

Results of Directional Survey

API number:	30-025-40425		
OGRID:		Operator:	COG OPERATING LLC
		Property:	WEST PEARL 36 STATE # 2H

surface	ULSTR:	D	36	T 19S	R 34E
				380 FNL	330 FWL

BH Loc	ULSTR:	A	36	T 19S	R 34E
15315	MD	10930.5	TVD	317 FNL	329 FEL
					4951 FWL

Top Perf/OH	ULSTR:	D	36	T 19S	R 34E
11444	MD	10924.1	TVD	342 FNL	1084 FWL

Bot Perf/OH	ULSTR:	A	36	T 19S	R 34E
15268	MD	10927.7	TVD	318 FNL	375 FEL
					4905 FWL

	MD	N/S	E/W	VD
	11383	41.20	693.50	10921.9
TOP PERFS/OH	11444	38.05	754.37	10924.06
	11476	36.40	786.30	10925.20
	15242	60.70	4548.60	10926.20
BOT PERFS/OH	15268	61.63	4574.53	10927.73
	15315	63.30	4621.40	10930.50

NEXT TO LAST	15242	60.70	4548.60	10926.20
LAST READING	15315	63.30	4621.40	10930.50
TD	15315	63.30	4621.40	10930.50

Surface Location	380	FN	330	FW
Projected BHL	317	FN	4951	FW
Location of				
Top Perfs/OH	342	FN	1084	FW
Bottom Perfs/OH	318	FN	4905	FW

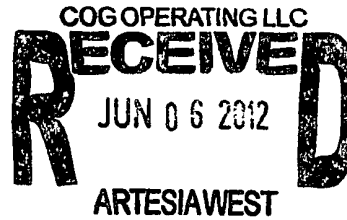
SUMMARY of Subsurface Locations

Surface Location	D-36-19S-34E	380	FN	330	FW	Vert. Depth
Top Perfs/OH	D-36-19S-34E	342	FN	1084	FW	10924.06
Bottom Perfs/OH	A-36-19S-34E	318	FN	4905	FW	10927.73
Projected TD	A-36-19S-34E	317	FN	4951	FW	10930.50

AUG 21 2012

**McVAY DRILLING COMPANY**

P.O. Box 2450
Hobbs, New Mexico 88241
(575) 397-3311
FAX: 39-DRILL



Well Name and Num: West Pearl 36 State 2H
Location: Sec. 36, T19S, R34E
Operator: COG
Drilling Contractor: McVay Drilling Company

The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>	<u>Degrees @</u>	<u>Depth</u>
0.69	300	1.00	8011	88.60	13418
1.00	565	0.09	8511	90.75	13602
0.68	1115	0.60	8989	89.78	14071
1.34	1615	0.60	9460	90.31	14359
1.60	2098	1.50	9985	90.13	15558
0.95	2574	1.14	10225	90.75	14651
2.88	3074	7.21	10425	90.57	14842
2.75	3239	17.32	10615	86.61	15242
1.60	3700	59.60	10954		
2.40	4209	69.47	11017		
2.10	4367	74.83	11049		
1.90	4557	87.05	11291		
1.70	5033	88.99	11754		
1.20	5510	90.13	12289		
1.30	6018	91.98	12308		
0.70	6494	88.11	12770		
0.70	7500	87.14	13047		

SUR: D-36-19s-34e, 380/N & 330/W
BHL: A-36-19s-34e, 317/N & 4951/W
API # 30-025-40425

HOBBS OCD

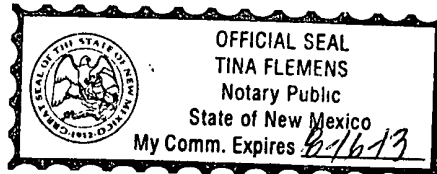
AUG 07 2012

RECEIVED

By: [Signature]

Subscribed and sworn to before me this 5th day of June, 2012

Tina Flemens
Notary Public, Lea County, New Mexico



COG OPERATING, LLC
RECEIVED

JUL 09 2012

ARTESIA WEST

COG OPERATING

Pearl
Lea County, NM
West Pearl 36 State #2H
VH - Job #32K0512609

HOBBS OCD

AUG 07 2012

RECEIVED

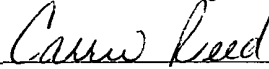
Survey: Gyro

SDI Standard Survey Report

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

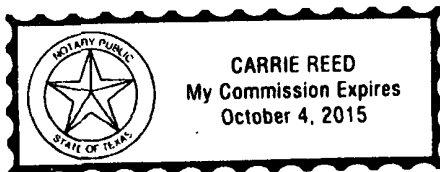


Notarized this date 15th of June, 2012.



Notary Signature
County of Midland
State of Texas

SUR: D-36-19s-34e, 380/N & 330/W
BHL: A-36-19s-34e, 317/N & 4951/W
API # 30-025-40425



Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	COG OPERATING	Local Co-ordinate Reference:	Well West Pearl 36 State #2H
Project:	Pearl	TVD Reference:	WELL @ 0 00usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0 00usft (Original Well Elev)
Well:	West Pearl 36 State #2H	North Reference:	Grid
Wellbore:	VH - Job #32K0512609	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0512609	Database:	EDM-Regulatory

Design	VH - Job #32K0512609				
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 42	

Survey Program	Date	2012/06/12		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100 00	10,227 00	Gyro (VH - Job #32K0512609)	Keeper	Keeper Gyro

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
100 00	0 38	324 91	100 00	0 27	-0 19	324 91	0 33
200 00	0 37	327 39	200 00	0 81	-0 56	325 72	0 99
300 00	0 36	316 97	300 00	1 32	-0 94	324 36	1 62
400 00	0 34	333 66	399 99	1 81	-1 29	324 56	2 22
500 00	0 31	339 91	499 99	2 33	-1 51	327 00	2 78
600 00	0 16	306 33	599 99	2 67	-1 72	327 20	3 17
700 00	0 21	298 88	699 99	2 84	-1 99	324 94	3 47
800 00	0 25	255 39	799 99	2 87	-2 36	320 55	3 72
900 00	0 47	258 31	899 99	2 74	-2 98	312 58	4 04
1,000 00	0 18	280 98	999 99	2 68	-3 53	307 20	4 44
1,100 00	0 02	85 80	1,099 99	2 71	-3 67	306 48	4 56

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	COG OPERATING	Local Co-ordinate Reference:	Well West Pearl 36 State #2H
Project:	Pearl	TVD Reference:	WELL @ 0 00usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0 00usft (Original Well Elev)
Well:	West Pearl 36 State #2H	North Reference:	Grid
Wellbore:	VH - Job #32K0512609	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0512609	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,200 00	0 10	272 34	1,199 99	2 72	-3 74	306 01	4 62
1,300 00	0 03	85 37	1,299 99	2 72	-3 80	305 63	4 68
1,400 00	0 06	142 80	1,399 99	2 68	-3 74	305 65	4 61
1,500 00	0 53	91 97	1,499 98	2 63	-3 25	308 95	4 18
1,600 00	0 64	100 57	1,599 98	2 51	-2 24	318 26	3 36
1,700 00	0 59	119 55	1,699 97	2 15	-1 24	330 03	2 48
1,800 00	0 45	117 31	1,799 97	1 72	-0 44	345 51	1 77
1,900 00	0 50	126 31	1,899 97	1 28	0 26	11 35	1 30
2,000 00	1 38	72 14	1,999 95	1 39	1 75	51 61	2 24
2,100 00	1 34	70 31	2,099 92	2 15	4 00	61 71	4 54
2,200 00	1 35	68 07	2,199 90	2 99	6 20	64 26	6 88
2,300 00	1 16	58 28	2,299 87	3 96	8 15	64 09	9 06
2,400 00	0 94	55 68	2,399 86	4 95	9 69	62 92	10 88
2,500 00	0 57	38 69	2,499 85	5 80	10 68	61 47	12 15
2,600 00	0 61	48 62	2,599 84	6 54	11 39	60 11	13 13
2,700 00	0 63	49 22	2,699 84	7 26	12 20	59 26	14 20
2,800 00	1 54	53 07	2,799 82	8 42	13 69	58 40	16 08
2,900 00	2 56	66 95	2,899 75	10 10	16 82	59 01	19 62
3,000 00	2 71	66 99	2,999 65	11 90	21 05	60 52	24 18
3,100 00	2 72	66 25	3,099 53	13 78	25 40	61 52	28 90
3,200 00	2 77	64 41	3,199 42	15 78	29 75	62 06	33 68
3,300 00	2 70	62 47	3,299 31	17 91	34 02	62 23	38 45
3,400 00	2 15	55 60	3,399 22	20 06	37 66	61 95	42 67
3,500 00	1 63	47 21	3,499 16	22 09	40 25	61 24	45 91
3,600 00	1 60	25 26	3,599 12	24 32	41 89	59 86	48 43
3,700 00	1 79	15 75	3,699 08	27 08	42 91	57 74	50 74
3,800 00	2 34	2 97	3,799 01	30 62	43 44	54 81	53 15
3,900 00	2 65	1 03	3,898 92	34 98	43 58	51 25	55 88
4,000 00	2 69	355 02	3,998 81	39 62	43 42	47 62	58 78
4,100 00	2 76	355 53	4,098 70	44 36	43 03	44 13	61 80
4,200 00	2 61	354 33	4,198 59	49 03	42 62	41 00	64 96
4,300 00	2 47	355 25	4,298 49	53 44	42 21	38 31	68 10
4,400 00	2 00	352 41	4,398 41	57 32	41 81	36 11	70 94
4,500 00	1 96	349 15	4,498 35	60 73	41 25	34 19	73 41
4,600 00	1 87	344 13	4,598 30	63 98	40 48	32 33	75 71
4,700 00	1 84	340 69	4,698 25	67 06	39 51	30 50	77 83
4,800 00	1 73	338 30	4,798 20	69 98	38 42	28 77	79 83
4,900 00	1 80	341 40	4,898 15	72 87	37 36	27 14	81 89
5,000 00	1 85	331 35	4,998 1				

Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	COG OPERATING	Local Co-ordinate Reference:	Well West Pearl 36 State #2H
Project:	Pearl	TVD Reference:	WELL @ 0.00usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	West Pearl 36 State #2H	North Reference:	Grid
Wellbore:	VH - Job #32K0512609	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0512609	Database:	EDM-Regulatory

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
5,600.00	1.16	320.29	5,597.89	86.66	24.95	16.06	90.18
5,700.00	0.90	323.71	5,697.88	88.07	23.84	15.15	91.24
5,800.00	0.83	327.74	5,797.87	89.32	22.99	14.43	92.23
5,900.00	0.82	320.38	5,897.86	90.48	22.15	13.75	93.15
6,000.00	0.87	316.71	5,997.84	91.58	21.17	13.02	94.00
6,100.00	0.72	288.87	6,097.83	92.34	20.05	12.25	94.49
6,200.00	0.98	275.07	6,197.82	92.62	18.61	11.36	94.47
6,300.00	1.14	271.29	6,297.81	92.72	16.76	10.25	94.22
6,400.00	0.89	271.17	6,397.79	92.76	14.99	9.18	93.96
6,500.00	0.76	266.01	6,497.78	92.73	13.55	8.32	93.71
6,600.00	0.62	257.82	6,597.77	92.57	12.36	7.61	93.39
6,700.00	0.35	241.50	6,697.77	92.31	11.57	7.14	93.03
6,800.00	0.27	222.11	6,797.77	91.98	11.14	6.90	92.66
6,900.00	0.09	232.13	6,897.77	91.76	10.92	6.79	92.41
7,000.00	0.15	123.18	6,997.77	91.64	10.97	6.82	92.30
7,100.00	0.48	128.24	7,097.77	91.31	11.40	7.12	92.02
7,200.00	0.66	130.73	7,197.76	90.68	12.17	7.64	91.49
7,300.00	0.86	146.68	7,297.75	89.67	13.02	8.26	90.61
7,400.00	0.87	154.01	7,397.74	88.36	13.76	8.85	89.43
7,500.00	0.89	149.98	7,497.73	87.01	14.49	9.45	88.21
7,600.00	1.55	172.70	7,597.71	84.99	15.05	10.04	86.32
7,700.00	1.51	169.59	7,697.67	82.36	15.46	10.63	83.79
7,800.00	1.30	175.09	7,797.64	79.93	15.79	11.18	81.48
7,900.00	1.13	181.99	7,897.62	77.82	15.85	11.52	79.41
8,000.00	1.06	187.88	7,997.60	75.91	15.69	11.68	77.52
8,100.00	0.91	188.21	8,097.59	74.21	15.45	11.76	75.80
8,200.00	0.68	222.91	8,197.58	72.99	14.93	11.56	74.50
8,300.00	0.65	244.37	8,297.57	72.31	14.02	10.97	73.66
8,400.00	0.69	259.17	8,397.56	71.95	12.92	10.18	73.10
8,500.00	0.74	283.54	8,497.56	71.99	11.70	9.23	72.93
8,600.00	0.36	269.90	8,597.55	72.14	10.76	8.48	72.94
8,700.00	0.47	174.08	8,697.55	71.73	10.48	8.31	72.49
8,800.00	0.66	228.70	8,797.54	70.94	10.09	8.10	71.66
8,900.00	0.36	238.04	8,897.54	70.40	9.39	7.60	71.02
9,000.00	0.55	202.08	8,997.54	69.79	8.95	7.31	70.36
9,100.00	0.84	210.85	9,097.53	68.71	8.39	6.96	69.22
9,200.00	1.11	219.57	9,197.52	67.34	7.40	6.27	67.74
9,300.00	1.02	224.21	9,297.50	65.95	6.16	5.34	66.24
9,400.00	0.95	239.					

Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	COG OPERATING	Local Co-ordinate Reference:	Well West Pearl 36 State #2H
Project:	Pearl	TVD Reference:	WELL @ 0 00usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0 00usft (Original Well Elev)
Well:	West Pearl 36 State #2H	North Reference:	Grid
Wellbore:	VH - Job #32K0512609	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0512609	Database:	EDM-Regulatory

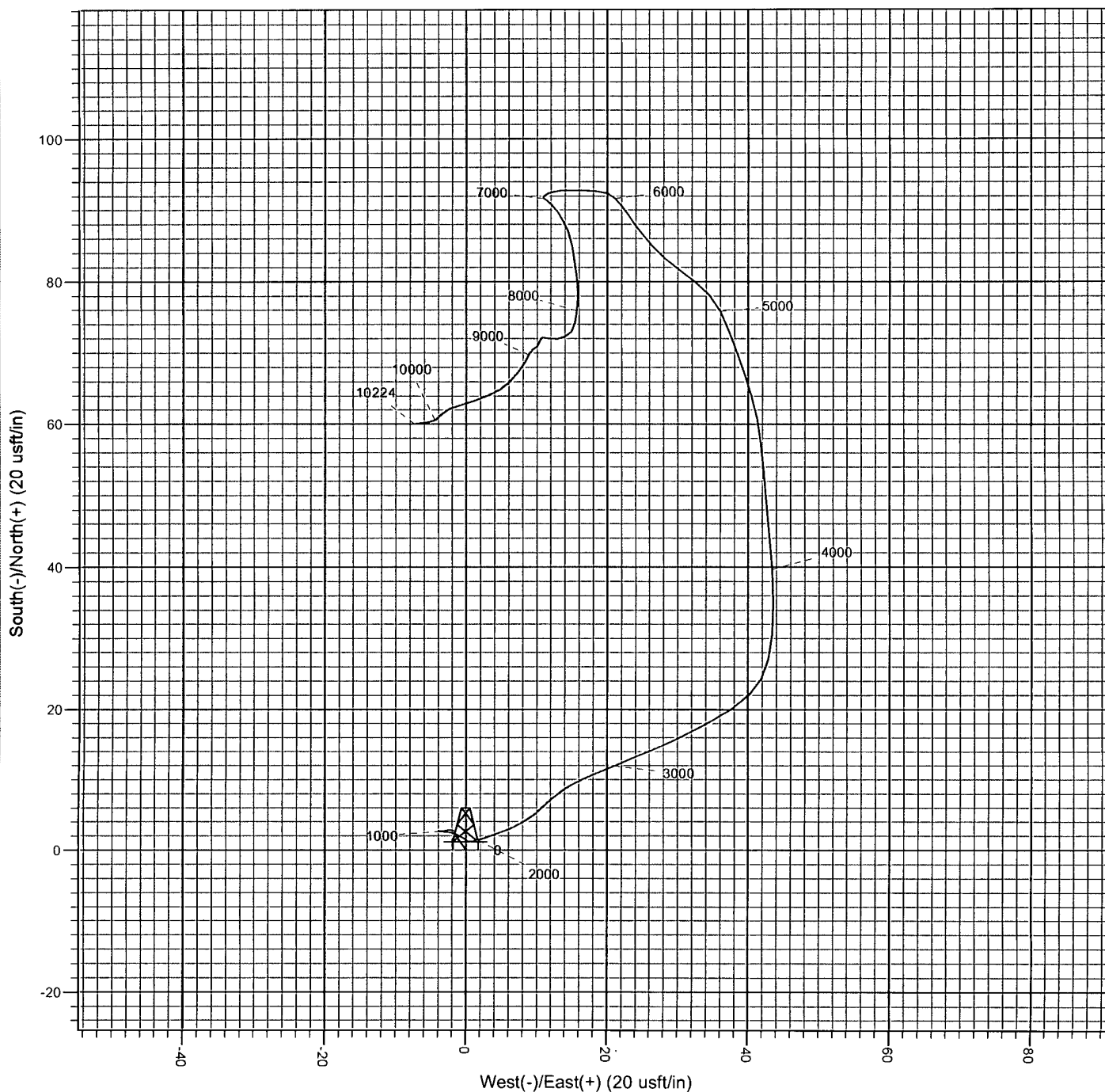
Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
10,000 00	0 80	241.02	9,997 39	60 58	-4 37	355 88	60 74
10,100 00	0 67	266 08	10,097 38	60 20	-5 56	354 72	60 46
10,200 00	0 86	264 03	10,197 37	60 08	-6 89	353 46	60 48
10,227 00	0 92	261 99	10,224 37	60 03	-7 31	353 06	60 48



Project: Pearl
 Lea County, NM
 Well: West Pearl 36 State #2H
 Wellbore: VH - Job #32K0512609
 Design: VH - Job #32K0512609

WELL DETAILS: West Pearl 36 State #2H
 WELL @ 0.00usft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	590953.22	750415.73	32° 37' 19.200 N	103° 31' 12.000 W	



PROJECT DETAILS: Pearl		SITE DETAILS: Lea County, NM	
Geodetic System: US State Plane 1927 (Exact solution)	Datum: NAD 1927 (NADCON CONUS)	Site Centre Latitude: 32° 37' 19.200 N	Longitude: 103° 31' 12.000 W
Ellipsoid: Clarke 1866	Zone: New Mexico East 3001	Positional Uncertainty: 0.00	Convergence: 0.44
System Datum: Mean Sea Level		Local North: Grid	



COG Operating LLC

Lea County(NAD83)

West Pearl 36 State

#2H

OH

HOBBS OCD

AUG 07 2012

RECEIVED

SUR: D-36-19s-34e, 380/N & 330/W
BHL: A-36-19s-34e, 317/N & 4951/W
API # 30-025-40425

Design: OH

Pathfinder X&Y Report

06 June, 2012

PATHFINDER[®]

A Schlumberger Company



Pathfinder
Pathfinder X&Y Report

PATHFINDER
A Schlumberger Company

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County(NAD83)	TVD Reference:	KB = 17' @ 3741.6usft (Original Well Elev)
Site:	West Pearl 36 State	MD Reference:	KB = 17' @ 3741.6usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Lea County(NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	West Pearl 36 State		
Site Position:		Northing:	591,333.060 usft
From:	Map	Easting:	791,359.160 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 37' 22.796 N
		Longitude:	103° 31' 16.512 W
		Grid Convergence:	0 44 °

Well	#2H		
Well Position	+N/-S	0.0 usft	Northing: 591,333.060 usft
	+E/-W	0.0 usft	Easting: 791,359.160 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 37' 22.796 N
		Longitude:	103° 31' 16.512 W
		Ground Level:	3,724.6 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	1/25/2012	7.51	60.57	48,836

Design	OH			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	89.42



Pathfinder
Pathfinder X&Y Report

PATHFINDER
A Schlumberger Company

Company: COG Operating LLC
Project: Lea County(NAD83)
Site: West Pearl 36 State
Well: #2H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #2H
TVD Reference: KB = 17' @ 3741.6usft (Original Well Elev)
MD Reference: KB = 17' @ 3741.6usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey Program Date 6/6/2012

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	10,227.0	Gyro #1 (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s
10,256.0	15,315.0	MWD #2 (OH)	MWD	MWD - Standard

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
0.0	0.00	0.00	0.0	-3,741.6	0.0	0.0	0.0	0.00	591,333.06	791,359.16
100.0	0.38	324.91	100.0	-3,641.6	0.3	-0.2	-0.2	0.38	591,333.33	791,358.97
200.0	0.37	327.39	200.0	-3,541.6	0.8	-0.6	-0.5	0.02	591,333.87	791,358.60
300.0	0.36	316.97	300.0	-3,441.6	1.3	-0.9	-0.9	0.07	591,334.38	791,358.22
400.0	0.34	333.66	400.0	-3,341.6	1.8	-1.3	-1.3	0.10	591,334.87	791,357.87
500.0	0.31	339.91	500.0	-3,241.6	2.3	-1.5	-1.5	0.05	591,335.39	791,357.65
600.0	0.16	306.33	600.0	-3,141.6	2.7	-1.7	-1.7	0.20	591,335.73	791,357.44
700.0	0.21	298.88	700.0	-3,041.6	2.8	-2.0	-2.0	0.06	591,335.90	791,357.17
800.0	0.25	255.39	800.0	-2,941.6	2.9	-2.4	-2.3	0.17	591,335.93	791,356.80
900.0	0.47	258.31	900.0	-2,841.6	2.7	-3.0	-2.9	0.22	591,335.80	791,356.18
1,000.0	0.18	280.98	1,000.0	-2,741.6	2.7	-3.5	-3.5	0.31	591,335.74	791,355.63
1,100.0	0.02	85.80	1,100.0	-2,641.6	2.7	-3.7	-3.6	0.20	591,335.77	791,355.49
1,200.0	0.10	272.34	1,200.0	-2,541.6	2.7	-3.7	-3.7	0.12	591,335.78	791,355.42
1,300.0	0.03	85.37	1,300.0	-2,441.6	2.7	-3.8	-3.8	0.13	591,335.78	791,355.36
1,400.0	0.06	142.80	1,400.0	-2,341.6	2.7	-3.7	-3.7	0.05	591,335.74	791,355.42
1,500.0	0.53	91.97	1,500.0	-2,241.6	2.6	-3.2	-3.2	0.49	591,335.69	791,355.91
1,600.0	0.64	100.57	1,600.0	-2,141.6	2.5	-2.2	-2.2	0.14	591,335.57	791,356.92
1,700.0	0.59	119.55	1,700.0	-2,041.6	2.2	-1.2	-1.2	0.21	591,335.21	791,357.92
1,800.0	0.45	117.31	1,800.0	-1,941.6	1.7	-0.4	-0.4	0.14	591,334.78	791,358.72
1,900.0	0.50	126.31	1,900.0	-1,841.6	1.3	0.3	0.3	0.09	591,334.34	791,359.42
2,000.0	1.38	72.14	2,000.0	-1,741.6	1.4	1.8	1.8	1.16	591,334.45	791,360.91



Pathfinder
Pathfinder X&Y Report

PATHFINDER
A Schlumberger Company

Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County(NAD83)	TVD Reference:	KB = 17' @ 3741.6usft (Original Well Elev)
Site:	West Pearl 36 State	MD Reference:	KB = 17' @ 3741.6usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey												
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)		
2,100.0	1.34	70.31	2,099.9	-1,641.7	2.2	4.0	4.0	0.06	591,335.21	791,363.16		
2,200.0	1.35	68.07	2,199.9	-1,541.7	3.0	6.2	6.2	0.05	591,336.05	791,365.36		
2,300.0	1.16	58.28	2,299.9	-1,441.7	4.0	8.1	8.2	0.29	591,337.02	791,367.31		
2,400.0	0.94	55.68	2,399.9	-1,341.7	5.0	9.7	9.7	0.23	591,338.01	791,368.85		
2,500.0	0.57	38.69	2,499.8	-1,241.8	5.8	10.7	10.7	0.43	591,338.86	791,369.84		
2,600.0	0.61	48.62	2,599.8	-1,141.8	6.5	11.4	11.5	0.11	591,339.60	791,370.55		
2,700.0	0.63	49.22	2,699.8	-1,041.8	7.3	12.2	12.3	0.02	591,340.32	791,371.36		
2,800.0	1.54	53.07	2,799.8	-941.8	8.4	13.7	13.8	0.91	591,341.48	791,372.85		
2,900.0	2.56	66.95	2,899.8	-841.8	10.1	16.8	16.9	1.13	591,343.16	791,375.98		
3,000.0	2.71	66.99	2,999.6	-742.0	11.9	21.1	21.2	0.15	591,344.96	791,380.21		
3,100.0	2.72	66.25	3,099.5	-642.1	13.8	25.4	25.5	0.04	591,346.84	791,384.56		
3,200.0	2.77	64.41	3,199.4	-542.2	15.8	29.8	29.9	0.10	591,348.84	791,388.91		
3,300.0	2.70	62.47	3,299.3	-442.3	17.9	34.0	34.2	0.12	591,350.97	791,393.18		
3,400.0	2.15	55.60	3,399.2	-342.4	20.1	37.7	37.9	0.62	591,353.12	791,396.82		
3,500.0	1.63	47.21	3,499.2	-242.4	22.1	40.2	40.5	0.59	591,355.15	791,399.41		
3,600.0	1.60	25.26	3,599.1	-142.5	24.3	41.9	42.1	0.62	591,357.38	791,401.05		
3,700.0	1.79	15.75	3,699.1	-42.5	27.1	42.9	43.2	0.34	591,360.14	791,402.07		
3,800.0	2.34	2.97	3,799.0	57.4	30.6	43.4	43.7	0.71	591,363.68	791,402.60		
3,900.0	2.65	1.03	3,898.9	157.3	35.0	43.6	43.9	0.32	591,368.04	791,402.74		
4,000.0	2.69	355.02	3,998.8	257.2	39.6	43.4	43.8	0.28	591,372.68	791,402.58		
4,100.0	2.76	355.53	4,098.7	357.1	44.4	43.0	43.5	0.07	591,377.42	791,402.19		
4,200.0	2.61	354.33	4,198.6	457.0	49.0	42.6	43.1	0.16	591,382.09	791,401.78		
4,300.0	2.47	355.25	4,298.5	556.9	53.4	42.2	42.8	0.15	591,386.50	791,401.37		
4,400.0	2.00	352.41	4,398.4	656.8	57.3	41.8	42.4	0.48	591,390.38	791,400.97		
4,500.0	1.96	349.15	4,498.4	756.8	60.7	41.3	41.9	0.12	591,393.79	791,400.41		
4,600.0	1.87	344.13	4,598.3	856.7	64.0	40.5	41.1	0.19	591,397.04	791,399		



Pathfinder
Pathfinder X&Y Report

PATHFINDER
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Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County(NAD83)	TVD Reference:	KB = 17' @ 3741.6usft (Original Well Elev)
Site:	West Pearl 36 State	MD Reference:	KB = 17' @ 3741.6usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
4,800.0	1.73	338.30	4,798.2	1,056.6	70.0	38.4	39.1	0.13	591,403.04	791,397.58	
4,900.0	1.80	341.40	4,898.1	1,156.5	72.9	37.4	38.1	0.12	591,405.93	791,396.52	
5,000.0	1.85	331.35	4,998.1	1,256.5	75.8	36.1	36.9	0.32	591,408.83	791,395.24	
5,100.0	1.52	316.17	5,098.1	1,356.5	78.1	34.4	35.2	0.55	591,411.21	791,393.55	
5,200.0	1.46	308.84	5,198.0	1,456.4	79.9	32.5	33.3	0.20	591,412.96	791,391.64	
5,300.0	1.58	306.84	5,298.0	1,556.4	81.5	30.4	31.2	0.13	591,414.59	791,389.55	
5,400.0	1.57	309.69	5,397.9	1,656.3	83.2	28.2	29.1	0.08	591,416.29	791,387.39	
5,500.0	1.36	318.43	5,497.9	1,756.3	85.0	26.4	27.2	0.31	591,418.05	791,385.55	
5,600.0	1.16	320.29	5,597.9	1,856.3	86.7	25.0	25.8	0.20	591,419.72	791,384.11	
5,700.0	0.90	323.71	5,697.9	1,956.3	88.1	23.8	24.7	0.27	591,421.13	791,383.00	
5,800.0	0.83	327.74	5,797.9	2,056.3	89.3	23.0	23.9	0.09	591,422.38	791,382.15	
5,900.0	0.82	320.38	5,897.9	2,156.3	90.5	22.1	23.1	0.11	591,423.54	791,381.31	
6,000.0	0.87	316.71	5,997.8	2,256.2	91.6	21.2	22.1	0.07	591,424.64	791,380.33	
6,100.0	0.72	288.87	6,097.8	2,356.2	92.3	20.1	21.0	0.41	591,425.40	791,379.21	
6,200.0	0.98	275.07	6,197.8	2,456.2	92.6	18.6	19.5	0.33	591,425.68	791,377.77	
6,300.0	1.14	271.29	6,297.8	2,556.2	92.7	16.8	17.7	0.17	591,425.78	791,375.92	
6,400.0	0.89	271.17	6,397.8	2,656.2	92.8	15.0	15.9	0.25	591,425.82	791,374.15	
6,500.0	0.76	266.01	6,497.8	2,756.2	92.7	13.6	14.5	0.15	591,425.79	791,372.71	
6,600.0	0.62	257.82	6,597.8	2,856.2	92.6	12.4	13.3	0.17	591,425.63	791,371.52	
6,700.0	0.35	241.50	6,697.8	2,956.2	92.3	11.6	12.5	0.30	591,425.37	791,370.73	
6,800.0	0.27	222.11	6,797.8	3,056.2	92.0	11.1	12.1	0.13	591,425.04	791,370.30	
6,900.0	0.09	232.13	6,897.8	3,156.2	91.8	10.9	11.9	0.18	591,424.82	791,370.08	
7,000.0	0.15	123.18	6,997.8	3,256.2	91.6	11.0	11.9	0.20	591,424.70	791,370.13	
7,100.0	0.48	128.24	7,097.8	3,356.2	91.3	11.4	12.3	0.3			



Pathfinder
Pathfinder X&Y Report

PATHFINDER
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Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County(NAD83)	TVD Reference:	KB = 17' @ 3741.6usft (Original Well Elev)
Site:	West Pearl 36 State	MD Reference:	KB = 17' @ 3741.6usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
7,500.0	0.89	149.98	7,497.7	3,756.1	87.0	14.5	15.4	0.07	591,420.07	791,373.65
7,600.0	1.55	172.70	7,597.7	3,856.1	85.0	15.0	15.9	0.81	591,418.05	791,374.21
7,700.0	1.51	169.59	7,697.7	3,956.1	82.4	15.5	16.3	0.09	591,415.42	791,374.62
7,800.0	1.30	175.09	7,797.6	4,056.0	79.9	15.8	16.6	0.25	591,412.99	791,374.95
7,900.0	1.13	181.99	7,897.6	4,156.0	77.8	15.9	16.6	0.22	591,410.88	791,375.01
8,000.0	1.06	187.88	7,997.6	4,256.0	75.9	15.7	16.5	0.13	591,408.97	791,374.85
8,100.0	0.91	188.21	8,097.6	4,356.0	74.2	15.5	16.2	0.15	591,407.27	791,374.61
8,200.0	0.68	222.91	8,197.6	4,456.0	73.0	14.9	15.7	0.52	591,406.05	791,374.09
8,300.0	0.65	244.37	8,297.6	4,556.0	72.3	14.0	14.8	0.25	591,405.37	791,373.18
8,400.0	0.69	259.17	8,397.6	4,656.0	72.0	12.9	13.6	0.18	591,405.01	791,372.08
8,500.0	0.74	283.54	8,497.6	4,756.0	72.0	11.7	12.4	0.31	591,405.05	791,370.86
8,600.0	0.36	269.90	8,597.6	4,856.0	72.1	10.8	11.5	0.40	591,405.20	791,369.92
8,700.0	0.47	174.08	8,697.5	4,955.9	71.7	10.5	11.2	0.62	591,404.79	791,369.64
8,800.0	0.66	228.70	8,797.5	5,055.9	70.9	10.1	10.8	0.55	591,404.00	791,369.25
8,900.0	0.36	238.04	8,897.5	5,155.9	70.4	9.4	10.1	0.31	591,403.46	791,368.55
9,000.0	0.55	202.08	8,997.5	5,255.9	69.8	8.9	9.7	0.33	591,402.85	791,368.11
9,100.0	0.84	210.85	9,097.5	5,355.9	68.7	8.4	9.1	0.31	591,401.77	791,367.55
9,200.0	1.11	219.57	9,197.5	5,455.9	67.3	7.4	8.1	0.31	591,400.40	791,366.56
9,300.0	1.02	224.21	9,297.5	5,555.9	66.0	6.2	6.8	0.12	591,399.01	791,365.32
9,400.0	0.95	239.88	9,397.5	5,655.9	64.9	4.8	5.5	0.28	591,397.96	791,363.98
9,500.0	1.19	247.27	9,497.5	5,755.9	64.1	3.1	3.8	0.28	591,397.14	791,362.31
9,600.0	1.23	248.55	9,597.4	5,855.8	63.3	1.2	1.8	0.05	591,396.35	791,360.35
9,700.0	1.16	254.93	9,697.4	5,955.8	62.6	-0.8	-0.1	0.15	591,395.69	791,358.37
9,800.0	0.68	251.42	9,797.4	6,055.8	62.2	-2.3	-1.7	0.48	591,395.24	791,356.83
9,900.0	0.79	218.95	9,897.4	6,155.8	61.5	-3.3	-2.7	0.42	591,394.51	791,355.84
10,000.0	0.80	241.02	9,997.4	6,255.8	60.6	-4.4	-3.7	0.30	591,393.64	791,354.79
10,100.0	0.67	266.08	10,097.4	6,355.8	60.2	-5.6	-4.9	0.34	591,393.26	791,353.60



Pathfinder
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Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County(NAD83)	TVD Reference:	KB = 17' @ 3741.6usft (Original Well Elev)
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Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
10,200.0	0.86	264.03	10,197.4	6,455.8	60.1	-6.9	-6.3	0.19	591,393.14	791,352.27	
10,227.0	0.92	261.99	10,224.4	6,482.8	60.0	-7.3	-6.7	0.25	591,393.09	791,351.85	
10,256.0	1.14	237.75	10,253.4	6,511.8	59.8	-7.8	-7.2	1.67	591,392.91	791,351.38	
10,288.0	1.06	223.95	10,285.4	6,543.8	59.5	-8.3	-7.6	0.86	591,392.52	791,350.91	
10,320.0	3.08	109.96	10,317.3	6,575.7	59.0	-7.7	-7.1	11.38	591,392.02	791,351.51	
10,352.0	7.21	107.15	10,349.2	6,607.6	58.1	-4.9	-4.3	12.93	591,391.13	791,354.24	
10,384.0	10.38	101.70	10,380.8	6,639.2	56.9	-0.2	0.4	10.23	591,389.95	791,358.98	
10,415.0	13.63	99.41	10,411.1	6,669.5	55.7	6.2	6.7	10.59	591,388.79	791,365.32	
10,447.0	17.15	96.07	10,442.0	6,700.4	54.6	14.6	15.1	11.34	591,387.67	791,373.73	
10,478.0	14.51	93.26	10,471.8	6,730.2	53.9	23.0	23.5	8.87	591,386.97	791,382.16	
10,510.0	15.30	94.75	10,502.7	6,761.1	53.3	31.2	31.7	2.74	591,386.39	791,390.37	
10,542.0	17.32	97.74	10,533.5	6,791.9	52.3	40.1	40.7	6.83	591,385.40	791,399.30	
10,573.0	20.40	102.14	10,562.8	6,821.2	50.6	50.0	50.5	10.94	591,383.64	791,409.15	
10,605.0	21.37	98.53	10,592.7	6,851.1	48.5	61.2	61.7	5.03	591,381.60	791,420.37	
10,637.0	22.86	96.60	10,622.3	6,880.7	47.0	73.2	73.6	5.18	591,380.03	791,432.31	
10,669.0	25.59	96.16	10,651.5	6,909.9	45.5	86.2	86.7	8.55	591,378.57	791,445.36	
10,701.0	29.19	95.90	10,679.9	6,938.3	44.0	100.8	101.3	11.26	591,377.02	791,460.00	
10,732.0	32.71	95.19	10,706.5	6,964.9	42.4	116.7	117.1	11.42	591,375.49	791,475.86	
10,764.0	35.96	93.17	10,732.9	6,991.3	41.1	134.7	135.1	10.76	591,374.19	791,493.86	
10,795.0	39.31	91.33	10,757.5	7,015.9	40.4	153.6	154.0	11.40	591,373.46	791,512.77	
10,827.0	43.00	89.31	10,781.6	7,040.0	40.3	174.7	175.1	12.26	591,373.35	791,533.83	
10,859.0	47.22	89.75	10,804.1	7,062.5	40.5	197.3	197.7	13.22	591,373.53	791,556.49	
10,890.0	51.88	89.83	10,824.2	7,082.6	40.6	220.9	221.3	15.03	591,373.62	791,580.07	
10,922.0	56.01	89.22	10,843.1	7,101.5	40.8	246.8	247.2	13.00	591,373.84	791,605.94	
10,954.0	59.62	88.34	10,860.1	7,118.5	41.4	273.8	274.3	11.52	591,374.42	791,633.01	
10,985.0	64.28	87.90	10,874.7	7,133.1	42.3	301					



Pathfinder
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Project:	Lea County(NAD83)	TVD Reference:	KB = 17' @ 3741.6usft (Original Well Elev)
Site:	West Pearl 36 State	MD Reference:	KB = 17' @ 3741.6usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
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Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
11,049.0	74.83	88.08	10,897.1	7,155.5	44.3	361.0	361.4	16.75	591,377.37	791,720.18
11,081.0	81.07	87.55	10,903.7	7,162.1	45.5	392.3	392.7	19.57	591,378.56	791,751.43
11,105.0	85.03	87.02	10,906.6	7,165.0	46.6	416.1	416.5	16.64	591,379.69	791,775.23
11,198.0	87.58	91.06	10,912.6	7,171.0	48.2	508.8	509.3	5.13	591,381.24	791,867.99
11,291.0	87.05	92.56	10,917.0	7,175.4	45.2	601.7	602.1	1.71	591,378.31	791,960.84
11,383.0	86.88	92.47	10,921.9	7,180.3	41.2	693.5	693.8	0.21	591,374.28	792,052.62
11,476.0	88.99	93.52	10,925.2	7,183.6	36.4	786.3	786.6	2.53	591,369.42	792,145.43
11,568.0	91.01	95.02	10,925.2	7,183.6	29.5	878.0	878.3	2.73	591,362.57	792,237.17
11,660.0	89.96	94.67	10,924.4	7,182.8	21.7	969.7	969.8	1.20	591,354.80	792,328.83
11,754.0	88.99	94.32	10,925.3	7,183.7	14.4	1,063.4	1,063.5	1.10	591,347.44	792,422.54
11,846.0	88.55	94.05	10,927.3	7,185.7	7.7	1,155.1	1,155.1	0.56	591,340.72	792,514.27
11,938.0	89.43	92.03	10,928.9	7,187.3	2.8	1,247.0	1,246.9	2.39	591,335.85	792,606.12
12,031.0	91.28	92.21	10,928.3	7,186.7	-0.7	1,339.9	1,339.8	2.00	591,332.41	792,699.05
12,123.0	91.10	91.68	10,926.4	7,184.8	-3.8	1,431.8	1,431.7	0.61	591,329.28	792,790.98
12,216.0	90.13	91.24	10,925.4	7,183.8	-6.1	1,524.8	1,524.6	1.15	591,326.91	792,883.94
12,308.0	91.98	90.89	10,923.7	7,182.1	-7.9	1,616.7	1,616.6	2.05	591,325.20	792,975.91
12,400.0	92.15	90.62	10,920.4	7,178.8	-9.1	1,708.7	1,708.5	0.35	591,323.99	793,067.84
12,493.0	92.59	89.83	10,916.6	7,175.0	-9.4	1,801.6	1,801.4	0.97	591,323.63	793,160.76
12,585.0	92.77	88.87	10,912.3	7,170.7	-8.4	1,893.5	1,893.3	1.06	591,324.67	793,252.65
12,678.0	89.43	89.57	10,910.5	7,168.9	-7.1	1,986.5	1,986.3	3.67	591,325.94	793,345.61
12,770.0	88.11	88.69	10,912.4	7,170.8	-5.7	2,078.4	2,078.3	1.72	591,327.33	793,437.58
12,862.0	87.58	88.60	10,915.9	7,174.3	-3.6	2,170.3	2,170.2	0.58	591,329.51	793,529.49
12,954.0	86.79	87.64	10,920.4	7,178.8	-0.5	2,262.2	2,262.0	1.35	591,332.52	793,621.32
13,047.0	87.14	87.99	10,925.3	7,183.7	3.0	2,355.0	2,354.9	0.53	591,336.06	793,714.13
13,140.0	88.46	88.08	10,928.9	7,187.3	6.2	2,447.8	2,447.8	1.42	591,339.25	793,807.00
13,233.0	90.40	89.08								



Pathfinder
Pathfinder X&Y Report

PATHFINDER
A Schlumberger Company

Company: COG Operating LLC
Project: Lea County(NAD83)
Site: West Pearl 36 State
Well: #2H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well #2H
TVD Reference: KB = 17' @ 3741.6usft (Original Well Elev)
MD Reference: KB = 17' @ 3741.6usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
13,418.0	91.10	88.60	10,927.6	7,186.0	12.3	2,725.7	2,725.7	0.51	591,345.40	794,084.91
13,510.0	91.19	88.43	10,925.7	7,184.1	14.7	2,817.7	2,817.7	0.21	591,347.78	794,176.86
13,602.0	90.75	87.20	10,924.2	7,182.6	18.2	2,909.6	2,909.6	1.42	591,351.29	794,268.77
13,695.0	90.13	86.49	10,923.4	7,181.8	23.3	3,002.5	3,002.6	1.01	591,356.40	794,361.63
13,787.0	89.43	86.32	10,923.8	7,182.2	29.1	3,094.3	3,094.4	0.78	591,362.17	794,453.45
13,880.0	89.43	88.60	10,924.7	7,183.1	33.2	3,187.2	3,187.4	2.45	591,366.29	794,546.35
13,974.0	89.52	88.51	10,925.6	7,184.0	35.6	3,281.2	3,281.3	0.14	591,368.66	794,640.31
14,071.0	89.78	88.16	10,926.2	7,184.6	38.4	3,378.1	3,378.3	0.45	591,371.48	794,737.27
14,167.0	89.69	87.99	10,926.6	7,185.0	41.6	3,474.1	3,474.3	0.20	591,374.71	794,833.21
14,263.0	90.22	89.13	10,926.7	7,185.1	44.1	3,570.0	3,570.3	1.31	591,377.12	794,929.18
14,359.0	90.31	89.13	10,926.3	7,184.7	45.5	3,666.0	3,666.3	0.09	591,378.58	795,025.17
14,458.0	90.13	88.03	10,925.9	7,184.3	48.0	3,765.0	3,765.3	1.13	591,381.03	795,124.14
14,555.0	90.57	90.17	10,925.3	7,183.7	49.5	3,862.0	3,862.3	2.25	591,382.55	795,221.12
14,651.0	90.75	90.08	10,924.2	7,182.6	49.3	3,957.9	3,958.2	0.21	591,382.35	795,317.11
14,747.0	90.84	89.63	10,922.8	7,181.2	49.5	4,053.9	4,054.2	0.48	591,382.59	795,413.10
14,842.0	90.57	89.24	10,921.7	7,180.1	50.5	4,148.9	4,149.2	0.50	591,383.52	795,508.09
14,936.0	90.66	88.72	10,920.7	7,179.1	52.1	4,242.9	4,243.2	0.56	591,385.20	795,602.07
15,031.0	91.01	88.28	10,919.3	7,177.7	54.6	4,337.9	4,338.2	0.59	591,387.68	795,697.02
15,126.0	87.67	88.61	10,920.4	7,178.8	57.2	4,432.8	4,433.2	3.53	591,390.26	795,791.97
15,242.0	86.61	87.95	10,926.2	7,184.6	60.7	4,548.6	4,549.0	1.08	591,393.74	795,907.77
15,315.0	86.61	87.95	10,930.5	7,188.9	63.3	4,621.4	4,621.8	0.00	591,396.35	795,980.60



Pathfinder
Pathfinder X&Y Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #2H
Project:	Lea County(NAD83)	TVD Reference:	KB = 17' @ 3741.6usft (Original Well Elev)
Site:	West Pearl 36 State	MD Reference:	KB = 17' @ 3741.6usft (Original Well Elev)
Well:	#2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,320.0	10,317.3	59.0	-7.7	KOP - 10320.0 'MD, 10317.3 'TVD, 109.96 'AZI, 3.08 'INC, 59.0 'N, -7.7 'E
11,476.0	10,925.2	36.4	786.3	LP - 11476.0 'MD, 10925.2 'TVD, 93.52 'AZI, 88.99 'INC, 36.4 'N, 786.3 'E
15,315.0	10,930.5	63.3	4,621.4	BHL - 15315.0 'MD, 10930.5 'TVD, 87.95 'AZI, 86.61 'INC, 63.3 'N, 4621.4 'E

Checked By: _____	Approved By: _____	Date: _____
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Project: Lea County(NAD83)
Site: West Pearl 36 State
Well: #2H
Wellbore: OH
Plan: Post Gyro Plan #3 (#2H/OH)

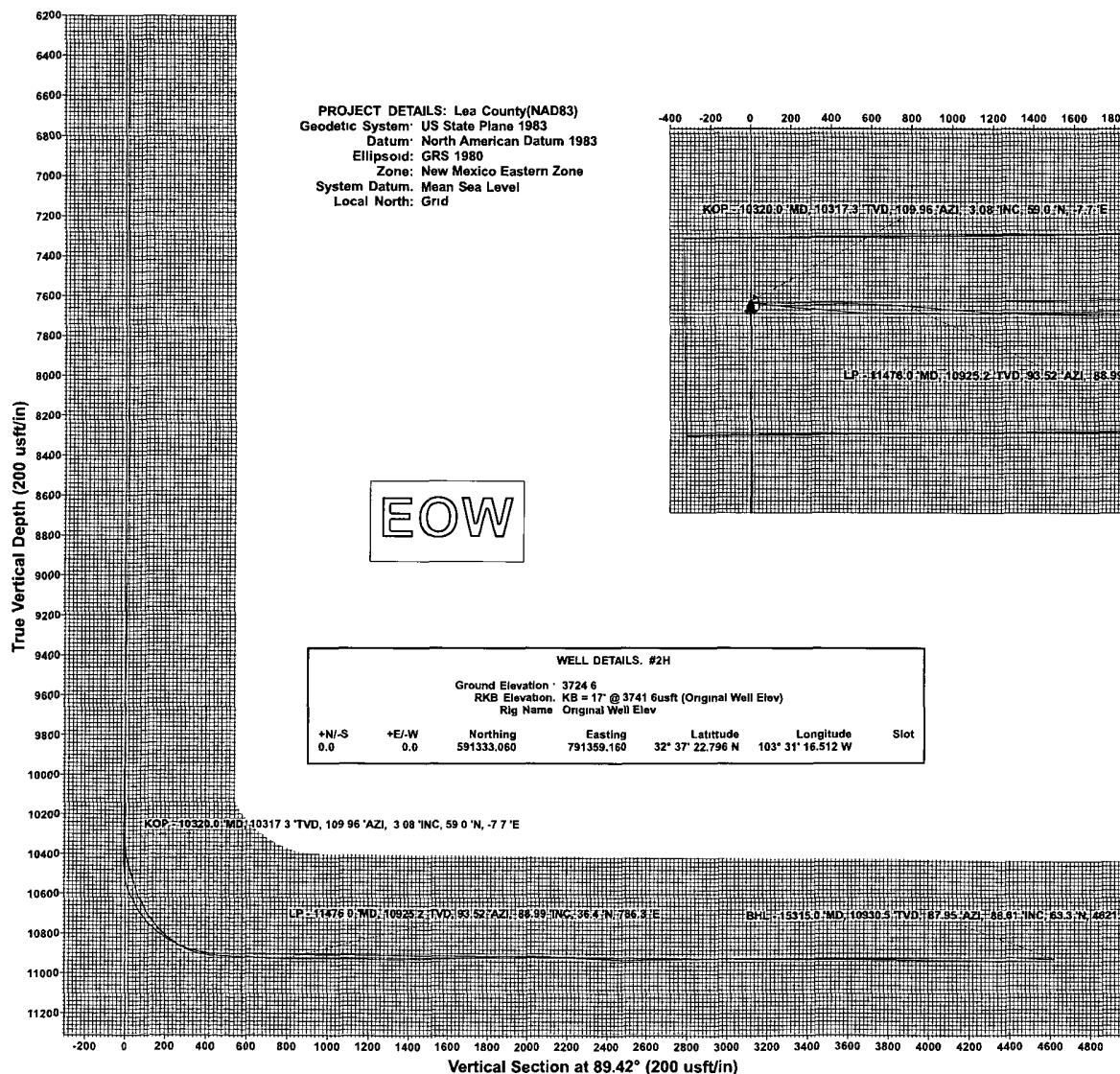


Azimuths to Grid North
True North: -0.44°
Magnetic North: 7.07°

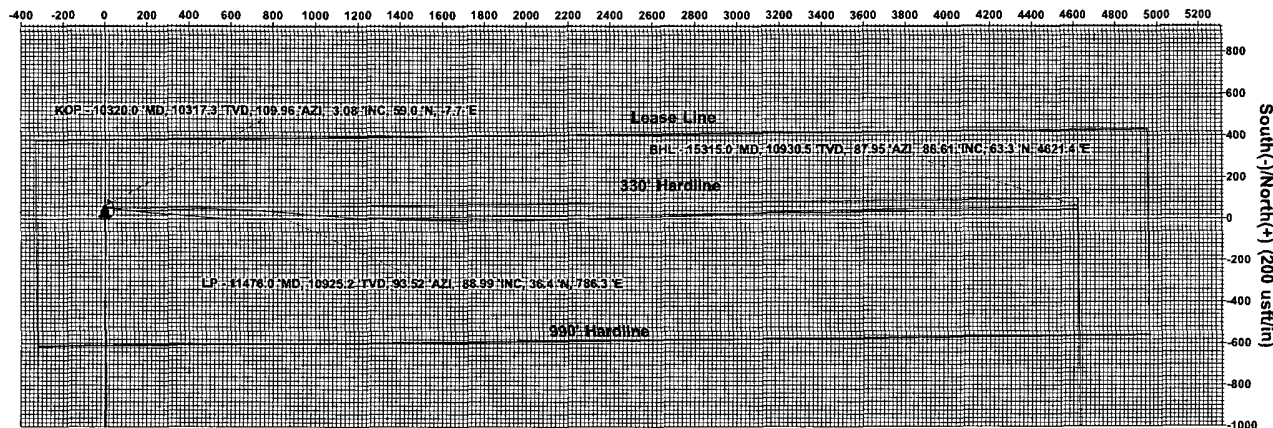
Magnetic Field
Strength: 48836.4snT
Dip Angle: 60.57°
Date: 1/25/2012
Model: IGRF200510



A Schlumberger Company



West(-)/East(+) (200 usft/in)



WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL (West Pearl)	10940.0	47.0	4623.6	591380.080	795982.760	Point

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	10227.0	0.92	261.99	10224.4	60.0	-7.3	0.00	0.00	-6.7	
2	10425.8	0.92	180.00	10423.2	58.2	-8.9	0.61	-130.99	-8.3	
3	11170.8	89.45	95.00	10900.0	9.5	461.7	12.00	-85.01	461.7	
4	11456.4	89.45	89.29	10902.7	-1.2	747.0	2.00	-90.03	746.9	
5	15333.5	89.45	89.29	10940.0	47.0	4623.6	0.00	0.00	4623.8	PBHL (West Pearl)

Plan: Post Gyro Plan #3 (#2H/OH)

Created By: Michael Trout Date: 15.53, June 06 2012

Checked: _____ Date: _____

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Lea County(NAD83)
West Pearl 36 State
#2H
Original Well Elev
OH
Post Gyro Plan #3