



PHOENIX

TECHNOLOGY SERVICES USA INC.

Job Number: 1110581
 Company: EOG
 Lease/Well: CABBALO FED. 3H
 Location: LEA COUNTY
 Rig Name: CACTUS RIG#123
 RKB: ☐
 G.L. or M.S.L.: ☐

State/Country: NEW MEXICO
 Declination: ☐
 Grid: ☐
 File name: C:\DOCUME~1\ADMINI~1\DESKTOP\CRAP\CAB3H.
 Date/Time: 20-Oct-11 / 21:25
 Curve Name: EOG-CABBALO FED.3H

HOBBS OCD

Phoenix Technology

OCT 28 2011

WINSERVE PROPOSAL REPORT
Minimum Curvature Method
Vertical Section Plane 179.56
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

RECEIVED

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
1096.00	.69	216.99	1095.89	-9.42	-11.82	9.33	15.11	231.45	.00
1185.00	1.00	228.20	1184.88	-10.37	-12.72	10.27	16.41	230.83	.39
1369.00	1.00	231.10	1368.85	-12.44	-15.17	12.33	19.62	230.63	.03
1553.00	1.40	230.20	1552.81	-14.89	-18.14	14.75	23.47	230.62	.22
1744.00	.80	210.90	1743.78	-17.53	-20.62	17.37	27.07	229.63	.36
1936.00	1.00	208.60	1935.75	-20.15	-22.11	19.98	29.92	227.66	.11
2127.00	.60	122.20	2126.74	-22.15	-22.06	21.98	31.26	224.89	.59
2319.00	.70	140.40	2318.73	-23.59	-20.47	23.43	31.23	220.95	.12
2510.00	1.10	120.20	2509.70	-25.41	-18.14	25.27	31.22	215.52	.26
2701.00	.90	107.80	2700.67	-26.79	-15.12	26.67	30.76	209.45	.15
2892.00	1.60	108.00	2891.63	-28.07	-11.16	27.98	30.21	201.68	.37
3084.00	1.30	82.30	3083.57	-28.61	-6.45	28.56	29.33	192.71	.37
3276.00	1.80	64.20	3275.50	-27.00	-1.58	26.99	27.05	183.35	.36
3467.00	.50	90.50	3466.46	-25.70	1.95	25.72	25.78	175.65	.72
3658.00	.70	48.20	3657.45	-24.93	3.66	24.96	25.20	171.65	.25
3850.00	.70	53.70	3849.43	-23.46	5.48	23.50	24.09	166.86	.03
4040.00	.10	19.50	4039.43	-22.61	6.47	22.66	23.52	164.04	.33
4230.00	1.40	210.30	4229.41	-24.46	5.35	24.50	25.04	167.66	.79
4422.00	.80	122.90	4421.38	-27.22	5.29	27.26	27.73	168.99	.82
4613.00	.80	82.60	4612.37	-27.77	7.74	27.83	28.83	164.43	.29
4805.00	1.10	105.80	4804.34	-28.10	10.84	28.18	30.12	158.90	.25
4940.00	.50	302.20	4939.33	-28.14	11.59	28.22	30.43	157.62	1.17

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
5091.00	.50	292.80	5090.33	-27.53	10.42	27.61	29.44	159.26	.05
5282.00	.50	307.90	5281.32	-26.69	9.00	26.76	28.17	161.38	.07
5475.00	.40	302.00	5474.32	-25.82	7.76	25.88	26.96	163.27	.06
5666.00	.40	312.40	5665.31	-25.02	6.70	25.07	25.90	165.00	.04
5857.00	.40	331.50	5856.31	-23.98	5.89	24.03	24.70	166.20	.07
6049.00	.40	346.20	6048.30	-22.74	5.41	22.78	23.38	166.61	.05
6240.00	.40	300.90	6239.30	-21.75	4.68	21.79	22.25	167.85	.16
6432.00	.40	291.20	6431.29	-21.17	3.48	21.19	21.45	170.66	.04
6623.00	.40	285.20	6622.29	-20.75	2.22	20.77	20.87	173.90	.02
6814.00	.40	274.70	6813.28	-20.52	.91	20.53	20.54	177.46	.04
7006.00	.30	250.80	7005.28	-20.63	-.23	20.63	20.63	180.65	.09
7197.00	.10	238.90	7196.28	-20.88	-.85	20.87	20.90	182.33	.11
7387.00	.40	230.40	7386.28	-21.39	-1.50	21.38	21.44	184.02	.16
7579.00	.40	231.90	7578.27	-22.23	-2.55	22.21	22.38	186.53	.01
7770.00	.90	209.30	7769.26	-23.95	-3.80	23.92	24.25	189.02	.29
7962.00	.90	222.10	7961.24	-26.38	-5.55	26.34	26.96	191.89	.10
8152.00	1.10	219.80	8151.21	-28.89	-7.72	28.83	29.91	194.96	.11
8344.00	1.00	213.60	8343.17	-31.70	-9.83	31.63	33.19	197.22	.08
8535.00	.80	207.50	8534.15	-34.27	-11.37	34.19	36.11	198.35	.12
8725.00	1.20	219.90	8724.12	-36.98	-13.25	36.87	39.28	199.72	.24
8854.00	1.40	205.20	8853.09	-39.44	-14.79	39.33	42.12	200.56	.30
8909.00	1.50	218.80	8908.07	-40.61	-15.53	40.49	43.48	200.93	.65
8940.00	4.10	192.80	8939.03	-42.01	-16.03	41.88	44.96	200.89	9.13
8972.00	7.80	186.30	8970.86	-45.28	-16.52	45.15	48.20	200.04	11.73
9004.00	11.50	183.30	9002.40	-50.63	-16.94	50.49	53.39	198.50	11.66
9036.00	15.10	180.40	9033.53	-57.98	-17.16	57.85	60.47	196.48	11.44
9068.00	18.10	179.10	9064.20	-67.12	-17.11	66.99	69.27	194.30	9.45
9099.00	20.70	178.10	9093.43	-77.41	-16.85	77.28	79.23	192.28	8.45
9131.00	23.70	178.10	9123.06	-89.50	-16.45	89.37	91.00	190.41	9.37
9163.00	26.90	178.00	9151.99	-103.16	-15.98	103.04	104.39	188.81	10.00
9195.00	29.80	178.10	9180.14	-118.35	-15.47	118.23	119.35	187.45	9.06
9227.00	33.30	177.90	9207.41	-135.08	-14.88	134.96	135.90	186.29	10.94
9258.00	36.70	177.40	9232.80	-152.84	-14.15	152.73	153.49	185.29	11.01
9290.00	38.80	176.70	9258.10	-172.40	-13.14	172.30	172.90	184.36	6.70
9322.00	41.00	176.60	9282.65	-192.89	-11.94	192.80	193.26	183.54	6.88
9353.00	44.40	177.30	9305.43	-213.88	-10.82	213.80	214.16	182.90	11.07
9385.00	48.00	178.00	9327.57	-236.96	-9.88	236.87	237.16	182.39	11.36
9417.00	51.90	178.20	9348.16	-261.44	-9.07	261.36	261.59	181.99	12.20
9449.00	55.10	178.00	9367.19	-287.14	-8.22	287.07	287.26	181.64	10.01
9480.00	58.80	177.90	9384.10	-313.10	-7.29	313.04	313.19	181.33	11.94
9512.00	62.90	177.60	9399.68	-341.02	-6.19	340.97	341.08	181.04	12.84

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
9544.00	66.40	177.30	9413.38	-369.91	-4.90	369.86	369.94	180.76	10.97
9575.00	70.10	177.40	9424.86	-398.67	-3.57	398.63	398.68	180.51	11.94
9607.00	74.40	177.40	9434.62	-429.10	-2.19	429.07	429.11	180.29	13.44
9639.00	78.90	178.10	9442.00	-460.21	-.97	460.19	460.21	180.12	14.22
9671.00	82.40	179.10	9447.20	-491.77	-.20	491.75	491.77	180.02	11.36
9719.00	89.70	181.00	9450.51	-539.62	-.24	539.60	539.62	180.03	15.71
9750.00	90.00	181.00	9450.59	-570.61	-.78	570.59	570.61	180.08	.97
9782.00	90.10	181.10	9450.56	-602.61	-1.37	602.58	602.61	180.13	.44
9878.00	89.10	181.00	9451.23	-698.59	-3.13	698.54	698.60	180.26	1.05
9973.00	88.90	181.40	9452.89	-793.55	-5.12	793.49	793.57	180.37	.47
10068.00	90.80	179.90	9453.14	-888.54	-6.20	888.47	888.56	180.40	2.55
10164.00	89.40	179.40	9452.97	-984.54	-5.61	984.46	984.55	180.33	1.55
10259.00	90.20	178.80	9453.30	-1079.52	-4.12	1079.46	1079.53	180.22	1.05
10355.00	90.60	178.70	9452.63	-1175.50	-2.02	1175.45	1175.50	180.10	.43
10450.00	92.00	178.80	9450.47	-1270.45	.05	1270.41	1270.45	180.00	1.48
10546.00	91.80	178.10	9447.29	-1366.36	2.64	1366.34	1366.36	179.89	.76
10641.00	92.20	177.80	9443.98	-1461.24	6.04	1461.24	1461.25	179.76	.53
10736.00	90.90	177.40	9441.41	-1556.12	10.02	1556.15	1556.15	179.63	1.43
10831.00	90.80	177.10	9440.00	-1651.00	14.57	1651.06	1651.06	179.49	.33
10926.00	90.90	179.20	9438.59	-1745.93	17.64	1746.02	1746.02	179.42	2.21
11021.00	91.10	179.80	9436.93	-1840.92	18.47	1841.00	1841.01	179.43	.67
11117.00	92.70	180.60	9433.75	-1936.86	18.14	1936.94	1936.94	179.46	1.86
11212.00	90.80	180.20	9430.85	-2031.81	17.47	2031.88	2031.88	179.51	2.04
11308.00	91.10	180.00	9429.25	-2127.79	17.31	2127.86	2127.86	179.53	.38
11403.00	88.90	178.50	9429.25	-2222.78	18.55	2222.85	2222.85	179.52	2.80
11499.00	88.40	181.50	9431.52	-2318.74	18.55	2318.81	2318.81	179.54	3.17
11594.00	89.30	178.90	9433.42	-2413.71	18.22	2413.78	2413.78	179.57	2.90
11690.00	90.30	179.90	9433.76	-2509.70	19.22	2509.78	2509.78	179.56	1.47
11785.00	89.30	179.50	9434.09	-2604.70	19.72	2604.77	2604.77	179.57	1.13
11881.00	87.30	176.90	9436.94	-2700.60	22.73	2700.69	2700.69	179.52	3.42
11976.00	89.70	178.10	9439.43	-2795.46	26.87	2795.59	2795.59	179.45	2.82
12071.00	89.50	178.10	9440.09	-2890.41	30.02	2890.55	2890.57	179.40	.21
12166.00	90.60	177.70	9440.01	-2985.34	33.51	2985.51	2985.53	179.36	1.23
12261.00	90.40	176.80	9439.18	-3080.23	38.06	3080.43	3080.47	179.29	.97
12356.00	89.80	180.90	9439.01	-3175.19	39.97	3175.40	3175.44	179.28	4.36
12452.00	89.80	182.70	9439.35	-3271.14	36.95	3271.33	3271.35	179.35	1.87
12547.00	90.90	184.80	9438.77	-3365.93	30.74	3366.06	3366.07	179.48	2.50
12643.00	90.50	185.10	9437.59	-3461.56	22.46	3461.63	3461.63	179.63	.52
12738.00	89.90	185.70	9437.26	-3556.14	13.52	3556.14	3556.16	179.78	.89
12833.00	90.70	183.20	9436.76	-3650.84	6.15	3650.78	3650.85	179.90	2.76
12928.00	91.50	184.30	9434.94	-3745.62	-.06	3745.51	3745.62	180.00	1.43

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
13023.00	90.40	182.70	9433.36	-3840.42	-5.86	3840.27	3840.43	180.09	2.04
13118.00	89.50	180.00	9433.45	-3935.39	-8.10	3935.21	3935.40	180.12	3.00
13213.00	89.80	180.30	9434.03	-4030.39	-8.35	4030.20	4030.39	180.12	.45
13309.00	90.00	179.80	9434.20	-4126.38	-8.43	4126.20	4126.39	180.12	.56
13404.00	88.80	179.30	9435.19	-4221.37	-7.69	4221.19	4221.38	180.10	1.37
13499.00	90.00	179.50	9436.19	-4316.36	-6.69	4316.18	4316.37	180.09	1.28
13595.00	89.60	180.30	9436.52	-4412.36	-6.52	4412.18	4412.37	180.08	.93
13690.00	88.40	179.30	9438.18	-4507.34	-6.19	4507.16	4507.35	180.08	1.64
13785.00	89.70	180.10	9439.75	-4602.33	-5.70	4602.15	4602.33	180.07	1.61
13881.00	90.20	179.70	9439.84	-4698.32	-5.53	4698.14	4698.33	180.07	.67
13976.00	90.10	178.70	9439.59	-4793.31	-4.20	4793.14	4793.32	180.05	1.06
TD BIT PROJ									
14045.00	90.10	178.70	9439.47	-4862.30	-2.64	4862.13	4862.30	180.03	.00