

Results of Directional Survey

API number:	30-025-39757		
OGRID:		Operator:	COG OPERATING LLC
		Property:	CHICKEN HAWK 21 STATE COM # 1H

surface	ULSTR:	M	21	T 16S	R 32E
				430 FSL	535 FWL

BH Loc	ULSTR:	D	21	T 16S	R 32E
13381	MD	9063.3	TVD	4938 FSL	415 FWL

Top Perf/OH	ULSTR:	M	21	T 16S	R 32E
9481	MD	9096.9	TVD	1492 FSL	479 FWL

Bot Perf/OH	ULSTR:	D	21	T 16S	R 32E
12973	MD	9074.6	TVD	4530 FSL	413 FWL

	MD	N/S	E/W	VD
	9451	582.82	-27.36	9091.61
TOP PERFS/OH	9481	1061.92	-56.46	9096.86
	9453	614.76	-29.30	9091.96
	12887	4014.40	-122.92	9076.88
BOT PERFS/OH	12973	4100.37	-122.36	9074.64
	12983	4110.37	-122.30	9074.38

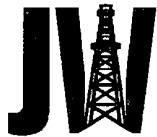
NEXT TO LAST	13270	4397.25	-120.88	9066.31
LAST READING	13333	4460.22	-120.56	9064.61
TD	13381	4508.20	-120.32	9063.31

Surface Location	430	FS	535	FW
Projected BHL	4938	FS	415	FW
Location of				
Top Perfs/OH	1492	FS	479	FW
Bottom Perfs/OH	4530	FS	413	FW

SUMMARY of Subsurface Locations

Surface Location	M-21-16S-32E	430	FS	535	FW	Vert. Depth
Top Perfs/OH	M-21-16S-32E	1492	FS	479	FW	9096.86
Bottom Perfs/OH	D-21-16S-32E	4530	FS	413	FW	9074.64
Projected TD	D-21-16S-32E	4938	FS	415	FW	9063.31

AUG 31 2011



DRILLING INC. Oil Well Drilling Contractor

Post Office Box 160 Artesia, New Mexico 88211-0160 Office (575) 748-8704 Fax (575) 748-8719

HOBBS OCD

March 10, 2011

JUL 26 2011

COG Operating, LLC
500 W. Texas, Suite 1300
Midland, Texas 79701

RECEIVED

Re: Chicken Hawk 21 St. Com # 1
Sec. 21, T-16-S, R-32-E
Lea County, New Mexico

Attn: John Coffman

The following is a Deviation Survey on the referenced well in Lea County, New Mexico:

252' - 0.25°	5608' - 1.25°
375' - 1°	6044' - 1°
597' - 0.5°	6486' - 0.5°
932' - 1°	6981' - 1°
1338' - 0.75°	7484' - 1°
1652' - 0.75°	7760' - 0.25°
2053' - 1°	8123' - 0.5°
2518' - 1°	8522' - 1°
2985' - 1.25°	8969' - 1.75°
3332' - 0.75°	9478' - 1.25°
3797' - 0.5°	
4260' - 0.5°	
4731' - 0.75°	
5170' - 1°	

SUR: M-21-16s-32e, 430/S & 535/W
BHL: D-21-16s-32e, 4938/S & 415/W
API # 30-025-39757

Sincerely,

Gary W. Chappell
Contracts Manager

STATE OF NEW MEXICO)
COUNTY OF EDDY)

The foregoing was acknowledged before me this 10th day of March, 2011 by Gary W. Chappell.

MY COMMISSION EXPIRES

4-29-12

NOTARY PUBLIC



OFFICIAL SEAL
CHERYL A. BARTLETT
NOTARY PUBLIC STATE OF NEW MEXICO

My commission expires: 4-29-12



COG Operating LLC

Lea County(NAD27)

Chicken Hawk 21 State Com

#1

OH

HOBBS OCD

JUL 26 2011

RECEIVED

SUR: M-21-16s-32e, 430/S & 535/W
BHL: D-21-16s-32e, 4938/S & 415/W
API # 30-025-39757

Survey: MWD

Pathfinder X & Y Survey Report

23 March, 2011

PATHFINDER

A Schlumberger Company



Pathfinder
Pathfinder X & Y Survey Report

PATHFINDER
A Schlumberger Company

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #1
Project:	Lea County(NAD27)	TVD Reference:	:WELL @ 4353.00usft (Original Well Elev)
Site:	Chicken Hawk 21 State Com	MD Reference:	:WELL @ 4353 00usft (Original Well Elev)
Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1 Single User Db

Project		Lea County(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		Chicken Hawk 21 State Com									
Site Position:		Northing:		691,943 200	usft	Latitude:		32° 54' 3 589 N			
From:		Map		Easting:		670,493 700	usft	Longitude:		103° 46' 40 251 W	
Position Uncertainty:		0 00		usft		Slot Radius:		13-3/16	"	Grid Convergence:	0.30 °

Well	#1					
Well Position	+N/-S	0 00 usft	Northing:	691,943 200 usft	Latitude:	32° 54' 3 589 N
	+E/-W	0 00 usft	Easting:	670,493 700 usft	Longitude:	103° 46' 40 251 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,336 00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	03/07/11	7.75	60.81	49,056

Design		OH		
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	357.71



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Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1 Single User Db

Survey Program		Date	03/23/11			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description		
100 00	8,500 00	GYRO (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s		
8,576 00	13,381 00	MWD (OH)	MWD	MWD - Standard		

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
8,500.00	0.69	141 17	8,499.88	-4,146 88	6.37	12 11	5 88	0.00	691,949.57	670,505 81
8,576.00	0.53	129.42	8,575.87	-4,222 87	5 79	12 67	5 28	0 27	691,948 99	670,506.37
8,608 00	1 06	356 19	8,607 87	-4,254 87	6 00	12.77	5 48	4 61	691,949 20	670,506.47
8,640 00	4 48	348 80	8,639 83	-4,286.83	7 52	12.50	7 01	10 72	691,950 72	670,506.20
8,671 00	8 53	346 46	8,670 62	-4,317.62	10 94	11.73	10 46	13 09	691,954 14	670,505 43
8,703 00	12 84	344 63	8,702 06	-4,349 06	16 68	10 23	16.26	13 51	691,959 88	670,503 93
8,735 00	16 71	344 24	8,733 00	-4,380 00	24.54	8 04	24.20	12 10	691,967.74	670,501.74
8,767 00	20 93	346 42	8,763.28	-4,410 28	34.53	5 45	34.28	13 37	691,977.73	670,499.15
8,799.00	24 62	348 27	8,792 78	-4,439 78	46.61	2 75	46 47	11 75	691,989 81	670,496.45
8,831.00	28.58	349 73	8,821 39	-4,468 39	60.68	0 03	60 63	12.54	692,003.88	670,493.73
8,863 00	32.89	351.46	8,848 88	-4,495.88	76 81	-2 63	76 85	13.75	692,020.01	670,491.07
8,895 00	36.93	353 41	8,875 12	-4,522 12	94 96	-5.02	95 08	13.10	692,038 16	670,488 68
8,926 00	40.45	354 82	8,899 32	-4,546 32	114 23	-7.00	114 42	11.70	692,057 43	670,486 70
8,958 00	43 88	356 58	8,923 03	-4,570 03	135 65	-8.60	135 88	11.34	692,078 85	670,485.10
8,989 00	47 13	357 25	8,944 76	-4,591 76	157 72	-9 79	157 99	10 60	692,100 92	670,483 91
9,021 00	50 83	357 29	8,965.75	-4,612 75	181.84	-10 94	182 13	11 56	692,125.04	670,482.76
9,053 00	54 26	357 60	8,985 21	-4,632 21	207.21	-12 07	207 53	10.75	692,150 41	670,481.63
9,085 00	57 51	357 99	9,003 16	-4,650.16	233 68	-13 08	234.02	10 21	692,176 88	670,480 62
9,117 00	60.94	357 69	9,019 53	-4,666.53	261 15	-14 12	261 51	10.75	692,204.35	670,479.58
9,149 00	64 46	357.78	9,034 20	-4,681 20	289 56	-15.24	289 94	11 00	692,232 76	670,478 46
9,181 00	67 62	358.08	9,047 20	-4,694 20	318 78	-16.30	319.18	9 91	692,261.98	670,477 40



Pathfinder
Pathfinder X & Y Survey Report

PATHFINDER
A Schlumberger Company

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #1
Project:	Lea County(NAD27)	TVD Reference:	WELL @ 4353 00usft (Original Well Elev)
Site:	Chicken Hawk 21 State Com	MD Reference:	WELL @ 4353 00usft (Original Well Elev)
Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
9,213.00	70.61	358.33	9,058.60	-4,705.60	348.66	-17.24	349.07	9.37	692,291.86	670,476.46
9,244.00	74.04	358.28	9,068.01	-4,715.01	378.18	-18.11	378.60	11.07	692,321.38	670,475.59
9,276.00	76.85	357.85	9,076.05	-4,723.05	409.13	-19.16	409.57	8.88	692,352.33	670,474.54
9,308.00	80.37	358.01	9,082.37	-4,729.37	440.47	-20.29	440.93	11.01	692,383.67	670,473.41
9,340.00	83.62	357.37	9,086.83	-4,733.83	472.13	-21.57	472.62	10.35	692,415.33	670,472.13
9,372.00	86.61	357.51	9,089.55	-4,736.55	503.98	-22.99	504.50	9.35	692,447.18	670,470.71
9,403.00	88.72	356.78	9,090.82	-4,737.82	534.91	-24.53	535.47	7.20	692,478.11	670,469.17
9,438.00	89.16	356.52	9,091.46	-4,738.46	569.85	-26.58	570.46	1.46	692,513.05	670,467.12
9,451.00	89.52	356.61	9,091.61	-4,738.61	582.82	-27.36	583.45	2.85	692,526.02	670,466.34
9,483.00	89.25	356.41	9,091.96	-4,738.96	614.76	-29.30	615.44	1.05	692,557.96	670,464.40
9,515.00	89.16	355.60	9,092.40	-4,739.40	646.68	-31.53	647.43	2.55	692,589.88	670,462.17
9,547.00	88.90	355.82	9,092.94	-4,739.94	678.59	-33.93	679.40	1.06	692,621.79	670,459.77
9,579.00	89.16	355.82	9,093.48	-4,740.48	710.50	-36.26	711.38	0.81	692,653.70	670,457.44
9,611.00	89.25	356.03	9,093.93	-4,740.93	742.41	-38.53	743.36	0.71	692,685.61	670,455.17
9,642.00	89.43	356.64	9,094.28	-4,741.28	773.35	-40.51	774.35	2.05	692,716.55	670,453.19
9,706.00	89.69	357.76	9,094.78	-4,741.78	837.27	-43.64	838.34	1.80	692,780.47	670,450.06
9,770.00	89.34	357.12	9,095.32	-4,742.32	901.20	-46.50	902.34	1.14	692,844.40	670,447.20
9,833.00	90.40	357.88	9,095.46	-4,742.46	964.14	-49.25	965.34	2.07	692,907.34	670,444.45
9,897.00	90.57	358.99	9,094.92	-4,741.92	1,028.11	-50.99	1,029.33	1.75	692,971.31	670,442.71
9,960.00	89.60	358.72	9,094.83	-4,741.83	1,091.10	-52.25	1,092.32	1.60	693,034.30	670,441.45
10,024.00	89.16	357.96	9,095.52	-4,742.52	1,155.07	-54.11	1,156.31	1.37	693,098.27	670,439.59
10,088.00	89.60	358.57	9,096.21	-4,743.21	1,219.04	-56.04	1,220.30	1.18	693,162.24	670,437.66
10,156.00	90.22	358.45	9,096.32	-4,743.32	1,287.01	-57.81	1,288.29	0.93	693,230.21	670,435.89
10,188.00	89.96	358.34	9,096.27	-4,743.27	1,319.00	-58.71	1,320.29	0.88	693,262.20	670,434.99
10,220.00	89.60	358.91	9,096.39	-4,743.39	1,350.99	-59.48	1,352.29	2.11	693,294.19	670,434.22
10,283.00	88.64	357.95	9,097.36	-4,744.36	1,413.96	-61.20	1,415.27	2.15	693,357.16	670,432.50
10,315.00	88.64	357.47	9,098.12	-4,745.12	1,445.92	-62.48	1,447.26	1.50	693,389.12	670,431.22



Pathfinder
Pathfinder X & Y Survey Report

PATHFINDER
A Schlumberger Company

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #1
Project:	Lea County(NAD27)	TVD Reference:	WELL @ 4353 00usft (Original Well Elev)
Site:	Chicken Hawk 21 State Com	MD Reference:	WELL @ 4353 00usft (Original Well Elev)
Well:	#1	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
10,379.00	88.55	357.46	9,099.69	-4,746.69	1,509.84	-65.31	1,511.24	0.14	693,453.04	670,428.39	
10,411.00	88.11	356.81	9,100.62	-4,747.62	1,541.79	-66.91	1,543.23	2.45	693,484.99	670,426.79	
10,443.00	88.29	356.18	9,101.62	-4,748.62	1,573.71	-68.87	1,575.21	2.05	693,516.91	670,424.83	
10,475.00	88.72	356.06	9,102.46	-4,749.46	1,605.63	-71.03	1,607.18	1.40	693,548.83	670,422.67	
10,507.00	88.11	356.01	9,103.34	-4,750.34	1,637.54	-73.24	1,639.16	1.91	693,580.74	670,420.46	
10,539.00	88.29	355.47	9,104.35	-4,751.35	1,669.43	-75.62	1,671.12	1.78	693,612.63	670,418.08	
10,571.00	88.64	356.34	9,105.21	-4,752.21	1,701.34	-77.90	1,703.09	2.93	693,644.54	670,415.80	
10,634.00	87.67	358.13	9,107.24	-4,754.24	1,764.23	-80.94	1,766.06	3.23	693,707.43	670,412.76	
10,666.00	87.58	358.60	9,108.56	-4,755.56	1,796.19	-81.85	1,798.03	1.49	693,739.39	670,411.85	
10,698.00	87.76	358.50	9,109.86	-4,756.86	1,828.15	-82.66	1,830.00	0.64	693,771.35	670,411.04	
10,762.00	87.58	359.69	9,112.46	-4,759.46	1,892.09	-83.67	1,893.92	1.88	693,835.29	670,410.03	
10,794.00	87.58	359.52	9,113.82	-4,760.82	1,924.06	-83.89	1,925.88	0.53	693,867.26	670,409.81	
10,826.00	88.11	0.29	9,115.02	-4,762.02	1,956.04	-83.94	1,957.83	2.92	693,899.24	670,409.76	
10,891.00	87.67	0.52	9,117.41	-4,764.41	2,020.99	-83.49	2,022.72	0.76	693,964.19	670,410.21	
10,952.00	87.41	0.11	9,120.03	-4,767.03	2,081.94	-83.15	2,083.60	0.80	694,025.14	670,410.55	
10,984.00	87.58	359.82	9,121.43	-4,768.43	2,113.91	-83.17	2,115.54	1.05	694,057.11	670,410.53	
11,016.00	88.20	359.72	9,122.61	-4,769.61	2,145.88	-83.30	2,147.50	1.96	694,089.08	670,410.40	
11,047.00	88.46	359.65	9,123.51	-4,770.51	2,176.87	-83.47	2,178.47	0.87	694,120.07	670,410.23	
11,079.00	88.72	358.48	9,124.30	-4,771.30	2,208.86	-83.99	2,210.45	3.74	694,152.06	670,409.71	
11,111.00	89.43	358.80	9,124.81	-4,771.81	2,240.84	-84.75	2,242.44	2.43	694,184.04	670,408.95	
11,175.00	90.13	358.00	9,125.06	-4,772.06	2,304.82	-86.54	2,306.43	1.66	694,248.02	670,407.16	
11,207.00	90.84	357.87	9,124.79	-4,771.79	2,336.79	-87.69	2,338.43	2.26	694,279.99	670,406.01	
11,238.00	91.37	357.43	9,124.19	-4,771.19	2,367.76	-88.96	2,369.43	2.22	694,310.96	670,404.74	
11,302.00	91.71	357.19	9,122.47	-4,769.47	2,431.67	-91.96	2,433.40	0.65	694,374.87	670,401.74	
11,366.00	92.24	356.60	9,120.27	-4,767.27	2,495.54	-95.43	2,497.36	1.24	694,438.74	670,398.27	
11,429.00	91.80	356.43	9,118.05	-4,765.05	2,558.38	-99.25	2,560.30	0.75	694,501.58	670,394.45	
11,493.00	91.71	355.97	9,116.09	-4,763.09	2,622.21	-103.49	2,624.25	0.73	694,565.41	670,390.21	



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Design:	OH	Database:	EDM 5000 1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
11,556 00	91 71	355.71	9,114.21	-4,761.21	2,685 01	-108 06	2,687 19	0.41	694,628.21	670,385 64
11,619 00	91 98	355.95	9,112.18	-4,759 18	2,747 82	-112 64	2,750 12	0 57	694,691.02	670,381 06
11,683 00	91 63	356 09	9,110.16	-4,757 16	2,811 63	-117 08	2,814 06	0 59	694,754 83	670,376 62
11,747 00	91 54	355 49	9,108.39	-4,755 39	2,875 43	-121 78	2,878 00	0 95	694,818.63	670,371 92
11,805 00	91 54	357.73	9,106 83	-4,753 83	2,933 31	-125 21	2,935 97	3 86	694,876.51	670,368 49
11,868 00	91 71	355 01	9,105 04	-4,752.04	2,996 15	-129 19	2,998 92	4.32	694,939 35	670,364 51
11,900 00	91 80	355.92	9,104 06	-4,751 06	3,028.03	-131 72	3,030.88	2 86	694,971 23	670,361 98
11,932.00	91 89	357 00	9,103 03	-4,750 03	3,059 95	-133 70	3,062.85	3 38	695,003 15	670,360 00
12,027 00	91.28	359 63	9,100.41	-4,747 41	3,154 87	-136 49	3,157 80	2 84	695,098 07	670,357 21
12,123 00	91 54	0 54	9,098.04	-4,745.04	3,250 84	-136 35	3,253 69	0 99	695,194 04	670,357 35
12,218 00	91 54	1 28	9,095.49	-4,742 49	3,345 79	-134 84	3,348 51	0 78	695,288.99	670,358 86
12,314 00	91 71	0 57	9,092 77	-4,739 77	3,441.74	-133 29	3,444 32	0 76	695,384 94	670,360 41
12,410.00	91 45	0 95	9,090 12	-4,737 12	3,537.69	-132.02	3,540 14	0.48	695,480 89	670,361 68
12,505 00	91 71	0.08	9,087 50	-4,734 50	3,632 65	-131 16	3,634 99	0 96	695,575 85	670,362 54
12,601 00	91 80	1.37	9,084 56	-4,731 56	3,728 60	-129 95	3,730 81	1 35	695,671 80	670,363 75
12,696 00	91.63	1.47	9,081.72	-4,728.72	3,823 53	-127 59	3,825 57	0 21	695,766 73	670,366 11
12,792.00	91.36	1 90	9,079.21	-4,726.21	3,919 45	-124 77	3,921 31	0 53	695,862 65	670,368 93
12,887 00	91.45	0 33	9,076.88	-4,723.88	4,014 40	-122 92	4,016 11	1 65	695,957 60	670,370.78
12,983 00	91.54	0 41	9,074 38	-4,721 38	4,110.37	-122 30	4,111 97	0 13	696,053 57	670,371 40
13,078 00	91 63	359 82	9,071 75	-4,718 75	4,205 33	-122 11	4,206 85	0.63	696,148 53	670,371 59
13,174 00	91.71	0 62	9,068 95	-4,715 95	4,301 29	-121 75	4,302 72	0 84	696,244 49	670,371.95
13,270 00	91 45	0.41	9,066 31	-4,713 31	4,397 25	-120 88	4,398 57	0 35	696,340 45	670,372 82
13,333 00	91 63	0 18	9,064 61	-4,711 61	4,460.22	-120.56	4,461 48	0 46	696,403.42	670,373 14
13,381 00	91 63	* 0.18	9,063 25	-4,710 25	4,508 20	-120 41	4,509 42	0 00	696,451 40	670,373 29
BHL-13381.00°MD,91.63°INC,0.18°AZI, 9063.25°TVD, 4509.42°VS, 4508.20°N, -120.41°E										



Pathfinder
Pathfinder X & Y Survey Report

PATHFINDER
A Schlumberger Company

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #1
Project:	Lea County(NAD27)	TVD Reference:	WELL @ 4353.00usft (Original Well Elev)
Site:	Chicken Hawk 21 State Com	MD Reference:	WELL @ 4353 00usft (Original Well Elev)
Well:	#1	North Reference:	Grd
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1 Single User Db

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
13,381.00	9,063.25	4,508.20	-120.41	BHL-13381 00°MD,91 63°INC,0 18°AZI, 9063 25°TVD, 4509 42°VS, 4508 20°N, -

Checked By: _____ Approved By: _____ Date: _____



Project: Lea County(NAD27)
Site: Chicken Hawk 21 State
Well: #1
Wellbore: OH
Plan: Plan #2 (#1/OH)

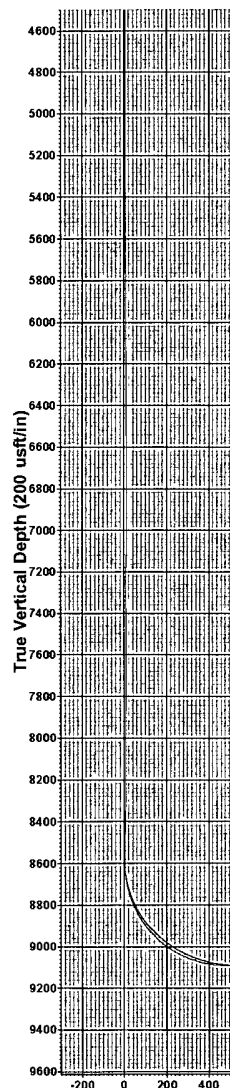


Azimuths to Grid North
True North: -0.30°
Magnetic North: 7.45°

Magnetic Field
Strength: 49056.4snT
Dip Angle: 60.81°
Date: 03/07/2011
Model: IGRF200510

PATHFINDER
A Schlumberger Company

PROJECT DETAILS Lea County(NAD27)
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
Local North: Grid

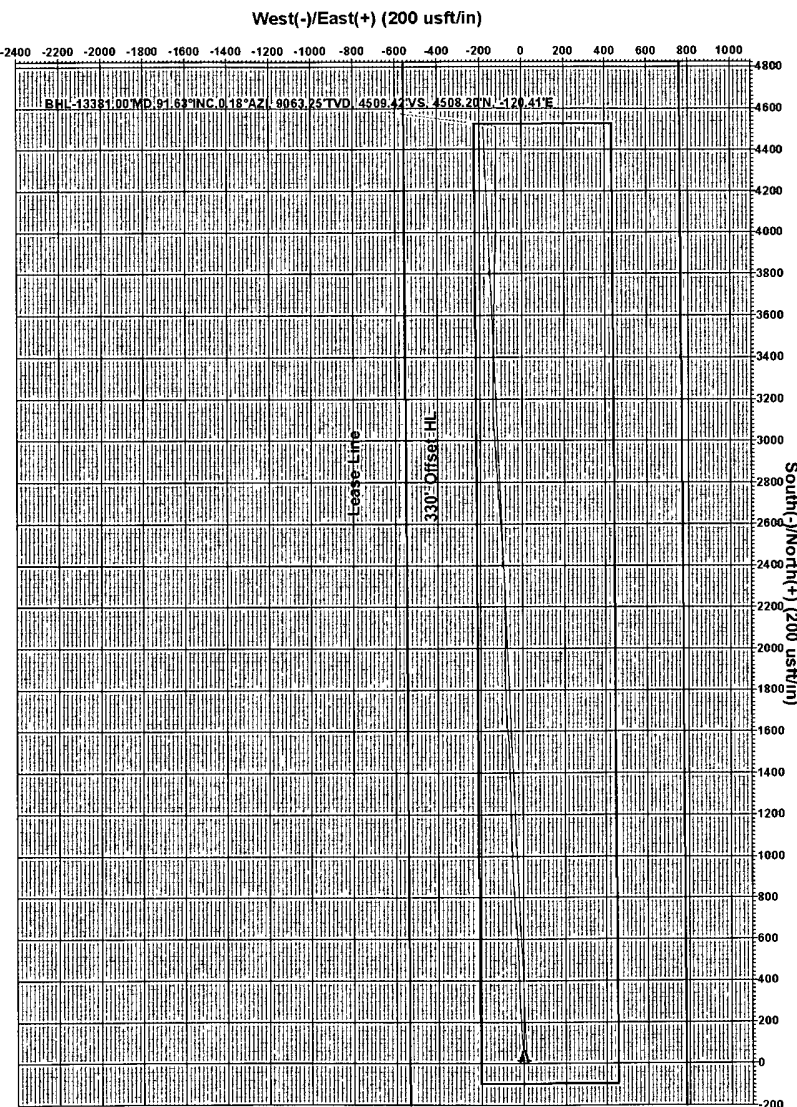


SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect	Target
8608.50	0.67	135.72	8608.37	5.42	12.95	0.00	0.00	4.90	
9362.68	90.00	357.48	9090.00	482.57	-4.27	12.00	-138.24	482.35	
13392.55	90.00	357.48	9090.00	4508.55	-181.45	0.00	0.00	4512.20	PBHL(CH#1)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL(CH#1)	9090.00	4508.60	-180.10	696451.800	670313.600	Point

WELL DETAILS #1						
Ground Elevation: 4336.00						
RKB Elevation: WELL @ 4353.00usft (Original Well Elev)						
Rig Name: Original Well Elev						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	691943.200	670493.700	32° 54' 3.589 N	103° 46' 40.251 W	

BHL-13381.00 MD 91.63 INC 0.18 AZI 9063.25 TVD 4508.42 VS 4508.20 N -120.41 E



Vertical Section at 357.70° (200 usft/in)

Plan Plan #2 (#1/OH)
Created By Nate Bingham Date 13 43, March 23 2011
Checked _____ Date _____