

DGU Federal 1289 18-43 CS2 R2 mdv 29Aug17 Proposal Geodetic Report

(Def Plan)

Report Date: August 29, 2017 - 08:29 AM
Client: Gunnison Energy Corporation
Field: CO, Gunnison County (NAD 27 CZ)
Structure / Slot: Gunnison 18-12S-89W (DGU Federal 1289 18-43 CS2) - H&P 215 / DGU Federal 1289 18-43 CS2
Well: DGU Federal 1289 18-43 CS2
Borehole: Original Hole
UWI / API#: Unknown / Unknown
Survey Name: DGU Federal 1289 18-43 CS2 R2 mdv 29Aug17
Survey Date: August 17, 2017
Tort / AHD / DDI / ERD Ratio: 60.000 ° / 3551.332 ft / 5.533 / 1.100
Coordinate Reference System: NAD27 Colorado State Plane, Central Zone, US Feet
Location Lat / Long: N 39° 0' 41.23080", W 107° 22' 11.43120"
Location Grid N/E Y/X: N 434524.795 ftUS, E 1468721.182 ftUS
CRS Grid Convergence Angle: -1.1793 °
Grid Scale Factor: 0.99993713
Version / Patch: 2.10.544.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 203.314 ° (True North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: KB 20ft
TVD Reference Elevation: 7320.990 ft above MSL
Seabed / Ground Elevation: 7300.990 ft above MSL
Magnetic Declination: 9.145 °
Total Gravity Field Strength: 998.6987mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 51314.173 nT
Magnetic Dip Angle: 65.309 °
Declination Date: August 28, 2017
Magnetic Declination Model: HDGM 2017
North Reference: True North
Grid Convergence Used: 0.0000 °
Total Corr Mag North->True North: 9.1448 °
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	434524.79	1468721.18	39.011453	-107.369842
	100.00	0.00	203.38	100.00	0.00	0.00	0.00	0.00	434524.79	1468721.18	39.011453	-107.369842
	200.00	0.00	203.38	200.00	0.00	0.00	0.00	0.00	434524.79	1468721.18	39.011453	-107.369842
	300.00	0.00	203.38	300.00	0.00	0.00	0.00	0.00	434524.79	1468721.18	39.011453	-107.369842
	400.00	0.00	203.38	400.00	0.00	0.00	0.00	0.00	434524.79	1468721.18	39.011453	-107.369842
	500.00	0.00	203.38	500.00	0.00	0.00	0.00	0.00	434524.79	1468721.18	39.011453	-107.369842
KOP, Build 6 DLS	598.48	0.00	203.38	598.48	0.00	0.00	0.00	0.00	434524.79	1468721.18	39.011453	-107.369842
	600.00	0.09	203.38	600.00	0.00	0.00	0.00	6.00	434524.79	1468721.18	39.011453	-107.369842
	700.00	6.09	203.38	699.81	5.39	-4.95	-2.14	6.00	434519.89	1468718.94	39.011439	-107.369850
	800.00	12.09	203.38	798.51	21.18	-19.45	-8.41	6.00	434505.53	1468712.38	39.011400	-107.369872
	900.00	18.09	203.38	895.01	47.21	-43.33	-18.73	6.00	434481.86	1468701.57	39.011334	-107.369908
Hold	997.32	23.93	203.38	985.83	82.09	-75.35	-32.57	6.00	434450.14	1468687.07	39.011246	-107.369957
	1000.00	23.93	203.38	988.27	83.17	-76.35	-33.00	0.00	434449.15	1468686.62	39.011243	-107.369958
9-5/8" Casing KOP, Build 6 DLS	1007.36	23.93	203.38	995.00	86.16	-79.09	-34.18	0.00	434446.43	1468685.38	39.011236	-107.369962
	1037.05	23.93	203.38	1022.14	98.20	-90.14	-38.96	0.00	434435.48	1468680.38	39.011206	-107.369979
	1100.00	27.71	203.36	1078.80	125.61	-115.30	-49.84	6.00	434410.55	1468668.99	39.011136	-107.370017
	1200.00	33.71	203.35	1164.73	176.66	-162.16	-70.07	6.00	434364.12	1468647.80	39.011008	-107.370089
	1300.00	39.71	203.33	1244.87	236.40	-217.02	-93.74	6.00	434309.76	1468623.00	39.010857	-107.370172
	1400.00	45.71	203.33	1318.32	304.20	-279.27	-120.59	6.00	434248.08	1468594.88	39.010686	-107.370266
	1500.00	51.71	203.32	1384.28	379.30	-348.24	-150.32	6.00	434179.75	1468563.74	39.010497	-107.370371
	1600.00	57.71	203.31	1442.03	460.88	-423.16	-182.61	6.00	434105.51	1468529.91	39.010291	-107.370485
Hold to TD	1638.21	60.00	203.31	1461.79	493.58	-453.19	-195.55	6.00	434075.76	1468516.36	39.010209	-107.370530
	1700.00	60.00	203.31	1492.68	547.09	-502.34	-216.73	0.00	434027.06	1468494.18	39.010074	-107.370605
	1800.00	60.00	203.31	1542.68	633.70	-581.87	-250.99	0.00	433948.25	1468458.28	39.009855	-107.370725
	1900.00	60.00	203.31	1592.68	720.30	-661.40	-285.26	0.00	433869.45	1468422.39	39.009637	-107.370846
	2000.00	60.00	203.31	1642.68	806.90	-740.94	-319.53	0.00	433790.64	1468386.49	39.009419	-107.370966
	2100.00	60.00	203.31	1692.68	893.50	-820.47	-353.80	0.00	433711.83	1468350.59	39.009200	-107.371087
	2200.00	60.00	203.31	1742.68	980.11	-900.00	-388.07	0.00	433633.03	1468314.70	39.008982	-107.371208
	2300.00	60.00	203.31	1792.68	1066.71	-979.54	-422.34	0.00	433554.22	1468278.80	39.008764	-107.371328
	2400.00	60.00	203.31	1842.68	1153.31	-1059.07	-456.61	0.00	433475.41	1468242.90	39.008545	-107.371449
	2500.00	60.00	203.31	1892.68	1239.91	-1138.61	-490.88	0.00	433396.61	1468207.01	39.008327	-107.371569
	2600.00	60.00	203.31	1942.68	1326.52	-1218.14	-525.15	0.00	433317.80	1468171.11	39.008108	-107.371690
	2700.00	60.00	203.31	1992.68	1413.12	-1297.67	-559.42	0.00	433238.99	1468135.22	39.007890	-107.371811
	2800.00	60.00	203.31	2042.68	1499.72	-1377.21	-593.69	0.00	433160.19	1468099.32	39.007672	-107.371931
	2900.00	60.00	203.31	2092.68	1586.32	-1456.74	-627.95	0.00	433081.38	1468063.42	39.007453	-107.372052
	3000.00	60.00	203.31	2142.68	1672.93	-1536.27	-662.22	0.00	433002.57	1468027.53	39.007235	-107.372172
	3100.00	60.00	203.31	2192.68	1759.53	-1615.81	-696.49	0.00	432923.77	1467991.63	39.007017	-107.372293
	3200.00	60.00	203.31	2242.68	1846.13	-1695.34	-730.76	0.00	432844.96	1467955.73	39.006798	-107.372413
	3300.00	60.00	203.31	2292.68	1932.73	-1774.88	-765.03	0.00	432766.15	1467919.84	39.006580	-107.372534
	3400.00	60.00	203.31	2342.68	2019.34	-1854.41	-799.30	0.00	432687.35	1467883.94	39.006361	-107.372655
	3500.00	60.00	203.31	2392.68	2105.94	-1933.94	-833.57	0.00	432608.54	1467848.04	39.006143	-107.372775
	3600.00	60.00	203.31	2442.68	2192.54	-2013.48	-867.84	0.00	432529.73	1467812.15	39.005925	-107.372896
	3700.00	60.00	203.31	2492.68	2279.14	-2093.01	-902.11	0.00	432450.93	1467776.25	39.005706	-107.373016
	3800.00	60.00	203.31	2542.68	2365.75	-2172.55	-936.38	0.00	432372.12	1467740.35	39.005488	-107.373137
	3900.00	60.00	203.31	2592.68	2452.35	-2252.08	-970.65	0.00	432293.31	1467704.46	39.005270	-107.373257
	4000.00	60.00	203.31	2642.68	2538.95	-2331.61	-1004.92	0.00	432214.51	1467668.56	39.005051	-107.373378
	4100.00	60.00	203.31	2692.68	2625.55	-2411.15	-1039.18	0.00	432135.70	1467632.67	39.004833	-107.373499
	4200.00	60.00	203.31	2742.68	2712.16	-2490.68	-1073.45	0.00	432056.89	1467596.77	39.004614	-107.373619
	4300.00	60.00	203.31	2792.68	2798.76	-2570.21	-1107.72	0.00	431978.09	1467560.87	39.004396	-107.373740
	4400.00	60.00	203.31	2842.68	2885.36	-2649.75	-1141.99	0.00	431899.28	1467524.98	39.004178	-107.373860
	4500.00	60.00	203.31	2892.68	2971.96	-2729.28	-1176.26	0.00	431820.48	1467489.08	39.003959	-107.373981
	4600.00	60.00	203.31	2942.68	3058.57	-2808.82	-1210.53	0.00	431741.67	1467453.18	39.003741	-107.374101
	4700.00	60.00	203.31	2992.68	3145.17	-2888.35	-1244.80	0.00	431662.86	1467417.29	39.003523	-107.374222
	4800.00	60.00	203.31	3042.68	3231.77	-2967.88	-1279.07	0.00	431584.06	1467381.39	39.003304	-107.374343
	4900.00	60.00	203.31	3092.68	3318.37	-3047.42	-1313.34	0.00	431505.25	1467345.49	39.003086	-107.374463
	5000.00	60.00	203.31	3142.68	3404.98	-3126.95	-1347.61	0.00	431426.44	1467309.60	39.002868	-107.374584
	5100.00	60.00	203.31	3192.68	3491.58	-3206.48	-1381.88	0.00	431347.64	1467273.70	39.002649	-107.374704
DGU Federal 1289 18-43 CS#2 P3	5169.00	60.00	203.31	3227.18	3551.33	-3261.36	-1405.52	0.00	431293.26	1467248.93	39.002498	-107.374787

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	20.000	1/100.000	12.250	9.625		NAL_MWD_PLUS_0.5_DEG- Depth Only	Original Hole / DGU Federal 1289 18-43 CS2 R2 mdv 29Aug17

Comments	MD (ft)	Incl (°)	Azim True (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)
		1	20.000	1007.358	1/100.000	12.250	9.625		NAL_MWD_PLUS_0.5_DEG		Original Hole / DGU Federal 1289 18-43 CS2 R2 mdv 29Aug17	
		1	1007.358	5168.996	1/100.000	8.750	7.000		NAL_MWD_PLUS_0.5_DEG		Original Hole / DGU Federal 1289 18-43 CS2 R2 mdv 29Aug17	