



Company: COG Operating (Concho)
Lease/Well: Dodd Federal Unit / No. 667

Location: 2 Miles from Loco Hills, NM

Rig Name: Cavaloz 1

State/County: New Mexico/Eddy

Latitude: 32.83

GRID North is 0.15 Degrees East of True North

VS-Azi: 0.00 Degrees



Depth Reference : RKB = 12 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: dodd federal unit #667_ed.ut

Minimum Curvature Method

Report Date/Time: 4/3/2012 / 09:42

Vaughn Energy Services

Midland, Texas

432-563-5444

Surveyor: Eric McMahon

Dodd Federal Unit No. 667 / API# 30-015-39903

30-015-39903

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W 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	****
100.00	0.61	218.79	100.00	-0.41	-0.33	0.53	218.79	0.61
200.00	0.75	227.41	199.99	-1.27	-1.15	1.71	222.07	0.17
300.00	0.99	235.67	299.98	-2.20	-2.34	3.21	226.79	0.27
400.00	0.66	234.30	399.97	-3.02	-3.52	4.64	229.37	0.33
500.00	0.39	222.53	499.96	-3.61	-4.23	5.56	229.46	0.29
600.00	0.67	180.40	599.96	-4.45	-4.46	6.30	225.05	0.46
700.00	0.74	151.93	699.95	-5.61	-4.16	6.99	216.56	0.35
800.00	0.81	131.85	799.94	-6.65	-3.33	7.44	206.62	0.28
900.00	0.98	125.76	899.93	-7.62	-2.11	7.91	195.50	0.20
905.00	0.92	122.79	904.93	-7.67	-2.05	7.94	194.94	1.61

Job Number: 03618-433-21

State/Country: New Mexico

Company: Concho

Declination: 7.76

Lease/Well: Dodd Federal Unit 667

Grid: ☐

Location: Eddy County

File name: C:\WINSERVE\ACCESS\JOBS\CONCHO\03618--1\DD

Rig Name: Cavaloz rig 1

Date/Time: 28-Mar-12 / 08:49

RKB: ☐

Curve Name: DODD FED 667

G.L. or M.S.L.: ☐

Archer

WINSERVE SURVEY CALCULATIONS

Minimum Curvature Method

Vertical Section Plane 111.37

Vertical Section Referenced to Wellhead

Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Subsea TVD FT	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
905.00	.92	122.79	904.90	-904.90	-7.70	-2.00	.94	7.96	194.56	.00
1158.00	.80	120.00	1157.87	-1157.87	-9.68	1.24	4.68	9.76	172.72	.05
1252.00	2.70	107.50	1251.82	-1251.82	-10.68	3.92	7.54	11.37	159.85	2.05
1377.00	4.60	105.80	1376.56	-1376.56	-12.93	11.55	15.47	17.33	138.22	1.52
1439.00	4.90	107.60	1438.35	-1438.35	-14.40	16.47	20.58	21.88	131.18	.54
1626.00	5.20	99.20	1624.63	-1624.63	-18.17	32.44	36.84	37.19	119.26	.43
1752.00	6.50	108.50	1749.97	-1749.97	-21.35	44.84	49.54	49.67	115.46	1.27
1845.00	6.30	107.30	1842.39	-1842.39	-24.54	54.71	59.89	59.96	114.16	.26
1940.00	6.90	112.40	1936.76	-1936.76	-28.26	64.96	70.79	70.84	113.51	.88
2035.00	7.60	117.40	2031.00	-2031.00	-33.33	75.81	82.75	82.82	113.73	.99
2097.00	6.90	117.40	2092.51	-2092.51	-36.93	82.76	90.53	90.63	114.05	1.13
2191.00	6.40	115.30	2185.88	-2185.88	-41.77	92.51	101.37	101.50	114.30	.59
2265.00	7.20	117.10	2259.35	-2259.35	-45.64	100.37	110.10	110.26	114.45	1.12
2360.00	7.30	116.40	2353.59	-2353.59	-51.04	111.07	122.03	122.24	114.68	.14
2453.00	7.20	115.30	2445.85	-2445.85	-56.16	121.63	133.73	133.97	114.78	.18
2548.00	6.80	114.50	2540.14	-2540.14	-61.03	132.13	145.29	145.55	114.79	.43
2610.00	7.70	115.70	2601.65	-2601.65	-64.36	139.22	153.10	153.37	114.81	1.47
2693.00	7.80	114.50	2683.89	-2683.89	-69.10	149.35	164.26	164.56	114.83	.23
2788.00	7.90	116.30	2778.00	-2778.00	-74.67	161.07	177.21	177.54	114.87	.28
2882.00	7.90	114.20	2871.11	-2871.11	-80.18	172.75	190.09	190.45	114.90	.31
2975.00	7.90	115.20	2963.22	-2963.22	-85.52	184.37	202.85	203.24	114.88	.15
3068.00	7.70	101.90	3055.37	-3055.37	-89.53	196.25	215.38	215.70	114.52	1.95
3162.00	7.70	103.60	3148.52	-3148.52	-92.31	208.53	227.83	228.05	113.88	.24
3257.00	7.80	102.10	3242.66	-3242.66	-95.15	221.02	240.50	240.63	113.29	.24
3351.00	7.70	102.30	3335.80	-3335.80	-97.83	233.41	253.01	253.08	112.74	.11

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Subsea TVD FT	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
3444.00	7.60	102.20	3427.97	-3427.97	-100.46	245.51	265.23	265.27	112.25	.11
3507.00	7.60	107.20	3490.42	-3490.42	-102.57	253.56	273.50	273.52	112.02	1.05
3602.00	7.30	107.10	3584.61	-3584.61	-106.20	265.33	285.79	285.80	111.81	.32
3696.00	7.20	105.10	3677.86	-3677.86	-109.49	276.72	297.60	297.60	111.59	.29
3790.00	7.20	105.90	3771.12	-3771.12	-112.64	288.08	309.32	309.32	111.36	.11
3886.00	7.10	107.00	3866.38	-3866.38	-116.03	299.54	321.22	321.22	111.17	.18
3980.00	7.10	107.60	3959.65	-3959.65	-119.48	310.63	332.81	332.82	111.04	.08
4076.00	6.80	107.90	4054.95	-4054.95	-123.02	321.69	344.40	344.41	110.93	.31
4169.00	6.70	107.90	4147.30	-4147.30	-126.38	332.09	355.31	355.33	110.83	.11
4263.00	7.00	112.00	4240.63	-4240.63	-130.21	342.62	366.52	366.53	110.81	.61
4356.00	6.80	115.30	4332.96	-4332.96	-134.69	352.86	377.67	377.69	110.89	.48
4449.00	6.80	112.00	4425.31	-4425.31	-139.10	362.94	388.67	388.68	110.97	.42
4542.00	6.60	113.10	4517.67	-4517.67	-143.26	372.96	399.52	399.53	111.01	.26
4558.00	6.70	114.70	4533.56	-4533.56	-144.01	374.65	401.37	401.38	111.03	1.32
Projection To Bit										
4618.00	6.70	114.70	4593.15	-4593.15	-146.94	381.01	408.36	408.36	111.09	.00