

Results of Directional Survey

API number:	30-025-40348		
OGRID:		Operator:	COG OPERATING LLC
		Property:	COSMO 8 STATE # 4H

surface	ULSTR:	P	08	T 21S	R 34E
				660 FSL	660 FEL

BH Loc	ULSTR:	M	08	T 21S	R 34E
14841	MD	10810.0	TVD	599 FSL	210 FWL
					4970 FEL

Top Perf/OH	ULSTR:	P	08	T 21S	R 34E
11036	MD	10790.9	TVD	562 FSL	1169 FEL

Bot Perf/OH	ULSTR:	M	08	T 21S	R 34E
14692	MD	10810.4	TVD	592 FSL	459 FWL
					4821 FEL

	MD	N/S	E/W	VD
	11004	-99.53	-477.81	10782.38
TOP PERFS/OH	11036	-98.34	-508.64	10790.85
	11036	-98.34	-508.64	10790.85
	14691	-67.93	-4160.34	10810.41
BOT PERFS/OH	14692	-67.88	-4161.34	10810.41
	14785	-63.42	-4254.23	10810.16

NEXT TO LAST	14691	-67.93	-4160.34	10810.41
LAST READING	14785	-63.42	-4254.23	10810.16
TD	14841	-60.73	-4310.16	10810.01

Surface Location	660	FS	660	FE
Projected BHL	599	FS	4970	FE
Location of				
Top Perfs/OH	562	FS	1169	FE
Bottom Perfs/OH	592	FS	4821	FE

SUMMARY of Subsurface Locations

Surface Location	P-08-21S-34E	660	FS	660	FE	Vert. Depth
Top Perfs/OH	P-08-21S-34E	562	FS	1169	FE	10790.85
Bottom Perfs/OH	M-08-21S-34E	592	FS	4821	FE	10810.41
Projected TD	M-08-21S-34E	599	FS	4970	FE	10810.01

JAN. 08 2013

HOBBS OCD

NOV 07 2012

RECEIVED

Three Rivers Operating Company, LLC
1122 South Capitol of Texas Hwy
Suite 325
Austin, Texas 78746

Archer

Archer Directional Drilling Services.
911 Regional Park Drive
Houston, Texas 77060
Tel: 281-934-9600
Fax: 281-951-2101

SUR: P-08-21s-34e, 660/S & 660/E
BHL: M-08-21s-34e, 599/S & 4970/E
API # 30-025-40348

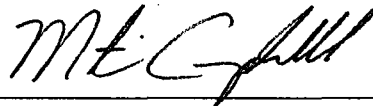
June 5, 2012

Re: Three Rivers Operating Company,
LLC
Cosmo 8 State 4H
Nabors F03
Lea County, New Mexico

Enclosed please find the original of the surveys performed on the referenced well by Archer Directional Drilling Services. Other information required by your office is as follows:

<u>Name & Title Of Surveyor</u>	<u>Wellhole Number</u>	<u>Survey Depths</u>	<u>Dates Performed</u>	<u>Type Survey</u>
Dustin Trevino Field Engineer	Original Hole	10117-14785	05/10/12-05/26/12	MWD

If additional information is required, please contact the undersigned at the letterhead address and phone number.



Martin Campbell
MWD Coordinator

Enclosure

Cc: Three Rivers Operating Company, LLC

Archer

Archer Directional Drilling Services.
911 Regional Park Drive
Houston, Texas 77060
Tel: 281-934-9600
Fax: 281-951-2101

HOBBS OCD

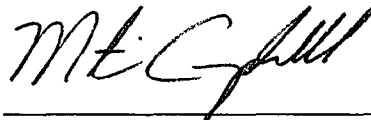
NOV 07 2012

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State of New Mexico

County of Eddy

I, Martin Campbell, certify that; I am employed by Archer Directional Drilling Services; that I did on the day(s) of 05/10/12 through 05/26/12, conduct or supervise the taking of MWD surveys from a depth of 10117 feet to a depth of 14785 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Archer Directional Drilling Services; that I am authorized and qualified to make this report; that these surveys were conducted at the request of Three Rivers Operating Company, LLC for the Cosmo 8 State 4H Well located in Lea County, New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Archer Directional Drilling Services.



Martin Campbell
MWD Coordinator

Cc: Three Rivers Operating Company, LLC

Archer Survey Report

Company: Three Rivers Operating Company,
LLC

Well: Cosmo 8 State 4H

API or UWI: 30-025-40348

State: New Mexico

County: Lea

Comment Date: 05/10/12 - 05/26/12

HOBBS OCD

NOV 07 2012

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Location: LAT: 32°29'16.165 N / LONG:
103°29'06.416 W

Rig: Nabors F03

Job Number: HL12191

Operator: Dustin Trevino/David Baggerly

Magnetic Declination: 7.00

Proposed Azimuth: 269.33

North Reference: TRUE

Tiein Survey Data:

MD	Inclination	Azimuth	TVD	NS	EW
10104.70	1.05	312.76	10101.53	-89.56	20.37

MD	Inclination	Azimuth	TVD	NS	EW	CA	CD	VS	DLS
10117.00	1.70	289.50	10113.83	-89.42	20.12	167.32	91.66	-19.07	6.86
10149.00	4.00	278.80	10145.78	-89.09	18.56	168.23	91.01	-17.52	7.35
10181.00	6.90	272.80	10177.64	-88.83	15.54	170.08	90.18	-14.50	9.22
10213.00	9.90	270.80	10209.29	-88.70	10.87	173.01	89.36	-9.83	9.42
10244.00	13.20	268.80	10239.66	-88.73	4.66	176.99	88.86	-3.63	10.72
10276.00	16.00	267.80	10270.62	-88.98	-3.40	182.19	89.04	4.44	8.79
10308.00	18.80	264.60	10301.16	-89.63	-12.94	188.21	90.56	13.99	9.24
10340.00	21.50	267.20	10331.19	-90.41	-23.93	194.83	93.52	24.99	8.89
10371.00	23.90	266.60	10359.79	-91.06	-35.88	201.50	97.87	36.94	7.78
10403.00	26.10	268.90	10388.79	-91.58	-49.39	208.34	104.04	50.45	7.51
10435.00	27.80	270.80	10417.32	-91.61	-63.89	214.89	111.68	64.95	5.95
10466.00	29.40	270.10	10444.53	-91.49	-78.73	220.71	120.70	79.79	5.27
10498.00	31.60	270.60	10472.10	-91.39	-94.97	226.10	131.80	96.03	6.92
10530.00	33.90	268.20	10499.02	-91.58	-112.27	230.79	144.89	113.33	8.25
10562.00	36.00	270.40	10525.24	-91.80	-130.60	234.90	159.63	131.66	7.65
10593.00	37.80	269.40	10550.03	-91.83	-149.21	238.39	175.21	150.27	6.12
10625.00	39.10	269.80	10575.09	-91.97	-169.11	241.46	192.50	170.17	4.14
10656.00	40.00	265.80	10599.00	-92.74	-188.82	243.84	210.37	189.89	8.71
10688.00	41.90	264.20	10623.17	-94.57	-209.71	245.73	230.05	210.80	6.78
10720.00	45.30	265.50	10646.34	-96.54	-231.69	247.38	251.00	232.80	10.99
10752.00	49.50	268.20	10668.00	-97.82	-255.20	249.03	273.30	256.33	14.52
10783.00	53.90	269.30	10687.21	-98.34	-279.52	250.62	296.31	280.65	14.46
10815.00	57.90	268.60	10705.14	-98.83	-306.00	252.10	321.57	307.14	12.63
10846.00	61.00	266.90	10720.90	-99.88	-332.67	253.29	347.35	333.82	11.06
10877.00	62.80	268.60	10735.50	-100.95	-360.00	254.33	373.88	361.15	7.56
10909.00	65.80	270.10	10749.38	-101.28	-388.82	255.40	401.80	389.98	10.28
10940.00	68.50	269.80	10761.41	-101.30	-417.39	256.36	429.51	418.55	8.76
10972.00	70.90	272.40	10772.52	-100.72	-447.39	257.31	458.59	448.54	10.69

11004.00	73.20	272.10	10782.38	-99.53	-477.81	258.23	488.06	478.94	7.24
11036.00	76.10	272.30	10790.85	-98.34	-508.64	259.06	518.06	509.76	9.08
11067.00	79.40	272.60	10797.42	-97.05	-538.90	259.79	547.57	540.00	10.69
11099.00	83.40	272.30	10802.21	-95.69	-570.51	260.48	578.48	571.59	12.53
11131.00	86.80	272.70	10804.94	-94.30	-602.36	261.10	609.69	603.42	10.70
11162.00	90.00	272.30	10805.81	-92.95	-633.31	261.65	640.09	634.35	10.40
11194.00	90.70	272.00	10805.61	-91.75	-665.29	262.15	671.58	666.31	2.38
11257.00	91.30	272.30	10804.51	-89.39	-728.23	263.00	733.70	729.23	1.06
11353.00	89.20	272.80	10804.09	-85.12	-824.13	264.10	828.51	825.07	2.25
11448.00	89.90	272.80	10804.84	-80.48	-919.01	265.00	922.53	919.89	0.74
11544.00	91.30	273.00	10803.83	-75.62	-1014.88	265.74	1017.70	1015.70	1.47
11639.00	90.70	272.40	10802.18	-71.15	-1109.76	266.33	1112.04	1110.52	0.89
11735.00	89.40	272.10	10802.09	-67.38	-1205.69	266.80	1207.57	1206.39	1.39
11830.00	90.30	272.50	10802.34	-63.56	-1300.61	267.20	1302.16	1301.26	1.04
11926.00	88.60	272.30	10803.26	-59.54	-1396.52	267.56	1397.78	1397.12	1.78
12021.00	89.50	272.70	10804.84	-55.40	-1491.41	267.87	1492.44	1491.96	1.04
12117.00	88.60	270.80	10806.43	-52.47	-1587.35	268.11	1588.21	1587.85	2.19
12213.00	89.70	271.00	10807.85	-50.96	-1683.32	268.27	1684.09	1683.80	1.16
12307.00	89.20	270.10	10808.76	-50.06	-1777.31	268.39	1778.02	1777.78	1.10
12403.00	89.80	269.40	10809.59	-50.48	-1873.31	268.46	1873.99	1873.77	0.96
12498.00	89.40	268.60	10810.26	-52.14	-1968.29	268.48	1968.98	1968.77	0.94
12594.00	90.30	268.10	10810.51	-54.90	-2064.25	268.48	2064.98	2064.75	1.07
12695.00	90.70	269.90	10809.63	-56.66	-2165.23	268.50	2165.97	2165.74	1.83
12790.00	90.90	269.70	10808.30	-57.00	-2260.22	268.56	2260.93	2260.73	0.30
12885.00	91.00	269.50	10806.72	-57.66	-2355.20	268.60	2355.91	2355.71	0.24
12981.00	89.50	268.90	10806.31	-59.00	-2451.19	268.62	2451.90	2451.71	1.68
13076.00	89.50	268.40	10807.13	-61.24	-2546.16	268.62	2546.89	2546.70	0.53
13172.00	89.90	267.90	10807.64	-64.34	-2642.10	268.61	2642.89	2642.68	0.67
13267.00	90.50	267.90	10807.31	-67.82	-2737.04	268.58	2737.88	2737.65	0.63
13362.00	89.60	268.50	10807.22	-70.80	-2831.99	268.57	2832.88	2832.63	1.14
13457.00	89.80	268.30	10807.72	-73.45	-2926.95	268.56	2927.87	2927.61	0.30
13553.00	90.20	268.40	10807.72	-76.22	-3022.91	268.56	3023.87	3023.60	0.43
13648.00	90.90	268.30	10806.81	-78.95	-3117.87	268.55	3118.87	3118.58	0.74
13743.00	89.50	268.70	10806.48	-81.44	-3212.83	268.55	3213.86	3213.57	1.53
13839.00	90.30	268.60	10806.64	-83.70	-3308.81	268.55	3309.86	3309.56	0.84
13934.00	91.10	268.50	10805.48	-86.11	-3403.77	268.55	3404.86	3404.54	0.85
14026.00	90.00	269.40	10804.60	-87.79	-3495.75	268.56	3496.85	3496.53	1.54
14122.00	88.70	271.30	10805.69	-87.20	-3591.73	268.61	3592.79	3592.50	2.40
14217.00	89.40	271.50	10807.26	-84.88	-3686.69	268.68	3687.67	3687.43	0.77
14312.00	90.10	271.20	10807.68	-82.65	-3781.66	268.75	3782.56	3782.37	0.80
14406.00	90.10	271.80	10807.51	-80.19	-3875.63	268.81	3876.46	3876.30	0.64
14502.00	89.00	272.50	10808.27	-76.58	-3971.56	268.90	3972.29	3972.18	1.36
14596.00	89.30	272.60	10809.66	-72.40	-4065.45	268.98	4066.10	4066.02	0.34
14691.00	89.80	272.80	10810.41	-67.93	-4160.34	269.06	4160.90	4160.85	0.57
14785.00	90.50	272.70	10810.16	-63.42	-4254.23	269.15	4254.71	4254.68	0.75