DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
12/17/2013		MAM	12/20/2013	NSL	PMAM1335457512

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]

COG
NSL
30-015-41723

RECEIVED OCD
2013 DEC 17 P 3:22

[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 INTEREST ARE THE SAME

[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.

Kelly J. Holly		Permitting Tech	12-16-13
Print or Type Name	Signature	Title	Date

(432) 685-4384	kholly@concho.com
Phone Number	E-mail Address

Patton 5 Fee #3H
Eddy County, NM

COG is requesting to **horizontally** drill a SW/4 NW/4 to SE/4 NE/4 160 acre spacing
Atoka; Glorieta-Yeso oil well
Approximately: TVD 2859', MD 7391'

Non-standard Location:

SHL: 1410' FNL & 230' FWL	Sec 5, T19S, R26E, Unit E
BHL: 1410' FNL & 330' FEL	Sec 5, T19S, R26E, Unit H

This well had to be staked at a non-standard location due to avoiding fracing into the Patton 5 Fee #4H wellbore.

We won't know the exact perfs until we drill & log it, but it will be very similar to the Grave Digger State Com #1H and is located at:

SHL: 330' FNL & 380' FWL	Section 2, T20S, R25E, Unit 4
BHL: 322' FSL & 384' FWL	Section 2, T20S, R25E, Unit M

Grave Digger State Com #1H has perfs from: 2880' – 6880' overall, but broken up into 5 separate intervals, with 5 separate fracs:

1st Perf: 2880-3480',
acidized w/ 4861 gals, 15% NEFE; frac'd w/256764# sand & 516224 gal fluid

2nd Perf: 3730-4330',
acidized w/ 2521 gals, 15% NEFE; frac'd w/249468# sand & 511005 gal fluid

3rd Perf: 4580-5180',
acidized w/ 2427 gals, 15% NEFE; frac'd w/255948# sand & 519074 gal fluid

4th Perf: 5430-6030',
acidized w/ 3985 gals, 15% NEFE; frac'd w/250253# sand & 532321 gal fluid

5th Perf: 6266-6880',
acidized w/ 1506 gals, 15% NEFE; frac'd w/254588# sand & 512961 gal fluid

Attachment 1
Plat & Map

Attachment 2
Map & legend of offset wells.

Attachment 3
Updated land plat showing COG Operating LLC acreage.
The acreage we are encroaching on is Units D,C,B and A of Sec 5.

COG Operating LLC respectfully requests permission to have this NSL approved.

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 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	Pool Code	Pool Name
30-015-41723	3250	Atoka; Glorieta-Yeso

Property Code	Property Name	Well Number
38945	PATTON 5 FEE	3H

OGRID No.	Operator Name	Elevation
229137	COG OPERATING, LLC	3380'

Surface Location

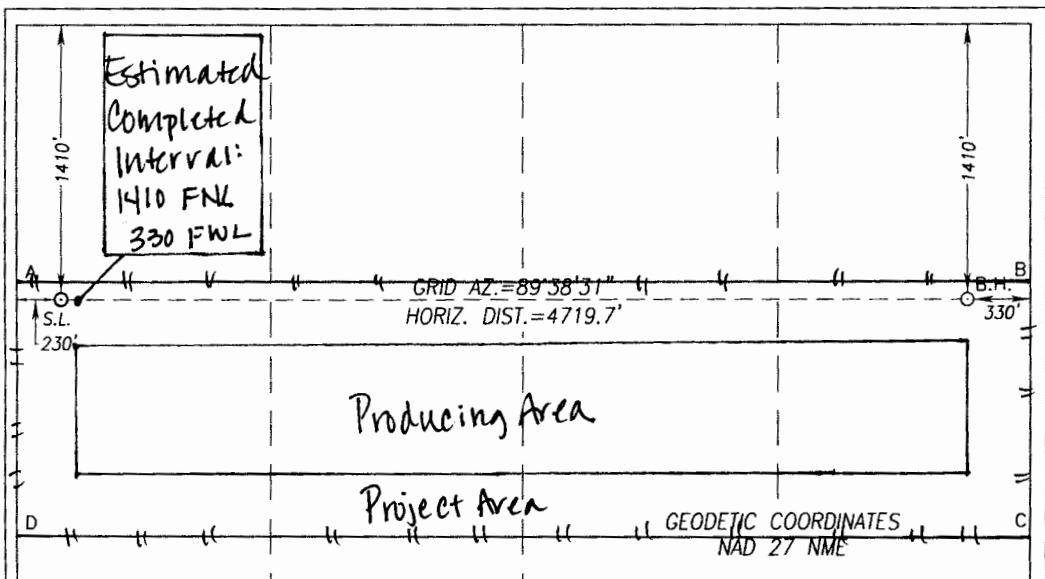
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	5	19-S	26-E		1410	NORTH	230	WEST	EDDY

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
H	5	19-S	26-E		1410	NORTH	330	EAST	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



GEODETIC COORDINATES
NAD 27 NME

SURFACE LOCATION
Y=615791.8 N
X=475932.2 E

LAT.=32.692886° N
LONG.=104.411567° W

BOTTOM HOLE LOCATION
Y=615821.3 N
X=480650.5 E

CORNER COORDINATES TABLE

A - Y=615908.3 N, X=475701.6 E
B - Y=615933.3 N, X=480979.9 E
C - Y=614613.7 N, X=480986.3 E
D - Y=614596.3 N, X=475708.9 E

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.

Signature 12-11-13 Date

Kelly J. Holly
Printed Name

kholly@concho.com
E-mail Address

SURVEYOR CERTIFICATION

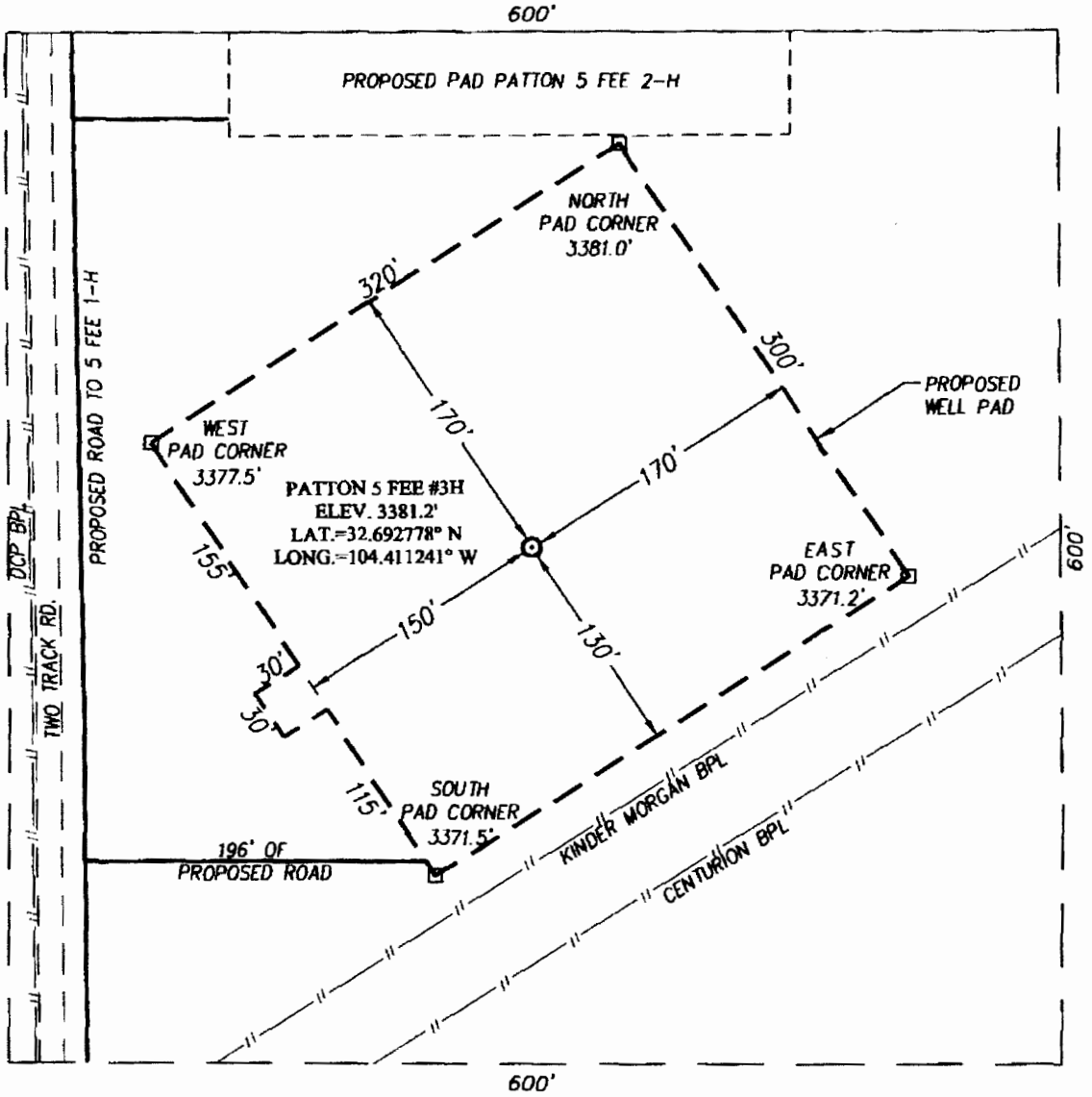
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

JULY 8, 2013
Date of Survey
Signature & Seal of Professional Surveyor:

Ronald J. Eidson 12/03/2013

Certificate Number Gary O. Eidson 12641
Ronald J. Eidson 3239

ACK REL W.O.: 13.11.0786 JWSC W.O.: 13.13.1364



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF U.S. HWY. 285 AND CO. RD. #38 (KINCAID RANCH), GO WEST ON CO. RD. #38 APPROX. 2.75 MILES. TURN RIGHT AND GO SOUTH APPROX. 0.9 MILES. TURN RIGHT AND GO EAST APPROX. 75 FEET. TURN LEFT AND GO WEST APPROX. 0.6 MILES. TURN LEFT AND GO WEST APPROX. 0.6 MILES. TURN LEFT AND GO NORTHEAST APPROX. 0.6 MILES TO LEASE ROAD AT THE 1-H WELL. FOLLOW ROAD SURVEY NORTH APPROX. 0.4 MILES TO THIS LOCATION.

100 0 100 200 Feet

Scale: 1"=100'

COG OPERATING, LLC

PATTON 5 FEE #3H WELL
LOCATED 1450 FEET FROM THE NORTH LINE
AND 330 FEET FROM THE WEST LINE OF SECTION 5,
TOWNSHIP 19 SOUTH, RANGE 26 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

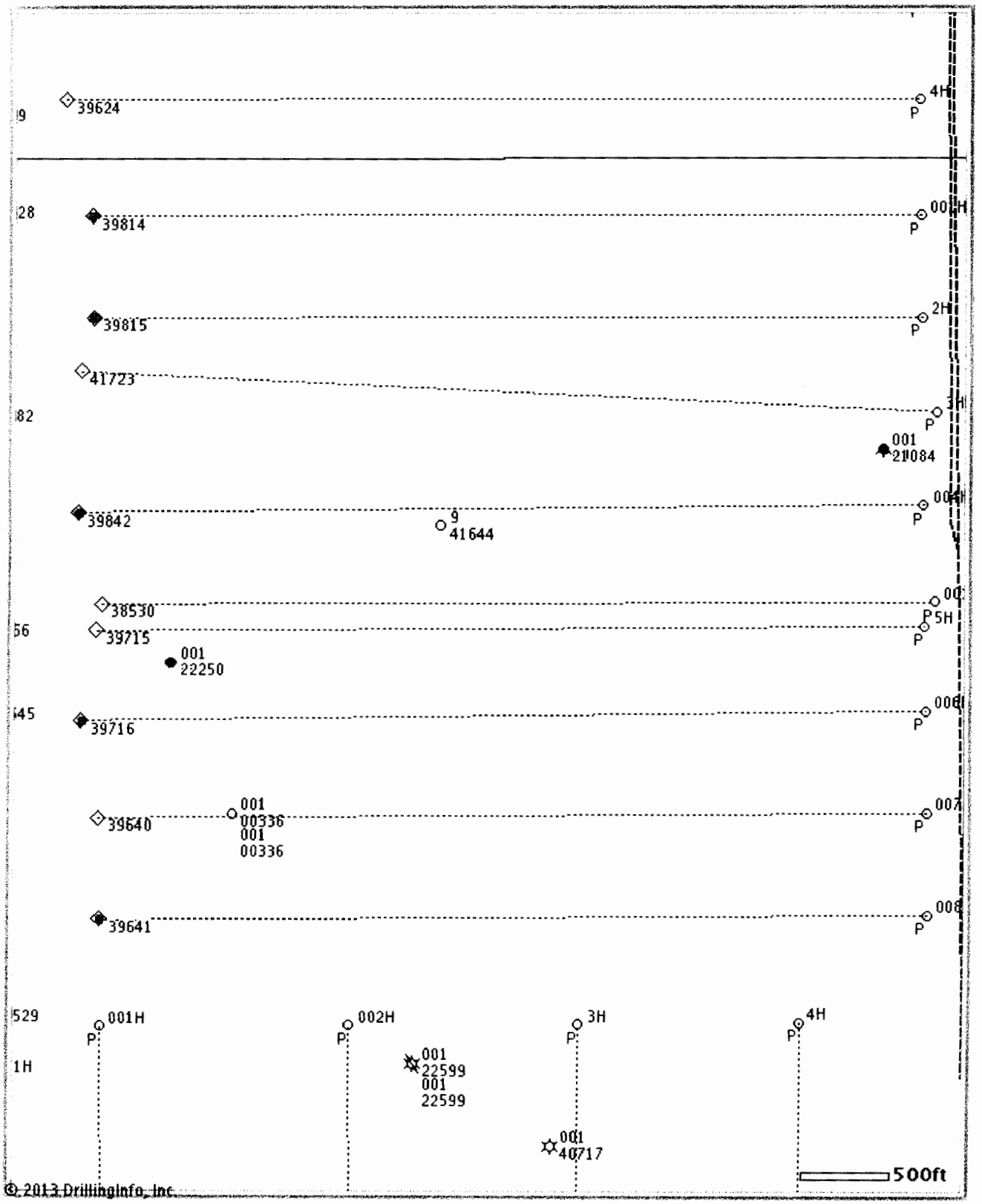
Survey Date: 11/11/11	CAD Date: 4/3/13		Drawn By: ACR
W.O. No.: 13130325	Rev:	Rel. W.O.: 11111365	Sheet 1 of 1

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

© Anjelica\2012\COG OPERATING, LLC\Wells

Producing wells in Sec 5, T19S, R26E

API#	Operator	Lease	Well#	County	Legal	Total Depth	Well Type	Well Status	First Prod.	Last Prod.	Prac. IP (MCF/D)
30-015-22250	NEARBURG PRODUCING CO	MORRISON COM	001	EDDY	S:5, T:19S, R:26E	9,448	W	Plugged and Abandoned	Jun 1985	Feb 2000	0.00
30-015-39842	COG OPERATING LLC	PATTON 5 FEE	004H	EDDY	S:5, T:19S, R:26E	7,258	G	Active	Dec 2012	Jul 2013	0.03
30-015-39716	COG OPERATING LLC	PATTON 5 FEE	006H	EDDY	S:5, T:19S, R:26E	7,355	G	Active	Feb 2013	Sep 2013	66.06
30-015-39814	COG OPERATING LLC	PATTON 5 FEE	001H	EDDY	S:5, T:19S, R:26E	7,294	G	Active	May 2013	Sep 2013	86.00
30-015-21084	NEARBURG PRODUCING CO	IVEY 5 H	001	EDDY	S:5, T:19S, R:26E	9,491	G	Shut-in	Apr 1990	May 1994	105.48
30-015-39641	COG OPERATING LLC	PATTON 3 FEE	008H	EDDY	S:5, T:19S, R:26E	7,291	G	Active	May 2013	Sep 2013	147.83
30-015-39815	COG OPERATING LLC	PATTON 5 FEE	2H	EDDY	S:5, T:19S, R:26E	6,993	W	Active	May 2012	Sep 2013	222.73


39624
4H
P
39814
39815
2H
41723
001
21084
39842
9
41644
38530
39715
5H
001
22250
39716
39640
001
00336
001
00336
39641
001H
002H
3H
4H
001
22599
001
22599
001
40717
500ft
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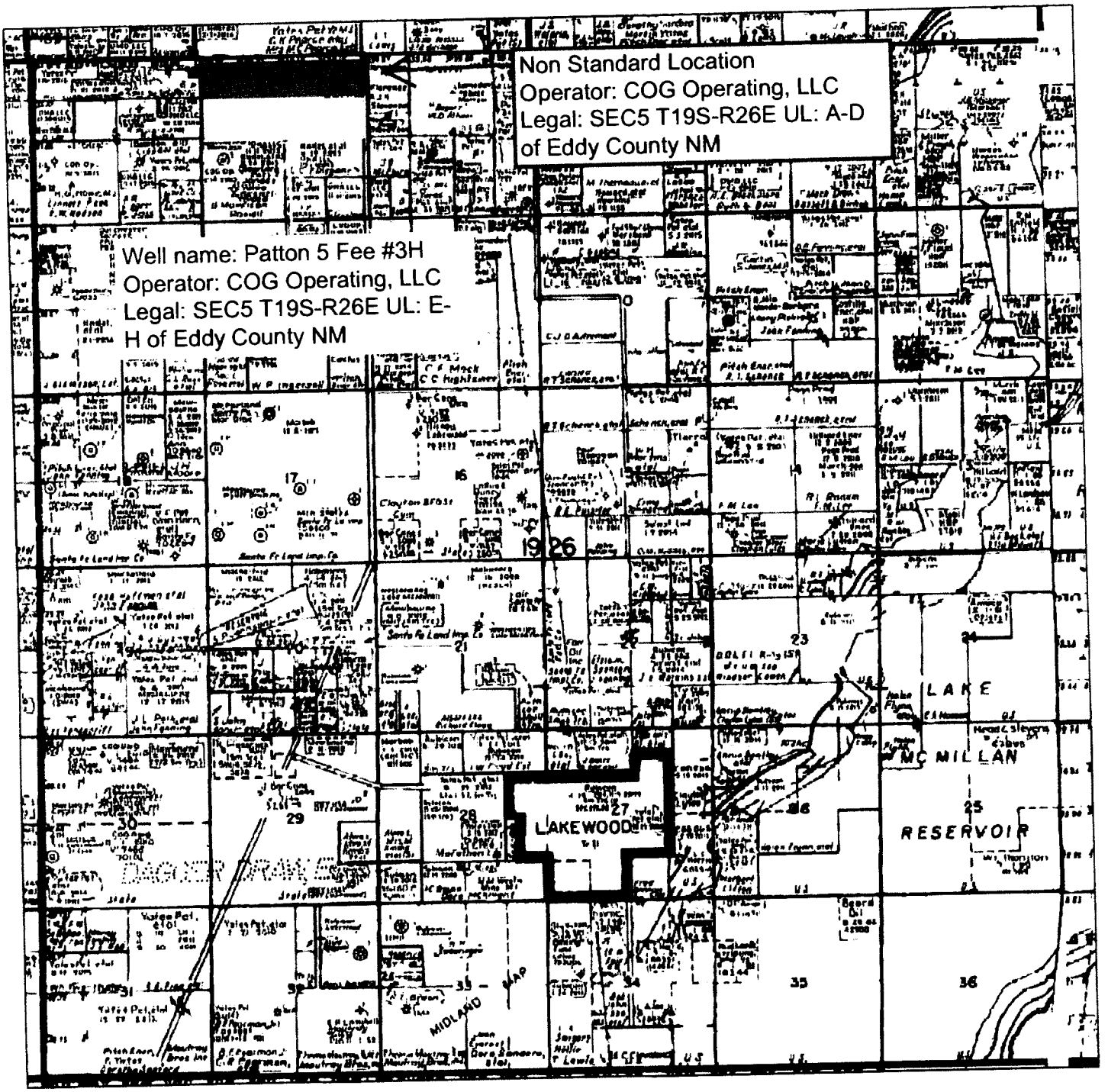

Non Standard Location
Operator: COG Operating, LLC
Legal: SEC5 T19S-R26E UL: A-D
of Eddy County NM
Well name: Patton 5 Fee #3H
Operator: COG Operating, LLC
Legal: SEC5 T19S-R26E UL: E-
H of Eddy County NM
LAKE
MC MILLAN
RESERVOIR
LAKEWOOD
MIDLAND MAP

COG Operating LLC

Eddy County, New Mexico (NAD 27 NME)
Patton 5 Fee
#3H

WB1/Job #1311670

Plan: Plan #3 12-10-13
Surface: 1410' FNL, 230' FWL, Sec 5, T19S, R26E, Unit E
PP: 1410' FNL, 330' FWL, Sec 5, T19S, R26E, Unit E
BHL: 1410' FNL, 330' FEL, Sec 5, T19S, R26E, Unit H

Standard Planning Report

10 December, 2013

Phoenix Technology Services

Planning Report

Database:	GCR DB	**Local Co-ordinate Reference:**	Well #3H
Company:	COG Operating LLC	**TVD Reference:**	KB @ 3398.00usft (Silver Oak 3)
Project:	Eddy County, New Mexico (NAD 27 NME)	**MD Reference:**	KB @ 3398.00usft (Silver Oak 3)
Site:	Patton 5 Fee	**North Reference:**	Grid
Well:	#3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	WB1/Job #1311670		
Design:	Plan #3 12-10-13		

Project Eddy County, New Mexico (NAD 27 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 Patton 5 Fee

Site Position:		**Northing:**	613,610.70 usft	**Latitude:**	32° 41' 12.80582 N
From:	Map	**Easting:**	475,920.20 usft	**Longitude:**	104° 24' 41.76182 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.04 °

Well #3H

Well Position	**+N/-S**	2,181.10 usft	**Northing:**	615,791.80 usft	**Latitude:**	32° 41' 34.38927 N
	+E/-W	12.00 usft	**Easting:**	475,932.20 usft	**Longitude:**	104° 24' 41.64023 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,380.00 usft

Wellbore WB1/Job #1311670

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010_14	12/10/13	7.70	60.41	48,557

Design Plan #3 12-10-13

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	89.64

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	
2,374.70	0.00	0.00	2,374.70	0.00	0.00	0.00	0.00	0.00	0.00	
3,197.42	90.50	89.64	2,895.55	3.28	525.40	11.00	11.00	10.90	89.64	
7,390.56	90.50	89.64	2,859.00	29.50	4,718.30	0.00	0.00	0.00	0.00	PBHL-Patton 5 #3H v

Phoenix Technology Services

Planning Report

Database:	GCR DB	**Local Co-ordinate Reference:**	Well #3H
Company:	COG Operating LLC	**TVD Reference:**	KB @ 3398.00usft (Silver Oak 3)
Project:	Eddy County, New Mexico (NAD 27 NME)	**MD Reference:**	KB @ 3398.00usft (Silver Oak 3)
Site:	Patton 5 Fee	**North Reference:**	Grid
Well:	#3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	WB1/Job #1311670		
Design:	Plan #3 12-10-13		

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
2,374.70	0.00	0.00	2,374.70	0.00	0.00	0.00	0.00	0.00	0.00
KOP Begin 11°/100' Build									
2,400.00	2.78	89.64	2,399.99	0.00	0.61	0.61	11.00	11.00	0.00
2,500.00	13.78	89.64	2,498.80	0.09	15.00	15.00	11.00	11.00	0.00
2,600.00	24.78	89.64	2,593.04	0.30	47.97	47.97	11.00	11.00	0.00
2,700.00	35.78	89.64	2,679.26	0.61	98.32	98.32	11.00	11.00	0.00
2,704.55	36.28	89.64	2,682.94	0.63	100.99	100.99	11.00	11.00	0.00
PP-Patton 5 #3H									
2,800.00	46.78	89.64	2,754.29	1.03	164.19	164.20	11.00	11.00	0.00
2,900.00	57.78	89.64	2,815.37	1.52	243.18	243.18	11.00	11.00	0.00
3,000.00	68.78	89.64	2,860.26	2.08	332.36	332.37	11.00	11.00	0.00
3,100.00	79.78	89.64	2,887.31	2.68	428.47	428.48	11.00	11.00	0.00
3,185.89	89.23	89.64	2,895.52	3.21	513.87	513.88	11.00	11.00	0.00
TL, 2900' TVD @ 0 VZ, 90.5° Inc									
3,197.42	90.50	89.64	2,895.55	3.28	525.40	525.41	11.00	11.00	0.00
LP Hold 90.5°, 89.65° Azm									
3,200.00	90.50	89.64	2,895.53	3.30	527.98	527.99	0.01	0.01	0.00
3,300.00	90.50	89.64	2,894.66	3.93	627.97	627.98	0.00	0.00	0.00
3,400.00	90.50	89.64	2,893.79	4.55	727.97	727.98	0.00	0.00	0.00
3,500.00	90.50	89.64	2,892.91	5.18	827.96	827.98	0.00	0.00	0.00
3,600.00	90.50	89.64	2,892.04	5.80	927.96	927.97	0.00	0.00	0.00
3,700.00	90.50	89.64	2,891.17	6.43	1,027.95	1,027.97	0.00	0.00	0.00
3,800.00	90.50	89.64	2,890.30	7.05	1,127.94	1,127.97	0.00	0.00	0.00
3,900.00	90.50	89.64	2,889.43	7.68	1,227.94	1,227.96	0.00	0.00	0.00
4,000.00	90.50	89.64	2,888.56	8.30	1,327.93	1,327.96	0.00	0.00	0.00
4,100.00	90.50	89.64	2,887.68	8.93	1,427.93	1,427.95	0.00	0.00	0.00
4,200.00	90.50	89.64	2,886.81	9.55	1,527.92	1,527.95	0.00	0.00	0.00
4,300.00	90.50	89.64	2,885.94	10.18	1,627.92	1,627.95	0.00	0.00	0.00
4,400.00	90.50	89.64	2,885.07	10.80	1,727.91	1,727.94	0.00	0.00	0.00
4,500.00	90.50	89.64	2,884.20	11.43	1,827.90	1,827.94	0.00	0.00	0.00
4,600.00	90.50	89.64	2,883.32	12.05	1,927.90	1,927.94	0.00	0.00	0.00
4,700.00	90.50	89.64	2,882.45	12.68	2,027.89	2,027.93	0.00	0.00	0.00
4,800.00	90.50	89.64	2,881.58	13.30	2,127.89	2,127.93	0.00	0.00	0.00
4,900.00	90.50	89.64	2,880.71	13.93	2,227.88	2,227.92	0.00	0.00	0.00
5,000.00	90.50	89.64	2,879.84	14.55	2,327.87	2,327.92	0.00	0.00	0.00
5,100.00	90.50	89.64	2,878.97	15.18	2,427.87	2,427.92	0.00	0.00	0.00
5,200.00	90.50	89.64	2,878.09	15.80	2,527.86	2,527.91	0.00	0.00	0.00
5,300.00	90.50	89.64	2,877.22	16.43	2,627.86	2,627.91	0.00	0.00	0.00
5,400.00	90.50	89.64	2,876.35	17.06	2,727.85	2,727.91	0.00	0.00	0.00
5,500.00	90.50	89.64	2,875.48	17.68	2,827.85	2,827.90	0.00	0.00	0.00
5,600.00	90.50	89.64	2,874.61	18.31	2,927.84	2,927.90	0.00	0.00	0.00
5,700.00	90.50	89.64	2,873.74	18.93	3,027.83	3,027.89	0.00	0.00	0.00
5,800.00	90.50	89.64	2,872.86	19.56	3,127.83	3,127.89	0.00	0.00	0.00
5,900.00	90.50	89.64	2,871.99	20.18	3,227.82	3,227.89	0.00	0.00	0.00
6,000.00	90.50	89.64	2,871.12	20.81	3,327.82	3,327.88	0.00	0.00	0.00
6,100.00	90.50	89.64	2,870.25	21.43	3,427.81	3,427.88	0.00	0.00	0.00
6,200.00	90.50	89.64	2,869.38	22.06	3,527.81	3,527.87	0.00	0.00	0.00
6,300.00	90.50	89.64	2,868.51	22.68	3,627.80	3,627.87	0.00	0.00	0.00
6,400.00	90.50	89.64	2,867.63	23.31	3,727.79	3,727.87	0.00	0.00	0.00
6,500.00	90.50	89.64	2,866.76	23.93	3,827.79	3,827.86	0.00	0.00	0.00
6,600.00	90.50	89.64	2,865.89	24.56	3,927.78	3,927.86	0.00	0.00	0.00
6,700.00	90.50	89.64	2,865.02	25.18	4,027.78	4,027.86	0.00	0.00	0.00
6,800.00	90.50	89.64	2,864.15	25.81	4,127.77	4,127.85	0.00	0.00	0.00

Phoenix Technology Services

Planning Report

Database:	GCR DB	**Local Co-ordinate Reference:**	Well #3H
Company:	COG Operating LLC	**TVD Reference:**	KB @ 3398.00usft (Silver Oak 3)
Project:	Eddy County, New Mexico (NAD 27 NME)	**MD Reference:**	KB @ 3398.00usft (Silver Oak 3)
Site:	Patton 5 Fee	**North Reference:**	Grid
Well:	#3H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	WB1/Job #1311670		
Design:	Plan #3 12-10-13		

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)
6,900.00	90.50	89.64	2,863.28	26.43	4,227.77	4,227.85	0.00	0.00	0.00
7,000.00	90.50	89.64	2,862.40	27.06	4,327.76	4,327.84	0.00	0.00	0.00
7,100.00	90.50	89.64	2,861.53	27.68	4,427.75	4,427.84	0.00	0.00	0.00
7,200.00	90.50	89.64	2,860.66	28.31	4,527.75	4,527.84	0.00	0.00	0.00
7,300.00	90.50	89.64	2,859.79	28.93	4,627.74	4,627.83	0.00	0.00	0.00
7,370.16	90.50	89.64	2,859.18	29.37	4,697.90	4,697.99	0.00	0.00	0.00
PBHL-Patton 5 #3H									
7,390.56	90.50	89.64	2,859.00	29.50	4,718.30	4,718.39	0.00	0.00	0.00
TD at 7390.56 - PBHL-Patton 5 #3H v3									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PP-Patton 5 #3H - plan hits target center - Point	0.00	360.00	2,682.95	0.63	101.00	615,792.44	476,033.20	32° 41' 34.39625 N	104° 24' 40.45834 W
PBHL-Patton 5 #3H v3 - plan hits target center - Point	0.00	360.00	2,859.00	29.50	4,718.30	615,821.30	480,650.50	32° 41' 34.71225 N	104° 23' 46.42715 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,185.89	2,895.52	TL, 2900' TVD @ 0 VZ, 90.5° Inc		-0.50	93.16

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,374.70	2,374.70	0.00	0.00	KOP Begin 11°/100' Build
3,197.42	2,895.55	3.28	525.40	LP Hold 90.5°, 89.65° Azm
7,390.56	2,859.00	29.50	4,718.30	TD at 7390.56

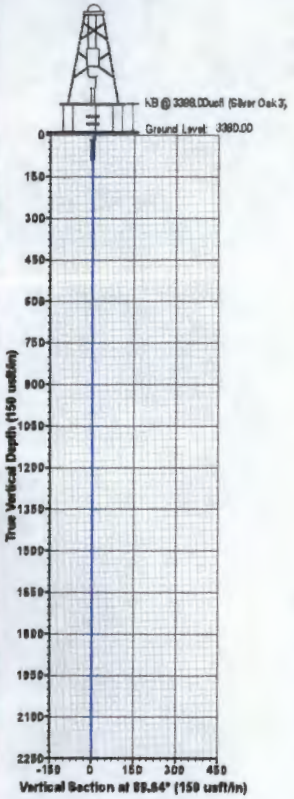
CONCHO

Project: Eddy County, New Mexico (NAD 27 NME)
Site: Patton 5 Fee
Well: #3H
Wellbore: WB1/Job #1311670
Design: Plan #3 12-10-13
Rig: Silver Oak 3

PHOENIX TECHNOLOGY SERVICES

Azimuths to Grid North
True North: 0.04°
Magnetic North: 7.74°

Magnetic Field
Strength: 48556.8nT
Dip Angle: 60.41°
Date: 12/10/2013
Model: IGRF2010_14



WELL DETAILS

Ground Level: 3380.00

+N/-S	+E/-W	Northing	Easling	Latitude	Longitude
0.00	0.00	615791.80	475932.20	32° 41' 34.39927 N	104° 24' 41.84023 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	2374.70	0.00	0.00	2374.70	0.00	0.00	0.00	0.00	0.00		KOP Begin 11°/100' Build
3	3197.42	90.50	89.64	2895.55	3.28	525.40	11.00	89.64	525.41		LP Hold 90.5°, 89.65° Azm
4	7390.56	90.50	89.64	2859.00	29.50	4719.30	0.00	0.00	4719.39	PBHL-Patton 5 #3H v3	TD at 7390.56

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easling	Latitude	Longitude	Shape
PP-Patton 5 #3H	2862.25 - plan hits target center	0.53	101.00	615792.43	476033.20	32° 41' 34.39925 N	104° 24' 40.45634 W	Point
PBHL-Patton 5 #3H v3	2859.00 - plan hits target center	29.50	4718.30	615821.30	480650.50	32° 41' 34.71225 N	104° 23' 45.42715 W	Point

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 #3H, Grid North

Latitude: 32° 41' 34.39927 N
Longitude: 104° 24' 41.84023 W

Grid East: 475932.20
Grid North: 615791.80
Scale Factor: 1.000

Geomagnetic Model: IGRF2010_14
Sample Date: 10-Dec-13
Magnetic Declination: 7.70°
Dip Angle from Horizontal: 60.41°
Magnetic Field Strength: 48557

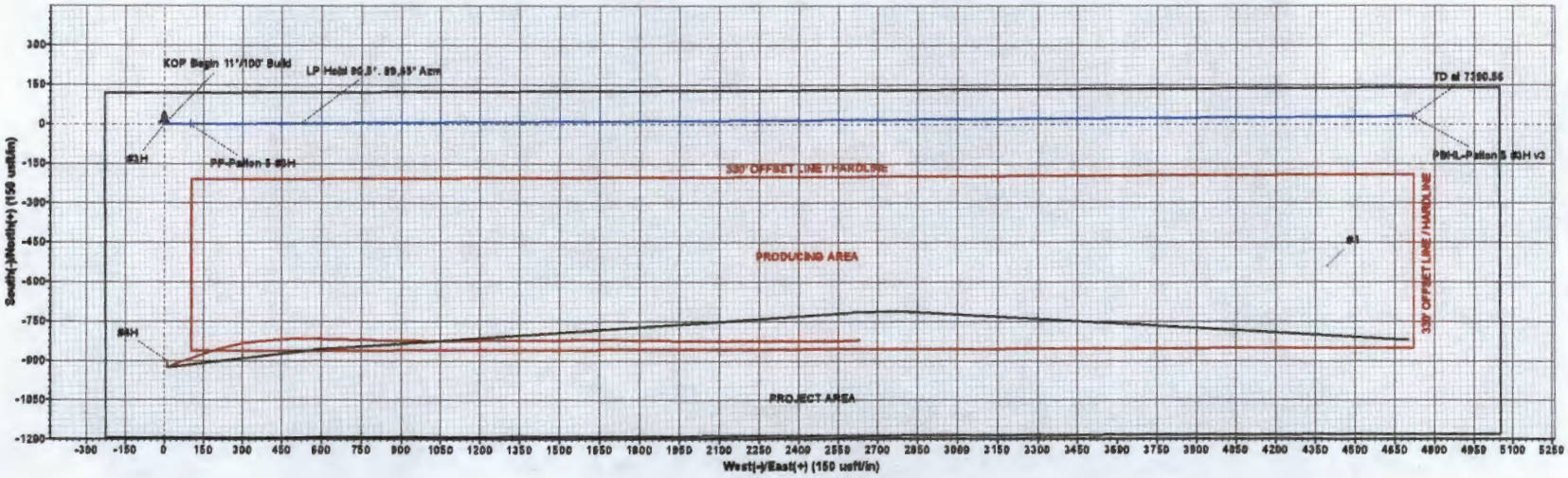
To convert a Magnetic Direction to a Grid Direction, Add 7.74°
To convert a Magnetic Direction to a True Direction, Add 7.70° East
To convert a True Direction to a Grid Direction, Add 0.04°

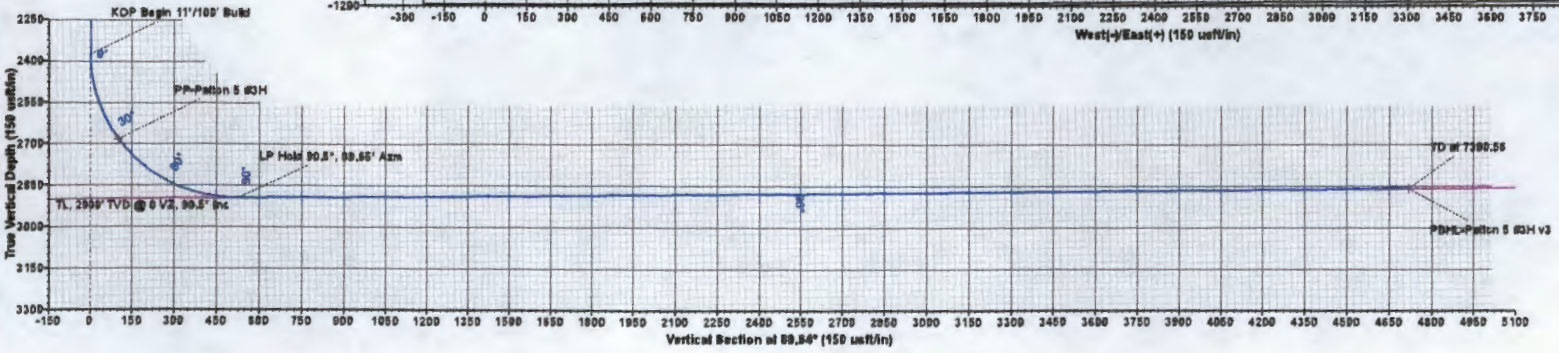
FORMATION TOP DETAILS

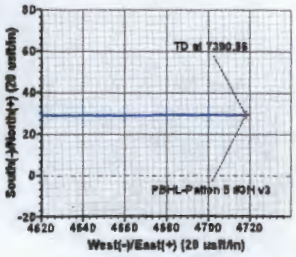
TVDPath	MDPath	Formation	DipAngle	DipDir
2895.52	3185.89	TL, 2900' TVD @ 0 VZ, 90.5° Inc	-0.50	93.16

LEGEND

- #1, OH, Inc Surveys V0
- #1H, OH / Job #1310304, Surveys (JW 4) V0
- #4H, WB1, OH V0
- Collision #1, OH, Inc Surveys V0
- #4H, WB2/Re-Entry, Plan #4 07-10-13 V0
- Plan #3 12-10-13







Created By: Julio Pina Date: 18:00, December 10 2013