

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NMOCD

Artesia

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 20105. Lease Serial No.
NMLC029435B

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
NMNM1340868. Well Name and No.
NFE FEDERAL 58H9. API Well No.
30-015-43088-00-X110. Field and Pool, or Exploratory
CEDAR LAKE11. County or Parish, and State
EDDY COUNTY, NM

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other2. Name of Operator
APACHE CORPORATIONContact: EMILY FOLLIS
E-Mail: Emily.Follis@apachecorp.com3a. Address
303 VETERANS AIRPARK LANE SUITE 3000
MIDLAND, TX 797053b. Phone No. (include area code)
Ph: 432-818-1801

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 9 T17S R31E SWNW 1672FNL 85FEL
32.851503 N Lat, 103.882758 W Lon

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Production Start-up
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

APACHE COMPLETED THE WELL AS FOLLOWS: (RR 07/13/2015)

09/01/15 RIH TO TAG DV TOOL @ 4593' RUN, CBL-CNL-GR TOC @ 120' POH LOGGING OUT, RIG DOWN WIRELINE,
RU SWIVEL UNIT & REVERSE UNIT,
09/02/15 MILL OUT DEBRIS SUB @ 4862' CLEAN WELL, CIRC CLEAN,
09/04/15 RDMO SU & REVERSE UNIT CLEAN LOCATION SDFN
10/12-13/15 START FRAC PREP, MOVE TANKS, RIG UP WELL HEAD
10/14-10/15/15 (FRAC 16 STAGE) - PACKERS PLUS
PACKERS SET @ 5440, 5724, 5967, 6252, 6536, 6777, 7063, 7348, 7588, 7874, 81598, 8443, 8685, 8970, 9257
TOTAL ACID 2862 BBL
TOTAL SAND 3,034,560#
RD ALL EQUIPMENT, RELEASE ALL UNNECESSARY EQUIPMENT
10/20/15 RU ALL EQUIPMENT NEEDED FOR MILLING OPERATIONS

NMOCD OIL CONSERVATION
ARTESIA DISTRICTAccepted for record
NOV 3 0 2015
NMOCD

RECEIVED

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #323922 verified by the BLM Well Information System

For APACHE CORPORATION, sent to the Carlsbad

Committed to AFMSS for processing by JENNIFER SANCHEZ on 11/18/2015 (16JAS12075E)

Name (Printed/Typed) EMILY FOLLIS

Title REGULATOR ANALYST

Signature (Electronic Submission)

Date 11/18/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE 8/2015

Approved By

Title

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

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.

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

Additional data for EC transaction #323922 that would not fit on the form

32. Additional remarks, continued

10/22-23/15 BEGIN MILLING OPERATIONS, POOH RDMO, COULD NOT RE-ESTABLISH CIRC.POOH LAYING DOWN

11/03/15 MIRU, RIH W/DOVER ESP, RDMO

11/09/15 SET SURFACE EQUIPMENT, RUN ELECTRICAL, PLUMB INTO BATTERY, TURN OVER TO PRODUCTION - FIRST FLOW - POP

NOTE: GAPS IN DATES ARE DUE TO PAD DRILLING PROCESSES AND SURROUNDING AREA WATER ISSUES, WHICH HAVE DELAYED COMPLETION OPERATIONS

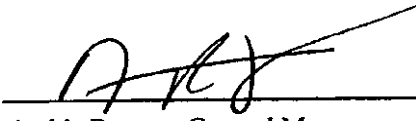
ATTACHMENTS: C102,C104, SURVEY, FRAC DISCLOSURE, INCLINATION, WELLBORE & COPY OF THE 3160-5 SUNDRY FIRST FLOW & APACHE FIRST FLOW

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

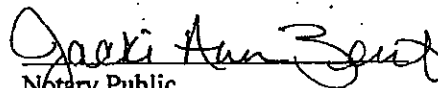
NFE Federal #058H
Eddy County, New Mexico

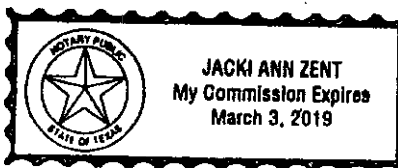
API #30-015-43088
SEC. 9 T17S R31E
1710 FNL, & 85 FEL

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.


Notary Public



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) 746-1283 Fax: (575) 746-9720

DISTRICT III
1000 Ray Briscoe 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) 476-3460 Fax: (505) 476-3462

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

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

DAMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-43088	Pool Code 96831	Pool Name Cedar Lake; Glorieta Yeso
Property Code 314794	Property Name NFE FEDERAL COM	Well Number 58H
OGRID No. 873	Operator Name APACHE CORPORATION	Elevation 3868'

Surface Location

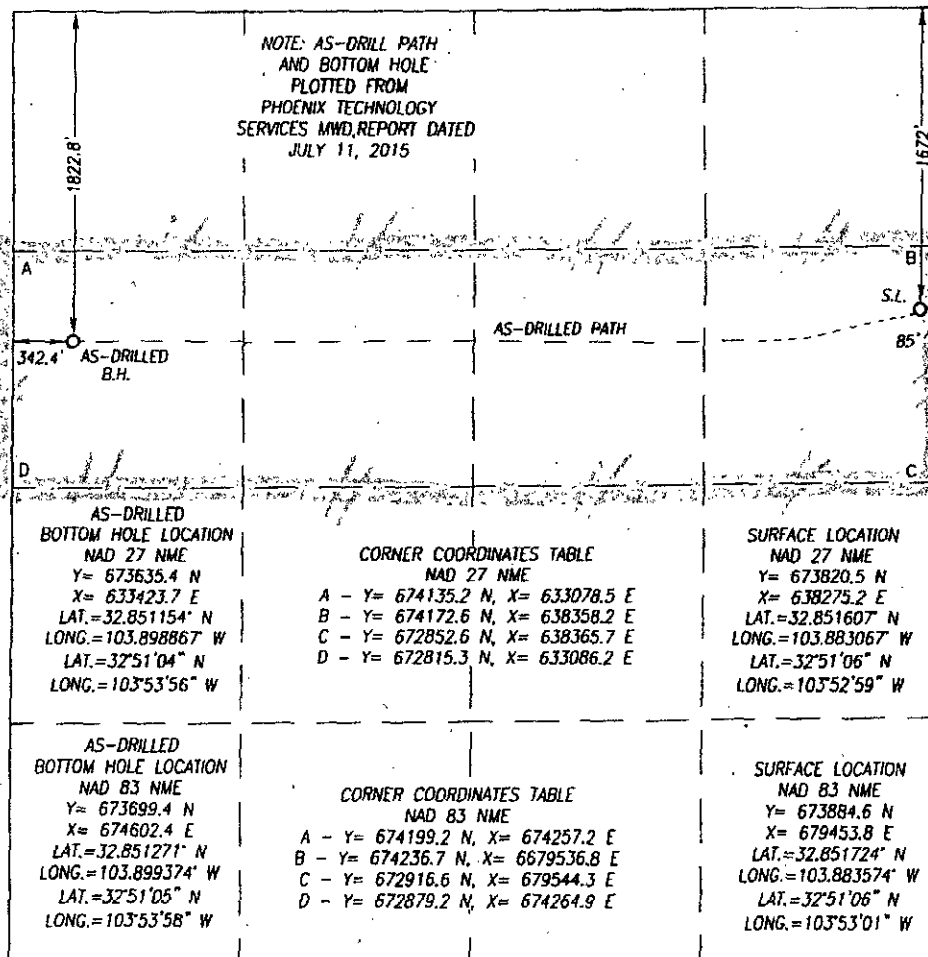
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	8	17-S	31-E		1672	NORTH	85	EAST	EDDY

AS-Drilled 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
E	8	17-S	31-E		1822.8	NORTH	342.4	WEST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.
-------------------------------	-----------------	--------------------	-----------

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



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 released 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.

Emily Follis
Signature
Date
Emily Follis
Printed Name
emily.follis@apachecorp.com
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.

MAY 15, 2015

Date of Survey
Signature & Seal of Professional Surveyor
Ronald J. Eidson
Certificate Number Gary G. Eidson 12641
Ronald J. Eidson 3239
LSL Rel. W.O.: 15.11.0572 JWSC W.O.: 15.13.0725

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Hondo Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Form C-104
Revised August 1, 2011

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address Apache Corporation 303 Veterans Airpark Lane Suite 1000 Midland TX. 79705		² OGRID Number 873
		³ Reason for Filing Code/ Effective Date NW / 11/09/15
⁴ API Number 30-015-43088	⁵ Pool Name CEDAR LAKE; GLORIETA-YESO	⁶ Pool Code 96831
⁷ Property Code [314794]	⁸ Property Name NFE FEDERAL COM	⁹ Well Number 58H

II. 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
	8	17S	31E		1672	NORTH	85	EAST	EDDY

¹¹ Bottom Hole Location

Ul or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	8	17S	31E		1823	NORTH	342	WEST	EDDY

¹² Lse Code	¹³ Producing Method Code	¹⁴ Gas Connection Date	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date
F	P				

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
252293	Holly Energy Pipeline 311 W Quay / PO Box 1360 Artesia NM 88210	O
221115	Frontier Field Services LLC 4200 East Skelly Drive Suite 700 Tulsa OK 74135	G

IV. Well Completion Data

²¹ Spud Date 06/29/2015	²² Ready Date 11/09/15	²³ TD 9785'	²⁴ PBDT 9785'	²⁵ Perforations 5440-9738'	²⁶ DHC, MC
²⁷ Hole Size		²⁸ Casing & Tubing Size	²⁹ Depth Set		³⁰ Sacks Cement
17.5		13.375 H40 48#	513'		560 sx Class C
12.25		9.625 J55 40#	3514'		1400 sx Class C
8.50		7 L80 29#/5.5 L80 20#	4598'/9785'		600 sx Class C
Tubing		2-7/8 J55	4845'		

V. Well Test Data

³¹ Date New Oil	³² Gas Delivery Date	³³ Test Date	³⁴ Test Length	³⁵ Tbg. Pressure	³⁶ Csg. Pressure
11/09/15	11/09/15	11/15/15	24 hrs		
³⁷ Choke Size	³⁸ Oil	³⁹ Water	⁴⁰ Gas		⁴¹ Test Method
	106	1509	63		P

⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Signature:

Printed name:

Emily Follis

Title:

Reg Analyst

E-mail Address:

emily.follis@apachecorp.com

Date:

11/18/15

Phone:

432-818-1801

OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date:



EXPLORING WHAT'S POSSIBLE

30-015-43088

Apache Corporation

Eddy County, NM (NAD27 NME)

NFE Federal

#58H

OH / Job #1513674

Design: Surveys (Capstar 114)

*gyro +
mud
report*

Standard Survey Report

11 July, 2015



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' 0.49038 N
From:	Map	Easting:	633,303.50 usft	Longitude:	103° 53' 57.34986 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:	3,888.00 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

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	88.60	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



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

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)	
843.86	0.69	78.03	843.81	-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	85.88	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	21.78	-21.81	0.20	0.06	6.87	
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	
1,772.78	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	80.82	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	2,278.98	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	0.28	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	

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

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	0.08	-4.92
4,559.18	0.78	230.66	4,558.67	8.36	29.56	-29.78	0.08	0.00	-5.89
Tie-on to Phoenix Gyro Survey									
4,589.00	1.50	232.70	4,588.48	5.87	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	21.80	245.00	4,764.98	-10.09	-1.74	2.11	11.29	11.16	5.12
4,813.00	26.50	248.40	4,804.18	-17.02	-17.84	18.56	11.17	10.70	7.91
4,856.00	30.50	252.00	4,841.88	-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	8.76	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	258.60	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	62.80	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	-1.83
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	363.67	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
5,368.00	87.90	255.20	5,103.39	-117.23	-458.74	462.76	10.34	10.17	-1.88
5,427.00	87.30	258.00	5,105.19	-127.91	-500.35	504.74	2.32	-1.40	1.86
5,469.00	86.80	257.40	5,107.31	-137.56	-541.17	545.89	3.46	-0.95	3.33
5,512.00	87.30	258.70	5,108.49	-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	88.80	261.70	5,112.46	-160.85	-668.89	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	5,107.58	-178.54	-1,007.96	1,013.80	1.20	1.18	-0.24
6,068.00	91.50	269.20	5,103.06	-176.85	-1,136.87	1,142.63	1.40	-0.78	-1.18
6,198.00	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	-0.18
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	5,084.98	-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	2,164.84	0.77	-0.55	0.55

Survey Report

Company: Apache Corporation
Project: Eddy County, NM (NAD27 NME)
Site: NFE Federal
Well: #58H
Wellbore: OH / Job #1513674
Design: Surveys (Capstar 114)

Local Co-ordinate Reference: Well #58H
TVD Reference: KB @ 3879.00usft (Capstar 114)
MD Reference: KB @ 3879.00usft (Capstar 114)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass 5000 GCR

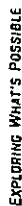
Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
7,219.00	89.80	270.80	5,083.07	-175.42	-2,287.53	2,282.45	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	289.70	5,082.28	-173.64	-2,672.51	2,677.11	1.08	1.01	-0.39
7,732.00	90.70	289.60	5,080.27	-174.42	-2,800.50	2,805.03	0.32	-0.31	-0.08
7,860.00	90.60	289.40	5,078.81	-175.53	-2,928.48	2,932.97	0.17	-0.08	-0.16
7,988.00	90.30	289.30	5,077.81	-176.99	-3,056.47	3,060.92	0.25	-0.23	-0.08
8,116.00	90.60	288.80	5,076.80	-179.11	-3,184.45	3,188.89	0.46	0.23	-0.39
8,244.00	89.80	289.00	5,076.24	-181.57	-3,312.42	3,316.87	0.57	-0.55	0.16
8,372.00	91.70	288.30	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	-185.38	-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	5,068.85	-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	289.70	5,057.71	-181.23	-4,336.10	4,339.83	0.57	-0.16	-0.55
9,396.00	91.00	289.80	5,055.14	-181.79	-4,464.07	4,467.74	0.25	-0.23	0.08
9,524.00	91.60	289.70	5,052.24	-182.35	-4,592.03	4,595.64	0.48	0.47	-0.08
9,652.00	93.20	289.20	5,046.88	-183.57	-4,719.91	4,723.47	1.31	1.25	-0.39
9,719.00	93.80	289.30	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	289.30	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)	+N-S (usft)	+E-W (usft)	Comment
4,559.18	4,558.67	6.36	29.58	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: _____



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

Azimuths to Grid North
 True North: -0.24°
 Magnetic North: 7.39°
 Magnetic Field
 Strength: 4352.8 nT
 Dip Angle: 90.42°
 Date: 7/5/2015
 Model: HDQM

**PHOENIX
TECHNOLOGY SERVICES**



1000

Ground Level	Existing	Latitude	Longitude
3,661.50		32° 51' 5.7410 N	103° 52' 59.04268 W
6,282.75	6,282.75		

SECTION DETAILS

Seq	Inc	Adj	TVD	4HLS	+2W	Dist	Trase	VSPd	Target	Annotation
1	578.00	51.20	307.50	5112.94	-178.13	-437.08	0.09	0.00	843.03	71-15-10-2055 MQ
2	503.50	51.20	348.03	5111.31	-178.19	-427.00	2.27	83.81	809.01	71-15-10-2107 Build 1 Turn
3	5408.34	53.00	270.00	5107.14	-178.19	-425.33	2.96	29.92	912.13	809-15-10-2108
4	6306.94	53.00	270.00	5098.50	-178.89	-426.38	0.00	0.00	1411.01	809-15-10-2109
5	6440.73	50.82	270.00	5092.93	-178.89	-426.38	2.55	162.00	931.18	809-15-10-2110
6	6773.05	50.82	270.00	5092.29	-178.89	-426.38	0.00	0.00	458.57	809-15-10-2111
										Dist: 500-15-10-2111-15
										Dist: 500-15-10-2111-15
										Dist: 500-15-10-2111-15

DESIGN TARGET DETAILS

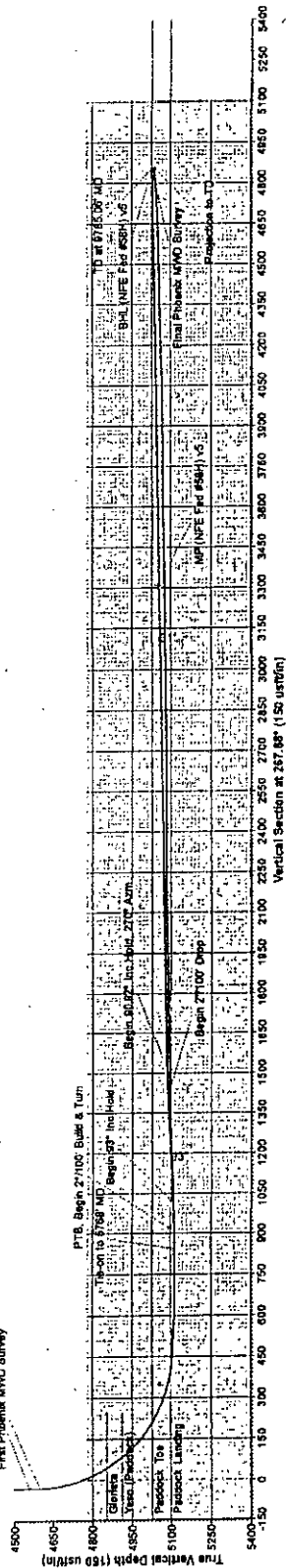
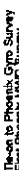
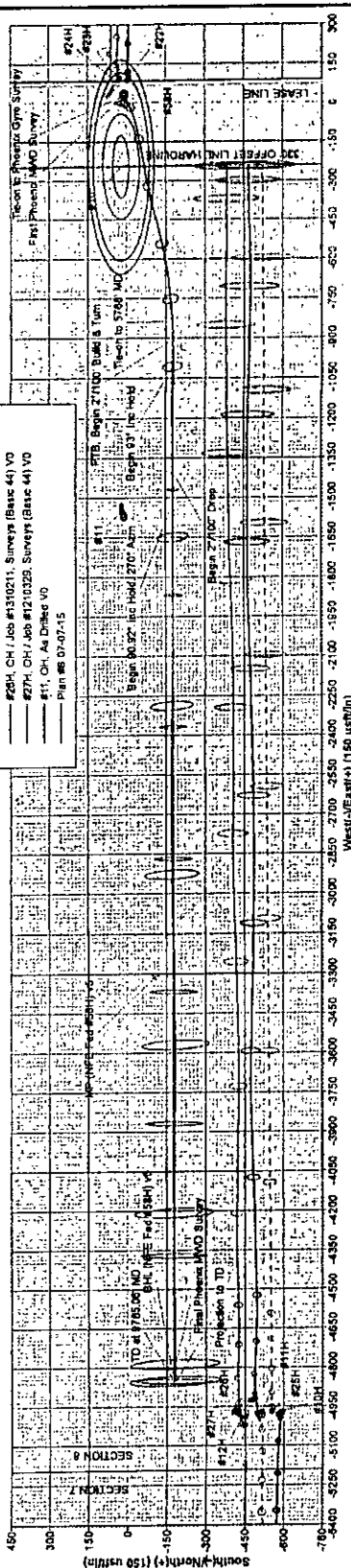
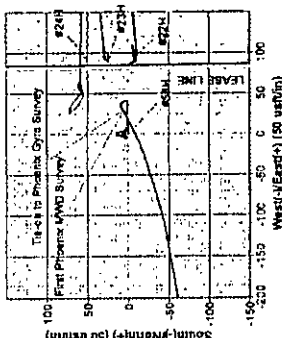
Name	TVD	44-S	-E/W	Northing	Easting	Latitude	Longitude	Shape
BK4, PUFFE Fan 650/1.5	5220.00	-179.64	-4832.95	87349.34	633402.23	37° 51' 4.2747' N	103° 59' 55.82951' W	Pent
MPF, Puffe Fan 650/1.5	5054.00	-181.12	-3307.08	87370.38	634367.52	37° 51' 4.2229' N	103° 59' 57.8713' W	Pent
MPF, Puffe Fan 650/1.5	5054.00	-181.12	-3307.08	87370.38	634367.52	37° 51' 4.2229' N	103° 59' 57.8713' W	Pent

LEGEND

- #114, OH Job #1310356, Plan #1 05/01-12/00
 #124, OH Job #1311107, Surveys (Basic 44) V0
 #204, OH Job #1311737, Surveys (Basic 44) V0
 #204, MB Job #1311132, Surveys (Caster 114) V0
 #234, MB Job #1311354, Surveys (Caster 114) V0
 #234, MB Job #1311354, Surveys (Caster 114) V0
 #234, OH Job #1210327, Plan #2 04/18-12/00
 #504, OH Job #1513674, Surveys (Caster 114) V0
 #734, MB Job #1513430, Surveys (Caster 119) V0
 #10, OH, As Drawn V0
 #204, OH Job #1310211, Surveys (Basic 44) V0
 #274, OH Job #1210329, Surveys (Basic 44) V0
 #11, OH, As Drawn V0
 #11, OH, As Drawn V0

FORMATION TOP DETAILS

TYR	MC2PH	Formation
00 2205	00 1785	Plattinack Top
00 2015	00 1630	Plattinack Landing





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

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



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



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

MEASUREMENT 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.

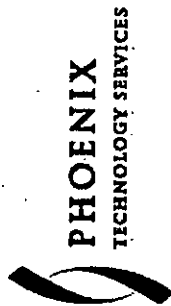
Gyro Supervisor: Jaime Stephenson

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: [Signature]



PHOENIX
TECHNOLOGY SERVICES

Company: Apache
Well: NFE Federal Com # 58H
Location: Sec8 T17S R31E
Rig: Capstar 114

Job Number: 1513896
Grid Corr.: -0.24
Lat: 32.85
Long: -103.88

Calculation Method
Proposed Azimuth
RKB - MSL in feet
Tie Into: 11 Feet

Minimum Curvature

Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	E/W (ft)	Closure Distance (ft)	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

Well:

NFE Federal Com # 58H

Location:

Sec 8 T17S R31E

Rig:

Capstar 114

Job Number:

1513896

Grid Corr.:

-0.24

Lat:

32.85

Long:

-103.88

Calculation Method

Minimum Curvature

Proposed Azimuth

RKB - MSL in feet

11 Feet

Tie Into:

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



PHOENIX

TECHNOLOGY SERVICES

Company:

Apache

Well:

NFE Federal Com # 58H

Location:

Sec8 T17S R31E

Rig:

Capstar 114

Job Number:

1513896

Grid Corr.:

-0.24

Lat:

32.85

Long:

-103.88

Calculation Method

Proposed Azimuth

RKB - MSL in feet

Tie Into:

Minimum Curvature

11 Feet

Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	E/W (ft)	Closure Distance (ft)	Angle (deg)	Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
	4474.74	0.78	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	84	4558.67	6.36	6.36 N	29.56 E	30.24	77.86	0.08	0.00	-5.89

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	10/14/2015
State	NM
County	Eddy
API Number	30-015-43088
Operator Name	Apache
Well Name and Number	NFE Federal #58H
Longitude	-103.882758
Latitude	32.851503
Long/Lat Projection	NAD27
Production Type	Oil
True Vertical Depth (TVD)	9,785
Total Water Volume (gal)*	2,966,250

Hydraulic Fracturing Fluid Composition:

[illegible]

Hydraulic Fracturing Fluid Composition:

[illegible]

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

**** Information is based on the maximum potential for concentration and thus the total may be over 100%**

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(i) and Appendix D.

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): 3,876.00

GL (ft): 3,867.00

KBGL DIFF (ft): 11.00

TMD (ft): 9,785.00

TO OF PILOT HOLE (ft): N/A

FC DEPTH (ft): 9,738.00

PBMD (ft): 9,785.00

ROV DEPTH (ft): N/A

ORIO VALVE (ft): N/A

DEEPEST TVD (ft): 5,113.00

SURFACE CASING - 13-3/8" H-40, STC, 48# SET AT 513

CEMENT SURFACE CASING WITH 560 SX OF CEMENT. TOC AT SURFACE. CIRC 218 SX TO SURF

HOLE SIZE
17-1/2"

INTERMEDIATE CASING - 9-5/8" J-55, LTC, 40# SET AT 3514

CEMENT INTERMEDIATE CASING WITH 1400 SX OF CEMENT. TOC AT SURFACE. CIRC 199 SX TO SURF

PRODUCTION CASING - 7" & 5.5" L-80, LTC, 29# & 20# SET AT 9747

DV TOOL SET AT 4551

STAGE 1: 650 CEMENT SX, TOC AT 120, CBL

STAGE 2: DID NOT DO 2ND STAGE.

HOLE SIZE
12-1/4"

PRODUCTION TUBING - ESP SET AT

TAPERED CASING STRING:

7" 29# L-80 TO X-OVER @ 4,595'

TAPERING TO 5.5" 20# L-80 SET @ 9,747'

HOLE SIZE
8 1/2"

KOP (ft):
LATERAL LENGTH (ft):
TD OF PILOT HOLE (ft):

4,602
4,345

PACKERS & SLEEVES
TOP PERF (MD):
BOTTOM PERF (MD):

5,440
9,736

TMD (ft): 9,785
FC DEPTH (ft): 9,736
PBMD (ft): 9,785
ROV DEPTH (ft): N/A
ORIO VALVE (ft): N/A

PACKERS & SLEEVES - 16 STAGES

TOTAL ACID (bbl)	TOTAL LTR (bbl)	TOTAL PROPPANT (lb)	MAX WH RATE (bpm)	MAX WH PRESSURE (psi)
2,862	70,421	3,034,560	95.00	5,976

PRODUCTION METHOD	LIFT TYPE	SETTING DEPTH
Pumping	ESP	0

COMPLETION:
STIMULATION:
STATUS:
COMMENTS:

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

CROSSOVER SUB @ 4,595'