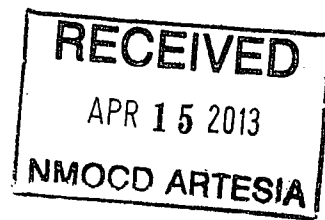


April 11, 2013



PHOENIX
TECHNOLOGY SERVICES

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
Raven Federal #11H
Eddy Co., NM
API #30-015-40467
Job No. 1310356

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	
Brad Hill	11H	462	3,421	03/31/13	04/03/13	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: 7011 1570 0001 4364 9599

Phoenix Technology Services SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER 1310356

OPERATOR Apache

WELL NAME Raven Federal 11H

COUNTY & STATE Eddy, NM

API WELL NUMBER 30-015-40467

PROPOSED DIRECTION 269.61

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
0 ft	.00 ft	.0 ft	.0 ft	.00 ft	.00 ft	Surface

FIRST	FIRST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
31-Mar-13	462 ft	0.9	175.5

SURVEY INSTRUMENT
TYPE
Phoenix MWD

LAST	LAST		
SURVEY	SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
3-Apr-13	3,421 ft	1.1	204.4

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

PROJECTED	PROJECTED		
TD SURVEY	TD SURVEY		
DATE	DEPTH	INCLIN	AZIMUTH
3-Apr-13	3,501 ft	1.1	204.4

Brad Hill

PRINT YOUR NAME ABOVE

Brad Hill

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.58
DECLINATION OR GRID	DECLINATION

4/3/2013

TODAY'S DATE

MWD SUPERVISOR 1

Brad Hill

DIRECTIONAL DRILLER 1

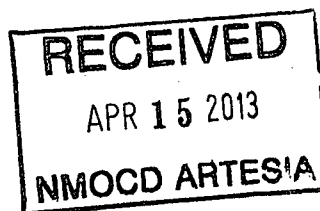
Tim Owens

MWD SUPERVISOR 2

Matt Dice

DIRECTIONAL DRILLER 2

Ken Smith



Apache Corporation

Eddy County, NM (NAD27 NME)

Raven Federal

#11H

Wellbore #1 / Job #1310356

Survey: Phoenix MWD Surveys

Standard Survey Report

03 April, 2013





Phoenix Technology Services
Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #11H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3740.00usft
Site:	Raven Federal	MD Reference:	KB @ 3740.00usft
Well:	#11H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310356	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Basic 44)	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:	Raven Federal		
Site Position:		Northing:	673,239.70 usft
From:	Map	Easting:	633,303.50 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 51' 0.242984 N
		Longitude:	103° 53' 57.350866 W
		Grid Convergence:	0.24 °

Well:	#11H		
Well Position	+N/-S	0.00 usft	Northing:
	+E/-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 51' 0.886166 N
		Longitude:	103° 53' 57.347734 W
		Ground Level:	3,727.00 usft

Wellbore:	Wellbore #1 / Job #1310356		
Magnetics:	Model Name	Sample Date	Declination
	IGRF2010_14	03/21/13	7.57
		Dip Angle	60.66
		Field Strength	48,778

Design:	Surveys (Basic 44)		
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	269.61
		(°)	

Survey Program	Date 04/03/13		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
462.00	3,364.00	Phoenix MWD Surveys (Wellbore #1 / Job	MWD
			MWD - Standard

Survey:									
Measured	Vertical		Vertical	Dogleg	Build	Turn			
Depth	Depth	+N/-S	+E/-W	Rate	Rate	Rate			
(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)			
0.00	0.00	0.00	0.00	0.00	0.00	0.00			
462.00	0.90	175.50	461.98	-3.62	0.28	-0.26	0.19	0.19	0.00
First Phoenix MWD Survey									
546.00	1.00	182.00	545.97	-5.01	0.31	-0.28	0.17	0.12	7.74
610.00	1.10	181.50	609.96	-6.18	0.28	-0.23	0.16	0.16	-0.78
693.00	1.50	189.30	692.94	-8.05	0.08	-0.02	0.53	0.48	9.40
777.00	1.80	194.60	776.90	-10.41	-0.43	0.50	0.40	0.36	6.31
861.00	2.20	191.40	860.85	-13.27	-1.08	1.17	0.49	0.48	-3.81
944.00	2.30	187.50	943.79	-16.48	-1.61	1.73	0.22	0.12	-4.70
1,027.00	2.20	181.00	1,026.72	-19.72	-1.86	1.99	0.33	-0.12	-7.83
1,111.00	2.20	170.80	1,110.66	-22.93	-1.63	1.79	0.47	0.00	-12.14



Phoenix Technology Services
Survey Report



Company:	Apache Corporation	Local Co-ordinate Reference:	Well #11H
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3740.00usft
Site:	Raven/Federal	MD Reference:	KB @ 3740.00usft
Well:	#11H	North Reference:	Grid
Wellbore:	Wellbore #1 / Job #1310356	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Basic 44)	Database:	GCR/DB

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)
1,194.00	1.90	170.80	1,193.61	-25.86	-1.16	1.33	0.36	-0.36	0.00
1,277.00	1.70	154.10	1,276.57	-28.32	-0.40	0.59	0.67	-0.24	-20.12
1,361.00	1.00	151.00	1,360.54	-30.09	0.50	-0.30	0.84	-0.83	-3.69
1,445.00	0.50	160.50	1,444.54	-31.07	0.98	-0.77	0.61	-0.60	11.31
1,528.00	0.60	3.50	1,527.54	-30.98	1.13	-0.92	1.30	0.12	-189.16
1,612.00	1.00	13.40	1,611.53	-29.83	1.32	-1.12	0.50	0.48	11.79
1,696.00	1.30	12.10	1,695.51	-28.18	1.69	-1.50	0.36	0.36	-1.55
1,779.00	1.70	6.30	1,778.48	-26.04	2.03	-1.85	0.51	0.48	-6.99
1,863.00	2.00	1.20	1,862.44	-23.34	2.19	-2.03	0.41	0.36	-6.07
1,946.00	2.30	354.90	1,945.38	-20.23	2.08	-1.94	0.46	0.36	-7.59
2,030.00	2.50	349.10	2,029.31	-16.75	1.58	-1.47	0.37	0.24	-6.90
2,114.00	3.20	344.50	2,113.20	-12.69	0.61	-0.52	0.88	0.83	-5.48
2,197.00	2.80	339.50	2,196.09	-8.56	-0.72	0.78	0.58	-0.48	-6.02
2,281.00	2.50	333.30	2,280.00	-5.00	-2.26	2.30	0.49	-0.36	-7.38
2,364.00	2.40	324.90	2,362.92	-1.96	-4.08	4.09	0.45	-0.12	-10.12
2,448.00	1.90	311.90	2,446.86	0.41	-6.13	6.12	0.83	-0.60	-15.48
2,531.00	1.60	302.90	2,529.82	1.95	-8.12	8.11	0.49	-0.36	-10.84
2,615.00	1.50	293.50	2,613.79	3.03	-10.12	10.09	0.32	-0.12	-11.19
2,699.00	1.50	283.60	2,697.77	3.73	-12.19	12.17	0.31	0.00	-11.79
2,782.00	1.40	269.70	2,780.74	3.98	-14.26	14.23	0.44	-0.12	-16.75
2,866.00	1.70	259.80	2,864.71	3.75	-16.51	16.49	0.48	0.36	-11.79
2,950.00	1.80	258.20	2,948.67	3.26	-19.03	19.01	0.13	0.12	-1.90
3,033.00	1.50	254.10	3,031.63	2.70	-21.35	21.33	0.39	-0.36	-4.94
3,117.00	1.20	242.90	3,115.61	1.99	-23.19	23.18	0.47	-0.36	-13.33
3,201.00	0.90	215.40	3,199.60	1.06	-24.36	24.35	0.69	-0.36	-32.74
3,284.00	0.90	208.70	3,282.59	-0.05	-25.05	25.05	0.13	0.00	-8.07
Current MWD Survey									
3,364.00	0.90	202.00	3,362.58	-1.18	-25.59	25.59	0.13	0.00	-8.38
Projection to Bit									

Survey Annotations:				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
462.00	461.98	-3.62	0.28	First Phoenix MWD Survey
3,284.00	3,282.59	-0.05	-25.05	Current MWD Survey
3,364.00	3,362.58	-1.18	-25.59	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____

OPERATOR'S COPY

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, 2007

5. Lease Serial No.
NMMLC-029435B / NMMLC-029435A

6. If Indian, Allottee or Tribe Name

1a. Type of work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator
APACHE CORPORATION

3a. Address 303 VETERANS AIRPARK LN #3000
MIDLAND, TX 79705

3b. Phone No. (include area code)
432-818-1167

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

8. Lease Name and Well No. <39333>
RAVEN FEDERAL Com #11 H

9. API Well No.
30-015- 404167

10. Field and Pool, or Exploratory <96831>
CEDAR LAKE; GLORIETA-YESO

4. Location of Well (Report location clearly and in accordance with any State requirements.)
At surface: 2153' FNL & 220' FWL Sec: 8 UL: E NMMLC-029435B
At proposed prod. zone 2153' FNL & 330' FWL Sec: 7 Lot: 2 NMMLC-029435A

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

UL: E SEC: 8 T17S R31E

14. Distance in miles and direction from nearest town or post office*
APPROX 6.6 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)
220'

16. No. of acres in lease

1885 ACRES

17. Spacing Unit dedicated to this well

191.68 ACRES

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. ~ 25'

19. Proposed Depth
TVD ~ 5265'
MD ~ 10087'

20. BLM/DIA Bond No. on file
BLM - CO - 1463 NATIONWIDE

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3727'

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:

- 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 *Sorina L. Flores*

Name (Printed/Typed)
SORINA L. FLORES

Date
5/31/12

Title
SUPV OF DRILLING SERVICES

Approved by (Signature) *James A. Amos Jr.*

Name (Printed/Typed)
James A. Amos Jr.

Date
7-10-12

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 APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached

DISTRICT I
1625 N. French Dr., Hobbs, NM 88249
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 30-015-	Pool Code 96831	Pool Name Cedar Lake; Glorietta-Yeso
Property Code	Property Name RAVEN FEDERAL	Well Number 11H
OGUID No. 873	Operator Name APACHE CORPORATION	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		2153	NORTH	220	WEST	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
2	7	17-S	31-E		2153	NORTH	330	WEST	EDDY

Dedicated Acres 191.68	Joint or Infill	Consolidation Code	Order No.
----------------------------------	-----------------	--------------------	-----------

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or 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 L. Flores</i> 5/2/12 Signature Date Sorina L. Flores Printed Name <i>sorina.flores@apachecorp.com</i> E-mail Address
CORNER COORDINATES TABLE (A) - Y=674101.9 N, X=628075.2 E (B) - Y=674135.1 N, X=633078.6 E (C) - Y=672781.8 N, X=628079.2 E (D) - Y=672814.9 N, X=633086.3 E DETAIL GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=673304.7 N X=633303.5 E LAT.=32°50'24.6" N LONG.=103°59'26.3" W LAT.=32°51'01" N LONG.=103°53'57" W BOTTOM HOLE LOCATION Y=673271.2 N X=628407.7 E	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: <i>Ronald J. Eidson</i> 3/29/2012 Certification Number: Ronald J. Eidson 12641 Ronald J. Eidson 3239 AF WSC W.O. 12.11.0630

3727.8'

SECTION 7

SECTION 8

EOTT BPL

NORTHWEST PAD CORNER 3726.5'

NORTHEAST PAD CORNER 3731.6'

PROPOSED WELL PAD

RAVEN FEDERAL #11H
ELEV. 3727.0'
LAT.=32.850246° N
LONG.=103.899263° W
LAT.=32° 51' 01" N
LONG.=103° 53' 57" W

NFE FEDERAL #27H

RAVEN FEDERAL #12H

NFE FEDERAL #26H

NFE FEDERAL #25H

RAVEN FEDERAL #10H

NFE FEDERAL #8 WELL

EXISTING WELL PAD

SOUTHWEST PAD CORNER 3723.2'

SOUTHEAST PAD CORNER 3725.9'

3-W ELEC. LINE

CONOCO BPL

TEX-NM BPL

600'

600'

600'

3734.2'

3730.5'

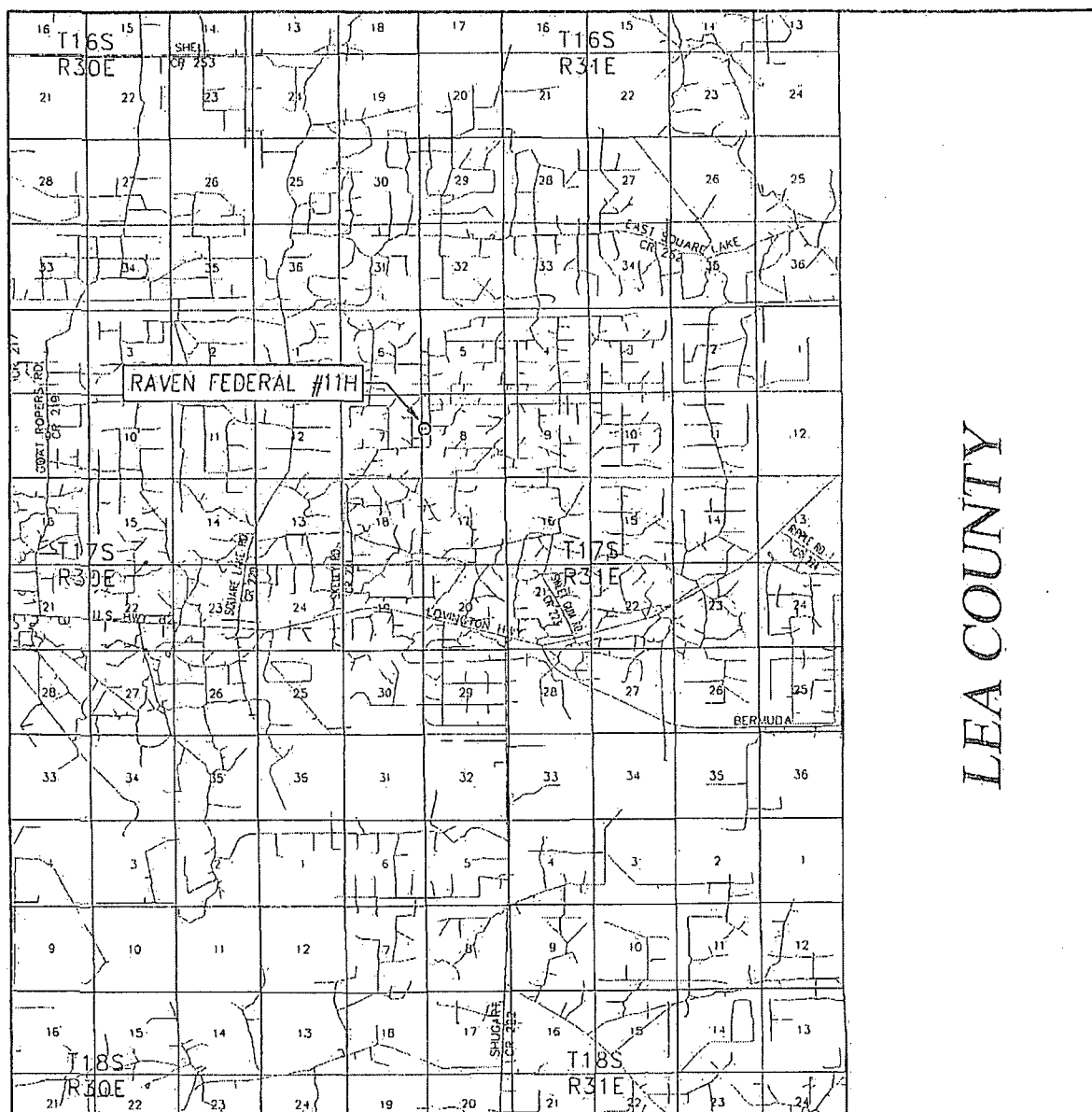
600'

3726.4'



© ABEL\2012\APACHE CORPORATION\Wells

NORTH



SEC. 8 TWP. 17-S RGE. 31-E

SURVEY N.M.P.M.

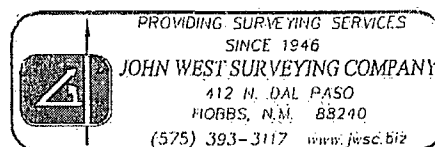
COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 2153' FNL & 220' FWL

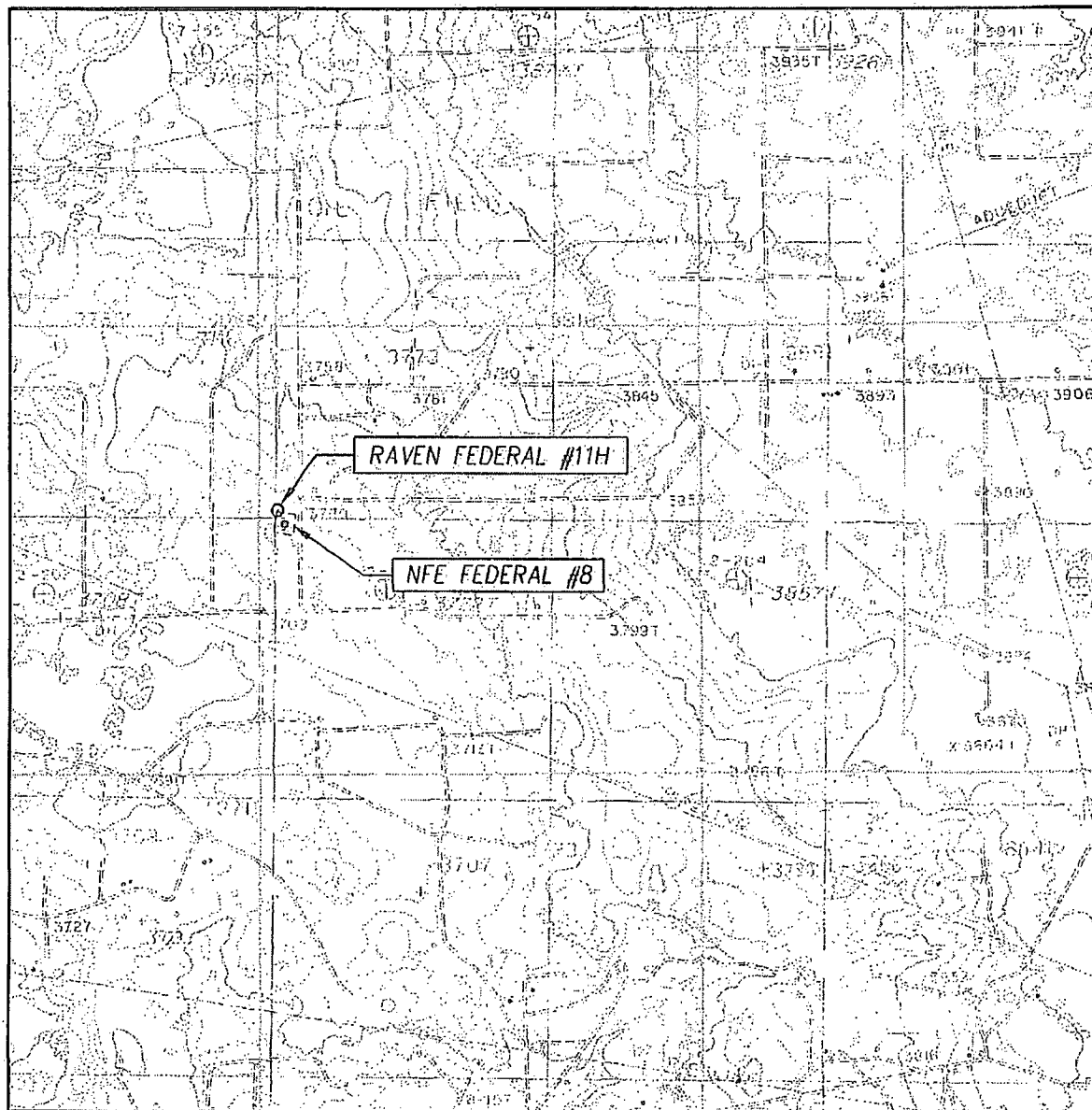
ELEVATION 3727'

OPERATOR APACHE CORPORATION

LEASE RAVEN FEDERAL



LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

SEC. 8 TWP. 17-S RGE. 31-E

SURVEY _____ N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 2153' FNL & 220' FWL

ELEVATION 3727'

OPERATOR APACHE CORPORATION

LEASE RAVEN FEDERAL

U.S.G.S. TOPOGRAPHIC MAP

LOCÓ HILLS, N.M.

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

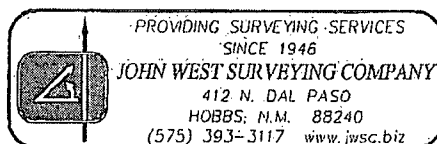


Exhibit #2

APACHE CORPORATION

RAVEN FEDERAL

#10H, #11H, #12H

SEC: 8 T17S R31E EDDY.CO.

1 MILE RADIUS

POSTED WELL DATA

Well Number

WELL SYMBOLS

Abandoned Well

Dry Hole: With Show of Oil

Dry Hole

Gas Well

Injection Well

Location

Proposed Drilling Location

Oil Well

Plugged and Abandoned

Active Producer

Service Well

Suspended Oil Well

0 2,052 4,104

FEET

April 5, 2012

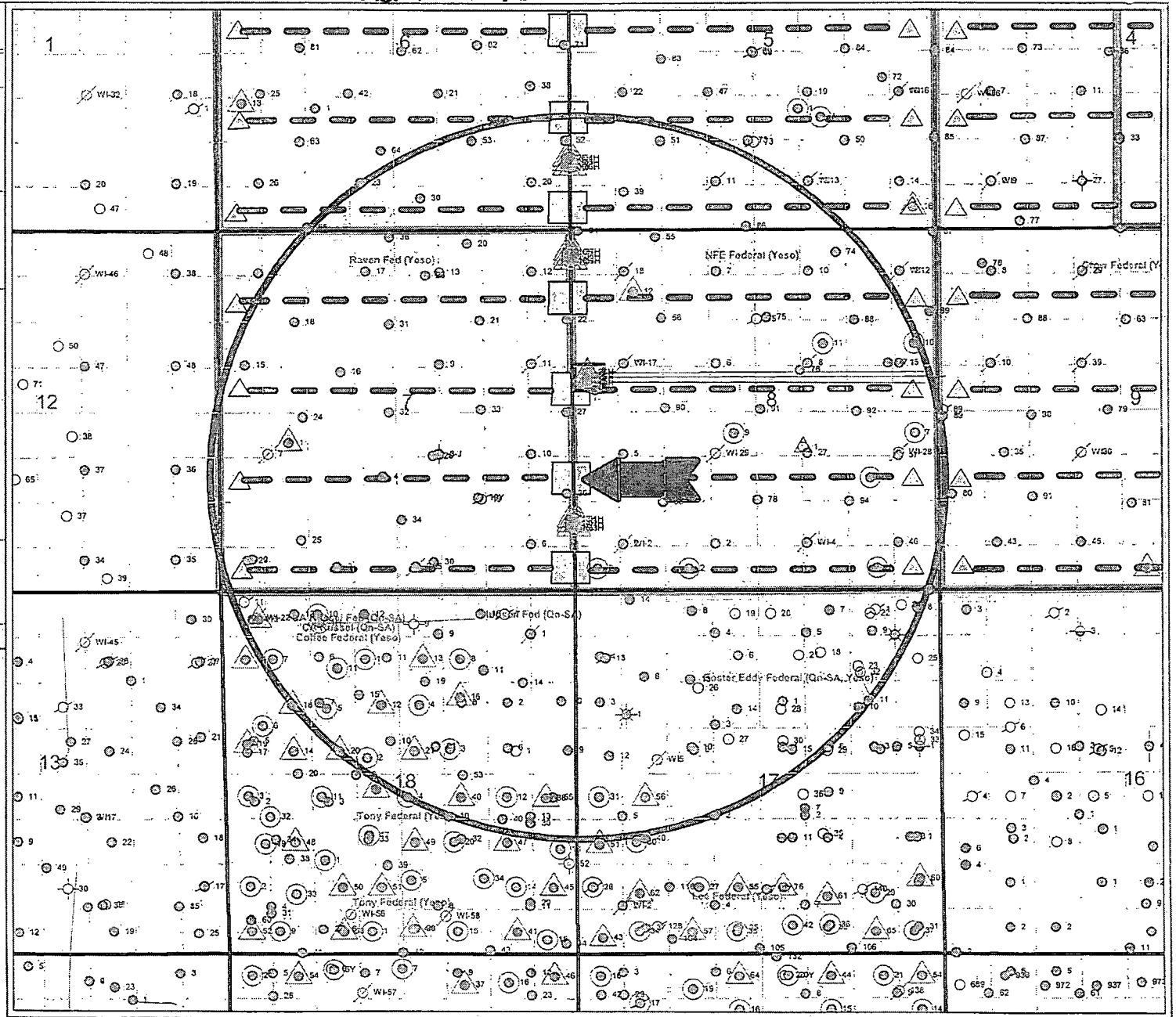


EXHIBIT #1

ACCESS ROAD & FLOW LINE PLAT

RAVEN FEDERAL #10H, #11H, #12H

