

Results of Directional Survey

API number:	30-025-41236		
OGRID:		Operator:	COG OPERATING LLC
		Property:	VETO STATE # 2H

surface	ULSTR:	C	16	T	23S	R	34E
				160	FNL	2030	FWL

BH Loc	ULSTR:	F	21	T	23S	R	34E
15695	MD	8567.5	TVD	2307	FNL	2043	FWL
				7587	FNL		

Top Perf/OH	ULSTR:	C	16	T	23S	R	34E
8730	MD	8501.1	TVD	627	FNL	2114	FWL

Bot Perf/OH	ULSTR:	F	21	T	23S	R	34E
15460	MD	8568.4	TVD	2072	FNL	2042	FWL
				7352	FNL		

	MD	N/S	E/W	VD
	8699	-437.30	85.76	8492.57
TOP PERFS/OH	8730	-467.08	84.46	8501.09
	8730	-467.08	84.46	8501.09
	15388	-7119.91	11.19	8568.12
BOT PERFS/OH	15460	-7191.91	11.57	8568.43
	15483	-7214.91	11.69	8568.53

NEXT TO LAST	15651	-7382.90	12.83	8567.98
LAST READING	15695	-7426.90	13.44	8567.52
TD	15695	-7426.90	13.44	8567.52

Surface Location	160	FN	2030	FW
Projected BHL	7587	FN	2043	FW
Location of				
Top Perfs/OH	627	FN	2114	FW
Bottom Perfs/OH	7352	FN	2042	FW

SUMMARY of Subsurface Locations

Surface Location	C-16-23S-34E	160	FN	2030	FW	Vert. Depth
Top Perfs/OH	C-16-23S-34E	627	FN	2114	FW	8501.09
Bottom Perfs/OH	F-21-23S-34E	7352	FN	2042	FW	8568.43
Projected TD	F-21-23S-34E	7587	FN	2043	FW	8567.52

APR 07 2014



HOBBS OCD

FEB 26 2014

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Customer Name: Concho Oil & Gas
 Well Name: Veto State #2H
 API Number: 30-025-41236
 County / Parish: Lea County, NM

M.W.D. Operator: J. Burleson
 Directional Driller: S. Brandt
 Total Magnetic Correction: 6.8
 Job #: NM-340

Vertical Section: 179.86

Tie In Survey(s) Provided By:

Surface

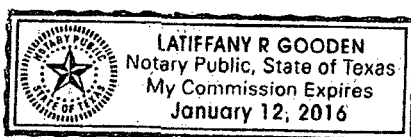
	Meas. Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N / -S	+E / -W	Dist.	Angle	DLS
Tie - In										
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	197.00	0.30	49.20	197.00	-0.34	0.34	0.39	0.52	49.20	0.15
2	384.00	0.30	19.30	384.00	-1.12	1.12	0.92	1.45	39.51	0.08
3	571.00	0.30	31.20	570.99	-2.00	2.00	1.34	2.41	33.79	0.03
4	759.00	0.20	6.60	758.99	-2.74	2.75	1.63	3.19	30.70	0.08
5	948.00	1.10	5.20	947.98	-4.88	4.88	1.83	5.21	20.59	0.48
6	1042.00	2.50	355.70	1041.93	-7.82	7.82	1.76	8.02	12.69	1.52
7	1232.00	2.20	359.90	1231.77	-15.60	15.60	1.44	15.67	5.29	0.18
8	1274.00	2.00	356.30	1273.74	-17.14	17.14	1.40	17.20	4.65	0.57
9	1405.00	1.40	323.60	1404.69	-20.71	20.71	0.30	20.71	0.83	0.85
10	1593.00	1.10	117.40	1592.67	-21.73	21.73	0.54	21.73	1.42	1.30
11	1782.00	2.00	128.80	1781.60	-18.82	18.83	4.72	19.41	14.07	0.50
12	1971.00	1.80	130.40	1970.49	-14.81	14.84	9.55	17.64	32.77	0.11
13	2160.00	2.30	111.70	2159.38	-11.47	11.51	15.33	19.17	53.11	0.44
14	2350.00	1.50	139.70	2349.27	-8.15	8.20	20.48	22.07	68.17	0.63
15	2539.00	2.00	121.20	2538.19	-4.55	4.61	24.91	25.33	79.52	0.40
16	2728.00	1.10	123.70	2727.11	-1.82	1.89	29.24	29.30	86.29	0.48
17	2918.00	2.10	96.60	2917.04	-0.40	0.48	34.21	34.21	89.19	0.65
18	3106.00	2.30	100.30	3104.90	0.69	-0.59	41.34	41.35	90.82	0.13
19	3295.00	1.50	77.10	3293.80	0.83	-0.71	47.49	47.49	90.86	0.58
20	3485.00	1.40	151.80	3483.75	2.33	-2.21	51.01	51.06	92.48	0.93
21	3673.00	1.80	193.30	3671.69	7.23	-7.10	51.41	51.90	97.87	0.63
22	3861.00	0.40	78.90	3859.66	9.98	-9.85	51.38	52.32	100.85	1.06
23	4050.00	0.40	105.90	4048.65	10.03	-9.90	52.66	53.58	100.65	0.10
24	4238.00	1.50	185.00	4236.63	12.66	-12.54	53.08	54.54	103.29	0.79
25	4426.00	2.70	86.80	4424.54	14.88	-14.74	57.29	59.15	104.43	1.74
26	4615.00	1.00	81.00	4613.44	14.39	-14.23	63.36	64.94	102.66	0.90
27	4803.00	1.30	81.00	4801.40	13.81	-13.64	67.09	68.46	101.50	0.16
28	4953.00	1.50	78.70	4951.35	13.16	-12.99	70.69	71.88	100.41	0.14
29	5114.00	1.50	75.40	5112.30	12.23	-12.05	74.80	75.76	99.15	0.05
30	5301.00	1.60	69.60	5299.23	10.72	-10.52	79.61	80.31	97.53	0.10
31	5490.00	0.30	146.50	5488.20	10.22	-10.01	82.36	82.97	96.93	0.83
32	5678.00	0.40	150.10	5676.20	11.20	-10.99	82.96	83.68	97.55	0.05
33	5867.00	0.30	113.30	5865.20	11.97	-11.76	83.74	84.56	97.99	0.13
34	6056.00	0.10	137.40	6054.20	12.28	-12.08	84.31	85.17	98.15	0.11
35	6244.00	0.00	325.50	6242.20	12.40	-12.20	84.42	85.30	98.22	0.05
36	6432.00	0.10	45.30	6430.20	12.29	-12.08	84.54	85.39	98.13	0.05
37	6620.00	0.20	312.50	6618.20	11.95	-11.75	84.41	85.22	97.92	0.12
38	6809.00	0.30	262.60	6807.19	11.79	-11.59	83.68	84.47	97.88	0.12
39	6967.00	0.40	240.20	6965.19	12.12	-11.91	82.79	83.64	98.19	0.11
40	6999.00	0.40	224.40	6997.19	12.25	-12.05	82.61	83.49	98.30	0.34
41	7188.00	0.60	208.40	7186.18	13.59	-13.39	81.68	82.77	99.31	0.13
42	7376.00	0.40	169.70	7374.18	15.10	-14.90	81.33	82.68	100.38	0.20



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43	7565.00	0.40	184.30	7563.17	16.41	-16.21	81.40	83.00	101.26	0.05
44	7754.00	0.40	179.90	7752.17	17.73	-17.53	81.35	83.22	102.16	0.02
45	7921.00	0.40	160.10	7919.16	18.86	-18.66	81.55	83.66	102.89	0.08
46	7943.00	0.40	163.10	7941.16	19.00	-18.80	81.60	83.74	102.98	0.10
47	7974.00	1.00	111.20	7972.16	19.21	-19.01	81.88	84.06	103.07	2.63
48	8006.00	2.50	107.00	8004.14	19.51	-19.31	82.81	85.03	103.13	4.70
49	8037.00	4.10	133.20	8035.09	20.47	-20.27	84.26	86.67	103.52	6.97
50	8069.00	7.40	159.70	8066.93	23.19	-22.98	85.81	88.84	104.99	12.98
51	8100.00	11.30	168.50	8097.52	28.05	-27.83	87.11	91.45	107.72	13.36
52	8132.00	15.10	172.60	8128.67	35.26	-35.04	88.27	94.98	111.65	12.22
53	8163.00	19.20	174.50	8158.28	44.34	-44.13	89.28	99.59	116.30	13.35
54	8195.00	23.50	176.60	8188.08	55.96	-55.74	90.17	106.00	121.72	13.65
55	8227.00	27.30	178.70	8216.98	69.67	-69.45	90.71	114.24	127.44	12.20
56	8258.00	31.00	180.50	8244.05	84.77	-84.54	90.80	124.07	132.96	12.26
57	8290.00	34.80	180.10	8270.91	102.14	-101.92	90.72	136.45	138.33	11.89
58	8321.00	38.80	179.60	8295.73	120.71	-120.49	90.77	150.85	143.01	12.94
59	8353.00	43.40	180.30	8319.84	141.74	-141.52	90.78	168.13	147.32	14.45
60	8384.00	47.70	180.80	8341.54	163.86	-163.64	90.56	187.03	151.04	13.92
61	8416.00	51.60	180.80	8362.26	188.24	-188.02	90.22	208.55	154.37	12.19
62	8447.00	54.70	179.90	8380.85	213.04	-212.82	90.08	231.10	157.06	10.27
63	8479.00	56.60	179.80	8398.90	239.46	-239.24	90.15	255.66	159.35	5.94
64	8510.00	58.10	180.10	8415.63	265.56	-265.34	90.17	280.24	161.23	4.91
65	8541.00	60.60	180.60	8431.43	292.23	-292.01	90.00	305.56	162.87	8.18
66	8573.00	63.60	180.60	8446.40	320.50	-320.28	89.71	332.61	164.35	9.38
67	8604.00	66.20	181.40	8459.55	348.57	-348.35	89.22	359.59	165.63	8.71
68	8636.00	68.70	182.10	8471.82	378.10	-377.89	88.31	388.07	166.85	8.07
69	8667.00	70.80	182.40	8482.55	407.16	-406.95	87.17	416.18	167.91	6.83
70	8699.00	72.70	182.90	8492.57	437.51	-437.30	85.76	445.63	168.90	6.12
71	8730.00	75.40	182.10	8501.09	467.28	-467.08	84.46	474.65	169.75	9.06
72	8762.00	78.30	181.70	8508.37	498.42	-498.22	83.43	505.16	170.49	9.14
73	8794.00	82.50	181.20	8513.70	529.95	-529.75	82.63	536.16	171.13	13.22
74	8826.00	84.50	180.10	8517.33	561.74	-561.54	82.27	567.54	171.66	7.12
75	8857.00	86.20	179.90	8519.84	592.64	-592.44	82.27	598.13	172.09	5.52
76	8952.00	87.80	179.40	8524.81	687.51	-687.31	82.85	692.28	173.13	1.76
77	9048.00	88.30	179.60	8528.08	783.45	-783.25	83.69	787.70	173.90	0.56
78	9144.00	87.80	181.50	8531.34	879.38	-879.18	82.77	883.07	174.62	2.05
79	9239.00	87.50	180.30	8535.24	974.28	-974.09	81.28	977.47	175.23	1.30
80	9335.00	89.20	180.30	8538.00	1070.24	-1070.04	80.78	1073.09	175.68	1.77
81	9430.00	89.10	180.50	8539.41	1165.22	-1165.03	80.11	1167.78	176.07	0.24
82	9526.00	88.60	181.00	8541.34	1261.19	-1261.00	78.86	1263.47	176.42	0.74
83	9622.00	88.60	181.40	8543.69	1357.14	-1356.95	76.85	1359.13	176.76	0.42
84	9718.00	88.70	181.70	8545.95	1453.07	-1452.89	74.25	1454.79	177.07	0.33
85	9813.00	86.90	180.10	8549.59	1547.97	-1547.80	72.76	1549.51	177.31	2.53
86	9907.00	89.50	179.60	8552.55	1641.92	-1641.75	73.01	1643.37	177.45	2.82
87	10001.00	90.60	179.10	8552.46	1735.91	-1735.74	74.07	1737.32	177.56	1.29
88	10096.00	87.50	179.60	8554.04	1830.89	-1830.71	75.15	1832.25	177.65	3.31
89	10190.00	87.20	180.10	8558.39	1924.78	-1924.61	75.40	1926.08	177.76	0.62
90	10284.00	87.00	180.50	8563.14	2018.66	-2018.48	74.91	2019.87	177.87	0.48
91	10378.00	87.10	180.80	8567.98	2112.53	-2112.35	73.84	2113.64	178.00	0.34
92	10473.00	87.60	180.80	8572.37	2207.41	-2207.24	72.52	2208.43	178.12	0.53
93	10568.00	87.10	181.40	8576.76	2302.29	-2302.12	70.69	2303.21	178.24	0.82
94	10663.00	87.10	181.50	8581.57	2397.13	-2396.97	68.29	2397.94	178.37	0.11
95	10758.00	86.30	179.80	8587.04	2491.96	-2491.80	67.22	2492.71	178.45	1.98
96	10852.00	87.30	179.60	8592.29	2585.81	-2585.65	67.71	2586.54	178.50	1.08
97	10947.00	89.20	178.50	8595.19	2680.75	-2680.59	69.28	2681.49	178.52	2.31
98	11041.00	90.00	179.10	8595.84	2774.73	-2774.57	71.25	2775.48	178.53	1.06
99	11136.00	89.50	178.90	8596.26	2869.72	-2869.55	72.91	2870.48	178.54	0.57



100	11231.00	90.60	178.40	8596.17	2964.70	-2964.52	75.15	2965.47	178.55	1.27
101	11326.00	89.30	178.40	8596.26	3059.66	-3059.48	77.80	3060.47	178.54	1.37
102	11420.00	90.40	179.60	8596.50	3153.65	-3153.47	79.44	3154.47	178.56	1.73
103	11514.00	89.90	179.90	8596.26	3247.65	-3247.46	79.85	3248.45	178.59	0.62
104	11609.00	89.70	179.90	8596.59	3342.65	-3342.46	80.02	3343.42	178.63	0.21
105	11703.00	89.80	180.60	8597.00	3436.64	-3436.46	79.61	3437.38	178.67	0.75
106	11797.00	91.80	181.40	8595.69	3530.61	-3530.43	77.97	3531.29	178.73	2.29
107	11891.00	90.70	181.40	8593.64	3624.55	-3624.38	75.67	3625.17	178.80	1.17
108	11985.00	89.00	180.60	8593.88	3718.53	-3718.36	74.03	3719.10	178.86	2.00
109	12080.00	93.90	181.50	8591.48	3813.45	-3813.28	72.29	3813.97	178.91	5.24
110	12174.00	93.80	181.50	8585.17	3907.20	-3907.04	69.84	3907.66	178.98	0.11
111	12268.00	92.20	181.00	8580.25	4001.04	-4000.89	67.79	4001.46	179.03	1.78
112	12363.00	91.60	182.20	8577.10	4095.94	-4095.79	65.14	4096.31	179.09	1.41
113	12457.00	90.00	182.10	8575.79	4189.85	-4189.72	61.61	4190.17	179.16	1.71
114	12552.00	89.30	181.90	8576.37	4284.79	-4284.66	58.30	4285.05	179.22	0.77
115	12646.00	89.80	181.70	8577.10	4378.73	-4378.61	55.34	4378.96	179.28	0.57
116	12739.00	90.30	180.80	8577.02	4471.70	-4471.58	53.31	4471.90	179.32	1.11
117	12834.00	89.80	181.00	8576.94	4566.68	-4566.57	51.82	4566.86	179.35	0.57
118	12929.00	89.60	180.80	8577.44	4661.67	-4661.56	50.33	4661.83	179.38	0.30
119	13024.00	89.30	180.80	8578.35	4756.65	-4756.54	49.00	4756.80	179.41	0.32
120	13118.00	90.80	180.30	8578.27	4850.64	-4850.54	48.10	4850.77	179.43	1.68
121	13213.00	90.50	180.60	8577.19	4945.63	-4945.53	47.35	4945.75	179.45	0.45
122	13307.00	90.40	180.30	8576.45	5039.62	-5039.52	46.62	5039.74	179.47	0.34
123	13402.00	89.80	180.50	8576.29	5134.62	-5134.52	45.95	5134.72	179.49	0.67
124	13497.00	91.10	180.50	8575.54	5229.60	-5229.51	45.12	5229.70	179.51	1.37
125	13591.00	91.00	180.60	8573.82	5323.58	-5323.49	44.22	5323.67	179.52	0.15
126	13686.00	91.30	180.50	8571.91	5418.56	-5418.47	43.31	5418.64	179.54	0.33
127	13780.00	90.40	180.50	8570.52	5512.54	-5512.45	42.49	5512.61	179.56	0.96
128	13875.00	89.50	180.30	8570.60	5607.53	-5607.45	41.83	5607.60	179.57	0.97
129	13970.00	90.20	181.00	8570.85	5702.52	-5702.44	40.75	5702.59	179.59	1.04
130	14064.00	89.80	181.00	8570.85	5796.50	-5796.43	39.11	5796.56	179.61	0.43
131	14159.00	89.40	181.70	8571.51	5891.47	-5891.40	36.87	5891.51	179.64	0.85
132	14254.00	89.70	181.00	8572.26	5986.43	-5986.37	34.63	5986.47	179.67	0.80
133	14348.00	90.40	181.20	8572.18	6080.41	-6080.35	32.83	6080.44	179.69	0.77
134	14443.00	90.80	181.70	8571.18	6175.37	-6175.31	30.42	6175.39	179.72	0.67
135	14538.00	91.50	182.10	8569.27	6270.29	-6270.24	27.28	6270.30	179.75	0.85
136	14632.00	91.70	182.10	8566.65	6364.18	-6364.14	23.83	6364.18	179.79	0.21
137	14727.00	90.20	182.10	8565.07	6459.09	-6459.06	20.35	6459.09	179.82	1.58
138	14821.00	90.20	181.70	8564.75	6553.03	-6553.01	17.23	6553.03	179.85	0.43
139	14916.00	90.20	181.90	8564.41	6647.98	-6647.96	14.25	6647.98	179.88	0.21
140	15011.00	89.30	180.60	8564.83	6742.94	-6742.93	12.18	6742.94	179.90	1.66
141	15105.00	89.20	180.50	8566.06	6836.93	-6836.92	11.28	6836.93	179.91	0.15
142	15200.00	89.90	179.80	8566.81	6931.92	-6931.92	11.03	6931.93	179.91	1.04
143	15294.00	89.60	180.10	8567.22	7025.92	-7025.92	11.11	7025.92	179.91	0.45
144	15388.00	89.30	179.80	8568.12	7119.92	-7119.91	11.19	7119.92	179.91	0.45
145	15483.00	90.20	179.60	8568.53	7214.92	-7214.91	11.69	7214.92	179.91	0.97
146	15577.00	90.00	179.80	8568.37	7308.91	-7308.91	12.18	7308.92	179.90	0.30
147	15651.00	90.60	179.20	8567.98	7382.91	-7382.90	12.83	7382.91	179.90	1.15
PTB	15695.00	90.60	179.20	8567.52	7426.91	-7426.90	13.44	7426.91	179.90	0.00

