

30-025-44039

Job#
Rig: 25' KB

One Energy Partners

Lea County, NM (NAD 27) Cannon B Pad

API#

Cannon BS2 State Com 1H

Wellbore #1

Sperry Drilling Services

Ellipse Separation Anticollision Report

Minimum Magnetic Interference Warning level is 50' center to center

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)
Reference Design: Cannon B Pad - Cannon BS2 State Com 1H - Wellbore #1 - Plan #1

Well Coordinates: 32° 22' 09.18" N
103° 23' 59.78" W

NAD 1927 (NADCON CONUS)
New Mexico East 3001
499,292.52 N
788,187.29 E

Ground Level: 3,550.10 usft

Scan Range: 0.0 to 17,888.7 usft. Measured Depth.

Scan Radius is 10,000.0 usft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Version: 5000.1 Build: 81D

Report Version: Midcon Ellipse v1.50

HALLIBURTON

Anticollision Report for Cannon BS2 State Com 1H - Plan #1

Anticollision Summary

Reference Design: Cannon B Pad - Cannon BS2 State Com 1H - Wellbore #1 - Plan #1

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.0 to 17,888.7 usft. Measured Depth.

Scan Radius is 10,000.0 usft . Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Site Name	Measured Depth (usft)	Minimum Distance (usft)	@Measured Depth (usft)	Ellipse Separation (usft)	@Measured Depth usft	Clearance Factor	Summary Based on Minimum
Comparison Well Name - Wellbore Name - Design							
Cannon B Pad							
Cannon BS3 State Com 1H - Wellbore #1 - Plan #1	9,850.8	49.9	9,850.8	4.6	9,850.8	1.103	Centre Distance
	9,875.0	50.0	9,875.0	4.6	9,875.0	1.100	Ellipse Separation
	9,900.0	50.1	9,900.0	4.6	9,899.9	1.100	Clearance Factor

Anticollision Report for Cannon BS2 State Com 1H - Plan #1

Offset Design: Cannon B Pad - Cannon BS3 State Com 1H - Wellbore #1 - Plan #1

0-MVWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.0 to 17,888.7 usft. Measured Depth.

Scan Radius is 10,000.0 usft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Between Ellipsoids (usft)	Relative Highside Bearing	Clearance Factor
100.0	100.0	0.0	0.0	0.5	100.0	100.0	0.6	49.9	0.50	49.9	47.6	89.30	21.709
200.0	200.0	0.0	0.0	0.6	200.0	200.0	0.6	49.9	0.60	49.9	47.5	89.30	20.285
300.0	300.0	0.0	0.0	0.7	300.0	300.0	0.6	49.9	0.70	49.9	47.2	89.30	18.166
400.0	400.0	0.0	0.0	0.9	400.0	400.0	0.6	49.9	0.90	49.9	46.8	89.30	16.092
500.0	500.0	0.0	0.0	1.1	500.0	500.0	0.6	49.9	1.10	49.9	46.5	89.30	14.299
600.0	600.0	0.0	0.0	1.3	600.0	600.0	0.6	49.9	1.30	49.9	46.0	89.30	12.801
700.0	700.0	0.0	0.0	1.5	700.0	700.0	0.6	49.9	1.50	49.9	45.6	89.30	11.557
800.0	800.0	0.0	0.0	1.7	800.0	800.0	0.6	49.9	1.70	49.9	45.2	89.30	10.516
900.0	900.0	0.0	0.0	1.9	900.0	900.0	0.6	49.9	1.90	49.9	44.8	89.30	9.638
1,000.0	1,000.0	0.0	0.0	2.2	1,000.0	1,000.0	0.6	49.9	2.20	49.9	44.3	89.30	8.890
1,100.0	1,100.0	0.0	0.0	2.4	1,100.0	1,100.0	0.6	49.9	2.40	49.9	43.9	89.30	8.247
1,200.0	1,200.0	0.0	0.0	2.6	1,200.0	1,200.0	0.6	49.9	2.60	49.9	43.4	89.30	7.687
1,300.0	1,300.0	0.0	0.0	2.8	1,300.0	1,300.0	0.6	49.9	2.80	49.9	43.0	89.30	7.198
1,400.0	1,400.0	0.0	0.0	3.0	1,400.0	1,400.0	0.6	49.9	3.00	49.9	42.6	89.30	6.766
1,500.0	1,500.0	0.0	0.0	3.3	1,500.0	1,500.0	0.6	49.9	3.30	49.9	42.1	89.30	6.382
1,600.0	1,600.0	0.0	0.0	3.5	1,600.0	1,600.0	0.6	49.9	3.50	49.9	41.7	89.30	6.039
1,700.0	1,700.0	0.0	0.0	3.7	1,700.0	1,700.0	0.6	49.9	3.70	49.9	41.2	89.30	5.731
1,800.0	1,800.0	0.0	0.0	3.9	1,800.0	1,800.0	0.6	49.9	3.90	49.9	40.8	89.30	5.452
1,900.0	1,900.0	0.0	0.0	4.2	1,900.0	1,900.0	0.6	49.9	4.20	49.9	40.3	89.30	5.199
2,000.0	2,000.0	0.0	0.0	4.4	2,000.0	2,000.0	0.6	49.9	4.40	49.9	39.9	89.30	4.968
2,100.0	2,100.0	0.0	0.0	4.6	2,100.0	2,100.0	0.6	49.9	4.60	49.9	39.4	89.30	4.757
2,200.0	2,200.0	0.0	0.0	4.8	2,200.0	2,200.0	0.6	49.9	4.80	49.9	39.0	89.30	4.562
2,300.0	2,300.0	0.0	0.0	5.1	2,300.0	2,300.0	0.6	49.9	5.10	49.9	38.5	89.30	4.383
2,400.0	2,400.0	0.0	0.0	5.3	2,400.0	2,400.0	0.6	49.9	5.30	49.9	38.1	89.30	4.218
2,500.0	2,500.0	0.0	0.0	5.5	2,500.0	2,500.0	0.6	49.9	5.50	49.9	37.7	89.30	4.064
2,600.0	2,600.0	0.0	0.0	5.7	2,600.0	2,600.0	0.6	49.9	5.70	49.9	37.2	89.30	3.921
2,700.0	2,700.0	0.0	0.0	5.9	2,700.0	2,700.0	0.6	49.9	5.90	49.9	36.8	89.30	3.788
2,800.0	2,800.0	0.0	0.0	6.2	2,800.0	2,800.0	0.6	49.9	6.20	49.9	36.3	89.30	3.663
2,900.0	2,900.0	0.0	0.0	6.4	2,900.0	2,900.0	0.6	49.9	6.40	49.9	35.9	89.30	3.547
3,000.0	3,000.0	0.0	0.0	6.6	3,000.0	3,000.0	0.6	49.9	6.60	49.9	35.4	89.30	3.437

Anticollision Report for Cannon BS2 State Com 1H - Plan #1

Offset Design: Cannon B Pad - Cannon BS3 State Com 1H - Wellbore #1 - Plan #1

0-MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.0 to 17,888.7 usft. Measured Depth.

Scan Radius is 10,000.0 usft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre		Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre		Ellipse Major Axis/2	Between Centres (usft)	Between Ellipsoids (usft)	Relative Highside Bearing	Clearance Factor
		+N/-S (usft)	+E/-W (usft)				+N/-S (usft)	+E/-W (usft)					
3,100.0	3,100.0	0.0	0.0	6.8	3,100.0	3,100.0	0.6	49.9	6.80	49.9	35.0	89.30	3.335
3,200.0	3,200.0	0.0	0.0	7.1	3,200.0	3,200.0	0.6	49.9	7.10	49.9	34.5	89.30	3.238
3,300.0	3,300.0	0.0	0.0	7.3	3,300.0	3,300.0	0.6	49.9	7.30	49.9	34.1	89.30	3.146
3,400.0	3,400.0	0.0	0.0	7.5	3,400.0	3,400.0	0.6	49.9	7.50	49.9	33.6	89.30	3.060
3,500.0	3,500.0	0.0	0.0	7.7	3,500.0	3,500.0	0.6	49.9	7.70	49.9	33.2	89.30	2.978
3,600.0	3,600.0	0.0	0.0	8.0	3,600.0	3,600.0	0.6	49.9	8.00	49.9	32.7	89.30	2.900
3,700.0	3,700.0	0.0	0.0	8.2	3,700.0	3,700.0	0.6	49.9	8.20	49.9	32.3	89.30	2.827
3,800.0	3,800.0	0.0	0.0	8.4	3,800.0	3,800.0	0.6	49.9	8.40	49.9	31.8	89.30	2.757
3,900.0	3,900.0	0.0	0.0	8.6	3,900.0	3,900.0	0.6	49.9	8.60	49.9	31.4	89.30	2.690
4,000.0	4,000.0	0.0	0.0	8.9	4,000.0	4,000.0	0.6	49.9	8.90	49.9	30.9	89.30	2.627
4,100.0	4,100.0	0.0	0.0	9.1	4,100.0	4,100.0	0.6	49.9	9.10	49.9	30.5	89.30	2.566
4,200.0	4,200.0	0.0	0.0	9.3	4,200.0	4,200.0	0.6	49.9	9.30	49.9	30.0	89.30	2.508
4,300.0	4,300.0	0.0	0.0	9.5	4,300.0	4,300.0	0.6	49.9	9.50	49.9	29.6	89.30	2.453
4,400.0	4,400.0	0.0	0.0	9.8	4,400.0	4,400.0	0.6	49.9	9.80	49.9	29.1	89.30	2.400
4,500.0	4,500.0	0.0	0.0	10.0	4,500.0	4,500.0	0.6	49.9	10.00	49.9	28.7	89.30	2.349
4,600.0	4,600.0	0.0	0.0	10.2	4,600.0	4,600.0	0.6	49.9	10.20	49.9	28.2	89.30	2.301
4,700.0	4,700.0	0.0	0.0	10.4	4,700.0	4,700.0	0.6	49.9	10.40	49.9	27.8	89.30	2.254
4,800.0	4,800.0	0.0	0.0	10.7	4,800.0	4,800.0	0.6	49.9	10.70	49.9	27.3	89.30	2.209
4,900.0	4,900.0	0.0	0.0	10.9	4,900.0	4,900.0	0.6	49.9	10.90	49.9	26.9	89.30	2.166
5,000.0	5,000.0	0.0	0.0	11.1	5,000.0	5,000.0	0.6	49.9	11.10	49.9	26.4	89.30	2.125
5,100.0	5,100.0	0.0	0.0	11.3	5,100.0	5,100.0	0.6	49.9	11.30	49.9	26.0	89.30	2.085
5,200.0	5,200.0	0.0	0.0	11.6	5,200.0	5,200.0	0.6	49.9	11.60	49.9	25.5	89.30	2.047
5,300.0	5,300.0	0.0	0.0	11.8	5,300.0	5,300.0	0.6	49.9	11.80	49.9	25.1	89.30	2.010
5,400.0	5,400.0	0.0	0.0	12.0	5,400.0	5,400.0	0.6	49.9	12.00	49.9	24.6	89.30	1.974
5,500.0	5,500.0	0.0	0.0	12.2	5,500.0	5,500.0	0.6	49.9	12.20	49.9	24.2	89.30	1.940
5,600.0	5,600.0	0.0	0.0	12.5	5,600.0	5,600.0	0.6	49.9	12.50	49.9	23.7	89.30	1.906
5,700.0	5,700.0	0.0	0.0	12.7	5,700.0	5,700.0	0.6	49.9	12.70	49.9	23.3	89.30	1.874
5,800.0	5,800.0	0.0	0.0	12.9	5,800.0	5,800.0	0.6	49.9	12.90	49.9	22.8	89.30	1.843
5,900.0	5,900.0	0.0	0.0	13.1	5,900.0	5,900.0	0.6	49.9	13.10	49.9	22.4	89.30	1.813

Anticollision Report for Cannon BS2 State Com 1H - Plan #1

Offset Design: Cannon B Pad - Cannon BS3 State Com 1H - Wellbore #1 - Plan #1

0-MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.0 to 17,888.7 usft. Measured Depth.

Scan Radius is 10,000.0 usft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Between Ellipsoids (usft)	Relative Highside Bearing	Clearance Factor
6,000.0	6,000.0	0.0	0.0	13.4	6,000.0	6,000.0	0.6	49.9	13.40	49.9	21.9	89.30	1.784
6,100.0	6,100.0	0.0	0.0	13.6	6,100.0	6,100.0	0.6	49.9	13.60	49.9	21.5	89.30	1.756
6,200.0	6,200.0	0.0	0.0	13.8	6,200.0	6,200.0	0.6	49.9	13.80	49.9	21.0	89.30	1.728
6,300.0	6,300.0	0.0	0.0	14.0	6,300.0	6,300.0	0.6	49.9	14.00	49.9	20.6	89.30	1.702
6,400.0	6,400.0	0.0	0.0	14.3	6,400.0	6,400.0	0.6	49.9	14.30	49.9	20.2	89.30	1.676
6,500.0	6,500.0	0.0	0.0	14.5	6,500.0	6,500.0	0.6	49.9	14.50	49.9	19.7	89.30	1.651
6,600.0	6,600.0	0.0	0.0	14.7	6,600.0	6,600.0	0.6	49.9	14.70	49.9	19.3	89.30	1.627
6,700.0	6,700.0	0.0	0.0	14.9	6,700.0	6,700.0	0.6	49.9	14.90	49.9	18.8	89.30	1.604
6,800.0	6,800.0	0.0	0.0	15.2	6,800.0	6,800.0	0.6	49.9	15.20	49.9	18.4	89.30	1.581
6,900.0	6,900.0	0.0	0.0	15.4	6,900.0	6,900.0	0.6	49.9	15.40	49.9	17.9	89.30	1.559
7,000.0	7,000.0	0.0	0.0	15.6	7,000.0	7,000.0	0.6	49.9	15.60	49.9	17.5	89.30	1.537
7,100.0	7,100.0	0.0	0.0	15.8	7,100.0	7,100.0	0.6	49.9	15.80	49.9	17.0	89.30	1.516
7,200.0	7,200.0	0.0	0.0	16.1	7,200.0	7,200.0	0.6	49.9	16.10	49.9	16.6	89.30	1.496
7,300.0	7,300.0	0.0	0.0	16.3	7,300.0	7,300.0	0.6	49.9	16.30	49.9	16.1	89.30	1.476
7,400.0	7,400.0	0.0	0.0	16.5	7,400.0	7,400.0	0.6	49.9	16.50	49.9	15.7	89.30	1.457
7,500.0	7,500.0	0.0	0.0	16.7	7,500.0	7,500.0	0.6	49.9	16.70	49.9	15.2	89.30	1.438
7,600.0	7,600.0	0.0	0.0	16.9	7,600.0	7,600.0	0.6	49.9	16.90	49.9	14.8	89.30	1.419
7,700.0	7,700.0	0.0	0.0	17.2	7,700.0	7,700.0	0.6	49.9	17.20	49.9	14.3	89.30	1.402
7,800.0	7,800.0	0.0	0.0	17.4	7,800.0	7,800.0	0.6	49.9	17.40	49.9	13.9	89.30	1.384
7,900.0	7,900.0	0.0	0.0	17.6	7,900.0	7,900.0	0.6	49.9	17.60	49.9	13.4	89.30	1.367
8,000.0	8,000.0	0.0	0.0	17.8	8,000.0	8,000.0	0.6	49.9	17.80	49.9	13.0	89.30	1.350
8,100.0	8,100.0	0.0	0.0	18.1	8,100.0	8,100.0	0.6	49.9	18.10	49.9	12.5	89.30	1.334
8,200.0	8,200.0	0.0	0.0	18.3	8,200.0	8,200.0	0.6	49.9	18.30	49.9	12.1	89.30	1.318
8,300.0	8,300.0	0.0	0.0	18.5	8,300.0	8,300.0	0.6	49.9	18.50	49.9	11.6	89.30	1.303
8,400.0	8,400.0	0.0	0.0	18.7	8,400.0	8,400.0	0.6	49.9	18.70	49.9	11.2	89.30	1.288
8,500.0	8,500.0	0.0	0.0	19.0	8,500.0	8,500.0	0.6	49.9	19.00	49.9	10.7	89.30	1.273
8,600.0	8,600.0	0.0	0.0	19.2	8,600.0	8,600.0	0.6	49.9	19.20	49.9	10.3	89.30	1.259
8,700.0	8,700.0	0.0	0.0	19.4	8,700.0	8,700.0	0.6	49.9	19.40	49.9	9.8	89.30	1.245
8,800.0	8,800.0	0.0	0.0	19.6	8,800.0	8,800.0	0.6	49.9	19.60	49.9	9.4	89.30	1.231
8,900.0	8,900.0	0.0	0.0	19.9	8,900.0	8,900.0	0.6	49.9	19.90	49.9	8.9	89.30	1.217

Anticollision Report for Cannon BS2 State Com 1H - Plan #1

Offset Design: Cannon B Pad - Cannon BS3 State Com 1H - Wellbore #1 - Plan #1

0-MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.0 to 17,888.7 usft. Measured Depth.

Scan Radius is 10,000.0 usft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	Ellipse Centre +E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Between Ellipsoids (usft)	Relative Highside Bearing	Clearance Factor
9,000.0	9,000.0	0.0	0.0	20.1	9,000.0	9,000.0	0.6	49.9	20.10	49.9	8.5	89.30	1.204
9,100.0	9,100.0	0.0	0.0	20.3	9,100.0	9,100.0	0.6	49.9	20.30	49.9	8.0	89.30	1.191
9,200.0	9,200.0	0.0	0.0	20.5	9,200.0	9,200.0	0.6	49.9	20.50	49.9	7.6	89.30	1.179
9,300.0	9,300.0	0.0	0.0	20.8	9,300.0	9,300.0	0.6	49.9	20.80	49.9	7.1	89.30	1.166
9,400.0	9,400.0	0.0	0.0	21.0	9,400.0	9,400.0	0.6	49.9	21.00	49.9	6.7	89.30	1.154
9,500.0	9,500.0	0.0	0.0	21.2	9,500.0	9,500.0	0.6	49.9	21.20	49.9	6.2	89.30	1.142
9,600.0	9,600.0	0.0	0.0	21.4	9,600.0	9,600.0	0.6	49.9	21.40	49.9	5.8	89.30	1.131
9,700.0	9,700.0	0.0	0.0	21.7	9,700.0	9,700.0	0.6	49.9	21.70	49.9	5.3	89.30	1.119
9,800.0	9,800.0	0.0	0.0	21.9	9,800.0	9,800.0	0.6	49.9	21.90	49.9	4.9	89.30	1.108
9,850.8	9,850.8	0.0	0.0	22.0	9,850.8	9,850.8	0.6	49.9	22.00	49.9	4.6	89.30	1.103
9,875.0	9,875.0	0.6	0.0	22.1	9,875.0	9,875.0	0.6	49.9	22.10	50.0	4.6	92.42	1.100
9,900.0	9,899.9	2.5	-0.1	22.1	9,899.9	9,899.9	0.6	49.9	22.10	50.1	4.6	94.59	1.100
9,925.0	9,924.7	5.7	-0.2	22.2	9,924.7	9,924.7	0.6	49.9	22.20	50.4	4.8	98.17	1.106
9,950.0	9,949.3	10.3	-0.4	22.2	9,949.3	9,949.3	0.6	49.9	22.20	51.3	5.6	102.98	1.121
9,975.0	9,973.6	16.0	-0.7	22.3	9,973.6	9,973.6	0.6	49.9	22.30	52.9	7.1	108.77	1.154
10,000.0	9,997.6	23.1	-1.0	22.3	9,997.6	9,997.6	0.6	49.9	22.30	55.7	9.7	115.13	1.211
10,025.0	10,021.2	31.4	-1.3	22.4	10,021.2	10,021.2	0.6	49.9	22.40	59.8	13.7	121.63	1.298
10,050.0	10,044.3	40.9	-1.7	22.5	10,044.3	10,044.3	0.6	49.9	22.40	65.5	19.4	127.86	1.419
10,075.0	10,066.9	51.6	-2.2	22.5	10,066.9	10,066.9	0.6	49.9	22.50	72.9	26.7	133.52	1.576
10,100.0	10,088.8	63.5	-2.7	22.6	10,088.8	10,088.8	0.6	49.9	22.50	82.0	35.6	138.48	1.768
10,125.0	10,110.2	76.5	-3.2	22.6	10,110.2	10,110.2	0.6	49.9	22.60	92.7	46.2	142.71	1.994
10,150.0	10,130.8	90.6	-3.8	22.7	10,130.8	10,130.8	0.6	49.9	22.60	104.8	58.3	146.24	2.251
10,175.0	10,150.7	105.8	-4.5	22.7	10,150.7	10,150.7	0.6	49.9	22.70	118.4	71.8	149.15	2.538
10,200.0	10,169.7	122.0	-5.2	22.8	10,169.7	10,169.7	0.6	49.9	22.70	133.3	86.5	151.51	2.851
10,225.0	10,187.9	139.1	-5.9	22.8	10,187.9	10,187.9	0.6	49.9	22.80	149.3	102.5	153.40	3.189
10,250.0	10,205.1	157.2	-6.7	22.9	10,205.1	10,205.1	0.6	49.9	22.80	166.5	119.6	154.89	3.550
10,275.0	10,221.4	176.2	-7.5	23.0	10,221.4	10,221.4	0.6	49.9	22.80	184.7	137.7	156.01	3.932
10,300.0	10,236.6	196.0	-8.3	23.1	10,236.6	10,236.6	0.6	49.9	22.90	203.8	156.8	156.80	4.333
10,325.0	10,250.8	216.5	-9.2	23.1	10,250.8	10,250.8	0.6	49.9	22.90	223.9	176.7	157.27	4.752

Anticollision Report for Cannon BS2 State Com 1H - Plan #1

Offset Design: Cannon B Pad - Cannon BS3 State Com 1H - Wellbore #1 - Plan #1

0-MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.0 to 17,888.7 usft. Measured Depth.

Scan Radius is 10,000.0 usft . Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Between Ellipsoids (usft)	Relative Highside Bearing	Clearance Factor
10,350.0	10,263.9	237.8	-10.1	23.2	10,263.9	10,263.9	0.6	49.9	22.90	244.7	197.5	157.43	5.187
10,375.0	10,275.9	259.7	-11.0	23.3	10,275.9	10,275.9	0.6	49.9	23.00	266.2	219.0	157.26	5.633
10,400.0	10,286.7	282.2	-11.9	23.4	10,286.7	10,286.7	0.6	49.9	23.00	288.3	241.1	156.71	6.101
10,425.0	10,296.3	305.3	-12.9	23.5	10,296.3	10,296.3	0.6	49.9	23.00	311.1	263.8	155.70	6.577
10,450.0	10,304.7	328.8	-13.9	23.6	10,304.7	10,304.7	0.6	49.9	23.00	334.4	287.0	154.08	7.063
10,475.0	10,311.8	352.8	-14.9	23.8	10,311.8	10,311.8	0.6	49.9	23.00	358.1	310.7	151.61	7.559
10,500.0	10,317.7	377.0	-16.0	23.9	10,317.7	10,317.7	0.6	49.9	23.10	382.1	334.8	147.85	8.063
10,525.0	10,322.3	401.6	-17.0	24.0	10,322.3	10,322.3	0.6	49.9	23.10	406.5	359.1	141.96	8.574
10,550.0	10,325.6	426.3	-18.0	24.2	10,325.6	10,325.6	0.6	49.9	23.10	431.1	383.7	132.36	9.090
10,575.0	10,327.6	451.2	-19.1	24.3	10,327.6	10,327.6	0.6	49.9	23.10	455.9	408.4	116.15	9.610
10,600.0	10,328.3	476.2	-20.2	24.4	10,328.3	10,328.3	0.6	49.9	23.10	480.7	433.3	90.97	10.133
10,607.5	10,328.3	483.7	-20.5	24.5	10,328.3	10,328.3	0.6	49.9	23.10	488.2	440.8	82.27	10.290
10,700.0	10,327.0	576.1	-24.4	25.1	10,327.0	10,327.0	0.6	49.9	23.10	580.3	532.8	80.82	12.229
10,800.0	10,325.6	676.0	-28.6	25.9	10,325.6	10,325.6	0.6	49.9	23.10	679.9	632.5	79.26	14.327
10,900.0	10,324.2	775.9	-32.8	26.8	10,324.2	10,324.2	0.6	49.9	23.10	779.7	732.2	77.72	16.426
11,000.0	10,322.8	875.8	-37.1	27.8	10,322.8	10,322.8	0.6	49.9	23.10	879.5	832.0	76.20	18.525
11,100.0	10,321.4	975.7	-41.3	28.8	12,008.7	11,221.3	985.6	73.0	30.40	907.2	874.0	172.74	27.313
11,200.0	10,320.0	1,075.6	-45.5	30.0	12,108.5	11,219.9	1,085.3	75.3	31.50	908.0	874.0	172.33	26.733
11,300.0	10,318.6	1,175.5	-49.8	31.2	12,208.3	11,218.5	1,185.1	77.6	32.60	908.9	874.1	171.92	26.127
11,400.0	10,317.2	1,275.4	-54.0	32.5	12,308.0	11,217.1	1,284.8	80.0	33.80	909.9	874.2	171.52	25.501
11,500.0	10,315.8	1,375.3	-58.2	33.8	12,407.8	11,215.7	1,384.6	82.3	35.10	910.8	874.2	171.11	24.862
11,600.0	10,314.4	1,475.2	-62.4	35.1	12,507.6	11,214.3	1,484.3	84.6	36.40	911.9	874.2	170.70	24.216
11,700.0	10,313.0	1,575.1	-66.7	36.6	12,607.4	11,212.9	1,584.1	87.0	37.70	913.0	874.2	170.30	23.567
11,800.0	10,311.6	1,675.0	-70.9	38.0	12,707.2	11,211.5	1,683.8	89.3	39.10	914.1	874.2	169.89	22.921
11,900.0	10,310.2	1,774.9	-75.1	39.5	12,807.0	11,210.1	1,783.6	91.6	40.50	915.3	874.2	169.49	22.281
12,000.0	10,308.8	1,874.8	-79.4	41.0	12,906.7	11,208.7	1,883.3	94.0	41.90	916.5	874.2	169.08	21.649
12,100.0	10,307.4	1,974.7	-83.6	42.5	13,006.5	11,207.3	1,983.1	96.3	43.40	917.8	874.1	168.68	21.029
12,200.0	10,306.0	2,074.6	-87.8	44.1	13,106.3	11,205.9	2,082.8	98.6	44.90	919.1	874.1	168.28	20.422
12,300.0	10,304.6	2,174.5	-92.0	45.7	13,206.1	11,204.5	2,182.6	101.0	46.40	920.4	874.0	167.88	19.830
12,400.0	10,303.2	2,274.4	-96.3	47.3	13,305.9	11,203.2	2,282.3	103.3	48.00	921.8	873.9	167.48	19.254

Anticollision Report for Cannon BS2 State Com 1H - Plan #1

Offset Design: Cannon B Pad - Cannon BS3 State Com 1H - Wellbore #1 - Plan #1

0-MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.0 to 17,888.7 usft. Measured Depth.

Scan Radius is 10,000.0 usft . Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre +N/-S (usft)	+E/-W (usft)	Ellipse Major Axis/2	Between Centres (usft)	Between Ellipsoids (usft)	Relative Highside Bearing	Clearance Factor
12,500.0	10,301.8	2,374.3	-100.5	48.9	13,405.7	11,201.8	2,382.1	105.6	49.50	923.3	873.9	167.09	18.696
12,600.0	10,300.4	2,474.2	-104.7	50.5	13,505.5	11,200.4	2,481.8	108.0	51.10	924.8	873.8	166.69	18.154
12,700.0	10,299.0	2,574.1	-109.0	52.1	13,605.2	11,199.0	2,581.6	110.3	52.70	926.3	873.7	166.30	17.630
12,800.0	10,297.6	2,674.0	-113.2	53.8	13,705.0	11,197.6	2,681.3	112.6	54.30	927.9	873.7	165.91	17.124
12,900.0	10,296.3	2,773.9	-117.4	55.5	13,804.8	11,196.2	2,781.0	115.0	55.90	929.5	873.6	165.51	16.636
13,000.0	10,294.9	2,873.8	-121.7	57.2	13,904.6	11,194.8	2,880.8	117.3	57.50	931.1	873.5	165.12	16.165
13,100.0	10,293.5	2,973.7	-125.9	58.8	14,004.4	11,193.4	2,980.5	119.6	59.20	932.9	873.5	164.73	15.711
13,200.0	10,292.1	3,073.6	-130.1	60.5	14,104.2	11,192.0	3,080.3	122.0	60.80	934.6	873.4	164.35	15.274
13,300.0	10,290.7	3,173.5	-134.3	62.2	14,203.9	11,190.6	3,180.0	124.3	62.50	936.4	873.4	163.96	14.854
13,400.0	10,289.3	3,273.4	-138.6	64.0	14,303.7	11,189.2	3,279.8	126.6	64.20	938.2	873.3	163.58	14.449
13,500.0	10,287.9	3,373.3	-142.8	65.7	14,403.5	11,187.8	3,379.5	129.0	65.80	940.1	873.2	163.19	14.060
13,600.0	10,286.5	3,473.2	-147.0	67.4	14,503.3	11,186.4	3,479.3	131.3	67.50	942.0	873.2	162.81	13.686
13,700.0	10,285.1	3,573.1	-151.3	69.1	14,603.1	11,185.0	3,579.0	133.6	69.20	944.0	873.2	162.43	13.326
13,800.0	10,283.7	3,673.0	-155.5	70.9	14,702.9	11,183.7	3,678.8	136.0	70.90	946.0	873.1	162.05	12.980
13,900.0	10,282.3	3,772.9	-159.7	72.6	14,802.6	11,182.3	3,778.5	138.3	72.60	948.0	873.1	161.68	12.648
14,000.0	10,280.9	3,872.8	-163.9	74.4	14,902.4	11,180.9	3,878.3	140.6	74.30	950.1	873.1	161.30	12.328
14,100.0	10,279.5	3,972.7	-168.2	76.1	15,002.2	11,179.5	3,978.0	143.0	76.00	952.2	873.0	160.93	12.020
14,200.0	10,278.1	4,072.6	-172.4	77.9	15,102.0	11,178.1	4,077.8	145.3	77.80	954.4	873.0	160.56	11.725
14,300.0	10,276.7	4,172.5	-176.6	79.6	15,201.8	11,176.7	4,177.5	147.6	79.50	956.6	873.0	160.19	11.440
14,400.0	10,275.3	4,272.4	-180.9	81.4	15,301.6	11,175.3	4,277.3	150.0	81.20	958.9	873.0	159.82	11.166
14,500.0	10,273.9	4,372.3	-185.1	83.2	15,401.4	11,173.9	4,377.0	152.3	82.90	961.2	873.0	159.45	10.903
14,600.0	10,272.5	4,472.2	-189.3	84.9	15,501.1	11,172.5	4,476.8	154.6	84.70	963.5	873.0	159.09	10.650
14,700.0	10,271.1	4,572.1	-193.5	86.7	15,600.9	11,171.1	4,576.5	157.0	86.40	965.8	873.0	158.72	10.406
14,800.0	10,269.7	4,672.0	-197.8	88.5	15,700.7	11,169.7	4,676.2	159.3	88.10	968.2	873.0	158.36	10.171
14,900.0	10,268.3	4,771.9	-202.0	90.3	15,800.5	11,168.3	4,776.0	161.6	89.90	970.7	873.1	158.00	9.945
15,000.0	10,266.9	4,871.8	-206.2	92.1	15,900.3	11,166.9	4,875.7	163.9	91.60	973.2	873.1	157.65	9.727
15,100.0	10,265.5	4,971.7	-210.5	93.8	16,000.1	11,165.5	4,975.5	166.3	93.40	975.7	873.2	157.29	9.517
15,200.0	10,264.1	5,071.6	-214.7	95.6	16,099.8	11,164.1	5,075.2	168.6	95.10	978.2	873.2	156.94	9.315
15,300.0	10,262.7	5,171.5	-218.9	97.4	16,199.6	11,162.8	5,175.0	170.9	96.90	980.8	873.3	156.58	9.120

Anticollision Report for Cannon BS2 State Com 1H - Plan #1

Offset Design: Cannon B Pad - Cannon BS3 State Com 1H - Wellbore #1 - Plan #1

0-MWD

Closest Approach 3D Proximity Scan on Current Survey Data (Highside Reference)

Scan Range: 0.0 to 17,888.7 usft. Measured Depth.

Scan Radius is 10,000.0 usft. Clearance Factor cutoff is Unlimited. Max Ellipse Separation is Unlimited

Uncertainty Data for Reference Well					Uncertainty Data for Comparison Well					Separation (Ref. > Comp.)			
Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre		Ellipse Major Axis/2	Measured Depth (usft)	Vertical Depth (usft)	Ellipse Centre		Ellipse Major Axis/2	Between Centres (usft)	Between Ellipsoids (usft)	Relative Highside Bearing	Clearance Factor
		+N/-S (usft)	+E/-W (usft)				+N/-S (usft)	+E/-W (usft)					
15,400.0	10,261.3	5,271.4	-223.1	99.2	16,299.4	11,161.4	5,274.7	173.3	98.70	983.5	873.4	156.23	8.932
15,500.0	10,260.0	5,371.3	-227.4	101.0	16,399.2	11,160.0	5,374.5	175.6	100.40	986.1	873.4	155.88	8.751
15,600.0	10,258.6	5,471.2	-231.6	102.8	16,499.0	11,158.6	5,474.2	177.9	102.20	988.8	873.5	155.54	8.576
15,700.0	10,257.2	5,571.1	-235.8	104.6	16,598.8	11,157.2	5,574.0	180.3	103.90	991.6	873.6	155.19	8.407
15,800.0	10,255.8	5,671.0	-240.1	106.4	16,698.6	11,155.8	5,673.7	182.6	105.70	994.3	873.7	154.85	8.244
15,900.0	10,254.4	5,770.9	-244.3	108.2	16,798.3	11,154.4	5,773.5	184.9	107.50	997.1	873.8	154.51	8.086
16,000.0	10,253.0	5,870.8	-248.5	110.0	16,898.1	11,153.0	5,873.2	187.3	109.20	1,000.0	874.0	154.17	7.934
16,100.0	10,251.6	5,970.7	-252.7	111.8	16,997.9	11,151.6	5,973.0	189.6	111.00	1,002.9	874.1	153.83	7.788
16,200.0	10,250.2	6,070.6	-257.0	113.6	17,097.7	11,150.2	6,072.7	191.9	112.80	1,005.8	874.2	153.50	7.646
16,300.0	10,248.8	6,170.5	-261.2	115.4	17,197.5	11,148.8	6,172.5	194.3	114.50	1,008.7	874.4	153.17	7.508
16,400.0	10,247.4	6,270.4	-265.4	117.2	17,297.3	11,147.4	6,272.2	196.6	116.30	1,011.7	874.5	152.83	7.376
16,500.0	10,246.0	6,370.3	-269.7	119.0	17,397.0	11,146.0	6,372.0	198.9	118.10	1,014.7	874.7	152.51	7.247
16,600.0	10,244.6	6,470.2	-273.9	120.8	17,496.8	11,144.6	6,471.7	201.3	119.90	1,017.8	874.9	152.18	7.123
16,700.0	10,243.2	6,570.1	-278.1	122.6	17,596.6	11,143.2	6,571.4	203.6	121.70	1,020.9	875.1	151.85	7.003
16,800.0	10,241.8	6,670.0	-282.4	124.4	17,696.4	11,141.9	6,671.2	205.9	123.40	1,024.0	875.3	151.53	6.886
16,900.0	10,240.4	6,769.9	-286.6	126.2	17,796.2	11,140.5	6,770.9	208.3	125.20	1,027.1	875.5	151.21	6.774
17,000.0	10,239.0	6,869.8	-290.8	128.0	17,896.0	11,139.1	6,870.7	210.6	127.00	1,030.3	875.7	150.89	6.664
17,100.0	10,237.6	6,969.7	-295.0	129.9	17,995.7	11,137.7	6,970.4	212.9	128.80	1,033.5	875.9	150.57	6.559
17,200.0	10,236.2	7,069.6	-299.3	131.7	18,095.5	11,136.3	7,070.2	215.3	130.60	1,036.8	876.2	150.26	6.456
17,300.0	10,234.8	7,169.5	-303.5	133.5	18,195.3	11,134.9	7,169.9	217.6	132.30	1,040.0	876.4	149.94	6.357
17,400.0	10,233.4	7,269.4	-307.7	135.3	18,295.1	11,133.5	7,269.7	219.9	134.10	1,043.3	876.7	149.63	6.260
17,500.0	10,232.0	7,369.4	-312.0	137.1	18,394.9	11,132.1	7,369.4	222.3	135.90	1,046.7	877.0	149.32	6.167
17,600.0	10,230.6	7,469.3	-316.2	138.9	18,494.7	11,130.7	7,469.2	224.6	137.70	1,050.0	877.2	149.01	6.076
17,700.0	10,229.2	7,569.2	-320.4	140.7	18,594.5	11,129.3	7,568.9	226.9	139.50	1,053.4	877.5	148.71	5.988
17,800.0	10,227.8	7,669.1	-324.6	142.6	18,694.2	11,127.9	7,668.7	229.3	141.30	1,056.9	877.8	148.40	5.903
17,888.7	10,226.6	7,757.6	-328.4	144.2	18,782.7	11,126.7	7,757.1	231.3	142.90	1,059.9	878.1	148.14	5.830

Anticollision Report for Cannon BS2 State Com 1H - Plan #1

Reference Well Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.0	17,888.7	Plan #1	MWD

Anticollision Info

Error Model:	ISCWSA	Output errors are at	2.00 sigma
Scan Method:	Closest Approach 3D		

Ellipse error terms are correlated across survey tool tie-on points.

Calculated ellipses incorporate surface errors.

Separation is the actual distance between ellipsoids.

Distance Between centres is the straight line distance between wellbore centres.

Clearance Factor = Distance Between Profiles / (Distance Between Profiles - Ellipse Separation).

All station coordinates were calculated using the Minimum Curvature method.

Anticollision Report for Cannon BS2 State Com 1H - Plan #1

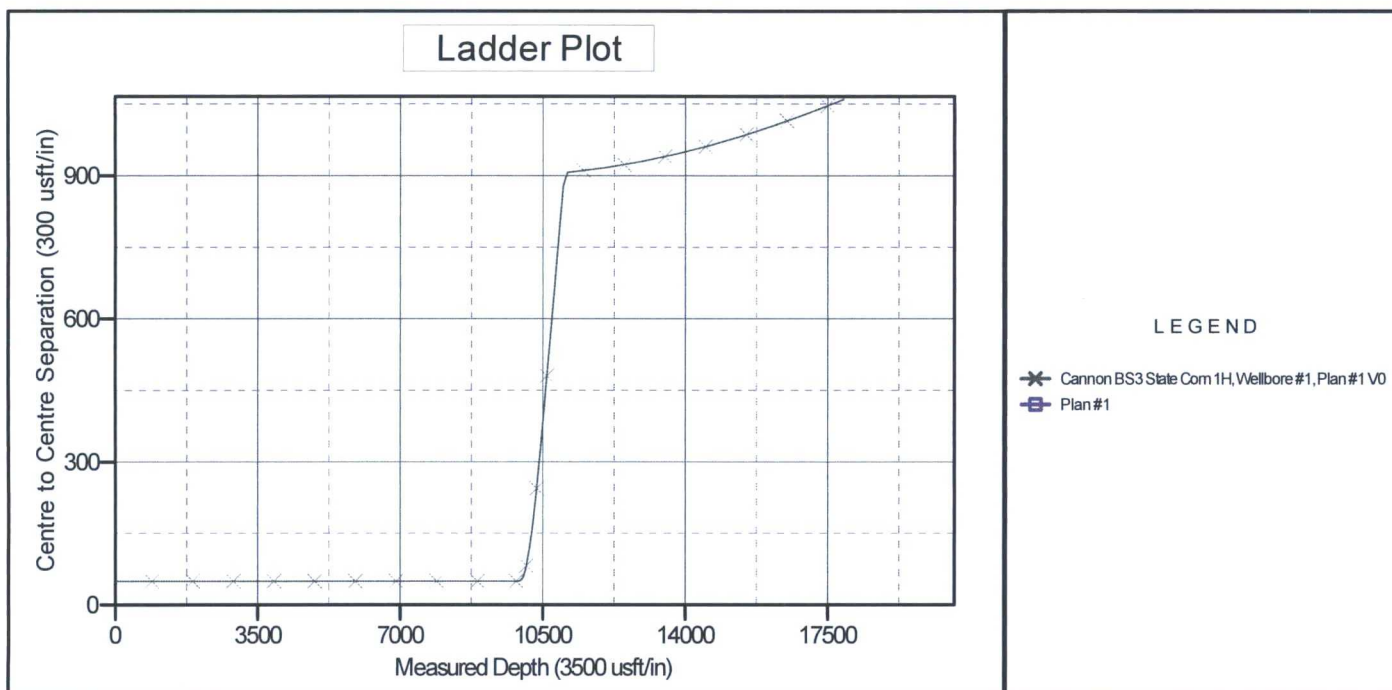
Direction and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to GE 3550.1 + 25 KB @ 3575.1usft (25' KB). Northing and Easting are relative to Cannon BS2 State Com 1H.

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 3001.

Central Meridian is -104.00°, Grid Convergence at Surface is: 0.50 °.

Summary is based on Minimum Centre Distance



Anticollision Report for Cannon BS2 State Com 1H - Plan #1

Clearance Factor Plot: Measured Depth versus Separation(Clearance) Factor

