

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.*5. Lease Serial No.
NMLC029435B

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

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

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other8. Well Name and No.
NFE FEDERAL COM 50H2. Name of Operator
APACHE CORPORATIONContact: SORINA FLORES
E-Mail: sorina.flores@apachecorp.com9. API Well No.
30-015-434413a. Address
303 VETERANS AIRPARK LANE SUITE 3000
MIDLAND, TX 797053b. Phone No. (include area code)
Ph: 432-818-116710. Field and Pool, or Exploratory
CEDAR LAKE, GLORIETA-YESO

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 6 T17S R31E Mer NMP SWNW 1850FNL 330FWL
32.865551 N Lat, 103.915190 W Lon

11. County or Parish, and State

EDDY COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original APD
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

BLM-CO-1463 NATIONWIDE; NMB000736

FOR NFE FEDERAL COM 50H(30-015-43441), APACHE REQUEST TO CHG CSG/CMT PROGRAM:

NEW TVD: 5849' MD: 10754' LP: 5747' TVD

OLD PROD CSG STRING:

8-3/4": 0-5269'

8-3/4": 5269'-6015'

7-7/8": 6015'-9073'

NEW PROD CSG STRING:

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL****NM OIL CONSERVATION
ARTESIA DISTRICT
NOV 30 2015****RECEIVED**Accepted for record
NIMOC
12/1/15

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

Electronic Submission #324091 verified by the BLM Well Information System
For APACHE CORPORATION, sent to the Carlsbad
Committed to AFMSS for processing by TEUNGKU KRUENG on 11/19/2015 ()

Name (Printed/Typed) SORINA FLORES

Title SUBMITTING CONTACT

Signature (Electronic Submission)

Date 11/19/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By

Title

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

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED**

BUREAU OF LAND MANAGEMENT

OPERATOR-SUBMITTED

Additional data for EC transaction #324091 that would not fit on the form

32. Additional remarks, continued

8.5": 0'-6009'

8.5": 6009'-10754'

*Prod csg will be tapered string w/7" csg f/surf to KOP
(cmt thru stage tool f/KOP to 3000')

BOP OLD:

Hole: 12-1/4" Size: 13-5/8" WP: 3M Annular Test to: 2M

Hole: 9-5/8" Size: 13-5/8" WP: 3M Annular, Blind, Pipe Test to: 2M

BOP NEW:

Hole: 12-1/4" Size: 13-5/8" WP: 3M Annular Test to: 2M

Hole: 8-1/2" Size: 11" WP: 3M Annular, Blind, Pipe Test to: 2M

MUD PROGRAM OLD:

Int Shoe -TD: Brine Wgt: 9.5-10.2 Visc: 28-29 Wtr Loss: N/C

MUD PROGRAM NEW:

Int Shoe -TD: Brine Wgt: 8.7-10.2 Visc: 28-29 Wtr Loss: N/C

NEW LOGGING:

Mud Log: Interval: 5269-TD

NEW DRLG CONDITIONS:

BHP @ deepest TVD: 2574psi

****New directional plan attached. NEW C-102 ATTACHED ****

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (505) 393-6161 Fax: (505) 393-0720

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

DISTRICT III
1000 Rio Brazos Road, 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 30-015-43441	Pool Code 96831	Pool Name CEDAR LAKE; GLORIETA-YESO
Property Code 308724	Property Name NFE FEDERAL COM	Well Number 50H
OGRID No. 873	Operator Name APACHE CORPORATION	Elevation 3767'

Surface Location

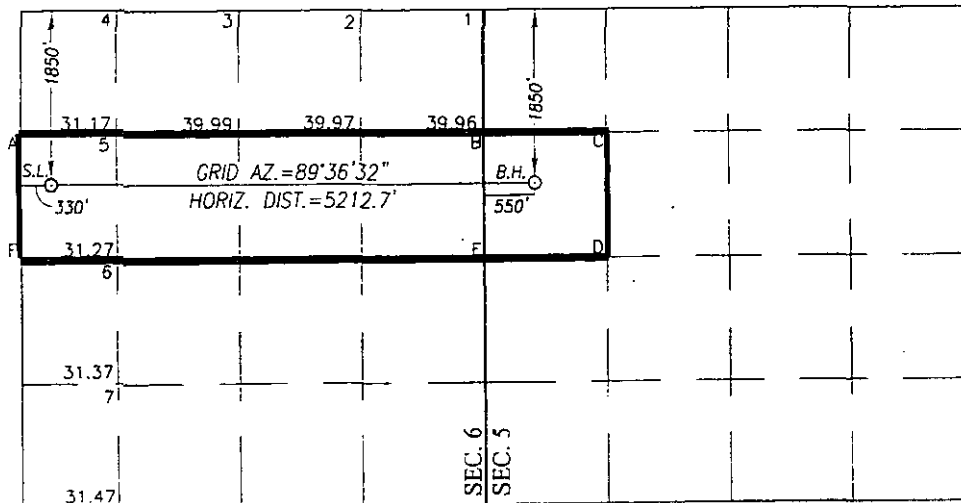
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
5	6	17-S	31-E		1850	NORTH	330	WEST	EDDY

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
E	5	17-S	31-E		1850	NORTH	550	WEST	EDDY

Dedicated Acres 191.27	Joint or Infill	Consolidation Code	Order No.
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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



SCALE: 1"=2000'

GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION
Y=678852.9 N
X=628390.2 E
LAT.=32.865551° N
LONG.=103.915190° W
LAT.=32° 51' 56" N
LONG.=103° 54' 55" W

GEODETIC COORDINATES
NAD 83 NME
SURFACE LOCATION
Y=678916.9 N
X=669568.9 E
LAT.=32.865667° N
LONG.=103.915698° W
LAT.=32° 51' 56" N
LONG.=103° 54' 56" W

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
BOTTOM HOLE LOCATION
Y=678888.4 N
X=633601.5 E
LAT.=32.865590° N
LONG.=103.898218° W
LAT.=32° 51' 56" N
LONG.=103° 53' 54" W

GEODETIC COORDINATES
NAD 83 NME
BOTTOM HOLE LOCATION
Y=678952.5 N
X=674780.1 E
LAT.=32.865707° N
LONG.=103.898725° 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.

Sorina L Flores 11/19/15

Signature Date

SORINA L FLORES

Printed Name

sorina.flores@apachecorp.com

E-mail Address

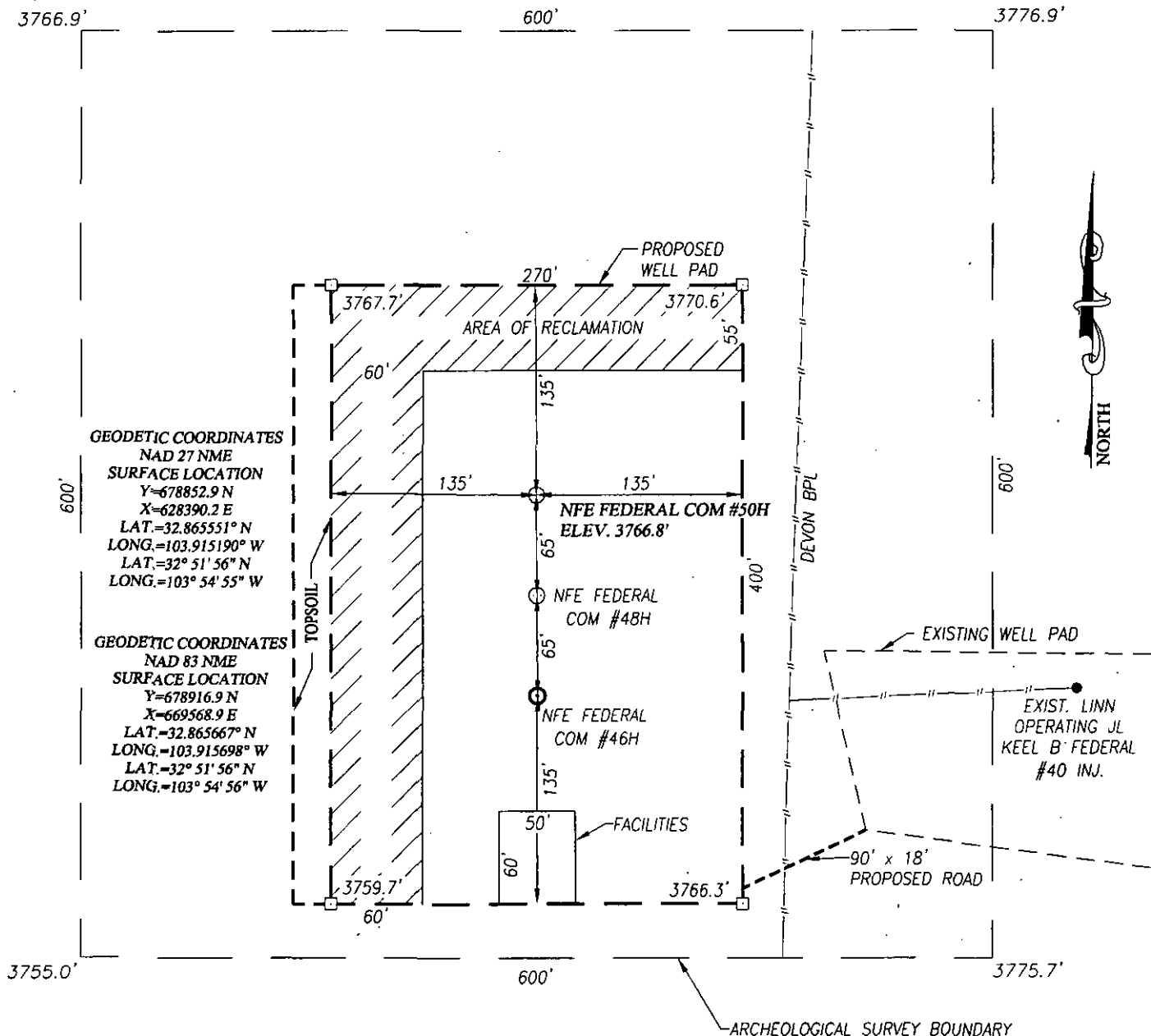
SURVEYOR CERTIFICATION

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

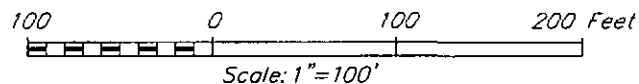
Date of Survey
Signature & Seal of Professional Surveyor:

Ronald J. Eidson
NEW MEXICO
REGISTERED SURVEYOR
3230
Certificate Number: Gary G. Eidson 12641
Ronald J. Eidson 3239
ACK REL W.O. 15.13.0286 JWSC W.O. 15.13.1062



DIRECTIONS TO NFE FEDERAL COM #50H:

FROM THE INTERSECTION OF U.S. HWY. 82 AND CO. RD. 220 (SQUARE LAKE), GO NORTH ON CO. RD. 220 APPROX. 3.7 MILES. TURN RIGHT AND GO NORTHEAST ON LEASE ROAD APPROX. 0.5 MILES. TURN RIGHT AND GO EAST APPROX. 0.2 MILES. THEN CONTINUE ON ROAD SOUTHEAST APPROX. 0.4 MILES. TURN RIGHT AND GO SOUTH APPROX. 0.2 MILES TO EXISTING LINN OPERATING, INJECTION WELL. FROM THE SOUTHWEST CORNER OF THE LOCATION FOLLOW STAKED ROAD 90 FEET SOUTHWEST TO THIS LOCATION.



APACHE CORPORATION

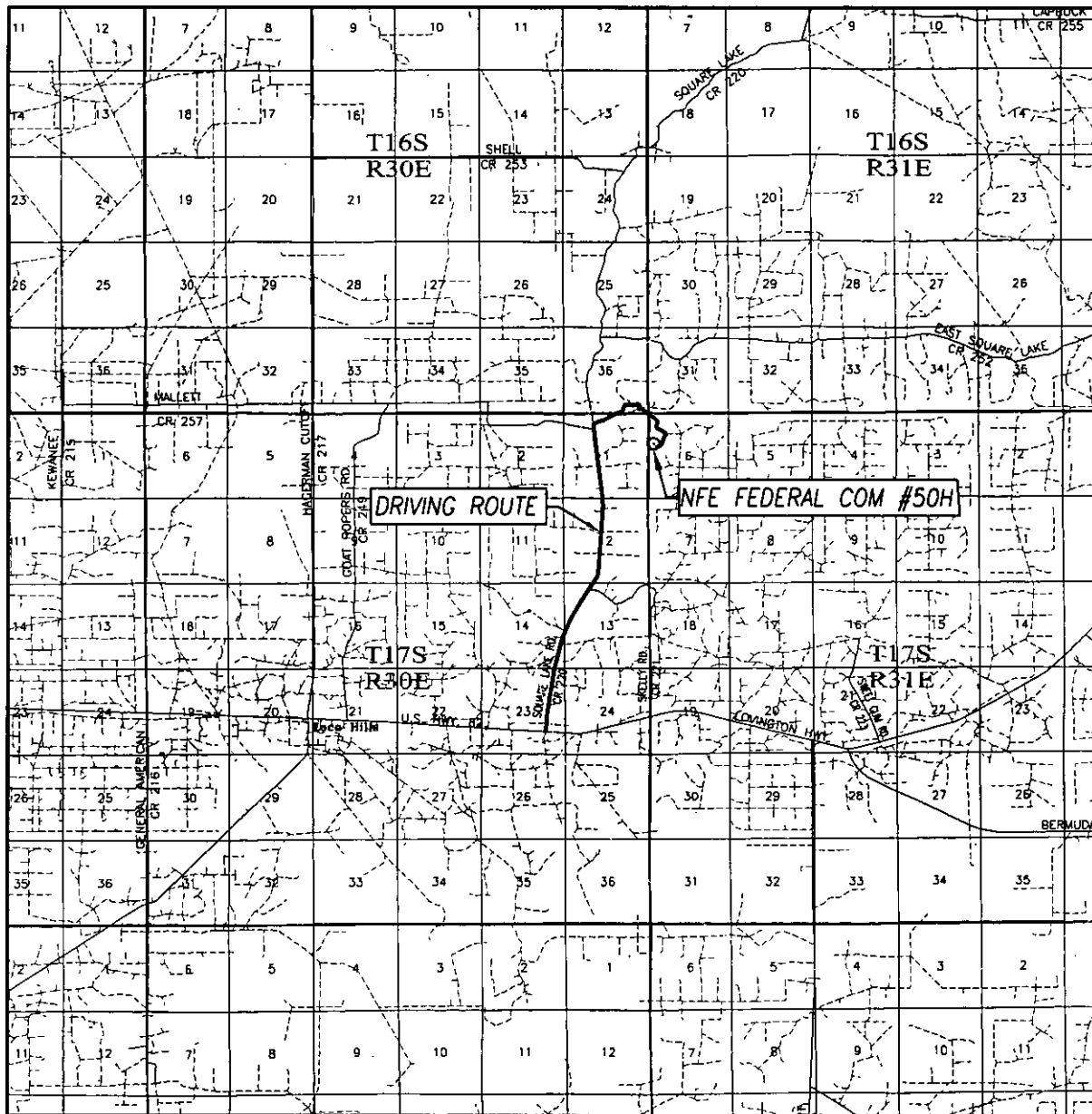
NFE FEDERAL COM #50H WELL
 LOCATED 1850 FEET FROM THE NORTH LINE
 AND 330 FEET FROM THE WEST LINE OF SECTION 6,
 TOWNSHIP 17 SOUTH, RANGE 31 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO



PROVIDING SURVEYING SERVICES
 SINCE 1946
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO HOBBS, N.M. 88240
 (575) 393-3117 www.jwsc.biz
 TBPLS# 10021000

Survey Date: 1/7/15	CAD Date: 1/29/15	Drawn By: ACK
W.O. No.: 15130286	Rev: .	Rel. W.O.: 14111418
		Sheet 1 of 1

VICINITY MAP



SCALE: 1" = 2 MILES

DRIVING ROUTE: SEE LOCATION VERIFICATION MAP

SEC. 6 TWP. 17-S RGE. 31-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1850' FNL & 330' FWL

ELEVATION 3767'

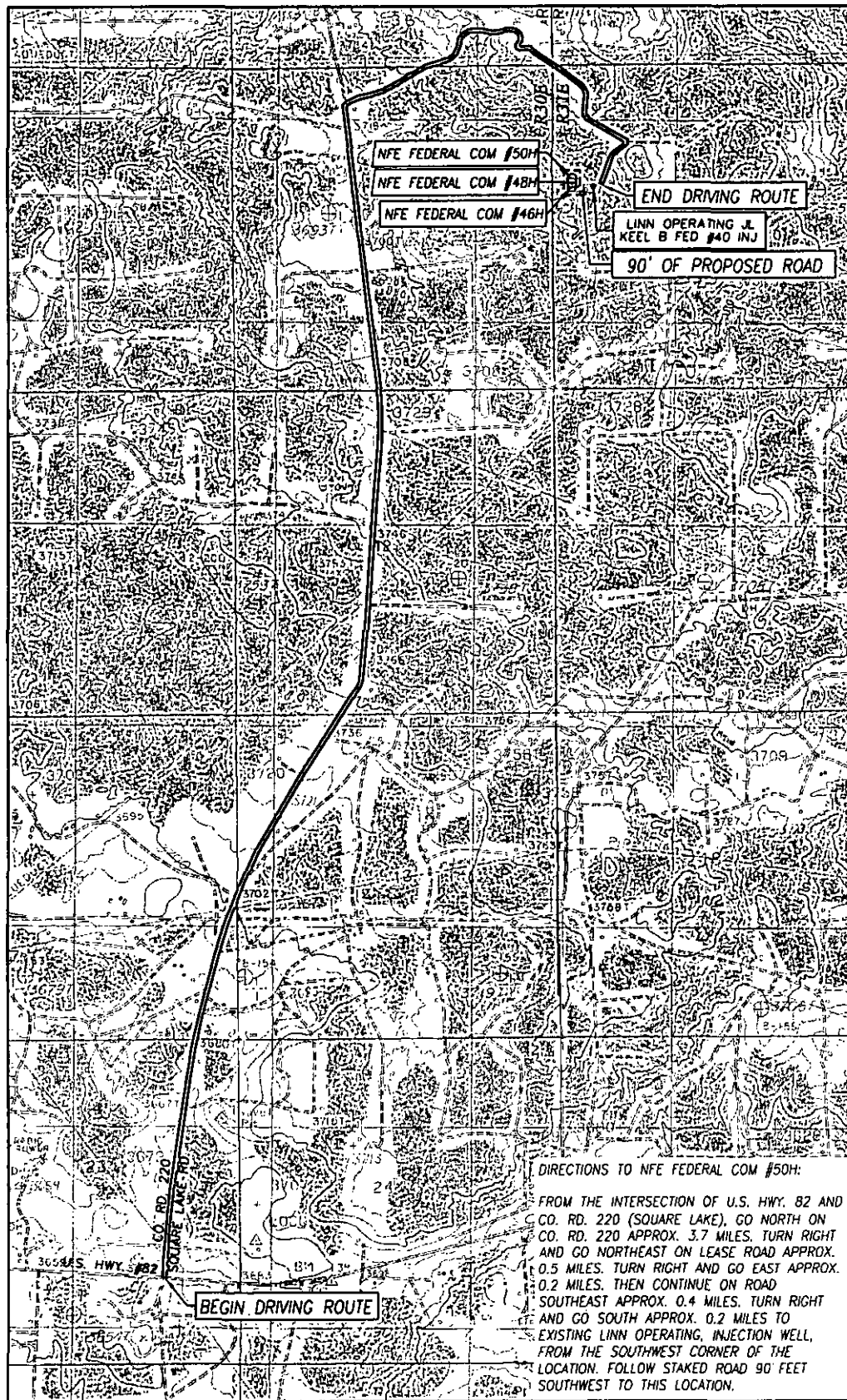
OPERATOR APACHE CORPORATION

LEASE NFE FEDERAL COM



PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz
TBPLS# 10021000

LOCATION VERIFICATION MAP



SEC. 6 TWP. 17-S. RGE. 31-E
 COUNTY EDDY STATE NEW MEXICO
 DESCRIPTION 1850' FNL & 330' FWL
 ELEVATION 3767'
 OPERATOR APACHE CORPORATION
 LEASE NFE FEDERAL COM
 U.S.G.S. TOPOGRAPHIC MAP
 LOCO HILLS, N.M. SURVEY N.M.P.M.

SCALE: 1" = 2000'

CONTOUR INTERVAL:
 LOCO HILLS, N.M. - 10'



PROVIDING SURVEYING SERVICES
 SINCE 1946
JOHN WEST SURVEYING COMPANY
 412 N. DAL PASO HOBBS, N.M. 88240
 (575) 393-3117 www.jwsc.biz
 TBPLS# 10021000



Project: Eddy County, NM (NAD27 NME)
Site: NFE Federal COM
Well: #50H
Wellbore: OH
Design: Plan #2 11-18-15
Rig: Capstar 119



Asymmetric to Grid North
Turn North: 7.41°
Magnetic North: 7.41°
Magnetic Field
Strength: 485.41
Dip Angle: 60.78°
Date: 11/18/2015
Model: HDGM

WELL DETAILS

Ground Level	3167.00
Eastings	528360.20
Northings	671852.90
Latitude	32° 51' 55.9233 N
Longitude	103° 54' 54.6509 W

SECTION DETAILS

Sec	MD	Inc	Adi	TVD	WLS	Dep	True	Target	Annulation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	5283.5	0.00	0.00	5283.5	0.00	0.00	0.00	0.00	
3	5283.5	0.00	0.00	5283.5	0.00	0.00	0.00	0.00	
4	10754.8	41.77	89.61	5448.0	31.49	5211.46	0.00	5211.58	BHL V2 NFE Fed #50H LP to 10754.87 MD

DESIGN TARGET DETAILS

Name	TVD	WLS	Dep	True	Target	Annulation	Logbook Stage
MP V2 NFE Fed #50H	5788.00	19.36	2442.55	5788.00	19.36	2442.55	Logbook Stage
BHL V2 NFE Fed #50H	5788.00	19.36	2442.55	5788.00	19.36	2442.55	Logbook Stage
- plan includes target center by 0.01' at 5788.00' TVD, 19.36° N, 2442.55' E							
- plan includes target center by 0.01' at 5788.00' TVD, 19.36° N, 2442.55' E							
- plan includes target center by 0.01' at 5788.00' TVD, 19.36° N, 2442.55' E							

FORMATION TOP DETAILS

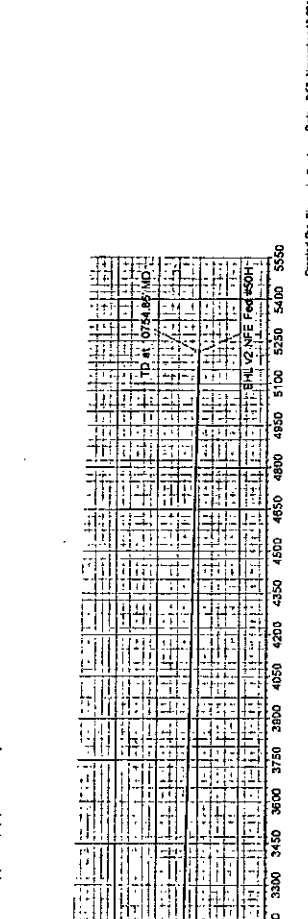
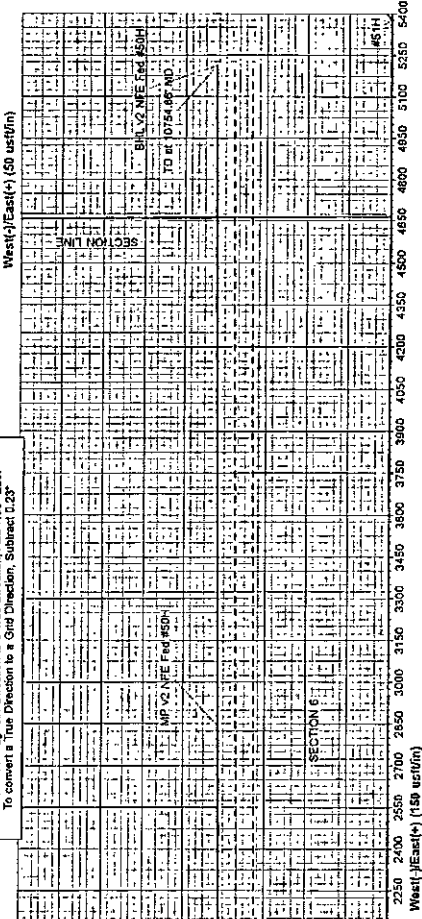
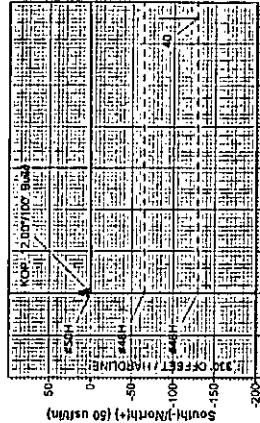
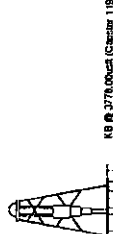
True Depth	Formation	Dip Angle	Dip Slope
448.00	Shale	1.23	89.61
448.00	Shale	1.23	89.61
1320.00	1300.00 BS&T	1.23	89.61
1483.00	1483.00 Yellow	1.23	89.61
1771.00	1771.00 Yellow	1.23	89.61
2773.00	2773.00 Yellow	1.23	89.61
3168.00	3168.00 Yellow	1.23	89.61
4543.00	4543.00 Yellow	1.23	89.61
4543.00	4543.00 Yellow	1.23	89.61
5078.00	5078.00 Yellow	1.23	89.61

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Zone Name: New Mexico East 3001
Ellipsoid: Clarke 1866
Local Origin: Well #50H, Grid North

Latitude: 32° 51' 55.9233 N
Longitude: 103° 54' 54.6509 W
Grid East: 67852.00
Grid North: 67852.00
Scale Factor: 1.000

Geomagnetic Model: HDGM
Magnetic Declination: 7.41-Now-15
Dip Angle from Horizontal: 60.78°
Magnetic Field Strength: 485.41

To convert a Magnetic Direction to a Grid Direction, Add 7.41°
To convert a Magnetic Direction to a True Direction, Add 7.41° East
To convert a True Direction to a Grid Direction, Subtract 7.41°



Vertical Section at 83.61° (150 usft/in)

Created By: Blanca LaCabe Date: 9/58, November 18 2015



Apache Corporation

Eddy County, NM (NAD27 NME)

NFE Federal COM

#50H

OH

Plan: Plan #2 11-18-15

Standard Planning Report

18 November, 2015



Database:	Compass 5000 GCR	Local Co-ordinate Reference:	Well #50H
Company:	Apache Corporation	TVD Reference:	KB @ 3778.00usft (Capstar 119)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	KB @ 3778.00usft (Capstar 119)
Site:	NFE Federal COM	North Reference:	Grid
Well:	#50H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 11-18-15		

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
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Site Position:	Map	Northing:	673,264.70 usft	Latitude:	32° 51' 0.49036 N
From:		Easting:	633,303.50 usft	Longitude:	103° 53' 57.34966 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.24 °

Well:	#50H
-------	------

Well Position	+N/-S	5,588.20 usft	Northing:	678,852.90 usft	Latitude:	32° 51' 55.98233 N
	+E/-W	-4,913.30 usft	Easting:	628,390.20 usft	Longitude:	103° 54' 54.68509 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,767.00 usft

Wellbore:	OH
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	11/18/2015	7.63	60.78	48,541

Design:	Plan #2 11-18-15
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Audit Notes:	
Version:	Phase: PLAN Tie On Depth: 0.00

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

Plan Sections	
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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,269.65	0.00	0.00	5,269.65	0.00	0.00	0.00	0.00	0.00	0.00	
6,009.39	88.77	89.61	5,747.00	3.18	467.19	12.00	12.00	12.11	89.61	
10,754.86	88.77	89.61	5,849.00	35.49	5,211.46	0.00	0.00	0.00	0.00	BHL v2 NFE Fed #1

Database:	Compass 5000 GCR	Local Co-ordinate Reference:	Well #50H
Company:	Apache Corporation	TVD Reference:	KB @ 3778.00usft (Capstar 119)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	KB @ 3778.00usft (Capstar 119)
Site:	NFE Federal COM	North Reference:	Grid
Well:	#50H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 11-18-15		

Planned 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
5,269.65	0.00	0.00	5,269.65	0.00	0.00	0.00	0.00	0.00	0.00
KOP, 12.00°/100' Build									
5,300.00	3.64	89.61	5,299.98	0.01	0.96	0.96	12.00	12.00	0.00
5,400.00	15.64	89.61	5,398.39	0.12	17.68	17.68	12.00	12.00	0.00
5,500.00	27.64	89.61	5,491.17	0.37	54.49	54.50	12.00	12.00	0.00
5,600.00	39.64	89.61	5,574.27	0.75	109.79	109.80	12.00	12.00	0.00
5,700.00	51.64	89.61	5,644.05	1.23	181.16	181.16	12.00	12.00	0.00
5,800.00	63.64	89.61	5,697.48	1.81	265.47	265.48	12.00	12.00	0.00
5,900.00	75.64	89.61	5,732.20	2.45	359.05	359.06	12.00	12.00	0.00
6,000.00	87.64	89.61	5,746.71	3.12	457.81	457.82	12.00	12.00	0.00
6,009.39	88.77	89.61	5,747.00	3.18	467.19	467.20	12.00	12.00	0.00
LP, Hold 88.77° Inc									
6,100.00	88.77	89.61	5,748.95	3.80	557.78	557.79	0.00	0.00	0.00
6,200.00	88.77	89.61	5,751.10	4.48	657.76	657.77	0.00	0.00	0.00
6,300.00	88.77	89.61	5,753.25	5.16	757.73	757.75	0.00	0.00	0.00
6,400.00	88.77	89.61	5,755.40	5.84	857.71	857.73	0.00	0.00	0.00
6,500.00	88.77	89.61	5,757.55	6.52	957.68	957.70	0.00	0.00	0.00
6,600.00	88.77	89.61	5,759.70	7.20	1,057.65	1,057.68	0.00	0.00	0.00
6,700.00	88.77	89.61	5,761.85	7.88	1,157.63	1,157.66	0.00	0.00	0.00
6,800.00	88.77	89.61	5,764.00	8.56	1,257.60	1,257.63	0.00	0.00	0.00
6,900.00	88.77	89.61	5,766.15	9.25	1,357.58	1,357.61	0.00	0.00	0.00
7,000.00	88.77	89.61	5,768.30	9.93	1,457.55	1,457.59	0.00	0.00	0.00
7,100.00	88.77	89.61	5,770.45	10.61	1,557.53	1,557.56	0.00	0.00	0.00
7,200.00	88.77	89.61	5,772.59	11.29	1,657.50	1,657.54	0.00	0.00	0.00
7,300.00	88.77	89.61	5,774.74	11.97	1,757.48	1,757.52	0.00	0.00	0.00
7,400.00	88.77	89.61	5,776.89	12.65	1,857.45	1,857.49	0.00	0.00	0.00
7,500.00	88.77	89.61	5,779.04	13.33	1,957.43	1,957.47	0.00	0.00	0.00
7,600.00	88.77	89.61	5,781.19	14.01	2,057.40	2,057.45	0.00	0.00	0.00
7,700.00	88.77	89.61	5,783.34	14.69	2,157.38	2,157.43	0.00	0.00	0.00
7,800.00	88.77	89.61	5,785.49	15.37	2,257.35	2,257.40	0.00	0.00	0.00
7,900.00	88.77	89.61	5,787.64	16.05	2,357.32	2,357.38	0.00	0.00	0.00
8,000.00	88.77	89.61	5,789.79	16.74	2,457.30	2,457.36	0.00	0.00	0.00
8,100.00	88.77	89.61	5,791.94	17.42	2,557.27	2,557.33	0.00	0.00	0.00
8,200.00	88.77	89.61	5,794.09	18.10	2,657.25	2,657.31	0.00	0.00	0.00
8,300.00	88.77	89.61	5,796.24	18.78	2,757.22	2,757.29	0.00	0.00	0.00
8,400.00	88.77	89.61	5,798.39	19.46	2,857.20	2,857.26	0.00	0.00	0.00
8,500.00	88.77	89.61	5,800.54	20.14	2,957.17	2,957.24	0.00	0.00	0.00
8,600.00	88.77	89.61	5,802.69	20.82	3,057.15	3,057.22	0.00	0.00	0.00
8,700.00	88.77	89.61	5,804.83	21.50	3,157.12	3,157.19	0.00	0.00	0.00
8,800.00	88.77	89.61	5,806.98	22.18	3,257.10	3,257.17	0.00	0.00	0.00
8,900.00	88.77	89.61	5,809.13	22.86	3,357.07	3,357.15	0.00	0.00	0.00
9,000.00	88.77	89.61	5,811.28	23.54	3,457.04	3,457.12	0.00	0.00	0.00
9,100.00	88.77	89.61	5,813.43	24.23	3,557.02	3,557.10	0.00	0.00	0.00
9,200.00	88.77	89.61	5,815.58	24.91	3,656.99	3,657.08	0.00	0.00	0.00
9,300.00	88.77	89.61	5,817.73	25.59	3,756.97	3,757.06	0.00	0.00	0.00
9,400.00	88.77	89.61	5,819.88	26.27	3,856.94	3,857.03	0.00	0.00	0.00
9,500.00	88.77	89.61	5,822.03	26.95	3,956.92	3,957.01	0.00	0.00	0.00
9,600.00	88.77	89.61	5,824.18	27.63	4,056.89	4,056.99	0.00	0.00	0.00
9,700.00	88.77	89.61	5,826.33	28.31	4,156.87	4,156.96	0.00	0.00	0.00
9,800.00	88.77	89.61	5,828.48	28.99	4,256.84	4,256.94	0.00	0.00	0.00
9,900.00	88.77	89.61	5,830.63	29.67	4,356.82	4,356.92	0.00	0.00	0.00
10,000.00	88.77	89.61	5,832.78	30.35	4,456.79	4,456.89	0.00	0.00	0.00
10,100.00	88.77	89.61	5,834.93	31.03	4,556.77	4,556.87	0.00	0.00	0.00

Database:	Compass 5000 GCR	Local Co-ordinate Reference:	Well #50H
Company:	Apache Corporation	TVD Reference:	KB @ 3778.00usft (Capstar 119)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	KB @ 3778.00usft (Capstar 119)
Site:	NFE Federal COM	North Reference:	Grid
Well:	#50H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2 11-18-15		

Planned 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)
10,200.00	88.77	89.61	5,837.07	31.72	4,656.74	4,656.85	0.00	0.00	0.00
10,300.00	88.77	89.61	5,839.22	32.40	4,756.71	4,756.82	0.00	0.00	0.00
10,400.00	88.77	89.61	5,841.37	33.08	4,856.69	4,856.80	0.00	0.00	0.00
10,500.00	88.77	89.61	5,843.52	33.76	4,956.66	4,956.78	0.00	0.00	0.00
10,600.00	88.77	89.61	5,845.67	34.44	5,056.64	5,056.76	0.00	0.00	0.00
10,700.00	88.77	89.61	5,847.82	35.12	5,156.61	5,156.73	0.00	0.00	0.00
10,754.86	88.77	89.61	5,849.00	35.49	5,211.46	5,211.58	0.00	0.00	0.00
TD at 10754.86' MD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
MP v2 NFE Fed #50H	0.00	0.00	5,798.00	19.36	2,842.65	678,872.26	631,232.85	32° 51' 56.06126 N	03° 54' 21.35624 W
- plan misses target center by 0.07usft at 8385.45usft MD (5798.07 TVD, 19.36 N, 2842.65 E)									
- Point									
BHL v2 NFE Fed #50I	0.00	0.00	5,849.00	35.49	5,211.46	678,888.39	633,601.66	32° 51' 56.12516 N	03° 53' 53.58297 W
- plan hits target center									
- Point									

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
278.00	278.00	Rustler		1.23	89.61
448.00	448.00	T/Salt		1.23	89.61
1,330.00	1,330.00	B/Salt		1.23	89.61
1,493.00	1,493.00	Yates		1.23	89.61
1,771.00	1,771.00	Seven Rivers		1.23	89.61
2,365.00	2,365.00	Queen		1.23	89.61
2,783.00	2,783.00	Grayburg		1.23	89.61
3,106.00	3,106.00	San Andres		1.23	89.61
4,543.00	4,543.00	Glorieta		1.23	89.61
4,598.00	4,598.00	Yeso (Paddock)		1.23	89.61
5,078.00	5,078.00	Yeso (Blinbry)		1.23	89.61

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,269.65	5,269.65	0.00	0.00	KOP, 12.00°/100' Build
6,009.39	5,747.00	3.18	467.19	LP, Hold 88.77° Inc
10,754.86	5,849.00	35.49	5,211.46	TD at 10754.86' MD

**NFE FEDERAL COM 50H
30-015-43441
Apache Corporation
Conditions of Approval**

Original COA still applies, except for the replacement of the cement fill behind the 7 x 5 1/2 inch production casing.

1. The minimum required fill of cement behind the 7 x 5 1/2 inch production casing is:

☒ Cement as proposed by operator. Operator shall provide method of verification. **Additional cement shall be required since excess is inadequate by 33% (AKA -33%).**

KGR 11212015