

DATE IN 1/30/2014	SUSPENSE	ENGINEER MAM	LOGGED IN 1/30/2014	TYPE NSL	APP NO. PMAM1403041642
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

- [1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]
- [A] Location - Spacing Unit - Simultaneous Dedication
☒ NSL ☐ NSP ☐ SD
- Check One Only for [B] or [C]
- [B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM
- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR
- [D] Other: Specify _____
- [2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or ☒ Does Not Apply
- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
- [B] ☐ Offset Operators, Leaseholders or Surface Owner
- [C] ☐ Application is One Which Requires Published Legal Notice
- [D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] ☐ Waivers are Attached

NSL
- Apache Corp
873 well
- Crow Federal 15H
30-015-4059
Pool
- Frenj Gloriety
26770

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

David Catanach
Print or Type Name

David Catanach
Signature

Agent for Apache Corporation
Title

1/30/14
Date

drcatanach@netscape.com
E-Mail Address

January 30, 2014

Hand Delivered

New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

Attention: Ms. Jami Bailey, CPG
Division Director

Re: Application for Unorthodox Well Locations
Crow Federal Well No. 14H (API No. 30-015-40578)
Crow Federal Well No. 15H (API No. 30-015-40579)
Fren Glorieta-Yeso Pool (26770)
Eddy County, New Mexico

Dear Ms. Bailey:

Pursuant to Division Rule 19.15.15.13, Apache Corporation ("Apache") respectfully requests administrative approval of two unorthodox oil well locations for its Crow Federal Wells No. 14H and 15H. These wells have been drilled as horizontal development oil wells in the Fren Glorieta-Yeso Pool, described as follows:

Well	Surface Location	First Take Point	Last Take Point	As Drilled BHL
Crow Federal No. 14H	923' FSL & 250' FWL Unit M, 10-17S-31E	917' FSL & 183' FEL Unit P, 9-17S-31E	909' FSL & 436' FWL Unit M, 9-17S-31E	906' FSL & 332' FWL Unit M, 9-17S-31E
Crow Federal No. 15H	988' FSL & 250' FWL Unit M, 10-17S-31E	991' FSL & 272' FEL Unit P, 9-17S-31E	999' FSL & 433' FWL Unit M, 9-17S-31E	999' FSL & 332'FWL Unit M, 9-17S-31E

The Crow Federal Wells No. 14H and 15H will both be dedicated to an existing 160-acre horizontal project area comprising the S/2 S/2 of Section 9, Township 17 South, Range 31 East, NMPM.

This project area is currently dedicated to Apache's Crow Federal Well No. 13H (API No. 30-015-40577) which has also been drilled as a Glorieta-Yeso horizontal well at a standard location within the project area.

The Fren Glorieta-Yeso Pool is currently governed by Division Rule 19.19.15.9 which requires standard 40-acre oil spacing and proration units with wells to be located no closer than 330 feet to the outer boundary of the spacing unit, or in the case of a horizontal well, no closer than 330 feet to the outer boundary of the project area.

The Crow Federal Wells No. 14H and 15H were drilled at the unorthodox locations in order to maximize the recovery of oil and gas reserves from the Fren Glorieta-Yeso Pool underlying the S/2 S/2 of Section 9.

The affected offset tracts for the Crow Federal No. 14H are the N/2 S/2 and S/2 S/2 of Section 10, Township 17 South, Range 31 East. Both of these tracts are existing 160-acre horizontal project areas in the Fren Glorieta-Yeso Pool, and both are operated by Apache (**See attached plat**).

The affected offset tracts for the Crow Federal No. 15H are the aforesaid N/2 S/2 and S/2 S/2 of Section 10, and the N/2 S/2 of Section 9, Township 17 South, Range 31 East. The N/2 S/2 of Section 9 is also an existing 160-acre project area in the Fren Glorieta-Yeso Pool that is operated by Apache (**See attached plat**).

Please be advised that the working interest ownership between the drill tract (S/2 S/2 of Section 9) and the three affected offset tracts is common. Consequently, notice of this application is not required to be provided to any party.

Attached are Form C-102's for the Crow Federal Wells No. 14H and 15H and maps that show the well locations, project area, legal producing area and affected offset tracts.

In summary, approval of the application will provide Apache Corporation the opportunity to recover additional oil and gas reserves from the Fren Glorieta-Yeso Pool underlying the S/2 S/2 of Section 9 that may otherwise not be recovered by the existing or proposed producing wells, thereby preventing waste, and will not violate correlative rights.

If you should have any questions, please call me at (505) 690-9453.

Sincerely,



David Catanach, Agent
Apache Corporation
303 Veterans Airpark Lane
Suite 3000
Midland, Texas 79705

Xc: OCD-Artesia

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

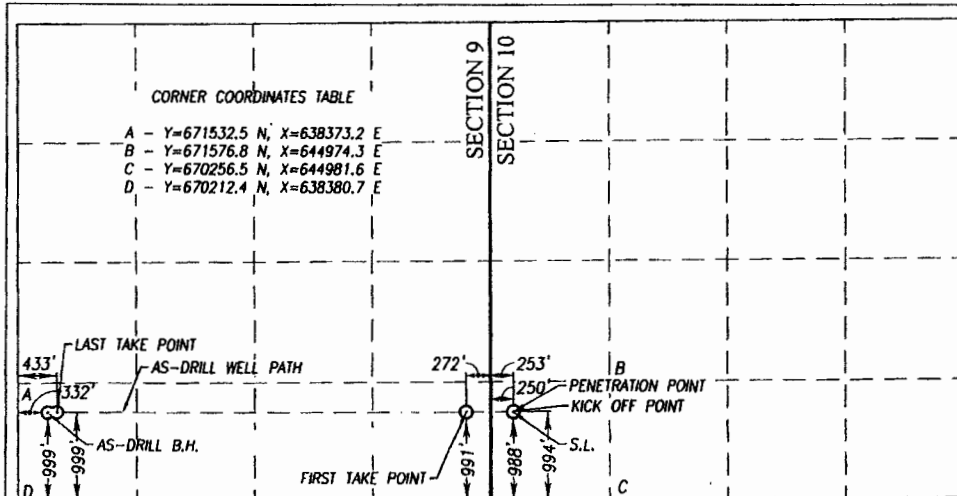
State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-15-40579		Pool Code 26770		Pool Name FREN; GLORIETA-YESO					
Property Code 308711		Property Name CROW FEDERAL						Well Number 15H	
OGRID No. 873		Operator Name APACHE CORPORATION						Elevation 3885'	
Surface Location									
UL or lot No. M	Section 10	Township 17-S	Range 31-E	Lot Idn	Feet from the 988	North/South line SOUTH	Feet from the 250	East/West line WEST	County EDDY
As-Drill Bottom Hole Location If Different From Surface									
UL or lot No. M	Section 9	Township 17-S	Range 31-E	Lot Idn	Feet from the 999	North/South line SOUTH	Feet from the 332	East/West line WEST	County EDDY
Penetration Point Location									
UL or lot No. M	Section 10	Township 17-S	Range 31-E	Lot Idn	Feet from the 994	North/South line SOUTH	Feet from the 253	East/West line WEST	County EDDY
Dedicated Acres 200		Joint or Infill		Consolidation Code		Order No.			



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 _____ Date _____

Printed Name _____

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.

MARCH 27, 2012

Date of Survey
Signature & Seal of Professional Surveyor:

Ronald J. Eidson 12/12/2013
Certificate Number Gary G. Eidson 12641
Ronald J. Eidson 3239
BKL JWSC W.O.: 13.13.1410

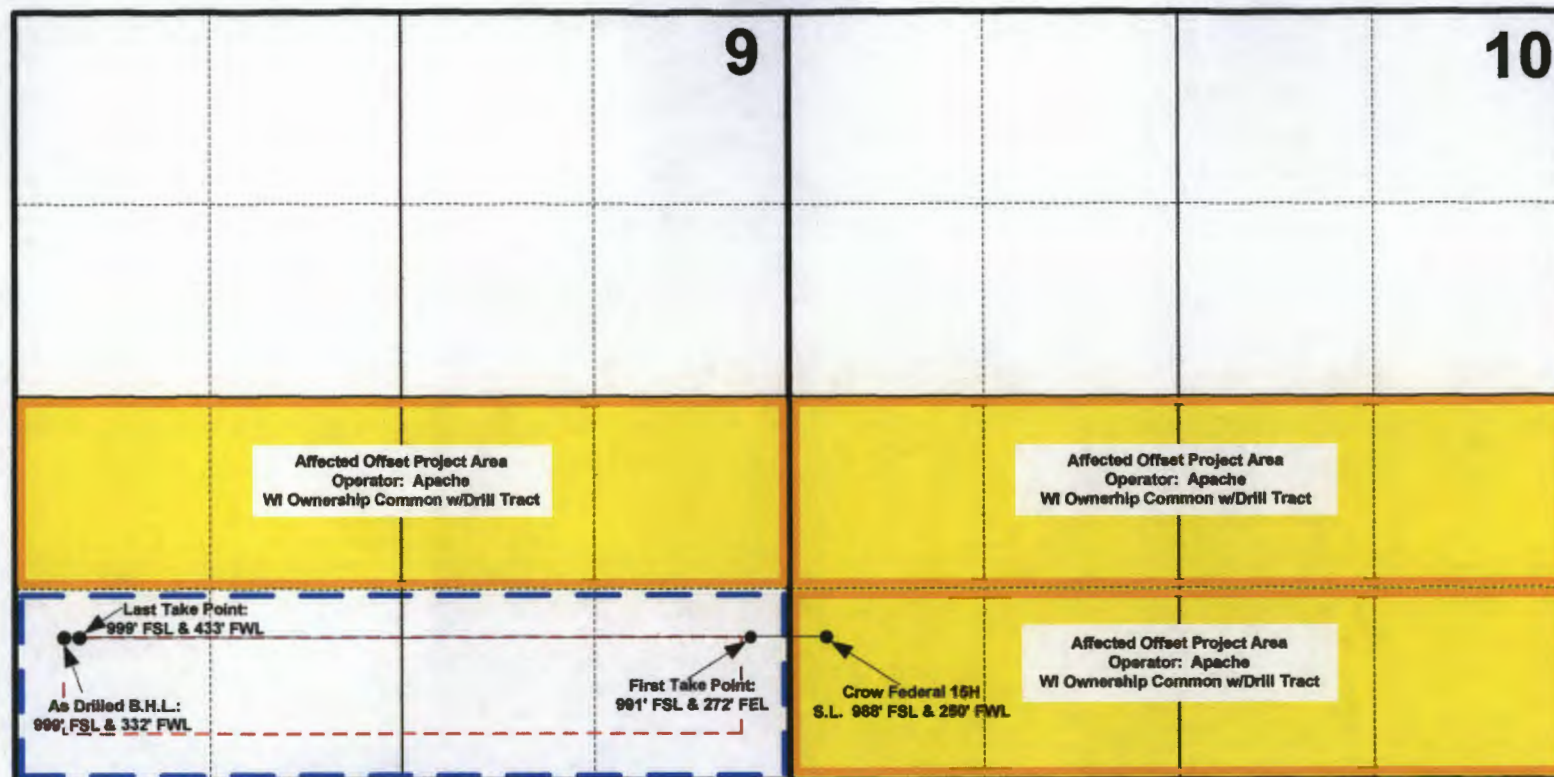
NOTE:
AS-DRILLED BOTTOM HOLE AND PENETRATION POINT PLOTTED FROM DATA FURNISHED BY
(APACHE CORPORATION; PHOENIX FINAL SURVEY REPORT, JULY 16, 2013)

KICK OFF POINT
Y=371230.8 N
X=643906.7 E
LAT.=32.844421° N
LONG.=103.864767° W
LAT.=32° 50' 40" N
LONG.=103° 51' 53" W

Plat for Crow Federal No. 15H

31E

17S

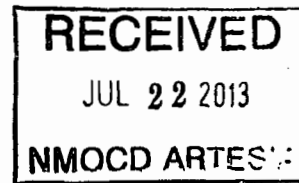


160-Acre Project Area



Legal Producing Window
(330' Setback)

Apache Corporation
Application for Unorthodox Well Locations
Crow Federal Wells No. 14H & 15H
Section 9, Township 17 South, Range 31 East



Apache Corporation

Eddy County, NM (NAD27 NME)

Crow Federal

#15H

OH/Job #1310461

Survey: Phoenix MWD Surveys

Phoenix Final Survey Report

16 July, 2013





Phoenix Technology Services

Phoenix Final Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #15H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3895.00usft (Capstar 114)
Site:	Crow Federal	MD Reference:	KB @ 3895.00usft (Capstar 114)
Well:	#15H	North Reference:	Grid
Wellbore:	OH/Job #1310461	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 114)	Database:	GCR DB

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:	Crow Federal		
Site Position:		Northing:	671,130.90 usft
From:	Map	Easting:	643,906.80 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 50' 38.927956 N
		Longitude:	103° 51' 53.166888 W
		Grid Convergence:	0.25 °

Well:	#15H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 50' 39.966968 N
		Longitude:	103° 51' 53.169634 W
		Ground Level:	3,885.00 usft

Wellbore:	OH/Job #1310461		
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Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010_14	04/18/13	(°)	(°)	(nT)
			7.54	60.66	48,770

Design:	Surveys (Capstar 114)		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	-0.00	0.00
		Direction	(°)
		269.63	

Survey Program	Date 07/16/13		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
100.00	500.00	Gyro (OH/Job #1310461)	ISCWSA-GYRO-3
604.00	11,084.00	Phoenix MWD Surveys (OH/Job #1310461)	MWD
			Description
			VES Gyro
			MWD - Standard

Survey	MD	Inc	Azi (azimuth)	TVD	N/S	E/W	V. Sec	DLeg
	(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)
	500.00	0.64	176.61	499.98	-2.98	1.77	-1.75	0.00
Tie-on to Gyro								
	604.00	0.70	211.50	603.98	-4.10	1.47	-1.44	0.39
First Phoenix MWD Survey								
	693.00	0.60	206.20	692.97	-4.98	0.98	-0.95	0.13
	778.00	0.70	218.10	777.97	-5.79	0.46	-0.43	0.20
	864.00	0.70	236.00	863.96	-6.49	-0.30	0.34	0.25
	950.00	0.70	232.60	949.95	-7.11	-1.15	1.20	0.05
	1,035.00	1.20	224.60	1,034.94	-8.06	-2.19	2.24	0.61
	1,121.00	0.80	152.10	1,120.93	-9.23	-2.54	2.60	1.43
	1,206.00	1.80	70.70	1,205.91	-9.31	-1.00	1.06	2.18



Phoenix Technology Services
Phoenix Final Survey Report



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Site:	Crow Federal	MD Reference:	KB @ 3895.00usft (Capstar 114)
Well:	#15H	North Reference:	Grid
Wellbore:	OH/Job #1310461	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 114)	Database:	GCR DB

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D Leg (°/100usft)
1,292.00	2.00	69.60	1,291.87	-8.34	1.68	-1.63	0.24
1,377.00	1.60	67.80	1,376.82	-7.38	4.17	-4.12	0.48
1,463.00	1.90	67.60	1,462.78	-6.38	6.60	-6.56	0.35
1,549.00	1.20	81.70	1,548.75	-5.71	8.81	-8.77	0.92
1,634.00	1.30	92.50	1,633.73	-5.62	10.65	-10.62	0.30
1,720.00	1.60	91.70	1,719.70	-5.70	12.83	-12.79	0.35
1,805.00	0.40	136.30	1,804.69	-5.95	14.22	-14.18	1.58
1,891.00	0.00	89.80	1,890.69	-6.16	14.43	-14.39	0.47
1,976.00	0.10	6.10	1,975.69	-6.09	14.43	-14.39	0.12
2,062.00	0.30	8.50	2,061.69	-5.79	14.48	-14.44	0.23
2,148.00	0.40	351.00	2,147.69	-5.27	14.46	-14.43	0.17
2,233.00	0.60	357.50	2,232.68	-4.54	14.40	-14.37	0.24
2,319.00	0.70	4.30	2,318.68	-3.56	14.42	-14.39	0.15
2,405.00	0.90	350.90	2,404.67	-2.37	14.35	-14.33	0.32
2,490.00	1.00	359.60	2,489.66	-0.97	14.24	-14.23	0.21
2,576.00	1.30	346.80	2,575.64	0.73	14.01	-14.01	0.46
2,662.00	1.00	338.30	2,661.62	2.38	13.51	-13.52	0.40
2,746.00	1.10	340.10	2,745.61	3.82	12.96	-12.99	0.13
2,832.00	1.20	338.40	2,831.59	5.43	12.35	-12.39	0.12
2,918.00	0.90	318.90	2,917.58	6.78	11.58	-11.62	0.54
3,003.00	0.60	237.70	3,002.57	7.04	10.76	-10.81	1.18
3,089.00	0.60	220.20	3,088.57	6.46	10.09	-10.13	0.21
3,175.00	0.70	231.10	3,174.56	5.78	9.39	-9.43	0.18
3,260.00	0.80	236.90	3,259.56	5.13	8.49	-8.52	0.15
3,346.00	0.60	244.20	3,345.55	4.61	7.58	-7.61	0.25
3,448.00	0.70	243.60	3,447.54	4.10	6.54	-6.57	0.10
3,518.00	1.00	256.10	3,517.53	3.76	5.57	-5.59	0.50
3,603.00	0.90	259.20	3,602.52	3.46	4.19	-4.21	0.13
3,689.00	1.00	256.40	3,688.51	3.16	2.80	-2.82	0.13
3,774.00	0.90	258.00	3,773.50	2.84	1.42	-1.44	0.12
3,860.00	0.90	246.20	3,859.49	2.43	0.14	-0.16	0.22
3,945.00	0.80	245.50	3,944.48	1.91	-1.01	0.99	0.12
4,031.00	0.80	240.10	4,030.47	1.37	-2.07	2.06	0.09
4,117.00	0.90	239.10	4,116.46	0.72	-3.17	3.17	0.12
4,202.00	1.10	240.70	4,201.45	-0.02	-4.46	4.46	0.24
4,288.00	1.30	241.30	4,287.43	-0.89	-6.03	6.04	0.23
4,373.00	2.00	186.70	4,372.40	-2.83	-7.05	7.07	1.92
4,459.00	0.40	76.50	4,458.38	-4.25	-6.94	6.96	2.52
4,544.00	1.90	34.60	4,543.36	-3.02	-5.85	5.87	1.91
4,630.00	1.70	41.30	4,629.32	-0.89	-4.20	4.20	0.34
4,715.00	1.50	42.30	4,714.29	0.88	-2.61	2.61	0.24
4,801.00	1.60	38.60	4,800.26	2.65	-1.11	1.09	0.16
4,887.00	1.70	45.00	4,886.22	4.49	0.54	-0.57	0.24
4,972.00	1.60	45.80	4,971.18	6.21	2.29	-2.33	0.12



Phoenix Technology Services
Phoenix Final Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #15H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3895.00usft (Capstar 114)
Site:	Crow Federal	MD Reference:	KB @ 3895.00usft (Capstar 114)
Well:	#15H	North Reference:	Grid
Wellbore:	OH/Job #1310461	Survey/Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 114)	Database:	GCR DB

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V/Sec (usft)	DLeg (°/100usft)
5,058.00	0.50	2.50	5,057.17	7.42	3.16	-3.21	1.49
5,143.00	0.30	11.20	5,142.17	8.01	3.22	-3.27	0.25
5,229.00	1.80	171.00	5,228.16	6.90	3.48	-3.52	2.42
5,315.00	1.90	171.60	5,314.11	4.15	3.90	-3.92	0.12
5,400.00	1.90	170.90	5,399.06	1.37	4.33	-4.33	0.03
5,486.00	2.30	216.20	5,485.01	-1.43	3.53	-3.52	1.93
5,573.00	1.70	213.60	5,571.96	-3.92	1.79	-1.76	0.70
5,617.00	2.00	224.40	5,615.94	-5.01	0.89	-0.86	1.04
5,660.00	6.20	258.80	5,658.82	-6.00	-1.92	1.95	10.90
5,703.00	12.20	267.80	5,701.25	-6.62	-8.74	8.78	14.31
5,746.00	18.30	274.60	5,742.72	-6.26	-20.02	20.06	14.76
5,788.00	23.60	276.20	5,781.93	-4.82	-34.96	34.99	12.69
5,831.00	29.00	274.80	5,820.46	-3.01	-53.92	53.94	12.64
5,874.00	34.20	272.20	5,857.08	-1.68	-76.40	76.41	12.50
5,917.00	38.80	270.00	5,891.64	-1.21	-101.96	101.97	11.12
5,960.00	42.40	269.10	5,924.28	-1.44	-129.94	129.95	8.48
6,002.00	46.30	269.10	5,954.31	-1.90	-159.29	159.30	9.29
6,045.00	50.50	269.10	5,982.85	-2.41	-191.43	191.45	9.77
6,088.00	55.30	269.20	6,008.78	-2.91	-225.72	225.73	11.16
6,131.00	59.50	270.20	6,031.94	-3.10	-261.93	261.95	9.96
6,173.00	63.90	270.80	6,051.85	-2.77	-298.90	298.91	10.55
6,216.00	68.90	271.50	6,069.06	-1.97	-338.29	338.29	11.72
6,259.00	73.80	271.20	6,082.81	-1.02	-379.00	379.00	11.41
6,302.00	79.40	270.50	6,092.77	-0.40	-420.81	420.81	13.12
6,340.00	84.60	269.80	6,098.05	-0.30	-458.43	458.42	13.81
6,404.00	91.50	269.80	6,100.23	-0.53	-522.35	522.34	10.78
6,489.00	91.20	269.40	6,098.23	-1.12	-607.33	607.32	0.59
6,575.00	91.00	269.10	6,096.58	-2.24	-693.30	693.30	0.42
6,661.00	90.50	269.50	6,095.45	-3.30	-779.29	779.29	0.74
6,746.00	90.00	270.20	6,095.08	-3.52	-864.29	864.29	1.01
6,832.00	93.00	269.30	6,092.83	-3.89	-950.25	950.25	3.64
6,917.00	92.70	269.50	6,088.60	-4.78	-1,035.14	1,035.15	0.42
7,003.00	92.70	269.40	6,084.55	-5.61	-1,121.04	1,121.05	0.12
7,089.00	92.20	269.40	6,080.88	-6.51	-1,206.95	1,206.97	0.58
7,174.00	91.70	269.20	6,077.98	-7.54	-1,291.90	1,291.92	0.63
7,260.00	91.50	269.00	6,075.58	-8.89	-1,377.85	1,377.88	0.33
7,346.00	91.30	268.70	6,073.48	-10.62	-1,463.81	1,463.85	0.42
7,431.00	91.30	268.70	6,071.55	-12.55	-1,548.77	1,548.81	0.00
7,516.00	91.00	268.00	6,069.85	-14.99	-1,633.71	1,633.78	0.90
7,602.00	92.60	268.30	6,067.14	-17.77	-1,719.62	1,719.70	1.89
7,688.00	92.40	268.40	6,063.39	-20.24	-1,805.51	1,805.60	0.26
7,773.00	92.20	270.50	6,059.98	-21.06	-1,890.43	1,890.52	2.48
7,859.00	92.30	270.60	6,056.61	-20.23	-1,976.36	1,976.45	0.16
7,944.00	92.20	270.50	6,053.27	-19.42	-2,061.29	2,061.37	0.17



Phoenix Technology Services
Phoenix Final Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #15H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3895.00usft (Capstar 114)
Site:	Crow Federal	MD Reference:	KB @ 3895.00usft (Capstar 114)
Well:	#15H	North Reference:	Grid
Wellbore:	OH/Job #1310461	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 114)	Database:	GCR DB

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	D Leg (°/100usft)
8,030.00	92.00	270.10	6,050.12	-18.97	-2,147.23	2,147.31	0.52
8,116.00	91.60	269.60	6,047.42	-19.19	-2,233.19	2,233.26	0.74
8,201.00	91.40	269.40	6,045.19	-19.93	-2,318.15	2,318.23	0.33
8,287.00	92.00	270.80	6,042.64	-19.78	-2,404.11	2,404.19	1.77
8,372.00	91.80	270.30	6,039.82	-18.97	-2,489.06	2,489.13	0.63
8,458.00	91.60	270.20	6,037.27	-18.59	-2,575.02	2,575.09	0.26
8,543.00	91.60	270.10	6,034.90	-18.37	-2,659.99	2,660.05	0.12
8,629.00	91.30	269.40	6,032.72	-18.75	-2,745.96	2,746.02	0.89
8,715.00	91.10	269.20	6,030.92	-19.80	-2,831.94	2,832.00	0.33
8,800.00	90.90	268.70	6,029.44	-21.35	-2,916.91	2,916.99	0.63
8,886.00	90.70	268.70	6,028.24	-23.31	-3,002.88	3,002.97	0.23
8,971.00	90.30	270.80	6,027.49	-23.68	-3,087.87	3,087.96	2.51
9,056.00	90.20	270.40	6,027.12	-22.79	-3,172.86	3,172.94	0.49
9,141.00	91.30	270.00	6,026.01	-22.49	-3,257.85	3,257.93	1.38
9,227.00	90.90	269.50	6,024.36	-22.86	-3,343.84	3,343.91	0.74
9,312.00	90.30	268.70	6,023.47	-24.20	-3,428.82	3,428.90	1.18
9,398.00	89.90	269.10	6,023.32	-25.85	-3,514.80	3,514.90	0.66
9,484.00	89.60	269.50	6,023.69	-26.90	-3,600.80	3,600.89	0.58
9,569.00	88.80	269.50	6,024.88	-27.64	-3,685.78	3,685.89	0.94
9,655.00	88.80	269.90	6,026.68	-28.09	-3,771.76	3,771.87	0.47
9,740.00	90.40	271.30	6,027.28	-27.20	-3,856.75	3,856.85	2.50
9,826.00	91.30	271.60	6,026.00	-25.03	-3,942.71	3,942.79	1.10
9,911.00	90.90	271.10	6,024.37	-23.03	-4,027.67	4,027.74	0.75
9,997.00	90.70	270.80	6,023.17	-21.60	-4,113.65	4,113.71	0.42
10,084.00	89.70	270.70	6,022.86	-20.46	-4,200.65	4,200.69	1.16
10,169.00	90.50	270.90	6,022.71	-19.27	-4,285.64	4,285.67	0.97
10,255.00	90.00	270.90	6,022.34	-17.92	-4,371.62	4,371.65	0.58
10,343.00	92.10	270.80	6,020.73	-16.62	-4,459.59	4,459.61	2.39
10,429.00	92.20	270.90	6,017.50	-15.34	-4,545.52	4,545.53	0.16
10,520.00	91.80	269.40	6,014.32	-15.11	-4,636.47	4,636.47	1.70
10,607.00	91.50	269.40	6,011.82	-16.02	-4,723.43	4,723.43	0.34
10,697.00	91.10	269.30	6,009.78	-17.04	-4,813.40	4,813.41	0.46
10,787.00	90.90	269.40	6,008.21	-18.06	-4,903.38	4,903.39	0.25
10,879.00	90.50	269.20	6,007.08	-19.18	-4,995.36	4,995.38	0.49
10,970.00	90.10	269.10	6,006.61	-20.53	-5,086.35	5,086.38	0.45
11,029.00	90.00	269.20	6,006.56	-21.41	-5,145.34	5,145.38	0.24
Last Phoenix MWD Survey							
11,084.00	90.00	269.20	6,006.56	-22.17	-5,200.34	5,200.37	0.00
Projection to TD							



Phoenix Technology Services
Phoenix Final Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #15H
Project:	Eddy County NM (NAD27 NME)	TVD Reference:	KB @ 3895.00usft (Capstar 114)
Site:	Crow Federal	MD Reference:	KB @ 3895.00usft (Capstar 114)
Well:	#15H	North Reference:	Grid
Wellbore:	OH/Job #1310461	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 114)	Database:	GCR DB

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
500.00	499.98	-2.98	1.77	Tie-on to Gyro
604.00	603.98	-4.10	1.47	First Phoenix MWD Survey
11,029.00	6,006.56	-21.41	-5,145.34	Last Phoenix MWD Survey
11,084.00	6,006.56	-22.17	-5,200.34	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
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ATS-12-52

OCD-ARTESIA

Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 20075. Lease Serial No.
NMLC - 029426B

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
CROW FEDERAL #15H <308711>9. API Well No.
30-015- 4057910. Field and Pool, or Exploratory
CEDAR LAKE; GLORIETA-YESO

11. Sec., T. R. M. or Blk. and Survey or Area

UL: M SEC: 10 T17S R31E

1a. Type of work: ☒ DRILL ☐ REENTER1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone2. Name of Operator
APACHE CORPORATION3a. Address 303 VETERANS AIRPARK LN #3000
MIDLAND, TX 797053b. Phone No. (include area code)
432-818-1167

4. Location of Well (Report location clearly and in accordance with any State requirements *)

At surface 988' FSL & 250' FWL SEC: 10 UL: M

At proposed prod. zone 988' FSL & 330' FWL SEC: 9 UL: M

14. Distance in miles and direction from nearest town or post office*
APPROX 4 MILES NORTHEAST OF LOCO HILLS, NM

12. County or Parish

EDDY

13. State

NM

15. Distance from proposed*
location to nearest
property or lease line, ft
(Also to nearest drig. unit line, if any)

250'

16. No. of acres in lease

1919.88 ACRES

17. Spacing Unit dedicated to this well

160 ACRES

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft

~ 25'

19. Proposed Depth
TVD ~ 6050'
MD ~ 11149'

20. BLM/BIA Bond No. on file

BLM - CO - 1463 NATIONWIDE

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3884'

22. Approximate date work will start*

AS SOON AS APPROVED

23. Estimated duration

~ 25 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall be attached to this form:

1. Well plat certified by a registered surveyor.

2. A Drilling Plan

3. A Surface Use Plan (if the location is on National Forest System Lands, the
SUPO shall be filed with the appropriate Forest Service Office)4. Bond to cover the operations unless covered by an existing bond on file (see
Item 20 above).

5. Operator certification

6. Such other site specific information and/or plans as may be required by the
authorized officer.

25. Signature

Sorina L. Flores

Name (Printed/Typed)

SORINA L. FLORES

Date

5/22/12

Title

SUPV OF DRILLING SERVICES

Approved by (Signature)

/s/ Don Peterson

Name (Printed/Typed)

/s/ Don Peterson

Date

JUL 31 2012

Title

FIELD MANAGER

Office

CARLSBAD FIELD OFFICE

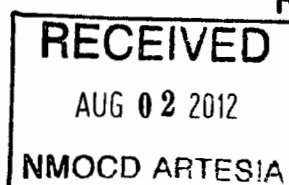
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to
conduct operations thereon
Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

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.

*(Instructions on page 2)

Roswell Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVALApproval Subject to General Requirements
& Special Stipulations Attached