

DATE IN 2/10/2014	SUSPENSE	ENGINEER MAM	LOGGED IN 2/05/2014	TYPE NSL	APP NO. PMAM 1403549233
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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



2014 FEB 20 A 9:43

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

[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

Signature

Date

David Catanach
2/3/14

Agent for Apache Corporation
Title

drcatanach@netscape.com
E-Mail Address

- NSL
- Apache Corp
873
- Tony Federal 154
30-05-42000
Pool
- Cedar Lake;
Glorieta-yeso
96831

February 3, 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 Location
Tony Federal No. 54
API No. (Not Yet Issued)
Surface Location: 295' FNL & 1140' FWL (Unit C)
Bottomhole Location: 330' FNL & 990' FWL (Lot 1/Unit D)
Section 19, T-17 South, R-31 East, NMPM,
Eddy County, New Mexico

Dear Ms. Bailey:

Pursuant to Division Rule 19.15.15.13, Apache Corporation ("Apache") respectfully requests administrative approval of an unorthodox oil well location for its proposed Tony Federal No. 54. This well will be drilled as a development oil well in the Cedar Lake Glorieta-Yeso Pool (96831).

The proposed Tony Federal No. 54 will be dedicated to an existing 32.41-acre oil spacing and proration unit in the Cedar Lake Glorieta-Yeso Pool comprising the NW/4 NW/4 of Section 19. This unit is currently dedicated to Apache's: i) existing Tony Federal No. 21 (API No. 30-015-33941) located 330 feet from the North and West lines; ii) existing Tony Federal No. 22 (API No. 30-015-33484) located 990 feet from the North line and 737 feet from the West line; and iii) existing Tony Federal No. 43 (API No. 30-015-40388) located 1140 feet from the North line and 330 feet from the West line.

The Cedar Lake 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.

The proposed unorthodox well location is necessary in order to avoid a drainage draw and sand dunes in this area.

Lot 1/Unit D of Section 19 is an undersized lot comprising 32.41 acres. Due to the lot size, the dimensions of this lot are approximately 1320 feet high by 1069 feet wide.

The affected offset tracts are the NE/4 NW/4 of Section 19 and the SE/4 SW/4 of Section 18, Township 17 South, Range 31 East. These offset 40-acre tracts are currently being developed in the Cedar Lake Glorieta-Yeso Pool by Apache Corporation. Please note that the working interest ownership between Lot 1/Unit D (Drill Tract) and the affected offset 40-acre tracts is common. Consequently, notice of this application is not required to any party.

Attached is a Form C-102 showing the proposed well, spacing unit and other existing wells in the spacing unit. Also attached is a map that shows the affected offset acreage and a vicinity map.

In summary, approval of the application will provide Apache Corporation the opportunity to recover additional oil and gas reserves from the Cedar Lake Glorieta-Yeso Pool underlying the NW/4 NW/4 of Section 19 that may otherwise not be recovered by the existing 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
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-102
Revised July 16, 2010
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number N/A	Pool Code 96831	Pool Name Cedar Lake Glorieta-Yeso Pool
Property Code 308738	Property Name Tony Federal	Well Number 54
OGRID No. 873	Operator Name Apache Corporation	Elevation 3714

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	19	17 South	31 East		295	North	1140	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
D	19	17 South	31 East	1	330	North	990	West	Eddy
Dedicated Acres 32.41	Joint or Infill	Consolidate 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>I hereby certify that the information contained 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 bottomhole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the Division.</i> Signature _____ Date _____ Printed Name _____ E-mail Address _____
Lot 2 32.51 Acres Lot 3 32.61 Acres	SURVEYOR CERTIFICATION <i>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.</i> Date of Survey _____ Signature and Seal of Professional Surveyor: _____ Certificate Number _____
Lot 4 32.71 Acres	

30 East

31 East

13

18

17 South

24

19

Affected Offset
Tracts
Operator: Apache
WI Ownership
Common w/Drill
Tract

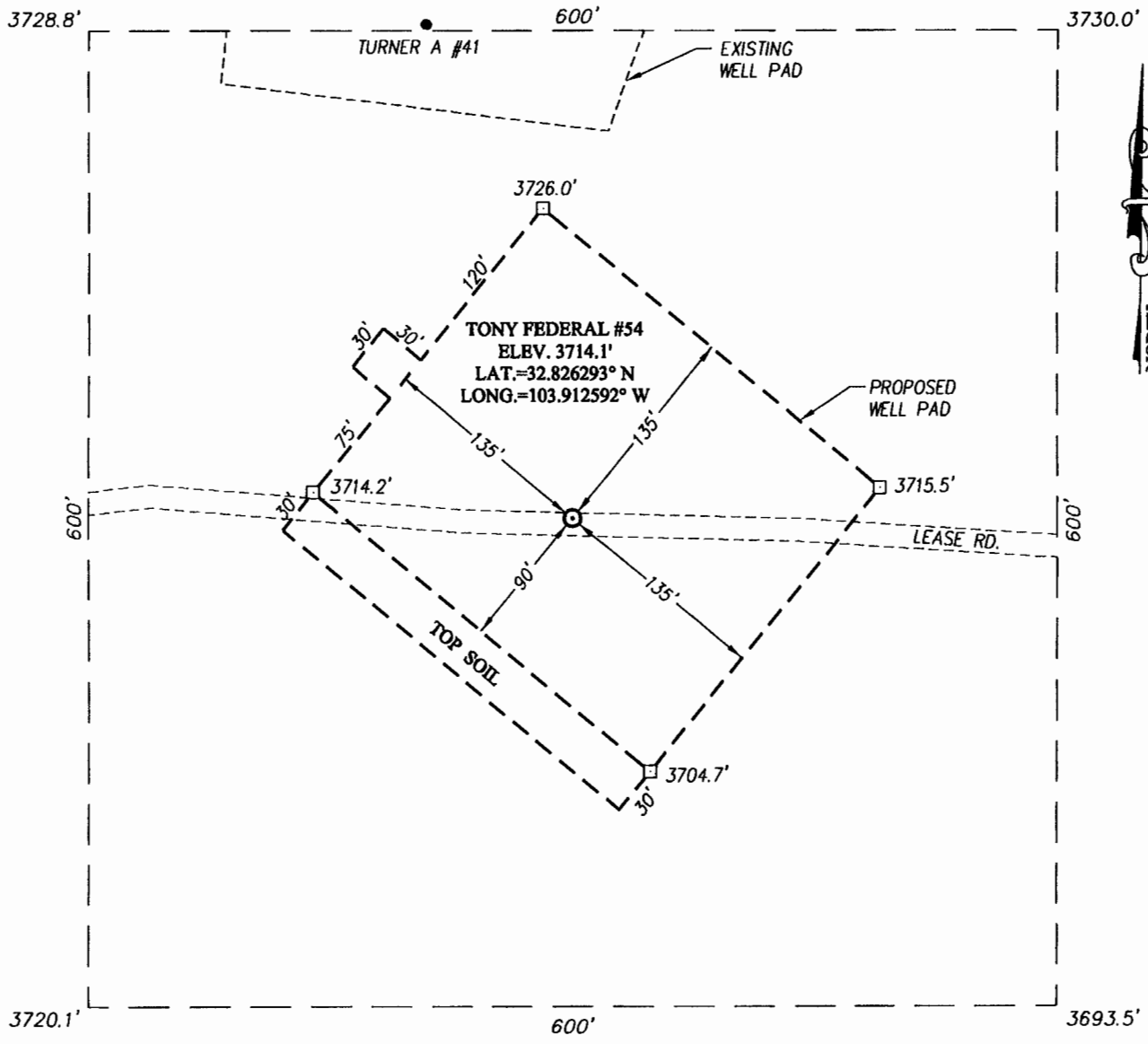
Tony Federal
No. 54 (BHL)

Lot 1: 32.41 Acres

990'
330'
SL

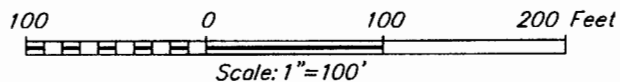
 **Affected Offset Acreage**

Apache Corporation
Application for Non-Standard Well Location
Tony Federal No. 54



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HWY. #82 AND CO. RD. #221 (SKELLY), GO NORTH APPROX. 0.2 MILES. TURN RIGHT AND GO EAST APPROX. 0.1 MILES. TURN LEFT AND GO NORTH APPROX. 0.3 MILES. TURN RIGHT AND GO EAST 500 FEET TO THE LOCATION.



APACHE CORPORATION

TONY FEDERAL #54 WELL
LOCATED 295 FEET FROM THE NORTH LINE
AND 1140 FEET FROM THE WEST LINE OF SECTION 19,
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

Survey Date: 5/31/12	CAD Date: 6/13/12	Drawn By: AF/BKL
W.O. No.: 12110597	Rev: .	Rel. W.O.:

Sheet 1 of 1

PERMIAN

EUNICE - NM EZ

TONY FEDERAL 54

TONY FEDERAL 54 D

TONY FEDERAL 54 D

Plan: PLANNING - v1

Standard Planning Report

20 November, 2013

apachecorp
Planning Report

Database:	PEDM	Local Co-ordinate Reference:	Site TONY FEDERAL 54
Company:	PERMIAN	TVD Reference:	RKB @ 3725.0ft (Original Well Elev)
Project:	EUNICE - NM EZ	MD Reference:	RKB @ 3725.0ft (Original Well Elev)
Site:	TONY FEDERAL 54	North Reference:	Grid
Well:	TONY FEDERAL 54 D	Survey Calculation Method:	Minimum Curvature
Wellbore:	TONY FEDERAL 54 D		
Design:	PLANNING - v1		

Project	EUNICE - NM EZ		
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	TONY FEDERAL 54			
Site Position:		Northing:	664,573.80 ft	Latitude: 32° 49' 34.642 N
From:	Map	Easting:	629,244.90 ft	Longitude: 103° 54' 45.346 W
Position Uncertainty:	0.0 ft	Slot Radius:	13.200 in	Grid Convergence: 0.23 °

Well	TONY FEDERAL 54 D			
Well Position	+N/-S	0.0 ft	Northing:	664,573.80 ft
	+E/-W	0.0 ft	Easting:	629,244.90 ft
Position Uncertainty		0.0 ft	Wellhead Elevation:	Ground Level: 3,714.0 ft

Wellbore	TONY FEDERAL 54 D				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	11/20/2013	7.61	60.61	48,678

Design	PLANNING - v1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.0	0.0	0.0	256.52

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth (ft)	(°)	(°)	Depth (ft)	(ft)	(ft)	Rate (°/100ft)	Rate (°/100ft)	Rate (°/100ft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,410.9	4.22	256.52	1,410.7	-1.8	-7.5	2.00	2.00	0.00	256.52	
3,294.6	4.22	256.52	3,289.3	-34.1	-142.3	0.00	0.00	0.00	0.00	
3,505.5	0.00	0.00	3,500.0	-35.9	-149.8	2.00	-2.00	0.00	180.00	
6,405.5	0.00	0.00	6,400.0	-35.9	-149.8	0.00	0.00	0.00	0.00	TONY FED 54 TARGI

apachecorp
Planning Report

Database:	PEDM	Local Co-ordinate Reference:	Site TONY FEDERAL 54
Company:	PERMIAN	TVD Reference:	RKB @ 3725.0ft (Original Well Elev)
Project:	EUNICE - NM EZ	MD Reference:	RKB @ 3725.0ft (Original Well Elev)
Site:	TONY FEDERAL 54	North Reference:	Grid
Well:	TONY FEDERAL 54 D	Survey Calculation Method:	Minimum Curvature
Wellbore:	TONY FEDERAL 54 D		
Design:	PLANNING - v1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
155.0	0.00	0.00	155.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustler									
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.00	0.00	0.00
13 3/8"									
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
456.0	0.00	0.00	456.0	0.0	0.0	0.0	0.00	0.00	0.00
Salt Top									
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,197.0	0.00	0.00	1,197.0	0.0	0.0	0.0	0.00	0.00	0.00
Salt Base									
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP build 2°/100'									
1,300.0	2.00	256.52	1,300.0	-0.4	-1.7	1.7	2.00	2.00	0.00
1,384.1	3.68	256.52	1,384.0	-1.4	-5.8	5.9	2.00	2.00	0.00
Yates									
1,400.0	4.00	256.52	1,399.8	-1.6	-6.8	7.0	2.00	2.00	0.00
1,410.9	4.22	256.52	1,410.7	-1.8	-7.5	7.8	1.99	1.99	0.00
Hold 4.22°									
1,500.0	4.22	256.52	1,499.6	-3.3	-13.9	14.3	0.00	0.00	0.00
1,600.0	4.22	256.52	1,599.3	-5.0	-21.1	21.7	0.00	0.00	0.00
1,695.0	4.22	256.52	1,694.0	-6.7	-27.9	28.6	0.00	0.00	0.00
Seven Rivers									
1,700.0	4.22	256.52	1,699.0	-6.8	-28.2	29.0	0.00	0.00	0.00
1,800.0	4.22	256.52	1,798.8	-8.5	-35.4	36.4	0.00	0.00	0.00
1,900.0	4.22	256.52	1,898.5	-10.2	-42.5	43.7	0.00	0.00	0.00
2,000.0	4.22	256.52	1,998.2	-11.9	-49.7	51.1	0.00	0.00	0.00
2,100.0	4.22	256.52	2,097.9	-13.6	-56.8	58.4	0.00	0.00	0.00
2,200.0	4.22	256.52	2,197.7	-15.3	-64.0	65.8	0.00	0.00	0.00
2,300.0	4.22	256.52	2,297.4	-17.0	-71.1	73.1	0.00	0.00	0.00
2,307.6	4.22	256.52	2,305.0	-17.2	-71.7	73.7	0.00	0.00	0.00
Queen									
2,400.0	4.22	256.52	2,397.1	-18.8	-78.3	80.5	0.00	0.00	0.00
2,500.0	4.22	256.52	2,496.9	-20.5	-85.4	87.9	0.00	0.00	0.00
2,600.0	4.22	256.52	2,596.6	-22.2	-92.6	95.2	0.00	0.00	0.00
2,656.6	4.22	256.52	2,653.0	-23.2	-96.6	99.4	0.00	0.00	0.00
Grayburg									
2,700.0	4.22	256.52	2,696.3	-23.9	-99.7	102.6	0.00	0.00	0.00
2,800.0	4.22	256.52	2,796.0	-25.6	-106.9	109.9	0.00	0.00	0.00
2,900.0	4.22	256.52	2,895.8	-27.3	-114.0	117.3	0.00	0.00	0.00
3,000.0	4.22	256.52	2,995.5	-29.0	-121.2	124.6	0.00	0.00	0.00
3,033.6	4.22	256.52	3,029.0	-29.6	-123.6	127.1	0.00	0.00	0.00
San Andres									
3,100.0	4.22	256.52	3,095.2	-30.8	-128.3	132.0	0.00	0.00	0.00

apachecorp
Planning Report

Database:	PEDM	Local Co-ordinate Reference:	Site TONY FEDERAL 54
Company:	PERMIAN	TVD Reference:	RKB @ 3725.0ft (Original Well Elev)
Project:	EUNICE - NM EZ	MD Reference:	RKB @ 3725.0ft (Original Well Elev)
Site:	TONY FEDERAL 54	North Reference:	Grid
Well:	TONY FEDERAL 54 D	Survey Calculation Method:	Minimum Curvature
Wellbore:	TONY FEDERAL 54 D		
Design:	PLANNING - v1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,200.0	4.22	256.52	3,195.0	-32.5	-135.5	139.3	0.00	0.00	0.00
3,294.6	4.22	256.52	3,289.3	-34.1	-142.3	146.3	0.00	0.00	0.00
Begin drop -2°/100'									
3,300.0	4.11	256.52	3,294.7	-34.2	-142.6	146.7	1.99	-1.99	0.00
3,400.0	2.11	256.52	3,394.5	-35.4	-147.9	152.1	2.00	-2.00	0.00
3,500.0	0.11	256.52	3,494.5	-35.9	-149.8	154.0	2.00	-2.00	0.00
3,505.5	0.00	0.00	3,500.0	-35.9	-149.8	154.0	2.00	-2.00	0.00
Hold vertical to Target									
3,555.5	0.00	0.00	3,550.0	-35.9	-149.8	154.0	0.00	0.00	0.00
8 5/8"									
3,600.0	0.00	0.00	3,594.5	-35.9	-149.8	154.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,694.5	-35.9	-149.8	154.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,794.5	-35.9	-149.8	154.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,894.5	-35.9	-149.8	154.0	0.00	0.00	0.00
4,000.0	0.00	0.00	3,994.5	-35.9	-149.8	154.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,094.5	-35.9	-149.8	154.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,194.5	-35.9	-149.8	154.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,294.5	-35.9	-149.8	154.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,394.5	-35.9	-149.8	154.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,494.5	-35.9	-149.8	154.0	0.00	0.00	0.00
4,531.5	0.00	0.00	4,526.0	-35.9	-149.8	154.0	0.00	0.00	0.00
Glorieta									
4,587.5	0.00	0.00	4,582.0	-35.9	-149.8	154.0	0.00	0.00	0.00
Yeso									
4,600.0	0.00	0.00	4,594.5	-35.9	-149.8	154.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,694.5	-35.9	-149.8	154.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,794.5	-35.9	-149.8	154.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,894.5	-35.9	-149.8	154.0	0.00	0.00	0.00
5,000.0	0.00	0.00	4,994.5	-35.9	-149.8	154.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,094.5	-35.9	-149.8	154.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,194.5	-35.9	-149.8	154.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,294.5	-35.9	-149.8	154.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,394.5	-35.9	-149.8	154.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,494.5	-35.9	-149.8	154.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,594.5	-35.9	-149.8	154.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,694.5	-35.9	-149.8	154.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,794.5	-35.9	-149.8	154.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,894.5	-35.9	-149.8	154.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,994.5	-35.9	-149.8	154.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,094.5	-35.9	-149.8	154.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,194.5	-35.9	-149.8	154.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,294.5	-35.9	-149.8	154.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,394.5	-35.9	-149.8	154.0	0.00	0.00	0.00
6,405.5	0.00	0.00	6,400.0	-35.9	-149.8	154.0	0.00	0.00	0.00
5 1/2" - TONY FED 54 TARGET									

apachecorp
Planning Report

Database:	PEDM	Local Co-ordinate Reference:	Site TONY FEDERAL 54
Company:	PERMIAN	TVD Reference:	RKB @ 3725.0ft (Original Well Elev)
Project:	EUNICE - NM EZ	MD Reference:	RKB @ 3725.0ft (Original Well Elev)
Site:	TONY FEDERAL 54	North Reference:	Grid
Well:	TONY FEDERAL 54 D	Survey Calculation Method:	Minimum Curvature
Wellbore:	TONY FEDERAL 54 D		
Design:	PLANNING - v1		

Design Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
- Shape									
TONY FED 54 TARGET	0.00	0.00	6,400.0	-35.9	-149.8	664,537.90	629,095.10	32° 49' 34.293 N	103° 54' 47.103 W
- plan hits target center									
- Circle (radius 25.0)									

Casing Points

Measured Depth	Vertical Depth	Name	Casing Diameter	Hole Diameter
(ft)	(ft)		(in)	(in)
350.0	350.0	13 3/8"	13.375	17.500
3,555.5	3,550.0	8 5/8"	8.625	11.000
6,405.5	6,400.0	5 1/2"	5.500	7.875

Formations

Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction
(ft)	(ft)			(°)	(°)
155.0	155.0	Rustler		0.00	
456.0	456.0	Salt Top		0.00	
1,197.0	1,197.0	Salt Base		0.00	
1,384.1	1,384.0	Yates		0.00	
1,695.0	1,694.0	Seven Rivers		0.00	
2,307.6	2,305.0	Queen		0.00	
2,656.6	2,653.0	Grayburg		0.00	
3,033.6	3,029.0	San Andres		0.00	
4,531.5	4,526.0	Glorieta		0.00	
4,587.5	4,582.0	Yeso		0.00	

Plan Annotations

Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	
1,200.0	1,200.0	0.0	0.0	KOP build 2"/100'
1,410.9	1,410.7	-1.8	-7.5	Hold 4.22"
3,294.6	3,289.3	-34.1	-142.3	Begin drop -2"/100'
3,505.5	3,500.0	-35.9	-149.8	Hold vertical to Target

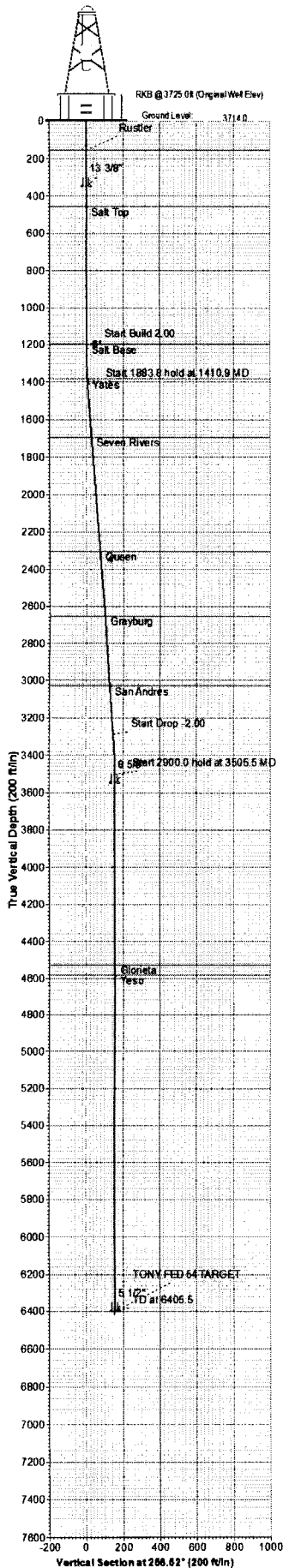


Project: EUNICE - NMEZ
Site: TONY FEDERAL 54
Well: TONY FEDERAL 54 D
Wellbore: TONY FEDERAL 54 D
Design: PLANNING - v1
Rig: Original Well Elev



Azimuth to Grid North
True North: -0.23°
Magnetic North: 7.38°

Magnetic Field
Strength: 486.77 A/mT
Dip Angle: 66.61°
Date: 11/20/2013
Model: BGGM2013



WELL DETAILS

+N/-S	+E/-W	Northing	Ground Level Easting	3714.0	Latitude	Longitude
0.0	0.0	864573.80	579244.90		32° 49' 34.642 N	103° 54' 45.346 W

SECTION DETAILS

Sec	MD	Inc	AO	TVD	+N/-S	+E/-W	Diag	TFace	VSec	Target	Annotation
1	9.0	0.00	0.00	9.0	0.0	0.0	0.00	0.00	0.0		
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0		KOP built 2°/100'
3	1410.9	4.22	256.52	1410.7	-1.8	7.5	2.00	256.52	7.8		Hold 4.22°
4	3294.5	4.22	256.52	3289.3	-34.1	-142.3	0.00	0.00	146.3		Begin drop 2°/100'
5	3505.5	0.00	0.00	3505.0	-35.9	-149.8	2.00	180.00	154.0		Hold vertical to Target
6	6405.5	0.00	0.00	6405.0	-35.9	-149.8	0.00	0.00	154.0	TONYFED 54 TARGET	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
TONYFED 54 TARGET	6400.0	-35.9	-149.8	664537.90	629095.10	32° 49' 34.293 N	103° 54' 47.103 W	Circle (Radius: 25.0)
- plan hits target center								

LEGEND

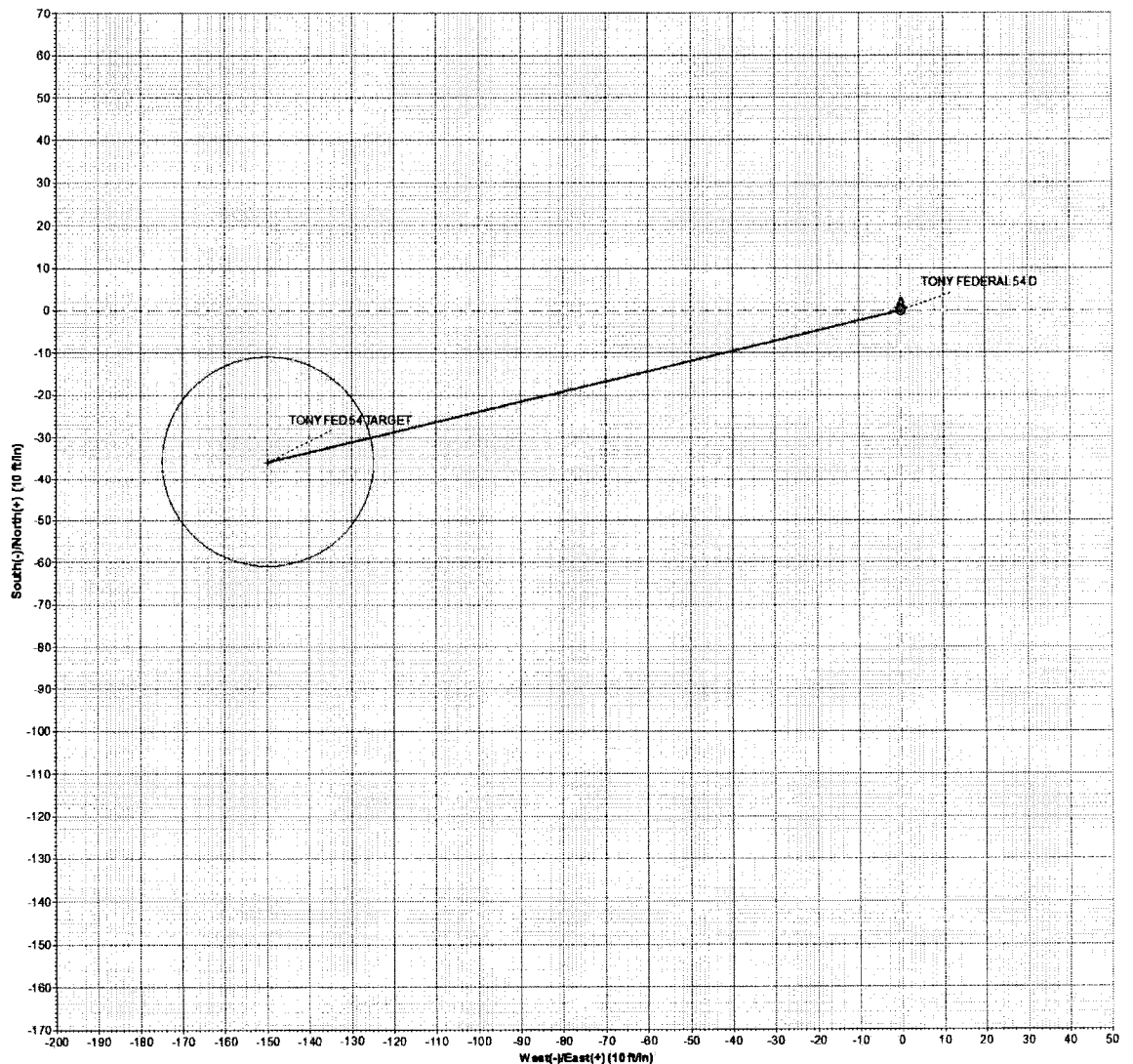
 PLANNING - v1

CASING DETAILS

TVD	MD	Name	Size
350.0	350.0	13 3/8"	13.375
3550.0	3555.5	8 5/8"	8.625
6400.0	6405.5	5 1/2"	5.500

Map System:	US State Plane 1627 (Exact solution)
Datum:	NAD 1927 (NADCON CONUS)
Ellipsoid:	Clarke 1866
Zone Name:	New Mexico East 3001
Local Origin:	Site TONY FEDERAL 54, Grid North
Latitude:	32° 49' 34.642 N
Longitude:	103° 54' 45.346 W
Grid East:	629244.90
Grid North:	864573.80
Scale Factor:	1.000
Geomagnetic Model:	BGGM2013
Sample Date:	20-Nov-13
Magnetic Declination:	7.61°
Dip Angle from Horizontal:	60.61°
Magnetic Field Strength:	486.78
To convert a Magnetic Direction to a Grid Direction, Add 7.38°	
To convert a Magnetic Direction to a True Direction, Add 7.61° East	
To convert a True Direction to a Grid Direction, Subtract 0.23°	

FORMATION TOP DETAILS					
TVDPath	MDPath	Formation	DipAngle	DipDir	
155.0	155.0	Rustler	0.00		
456.0	456.0	Salt Top	0.00		
1197.0	1197.0	Salt Base	0.00		
1384.0	1384.0	Yates	0.00		
1694.0	1695.0	Seven Rivers	0.00		
2305.0	2307.5	Queen	0.00		
2653.0	2656.6	Grayburg	0.00		
3029.0	3033.6	San Andres	0.00		
4526.0	4531.5	Oltona	0.00		
4582.0	4587.5	Yates	0.00		



Mr. McMillan-

The location of perforations for the Tony Federal #54D well in UL *D* will be described in this letter and illustrated in the accompanying attachment. The well will initiate at a latitude of 32° 49' 34.642 N and longitude of 103° 54' 45.346 W and TD at 32° 49' 34.293 N and 103° 54' 47.103 W. The well will drill at an azimuth of 256.52° for a horizontal distance of 154.1 ft and measured depth of 3505.5 ft to enter into the target reservoirs underlying UL *D*. Drilling will remain vertical to target the Glorieta and Yeso reservoirs which are located at a measured depth of 4525 and 5482 feet, respectively. Perforations will be performed in these reservoirs in UL *D*, 154.1 ft west of the lot boundary. If you have any questions please feel free to contact me.

Best,

Alex Gonzalez