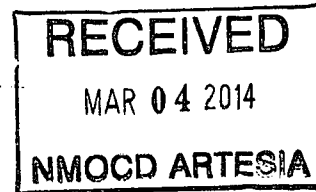




PHOENIX
TECHNOLOGY SERVICES

February 27, 2014

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
Crow Federal #19H
Eddy Co., NM
API #30-015-41909
Job No. 1311214

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	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Rick Reed	19H	832	9,752	02/15/14	02/25/14	MWD

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,

Kelly Jo Walter

Kelly Jo Walter
Operations Administrator

Certified mail receipt number: 7012 3050 0001 3227 2733

RECEIVED

MAR 04 2014

Phoenix Technology Services

SURVEY DATA CERTIFICATION

MOCD ARTESIA


PHOENIX
 TECHNOLOGY SERVICES

PHOENIX JOB NUMBER

1311214

OPERATOR

Apache

WELL NAME

Crow Federal 19H

COUNTY & STATE

Eddy Co., New Mexico

API WELL NUMBER

30-015-41909

PROPOSED DIRECTION

269.56

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
600 ft	599.98 ft	6 ft	59.8 ft	2.24 ft	3.63 ft	Surface

FIRST SURVEY	FIRST SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
15-Feb-14	832 ft	0.4	44.2

SURVEY INSTRUMENT

TYPE

Phoenix MWD

LAST SURVEY	LAST SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
25-Feb-14	9,752 ft	92.2	269.1

TO THE BEST OF MY KNOWLEDGE I
 CERTIFY THIS SURVEY DATA TO BE
 TRUE AND CORRECT.

PROJECTED TD SURVEY	PROJECTED TD SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
25-Feb-14	9,813 ft	92.2	269.1

Rick Reed

PRINT YOUR NAME ABOVE

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	
	7.17
DECLINATION OR GRID	GRID

25-Feb

TODAY'S DATE

MWD SUPERVISOR 1

Rick Reed

DIRECTIONAL DRILLER 1

Richard Thurman

MWD SUPERVISOR 2

Joe Bass

DIRECTIONAL DRILLER 2

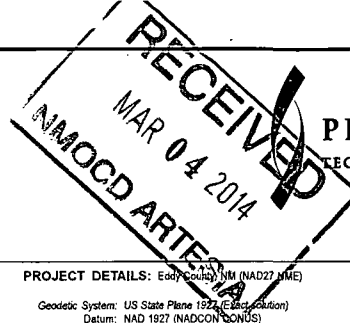
Timothy Noland

1805 Brittmore Road

Houston, Texas 77043

(713)3370609 (Voice); (713)337-0599 (Fax)

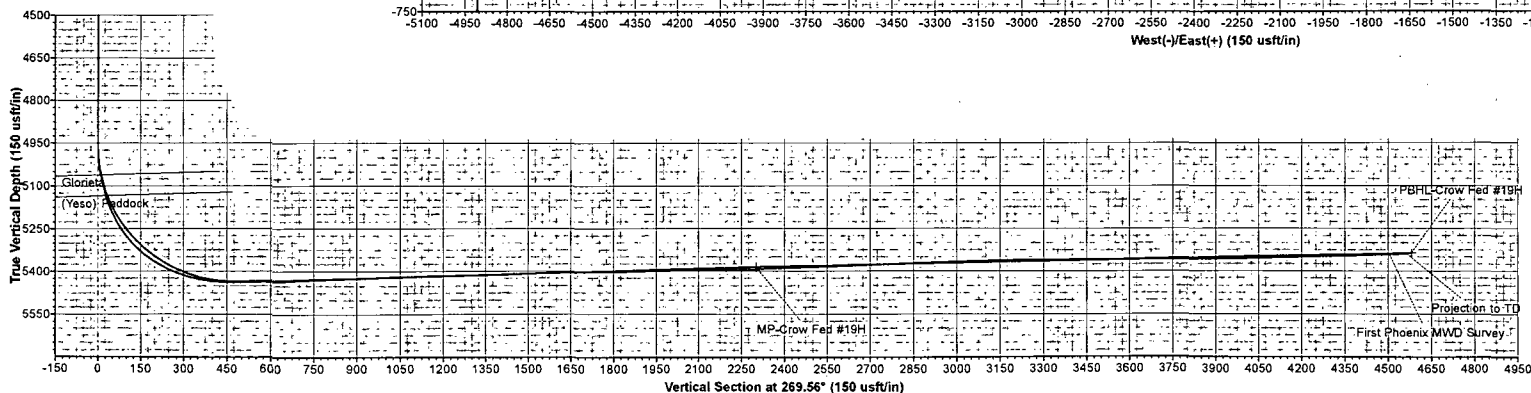
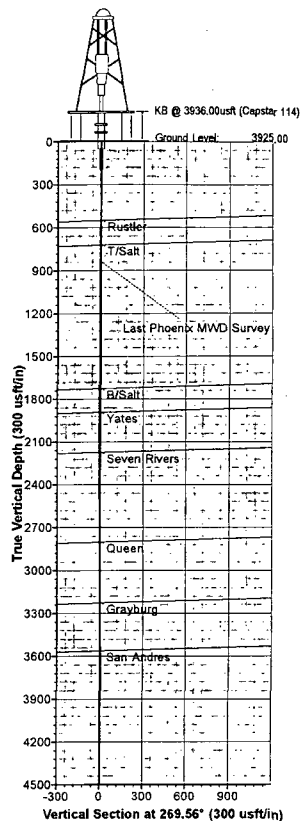
Project: Eddy County, NM (NAD27 NME)
Site: Crow Federal
Well: #19H
Wellbore: WB1/Job #1311214
Design: Plan #2 03-23-13
Rig: Capstar 114



PHOENIX
TECHNOLOGY SERVICES



Azimuths to Grid North
True North: -0.26°
Magnetic North: 7.17°
Magnetic Field
Strength: 48692.0nT
Dip Angle: 60.65°
Date: 02/07/2014
Model: IGRF2010_14



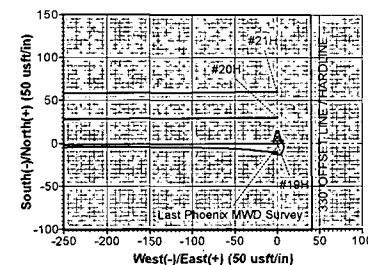
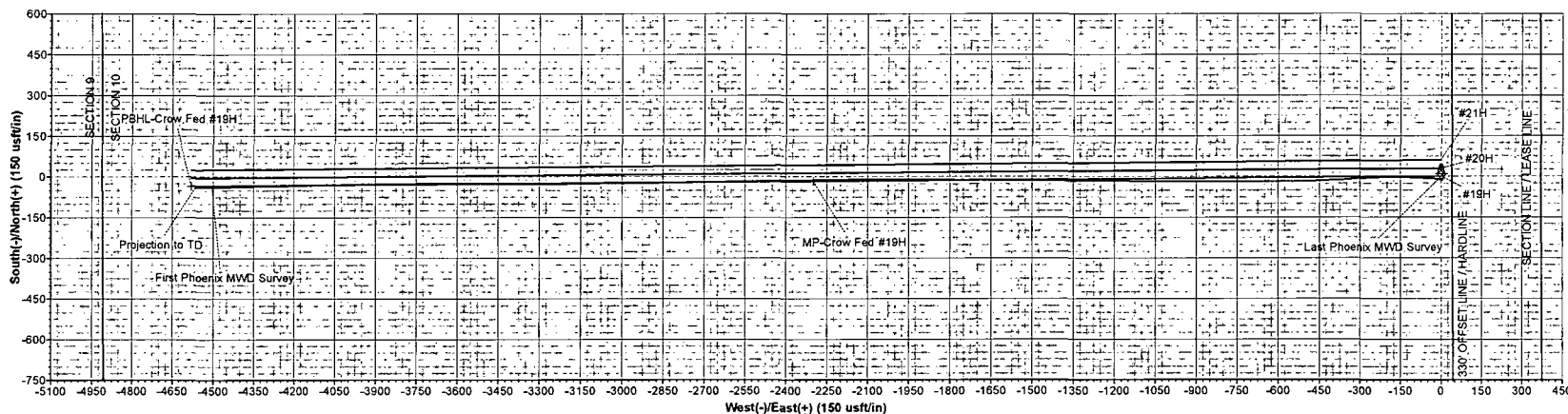
WELL DETAILS											
		Ground Level: 3925.00		Latitude		Longitude					
+N/S		+E/W		Northing		Easting					
0.00		0.00		672562.90		648559.10		32° 50' 52.89016 N 103° 50' 58.55879 W			

SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/S	+E/W	Dleg	TFace	VSec	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP Start Build 12.00
2	4958.75	0.00	0.00	4958.75	0.00	0.00	0.00	0.00	0.00	0.00	LP Start 1810.08 hold at 5721.88 MD
3	5721.88	91.58	269.56	5436.00	-3.77	-490.60	12.00	269.56	490.62	0.00	Start DLS 2.00 TFO 178.34
4	7531.96	91.58	269.56	5386.00	-17.66	-2299.93	0.00	0.00	2300.00	MP-Crow Fed #19H	Start 2264.77 hold at 7548.36 MD
5	7548.37	91.25	269.57	5385.59	-17.79	-2316.34	2.00	178.34	2316.40	0.00	TD at 9813.14
6	9813.14	91.25	269.57	5336.00	-34.80	-4580.50	0.00	0.00	4580.63	PBHL-Crow Fed #19H	

DESIGN TARGET DETAILS											
Name	TVD	+N/S	+E/W	Northing	Easting	Latitude	Longitude	Shape			
PBHL-Crow Fed #19H	5336.00	-34.80	-4580.50	672528.10	643978.60	32° 50' 52.75018 N	103° 51' 52.25261 W	Point			
	plan hits target center										
MP-Crow Fed #19H	5386.00	-17.66	-2299.93	672545.24	646259.17	32° 50' 52.81881 N	103° 51' 25.51920 W	Point			
	plan hits target center										

PROJECT DETAILS: Eddy County, NM (NAD27 NME)											
Geodetic System: US State Plane 1927 (Exact solution)											
Datum: NAD 1927 (NADCON CONUS)											
Ellipsoid: Clarke 1866											
Zone: New Mexico East 3001											
System Datum: Mean Sea Level											
SITE DETAILS: Crow Federal											
Site Centre Northing: 671130.90											
Easting: 643906.80											
Positional Uncertainty: 0.00											
Convergence: 0.25											
Local North: Grid											
FORMATION TOP DETAILS											
TVDPath	MDPath	Formation	DipAngle	DpDir							
551.00	551.00	Rustler	-1.58	269.56							
722.00	722.00	T/Salt	-1.58	269.56							
1726.00	1726.00	B/Salt	-1.58	269.56							
1893.00	1893.00	Yates	-1.58	269.56							
2175.00	2175.00	Seven Rivers	-1.58	269.56							
2802.00	2802.00	Queen	-1.58	269.56							
3227.00	3227.00	Grayburg	-1.58	269.56							
3562.00	3562.00	San Andres	-1.58	269.56							
5060.70	5061.49	Glorieta	-1.58	269.56							
5134.06	5138.28	(Yeso) Paddock	-1.58	269.56							

Map System: US State Plane 1927 (Exact solution)											
Datum: NAD 1927 (NADCON CONUS)											
Ellipsoid: Clarke 1866											
Zone Name: New Mexico East 3001											
Local Origin: Well #19H, Grid North											
Latitude: 32° 50' 52.89016 N											
Longitude: 103° 50' 58.55879 W											
Grid East: 648559.10											
Grid North: 672562.90											
Scale Factor: 1.000											
Geomagnetic Model: IGRF2010_14											
Sample Date: 07-Feb-14											
Magnetic Declination: 7.44°											
Dip Angle from Horizontal: 60.65°											
Magnetic Field Strength: 48692											
To convert a Magnetic Direction to a Grid Direction, Add 7.17°											
To convert a Magnetic Direction to a True Direction, Add 7.44° East											
To convert a True Direction to a Grid Direction, Subtract 0.26°											
LEGEND											
— #19H, WB1/Job #1311214, Surveys (Capstar 114) V0											
— #20H, WB1/Job #1311215, Plan #2 02-26-14 V0											
— #21H, WB1/Job #1311216, Plan #2 09-23-13 V0											
— Plan #2 03-23-13											





Apache Corporation

Eddy County, NM (NAD27 NME)

Crow Federal

#19H

WB1/Job #1311214

Survey: Phoenix MWD Surveys

Phoenix Final Survey Report

26 February, 2014



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #19H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3936.00usft (Capstar 114)
Site:	Crow Federal	MD Reference:	KB @ 3936.00usft (Capstar 114)
Well:	#19H	North Reference:	Grid
Wellbore:	WB1/Job #1311214	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	Latitude: 32° 50' 38.92796 N
From:	Map	Easting:	643,906.80 usft	Longitude: 103° 51' 53.16689 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence: 0.25 °

Well	#19H			
Well Position	+N/-S	0.00 usft	Northing:	672,562.90 usft
	+E/-W	0.00 usft	Easting:	648,559.10 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	usft
			Ground Level:	3,925.00 usft

Wellbore	WB1/Job #1311214				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	02/07/14	7.44	60.65	48,692

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	269.56

Survey Program	Date	02/26/14			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
832.00	9,813.00	Phoenix MWD Surveys (WB1/Job #131121)	MWD	MWD - Standard	

Survey	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)
	600.00	0.57	59.82	599.98	2.24	3.63	-3.64	0.00
Tie-on to Gyro Survey	832.00	0.40	44.20	831.97	3.40	5.19	-5.21	0.09
Last Phoenix MWD Survey	961.00	0.20	55.00	960.97	3.85	5.69	-5.72	0.16
	1,089.00	0.50	176.30	1,088.97	3.42	5.91	-5.93	0.49
	1,217.00	0.50	181.30	1,216.97	2.31	5.93	-5.95	0.03
	1,345.00	0.30	195.80	1,344.96	1.42	5.83	-5.84	0.17
	1,474.00	0.30	158.40	1,473.96	0.79	5.86	-5.86	0.15
	1,602.00	0.40	148.60	1,601.96	0.09	6.21	-6.21	0.09
	1,730.00	0.80	149.20	1,729.95	-1.06	6.90	-6.90	0.31
	1,862.00	0.60	171.60	1,861.94	-2.53	7.48	-7.46	0.25



Phoenix Technology Services

Phoenix Final Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #19H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3936.00usft (Capstar 114)
Site:	Crow Federal	MD Reference:	KB @ 3936.00usft (Capstar 114)
Well:	#19H	North Reference:	Grid
Wellbore:	WB1/Job #1311214	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 114)	Database:	GCR DB

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	
1,993.00	0.70	175.50	1,992.93	-4.01	7.64	-7.61	0.08	
2,121.00	0.70	188.60	2,120.92	-5.56	7.58	-7.54	0.12	
2,249.00	0.90	202.60	2,248.91	-7.26	7.08	-7.03	0.22	
2,377.00	0.90	201.90	2,376.90	-9.12	6.32	-6.25	0.01	
2,505.00	0.70	201.00	2,504.88	-10.78	5.66	-5.58	0.16	
2,633.00	0.90	217.80	2,632.87	-12.31	4.77	-4.67	0.24	
2,762.00	0.20	284.00	2,761.86	-13.06	3.93	-3.83	0.65	
2,890.00	0.30	256.80	2,889.86	-13.08	3.39	-3.29	0.12	
3,019.00	0.50	280.90	3,018.86	-13.05	2.50	-2.40	0.20	
3,147.00	0.60	284.10	3,146.85	-12.78	1.31	-1.21	0.08	
3,278.00	0.70	272.70	3,277.85	-12.57	-0.16	0.25	0.12	
3,406.00	0.80	276.00	3,405.84	-12.44	-1.83	1.92	0.09	
3,449.00	0.80	277.50	3,448.83	-12.37	-2.42	2.52	0.05	
3,536.00	0.50	285.10	3,535.83	-12.20	-3.39	3.49	0.36	
3,665.00	0.30	309.10	3,664.82	-11.84	-4.20	4.29	0.20	
3,793.00	0.30	262.50	3,792.82	-11.67	-4.79	4.88	0.19	
3,921.00	0.40	179.40	3,920.82	-12.16	-5.12	5.21	0.37	
4,049.00	1.70	25.10	4,048.80	-10.89	-4.31	4.39	1.62	
4,181.00	0.20	161.90	4,180.79	-9.33	-3.41	3.48	1.40	
4,309.00	0.20	62.60	4,308.78	-9.44	-3.14	3.21	0.24	
4,440.00	0.40	135.90	4,439.78	-9.66	-2.62	2.69	0.30	
4,569.00	0.40	115.40	4,568.78	-10.18	-1.90	1.97	0.11	
4,700.00	0.30	126.30	4,699.78	-10.58	-1.21	1.29	0.09	
4,828.00	0.40	69.70	4,827.78	-10.62	-0.52	0.60	0.27	
4,892.00	0.40	86.40	4,891.77	-10.53	-0.09	0.17	0.18	
4,934.00	0.30	85.00	4,933.77	-10.51	0.17	-0.09	0.24	
4,977.00	2.50	268.60	4,976.76	-10.53	-0.66	0.74	6.51	
5,020.00	6.30	271.90	5,019.63	-10.47	-3.95	4.03	8.85	
5,063.00	10.00	276.10	5,062.19	-10.00	-10.02	10.10	8.71	
5,105.00	14.20	277.10	5,103.24	-8.97	-18.77	18.83	10.01	
5,151.00	19.30	274.90	5,147.28	-7.62	-31.95	32.01	11.17	
5,193.00	24.20	273.00	5,186.28	-6.58	-47.47	47.52	11.79	
5,236.00	29.10	272.20	5,224.70	-5.72	-66.73	66.77	11.43	
5,278.00	34.20	271.50	5,260.44	-5.02	-88.75	88.79	12.17	
5,321.00	40.90	270.70	5,294.51	-4.53	-114.94	114.97	15.62	
5,364.00	48.30	270.30	5,325.11	-4.27	-145.11	145.14	17.22	
5,407.00	54.50	270.50	5,351.92	-4.03	-178.70	178.72	14.42	
5,449.00	59.60	270.10	5,374.76	-3.85	-213.93	213.95	12.17	
5,492.00	65.40	267.20	5,394.61	-4.78	-252.04	252.07	14.75	
5,535.00	71.60	265.90	5,410.36	-7.19	-291.95	292.00	14.69	
5,578.00	75.90	266.20	5,422.39	-10.03	-333.13	333.19	10.02	
5,623.00	80.60	266.80	5,431.55	-12.72	-377.09	377.17	10.53	
5,666.00	86.20	268.00	5,436.49	-14.65	-419.74	419.84	13.31	
5,709.00	89.10	268.10	5,438.25	-16.12	-462.68	462.79	6.75	
5,752.00	90.70	268.70	5,438.33	-17.32	-505.66	505.77	3.97	



Phoenix Technology Services

Phoenix Final Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #19H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3936.00usft (Capstar 114)
Site:	Crow Federal	MD Reference:	KB @ 3936.00usft (Capstar 114)
Well:	#19H	North Reference:	Grid
Wellbore:	WB1/Job #1311214	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Capstar 114)	Database:	GCR DB

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	V.,Sec (usft)	DLeg (°/100usft)
5,877.00	92.20	270.10	5,435.17	-18.63	-630.60	630.73	1.64
6,005.00	92.50	270.00	5,429.92	-18.51	-758.50	758.62	0.25
6,134.00	91.70	270.20	5,425.19	-18.29	-887.41	887.52	0.64
6,262.00	92.60	270.20	5,420.39	-17.84	-1,015.32	1,015.42	0.70
6,390.00	90.70	270.60	5,416.70	-16.95	-1,143.25	1,143.35	1.52
6,518.00	90.30	270.50	5,415.59	-15.72	-1,271.24	1,271.33	0.32
6,647.00	92.50	270.40	5,412.43	-14.71	-1,400.19	1,400.26	1.71
6,775.00	91.90	270.40	5,407.52	-13.81	-1,528.09	1,528.15	0.47
6,903.00	91.10	270.60	5,404.17	-12.70	-1,656.04	1,656.09	0.64
7,031.00	90.10	270.20	5,402.83	-11.80	-1,784.03	1,784.07	0.84
7,159.00	91.80	270.60	5,400.71	-10.91	-1,912.01	1,912.03	1.36
7,288.00	91.10	270.20	5,397.44	-10.01	-2,040.96	2,040.98	0.62
7,416.00	91.00	268.80	5,395.10	-11.13	-2,168.93	2,168.95	1.10
7,545.00	91.40	269.10	5,392.40	-13.49	-2,297.88	2,297.92	0.39
7,673.00	92.30	269.30	5,388.26	-15.28	-2,425.80	2,425.85	0.72
7,801.00	91.50	268.90	5,384.02	-17.29	-2,553.71	2,553.77	0.70
7,930.00	92.30	268.80	5,379.74	-19.87	-2,682.61	2,682.69	0.62
8,058.00	92.50	269.20	5,374.38	-22.11	-2,810.48	2,810.57	0.35
8,186.00	92.20	269.20	5,369.13	-23.89	-2,938.36	2,938.46	0.23
8,315.00	91.60	269.10	5,364.86	-25.80	-3,067.28	3,067.38	0.47
8,443.00	91.10	269.90	5,361.84	-26.92	-3,195.23	3,195.35	0.74
8,571.00	90.70	270.20	5,359.83	-26.81	-3,323.22	3,323.33	0.39
8,700.00	90.50	270.50	5,358.48	-26.02	-3,452.21	3,452.31	0.28
8,828.00	89.80	270.60	5,358.14	-24.79	-3,580.20	3,580.29	0.55
8,956.00	89.90	269.40	5,358.48	-24.79	-3,708.20	3,708.28	0.94
9,085.00	90.60	269.20	5,357.92	-26.37	-3,837.19	3,837.28	0.56
9,213.00	90.60	268.70	5,356.58	-28.71	-3,965.16	3,965.26	0.39
9,341.00	92.10	269.20	5,353.56	-31.06	-4,093.10	4,093.21	1.24
9,470.00	91.60	268.90	5,349.40	-33.20	-4,222.01	4,222.14	0.45
9,598.00	91.20	268.60	5,346.27	-35.99	-4,349.94	4,350.09	0.39
9,726.00	92.20	269.00	5,342.47	-38.67	-4,477.86	4,478.02	0.84
9,752.00	92.20	269.10	5,341.47	-39.10	-4,503.83	4,504.00	0.38
First Phoenix MWD Survey							
9,813.00	92.20	269.10	5,339.13	-40.06	-4,564.78	4,564.95	0.00
Projection to TD							



Phoenix Technology Services
Phoenix Final Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #19H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3936.00usft (Capstar 114)
Site:	Crow Federal	MD Reference:	KB @ 3936.00usft (Capstar 114)
Well:	#19H	North Reference:	Grid
Wellbore:	WB1/Job #1311214	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)	
600.00	599.98	2.24	3.63	Tie-on to Gyro Survey
832.00	831.97	3.40	5.19	Last Phoenix MWD Survey
9,752.00	5,341.47	-39.10	-4,503.83	First Phoenix MWD Survey
9,813.00	5,339.13	-40.06	-4,564.78	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
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OCD Artesia

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 200713-846
TES
1-3-2014UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMLC-029426B	
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone		6. If Indian, Allottee or Tribe Name:	
2. Name of Operator APACHE CORPORATION		7. If Unit or CA Agreement, Name and No.	
3a. Address 303 VETERANS AIRPARK LN #1000 MIDLAND, TX 79705		8. Lease Name and Well No. CROW FEDERAL #19H <308711> ✓	
3b. Phone No. (include area code) 432-818-1167		9. API Well No. 30-015- 41909	
4. Location of Well (Report location clearly and in accordance with any State requirements*) At surface 2280' FSL & 370' FEL UL: I At proposed prod. zone 2280' FSL & 330' FWL UL: L		10. Field and Pool, or Exploratory FREN; GLORIETA-YESO <26770> ✓	
14. Distance in miles and direction from nearest town or post office* APPROX 10 MILES NORTHEAST OF LOCO HILLS, NM		11. Sec., T. R. M. or Blk and Survey or Area SEC: 10 T17S R31E	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest dring, unit line, if any) 330'		12. County or Parish EDDY	
16. No. of acres in lease 1919.88		13. State NM	
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. ~150'		20. BLM/BIA Bond No. on file BLM-CO-1463 NATIONWIDE / NMB000736	
19. Proposed Depth TVD: ~ 5336' MD: ~ 9813'		21. Elevations (Show whether D, K, R, RT, GL, etc.) GL: 3926'	
22. Approximate date work will start* As Soon As Approved		23. Estimated duration ~ 20 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:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification.
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature <i>Sorina L Flores</i>	Name (Printed/Typed) SORINA L. FLORES	Date 9/25/13
Title SUPV OF DRILLING SERVICES		
Approved by (Signature) <i>/s/George MacDonel</i>	Name (Printed/Typed)	Date DEC 30 2013
Title FIELD MANAGER		Office CARLSBAD FIELD OFFICE

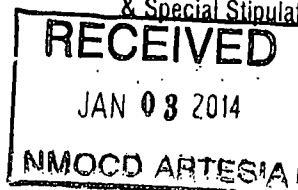
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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

Approval Subject to General Requirements
& Special Stipulations AttachedSEE ATTACHED FOR
CONDITIONS OF APPROVAL

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE
620 E. GREENE STREET
CARLSBAD, NM 88220

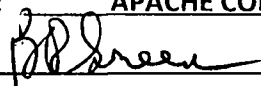
OPERATOR CERTIFICATION

I HEARBY CERTIFY THAT I, OR SOMEONE UNDER MY DIRECT SUPERVISION, HAVE INSPECTED THE DRILL SITE AND ACCESS ROUTE PROPOSED HEREIN; THAT I AM FAMILIAR WITH THE CONDITIONS WHICH CURRENTLY EXIST; THAT I HAVE FULL KNOWLEDGE OF STATE AND FEDERAL laws applicable to this operation; that the statements made in the APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 24 day of September, 2013

Well: CROW FEDERAL #19H

Operator Name: APACHE CORPORATION

Signature:  Printed Name: BARRY GREEN

Title: Drilling Engineer Date: 9/24/2013

Email (optional): barry.green@apachecorp.com

Street or Box: 303 Veterans Airpark Ln., Ste. 3000

City, State, Zip Code: Midland, TX 79705

Telephone: 432-818-1059

Field Representative (if not above signatory): _____

Address (if different from above): _____

Telephone (if different from above): _____

Email (optional): _____

Agents not directly employed by the operator must submit a letter from the operator authorizing that the agent to act or file this application on their behalf.

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 30-015-41909	Pool Code 36770	Pool Name Fren ; Glorieta - Yeso
Property Code 308711	Property Name CROW FEDERAL	Well Number 19H
OGRID No. 873	Operator Name APACHE CORPORATION	Elevation 3926'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	10	17-S	31-E		2280	SOUTH	370	EAST	EDDY

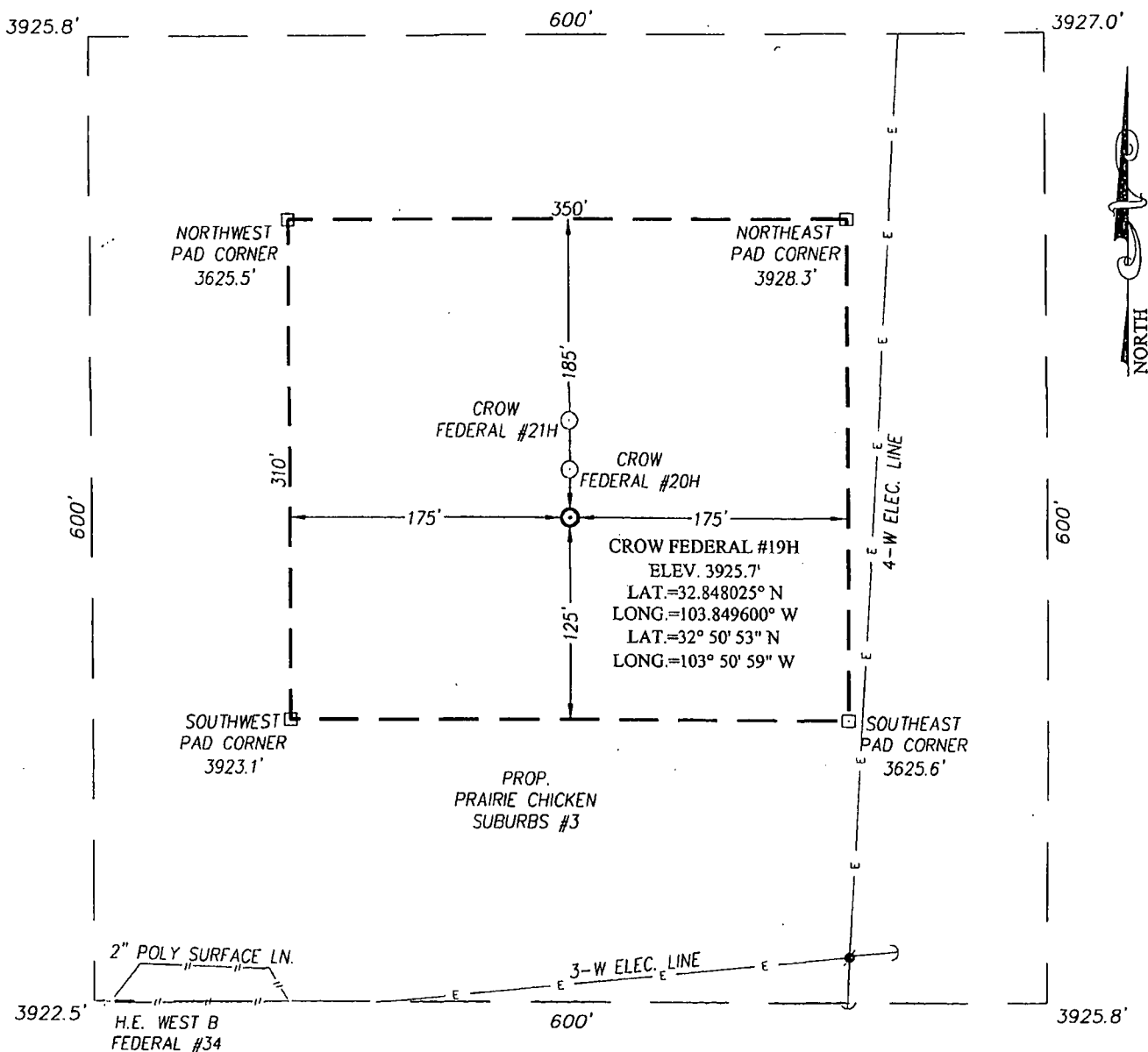
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	10	17-S	31-E		2280	SOUTH	330	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

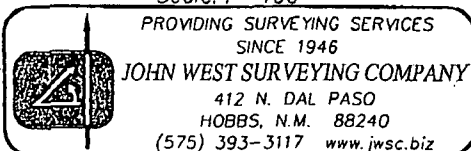
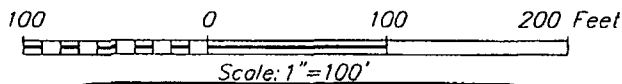
CORNER COORDINATES TABLE A) Y=672888.0 N, X=643646.5 E B) Y=672925.7 N, X=648927.0 E C) Y=671567.1 N, X=643654.3 E D) Y=671606.0 N, X=648934.6 E		GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=672562.9 N X=648559.1 E LAT.=32.848025° N LONG.=103.849600° W LAT.=32° 50' 53" N LONG.=103° 50' 59" W BOTTOM HOLE LOCATION Y=672528.1 N X=643978.6 E		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. <i>Sorina Flores</i> 9/9/13 Signature Date Sorina L. Flores Printed Name <i>sorina.flores@apachecorp.com</i> 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 14, 2012 Date of Survey Signature & Seal of Professional Surveyor: <i>Ronald J. Eidson</i> RONALD J. EIDSON NEW MEXICO REGISTERED SURVEYOR 3239 09/05/2013 Certificate Number: 12641 Ronald J. Eidson 3239 ACK REL W. 09/21/2012 WSC W.O.: 13.13.0980		DETAIL 3925.8' 3927.0' 3922.5' 3925.8' 600' 600' 330' B.H. GRID AZ.=269°33'54" HORIZ. DIST.=4581.8' SEE DETAIL S.L. 370' 2280' 2280'		

SECTION 10, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY **NEW MEXICO**



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HWY. #82, LOVINGTON HWY AND CO. RD. 223, SWEET GUM, GO NORTH-NORTHWEST ON SWEET GUM RD. APPROX. 0.8 MILES; VEER RIGHT AND GO NORTH-NORTHWEST APPROX. 0.5 MILES; TURN RIGHT AT ROAD TEE AND GO EAST-NORTHEAST APPROX. 0.1 MILES; TURN LEFT AND GO NORTH APPROX. 0.1 MILE, ROAD CURVES NORTHEAST. CONTINUE ALONG CURVE NORTHEAST APPROX. 0.1 MILE TO A FOUR WAY INTERSECTION; TURN LEFT AND GO NORTHWEST APPROX. 0.2 MILES; CONTINUE ON ROAD AND VEER RIGHT AND GO NORTH APPROX. 0.15 MILES; TURN LEFT AND GO WEST APPROX. 0.15 MILES; TURN RIGHT AND GO NORTH APPROX. 0.25 MILES; TURN RIGHT AND GO EAST APPROX. 0.15 MILES TO THREE-WAY INTERSECTION; TURN LEFT AND GO NORTH APPROX. 0.75 MILES TO THREE WAY INTERSECTION; TURN RIGHT AND GO EAST APPROX. 0.5 MILES; TURN RIGHT AND GO SOUTH APPROX. 0.25 MILES; TURN LEFT AND GO EAST APPROX. 0.7 MILES; TURN RIGHT AND GO SOUTH APPROX. 0.2 MILES AND LEFT TO THE H.W. WEST #34 WELL PAD. AT THE NORTHEAST CORNER OF THIS WELL PAD, FOLLOW A PROPOSED ROAD SURVEY NORTHEAST 100 FEET TO THE PRAIRIE CHICKEN SUBURBS #3 WELL. THIS LOCATION IS ON THE NORTH SIDE OF THIS WELL.

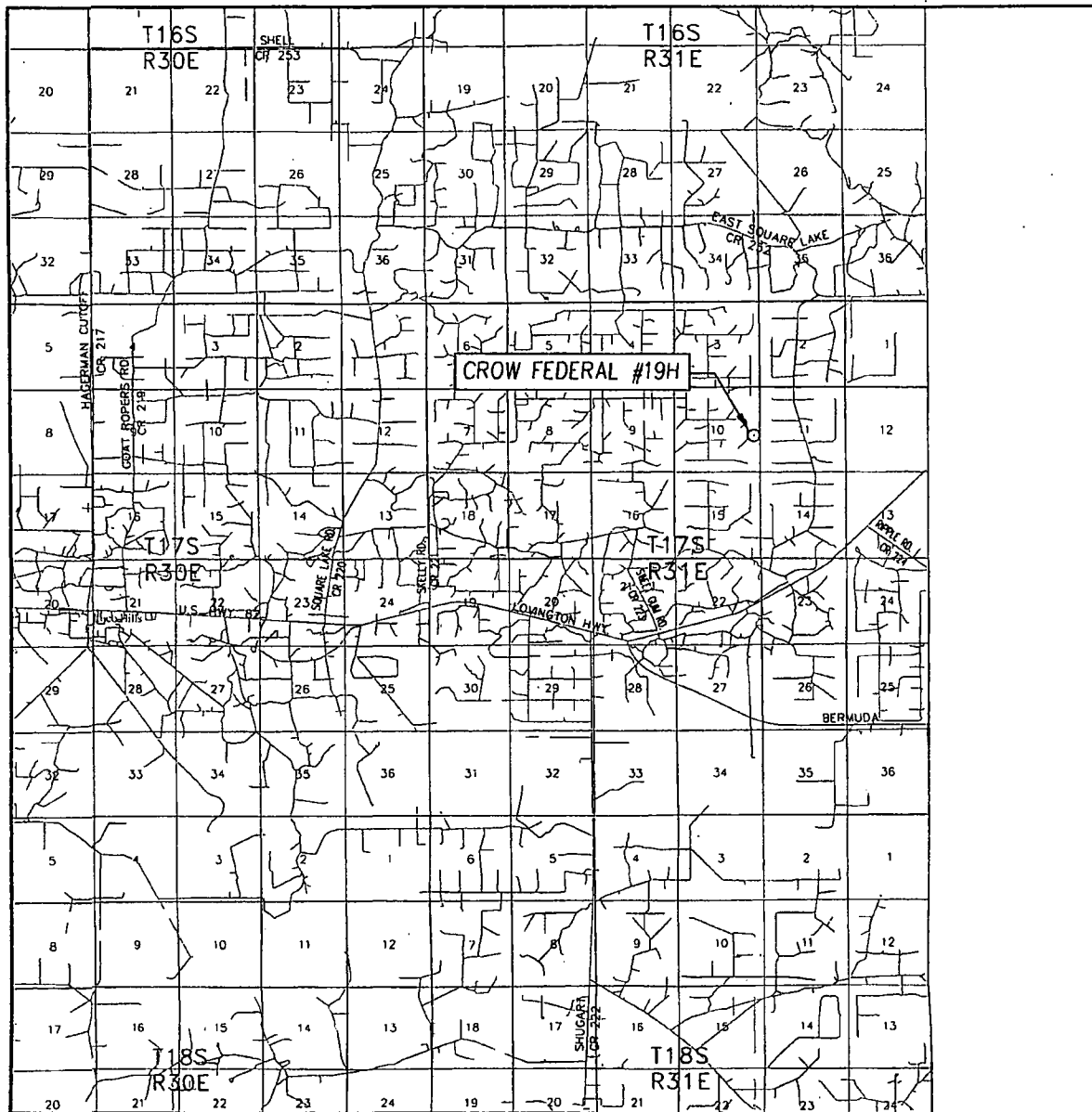


APACHE CORPORATION

CROW FEDERAL #19H WELL
 LOCATED 2280 FEET FROM THE SOUTH LINE
 AND 370 FEET FROM THE EAST LINE OF SECTION 10,
 TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO

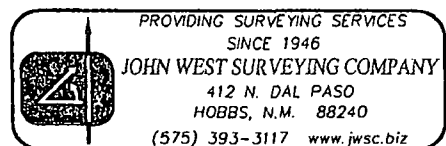
Survey Date: 5/14/12	CAD Date: 6/5/12	Drawn By: AF
W.O. No.: 12110480	Rev: 8/5/13	Rel. W.O.:
		Sheet 1 of 1

VICINITY MAP

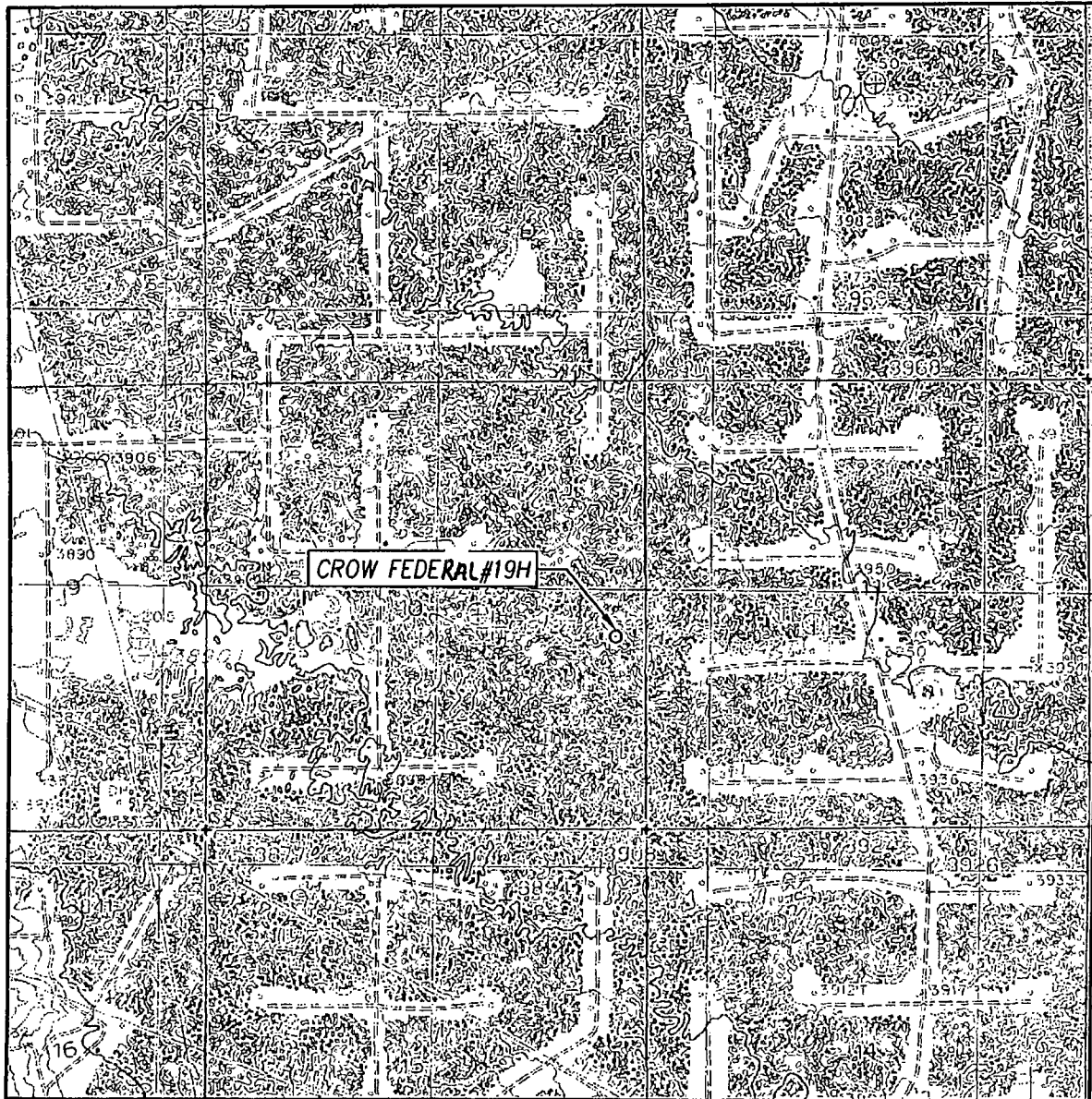


SCALE: 1" = 2 MILES

SEC. 10 TWP. 17-S RGE. 31-E
 SURVEY N.M.P.M.
 COUNTY EDDY STATE NEW MEXICO
 DESCRIPTION 2280' FSL & 370' FEL
 ELEVATION 3926'
 OPERATOR APACHE CORPORATION
 LEASE CROW FEDERAL



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
MALJAMAR, N.M. - 10'

SEC. 10 TWP. 17-S RGE. 31-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

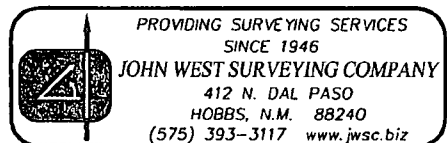
DESCRIPTION 2280' FSL & 370' FEL

ELEVATION 3926'

OPERATOR APACHE CORPORATION

LEASE CROW FEDERAL

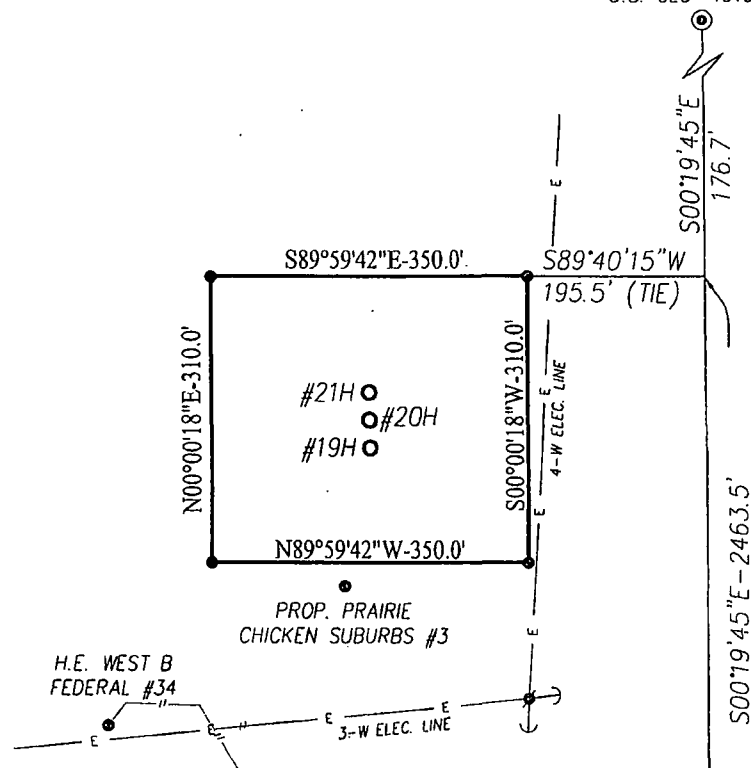
U.S.G.S. TOPOGRAPHIC MAP
MALJAMAR, N.M.



SECTION 10, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY

NEW MEXICO

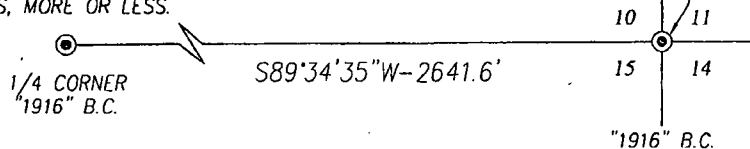
1/4 CORNER
U.S. GLO "1916" B.C.



DESCRIPTION

A TRACT FOR A WELL PAD SITUATED IN THE SOUTHEAST QUARTER OF SECTION 10, TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF THIS TRACT, WHICH LIES S00°19'45\"/>



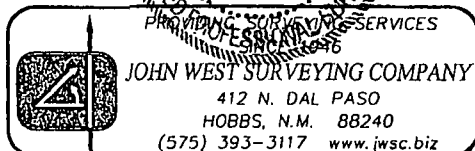
NOTE

BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

I, RONALD J. EIDSON, NEW MEXICO PROFESSIONAL SURVEYOR No. 3239, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND, THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

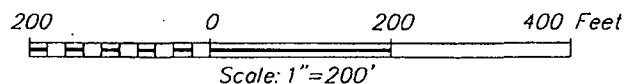
RONALD J. EIDSON

DATE: 06/06/2012



LEGEND

- DENOTES FOUND CORNER AS NOTED
- DENOTES SET SPIKE NAIL



APACHE CORPORATION

SURVEY FOR THE #29 EAST WELL PAD
SITUATED IN THE SE/4 OF SECTION 10,
TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.
EDDY COUNTY, NEW MEXICO

Survey Date: 5/14/12	CAD Date: 6/5/12	Drawn By: AF
W.O. No.: 12110703	Rev:	Rel. W.O.:

Sheet 1 of 1