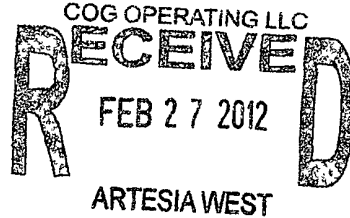




PO Box 1370  
Artesia, NM 88211-1370  
(575) 748-1288

30-015-39734



February 10, 2012

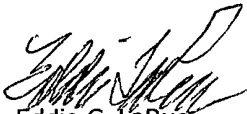
COG, LLC  
Fasken Center, Tower II  
550 West Texas Ave, Suite 1300  
Midland, TX 79701

RE: Cottonmouth 13 Federal Com 1-H  
810' FSL & 2630' FWL  
Sec. 24, T26S, R28E  
Eddy County, New Mexico

Dear Sir,

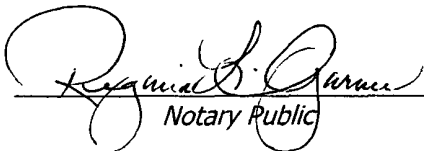
The attached is the Deviation Survey for the above captioned well.

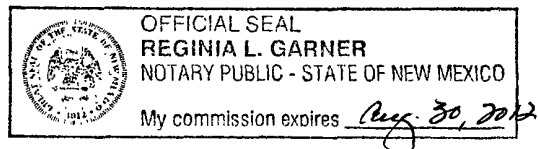
Very truly yours,

  
Eddie C. LaRue  
Operations Manager

State of New Mexico }  
County of Eddy }

*The foregoing was acknowledged before me this 10<sup>th</sup> day of February, 2012.*

  
Regina L. Garner  
Notary Public



# Pason DataHub Deviation Survey  
 # Well Dossier 1325380167 - COTTONMOUTH 13 1-H  
 #

# Date	Depth	Deviation	Direction	TVD
1/1/2012	189	1.10	0.00	0.00
1/1/2012	427	2.20	0.00	0.00
1/3/2012	685	2.50	0.00	0.00
1/4/2012	768	1.60	0.00	0.00
1/4/2012	1024	1.60	0.00	0.00
1/4/2012	1320	0.80	0.00	0.00
1/5/2012	1500	1.80	0.00	0.00
1/5/2012	1752	1.90	0.00	0.00
1/5/2012	2007	1.80	0.00	0.00
1/5/2012	2364	4.00	0.00	0.00
1/7/2012	2175	3.70	95.00	0.00
1/7/2012	2413	6.90	97.80	0.00
1/8/2012	2540	4.00	98.30	0.00
1/8/2012	2591	3.40	99.40	0.00
1/8/2012	2620	2.00	99.40	0.00
1/10/2012	2860	0.70	0.00	0.00
1/11/2012	3323	1.50	0.00	0.00
1/11/2012	3829	1.20	0.00	0.00
1/11/2012	4303	1.20	0.00	0.00
1/11/2012	4749	1.70	0.00	0.00
1/12/2012	5193	2.10	0.00	0.00
1/12/2012	5668	2.30	0.00	0.00
1/12/2012	6112	1.80	0.00	0.00
1/13/2012	6555	2.50	0.00	0.00
1/13/2012	7002	1.10	0.00	0.00
1/17/2012	6565	12.40	210.00	0.00
1/18/2012	6629	26.60	216.30	0.00
1/18/2012	6883	42.70	227.50	0.00
1/18/2012	7074	61.00	222.10	0.00
1/19/2012	7201	70.70	204.60	0.00
1/20/2012	7329	86.10	207.60	0.00
1/20/2012	7742	91.10	177.60	0.00
1/20/2012	8344	91.60	181.70	0.00
1/21/2012	8473	91.10	182.10	7022.00
1/21/2012	9045	87.30	179.60	7024.00
1/22/2012	9618	91.60	183.00	7028.00
1/22/2012	9713	92.00	180.30	7025.00
1/22/2012	9809	93.00	181.50	0.00
1/23/2012	10191	89.90	180.50	7010.00
1/23/2012	10286	88.40	180.00	7012.00
1/23/2012	10381	88.30	177.80	0.00

#	Date	Depth	Deviation	Direction	TVD
	1/23/2012	10477	88.10	178.80	0.00
	1/23/2012	10763	92.90	179.90	7017.74
	1/24/2012	10858	89.70	179.60	7015.00
	1/24/2012	10953	88.30	179.80	7017.00
	1/24/2012	11049	90.50	181.40	7018.00
	1/30/2012	10502	83.50	182.30	0.00
	2/1/2012	10787	87.90	186.60	7045.00
	2/1/2012	11073	90.90	177.60	0.00
	2/1/2012	11168	91.70	177.10	7044.00
	2/1/2012	11264	92.20	178.10	7040.00
	2/2/2012	11455	90.40	176.70	7037.00
	2/2/2012	11741	91.40	180.50	7032.00
	2/2/2012	11836	91.10	181.40	7029.00
	2/2/2012	11923	91.10	181.30	7027.00
	2/2/2012	12027	90.60	180.80	7026.00
	2/3/2012	12122	90.10	180.50	7026.00
	2/3/2012	12313	89.70	179.90	7026.00
	2/5/2012	12408	88.30	177.30	7026.00
	2/5/2012	12504	87.80	176.70	7029.00

# EOF

# COG OPERATING

Red Bluff  
Eddy County, NM  
Cottonmouth "13" Federal Com #1H  
VH - Job #32K0112037

Survey: Gyro

## SDI Standard Survey Report

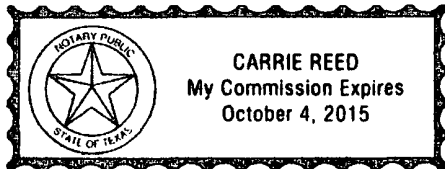
This survey is correct to the best of my knowledge and is supported by actual field data.

*Luharto*

Notarized this date 20th of March, 2012.

*Carrie Reed*

Notary Signature  
County of Midland  
State of Texas



**Scientific Drilling International, Inc.**  
SDI Standard Survey Report



<b>Company:</b>	COG OPERATING	<b>Local Co-ordinate Reference:</b>	Well Cottonmouth "13" Federal Com #1H
<b>Project:</b>	Red Bluff	<b>TVD Reference:</b>	WELL @ 0 0usft (Original Well Elev)
<b>Site:</b>	Eddy County, NM	<b>MD Reference:</b>	WELL @ 0 0usft (Original Well Elev)
<b>Well:</b>	Cottonmouth "13" Federal Com #1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	VH - Job #32K0112037	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	VH - Job #32K0112037	<b>Database:</b>	EDM-Regulatory

<b>Project</b>	Red Bluff		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

<b>Site</b>	Eddy County, NM				
<b>Site Position:</b>	<b>Northing:</b>	403,456.01 usft	<b>Latitude:</b>	32° 6' 32.400 N	
<b>From:</b>	Lat/Long	<b>Easting:</b>	572,556.11 usft	<b>Longitude:</b>	104° 5' 56.400 W
<b>Position Uncertainty:</b>	0 0 usft	<b>Slot Radius:</b>	13-3/16"	<b>Grid Convergence:</b>	0 12 °

<b>Well</b>	Cottonmouth "13" Federal Com #1H, Directional (Phoenix)					
<b>Well Position</b>	<b>+N/-S</b>	0 0 usft	<b>Northing:</b>	377,475.21 usft	<b>Latitude:</b>	32° 2' 14.840 N
	<b>+E/-W</b>	0 0 usft	<b>Easting:</b>	590,776.18 usft	<b>Longitude:</b>	104° 2' 25.380 W
<b>Position Uncertainty</b>	0 0 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	0 0 usft	

<b>Wellbore</b>	VH - Job #32K0112037				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
	IGRF2010	1/13/2012	(°) 7.72	(°) 59.92	(nT) 48,419

<b>Design</b>	VH - Job #32K0112037				
<b>Audit Notes:</b>					
<b>Version:</b>	1 0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0 0
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(usft)	(usft)	(usft)	(°)	
	0 0	0.0	0 0	183.97	

<b>Survey Program</b>	<b>Date:</b>	4/10/2012			
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
(usft)	(usft)				
100 0	7,447.0	Gyro (VH - Job #32K0112037)	Keeper	Keeper Gyro	

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (-usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
0 0	0 00	0 00	0.0	0 0	0 0	0 00	0 0
100 0	0 35	17 33	100 0	0 3	0 1	17 33	0 3
200 0	0 75	16 23	200 0	1 2	0 4	16 76	1 3
300 0	0 92	21 58	300 0	2 6	0 8	18 05	2 7
400 0	1 10	32 50	400 0	4 1	1 7	21 77	4 5
500 0	1 21	30 91	499 9	5 9	2 7	24 84	6 5
600 0	1 27	40 83	599 9	7 6	4 0	27 63	8 6
700 0	1 31	60 16	699 9	9 0	5 7	32 30	10 7
800 0	1 16	70 20	799 9	9 9	7 6	37 60	12 5
900 0	0 86	77 57	899 9	10 4	9 3	41 81	14 0
1,000 0	0 69	75 86	999 9	10 7	10 6	44 75	15 1
1,100 0	0 73	87 22	1,099 8	10 9	11 9	47 39	16 1

**Scientific Drilling International, Inc.**  
SDI Standard Survey Report



<b>Company:</b>	COG OPERATING	<b>Local Co-ordinate Reference:</b>	Well Cottonmouth "13" Federal Com #1H
<b>Project:</b>	Red Bluff	<b>TVD Reference:</b>	WELL @ 0 0usft (Original Well Elev)
<b>Site:</b>	Eddy County, NM	<b>MD Reference:</b>	WELL @ 0 0usft (Original Well Elev)
<b>Well:</b>	Cottonmouth "13" Federal Com #1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	VH - Job #32K0112037	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	VH - Job #32K0112037	<b>Database:</b>	EDM-Regulatory

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,200.0	0.70	106.31	1,199.8	10.8	13.1	50.54	16.9
1,300.0	0.64	115.91	1,299.8	10.4	14.2	53.84	17.6
1,400.0	0.32	181.10	1,399.8	9.8	14.7	56.17	17.7
1,500.0	0.42	185.02	1,499.8	9.2	14.6	57.87	17.3
1,600.0	0.81	114.98	1,599.8	8.5	15.2	60.78	17.5
1,700.0	1.36	107.42	1,699.8	7.9	17.0	65.17	18.7
1,800.0	1.43	113.21	1,799.8	7.0	19.3	69.99	20.5
1,900.0	0.90	116.42	1,899.8	6.2	21.1	73.70	22.0
2,000.0	2.96	93.34	1,999.7	5.7	24.4	76.90	25.1
2,100.0	4.01	95.06	2,099.5	5.2	30.5	80.28	30.9
2,200.0	4.57	93.18	2,199.2	4.7	37.9	82.95	38.2
2,300.0	6.59	95.80	2,298.7	3.9	47.6	85.33	47.8
2,400.0	6.48	95.66	2,398.1	2.8	59.0	87.32	59.0
2,500.0	5.01	97.12	2,497.6	1.7	68.9	88.62	68.9
2,600.0	2.59	93.93	2,597.4	1.0	75.5	89.27	75.5
2,700.0	1.80	91.51	2,697.3	0.8	79.3	89.45	79.3
2,800.0	1.68	91.06	2,797.2	0.7	82.4	89.51	82.4
2,900.0	1.39	90.45	2,897.2	0.7	85.0	89.55	85.0
3,000.0	1.36	90.10	2,997.2	0.7	87.4	89.57	87.4
3,100.0	1.22	91.21	3,097.2	0.6	89.7	89.60	89.7
3,200.0	1.11	95.77	3,197.1	0.5	91.7	89.68	91.7
3,300.0	0.99	101.10	3,297.1	0.2	93.5	89.85	93.5
3,400.0	0.85	100.85	3,397.1	-0.1	95.1	90.04	95.1
3,500.0	0.57	108.22	3,497.1	-0.4	96.3	90.21	96.3
3,600.0	0.36	108.56	3,597.1	-0.6	97.1	90.36	97.1
3,700.0	0.26	105.84	3,697.1	-0.8	97.6	90.46	97.6
3,800.0	0.16	87.60	3,797.1	-0.8	97.9	90.49	97.9
3,900.0	0.10	71.00	3,897.1	-0.8	98.2	90.47	98.2
4,000.0	0.09	51.40	3,997.1	-0.7	98.3	90.42	98.3
4,100.0	0.15	234.74	4,097.1	-0.7	98.3	90.44	98.3
4,200.0	0.17	254.74	4,197.1	-0.9	98.0	90.50	98.0
4,300.0	0.37	230.69	4,297.1	-1.1	97.6	90.65	97.6
4,400.0	0.41	222.04	4,397.1	-1.6	97.1	90.93	97.1
4,500.0	0.42	231.28	4,497.1	-2.1	96.6	91.23	96.6
4,600.0	0.57	206.47	4,597.1	-2.7	96.1	91.64	96.1
4,700.0	0.61	196.40	4,697.1	-3.7	95.7	92.21	95.8
4,800.0	0.67	196.18	4,797.1	-4.8	95.4	92.86	95.5
4,900.0	0.73	200.87	4,897.1	-5.9	95.0	93.57	95.2
5,000.0	0.90	197.12	4,997.0	-7.3	94.6	94.40	94.8
5,100.0	0.98	198.11	5,097.0	-8.8	94.1	95.37	94.5
5,200.0	1.02	197.92	5,197.0	-10.5	93.5	96.40	94.1
5,300.0	1.14	202.54	5,297.0	-12.3	92.9	97.52	93.7
5,400.0	1.18	204.83	5,397.0	-14.1	92.1	98.72	93.1
5,500.0	1.23	202.96	5,497.0	-16.0	91.2	99.97	92.6

**Scientific Drilling International, Inc.**  
SDI Standard Survey Report



<b>Company:</b>	COG OPERATING	<b>Local Co-ordinate Reference:</b>	Well Cottonmouth "13" Federal Com #1H
<b>Project:</b>	Red Bluff	<b>TVD Reference:</b>	WELL @ 0 0usft (Original Well Elev)
<b>Site:</b>	Eddy County, NM	<b>MD Reference:</b>	WELL @ 0 0usft (Original Well Elev)
<b>Well:</b>	Cottonmouth "13" Federal Com #1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	VH - Job #32K0112037	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	VH - Job #32K0112037	<b>Database:</b>	EDM-Regulatory

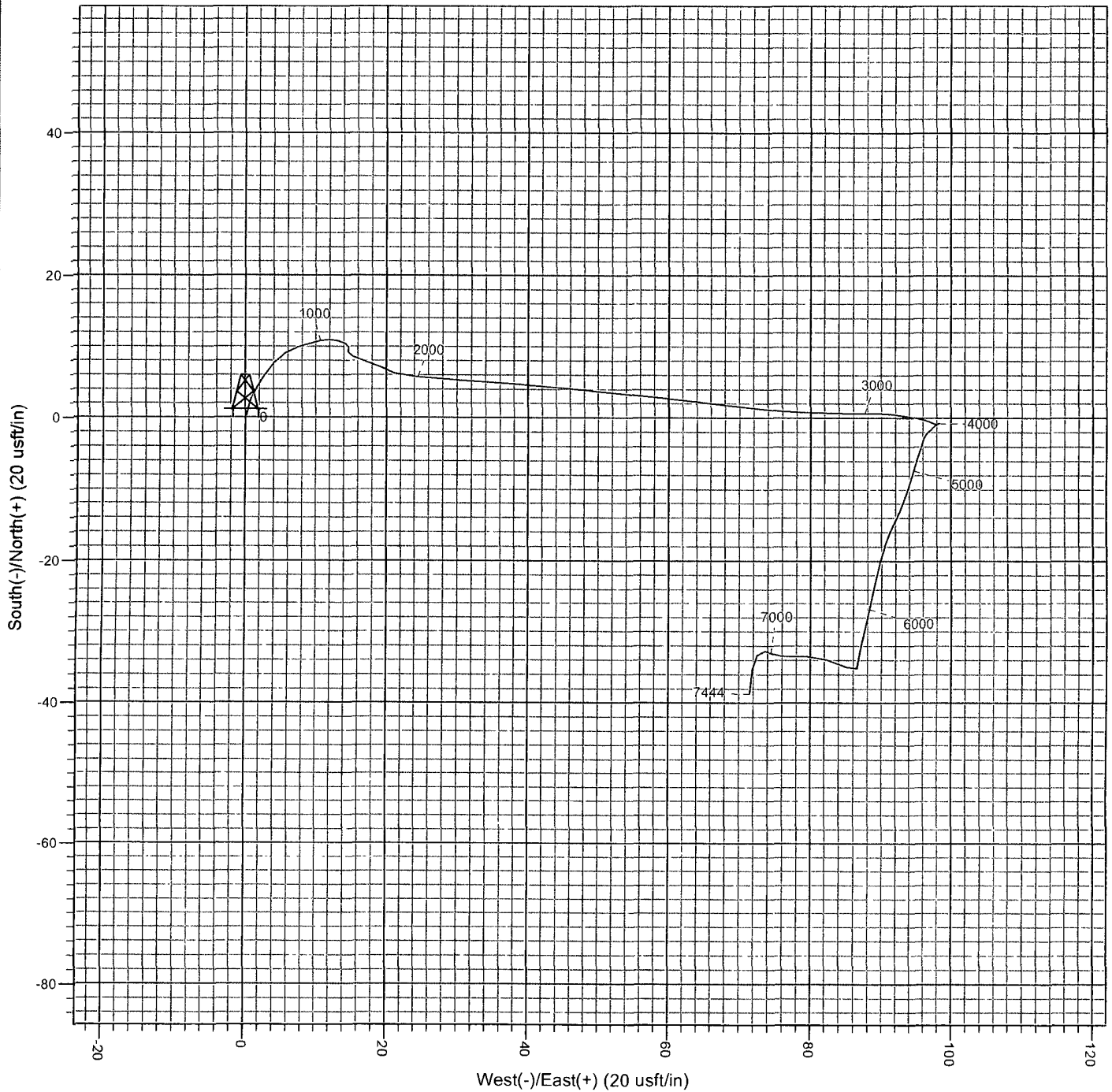
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
5,600.0	1.20	198.65	5,596.9	-18.0	90.5	101.27	92.2
5,700.0	1.21	196.40	5,696.9	-20.0	89.8	102.57	92.0
5,800.0	1.24	194.15	5,796.9	-22.1	89.3	103.90	92.0
5,900.0	1.42	192.05	5,896.9	-24.3	88.7	105.34	92.0
6,000.0	1.40	193.36	5,996.8	-26.7	88.2	106.87	92.2
6,100.0	1.45	191.18	6,096.8	-29.2	87.7	108.41	92.4
6,200.0	1.49	195.29	6,196.8	-31.7	87.1	109.99	92.7
6,300.0	1.05	182.49	6,296.7	-33.8	86.7	111.32	93.1
6,400.0	0.51	199.31	6,396.7	-35.2	86.5	112.13	93.4
6,500.0	1.62	293.74	6,496.7	-35.0	85.1	112.38	92.0
6,600.0	1.82	285.98	6,596.7	-34.0	82.2	112.47	89.0
6,700.0	1.39	272.52	6,696.6	-33.5	79.5	112.87	86.3
6,800.0	0.96	266.63	6,796.6	-33.5	77.5	113.41	84.4
6,900.0	0.99	278.18	6,896.6	-33.5	75.8	113.82	82.8
7,000.0	0.59	296.82	6,996.6	-33.1	74.5	113.97	81.5
7,100.0	0.52	283.49	7,096.6	-32.8	73.6	114.01	80.5
7,200.0	1.07	219.27	7,196.6	-33.4	72.5	114.71	79.8
7,300.0	1.33	185.03	7,296.6	-35.3	71.8	116.14	80.0
7,400.0	1.35	185.26	7,396.5	-37.6	71.6	117.69	80.9
7,447.0	1.55	191.16	7,443.5	-38.8	71.4	118.48	81.3



Project: Red Bluff  
 Eddy County, NM  
 Well: Cottonmouth "13" Federal Com #1H  
 Wellbore: VH - Job #32K0112037  
 Design: VH - Job #32K0112037

WELL DETAILS: Cottonmouth "13" Federal Com #1H  
 WELL @ 0 Qusft (Original Well Elev)  
 Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	377475.21	590776.18	32° 2' 14.840 N	104° 2' 25.380 W	



PROJECT DETAILS: Red Bluff	SITE DETAILS: Eddy County, NM
Geodetic System: US State Plane 1927 (Exact solution)	Site Centre Latitude: 32° 6' 32.400 N
Datum: NAD 1927 (NADCON CONUS)	Longitude: 104° 5' 56.400 W
Ellipsoid: Clarke 1866	Positional Uncertainty: 0 0
Zone: New Mexico East 3001	Convergence: 0.12
System Datum: Mean Sea Level	Local North: Grid





## **Concho**

**Eddy County, New Mexico (Nad83)  
Cottonmouth 13 Federal Com  
Cottonmouth 13 Fed Com 1H  
Wellbore #1**

**Design: Wellbore #1**

## **Concho**

**06 February, 2012**





**Phoenix Technology Services**  
Concho



<b>Company:</b> Concho	<b>Local Co-ordinate Reference:</b> Well Cottonmouth 13 Fed Com 1H
<b>Project:</b> Eddy County, New Mexico (Nad83)	<b>TVD Reference:</b> WELL @ 2937.99usft (Original Well Elev + 18' KB)
<b>Site:</b> Cottonmouth 13 Federal Com	<b>MD Reference:</b> WELL @ 2937.99usft (Original Well Elev + 18' KB)
<b>Well:</b> Cottonmouth 13 Fed Com 1H	<b>North Reference:</b> Gnd
<b>Wellbore:</b> Wellbore #1	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> Wellbore #1	<b>Database:</b> GCR DB v5000

<b>Project</b>	Eddy County, New Mexico (Nad83)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Eastern Zone		

<b>Site</b>	Cottonmouth 13 Federal Com		
<b>Site Position:</b>	<b>Northing:</b>	377,532.35 usft	<b>Latitude:</b> 32° 2' 15.2849 N
<b>From:</b> Map	<b>Easting:</b>	631,960.93 usft	<b>Longitude:</b> 104° 2' 27.1307 W
<b>Position Uncertainty:</b> 0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.16 °

<b>Well</b>	Cottonmouth 13 Fed Com 1H		
<b>Well Position</b>	<b>+N/-S</b>	0.00 usft	<b>Northing:</b> 377,532.35 usft
	<b>+E/-W</b>	0.00 usft	<b>Easting:</b> 631,960.93 usft
<b>Position Uncertainty</b>		0.00 usft	<b>Wellhead Elevation:</b> usft
			<b>Latitude:</b> 32° 2' 15.2849 N
			<b>Longitude:</b> 104° 2' 27.1307 W
			<b>Ground Level:</b> 2,919.99 usft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
	IGRF2010_14	09/14/11	7.76	59.93	48,430

<b>Design</b>	Wellbore #1		
<b>Audit Notes:</b>			
<b>Version:</b> 1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b> 0.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			<b>Direction</b>
			(°)
			183.97



**Phoenix Technology Services**  
Concho



Company: Concho  
 Project: Eddy County, New Mexico (Nad83)  
 Site: Cottonmouth 13 Federal Com  
 Well: Cottonmouth 13 Fed Com 1H  
 Wellbore: Wellbore #1  
 Design: Wellbore #1

Local Co-ordinate Reference: Well Cottonmouth 13 Fed Com 1H  
 TVD Reference: WELL @ 2937 99usft (Original Well Elev + 18' KB)  
 MD Reference: WELL @ 2937 99usft (Original Well Elev + 18' KB)  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature  
 Database: GCR DB v5000

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.00	6,400.00	Gyro Surveys (Wellbore #1)	MWD	MWD - Standard
6,470.00	10,381.00	Phoenix MWD Surveys (Wellbore #1)	MWD	MWD - Standard
10,502.00	12,586.00	Phoenix ST MWD Surveys (Wellbore #1)	MWD	MWD - Standard

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.00	0.00	0.00	-2,937.99	0.00	0.00	0.00	0.00	0.00	377,532.35	631,960.93
100.00	0.35	17.33	-2,837.99	100.00	0.29	0.09	-0.30	0.35	377,532.65	631,961.02
200.00	0.75	16.23	-2,738.00	199.99	1.21	0.36	-1.23	0.40	377,533.57	631,961.30
300.00	0.92	21.58	-2,638.01	299.98	2.59	0.84	-2.64	0.19	377,534.94	631,961.78
400.00	1.10	32.50	-2,538.03	399.97	4.14	1.65	-4.25	0.26	377,536.50	631,962.59
500.00	1.21	30.91	-2,438.05	499.95	5.86	2.71	-6.03	0.11	377,538.21	631,963.65
600.00	1.27	40.83	-2,338.07	599.92	7.60	3.98	-7.86	0.22	377,539.96	631,964.91
700.00	1.31	60.16	-2,238.09	699.90	9.01	5.70	-9.38	0.43	377,541.36	631,966.63
800.00	1.16	70.20	-2,138.12	799.88	9.92	7.64	-10.43	0.26	377,542.28	631,968.57
900.00	0.86	77.57	-2,038.13	899.86	10.43	9.32	-11.05	0.33	377,542.78	631,970.26
1,000.00	0.69	75.86	-1,938.14	999.85	10.73	10.64	-11.45	0.17	377,543.09	631,971.57
1,100.00	0.73	87.22	-1,838.15	1,099.84	10.91	11.86	-11.71	0.15	377,543.27	631,972.79
1,200.00	0.70	106.31	-1,738.16	1,199.84	10.77	13.08	-11.65	0.24	377,543.13	631,974.02
1,300.00	0.64	115.91	-1,638.16	1,299.83	10.36	14.17	-11.31	0.13	377,542.71	631,975.11
1,400.00	0.32	181.10	-1,538.17	1,399.83	9.83	14.67	-10.82	0.58	377,542.19	631,975.60
1,500.00	0.42	185.02	-1,438.17	1,499.82	9.19	14.63	-10.18	0.10	377,541.54	631,975.57
1,600.00	0.81	114.98	-1,338.17	1,599.82	8.53	15.24	-9.56	0.77	377,540.88	631,976.17
1,700.00	1.36	107.42	-1,238.19	1,699.80	7.87	17.01	-9.03	0.57	377,540.23	631,977.95
1,800.00	1.43	113.21	-1,138.22	1,799.77	7.02	19.29	-8.34	0.16	377,539.38	631,980.23
1,900.00	0.90	116.42	-1,038.24	1,899.75	6.18	21.14	-7.63	0.53	377,538.54	631,982.08



**Phoenix Technology Services**  
Concho



Company: Concho  
 Project: Eddy County, New Mexico (Nad83)  
 Site: Cottonmouth 13 Federal Com  
 Well: Cottonmouth 13 Fed Com 1H  
 Wellbore: Wellbore #1  
 Design: Wellbore #1

Local Co-ordinate Reference: Well Cottonmouth 13 Fed Com 1H  
 TVD Reference: WELL @ 2937.99usft (Original Well Elev + 18' KB)  
 MD Reference: WELL @ 2937 99usft (Original Well Elev + 18' KB)  
 North Reference: Grd  
 Survey Calculation Method: Minimum Curvature  
 Database: GCR DB v5000

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,000.00	2.96	93.34	-938.30	1,999.69	5.68	24.42	-7.36	2.16	377,538.04	631,985.36
2,100.00	4.01	95.06	-838.49	2,099.50	5.22	30.48	-7.32	1.06	377,537.58	631,991.42
2,200.00	4.57	93.18	-738.77	2,199.22	4.69	37.95	-7.31	0.58	377,537.05	631,998.88
2,300.00	6.59	95.80	-639.25	2,298.74	3.89	47.63	-7.18	2.04	377,536.25	632,008.57
2,400.00	6.48	95.66	-539.90	2,398.09	2.76	58.96	-6.83	0.11	377,535.11	632,019.89
2,500.00	5.01	97.12	-440.40	2,497.59	1.66	68.91	-6.43	1.48	377,534.01	632,029.84
2,600.00	2.59	93.93	-340.63	2,597.36	0.96	75.49	-6.19	2.43	377,533.32	632,036.43
2,700.00	1.80	91.51	-240.71	2,697.29	0.77	79.32	-6.26	0.80	377,533.12	632,040.25
2,800.00	1.68	91.06	-140.75	2,797.24	0.70	82.35	-6.40	0.12	377,533.05	632,043.29
2,900.00	1.39	90.45	-40.79	2,897.21	0.66	85.03	-6.55	0.29	377,533.02	632,045.97
3,000.00	1.36	90.10	59.18	2,997.18	0.65	87.43	-6.70	0.03	377,533.01	632,048.36
3,100.00	1.22	91.21	159.16	3,097.15	0.63	89.68	-6.83	0.14	377,532.98	632,050.62
3,200.00	1.11	95.77	259.14	3,197.13	0.51	91.71	-6.85	0.14	377,532.86	632,052.64
3,300.00	0.99	101.10	359.12	3,297.11	0.24	93.52	-6.72	0.15	377,532.60	632,054.46
3,400.00	0.85	100.85	459.11	3,397.10	-0.06	95.10	-6.52	0.14	377,532.29	632,056.03
3,500.00	0.57	108.22	559.10	3,497.09	-0.36	96.30	-6.31	0.29	377,532.00	632,057.23
3,600.00	0.36	108.56	659.10	3,597.09	-0.61	97.07	-6.11	0.21	377,531.74	632,058.00
3,700.00	0.26	105.84	759.10	3,697.09	-0.78	97.59	-5.98	0.10	377,531.58	632,058.52
3,800.00	0.16	87.60	859.09	3,797.09	-0.83	97.94	-5.95	0.12	377,531.52	632,058.88
3,900.00	0.10	71.00	959.09	3,897.09	-0.80	98.17	-6.00	0.07	377,531.56	632,059.10
4,000.00	0.09	51.40	1,059.09	3,997.09	-0.72	98.31	-6.09	0.03	377,531.63	632,059.24
4,100.00	0.15	234.74	1,159.09	4,097.09	-0.75	98.26	-6.06	0.24	377,531.61	632,059.20
4,200.00	0.17	254.74	1,259.09	4,197.09	-0.86	98.01	-5.93	0.06	377,531.49	632,058.95
4,300.00	0.37	230.69	1,359.09	4,297.09	-1.11	97.62	-5.66	0.23	377,531.25	632,058.55
4,400.00	0.41	222.04	1,459.09	4,397.08	-1.58	97.13	-5.15	0.07	377,530.78	632,058.06
4,500.00	0.42	231.28	1,559.09	4,497.08	-2.07	96.61	-4.62	0.07	377,530.28	632,057.54
4,600.00	0.57	206.47	1,659.08	4,597.08	-2.75	96.10	-3.91	0.26	377,529.61	632,057.03



**Phoenix Technology Services**  
Concho



Company: Concho  
 Project: Eddy County, New Mexico (Nad83)  
 Site: Cottonmouth 13 Federal Com  
 Well: Cottonmouth 13 Fed Com 1H  
 Wellbore: Wellbore #1  
 Design: Wellbore #1

Local Co-ordinate Reference: Well Cottonmouth 13 Fed Com 1H  
 TVD Reference: WELL @ 2937.99usft (Original Well Elev + 18' KB)  
 MD Reference: WELL @ 2937.99usft (Original Well Elev + 18' KB)  
 North Reference: Grd  
 Survey Calculation Method: Minimum Curvature  
 Database: GCR DB v5000

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
4,700.00	0.61	196.40	1,759.08	4,697.07	-3.70	95.73	-2.94	0.11	377,528.65	632,056.66
4,800.00	0.67	196.18	1,859.07	4,797.07	-4.77	95.41	-1.84	0.06	377,527.58	632,056.35
4,900.00	0.73	200.87	1,959.06	4,897.06	-5.93	95.02	-0.66	0.08	377,526.42	632,055.96
5,000.00	0.90	197.12	2,059.05	4,997.05	-7.28	94.57	0.71	0.18	377,525.08	632,055.50
5,100.00	0.98	198.11	2,159.04	5,097.04	-8.84	94.07	2.31	0.08	377,523.52	632,055.00
5,200.00	1.02	197.92	2,259.03	5,197.02	-10.50	93.53	4.00	0.04	377,521.86	632,054.46
5,300.00	1.14	202.54	2,359.01	5,297.00	-12.26	92.87	5.81	0.15	377,520.09	632,053.81
5,400.00	1.18	204.83	2,458.99	5,396.98	-14.12	92.06	7.71	0.06	377,518.24	632,052.99
5,500.00	1.23	202.96	2,558.97	5,496.96	-16.04	91.21	9.69	0.06	377,516.31	632,052.14
5,600.00	1.20	198.65	2,658.94	5,596.94	-18.02	90.45	11.72	0.10	377,514.33	632,051.39
5,700.00	1.21	196.40	2,758.92	5,696.92	-20.03	89.82	13.76	0.05	377,512.33	632,050.75
5,800.00	1.24	194.15	2,858.90	5,796.89	-22.09	89.26	15.86	0.06	377,510.27	632,050.19
5,900.00	1.42	192.05	2,958.87	5,896.87	-24.35	88.74	18.15	0.19	377,508.01	632,049.67
6,000.00	1.40	193.36	3,058.84	5,996.84	-26.75	88.20	20.58	0.04	377,505.61	632,049.13
6,100.00	1.45	191.18	3,158.81	6,096.80	-29.18	87.67	23.04	0.07	377,503.18	632,048.60
6,200.00	1.49	195.29	3,258.78	6,196.77	-31.67	87.08	25.57	0.11	377,500.68	632,048.01
6,300.00	1.05	182.49	3,358.75	6,296.75	-33.84	86.70	27.76	0.52	377,498.51	632,047.63
6,400.00	0.51	199.31	3,458.74	6,396.74	-35.18	86.51	29.11	0.58	377,497.18	632,047.44
6,470.00	7.30	197.80	3,528.54	6,466.53	-39.71	85.05	33.73	9.70	377,492.64	632,045.98
6,502.00	12.40	210.00	3,560.06	6,498.05	-44.63	82.70	38.79	17.13	377,487.73	632,043.64
6,533.00	15.80	207.80	3,590.12	6,528.12	-51.25	79.07	45.65	11.10	377,481.11	632,040.00
6,565.00	19.60	216.20	3,620.61	6,558.60	-59.43	73.87	54.18	14.28	377,472.92	632,034.80
6,597.00	23.30	215.70	3,650.39	6,588.38	-68.91	67.00	64.10	11.58	377,463.45	632,027.93
6,629.00	26.60	216.30	3,679.40	6,617.39	-79.82	59.06	75.54	10.34	377,452.53	632,020.00
6,661.00	27.90	217.60	3,707.84	6,645.84	-91.53	50.25	87.83	4.47	377,440.82	632,011.19
6,693.00	30.10	219.10	3,735.83	6,673.82	-103.69	40.62	100.63	7.24	377,428.66	632,001.56
6,724.00	33.60	221.40	3,762.16	6,700.15	-116.16	30.05	113.80	11.95	377,416.19	631,990.98



**Phoenix Technology Services**  
Concho



Company: Concho  
 Project: Eddy County, New Mexico (Nad83)  
 Site: Cottonmouth 13 Federal Com  
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 Wellbore: Wellbore #1  
 Design: Wellbore #1

Local Co-ordinate Reference: Well Cottonmouth 13 Fed Com 1H  
 TVD Reference: WELL @ 2937.99usft (Original Well Elev + 18' KB)  
 MD Reference: WELL @ 2937.99usft (Original Well Elev + 18' KB)  
 North Reference: Grd  
 Survey Calculation Method: Minimum Curvature  
 Database: GCR DB v5000

**Survey**

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V: Sec (usft)	DLeg. (°/100usft)	Northing (usft)	Easting (usft)
6,756.00	36.10	224.20	3,788.42	6,726.41	-129.57	17.62	128.04	9.27	377,402.79	631,978.55
6,788.00	37.90	223.80	3,813.97	6,751.97	-143.42	4.24	142.78	5.68	377,388.94	631,965.17
6,820.00	36.80	223.10	3,839.41	6,777.41	-157.51	-9.11	157.76	3.68	377,374.84	631,951.82
6,851.00	38.90	225.10	3,863.89	6,801.88	-171.16	-22.35	172.30	7.85	377,361.19	631,938.58
6,883.00	42.70	227.50	3,888.11	6,826.11	-185.59	-37.48	187.74	12.84	377,346.76	631,923.46
6,915.00	46.00	229.90	3,910.99	6,848.99	-200.34	-54.29	203.62	11.57	377,332.01	631,906.65
6,947.00	48.70	231.50	3,932.67	6,870.67	-215.24	-72.50	219.74	9.20	377,317.11	631,888.43
6,979.00	53.10	231.60	3,952.85	6,890.84	-230.68	-91.95	236.49	13.75	377,301.68	631,868.99
7,010.00	58.10	231.50	3,970.36	6,908.35	-246.58	-111.97	253.74	16.13	377,285.77	631,848.96
7,042.00	60.70	227.50	3,986.65	6,924.64	-264.47	-132.90	273.04	13.48	377,267.88	631,828.03
7,074.00	61.00	222.10	4,002.25	6,940.24	-284.29	-152.58	294.17	14.77	377,248.06	631,808.35
7,105.00	61.30	216.20	4,017.21	6,955.21	-305.34	-169.71	316.35	16.70	377,227.02	631,791.22
7,137.00	61.80	210.20	4,032.47	6,970.46	-328.87	-185.10	340.89	16.56	377,203.49	631,775.83
7,169.00	66.00	206.70	4,046.55	6,984.54	-354.13	-198.77	367.04	16.39	377,178.23	631,762.16
7,201.00	70.70	204.60	4,058.35	6,996.35	-380.93	-211.63	394.67	15.90	377,151.42	631,749.30
7,235.00	75.70	203.90	4,068.18	7,006.17	-410.60	-225.00	425.19	14.84	377,121.75	631,735.94
7,267.00	79.70	205.70	4,074.99	7,012.99	-438.98	-238.11	454.41	13.65	377,093.38	631,722.82
7,298.00	83.00	206.70	4,079.65	7,017.65	-466.47	-251.64	482.77	11.11	377,065.88	631,709.29
7,329.00	86.10	207.60	4,082.60	7,020.59	-493.93	-265.72	511.14	10.41	377,038.43	631,695.21
7,361.00	86.90	206.90	4,084.55	7,022.55	-522.32	-280.34	540.48	3.32	377,010.03	631,680.59
7,393.00	87.60	203.90	4,086.09	7,024.08	-551.19	-294.05	570.23	9.62	376,981.16	631,666.88
7,425.00	88.70	199.70	4,087.12	7,025.11	-580.88	-305.93	600.67	13.56	376,951.47	631,655.01
<b>Tie On From Gyro Survey</b>										
7,456.00	88.70	196.40	4,087.82	7,025.82	-610.34	-315.53	630.72	10.64	376,922.01	631,645.40
<b>First Phoenix MWD Survey</b>										
7,488.00	90.10	192.70	4,088.16	7,026.15	-641.31	-323.57	662.17	12.36	376,891.05	631,637.37
7,520.00	91.10	189.40	4,087.82	7,025.82	-672.71	-329.70	693.92	10.77	376,859.65	631,631.23



**Phoenix Technology Services**  
Concho



<b>Company:</b>	Concho	<b>Local Co-ordinate Reference:</b>	Well Cottonmouth 13 Fed Com 1H
<b>Project:</b>	Eddy County, New Mexico (Nad83)	<b>TVD Reference:</b>	WELL @ 2937.99usft (Original Well Elev + 18' KB)
<b>Site:</b>	Cottonmouth 13 Federal Com	<b>MD Reference:</b>	WELL @ 2937.99usft (Original Well Elev + 18' KB)
<b>Well:</b>	Cottonmouth 13 Fed Com 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	GCR DB v5000

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
7,615.00	93.00	178.50	4,084.42	7,022.41	-767.27	-336.23	788.71	11.64	376,765.08	631,624.70
7,711.00	91.60	177.30	4,080.56	7,018.56	-863.13	-332.72	884.09	1.92	376,669.23	631,628.22
7,806.00	91.10	177.80	4,078.32	7,016.32	-958.01	-328.66	978.47	0.74	376,574.34	631,632.27
7,902.00	88.10	176.40	4,078.99	7,016.99	-1,053.88	-323.80	1,073.77	3.45	376,478.48	631,637.13
7,997.00	87.80	180.10	4,082.39	7,020.39	-1,148.75	-320.90	1,168.22	3.91	376,383.60	631,640.03
8,092.00	89.30	181.40	4,084.80	7,022.79	-1,243.71	-322.15	1,263.03	2.09	376,288.64	631,638.79
8,187.00	89.20	180.70	4,086.04	7,024.04	-1,338.69	-323.89	1,357.90	0.74	376,193.67	631,637.05
8,282.00	91.60	181.70	4,085.38	7,023.37	-1,433.66	-325.88	1,452.78	2.74	376,098.70	631,635.06
8,378.00	90.30	180.60	4,083.79	7,021.78	-1,529.62	-327.80	1,548.64	1.77	376,002.74	631,633.13
8,473.00	91.10	182.10	4,082.63	7,020.62	-1,624.58	-330.04	1,643.53	1.79	375,907.77	631,630.89
8,568.00	90.60	182.00	4,081.22	7,019.21	-1,719.51	-333.44	1,738.47	0.54	375,812.84	631,627.49
8,664.00	90.20	180.60	4,080.55	7,018.54	-1,815.48	-335.62	1,834.36	1.52	375,716.87	631,625.32
8,759.00	91.10	181.40	4,079.47	7,017.46	-1,910.46	-337.27	1,929.23	1.27	375,621.90	631,623.66
8,854.00	88.30	180.40	4,079.97	7,017.96	-2,005.43	-338.77	2,024.08	3.13	375,526.92	631,622.17
8,950.00	88.30	180.00	4,082.81	7,020.81	-2,101.39	-339.10	2,119.83	0.42	375,430.96	631,621.83
9,045.00	87.30	179.60	4,086.46	7,024.46	-2,196.32	-338.77	2,214.50	1.13	375,336.03	631,622.16
9,140.00	89.00	181.50	4,089.53	7,027.52	-2,291.26	-339.68	2,309.28	2.68	375,241.10	631,621.25
9,236.00	88.70	181.80	4,091.45	7,029.45	-2,387.20	-342.45	2,405.18	0.44	375,145.16	631,618.49
9,332.00	90.20	183.60	4,092.38	7,030.37	-2,483.08	-346.97	2,501.14	2.44	375,049.27	631,613.97
9,427.00	89.60	181.20	4,092.54	7,030.54	-2,577.99	-350.95	2,596.10	2.60	374,954.36	631,609.99
9,522.00	90.70	183.10	4,092.29	7,030.29	-2,672.92	-354.51	2,691.05	2.31	374,859.44	631,606.42
9,618.00	91.60	183.00	4,090.37	7,028.36	-2,768.76	-359.62	2,787.01	0.94	374,763.59	631,601.32
9,713.00	92.00	180.30	4,087.38	7,025.38	-2,863.67	-362.35	2,881.88	2.87	374,668.69	631,598.58
9,809.00	93.00	181.50	4,083.19	7,021.19	-2,959.56	-363.86	2,977.65	1.63	374,572.80	631,597.08
9,904.00	92.70	181.10	4,078.47	7,016.47	-3,054.42	-366.01	3,072.43	0.53	374,477.94	631,594.92
10,000.00	91.60	181.50	4,074.87	7,012.86	-3,150.32	-368.19	3,168.26	1.22	374,382.03	631,592.75
10,096.00	90.80	181.70	4,072.86	7,010.85	-3,246.26	-370.87	3,264.15	0.86	374,286.09	631,590.07



# Phoenix Technology Services

## Concho



<b>Company:</b>	Concho	<b>Local Co-ordinate Reference:</b>	Well Cottonmouth 13 Fed Com 1H
<b>Project:</b>	Eddy County, New Mexico (Nad83)	<b>TVD Reference:</b>	WELL @ 2937.99usft (Original Well Elev + 18' KB)
<b>Site:</b>	Cottonmouth 13 Federal Com	<b>MD Reference:</b>	WELL @ 2937.99usft (Original Well Elev + 18' KB)
<b>Well:</b>	Cottonmouth 13 Fed Com 1H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	GCR DB v5000

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V_Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
10,191.00	89.80	180.50	4,072.36	7,010.36	-3,341.24	-372.69	3,359.03	1.64	374,191.11	631,588.24
10,286.00	88.40	180.00	4,073.85	7,011.85	-3,436.23	-373.10	3,453.81	1.56	374,096.13	631,587.83
10,381.00	88.30	177.90	4,076.59	7,014.58	-3,531.17	-371.36	3,548.40	2.21	374,001.19	631,589.57
10,502.00	83.50	182.30	4,085.24	7,023.24	-3,651.79	-371.56	3,668.75	5.37	373,880.56	631,589.37
<b>First Phoenix ST MWD Survey</b>										
10,596.00	85.50	187.70	4,094.26	7,032.25	-3,744.96	-379.72	3,762.27	6.10	373,787.39	631,581.21
10,692.00	86.00	186.50	4,101.37	7,039.37	-3,839.96	-391.55	3,857.86	1.35	373,692.39	631,569.38
10,787.00	87.90	186.60	4,106.43	7,044.42	-3,934.20	-402.37	3,952.62	2.00	373,598.15	631,558.56
10,882.00	89.40	183.70	4,108.67	7,046.66	-4,028.78	-410.90	4,047.56	3.44	373,503.57	631,550.04
10,978.00	90.30	177.80	4,108.92	7,046.91	-4,124.73	-412.15	4,143.37	6.22	373,407.63	631,548.78
11,073.00	90.90	177.60	4,107.92	7,045.92	-4,219.65	-408.34	4,237.79	0.67	373,312.71	631,552.59
11,168.00	91.70	177.10	4,105.77	7,043.76	-4,314.52	-403.95	4,332.13	0.99	373,217.83	631,556.99
11,264.00	92.20	178.10	4,102.50	7,040.49	-4,410.38	-399.93	4,427.48	1.16	373,121.98	631,561.00
11,359.00	91.20	177.10	4,099.68	7,037.68	-4,505.25	-395.95	4,521.85	1.49	373,027.10	631,564.98
11,455.00	90.40	176.70	4,098.34	7,036.34	-4,601.10	-390.76	4,617.11	0.93	372,931.25	631,570.17
11,550.00	90.30	177.10	4,097.76	7,035.76	-4,695.96	-385.63	4,711.39	0.43	372,836.40	631,575.31
11,645.00	91.60	178.40	4,096.19	7,034.18	-4,790.87	-381.90	4,805.81	1.94	372,741.49	631,579.04
11,741.00	91.40	180.50	4,093.67	7,031.67	-4,886.83	-380.97	4,901.48	2.20	372,645.53	631,579.96
11,836.00	91.30	181.40	4,091.43	7,029.43	-4,981.79	-382.55	4,996.32	0.95	372,550.57	631,578.38
11,932.00	91.10	181.30	4,089.42	7,027.42	-5,077.74	-384.81	5,092.20	0.23	372,454.62	631,576.12
12,027.00	90.60	180.80	4,088.02	7,026.01	-5,172.71	-386.55	5,187.06	0.74	372,359.64	631,574.38
12,122.00	90.10	180.50	4,087.43	7,025.43	-5,267.70	-387.63	5,281.90	0.61	372,264.65	631,573.30
12,218.00	89.90	180.10	4,087.43	7,025.43	-5,363.70	-388.13	5,377.70	0.47	372,168.65	631,572.80
12,313.00	89.70	179.90	4,087.77	7,025.76	-5,458.70	-388.13	5,472.47	0.30	372,073.65	631,572.80
12,408.00	88.30	177.30	4,089.42	7,027.42	-5,553.65	-385.81	5,567.03	3.11	371,978.71	631,575.12
12,504.00	87.80	176.70	4,092.69	7,030.69	-5,649.46	-380.79	5,662.27	0.81	371,882.90	631,580.14





**Phoenix Technology Services**  
Concho



<b>Company:</b> Concho	<b>Local Co-ordinate Reference:</b> Well Cottonmouth 13 Fed Com 1H
<b>Project:</b> Eddy County, New Mexico (Nad83)	<b>TVD Reference:</b> WELL @ 2937 99usft (Original Well Elev + 18' KB)
<b>Site:</b> Cottonmouth 13 Federal Com	<b>MD Reference:</b> WELL @ 2937 99usft (Original Well Elev + 18' KB)
<b>Well:</b> Cottonmouth 13 Fed Com 1H	<b>North Reference:</b> Grd
<b>Wellbore:</b> Wellbore #1	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> Wellbore #1	<b>Database:</b> GCR DB v5000

Survey											
MD (usft)	inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg. (°/100usft)	Northing (usft)	Easting (usft)	
12,533.00	87.40	176.40	4,093.91	7,031.90	-5,678.38	-379.05	5,691.00	1.72	371,853.97	631,581.89	
<b>Last Phoenix ST MWD Survey</b>											
12,586.00	87.40	176.40	4,096.31	7,034.30	-5,731.22	-375.72	5,743.48	0.00	371,801.13	631,585.21	
<b>Projection to TD</b>											

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
7,425.00	7,025.11	-580.88	-305.93	Tie On From Gyro Survey	
7,456.00	7,025.82	-610.34	-315.53	First Phoenix MWD Survey	
10,502.00	7,023.24	-3,651.79	-371.56	First Phoenix ST MWD Survey	
12,533.00	7,031.90	-5,678.38	-379.05	Last Phoenix ST MWD Survey	
12,586.00	7,034.30	-5,731.22	-375.72	Projection to TD	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_