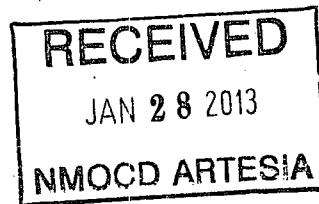




PHOENIX
TECHNOLOGY SERVICES

January 21, 2013

Oil Conservation Division
State of New Mexico
811 S. First St.
Artesia, New Mexico 88210



Dear District 2 - Artesia

Re: Concho Resources Inc.
Patton 5 Fee 6H
Eddy Co., NM
API #30-015-39716
Job No. 1310014

Enclosed please find the Survey Data Certification, and the original Plat and one copy of the Survey Report performed on the above referenced Well by Phoenix Technology Services, Inc. (P-5 No. 664171). Other information required by your office is as follows:

Name & Title of Surveyor	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Robert Dillon	6H	2,268	7,259	01/10/13	01/16/13	MWD

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

Kelly Jo Walter

Kelly Jo Walter
Operations Administrator

Certified mail receipt number: 7011 1570 0001 4364 8301

Phoenix Technology Services
SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER	1310014	OPERATOR	Concho Resources
--------------------	---------	----------	------------------

WELL NAME	Patton 5 Fee 6H	COUNTY & STATE	Eddy County, NM
-----------	-----------------	----------------	-----------------

API WELL NUMBER	30-015-39716	PROPOSED DIRECTION	89.78
-----------------	--------------	--------------------	-------

TIE-IN DATA						
MEASURED	VERTICAL			N-S	E-W	DATA
DEPTH	DEPTH	INCLIN	AZIMUTH	COORD	COORD	SOURCE
2,185 ft	2,184.96 ft	5 ft	234.1 ft	1.55 ft	5.35 ft	VES

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
10-Jan-13	2268 FT	0.2	232.7

SURVEY INSTRUMENT TYPE
Phoenix MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
16-Jan-13	7,259 ft	89.3	89

TO THE BEST OF MY KNOWLEDGE I
CERTIFY THIS SURVEY DATA TO BE
TRUE AND CORRECT.

PROJECTED TD SURVEY DATE	PROJECTED TD SURVEY DEPTH	INCLIN	AZIMUTH
16-Jan-13	7,355 ft	89.3	89

Robert D. Dillon

PRINT YOUR NAME ABOVE

Robert D. Dillon

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.86
DECLINATION OR GRID	GRID

1-16-2013

TODAY'S DATE

MWD SUPERVISOR 1

Bob Dillon

DIRECTIONAL DRILLER 1

Andrew Hodgkins

MWD SUPERVISOR 2

Eric Burchinal

DIRECTIONAL DRILLER 2

Nathan Hodgkins

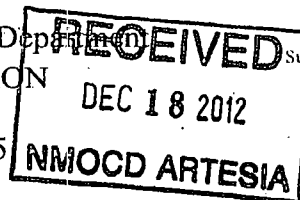
DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

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 30-015-39716		Pool Code 3250	Pool Name Atoka; Glorieta-Yeso
Property Code 38945	Property Name PATTON 5 FEE		Well Number 6H
GRID No. 229137	Operator Name COG OPERATING, LLC		Elevation 3364

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	5	19-S	26-E		1639	SOUTH	200	WEST	EDDY

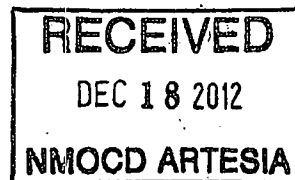
Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	5	19-S	26-E		1645	SOUTH	330	EAST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidation 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

CORNER COORDINATES TABLE A - Y=614597.0 N, X=475708.9 E B - Y=614604.3 N, X=480986.4 E C - Y=613289.4 N, X=480992.7 E D - Y=613284.7 N, X=475724.0 E GEODETIC COORDINATES NAD 27 NME SURFACE LOCATION Y=613610.7 N X=475920.2 E BOTTOM HOLE LOCATION Y=613619.0 N X=480661.2 E GRID AZ.=89°53'55" HORIZ. DIST.=4742.2' Project Area Producing Area Estimated Completed Interval: 1642 FSL 330 FWL	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 unEDDysed 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> 12-3-12 Signature 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. OCTOBER 31, 2012 Date of Survey Signature & Seal of Professional Surveyor: <i>[Signature]</i> RONALD J. EIDSON NEW MEXICO 3239 Certificate Number BKL PROFESSIONAL NEW MEXICO W.S.C. W.O.: 12.11.1740
---	---



COG Operating LLC

Eddy County, NM (NAN27 NME)

Patton 5 Fee #6H

OH

Plan #3 8-3/4" Hole

Surface: 1639' FSL, 200' FWL, Sec 5, T19S, R26E, Unit L

PP: 1642' FSL, 330' FWL, Sec 5, T19S, R26E, Unit L

BHL: 1645' FSL, 330' FEL, Sec 5, T19S, R26E, Unit I

Standard Planning Report

14 December, 2012





Scientific Drilling
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #6H
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3364.00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3364.00usft
Site:	Patton 5 Fee	North Reference:	Grid
Well:	#6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 8-3/4" Hole		

Project:	Eddy County, NM (NAN27 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		Using geodetic scale factor

Site:	Patton 5 Fee		
Site Position:		Northing:	616,822.20 usft
From:	Map	Easting:	476,026.50 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"
		Latitude:	32° 41' 44.586 N
		Longitude:	104° 24' 40.546 W
		Grid Convergence:	-0.04 °

Well #:	#6H		
Well Position	+N-S	-3,211.79 usft	Northing:
	+E-W	-106.31 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	Ground Level:
			3,364.00 usft

Wellbore:	OH		
-----------	----	--	--

Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	BGGM2012	12/14/2012	7.93	60.39	48,629

Design:	Plan #3 8-3/4" Hole		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			89.90

Plan Sections									
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Dogleg	Build	Turn	TFO
Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)
(usft)			(usft)			(%/100usft)	(%/100usft)	(%/100usft)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2,354.50	0.00	0.00	2,354.50	0.00	0.00	0.00	0.00	0.00	0.00
3,177.30	90.50	88.10	2,875.40	17.42	525.18	11.00	11.00	0.00	88.10
3,245.32	90.50	90.14	2,874.81	18.47	593.17	3.00	-0.01	3.00	90.13
7,393.74	90.50	90.14	2,838.97	8.30	4,741.43	0.00	0.00	0.00	0.00 PBHL



Scientific Drilling
Planning Report



Database:	EDM 5000.1 Single User-Db	Local Co-ordinate Reference:	Well #6H
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3364.00usft
Project:	Eddy County, NM (NAN27 NME)	MD Reference:	GL Elev @ 3364.00usft
Site:	Patton 5 Fee	North Reference:	Grid
Well:	#6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 8-3/4" Hole		

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	
2,354.50	0.00	0.00	2,354.50	0.00	0.00	0.00	0.00	0.00	0.00	
KOP Start Build 11.00										
2,400.00	5.00	88.10	2,399.94	0.07	1.98	1.98	11.00	11.00	0.00	
2,500.00	16.00	88.10	2,498.12	0.67	20.18	20.18	11.00	11.00	0.00	
2,600.00	27.00	88.10	2,591.01	1.88	56.76	56.76	11.00	11.00	0.00	
2,700.00	38.00	88.10	2,675.22	3.66	110.38	110.38	11.00	11.00	0.00	
2,730.50	41.36	88.10	2,698.69	4.31	129.83	129.84	11.00	11.00	0.00	
PP=330' FWL										
2,800.00	49.00	88.10	2,747.65	5.94	179.07	179.08	11.00	11.00	0.00	
2,900.00	60.00	88.10	2,805.63	8.64	260.31	260.33	11.00	11.00	0.00	
3,000.00	71.00	88.10	2,847.03	11.65	351.12	351.14	11.00	11.00	0.00	
3,100.00	82.00	88.10	2,870.35	14.87	448.15	448.18	11.00	11.00	0.00	
3,177.30	90.50	88.10	2,875.40	17.42	525.18	525.21	11.00	11.00	0.00	
EOC Start DLS 3.00 TFO 90.13										
3,200.00	90.50	88.78	2,875.20	18.04	547.86	547.89	3.00	-0.01	3.00	
3,245.32	90.50	90.14	2,874.81	18.47	593.17	593.21	3.00	-0.01	3.00	
Start 4148.42 hold at 3245.32 MD										
3,300.00	90.50	90.14	2,874.34	18.33	647.86	647.89	0.00	0.00	0.00	
3,395.77	90.50	90.14	2,873.51	18.10	743.62	743.65	0.00	0.00	0.00	
TL										
3,400.00	90.50	90.14	2,873.47	18.09	747.85	747.88	0.00	0.00	0.00	
3,500.00	90.50	90.14	2,872.61	17.84	847.85	847.88	0.00	0.00	0.00	
3,600.00	90.50	90.14	2,871.75	17.60	947.84	947.87	0.00	0.00	0.00	
3,700.00	90.50	90.14	2,870.88	17.35	1,047.84	1,047.87	0.00	0.00	0.00	
3,800.00	90.50	90.14	2,870.02	17.11	1,147.84	1,147.86	0.00	0.00	0.00	
3,900.00	90.50	90.14	2,869.15	16.86	1,247.83	1,247.86	0.00	0.00	0.00	
4,000.00	90.50	90.14	2,868.29	16.62	1,347.83	1,347.85	0.00	0.00	0.00	
4,100.00	90.50	90.14	2,867.43	16.37	1,447.82	1,447.85	0.00	0.00	0.00	
4,200.00	90.50	90.14	2,866.56	16.13	1,547.82	1,547.85	0.00	0.00	0.00	
4,300.00	90.50	90.14	2,865.70	15.88	1,647.82	1,647.84	0.00	0.00	0.00	
4,400.00	90.50	90.14	2,864.83	15.64	1,747.81	1,747.84	0.00	0.00	0.00	
4,500.00	90.50	90.14	2,863.97	15.39	1,847.81	1,847.83	0.00	0.00	0.00	
4,600.00	90.50	90.14	2,863.11	15.15	1,947.80	1,947.83	0.00	0.00	0.00	
4,700.00	90.50	90.14	2,862.24	14.90	2,047.80	2,047.82	0.00	0.00	0.00	
4,800.00	90.50	90.14	2,861.38	14.66	2,147.80	2,147.82	0.00	0.00	0.00	
4,900.00	90.50	90.14	2,860.51	14.41	2,247.79	2,247.81	0.00	0.00	0.00	
5,000.00	90.50	90.14	2,859.65	14.17	2,347.79	2,347.81	0.00	0.00	0.00	
5,100.00	90.50	90.14	2,858.79	13.92	2,447.78	2,447.80	0.00	0.00	0.00	
5,200.00	90.50	90.14	2,857.92	13.68	2,547.78	2,547.80	0.00	0.00	0.00	
5,300.00	90.50	90.14	2,857.06	13.43	2,647.77	2,647.79	0.00	0.00	0.00	
5,400.00	90.50	90.14	2,856.19	13.19	2,747.77	2,747.79	0.00	0.00	0.00	
5,500.00	90.50	90.14	2,855.33	12.94	2,847.77	2,847.79	0.00	0.00	0.00	
5,600.00	90.50	90.14	2,854.47	12.70	2,947.76	2,947.78	0.00	0.00	0.00	
5,700.00	90.50	90.14	2,853.60	12.45	3,047.76	3,047.78	0.00	0.00	0.00	
5,800.00	90.50	90.14	2,852.74	12.21	3,147.75	3,147.77	0.00	0.00	0.00	
5,900.00	90.50	90.14	2,851.87	11.96	3,247.75	3,247.77	0.00	0.00	0.00	
6,000.00	90.50	90.14	2,851.01	11.72	3,347.75	3,347.76	0.00	0.00	0.00	
6,100.00	90.50	90.14	2,850.15	11.47	3,447.74	3,447.76	0.00	0.00	0.00	
6,200.00	90.50	90.14	2,849.28	11.23	3,547.74	3,547.75	0.00	0.00	0.00	
6,300.00	90.50	90.14	2,848.42	10.98	3,647.73	3,647.75	0.00	0.00	0.00	
6,400.00	90.50	90.14	2,847.56	10.74	3,747.73	3,747.74	0.00	0.00	0.00	
6,500.00	90.50	90.14	2,846.69	10.49	3,847.73	3,847.74	0.00	0.00	0.00	
6,600.00	90.50	90.14	2,845.83	10.25	3,947.72	3,947.73	0.00	0.00	0.00	



Scientific Drilling
Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well #6H
Company:	COG Operating LLC	TVD Reference:	GL Elev @ 3364.00usft
Project:	Eddy County, NM (NAN27, NME)	MD Reference:	GL Elev @ 3364.00usft
Site:	Patton 5 Fee	North Reference:	Grid:
Well:	#6H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #3 8-3/4" Hole		

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)
6,700.00	90.50	90.14	2,844.96	10.00	4,047.72	4,047.73	0.00	0.00	0.00
6,800.00	90.50	90.14	2,844.10	9.76	4,147.71	4,147.73	0.00	0.00	0.00
6,900.00	90.50	90.14	2,843.24	9.51	4,247.71	4,247.72	0.00	0.00	0.00
7,000.00	90.50	90.14	2,842.37	9.27	4,347.71	4,347.72	0.00	0.00	0.00
7,100.00	90.50	90.14	2,841.51	9.02	4,447.70	4,447.71	0.00	0.00	0.00
7,200.00	90.50	90.14	2,840.64	8.78	4,547.70	4,547.71	0.00	0.00	0.00
7,300.00	90.50	90.14	2,839.78	8.53	4,647.69	4,647.70	0.00	0.00	0.00
7,393.74	90.50	90.14	2,838.97	8.30	4,741.43	4,741.44	0.00	0.00	0.00
PBHL									

Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PP=330' FWL		0.00	360.00	2,698.57	4.31	130.00	613,615.02	476,050.19	32° 41' 12.849 N	104° 24' 40.241 W
- plan misses target center by 0.21usft at 2730.53usft MD (2698.71 TVD, 4.31 N, 129.85 E)										
- Point										
PBHL		0.00	0.00	2,838.97	8.30	4,741.43	613,619.00	480,661.20	32° 41' 12.919 N	104° 23' 46.287 W
- plan hits target center										
- Point										

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,395.77	2,873.51	TL		-0.50	89.61

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates	Comment
2,354.50	2,354.50	0.00	KOP Start Build 11.00
3,177.30	2,875.40	17.42	EOC Start DLS 3.00 TFO 90.13
3,245.32	2,874.81	18.47	Start 4148.42 hold at 3245.32 MD



Azimuths to Grid North
True North: 0.04°
Magnetic North: 7.97°

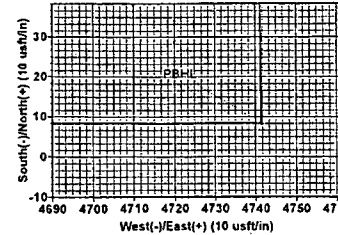
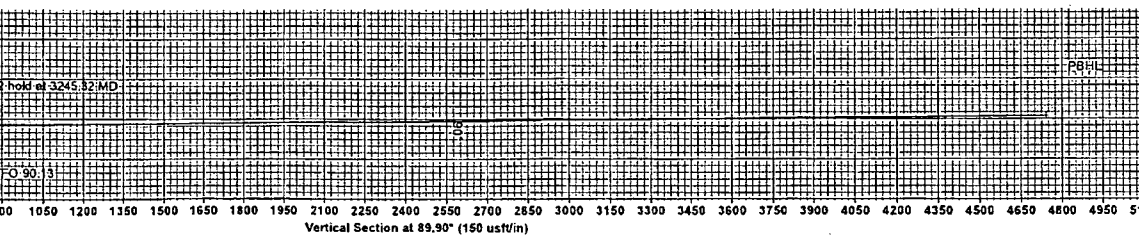
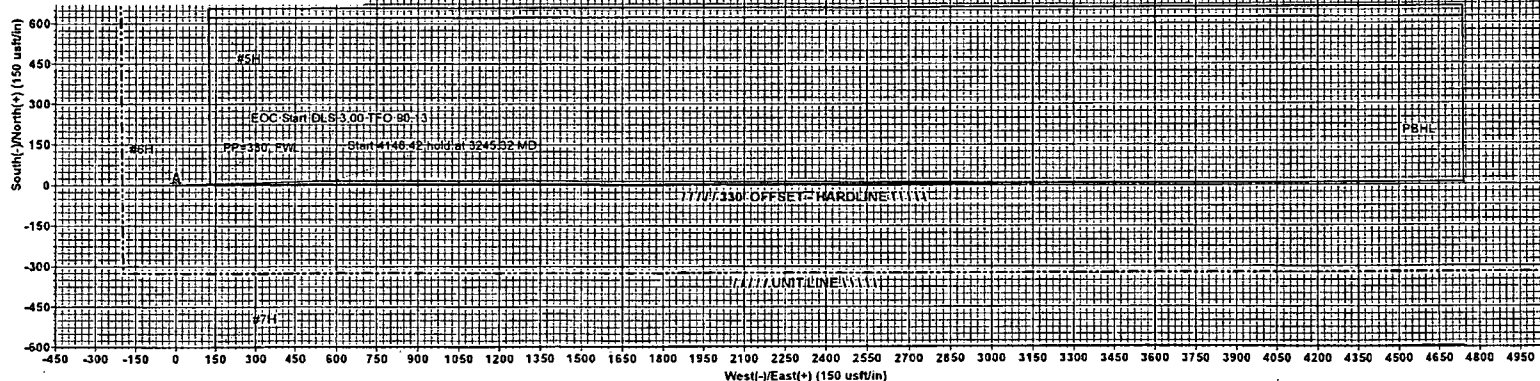
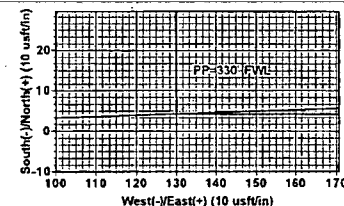
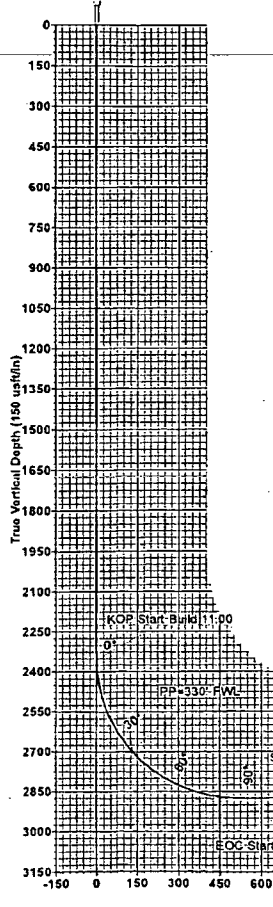
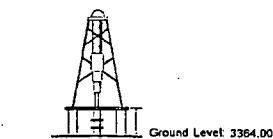
Magnetic Field
Strength: 48628.5nT
Dip Angle: 60.39°
Date: 12/14/2012
Model: BGGM2012

Patton 5 Fee #6H
Eddy County, NM (NAN27 NME)
Northing: (Y) 613610.70
Easting: (X) 475920.20
Plan #3 8-3/4" Hole

WELL DETAILS:									
		Ground Level: 3364.00							
+N-S	+E-W	Northing	Easting	Latitude	Longitude				
0.00	0.00	613610.70	475920.20	32° 41' 12.806 N	104° 24' 41.762 W				
SECTION DETAILS									
MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2354.50	0.00	0.00	2354.50	0.00	0.00	0.00	0.00	0.00	
3177.30	90.50	88.10	2875.40	17.42	525.18	11.00	88.10	525.21	
3245.32	90.50	90.14	2874.81	18.47	593.17	3.00	90.13	593.21	
7393.74	90.50	90.14	2838.97	8.30	4741.43	0.00	0.00	4741.44	PBHL
DESIGN TARGET DETAILS									
Name	TVD	+N-S	+E-W	Northing	Easting				
PP=330' FWL	2698.57	4.31	130.00	613615.01	476050.19				
PBHL	2838.97	8.30	4741.43	613619.00	480661.20				

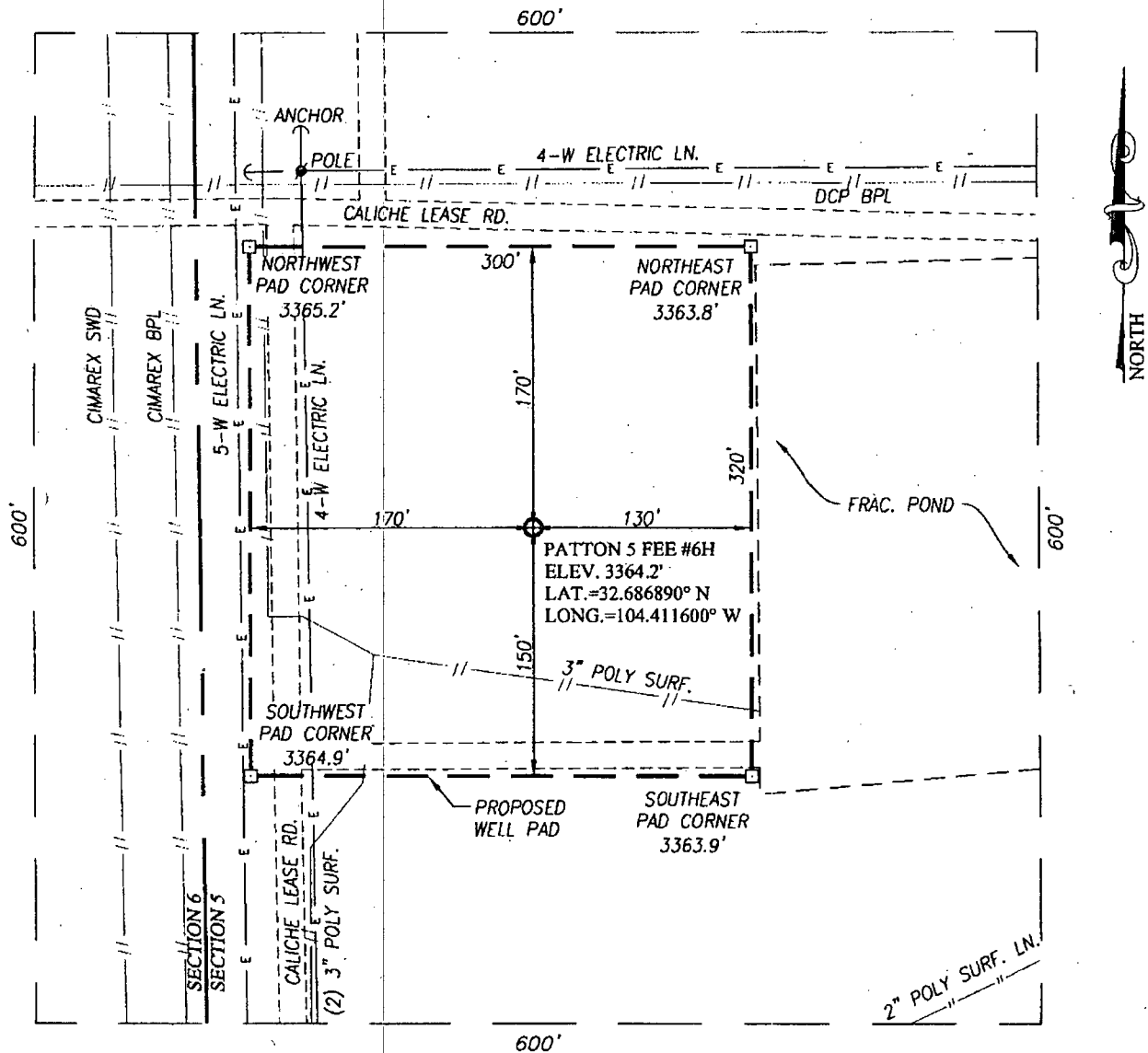
SITE DETAILS: Patton 5 Fee	
Site Centre Northing:	616822.20
Easting:	476026.50
Positional Uncertainty:	0.00
Convergence:	-0.04
Local North:	Grid
PROJECT DETAILS: Eddy County, NM (NAN27 NME)	
Geodetic System:	US State Plane 1927 (Exact solution)
Datum:	NAD 1927 (NADCON CONUS)
Ellipsoid:	Clarke 1866
Zone:	New Mexico East 3001
System Datum:	Mean Sea Level

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 #6H, Grid North
Latitude:	32° 41' 12.806 N
Longitude:	104° 24' 41.762 W
Grid East:	475920.20
Grid North:	613610.70
Scale Factor:	1.000
Geomagnetic Model:	BGGM2012
Sample Date:	14-Dec-12
Magnetic Declination:	7.93°
Dip Angle from Horizontal:	60.39°
Magnetic Field Strength:	48629
To convert a Magnetic Direction to a Grid Direction, Add 7.97°	
To convert a Magnetic Direction to a True Direction, Add 7.93° East	
To convert a True Direction to a Grid Direction, Add 0.04°	



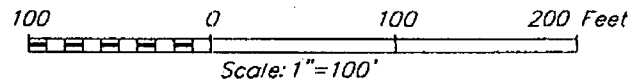
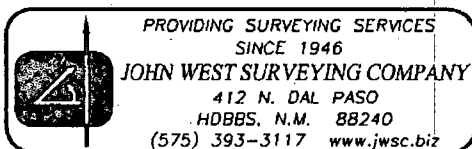
Julio Pate
1529, December 14 2012
Scientific Drilling
2034 Trade Drive
Midland, TX 79703

SECTION 5, TOWNSHIP 19 SOUTH, RANGE 26 EAST, N.M.P.M.
EDDY COUNTY **NEW MEXICO**



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF HIGHWAY 285 AND C.R.-38
 (KINCAID RANCH) GO WEST APPROX 2.75 MILES ON C.R.-38;
 TURN LEFT (EAST) AND GO APPROX 1 MILES; TURN LEFT (EAST)
 AND GO APPROX 1.75 MILES; TURN RIGHT (SOUTH) AND GO
 APPROX 0.9 MILES. STAKED LOCATION IS 150 FEET EAST.

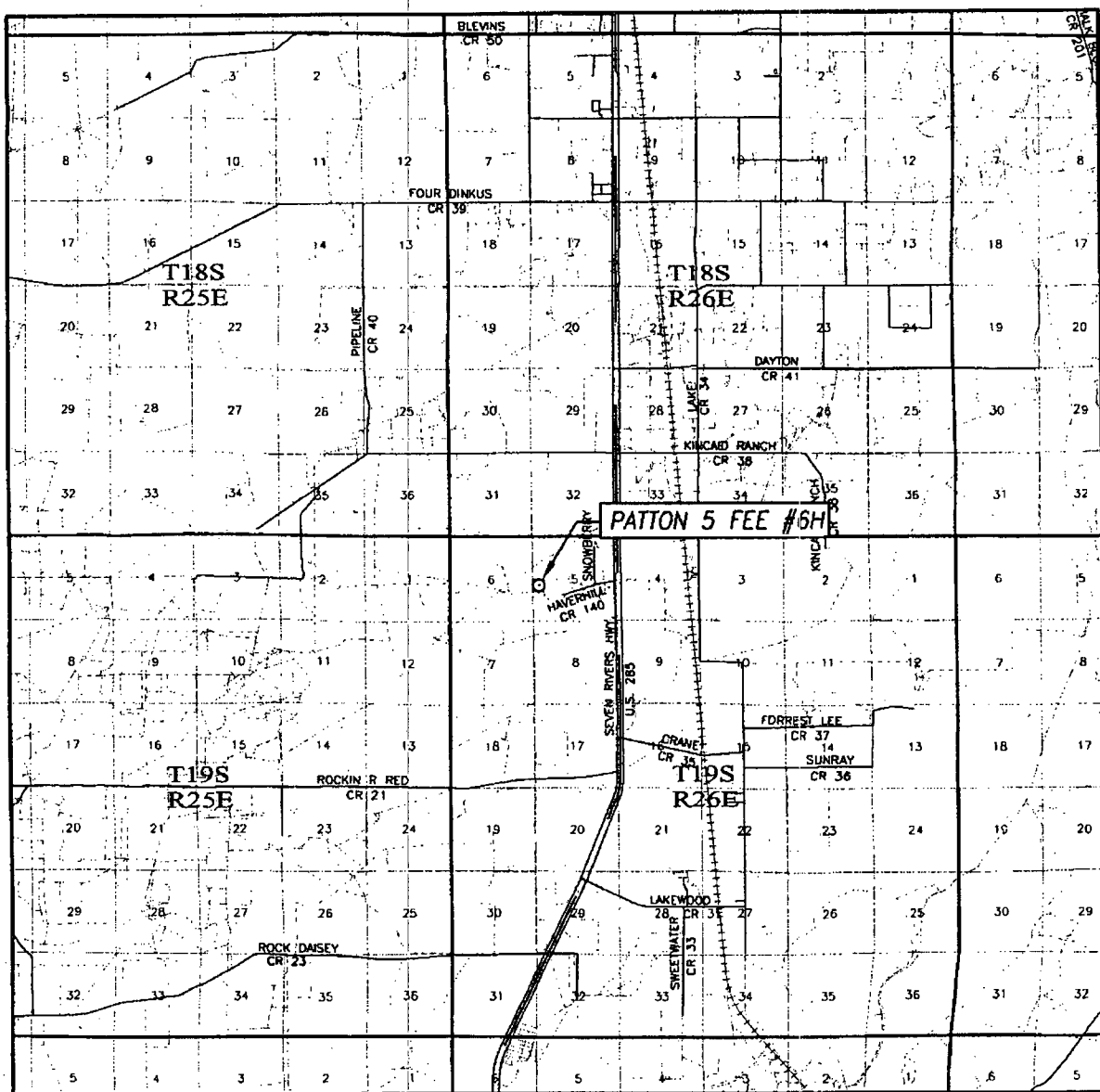


COG OPERATING, LLC

PATTON 5 FEE #6H WELL
 LOCATED 1639 FEET FROM THE SOUTH LINE
 AND 200 FEET FROM THE WEST LINE OF SECTION 5,
 TOWNSHIP 19 SOUTH, RANGE 26 EAST, N.M.P.M.,
 EDDY COUNTY, NEW MEXICO

Survey Date: 10/31/12	CAD Date: 11/7/12	Drawn By: BKL
W.D. No.: 12111740	Rev: .	Rel. W.D.: Sheet 1 of 1

VICINITY MAP



SEC. 5 TWP. 19-S RGE. 26-E

SURVEY N.M.P.M.

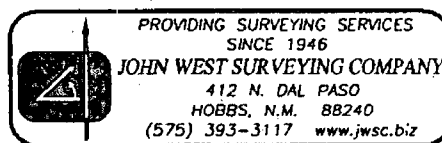
COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1639' FSL & 200' FWL

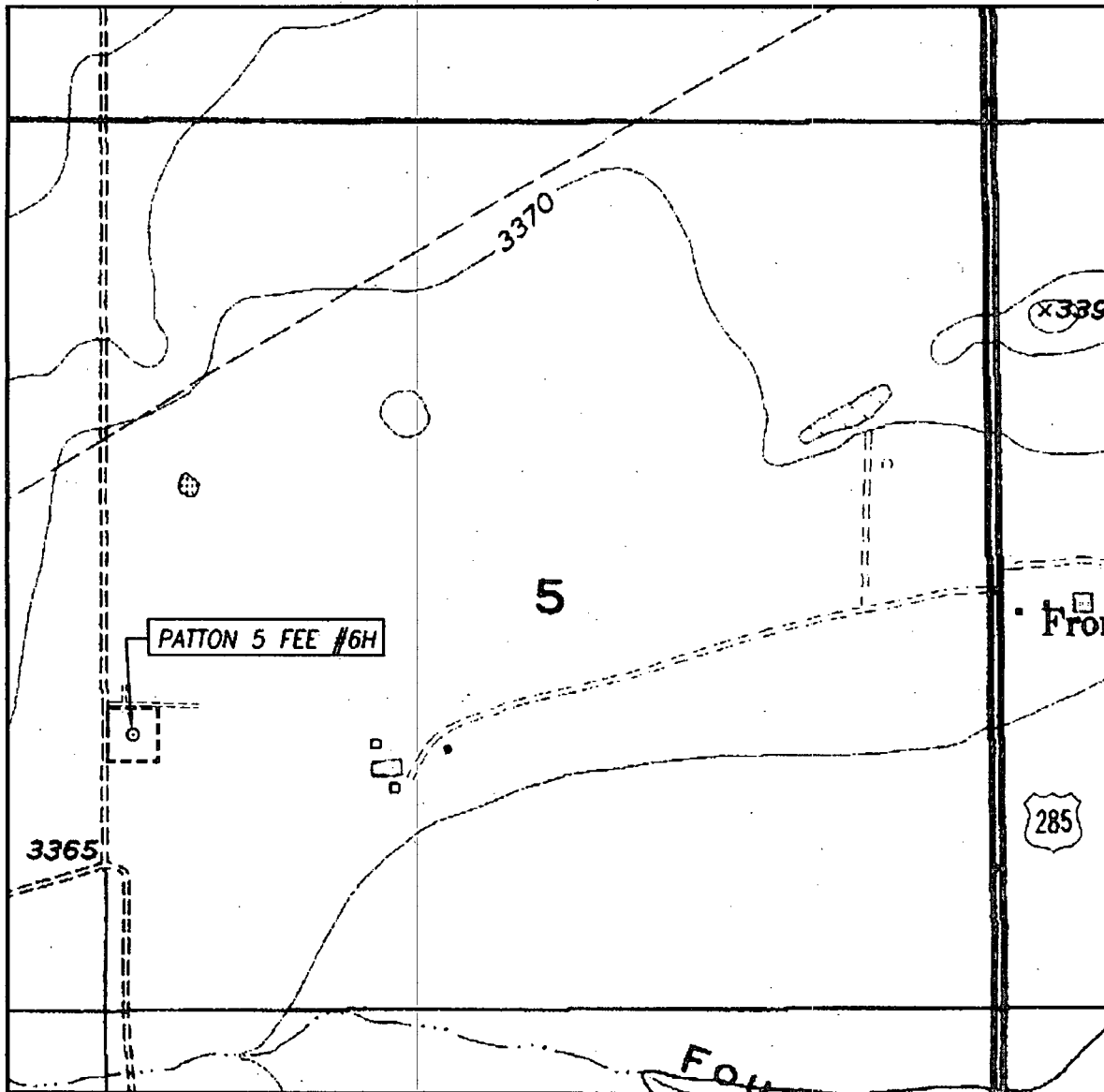
ELEVATION 3364'

OPERATOR COG OPERATING, LLC

EDDYSE PATTON 5 FEE



LOCATION VERIFICATION MAP



SCALE: 1" = 1000'

CONTOUR INTERVAL:
DAYTON, N.M. - 10'

SEC. 5 TWP. 19-S RGE. 26-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

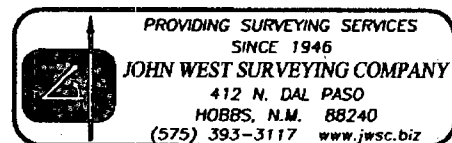
DESCRIPTION 1639' FSL & 200' FWL

ELEVATION 3364'

OPERATOR COG OPERATING, LLC

EDDYSE PATTON 5 FEE

U.S.G.S. TOPOGRAPHIC MAP
DAYTON, N.M.





Concho

Eddy County, New Mexico (Nad27)

Patton 5 Fee

Patton 5 Fee #6H

OH - Job #1310014 (JW 4)

Survey: Phoenix MWD

Standard Survey Report

18 January, 2013





Phoenix Technology Services
Survey Report



Company:	Concho	Local Co-ordinate Reference:	Well Patton 5 Fee #6H
Project:	Eddy County, New Mexico (Nad27)	TVD Reference:	WELL @ 3378.00usft (JW #4)
Site:	Patton 5 Fee	MD Reference:	WELL @ 3378.00usft (JW #4)
Well:	Patton 5 Fee #6H	North Reference:	Grid
Wellbore:	OH - Job #1310014 (JW 4)	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	GCR DB v5000

Project	Eddy County, New Mexico (Nad27)		
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
From:	Map	Easting:	475,920.20 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 41' 12.8058 N
		Longitude:	104° 24' 41.7618 W
		Grid Convergence:	-0.04 °

Well	Patton 5 Fee #6H		
Well Position	+N-S	0.00 usft	Northing:
	+E-W	0.00 usft	Easting:
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 41' 12.8058 N
		Longitude:	104° 24' 41.7618 W
		Ground Level:	3,364.00 usft

Wellbore	OH - Job #1310014 (JW 4)				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	01/09/13	7.81	60.43	48,644

Design	Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)	
	0.00	0.00	0.00	89.78	

Survey Program	Date 01/18/13				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	2,185.00	VES Gyro (OH - Job #1310014 (JW 4))	UNKNOWN	Unknown survey	
2,268.00	7,355.00	Phoenix MWD (OH - Job #1310014 (JW 4)	MWD	MWD - Standard	

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)
2,185.00	0.49	234.05	2,184.96	-1.57	-5.34	-5.34	0.00	0.00	0.00
2,268.00	0.20	232.70	2,267.96	-1.87	-5.74	-5.75	0.35	-0.35	-1.63
First Phoenix MWD Survey									
2,300.00	1.30	98.20	2,299.96	-1.95	-5.43	-5.43	4.52	3.44	-420.31
2,331.00	6.30	86.30	2,330.88	-1.89	-3.38	-3.39	16.24	16.13	-38.39
2,362.00	11.50	79.00	2,361.50	-1.19	1.35	1.35	17.13	16.77	-23.55
2,393.00	15.30	79.60	2,391.65	0.14	8.41	8.41	12.27	12.26	1.94
2,424.00	17.60	83.10	2,421.38	1.44	17.09	17.10	8.08	7.42	11.29
2,455.00	20.20	84.70	2,450.70	2.50	27.07	27.08	8.55	8.39	5.16
2,487.00	23.30	86.20	2,480.42	3.43	38.89	38.91	9.84	9.69	4.69



Phoenix Technology Services
Survey Report



Company:	Concho	Local Co-ordinate Reference:	Well Patton 5 Fee #6H
Project:	Eddy County New Mexico (Nad27)	TVD Reference:	WELL @ 3378.00usft (JW #4)
Site:	Patton 5 Fee	MD Reference:	WELL @ 3378.00usft (JW #4)
Well:	Patton 5 Fee #6H	North Reference:	Grid
Wellbore:	OH - Job #1310014 (JW 4)	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	GCR DB v5000

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)
2,518.00	25.70	87.00	2,508.63	4.18	51.73	51.74	7.82	7.74	2.58
2,549.00	28.10	86.60	2,536.27	4.97	65.73	65.75	7.76	7.74	-1.29
2,580.00	30.60	87.80	2,563.29	5.71	80.90	80.92	8.28	8.06	3.87
2,611.00	33.50	88.50	2,589.56	6.23	97.34	97.37	9.43	9.35	2.26
2,642.00	36.20	88.30	2,615.00	6.73	115.05	115.07	8.72	8.71	-0.65
2,674.00	39.20	88.40	2,640.32	7.29	134.61	134.63	9.38	9.38	0.31
2,705.00	41.50	87.80	2,663.94	7.96	154.67	154.69	7.52	7.42	-1.94
2,736.00	43.70	87.40	2,686.76	8.84	175.63	175.66	7.15	7.10	-1.29
2,767.00	45.80	87.60	2,708.77	9.79	197.43	197.47	6.79	6.77	0.65
2,798.00	47.30	87.80	2,730.09	10.69	219.92	219.96	4.86	4.84	0.65
2,829.00	49.40	87.50	2,750.69	11.64	243.06	243.10	6.81	6.77	-0.97
2,860.00	51.40	86.90	2,770.45	12.81	266.92	266.96	6.62	6.45	-1.94
2,892.00	54.20	86.30	2,789.80	14.33	292.36	292.41	8.88	8.75	-1.88
2,923.00	57.30	85.40	2,807.24	16.18	317.91	317.97	10.28	10.00	-2.90
2,954.00	60.10	84.20	2,823.35	18.59	344.29	344.35	9.62	9.03	-3.87
2,985.00	62.10	85.60	2,838.33	21.00	371.32	371.39	7.57	6.45	4.52
3,016.00	65.80	86.30	2,851.94	22.96	399.09	399.18	12.11	11.94	2.26
3,047.00	68.90	86.10	2,863.88	24.86	427.63	427.73	10.02	10.00	-0.65
3,079.00	72.60	86.30	2,874.43	26.86	457.77	457.87	11.58	11.56	0.63
3,110.00	75.70	86.40	2,882.89	28.76	487.53	487.64	10.00	10.00	0.32
3,141.00	80.10	86.60	2,889.39	30.61	517.78	517.89	14.21	14.19	0.65
3,172.00	84.70	86.80	2,893.49	32.37	548.45	548.57	14.85	14.84	0.65
3,203.00	87.10	88.30	2,895.70	33.70	579.34	579.46	9.12	7.74	4.84
3,235.00	88.00	91.10	2,897.07	33.86	611.30	611.43	9.18	2.81	8.75
3,266.00	89.80	92.10	2,897.67	33.00	642.28	642.41	6.64	5.81	3.23
3,297.00	90.60	92.00	2,897.56	31.89	673.26	673.38	2.60	2.58	-0.32
3,328.00	90.70	91.80	2,897.21	30.86	704.24	704.36	0.72	0.32	-0.65
3,422.00	90.20	91.90	2,896.47	27.83	798.19	798.29	0.54	-0.53	0.11
3,515.00	90.00	91.50	2,896.31	25.07	891.15	891.24	0.48	-0.22	-0.43
3,609.00	90.30	89.50	2,896.06	24.25	985.14	985.23	2.15	0.32	-2.13
3,703.00	89.80	88.90	2,895.98	25.56	1,079.13	1,079.22	0.83	-0.53	-0.64
3,796.00	89.40	88.00	2,896.63	28.08	1,172.09	1,172.19	1.06	-0.43	-0.97
3,890.00	89.30	88.50	2,897.69	30.95	1,266.04	1,266.15	0.54	-0.11	0.53
3,983.00	89.60	88.40	2,898.59	33.46	1,359.01	1,359.12	0.34	0.32	-0.11
4,077.00	90.30	89.70	2,898.67	35.02	1,452.99	1,453.11	1.57	0.74	1.38
4,171.00	90.20	89.50	2,898.26	35.68	1,546.99	1,547.11	0.24	-0.11	-0.21
4,265.00	88.80	89.90	2,899.08	36.17	1,640.98	1,641.11	1.55	-1.49	0.43
4,358.00	89.90	90.20	2,900.13	36.09	1,733.97	1,734.10	1.23	1.18	0.32
4,452.00	89.80	89.90	2,900.38	36.00	1,827.97	1,828.10	0.34	-0.11	-0.32
4,545.00	89.60	89.40	2,900.87	36.57	1,920.97	1,921.09	0.58	-0.22	-0.54
4,639.00	90.30	90.10	2,900.95	36.98	2,014.97	2,015.09	1.05	0.74	0.74
4,732.00	90.20	89.80	2,900.54	37.06	2,107.97	2,108.09	0.34	-0.11	-0.32
4,826.00	90.20	88.90	2,900.21	38.13	2,201.96	2,202.09	0.96	0.00	-0.96



Phoenix Technology Services
Survey Report



Company:	Concho	Local Co-ordinate Reference:	Well Patton 5 Fee #6H
Project:	Eddy County, New Mexico (Nad27)	TVD Reference:	WELL @ 3378.00usft (JW #4)
Site:	Patton 5 Fee	MD Reference:	WELL @ 3378.00usft (JW #4)
Well:	Patton 5 Fee #6H	North Reference:	Grid
Wellbore:	OH - Job #1310014 (JW 4)	Survey Calculation Method:	Minimum Curvature
Design:	Surveys	Database:	GCR DB v5000

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)
4,920.00	90.10	88.30	2,899.97	40.43	2,295.93	2,296.07	0.65	-0.11	-0.64
5,013.00	89.90	89.00	2,899.97	42.62	2,388.90	2,389.05	0.78	-0.22	0.75
5,107.00	90.90	89.20	2,899.31	44.09	2,482.89	2,483.04	1.08	1.06	0.21
5,200.00	90.70	90.20	2,898.01	44.58	2,575.88	2,576.03	1.10	-0.22	1.08
5,294.00	89.70	91.50	2,897.68	43.19	2,669.86	2,670.01	1.74	-1.06	1.38
5,387.00	89.90	90.70	2,898.01	41.40	2,762.84	2,762.98	0.89	0.22	-0.86
5,481.00	89.70	90.30	2,898.34	40.58	2,856.84	2,856.97	0.48	-0.21	-0.43
5,574.00	89.40	90.80	2,899.07	39.69	2,949.83	2,949.96	0.63	-0.32	0.54
5,668.00	88.50	91.70	2,900.79	37.64	3,043.79	3,043.91	1.35	-0.96	0.96
5,762.00	88.30	91.40	2,903.42	35.10	3,137.72	3,137.83	0.38	-0.21	-0.32
5,855.00	89.80	90.50	2,904.96	33.56	3,230.69	3,230.80	1.88	1.61	-0.97
5,949.00	89.60	89.90	2,905.45	33.23	3,324.69	3,324.79	0.67	-0.21	-0.64
6,042.00	89.30	89.30	2,906.34	33.88	3,417.68	3,417.79	0.72	-0.32	-0.65
6,137.00	90.30	89.30	2,906.67	35.04	3,512.67	3,512.78	1.05	1.05	0.00
6,230.00	90.60	89.80	2,905.94	35.77	3,605.67	3,605.78	0.63	0.32	0.54
6,324.00	89.20	90.70	2,906.11	35.36	3,699.66	3,699.77	1.77	-1.49	0.96
6,417.00	88.90	90.30	2,907.65	34.55	3,792.65	3,792.75	0.54	-0.32	-0.43
6,511.00	88.10	89.90	2,910.11	34.38	3,886.61	3,886.72	0.95	-0.85	-0.43
6,604.00	88.60	89.30	2,912.79	35.03	3,979.57	3,979.68	0.84	0.54	-0.65
6,698.00	88.90	90.70	2,914.84	35.03	4,073.55	4,073.65	1.52	0.32	1.49
6,791.00	90.40	90.20	2,915.41	34.30	4,166.54	4,166.64	1.70	1.61	-0.54
6,885.00	89.80	89.80	2,915.24	34.30	4,260.54	4,260.64	0.77	-0.64	-0.43
6,978.00	90.70	90.50	2,914.84	34.06	4,353.53	4,353.63	1.23	0.97	0.75
7,072.00	90.00	90.20	2,914.26	33.48	4,447.53	4,447.63	0.81	-0.74	-0.32
7,166.00	89.50	89.60	2,914.67	33.65	4,541.53	4,541.62	0.83	-0.53	-0.64
7,259.00	89.30	89.00	2,915.65	34.78	4,634.52	4,634.62	0.68	-0.22	-0.65
Last Phoenix MWD Survey									
7,355.00	89.30	89.00	2,916.82	36.46	4,730.49	4,730.60	0.00	0.00	0.00
Projectio to TD @ 7355' MD									

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
2,268.00	2,267.96	-1.87	-5.74	First Phoenix MWD Survey
7,259.00	2,915.65	34.78	4,634.52	Last Phoenix MWD Survey
7,355.00	2,916.82	36.46	4,730.49	Projectio to TD @ 7355' MD

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------