

DATE IN 2/12/2014	SUSPENSE	ENGINEER MAM	LOGGED IN 2/12/2014	TYPE NSL	APP NO. PMAM14043884
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ABOVE THIS LINE FOR DIVISION USE ONLY

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



ADMINISTRATIVE APPLICATION CHECKLIST

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

Application Acronyms:

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

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

- [A] Location - Spacing Unit - Simultaneous Dedication
☒ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

- [D] Other: Specify _____

- NSL-7004-A
 - Apache Corporation
 873
 well
 - Tony Federal #54
 30-015-42000

[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

2011 10 12 AM 10:29

Pool
 - Cedar Lake
 Glorieta-yeso
 96831

[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
 2/12/14

Agent for Apache Corporation
 Title

drcatanach@netscape.com
 E-Mail Address

McMillan, Michael, EMNRD

From: David Catanach <drcatanach@netscape.com>
Sent: Tuesday, February 11, 2014 7:45 PM
To: McMillan, Michael, EMNRD
Subject: Tony Federal 54

Michael,

I was looking at the attached well plan that Apache sent to us. If you will notice, the bottomhole location of the well is proposed to 35-36 feet south of the surface location and 150 feet west of the surface location. Surface location is 295' FNL & 1140' FWL. If you add these bottomhole dimensions you get: North-South: $295' \text{ FNL} + 35 = 330' \text{ FNL}$ East-West: $1140' \text{ FNL} - 150' = 990' \text{ FWL}$.

According to the drill plan, the bottomhole location of the well is 330' FNL & 990' FWL. The bottomhole location would be 79' west of the lot boundary. Now, according to Apache's geologist, the well would be perforated 154' west of the lot boundary, which would be impossible, because the bottomhole location of the well is 75 feet east of where he says it is going to be perforated.

Now, I've been around a lot of geologists, and I actually like most of them, but I've mostly found that geologists are generally not as good in math as their engineer counter parts. Ha Ha.

Consequently, I would request that NSL-7004 be corrected to reflect a bottomhole location of 330' FNL & 990' FWL.

Thanks,

David

Netscape. Just the Net You Need.

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey, Division Director
Oil Conservation Division



February 7, 2014

Apache Corp
Attn: Mr. David Catanach

ADMINISTRATIVE NON-STANDARD LOCATION ORDER

Administrative Order NSL-7004
Administrative Application Reference No. pMAM1403549233

Apache Corp
OGRID 873
Tony Federal Well No. 54
API No. 30-015-42000

Proposed Location:

	<u>Footages</u>	<u>Unit/Lot</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>	<u>County</u>
Surface	295 FNL & 1140 FWL	C	19	17S	31E	Eddy
Bottom Hole	330 FNL & 915 FWL	1	19	17S	31E	Eddy

Proposed Unit:

<u>Description</u>	<u>Acres</u>	<u>Pool</u>	<u>Pool Code</u>
NW/4 NW/4 of Section 19	32.41	Cedar Lake; Glorieta-Yeso	96831

Reference is made to your application received on February 5, 2014.

You have requested to drill this well at an unorthodox oil well location described above in the referenced pool or formation. This location is governed by statewide Rule 15.9.A [19.15.15.9.A NMAC], which provides for 40-acre units with wells located at least 330 feet from a unit or lot outer boundary. This location is less than 330 feet from a lot outer boundary. Even though the surface location is Unit C, the entire perforated interval is located in Lot 1 of section 19. Refer to the letter from the applicant that states that the perforations will be 154 feet west of the lot boundary.

February 7, 2014
Page 2

Your application has been duly filed under the provisions of Division Rules 15.13 [19.15.15.13 NMAC] and 4.12 [19.15.4.12.A (2) NMAC].

It is our understanding that you are seeking this location to recover additional oil and gas reserves.

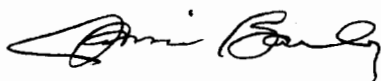
It is also understood that notice of this application to offsetting operators or owners is unnecessary due to common ownership.

Pursuant to the authority conferred by Division Rule 15.13 [19.15.15.13 (B) NMAC], the above-described unorthodox location is hereby approved.

This approval is subject to your being in compliance with all other applicable Division rules, including, but not limited to Division Rule 15.9 [19.15.15.9 NMAC].

Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary.

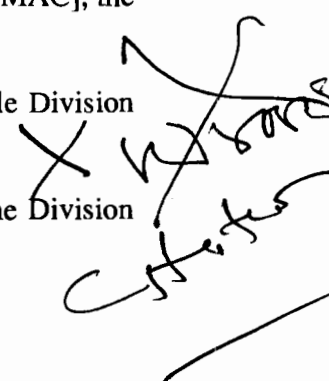
Sincerely,



Jami Bailey
Director

JB/mam

cc: New Mexico Oil Conservation Division – Hobbs
Bureau of Land Management-Carlsbad



DATE IN 2/9/2014	SUSPENSE	ENGINEER MAM	LOGGED IN 2/05/2014	TYPE NSL	APP NO. PMAM 1403549233
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NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



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Check One Only for [B] or [C]

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☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

- [D] Other: Specify _____

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[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
 30-015-42000

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

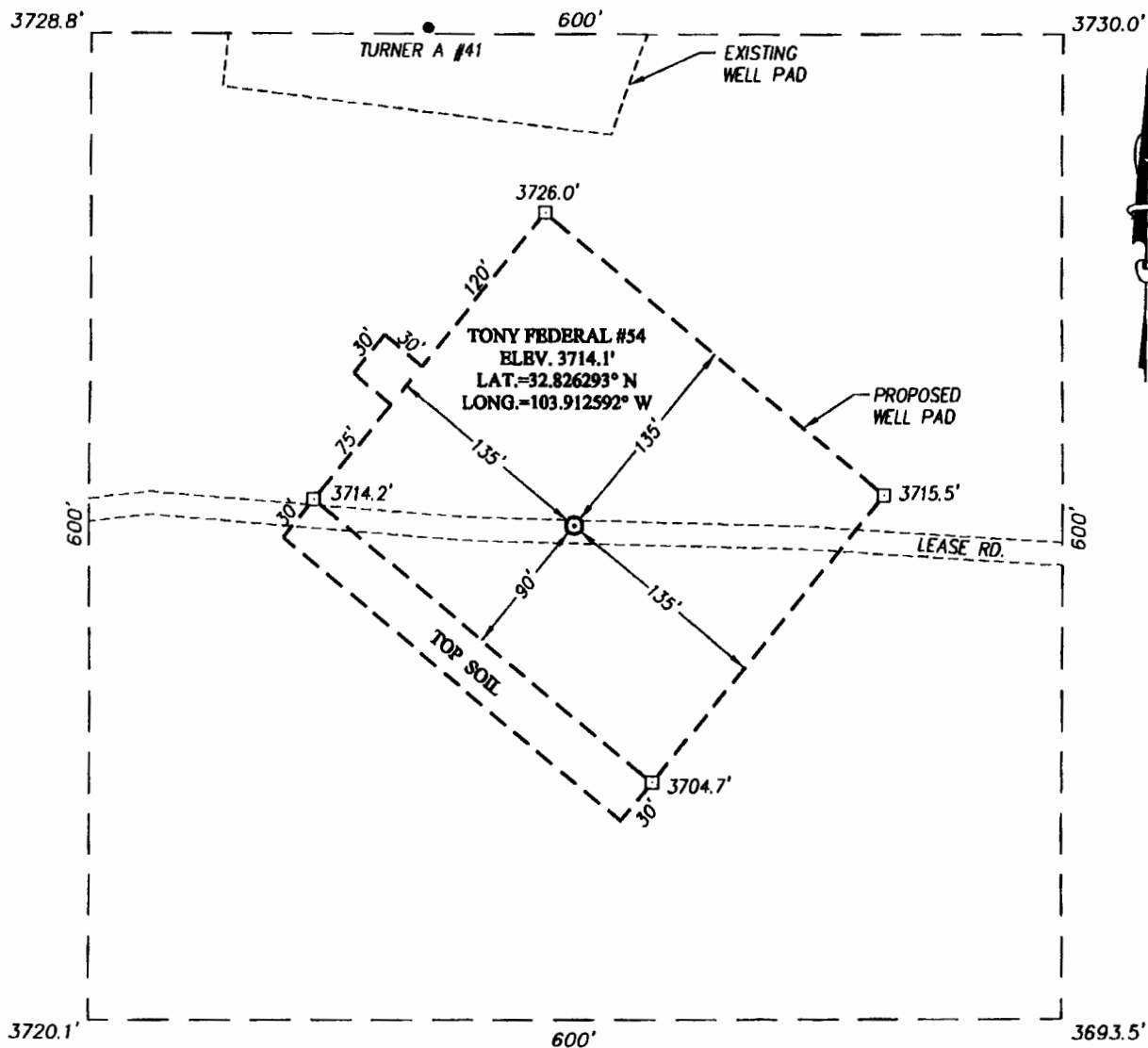
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	19	17 South	31 East		295	North	1140	West	Eddy

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.						

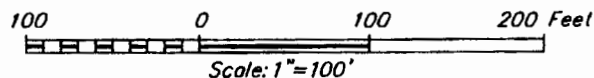
No Allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the Division

	<p>OPERATOR CERTIFICATION</p> <p><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 undivided 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></p> <p>Signature _____ Date _____</p> <p>Printed Name _____</p> <p>E-mail Address _____</p>
<p>Lot 2 32.51 Acres</p>	<p>SURVEYOR CERTIFICATION</p> <p><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></p> <p>Date of Survey _____</p> <p>Signature and Seal of Professional Surveyor: _____</p>
<p>Lot 3 32.61 Acres</p> <p>Lot 4 32.71 Acres</p>	<p>Certificate Number _____</p>



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.

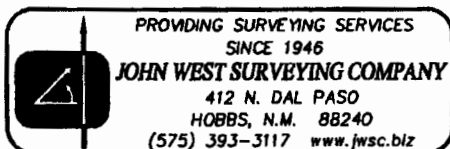


APACHE CORPORATION

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

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	TYD 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 Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
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
Company: PERMIAN
Project: EUNICE - NM EZ
Site: TONY FEDERAL 54
Well: TONY FEDERAL 54 D
Wellbore: TONY FEDERAL 54 D
Design: PLANNING - v1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Site TONY FEDERAL 54
RKB @ 3725.0ft (Original Well Elev)
RKB @ 3725.0ft (Original Well Elev)
Grid
Minimum Curvature

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	-25.8	-108.9	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

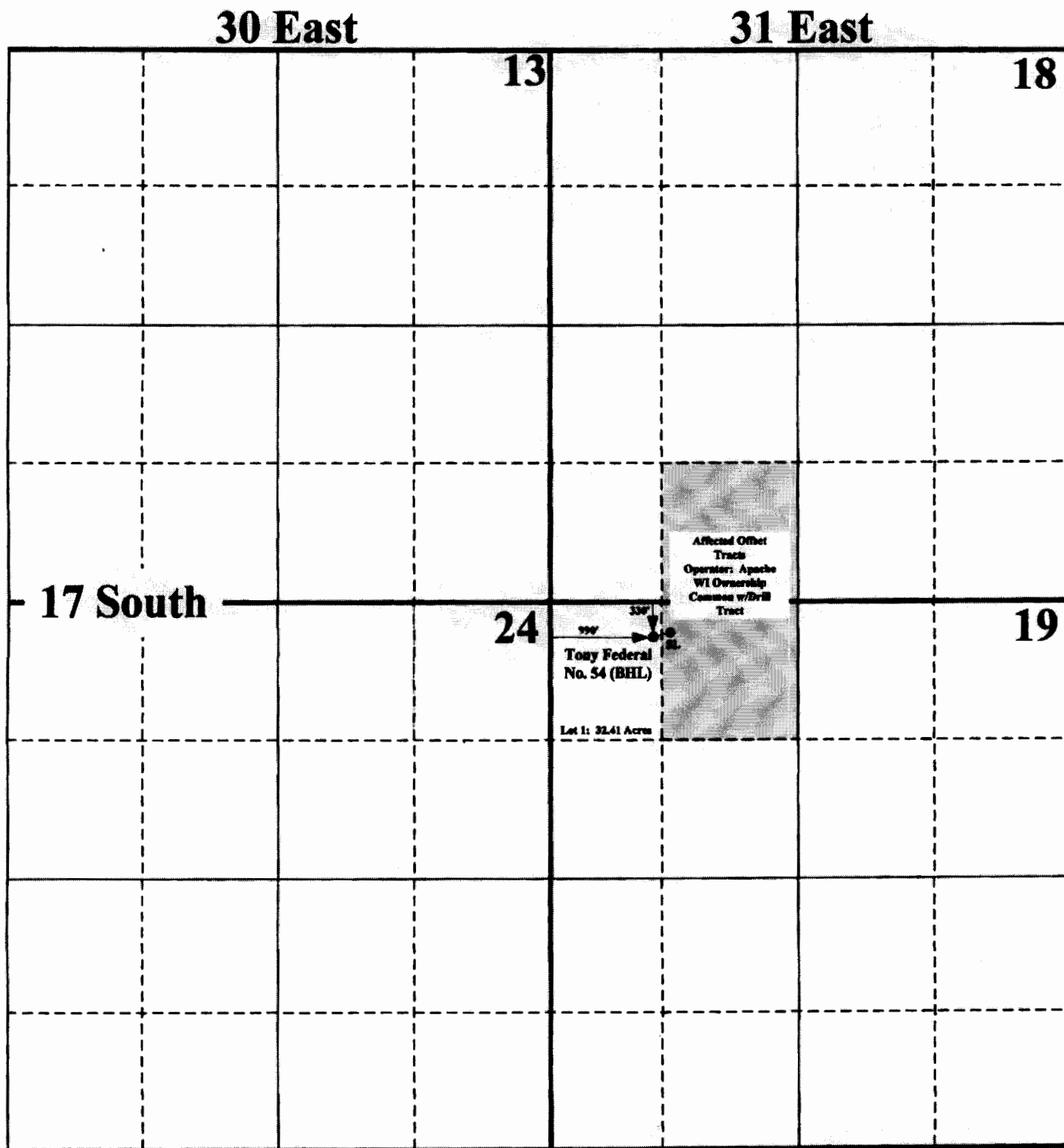
apachecorp
Planning Report

Database: PEDM
Company: PERMIAN
Project: EUNICE - NM EZ
Site: TONY FEDERAL 54
Well: TONY FEDERAL 54 D
Wellbore: TONY FEDERAL 54 D
Design: PLANNING - v1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Site TONY FEDERAL 54
RKB @ 3725.0ft (Original Well Elev)
RKB @ 3725.0ft (Original Well Elev)
Grid
Minimum Curvature

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Deg/100ft (°/100ft)	Build Rate (ft/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	148.3	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"										
3,800.0	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	4,528.0	-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	
8 1/2" - TONY FED 54 TARGET										



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

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									
Intervis Target	Dip Angle	Dip Dir.	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
TONY FED 54 TARGET	0.00	0.00	6,400.0	-35.9	-148.8	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	
458.0	458.0		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	

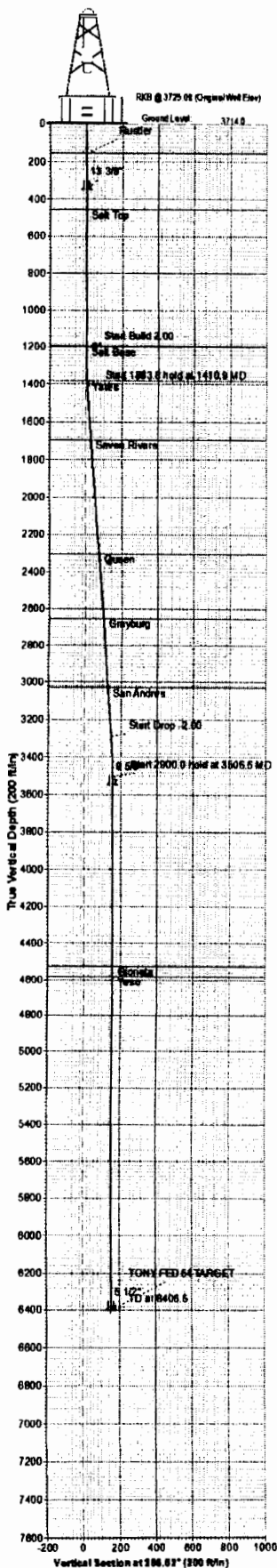
Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(ft)	(ft)	+N-S	+E-W	Comment	
(ft)	(ft)	(ft)	(ft)		
1,200.0	1,200.0	0.0	0.0	KOP build 2"/100'	
1,410.9	1,410.7	-1.8	-7.5	Hold 4.22"	
3,294.6	3,289.3	-34.1	-142.3	Begin drop -2"/100'	
3,505.5	3,500.0	-35.9	-149.8	Hold vertical to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



As shown to Grid North
 True North: -0.23°
 Magnetic North: 7.38°
 Magnetic Field
 Strength: 48877.8 nT
 Dip Angle: 60.61°
 Date: 11/20/2013
 Model: 80 GAD2013



WELL DETAILS									
	N-S	E-W	North	East	Latitude	Longitude			
Ground Level	3714.0								

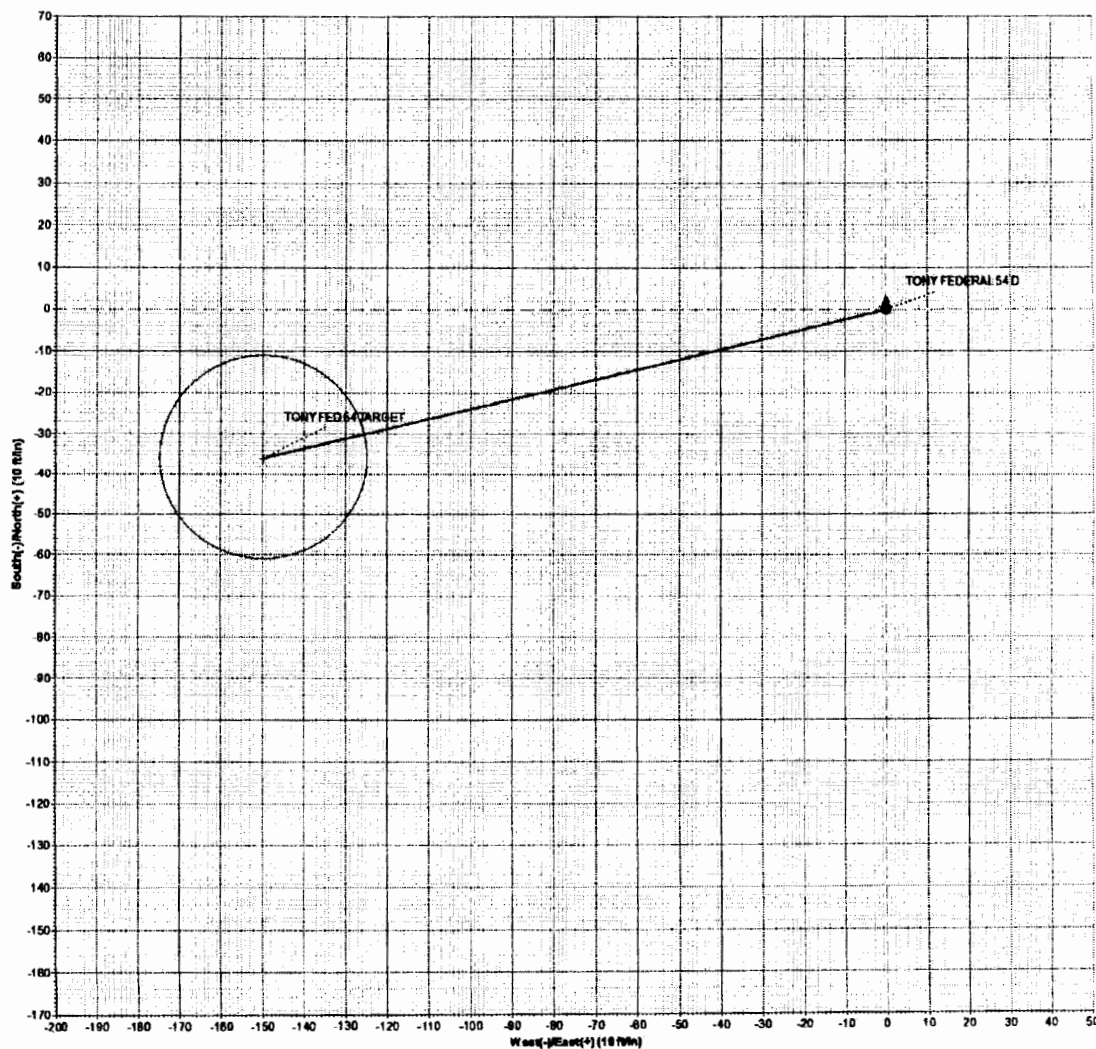
SECTION DETAILS											
Sec	MD	Inc	AP	TVD	N-S	E-W	Diag	IFace	V'Sect	Target	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0		ROP built 2' 100'
3	1418.9	4.22	236.32	1410.7	-1.8	7.3	2.05	256.82	7.8		Hold 4.22'
4	3296.6	4.22	236.32	3289.3	-34.1	-142.3	0.00	0.00	145.2		Begin drop 2' 100'
5	3505.5	0.00	0.00	3505.5	-33.9	-149.8	2.00	180.00	154.0		Hold vertical to Target
6	6400.0	0.00	0.00	6400.0	-33.9	-149.8	0.00	0.00	154.0	TONY FED 54 TARGET	

DESIGN TARGET DETAILS									
Name	TVD	N-S	E-W	North	East	Latitude	Longitude	Shape	
TONY FED 54 TARGET	6400.0	-33.9	-149.8	6448.37 90	62908.10	32° 49' 38.293 N	103° 54' 47.103 W	Circle (Radius: 25.0)	

LEGEND				
PLANNING - v1				
CASINO DETAILS				
TVD	MD	Name	Size	
120.0	350.0	13.375		
350.0	355.5	8.500		
6400.0	6405.5	5.172		

Map System: US State Plane 1927 (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' 38.642 N
 Longitude: 103° 54' 45.348 W
 Grid East: 629244.90
 Grid North: 664673.80
 Scale Factor: 1.000
 Geomagnetic Model: BGM2013
 Sample Date: 20 Nov-13
 Magnetic Declination: 7.61°
 Dip Angle from Horizontal: 60.61°
 Magnetic Field Strength: 48878
 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	Dip Angle	Dip Dir
155.0	155.0	Rudler	0.00	
466.0	466.0	Salt Top	0.00	
1197.0	1197.0	Salt Base	0.00	
1384.0	1384.1	Yates	0.00	
1634.0	1635.0	Seven Rivers	0.00	
2308.0	2307.5	Queen	0.00	
2652.0	2656.6	Grayburg	0.00	
3079.0	3033.5	San Andres	0.00	
4326.0	4331.5	Chisna	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