.40	-0.37	-16.07
2,448.26	0.35	36.08	2,447.84	1.23	40.50	-40.51	0.23	-0.07	-34.04
2,532.70	0.34	23.69	2,532.28	1.67	40.75	-40.78	0.09	-0.01	-14.67
2,617.13	0.29	18.39	2,616.70	2.10	40.92	-40.97	0.07	-0.06	-6.28
2,701.57	0.35	351.34	2,701.14	2.56	40.94	-41.01	0.19	0.07	-32.03
2,786.01	0.36	6.21	2,785.58	3.08	40.93	-41.02	0.11	0.01	17.61
2,870.44	0.39	352.41	2,870.01	3.63	40.92	-41.03	0.11	0.04	-16.34
2,954.88	0.54	342.47	2,954.45	4.29	40.77	-40.90	0.20	0.18	-11.77
3,039.32	0.48	326.57	3,038.88	4.97	40.45	-40.61	0.18	-0.07	-18.83
3,123.75	0.50	326.92	3,123.31	5.57	40.06	-40.24	0.02	0.02	0.41
3,208.19	0.42	321.43	3,207.75	6.12	39.66	-39.86	0.11	-0.09	-6.50
3,292.63	0.37	325.72	3,292.19	6.59	39.32	-39.53	0.07	-0.06	5.08
3,377.06	0.41	334.86	3,376.61	7.09	39.03	-39.27	0.09	0.05	10.83
3,461.50	0.25	350.00	3,461.05	7.54	38.87	-39.13	0.21	-0.19	17.93
3,545.94	0.15	327.74	3,545.49	7.82	38.78	-39.05	0.15	-0.12	-26.36
3,630.37	0.16	331.69	3,629.92	8.01	38.67	-38.94	0.02	0.01	4.68
3,714.81	0.32	311.58	3,714.36	8.27	38.44	-38.72	0.21	0.19	-23.82
3,799.25	0.42	298.75	3,798.80	8.58	37.99	-38.28	0.15	0.12	-15.19
3,883.69	0.56	292.50	3,883.24	8.89	37.34	-37.64	0.18	0.17	-7.40
3,968.12	0.65	273.65	3,967.66	9.07	36.48	-36.79	0.26	0.11	-22.33
4,052.56	0.67	271.41	4,052.10	9.12	35.50	-35.82	0.04	0.02	-2.65
4,137.00	0.75	258.75	4,136.53	9.02	34.47	-34.78	0.21	0.09	-14.99
4,221.43	0.75	248.80	4,220.95	8.71	33.41	-33.71	0.15	0.00	-11.78
4,305.87	0.80	239.28	4,305.38	8.21	32.39	-32.67	0.16	0.06	-11.27
4,390.31	0.73	239.78	4,389.82	7.64	31.42	-31.68	0.08	-0.08	0.59

Company:	Apache Corporation	**Local Co-ordinate Reference:**	Well #58H
Project:	Eddy County, NM (NAD27 NME)	**TVD Reference:**	KB @ 3879.00usft (Capstar 114)
Site:	NFE Federal	**MD Reference:**	KB @ 3879.00usft (Capstar 114)
Well:	*#58H*	***North Reference:***	*Grid*
Wellbore:	OH / Job #1513674	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys (Capstar 114)	**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)
4,474.74	0.78	235.63	4,474.24	7.05	30.48	-30.72	0.09	0.06	-4.92
4,559.18	0.78	230.66	4,558.67	6.36	29.56	-29.78	0.08	0.00	-5.89
Tie-on to Phoenix Gyro Survey									
4,599.00	1.50	232.70	4,598.48	5.67	28.94	-29.13	1.81	1.81	5.12
First Phoenix MWD Survey									
4,642.00	6.30	240.50	4,641.37	4.37	26.43	-26.58	11.21	11.16	18.14
4,684.00	11.80	241.50	4,682.83	1.18	20.65	-20.68	13.10	13.10	2.38
4,727.00	17.10	242.80	4,724.46	-3.81	11.16	-11.01	12.35	12.33	3.02
4,770.00	21.90	245.00	4,764.98	-10.09	-1.74	2.11	11.29	11.16	5.12
4,813.00	26.50	248.40	4,804.19	-17.02	-17.94	18.56	11.17	10.70	7.91
4,856.00	30.50	252.00	4,841.98	-23.93	-37.25	38.11	10.12	9.30	8.37
4,898.00	34.60	253.70	4,877.37	-30.57	-58.84	59.93	10.00	9.76	4.05
4,941.00	37.80	255.00	4,912.07	-37.41	-83.29	84.62	7.65	7.44	3.02
4,984.00	42.40	256.60	4,944.95	-44.18	-110.14	111.70	10.96	10.70	3.72
5,026.00	48.50	258.90	4,974.40	-50.50	-139.38	141.15	15.04	14.52	5.48
5,069.00	53.40	259.80	5,001.49	-56.66	-172.19	174.16	11.51	11.40	2.09
5,112.00	58.00	259.90	5,025.71	-62.92	-207.14	209.33	10.70	10.70	0.23
5,154.00	62.90	259.50	5,046.42	-69.45	-243.08	245.48	11.70	11.67	-0.95
5,197.00	67.60	258.80	5,064.42	-76.80	-281.42	284.07	11.03	10.93	-1.63
5,239.00	72.70	258.30	5,078.67	-84.65	-320.12	323.04	12.19	12.14	-1.19
5,282.00	76.50	257.70	5,090.09	-93.27	-360.67	363.87	8.94	8.84	-1.40
5,325.00	81.90	256.30	5,098.14	-102.77	-401.80	405.33	12.96	12.56	-3.26
5,384.00	87.90	255.20	5,103.39	-117.23	-458.74	462.76	10.34	10.17	-1.86
5,427.00	87.30	256.00	5,105.19	-127.91	-500.35	504.74	2.32	-1.40	1.86
5,469.00	86.90	257.40	5,107.31	-137.56	-541.17	545.89	3.46	-0.95	3.33
5,512.00	87.30	258.70	5,109.49	-146.45	-583.18	588.20	3.16	0.93	3.02
5,555.00	87.90	260.30	5,111.29	-154.28	-625.42	630.70	3.97	1.40	3.72
5,597.00	88.90	261.70	5,112.46	-160.85	-666.89	672.38	4.10	2.38	3.33
5,640.00	89.50	263.20	5,113.06	-166.50	-709.51	715.18	3.76	1.40	3.49
5,683.00	89.80	264.80	5,113.33	-170.99	-752.27	758.08	3.79	0.70	3.72
5,726.00	90.50	266.10	5,113.21	-174.40	-795.13	801.04	3.43	1.63	3.02
5,768.00	91.20	267.50	5,112.59	-176.75	-837.06	843.03	3.73	1.67	3.33
5,811.00	91.40	269.50	5,111.61	-177.87	-880.03	886.01	4.67	0.47	4.65
5,854.00	91.50	270.90	5,110.53	-177.72	-923.02	928.96	3.26	0.23	3.26
5,939.00	92.50	270.70	5,107.56	-176.54	-1,007.96	1,013.80	1.20	1.18	-0.24
6,068.00	91.50	269.20	5,103.06	-176.65	-1,136.87	1,142.63	1.40	-0.78	-1.16
6,196.00	93.20	268.70	5,097.81	-178.99	-1,264.74	1,270.50	1.38	1.33	-0.39
6,324.00	89.60	270.00	5,094.68	-180.44	-1,392.67	1,398.39	2.99	-2.81	1.02
6,451.00	91.20	269.80	5,093.80	-180.67	-1,519.66	1,525.31	1.27	1.26	-0.16
6,580.00	90.90	270.40	5,091.43	-180.44	-1,648.64	1,654.19	0.52	-0.23	0.47
6,707.00	90.40	270.40	5,089.99	-179.55	-1,775.63	1,781.06	0.39	-0.39	0.00
6,835.00	91.50	269.70	5,087.87	-179.44	-1,903.61	1,908.94	1.02	0.86	-0.55
6,963.00	91.10	270.40	5,084.96	-179.33	-2,031.57	2,036.82	0.63	-0.31	0.55
7,091.00	90.40	271.10	5,083.29	-177.66	-2,159.55	2,164.64	0.77	-0.55	0.55

Company:	Apache Corporation	**Local Co-ordinate Reference:**	Well #58H
Project:	Eddy County, NM (NAD27 NME)	**TVD Reference:**	KB @ 3879.00usft (Capstar 114)
Site:	NFE Federal	**MD Reference:**	KB @ 3879.00usft (Capstar 114)
Well:	#58H	**North Reference:**	Grid
Wellbore:	OH / Job #1513674	**Survey Calculation Method:**	Minimum Curvature
Design:	Surveys (Capstar 114)	**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)
7,219.00	89.80	270.90	5,083.07	-175.42	-2,287.53	2,292.45	0.49	-0.47	-0.16
7,347.00	90.10	270.30	5,083.18	-174.08	-2,415.52	2,420.31	0.52	0.23	-0.47
7,475.00	89.80	270.20	5,083.29	-173.52	-2,543.52	2,548.20	0.25	-0.23	-0.08
7,604.00	91.10	269.70	5,082.28	-173.64	-2,672.51	2,677.11	1.08	1.01	-0.39
7,732.00	90.70	269.60	5,080.27	-174.42	-2,800.50	2,805.03	0.32	-0.31	-0.08
7,860.00	90.60	269.40	5,078.81	-175.53	-2,928.48	2,932.97	0.17	-0.08	-0.16
7,988.00	90.30	269.30	5,077.81	-176.99	-3,056.47	3,060.92	0.25	-0.23	-0.08
8,116.00	90.60	268.80	5,076.80	-179.11	-3,184.45	3,188.89	0.46	0.23	-0.39
8,244.00	89.80	269.00	5,076.24	-181.57	-3,312.42	3,316.87	0.57	-0.55	0.16
8,372.00	91.70	268.30	5,074.46	-184.58	-3,440.37	3,444.84	1.51	1.41	-0.55
8,500.00	92.30	270.10	5,069.99	-186.37	-3,568.27	3,572.72	1.48	0.47	1.41
8,628.00	89.20	270.80	5,068.31	-185.36	-3,696.24	3,700.57	2.48	-2.42	0.55
8,756.00	90.80	270.40	5,068.31	-184.02	-3,824.23	3,828.42	1.29	1.25	-0.31
8,885.00	90.50	270.30	5,066.85	-183.23	-3,953.22	3,957.29	0.25	-0.23	-0.08
9,012.00	91.70	270.50	5,064.41	-182.35	-4,080.19	4,084.14	0.96	0.94	0.16
9,140.00	91.50	270.40	5,060.84	-181.34	-4,208.13	4,211.96	0.17	-0.16	-0.08
9,268.00	91.30	269.70	5,057.71	-181.23	-4,336.10	4,339.83	0.57	-0.16	-0.55
9,396.00	91.00	269.80	5,055.14	-181.79	-4,464.07	4,467.74	0.25	-0.23	0.08
9,524.00	91.60	269.70	5,052.24	-182.35	-4,592.03	4,595.64	0.48	0.47	-0.08
9,652.00	93.20	269.20	5,046.88	-183.57	-4,719.91	4,723.47	1.31	1.25	-0.39
9,719.00	93.80	269.30	5,042.79	-184.45	-4,786.78	4,790.33	0.91	0.90	0.15
Final Phoenix MWD Survey									
9,785.00	93.80	269.30	5,038.41	-185.25	-4,852.63	4,856.16	0.00	0.00	0.00
Projection to TD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
4,559.18	4,558.67	6.36	29.56	Tie-on to Phoenix Gyro Survey
4,599.00	4,598.48	5.87	28.94	First Phoenix MWD Survey
9,719.00	5,042.79	-184.45	-4,786.78	Final Phoenix MWD Survey
9,785.00	5,038.41	-185.25	-4,852.63	Projection to TD

Checked By: _____ Approved By: _____ Date: _____

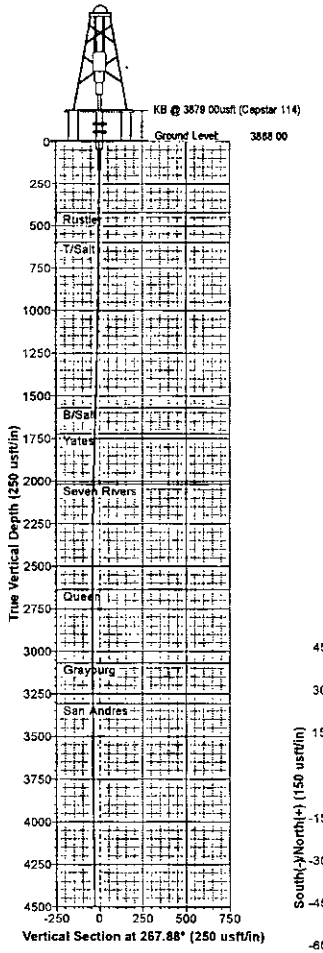
Apache
EXPLORING WHAT'S POSSIBLE

Project: Eddy County, NM (NAD27 NME)
Site: NFE Federal
Well: #58H
Wellbore: OH / Job #1513674
Design: Plan #6 07-07-15
Rig: Capstar 114

PHOENIX TECHNOLOGY SERVICES

Azimuths to Grid North
True North: -0.24°
Magnetic North: 7.39°

Magnetic Field
Strength: 48562.8nT
Dip Angle: 60.82°
Date: 7/5/2015
Model: HDGM



WELL DETAILS

Ground Level: 3868.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	673820.50	638275.20	32° 51' 5.78410 N	103° 52' 59.04266 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
1	5768.00	91.20	267.50	5112.59	-176.75	-837.06	0.00	0.00	843.03		Tie-on to 5768' MD
2	5834.00	91.20	269.00	5111.21	-176.78	-903.02	2.27	89.98	909.01		PTB, Begin 2°/100' Build & Turn
3	5935.94	93.00	270.00	5107.44	-179.88	-1005.88	2.00	29.02	1011.83		Begin 93° Inc Hold
4	6335.94	93.00	270.00	5086.50	-179.88	-1405.33	0.00	0.00	1411.01		Begin 2°/100' Drop
5	6440.73	90.92	270.00	5082.95	-179.88	-1509.05	2.00	180.00	1514.66		Begin 90.92° Inc Hold, 270° Azm
6	9785.06	90.92	270.00	5029.00	-179.88	-4852.95	0.00	0.00	4858.27	BHL (NFE Fed #58H) v5	TD at 9785.06' MD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BHL (NFE Fed #58H) v5	5029.00	-179.66	-4852.95	673640.84	633422.25	32° 51' 4.20747 N	103° 53' 55.93951 W	Point
- plan hits target center								
MP (NFE Fed #58H) v5	5054.00	-111.12	-3307.58	673709.38	634967.52	32° 51' 4.82238 N	103° 53' 37.82193 W	Point
- plan misses target center by 68.54usft at 8239.58usft MD (5053.93 TVD, -179.66 N, -3307.67 E)								

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 #58H, Grid North

Latitude: 32° 51' 5.78410 N
Longitude: 103° 52' 59.04266 W

Grid East: 638275.20
Grid North: 673820.50
Scale Factor: 1.000

Geomagnetic Model: HDGM
Sample Date: 05-Jul-15
Magnetic Declination: 7.63°
Dip Angle from Horizontal: 60.82°
Magnetic Field Strength: 48563

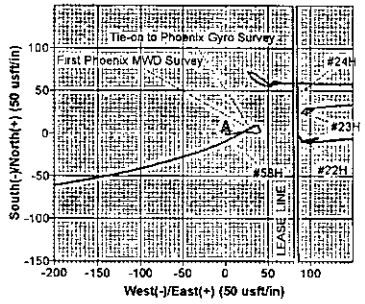
To convert a Magnetic Direction to a Grid Direction, Add 7.39°
To convert a Magnetic Direction to a True Direction, Add 7.63° East
To convert a True Direction to a Grid Direction, Subtract 0.24°

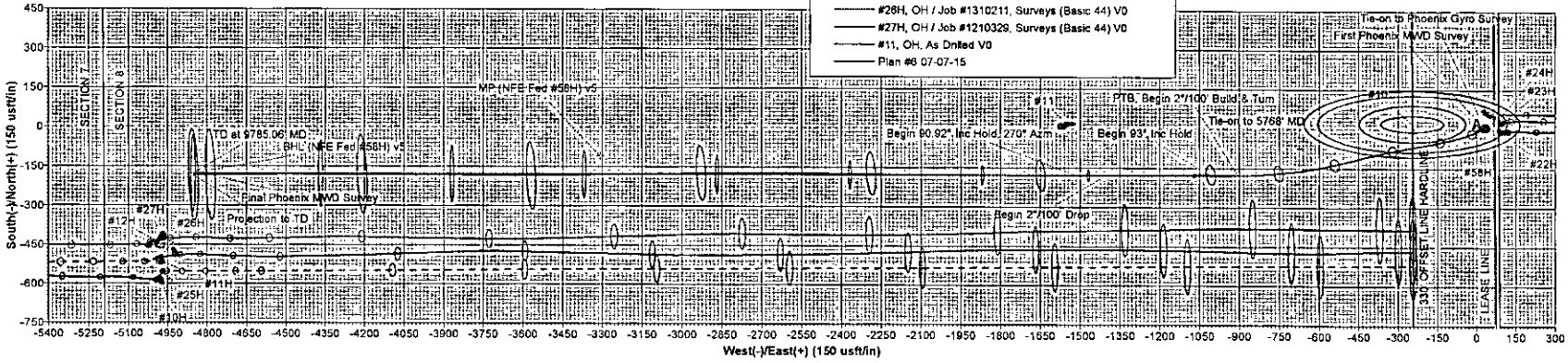
FORMATION TOP DETAILS

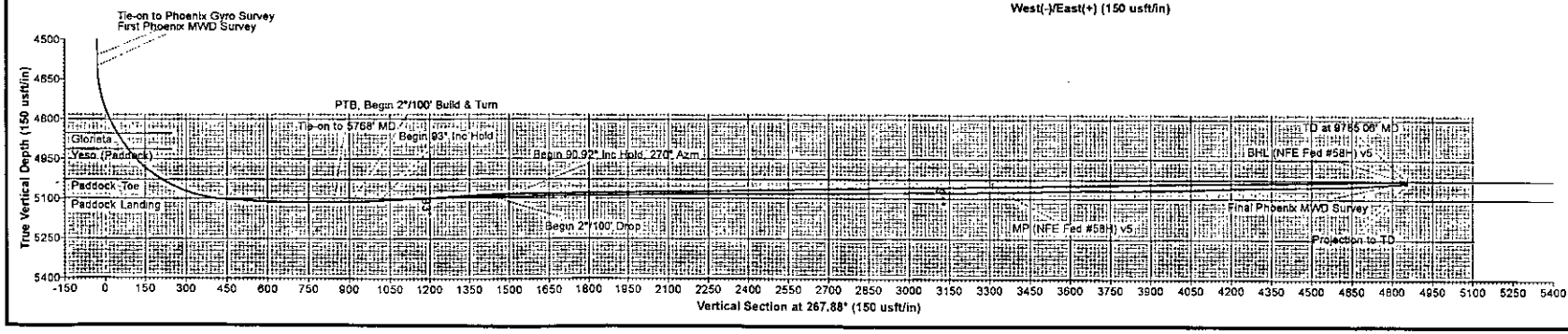
TVDPath	MDPath	Formation	DipAngle	DipDir
5029.00	9785.06	Paddock Toe		
5100.00	6079.00	Paddock Landing		

LEGEND

- #11H, OH / Job #1310356, Plan #1 05-01-12 V0
- #12H, OH / Job #1211107, Surveys (Basic 44) V0
- #10H, OH / Job #1211217, Surveys (Basic 44) V0
- #22H, WB1/Job #1311192, Surveys (Capstar 114) V0
- #24H, WB1/Job #1311334, Survey (Capstar 114) V0
- #23H, WB1/Job #1311257, Surveys (Capstar 114) V0
- #25H, OH / Job #1210327, Plan #2 041812 V0
- #58H, OH / Job #1513674, Surveys (Capstar 114) V0
- #37H, WB1 / Job #1513430, Surveys (Capstar 119) V0
- #10, OH, As Drilled V0
- #26H, OH / Job #1310211, Surveys (Basic 44) V0
- #27H, OH / Job #1210329, Surveys (Basic 44) V0
- #11, OH, As Drilled V0
- Plan #6 07-07-15







Created By: Julio Pena Date: 6:55, July 11 2015

PHOENIX
TECHNOLOGY SERVICES USA INC.
Celebrating 20 Years of Focused Solutions
3610 Elkins Road, Midland, Texas 79705 T. 432.684.0057 F. 432.686.7964 www.phxtech.com

July 9, 2015

Apache Corporation
Attention: Regulatory Department
303 Veterans Airpark Lane, Suite 3000,
Midland, TX 79705

Re: Apache Corporation
NFE Federal #58H
Eddy County, NM
API #30-015-43088
Job No. 1513896

Dear Regulatory Department;

Phoenix Technology Services, Inc. has filed the Survey Data Certification, Surveys, and Lease Plat for the above referenced well with the State of New Mexico Oil Conservation Division – District 2 via certified mail. A copy of the filing is attached for your records.

Name of Surveyor	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Noe Garza	58H	0	4,559.18	07/06/15	07/06/15	Gyro

Thank you for the opportunity to be of service. Please contact me if you have any questions or require additional information.

Best Regards,

Alicia Marquez
Operations Administrator