

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

NFE Federal Com #048H - original
Eddy County, New Mexico *name*

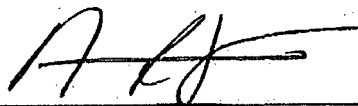
Cedar Lake Federal CA # 648H
API # 30-015-43442
Sec. 6 T175 R31E

192	1.92	0.75	1.31	2.52	2.52
427	2.35	0.50	0.88	2.06	4.58
551	1.24	0.90	1.58	1.95	6.53
652	1.01	0.70	1.23	1.24	7.77
781	1.29	0.90	1.58	2.03	9.80
1209	4.28	1.40	2.45	10.49	20.28
1422	2.13	1.20	2.10	4.47	24.76
1635	2.13	1.40	2.45	5.22	29.98
1848	2.13	0.60	1.05	2.24	32.21
2061	2.13	0.50	0.88	1.86	34.08
2232	1.71	0.20	0.35	0.60	34.67
2445	2.13	0.30	0.53	1.12	35.79
2658	2.13	0.60	1.05	2.24	38.03
2870	2.12	0.20	0.35	0.74	38.77
3083	2.13	0.70	1.23	2.61	41.38
3296	2.13	0.60	1.05	2.24	43.62
3469	1.73	1.50	2.63	4.54	48.16
3529	0.60	1.20	2.10	1.26	49.42
3955	4.26	0.40	0.70	2.98	52.40
4381	4.26	0.30	0.53	2.24	54.64
4693	3.12	1.70	2.98	9.28	63.92

NM OIL CONSERVATION
ARTESIA DISTRICT

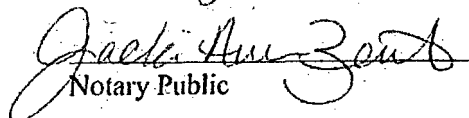
SEP 07 2016

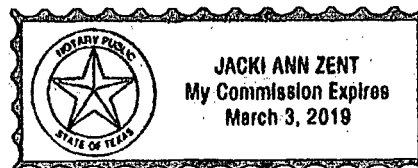
RECEIVED



Archie Brown - General Manager

The attached instrument was acknowledged before me on the 14th day of January, 2016
by Archie Brown - General Manager, CapStar Drilling, Inc.


Notary Public





Apache Corporation

Eddy County, NM (NAD27 NME)

NFE Federal COM

#48H

OH / Job #1514802

Design: Surveys (Capstar 119)

Standard Survey Report

03 January, 2016





Phoenix Technology Services LP Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #48H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3774.00usft (Capstar 119)
Site:	NFE Federal COM	MD Reference:	KB @ 3774.00usft (Capstar 119)
Well:	#48H	North Reference:	Grid
Wellbore:	OH / Job #1514802	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 119)	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 COM		
Site Position:		Northing:	673,264.70 usft
From:	Map	Easting:	633,303.50 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 51' 0.49036 N
		Longitude:	103° 53' 57.34966 W
		Grid Convergence:	0.24 °

Well	#48H					
Well Position	+N/-S	0.00 usft	Northing:	678,787.90 usft	Latitude:	32° 51' 55.33914 N
	+E/-W	0.00 usft	Easting:	628,390.40 usft	Longitude:	103° 54' 54.68576 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,763.00 usft	

Wellbore	OH / Job #1514802				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	HDGM	12/21/2015	(°)	(°)	(nT)
			7.63	60.78	48,531

Design:	Surveys (Capstar 119)		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00

Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	89.61

Survey Program	Date	1/3/2016		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
113.00	4,612.00	Scientific Gyro Surveys (OH / Job #15148)	NS-GYRO-MS	North sensing gyrocompassing m/s
4,693.00	10,170.00	Phoenix MWD Surveys (OH / Job #15148)	PHX+MWD+HDGM	PHX+OWSG 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
113.00	0.26	136.42	113.00	-0.19	0.18	0.18	0.23	0.23	0.00
142.00	0.27	180.44	142.00	-0.30	0.22	0.22	0.69	0.03	151.79
229.00	0.35	150.75	229.00	-0.74	0.35	0.34	0.20	0.09	-34.13
319.00	0.52	158.35	319.00	-1.35	0.65	0.64	0.19	0.19	6.22
495.00	0.78	138.61	494.98	-2.98	1.76	1.74	0.19	0.15	-10.08
526.00	0.80	136.67	525.98	-3.30	2.05	2.03	0.11	0.06	-6.26
611.00	0.76	138.47	610.97	-4.15	2.83	2.80	0.06	-0.05	2.12
696.00	0.79	133.29	695.97	-4.98	3.63	3.60	0.09	0.04	-6.09
781.00	0.73	124.10	780.96	-5.68	4.50	4.47	0.16	-0.07	-10.81



Phoenix Technology Services LP Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #48H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3774.00usft (Capstar 119)
Site:	NFE Federal COM	MD Reference:	KB @ 3774.00usft (Capstar 119)
Well:	#48H	North Reference:	Grid
Wellbore:	OH7/Job #1514802	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 119)	Database:	Compass 5000 GCR

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
952.00	0.83	108.62	951.94	-6.69	6.58	6.53	0.14	0.06	-9.05
1,122.00	0.88	90.36	1,121.92	-7.09	9.05	9.00	0.16	0.03	-10.74
1,208.00	1.28	93.29	1,207.91	-7.15	10.67	10.62	0.47	0.47	3.41
1,293.00	1.35	88.44	1,292.89	-7.18	12.62	12.57	0.15	0.08	-5.71
1,378.00	1.34	69.99	1,377.86	-6.81	14.56	14.51	0.51	-0.01	-21.71
1,463.00	1.26	95.62	1,462.84	-6.56	16.42	16.37	0.68	-0.09	30.15
1,549.00	1.25	99.77	1,548.82	-6.81	18.28	18.24	0.11	-0.01	4.83
1,634.00	0.99	101.81	1,633.80	-7.12	19.92	19.87	0.31	-0.31	2.40
1,719.00	0.76	99.24	1,718.80	-7.36	21.19	21.14	0.27	-0.27	-3.02
1,804.00	0.65	109.29	1,803.79	-7.61	22.20	22.15	0.19	-0.13	11.82
1,889.00	0.56	111.37	1,888.78	-7.92	23.05	22.99	0.11	-0.11	2.45
2,060.00	0.27	105.03	2,059.78	-8.33	24.21	24.16	0.17	-0.17	-3.71
2,145.00	0.14	95.84	2,144.78	-8.39	24.51	24.45	0.16	-0.15	-10.81
2,315.00	0.06	76.26	2,314.78	-8.39	24.80	24.75	0.05	-0.05	-11.52
2,485.00	0.08	325.59	2,484.78	-8.27	24.82	24.77	0.07	0.01	-65.10
2,656.00	0.31	276.77	2,655.78	-8.12	24.30	24.24	0.15	0.13	-28.55
2,741.00	0.38	269.91	2,740.78	-8.09	23.79	23.73	0.10	0.08	-8.07
2,826.00	0.39	272.20	2,825.77	-8.08	23.21	23.16	0.02	0.01	2.69
2,911.00	0.41	263.87	2,910.77	-8.10	22.62	22.57	0.07	0.02	-9.80
2,996.00	0.42	280.61	2,995.77	-8.08	22.01	21.96	0.14	0.01	19.69
3,081.00	0.48	281.98	3,080.77	-7.95	21.36	21.31	0.07	0.07	1.61
3,167.00	0.69	277.51	3,166.76	-7.80	20.49	20.44	0.25	0.24	-5.20
3,252.00	0.84	288.41	3,251.75	-7.54	19.40	19.34	0.25	0.18	12.82
3,422.00	1.23	344.76	3,421.73	-5.39	17.73	17.70	0.61	0.23	33.15
3,508.00	1.23	342.61	3,507.71	-3.82	17.21	17.19	0.05	0.00	-2.50
3,593.00	1.01	340.73	3,592.69	-2.04	16.70	16.68	0.26	-0.26	-2.21
3,678.00	0.70	332.76	3,677.69	-0.87	16.21	16.20	0.39	-0.36	-9.38
3,848.00	0.53	328.52	3,847.68	0.72	15.32	15.33	0.10	-0.10	-2.49
3,933.00	0.46	327.72	3,932.67	1.35	14.94	14.95	0.08	-0.08	-0.94
4,018.00	0.45	334.85	4,017.67	1.94	14.61	14.63	0.07	-0.01	8.39
4,104.00	0.39	343.29	4,103.67	2.53	14.39	14.40	0.10	-0.07	9.81
4,189.00	0.35	13.07	4,188.67	3.05	14.36	14.38	0.23	-0.05	35.04
4,274.00	0.23	8.21	4,273.66	3.48	14.44	14.47	0.14	-0.14	-5.72
4,359.00	0.33	12.66	4,358.66	3.88	14.52	14.55	0.12	0.12	5.24
4,444.00	0.45	19.35	4,443.66	4.44	14.69	14.72	0.15	0.14	7.87
4,529.00	0.70	26.71	4,528.66	5.22	15.03	15.07	0.31	0.29	8.66
4,612.00	0.71	39.31	4,611.65	6.07	15.58	15.62	0.19	0.01	15.18
Tie In to Scientific Gyro Surveys									
4,693.00	1.70	72.60	4,692.63	6.82	17.05	17.09	1.45	1.22	41.10
First Phoenix MWD Survey									
4,735.00	6.50	98.40	4,734.51	6.74	20.01	20.05	11.89	11.43	56.67
4,778.00	12.30	97.80	4,776.92	5.84	26.97	27.01	13.50	13.49	3.26
4,820.00	18.30	96.80	4,817.41	4.45	37.96	37.99	14.30	14.29	-2.38



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Site:	NFE Federal COM	MD Reference:	KB @ 3774.00usft (Capstar 119)
Well:	#48H	North Reference:	Grid
Wellbore:	OH / Job #1514802	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 119)	Database:	Compass 5000 GCR

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,863.00	23.70	97.40	4,857.54	2.54	53.24	53.26	12.57	12.56	1.40
4,906.00	27.50	97.70	4,896.31	0.10	71.66	71.66	8.84	8.84	0.70
4,948.00	31.10	95.50	4,932.94	-2.24	92.07	92.05	8.95	8.57	-5.24
4,991.00	35.60	93.90	4,968.85	-4.16	115.63	115.59	10.66	10.47	-3.72
5,033.00	39.10	91.50	5,002.23	-5.34	141.07	141.03	9.02	8.33	-5.71
5,076.00	43.30	89.80	5,034.58	-5.64	169.38	169.34	10.11	9.77	-3.95
5,119.00	47.30	89.30	5,064.82	-5.40	199.94	199.90	9.34	9.30	-1.16
5,161.00	50.70	88.60	5,092.37	-4.81	231.63	231.59	8.19	8.10	-1.67
5,203.00	54.50	88.20	5,117.87	-3.88	264.97	264.94	9.08	9.05	-0.95
5,246.00	59.40	88.70	5,141.32	-2.91	300.99	300.97	11.44	11.40	1.16
5,289.00	65.40	89.40	5,161.23	-2.28	339.08	339.05	14.03	13.95	1.63
5,331.00	68.40	90.70	5,177.71	-2.32	377.70	377.68	7.69	7.14	3.10
5,374.00	74.30	91.10	5,191.45	-2.96	418.42	418.39	13.75	13.72	0.93
5,417.00	80.30	90.80	5,200.90	-3.66	460.35	460.31	13.97	13.95	-0.70
5,460.00	86.60	90.00	5,205.80	-3.95	503.04	503.00	14.77	14.65	-1.86
5,502.00	88.50	90.30	5,207.60	-4.06	545.00	544.96	4.58	4.52	0.71
5,630.00	90.20	91.90	5,209.05	-6.52	672.96	672.90	1.82	1.33	1.25
5,758.00	89.10	90.50	5,209.83	-9.20	800.93	800.84	1.39	-0.86	-1.09
5,886.00	87.70	88.80	5,213.41	-8.42	928.87	928.79	1.72	-1.09	-1.33
6,014.00	88.90	89.40	5,217.20	-6.41	1,056.79	1,056.72	1.05	0.94	0.47
6,142.00	87.60	88.10	5,221.11	-3.62	1,184.69	1,184.64	1.44	-1.02	-1.02
6,269.00	88.90	88.50	5,224.99	0.15	1,311.58	1,311.55	1.07	1.02	0.31
6,397.00	86.60	88.20	5,230.02	3.83	1,439.42	1,439.41	1.81	-1.80	-0.23
6,525.00	87.80	89.30	5,236.27	6.62	1,567.23	1,567.24	1.27	0.94	0.86
6,653.00	88.10	89.00	5,240.85	8.51	1,695.13	1,695.15	0.33	0.23	-0.23
6,780.00	88.40	88.20	5,244.73	11.61	1,822.03	1,822.07	0.67	0.24	-0.63
6,908.00	89.80	88.60	5,246.74	15.19	1,949.96	1,950.02	1.14	1.09	0.31
7,036.00	87.70	89.40	5,249.53	17.42	2,077.91	2,077.98	1.76	-1.64	0.63
7,164.00	88.50	89.40	5,253.77	18.76	2,205.83	2,205.90	0.63	0.63	0.00
7,292.00	89.10	90.80	5,256.45	18.54	2,333.80	2,333.87	1.19	0.47	1.09
7,420.00	88.20	91.30	5,259.47	16.19	2,461.74	2,461.79	0.80	-0.70	0.39
7,547.00	87.10	90.20	5,264.68	14.53	2,588.62	2,588.65	1.22	-0.87	-0.87
7,675.00	87.60	88.60	5,270.60	15.87	2,716.47	2,716.51	1.31	0.39	-1.25
7,803.00	89.10	89.20	5,274.28	18.33	2,844.39	2,844.45	1.26	1.17	0.47
7,931.00	90.40	90.00	5,274.84	19.22	2,972.38	2,972.44	1.19	1.02	0.63
8,058.00	88.60	89.20	5,275.95	20.11	3,099.36	3,099.43	1.55	-1.42	-0.63
8,186.00	89.40	90.10	5,278.18	20.89	3,227.34	3,227.41	0.94	0.63	0.70
8,314.00	90.30	90.60	5,278.52	20.11	3,355.34	3,355.39	0.80	0.70	0.39
8,442.00	90.60	90.40	5,277.51	18.99	3,483.33	3,483.38	0.28	0.23	-0.16
8,570.00	90.40	89.80	5,276.39	18.77	3,611.32	3,611.36	0.49	-0.16	-0.47
8,697.00	89.00	89.80	5,277.06	19.21	3,738.32	3,738.36	1.10	-1.10	0.00
8,825.00	90.00	90.30	5,278.18	19.10	3,866.31	3,866.35	0.87	0.78	0.39
8,953.00	89.20	90.00	5,279.07	18.76	3,994.30	3,994.34	0.67	-0.63	-0.23
9,081.00	86.90	87.30	5,283.43	21.77	4,122.17	4,122.23	2.77	-1.80	-2.11



Phoenix Technology Services LP Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #48H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3774.00usft (Capstar 119)
Site:	NFE Federal COM	MD Reference:	KB @ 3774.00usft (Capstar 119)
Well:	#48H	North Reference:	Grid
Wellbore:	OH / Job #1514802	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 119)	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)
9,208.00	88.00	87.80	5,289.08	27.20	4,248.93	4,249.02	0.95	0.87	0.39
9,336.00	88.40	87.60	5,293.10	32.33	4,376.76	4,376.88	0.35	0.31	-0.16
9,464.00	89.40	87.10	5,295.55	38.25	4,504.60	4,504.76	0.87	0.78	-0.39
9,592.00	87.30	89.00	5,299.24	42.60	4,632.46	4,632.64	2.21	-1.64	1.48
9,719.00	89.20	89.90	5,303.12	43.82	4,759.39	4,759.58	1.66	1.50	0.71
9,847.00	90.40	90.70	5,303.57	43.15	4,887.38	4,887.56	1.13	0.94	0.63
9,974.00	91.40	91.30	5,301.57	40.93	5,014.34	5,014.51	0.92	0.79	0.47
10,095.00	92.30	91.90	5,297.66	37.56	5,135.23	5,135.37	0.89	0.74	0.50
Final Phoenix MWD Survey									
10,170.00	92.30	91.90	5,294.65	35.07	5,210.13	5,210.25	0.00	0.00	0.00
Projection to TD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,612.00	4,611.65	6.07	15.58	Tie In to Scientific Gyro Surveys
4,693.00	4,692.63	6.82	17.05	First Phoenix MWD Survey
10,095.00	5,297.66	37.56	5,135.23	Final Phoenix MWD Survey
10,170.00	5,294.65	35.07	5,210.13	Projection to TD

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) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 Rio Brazos 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 30-015-43442	Pool Code 96831	Pool Name Cedar Lake, Glorieta - Yeso
Property Code 315935	Property Name Cedar Lake Federal CA	Well Number 6418H
OGRID No. 873	Operator Name APACHE CORPORATION	Elevation 3763'

Surface Location

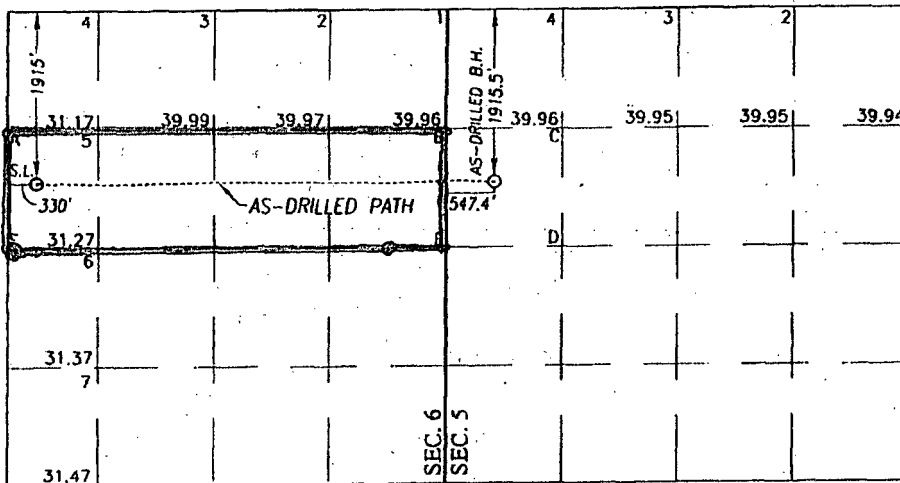
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
5	6	17-S	31-E		1915	NORTH	330	WEST	EDDY

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
E	5	17-S	31-E		1915.5	NORTH	547.4	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
151.27			

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



GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION
Y=678787.9 N
X=628390.4 E
LAT.=32.865372° N
LONG.=103.915190° W
LAT.=32° 51' 55" N
LONG.=103° 54' 55" W

GEODETIC COORDINATES
NAD 83 NME
SURFACE LOCATION
Y=678851.9 N
X=669569.1 E
LAT.=32.865489° N
LONG.=103.915698° W
LAT.=32° 51' 56" N
LONG.=103° 54' 57" W

NOTE: AS-DRILLED PATH AND B.H. PLOTTED FROM PHOENIX
TECHNOLOGY SERVICES STANDARD SURVEY REPORT 1/03/2016.

SCALE: 1"=2000'
CORNER COORDINATES TABLE
NAD 27 NME
A - Y=679380.9 N, X=628058.7 E
B - Y=679414.4 N, X=633048.7 E
C - Y=679423.9 N, X=634368.4 E
D - Y=678104.1 N, X=634375.9 E
E - Y=678094.7 N, X=633056.1 E
F - Y=678061.7 N, X=628062.7 E

CORNER COORDINATES TABLE
NAD 83 NME
A - Y=679444.9 N, X=669237.4 E
B - Y=679478.5 N, X=674227.3 E
C - Y=679488.0 N, X=675547.0 E
D - Y=678168.2 N, X=675554.5 E
E - Y=678158.7 N, X=674234.7 E
F - Y=678125.6 N, X=669241.4 E

GEODETIC COORDINATES
NAD 27 NME
AS-DRILLED BOTTOM
HOLE LOCATION
Y=678822.9 N
X=633599.3 E
LAT.=32.865410° N
LONG.=103.898226° W
LAT.=32° 51' 55" N
LONG.=103° 53' 54" W

GEODETIC COORDINATES
NAD 83 NME
AS-DRILLED BOTTOM
HOLE LOCATION
Y=678887.0 N
X=674777.9 E
LAT.=32.865527° N
LONG.=103.898733° W
LAT.=32° 51' 56" N
LONG.=103° 53' 55" 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.

Emily Follis 8/28/16
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.

JANUARY 7, 2015

Date of Survey
Signature & Seal of Professional Surveyor:

Ronald J. Eidson 01/25/2016
Certificate Number Gary G. Eidson 12641
Ronald J. Eidson 3239

ACK - REL. W.O. 15.13.1061 JWSC W.O. 16.13.0037

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
Energy, Minerals & Natural Resources

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

Form C-104
Revised August 1, 2011

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 08/13/16
⁴ API Number 30-015-43442	⁵ Pool Name CEDAR LAKE; GLORIETA-YESO	⁶ Pool Code [96831]
⁷ Property Code 315935	⁸ Property Name CEDAR LAKE FEDERAL CA	⁹ Well Number 648H

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
E	6	17S	31E		1915	NORTH	330	WEST	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
	5	17S	31E		1915	NORTH	547	WEST	EDDY
¹² Lse Code F	¹³ Producing Method Code P	¹⁴ Gas Connection Date 08/13/16	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date				

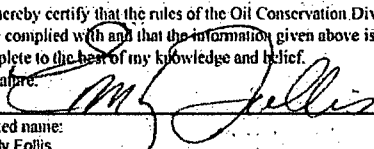
III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/V
252293	Holly Energy Pipeline 311 W Quay / PO Box 1380 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 12/23/15	²² Ready Date 08/13/16	²³ TD 10,170	²⁴ PBDT 10,170	²⁵ Perforations 5503-10,140	²⁶ DIHC, MC
²⁷ Hole Size	²⁸ Casing & Tubing Size	²⁹ Depth Set	³⁰ Sacks Cement		
17.5'	13.375 48# H40	451	550 sx Class C		
12.25'	9.625 J66 #40	3505	1800 sx Class C		
8.5'	7 L80 29#/5.5 L80 20#	4713/10,170	630 sx Class C		
Tubing	2-7/8" J55	4988'			

V. Well Test Data

³¹ Date New Oil 08/13/16	³² Gas Delivery Date 08/13/16	³³ Test Date 08/23/16	³⁴ Test Length 24 hrs	³⁵ Tbg. Pressure	³⁶ Csg. Pressure
³⁷ Choke Size	³⁸ Oil 96	³⁹ Water 1720	⁴⁰ Gas 10		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. 			OIL CONSERVATION DIVISION		
Printed name: Emily Follis			Approved by:		
Title: Reg Analyst			Title:		
E-mail Address: emily.follis@apachecorp.com			Approval Date:		
Date: 08/29/16	Phone: 432-818-1801				

WELL NAME: CEDAR LAKE FEDERAL CA 648H

API: 30-015-43442

SPUD DATE: 12/23/2015

PRODUCING FORMATION: YESO UPPER BLINEBRY

FIELD: CEDAR LAKE (BP)

COUNTY: EDDY

STATE: NEW MEXICO

WORKING INTEREST: 59.92%

SURFACE LOC: 1915 FNL & 330' FWL

SECTION: 6

TOWNSHIP: 17-S

RANGE: 31-E

SURVEY: RONALD J. EIDSON

BOTTOM HOLE LOC: 1915.5' FNL & 547.4' FWL

SECTION: 5

TOWNSHIP: 17-S

RANGE: 31-E

SURVEY: RONALD J. EIDSON

DRILL RIG: CAPSTAR 119

RIG RELEASE: 1/5/2016

KB (ft): 3,774.00

GL (ft): 3,763.00

KB/GL DIFF (ft): 11.00

TMD (ft): 10,170.00

TD OF PILOT HOLE (ft): N/A

FC DEPTH (ft): 10,140.00

PBMD (ft): 10,170.00

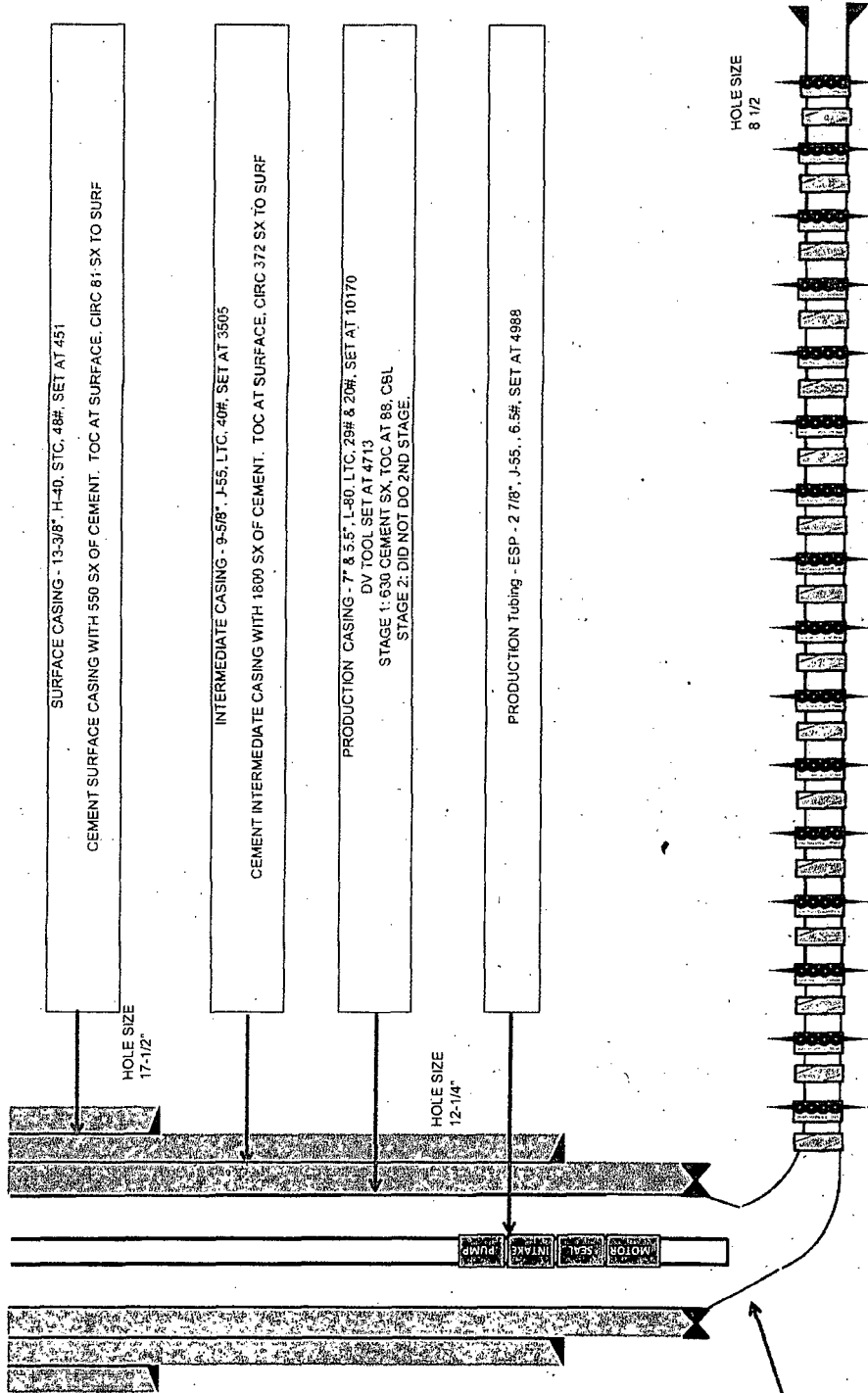
RDV DEPTH (ft): N/A

ORIO VALVE (ft): N/A

DEEPEST TVD (ft): 5,303.00

TAPERED CASING STRING:

7" 29# L-80 TO X-OVER @ 4.715'
TAPERING TO 5.5" 20# L-80 SET @ 10,170'



KOP (ft): 4.694
LATERAL LENGTH (ft): 4.667
TD OF PILOT HOLE (ft): N/A

PACKERS & SLEEVES
TOP PERF (MD): 5.503
BOTTOM PERF (MD): 10.140

TMD (ft): 10,170
FC DEPTH (ft): 10,140
PBMD (ft): 10,170
RDV DEPTH (ft): N/A
ORIO VALVE (ft): N/A

COMPLETION:

STIMULATION:

STATUS:

COMMENTS:

LAST UPDATED BY: HILLARI GOULD
LAST UPDATED: 8/25/2016

PACKERS & SLEEVES - 17 STAGES

TOTAL ACID (bbl)	TOTAL LTR (bbl)	TOTAL PROPPANT (lbs)	MAX WH RATE (bpm)	MAX WH PRESSURE (psi)
2.987	78.521	4,819,668	92.40	6,445

PRODUCTION METHOD	LIFT TYPE	SETTING DEPTH
Pumping	ESP	4668

CROSSOVER SUB @ 4.715'