

Results of Directional Survey

API number:	30-025-40857		
OGRID:		Operator:	COG PRODUCTION, LLC
		Property:	BEBIDAS STATE # 4H

surface	ULSTR:	P	16	T	23S	R	33E
				388	FSL	380	FEL

BH Loc	ULSTR:	A	16	T	23S	R	33E
15528	MD	11202.2	TVD	334	FNL	409	FEL
				4946	FSL		

Top Perf/OH	ULSTR:	P	16	T	23S	R	33E
11400	MD	11188.5	TVD	821	FSL	388	FEL

Bot Perf/OH	ULSTR:	A	16	T	23S	R	33E
15443	MD	11202.4	TVD	419	FNL	409	FEL
				4861	FSL		

	MD	N/S	E/W	VD
	11386	419.88	-7.59	11184.79
TOP PERFS/OH	11400	433.36	-7.95	11188.53
	11422	454.53	-8.51	11194.40
	15436	4466.35	-28.58	11202.45
BOT PERFS/OH	15443	4473.35	-28.61	11202.41
	15489	4519.35	-28.83	11202.16

NEXT TO LAST	15489	4519.35	-28.83	11202.16
LAST READING	15528	4558.35	-29.14	11202.16
TD	15528	4558.35	-29.14	11202.16

Surface Location	388	FS	380	FE
Projected BHL	4946	FS	409	FE
Location of				
Top Perfs/OH	821	FS	388	FE
Bottom Perfs/OH	4861	FS	409	FE

SUMMARY of Subsurface Locations

Surface Location	P-16-23S-33E	388	FS	380	FE	Vert. Depth
Top Perfs/OH	P-16-23S-33E	821	FS	388	FE	11188.53
Bottom Perfs/OH	A-16-23S-33E	4861	FS	409	FE	11202.41
Projected TD	A-16-23S-33E	4946	FS	409	FE	11202.16

JAN 27 2014



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

COG OPER, LLC
RECEIVED
SEP 23 2013
ARTESIA WEST

August 29, 2013

COG, LLC
One Concho Center
600 W. Illinois Ave.
Midland, TX 79701

RE: Bebidas State #4H
388' FSL & 380' FEL
Sec. 16, T23S, R33E
Lea County, New Mexico

Dear Sir,

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

Very truly yours,

Eddie LaRue
Operations Manager

State of New Mexico }
County of Eddy }

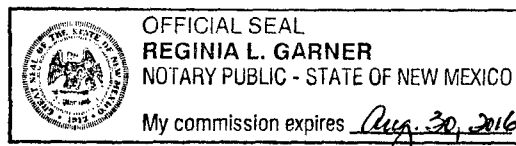
The foregoing was acknowledged before me this 29th day of August, 2013.

Notary Public

HOBBS OCD

NOV 22 2013

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Bebidas State #4H

Date	Depth	Deviation	Direction	TVD	Horiz Disp
7/28/2013	529	0.60			
7/29/2013	765	0.60			
7/29/2013	765	0.60			
7/29/2013	1016	1.20			
7/29/2013	1305	1.30			
7/31/2013	1473	0.80			
7/31/2013	1662	0.80			
7/31/2013	1852	0.60			
7/31/2013	2041	0.60			
7/31/2013	2231	0.60			
7/31/2013	2610	0.40			
8/1/2013	2705	0.30	134.28		
8/1/2013	2800	0.30	94.38		
8/1/2013	2895	0.10	355.50		
8/1/2013	2990	0.10	311.30		
8/1/2013	3085	0.40	3365.00		
8/1/2013	3369	0.18			
8/1/2013	3359	0.22			
8/1/2013	3749	0.40			
8/1/2013	3844	0.40			
8/1/2013	3938	0.40			
8/1/2013	4033	0.60			
8/2/2013	4128	0.40	5.10		
8/2/2013	4223	0.70	13.80		
8/2/2013	4318	0.90	63.50		
8/2/2013	4112	1.10	91.00		
8/2/2013	4507	1.50			
8/2/2013	4602	1.40			
8/2/2013	4697	1.30			
8/2/2013	4791	1.80			
8/2/2013	4886	1.20			
8/2/2013	4981	1.50			
8/3/2013	5062	1.30	82.20		
8/4/2013	5517	0.20			
8/5/2013	5960	0.30			
8/5/2013	6402	0.30			
8/5/2013	6686	0.40			
8/5/2013	7175	0.50			
8/5/2013	7603	0.30			
8/6/2013	8045	0.50			
8/6/2013	8518	1.30			
8/6/2013	8677	1.00			
8/6/2013	8834	1.10			

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Date	Depth	Deviation	Direction	TVD	Horiz Disp
8/7/2013	9087	1.00			
8/7/2013	9309	0.80			
8/7/2013	9562	1.50			
8/7/2013	9722	1.80			
8/8/2013	9903	1.70			
8/8/2013	10061	0.80			
8/10/2013	10465	0.70			
8/10/2013	10874	0.50			
8/10/2013	11125	1.30			
8/10/2013	11346	1.50			
8/11/2013	11472	1.20			
8/11/2013	11599	0.60			
8/11/2013	11725	1.30			
8/11/2013	12009	1.60			
8/16/2013	10662	1.00			
8/16/2013	10694	0.60			
8/17/2013	10752	5.58	0.60	10723.90	9.51
8/17/2013	10753	12.40	357.80		
8/17/2013	10784	16.50	358.80		
8/17/2013	10816	19.70	359.90		
8/18/2013	10879	26.30	358.70		
8/18/2013	10911	29.80	358.50		
8/18/2013	10943	33.40	359.20		
8/18/2013	10974	39.80	0.20		
8/18/2013	11006	41.60	0.30		
8/18/2013	11069	45.76	1.13		
8/18/2013	11101	48.48			
8/19/2013	11133	52.20	0.50		
8/19/2013	11160	55.30	0.60		
8/19/2013	11227	58.00			
8/19/2013	11258	60.80	359.60		
8/20/2013	11290	67.80	359.40		
8/20/2013	11322	64.80	358.70		
8/20/2013	11355	66.80	358.60		
8/20/2013	11386	70.70	358.80		
8/21/2013	11422	78.30	358.20		
8/21/2013	11517	88.00	356.80		
8/21/2013	11580	91.20	355.90		
8/22/2013	11644	91.30	355.90		
8/22/2013	11739	89.80	356.90		
8/22/2013	11833	90.00	358.10		
8/22/2013	11928	89.90	357.70		
8/22/2013	12023	89.89	359.11		
8/22/2013	12118	90.77	359.11		
8/22/2013	12213	91.08	359.46		

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Date	Depth	Deviation	Direction	TVD	Horiz Disp
8/22/2013	12403	90.90	0.60		
8/22/2013	12498	89.40	0.60		
8/22/2013	12592	89.60	359.90		
8/23/2013	12783	89.70	359.30		
8/23/2013	12878	90.40	358.30		
8/23/2013	12973	90.80	360.00		
8/23/2013	13068	91.20	359.46		
8/23/2013	13162	92.00	358.60		
8/23/2013	13257	90.80	359.30		
8/23/2013	13362	90.50	359.40		
8/23/2013	13446	89.70	0.80		
8/24/2013	13636	88.90	1.50		
8/24/2013	13731	89.60	0.40		
8/24/2013	13825	90.00	359.70		
8/24/2013	13920	89.90	359.28	11192.82	2950.85
8/25/2013	14015	90.20	0.90		
8/25/2013	14109	90.40	0.80		
8/25/2013	14204	91.10	0.30		
8/25/2013	14299	89.90	1.70		
8/25/2013	14433	90.80	1.40		
8/25/2013	14773	88.80	0.87		
8/25/2013	14867	89.39	0.16		
8/25/2013	14962	88.70	0.43		
8/26/2013	15057	89.40	359.90		
8/26/2013	15152	88.30	1.00		
8/26/2013	15246	89.00	1.00		
8/26/2013	15341	89.30	0.50		
8/26/2013	15436	89.93	359.90	11202.61	
8/26/2013	15489	90.42	359.55	11202.61	

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A GYRO TECHNOLOGIES INC. COMPANY

P.O. Box 261021
Corpus Christi, Texas 78426
(361) 767-0602 • (800) 606-GYRO • Fax (361) 767-0612

COG OPER, LLC
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AUG 27 2013
ARTESIA WEST

HOBES OCD

NOV 22 2013

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August 16, 2013.

COG Operating LLC (Concho)
One Concho Center
600 W. Illinois Avenue
Midland, TX 79701

Attn: Kanicia Castillo

Re: **Bebidas State No 004H**

Please find enclosed a copy of the survey from 0' to 11,000' ran on the above referenced well.

If I can be of any further service, please do not hesitate to call me at 800-606-4976.

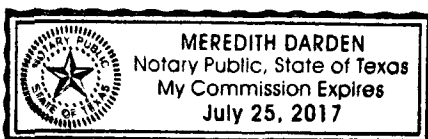
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 16th day of August, A.D., 2013, by Keith Havelka.

Meredith Darden
Notary Public, State of Texas





Company: Concho Operating
Lease/Well: Bebidas State/No 004H

Rig Name: Silver Oak #12
State/County: New Mexico/Lea
Latitude: 32.30, Longitude: -103.57
GRID North is 0.41 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB = 18 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: bebidas state #4h_01.ut

Minimum Curvature Method

Report Date/Time: 8/16/2013 / 11:22

Vaughn Energy Services

Ft.Worth, TX

817-741-3610

Surveyor: Kenny Gabel

Bebidas State No 004H / API 30-025-40857

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Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.54	53.53	100.00	0.28	0.38	0.28	0.47	53.53	0.54
200.00	0.51	41.71	199.99	0.89	1.05	0.89	1.37	49.74	0.11
300.00	0.47	33.75	299.99	1.56	1.57	1.56	2.21	45.20	0.08
400.00	0.35	8.55	399.99	2.20	1.84	2.20	2.87	39.91	0.21
500.00	0.67	7.09	499.98	3.09	1.96	3.09	3.66	32.43	0.32
600.00	0.80	52.64	599.98	4.09	2.59	4.09	4.84	32.31	0.58
700.00	0.76	56.06	699.97	4.88	3.69	4.88	6.12	37.08	0.06
800.00	0.53	70.78	799.96	5.41	4.68	5.41	7.15	40.88	0.28
900.00	0.51	34.02	899.96	5.93	5.37	5.93	8.00	42.17	0.33
1000.00	0.60	30.97	999.95	6.74	5.89	6.74	8.95	41.11	0.10
1100.00	0.88	25.60	1099.94	7.89	6.49	7.89	10.21	39.44	0.28
1200.00	1.44	33.60	1199.92	9.62	7.51	9.62	12.21	37.98	0.58
1300.00	1.16	33.99	1299.90	11.51	8.77	11.51	14.47	37.32	0.28
1400.00	0.77	18.50	1399.88	12.98	9.55	12.98	16.11	36.35	0.47
1500.00	0.76	339.82	1499.88	14.23	9.54	14.23	17.13	33.82	0.50
1600.00	1.15	352.01	1599.86	15.85	9.17	15.85	18.31	30.05	0.44
1700.00	0.37	349.91	1699.85	17.16	8.97	17.16	19.36	27.60	0.77
1800.00	1.03	321.73	1799.84	18.19	8.36	18.19	20.02	24.67	0.73

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.31	283.77	1899.84	18.96	7.54	18.96	20.41	21.67	0.81
2000.00	0.80	350.62	1999.83	19.72	7.16	19.72	20.98	19.96	0.74
2100.00	0.32	7.75	2099.83	20.69	7.08	20.69	21.87	18.90	0.51
2200.00	0.52	18.86	2199.82	21.40	7.27	21.40	22.60	18.77	0.22
2300.00	0.32	66.10	2299.82	21.94	7.67	21.94	23.25	19.27	0.39
2400.00	0.43	190.69	2399.82	21.68	7.86	21.68	23.06	19.92	0.67
2500.00	0.36	141.32	2499.82	21.06	7.99	21.06	22.53	20.76	0.34
2600.00	0.49	147.45	2599.82	20.45	8.42	20.45	22.12	22.36	0.14
2700.00	0.46	149.09	2699.81	19.75	8.85	19.75	21.64	24.15	0.04
2800.00	0.45	163.56	2799.81	19.02	9.17	19.02	21.12	25.74	0.11
2900.00	0.55	295.94	2899.81	18.86	8.85	18.86	20.83	25.14	0.92
3000.00	0.50	304.25	2999.80	19.31	8.06	19.31	20.92	22.65	0.09
3100.00	0.31	31.26	3099.80	19.79	7.84	19.79	21.28	21.61	0.57
3200.00	0.18	117.10	3199.80	19.95	8.12	19.95	21.54	22.15	0.35
3300.00	0.30	196.14	3299.80	19.62	8.19	19.62	21.26	22.64	0.32
3400.00	0.39	184.09	3399.80	19.03	8.09	19.03	20.67	23.03	0.11
3500.00	0.34	188.68	3499.80	18.40	8.02	18.40	20.07	23.55	0.06
3600.00	0.26	187.03	3599.80	17.88	7.95	17.88	19.57	23.96	0.08
3700.00	0.33	186.97	3699.79	17.37	7.88	17.37	19.07	24.42	0.08
3800.00	0.31	98.42	3799.79	17.04	8.12	17.04	18.87	25.47	0.45
3900.00	0.54	38.33	3899.79	17.36	8.68	17.36	19.41	26.55	0.47
4000.00	0.38	79.93	3999.79	17.79	9.29	17.79	20.07	27.58	0.36
4100.00	0.21	160.27	4099.79	17.67	9.68	17.67	20.15	28.71	0.40
4200.00	0.43	295.74	4199.79	17.66	9.41	17.66	20.01	28.04	0.60
4300.00	0.86	19.93	4299.78	18.53	9.33	18.53	20.75	26.72	0.92
4400.00	1.36	65.87	4399.76	19.73	10.67	19.73	22.43	28.41	0.98
4500.00	1.07	82.15	4499.74	20.34	12.68	20.34	23.97	31.95	0.45
4600.00	1.19	79.45	4599.72	20.66	14.63	20.66	25.32	35.31	0.13
4700.00	1.20	71.89	4699.70	21.17	16.65	21.17	26.94	38.18	0.16
4800.00	1.45	110.85	4799.67	21.05	18.83	21.05	28.24	41.81	0.92
4900.00	0.80	86.33	4899.66	20.64	20.71	20.64	29.24	45.09	0.80
5000.00	1.40	71.43	4999.64	21.08	22.56	21.08	30.87	46.94	0.66
5100.00	0.79	70.68	5099.62	21.69	24.37	21.69	32.62	48.32	0.60
5200.00	0.64	21.23	5199.61	22.45	25.22	22.45	33.77	48.33	0.62
5300.00	0.37	311.48	5299.61	23.18	25.19	23.18	34.23	47.38	0.62
5400.00	0.21	207.65	5399.61	23.23	24.86	23.23	34.03	46.95	0.46
5500.00	0.27	259.19	5499.61	23.02	24.55	23.02	33.65	46.84	0.21
5600.00	0.56	299.16	5599.60	23.22	23.89	23.22	33.31	45.82	0.39
5700.00	0.21	106.75	5699.60	23.40	23.64	23.40	33.26	45.29	0.76

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5800.00	0.21	175.38	5799.60	23.17	23.82	23.17	33.23	45.79	0.23
5900.00	0.16	193.39	5899.60	22.86	23.80	22.86	33.00	46.16	0.07
6000.00	0.36	244.11	5999.60	22.59	23.49	22.59	32.59	46.13	0.28
6100.00	0.23	299.81	6099.60	22.55	23.04	22.55	32.24	45.61	0.30
6200.00	0.73	354.14	6199.60	23.29	22.79	23.29	32.59	44.38	0.63
6300.00	0.70	8.64	6299.59	24.53	22.82	24.53	33.50	42.93	0.18
6400.00	0.68	95.24	6399.58	25.08	23.50	25.08	34.37	43.14	0.94
6500.00	0.75	21.83	6499.58	25.63	24.33	25.63	35.34	43.51	0.85
6600.00	0.80	354.80	6599.57	26.94	24.51	26.94	36.42	42.30	0.37
6700.00	0.33	337.36	6699.56	27.90	24.34	27.90	37.02	41.10	0.50
6800.00	0.82	306.18	6799.56	28.59	23.65	28.59	37.10	39.60	0.57
6900.00	0.26	299.11	6899.55	29.12	22.87	29.12	37.03	38.15	0.57
7000.00	0.76	271.20	6999.55	29.24	22.01	29.24	36.60	36.97	0.55
7100.00	0.58	237.42	7099.54	28.98	20.92	28.98	35.75	35.82	0.43
7200.00	0.25	228.15	7199.54	28.56	20.33	28.56	35.06	35.44	0.33
7300.00	0.64	200.71	7299.54	27.89	19.97	27.89	34.30	35.60	0.43
7400.00	0.89	240.98	7399.53	26.99	19.09	26.99	33.06	35.28	0.57
7500.00	0.91	239.89	7499.52	26.21	17.73	26.21	31.64	34.07	0.03
7600.00	0.47	158.81	7599.51	25.43	17.18	25.43	30.69	34.04	0.96
7700.00	0.52	167.75	7699.51	24.61	17.42	24.61	30.16	35.30	0.09
7800.00	0.52	177.52	7799.50	23.72	17.54	23.72	29.50	36.48	0.09
7900.00	0.50	288.51	7899.50	23.40	17.15	23.40	29.01	36.23	0.84
8000.00	1.09	227.26	7999.49	22.89	16.04	22.89	27.95	35.01	0.96
8100.00	0.72	218.94	8099.48	21.75	14.94	21.75	26.39	34.48	0.39
8200.00	1.13	200.10	8199.47	20.34	14.20	20.34	24.81	34.93	0.50
8300.00	1.35	240.33	8299.44	18.83	12.84	18.83	22.79	34.30	0.88
8400.00	0.90	199.79	8399.43	17.51	11.56	17.51	20.98	33.42	0.88
8500.00	1.25	186.33	8499.41	15.69	11.17	15.69	19.26	35.46	0.43
8600.00	0.68	188.96	8599.39	14.01	10.96	14.01	17.79	38.03	0.57
8700.00	0.43	203.25	8699.39	13.08	10.72	13.08	16.91	39.33	0.29
8800.00	0.45	253.01	8799.39	12.62	10.19	12.62	16.23	38.92	0.37
8900.00	0.45	248.08	8899.38	12.36	9.45	12.36	15.56	37.39	0.04
9000.00	1.43	237.66	8999.37	11.55	8.03	11.55	14.06	34.81	0.99
9100.00	1.19	228.96	9099.34	10.19	6.18	10.19	11.92	31.25	0.31
9200.00	0.86	278.83	9199.33	9.62	4.66	9.62	10.69	25.84	0.92
9300.00	1.43	279.06	9299.31	9.93	2.68	9.93	10.29	15.12	0.58
9400.00	1.11	280.42	9399.28	10.31	0.50	10.31	10.32	2.77	0.33
9500.00	1.01	228.10	9499.27	9.89	-1.10	9.89	9.95	353.64	0.94
9600.00	1.39	211.21	9599.25	8.27	-2.39	8.27	8.61	343.90	0.52

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
9700.00	1.68	199.10	9699.21	5.84	-3.50	5.84	6.81	329.10	0.44
9800.00	1.27	198.92	9799.18	3.40	-4.34	3.40	5.51	308.10	0.41
9900.00	1.54	236.66	9899.15	1.61	-5.82	1.61	6.04	285.44	0.95
10000.00	1.14	242.70	9999.12	0.41	-7.83	0.41	7.84	273.02	0.43
10100.00	0.75	193.81	10099.11	-0.68	-8.87	-0.68	8.89	265.64	0.86
10200.00	1.19	158.82	10199.10	-2.28	-8.65	-2.28	8.94	255.24	0.72
10300.00	1.20	179.82	10299.07	-4.30	-8.27	-4.30	9.32	242.54	0.44
10400.00	0.99	196.19	10399.06	-6.18	-8.51	-6.18	10.52	233.99	0.38
10500.00	1.54	159.07	10499.03	-8.27	-8.27	-8.27	11.70	225.00	0.96
10600.00	1.23	124.53	10599.01	-10.13	-6.91	-10.13	12.26	214.27	0.87
10700.00	0.56	128.87	10698.99	-11.05	-5.64	-11.05	12.41	207.02	0.67
10800.00	0.56	138.17	10798.99	-11.72	-4.93	-11.72	12.72	202.80	0.09
10900.00	0.95	143.35	10898.98	-12.75	-4.11	-12.75	13.40	197.87	0.39
11000.00	1.06	190.01	10998.97	-14.32	-3.78	-14.32	14.81	194.78	0.80

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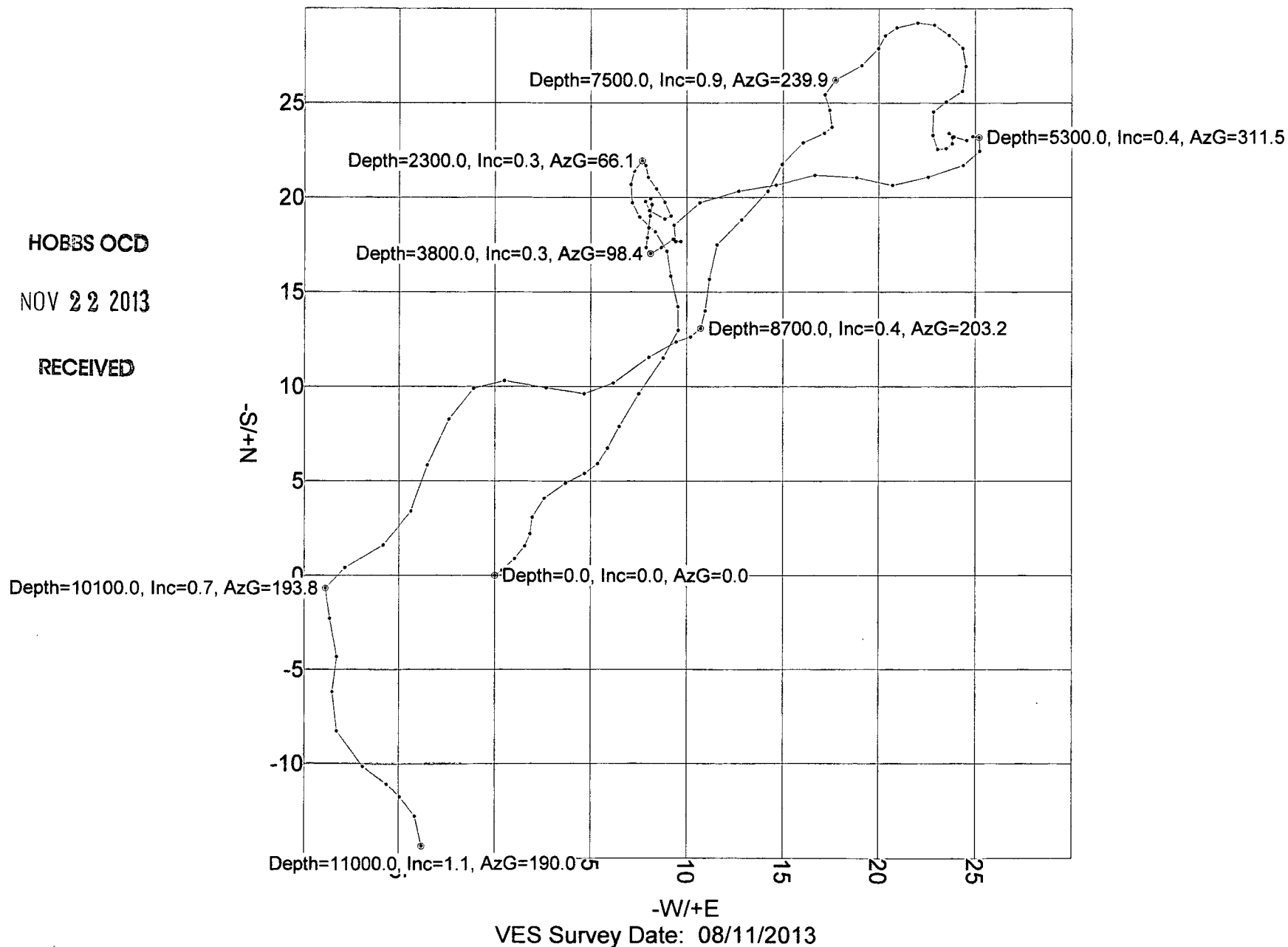
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Vaughn Energy Services
Ft. Worth, TX
817-741-3610
Surveyor: Kenny Gabel
Bebidas State No 004H / API 30-025-40857



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DIRECTIONAL SOLUTIONS, L.P.

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Survey Sheet

Company:	COG	Job Number:	13-0006
Well:	Bebidas State #4H	Mag Decl.:	6.92
Location:	Lea County, New Mexico	Dir Driller:	Wade Tinsley
Rig:	Silver Oak 12	MWD Eng:	Steven Trulove
Leg:	Curve / Lateral	MWD Eng:	Jered Addy

Calculation Method: Minimum Curvature

Proposed Azimuth 359.75

Depth Reference

Tie Into: 10600

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates		Closure		Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')
							N/S (ft)	E/W (ft)	Distance (ft)	Direction Azimuth			
Tie In	10600.0	1.23	124.53		10599	-10.07	-10.10	-6.90					
1	10662.0	1.01	144.04	62	10660.99	-10.89	10.92	S 6.03	W 12.47	208.91	0.70	-0.35	31.47
2	10694.0	0.57	70.04	32	10692.99	-11.07	11.09	S 5.72	W 12.48	207.26	3.17	-1.38	-231.25
3	10725.0	5.58	0.60	31	10723.93	-9.51	9.53	S 5.55	W 11.03	210.23	17.44	16.16	-224.00
4	10753.0	12.40	357.79	28	10751.57	-5.14	5.16	S 5.66	W 7.66	227.62	24.40	24.36	1275.68
5	10784.0	16.53	358.76	31	10781.59	2.60	2.58	N 5.88	W 6.42	293.66	13.35	13.32	3.13
6	10816.0	19.69	357.97	32	10812.00	12.54	12.52	N 6.17	W 13.96	333.76	9.90	9.88	-2.47
7	10847.0	23.16	358.40	31	10840.85	23.86	23.83	N 6.53	W 24.71	344.69	11.20	11.19	1.39
8	10879.0	26.29	358.67	32	10869.91	37.24	37.21	N 6.87	W 37.84	349.55	9.79	9.78	0.84
9	10911.0	29.80	358.49	32	10898.15	52.28	52.25	N 7.24	W 52.75	352.11	10.97	10.97	-0.56
10	10942.0	33.41	359.20	31	10924.55	68.52	68.49	N 7.56	W 68.91	353.70	11.71	11.65	2.29
11	10974.0	37.80	0.16	32	10950.56	87.15	87.12	N 7.66	W 87.45	354.98	13.83	13.72	-1122.00
12	11006.0	41.63	0.25	32	10975.17	107.59	107.56	N 7.58	W 107.83	355.97	11.97	11.97	0.28
13	11037.0	43.96	1.13	31	10997.92	128.65	128.62	N 7.33	W 128.82	356.74	7.76	7.52	2.84
14	11069.0	45.76	1.13	32	11020.60	151.21	151.18	N 6.88	W 151.34	357.39	5.62	5.62	0.00
15	11101.0	48.48	1.13	32	11042.37	174.65	174.62	N 6.42	W 174.74	357.89	8.50	8.50	0.00
16	11133.0	52.18	0.51	32	11062.80	199.27	199.25	N 6.07	W 199.34	358.25	11.66	11.56	-1.94
17	11163.0	55.25	0.60	30	11080.55	223.45	223.43	N 5.84	W 223.50	358.50	10.24	10.23	0.30
18	11195.0	57.14	0.78	32	11098.35	250.04	250.01	N 5.52	W 250.07	358.74	5.92	5.91	0.56
19	11227.0	58.99	359.90	32	11115.28	277.19	277.17	N 5.36	W 277.22	358.89	6.23	5.78	1122.25
20	11258.0	60.84	359.64	31	11130.82	304.01	303.99	N 5.46	W 304.04	358.97	6.01	5.97	-0.84
21	11290.0	62.77	359.37	32	11145.93	332.21	332.19	N 5.71	W 332.24	359.02	6.08	6.03	-0.84
22	11322.0	64.79	358.67	32	11160.07	360.92	360.89	N 6.20	W 360.95	359.02	6.61	6.31	-2.19
23	11354.0	66.77	358.58	32	11173.20	390.09	390.07	N 6.90	W 390.13	358.99	6.19	6.19	-0.28
24	11386.0	70.73	358.76	32	11184.79	419.91	419.88	N 7.59	W 419.95	358.96	12.39	12.38	0.56
25	11422.0	78.29	358.23	36	11194.40	454.56	454.53	N 8.51	W 454.61	358.93	21.05	21.00	-1.47

Company:	COG	Job Number:	13-0006
Well:	Bebidas State #4H	Mag Decl.:	6.92
Location:	Lea County, New Mexico	Dir Driller:	Wade Tinsley
Rig:	Silver Oak 12	MWD Eng:	Steven Trulove
Leg:	Curve / Lateral	MWD Eng:	Jered Addy

Calculation Method:	Minimum Curvature
Proposed Azimuth	359.75
Depth Reference	
Tie Into:	10600

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates			Closure		Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')	
							N/S (ft)	E/W (ft)		Distance (ft)	Direction Azimuth				
26	11454.0	81.85	358.05	32	11199.92	486.07	486.03	N	9.53	W	486.12	358.88	11.14	11.13	-0.56
27	11485.0	84.84	357.44	31	11203.51	516.84	516.79	N	10.74	W	516.91	358.81	9.84	9.65	-1.97
28	11517.0	88.04	356.82	32	11205.50	548.74	548.69	N	12.34	W	548.83	358.71	10.19	10.00	-1.94
29	11549.0	90.68	356.47	32	11205.86	580.69	580.63	N	14.21	W	580.80	358.60	8.32	8.25	-1.09
30	11644.0	91.30	355.94	95	11204.21	675.49	675.41	N	20.50	W	675.72	358.26	0.86	0.65	-0.56
31	11739.0	89.76	356.91	95	11203.34	770.32	770.21	N	26.42	W	770.67	358.04	1.92	-1.62	1.02
32	11833.0	89.98	358.05	94	11203.55	864.24	864.12	N	30.56	W	864.66	357.97	1.24	0.23	1.21
33	11928.0	89.93	357.70	95	11203.62	959.19	959.05	N	34.08	W	959.66	357.96	0.37	-0.05	-0.37
34	12023.0	89.89	359.11	95	11203.77	1054.17	1054.01	N	36.72	W	1054.65	358.00	1.48	-0.04	1.48
35	12118.0	90.77	359.11	95	11203.23	1149.16	1149.00	N	38.20	W	1149.64	358.10	0.93	0.93	0.00
36	12213.0	91.08	359.46	95	11201.69	1244.14	1243.98	N	39.38	W	1244.60	358.19	0.49	0.33	0.37
37	12308.0	91.60	359.28	95	11199.47	1339.11	1338.95	N	40.43	W	1339.56	358.27	0.58	0.55	-0.19
38	12403.0	90.95	0.60	95	11197.36	1434.09	1433.92	N	40.53	W	1434.50	358.38	1.55	-0.68	-377.56
39	12498.0	89.41	0.60	95	11197.06	1529.07	1528.91	N	39.53	W	1529.42	358.52	1.62	-1.62	0.00
40	12593.0	89.58	359.90	95	11197.90	1624.06	1623.91	N	39.12	W	1624.38	358.62	0.76	0.18	378.21
41	12688.0	89.58	359.20	95	11198.59	1719.06	1718.90	N	39.86	W	1719.36	358.67	0.74	0.00	-0.74
42	12783.0	89.71	359.28	95	11199.18	1814.05	1813.89	N	41.12	W	1814.36	358.70	0.16	0.14	0.08
43	12878.0	90.37	358.32	95	11199.11	1909.04	1908.87	N	43.11	W	1909.36	358.71	1.23	0.69	-1.01
44	12973.0	90.77	359.99	95	11198.17	2004.03	2003.85	N	44.51	W	2004.35	358.73	1.81	0.42	1.76
45	13068.0	91.25	359.46	95	11196.49	2099.01	2098.83	N	44.97	W	2099.32	358.77	0.75	0.51	-0.56
46	13162.0	92.04	358.67	94	11193.80	2192.96	2192.78	N	46.50	W	2193.28	358.79	1.19	0.84	-0.84
47	13257.0	90.81	359.28	95	11191.43	2287.92	2287.74	N	48.20	W	2288.24	358.79	1.45	-1.29	0.64
48	13352.0	90.46	359.37	95	11190.38	2382.92	2382.72	N	49.32	W	2383.23	358.81	0.38	-0.37	0.09
49	13446.0	89.67	0.78	94	11190.27	2476.91	2476.72	N	49.20	W	2477.21	358.86	1.72	-0.84	-381.48
50	13541.0	90.15	359.99	95	11190.42	2571.90	2571.72	N	48.56	W	2572.17	358.92	0.97	0.51	378.12
51	13636.0	88.88	1.48	95	11191.23	2666.88	2666.70	N	47.34	W	2667.12	358.98	2.06	-1.34	-377.38
52	13731.0	89.63	0.43	95	11192.46	2761.85	2761.68	N	45.76	W	2762.06	359.05	1.36	0.79	-1.11
53	13825.0	89.98	359.72	94	11192.78	2855.85	2855.68	N	45.64	W	2856.04	359.08	0.84	0.37	382.22
54	13920.0	89.98	359.28	95	11192.82	2950.85	2950.67	N	46.46	W	2951.04	359.10	0.46	0.00	-0.46
55	14015.0	90.15	0.87	95	11192.71	3045.84	3045.67	N	46.34	W	3046.02	359.13	1.68	0.18	-377.27
56	14109.0	90.42	0.78	94	11192.24	3139.82	3139.66	N	44.99	W	3139.98	359.18	0.30	0.29	-0.10
57	14204.0	91.12	0.34	95	11190.96	3234.81	3234.64	N	44.06	W	3234.94	359.22	0.87	0.74	-0.46
58	14299.0	89.89	1.66	95	11190.13	3329.77	3329.62	N	42.40	W	3329.89	359.27	1.90	-1.29	1.39
59	14394.0	90.77	1.39	95	11189.58	3424.73	3424.59	N	39.87	W	3424.82	359.33	0.97	0.93	-0.28

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Company:	COG	Job Number:	13-0006
Well:	Bebidas State #4H	Mag Decl.:	6.92
Location:	Lea County, New Mexico	Dir Driller:	Wade Tinsley
Rig:	Silver Oak 12	MWD Eng:	Steven Trulove
Leg:	Curve / Lateral	MWD Eng:	Jered Addy

Calculation Method:	Minimum Curvature
Proposed Azimuth	359.75
Depth Reference	
Tie Into:	10600

Survey Number	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates			Closure		Dogleg Severity (ft/100')	Build Rate (d/100')	Walk Rate (d/100')	
							N/S (ft)	E/W (ft)		Distance (ft)	Direction Azimuth				
60	14488.0	90.73	0.51	94	11188.35	3518.70	3518.56	N	38.31	W	3518.77	359.38	0.94	-0.04	-0.94
61	14583.0	89.36	0.78	95	11188.27	3613.68	3613.56	N	37.24	W	3613.75	359.41	1.47	-1.44	0.28
62	14678.0	88.09	1.13	95	11190.39	3708.64	3708.52	N	35.66	W	3708.69	359.45	1.39	-1.34	0.37
63	14773.0	88.88	0.87	95	11192.90	3803.58	3803.47	N	34.00	W	3803.62	359.49	0.88	0.83	-0.27
64	14867.0	89.89	0.16	94	11193.91	3897.56	3897.46	N	33.16	W	3897.60	359.51	1.31	1.07	-0.76
65	14962.0	88.79	0.43	95	11195.00	3992.55	3992.45	N	32.67	W	3992.58	359.53	1.19	-1.16	0.28
66	15057.0	89.45	359.90	95	11196.46	4087.54	4087.44	N	32.40	W	4087.56	359.55	0.89	0.69	378.39
67	15151.0	88.26	0.95	94	11198.34	4181.51	4181.41	N	31.70	W	4181.53	359.57	1.69	-1.27	-381.86
68	15246.0	89.01	0.95	95	11200.60	4276.46	4276.37	N	30.13	W	4276.48	359.60	0.79	0.79	0.00
69	15341.0	89.32	0.51	95	11201.99	4371.44	4371.35	N	28.91	W	4371.45	359.62	0.57	0.33	-0.46
70	15436.0	89.93	359.90	95	11202.61	4466.43	4466.35	N	28.58	W	4466.44	359.63	0.91	0.64	378.31
71	15489.0	90.42	359.55	53	11202.45	4519.43	4519.35	N	28.83	W	4519.44	359.63	1.14	0.92	-0.66
PTB	15528.0	90.42	359.55	39	11202.16	4558.43	4558.35	N	29.14	W	4558.44	359.63	0.00	0.00	0.00
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