

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 **Oil Conservation**
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

DEC 11 2014

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-42867	Pool Code 3250	Pool Name Atoka; Glorieta Yeso
Property Code 38907	Property Name LEE 3 FEE	Well Number 5H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3346'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	3	19-S	26-E		320	SOUTH	890	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	3	19-S	26-E		330	NORTH	990	WEST	EDDY

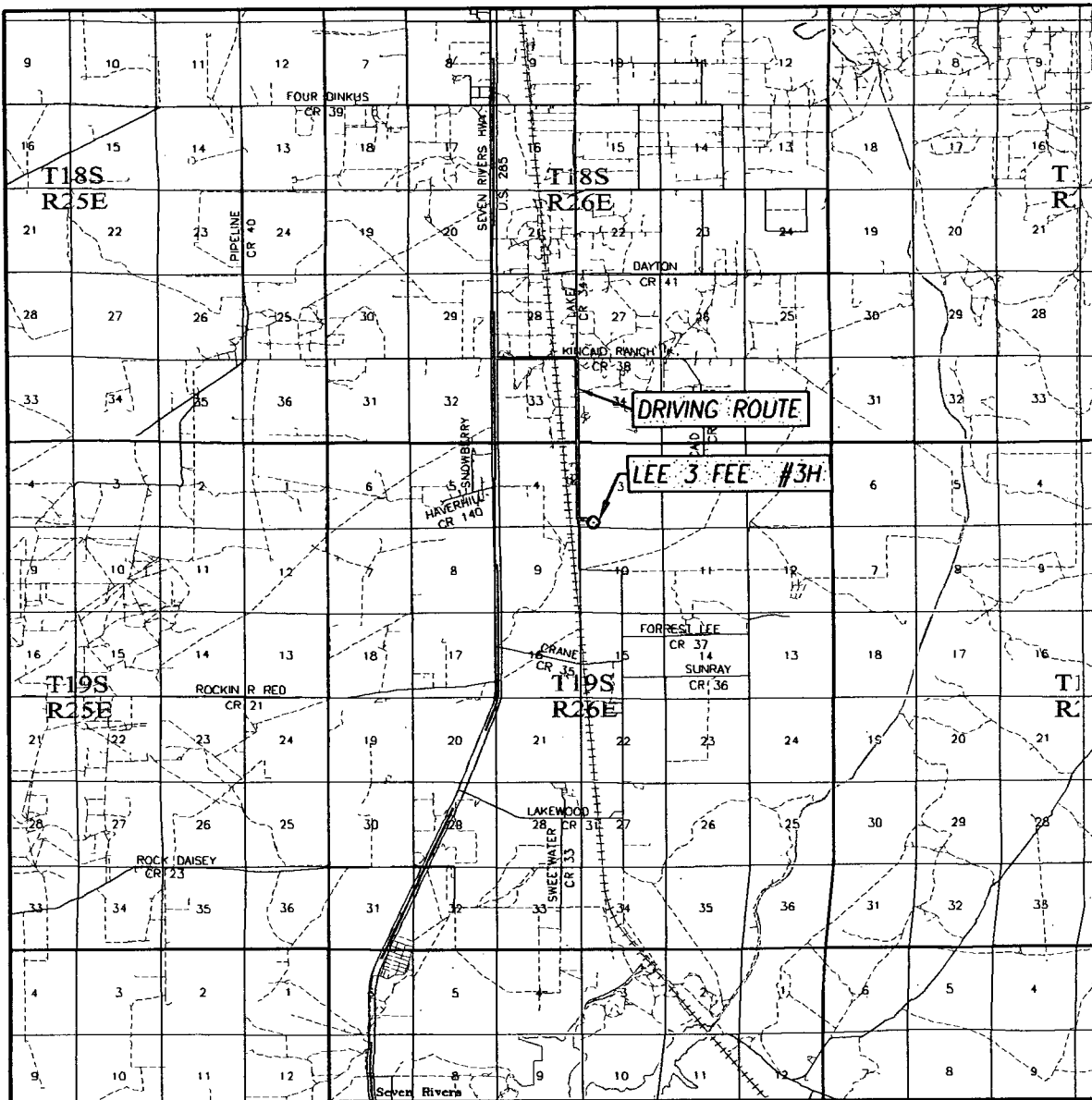
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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

	NAD 27 NME BOTTOM HOLE LOCATION Y= 616933.1 N X= 487240.8 E LAT.=32.696041° N LONG.=104.374809° W	NAD 83 NME BOTTOM HOLE LOCATION Y= 616995.0 N X= 528419.7 E LAT.=32.696155° N LONG.=104.375326° 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. <i>[Signature]</i> 12-10-14 Signature Date Kelly J. Holly Printed Name kholly@concho.com E-mail Address
	CORNER COORDINATES TABLE A - Y=612008.6 N, X=486253.0 E B - Y=611997.9 N, X=487588.9 E C - Y=617265.8 N, X=486252.9 E D - Y=617262.1 N, X=487576.5 E		
	GEODETTIC COORDINATES NAD 27 NME SURFACE LOCATION Y= 612321.4 N X= 487141.1 E LAT.=32.683364° N LONG.=104.375127° W	GEODETTIC COORDINATES NAD 83 NME SURFACE LOCATION Y= 612383.1 N X= 528320.0 E LAT.=32.683478° N LONG.=104.375644° W	
	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. SEPTEMBER 24, 2014 Date of Survey Signature & Seal of Professional Surveyor: <i>[Signature]</i> RONALD S. EIDSON REG. 3239 Certificate Number: Gary G. Eidson 12641 OFF. & Ronald S. Eidson 3239 LSL JWSC W.O.: 14.11.0918		

Estimated
Completed
Interval:
330 FSL
890 FWL

VICINITY MAP



SCALE: 1" = 2 MILES

DRIVING ROUTE: SEE LOCATION VERIFICATION MAP

SEC. 3 TWP. 19-S RGE. 26-E

SURVEY N.M.P.M.

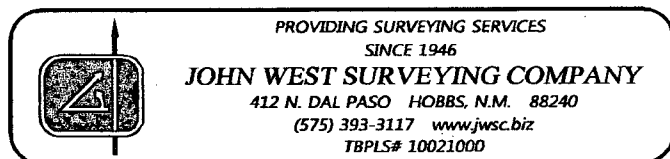
COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 320' FSL & 890' FWL

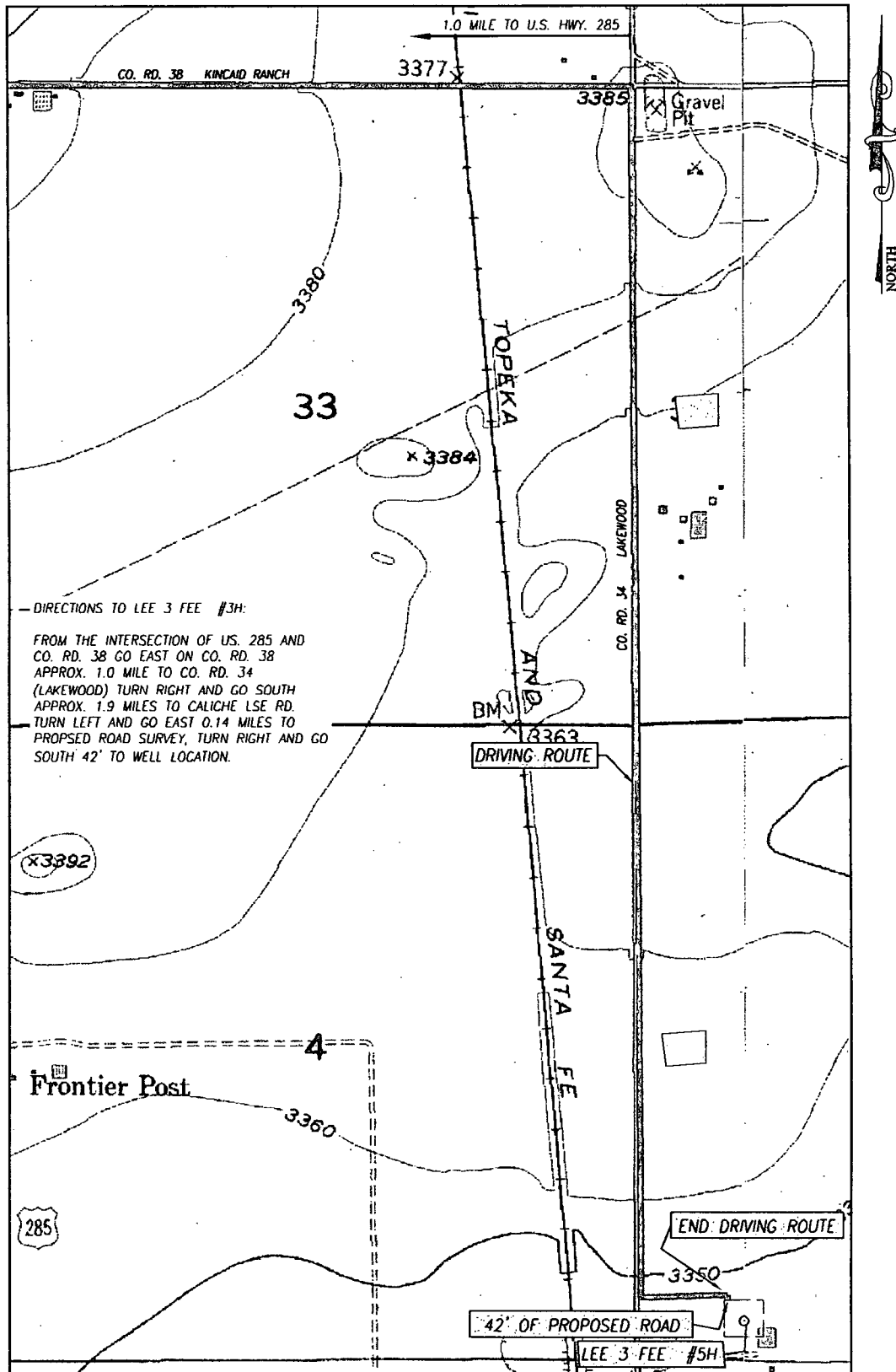
ELEVATION 3346'

OPERATOR COG OPERATING, LLC

LEASE LEE 3 FEE



LOCATION VERIFICATION MAP



SEC. 3 TWP. 19-S RGE. 26-E
 COUNTY EDDY STATE NEW MEXICO
 DESCRIPTION 320' FSL & 890' FWL
 ELEVATION 3346'
 OPERATOR COG OPERATING, LLC
 LEASE LEE 3 FEE
 U.S.G.S. TOPOGRAPHIC MAP
 LAKE MCMILLAN N. N.M. SURVEY N.M.P.M.

SCALE: 1" = 1000' DAYTON, N.M. - 10' CONTOUR INTERVAL:
 LAKE MCMILLAN NORTH, 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



COG Operating LLC

Eddy County, NM (NAD27 NME)

Lee 3 Fee

#5H

WB1

Plan: Plan #1 11-25-14

Surface: 320' FSL, 890' FWL, Sec 3, T19S, R26E, Unit M

PP: 330' FSL, 890' FWL, Sec 3, T19S, R26E, Unit M

BHL: 330' FNL, 990' FWL, Sec 3, T19S, R26E, Unit D

Standard Planning Report

25 November, 2014



PHOENIX
TECHNOLOGY SERVICES

Database:	Compass 5000.GCR	Local Co-ordinate Reference:	Well #5H
Company:	COG Operating LLC	TVD Reference:	KB @ 3364.00usft (Silver Oak 3)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	KB @ 3364.00usft (Silver Oak 3)
Site:	Lee 3 Fee	North Reference:	Grid
Well:	#5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1		
Design:	Plan #1 11-25-14		

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:	Lee 3 Fee		
Site Position:		Northing:	612,139.80 usft
From:	Map	Easting:	488,590.40 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 40' 58.31847 N
		Longitude:	104° 22' 13.49969 W
		Grid Convergence:	-0.02 °

Well:	#5H		
Well Position	+N-S	181.60 usft	Northing: 612,321.40 usft
	+E-W	-1,449.30 usft	Easting: 487,141.10 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	Latitude: 32° 41' 0.11019 N
			Longitude: 104° 22' 30.45827 W
			Ground Level: 3,346.00 usft

Wellbore:	WB1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010_14	11/25/2014	(°)	(°)	(nT)
			7.57	60.39	48,460

Design:	Plan #1 11-25-14			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	1.24

Plan Sections										
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	
2,704.97	0.00	0.00	2,704.97	0.00	0.00	0.00	0.00	0.00	0.00	
3,532.25	91.00	1.24	3,225.77	529.84	11.45	11.00	11.00	0.00	1.24	
7,615.69	91.00	1.24	3,154.50	4,611.70	99.70	0.00	0.00	0.00	0.00	PBHL-Lee 3 Fee #5H



Database:	Compass 5000 GCR	Local Co-ordinate Reference:	Well #5H:
Company:	COG Operating LLC	TVD Reference:	KB @ 3364.00usft (Silver Oak 3)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	KB @ 3364.00usft (Silver Oak 3)
Site:	Lee 3 Fee	North Reference:	Grid
Well:	#5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1		
Design:	Plan #1 11-25-14		

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
2,704.97	0.00	0.00	2,704.97	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 11°/100' Build									
2,800.00	10.45	1.24	2,799.47	8.64	0.19	8.64	11.00	11.00	0.00
2,807.20	11.24	1.24	2,806.54	10.00	0.22	10.00	11.00	11.00	0.00
PP, Lee 3 Fee #5H									
2,900.00	21.45	1.24	2,895.48	36.08	0.78	36.09	11.00	11.00	0.00
3,000.00	32.45	1.24	2,984.48	81.32	1.76	81.34	11.00	11.00	0.00
3,100.00	43.45	1.24	3,063.21	142.72	3.09	142.75	11.00	11.00	0.00
3,200.00	54.45	1.24	3,128.77	218.00	4.71	218.05	11.00	11.00	0.00
3,300.00	65.45	1.24	3,178.77	304.41	6.58	304.48	11.00	11.00	0.00
3,400.00	76.45	1.24	3,211.35	398.77	8.62	398.86	11.00	11.00	0.00
3,500.00	87.45	1.24	3,225.33	497.61	10.76	497.72	11.00	11.00	0.00
3,528.12	90.55	1.24	3,225.82	525.71	11.37	525.84	11.00	11.00	0.00
TL, 3235' TVD @ 0.72°/91' Inc.									
3,532.25	91.00	1.24	3,225.77	529.84	11.45	529.96	11.00	11.00	0.00
LP, Hold 91° Inc, 1.24° Azm									
3,600.00	91.00	1.24	3,224.58	597.56	12.92	597.70	0.00	0.00	0.00
3,700.00	91.00	1.24	3,222.84	697.53	15.08	697.69	0.00	0.00	0.00
3,800.00	91.00	1.24	3,221.09	797.49	17.24	797.67	0.00	0.00	0.00
3,900.00	91.00	1.24	3,219.35	897.45	19.40	897.66	0.00	0.00	0.00
4,000.00	91.00	1.24	3,217.60	997.41	21.56	997.64	0.00	0.00	0.00
4,100.00	91.00	1.24	3,215.86	1,097.37	23.72	1,097.63	0.00	0.00	0.00
4,200.00	91.00	1.24	3,214.11	1,197.33	25.89	1,197.61	0.00	0.00	0.00
4,300.00	91.00	1.24	3,212.37	1,297.29	28.05	1,297.60	0.00	0.00	0.00
4,400.00	91.00	1.24	3,210.62	1,397.26	30.21	1,397.58	0.00	0.00	0.00
4,500.00	91.00	1.24	3,208.88	1,497.22	32.37	1,497.57	0.00	0.00	0.00
4,600.00	91.00	1.24	3,207.13	1,597.18	34.53	1,597.55	0.00	0.00	0.00
4,700.00	91.00	1.24	3,205.39	1,697.14	36.69	1,697.54	0.00	0.00	0.00
4,800.00	91.00	1.24	3,203.64	1,797.10	38.85	1,797.52	0.00	0.00	0.00
4,900.00	91.00	1.24	3,201.90	1,897.06	41.01	1,897.51	0.00	0.00	0.00
5,000.00	91.00	1.24	3,200.15	1,997.02	43.17	1,997.49	0.00	0.00	0.00
5,100.00	91.00	1.24	3,198.40	2,096.99	45.33	2,097.48	0.00	0.00	0.00
5,200.00	91.00	1.24	3,196.66	2,196.95	47.50	2,197.46	0.00	0.00	0.00
5,300.00	91.00	1.24	3,194.91	2,296.91	49.66	2,297.44	0.00	0.00	0.00
5,400.00	91.00	1.24	3,193.17	2,396.87	51.82	2,397.43	0.00	0.00	0.00
5,500.00	91.00	1.24	3,191.42	2,496.83	53.98	2,497.41	0.00	0.00	0.00
5,600.00	91.00	1.24	3,189.68	2,596.79	56.14	2,597.40	0.00	0.00	0.00
5,700.00	91.00	1.24	3,187.93	2,696.75	58.30	2,697.38	0.00	0.00	0.00
5,800.00	91.00	1.24	3,186.19	2,796.72	60.46	2,797.37	0.00	0.00	0.00
5,900.00	91.00	1.24	3,184.44	2,896.68	62.62	2,897.35	0.00	0.00	0.00
6,000.00	91.00	1.24	3,182.70	2,996.64	64.78	2,997.34	0.00	0.00	0.00
6,100.00	91.00	1.24	3,180.95	3,096.60	66.95	3,097.32	0.00	0.00	0.00
6,200.00	91.00	1.24	3,179.21	3,196.56	69.11	3,197.31	0.00	0.00	0.00
6,300.00	91.00	1.24	3,177.46	3,296.52	71.27	3,297.29	0.00	0.00	0.00
6,400.00	91.00	1.24	3,175.72	3,396.48	73.43	3,397.28	0.00	0.00	0.00
6,500.00	91.00	1.24	3,173.97	3,496.45	75.59	3,497.26	0.00	0.00	0.00
6,600.00	91.00	1.24	3,172.23	3,596.41	77.75	3,597.25	0.00	0.00	0.00
6,700.00	91.00	1.24	3,170.48	3,696.37	79.91	3,697.23	0.00	0.00	0.00
6,800.00	91.00	1.24	3,168.74	3,796.33	82.07	3,797.22	0.00	0.00	0.00
6,900.00	91.00	1.24	3,166.99	3,896.29	84.23	3,897.20	0.00	0.00	0.00
7,000.00	91.00	1.24	3,165.25	3,996.25	86.39	3,997.19	0.00	0.00	0.00
7,100.00	91.00	1.24	3,163.50	4,096.21	88.56	4,097.17	0.00	0.00	0.00
7,200.00	91.00	1.24	3,161.75	4,196.17	90.72	4,197.16	0.00	0.00	0.00

Database:	Compass 5000 GCR	Local Co-ordinate Reference:	Well #5H
Company:	COG Operating LLC	TVD Reference:	KB @ 3364.00usft (Silver Oak 3)
Project:	Eddy County, NM (NAD27-NME)	MD Reference:	KB @ 3364.00usft (Silver Oak 3)
Site:	Lee 3 Fee	North Reference:	Grid
Well:	#5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB1		
Design:	Plan #1-11-25-14		

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)
7,300.00	91.00	1.24	3,160.01	4,296.14	92.88	4,297.14	0.00	0.00	0.00
7,400.00	91.00	1.24	3,158.26	4,396.10	95.04	4,397.13	0.00	0.00	0.00
7,500.00	91.00	1.24	3,156.52	4,496.06	97.20	4,497.11	0.00	0.00	0.00
7,600.00	91.00	1.24	3,154.77	4,596.02	99.36	4,597.09	0.00	0.00	0.00
7,615.69	91.00	1.24	3,154.50	4,611.70	99.70	4,612.78	0.00	0.00	0.00
TD at 7615.69' MD - PBHL-Lee 3 Fee #5H									

Design Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N-S (usft)	+E-W (usft)	Northing (usft)	Easting (usft)	Latitude Longitude
PP-Lee 3 Fee #5H	- plan hits target center	0.00	0.00	2,806.56	10.00	0.22	612,331.40	487,141.32	32° 41' 0.20915 N 104° 22' 30.45579 W
	- Point								
PBHL-Lee 3 Fee #5H	- plan hits target center	-90.40	0.07	3,154.50	4,611.70	99.70	616,933.10	487,240.80	32° 41' 45.74630 N 104° 22' 29.31280 W
	- Point								

Formations						Dip	Dip Direction
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)		
3,528.12	3,225.82	TL, 3235' TVD @ 0 VZ, 91° Inc		-1.00	1.24		

Plan Annotations					Comment
Measured Depth (usft)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)		
2,704.97	2,704.97	0.00	0.00		KOP, Begin 11°/100' Build
3,532.25	3,225.77	529.84	11.45		LP, Hold 91° Inc, 1.24° Azm
7,615.69	3,154.50	4,611.70	99.70		TD at 7615.69' MD



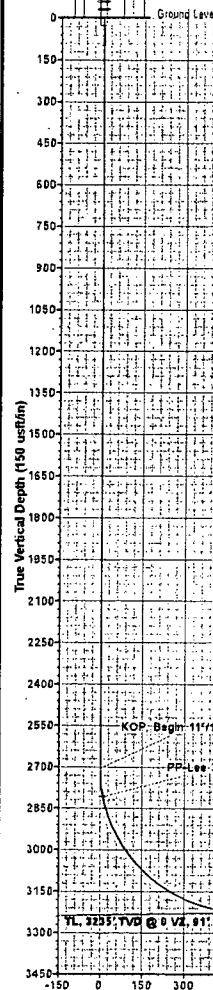
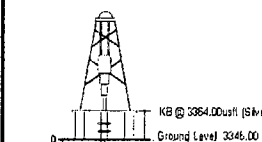
Project: Eddy County, NM (NAD27 NME)
Site: Lee 3 Fee
Well: #5H
Wellbore: WB1
Design: Plan #1 11-25-14
Rig: Silver Oak 3



PHOENIX
TECHNOLOGY SERVICES



Azimuths to Grid North
True North: 0.02°
Magnetic North: 7.59°
Magnetic Field
Strength: 48460.2nT
Dip Angle: 60.39°
Date: 11/25/2014
Model: IGRF2010_14



WELL DETAILS									
	NAS	EAN	Nothing	Ground Level	Easting	Latitude	Longitude		
	0.00	0.00	512321.40	3346.00	487141.10	32° 41' 0.11019 N	104° 22' 30.45627 W		

SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	NAS	EAN	Diag	TFace	VSet
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	3704.97	0.00	0.00	2704.97	0.00	0.00	0.00	0.00	0.00
3	3532.25	91.00	1.24	3225.77	529.84	11.45	11.00	1.24	529.96
4	7615.59	91.00	1.24	3154.50	4611.70	99.70	0.00	0.00	4612.78

DESIGN TARGET DETAILS									
Name	TVD	NAS	EAN	Nothing	Easting	Latitude	Longitude	Shape	
PP-Lee 3 Fee #5H	2806.55	10.00	0.22	512331.40	487141.32	32° 41' 0.20915 N	104° 22' 30.45578 W	Point	
PBHL-Lee 3 Fee #5H	3154.50	4611.70	99.70	516933.10	487240.30	32° 41' 45.74030 N	104° 22' 29.31280 W	Point	

LEGEND									
— #1H, WB1, Plan #2 09-29-14 V0									
— Plan #1 11-25-14									

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 #5H, Grid North
Latitude: 32° 41' 0.11019 N
Longitude: 104° 22' 30.45627 W
Grid East: 487141.10
Grid North: 512321.40
Scale Factor: 1.000
Geomagnetic Model: IGRF2010_14
Sample Date: 25-Nov-14
Magnetic Declination: 7.57°
Dip Angle from Horizontal: 60.39°
Magnetic Field Strength: 48460
To convert a Magnetic Direction to a Grid Direction, Add 7.59°
To convert a Magnetic Direction to a True Direction, Add 7.57° East
To convert a True Direction to a Grid Direction, Add 0.02°

FORMATION TOP DETAILS					
TVDPath	MDPath	Formation	DipAngle	DipDir	
3225.82	3528.12	TL 3235' TVD @ 0.0 VZ, 91' Inc	-1.00	1.24	

