



30-015-38640

Ryan Energy Directional Drilling Report

Field: Eddy Co, NM
Site: Dodd Federal Unit #644
Well: #644
Wellpath: OH

Prepared For:

COG Operating LLC

RECEIVED

AUG 9 2011

NMOCD ARTESIA



Ryan Energy Technology

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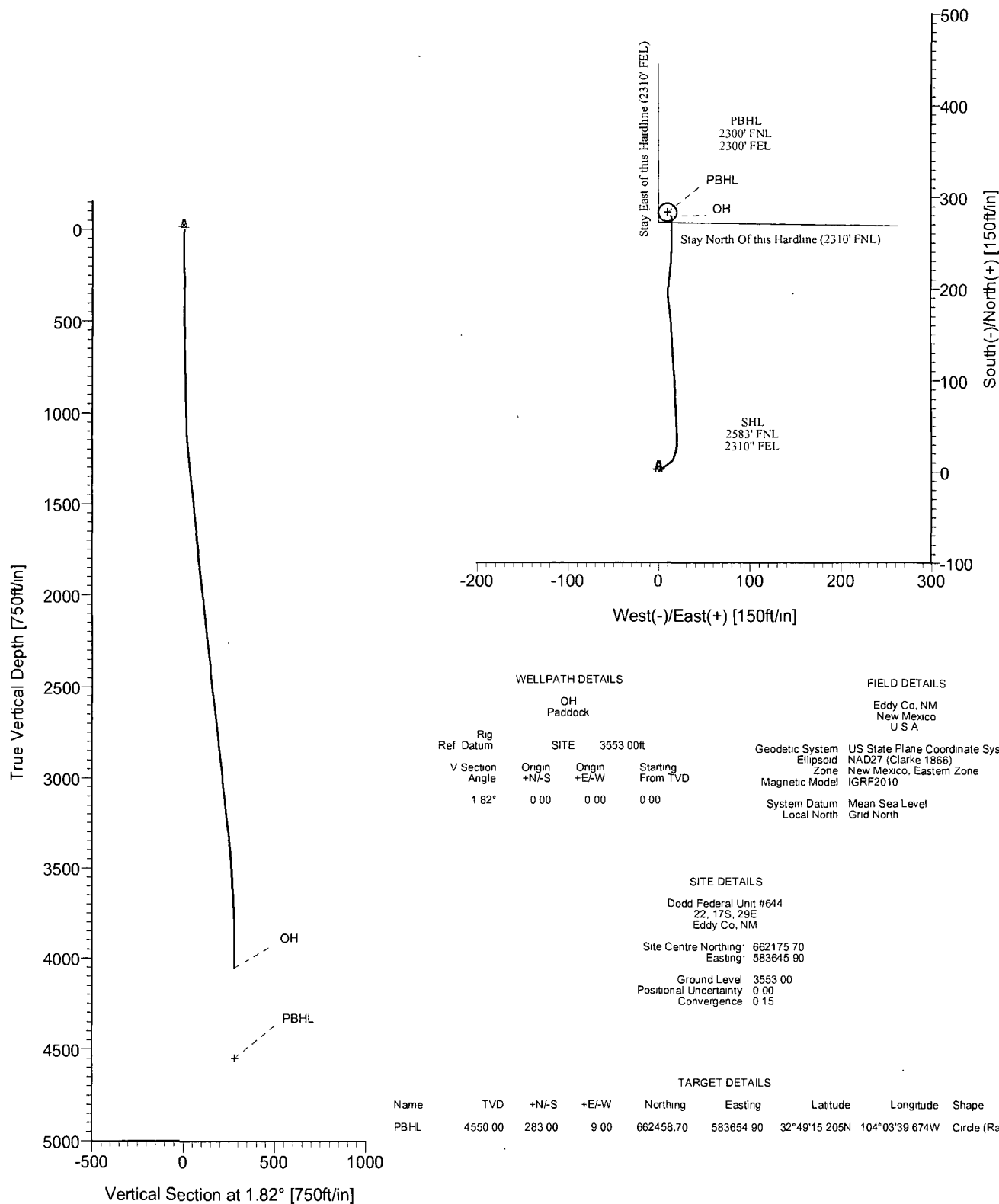
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COG Operating LLC
Field: Eddy Co, NM
Site: Dodd Federal Unit #644
Well: #644
Wellpath: OH



Azimuths to Grid North
 True North -0 15°
 Magnetic North 7 72°
 Magnetic Field
 Strength 4895 nT
 Dip Angle 60 65°
 Date 5/31/2011
 Model IGRF2010





Ryan Energy Technologies Survey Report



Company: COG Operating LLC	Date: 6/6/2011	Time: 12.51.13	Page: 1
Field: Eddy Co, NM	Co-ordinate(NE) Reference:	Site: Dodd Federal Unit #644, Grid North	
Site: Dodd Federal Unit #644	Vertical (TVD) Reference:	SITE 3553.0	
Well: #644	Section (VS) Reference:	Well (0.00N,0.00E,1.82Azi)	
Wellpath: OH	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Field: Eddy Co, NM New Mexico U S A	Map System: US State Plane Coordinate System 1927	Map Zone: New Mexico, Eastern Zone
Geo Datum: NAD27 (Clarke 1866)	Coordinate System: Site Centre	
Sys Datum: Mean Sea Level	Geomagnetic Model: IGRF2010	

Site: Dodd Federal Unit #644 22, 17S, 29E Eddy Co, NM	Site Position:	Northings: 662175 70 ft	Latitude: 32 49 12.405 N
From: Map	Easting: 583645 90 ft	Longitude: 104 3 39 788 W	
Position Uncertainty: 0.00 ft	North Reference: Grid	Grid Convergence: 0 15 deg	
Ground Level: 3553.00 ft			

Well: #644 Paddock	Slot Name:
Well Position: +N/-S 0.00 ft	Latitude: 32 49 12.405 N
+E/-W 0.00 ft	Longitude: 104 3 39 788 W
Position Uncertainty: 0.00 ft	

Wellpath: OH Paddock	Drilled From: Surface
Current Datum: SITE	Tie-on Depth: 0.00 ft
Magnetic Data: 5/31/2011	Above System Datum: Mean Sea Level
Field Strength: 48951 nT	Declination: 7 86 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 60.65 deg
ft	+N/-S
	+E/-W
	Direction
	deg
0 00	0.00
	0 00
	1.82

Survey Program for Definitive Wellpath			Version: 0
Date: 6/5/2011	Validated: No	Toolcode	Tool Name
Actual From ft	To ft	Survey	
0 00	833.00	Survey #1 (0.00-833 00)	Gyro
871.00	4023 00	Survey #2 (871 00-4023 00)	Ryan MWD
4069.00	4069.00	Survey #3 (4069.00-4069 00)	Projection

Survey										
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
100.00	0.28	240.17	100.00	-0.12	-0.21	-0.13	0.28	0.28	0.00	Gyro
200.00	0.20	334.94	200.00	-0.08	-0.50	-0.10	0.36	-0.08	94.77	Gyro
300.00	0.37	38.05	300.00	0.33	-0.37	0.32	0.33	0.17	63.11	Gyro
400.00	0.77	47.95	399.99	1.03	0.33	1.04	0.41	0.40	9.90	Gyro
500.00	1.29	60.82	499.98	2.03	1.81	2.09	0.57	0.52	12.87	Gyro
600.00	1.73	55.60	599.94	3.43	4.04	3.56	0.46	0.44	-5.22	Gyro
700.00	2.03	53.82	699.89	5.33	6.71	5.54	0.31	0.30	-1.78	Gyro
800.00	1.72	55.45	799.83	7.23	9.38	7.52	0.31	-0.31	1.63	Gyro
833.00	1.67	58.72	832.82	7.76	10.19	8.08	0.33	-0.15	9.91	Gyro
871.00	1.70	64.80	870.80	8.29	11.18	8.64	0.48	0.08	16.00	Ryan MWD
998.00	2.10	25.00	997.74	11.20	13.87	11.63	1.06	0.31	-31.34	Ryan MWD
1094.00	3.20	25.70	1093.63	15.20	15.77	15.70	1.15	1.15	0.73	Ryan MWD
1189.00	5.00	14.40	1188.39	21.60	17.95	22.16	2.07	1.89	-11.89	Ryan MWD
1285.00	5.50	0.90	1283.99	30.26	19.06	30.85	1.38	0.52	-14.06	Ryan MWD
1381.00	6.20	358.80	1379.49	40.04	19.03	40.62	0.76	0.73	-2.19	Ryan MWD
1476.00	5.60	357.30	1473.99	49.80	18.70	50.37	0.65	-0.63	-1.58	Ryan MWD
1572.00	5.40	357.94	1569.54	58.99	18.32	59.54	0.22	-0.21	0.67	Ryan MWD
1667.00	6.10	357.00	1664.06	68.50	17.89	69.03	0.74	0.74	-0.99	Ryan MWD
1763.00	5.50	356.80	1759.57	78.19	17.37	78.70	0.63	-0.62	-0.21	Ryan MWD
1858.00	6.50	357.70	1854.05	88.11	16.90	88.60	1.06	1.05	0.95	Ryan MWD



Ryan Energy Technologies Survey Report



Company: COG Operating LLC	Date: 6/6/2011	Time: 12:51:13	Page: 2
Field: Eddy Co, NM	Co-ordinate(NE) Reference:	Site: Dodd Federal Unit #644, Grid North	
Site: Dodd Federal Unit #644	Vertical (TVD) Reference:	SITE 3553.0	
Well: #644	Section (VS) Reference:	Well (0.00N,0.00E,1.82Azi)	
Wellpath: OH	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
1954.00	6.20	358.00	1949.46	98.72	16.50	99.19	0.31	-0.31	0.31	Ryan MWD
2049.00	5.60	356.40	2043.96	108.47	16.03	108.92	0.65	-0.63	-1.68	Ryan MWD
2145.00	5.50	355.90	2139.51	117.73	15.41	118.16	0.12	-0.10	-0.52	Ryan MWD
2241.00	6.60	355.50	2234.97	127.82	14.65	128.22	1.15	1.15	-0.42	Ryan MWD
2336.00	6.60	358.20	2329.34	138.72	14.05	139.10	0.33	0.00	2.84	Ryan MWD
2432.00	6.20	356.30	2424.74	149.41	13.54	149.76	0.47	-0.42	-1.98	Ryan MWD
2527.00	6.10	356.70	2519.20	159.57	12.92	159.90	0.11	-0.11	0.42	Ryan MWD
2623.00	6.10	353.10	2614.65	169.72	12.01	170.02	0.40	0.00	-3.75	Ryan MWD
2719.00	6.10	354.70	2710.11	179.87	10.93	180.12	0.18	0.00	1.67	Ryan MWD
2814.00	6.10	352.40	2804.57	189.90	9.79	190.11	0.26	0.00	-2.42	Ryan MWD
2910.00	6.50	4.60	2900.00	200.37	9.55	200.57	1.45	0.42	12.71	Ryan MWD
3005.00	6.20	5.70	2994.41	210.83	10.49	211.06	0.34	-0.32	1.16	Ryan MWD
3101.00	6.50	7.10	3089.83	221.38	11.68	221.64	0.35	0.31	1.46	Ryan MWD
3196.00	5.90	1.60	3184.27	231.60	12.48	231.88	0.89	-0.63	-5.79	Ryan MWD
3292.00	6.00	2.30	3279.75	241.54	12.82	241.83	0.13	0.10	0.73	Ryan MWD
3387.00	5.80	0.90	3374.25	251.31	13.10	251.59	0.26	-0.21	-1.47	Ryan MWD
3483.00	4.30	358.80	3469.87	259.75	13.10	260.04	1.57	-1.56	-2.19	Ryan MWD
3578.00	2.60	2.80	3564.70	265.47	13.13	265.75	1.81	-1.79	4.21	Ryan MWD
3673.00	2.70	358.00	3659.60	269.86	13.15	270.14	0.26	0.11	-5.05	Ryan MWD
3769.00	1.60	3.00	3755.53	273.45	13.15	273.73	1.16	-1.15	5.21	Ryan MWD
3864.00	1.50	6.70	3850.49	276.01	13.36	276.30	0.15	-0.11	3.89	Ryan MWD
3960.00	0.80	331.60	3946.48	277.85	13.19	278.13	1.00	-0.73	-36.56	Ryan MWD
4023.00	0.80	337.40	4009.47	278.64	12.81	278.91	0.13	0.00	9.21	Ryan MWD
4069.00	0.80	337.40	4055.46	279.24	12.56	279.50	0.00	0.00	0.00	Projection



Ryan Energy Technologies COMPLETION REPORT



Company: COG Operating LLC Date: 6/6/2011 Time: 12:52:50 Page: 1
Field: Eddy Co, NM Co-ordinate(NE) Reference: Site: Dodd Federal Unit #644, Grid North
Site: Dodd Federal Unit #644 Vertical (TVD) Reference: SITE 3553.0
Well: #644 Section (VS) Reference: Well (0.00N,0.00E,1.82Azi)
Wellpath: OH Survey Calculation Method: Minimum Curvature Db: Sybase

Field: Eddy Co, NM
New Mexico
U.S.A.
Map System: US State Plane Coordinate System 1927 Map Zone: New Mexico, Eastern Zone
Geo Datum: NAD27 (Clarke 1866) Coordinate System: Site Centre
Sys Datum: Mean Sea Level Geomagnetic Model: IGRF2010

Site: Dodd Federal Unit #644
22, 17S, 29E
Eddy Co, NM
Site Position: Northing: 662175 70 ft Latitude: 32 49 12.405 N
From: Map Easting: 583645 90 ft Longitude: 104 3 39 788 W
Position Uncertainty: 0.00 ft North Reference: Grid
Ground Level: 3553.00 ft Grid Convergence: 0.15 deg

Well: #644 Slot Name:
Paddock
Well Position: +N/-S 0 00 ft Northing: 662175 70 ft Latitude: 32 49 12 405 N
+E/-W 0 00 ft Easting: 583645 90 ft Longitude: 104 3 39 788 W
Position Uncertainty: 0 00 ft

Wellpath: OH Drilled From: Surface
Paddock Tie-on Depth: 0 00 ft
Current Datum: SITE Height 3553 00 ft Above System Datum: Mean Sea Level
Magnetic Data: 5/31/2011 Declination: 7.86 deg
Field Strength: 48951 nT Mag Dip Angle: 60 65 deg
Vertical Section: Depth From (TVD) +N/-S +E/-W Direction
ft ft ft deg
0 00 0 00 0 00 1 82

Survey

MD ft	Incl deg	TVD ft	VS ft	Azim deg	N/S ft	E/W ft	Clsr Dist. ft	Clsr Azi. deg	DLS deg/100ft	Tool
0.00	0 00	0.00	0.00	0 00	0 00	0 00	0 00	0.00	0 00	TIE LINE
100.00	0 28	100.00	-0.13	240.17	-0 12	-0.21	0.24	240.17	0.28	Gyro
200.00	0 20	200.00	-0.10	334.94	-0 08	-0.50	0 51	260.31	0.36	Gyro
300.00	0 37	300.00	0 32	38.05	0 33	-0.37	0 50	311.29	0 33	Gyro
400.00	0 77	399.99	1.04	47.95	1.03	0.33	1.08	17.49	0.41	Gyro
500.00	1 29	499.98	2 09	60.82	2 03	1.81	2 72	41.66	0.57	Gyro
600.00	1 73	599.94	3 56	55.60	3 43	4 04	5 30	49.62	0.46	Gyro
700.00	2.03	699.89	5 54	53.82	5.33	6 71	8 57	51.54	0.31	Gyro
800.00	1 72	799.83	7 52	55.45	7.23	9.38	11.84	52.37	0.31	Gyro
833.00	1 67	832.82	8 08	58.72	7.76	10.19	12.81	52.73	0 33	Gyro
871.00	1 70	870.80	8 64	64.80	8 29	11 18	13 91	53.45	0.48	Ryan MWD
998.00	2.10	997.74	11 63	25.00	11 20	13 87	17 82	51.08	1 06	Ryan MWD
1094.00	3 20	1093.63	15.70	25.70	15 20	15 77	21 91	46.05	1 15	Ryan MWD
1189.00	5 00	1188.39	22.16	14.40	21 60	17 95	28 09	39.72	2 07	Ryan MWD
1285.00	5 50	1283.99	30 85	0.90	30 26	19 06	35 76	32.21	1 38	Ryan MWD
1381.00	6 20	1379.49	40.62	358.80	40 04	19 03	44 33	25.42	0 76	Ryan MWD
1476.00	5.60	1473.99	50.37	357.30	49.80	18.70	53 19	20.58	0 65	Ryan MWD
1572.00	5.40	1569.54	59.54	357.94	58.99	18.32	61.77	17.25	0 22	Ryan MWD
1667.00	6.10	1664.06	69.03	357.00	68.50	17.89	70.80	14.64	0 74	Ryan MWD
1763.00	5.50	1759.57	78.70	356.80	78.19	17.37	80.09	12.53	0 63	Ryan MWD
1858.00	6 50	1854.05	88 60	357.70	88.11	16.90	89 71	10.86	1 06	Ryan MWD
1954.00	6 20	1949.46	99 19	358.00	98.72	16.50	100.09	9.49	0 31	Ryan MWD
2049.00	5.60	2043.96	108 92	356.40	108.47	16 03	109 65	8.41	0 65	Ryan MWD
2145.00	5.50	2139.51	118 16	355.90	117.73	15 41	118 74	7.46	0.12	Ryan MWD
2241.00	6 60	2234.97	128 22	355.50	127.82	14.65	128 66	6.54	1 15	Ryan MWD
2336.00	6.60	2329.34	139.10	358.20	138.72	14 05	139 43	5.78	0.33	Ryan MWD
2432.00	6 20	2424.74	149.76	356.30	149.41	13.54	150.02	5.18	0 47	Ryan MWD
2527.00	6.10	2519.20	159.90	356.70	159.57	12.92	160.09	4.63	0 11	Ryan MWD



Ryan Energy Technologies COMPLETION REPORT



Company: COG Operating LLC
Field: Eddy Co, NM
Site: Dodd Federal Unit #644
Well: #644
Wellpath: OH

Date: 6/6/2011 Time: 12:52:50 Page: 2
Co-ordinate(NE) Reference: Site: Dodd Federal Unit #644, Grid North
Vertical (TVD) Reference: SITE 3553.0
Section (VS) Reference: Well (0.00N,0.00E,1.82Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	TVD ft	VS ft	Azim deg	N/S ft	E/W ft	Clsr Dist. ft	Clsr Azi. deg	DLS deg/100ft	Tool
2623.00	6 10	2614.65	170.02	353 10	169.72	12 01	170.15	4 05	0 40	Ryan MWD
2719.00	6 10	2710 11	180.12	354 70	179.87	10.93	180 20	3 48	0 18	Ryan MWD
2814 00	6 10	2804 57	190.11	352 40	189 90	9 79	190.15	2.95	0 26	Ryan MWD
2910 00	6.50	2900 00	200.57	4 60	200.37	9 55	200.60	2 73	1 45	Ryan MWD
3005 00	6 20	2994.41	211 06	5 70	210 83	10 49	211 09	2 85	0.34	Ryan MWD
3101 00	6 50	3089 83	221 64	7 10	221.38	11 68	221 69	3 02	0.35	Ryan MWD
3196 00	5 90	3184 27	231 88	1.60	231 60	12 48	231 94	3.09	0 89	Ryan MWD
3292.00	6.00	3279 75	241 83	2 30	241.54	12.82	241 88	3 04	0 13	Ryan MWD
3387 00	5.80	3374 25	251.59	0 90	251 31	13.10	251.65	2.98	0 26	Ryan MWD
3483.00	4.30	3469 87	260 04	358 80	259 75	13 10	260.08	2 89	1.57	Ryan MWD
3578.00	2 60	3564 70	265.75	2.80	265.47	13 13	265 79	2 83	1 81	Ryan MWD
3673.00	2 70	3659.60	270.14	358 00	269.86	13 15	270 18	2.79	0 26	Ryan MWD
3769 00	1 60	3755.53	273.73	3 00	273.45	13 15	273 77	2 75	1 16	Ryan MWD
3864 00	1 50	3850.49	276 30	6.70	276 01	13 36	276 34	2 77	0 15	Ryan MWD
3960 00	0.80	3946.48	278 13	331.60	277.85	13 19	278 16	2 72	1 00	Ryan MWD
4023 00	0.80	4009.47	278 91	337.40	278.64	12 81	278 94	2 63	0 13	Ryan MWD
4069.00	0.80	4055.46	279 50	337.40	279 24	12 56	279.52	2.58	0 00	Projection



RYAN ENERGY TECHNOLOGIES USA, INC
SLIDE & ROTATING REPORT



COMPANY: COG Operating
FIELD: Eddy Co
LOCATION: New Mexico

RIG CONTRACTOR: Silver Oak 4
WELL NAME: Dodd Federal Unit #644
JOB NUMBER: Ryan #4925

MODE	DEPTH FROM	DEPTH TO	FEET MADE	T.F.O. MTF/GTF	W.O.B. K	ROTARY R.P.M.	PUMP G.P.M.	PUMP PRESS	SURVEY DEPTH	ANGLE	AZM	DOG LEG	Gamma CPS	B.H.A NO.
Rotate	855	917	62		15	60	284	1450	871	1 70	64 80	0 48		1
Rotate	917	955	38		15	60	284	1450						1
Slide	955	965	10	358 MTF	15		284	1450						1
Rotate	965	1,044	79		15	60	284	1450	998	2 10	25.00	1.06		1
Slide	1,044	1,054	10	358 MTF	15		284	1450						1
Rotate	1,054	1,140	86		15	60	284	1450	1094	3 20	25.70	1.15		1
Slide	1,140	1,150	10	20L GTF	15		284	1450						1
Rotate	1,150	1,235	85		15	60	284	1450	1189	5.00	14 40	2 07		1
Slide	1,235	1,245	10	60L GTF	15		284	1450						1
Rotate	1,245	1,331	86		15	60	284	1450	1285	5 50	0 90	1 38		1
Rotate	1,331	1,427	96		15	60	284	1450	1381	5 60	357 30	0 76		1
Rotate	1,427	1,522	95		15	60	284	1450	1476	5 60	357 30	0 65		1
Rotate	1,522	1,618	96		15	60	284	1450	1572	5 40	357 90	0 22		1
Slide	1,618	1,626	8	HS GTF	15		284	1450						1
Rotate	1,626	1,713	87		15	60	284	1450	1667	6.10	357 00	0 74		1
Rotate	1,713	1,809	96		15	60	284	1450	1763	5 50	356 80	0 63		1
Slide	1,809	1,817	8	HS GTF	15		284	1450						1
Rotate	1,817	1,904	87		15	60	284	1450	1858	6 50	357 70	1 06		1
Rotate	1,904	2,000	96		15	60	284	1450	1954	6 20	358 00	0 31		1
Rotate	2,000	2,095	95		15	60	284	1450	2049	5 60	356 40	0 65		1
Rotate	2,095	2,191	96		15	60	284	1450	2145	5 50	355 90	0 12		1
Slide	2,191	2,199	8	HS GTF	15		284	1450						1
Rotate	2,199	2,287	88		15	60	284	1450	2241	6.60	355 50	1 15		1
Rotate	2,287	2,382	95		15	60	284	1450	2336	6 60	358.20	0 33		1
Rotate	2,382	2,478	96		15	60	284	1450	2432	6 20	356 30	0 47		1
Rotate	2,478	2,573	95		15	60	284	1450	2527	6 10	356 70	0 11		1
Rotate	2,573	2,669	96		15	60	284	1450	2623	6 10	353 10	0 40		1
Rotate	2,669	2,765	96		15	60	284	1450	2719	6.10	354 70	0 18		1
Rotate	2,765	2,860	95		15	60	284	1450	2814	6 10	352 40	0 26		1
Slide	2,860	2,866	6	90R GTF	15		284	1450						1
Rotate	2,866	2,956	90		15	60	284	1450	2910	6 50	4.60	1 45		1
Rotate	2,956	3,051	95		15	60	284	1450	3005	6.20	5 70	0 34		1
Rotate	3,051	3,147	96		15	60	284	1450	3101	6 50	7 10	0 35		1
Slide	3,147	3,151	4	120L GTF	15		284	1450						1
Rotate	3,151	3,242	91		15	60	284	1450	3196	5 90	1 60	0 89		1
Rotate	3,242	3,338	96		15	60	284	1450	3292	6 00	2 30	0 13		1
Rotate	3,338	3,433	95		15	60	284	1450	3387	5 80	0 90	0 26		1
Slide	3,433	3,441	8	170L GTF	15		284	1450						1
Rotate	3,441	3,529	88		15	60	284	1450	3483	4.30	358 80	1 57		1
Slide	3,529	3,538	9	170L GTF	15		284	1450						1
Rotate	3,538	3,624	86		15	60	284	1450	3578	2.60	2 80	1 81		1
Rotate	3,624	3,719	95		15	60	284	1450	3673	2 70	358 00	0 26		1
Slide	3,719	3,725	6	190 MTF	15		284	1450						1
Rotate	3,725	3,815	90		15	60	284	1450	3769	1 60	3 00	1 16		1
Rotate	3,815	3,910	95		15	60	284	1450	3864	1 50	6 70	0 15		1
Slide	3,910	3,916	6	190 MTF	15		284	1450						1
Rotate	3,916	4,006	90		15	60	284	1450	3960	0 80	331 60	1 00		1
Rotate	4,006	4,069	63		15	60	284	1450	4023	0 80	337.40	0 13		1

Ryan Job # 4925

Oil Company	COG Operating
Field	Eddy Co
Location	New Mexico
AFE or PO #	30-015-38640

Customer.	COG Operating
Well Name & No	Dodd Federal Unit #644
Block or Section	Eddy Co
Rig Contractor & No.	Silver Oak 4

00 00 Depth	<u>855</u>	Footage Today	<u>1021</u>	Drig Hrs Today	<u>17 20</u>	ROP Today	<u>59 36</u>	Last Casing Set	<u>8 5/8"</u>
24 00 Depth	<u>1876</u>	Current Run Ftg	<u>1021</u>	Run Drig Hrs	<u>17 20</u>	Run Avg ROP	<u>59 36</u>	Depth	<u>855'</u>

PUMP DATA					Previous		Current				
Total Gals/Min =			284	MUD DATA			BHA #	1	BHA #	MOTOR DATA	CURRENT
Pump	P1600	P1600	0	Mud Type	WBM				Bit	Run No	1
Liner (in)	6	6		Sample	IN				Motor	Size (in)	6 1/2
%	95	95		Time	NA				Float sub	Type	7/8 4 8
Vol (gps)	4 65	4 65	0 00	Wt	NA				UBHO	Serial No	RY675036SH
SPM	60			VIS	NA				NMDC	Tool Deflection	1 50 FBH
DRILLING PARAMETERS				PV	NA				NMDC	Avg Diff Press	200
ST WT ROT 1000's			76	YP	NA			20 jts DC		Daily Drill Hrs	17 20
P/U WT 1000's			80	WL	NA			RT Tool		Daily Circ Hrs	2 50
S/O WT 1000's			69	CL	NA					Daily Total Hrs	19 70
WOB 1000's			15	Gels	NA					Acc Drill Hrs	17 20
ROTARY RPM			60	% Oil	NA					Acc Circ Hrs	2 80
MOTOR RPM			94	% Solids	NA					Depth In	855
TOTAL Bit RPM			154	% Sand	NA					Depth Out	
ROT TQ OFF BTM			na	PH	NA					LIH Hrs	24
ROT TQ ON BTM			na	Temp F	NA					Acc LIH Hrs	28 00
Current Mag Dec			-7 72	MWD F	93	BHA WT				Acc Hrs Circ Only	20 00
Pulse Height			80	GPM	284	BELOW JARS				Total K Revs	158 93
"G" Totals			0 996	PSI	14 50					Jar # HRS	

[illegible]

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown	Current Operations			
0 00	0 30	0 30				6 A	TIH w/ BHA #1				
0 30	2 15	1 45				O	Drilled Out CMT,Float And Shoe	Slide/Rotate Per Plan			
2 15	3 15	1 00	855	917	62	2 A	Rotate 15 Wob 60 Rpm 300 Diff				
3 15	3 30	0 15				10	C/S @ 871' 1 7 Inc 64 8 Azm 93 Temp				
3 30	3 45	0 15	917	955	38	2 A	Rotate 15 Wob 60 Rpm 300 Diff				
3 45	4 00	0 15	955	956	1	2 B	Slide @ 358 MTF 10 Wob 200 Diff				
4 00	5 00	1 00	956	1044	88	2 A	Rotate 15 Wob 60 Rpm 300 Diff				
5 00	5 15	0 15				10	C/S @ 998' 2 1 Inc 25 0 Azm 93 Temp				
5 15	5 30	0 15	1044	1054	10	2 B	Slide @ 358 MTF 10 Wob 200 Diff				
5 30	6 15	0 45	1054	1140	86	2 A	Rotate 15 Wob 60 Rpm 300 Diff				
6 15	6 45	0 30				7	Service Rlg	Estimated Daily Charges			
6 45	7 30	0 45				8	Working On BOP Stack/Adjusting Brakes	Description	Cost		
7 30	7 45	0 15				10	C/S @ 1094' 3 2 Inc 25 7 Azm 93 Temp				
7 45	8 00	0 15	1140	1150	10	2 B	Slide @ 20L GTF 10 Wob 200 Diff				
8 00	9 00	1 00	1150	1235	85	2 A	Rotate 15 Wob 60 Rpm 300 Diff				
9 00	9 15	0 15				10	C/S @ 1189' 5 0 Inc 14 4 Azm 93 Temp				
9 15	9 30	0 15	1235	1245	10	2 B	Slide @ 60L GTF 10 Wob 200 Diff				
9 30	10 45	1 15	1245	1331	86	2 A	Rotate 15 Wob 60 Rpm 300 Diff				
10 45	11 00	0 15				10	C/S @ 1285' 5 5 Inc 0 9 Azm 93 Temp				
11 00	12 00	1 00	1331	1427	96	2 A	Rotate 15 Wob 60 Rpm 300 Diff				
12 00	12 15	0 15				10	C/S @ 1381' 6 2 Inc 358 8 Azm 98 Temp				
12 15	13 30	1 15	1427	1522	95	2 A	Rotate 15 Wob 60 Rpm 300 Diff				
13 30	13 45	0 15				10	C/S @ 1476' 5 6 Inc 357 3 Azm 104Temp	Estimated Daily Cost (USD)		\$ -	
13 45	15 15	1 30	1522	1618	96	2 A	Rotate 15 Wob 60 Rpm 300 Diff	Accumulated Cost (USD)		\$ -	
15 15	15 30	0 15				10	C/S @ 1572' 5 4 Inc 357 9 Azm 104Temp	Company Representative (s)			
15 30	16 15	0 45				O	Down for Pason	Doug Trammell			
16 15	16 30	0 15	1618	1626	8	2 B	Slide @ HS GTF 10 Wob 200 Diff				
16 30	19 45	3 15	1626	1713	87	2 A	Rotate 15 Wob 60 Rpm 300 Diff	RYAN Directional Representative (s)			
19 45	20 00	0 15				10	C/S @ 1667' 5 4 Inc 357 9 Azm 104Temp	SHAWN McCUNE			
20 00	22 15	2 15	1713	1809	96	2 A	Rotate 15 Wob 60 Rpm 300 Diff	ALLAN HUMPHRIES			
22 15	22 30	0 15				10	C/S @ 1763' 5 5 Inc 356 8 Azm 102Temp	RYAN MWD Representative (s)			
22 30	22 45	0 15	1809	1817	8	2 B	Slide @ HS GTF 10 Wob 200 Diff	Barry Carter			
22 45	23 59	1 14	1817	1876	59	2 A	Rotate 15 Wob 60 Rpm 300 Diff				
								24 Hour Breakdown			
								Ftg Rot.	974	Time Rot	15 70
								Ftg Orient	47	Time Orient	1 50
								Rot ROP	62 04	Orient ROP	31 33

Report No 3
Date M/Y/D 3-Jun-11



Ryan Job # 4925

DAILY DRILLING REPORT

Oil Company COG Operating
Field Eddy Co
Location New Mexico
AFE or PO # 30-015-38640

Customer COG Operating
Well Name & No Dodd Federal Unit #644
Block or Section Eddy Co
Rig Contractor & No Silver Oak 4

00 00 Depth 1876
24 00 Depth 3147

Footage Today 1271
Current Run Ftg 2292

Drig Hrs Today 20 50
Run Drig Hrs 37 70

ROP Today 62 00
Run Avg ROP 60 80

Last Casing Set 8 5/8"
Depth 855'

PUMP Data Total Gals/Min =				MUD DATA		Previous	Current	MOTOR DATA		CURRENT
Pump	P1600	P1600		Mud Type	WBM	BHA #	1	BHA #	Run No	
Liner (in)	6	6		Sample	IN			Motor	Size (in)	6 1/2
%	95	95		Time	NA			Float sub	Type	7/8 4 8
Vol (gps)	4 65	4 65	0 00	Wt	NA			UBHO	Senal No	RY675036SH
SPM	60			V/S	NA			NMDC	Tool Deflection	1 50 FBH
DRILLING PARAMETERS				PV	NA			NMDC	Avg Diff Press	200
ST WT ROT 1000's		87		YP	NA			20 jts DC	Daily Drill Hrs	20 50
P/U WT 1000's		100		WL	NA			RT Tool	Daily Circ Hrs	3 50
S/O WT 1000's		74		CL	NA				Daily Total Hrs	24 00
WOB 1000's		15		Gels	NA				Acc Drill Hrs	37 70
ROTARY RPM		60		% Oil	NA				Acc Circ Hrs	6 30
MOTOR RPM		94		% Solids	NA				Depth In	855
TOTAL Bit RPM		154		% Sand	NA				Depth Out	
ROT TQ OFF BTM		na		PH	NA				LIH Hrs	24
ROT TQ ON BTM		na		Temp F	NA				Acc LIH Hrs	52 00
Current Mag Dec		-7 72		MWD F	102	BHA WT			Acc Hrs Cir/Drig	44 00
Pulse Hight		80		GPM	284	BELOW JARS			Total K Revs	348 35
"G" Totals		0 996		PSI	1450				Jar # HRS	

BIT DATA																	
Bit No	Size (in)	Mfg	Type	Senal No	Nozzles or TFA	Depth In	Cum Footage	Cum Hrs	Depth Out	DULL CONDITION							
										IR	OR	DC	LOC	B/S	G/16"	OC	RPLD
1	7 7/8	HUGHES	Q507FX	7134500	5x16,2x14	855											

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown	Current Operations
0 00	0 45	0 45	1876	1904	28	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
0 45	1 00	0 15				10	C/S @ 1858' 6 5 Inc 357 7Azm 102Temp	Slide/Rotate Per Plan
1 00	2 15	1 15	1904	2000	96	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
2 15	2 30	0 15				10	C/S @ 1954' 6 2 Inc 358 0Azm 102Temp	
2 30	4 00	1 30	2000	2095	95	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
4 00	4 15	0 15				10	C/S @ 2049' 5 6 Inc 356 4Azm 102Temp	
4 15	6 15	2 00	2095	2191	96	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
6 15	6 30	0 15				10	C/S @ 2145' 5 5 Inc 355 9 Azm 102Temp	
6 30	6 45	0 15	2191	2199	8	2 B	Slide @ HS GTF 15 Wob 200 Diff	
6 45	8 00	1 15	2199	2287	88	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
8 00	8 15	0 15				10	C/S @ 2241' 6 6 Inc 355 5 Azm 102Temp	Estimated Daily Charges
8 15	9 30	1 15	2287	2382	95	2 A	Rotate 15 Wob 60 Rpm 300 Diff	Description Cost
9 30	9 45	0 15				10	C/S @ 2336' 6 6 Inc 358 2 Azm 100Temp	
9 45	11 15	1 30	2382	2478	96	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
11 15	11 30	0 15				10	C/S @ 2432' 6 2 Inc 356 3 Azm 100Temp	
11 30	13 30	2 00	2478	2573	95	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
13 30	13 45	0 15				10	C/S @ 2527' 6 1 Inc 356 7 Azm 100Temp	
13 45	15 45	2 00	2573	2669	96	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
15 45	16 00	0 15				10	C/S @ 2623' 6 1 Inc 353 1 Azm 102Temp	
16 00	17 15	1 15	2669	2765	96	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
17 15	17 30	0 15				10	C/S @ 2719' 6 1 Inc 354 7 Azm 102Temp	
17 30	18 45	1 15	2765	2860	95	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
18 45	19 00	0 15				10	C/S @ 2814' 6 1 Inc 352 4 Azm 102Temp	Estimated Daily Cost (USD) \$
19 00	19 30	0 30	2860	2866	6	2 B	Slide @ 90R GTF 15 Wob 200 Diff	Accumulated Cost (USD) \$
19 30	20 45	1 15	2866	2956	90	2 A	Rotate 15 Wob 60 Rpm 300 Diff	Company Representative (s)
20 45	21 00	0 15				10	C/S @ 2910' 6 5 Inc 4 5 Azm 102Temp	Doug Trammell
21 00	22 00	1 00	2956	3051	95	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
22 00	22 15	0 15				10	C/S @ 3005' 6 2 Inc 5 7 Azm 100Temp	RYAN Directional Representative (s)
22 15	23 45	1 30	3051	3147	96	2 A	Rotate 15 Wob 60 Rpm 300 Diff	SHAWN McCUNE
23 45	23 59	0 14				10	C/S @ 3101' 6 5 Inc 7 1 Azm 100Temp	ALLAN HUMPHRIES
								RYAN MWD Representative (s)
								Barry Carter
								24 Hour Breakdown
								Ftg Rot 1257 Time Rot 19 80
								Ftg Orient 14 Time Orient 0 80
								Rot ROP 63 48 Orient ROP 17 50

Report No
4
Date M/Y/D
4-Jun-11



Ryan Job #
4925

DAILY DRILLING REPORT

Oil Company
COG Operating
Field
Eddy Co
Location
New Mexico
AFE or PO #
30-015-38640

Customer
COG Operating
Well Name & No
Dodd Federal Unit #644
Block or Section
Eddy Co
Rig Contractor & No
Silver Oak 4

00 00 Depth
3147
Footage Today
922
Drig Hrs Today
15 80
ROP Today
58 35
Last Casing Set
8 5/8"
24 00 Depth
4069
Current Run Ftg
3214
Run Drig Hrs
53 50
Run Avg ROP
60 07
Depth
855'

PUMP Data Total Gals/Min = 284				MUD DATA		Previous	Current	MOTOR DATA		CURRENT
Pump	P1600	P1600	0	Mud Type	WBM	BHA #	1	BHA #	Run No	1
Liner (in)	6	6		Sample	IN			Motor	Size (in)	6 1/2
%	95	95		Time	NA			Float sub	Type	7/8 4 8
Vol (gpps)	4 65	4 65	0 00	Wt	NA			UBHO	Serial No	RY675036SH
SPM	60			VIS	NA			NMDC	Tool Deflection	1 50 FBH
DRILLING PARAMETERS				PV	NA			NMDC	Avg Diff Press	200
ST WT ROT 1000's		87		YP	NA			20 jts DC	Daily Drill Hrs.	15 80
P/U WT 1000's		100		WL	NA			RT Tool	Daily Circ Hrs	2 80
S/O WT 1000's		74		CL	NA				Daily Total Hrs	18 60
WOB 1000's		15		Gels	NA				Acc Drill Hrs	53 50
ROTARY RPM		60		% Oil	NA				Acc Circ Hrs	9 10
MOTOR RPM		94		% Solids	NA				Depth In	855
TOTAL Bit RPM		154		% Sand	NA				Depth Out	4069
ROT TQ OFF BTM		na		PH	NA				LIH Hrs	24
ROT TQ ON BTM		na		Temp F	NA				Acc LIH Hrs	76 00
Current Mag Dec		-7 72		MWD F	102	BHA WT			Acc Hrs Crr/Dnlg	62 60
Pulse Hight		80		GPM	284	BELOW JARS			Total K Revs	494 34
"G" Totals		0 996		PSI	1450				Jar # HRS	

BIT DATA													
Bit No	Size (in)	Mfg	Type	Serial No	Nozzles or TFA	Depth In	Cum. Footage	Cum Hrs	Depth Out	DULL CONDITION			
1	7 7/8	HUGHES	Q507FX	7134500	5x16.2x14	855	3214	55 3	4069	IR	OR	DC	LOC
										B/S	G/16"	OC	RPLD
													TD

From	To	Hrs.	Start Depth	End Depth	CL	Code	Time Breakdown	Current Operations
0 00	0 15	0 15	3147	3151	4	2 B	Slide @120 L GTF 15 Wob 200 Diff	
0 15	2 15	2 00	3151	3242	91	2 A	Rotate 15 Wob 60 Rpm 300 Diff	Slide/Rotate Per Plan
2 15	2 30	0 15				10	C/S @ 3196' 5 9 Inc 1 6 Azm 100Temp	
2 30	3 45	1 15	3242	3338	96	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
3 45	4 00	0 15				10	C/S @ 3292' 6 0 Inc 2 3 Azm 100Temp	
4 00	5 15	1 15	3338	3433	95	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
5 15	5 30	0 15				10	C/S @ 3387' 5 8 Inc 0 9 Azm 102Temp	
5 30	5 45	0 15	3433	3441	8	2 B	Slide @170 L GTF 15 Wob 200 Diff	
5 45	7 30	1 45	3441	3529	88	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
7 30	7 45	0 15				10	C/S @ 3483' 4 3 Inc 358 8 Azm 102Temp	
7 45	8 15	0 30	3529	3538	9	2 B	Slide @170 L GTF 15 Wob 200 Diff	Estimated Daily Charges
8 15	9 30	1 15	3538	3624	86	2 A	Rotate 15 Wob 60 Rpm 300 Diff	Description Cost
9 30	9 45	0 15				10	C/S @ 3578' 2 6 Inc 2 8 Azm 102Temp	
9 45	11 30	1 45	3624	3719	95	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
11 30	11 45	0 15				10	C/S @ 3673' 2 7 Inc 358 0 Azm 102Temp	
11 45	12 00	0 15	3719	3725	6	2 B	Slide @190 MTF 15 Wob 200 Diff	
12 00	13 30	1 30	3725	3815	90	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
13 30	13 45	0 15				10	C/S @ 3769' 1 6 Inc 3 0 Azm 102Temp	
13 45	15 00	1 15	3815	3910	95	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
15 00	15 15	0 15				10	C/S @ 3864' 1 5 Inc 6 7 Azm 102Temp	
15 15	15 30	0 15	3910	3916	6	2 B	Slide @190 MTF 15 Wob 200 Diff	
15 30	16 45	1 15	3916	4006	90	2 A	Rotate 15 Wob 60 Rpm 300 Diff	
16 45	17 00	0 15				10	C/S @ 3960' 0 8 Inc 331 6 Azm 102Temp	Estimated Daily Cost (USD) \$ -
17 00	18 00	1 00	4006	4069	63	2 A	Rotate 15 Wob 60 Rpm 300 Diff	Accumulated Cost (USD) \$ -
18 00	18 15	0 15				10	Svy @ 4023' 0 8 Inc 337 4 Azm 102Temp	Company Representative (s)
18 15	18 30	0 15				5 A	Circulate	Doug Trammell
18 30	23 00	4 30				6 A	TOOH to L/D Directional Tools	
23 00	23 59	0 59				6 G	L/D Directional Tools	RYAN Directional Representative (s)
								SHAWN McCUNE
								ALLAN HUMPHRIES
								RYAN MWD Representative (s)
								Barry Carter
								24 Hour Breakdown
								Ftg Rot 889 Time Rot. 14 30
								Ftg Orient 33 Time Orient 1 50
								Rot ROP 62 17 Orient ROP 22 00



BOTTOM HOLE ASSEMBLY

#1

[illegible]



Motor Run Report #1

General Information:		In the Event Of an Incident:	
Ryan Job #:	4925	Date of Incident:	
Customer:	COG Operating	Date Notified Office:	
Location:	New Mexico	Person Notified:	
Lease:	Eddy Co		
Well Name & Number:	Dodd Federal Unit #644		
Rig Name & Number:	Silver Oak 4		
Directional Driller ('s):	McCune		
	Humphries		
Motor Information:		Incident Comments:	
Motor Serial #:	RY675036		
Motor Size (OD):	6 1/2		
Motor Company:	Ryan		
Motor Stabilizer Size:	NA		
Degree Bent Housing:	1.50* FBH		
Rotor / Stator Conf.:	7/8 4.8		
Depth In:	855		
Depth Out:	4069		
Footage:	3214		
Drilg Hours:	55.3		
Circulating Hours:	9.1	Bit Information:	
Total Hours	64.4	Bit Size:	7 7/8
Hours Below Rotary Table (LIH)	76	Bit Type:	Q507Fx
Motor yield	13	Bit Manufacture:	HTC
		Serial #	7134500
		Jets / TFA:	5x16;2x14
		Mud Information End of Run:	
		Mud Type:OBS/WBM	Brine
		Mud Weight:	na
		Viscosity:	na
		Plastic Vis	na
		Yield Point:	na
		Sand %:	na
		Solids %:	na
		LCM (yes or no):	na
		% LCM per/BBL:	na
		Static Temp:	na
		Circulating Temp:	102
		OBM Aniline Point	na
Start of Run: Date June 1, 2011			
GPM"S:	284		
Standpipe Press / Off Bottom:	1200		
Standpipe Press / On Bottom:	1450		
Weight on Bit Avg :	15		
End Of Run: Date June 4, 2011			
GPM"S:	284		
Standpipe Press / Off Bottom:	1200		
Standpipe Press / On Bottom:	1450		
Weight on Bit Avg :	15		

Comments

Motor performed well.

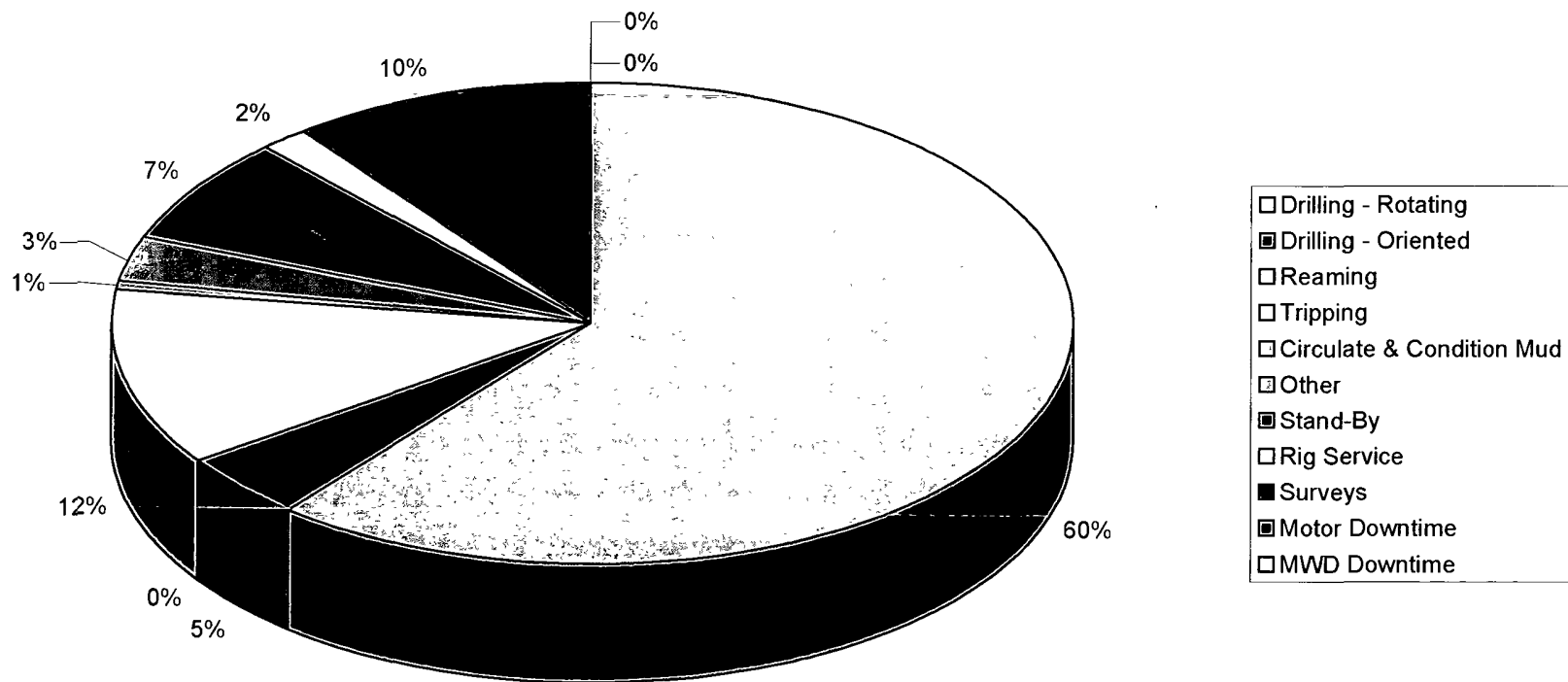
COG Operating
Dodd Federal Unit #644
Silver Oak 4

Start Depth: 855

Date	Day	Depth	KOP / EOC	Ftg. Today	Ftg Oriented	Ftg. Rotating	Drilling - Rotating	Drilling - Oriented	Reaming	Tripping	Circulate & Condition Mud	Other	Stand-By	Rig Service	Surveys	Motor Downtime	MWD Downtime	Run Casing, Testing BOP	Fishing	Total Hours
6/1/2011	1	855		0	0	0	0.00	0.00	0.00	3.73	0.25	0.00	6.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00
6/2/2011	2	1876		1021	47	974	15.73	1.50	0.00	0.50	0.00	2.50	0.00	1.25	2.50	0.00	0.00	0.00	0.00	24.00
6/3/2011	3	3147		1271	14	1257	19.75	0.75	0.00	0.00	0.00	0.00	0.00	0.00	3.48	0.00	0.00	0.00	0.00	24.00
6/4/2011	4	4069		922	33	889	14.25	1.50	0.00	5.48	0.25	0.00	0.00	0.00	2.50	0.00	0.00	0.00	0.00	24.00
				3214	94	3120	49.73	3.75	0.00	9.72	0.50	2.50	6.00	1.25	8.48	0.00	0.00	0.00	0.00	82.00

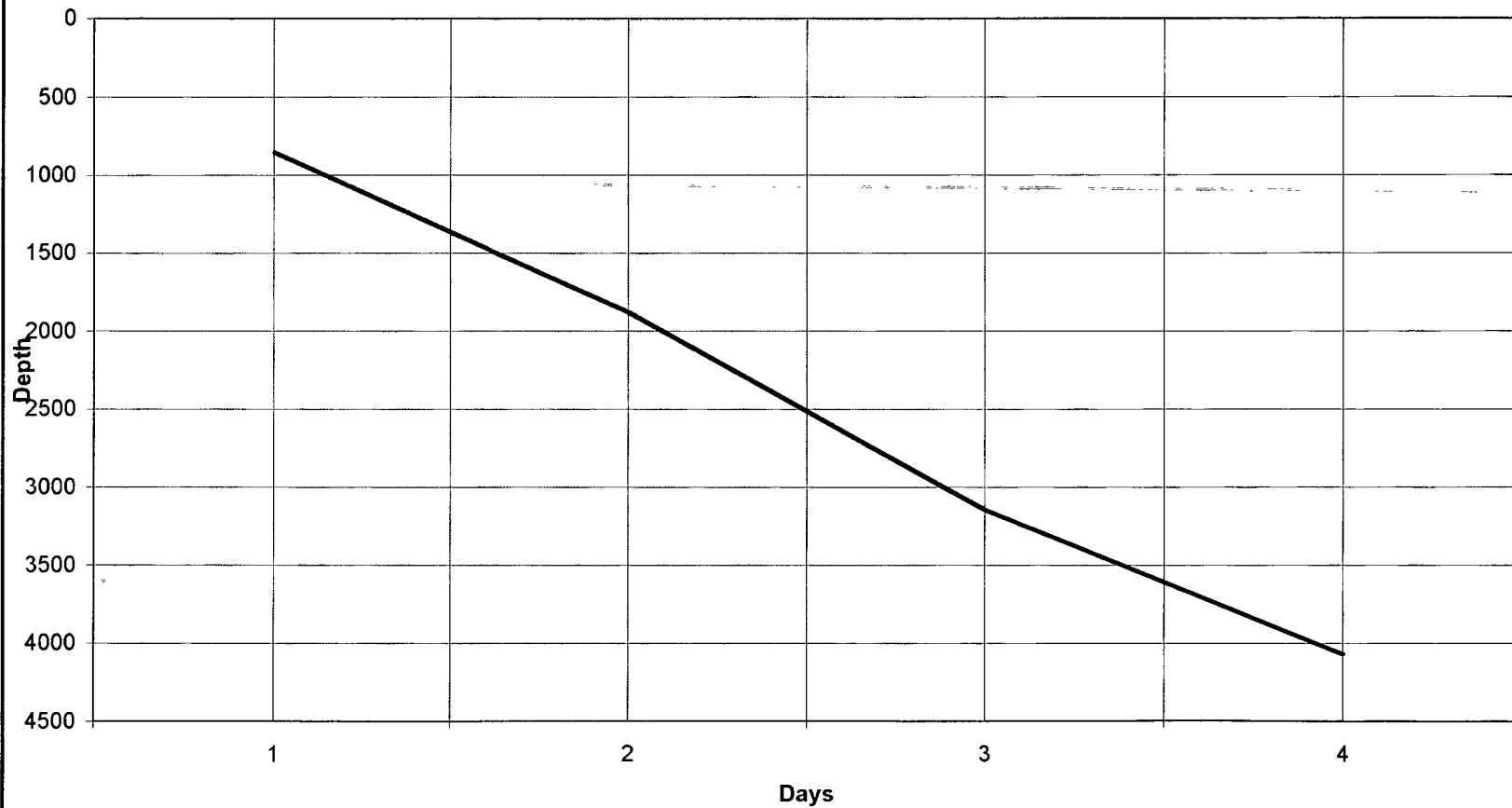
COG Operating
Dodd Federal Unit #644

TIME BREAKDOWN



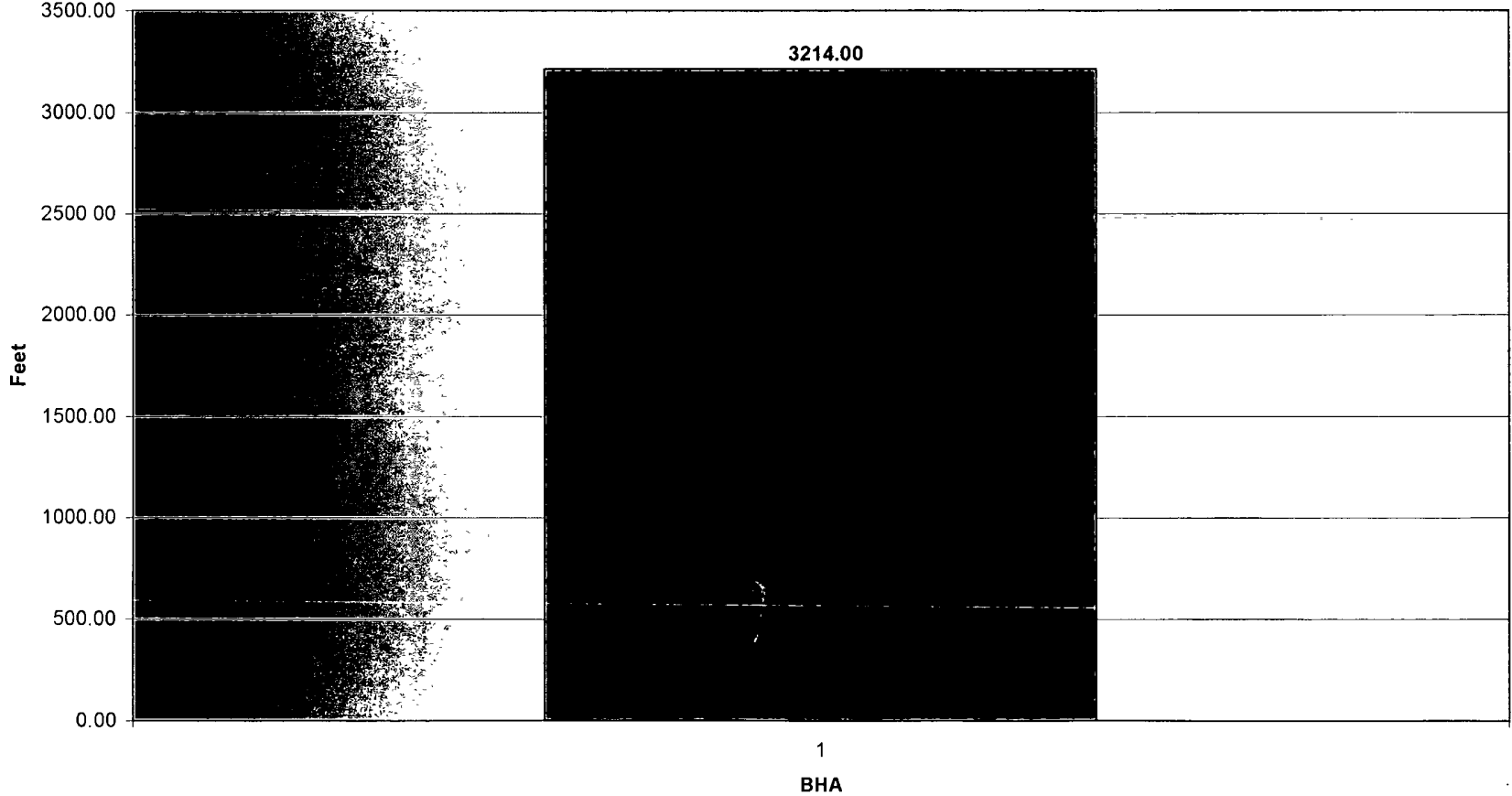
COG Operating
Dodd Federal Unit #644

Days vs. Depth



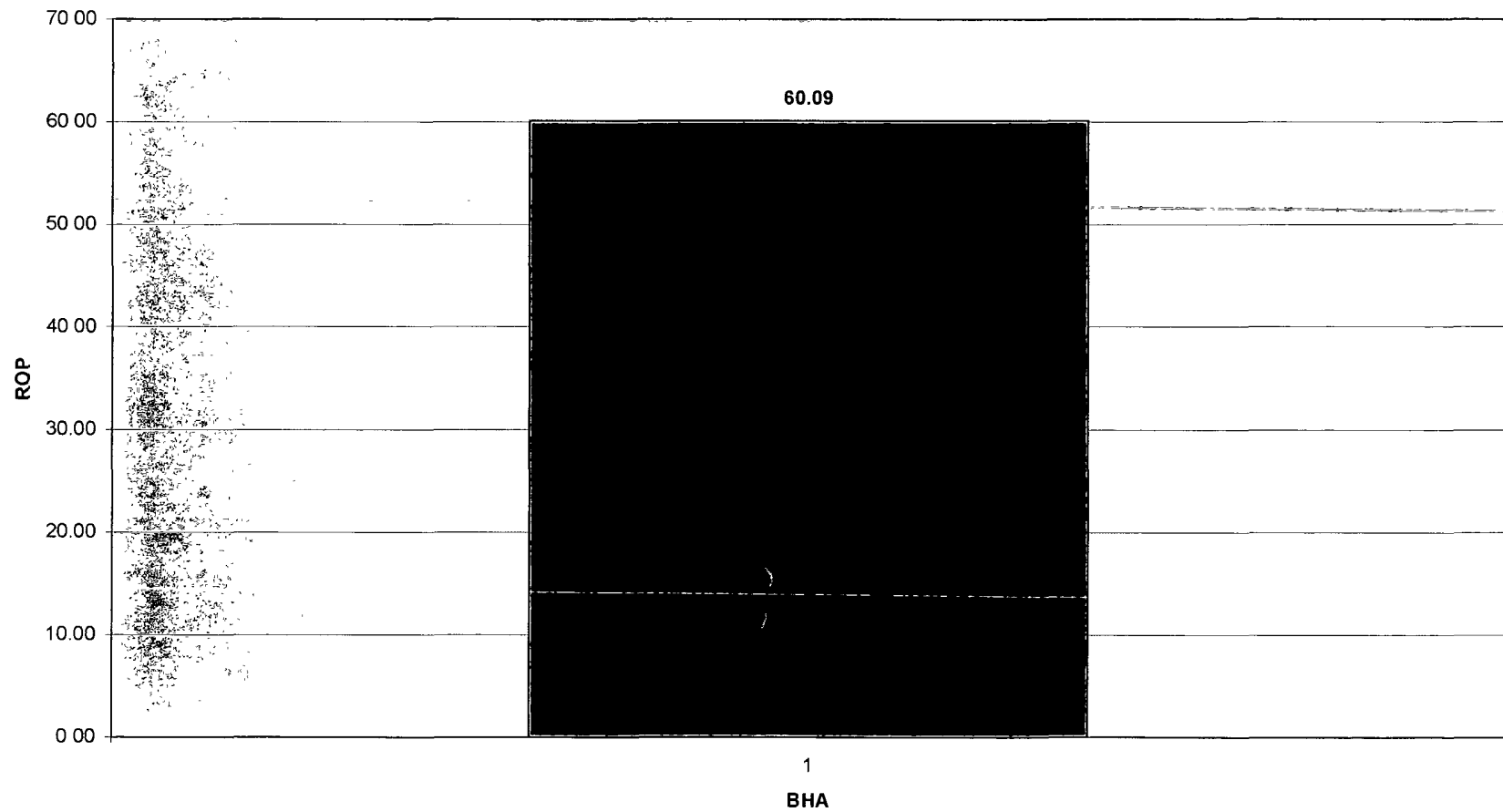
**COG Operating
Dodd Federal Unit #644**

Footage Per BHA



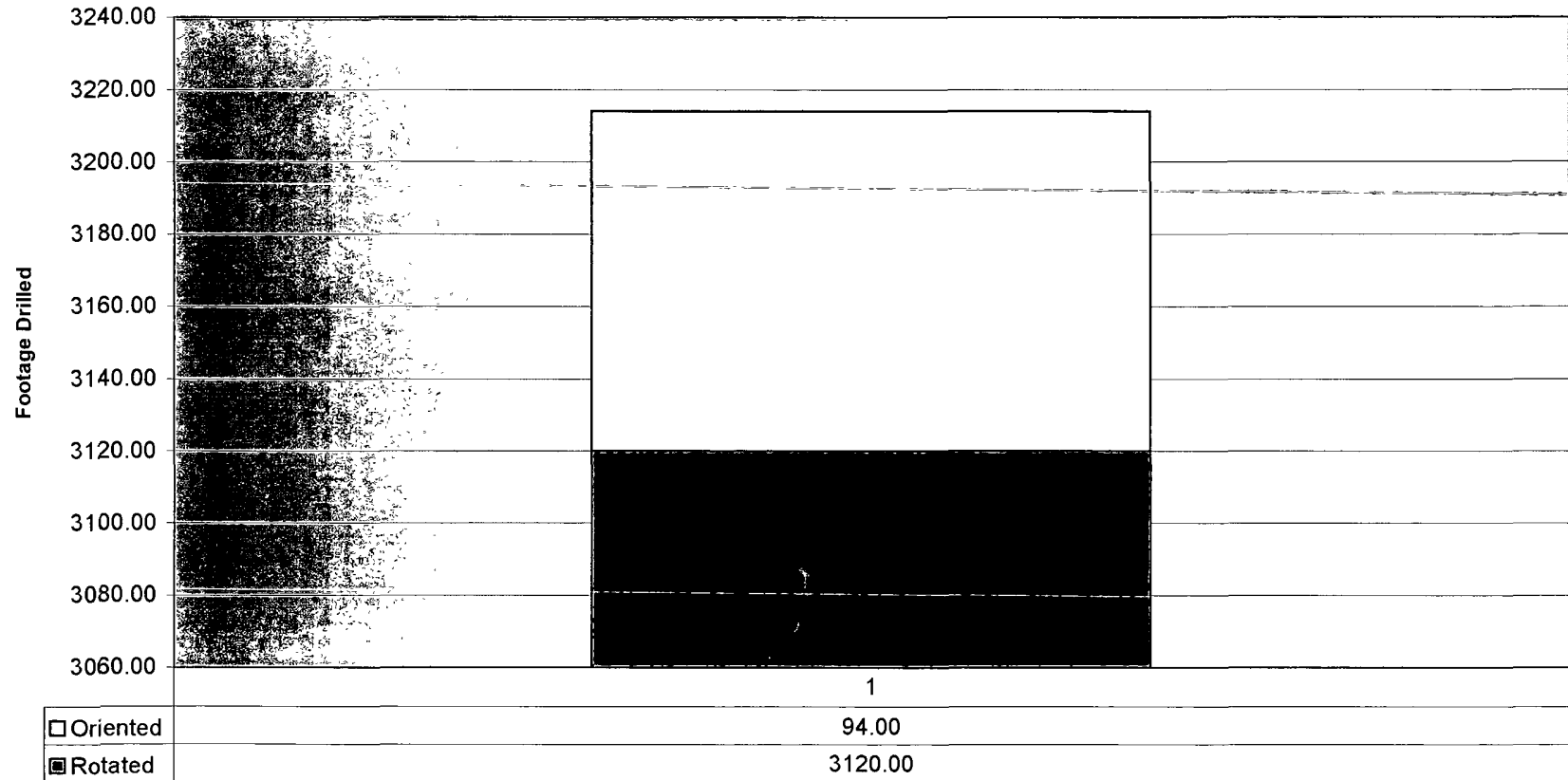
COG Operating
Dodd Federal Unit #644

Average Rate of Penetration Per BHA



COG Operating
Dodd Federal Unit #644

Oriented vs. Rotated



BHA

