

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NMOCD

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an Artesia 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.

8. Well Name and No.
CEDAR LAKE FEDERAL CA 827H9. API Well No.
30-015-40470-00-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 8 T17S R31E SWNW 2063FNL 220FWL
32.850493 N Lat, 103.899262 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 recompletion 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 follow: RR 12/01/2012

2/04/2015 RU WEATHERFORD WL FLUID LEVEL @ 900' LOAD CSG RUN CNL 5151' TO SURFACE, RUN CBL 5850 TO SURFACE, TEMP 5328' TO SURFACE, RD WEATHERFORD, SI SD, PREP TO RIH W/4-1/2" FRAC STRING @LATER DATE
04/06/2016 MIRU PETROPLEX PUMP TRUCK & VACUUM TRUCK CSG TEST TO 3500# GOOD, OPEN TOE PORT @ 4148#
SI SD RDMO ALL EQUIPMENT
05/27/2016 MIRU PACKER PLUS ASSY RUN 4-1/2" FRAC STRING PH-6, TEST - GOOD
05/31/2016 NU GOAT HAD RDMO ALL PARTIES
07/20/16 RIG UP ALL PARTIES
07/21-22/16 BEGIN FRAC, NUNEZ ON LOCATION TO REPAIR WH LEAK, SAFETY MEETING,
ROCK PILE (15 STAGE FRAC) 6068-10401'

NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 29 2016

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

Electronic Submission #347704 verified by the BLM Well Information System
For APACHE CORPORATION, sent to the Carlsbad
Committed to AFMSS for processing by PRISCILLA PEREZ on 08/12/2016 (16PP2008SE)

Name (Printed/Typed) EMILY FOLLIS

Title REGULATORY ANALYST

Signature (Electronic Submission)

Date 08/12/2016

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

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 #347704 that would not fit on the form

32. Additional remarks, continued

TOTAL SAND #2,841,962
TOTAL ACID 2676 BBL

07/22/16 RIG DOWN ALL PARTIES

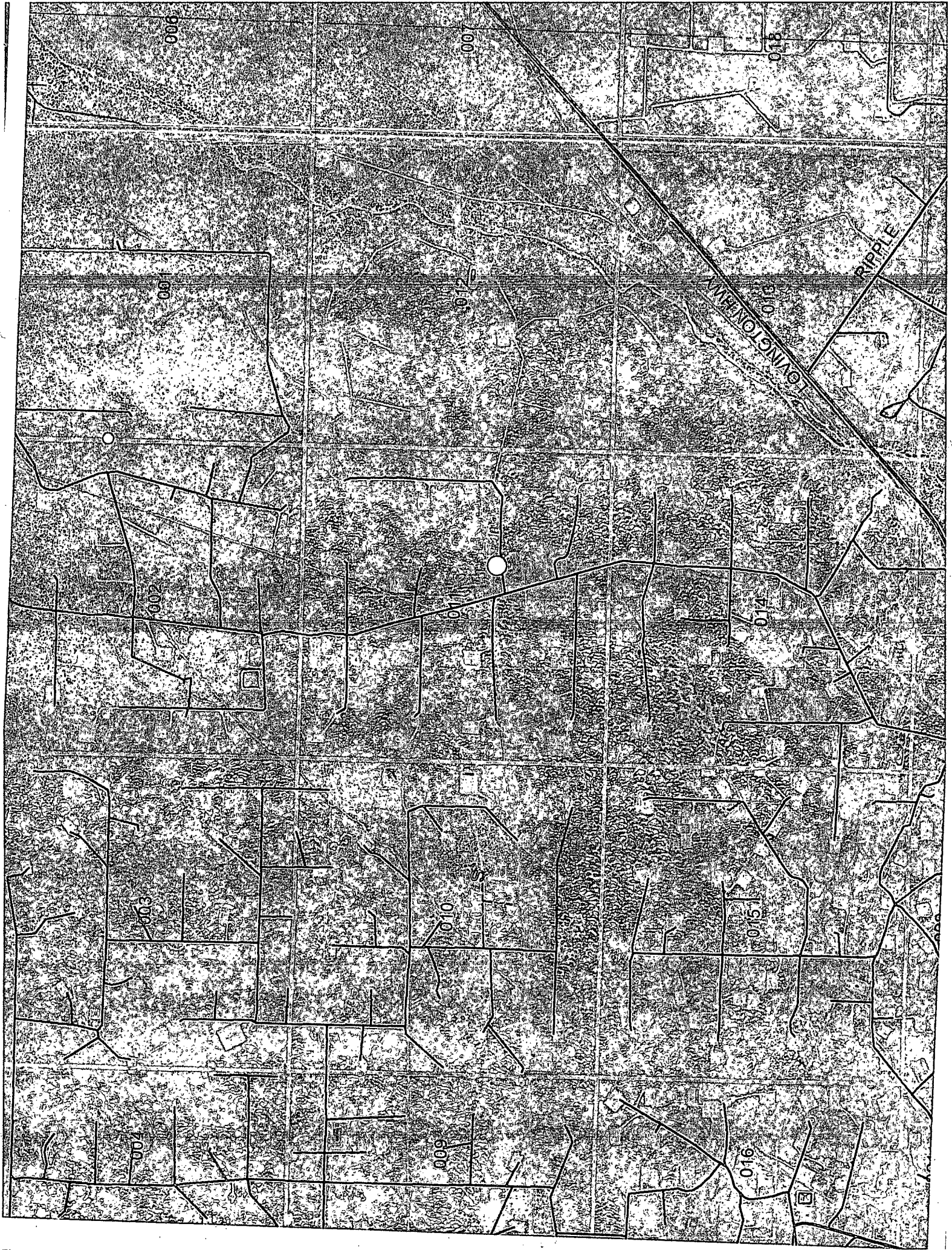
07/25/16 MIRUSU & ALL PARTIES DRILL OUT SLEEVES SPOT PIPE RACKS & TALLEY PIPE

07/26/16 DO SLEEVES/BALL SEATS

07/28/16 CLEAR ALL COMPLETION EQUIP OFF LOCATION MIRU NU GT6 WELL HD & BOP/HYDRILL, RACK & TALL NEW

2-7/8 J55 TBG ,RU GE SPOOLERS, ASSEMBLE GE ESP, PU TBG & RIH W/GE ESP. ND BOP/HYDRILL, FLANG UP
WELL HEAD, SI,CLEAN LOCATION

07/29/16 SET SURFACE,RUN ELECTRICAL,PLUMB INTO BATTERY,PRODUCING ON ESP FINAL REPORT



Cedar Lake Federal CA #8274
E-8-175 31E, 2063 South, 220 West

OPERATOR Apache (873)
WELL/LEASE NFE Federal 27H -orig. 30-015-40470
COUNTY Eddy E-8-175-31E 2063' FUL + 220' FUL

STATE OF NEW MEXICO
DEVIATION REPORT

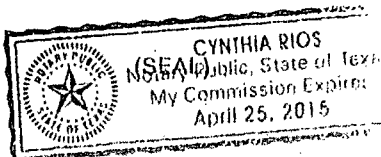
173	0.75
292	1.50
612	1.40
696	1.20
1021	2.10
1231	3.20
2115	0.80
2533	0.80
2617	1.00
2701	1.00
2784	1.30
2868	1.10
3218	2.10
3326	2.40
3410	1.00
3493	1.20
3577	1.00
3660	1.30
3744	1.20
3827	1.20
4161	0.80
4663	1.00
4747	0.90
4831	0.90
4915	0.90
4998	0.10
5081	0.50
5165	0.80
5356	0.60
5549	1.40

SIGNED BY: RS

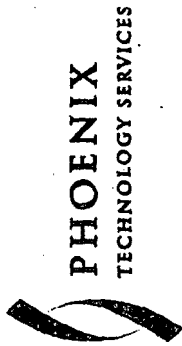
RON SCANDOLARI, VP CONTRACT DRILLING

STATE OF TEXAS
COUNTY OF MIDLAND

ON THIS 14th DAY OF December, 2012, BEFORE ME, C RIOS, A NOTARY
PUBLIC, PERSONALLY APPEARED RON SCANDOLARI, WHO ACKNOWLEDGED AND EXECUTED
THIS DOCUMENT. WITNESS MY HAND AND OFFICIAL SEAL.



Cynthia Rios
NOTARY PUBLIC



NM OIL CONSERVATION
ARTESIA DISTRICT
AUG 29 2016

RECEIVED

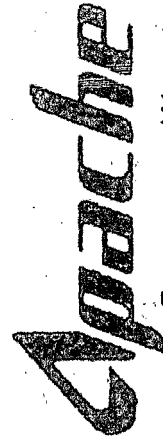
Apache Corporation

Eddy County, NM (Nad27)
NFE Federal
NFE Federal 27H
Job # 1210329

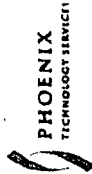
Survey: Phoenix MWD Surveys

Approach Energy Survey Report

22 November, 2012



EXPLORING WHAT'S POSSIBLE



PHOENIX
TECHNOLOGY SERVICES

Approach Energy Survey Report



EXPLORING WHAT'S POSSIBLE

Company: Apache Corporation
Project: Eddy County, NM (Nad27)
Site: NFE Federal
Well: NFE Federal 27H
Wellbore: Job # 1210329
Design: Job # 1210329

Local Co-ordinate Reference:
TVD Reference: WELL @ 3741.00usft (Basic 44)
MD Reference: WELL @ 3741.00usft (Basic 44)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass5000

Well NFE Federal 27H

WELL @ 3741.00usft (Basic 44)

WELL @ 3741.00usft (Basic 44)

Grid

Minimum Curvature

Compass5000

Project: Eddy County, NM (Nad27)

Map System: US State Plane 1927 (Exact solution)

Geo Datum: NAD 1927 (NADCON CONUS)

Map Zone: New Mexico East 3001

System Datum:

Mean Sea Level

Site: NFE Federal

Site Position:

From: Map

Position Uncertainty: 0.00 usft

Northing:

Eastings:

Slot Radius:

673,264.70 usft

633,303.50 usft

13-3/16 "

Latitude:

Longitude:

Grid Convergence:

32° 51' 0.4904 N

103° 53' 57.3497 W

0.24 °

Well: NFE Federal 27H

Well Position: +N-S 0.00 usft

+E-W 0.00 usft

0.00 usft

Northing:

Eastings:

Wellhead Elevation:

673,394.69 usft

633,303.50 usft

0.00 usft

Latitude:

Longitude:

Ground Level:

32° 51' 1.7767 N

103° 53' 57.3434 W

3,727.00 usft

Wellbore:

Job # 1210329

Magnetics:

Model Name:

Sample Date:

Declination

Dip Angle

Field Strength

IGRF2010_14

10/12/12

7.62

60.68

48.822

Design:

Job # 1210329

Audit Notes:

Version: 1.0

Phase:

ACTUAL

Tie On Depth:

0.00

Vertical Section:

Depth From (TVD)

(usft)

0.00

+N-S

(usft)

0.00

+E-W

(usft)

0.00

Direction

(°)

89.60

Survey Program:

Date: 11/22/12

From

(usft)

497.00

To

(usft)

10,415.00

Survey (Wellbore)

Phoenix MWD Surveys (Job # 1210329)

Tool Name

MWD

Description

MWD - Standard



PHOENIX
TECHNOLOGY SERVICES

Approach Energy Survey Report



EXPLORING WHAT'S POSSIBLE

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Well: NFE Federal 27H
Wellbore: Job # 1210329
Design: Job # 1210329

Local Co-ordinate Reference:
TVD Reference: Well NFE Federal 27H
MD Reference: WELL @ 3741.00usft (Basic 44)
North Reference: WELL @ 3741.00usft (Basic 44)
Survey Calculation Method: Grid
Database: Minimum Curvature
Compass5000

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.00	0.00	0.00	3,741.00	0.00	0.00	0.00	0.00	0.00	673,394.69	633,303.50
497.00	2.10	249.90	3,244.11	496.89	-3.13	-8.55	-8.57	0.42	673,391.56	633,294.95
First Phoenix MWD Survey 497 MD										
612.00	1.40	260.70	3,129.17	611.83	-4.08	-11.92	-11.95	0.67	673,390.61	633,291.58
696.00	1.20	274.70	3,045.19	695.81	-4.17	-13.81	-13.84	0.45	673,390.52	633,289.69
780.00	0.90	313.70	2,961.20	779.80	-3.65	-15.16	-15.19	0.90	673,391.05	633,288.34
863.00	1.50	358.50	2,878.22	862.78	-2.11	-15.66	-15.67	1.29	673,392.58	633,287.84
947.00	2.10	26.50	2,794.26	946.74	0.37	-15.00	-15.00	1.25	673,395.06	633,288.50
1,030.00	2.40	32.80	2,711.32	1,029.68	3.19	-13.38	-13.36	0.47	673,397.88	633,290.12
1,114.00	3.00	41.10	2,627.41	1,113.59	6.32	-10.98	-10.94	0.85	673,401.02	633,292.52
1,197.00	3.20	47.00	2,544.54	1,196.46	9.54	-7.86	-7.80	0.45	673,404.23	633,295.64
1,280.00	2.40	58.10	2,461.63	1,279.37	12.04	-4.69	-4.61	1.16	673,406.73	633,298.81
1,363.00	1.40	66.60	2,378.68	1,362.32	13.36	-2.29	-2.19	1.25	673,408.05	633,301.21
1,447.00	0.80	76.70	2,294.70	1,446.30	13.90	-0.77	-0.68	0.75	673,408.59	633,302.73
1,531.00	1.00	79.10	2,210.71	1,530.29	14.17	0.52	0.62	0.24	673,408.87	633,304.02
1,614.00	1.20	84.60	2,127.72	1,613.28	14.39	2.09	2.19	0.27	673,409.09	633,305.59
1,698.00	1.40	87.60	2,043.74	1,697.26	14.52	3.99	4.09	0.25	673,409.21	633,307.49
1,781.00	1.60	84.90	1,960.77	1,780.23	14.66	6.16	6.26	0.26	673,409.36	633,309.66
1,865.00	1.20	94.10	1,876.80	1,864.20	14.71	8.21	8.31	0.54	673,409.40	633,311.71
1,948.00	1.10	108.00	1,793.81	1,947.19	14.40	9.83	9.93	0.36	673,409.09	633,313.33
2,032.00	1.00	118.00	1,709.83	2,031.17	13.80	11.24	11.34	0.25	673,408.50	633,314.74
2,115.00	0.80	133.40	1,626.84	2,114.16	13.07	12.31	12.40	0.38	673,407.76	633,315.81
2,199.00	0.50	146.60	1,542.84	2,198.16	12.36	12.93	13.02	0.40	673,407.05	633,316.43
2,283.00	0.90	203.00	1,458.85	2,282.15	11.44	12.88	12.96	0.89	673,406.14	633,316.38
2,366.00	1.00	217.60	1,375.86	2,365.14	10.27	12.18	12.25	0.31	673,404.96	633,315.68
2,450.00	0.80	232.20	1,291.87	2,449.13	9.33	11.27	11.33	0.36	673,404.02	633,314.77
2,533.00	0.80	231.50	1,208.88	2,532.12	8.61	10.36	10.42	0.01	673,403.31	633,313.86

11/22/12 6:05:16AM



PHOENIX
TECHNOLOGY SERVICES

Approach Energy Survey Report



EXPLORING WHAT'S POSSIBLE

Company: Apache Corporation
Project: Eddy County, NM (Nad27)
Site: NFE Federal
Well: NFE Federal 27H
Wellbore: Job # 1210329
Design: Job # 1210329

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well NFE Federal 27H
WELL @ 3741.00usft (Basic 44)
WELL @ 3741.00usft (Basic 44)
Grid
Minimum Curvature
Compass5000

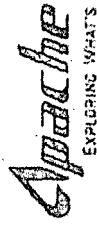
Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	OLeg (°/100usft)	Northing (usft)	Easting (usft)
2,617.00	1.00	240.50	1,124.89	2,616.11	7.89	9.26	9.32	0.29	673,402.58	633,312.76
2,701.00	1.00	244.80	1,040.90	2,700.10	7.22	7.96	8.01	0.09	673,401.91	633,311.46
2,784.00	1.30	248.10	957.92	2,783.08	6.56	6.43	6.48	0.37	673,401.25	633,309.93
2,868.00	1.10	263.60	873.94	2,867.06	6.11	4.75	4.79	0.45	673,400.80	633,308.25
2,952.00	1.20	282.20	789.95	2,951.05	6.21	3.09	3.13	0.46	673,400.90	633,306.59
3,036.00	1.10	320.50	705.97	3,035.03	7.01	1.71	1.76	0.91	673,401.71	633,305.21
3,119.00	1.60	4.60	622.99	3,118.01	8.78	1.30	1.36	1.34	673,403.48	633,304.80
3,203.00	2.10	12.10	539.04	3,201.96	11.46	1.72	1.80	0.66	673,406.15	633,305.22
3,326.00	2.40	16.00	416.13	3,324.87	16.14	2.90	3.01	0.27	673,410.83	633,306.40
3,410.00	1.00	10.60	332.17	3,408.83	18.55	3.52	3.65	1.68	673,413.24	633,307.02
3,493.00	1.20	221.40	249.18	3,491.82	18.61	3.08	3.21	2.56	673,413.30	633,306.58
3,577.00	1.00	205.70	185.19	3,575.81	17.29	2.18	2.30	0.43	673,411.98	633,305.68
3,660.00	1.30	208.40	82.21	3,658.79	15.81	1.41	1.52	0.37	673,410.50	633,304.91
3,744.00	1.20	215.20	-1.77	3,742.77	14.25	0.45	0.55	0.21	673,408.94	633,303.95
3,827.00	1.20	208.50	-84.75	3,825.75	12.78	-0.46	-0.37	0.17	673,407.47	633,303.04
3,911.00	1.00	215.50	-168.74	3,909.74	11.41	-1.31	-1.23	0.29	673,406.10	633,302.19
3,995.00	1.00	217.40	-252.73	3,993.73	10.23	-2.18	-2.11	0.04	673,404.92	633,301.32
4,078.00	1.10	210.90	-335.71	4,076.71	8.97	-3.03	-2.96	0.19	673,403.66	633,300.47
4,161.00	0.80	210.90	-418.70	4,159.70	7.79	-3.73	-3.68	0.36	673,402.48	633,299.77
4,245.00	1.00	132.10	-502.69	4,243.69	6.79	-3.49	-3.44	1.37	673,401.49	633,300.01
4,328.00	1.40	123.50	-585.67	4,326.67	5.75	-2.11	-2.07	0.53	673,400.44	633,301.39
4,412.00	1.00	127.60	-669.66	4,410.66	4.73	-0.67	-0.64	0.49	673,399.43	633,302.83
4,496.00	1.30	124.60	-753.64	4,494.64	3.75	0.69	0.72	0.36	673,398.44	633,304.19
4,579.00	1.20	130.00	-836.62	4,577.62	2.65	2.13	2.15	0.19	673,397.35	633,305.63
4,663.00	1.00	135.40	-920.60	4,661.60	1.57	3.32	3.33	0.27	673,396.26	633,306.82
4,747.00	0.90	126.70	-1,004.59	4,745.59	0.65	4.37	4.37	0.21	673,395.34	633,307.87
4,831.00	0.90	136.70	-1,088.58	4,829.58	-0.23	5.35	5.35	0.19	673,394.47	633,308.85



PHOENIX
TECHNOLOGY SERVICES

Approach Energy Survey Report



EXPLORING WHAT'S POSSIBLE

Company: Apache Corporation
Project: Eddy County, NM (Nad27)
Site: NFE Federal
Well: NFE Federal 27H
Wellbore: Job # 1210329
Design: Job # 1210329

Local Co-ordinate Reference: Well NFE Federal 27H
TVD Reference: WELL @ 3741.00usft (Basic 44)
MD Reference: WELL @ 3741.00usft (Basic 44)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass5000

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	NS (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
4,915.00	0.90	129.70	-1,172.57	4,913.57	-1.13	6.31	6.30	0.13	673,393.57	633,309.81
4,998.00	0.10	291.30	-1,255.57	4,996.57	-1.52	6.74	6.73	1.20	673,393.18	633,310.24
5,081.00	0.50	299.30	-1,338.57	5,079.57	-1.31	6.36	6.35	0.48	673,393.38	633,309.86
5,165.00	0.80	293.70	-1,422.56	5,163.56	-0.90	5.50	5.50	0.36	673,393.79	633,309.00
5,249.00	0.60	295.00	-1,506.56	5,247.56	-0.48	4.57	4.56	0.24	673,394.22	633,308.07
5,272.00	0.90	295.90	-1,529.55	5,270.55	-0.35	4.29	4.29	1.31	673,394.35	633,307.79
5,356.00	0.60	274.40	-1,613.55	5,354.55	-0.03	3.26	3.26	0.48	673,394.67	633,306.76
5,452.00	0.60	267.00	-1,709.54	5,450.54	-0.01	2.26	2.26	0.08	673,394.68	633,305.76
5,484.00	0.30	76.30	-1,741.54	5,482.54	0.00	2.17	2.17	2.80	673,394.69	633,305.67
5,517.00	6.90	92.30	-1,774.46	5,515.46	-0.06	4.24	4.24	20.04	673,394.63	633,307.74
5,549.00	14.40	91.00	-1,805.88	5,546.88	-0.21	10.15	10.15	23.45	673,394.49	633,313.65
5,581.00	20.30	93.10	-1,836.41	5,577.41	-0.58	19.68	19.67	18.54	673,394.12	633,323.18
5,613.00	26.20	90.40	-1,865.80	5,606.80	-0.93	32.30	32.29	18.73	673,393.77	633,335.80
5,645.00	32.00	88.90	-1,893.75	5,634.75	-0.81	47.85	47.84	18.27	673,393.88	633,351.35
5,677.00	35.90	87.70	-1,920.29	5,661.29	-0.27	65.71	65.71	12.37	673,394.42	633,369.21
5,709.00	39.90	87.80	-1,945.54	5,686.54	0.50	85.35	85.35	12.50	673,395.19	633,388.85
5,741.00	43.70	88.30	-1,969.39	5,710.39	1.22	106.66	106.67	11.92	673,395.91	633,410.16
5,773.00	46.80	89.70	-1,991.92	5,732.92	1.61	129.38	129.39	10.17	673,396.30	633,432.88
5,805.00	49.10	91.20	-2,013.35	5,754.35	1.42	153.14	153.14	7.99	673,396.11	633,456.64
5,838.00	52.20	91.70	-2,034.27	5,775.27	0.77	178.64	178.65	9.47	673,395.46	633,482.14
5,870.00	55.70	92.00	-2,053.10	5,794.10	-0.07	204.50	204.49	10.96	673,394.62	633,508.00
5,902.00	58.70	92.10	-2,070.43	5,811.43	-1.03	231.38	231.36	9.38	673,393.66	633,534.88
5,934.00	61.70	91.80	-2,086.33	5,827.33	-1.98	259.13	259.11	9.41	673,392.72	633,562.63
5,966.00	64.60	90.40	-2,100.78	5,841.78	-2.52	287.67	287.54	9.87	673,392.17	633,591.17
5,998.00	68.80	89.40	-2,113.44	5,854.44	-2.46	317.05	317.03	13.43	673,392.23	633,620.55
6,030.00	73.20	88.50	-2,123.86	5,864.86	-1.91	347.29	347.27	14.00	673,392.79	633,650.79
6,062.00	77.10	88.40	-2,132.05	5,873.05	-1.07	378.21	378.19	12.19	673,393.62	633,681.71

Approach Energy Survey Report



Company: Apache Corporation
Project: Eddy County, NM (Nad27)
Site: NFE Federal
Well: NFE Federal 27H
Wellbore: Job # 1210329
Design: Job # 1210329

Local Co-ordinate Reference:
TVD Reference: F
MID Reference: F
North Reference:
Survey Calculation Method:
Database:

Well NFE Federal 27H
WELL @ 3741.00ustf (Basic 44)
WELL @ 3741.00ustf (Basic 44)
Grid
Minimum Curvature
Compass5000

Survey	MID (ustf)	Inc (°)	Azi (azimuth) (°)	TVDSS (ustf)	TVD (ustf)	N/S (ustf)	EW (ustf)	V. Sec (ustf)	D Leg (°/100ustf)	Northing (ustf)	Easting (ustf)
	6,094.00	80.10	89.40	-2,138.38	5,979.38	-0.47	409.57	409.55	9.86	673,394.22	633,713.07
	6,126.00	84.20	88.90	-2,142.75	5,983.75	0.00	441.28	441.25	12.91	673,394.70	633,744.76
	6,158.00	87.20	88.70	-2,145.15	5,986.15	0.67	473.16	473.15	9.40	673,395.36	633,776.66
	6,255.00	92.00	88.30	-2,145.82	5,986.82	3.21	570.09	570.10	4.97	673,397.90	633,873.59
	6,351.00	91.30	89.10	-2,143.06	5,984.06	5.39	666.03	666.05	1.11	673,400.08	633,969.53
	6,447.00	90.30	90.50	-2,141.72	5,982.72	5.72	762.01	762.03	1.79	673,400.41	634,065.51
	6,543.00	89.80	91.10	-2,141.64	5,982.64	4.38	858.00	858.01	0.81	673,399.07	634,161.50
	6,640.00	89.40	90.90	-2,142.31	5,983.31	2.69	954.98	954.98	0.46	673,397.38	634,258.48
	6,736.00	90.10	90.70	-2,142.73	5,983.73	1.35	1,050.97	1,050.96	0.76	673,396.04	634,354.47
	6,832.00	90.10	90.70	-2,142.57	5,983.57	0.17	1,146.97	1,146.94	0.00	673,394.87	634,450.47
	6,929.00	89.60	90.80	-2,142.82	5,983.82	-1.10	1,243.96	1,243.92	0.53	673,393.60	634,547.46
	7,017.00	89.70	90.30	-2,143.36	5,984.36	-1.94	1,331.95	1,331.91	0.58	673,392.75	634,635.45
	7,113.00	89.80	88.80	-2,143.78	5,984.78	-1.19	1,427.94	1,427.90	1.57	673,393.51	634,731.44
	7,209.00	89.00	88.10	-2,144.78	5,985.78	1.41	1,523.90	1,523.88	1.11	673,395.10	634,827.40
	7,305.00	89.00	88.00	-2,145.46	5,987.46	4.68	1,619.83	1,619.83	0.10	673,399.37	634,923.33
	7,402.00	89.10	88.30	-2,148.06	5,989.06	7.81	1,716.77	1,716.78	0.33	673,402.50	635,020.27
	7,498.00	89.10	88.70	-2,149.57	5,990.57	10.32	1,812.72	1,812.75	0.42	673,405.01	635,116.22
	7,594.00	88.80	88.40	-2,151.33	5,992.33	12.75	1,908.68	1,908.72	0.44	673,407.44	635,212.18
	7,691.00	88.00	88.20	-2,154.04	5,995.04	15.63	2,005.60	2,005.66	0.85	673,410.32	635,309.10
	7,787.00	89.20	88.30	-2,156.39	5,997.39	18.56	2,101.52	2,101.60	1.25	673,413.25	635,405.02
	7,883.00	88.80	90.70	-2,158.06	5,999.06	19.39	2,197.49	2,197.58	2.53	673,414.09	635,500.99
	7,979.00	88.80	91.20	-2,160.07	5,991.07	17.80	2,293.46	2,293.53	0.52	673,412.50	635,596.96
	8,076.00	88.70	90.60	-2,162.19	5,993.19	16.28	2,390.42	2,390.48	0.63	673,410.97	635,693.92
	8,172.00	88.30	89.90	-2,164.70	5,995.70	15.86	2,486.39	2,486.44	0.84	673,410.55	635,789.89
	8,268.00	88.20	90.30	-2,167.63	5,998.63	15.69	2,582.34	2,582.39	0.43	673,410.39	635,885.84
	8,363.00	88.30	89.80	-2,170.53	5,991.53	15.61	2,677.30	2,677.34	0.54	673,410.30	635,980.80
	8,461.00	88.60	89.10	-2,173.18	5,994.18	16.55	2,775.26	2,775.31	0.78	673,411.24	636,078.76



PHOENIX
TECHNOLOGY SERVICES

Approach Energy Survey Report



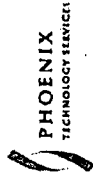
EXPLORING WHAT'S POSSIBLE

Company: Apache Corporation
Project: Eddy County, NM (Nad27)
Site: NFE Federal
Well: NFE Federal 27H
Wellbore: Job # 1210329
Design: Job # 1210329

Local Co-ordinate Reference: Well NFE Federal 27H
TVD Reference: WELL @ 3741.00usft (Basic 44)
MD Reference: WELL @ 3741.00usft (Basic 44)
North Reference: Gnd
Survey Calculation Method: Minimum Curvature
Database: Compass5000

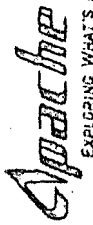
Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDS (usft)	TVD (usft)	NS (usft)	EW (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Eastng (usft)
8,557.00	89.30	88.60	-2,174.94	5,915.94	18.48	2,871.22	2,871.28	0.90	673,413.17	636,174.72
8,653.00	90.30	88.50	-2,175.28	5,916.28	20.91	2,967.19	2,967.26	1.05	673,415.60	636,270.69
8,750.00	90.30	87.90	-2,174.77	5,915.77	23.95	3,064.14	3,064.23	0.62	673,418.65	636,367.64
8,846.00	89.60	87.70	-2,174.85	5,915.85	27.64	3,160.07	3,160.19	0.76	673,422.33	636,463.57
8,942.00	90.60	89.00	-2,174.69	5,915.69	30.40	3,256.03	3,256.16	1.71	673,425.10	636,559.53
9,038.00	89.40	89.30	-2,174.69	5,915.69	31.83	3,352.01	3,352.15	1.29	673,426.52	636,655.51
9,134.00	88.40	88.90	-2,176.53	5,917.53	33.33	3,447.98	3,448.13	1.12	673,428.03	636,751.48
9,231.00	89.80	89.20	-2,176.05	5,919.05	34.94	3,544.95	3,545.11	1.48	673,429.63	636,848.45
9,327.00	89.10	88.90	-2,176.97	5,919.97	36.53	3,640.94	3,641.10	0.79	673,431.23	636,944.44
9,423.00	88.80	88.30	-2,180.73	5,921.73	38.88	3,736.89	3,737.07	0.70	673,433.57	637,040.39
9,520.00	89.60	89.20	-2,182.09	5,923.09	40.99	3,833.86	3,834.05	1.24	673,435.69	637,137.36
9,616.00	88.70	88.70	-2,183.51	5,924.51	42.75	3,929.83	3,930.03	1.07	673,437.45	637,233.33
9,712.00	89.70	90.10	-2,184.85	5,925.85	43.76	4,025.81	4,026.02	1.79	673,438.45	637,329.31
9,808.00	88.80	90.00	-2,186.11	5,927.11	43.67	4,121.80	4,122.01	0.94	673,438.37	637,425.30
9,905.00	88.20	89.80	-2,188.65	5,928.65	43.84	4,218.77	4,218.97	0.65	673,438.54	637,522.27
10,001.00	89.50	90.30	-2,190.58	5,931.58	43.76	4,314.75	4,314.95	1.45	673,438.45	637,618.25
10,097.00	89.10	90.60	-2,191.75	5,932.75	43.01	4,410.74	4,410.93	0.52	673,437.70	637,714.24
10,193.00	89.60	90.40	-2,192.84	5,933.84	42.17	4,506.72	4,506.91	0.56	673,436.86	637,810.23
10,289.00	89.40	90.40	-2,193.68	5,934.68	41.50	4,602.72	4,602.90	0.21	673,436.19	637,906.22
10,359.00	88.80	90.30	-2,194.77	5,935.77	41.07	4,672.71	4,672.88	0.87	673,435.76	637,976.21
Last Phoenix MWD Surveys @ 10359 MD										
10,415.00	88.80									
Projection to TD, 10415' MD										
	90.30		-2,195.95	5,936.95	40.78	4,728.70	4,728.87	0.00	673,435.47	638,032.20



PHOENIX
TECHNOLOGY SERVICES

Approach Energy Survey Report



EXPLORING WHAT'S POSSIBLE

Company: Apache Corporation
Project: Eddy County, NM (Nad27)
Site: NFE Federal
Well: NFE Federal 27H
Wellbore: Job # 1210329
Design: Job # 1210329

Local Co-ordinate Reference: Well NFE Federal 27H
TVD Reference: WELL @ 3741.00usft (Basic 44)
MD Reference: WELL @ 3741.00usft (Basic 44)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: Compass5000

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/S (usft)	+E/W (usft)	Comment
497.00	496.89	-3.13	-8.55	First Phoenix MWD Survey 497' MD
10,359.00	5,935.77	41.07	4,672.71	Last Phoenix MWD Surveys @ 10359' MD
10,415.00	5,936.95	40.78	4,728.70	Projection to TD, 10415' MD

Checked By: _____

Approved By: _____

Date: _____

DISTRICT I
1623 N. French Dr., Hobbs, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-0720

DISTRICT II
811 S. First St., Artesia, NM 88210
Phone: (505) 748-1283 Fax: (505) 748-9720

DISTRICT III
1000 Rio Brazos Road, Artesia, 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 **NM OIL CONSERVATION**
Energy, Minerals & Natural Resources Department
ARTESIA DISTRICT
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

RECEIVED

☐ AMENDED REPORT

AUG 29 2016

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-40470	Pool Code 96831	Pool Name Cedar Lake, Glorieta - Yeso
Property Code 315935	Property Name CEDAR LAKE FEDERAL CA	
OGRID No. 873	Operator Name APACHE CORPORATION	Well Number 827H
		Elevation 3727'

Surface Location

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		2063	NORTH	220	WEST	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
H	8	17-S	31-E		2055.8	NORTH	332	EAST	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

CORNER COORDINATES TABLE NAD 27 NME A) Y=674135.1 N, X=633078.6 E B) Y=674172.6 N, X=638358.2 E C) Y=672814.9 N, X=633086.4 E D) Y=672852.6 N, X=638365.7 E		CORNER COORDINATES TABLE NAD 83 NME A) Y=674199.1 N, X=674257.3 E B) Y=674236.7 N, X=679536.8 E C) Y=672878.9 N, X=674265.0 E D) Y=672916.6 N, X=679544.3 E	
GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=673394.4 N X=633302.9 E LAT.=32.850493° N LONG.=103.899264° W LAT.=32° 51' 02" N LONG.=103° 53' 57" W		GEODETIC COORDINATES NAD 83 NME SURFACE LOCATION Y=673458.3 N X=674481.6 E LAT.=32.850610° N LONG.=103.899771° W LAT.=32° 51' 02" N LONG.=103° 53' 59" W	
GEODETIC COORDINATES NAD 27 NME AS-DRILLED BOTTOM HOLE LOCATION Y=673435.1 N X=638030.5 E LAT.=32.850550° N LONG.=103.883870° W LAT.=32° 51' 02" N LONG.=103° 53' 02" W		GEODETIC COORDINATES NAD 83 NME AS-DRILLED BOTTOM HOLE LOCATION Y=673499.1 N X=679209.1 E LAT.=32.850668° N LONG.=103.884377° W LAT.=32° 51' 02" N LONG.=103° 53' 04" W	

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 unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: *Emily Folis* Date: *6/16/16*

Printed Name: *Emily Folis*

E-mail Address: *emily.folis@apachecorp.com*

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.

Date of Survey: *MARCH 27, 2016*

Signature & Seal of Professional Surveyor: *Ronald J. Eidson*

3239

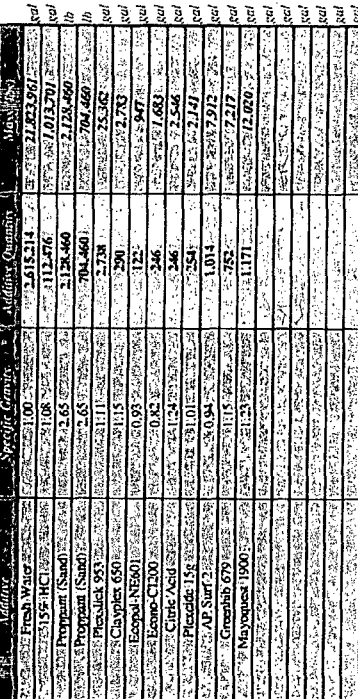
REGISTERED PROFESSIONAL SURVEYOR

Certificate Number: Gary G. Eidson 12641, Ronald J. Eidson 3239

DSR Rel. W.O.# 12.11.0627 JWSC W.O.: 16.13.0256

NOTE: AS-DRILL BOTTOM HOLE PLOTTED FROM PHOENIX TECHNOLOGY SERVICES APPROACH ENERGY SURVEY REPORT; NOVEMBER 22, 2012

Fracture Start Date/Time	7/21/16 9:42
Fracture End Date/Time	7/21/16 12:45
State	New Mexico
County	Eddy
API Number	39-01-144170-0000
Operator Number	41110248
Well Name	Cedar Lake Federal #27H
Federal Well	Yes
Longitude	103.267689
Latitude	33.453734
Long/Lat Projection	NAD83
True Vertical Depth (TVD) (ft)	5,907.1
Total Clean Fluid Volume (cuft)	7,734.523

[illegible]

WELL NAME: CEDAR LAKE FEDERAL CA 827H

API: 30-015-40470

SPUD DATE: 10/24/2012

PRODUCING FORMATION: YESO LWR BLINEBRY

FIELD: CEDAR LAKE (BP)

COUNTY: EDDY

STATE: NEW MEXICO

WORKING INTEREST 60.00%

SURFACE LOC: 2063' FNL & 220' FWL

SECTION: 8

TOWNSHIP: 17-S

RANGE: 31-E

SURVEY: JOHN WEST SURVEYING CO

BOTTOM HOLE LOC: 2055' FNL & 332' FEL

SECTION: 8

TOWNSHIP: 17-S

RANGE: 31-E

SURVEY: JOHN WEST SURVEYING CO

DRILL RIG: BASIC 44

RIG RELEASE: 12/1/2012

KB (ft): 3,741.00

GL (ft): 3,727.00

KB/GL DIFF (ft): 14.00

TMD (ft): 10,415.00

FC DEPTH (ft): N/A

RDV DEPTH (ft): 10,401.00

PBMD (ft): 10,415.00

RDV DEPTH (ft): N/A

ORIO VALVE (ft): N/A

DEEPEST TVD (ft): 5,937.00

SURFACE CASING - 13-3/8" H-40, STC, 48#, SET AT 415'

CEMENT SURFACE CASING WITH 535 SX OF CEMENT. TOC AT SURFACE. CIRC 75 BBLs TO SURF

HOLE SIZE
17-1/2"

INTERMEDIATE CASING - 9-5/8" J-55, STC, 40#, SET AT 3270

CEMENT INTERMEDIATE CASING WITH 1665 SX OF CEMENT. TOC AT SURFACE.

PRODUCTION CASING - 7" J-55, STC, 28#, SET AT 5328

CEMENT PRODUCTION CASING WITH 890 SX OF CEMENT. TOC AT SURFACE. CIRC 220 SX TO SURF

HOLE SIZE
12-1/4"

PRODUCTION Tubing - ESP - 2 7/8" J-55, ETC, 6.5#, SET AT 5431

PROD LINER LINER - 4 1/2" L-80, LTC, 13.5#, TOP OF LINER: 5168 LINER SET AT: 10411

HOLE SIZE
9 3/4"

KOP (ft): 5,490
LATERAL LENGTH (ft): 4,347
TDOF PILOT HOLE (ft): N/A

PACKERS & SLEEVES
TOP PERF (MD): 6,068
BOTTOM PERF (MD): 10,401

TMD (ft): 10,415
FC DEPTH (ft): 10,401
PBMD (ft): 10,415
RDV DEPTH (ft): N/A
ORIO VALVE (ft): N/A

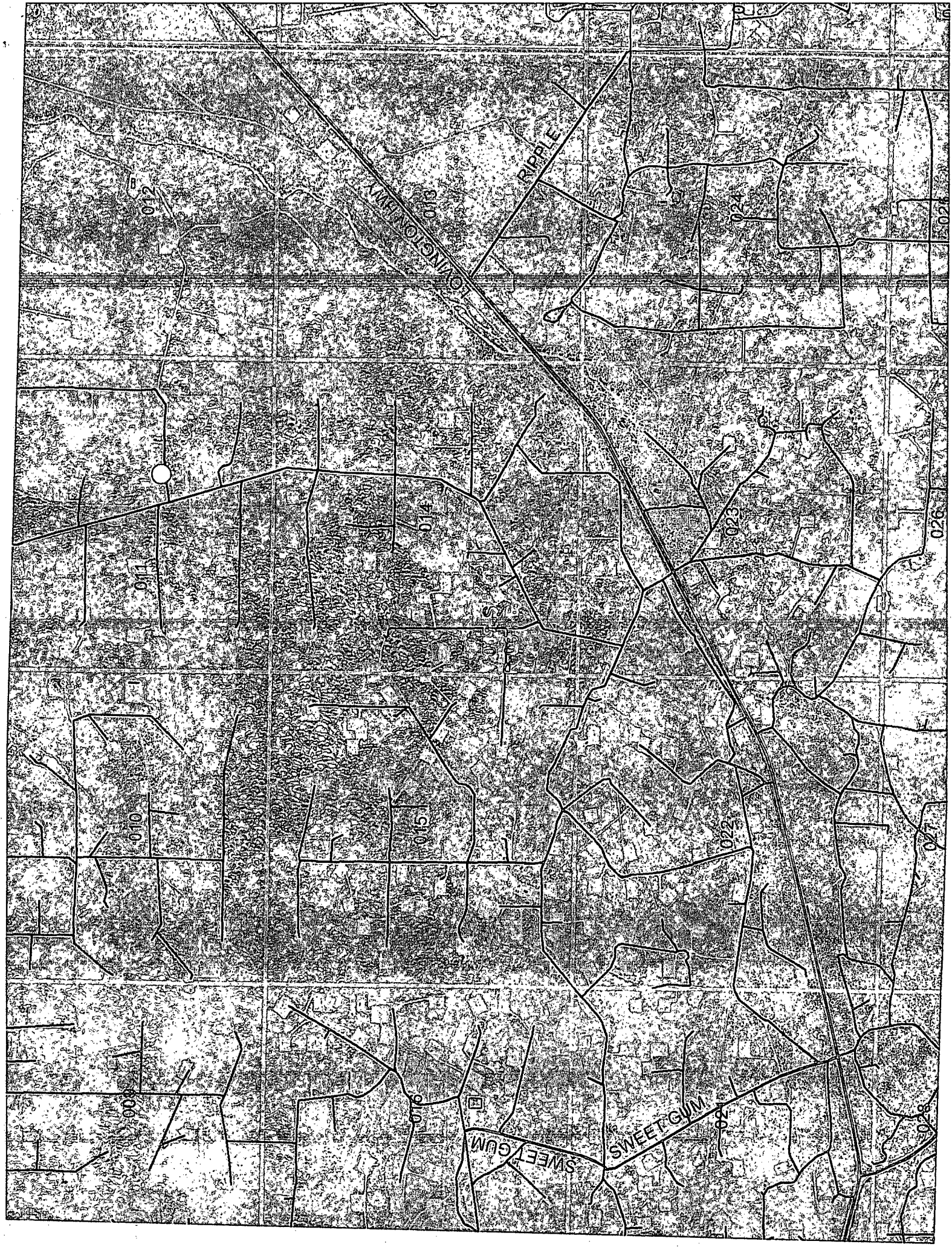
PACKERS & SLEEVES - 15 STAGES

TOTAL ACID (bbl)	TOTAL LTR (bbl)	TOTAL PROPPANT (lbs)	MAX WH RATE (bpm)	MAX WH PRESSURE (psi)
2,576	64,885	2,841,962	71.90	7,206

PRODUCTION METHOD	LIFT TYPE	SETTING DEPTH
Pumping	ESP	0

COMPLETION:
STIMULATION:
STATUS:
COMMENTS:

LAST UPDATED BY: HILLARI GOULD
LAST UPDATED: 8/3/2016



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

State of New Mexico **Oil Conservation** Form C-104
Energy, Minerals & Natural Resources **ARTESIA DISTRICT** Revised August 1, 2011

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

Submit one copy to appropriate District Office
AUG 29 2016

☐ 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 107/20/16		
⁴ API Number 30-015-40470	⁵ Pool Name CEDAR LAKE; GLORIETA-YESO	⁶ Pool Code [96831]
⁷ Property Code 315935	⁸ Property Name CEDAR LAKE FEDERAL CA #827H [315935]	⁹ Well Number #827H

II. ¹⁰ Surface Location

U/I or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	8	17S	31E		2063	NORTH	220	WEST	EDDY

¹¹ Bottom Hole Location

U/I or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	8	17S	31E		2055.8	NORTH	332	EAST	EDDY

¹² Use 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	07/29/16			

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	²² Ready Date	²³ TD	²⁴ PBD	²⁵ Perforations	²⁶ DHC, MC
10/24/2012	07/29/16	10,415'	10,415	6068-10401'	
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
17.5'	13.375 48# H40	460'	535 sx Class C		
12.25'	9.625 J55 #36	3271'	965 sx Class C		
8.750	7" J55 #26	5328'	890 sx Class C		
6.125	4.5" LINER L80 13.5	10,411'			

V. Well Test Data

³¹ Date New Oil 07/29/16	³² Gas Delivery Date 07/29/16	³³ Test Date 08/01/16	³⁴ Test Length 24 hrs	³⁵ Thg. Pressure	³⁶ Csg. Pressure
³⁷ Choke Size	³⁸ Oil 103	³⁹ Water 1020	⁴⁰ Gas 86		⁴¹ Test Method 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:

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Date:

08/12/2016

Phone:

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OIL CONSERVATION DIVISION

Approved by:

Title:

Approval Date: