



BISON IV OPERATING

LARIMER COUNTY, COLORADO (NAD 83)

SEC. 11 T5N R68W 6th P.M.

CE 5-68 11-10-13H

ORIGINAL WELLBORE

PROPOSAL #1

Anticollision Report

19 July, 2024



Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Reference	PROPOSAL #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 3,280.83usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	2024-07-19		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	15,765.69	PROPOSAL #1 (ORIGINAL WELLBORE)	OWSG (Rev2) MWD	OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SEC. 11 T5N R68W 6th P.M.						
ABDN DD ENCORE 18-12 - Wellbore #1 - Wellbore #1	4,785.94	5,180.10	2,478.05	2,436.51	59.649	CC
ABDN DD ENCORE 18-12 - Wellbore #1 - Wellbore #1	4,800.00	5,189.11	2,478.07	2,436.44	59.513	ES
ABDN DD ENCORE 18-12 - Wellbore #1 - Wellbore #1	6,850.00	6,938.00	2,696.44	2,640.23	47.967	SF
ABDN DD ENCORE 4-12 - Wellbore #1 - Wellbore #1	4,450.52	5,125.09	2,697.95	2,647.75	53.742	CC
ABDN DD ENCORE 4-12 - Wellbore #1 - Wellbore #1	4,500.00	5,164.00	2,698.36	2,647.67	53.233	ES
ABDN DD ENCORE 4-12 - Wellbore #1 - Wellbore #1	6,800.00	7,014.60	3,001.38	2,935.24	45.380	SF
ABDN DD ENCORE 5-12 - Wellbore #1 - Wellbore #1	5,497.09	6,088.68	1,677.22	1,626.57	33.113	CC
ABDN DD ENCORE 5-12 - Wellbore #1 - Wellbore #1	5,500.00	6,090.76	1,677.22	1,626.54	33.099	ES
ABDN DD ENCORE 5-12 - Wellbore #1 - Wellbore #1	6,750.00	7,088.93	1,801.83	1,742.40	30.320	SF
ABDN DD MIRACLE 12-12 - Wellbore #1 - Wellbore #1	6,721.43	6,998.00	936.40	876.73	15.695	CC, ES
ABDN DD MIRACLE 12-12 - Wellbore #1 - Wellbore #1	6,800.00	7,069.58	942.05	881.83	15.644	SF
ABDN DD MIRACLE 13-12 - Wellbore #1 - Wellbore #1	6,881.76	7,375.23	1,379.68	1,294.61	16.219	CC, ES
ABDN DD MIRACLE 13-12 - Wellbore #1 - Wellbore #1	7,000.00	7,482.22	1,388.41	1,302.37	16.137	SF
ABDN VERT DONNAMITE 1 - Wellbore #1 - Design #1	15,765.69	7,128.00	1,393.58	1,093.23	4.640	CC, ES, SF
ABDN VERT KNESS 1 - Wellbore #1 - Design #1	500.00	506.00	3,245.23	3,233.90	286.275	CC
ABDN VERT KNESS 1 - Wellbore #1 - Design #1	600.00	605.98	3,246.94	3,233.23	236.993	ES
ABDN VERT KNESS 1 - Wellbore #1 - Design #1	900.00	904.70	3,272.44	3,251.68	157.639	SF
ABDN VERT MCWHINNEY-VANDERWATER1 - Wellbor	13,008.20	7,129.00	969.87	667.33	3.206	CC, ES
ABDN VERT MCWHINNEY-VANDERWATER1 - Wellbor	13,100.00	7,129.00	974.21	668.85	3.190	SF
ABDN VERT MEAN 1 - Wellbore #1 - Design #1	15,765.69	6,727.00	2,362.50	2,169.97	12.271	CC, ES, SF
ABDN VERT NASTY 1 - Wellbore #1 - Design #1	15,765.69	6,794.00	2,522.45	2,303.06	11.498	CC, ES, SF
ABDN VERT RAUSLER 1 - Wellbore #1 - Design #1						Out of range
CE 5-68 11-10-10H - ORIGINAL WELLBORE - PROPOS	479.66	479.78	50.69	47.69	16.918	CC
CE 5-68 11-10-10H - ORIGINAL WELLBORE - PROPOS	500.00	500.07	50.71	47.57	16.146	ES
CE 5-68 11-10-10H - ORIGINAL WELLBORE - PROPOS	15,765.69	15,910.78	1,311.63	838.31	2.771	SF
CE 5-68 11-10-11H - ORIGINAL WELLBORE - PROPOS	500.00	500.00	32.79	29.63	10.394	CC, ES
CE 5-68 11-10-11H - ORIGINAL WELLBORE - PROPOS	15,765.69	15,598.50	878.60	415.19	1.896	SF
CE 5-68 11-10-12H - ORIGINAL WELLBORE - PROPOS	500.00	500.00	18.21	15.06	5.774	CC
CE 5-68 11-10-12H - ORIGINAL WELLBORE - PROPOS	15,765.69	15,615.73	449.62	-5.61	0.988	Level 3, ES, SF
CE 5-68 11-10-14H - ORIGINAL WELLBORE - PROPOS	400.00	400.00	14.57	12.13	5.978	CC
CE 5-68 11-10-14H - ORIGINAL WELLBORE - PROPOS	15,765.69	16,380.23	445.54	-21.66	0.954	Level 3, ES, SF
CE 5-68 11-10-15H - ORIGINAL WELLBORE - PROPOS	300.00	300.00	29.14	27.42	16.935	CC, ES
CE 5-68 11-10-15H - ORIGINAL WELLBORE - PROPOS	15,765.69	16,305.41	876.90	402.53	1.849	SF
CE 5-68 11-10-5H - ORIGINAL WELLBORE - PROPOSA	500.00	500.00	32.52	29.37	10.309	CC, ES
CE 5-68 11-10-5H - ORIGINAL WELLBORE - PROPOSA	700.00	699.84	36.75	32.20	8.081	SF
CE 5-68 11-10-6H - ORIGINAL WELLBORE - PROPOSA	538.77	538.77	31.48	28.06	9.190	CC
CE 5-68 11-10-6H - ORIGINAL WELLBORE - PROPOSA	700.00	699.84	32.19	27.65	7.080	ES

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SEC. 11 T5N R68W 6th P.M.						
CE 5-68 11-10-6H - ORIGINAL WELLBORE - PROPOSA	15,765.69	15,496.19	3,066.20	2,605.63	6.657	SF
CE 5-68 11-10-7H - ORIGINAL WELLBORE - PROPOSA	787.98	787.49	34.74	29.57	6.721	CC
CE 5-68 11-10-7H - ORIGINAL WELLBORE - PROPOSA	800.00	799.45	34.76	29.51	6.617	ES
CE 5-68 11-10-7H - ORIGINAL WELLBORE - PROPOSA	15,765.69	15,455.54	2,626.92	2,166.13	5.701	SF
CE 5-68 11-10-8H - ORIGINAL WELLBORE - PROPOSA	300.00	300.00	80.15	78.42	46.578	CC, ES
CE 5-68 11-10-8H - ORIGINAL WELLBORE - PROPOSA	15,765.69	15,478.21	2,191.11	1,729.45	4.746	SF
CE 5-68 11-3-2H - ORIGINAL WELLBORE - PROPOSA	400.00	400.00	65.57	63.14	26.901	CC, ES
CE 5-68 11-10-9H - ORIGINAL WELLBORE - PROPOSA	15,765.69	15,495.74	1,755.33	1,289.56	3.769	SF
CE 5-68 11-3-1H - ORIGINAL WELLBORE - PROPOSAL	500.00	500.00	79.04	75.89	25.057	CC, ES
CE 5-68 11-3-1H - ORIGINAL WELLBORE - PROPOSAL	900.00	898.70	106.62	100.66	17.895	SF
CE 5-68 11-3-2H - ORIGINAL WELLBORE - PROPOSAL	500.00	500.00	65.85	62.69	20.873	CC, ES
CE 5-68 11-3-2H - ORIGINAL WELLBORE - PROPOSAL	800.00	799.45	81.12	75.87	15.447	SF
CE 5-68 11-3-3H - ORIGINAL WELLBORE - PROPOSAL	500.00	500.00	50.44	47.29	15.990	CC, ES
CE 5-68 11-3-3H - ORIGINAL WELLBORE - PROPOSAL	800.00	799.45	65.05	59.80	12.387	SF
CE 5-68 11-3-4H - ORIGINAL WELLBORE - PROPOSAL	500.00	500.00	39.86	36.70	12.634	CC, ES
CE 5-68 11-3-4H - ORIGINAL WELLBORE - PROPOSAL	700.00	699.84	45.60	41.05	10.026	SF
EXIST HZ ENCORE 1C-12HZ - Wellbore #1 - Wellbore #	828.24	1,033.87	1,998.98	1,992.32	300.021	CC
EXIST HZ ENCORE 1C-12HZ - Wellbore #1 - Wellbore #	900.00	1,122.64	1,999.52	1,992.17	272.060	ES
EXIST HZ ENCORE 1C-12HZ - Wellbore #1 - Wellbore #	8,900.00	7,122.48	3,272.77	3,183.27	36.566	SF
EXIST HZ ENCORE 26N-12HZ - Wellbore #1 - Wellbore	652.14	750.00	2,033.92	2,029.08	419.450	CC, ES
EXIST HZ ENCORE 26N-12HZ - Wellbore #1 - Wellbore	5,500.00	5,182.04	3,257.12	3,205.95	63.659	SF
EXIST HZ ENCORE 40N-12HZ - Wellbore #1 - Wellbore	6,930.53	7,606.00	1,325.75	1,267.12	22.611	CC, ES
EXIST HZ ENCORE 40N-12HZ - Wellbore #1 - Wellbore	6,950.00	7,606.00	1,325.90	1,267.24	22.602	SF
EXIST HZ ENCORE 41N-12HZ - Wellbore #1 - Wellbore	930.27	1,190.24	1,953.78	1,946.27	260.353	CC, ES
EXIST HZ ENCORE 41N-12HZ - Wellbore #1 - Wellbore	9,100.00	6,940.00	2,822.04	2,736.68	33.060	SF
EXIST HZ ENCORE 8C-12HZ - Wellbore #1 - Wellbore #	3,469.32	3,982.10	1,693.49	1,658.08	47.822	CC
EXIST HZ ENCORE 8C-12HZ - Wellbore #1 - Wellbore #	3,500.00	4,007.14	1,693.54	1,657.78	47.355	ES
EXIST HZ ENCORE 8C-12HZ - Wellbore #1 - Wellbore #	8,300.00	7,290.07	2,001.03	1,929.57	28.002	SF
EXIST HZ MIRACLE 13C-12HZ - Wellbore #1 - Wellbore	7,095.67	11,892.00	1,441.23	1,305.11	10.588	CC, ES, SF
EXIST HZ MIRACLE 33N-12HZ - Wellbore #1 - Wellbore	7,000.00	11,657.00	1,074.72	955.35	9.003	SF
EXIST HZ MIRACLE 33N-12HZ - Wellbore #1 - Wellbore	7,012.71	11,657.00	1,074.54	955.29	9.011	CC, ES
EXIST HZ MIRACLE 40C-11HZ - ORIGINAL WELLBORE						Out of range
EXIST HZ MIRACLE 40C-11HZ - SIDETRACK - SIDETR	7,178.30	13,440.87	944.44	752.19	4.913	CC
EXIST HZ MIRACLE 40C-11HZ - SIDETRACK - SIDETR	7,250.00	13,497.02	946.02	750.05	4.827	ES
EXIST HZ MIRACLE 40C-11HZ - SIDETRACK - SIDETR	7,400.00	13,628.00	955.85	753.47	4.723	SF
EXIST HZ MIRACLE 40N-11HZ - Wellbore #1 - Wellbore	7,165.56	13,406.28	563.94	370.05	2.909	CC
EXIST HZ MIRACLE 40N-11HZ - Wellbore #1 - Wellbore	7,250.00	13,475.37	566.79	367.90	2.850	ES
EXIST HZ MIRACLE 40N-11HZ - Wellbore #1 - Wellbore	7,300.00	13,518.06	570.30	369.35	2.838	SF
EXIST HZ MIRACLE 9C-11HZ - Wellbore #1 - Wellbore #	7,415.30	13,682.00	150.03	76.28	2.034	CC, ES, SF
EXIST HZ PROWANT 18-1HZ - Wellbore #1 - Wellbore #	14,772.82	20,703.00	1,591.57	1,010.55	2.739	CC
EXIST HZ PROWANT 18-1HZ - Wellbore #1 - Wellbore #	14,800.00	20,703.00	1,591.80	1,010.18	2.737	ES, SF
EXIST VERT JEFFERS 2-1 - Wellbore #1 - Design #1						Out of range
EXIST VERT JEFFERS 2-2 - Wellbore #1 - Design #1						Out of range
EXIST VERT WICKED 1 - Wellbore #1 - Wellbore #1	15,765.69	7,013.48	1,465.08	1,375.59	16.372	CC, ES, SF

Offset Design:	SEC. 11 T5N R68W 6th P.M. - ABDN DD ENCORE 18-12 - Wellbore #1 - Wellbore #1										Offset Site Error:	0.00 usft
Survey Program:	16-OWSG (Rev2) MWD										Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Highside	Offset Wellbore Centre		Distance		Minimum	Separation	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Separation (usft)		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN DD ENCORE 18-12 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
600.00	599.98	1,615.32	1,580.65	1.92	7.58	-108.36	1,592.19	2,686.58	3,275.31	3,267.39	7.92	413.322		
700.00	699.84	1,691.00	1,652.78	2.26	8.05	-108.93	1,577.69	2,668.81	3,246.92	3,238.39	8.54	380.375		
800.00	799.45	1,758.77	1,717.50	2.60	8.47	-109.49	1,564.70	2,653.47	3,220.36	3,211.22	9.14	352.385		
900.00	898.70	1,831.36	1,787.03	2.97	8.91	-110.06	1,550.85	2,637.92	3,195.94	3,186.16	9.78	326.692		
1,000.00	997.47	1,981.94	1,931.10	3.36	9.83	-110.81	1,522.42	2,604.62	3,172.27	3,161.52	10.75	295.084		
1,100.00	1,095.62	2,058.68	2,004.46	3.78	10.31	-111.48	1,509.15	2,586.42	3,149.28	3,137.82	11.46	274.721		
1,107.69	1,103.14	2,065.99	2,011.46	3.81	10.35	-111.54	1,507.93	2,584.68	3,147.59	3,136.06	11.52	273.140		
1,200.00	1,193.38	2,184.88	2,125.13	4.23	11.09	-111.95	1,487.68	2,556.39	3,127.28	3,114.89	12.38	252.542		
1,300.00	1,291.14	2,282.11	2,217.74	4.69	11.71	-112.28	1,470.01	2,532.59	3,104.09	3,090.87	13.21	234.928		
1,400.00	1,388.90	2,428.63	2,357.28	5.15	12.65	-112.82	1,444.71	2,495.80	3,081.14	3,066.91	14.23	216.559		
1,500.00	1,486.66	2,543.38	2,465.98	5.63	13.41	-113.29	1,425.70	2,464.34	3,056.53	3,041.40	15.13	201.975		
1,600.00	1,584.42	2,585.00	2,505.38	6.11	13.69	-113.46	1,418.87	2,452.80	3,032.38	3,016.59	15.79	192.064		
1,700.00	1,682.18	2,648.57	2,565.84	6.60	14.10	-113.73	1,408.81	2,435.93	3,009.50	2,992.98	16.52	182.138		
1,800.00	1,779.94	2,722.48	2,636.63	7.09	14.56	-114.03	1,397.43	2,417.99	2,988.52	2,971.22	17.30	172.774		
1,900.00	1,877.69	2,857.41	2,765.52	7.58	15.41	-114.50	1,372.21	2,387.06	2,967.00	2,948.71	18.29	162.258		
2,000.00	1,975.45	2,946.00	2,849.89	8.08	15.98	-114.81	1,355.11	2,366.15	2,944.71	2,925.59	19.12	154.019		
2,100.00	2,073.21	3,013.35	2,914.17	8.58	16.40	-115.06	1,343.11	2,350.04	2,923.22	2,903.34	19.88	147.040		
2,200.00	2,170.97	3,153.37	3,047.95	9.07	17.29	-115.63	1,319.32	2,316.26	2,902.11	2,881.22	20.88	138.970		
2,300.00	2,268.73	3,211.00	3,102.86	9.57	17.66	-115.85	1,308.66	2,302.36	2,880.43	2,858.81	21.62	133.237		
2,400.00	2,366.49	3,277.62	3,166.55	10.08	18.07	-116.11	1,296.77	2,286.90	2,859.93	2,837.55	22.38	127.777		
2,500.00	2,464.25	3,421.80	3,304.72	10.58	18.97	-116.69	1,272.35	2,253.72	2,840.27	2,816.87	23.39	121.409		
2,600.00	2,562.00	3,521.07	3,399.39	11.08	19.60	-117.08	1,253.62	2,230.42	2,819.00	2,794.73	24.27	116.174		
2,700.00	2,659.76	3,589.64	3,464.90	11.59	20.03	-117.34	1,240.57	2,214.97	2,798.51	2,773.46	25.04	111.757		
2,800.00	2,757.52	3,656.00	3,528.54	12.09	20.44	-117.59	1,228.56	2,200.48	2,779.23	2,753.42	25.81	107.688		
2,900.00	2,855.28	3,857.70	3,720.66	12.60	21.75	-118.48	1,192.82	2,150.60	2,757.33	2,730.34	26.99	102.170		
3,000.00	2,953.04	3,951.55	3,809.68	13.10	22.37	-118.91	1,175.66	2,126.35	2,735.08	2,707.23	27.85	98.223		
3,100.00	3,050.80	4,007.00	3,862.32	13.61	22.74	-119.16	1,165.43	2,112.26	2,713.46	2,684.87	28.60	94.891		
3,200.00	3,148.56	4,063.17	3,915.91	14.11	23.09	-119.41	1,155.41	2,098.73	2,693.40	2,664.06	29.34	91.793		
3,300.00	3,246.31	4,143.59	3,993.16	14.62	23.59	-119.77	1,142.13	2,080.74	2,675.33	2,645.18	30.16	88.713		
3,400.00	3,344.07	4,309.93	4,151.89	15.13	24.65	-120.59	1,114.56	2,039.38	2,655.34	2,624.12	31.22	85.056		
3,500.00	3,441.83	4,446.07	4,281.28	15.64	25.55	-121.28	1,091.32	2,004.01	2,634.81	2,602.62	32.19	81.852		
3,600.00	3,539.59	4,527.46	4,358.37	16.14	26.09	-121.68	1,076.00	1,982.87	2,613.14	2,580.12	33.02	79.134		
3,700.00	3,637.35	4,591.30	4,419.00	16.65	26.51	-122.01	1,064.78	1,966.36	2,592.58	2,558.77	33.81	76.684		
3,800.00	3,735.11	4,651.41	4,476.33	17.16	26.90	-122.34	1,055.05	1,951.11	2,573.47	2,538.89	34.58	74.413		
3,900.00	3,832.87	4,722.00	4,543.97	17.67	27.34	-122.72	1,044.33	1,934.01	2,555.98	2,520.60	35.38	72.237		
4,000.00	3,930.62	4,771.74	4,591.83	18.18	27.63	-122.98	1,037.09	1,922.57	2,539.96	2,503.84	36.12	70.322		
4,100.00	4,028.38	4,833.58	4,651.54	18.69	28.00	-123.31	1,028.36	1,909.04	2,525.46	2,488.58	36.88	68.472		
4,200.00	4,126.14	4,898.00	4,713.99	19.20	28.36	-123.65	1,019.65	1,895.88	2,512.55	2,474.90	37.65	66.738		
4,300.00	4,223.90	4,942.98	4,757.79	19.71	28.59	-123.87	1,013.86	1,887.43	2,501.42	2,463.08	38.34	65.242		
4,400.00	4,321.66	4,987.00	4,800.83	20.21	28.82	-124.09	1,008.50	1,879.90	2,492.37	2,453.35	39.02	63.879		
4,500.00	4,419.42	5,033.87	4,846.86	20.72	29.04	-124.32	1,003.31	1,872.73	2,485.51	2,445.83	39.68	62.634		
4,600.00	4,517.18	5,076.00	4,888.40	21.23	29.24	-124.52	999.23	1,867.06	2,481.01	2,440.69	40.32	61.539		
4,700.00	4,614.94	5,130.85	4,942.67	21.74	29.46	-124.77	994.53	1,860.61	2,478.62	2,437.64	40.98	60.487		
4,785.94	4,698.95	5,180.10	4,991.51	22.18	29.66	-125.00	990.71	1,855.56	2,478.05	2,436.51	41.54	59.649 CC		
4,800.00	4,712.69	5,189.11	5,000.46	22.25	29.69	-125.04	990.05	1,854.70	2,478.07	2,436.44	41.64	59.513 ES		
4,900.00	4,810.45	5,252.00	5,062.94	22.76	29.93	-125.32	985.71	1,849.06	2,479.10	2,436.79	42.31	58.596		
5,000.00	4,908.21	5,301.55	5,112.26	23.27	30.10	-125.53	982.76	1,845.35	2,481.94	2,439.04	42.90	57.852		
5,100.00	5,005.97	5,338.00	5,148.60	23.78	30.22	-125.68	980.92	1,843.20	2,486.94	2,443.52	43.42	57.280		
5,200.00	5,103.73	5,408.91	5,219.38	24.29	30.43	-125.98	978.31	1,839.86	2,493.65	2,449.58	44.08	56.575		
5,300.00	5,201.49	5,465.58	5,276.00	24.80	30.59	-126.22	977.06	1,837.82	2,502.20	2,457.54	44.65	56.035		
5,400.00	5,299.25	5,525.86	5,336.26	25.31	30.75	-126.46	976.16	1,836.73	2,512.47	2,467.24	45.24	55.542		
5,500.00	5,397.00	5,610.10	5,420.49	25.82	30.95	-126.78	975.14	1,836.11	2,523.81	2,477.88	45.93	54.951		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN DD ENCORE 18-12 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft	
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Highside		Distance		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,600.00	5,494.76	5,698.57	5,508.96	26.33	31.15	-127.11			974.10	1,836.07	2,535.71	2,489.07	46.64	54.373	
5,700.00	5,592.52	5,806.51	5,616.89	26.84	31.41	-127.52			973.45	1,835.26	2,547.70	2,500.25	47.45	53.690	
5,800.00	5,690.28	5,914.94	5,725.30	27.36	31.69	-127.96			973.06	1,833.34	2,559.37	2,511.09	48.28	53.011	
5,900.00	5,788.04	6,015.90	5,826.24	27.87	31.95	-128.36			972.58	1,831.27	2,570.90	2,521.83	49.07	52.394	
6,000.00	5,885.80	6,114.88	5,925.19	28.38	32.21	-128.76			972.12	1,829.13	2,582.50	2,532.65	49.85	51.808	
6,100.00	5,983.56	6,212.41	6,022.70	28.89	32.47	-129.14			971.51	1,827.18	2,594.19	2,543.57	50.62	51.250	
6,200.00	6,081.31	6,305.76	6,116.03	29.40	32.72	-129.50			970.93	1,825.44	2,606.08	2,554.72	51.36	50.737	
6,300.00	6,179.07	6,402.10	6,212.36	29.91	32.97	-129.87			970.39	1,823.77	2,618.21	2,566.09	52.13	50.229	
6,400.00	6,276.83	6,505.28	6,315.52	30.42	33.25	-130.26			969.83	1,821.78	2,630.35	2,577.42	52.92	49.701	
6,500.00	6,374.59	6,594.84	6,405.07	30.93	33.49	-130.60			969.37	1,820.16	2,642.69	2,589.04	53.65	49.260	
6,600.00	6,472.35	6,692.69	6,502.90	31.44	33.76	-130.96			968.82	1,818.67	2,655.27	2,600.85	54.41	48.798	
6,700.00	6,570.11	6,792.49	6,602.68	31.95	34.03	-131.32			968.25	1,817.19	2,667.96	2,612.77	55.19	48.342	
6,712.06	6,581.89	6,805.50	6,615.69	32.01	34.06	-131.37			968.17	1,816.98	2,669.49	2,614.20	55.29	48.283	
6,750.00	6,619.02	6,846.52	6,656.71	32.20	34.17	-149.78			967.90	1,816.28	2,675.00	2,619.40	55.59	48.119	
6,800.00	6,667.83	6,892.63	6,702.81	32.44	34.30	-172.14			967.57	1,815.50	2,684.47	2,628.55	55.92	48.005	
6,850.00	6,716.18	6,938.00	6,748.17	32.65	34.42	171.30			967.26	1,814.81	2,696.44	2,640.23	56.21	47.967 SF	
6,900.00	6,763.70	6,985.66	6,795.83	32.85	34.56	159.85			966.94	1,814.14	2,710.80	2,654.30	56.49	47.984	
6,950.00	6,810.04	7,034.20	6,844.36	33.03	34.69	151.69			966.61	1,813.45	2,727.42	2,670.66	56.75	48.057	
7,000.00	6,854.83	7,100.97	6,911.11	33.19	34.88	145.60			966.02	1,812.15	2,745.98	2,688.89	57.09	48.097	
7,050.00	6,897.73	7,136.71	6,946.84	33.34	34.98	140.50			965.66	1,811.29	2,766.45	2,709.21	57.25	48.325	
7,100.00	6,938.43	7,162.94	6,973.07	33.47	35.05	135.97			965.48	1,810.78	2,789.10	2,731.77	57.33	48.647	
7,150.00	6,976.60	7,187.41	6,997.54	33.59	35.12	131.77			965.40	1,810.40	2,813.79	2,756.39	57.40	49.023	
7,200.00	7,011.97	7,213.63	7,023.75	33.69	35.19	127.76			965.40	1,810.10	2,840.33	2,782.87	57.46	49.429	
7,250.00	7,044.25	7,246.87	7,056.99	33.78	35.28	123.92			965.40	1,809.77	2,868.46	2,810.90	57.56	49.831	
7,300.00	7,073.21	7,276.71	7,086.83	33.86	35.36	120.03			965.37	1,809.50	2,897.98	2,840.33	57.65	50.271	
7,350.00	7,098.63	7,303.42	7,113.54	33.93	35.43	116.05			965.33	1,809.27	2,928.72	2,871.00	57.72	50.741	
7,400.00	7,120.30	7,326.94	7,137.06	34.00	35.50	111.93			965.27	1,809.08	2,960.52	2,902.74	57.78	51.236	
7,450.00	7,138.08	7,346.28	7,156.40	34.07	35.55	107.66			965.20	1,808.93	2,993.18	2,935.35	57.84	51.753	
7,500.00	7,151.81	7,361.29	7,171.41	34.14	35.59	103.25			965.14	1,808.82	3,026.51	2,968.63	57.88	52.289	
7,550.00	7,161.39	7,371.88	7,181.99	34.21	35.62	98.72			965.09	1,808.74	3,060.31	3,002.39	57.92	52.838	
7,600.00	7,166.77	7,377.96	7,188.08	34.30	35.64	94.14			965.06	1,808.70	3,094.33	3,036.38	57.95	53.396	
7,638.04	7,168.00	7,379.55	7,189.67	34.39	35.64	90.67			965.05	1,808.69	3,120.23	3,062.26	57.97	53.825	
7,700.00	7,168.00	7,380.01	7,190.12	34.57	35.64	90.68			965.05	1,808.68	3,162.68	3,104.66	58.02	54.512	
7,800.00	7,168.00	7,380.73	7,190.85	35.03	35.64	90.70			965.04	1,808.68	3,232.51	3,174.35	58.16	55.576	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN DD ENCORE 4-12 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
900.00	898.70	2,107.20	2,041.75	2.97	11.00	-115.64	1,768.54	2,473.75	3,260.21	3,248.48	11.73	277.886		
1,000.00	997.47	2,180.47	2,109.31	3.36	11.56	-116.61	1,764.01	2,445.74	3,231.48	3,218.99	12.50	258.604		
1,100.00	1,095.62	2,245.67	2,169.64	3.78	12.06	-117.52	1,760.19	2,421.34	3,205.35	3,192.09	13.26	241.686		
1,107.69	1,103.14	2,251.86	2,175.37	3.81	12.11	-117.60	1,759.86	2,419.02	3,203.44	3,190.12	13.33	240.357		
1,200.00	1,193.38	2,359.34	2,274.55	4.23	12.95	-118.37	1,755.54	2,377.85	3,180.89	3,166.58	14.31	222.354		
1,300.00	1,291.14	2,526.17	2,425.83	4.69	14.37	-119.71	1,751.53	2,307.65	3,154.40	3,138.70	15.70	200.942		
1,400.00	1,388.90	2,585.00	2,478.89	5.15	14.88	-120.21	1,750.38	2,282.26	3,128.26	3,111.69	16.57	188.831		
1,500.00	1,486.66	2,634.57	2,523.85	5.63	15.30	-120.62	1,749.47	2,261.41	3,103.64	3,086.24	17.39	178.440		
1,600.00	1,584.42	2,676.30	2,562.03	6.11	15.65	-120.96	1,748.79	2,244.58	3,080.92	3,062.73	18.19	169.383		
1,700.00	1,682.18	2,796.23	2,671.55	6.60	16.66	-121.97	1,747.98	2,195.72	3,059.00	3,039.58	19.42	157.502		
1,800.00	1,779.94	2,896.25	2,762.60	7.09	17.51	-122.83	1,746.65	2,154.36	3,036.84	3,016.28	20.56	147.701		
1,900.00	1,877.69	2,972.83	2,832.90	7.58	18.14	-123.46	1,744.03	2,124.10	3,015.47	2,993.90	21.56	139.838		
2,000.00	1,975.45	3,056.19	2,909.66	8.08	18.81	-124.13	1,740.89	2,091.75	2,994.96	2,972.36	22.60	132.535		
2,100.00	2,073.21	3,153.94	2,999.77	8.58	19.60	-124.93	1,736.61	2,054.12	2,974.85	2,951.14	23.71	125.469		
2,200.00	2,170.97	3,244.83	3,083.16	9.07	20.36	-125.70	1,733.74	2,018.07	2,955.23	2,930.41	24.82	119.084		
2,300.00	2,268.73	3,322.57	3,154.19	9.57	21.00	-126.38	1,731.96	1,986.52	2,936.15	2,910.28	25.88	113.470		
2,400.00	2,366.49	3,389.00	3,215.44	10.08	21.55	-126.95	1,730.06	1,960.90	2,918.63	2,891.76	26.87	108.611		
2,500.00	2,464.25	3,458.16	3,279.59	10.58	22.09	-127.53	1,727.78	1,935.16	2,902.36	2,874.49	27.87	104.142		
2,600.00	2,562.00	3,583.90	3,396.10	11.08	23.08	-128.59	1,722.90	1,888.12	2,886.28	2,857.12	29.16	98.995		
2,700.00	2,659.76	3,656.00	3,462.71	11.59	23.66	-129.21	1,720.36	1,860.64	2,870.52	2,840.33	30.19	95.078		
2,800.00	2,757.52	3,757.29	3,556.31	12.09	24.47	-130.09	1,716.64	1,822.10	2,855.35	2,823.97	31.38	90.983		
2,900.00	2,855.28	3,858.78	3,650.11	12.60	25.28	-130.97	1,712.30	1,783.59	2,840.47	2,807.89	32.58	87.192		
3,000.00	2,953.04	4,077.72	3,850.74	13.10	27.10	-132.91	1,699.25	1,697.02	2,824.19	2,789.82	34.37	82.173		
3,100.00	3,050.80	4,136.52	3,904.15	13.61	27.60	-133.45	1,695.00	1,672.78	2,806.57	2,771.18	35.39	79.309		
3,200.00	3,148.56	4,186.00	3,949.50	14.11	28.02	-133.89	1,691.65	1,653.27	2,790.93	2,754.57	36.36	76.760		
3,300.00	3,246.31	4,230.34	3,990.32	14.62	28.38	-134.29	1,689.20	1,636.14	2,777.28	2,739.98	37.30	74.457		
3,400.00	3,344.07	4,277.00	4,033.28	15.13	28.77	-134.72	1,687.57	1,618.00	2,765.67	2,727.42	38.25	72.302		
3,500.00	3,441.83	4,345.57	4,096.22	15.64	29.34	-135.38	1,686.53	1,590.81	2,755.80	2,716.44	39.35	70.030		
3,600.00	3,539.59	4,491.55	4,228.95	16.14	30.61	-136.86	1,685.32	1,530.08	2,746.14	2,705.17	40.97	67.021		
3,700.00	3,637.35	4,578.58	4,307.77	16.65	31.38	-137.75	1,683.87	1,493.21	2,736.31	2,694.07	42.23	64.788		
3,800.00	3,735.11	4,653.54	4,376.14	17.16	32.02	-138.50	1,682.08	1,462.54	2,727.55	2,684.15	43.40	62.845		
3,900.00	3,832.87	4,722.00	4,439.27	17.67	32.58	-139.15	1,679.84	1,436.14	2,720.13	2,675.63	44.50	61.130		
4,000.00	3,930.62	4,795.35	4,507.53	18.18	33.15	-139.82	1,676.96	1,409.45	2,714.04	2,668.46	45.58	59.543		
4,100.00	4,028.38	4,868.08	4,575.74	18.69	33.68	-140.45	1,673.76	1,384.45	2,709.19	2,662.56	46.63	58.098		
4,200.00	4,126.14	4,981.53	4,682.55	19.20	34.50	-141.41	1,667.73	1,346.68	2,704.72	2,656.84	47.87	56.498		
4,300.00	4,223.90	5,057.82	4,754.30	19.71	35.04	-142.06	1,663.35	1,321.13	2,700.51	2,651.58	48.92	55.201		
4,400.00	4,321.66	5,104.07	4,798.19	20.21	35.35	-142.44	1,660.85	1,306.79	2,698.24	2,648.45	49.79	54.194		
4,450.52	4,371.05	5,125.09	4,818.29	20.47	35.48	-142.60	1,659.82	1,300.71	2,697.95	2,647.75	50.20	53.742 CC		
4,500.00	4,419.42	5,164.00	4,855.72	20.72	35.72	-142.89	1,658.12	1,290.20	2,698.36	2,647.67	50.69	53.233 ES		
4,600.00	4,517.18	5,194.17	4,884.88	21.23	35.89	-143.11	1,656.99	1,282.56	2,700.40	2,648.99	51.41	52.526		
4,700.00	4,614.94	5,252.00	4,940.97	21.74	36.21	-143.51	1,655.30	1,268.58	2,704.47	2,652.23	52.24	51.774		
4,800.00	4,712.69	5,305.83	4,993.42	22.25	36.49	-143.88	1,654.12	1,256.53	2,710.26	2,657.26	53.01	51.130		
4,900.00	4,810.45	5,368.91	5,055.18	22.76	36.79	-144.27	1,652.97	1,243.78	2,717.64	2,663.85	53.79	50.522		
5,000.00	4,908.21	5,428.00	5,113.32	23.27	37.06	-144.62	1,651.88	1,233.29	2,726.36	2,671.83	54.53	50.000		
5,100.00	5,005.97	5,515.00	5,199.30	23.78	37.41	-145.09	1,650.36	1,220.06	2,736.28	2,680.95	55.34	49.446		
5,200.00	5,103.73	5,581.31	5,265.04	24.29	37.65	-145.41	1,649.25	1,211.50	2,747.27	2,691.24	56.03	49.031		
5,300.00	5,201.49	5,664.60	5,347.81	24.80	37.93	-145.78	1,647.75	1,202.35	2,759.09	2,702.32	56.76	48.607		
5,400.00	5,299.25	5,765.38	5,448.16	25.31	38.24	-146.19	1,645.36	1,193.41	2,771.29	2,713.77	57.52	48.176		
5,500.00	5,397.00	5,824.56	5,507.19	25.82	38.40	-146.39	1,643.61	1,189.52	2,783.98	2,725.87	58.11	47.911		
5,600.00	5,494.76	5,874.00	5,556.58	26.33	38.53	-146.54	1,642.67	1,187.53	2,798.47	2,739.84	58.63	47.729		
5,700.00	5,592.52	5,962.00	5,644.54	26.84	38.72	-146.79	1,641.50	1,185.38	2,814.09	2,754.83	59.26	47.489		
5,800.00	5,690.28	6,053.84	5,736.36	27.36	38.91	-147.03	1,640.31	1,183.68	2,830.02	2,770.13	59.89	47.257		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN DD ENCORE 4-12 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)			
5,900.00	5,788.04	6,151.30	5,833.80	27.87	39.11	-147.28	1,639.02	1,182.10	2,846.05	2,785.52	60.53	47.020		
6,000.00	5,885.80	6,237.75	5,920.23	28.38	39.30	-147.50	1,638.14	1,180.64	2,862.39	2,801.25	61.14	46.818		
6,100.00	5,983.56	6,334.84	6,017.31	28.89	39.50	-147.74	1,637.15	1,179.13	2,878.83	2,817.05	61.78	46.599		
6,200.00	6,081.31	6,407.00	6,089.46	29.40	39.64	-147.91	1,636.67	1,178.89	2,896.00	2,833.68	62.32	46.470		
6,300.00	6,179.07	6,507.31	6,189.77	29.91	39.81	-148.12	1,636.25	1,179.14	2,913.65	2,850.71	62.94	46.292		
6,400.00	6,276.83	6,617.62	6,300.08	30.42	40.02	-148.36	1,635.41	1,179.07	2,930.93	2,867.32	63.60	46.082		
6,500.00	6,374.59	6,719.21	6,401.66	30.93	40.22	-148.59	1,634.45	1,178.66	2,947.97	2,883.73	64.24	45.888		
6,600.00	6,472.35	6,815.39	6,497.84	31.44	40.43	-148.81	1,633.68	1,177.78	2,965.04	2,900.16	64.88	45.703		
6,700.00	6,570.11	6,914.52	6,596.96	31.95	40.64	-149.03	1,633.04	1,176.58	2,982.20	2,916.68	65.53	45.511		
6,712.06	6,581.89	6,926.78	6,609.21	32.01	40.67	-149.06	1,632.95	1,176.43	2,984.27	2,918.66	65.61	45.487		
6,750.00	6,619.02	6,964.83	6,647.26	32.20	40.76	-167.62	1,632.68	1,175.95	2,991.15	2,925.31	65.85	45.425		
6,800.00	6,667.83	7,014.60	6,697.02	32.44	40.87	169.87	1,632.35	1,175.18	3,001.38	2,935.24	66.14	45.380 SF		
6,850.00	6,716.18	7,058.63	6,741.04	32.65	40.97	153.25	1,632.11	1,174.39	3,012.87	2,946.49	66.38	45.388		
6,900.00	6,763.70	7,099.98	6,782.38	32.85	41.07	141.83	1,631.98	1,173.65	3,025.64	2,959.05	66.58	45.441		
6,950.00	6,810.04	7,147.27	6,829.67	33.03	41.18	133.81	1,631.87	1,172.86	3,039.57	2,972.79	66.78	45.514		
7,000.00	6,854.83	7,197.01	6,879.41	33.19	41.29	127.90	1,631.66	1,172.14	3,054.49	2,987.52	66.97	45.609		
7,050.00	6,897.73	7,240.51	6,922.90	33.34	41.39	123.23	1,631.40	1,171.61	3,070.37	3,003.25	67.11	45.750		
7,100.00	6,938.43	7,281.10	6,963.49	33.47	41.48	119.37	1,631.15	1,171.15	3,087.19	3,019.96	67.23	45.922		
7,150.00	6,976.60	7,320.48	7,002.87	33.59	41.57	116.05	1,630.88	1,170.77	3,104.91	3,037.58	67.32	46.120		
7,200.00	7,011.97	7,357.41	7,039.80	33.69	41.65	113.07	1,630.58	1,170.51	3,123.45	3,056.05	67.40	46.341		
7,250.00	7,044.25	7,390.39	7,072.77	33.78	41.72	110.31	1,630.27	1,170.36	3,142.78	3,075.31	67.46	46.585		
7,300.00	7,073.21	7,417.83	7,100.21	33.86	41.78	107.65	1,630.01	1,170.27	3,162.84	3,095.34	67.51	46.853		
7,350.00	7,098.63	7,441.91	7,124.29	33.93	41.83	105.06	1,629.80	1,170.19	3,183.58	3,116.03	67.55	47.132		
7,400.00	7,120.30	7,462.46	7,144.83	34.00	41.88	102.50	1,629.62	1,170.14	3,204.90	3,137.32	67.59	47.419		
7,450.00	7,138.08	7,478.97	7,161.35	34.07	41.91	99.96	1,629.48	1,170.09	3,226.72	3,159.09	67.63	47.711		
7,500.00	7,151.81	7,491.32	7,173.70	34.14	41.94	97.42	1,629.38	1,170.06	3,248.91	3,181.23	67.68	48.004		
7,550.00	7,161.39	7,499.98	7,182.35	34.21	41.96	94.88	1,629.32	1,170.04	3,271.35	3,203.61	67.74	48.293		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN DD ENCORE 5-12 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
400.00	400.00	2,025.05	1,919.48	1.22	12.09	60.80	1,394.33	2,495.32	3,239.57	3,230.11	9.46	342.319		
500.00	500.00	2,077.97	1,965.99	1.58	12.57	60.92	1,377.28	2,476.70	3,192.92	3,182.94	9.98	320.013		
600.00	599.98	2,131.00	2,012.94	1.92	13.05	-107.03	1,360.37	2,458.75	3,147.91	3,137.41	10.50	299.726		
700.00	699.84	2,188.48	2,064.09	2.26	13.56	-107.88	1,342.18	2,439.86	3,104.82	3,093.76	11.06	280.770		
800.00	799.45	2,252.04	2,120.83	2.60	14.11	-108.70	1,322.20	2,419.37	3,063.42	3,051.76	11.67	262.581		
900.00	898.70	2,311.00	2,173.77	2.97	14.62	-109.53	1,304.17	2,400.67	3,023.97	3,011.69	12.28	246.294		
1,000.00	997.47	2,348.87	2,208.03	3.36	14.93	-110.32	1,293.06	2,388.96	2,986.95	2,974.13	12.82	233.047		
1,100.00	1,095.62	2,401.00	2,255.69	3.78	15.36	-111.12	1,278.66	2,373.53	2,952.90	2,939.45	13.45	219.557		
1,107.69	1,103.14	2,401.00	2,255.69	3.81	15.36	-111.17	1,278.66	2,373.53	2,950.36	2,936.88	13.48	218.856		
1,200.00	1,193.38	2,682.05	2,510.17	4.23	17.73	-112.06	1,204.52	2,280.37	2,918.26	2,903.22	15.04	194.081		
1,300.00	1,291.14	2,714.78	2,539.52	4.69	18.02	-112.17	1,195.76	2,268.84	2,880.51	2,864.88	15.63	184.283		
1,400.00	1,388.90	2,761.00	2,581.22	5.15	18.42	-112.32	1,183.27	2,253.31	2,844.36	2,828.07	16.29	174.583		
1,500.00	1,486.66	2,845.35	2,657.64	5.63	19.14	-112.59	1,160.47	2,225.81	2,809.18	2,792.07	17.11	164.159		
1,600.00	1,584.42	2,983.87	2,782.71	6.11	20.33	-113.11	1,124.60	2,178.32	2,773.17	2,755.04	18.14	152.915		
1,700.00	1,682.18	3,056.30	2,847.94	6.60	20.96	-113.40	1,106.06	2,152.87	2,736.82	2,717.91	18.91	144.712		
1,800.00	1,779.94	3,117.00	2,903.02	7.09	21.47	-113.66	1,091.43	2,131.98	2,701.84	2,682.19	19.65	137.500		
1,900.00	1,877.69	3,181.73	2,962.05	7.58	22.01	-113.93	1,076.09	2,110.30	2,667.99	2,647.59	20.40	130.762		
2,000.00	1,975.45	3,305.68	3,074.88	8.08	23.04	-114.45	1,045.34	2,069.21	2,634.06	2,612.69	21.37	123.277		
2,100.00	2,073.21	3,383.00	3,145.13	8.58	23.69	-114.77	1,025.79	2,043.52	2,599.88	2,577.71	22.17	117.247		
2,200.00	2,170.97	3,456.20	3,211.82	9.07	24.30	-115.06	1,006.61	2,020.21	2,566.43	2,543.45	22.97	111.713		
2,300.00	2,268.73	3,541.89	3,290.02	9.57	25.01	-115.37	983.48	1,993.88	2,533.57	2,509.75	23.82	106.376		
2,400.00	2,366.49	3,686.72	3,421.50	10.08	26.22	-115.98	945.43	1,946.58	2,499.40	2,474.56	24.85	100.598		
2,500.00	2,464.25	3,758.92	3,487.03	10.58	26.84	-116.31	926.91	1,922.62	2,465.43	2,439.79	25.65	96.134		
2,600.00	2,562.00	3,891.35	3,606.88	11.08	27.97	-116.94	892.73	1,877.83	2,430.98	2,404.35	26.62	91.318		
2,700.00	2,659.76	4,018.42	3,720.90	11.59	29.10	-117.56	858.75	1,833.23	2,394.97	2,367.40	27.58	86.848		
2,800.00	2,757.52	4,128.57	3,819.17	12.09	30.09	-118.10	827.80	1,794.26	2,358.10	2,329.61	28.49	82.779		
2,900.00	2,855.28	4,200.02	3,882.97	12.60	30.73	-118.44	807.18	1,769.58	2,321.64	2,292.34	29.30	79.230		
3,000.00	2,953.04	4,272.00	3,947.65	13.10	31.36	-118.77	786.34	1,745.84	2,286.43	2,256.31	30.12	75.907		
3,100.00	3,050.80	4,385.80	4,049.66	13.61	32.36	-119.27	752.17	1,708.76	2,251.04	2,220.00	31.04	72.518		
3,200.00	3,148.56	4,457.10	4,113.59	14.11	32.99	-119.60	730.81	1,685.52	2,215.78	2,183.91	31.86	69.537		
3,300.00	3,246.31	4,571.48	4,216.06	14.62	34.00	-120.18	697.62	1,647.02	2,180.37	2,147.59	32.78	66.520		
3,400.00	3,344.07	4,713.78	4,342.92	15.13	35.29	-120.99	657.10	1,596.92	2,144.51	2,110.78	33.73	63.582		
3,500.00	3,441.83	4,802.60	4,421.38	15.64	36.11	-121.45	628.99	1,566.21	2,106.98	2,072.38	34.59	60.906		
3,600.00	3,539.59	4,916.03	4,521.21	16.14	37.17	-122.05	592.33	1,526.77	2,068.91	2,033.42	35.49	58.290		
3,700.00	3,637.35	4,986.20	4,583.06	16.65	37.84	-122.47	570.97	1,501.44	2,031.25	1,994.91	36.34	55.897		
3,800.00	3,735.11	5,100.88	4,683.84	17.16	38.93	-123.30	538.40	1,457.46	1,993.30	1,956.06	37.23	53.533		
3,900.00	3,832.87	5,160.00	4,735.76	17.67	39.50	-123.79	522.58	1,434.04	1,955.89	1,917.80	38.09	51.355		
4,000.00	3,930.62	5,214.46	4,784.00	18.18	40.00	-124.25	508.82	1,412.84	1,920.33	1,881.40	38.93	49.323		
4,100.00	4,028.38	5,247.00	4,813.13	18.69	40.30	-124.53	501.00	1,400.64	1,887.31	1,847.55	39.75	47.474		
4,200.00	4,126.14	5,292.50	4,854.43	19.20	40.67	-124.92	490.61	1,384.62	1,857.07	1,816.50	40.58	45.768		
4,300.00	4,223.90	5,337.00	4,895.55	19.71	41.03	-125.28	481.10	1,370.53	1,830.15	1,788.76	41.39	44.220		
4,400.00	4,321.66	5,388.03	4,943.22	20.21	41.40	-125.68	470.50	1,355.72	1,805.93	1,763.73	42.19	42.802		
4,500.00	4,419.42	5,458.72	5,009.62	20.72	41.90	-126.22	455.69	1,336.53	1,783.47	1,740.43	43.04	41.440		
4,600.00	4,517.18	5,514.00	5,061.75	21.23	42.29	-126.64	444.46	1,321.95	1,762.59	1,718.75	43.84	40.206		
4,700.00	4,614.94	5,578.44	5,122.94	21.74	42.71	-127.13	432.15	1,305.92	1,743.86	1,699.20	44.65	39.053		
4,800.00	4,712.69	5,641.88	5,183.71	22.25	43.10	-127.60	421.04	1,291.52	1,727.77	1,682.32	45.46	38.010		
4,900.00	4,810.45	5,693.00	5,232.84	22.76	43.41	-127.99	412.45	1,280.32	1,713.53	1,667.33	46.20	37.089		
5,000.00	4,908.21	5,756.83	5,294.58	23.27	43.75	-128.47	402.57	1,267.50	1,701.67	1,654.69	46.97	36.228		
5,100.00	5,005.97	5,816.46	5,352.74	23.78	44.06	-128.90	394.45	1,257.12	1,692.84	1,645.14	47.71	35.485		
5,200.00	5,103.73	5,887.13	5,421.90	24.29	44.40	-129.41	385.59	1,245.65	1,685.95	1,637.48	48.48	34.780		
5,300.00	5,201.49	5,960.00	5,493.45	24.80	44.73	-129.95	377.70	1,234.29	1,681.00	1,631.76	49.25	34.133		
5,400.00	5,299.25	6,021.21	5,553.74	25.31	44.99	-130.41	372.00	1,225.35	1,678.08	1,628.14	49.95	33.597		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN DD ENCORE 5-12 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference				Offset			Semi Major Axis			Distance		Separation		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,497.09	5,394.16	6,088.68	5,620.38	25.81	45.25	-130.91	366.37	1,216.53	1,677.22	1,626.57	50.65	33.113	CC	
5,500.00	5,397.00	6,090.76	5,622.45	25.82	45.26	-130.92	366.20	1,216.27	1,677.22	1,626.54	50.67	33.099	ES	
5,600.00	5,494.76	6,159.98	5,691.00	26.33	45.52	-131.41	361.01	1,208.25	1,678.19	1,626.81	51.38	32.662		
5,700.00	5,592.52	6,224.00	5,754.55	26.84	45.74	-131.86	357.14	1,201.60	1,681.25	1,629.21	52.04	32.309		
5,800.00	5,690.28	6,298.54	5,828.68	27.36	45.98	-132.38	353.64	1,194.60	1,686.22	1,633.47	52.75	31.968		
5,900.00	5,788.04	6,367.10	5,896.96	27.87	46.18	-132.86	351.21	1,188.88	1,692.95	1,639.55	53.40	31.703		
6,000.00	5,885.80	6,438.41	5,968.08	28.38	46.37	-133.33	349.47	1,184.01	1,701.61	1,647.55	54.05	31.479		
6,100.00	5,983.56	6,513.77	6,043.31	28.89	46.56	-133.81	348.12	1,179.91	1,711.80	1,657.08	54.72	31.283		
6,200.00	6,081.31	6,587.66	6,117.14	29.40	46.73	-134.26	347.36	1,176.95	1,723.55	1,668.20	55.36	31.136		
6,300.00	6,179.07	6,675.86	6,205.30	29.91	46.91	-134.77	346.94	1,174.17	1,736.40	1,680.30	56.09	30.956		
6,400.00	6,276.83	6,764.65	6,294.06	30.42	47.09	-135.26	346.69	1,172.00	1,749.93	1,693.11	56.82	30.796		
6,500.00	6,374.59	6,858.52	6,387.91	30.93	47.28	-135.76	346.45	1,170.25	1,763.94	1,706.36	57.59	30.630		
6,600.00	6,472.35	6,947.16	6,476.54	31.44	47.45	-136.23	346.51	1,168.83	1,778.49	1,720.18	58.31	30.503		
6,700.00	6,570.11	7,040.07	6,569.44	31.95	47.63	-136.70	346.77	1,167.71	1,793.55	1,734.50	59.05	30.372		
6,712.06	6,581.89	7,051.84	6,581.21	32.01	47.65	-136.76	346.80	1,167.60	1,795.39	1,736.25	59.15	30.355		
6,750.00	6,619.02	7,088.93	6,618.30	32.20	47.72	-135.30	346.87	1,167.29	1,801.83	1,742.40	59.43	30.320	SF	
6,800.00	6,667.83	7,137.06	6,666.43	32.44	47.81	-177.81	346.94	1,166.96	1,812.22	1,752.47	59.75	30.332		
6,850.00	6,716.18	7,184.12	6,713.48	32.65	47.90	165.55	347.00	1,166.68	1,824.72	1,764.72	60.01	30.409		
6,900.00	6,763.70	7,232.61	6,761.97	32.85	47.99	154.11	347.09	1,166.41	1,839.24	1,779.01	60.23	30.535		
6,950.00	6,810.04	7,281.23	6,810.60	33.03	48.08	146.01	347.18	1,166.01	1,855.62	1,795.20	60.42	30.710		
7,000.00	6,854.83	7,324.99	6,854.35	33.19	48.17	139.90	347.28	1,165.59	1,873.82	1,813.28	60.55	30.949		
7,050.00	6,897.73	7,365.93	6,895.29	33.34	48.25	134.99	347.38	1,165.26	1,893.84	1,833.23	60.62	31.242		
7,100.00	6,938.43	7,406.45	6,935.81	33.47	48.32	130.82	347.48	1,165.01	1,915.60	1,854.93	60.67	31.575		
7,150.00	6,976.60	7,445.47	6,974.83	33.59	48.40	127.10	347.53	1,164.81	1,938.97	1,878.27	60.69	31.947		
7,200.00	7,011.97	7,479.75	7,009.11	33.69	48.46	123.57	347.54	1,164.69	1,963.88	1,903.21	60.67	32.368		
7,250.00	7,044.25	7,506.94	7,036.30	33.78	48.51	120.04	347.59	1,164.63	1,990.32	1,929.72	60.60	32.844		
7,300.00	7,073.21	7,531.22	7,060.58	33.86	48.55	116.47	347.68	1,164.61	2,018.20	1,957.68	60.51	33.352		
7,350.00	7,098.63	7,552.42	7,081.78	33.93	48.59	112.81	347.79	1,164.62	2,047.36	1,986.94	60.42	33.886		
7,400.00	7,120.30	7,570.68	7,100.03	34.00	48.62	109.02	347.92	1,164.66	2,077.65	2,017.32	60.32	34.441		
7,450.00	7,138.08	7,585.71	7,115.07	34.07	48.65	105.08	348.03	1,164.70	2,108.89	2,048.65	60.23	35.011		
7,500.00	7,151.81	7,597.25	7,126.60	34.14	48.67	100.99	348.13	1,164.74	2,140.89	2,080.74	60.15	35.592		
7,550.00	7,161.39	7,605.21	7,134.57	34.21	48.68	96.77	348.21	1,164.77	2,173.45	2,113.37	60.08	36.177		
7,600.00	7,166.77	7,609.57	7,138.92	34.30	48.69	92.48	348.25	1,164.79	2,206.34	2,146.33	60.02	36.763		
7,638.04	7,168.00	7,610.46	7,139.82	34.39	48.69	89.21	348.26	1,164.79	2,231.44	2,171.47	59.98	37.206		
7,700.00	7,168.00	7,610.23	7,139.58	34.57	48.69	89.20	348.26	1,164.79	2,272.80	2,212.86	59.94	37.917		
7,800.00	7,168.00	7,609.85	7,139.20	35.03	48.69	89.19	348.25	1,164.79	2,341.46	2,281.48	59.98	39.037		
7,900.00	7,168.00	7,609.47	7,138.83	35.77	48.69	89.17	348.25	1,164.79	2,412.31	2,352.20	60.12	40.128		
8,000.00	7,168.00	7,609.10	7,138.45	36.82	48.69	89.16	348.25	1,164.79	2,485.17	2,424.84	60.33	41.193		
8,100.00	7,168.00	7,608.72	7,138.08	38.17	48.68	89.15	348.24	1,164.78	2,559.86	2,499.26	60.61	42.237		
8,200.00	7,168.00	7,608.36	7,137.72	39.74	48.68	89.14	348.24	1,164.78	2,636.23	2,575.30	60.93	43.263		
8,300.00	7,168.00	7,607.99	7,137.35	41.49	48.68	89.12	348.24	1,164.78	2,714.14	2,652.84	61.30	44.276		
8,400.00	7,168.00	7,607.63	7,136.99	43.37	48.68	89.11	348.23	1,164.78	2,793.45	2,731.76	61.70	45.278		
8,500.00	7,168.00	7,607.28	7,136.63	45.36	48.68	89.10	348.23	1,164.78	2,874.06	2,811.94	62.11	46.273		
8,600.00	7,168.00	7,606.92	7,136.28	47.44	48.68	89.09	348.23	1,164.78	2,955.84	2,893.30	62.54	47.262		
8,700.00	7,168.00	7,606.57	7,135.93	49.59	48.68	89.08	348.22	1,164.78	3,038.72	2,975.74	62.98	48.248		
8,800.00	7,168.00	7,606.22	7,135.58	51.79	48.68	89.06	348.22	1,164.77	3,122.60	3,059.18	63.42	49.233		
8,900.00	7,168.00	7,605.88	7,135.24	54.05	48.68	89.05	348.22	1,164.77	3,207.41	3,143.54	63.87	50.218		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN DD MIRACLE 12-12 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft				
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft				
Reference				Offset			Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Minimum Separation		Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor						
400.00	400.00	1,614.90	1,568.46	1.22	8.00	101.06	-581.93	2,977.24	3,258.44	3,250.75	7.69	423.973						
500.00	500.00	1,693.00	1,640.06	1.58	8.61	101.33	-590.28	2,947.18	3,222.17	3,213.80	8.37	384.875						
600.00	599.98	1,761.57	1,703.02	1.92	9.15	-66.26	-597.95	2,921.12	3,185.85	3,176.82	9.03	352.868						
700.00	699.84	1,869.98	1,802.67	2.26	10.00	-66.71	-610.01	2,880.17	3,148.54	3,138.64	9.89	318.212						
800.00	799.45	2,013.81	1,934.41	2.60	11.16	-67.24	-624.33	2,824.25	3,108.66	3,097.71	10.95	283.953						
900.00	898.70	2,098.60	2,011.95	2.97	11.86	-68.00	-631.84	2,790.79	3,066.91	3,055.19	11.72	261.715						
1,000.00	997.47	2,173.66	2,080.85	3.36	12.47	-68.87	-637.90	2,761.65	3,024.46	3,012.00	12.46	242.805						
1,100.00	1,095.62	2,269.01	2,168.44	3.78	13.24	-69.83	-645.98	2,724.84	2,981.16	2,967.85	13.31	224.027						
1,107.69	1,103.14	2,278.53	2,177.19	3.81	13.32	-69.91	-646.69	2,721.15	2,977.76	2,964.38	13.38	222.515						
1,200.00	1,193.38	2,409.37	2,297.15	4.23	14.39	-70.10	-655.36	2,669.64	2,936.31	2,921.95	14.36	204.426						
1,300.00	1,291.14	2,529.87	2,406.70	4.69	15.42	-70.25	-664.36	2,620.26	2,889.93	2,874.58	15.35	188.266						
1,400.00	1,388.90	2,578.00	2,450.38	5.15	15.83	-70.31	-667.91	2,600.37	2,843.54	2,827.52	16.03	177.417						
1,500.00	1,486.66	2,641.93	2,508.68	5.63	16.37	-70.39	-672.81	2,574.61	2,798.08	2,781.30	16.78	166.711						
1,600.00	1,584.42	2,688.73	2,551.68	6.11	16.75	-70.45	-676.76	2,556.56	2,754.20	2,736.72	17.48	157.593						
1,700.00	1,682.18	2,756.00	2,613.85	6.60	17.29	-70.53	-682.95	2,531.63	2,711.75	2,693.49	18.26	148.468						
1,800.00	1,779.94	2,875.69	2,724.25	7.09	18.25	-70.64	-695.37	2,487.12	2,669.69	2,650.40	19.29	138.385						
1,900.00	1,877.69	2,993.19	2,831.42	7.58	19.24	-70.71	-708.43	2,440.74	2,625.17	2,604.85	20.32	129.162						
2,000.00	1,975.45	3,066.01	2,897.93	8.08	19.85	-70.76	-716.52	2,412.22	2,581.10	2,559.93	21.17	121.925						
2,100.00	2,073.21	3,140.29	2,966.01	8.58	20.47	-70.83	-724.54	2,383.62	2,537.62	2,515.60	22.02	115.232						
2,200.00	2,170.97	3,218.25	3,037.64	9.07	21.11	-70.89	-732.93	2,354.00	2,494.64	2,471.75	22.89	108.987						
2,300.00	2,268.73	3,288.00	3,101.90	9.57	21.67	-70.97	-740.09	2,327.82	2,452.09	2,428.37	23.72	103.358						
2,400.00	2,366.49	3,360.64	3,169.17	10.08	22.24	-71.07	-746.68	2,301.22	2,410.27	2,385.71	24.56	98.142						
2,500.00	2,464.25	3,440.52	3,243.63	10.58	22.85	-71.24	-752.34	2,272.88	2,369.24	2,343.83	25.40	93.271						
2,600.00	2,562.00	3,517.68	3,315.81	11.08	23.43	-71.43	-756.66	2,245.94	2,328.60	2,302.37	26.23	88.785						
2,700.00	2,659.76	3,600.24	3,393.10	11.59	24.04	-71.63	-762.28	2,217.47	2,288.55	2,261.48	27.07	84.532						
2,800.00	2,757.52	3,769.02	3,550.64	12.09	25.32	-72.08	-771.83	2,157.70	2,247.85	2,219.71	28.15	79.864						
2,900.00	2,855.28	3,878.24	3,651.56	12.60	26.19	-72.46	-775.39	2,116.10	2,203.87	2,174.84	29.03	75.915						
3,000.00	2,953.04	4,024.18	3,785.73	13.10	27.39	-72.95	-781.05	2,058.97	2,159.21	2,129.22	29.99	72.005						
3,100.00	3,050.80	4,081.00	3,837.51	13.61	27.87	-73.13	-783.73	2,035.74	2,113.26	2,082.48	30.78	68.659						
3,200.00	3,148.56	4,140.75	3,892.27	14.11	28.36	-73.32	-786.92	2,012.07	2,068.60	2,037.02	31.58	65.505						
3,300.00	3,246.31	4,192.03	3,939.83	14.62	28.78	-73.48	-790.06	1,993.14	2,026.25	1,993.89	32.37	62.606						
3,400.00	3,344.07	4,312.45	4,051.25	15.13	29.73	-73.81	-799.65	1,948.53	1,984.16	1,950.86	33.30	59.580						
3,500.00	3,441.83	4,442.40	4,170.02	15.64	30.83	-74.10	-811.85	1,897.25	1,939.65	1,905.38	34.27	56.597						
3,600.00	3,539.59	4,525.45	4,245.72	16.14	31.54	-74.28	-820.30	1,864.14	1,895.02	1,859.87	35.16	53.899						
3,700.00	3,637.35	4,611.00	4,323.66	16.65	32.28	-74.44	-829.81	1,830.18	1,850.64	1,814.58	36.06	51.323						
3,800.00	3,735.11	4,678.28	4,385.14	17.16	32.84	-74.57	-837.30	1,803.91	1,806.92	1,769.99	36.93	48.929						
3,900.00	3,832.87	4,757.84	4,458.25	17.67	33.50	-74.76	-845.69	1,773.65	1,764.14	1,726.33	37.81	46.654						
4,000.00	3,930.62	4,844.15	4,537.62	18.18	34.20	-74.96	-854.97	1,741.05	1,721.65	1,682.95	38.70	44.483						
4,100.00	4,028.38	5,008.44	4,687.80	18.69	35.60	-75.43	-870.85	1,676.41	1,677.81	1,638.19	39.62	42.347						
4,200.00	4,126.14	5,094.61	4,765.72	19.20	36.36	-75.75	-877.64	1,640.25	1,631.15	1,590.67	40.48	40.293						
4,300.00	4,223.90	5,163.86	4,828.68	19.71	36.96	-76.00	-883.59	1,612.05	1,585.72	1,544.37	41.35	38.347						
4,400.00	4,321.66	5,259.11	4,915.39	20.21	37.79	-76.37	-891.85	1,573.50	1,540.62	1,498.41	42.21	36.499						
4,500.00	4,419.42	5,358.09	5,004.94	20.72	38.67	-76.68	-902.43	1,532.68	1,494.91	1,451.83	43.08	34.701						
4,600.00	4,517.18	5,435.32	5,074.71	21.23	39.35	-76.92	-911.01	1,500.70	1,449.12	1,405.15	43.97	32.955						
4,700.00	4,614.94	5,493.00	5,127.20	21.74	39.85	-77.12	-917.43	1,477.66	1,404.82	1,359.93	44.89	31.297						
4,800.00	4,712.69	5,571.39	5,198.98	22.25	40.51	-77.39	-926.38	1,447.45	1,361.89	1,316.11	45.78	29.750						
4,900.00	4,810.45	5,627.57	5,250.81	22.76	40.95	-77.60	-932.64	1,426.72	1,320.61	1,273.93	46.68	28.292						
5,000.00	4,908.21	5,683.86	5,303.47	23.27	41.38	-77.88	-937.84	1,407.55	1,281.99	1,234.44	47.55	26.959						
5,100.00	5,005.97	5,760.00	5,375.28	23.78	41.92	-78.30	-944.44	1,383.09	1,245.35	1,196.96	48.39	25.736						
5,200.00	5,103.73	5,827.74	5,439.47	24.29	42.37	-78.68	-950.71	1,362.40	1,210.33	1,161.10	49.23	24.586						
5,300.00	5,201.49	5,918.60	5,525.94	24.80	42.97	-79.23	-958.78	1,335.69	1,176.57	1,126.53	50.04	23.511						
5,400.00	5,299.25	5,989.09	5,593.29	25.31	43.42	-79.77	-963.20	1,315.38	1,143.55	1,092.71	50.84	22.494						

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN DD MIRACLE 12-12 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,500.00	5,397.00	6,066.15	5,667.44	25.82	43.89	-80.40	-967.78	1,294.92	1,112.81	1,061.19	51.62	21.559		
5,600.00	5,494.76	6,145.99	5,744.40	26.33	44.35	-81.07	-972.95	1,274.28	1,083.04	1,030.65	52.39	20.674		
5,700.00	5,592.52	6,203.00	5,799.67	26.84	44.67	-81.58	-976.23	1,260.71	1,055.69	1,002.57	53.12	19.873		
5,800.00	5,690.28	6,290.00	5,884.65	27.36	45.10	-82.48	-979.64	1,242.44	1,031.15	977.31	53.85	19.150		
5,900.00	5,788.04	6,342.72	5,936.49	27.87	45.33	-83.09	-980.84	1,232.96	1,009.65	955.18	54.47	18.535		
6,000.00	5,885.80	6,408.73	6,001.73	28.38	45.59	-83.88	-981.99	1,222.98	991.65	936.57	55.08	18.005		
6,100.00	5,983.56	6,478.78	6,071.24	28.89	45.84	-84.74	-982.92	1,214.32	976.81	921.15	55.66	17.550		
6,200.00	6,081.31	6,556.00	6,148.08	29.40	46.09	-85.72	-983.78	1,206.71	964.83	908.58	56.26	17.150		
6,300.00	6,179.07	6,633.24	6,225.08	29.91	46.30	-86.70	-984.51	1,200.68	955.32	898.48	56.84	16.806		
6,400.00	6,276.83	6,714.27	6,305.95	30.42	46.52	-87.74	-985.09	1,195.72	947.99	890.54	57.45	16.501		
6,500.00	6,374.59	6,799.63	6,391.22	30.93	46.72	-88.86	-985.45	1,191.81	942.66	884.56	58.10	16.225		
6,600.00	6,472.35	6,887.02	6,478.56	31.44	46.92	-90.00	-985.68	1,188.81	938.94	880.17	58.78	15.975		
6,700.00	6,570.11	6,976.63	6,568.14	31.95	47.11	-91.15	-986.22	1,186.67	936.64	877.16	59.49	15.745		
6,712.06	6,581.89	6,987.45	6,578.96	32.01	47.13	-91.29	-986.31	1,186.47	936.45	876.88	59.57	15.719		
6,721.43	6,591.06	6,998.00	6,589.51	32.06	47.15	-91.74	-986.42	1,186.30	936.40	876.73	59.66	15.695 CC, ES		
6,750.00	6,619.02	7,022.64	6,614.14	32.20	47.20	-109.56	-986.67	1,185.91	937.19	877.33	59.85	15.658		
6,800.00	6,667.83	7,069.58	6,661.08	32.44	47.30	-131.69	-987.19	1,185.26	942.05	881.83	60.22	15.644 SF		
6,850.00	6,716.18	7,116.14	6,707.63	32.65	47.39	-147.92	-987.74	1,184.73	951.26	890.70	60.56	15.709		
6,900.00	6,763.70	7,162.68	6,754.17	32.85	47.48	-158.93	-988.33	1,184.30	964.71	903.83	60.88	15.846		
6,950.00	6,810.04	7,208.48	6,799.96	33.03	47.57	-166.57	-988.94	1,183.93	982.21	921.03	61.18	16.055		
7,000.00	6,854.83	7,252.76	6,844.24	33.19	47.65	-172.18	-989.56	1,183.61	1,003.62	942.17	61.45	16.332		
7,050.00	6,897.73	7,288.62	6,880.09	33.34	47.71	-176.56	-990.02	1,183.46	1,028.84	967.22	61.62	16.696		
7,100.00	6,938.43	7,320.32	6,911.79	33.47	47.77	-179.75	-990.28	1,183.57	1,057.90	996.16	61.74	17.135		
7,150.00	6,976.60	7,349.65	6,941.11	33.59	47.81	-176.41	-990.38	1,183.88	1,090.51	1,028.68	61.83	17.638		
7,200.00	7,011.97	7,376.37	6,967.83	33.69	47.86	-173.13	-990.36	1,184.35	1,126.36	1,064.46	61.89	18.199		
7,250.00	7,044.25	7,397.00	6,988.46	33.78	47.89	-169.65	-990.28	1,184.82	1,165.11	1,103.21	61.89	18.824		
7,300.00	7,073.21	7,423.44	7,014.89	33.86	47.93	-165.81	-990.09	1,185.55	1,206.37	1,144.40	61.97	19.467		
7,350.00	7,098.63	7,443.08	7,034.51	33.93	47.95	-161.12	-989.92	1,186.17	1,249.80	1,187.81	61.99	20.162		
7,400.00	7,120.30	7,459.38	7,050.81	34.00	47.98	-155.02	-989.75	1,186.73	1,295.03	1,233.04	61.99	20.891		
7,450.00	7,138.08	7,472.30	7,063.71	34.07	47.99	-146.60	-989.59	1,187.21	1,341.70	1,279.72	61.97	21.649		
7,500.00	7,151.81	7,481.78	7,073.19	34.14	48.01	-134.46	-989.47	1,187.58	1,389.44	1,327.49	61.95	22.429		
7,550.00	7,161.39	7,487.83	7,079.23	34.21	48.02	-117.14	-989.39	1,187.82	1,437.88	1,375.97	61.91	23.224		
7,600.00	7,166.77	7,490.46	7,081.86	34.30	48.02	-95.45	-989.36	1,187.92	1,486.66	1,424.79	61.87	24.028		
7,638.04	7,168.00	7,490.21	7,081.60	34.39	48.02	-79.08	-989.36	1,187.91	1,523.77	1,461.93	61.84	24.642		
7,700.00	7,168.00	7,488.23	7,079.63	34.57	48.02	-78.76	-989.39	1,187.83	1,584.18	1,522.40	61.78	25.641		
7,800.00	7,168.00	7,485.11	7,076.51	35.03	48.01	-78.25	-989.43	1,187.71	1,681.91	1,620.19	61.72	27.252		
7,900.00	7,168.00	7,482.06	7,073.47	35.77	48.01	-77.76	-989.47	1,187.59	1,779.88	1,718.22	61.67	28.863		
8,000.00	7,168.00	7,479.09	7,070.50	36.82	48.00	-77.28	-989.51	1,187.47	1,878.07	1,816.44	61.63	30.474		
8,100.00	7,168.00	7,476.20	7,067.61	38.17	48.00	-76.81	-989.55	1,187.36	1,976.42	1,914.82	61.60	32.083		
8,200.00	7,168.00	7,473.37	7,064.78	39.74	48.00	-76.36	-989.58	1,187.25	2,074.93	2,013.35	61.59	33.692		
8,300.00	7,168.00	7,470.61	7,062.03	41.49	47.99	-75.92	-989.61	1,187.15	2,173.57	2,112.00	61.57	35.300		
8,400.00	7,168.00	7,467.92	7,059.34	43.37	47.99	-75.49	-989.65	1,187.04	2,272.33	2,210.76	61.57	36.907		
8,500.00	7,168.00	7,465.29	7,056.71	45.36	47.98	-75.07	-989.68	1,186.95	2,371.18	2,309.62	61.57	38.513		
8,600.00	7,168.00	7,462.71	7,054.14	47.44	47.98	-74.67	-989.71	1,186.85	2,470.13	2,408.56	61.57	40.118		
8,700.00	7,168.00	7,460.20	7,051.63	49.59	47.98	-74.27	-989.74	1,186.76	2,569.15	2,507.57	61.58	41.722		
8,800.00	7,168.00	7,457.75	7,049.17	51.79	47.97	-73.89	-989.76	1,186.68	2,668.24	2,606.66	61.59	43.325		
8,900.00	7,168.00	7,455.34	7,046.77	54.05	47.97	-73.51	-989.79	1,186.59	2,767.40	2,705.80	61.60	44.927		
9,000.00	7,168.00	7,453.00	7,044.42	56.35	47.97	-73.14	-989.82	1,186.51	2,866.60	2,804.99	61.61	46.527		
9,100.00	7,168.00	7,450.70	7,042.13	58.69	47.97	-72.79	-989.84	1,186.43	2,965.86	2,904.24	61.63	48.127		
9,200.00	7,168.00	7,448.45	7,039.88	61.06	47.96	-72.44	-989.86	1,186.35	3,065.17	3,003.53	61.64	49.725		
9,300.00	7,168.00	7,446.25	7,037.68	63.46	47.96	-72.10	-989.89	1,186.28	3,164.52	3,102.86	61.66	51.321		
9,400.00	7,168.00	7,444.10	7,035.53	65.88	47.96	-71.77	-989.91	1,186.21	3,263.90	3,202.22	61.68	52.916		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN DD MIRACLE 13-12 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD										Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
600.00	599.98	1,777.00	1,685.02	1.92	10.60	-62.54	-804.83	2,956.06	3,256.77	3,245.65	11.11	293.083	
700.00	699.84	1,858.89	1,757.30	2.26	11.36	-62.76	-825.46	2,923.58	3,220.81	3,208.76	12.05	267.327	
800.00	799.45	1,929.61	1,819.61	2.60	12.01	-63.09	-843.82	2,895.62	3,183.85	3,170.92	12.93	246.249	
900.00	898.70	1,993.87	1,876.37	2.97	12.61	-63.50	-860.61	2,870.61	3,146.21	3,132.42	13.79	228.231	
1,000.00	997.47	2,040.00	1,917.09	3.36	13.03	-64.03	-873.16	2,852.92	3,108.14	3,093.61	14.53	213.902	
1,100.00	1,095.62	2,108.74	1,977.96	3.78	13.66	-64.50	-892.09	2,827.22	3,069.66	3,054.19	15.47	198.484	
1,107.69	1,103.14	2,129.00	1,996.00	3.81	13.85	-64.49	-897.64	2,819.83	3,066.76	3,051.11	15.65	195.996	
1,200.00	1,193.38	2,161.64	2,025.12	4.23	14.14	-64.38	-906.58	2,808.13	3,031.59	3,015.29	16.30	186.009	
1,300.00	1,291.14	2,218.00	2,075.61	4.69	14.64	-64.18	-922.15	2,788.51	2,994.80	2,977.63	17.17	174.444	
1,400.00	1,388.90	2,293.23	2,143.05	5.15	15.30	-63.90	-943.45	2,762.85	2,958.91	2,940.72	18.19	162.652	
1,500.00	1,486.66	2,359.19	2,202.05	5.63	15.88	-63.64	-962.78	2,740.57	2,923.63	2,904.47	19.17	152.528	
1,600.00	1,584.42	2,428.58	2,264.13	6.11	16.49	-63.35	-983.69	2,717.70	2,889.35	2,869.17	20.18	143.144	
1,700.00	1,682.18	2,532.39	2,356.77	6.60	17.41	-62.89	-1,015.86	2,683.65	2,855.56	2,834.08	21.48	132.956	
1,800.00	1,779.94	2,670.37	2,479.10	7.09	18.66	-62.25	-1,058.90	2,636.53	2,820.63	2,797.58	23.05	122.375	
1,900.00	1,877.69	2,719.92	2,523.12	7.58	19.11	-62.01	-1,074.21	2,619.72	2,785.94	2,761.98	23.96	116.283	
2,000.00	1,975.45	2,779.82	2,576.72	8.08	19.64	-61.74	-1,092.47	2,600.18	2,752.58	2,727.63	24.95	110.339	
2,100.00	2,073.21	2,856.29	2,645.25	8.58	20.31	-61.38	-1,116.19	2,575.90	2,720.28	2,694.22	26.06	104.380	
2,200.00	2,170.97	2,971.78	2,748.05	9.07	21.34	-60.79	-1,153.03	2,538.30	2,687.55	2,660.06	27.49	97.754	
2,300.00	2,268.73	3,061.78	2,827.57	9.57	22.16	-60.29	-1,182.97	2,508.66	2,655.03	2,626.27	28.76	92.325	
2,400.00	2,366.49	3,159.31	2,913.70	10.08	23.05	-59.73	-1,215.38	2,476.35	2,622.53	2,592.44	30.09	87.157	
2,500.00	2,464.25	3,305.02	3,042.47	10.58	24.40	-58.89	-1,262.33	2,426.92	2,589.30	2,557.52	31.78	81.474	
2,600.00	2,562.00	3,400.08	3,126.45	11.08	25.28	-58.34	-1,292.20	2,393.87	2,555.29	2,522.20	33.09	77.220	
2,700.00	2,659.76	3,511.21	3,225.05	11.59	26.30	-57.71	-1,325.49	2,354.90	2,520.80	2,486.30	34.50	73.061	
2,800.00	2,757.52	3,651.86	3,350.04	12.09	27.59	-56.92	-1,365.84	2,304.59	2,485.65	2,449.55	36.09	68.864	
2,900.00	2,855.28	3,739.77	3,427.92	12.60	28.40	-56.41	-1,390.70	2,272.27	2,449.57	2,412.22	37.35	65.590	
3,000.00	2,953.04	3,811.00	3,490.92	13.10	29.07	-55.97	-1,411.36	2,246.23	2,414.09	2,375.59	38.50	62.700	
3,100.00	3,050.80	3,952.87	3,614.56	13.61	30.45	-54.99	-1,454.62	2,191.77	2,377.31	2,337.12	40.19	59.155	
3,200.00	3,148.56	4,028.42	3,679.93	14.11	31.21	-54.43	-1,478.50	2,162.39	2,341.04	2,299.59	41.44	56.491	
3,300.00	3,246.31	4,103.30	3,744.79	14.62	31.95	-53.85	-1,502.42	2,133.61	2,305.58	2,262.88	42.70	53.999	
3,400.00	3,344.07	4,163.00	3,796.66	15.13	32.54	-53.38	-1,521.52	2,111.05	2,271.13	2,227.29	43.85	51.797	
3,500.00	3,441.83	4,233.85	3,858.69	15.64	33.22	-52.84	-1,543.96	2,085.19	2,237.97	2,192.91	45.06	49.666	
3,600.00	3,539.59	4,315.24	3,930.62	16.14	33.97	-52.23	-1,569.17	2,056.66	2,206.08	2,159.74	46.33	47.613	
3,700.00	3,637.35	4,411.25	4,015.48	16.65	34.87	-51.49	-1,598.89	2,023.00	2,174.50	2,126.79	47.71	45.576	
3,800.00	3,735.11	4,550.11	4,137.17	17.16	36.20	-50.34	-1,642.13	1,971.97	2,141.76	2,092.36	49.39	43.360	
3,900.00	3,832.87	4,666.38	4,239.74	17.67	37.30	-49.40	-1,676.10	1,929.05	2,108.78	2,057.88	50.89	41.436	
4,000.00	3,930.62	4,760.83	4,323.27	18.18	38.18	-48.64	-1,701.95	1,893.34	2,074.50	2,022.26	52.23	39.715	
4,100.00	4,028.38	4,901.88	4,448.72	18.69	39.48	-47.53	-1,737.88	1,839.84	2,039.65	1,985.86	53.79	37.917	
4,200.00	4,126.14	4,983.19	4,520.24	19.20	40.26	-46.82	-1,759.46	1,807.73	2,004.30	1,949.22	55.09	36.384	
4,300.00	4,223.90	5,066.04	4,592.67	19.71	41.07	-46.04	-1,782.38	1,774.67	1,969.49	1,913.07	56.41	34.912	
4,400.00	4,321.66	5,136.00	4,653.93	20.21	41.75	-45.37	-1,802.23	1,747.33	1,935.99	1,878.32	57.68	33.567	
4,500.00	4,419.42	5,189.17	4,700.77	20.72	42.25	-44.85	-1,817.48	1,727.33	1,904.22	1,845.39	58.83	32.369	
4,600.00	4,517.18	5,246.07	4,751.23	21.23	42.78	-44.30	-1,833.94	1,706.82	1,874.38	1,814.40	59.98	31.249	
4,700.00	4,614.94	5,313.00	4,810.72	21.74	43.39	-43.64	-1,854.30	1,683.90	1,846.93	1,785.75	61.18	30.189	
4,800.00	4,712.69	5,414.04	4,901.53	22.25	44.28	-42.68	-1,883.50	1,650.58	1,820.41	1,757.86	62.55	29.105	
4,900.00	4,810.45	5,501.87	4,980.38	22.76	45.05	-41.83	-1,908.56	1,621.14	1,793.67	1,729.84	63.83	28.099	
5,000.00	4,908.21	5,594.69	5,062.75	23.27	45.91	-40.83	-1,936.69	1,588.90	1,767.40	1,702.22	65.18	27.114	
5,100.00	5,005.97	5,676.09	5,134.85	23.78	46.66	-39.92	-1,961.82	1,560.70	1,742.06	1,675.59	66.47	26.209	
5,200.00	5,103.73	5,783.98	5,230.30	24.29	47.66	-38.68	-1,995.10	1,522.98	1,717.06	1,649.15	67.91	25.285	
5,300.00	5,201.49	5,895.89	5,329.92	24.80	48.68	-37.40	-2,027.76	1,483.82	1,691.75	1,622.41	69.34	24.398	
5,400.00	5,299.25	5,989.19	5,413.40	25.31	49.52	-36.34	-2,053.63	1,451.16	1,666.16	1,595.52	70.64	23.588	
5,500.00	5,397.00	6,074.11	5,489.50	25.82	50.28	-35.36	-2,077.23	1,421.81	1,641.51	1,569.64	71.87	22.839	
5,600.00	5,494.76	6,163.07	5,569.47	26.33	51.06	-34.32	-2,101.80	1,391.57	1,617.75	1,544.64	73.11	22.128	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN DD MIRACLE 13-12 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,700.00	5,592.52	6,247.81	5,645.96	26.84	51.79	-33.33	-2,124.87	1,363.30	1,594.79	1,520.49	74.30	21.465		
5,800.00	5,690.28	6,340.46	5,730.54	27.36	52.55	-32.30	-2,148.92	1,334.14	1,572.85	1,497.38	75.47	20.841		
5,900.00	5,788.04	6,432.83	5,816.31	27.87	53.26	-31.39	-2,170.30	1,307.36	1,551.20	1,474.62	76.58	20.256		
6,000.00	5,885.80	6,518.44	5,896.72	28.38	53.86	-30.61	-2,188.77	1,284.48	1,530.37	1,452.77	77.60	19.721		
6,100.00	5,983.56	6,603.24	5,977.36	28.89	54.41	-29.94	-2,205.51	1,264.31	1,510.50	1,431.94	78.56	19.226		
6,200.00	6,081.31	6,693.00	6,063.43	29.40	54.95	-29.30	-2,222.16	1,245.03	1,491.52	1,412.02	79.50	18.762		
6,300.00	6,179.07	6,778.91	6,146.50	29.91	55.42	-28.78	-2,236.69	1,228.68	1,473.13	1,392.76	80.37	18.329		
6,400.00	6,276.83	6,866.00	6,250.73	30.42	55.96	-28.23	-2,253.47	1,210.72	1,455.43	1,374.16	81.27	17.909		
6,500.00	6,374.59	6,956.77	6,349.47	30.93	56.43	-27.81	-2,266.55	1,195.52	1,436.86	1,354.75	82.11	17.500		
6,600.00	6,472.35	7,048.49	6,449.73	31.44	56.84	-27.52	-2,277.75	1,182.51	1,418.32	1,335.42	82.90	17.109		
6,700.00	6,570.11	7,202.36	6,562.49	31.95	57.25	-27.32	-2,287.13	1,169.73	1,398.65	1,314.99	83.66	16.719		
6,712.06	6,581.89	7,212.34	6,572.39	32.01	57.29	-27.31	-2,287.82	1,168.74	1,396.27	1,312.52	83.74	16.673		
6,750.00	6,619.02	7,243.90	6,603.75	32.20	57.39	-45.67	-2,289.94	1,165.85	1,389.67	1,305.64	84.03	16.538		
6,800.00	6,667.83	7,292.28	6,651.89	32.44	57.53	-67.80	-2,292.88	1,162.04	1,383.58	1,299.17	84.41	16.391		
6,850.00	6,716.18	7,343.99	6,703.43	32.65	57.68	-83.96	-2,295.33	1,158.68	1,380.28	1,295.46	84.81	16.274		
6,881.76	6,746.48	7,375.23	6,734.61	32.78	57.75	-91.32	-2,296.46	1,157.00	1,379.68	1,294.61	85.07	16.219	CC, ES	
6,900.00	6,763.70	7,392.87	6,752.22	32.85	57.80	-94.77	-2,296.99	1,156.18	1,379.88	1,294.67	85.21	16.193		
6,950.00	6,810.04	7,439.81	6,799.12	33.03	57.90	-102.05	-2,298.00	1,154.46	1,382.53	1,296.91	85.63	16.146		
7,000.00	6,854.83	7,482.22	6,841.51	33.19	57.98	-107.04	-2,298.58	1,153.35	1,388.41	1,302.37	86.04	16.137	SF	
7,050.00	6,897.73	7,525.00	6,884.28	33.34	58.07	-110.56	-2,298.98	1,152.58	1,397.63	1,311.18	86.45	16.167		
7,100.00	6,938.43	7,560.60	6,919.88	33.47	58.12	-112.89	-2,299.16	1,152.22	1,410.24	1,323.39	86.85	16.237		
7,150.00	6,976.60	7,595.83	6,955.10	33.59	58.18	-114.42	-2,299.17	1,152.14	1,426.27	1,339.02	87.25	16.347		
7,200.00	7,011.97	7,627.53	6,986.80	33.69	58.22	-115.20	-2,299.04	1,152.30	1,445.70	1,358.07	87.64	16.497		
7,250.00	7,044.25	7,655.41	7,014.69	33.78	58.25	-115.27	-2,298.82	1,152.64	1,468.48	1,380.47	88.01	16.686		
7,300.00	7,073.21	7,679.87	7,039.14	33.86	58.28	-114.65	-2,298.54	1,153.10	1,494.47	1,406.11	88.36	16.913		
7,350.00	7,098.63	7,701.00	7,060.26	33.93	58.30	-113.33	-2,298.24	1,153.62	1,523.52	1,434.81	88.71	17.175		
7,400.00	7,120.30	7,720.79	7,080.04	34.00	58.32	-111.33	-2,297.91	1,154.18	1,555.37	1,466.34	89.03	17.470		
7,450.00	7,138.08	7,736.79	7,096.02	34.07	58.34	-108.48	-2,297.61	1,154.66	1,589.74	1,500.40	89.34	17.795		
7,500.00	7,151.81	7,748.66	7,107.89	34.14	58.35	-104.66	-2,297.37	1,155.03	1,626.34	1,536.72	89.62	18.147		
7,550.00	7,161.39	7,756.39	7,115.61	34.21	58.36	-99.77	-2,297.21	1,155.28	1,664.85	1,574.96	89.89	18.522		
7,600.00	7,166.77	7,759.97	7,119.18	34.30	58.36	-93.75	-2,297.13	1,155.40	1,704.90	1,614.77	90.13	18.916		
7,638.04	7,168.00	7,759.93	7,119.15	34.39	58.36	-88.41	-2,297.13	1,155.40	1,736.18	1,645.88	90.30	19.226		
7,700.00	7,168.00	7,757.97	7,117.19	34.57	58.36	-88.30	-2,297.18	1,155.33	1,787.94	1,697.38	90.56	19.743		
7,800.00	7,168.00	7,754.84	7,114.07	35.03	58.36	-88.11	-2,297.24	1,155.23	1,872.76	1,781.82	90.94	20.593		
7,900.00	7,168.00	7,751.78	7,111.00	35.77	58.35	-87.93	-2,297.31	1,155.13	1,959.01	1,867.73	91.28	21.462		
8,000.00	7,168.00	7,748.77	7,107.99	36.82	58.35	-87.75	-2,297.37	1,155.04	2,046.51	1,954.93	91.58	22.347		
8,100.00	7,168.00	7,745.81	7,105.04	38.17	58.35	-87.58	-2,297.43	1,154.94	2,135.10	2,043.26	91.84	23.247		
8,200.00	7,168.00	7,742.91	7,102.14	39.74	58.35	-87.41	-2,297.49	1,154.85	2,224.66	2,132.58	92.08	24.160		
8,300.00	7,168.00	7,740.06	7,099.29	41.49	58.34	-87.24	-2,297.55	1,154.76	2,315.06	2,222.78	92.29	25.086		
8,400.00	7,168.00	7,737.26	7,096.50	43.37	58.34	-87.08	-2,297.60	1,154.67	2,406.23	2,313.75	92.47	26.021		
8,500.00	7,168.00	7,734.51	7,093.75	45.36	58.34	-86.91	-2,297.66	1,154.59	2,498.06	2,405.42	92.64	26.966		
8,600.00	7,168.00	7,731.81	7,091.05	47.44	58.33	-86.75	-2,297.71	1,154.51	2,590.50	2,497.71	92.78	27.920		
8,700.00	7,168.00	7,729.15	7,088.39	49.59	58.33	-86.60	-2,297.76	1,154.43	2,683.47	2,590.56	92.92	28.881		
8,800.00	7,168.00	7,726.54	7,085.79	51.79	58.33	-86.44	-2,297.81	1,154.35	2,776.93	2,683.90	93.03	29.849		
8,900.00	7,168.00	7,723.98	7,083.22	54.05	58.33	-86.29	-2,297.85	1,154.27	2,870.83	2,777.69	93.14	30.823		
9,000.00	7,168.00	7,721.46	7,080.70	56.35	58.32	-86.15	-2,297.90	1,154.20	2,965.13	2,871.89	93.24	31.802		
9,100.00	7,168.00	7,718.98	7,078.22	58.69	58.32	-86.00	-2,297.94	1,154.13	3,059.79	2,966.46	93.32	32.786		
9,200.00	7,168.00	7,716.54	7,075.79	61.06	58.32	-85.86	-2,297.99	1,154.06	3,154.77	3,061.36	93.40	33.775		
9,300.00	7,168.00	7,714.14	7,073.39	63.46	58.32	-85.72	-2,298.03	1,153.99	3,250.05	3,156.57	93.48	34.768		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN VERT DONNAMITE 1 - Wellbore #1 - Design #1													Offset Site Error: 0.00 usft
Survey Program: 0-INC													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
13,700.00	7,168.00	7,128.00	7,128.00	178.49	142.97	-90.00	-2,390.55	-9,409.37	3,213.60	3,016.59	197.02	16.311	
13,800.00	7,168.00	7,128.00	7,128.00	181.18	142.97	-90.00	-2,390.55	-9,409.37	3,118.45	2,919.43	199.02	15.669	
13,900.00	7,168.00	7,128.00	7,128.00	183.87	142.97	-90.00	-2,390.55	-9,409.37	3,023.62	2,822.43	201.19	15.029	
14,000.00	7,168.00	7,128.00	7,128.00	186.55	142.97	-90.00	-2,390.55	-9,409.37	2,929.12	2,725.59	203.53	14.392	
14,100.00	7,168.00	7,128.00	7,128.00	189.24	142.97	-90.00	-2,390.55	-9,409.37	2,835.01	2,628.94	206.06	13.758	
14,200.00	7,168.00	7,128.00	7,128.00	191.93	142.97	-90.00	-2,390.55	-9,409.37	2,741.31	2,532.50	208.81	13.128	
14,300.00	7,168.00	7,128.00	7,128.00	194.62	142.97	-90.00	-2,390.55	-9,409.37	2,648.07	2,436.29	211.78	12.504	
14,400.00	7,168.00	7,128.00	7,128.00	197.31	142.97	-90.00	-2,390.55	-9,409.37	2,555.34	2,340.34	215.00	11.885	
14,500.00	7,168.00	7,128.00	7,128.00	200.01	142.97	-90.00	-2,390.55	-9,409.37	2,463.19	2,244.70	218.49	11.274	
14,600.00	7,168.00	7,128.00	7,128.00	202.70	142.97	-90.00	-2,390.55	-9,409.37	2,371.66	2,149.39	222.28	10.670	
14,700.00	7,168.00	7,128.00	7,128.00	205.39	142.97	-90.00	-2,390.55	-9,409.37	2,280.85	2,054.46	226.39	10.075	
14,800.00	7,168.00	7,128.00	7,128.00	208.09	142.97	-90.00	-2,390.55	-9,409.37	2,190.84	1,959.98	230.86	9.490	
14,900.00	7,168.00	7,128.00	7,128.00	210.78	142.97	-90.00	-2,390.55	-9,409.37	2,101.74	1,866.02	235.72	8.916	
15,000.00	7,168.00	7,128.00	7,128.00	213.48	142.97	-90.00	-2,390.55	-9,409.37	2,013.65	1,772.65	241.01	8.355	
15,100.00	7,168.00	7,128.00	7,128.00	216.17	142.97	-90.00	-2,390.55	-9,409.37	1,926.74	1,679.97	246.77	7.808	
15,200.00	7,168.00	7,128.00	7,128.00	218.87	142.97	-90.00	-2,390.55	-9,409.37	1,841.14	1,588.10	253.04	7.276	
15,300.00	7,168.00	7,128.00	7,128.00	221.57	142.97	-90.00	-2,390.55	-9,409.37	1,757.08	1,497.20	259.87	6.761	
15,400.00	7,168.00	7,128.00	7,128.00	224.27	142.97	-90.00	-2,390.55	-9,409.37	1,674.76	1,407.44	267.32	6.265	
15,500.00	7,168.00	7,128.00	7,128.00	226.97	142.97	-90.00	-2,390.55	-9,409.37	1,594.47	1,319.06	275.41	5.789	
15,600.00	7,168.00	7,128.00	7,128.00	229.66	142.97	-90.00	-2,390.55	-9,409.37	1,516.52	1,232.32	284.20	5.336	
15,700.00	7,168.00	7,128.00	7,128.00	232.36	142.97	-90.00	-2,390.55	-9,409.37	1,441.30	1,147.59	293.70	4.907	
15,765.69	7,168.00	7,128.00	7,128.00	234.14	142.97	-90.00	-2,390.55	-9,409.37	1,393.58	1,093.23	300.34	4.640	CC, ES, SF

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN VERT KNESS 1 - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-INC													Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
		Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Between Centres (usft)	Between Ellipses (usft)						
0.00	0.00	6.00	6.00	0.00	0.07	-25.61	2,926.45	-1,402.65	3,245.23					
100.00	100.00	106.00	106.00	0.14	1.34	-25.61	2,926.45	-1,402.65	3,245.23	3,243.75	1.48	2,194.222		
200.00	200.00	206.00	206.00	0.50	3.61	-25.61	2,926.45	-1,402.65	3,245.23	3,241.12	4.11	788.744		
300.00	300.00	306.00	306.00	0.86	5.69	-25.61	2,926.45	-1,402.65	3,245.23	3,238.68	6.55	495.527		
400.00	400.00	406.00	406.00	1.22	7.73	-25.61	2,926.45	-1,402.65	3,245.23	3,236.28	8.95	362.639		
500.00	500.00	506.00	506.00	1.58	9.76	-25.61	2,926.45	-1,402.65	3,245.23	3,233.90	11.34	286.275 CC		
600.00	599.98	605.98	605.98	1.92	11.78	167.30	2,926.45	-1,402.65	3,246.94	3,233.23	13.70	236.993 ES		
700.00	699.84	705.84	705.84	2.26	13.80	167.30	2,926.45	-1,402.65	3,252.04	3,235.99	16.05	202.581		
800.00	799.45	805.45	805.45	2.60	15.81	167.30	2,926.45	-1,402.65	3,260.54	3,242.14	18.41	177.135		
900.00	898.70	904.70	904.70	2.97	17.81	167.29	2,926.45	-1,402.65	3,272.44	3,251.68	20.76	157.639 SF		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN VERT MCWHINNEY-VANDERWATER1 - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-INC													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
9,900.00	7,168.00	7,129.00	7,129.00	78.31	143.00	-90.00	-2,355.27	-5,655.25	3,256.00	3,078.89	177.11	18.384		
10,000.00	7,168.00	7,129.00	7,129.00	80.84	143.00	-90.00	-2,355.27	-5,655.25	3,160.68	2,983.06	177.62	17.795		
10,100.00	7,168.00	7,129.00	7,129.00	83.39	143.00	-90.00	-2,355.27	-5,655.25	3,065.66	2,887.44	178.22	17.202		
10,200.00	7,168.00	7,129.00	7,129.00	85.94	143.00	-90.00	-2,355.27	-5,655.25	2,970.96	2,792.04	178.92	16.605		
10,300.00	7,168.00	7,129.00	7,129.00	88.51	143.00	-90.00	-2,355.27	-5,655.25	2,876.63	2,696.88	179.75	16.004		
10,400.00	7,168.00	7,129.00	7,129.00	91.08	143.00	-90.00	-2,355.27	-5,655.25	2,782.69	2,601.99	180.70	15.400		
10,500.00	7,168.00	7,129.00	7,129.00	93.66	143.00	-90.00	-2,355.27	-5,655.25	2,689.18	2,507.39	181.79	14.792		
10,600.00	7,168.00	7,129.00	7,129.00	96.25	143.00	-90.00	-2,355.27	-5,655.25	2,596.16	2,413.11	183.05	14.183		
10,700.00	7,168.00	7,129.00	7,129.00	98.85	143.00	-90.00	-2,355.27	-5,655.25	2,503.68	2,319.19	184.49	13.571		
10,800.00	7,168.00	7,129.00	7,129.00	101.45	143.00	-90.00	-2,355.27	-5,655.25	2,411.80	2,225.68	186.12	12.958		
10,900.00	7,168.00	7,129.00	7,129.00	104.06	143.00	-90.00	-2,355.27	-5,655.25	2,320.59	2,132.62	187.97	12.346		
11,000.00	7,168.00	7,129.00	7,129.00	106.68	143.00	-90.00	-2,355.27	-5,655.25	2,230.13	2,040.08	190.06	11.734		
11,100.00	7,168.00	7,129.00	7,129.00	109.30	143.00	-90.00	-2,355.27	-5,655.25	2,140.53	1,948.12	192.41	11.125		
11,200.00	7,168.00	7,129.00	7,129.00	111.92	143.00	-90.00	-2,355.27	-5,655.25	2,051.88	1,856.84	195.05	10.520		
11,300.00	7,168.00	7,129.00	7,129.00	114.55	143.00	-90.00	-2,355.27	-5,655.25	1,964.33	1,766.32	198.01	9.920		
11,400.00	7,168.00	7,129.00	7,129.00	117.19	143.00	-90.00	-2,355.27	-5,655.25	1,878.02	1,676.70	201.32	9.329		
11,500.00	7,168.00	7,129.00	7,129.00	119.82	143.00	-90.00	-2,355.27	-5,655.25	1,793.13	1,588.12	205.01	8.747		
11,600.00	7,168.00	7,129.00	7,129.00	122.47	143.00	-90.00	-2,355.27	-5,655.25	1,709.87	1,500.76	209.12	8.177		
11,700.00	7,168.00	7,129.00	7,129.00	125.11	143.00	-90.00	-2,355.27	-5,655.25	1,628.50	1,414.83	213.68	7.621		
11,800.00	7,168.00	7,129.00	7,129.00	127.76	143.00	-90.00	-2,355.27	-5,655.25	1,549.32	1,330.60	218.72	7.084		
11,900.00	7,168.00	7,129.00	7,129.00	130.41	143.00	-90.00	-2,355.27	-5,655.25	1,472.67	1,248.38	224.28	6.566		
12,000.00	7,168.00	7,129.00	7,129.00	133.06	143.00	-90.00	-2,355.27	-5,655.25	1,398.97	1,168.59	230.38	6.072		
12,100.00	7,168.00	7,129.00	7,129.00	135.72	143.00	-90.00	-2,355.27	-5,655.25	1,328.71	1,091.68	237.03	5.606		
12,200.00	7,168.00	7,129.00	7,129.00	138.38	143.00	-90.00	-2,355.27	-5,655.25	1,262.47	1,018.27	244.20	5.170		
12,300.00	7,168.00	7,129.00	7,129.00	141.04	143.00	-90.00	-2,355.27	-5,655.25	1,200.91	949.06	251.85	4.768		
12,400.00	7,168.00	7,129.00	7,129.00	143.70	143.00	-90.00	-2,355.27	-5,655.25	1,144.79	884.92	259.88	4.405		
12,500.00	7,168.00	7,129.00	7,129.00	146.37	143.00	-90.00	-2,355.27	-5,655.25	1,094.95	826.83	268.12	4.084		
12,600.00	7,168.00	7,129.00	7,129.00	149.04	143.00	-90.00	-2,355.27	-5,655.25	1,052.27	775.95	276.33	3.808		
12,700.00	7,168.00	7,129.00	7,129.00	151.71	143.00	-90.00	-2,355.27	-5,655.25	1,017.66	733.46	284.20	3.581		
12,800.00	7,168.00	7,129.00	7,129.00	154.38	143.00	-90.00	-2,355.27	-5,655.25	991.97	700.59	291.38	3.404		
12,900.00	7,168.00	7,129.00	7,129.00	157.05	143.00	-90.00	-2,355.27	-5,655.25	975.89	678.39	297.50	3.280		
13,000.00	7,168.00	7,129.00	7,129.00	159.73	143.00	-90.00	-2,355.27	-5,655.25	969.91	667.68	302.22	3.209		
13,008.20	7,168.00	7,129.00	7,129.00	159.95	143.00	-90.00	-2,355.27	-5,655.25	969.87	667.33	302.54	3.206 CC, ES		
13,100.00	7,168.00	7,129.00	7,129.00	162.41	143.00	-90.00	-2,355.27	-5,655.25	974.21	668.85	305.36	3.190 SF		
13,200.00	7,168.00	7,129.00	7,129.00	165.08	143.00	-90.00	-2,355.27	-5,655.25	988.66	681.81	306.84	3.222		
13,300.00	7,168.00	7,129.00	7,129.00	167.76	143.00	-90.00	-2,355.27	-5,655.25	1,012.82	706.05	306.76	3.302		
13,400.00	7,168.00	7,129.00	7,129.00	170.44	143.00	-90.00	-2,355.27	-5,655.25	1,046.02	740.69	305.33	3.426		
13,500.00	7,168.00	7,129.00	7,129.00	173.13	143.00	-90.00	-2,355.27	-5,655.25	1,087.44	784.61	302.83	3.591		
13,600.00	7,168.00	7,129.00	7,129.00	175.81	143.00	-90.00	-2,355.27	-5,655.25	1,136.17	836.62	299.55	3.793		
13,700.00	7,168.00	7,129.00	7,129.00	178.49	143.00	-90.00	-2,355.27	-5,655.25	1,191.32	895.57	295.75	4.028		
13,800.00	7,168.00	7,129.00	7,129.00	181.18	143.00	-90.00	-2,355.27	-5,655.25	1,252.04	960.37	291.67	4.293		
13,900.00	7,168.00	7,129.00	7,129.00	183.87	143.00	-90.00	-2,355.27	-5,655.25	1,317.56	1,030.09	287.47	4.583		
14,000.00	7,168.00	7,129.00	7,129.00	186.55	143.00	-90.00	-2,355.27	-5,655.25	1,387.20	1,103.92	283.28	4.897		
14,100.00	7,168.00	7,129.00	7,129.00	189.24	143.00	-90.00	-2,355.27	-5,655.25	1,460.37	1,181.18	279.20	5.231		
14,200.00	7,168.00	7,129.00	7,129.00	191.93	143.00	-90.00	-2,355.27	-5,655.25	1,536.57	1,261.31	275.26	5.582		
14,300.00	7,168.00	7,129.00	7,129.00	194.62	143.00	-90.00	-2,355.27	-5,655.25	1,615.37	1,343.85	271.52	5.949		
14,400.00	7,168.00	7,129.00	7,129.00	197.31	143.00	-90.00	-2,355.27	-5,655.25	1,696.40	1,428.42	267.98	6.330		
14,500.00	7,168.00	7,129.00	7,129.00	200.01	143.00	-90.00	-2,355.27	-5,655.25	1,779.36	1,514.71	264.65	6.723		
14,600.00	7,168.00	7,129.00	7,129.00	202.70	143.00	-90.00	-2,355.27	-5,655.25	1,864.00	1,602.47	261.53	7.127		
14,700.00	7,168.00	7,129.00	7,129.00	205.39	143.00	-90.00	-2,355.27	-5,655.25	1,950.09	1,691.48	258.61	7.541		
14,800.00	7,168.00	7,129.00	7,129.00	208.09	143.00	-90.00	-2,355.27	-5,655.25	2,037.45	1,781.57	255.88	7.962		
14,900.00	7,168.00	7,129.00	7,129.00	210.78	143.00	-90.00	-2,355.27	-5,655.25	2,125.93	1,872.59	253.34	8.392		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN VERT MCWHINNEY-VANDERWATER1 - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-INC													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
15,000.00	7,168.00	7,129.00	7,129.00	213.48	143.00	-90.00	-2,355.27	-5,655.25	2,215.39	1,964.43	250.96	8.828		
15,100.00	7,168.00	7,129.00	7,129.00	216.17	143.00	-90.00	-2,355.27	-5,655.25	2,305.71	2,056.97	248.74	9.270		
15,200.00	7,168.00	7,129.00	7,129.00	218.87	143.00	-90.00	-2,355.27	-5,655.25	2,396.80	2,150.14	246.66	9.717		
15,300.00	7,168.00	7,129.00	7,129.00	221.57	143.00	-90.00	-2,355.27	-5,655.25	2,488.58	2,243.86	244.72	10.169		
15,400.00	7,168.00	7,129.00	7,129.00	224.27	143.00	-90.00	-2,355.27	-5,655.25	2,580.97	2,338.07	242.90	10.626		
15,500.00	7,168.00	7,129.00	7,129.00	226.97	143.00	-90.00	-2,355.27	-5,655.25	2,673.90	2,432.71	241.19	11.086		
15,600.00	7,168.00	7,129.00	7,129.00	229.66	143.00	-90.00	-2,355.27	-5,655.25	2,767.33	2,527.73	239.60	11.550		
15,700.00	7,168.00	7,129.00	7,129.00	232.36	143.00	-90.00	-2,355.27	-5,655.25	2,861.20	2,623.10	238.10	12.017		
15,765.69	7,168.00	7,129.00	7,129.00	234.14	143.00	-90.00	-2,355.27	-5,655.25	2,923.09	2,685.93	237.16	12.325		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN VERT MEAN 1 - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-INC													Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
		Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
14,900.00	7,168.00	6,727.00	6,727.00	210.78	134.90	43.03	-1,049.41	-10,720.40	3,210.47	3,027.16	183.31	17.514		
15,000.00	7,168.00	6,727.00	6,727.00	213.48	134.90	43.03	-1,049.41	-10,720.40	3,112.02	2,927.93	184.09	16.905		
15,100.00	7,168.00	6,727.00	6,727.00	216.17	134.90	43.03	-1,049.41	-10,720.40	3,013.67	2,828.74	184.93	16.296		
15,200.00	7,168.00	6,727.00	6,727.00	218.87	134.90	43.03	-1,049.41	-10,720.40	2,915.43	2,729.60	185.83	15.688		
15,300.00	7,168.00	6,727.00	6,727.00	221.57	134.90	43.03	-1,049.41	-10,720.40	2,817.32	2,630.51	186.81	15.081		
15,400.00	7,168.00	6,727.00	6,727.00	224.27	134.90	43.03	-1,049.41	-10,720.40	2,719.34	2,531.48	187.86	14.475		
15,500.00	7,168.00	6,727.00	6,727.00	226.97	134.90	43.03	-1,049.41	-10,720.40	2,621.52	2,432.52	189.00	13.871		
15,600.00	7,168.00	6,727.00	6,727.00	229.66	134.90	43.03	-1,049.41	-10,720.40	2,523.87	2,333.64	190.23	13.267		
15,700.00	7,168.00	6,727.00	6,727.00	232.36	134.90	43.03	-1,049.41	-10,720.40	2,426.41	2,234.83	191.58	12.665		
15,765.69	7,168.00	6,727.00	6,727.00	234.14	134.90	43.03	-1,049.41	-10,720.40	2,362.50	2,169.97	192.52	12.271	CC, ES, SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN VERT NASTY 1 - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-INC													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
15,000.00	7,168.00	6,794.00	6,794.00	213.48	136.26	-71.06	-2,371.80	-10,729.33	3,239.84	3,042.81	197.03	16.444		
15,100.00	7,168.00	6,794.00	6,794.00	216.17	136.26	-71.06	-2,371.80	-10,729.33	3,144.86	2,945.57	199.29	15.780		
15,200.00	7,168.00	6,794.00	6,794.00	218.87	136.26	-71.06	-2,371.80	-10,729.33	3,050.19	2,848.47	201.72	15.121		
15,300.00	7,168.00	6,794.00	6,794.00	221.57	136.26	-71.06	-2,371.80	-10,729.33	2,955.88	2,751.55	204.33	14.466		
15,400.00	7,168.00	6,794.00	6,794.00	224.27	136.26	-71.06	-2,371.80	-10,729.33	2,861.96	2,654.81	207.14	13.816		
15,500.00	7,168.00	6,794.00	6,794.00	226.97	136.26	-71.06	-2,371.80	-10,729.33	2,768.46	2,558.29	210.17	13.173		
15,600.00	7,168.00	6,794.00	6,794.00	229.66	136.26	-71.06	-2,371.80	-10,729.33	2,675.42	2,462.00	213.43	12.536		
15,700.00	7,168.00	6,794.00	6,794.00	232.36	136.26	-71.06	-2,371.80	-10,729.33	2,582.92	2,365.98	216.94	11.906		
15,765.69	7,168.00	6,794.00	6,794.00	234.14	136.26	-71.06	-2,371.80	-10,729.33	2,522.45	2,303.06	219.39	11.498	CC, ES, SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-10H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference				Offset			Semi Major Axis			Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	51.00	0.00	51.00	51.00				
100.00	100.00	100.00	100.00	0.14	0.14	0.00	51.00	0.00	51.00	50.71	0.29	177.844		
200.00	200.00	200.00	200.00	0.50	0.50	0.00	51.00	0.00	51.00	50.00	1.00	50.813		
300.00	300.00	300.00	300.00	0.86	0.86	0.00	51.00	0.00	51.00	49.28	1.72	29.641		
400.00	400.00	400.16	400.14	1.22	1.21	1.96	50.81	1.74	50.84	48.41	2.43	20.919		
479.66	479.66	479.78	479.66	1.50	1.49	6.35	50.38	5.60	50.69	47.69	3.00	16.918 CC		
500.00	500.00	500.07	499.91	1.58	1.56	7.87	50.23	6.94	50.71	47.57	3.14	16.146 ES		
600.00	599.98	599.65	599.13	1.92	1.93	-150.72	49.29	15.34	53.15	49.30	3.85	13.814		
700.00	699.84	699.24	698.30	2.26	2.30	-144.39	48.28	24.46	59.67	55.12	4.56	13.094		
800.00	799.45	798.70	797.33	2.60	2.68	-141.16	47.27	33.56	69.44	64.16	5.28	13.153		
900.00	898.70	897.90	896.11	2.97	3.06	-140.28	46.26	42.64	82.00	75.99	6.01	13.635		
1,000.00	997.47	996.72	994.51	3.36	3.44	-140.90	45.25	51.68	97.24	90.48	6.76	14.382		
1,100.00	1,095.62	1,095.04	1,092.41	3.78	3.82	-142.36	44.25	60.67	115.20	107.69	7.52	15.321		
1,107.69	1,103.14	1,102.57	1,099.91	3.81	3.85	-142.49	44.17	61.36	116.70	109.12	7.58	15.401		
1,200.00	1,193.38	1,193.02	1,189.98	4.23	4.20	-144.08	43.25	69.64	134.83	126.55	8.28	16.280		
1,300.00	1,291.14	1,291.01	1,287.54	4.69	4.57	-145.39	42.26	78.61	154.55	145.51	9.05	17.086		
1,400.00	1,388.90	1,388.99	1,385.11	5.15	4.95	-146.39	41.26	87.57	174.34	164.52	9.81	17.765		
1,500.00	1,486.66	1,486.97	1,482.68	5.63	5.34	-147.20	40.26	96.54	194.16	183.58	10.58	18.344		
1,600.00	1,584.42	1,584.95	1,580.24	6.11	5.72	-147.85	39.26	105.51	214.01	202.66	11.36	18.843		
1,700.00	1,682.18	1,682.94	1,677.81	6.60	6.10	-148.39	38.27	114.47	233.89	221.76	12.13	19.276		
1,800.00	1,779.94	1,780.92	1,775.38	7.09	6.48	-148.85	37.27	123.44	253.78	240.87	12.91	19.657		
1,900.00	1,877.69	1,878.90	1,872.94	7.58	6.86	-149.24	36.27	132.40	273.69	260.00	13.69	19.993		
2,000.00	1,975.45	1,976.88	1,970.51	8.08	7.24	-149.58	35.27	141.37	293.61	279.14	14.47	20.292		
2,100.00	2,073.21	2,074.87	2,068.08	8.58	7.62	-149.88	34.28	150.34	313.53	298.28	15.25	20.560		
2,200.00	2,170.97	2,172.85	2,165.64	9.07	8.01	-150.14	33.28	159.30	333.47	317.44	16.03	20.801		
2,300.00	2,268.73	2,270.83	2,263.21	9.57	8.39	-150.37	32.28	168.27	353.41	336.59	16.81	21.019		
2,400.00	2,366.49	2,368.82	2,360.78	10.08	8.77	-150.57	31.28	177.23	373.35	355.75	17.60	21.217		
2,500.00	2,464.25	2,466.80	2,458.34	10.58	9.15	-150.76	30.29	186.20	393.30	374.92	18.38	21.398		
2,600.00	2,562.00	2,564.78	2,555.91	11.08	9.53	-150.93	29.29	195.17	413.25	394.08	19.16	21.564		
2,700.00	2,659.76	2,662.76	2,653.48	11.59	9.92	-151.08	28.29	204.13	433.20	413.25	19.95	21.717		
2,800.00	2,757.52	2,760.75	2,751.04	12.09	10.30	-151.22	27.29	213.10	453.16	432.43	20.73	21.857		
2,900.00	2,855.28	2,858.73	2,848.61	12.60	10.68	-151.34	26.30	222.07	473.12	451.60	21.52	21.988		
3,000.00	2,953.04	2,956.71	2,946.17	13.10	11.06	-151.46	25.30	231.03	493.08	470.78	22.30	22.109		
3,100.00	3,050.80	3,054.69	3,043.74	13.61	11.45	-151.57	24.30	240.00	513.04	489.96	23.09	22.221		
3,200.00	3,148.56	3,152.68	3,141.31	14.11	11.83	-151.67	23.30	248.96	533.01	509.13	23.87	22.326		
3,300.00	3,246.31	3,250.66	3,238.87	14.62	12.21	-151.76	22.31	257.93	552.97	528.31	24.66	22.424		
3,400.00	3,344.07	3,348.64	3,336.44	15.13	12.59	-151.84	21.31	266.90	572.94	547.50	25.45	22.516		
3,500.00	3,441.83	3,446.63	3,434.01	15.64	12.98	-151.92	20.31	275.86	592.91	566.68	26.23	22.602		
3,600.00	3,539.59	3,544.61	3,531.57	16.14	13.36	-152.00	19.31	284.83	612.88	585.86	27.02	22.683		
3,700.00	3,637.35	3,642.59	3,629.14	16.65	13.74	-152.07	18.32	293.79	632.85	605.04	27.81	22.759		
3,800.00	3,735.11	3,740.57	3,726.71	17.16	14.12	-152.13	17.32	302.76	652.82	624.23	28.59	22.831		
3,900.00	3,832.87	3,838.56	3,824.27	17.67	14.51	-152.20	16.32	311.73	672.79	643.41	29.38	22.900		
4,000.00	3,930.62	3,936.54	3,921.84	18.18	14.89	-152.26	15.32	320.69	692.77	662.60	30.17	22.964		
4,100.00	4,028.38	4,034.52	4,019.41	18.69	15.27	-152.31	14.33	329.66	712.74	681.79	30.95	23.025		
4,200.00	4,126.14	4,132.50	4,116.97	19.20	15.66	-152.36	13.33	338.63	732.72	700.97	31.74	23.083		
4,300.00	4,223.90	4,230.49	4,214.54	19.71	16.04	-152.41	12.33	347.59	752.69	720.16	32.53	23.138		
4,400.00	4,321.66	4,328.47	4,312.11	20.21	16.42	-152.46	11.33	356.56	772.67	739.35	33.32	23.191		
4,500.00	4,419.42	4,426.45	4,409.67	20.72	16.80	-152.50	10.34	365.52	792.64	758.54	34.11	23.241		
4,600.00	4,517.18	4,524.44	4,507.24	21.23	17.19	-152.54	9.34	374.49	812.62	777.72	34.89	23.289		
4,700.00	4,614.94	4,622.42	4,604.81	21.74	17.57	-152.59	8.34	383.46	832.59	796.91	35.68	23.334		
4,800.00	4,712.69	4,720.40	4,702.37	22.25	17.95	-152.62	7.34	392.42	852.57	816.10	36.47	23.378		
4,900.00	4,810.45	4,818.38	4,799.94	22.76	18.34	-152.66	6.35	401.39	872.55	835.29	37.26	23.419		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-10H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft		
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference				Offset			Semi Major Axis			Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,000.00	4,908.21	4,916.37	4,897.51	23.27	18.72	-152.69	5.35	410.35	892.53	854.48	38.05	23.459				
5,100.00	5,005.97	5,014.35	4,995.07	23.78	19.10	-152.73	4.35	419.32	912.50	873.67	38.83	23.497				
5,200.00	5,103.73	5,112.33	5,092.64	24.29	19.48	-152.76	3.35	428.29	932.48	892.86	39.62	23.534				
5,300.00	5,201.49	5,210.31	5,190.21	24.80	19.87	-152.79	2.36	437.25	952.46	912.05	40.41	23.569				
5,400.00	5,299.25	5,308.30	5,287.77	25.31	20.25	-152.82	1.36	446.22	972.44	931.24	41.20	23.603				
5,500.00	5,397.00	5,406.28	5,385.34	25.82	20.63	-152.85	0.36	455.19	992.42	950.43	41.99	23.636				
5,600.00	5,494.76	5,504.26	5,482.90	26.33	21.02	-152.88	-0.64	464.15	1,012.40	969.62	42.78	23.667				
5,700.00	5,592.52	5,602.25	5,580.47	26.84	21.40	-152.90	-1.63	473.12	1,032.38	988.81	43.57	23.697				
5,800.00	5,690.28	5,700.23	5,678.04	27.36	21.78	-152.93	-2.63	482.08	1,052.36	1,008.00	44.35	23.726				
5,900.00	5,788.04	5,798.21	5,775.60	27.87	22.16	-152.95	-3.63	491.05	1,072.34	1,027.19	45.14	23.754				
6,000.00	5,885.80	5,896.19	5,873.17	28.38	22.55	-152.97	-4.63	500.02	1,092.32	1,046.38	45.93	23.781				
6,100.00	5,983.56	5,994.18	5,970.74	28.89	22.93	-153.00	-5.63	508.98	1,112.30	1,065.58	46.72	23.807				
6,200.00	6,081.31	6,092.16	6,068.30	29.40	23.31	-153.02	-6.62	517.95	1,132.28	1,084.77	47.51	23.832				
6,300.00	6,179.07	6,190.14	6,165.87	29.91	23.70	-153.04	-7.62	526.91	1,152.26	1,103.96	48.30	23.856				
6,400.00	6,276.83	6,288.12	6,263.44	30.42	24.08	-153.06	-8.62	535.88	1,172.24	1,123.15	49.09	23.880				
6,500.00	6,374.59	6,386.11	6,361.00	30.93	24.46	-153.08	-9.62	544.85	1,192.22	1,142.34	49.88	23.902				
6,600.00	6,472.35	6,484.09	6,458.57	31.44	24.84	-153.10	-10.61	553.81	1,212.20	1,161.53	50.67	23.924				
6,700.00	6,570.11	6,617.90	6,592.02	31.95	25.33	-153.11	-12.01	561.86	1,231.69	1,180.05	51.46	23.850				
6,712.06	6,581.89	6,642.12	6,616.21	32.01	25.40	-153.47	-12.29	560.64	1,233.70	1,181.93	51.77	23.829				
6,750.00	6,619.02	6,716.98	6,690.31	32.20	25.58	-172.55	-13.20	550.41	1,239.58	1,187.49	52.09	23.799				
6,800.00	6,667.83	6,811.66	6,781.06	32.44	25.76	164.13	-14.43	523.82	1,246.61	1,194.29	52.33	23.823				
6,850.00	6,716.18	6,900.80	6,861.41	32.65	25.89	146.64	-15.66	485.45	1,252.96	1,200.52	52.44	23.891				
6,900.00	6,763.70	6,983.91	6,930.13	32.85	25.99	134.36	-16.82	438.86	1,258.78	1,206.27	52.51	23.971				
6,950.00	6,810.04	7,061.01	6,987.25	33.03	26.11	125.52	-17.91	387.17	1,264.21	1,211.62	52.59	24.037				
7,000.00	6,854.83	7,132.46	7,033.54	33.19	26.25	118.83	-18.89	332.81	1,269.37	1,216.64	52.73	24.072				
7,050.00	6,897.73	7,198.80	7,070.17	33.34	26.43	113.53	-19.78	277.54	1,274.35	1,221.41	52.94	24.072				
7,100.00	6,938.43	7,260.62	7,098.34	33.47	26.66	109.17	-20.57	222.56	1,279.19	1,225.95	53.23	24.030				
7,150.00	6,976.60	7,318.49	7,119.20	33.59	26.95	105.49	-21.28	168.61	1,283.91	1,230.32	53.60	23.954				
7,200.00	7,011.97	7,372.94	7,133.76	33.69	27.27	102.32	-21.90	116.17	1,288.53	1,234.50	54.03	23.849				
7,250.00	7,044.25	7,424.45	7,142.90	33.78	27.64	99.54	-22.44	65.50	1,293.02	1,238.51	54.51	23.720				
7,300.00	7,073.21	7,473.41	7,147.34	33.86	28.03	97.10	-22.92	16.76	1,297.35	1,242.30	55.05	23.568				
7,350.00	7,098.63	7,519.01	7,148.00	33.93	28.44	94.96	-23.33	-28.83	1,301.48	1,245.86	55.63	23.397				
7,400.00	7,120.30	7,563.82	7,148.00	34.00	28.89	93.16	-23.72	-73.64	1,305.38	1,249.10	56.28	23.195				
7,450.00	7,138.08	7,610.39	7,148.00	34.07	29.38	91.67	-24.13	-120.21	1,308.84	1,251.82	57.02	22.956				
7,500.00	7,151.81	7,658.36	7,148.00	34.14	29.96	90.51	-24.55	-168.18	1,311.67	1,253.77	57.90	22.653				
7,550.00	7,161.39	7,707.38	7,148.00	34.21	30.57	89.69	-24.98	-217.19	1,313.73	1,254.85	58.88	22.311				
7,600.00	7,166.77	7,757.06	7,148.00	34.30	31.26	89.23	-25.41	-266.88	1,314.90	1,254.89	60.01	21.910				
7,638.04	7,168.00	7,795.07	7,148.00	34.39	31.80	89.13	-25.75	-304.88	1,315.17	1,254.25	60.92	21.589				
7,700.00	7,168.00	7,857.03	7,148.00	34.57	32.76	89.13	-26.29	-366.84	1,315.14	1,252.58	62.56	21.022				
7,800.00	7,168.00	7,957.03	7,148.00	35.03	34.40	89.13	-27.17	-466.84	1,315.09	1,249.63	65.47	20.088				
7,900.00	7,168.00	8,057.03	7,148.00	35.77	36.18	89.13	-28.04	-566.84	1,315.05	1,246.37	68.68	19.147				
8,000.00	7,168.00	8,157.03	7,148.00	36.82	38.07	89.13	-28.92	-666.83	1,315.01	1,242.84	72.17	18.222				
8,100.00	7,168.00	8,257.03	7,148.00	38.17	40.05	89.13	-29.80	-766.83	1,314.96	1,239.08	75.88	17.329				
8,200.00	7,168.00	8,357.03	7,148.00	39.74	42.12	89.13	-30.68	-866.82	1,314.92	1,235.12	79.80	16.478				
8,300.00	7,168.00	8,457.03	7,148.00	41.49	44.26	89.13	-31.55	-966.82	1,314.87	1,230.99	83.89	15.674				
8,400.00	7,168.00	8,557.03	7,148.00	43.37	46.46	89.13	-32.43	-1,066.82	1,314.83	1,226.71	88.12	14.921				
8,500.00	7,168.00	8,657.03	7,148.00	45.36	48.71	89.13	-33.31	-1,166.81	1,314.78	1,222.30	92.49	14.216				
8,600.00	7,168.00	8,757.03	7,148.00	47.44	51.01	89.13	-34.18	-1,266.81	1,314.74	1,217.78	96.96	13.560				
8,700.00	7,168.00	8,857.03	7,148.00	49.59	53.35	89.13	-35.06	-1,366.80	1,314.70	1,213.17	101.53	12.949				
8,800.00	7,168.00	8,957.03	7,148.00	51.79	55.72	89.13	-35.94	-1,466.80	1,314.65	1,208.47	106.18	12.382				
8,900.00	7,168.00	9,057.03	7,148.00	54.05	58.12	89.13	-36.81	-1,566.80	1,314.61	1,203.70	110.90	11.854				
9,000.00	7,168.00	9,157.03	7,148.00	56.35	60.56	89.13	-37.69	-1,666.79	1,314.56	1,198.87	115.69	11.363				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-10H - ORIGINAL WELLBORE - PROPOSAL #1											Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD											Offset Well Error: 0.00 usft	
Reference				Offset				Rule Assigned:				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	
9,100.00	7,168.00	9,257.03	7,148.00	58.69	63.01	89.13	-38.57	-1,766.79	1,314.52	1,193.98	120.53	10.906
9,200.00	7,168.00	9,357.03	7,148.00	61.06	65.49	89.13	-39.44	-1,866.79	1,314.47	1,189.05	125.43	10.480
9,300.00	7,168.00	9,457.03	7,148.00	63.46	67.98	89.13	-40.32	-1,966.78	1,314.43	1,184.07	130.36	10.083
9,400.00	7,168.00	9,557.03	7,148.00	65.88	70.49	89.13	-41.20	-2,066.78	1,314.39	1,179.05	135.34	9.712
9,500.00	7,168.00	9,657.03	7,148.00	68.33	73.02	89.13	-42.08	-2,166.77	1,314.34	1,173.99	140.35	9.365
9,600.00	7,168.00	9,757.03	7,148.00	70.80	75.56	89.13	-42.95	-2,266.77	1,314.30	1,168.90	145.39	9.040
9,700.00	7,168.00	9,857.03	7,148.00	73.29	78.11	89.13	-43.83	-2,366.77	1,314.25	1,163.79	150.46	8.735
9,800.00	7,168.00	9,957.03	7,148.00	75.79	80.67	89.13	-44.71	-2,466.76	1,314.21	1,158.65	155.56	8.448
9,900.00	7,168.00	10,057.03	7,148.00	78.31	83.25	89.13	-45.58	-2,566.76	1,314.17	1,153.49	160.68	8.179
10,000.00	7,168.00	10,157.03	7,148.00	80.84	85.83	89.13	-46.46	-2,666.75	1,314.12	1,148.30	165.82	7.925
10,100.00	7,168.00	10,257.03	7,148.00	83.39	88.42	89.13	-47.34	-2,766.75	1,314.08	1,143.10	170.98	7.686
10,200.00	7,168.00	10,357.03	7,148.00	85.94	91.02	89.13	-48.21	-2,866.75	1,314.03	1,137.88	176.15	7.460
10,300.00	7,168.00	10,457.03	7,148.00	88.51	93.62	89.13	-49.09	-2,966.74	1,313.99	1,132.65	181.34	7.246
10,400.00	7,168.00	10,557.03	7,148.00	91.08	96.23	89.13	-49.97	-3,066.74	1,313.94	1,127.40	186.55	7.043
10,500.00	7,168.00	10,657.03	7,148.00	93.66	98.85	89.13	-50.84	-3,166.74	1,313.90	1,122.13	191.77	6.852
10,600.00	7,168.00	10,757.03	7,148.00	96.25	101.48	89.13	-51.72	-3,266.73	1,313.86	1,116.86	197.00	6.669
10,700.00	7,168.00	10,857.03	7,148.00	98.85	104.10	89.13	-52.60	-3,366.73	1,313.81	1,111.57	202.24	6.496
10,800.00	7,168.00	10,957.03	7,148.00	101.45	106.74	89.13	-53.48	-3,466.72	1,313.77	1,106.28	207.49	6.332
10,900.00	7,168.00	11,057.03	7,148.00	104.06	109.37	89.13	-54.35	-3,566.72	1,313.72	1,100.97	212.75	6.175
11,000.00	7,168.00	11,157.03	7,148.00	106.68	112.02	89.13	-55.23	-3,666.72	1,313.68	1,095.65	218.03	6.025
11,100.00	7,168.00	11,257.03	7,148.00	109.30	114.66	89.13	-56.11	-3,766.71	1,313.63	1,090.33	223.30	5.883
11,200.00	7,168.00	11,357.03	7,148.00	111.92	117.31	89.13	-56.98	-3,866.71	1,313.59	1,085.00	228.59	5.746
11,300.00	7,168.00	11,457.03	7,148.00	114.55	119.96	89.13	-57.86	-3,966.70	1,313.55	1,079.66	233.89	5.616
11,400.00	7,168.00	11,557.03	7,148.00	117.19	122.62	89.13	-58.74	-4,066.70	1,313.50	1,074.32	239.19	5.492
11,500.00	7,168.00	11,657.03	7,148.00	119.82	125.27	89.13	-59.61	-4,166.70	1,313.46	1,068.96	244.49	5.372
11,600.00	7,168.00	11,757.03	7,148.00	122.47	127.93	89.13	-60.49	-4,266.69	1,313.41	1,063.61	249.81	5.258
11,700.00	7,168.00	11,857.03	7,148.00	125.11	130.60	89.13	-61.37	-4,366.69	1,313.37	1,058.24	255.12	5.148
11,800.00	7,168.00	11,957.03	7,148.00	127.76	133.26	89.13	-62.25	-4,466.69	1,313.32	1,052.88	260.45	5.043
11,900.00	7,168.00	12,057.03	7,148.00	130.41	135.93	89.13	-63.12	-4,566.68	1,313.28	1,047.50	265.78	4.941
12,000.00	7,168.00	12,157.03	7,148.00	133.06	138.60	89.13	-64.00	-4,666.68	1,313.24	1,042.13	271.11	4.844
12,100.00	7,168.00	12,257.03	7,148.00	135.72	141.27	89.13	-64.88	-4,766.67	1,313.19	1,036.74	276.45	4.750
12,200.00	7,168.00	12,357.03	7,148.00	138.38	143.95	89.13	-65.75	-4,866.67	1,313.15	1,031.36	281.79	4.660
12,300.00	7,168.00	12,457.03	7,148.00	141.04	146.62	89.13	-66.63	-4,966.67	1,313.10	1,025.97	287.13	4.573
12,400.00	7,168.00	12,557.03	7,148.00	143.70	149.30	89.13	-67.51	-5,066.66	1,313.06	1,020.58	292.48	4.489
12,500.00	7,168.00	12,657.03	7,148.00	146.37	151.98	89.13	-68.38	-5,166.66	1,313.02	1,015.18	297.84	4.409
12,600.00	7,168.00	12,757.03	7,148.00	149.04	154.66	89.13	-69.26	-5,266.65	1,312.97	1,009.78	303.19	4.331
12,700.00	7,168.00	12,857.03	7,148.00	151.71	157.34	89.13	-70.14	-5,366.65	1,312.93	1,004.38	308.55	4.255
12,800.00	7,168.00	12,957.03	7,148.00	154.38	160.02	89.13	-71.01	-5,466.65	1,312.88	998.97	313.91	4.182
12,900.00	7,168.00	13,057.03	7,148.00	157.05	162.71	89.13	-71.89	-5,566.64	1,312.84	993.56	319.27	4.112
13,000.00	7,168.00	13,157.03	7,148.00	159.73	165.39	89.13	-72.77	-5,666.64	1,312.79	988.15	324.64	4.044
13,100.00	7,168.00	13,257.03	7,148.00	162.41	168.08	89.13	-73.65	-5,766.64	1,312.75	982.74	330.01	3.978
13,200.00	7,168.00	13,357.03	7,148.00	165.08	170.77	89.13	-74.52	-5,866.63	1,312.71	977.32	335.38	3.914
13,300.00	7,168.00	13,457.03	7,148.00	167.76	173.45	89.13	-75.40	-5,966.63	1,312.66	971.91	340.76	3.852
13,400.00	7,168.00	13,557.03	7,148.00	170.44	176.14	89.13	-76.28	-6,066.62	1,312.62	966.48	346.13	3.792
13,500.00	7,168.00	13,657.03	7,148.00	173.13	178.83	89.13	-77.15	-6,166.62	1,312.57	961.06	351.51	3.734
13,600.00	7,168.00	13,757.03	7,148.00	175.81	181.53	89.13	-78.03	-6,266.62	1,312.53	955.64	356.89	3.678
13,700.00	7,168.00	13,857.03	7,148.00	178.49	184.22	89.13	-78.91	-6,366.61	1,312.48	950.21	362.27	3.623
13,800.00	7,168.00	13,957.03	7,148.00	181.18	186.91	89.13	-79.78	-6,466.61	1,312.44	944.78	367.66	3.570
13,900.00	7,168.00	14,057.03	7,148.00	183.87	189.61	89.13	-80.66	-6,566.60	1,312.40	939.35	373.04	3.518
14,000.00	7,168.00	14,157.03	7,148.00	186.55	192.30	89.13	-81.54	-6,666.60	1,312.35	933.92	378.43	3.468
14,100.00	7,168.00	14,257.03	7,148.00	189.24	195.00	89.13	-82.41	-6,766.60	1,312.31	928.49	383.82	3.419
14,200.00	7,168.00	14,357.03	7,148.00	191.93	197.69	89.13	-83.29	-6,866.59	1,312.26	923.06	389.21	3.372

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-10H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance			Rule Assigned:	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
14,300.00	7,168.00	14,457.03	7,148.00	194.62	200.39	89.13	-84.17	-6,966.59	1,312.22	917.62	394.60	3.325			
14,400.00	7,168.00	14,557.03	7,148.00	197.31	203.09	89.13	-85.05	-7,066.59	1,312.18	912.18	399.99	3.280			
14,500.00	7,168.00	14,657.03	7,148.00	200.01	205.79	89.13	-85.92	-7,166.58	1,312.13	906.74	405.39	3.237			
14,600.00	7,168.00	14,757.03	7,148.00	202.70	208.49	89.13	-86.80	-7,266.58	1,312.09	901.30	410.78	3.194			
14,700.00	7,168.00	14,857.03	7,148.00	205.39	211.19	89.13	-87.68	-7,366.57	1,312.04	895.86	416.18	3.153			
14,800.00	7,168.00	14,957.03	7,148.00	208.09	213.89	89.13	-88.55	-7,466.57	1,312.00	890.42	421.58	3.112			
14,900.00	7,168.00	15,057.03	7,148.00	210.78	216.59	89.13	-89.43	-7,566.57	1,311.95	884.98	426.98	3.073			
15,000.00	7,168.00	15,157.03	7,148.00	213.48	219.29	89.13	-90.31	-7,666.56	1,311.91	879.53	432.38	3.034			
15,100.00	7,168.00	15,257.03	7,148.00	216.17	221.99	89.13	-91.18	-7,766.56	1,311.87	874.09	437.78	2.997			
15,200.00	7,168.00	15,357.03	7,148.00	218.87	224.69	89.13	-92.06	-7,866.55	1,311.82	868.64	443.18	2.960			
15,300.00	7,168.00	15,457.03	7,148.00	221.57	227.39	89.13	-92.94	-7,966.55	1,311.78	863.19	448.59	2.924			
15,400.00	7,168.00	15,557.03	7,148.00	224.27	230.10	89.13	-93.81	-8,066.55	1,311.73	857.74	453.99	2.889			
15,500.00	7,168.00	15,657.03	7,148.00	226.97	232.80	89.13	-94.69	-8,166.54	1,311.69	852.29	459.40	2.855			
15,600.00	7,168.00	15,757.03	7,148.00	229.66	235.50	89.13	-95.57	-8,266.54	1,311.64	846.84	464.80	2.822			
15,700.00	7,168.00	15,857.03	7,148.00	232.36	238.21	89.13	-96.45	-8,366.54	1,311.60	841.39	470.21	2.789			
15,754.30	7,168.00	15,910.78	7,148.00	233.83	239.66	89.13	-96.92	-8,420.28	1,311.58	838.45	473.13	2.772			
15,765.69	7,168.00	15,910.78	7,148.00	234.14	239.66	89.13	-96.92	-8,420.28	1,311.63	838.31	473.31	2.771 SF			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-11H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.79	0.00	32.79	32.79				
100.00	100.00	100.00	100.00	0.14	0.14	0.00	32.79	0.00	32.79	32.50	0.29	114.328		
200.00	200.00	200.00	200.00	0.50	0.50	0.00	32.79	0.00	32.79	31.78	1.00	32.665		
300.00	300.00	300.00	300.00	0.86	0.86	0.00	32.79	0.00	32.79	31.07	1.72	19.055		
400.00	400.00	400.00	400.00	1.22	1.22	0.00	32.79	0.00	32.79	30.35	2.44	13.450		
500.00	500.00	500.00	500.00	1.58	1.58	0.00	32.79	0.00	32.79	29.63	3.15	10.394	CC, ES	
600.00	599.98	599.98	599.98	1.92	1.94	-167.73	32.79	0.00	34.49	30.63	3.86	8.946		
700.00	699.84	699.84	699.84	2.26	2.29	-169.32	32.79	0.00	39.62	35.07	4.55	8.708		
800.00	799.45	801.07	801.05	2.60	2.64	-170.74	31.09	0.53	46.51	41.27	5.24	8.883		
900.00	898.70	902.55	902.38	2.97	2.98	-171.49	25.96	2.14	53.42	47.50	5.91	9.034		
1,000.00	997.47	1,002.76	1,002.27	3.36	3.32	-171.98	18.40	4.51	61.23	54.63	6.60	9.274		
1,100.00	1,095.62	1,102.12	1,101.32	3.78	3.67	-172.69	10.78	6.89	72.37	65.06	7.30	9.908		
1,107.69	1,103.14	1,109.75	1,108.92	3.81	3.70	-172.75	10.19	7.08	73.37	66.01	7.36	9.970		
1,200.00	1,193.38	1,201.26	1,200.13	4.23	4.02	-173.40	3.17	9.27	85.49	77.48	8.01	10.671		
1,300.00	1,291.14	1,300.38	1,298.94	4.69	4.38	-173.91	-4.44	11.66	98.63	89.91	8.72	11.309		
1,400.00	1,388.90	1,399.51	1,397.75	5.15	4.74	-174.31	-12.04	14.04	111.77	102.34	9.44	11.845		
1,500.00	1,486.66	1,498.64	1,496.56	5.63	5.11	-174.62	-19.65	16.42	124.92	114.77	10.16	12.300		
1,600.00	1,584.42	1,597.77	1,595.37	6.11	5.48	-174.87	-27.25	18.80	138.08	127.20	10.88	12.691		
1,700.00	1,682.18	1,696.90	1,694.17	6.60	5.85	-175.08	-34.86	21.18	151.23	139.63	11.61	13.031		
1,800.00	1,779.94	1,796.03	1,792.98	7.09	6.22	-175.25	-42.46	23.56	164.39	152.05	12.33	13.328		
1,900.00	1,877.69	1,895.16	1,891.79	7.58	6.59	-175.40	-50.07	25.95	177.55	164.48	13.06	13.590		
2,000.00	1,975.45	1,994.29	1,990.60	8.08	6.97	-175.53	-57.67	28.33	190.71	176.91	13.80	13.822		
2,100.00	2,073.21	2,093.42	2,089.41	8.58	7.34	-175.64	-65.28	30.71	203.87	189.33	14.53	14.030		
2,200.00	2,170.97	2,192.55	2,188.22	9.07	7.72	-175.74	-72.88	33.09	217.03	201.76	15.26	14.217		
2,300.00	2,268.73	2,291.68	2,287.03	9.57	8.09	-175.83	-80.49	35.47	230.19	214.19	16.00	14.386		
2,400.00	2,366.49	2,390.81	2,385.84	10.08	8.47	-175.91	-88.09	37.85	243.35	226.61	16.74	14.540		
2,500.00	2,464.25	2,489.94	2,484.64	10.58	8.85	-175.98	-95.70	40.23	256.51	239.04	17.47	14.679		
2,600.00	2,562.01	2,589.07	2,583.45	11.08	9.23	-176.04	-103.30	42.62	269.67	251.46	18.21	14.807		
2,700.00	2,659.76	2,688.20	2,682.26	11.59	9.60	-176.10	-110.91	45.00	282.83	263.88	18.95	14.925		
2,800.00	2,757.52	2,787.33	2,781.07	12.09	9.98	-176.15	-118.51	47.38	296.00	276.31	19.69	15.033		
2,900.00	2,855.28	2,886.46	2,879.88	12.60	10.36	-176.20	-126.12	49.76	309.16	288.73	20.43	15.133		
3,000.00	2,953.04	2,985.59	2,978.69	13.10	10.74	-176.24	-133.72	52.14	322.32	301.15	21.17	15.226		
3,100.00	3,050.80	3,084.72	3,077.50	13.61	11.12	-176.28	-141.33	54.52	335.49	313.58	21.91	15.312		
3,200.00	3,148.56	3,183.85	3,176.30	14.11	11.50	-176.32	-148.94	56.91	348.65	326.00	22.65	15.393		
3,300.00	3,246.31	3,282.98	3,275.11	14.62	11.88	-176.35	-156.54	59.29	361.81	338.42	23.39	15.468		
3,400.00	3,344.07	3,382.11	3,373.92	15.13	12.26	-176.39	-164.15	61.67	374.98	350.84	24.13	15.538		
3,500.00	3,441.83	3,481.24	3,472.73	15.64	12.64	-176.42	-171.75	64.05	388.14	363.27	24.87	15.604		
3,600.00	3,539.59	3,580.37	3,571.54	16.14	13.02	-176.44	-179.36	66.43	401.30	375.69	25.62	15.666		
3,700.00	3,637.35	3,679.50	3,670.35	16.65	13.40	-176.47	-186.96	68.81	414.47	388.11	26.36	15.724		
3,800.00	3,735.11	3,778.62	3,769.16	17.16	13.78	-176.49	-194.57	71.19	427.63	400.53	27.10	15.779		
3,900.00	3,832.87	3,877.75	3,867.97	17.67	14.16	-176.52	-202.17	73.58	440.80	412.95	27.84	15.831		
4,000.00	3,930.62	3,976.88	3,966.77	18.18	14.54	-176.54	-209.78	75.96	453.96	425.37	28.59	15.881		
4,100.00	4,028.38	4,076.01	4,065.58	18.69	14.92	-176.56	-217.38	78.34	467.12	437.80	29.33	15.927		
4,200.00	4,126.14	4,175.14	4,164.39	19.20	15.30	-176.58	-224.99	80.72	480.29	450.22	30.07	15.972		
4,300.00	4,223.90	4,274.27	4,263.20	19.71	15.68	-176.60	-232.59	83.10	493.45	462.64	30.81	16.014		
4,400.00	4,321.66	4,373.40	4,362.01	20.21	16.07	-176.61	-240.20	85.48	506.62	475.06	31.56	16.054		
4,500.00	4,419.42	4,472.53	4,460.82	20.72	16.45	-176.63	-247.80	87.86	519.78	487.48	32.30	16.092		
4,600.00	4,517.18	4,571.66	4,559.63	21.23	16.83	-176.65	-255.41	90.25	532.95	499.90	33.04	16.128		
4,700.00	4,614.94	4,670.79	4,658.44	21.74	17.21	-176.66	-263.01	92.63	546.11	512.32	33.79	16.163		
4,800.00	4,712.69	4,769.92	4,757.24	22.25	17.59	-176.68	-270.62	95.01	559.27	524.74	34.53	16.196		
4,900.00	4,810.45	4,869.05	4,856.05	22.76	17.97	-176.69	-278.22	97.39	572.44	537.16	35.28	16.227		
5,000.00	4,908.21	4,968.18	4,954.86	23.27	18.35	-176.70	-285.83	99.77	585.60	549.58	36.02	16.258		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-11H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,100.00	5,005.97	5,067.31	5,053.67	23.78	18.74	-176.72	-293.44	102.15	598.77	562.00	36.76	16.287		
5,200.00	5,103.73	5,166.44	5,152.48	24.29	19.12	-176.73	-301.04	104.54	611.93	574.42	37.51	16.315		
5,300.00	5,201.49	5,265.57	5,251.29	24.80	19.50	-176.74	-308.65	106.92	625.10	586.85	38.25	16.341		
5,400.00	5,299.25	5,364.70	5,350.10	25.31	19.88	-176.75	-316.25	109.30	638.26	599.27	39.00	16.367		
5,500.00	5,397.00	5,463.83	5,448.91	25.82	20.26	-176.76	-323.86	111.68	651.43	611.69	39.74	16.392		
5,600.00	5,494.76	5,562.96	5,547.71	26.33	20.64	-176.77	-331.46	114.06	664.59	624.11	40.49	16.416		
5,700.00	5,592.52	5,662.09	5,646.52	26.84	21.03	-176.78	-339.07	116.44	677.76	636.53	41.23	16.438		
5,800.00	5,690.28	5,761.22	5,745.33	27.36	21.41	-176.79	-346.67	118.82	690.92	648.95	41.97	16.460		
5,900.00	5,788.04	5,860.35	5,844.14	27.87	21.79	-176.80	-354.28	121.21	704.09	661.37	42.72	16.482		
6,000.00	5,885.80	5,959.48	5,942.95	28.38	22.17	-176.81	-361.88	123.59	717.25	673.79	43.46	16.502		
6,100.00	5,983.56	6,058.61	6,041.76	28.89	22.55	-176.81	-369.49	125.97	730.42	686.21	44.21	16.522		
6,200.00	6,081.31	6,157.74	6,140.57	29.40	22.93	-176.82	-377.09	128.35	743.58	698.63	44.95	16.541		
6,300.00	6,179.07	6,256.86	6,239.38	29.91	23.32	-176.83	-384.70	130.73	756.75	711.05	45.70	16.560		
6,400.00	6,276.83	6,355.99	6,338.18	30.42	23.70	-176.84	-392.30	133.11	769.91	723.47	46.44	16.577		
6,500.00	6,374.59	6,455.12	6,436.99	30.93	24.08	-176.85	-399.91	135.50	783.07	735.89	47.19	16.595		
6,600.00	6,472.35	6,554.25	6,535.80	31.44	24.46	-176.85	-407.51	137.88	796.24	748.31	47.93	16.611		
6,700.00	6,570.11	6,653.38	6,634.61	31.95	24.85	-176.86	-415.12	140.26	809.40	760.73	48.68	16.628		
6,712.06	6,581.89	6,665.33	6,646.52	32.01	24.89	-176.86	-416.04	140.55	810.99	762.22	48.77	16.629		
6,750.00	6,619.02	6,700.00	6,681.08	32.20	25.02	164.89	-418.70	141.26	815.81	766.78	49.03	16.638		
6,800.00	6,667.83	6,740.62	6,721.55	32.44	25.17	142.94	-421.83	139.96	821.96	772.62	49.33	16.661		
6,850.00	6,716.18	6,781.11	6,761.70	32.65	25.31	126.99	-424.96	135.81	827.92	778.30	49.62	16.685		
6,900.00	6,763.70	6,821.74	6,801.58	32.85	25.45	116.40	-428.10	128.80	833.66	783.77	49.89	16.710		
6,950.00	6,810.04	6,862.55	6,841.05	33.03	25.58	109.31	-431.23	118.92	839.14	788.99	50.15	16.733		
7,000.00	6,854.83	6,900.00	6,876.56	33.19	25.69	104.37	-434.06	107.40	844.35	793.98	50.38	16.761		
7,050.00	6,897.73	6,944.91	6,918.05	33.34	25.82	100.91	-437.40	90.55	849.24	798.58	50.65	16.766		
7,100.00	6,938.43	6,986.55	6,955.22	33.47	25.93	98.37	-440.43	72.06	853.79	802.89	50.91	16.772		
7,150.00	6,976.60	7,028.56	6,991.27	33.59	26.03	96.50	-443.39	50.71	858.00	806.82	51.18	16.766		
7,200.00	7,011.97	7,070.99	7,025.99	33.69	26.13	95.14	-446.27	26.52	861.84	810.37	51.47	16.745		
7,250.00	7,044.25	7,113.89	7,059.19	33.78	26.22	94.16	-449.05	-0.50	865.29	813.49	51.80	16.706		
7,300.00	7,073.21	7,157.32	7,090.65	33.86	26.31	93.50	-451.73	-30.30	868.35	816.18	52.17	16.645		
7,350.00	7,098.63	7,200.00	7,119.28	33.93	26.39	93.09	-454.20	-61.84	871.00	818.41	52.59	16.563		
7,400.00	7,120.30	7,245.97	7,147.41	34.00	26.48	92.94	-456.67	-98.11	873.24	820.14	53.10	16.445		
7,450.00	7,138.08	7,291.31	7,172.22	34.07	26.58	92.98	-458.90	-135.97	875.07	821.38	53.69	16.300		
7,500.00	7,151.81	7,337.40	7,194.31	34.14	26.71	93.19	-460.94	-176.36	876.48	822.12	54.36	16.124		
7,550.00	7,161.39	7,384.30	7,213.38	34.21	26.91	93.57	-462.77	-219.15	877.47	822.34	55.13	15.917		
7,600.00	7,166.77	7,432.07	7,229.15	34.30	27.20	94.11	-464.36	-264.20	878.04	822.04	56.00	15.680		
7,638.04	7,168.00	7,469.02	7,238.76	34.39	27.49	94.62	-465.40	-299.86	878.19	821.47	56.72	15.483		
7,700.00	7,168.00	7,530.99	7,249.66	34.57	28.06	95.33	-466.74	-360.82	878.30	820.27	58.03	15.135		
7,800.00	7,168.00	7,632.92	7,254.00	35.03	29.19	95.62	-467.92	-462.57	878.39	817.92	60.47	14.526		
7,900.00	7,168.00	7,732.92	7,254.00	35.77	30.50	95.62	-468.75	-562.56	878.39	815.17	63.22	13.894		
8,000.00	7,168.00	7,832.92	7,254.00	36.82	31.99	95.62	-469.58	-662.56	878.39	812.09	66.30	13.249		
8,100.00	7,168.00	7,932.92	7,254.00	38.17	33.63	95.62	-470.41	-762.56	878.39	808.73	69.66	12.609		
8,200.00	7,168.00	8,032.92	7,254.00	39.74	35.41	95.62	-471.24	-862.55	878.40	805.12	73.27	11.988		
8,300.00	7,168.00	8,132.92	7,254.00	41.49	37.30	95.62	-472.07	-962.55	878.40	801.30	77.10	11.393		
8,400.00	7,168.00	8,232.92	7,254.00	43.37	39.29	95.62	-472.90	-1,062.55	878.40	797.29	81.11	10.830		
8,500.00	7,168.00	8,332.92	7,254.00	45.36	41.36	95.62	-473.73	-1,162.54	878.40	793.13	85.27	10.301		
8,600.00	7,168.00	8,432.92	7,254.00	47.44	43.50	95.62	-474.56	-1,262.54	878.41	788.84	89.57	9.807		
8,700.00	7,168.00	8,532.92	7,254.00	49.59	45.71	95.62	-475.39	-1,362.53	878.41	784.43	93.98	9.346		
8,800.00	7,168.00	8,632.92	7,254.00	51.79	47.96	95.62	-476.22	-1,462.53	878.41	779.91	98.50	8.918		
8,900.00	7,168.00	8,732.92	7,254.00	54.05	50.27	95.62	-477.05	-1,562.53	878.41	775.31	103.10	8.520		
9,000.00	7,168.00	8,832.92	7,254.00	56.35	52.61	95.62	-477.89	-1,662.52	878.42	770.64	107.78	8.150		
9,100.00	7,168.00	8,932.92	7,254.00	58.69	54.99	95.62	-478.72	-1,762.52	878.42	765.90	112.52	7.807		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-11H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: Reference		0-OWSG (Rev2) MWD Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance			Separation Factor	Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Warning	
9,200.00	7,168.00	9,032.92	7,254.00	61.06	57.40	95.62	-479.55	-1,862.52	878.42	761.10	117.33	7.487		
9,300.00	7,168.00	9,132.92	7,254.00	63.46	59.83	95.62	-480.38	-1,962.51	878.42	756.24	122.18	7.190		
9,400.00	7,168.00	9,232.92	7,254.00	65.88	62.29	95.62	-481.21	-2,062.51	878.43	751.34	127.08	6.912		
9,500.00	7,168.00	9,332.92	7,254.00	68.33	64.77	95.62	-482.04	-2,162.51	878.43	746.41	132.02	6.654		
9,600.00	7,168.00	9,432.92	7,254.00	70.80	67.27	95.62	-482.87	-2,262.50	878.43	741.43	137.00	6.412		
9,700.00	7,168.00	9,532.92	7,254.00	73.29	69.79	95.62	-483.70	-2,362.50	878.43	736.43	142.01	6.186		
9,800.00	7,168.00	9,632.92	7,254.00	75.79	72.32	95.62	-484.53	-2,462.50	878.44	731.39	147.05	5.974		
9,900.00	7,168.00	9,732.92	7,254.00	78.31	74.86	95.62	-485.36	-2,562.49	878.44	726.33	152.11	5.775		
10,000.00	7,168.00	9,832.92	7,254.00	80.84	77.42	95.62	-486.19	-2,662.49	878.44	721.24	157.20	5.588		
10,100.00	7,168.00	9,932.92	7,254.00	83.39	79.98	95.62	-487.02	-2,762.49	878.44	716.13	162.31	5.412		
10,200.00	7,168.00	10,032.92	7,254.00	85.94	82.56	95.62	-487.85	-2,862.48	878.45	711.01	167.44	5.246		
10,300.00	7,168.00	10,132.92	7,254.00	88.51	85.15	95.62	-488.68	-2,962.48	878.45	705.86	172.58	5.090		
10,400.00	7,168.00	10,232.92	7,254.00	91.08	87.74	95.62	-489.51	-3,062.48	878.45	700.70	177.75	4.942		
10,500.00	7,168.00	10,332.92	7,254.00	93.66	90.34	95.62	-490.34	-3,162.47	878.45	695.53	182.93	4.802		
10,600.00	7,168.00	10,432.92	7,254.00	96.25	92.95	95.62	-491.17	-3,262.47	878.46	690.34	188.12	4.670		
10,700.00	7,168.00	10,532.92	7,254.00	98.85	95.56	95.62	-492.00	-3,362.47	878.46	685.14	193.32	4.544		
10,800.00	7,168.00	10,632.92	7,254.00	101.45	98.19	95.62	-492.83	-3,462.46	878.46	679.93	198.54	4.425		
10,900.00	7,168.00	10,732.92	7,254.00	104.06	100.81	95.62	-493.66	-3,562.46	878.46	674.70	203.76	4.311		
11,000.00	7,168.00	10,832.92	7,254.00	106.68	103.44	95.62	-494.49	-3,662.46	878.47	669.47	209.00	4.203		
11,100.00	7,168.00	10,932.92	7,254.00	109.30	106.08	95.62	-495.32	-3,762.45	878.47	664.23	214.24	4.100		
11,200.00	7,168.00	11,032.92	7,254.00	111.92	108.72	95.62	-496.15	-3,862.45	878.47	658.98	219.49	4.002		
11,300.00	7,168.00	11,132.92	7,254.00	114.55	111.36	95.62	-496.98	-3,962.45	878.47	653.72	224.76	3.909		
11,400.00	7,168.00	11,232.92	7,254.00	117.19	114.01	95.62	-497.81	-4,062.44	878.48	648.45	230.02	3.819		
11,500.00	7,168.00	11,332.92	7,254.00	119.82	116.66	95.62	-498.64	-4,162.44	878.48	643.18	235.30	3.733		
11,600.00	7,168.00	11,432.92	7,254.00	122.47	119.31	95.62	-499.47	-4,262.43	878.48	637.90	240.58	3.652		
11,700.00	7,168.00	11,532.92	7,254.00	125.11	121.97	95.62	-500.30	-4,362.43	878.48	632.62	245.87	3.573		
11,800.00	7,168.00	11,632.92	7,254.00	127.76	124.63	95.62	-501.13	-4,462.43	878.49	627.33	251.16	3.498		
11,900.00	7,168.00	11,732.92	7,254.00	130.41	127.29	95.62	-501.96	-4,562.42	878.49	622.03	256.46	3.425		
12,000.00	7,168.00	11,832.92	7,254.00	133.06	129.96	95.62	-502.79	-4,662.42	878.49	616.73	261.76	3.356		
12,100.00	7,168.00	11,932.92	7,254.00	135.72	132.62	95.62	-503.62	-4,762.42	878.49	611.42	267.07	3.289		
12,200.00	7,168.00	12,032.92	7,254.00	138.38	135.29	95.62	-504.45	-4,862.41	878.50	606.11	272.38	3.225		
12,300.00	7,168.00	12,132.92	7,254.00	141.04	137.96	95.62	-505.28	-4,962.41	878.50	600.80	277.70	3.163		
12,400.00	7,168.00	12,232.92	7,254.00	143.70	140.64	95.62	-506.11	-5,062.41	878.50	595.48	283.02	3.104		
12,500.00	7,168.00	12,332.92	7,254.00	146.37	143.31	95.62	-506.94	-5,162.40	878.50	590.16	288.34	3.047		
12,600.00	7,168.00	12,432.92	7,254.00	149.04	145.99	95.62	-507.77	-5,262.40	878.51	584.84	293.67	2.991		
12,700.00	7,168.00	12,532.92	7,254.00	151.71	148.67	95.62	-508.60	-5,362.40	878.51	579.51	299.00	2.938		
12,800.00	7,168.00	12,632.92	7,254.00	154.38	151.35	95.62	-509.43	-5,462.39	878.51	574.18	304.33	2.887		
12,900.00	7,168.00	12,732.92	7,254.00	157.05	154.03	95.62	-510.26	-5,562.39	878.51	568.84	309.67	2.837		
13,000.00	7,168.00	12,832.92	7,254.00	159.73	156.71	95.62	-511.09	-5,662.39	878.52	563.51	315.01	2.789		
13,100.00	7,168.00	12,932.92	7,254.00	162.41	159.40	95.62	-511.92	-5,762.38	878.52	558.17	320.35	2.742		
13,200.00	7,168.00	13,032.92	7,254.00	165.08	162.08	95.62	-512.75	-5,862.38	878.52	552.82	325.70	2.697		
13,300.00	7,168.00	13,132.92	7,254.00	167.76	164.77	95.62	-513.58	-5,962.38	878.52	547.48	331.04	2.654		
13,400.00	7,168.00	13,232.92	7,254.00	170.44	167.46	95.62	-514.41	-6,062.37	878.53	542.13	336.39	2.612		
13,500.00	7,168.00	13,332.92	7,254.00	173.13	170.14	95.62	-515.24	-6,162.37	878.53	536.78	341.74	2.571		
13,600.00	7,168.00	13,432.92	7,254.00	175.81	172.83	95.62	-516.07	-6,262.37	878.53	531.43	347.10	2.531		
13,700.00	7,168.00	13,532.92	7,254.00	178.49	175.53	95.62	-516.90	-6,362.36	878.53	526.08	352.45	2.493		
13,800.00	7,168.00	13,632.92	7,254.00	181.18	178.22	95.62	-517.73	-6,462.36	878.54	520.73	357.81	2.455		
13,900.00	7,168.00	13,732.92	7,254.00	183.87	180.91	95.62	-518.57	-6,562.36	878.54	515.37	363.17	2.419		
14,000.00	7,168.00	13,832.92	7,254.00	186.55	183.60	95.62	-519.40	-6,662.35	878.54	510.01	368.53	2.384		
14,100.00	7,168.00	13,932.92	7,254.00	189.24	186.30	95.62	-520.23	-6,762.35	878.54	504.65	373.89	2.350		
14,200.00	7,168.00	14,032.92	7,254.00	191.93	188.99	95.62	-521.06	-6,862.35	878.55	499.29	379.26	2.316		
14,300.00	7,168.00	14,132.92	7,254.00	194.62	191.69	95.62	-521.89	-6,962.34	878.55	493.93	384.62	2.284		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-11H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft		
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference				Offset			Semi Major Axis		Highside		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
14,400.00	7,168.00	14,232.92	7,254.00	197.31	194.39	197.31	194.39	95.62	-522.72	-7,062.34	878.55	488.56	389.99	2.253		
14,500.00	7,168.00	14,332.92	7,254.00	200.01	197.08	200.01	197.08	95.62	-523.55	-7,162.34	878.55	483.19	395.36	2.222		
14,600.00	7,168.00	14,432.92	7,254.00	202.70	199.78	202.70	199.78	95.62	-524.38	-7,262.33	878.56	477.83	400.73	2.192		
14,700.00	7,168.00	14,532.92	7,254.00	205.39	202.48	205.39	202.48	95.62	-525.21	-7,362.33	878.56	472.46	406.10	2.163		
14,800.00	7,168.00	14,632.92	7,254.00	208.09	205.18	208.09	205.18	95.62	-526.04	-7,462.32	878.56	467.09	411.47	2.135		
14,900.00	7,168.00	14,732.92	7,254.00	210.78	207.88	210.78	207.88	95.62	-526.87	-7,562.32	878.56	461.72	416.85	2.108		
15,000.00	7,168.00	14,832.92	7,254.00	213.48	210.58	213.48	210.58	95.62	-527.70	-7,662.32	878.57	456.34	422.22	2.081		
15,100.00	7,168.00	14,932.92	7,254.00	216.17	213.28	216.17	213.28	95.62	-528.53	-7,762.31	878.57	450.97	427.60	2.055		
15,200.00	7,168.00	15,032.92	7,254.00	218.87	215.98	218.87	215.98	95.62	-529.36	-7,862.31	878.57	445.60	432.97	2.029		
15,300.00	7,168.00	15,132.92	7,254.00	221.57	218.68	221.57	218.68	95.62	-530.19	-7,962.31	878.57	440.22	438.35	2.004		
15,400.00	7,168.00	15,232.92	7,254.00	224.27	221.39	224.27	221.39	95.62	-531.02	-8,062.30	878.58	434.85	443.73	1.980		
15,500.00	7,168.00	15,332.92	7,254.00	226.97	224.09	226.97	224.09	95.62	-531.85	-8,162.30	878.58	429.47	449.11	1.956		
15,600.00	7,168.00	15,432.92	7,254.00	229.66	226.79	229.66	226.79	95.62	-532.68	-8,262.30	878.58	424.09	454.49	1.933		
15,700.00	7,168.00	15,532.81	7,254.00	232.36	229.49	232.36	229.49	95.62	-533.50	-8,362.18	878.59	418.72	459.87	1.911		
15,765.69	7,168.00	15,598.50	7,254.00	234.14	231.27	234.14	231.27	95.62	-534.04	-8,427.87	878.60	415.19	463.40	1.896 SF		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-12H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference				Offset			Semi Major Axis			Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	0.01	18.21	0.00	18.21	17.93	0.29	63.516		
100.00	100.00	100.00	100.00	0.14	0.14	0.01	18.21	0.00	18.21	17.21	1.00	18.147		
200.00	200.00	200.00	200.00	0.50	0.50	0.01	18.21	0.00	18.21	16.49	1.72	10.586		
300.00	300.00	300.00	300.00	0.86	0.86	0.01	18.21	0.00	18.21	15.78	2.44	7.472		
400.00	400.00	400.00	400.00	1.22	1.22	0.01	18.21	0.00	18.21	15.06	3.15	5.774 CC		
500.00	500.00	500.00	500.00	1.58	1.58	0.01	18.21	0.00	18.21	15.06	3.15	5.774 CC		
600.00	599.98	599.98	599.98	1.92	1.94	-168.20	18.21	0.00	19.92	16.06	3.86	5.167		
700.00	699.84	700.64	700.62	2.26	2.28	-169.44	16.55	0.60	23.39	18.85	4.53	5.160		
800.00	799.45	801.42	801.26	2.60	2.62	-169.47	11.56	2.40	26.94	21.73	5.20	5.176		
900.00	898.70	902.32	901.76	2.97	2.97	-168.70	3.22	5.40	30.56	24.67	5.89	5.193		
1,000.00	997.47	1,003.33	1,002.00	3.36	3.33	-167.40	-8.45	9.60	34.27	27.69	6.58	5.211		
1,100.00	1,095.62	1,103.69	1,101.20	3.78	3.72	-166.07	-22.76	14.75	38.68	31.39	7.29	5.306		
1,107.69	1,103.14	1,111.37	1,108.79	3.81	3.75	-166.02	-23.87	15.15	39.14	31.79	7.35	5.328		
1,200.00	1,193.38	1,203.51	1,199.82	4.23	4.11	-165.56	-37.24	19.97	44.77	36.76	8.02	5.583		
1,300.00	1,291.14	1,303.32	1,298.44	4.69	4.52	-165.18	-51.73	25.19	50.89	42.13	8.76	5.811		
1,400.00	1,388.90	1,403.13	1,397.06	5.15	4.93	-164.88	-66.21	30.40	57.00	47.49	9.50	5.998		
1,500.00	1,486.66	1,502.94	1,495.68	5.63	5.35	-164.64	-80.70	35.62	63.11	52.86	10.25	6.155		
1,600.00	1,584.42	1,602.76	1,594.29	6.11	5.78	-164.44	-95.18	40.83	69.22	58.21	11.01	6.287		
1,700.00	1,682.18	1,702.57	1,692.91	6.60	6.20	-164.27	-109.67	46.05	75.34	63.57	11.77	6.401		
1,800.00	1,779.94	1,802.38	1,791.53	7.09	6.63	-164.13	-124.15	51.27	81.46	68.92	12.53	6.499		
1,900.00	1,877.69	1,902.19	1,890.15	7.58	7.06	-164.01	-138.64	56.48	87.57	74.27	13.30	6.584		
2,000.00	1,975.45	2,002.01	1,988.77	8.08	7.50	-163.90	-153.12	61.70	93.69	79.62	14.07	6.659		
2,100.00	2,073.21	2,101.82	2,087.38	8.58	7.93	-163.81	-167.61	66.91	99.80	84.97	14.84	6.726		
2,200.00	2,170.97	2,201.63	2,186.00	9.07	8.37	-163.73	-182.09	72.13	105.92	90.31	15.61	6.785		
2,300.00	2,268.73	2,301.45	2,284.62	9.57	8.81	-163.66	-196.58	77.35	112.04	95.65	16.38	6.839		
2,400.00	2,366.49	2,401.26	2,383.24	10.08	9.24	-163.59	-211.06	82.56	118.15	101.00	17.16	6.887		
2,500.00	2,464.25	2,501.07	2,481.86	10.58	9.68	-163.53	-225.55	87.78	124.27	106.34	17.93	6.930		
2,600.00	2,562.00	2,600.88	2,580.48	11.08	10.12	-163.48	-240.03	92.99	130.39	111.68	18.71	6.970		
2,700.00	2,659.76	2,700.70	2,679.09	11.59	10.56	-163.43	-254.52	98.21	136.51	117.02	19.49	7.006		
2,800.00	2,757.52	2,800.51	2,777.71	12.09	11.00	-163.38	-269.00	103.43	142.62	122.36	20.26	7.039		
2,900.00	2,855.28	2,900.32	2,876.33	12.60	11.45	-163.34	-283.49	108.64	148.74	127.70	21.04	7.069		
3,000.00	2,953.04	3,000.13	2,974.95	13.10	11.89	-163.30	-297.97	113.86	154.86	133.04	21.82	7.097		
3,100.00	3,050.80	3,099.95	3,073.57	13.61	12.33	-163.27	-312.46	119.08	160.98	138.38	22.60	7.123		
3,200.00	3,148.56	3,199.76	3,172.18	14.11	12.77	-163.24	-326.95	124.29	167.10	143.72	23.38	7.147		
3,300.00	3,246.31	3,299.57	3,270.80	14.62	13.22	-163.21	-341.43	129.51	173.21	149.05	24.16	7.170		
3,400.00	3,344.07	3,399.38	3,369.42	15.13	13.66	-163.18	-355.92	134.72	179.33	154.39	24.94	7.191		
3,500.00	3,441.83	3,499.20	3,468.04	15.64	14.10	-163.15	-370.40	139.94	185.45	159.73	25.72	7.210		
3,600.00	3,539.59	3,599.01	3,566.66	16.14	14.55	-163.13	-384.89	145.16	191.57	165.06	26.50	7.228		
3,700.00	3,637.35	3,698.82	3,665.27	16.65	14.99	-163.11	-399.37	150.37	197.68	170.40	27.28	7.246		
3,800.00	3,735.11	3,798.63	3,763.89	17.16	15.43	-163.08	-413.86	155.59	203.80	175.74	28.07	7.262		
3,900.00	3,832.87	3,898.45	3,862.51	17.67	15.88	-163.06	-428.34	160.80	209.92	181.07	28.85	7.277		
4,000.00	3,930.62	3,998.26	3,961.13	18.18	16.32	-163.04	-442.83	166.02	216.04	186.41	29.63	7.291		
4,100.00	4,028.38	4,098.07	4,059.75	18.69	16.77	-163.03	-457.31	171.24	222.16	191.75	30.41	7.305		
4,200.00	4,126.14	4,197.89	4,158.37	19.20	17.21	-163.01	-471.80	176.45	228.28	197.08	31.19	7.318		
4,300.00	4,223.90	4,297.70	4,256.98	19.71	17.66	-162.99	-486.28	181.67	234.39	202.42	31.98	7.330		
4,400.00	4,321.66	4,397.51	4,355.60	20.21	18.10	-162.98	-500.77	186.89	240.51	207.75	32.76	7.342		
4,500.00	4,419.42	4,497.32	4,454.22	20.72	18.55	-162.96	-515.25	192.10	246.63	213.09	33.54	7.353		
4,600.00	4,517.18	4,597.14	4,552.84	21.23	18.99	-162.95	-529.74	197.32	252.75	218.42	34.33	7.363		
4,700.00	4,614.94	4,696.95	4,651.46	21.74	19.44	-162.94	-544.22	202.53	258.87	223.76	35.11	7.373		
4,800.00	4,712.69	4,796.76	4,750.07	22.25	19.88	-162.92	-558.71	207.75	264.98	229.09	35.89	7.382		
4,900.00	4,810.45	4,896.57	4,848.69	22.76	20.33	-162.91	-573.19	212.97	271.10	234.43	36.68	7.392		
5,000.00	4,908.21	4,996.39	4,947.31	23.27	20.78	-162.90	-587.68	218.18	277.22	239.76	37.46	7.400		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-12H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,100.00	5,005.97	5,096.20	5,045.93	23.78	21.22	-162.89	-602.16	223.40	283.34	245.09	38.25	7.408		
5,200.00	5,103.73	5,196.01	5,144.55	24.29	21.67	-162.88	-616.65	228.61	289.46	250.43	39.03	7.416		
5,300.00	5,201.49	5,295.82	5,243.16	24.80	22.11	-162.87	-631.14	233.83	295.58	255.76	39.81	7.424		
5,400.00	5,299.25	5,395.64	5,341.78	25.31	22.56	-162.86	-645.62	239.05	301.69	261.10	40.60	7.431		
5,500.00	5,397.00	5,495.45	5,440.40	25.82	23.00	-162.85	-660.11	244.26	307.81	266.43	41.38	7.438		
5,600.00	5,494.76	5,595.26	5,539.02	26.33	23.45	-162.84	-674.59	249.48	313.93	271.77	42.17	7.445		
5,700.00	5,592.52	5,695.08	5,637.64	26.84	23.90	-162.83	-689.08	254.69	320.05	277.10	42.95	7.452		
5,800.00	5,690.28	5,794.89	5,736.26	27.36	24.34	-162.82	-703.56	259.91	326.17	282.43	43.73	7.458		
5,900.00	5,788.04	5,894.70	5,834.87	27.87	24.79	-162.81	-718.05	265.13	332.29	287.77	44.52	7.464		
6,000.00	5,885.80	5,994.51	5,933.49	28.38	25.23	-162.81	-732.53	270.34	338.40	293.10	45.30	7.470		
6,100.00	5,983.56	6,094.33	6,032.11	28.89	25.68	-162.80	-747.02	275.56	344.52	298.43	46.09	7.475		
6,200.00	6,081.31	6,194.14	6,130.73	29.40	26.13	-162.79	-761.50	280.78	350.64	303.77	46.87	7.481		
6,300.00	6,179.07	6,293.95	6,229.35	29.91	26.57	-162.79	-775.99	285.99	356.76	309.10	47.66	7.486		
6,400.00	6,276.83	6,393.76	6,327.96	30.42	27.02	-162.78	-790.47	291.21	362.88	314.44	48.44	7.491		
6,500.00	6,374.59	6,493.58	6,426.58	30.93	27.47	-162.77	-804.96	296.42	369.00	319.77	49.23	7.496		
6,600.00	6,472.35	6,596.62	6,528.45	31.44	27.91	-163.28	-819.95	298.46	374.86	324.91	49.95	7.504		
6,700.00	6,570.11	6,698.18	6,627.73	31.95	28.28	-166.25	-834.70	283.87	379.96	329.64	50.33	7.550		
6,712.06	6,581.89	6,709.88	6,638.96	32.01	28.32	-166.75	-836.37	281.05	380.62	330.27	50.35	7.559		
6,750.00	6,619.02	6,746.13	6,673.36	32.20	28.43	173.58	-841.53	270.86	382.91	332.47	50.44	7.592		
6,800.00	6,667.83	6,792.92	6,716.68	32.44	28.56	149.72	-848.04	254.49	386.40	335.84	50.56	7.642		
6,850.00	6,716.18	6,838.68	6,757.64	32.65	28.67	131.88	-854.24	235.08	390.37	339.68	50.69	7.701		
6,900.00	6,763.70	6,883.51	6,796.15	32.85	28.77	119.42	-860.10	212.91	394.72	343.91	50.81	7.768		
6,950.00	6,810.04	6,927.49	6,832.15	33.03	28.85	110.49	-865.61	188.27	399.38	348.45	50.93	7.842		
7,000.00	6,854.83	6,970.72	6,865.61	33.19	28.93	103.79	-870.76	161.40	404.25	353.23	51.03	7.923		
7,050.00	6,897.73	7,013.27	6,896.49	33.34	28.99	98.55	-875.55	132.53	409.24	358.13	51.10	8.008		
7,100.00	6,938.43	7,055.20	6,924.76	33.47	29.04	94.31	-879.97	101.89	414.25	363.09	51.16	8.097		
7,150.00	6,976.60	7,100.00	6,952.42	33.59	29.09	90.71	-884.33	66.95	419.21	367.93	51.28	8.175		
7,200.00	7,011.97	7,137.49	6,973.44	33.69	29.13	87.87	-887.69	36.09	423.99	372.72	51.27	8.269		
7,250.00	7,044.25	7,177.96	6,993.83	33.78	29.16	85.38	-890.98	1.29	428.56	377.21	51.35	8.346		
7,300.00	7,073.21	7,218.06	7,011.59	33.86	29.19	83.28	-893.89	-34.52	432.83	381.37	51.46	8.412		
7,350.00	7,098.63	7,257.82	7,026.70	33.93	29.22	81.51	-896.43	-71.20	436.73	385.12	51.61	8.462		
7,400.00	7,120.30	7,300.00	7,039.95	34.00	29.26	80.00	-898.71	-111.18	440.22	388.33	51.89	8.483		
7,450.00	7,138.08	7,336.53	7,049.04	34.07	29.30	78.83	-900.34	-146.52	443.22	391.08	52.14	8.500		
7,500.00	7,151.81	7,375.57	7,056.27	34.14	29.37	77.88	-901.73	-184.84	445.71	393.16	52.55	8.482		
7,550.00	7,161.39	7,414.44	7,060.88	34.21	29.46	77.16	-902.73	-223.42	447.66	394.60	53.05	8.438		
7,600.00	7,166.77	7,453.19	7,062.90	34.30	29.60	76.68	-903.35	-262.11	449.02	395.36	53.66	8.369		
7,638.04	7,168.00	7,488.07	7,063.00	34.39	29.78	76.49	-903.65	-296.98	449.51	395.20	54.31	8.277		
7,700.00	7,168.00	7,550.03	7,063.00	34.57	30.24	76.49	-904.16	-358.95	449.51	393.83	55.69	8.072		
7,800.00	7,168.00	7,650.03	7,063.00	35.03	31.35	76.49	-905.00	-458.94	449.51	391.31	58.20	7.724		
7,900.00	7,168.00	7,750.03	7,063.00	35.77	32.76	76.49	-905.83	-558.94	449.51	388.44	61.07	7.360		
8,000.00	7,168.00	7,850.03	7,063.00	36.82	34.36	76.49	-906.66	-658.93	449.52	385.26	64.25	6.996		
8,100.00	7,168.00	7,950.03	7,063.00	38.17	36.12	76.49	-907.49	-758.93	449.52	381.81	67.70	6.639		
8,200.00	7,168.00	8,050.03	7,063.00	39.74	37.99	76.49	-908.32	-858.93	449.52	378.13	71.38	6.297		
8,300.00	7,168.00	8,150.03	7,063.00	41.49	39.97	76.49	-909.15	-958.92	449.52	374.26	75.26	5.973		
8,400.00	7,168.00	8,250.03	7,063.00	43.37	42.03	76.49	-909.98	-1,058.92	449.52	370.22	79.30	5.669		
8,500.00	7,168.00	8,350.03	7,063.00	45.36	44.16	76.49	-910.82	-1,158.92	449.52	366.04	83.48	5.385		
8,600.00	7,168.00	8,450.03	7,063.00	47.44	46.36	76.49	-911.65	-1,258.91	449.52	361.74	87.78	5.121		
8,700.00	7,168.00	8,550.03	7,063.00	49.59	48.61	76.49	-912.48	-1,358.91	449.53	357.33	92.19	4.876		
8,800.00	7,168.00	8,650.03	7,063.00	51.79	50.90	76.49	-913.31	-1,458.91	449.53	352.84	96.69	4.649		
8,900.00	7,168.00	8,750.03	7,063.00	54.05	53.23	76.49	-914.14	-1,558.90	449.53	348.26	101.27	4.439		
9,000.00	7,168.00	8,850.03	7,063.00	56.35	55.60	76.49	-914.97	-1,658.90	449.53	343.61	105.92	4.244		
9,100.00	7,168.00	8,950.03	7,063.00	58.69	58.00	76.49	-915.80	-1,758.90	449.53	338.91	110.62	4.064		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-12H - ORIGINAL WELLBORE - PROPOSAL #1														Offset Site Error:	0.00 usft	
Survey Program: Reference		0-OWSG (Rev2) MWD Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:		0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)						
9,200.00	7,168.00	9,050.03	7,063.00	61.06	60.43	76.49	-916.63	-1,858.89	449.53	334.15	115.38	3.896				
9,300.00	7,168.00	9,150.03	7,063.00	63.46	62.88	76.49	-917.47	-1,958.89	449.53	329.35	120.18	3.740				
9,400.00	7,168.00	9,250.03	7,063.00	65.88	65.35	76.49	-918.30	-2,058.89	449.53	324.51	125.03	3.595				
9,500.00	7,168.00	9,350.03	7,063.00	68.33	67.85	76.49	-919.13	-2,158.88	449.54	319.63	129.91	3.460				
9,600.00	7,168.00	9,450.03	7,063.00	70.80	70.35	76.49	-919.96	-2,258.88	449.54	314.71	134.82	3.334				
9,700.00	7,168.00	9,550.03	7,063.00	73.29	72.88	76.49	-920.79	-2,358.88	449.54	309.77	139.77	3.216				
9,800.00	7,168.00	9,650.03	7,063.00	75.79	75.42	76.49	-921.62	-2,458.87	449.54	304.81	144.73	3.106				
9,900.00	7,168.00	9,750.03	7,063.00	78.31	77.97	76.49	-922.45	-2,558.87	449.54	299.82	149.73	3.002				
10,000.00	7,168.00	9,850.03	7,063.00	80.84	80.53	76.49	-923.28	-2,658.87	449.54	294.81	154.74	2.905				
10,100.00	7,168.00	9,950.03	7,063.00	83.39	83.10	76.49	-924.12	-2,758.86	449.54	289.77	159.77	2.814				
10,200.00	7,168.00	10,050.03	7,063.00	85.94	85.68	76.49	-924.95	-2,858.86	449.55	284.73	164.82	2.728				
10,300.00	7,168.00	10,150.03	7,063.00	88.51	88.27	76.49	-925.78	-2,958.86	449.55	279.66	169.88	2.646				
10,400.00	7,168.00	10,250.03	7,063.00	91.08	90.86	76.49	-926.61	-3,058.85	449.55	274.59	174.96	2.569				
10,500.00	7,168.00	10,350.03	7,063.00	93.66	93.47	76.49	-927.44	-3,158.85	449.55	269.49	180.06	2.497				
10,600.00	7,168.00	10,450.03	7,063.00	96.25	96.08	76.49	-928.27	-3,258.85	449.55	264.39	185.16	2.428				
10,700.00	7,168.00	10,550.03	7,063.00	98.85	98.69	76.49	-929.10	-3,358.84	449.55	259.28	190.28	2.363				
10,800.00	7,168.00	10,650.03	7,063.00	101.45	101.31	76.49	-929.94	-3,458.84	449.55	254.15	195.40	2.301				
10,900.00	7,168.00	10,750.03	7,063.00	104.06	103.94	76.49	-930.77	-3,558.83	449.56	249.02	200.54	2.242				
11,000.00	7,168.00	10,850.03	7,063.00	106.68	106.57	76.49	-931.60	-3,658.83	449.56	243.87	205.68	2.186				
11,100.00	7,168.00	10,950.03	7,063.00	109.30	109.21	76.49	-932.43	-3,758.83	449.56	238.72	210.84	2.132				
11,200.00	7,168.00	11,050.03	7,063.00	111.92	111.85	76.49	-933.26	-3,858.82	449.56	233.56	216.00	2.081				
11,300.00	7,168.00	11,150.03	7,063.00	114.55	114.49	76.49	-934.09	-3,958.82	449.56	228.40	221.16	2.033				
11,400.00	7,168.00	11,250.03	7,063.00	117.19	117.14	76.49	-934.92	-4,058.82	449.56	223.23	226.34	1.986				
11,500.00	7,168.00	11,350.03	7,063.00	119.82	119.79	76.49	-935.75	-4,158.81	449.56	218.05	231.52	1.942				
11,600.00	7,168.00	11,450.03	7,063.00	122.47	122.44	76.49	-936.59	-4,258.81	449.57	212.86	236.70	1.899				
11,700.00	7,168.00	11,550.03	7,063.00	125.11	125.10	76.49	-937.42	-4,358.81	449.57	207.67	241.89	1.859				
11,800.00	7,168.00	11,650.03	7,063.00	127.76	127.76	76.49	-938.25	-4,458.80	449.57	202.48	247.09	1.819				
11,900.00	7,168.00	11,750.03	7,063.00	130.41	130.42	76.49	-939.08	-4,558.80	449.57	197.28	252.29	1.782				
12,000.00	7,168.00	11,850.03	7,063.00	133.06	133.08	76.49	-939.91	-4,658.80	449.57	192.08	257.49	1.746				
12,100.00	7,168.00	11,950.03	7,063.00	135.72	135.75	76.49	-940.74	-4,758.79	449.57	186.87	262.70	1.711				
12,200.00	7,168.00	12,050.03	7,063.00	138.38	138.42	76.49	-941.57	-4,858.79	449.57	181.66	267.92	1.678				
12,300.00	7,168.00	12,150.03	7,063.00	141.04	141.09	76.49	-942.40	-4,958.79	449.57	176.44	273.13	1.646				
12,400.00	7,168.00	12,250.03	7,063.00	143.70	143.76	76.49	-943.24	-5,058.78	449.58	171.22	278.35	1.615				
12,500.00	7,168.00	12,350.03	7,063.00	146.37	146.44	76.49	-944.07	-5,158.78	449.58	166.00	283.57	1.585				
12,600.00	7,168.00	12,450.03	7,063.00	149.04	149.11	76.49	-944.90	-5,258.78	449.58	160.78	288.80	1.557				
12,700.00	7,168.00	12,550.03	7,063.00	151.71	151.79	76.49	-945.73	-5,358.77	449.58	155.55	294.03	1.529				
12,800.00	7,168.00	12,650.03	7,063.00	154.38	154.47	76.49	-946.56	-5,458.77	449.58	150.32	299.26	1.502				
12,900.00	7,168.00	12,750.03	7,063.00	157.05	157.15	76.49	-947.39	-5,558.77	449.58	145.09	304.50	1.476	Level 3			
13,000.00	7,168.00	12,850.03	7,063.00	159.73	159.83	76.49	-948.22	-5,658.76	449.58	139.85	309.73	1.452	Level 3			
13,100.00	7,168.00	12,950.03	7,063.00	162.41	162.52	76.49	-949.06	-5,758.76	449.59	134.61	314.97	1.427	Level 3			
13,200.00	7,168.00	13,050.03	7,063.00	165.08	165.20	76.49	-949.89	-5,858.76	449.59	129.37	320.22	1.404	Level 3			
13,300.00	7,168.00	13,150.03	7,063.00	167.76	167.89	76.49	-950.72	-5,958.75	449.59	124.13	325.46	1.381	Level 3			
13,400.00	7,168.00	13,250.03	7,063.00	170.44	170.57	76.49	-951.55	-6,058.75	449.59	118.88	330.71	1.359	Level 3			
13,500.00	7,168.00	13,350.03	7,063.00	173.13	173.26	76.49	-952.38	-6,158.74	449.59	113.64	335.95	1.338	Level 3			
13,600.00	7,168.00	13,450.03	7,063.00	175.81	175.95	76.49	-953.21	-6,258.74	449.59	108.39	341.20	1.318	Level 3			
13,700.00	7,168.00	13,550.03	7,063.00	178.49	178.64	76.49	-954.04	-6,358.74	449.59	103.14	346.46	1.298	Level 3			
13,800.00	7,168.00	13,650.03	7,063.00	181.18	181.33	76.49	-954.87	-6,458.73	449.60	97.89	351.71	1.278	Level 3			
13,900.00	7,168.00	13,750.03	7,063.00	183.87	184.02	76.49	-955.71	-6,558.73	449.60	92.63	356.97	1.259	Level 3			
14,000.00	7,168.00	13,850.03	7,063.00	186.55	186.72	76.49	-956.54	-6,658.73	449.60	87.38	362.22	1.241	Level 3			
14,100.00	7,168.00	13,950.03	7,063.00	189.24	189.41	76.49	-957.37	-6,758.72	449.60	82.12	367.48	1.223	Level 3			
14,200.00	7,168.00	14,050.03	7,063.00	191.93	192.11	76.49	-958.20	-6,858.72	449.60	76.86	372.74	1.206	Level 3			
14,300.00	7,168.00	14,150.03	7,063.00	194.62	194.80	76.49	-959.03	-6,958.72	449.60	71.60	378.00	1.189	Level 3			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-12H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
14,400.00	7,168.00	14,250.03	7,063.00	197.31	197.50	76.49	-959.86	-7,058.71	449.60	66.34	383.26	1.173	Level 3	
14,500.00	7,168.00	14,350.03	7,063.00	200.01	200.19	76.49	-960.69	-7,158.71	449.60	61.08	388.53	1.157	Level 3	
14,600.00	7,168.00	14,450.03	7,063.00	202.70	202.89	76.49	-961.52	-7,258.71	449.61	55.82	393.79	1.142	Level 3	
14,700.00	7,168.00	14,550.03	7,063.00	205.39	205.59	76.49	-962.36	-7,358.70	449.61	50.55	399.06	1.127	Level 3	
14,800.00	7,168.00	14,650.03	7,063.00	208.09	208.29	76.49	-963.19	-7,458.70	449.61	45.29	404.32	1.112	Level 3	
14,900.00	7,168.00	14,750.03	7,063.00	210.78	210.99	76.49	-964.02	-7,558.70	449.61	40.02	409.59	1.098	Level 3	
15,000.00	7,168.00	14,850.03	7,063.00	213.48	213.69	76.49	-964.85	-7,658.69	449.61	34.75	414.86	1.084	Level 3	
15,100.00	7,168.00	14,950.03	7,063.00	216.17	216.39	76.49	-965.68	-7,758.69	449.61	29.48	420.13	1.070	Level 3	
15,200.00	7,168.00	15,050.03	7,063.00	218.87	219.09	76.49	-966.51	-7,858.69	449.61	24.21	425.40	1.057	Level 3	
15,300.00	7,168.00	15,150.03	7,063.00	221.57	221.79	76.49	-967.34	-7,958.68	449.62	18.94	430.67	1.044	Level 3	
15,400.00	7,168.00	15,250.03	7,063.00	224.27	224.49	76.49	-968.17	-8,058.68	449.62	13.67	435.95	1.031	Level 3	
15,500.00	7,168.00	15,350.03	7,063.00	226.97	227.19	76.49	-969.01	-8,158.68	449.62	8.40	441.22	1.019	Level 3	
15,600.00	7,168.00	15,450.03	7,063.00	229.66	229.89	76.49	-969.84	-8,258.67	449.62	3.13	446.49	1.007	Level 3	
15,700.00	7,168.00	15,550.03	7,063.00	232.36	232.60	76.50	-970.67	-8,358.67	449.62	-2.15	451.77	0.995	Level 3	
15,750.64	7,168.00	15,600.67	7,063.00	233.73	233.97	76.50	-971.09	-8,409.31	449.62	-4.82	454.44	0.989	Level 3	
15,765.69	7,168.00	15,615.73	7,063.00	234.14	234.37	76.50	-971.22	-8,424.36	449.62	-5.61	455.23	0.988	Level 3, ES, SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-14H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance			Rule Assigned:	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
0.00	0.00	0.00	0.00	0.00	0.00	180.00	-14.57	0.00	14.57						
100.00	100.00	100.00	100.00	0.14	0.14	180.00	-14.57	0.00	14.57	14.29	0.29	50.813			
200.00	200.00	200.00	200.00	0.50	0.50	180.00	-14.57	0.00	14.57	13.57	1.00	14.518			
300.00	300.00	300.00	300.00	0.86	0.86	180.00	-14.57	0.00	14.57	12.85	1.72	8.469			
400.00	400.00	400.00	400.00	1.22	1.22	180.00	-14.57	0.00	14.57	12.13	2.44	5.978 CC			
500.00	500.00	499.49	499.47	1.58	1.56	177.58	-16.16	0.68	16.18	13.04	3.14	5.156			
600.00	599.98	598.85	598.69	1.92	1.90	5.97	-20.91	2.72	19.39	15.58	3.81	5.087			
700.00	699.84	698.08	697.54	2.26	2.25	1.20	-28.81	6.12	22.59	18.11	4.48	5.043			
800.00	799.45	797.17	795.90	2.60	2.62	-3.74	-39.83	10.86	25.85	20.70	5.15	5.017			
900.00	898.70	896.14	893.66	2.97	3.01	-8.74	-53.94	16.92	29.26	23.43	5.83	5.018			
1,000.00	997.47	994.96	990.69	3.36	3.44	-13.73	-71.13	24.31	32.90	26.38	6.52	5.047			
1,100.00	1,095.62	1,093.65	1,086.89	3.78	3.89	-18.63	-91.34	33.00	36.84	29.62	7.23	5.099			
1,107.69	1,103.14	1,101.23	1,094.25	3.81	3.93	-19.00	-93.02	33.72	37.16	29.88	7.28	5.104			
1,200.00	1,193.38	1,192.11	1,182.06	4.23	4.39	-22.60	-114.54	42.97	42.52	34.56	7.95	5.345			
1,300.00	1,291.14	1,291.23	1,277.14	4.69	4.92	-24.85	-140.26	54.03	50.93	42.20	8.73	5.833			
1,400.00	1,388.90	1,390.85	1,372.65	5.15	5.47	-26.42	-166.28	65.21	59.60	50.06	9.54	6.247			
1,500.00	1,486.66	1,490.46	1,468.15	5.63	6.03	-27.58	-192.30	76.40	68.30	57.93	10.36	6.590			
1,600.00	1,584.42	1,590.07	1,563.65	6.11	6.61	-28.49	-218.32	87.59	77.02	65.82	11.20	6.880			
1,700.00	1,682.18	1,689.68	1,659.15	6.60	7.18	-29.20	-244.34	98.77	85.76	73.72	12.04	7.125			
1,800.00	1,779.94	1,789.30	1,754.65	7.09	7.77	-29.79	-270.36	109.96	94.50	81.62	12.88	7.336			
1,900.00	1,877.69	1,888.91	1,850.15	7.58	8.36	-30.28	-296.38	121.14	103.26	89.52	13.73	7.518			
2,000.00	1,975.45	1,988.52	1,945.65	8.08	8.95	-30.69	-322.40	132.33	112.02	97.43	14.59	7.677			
2,100.00	2,073.21	2,088.13	2,041.15	8.58	9.54	-31.04	-348.43	143.51	120.79	105.33	15.45	7.817			
2,200.00	2,170.97	2,187.75	2,136.65	9.07	10.13	-31.34	-374.45	154.70	129.56	113.24	16.32	7.941			
2,300.00	2,268.73	2,287.36	2,232.15	9.57	10.73	-31.61	-400.47	165.89	138.33	121.15	17.18	8.051			
2,400.00	2,366.49	2,386.97	2,327.66	10.08	11.33	-31.84	-426.49	177.07	147.11	129.06	18.05	8.150			
2,500.00	2,464.25	2,486.58	2,423.16	10.58	11.93	-32.05	-452.51	188.26	155.89	136.96	18.92	8.239			
2,600.00	2,562.00	2,586.20	2,518.66	11.08	12.53	-32.23	-478.53	199.44	164.67	144.87	19.79	8.319			
2,700.00	2,659.76	2,685.81	2,614.16	11.59	13.13	-32.40	-504.55	210.63	173.45	152.78	20.67	8.393			
2,800.00	2,757.52	2,785.42	2,709.66	12.09	13.73	-32.55	-530.57	221.82	182.23	160.69	21.54	8.459			
2,900.00	2,855.28	2,885.03	2,805.16	12.60	14.34	-32.68	-556.59	233.00	191.01	168.60	22.42	8.521			
3,000.00	2,953.04	2,984.65	2,900.66	13.10	14.94	-32.81	-582.61	244.19	199.80	176.51	23.29	8.577			
3,100.00	3,050.80	3,084.26	2,996.16	13.61	15.54	-32.92	-608.64	255.37	208.59	184.41	24.17	8.629			
3,200.00	3,148.56	3,183.87	3,091.66	14.11	16.15	-33.03	-634.66	266.56	217.37	192.32	25.05	8.677			
3,300.00	3,246.31	3,283.48	3,187.16	14.62	16.75	-33.12	-660.68	277.74	226.16	200.23	25.93	8.721			
3,400.00	3,344.07	3,383.10	3,282.66	15.13	17.36	-33.21	-686.70	288.93	234.95	208.14	26.81	8.763			
3,500.00	3,441.83	3,482.71	3,378.17	15.64	17.97	-33.30	-712.72	300.12	243.74	216.04	27.69	8.801			
3,600.00	3,539.59	3,582.32	3,473.67	16.14	18.57	-33.37	-738.74	311.30	252.53	223.95	28.57	8.838			
3,700.00	3,637.35	3,681.93	3,569.17	16.65	19.18	-33.45	-764.76	322.49	261.32	231.86	29.46	8.871			
3,800.00	3,735.11	3,781.55	3,664.67	17.16	19.78	-33.51	-790.78	333.67	270.11	239.77	30.34	8.903			
3,900.00	3,832.87	3,881.16	3,760.17	17.67	20.39	-33.58	-816.80	344.86	278.90	247.67	31.22	8.933			
4,000.00	3,930.62	3,980.77	3,855.67	18.18	21.00	-33.64	-842.83	356.04	287.69	255.58	32.10	8.961			
4,100.00	4,028.38	4,080.38	3,951.17	18.69	21.61	-33.69	-868.85	367.23	296.48	263.49	32.99	8.987			
4,200.00	4,126.14	4,180.00	4,046.67	19.20	22.21	-33.74	-894.87	378.42	305.27	271.40	33.87	9.012			
4,300.00	4,223.90	4,279.61	4,142.17	19.71	22.82	-33.79	-920.89	389.60	314.06	279.30	34.76	9.036			
4,400.00	4,321.66	4,379.22	4,237.67	20.21	23.43	-33.84	-946.91	400.79	322.85	287.21	35.64	9.058			
4,500.00	4,419.42	4,478.83	4,333.17	20.72	24.04	-33.88	-972.93	411.97	331.64	295.12	36.53	9.080			
4,600.00	4,517.18	4,578.45	4,428.68	21.23	24.65	-33.93	-998.95	423.16	340.43	303.02	37.41	9.100			
4,700.00	4,614.94	4,678.06	4,524.18	21.74	25.25	-33.97	-1,024.97	434.34	349.23	310.93	38.30	9.119			
4,800.00	4,712.69	4,777.67	4,619.68	22.25	25.86	-34.00	-1,050.99	445.53	358.02	318.84	39.18	9.137			
4,900.00	4,810.45	4,877.28	4,715.18	22.76	26.47	-34.04	-1,077.01	456.72	366.81	326.74	40.07	9.155			
5,000.00	4,908.21	4,976.90	4,810.68	23.27	27.08	-34.07	-1,103.04	467.90	375.60	334.65	40.95	9.172			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-14H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,100.00	5,005.97	5,076.51	4,906.18	23.78	27.69	-34.11	-1,129.06	479.09	384.40	342.56	41.84	9.187		
5,200.00	5,103.73	5,176.12	5,001.68	24.29	28.30	-34.14	-1,155.08	490.27	393.19	350.46	42.73	9.203		
5,300.00	5,201.49	5,275.73	5,097.18	24.80	28.91	-34.17	-1,181.10	501.46	401.98	358.37	43.61	9.217		
5,400.00	5,299.25	5,375.35	5,192.68	25.31	29.51	-34.20	-1,207.12	512.64	410.77	366.28	44.50	9.231		
5,500.00	5,397.00	5,474.96	5,288.18	25.82	30.12	-34.23	-1,233.14	523.83	419.57	374.18	45.38	9.245		
5,600.00	5,494.76	5,574.57	5,383.68	26.33	30.73	-34.25	-1,259.16	535.02	428.36	382.09	46.27	9.257		
5,700.00	5,592.52	5,674.18	5,479.19	26.84	31.34	-34.28	-1,285.18	546.20	437.15	390.00	47.16	9.270		
5,800.00	5,690.28	5,773.80	5,574.69	27.36	31.95	-34.30	-1,311.20	557.39	445.95	397.90	48.05	9.282		
5,900.00	5,788.04	5,873.41	5,670.19	27.87	32.56	-34.33	-1,337.23	568.57	454.74	405.81	48.93	9.293		
6,000.00	5,885.80	5,973.02	5,765.69	28.38	33.17	-34.35	-1,363.25	579.76	463.53	413.71	49.82	9.304		
6,100.00	5,983.56	6,072.63	5,861.19	28.89	33.78	-34.37	-1,389.27	590.95	472.33	421.62	50.71	9.315		
6,200.00	6,081.31	6,172.25	5,956.69	29.40	34.39	-34.39	-1,415.29	602.13	481.12	429.53	51.59	9.325		
6,300.00	6,179.07	6,271.86	6,052.19	29.91	35.00	-34.41	-1,441.31	613.32	489.91	437.43	52.48	9.335		
6,400.00	6,276.83	6,371.47	6,147.69	30.42	35.61	-34.43	-1,467.33	624.50	498.71	445.34	53.37	9.344		
6,500.00	6,374.59	6,471.08	6,243.19	30.93	36.22	-34.45	-1,493.35	635.69	507.50	453.24	54.26	9.354		
6,600.00	6,472.35	6,570.70	6,338.69	31.44	36.83	-34.47	-1,519.37	646.87	516.30	461.15	55.15	9.362		
6,700.00	6,570.11	6,670.31	6,434.19	31.95	37.43	-34.48	-1,545.39	658.06	525.09	469.06	56.03	9.371		
6,712.06	6,581.89	6,682.32	6,445.71	32.01	37.51	-34.49	-1,548.53	659.41	526.15	470.01	56.14	9.372		
6,750.00	6,619.02	6,720.00	6,481.84	32.20	37.74	-52.13	-1,558.38	663.64	530.39	473.89	56.51	9.386		
6,800.00	6,667.83	6,769.14	6,528.95	32.44	38.04	-73.45	-1,571.21	669.16	538.75	481.68	57.08	9.439		
6,850.00	6,716.18	6,817.33	6,575.15	32.65	38.33	-88.89	-1,583.80	674.57	550.26	492.52	57.74	9.530		
6,900.00	6,763.70	6,864.21	6,620.09	32.85	38.62	-99.07	-1,596.04	679.83	564.91	506.44	58.48	9.661		
6,950.00	6,810.04	6,911.05	6,742.15	33.03	39.33	-107.47	-1,629.38	684.37	581.05	521.64	59.41	9.781		
7,000.00	6,854.83	7,183.67	6,921.51	33.19	40.04	-112.93	-1,678.81	638.40	588.22	530.97	57.26	10.273		
7,050.00	6,897.73	7,438.43	7,118.28	33.34	40.41	-113.40	-1,733.86	489.93	584.01	534.72	49.29	11.849		
7,100.00	6,938.43	7,587.70	7,197.30	33.47	40.40	-112.16	-1,756.51	365.91	570.00	524.09	45.91	12.417		
7,150.00	6,976.60	7,736.85	7,243.11	33.59	40.28	-108.46	-1,770.21	225.18	550.26	505.18	45.08	12.207		
7,200.00	7,011.97	7,840.78	7,253.68	33.69	40.15	-105.24	-1,773.97	122.06	528.30	481.11	47.19	11.195		
7,250.00	7,044.25	7,893.52	7,254.00	33.78	40.08	-104.65	-1,774.50	69.34	508.13	458.82	49.30	10.306		
7,300.00	7,073.21	7,933.80	7,254.00	33.86	40.03	-104.58	-1,774.83	29.06	491.21	440.06	51.15	9.604		
7,350.00	7,098.63	7,976.51	7,254.00	33.93	39.98	-104.15	-1,775.19	-13.65	477.38	424.46	52.92	9.021		
7,400.00	7,120.30	8,021.32	7,254.00	34.00	39.94	-103.51	-1,775.57	-58.45	466.40	411.78	54.62	8.538		
7,450.00	7,138.08	8,067.89	7,254.00	34.07	39.90	-102.78	-1,775.96	-105.02	458.01	401.74	56.27	8.140		
7,500.00	7,151.81	8,115.86	7,254.00	34.14	39.87	-102.09	-1,776.36	-152.99	451.91	394.10	57.81	7.817		
7,550.00	7,161.39	8,164.88	7,254.00	34.21	39.86	-101.55	-1,776.77	-202.01	447.87	388.58	59.29	7.554		
7,600.00	7,166.77	8,214.56	7,254.00	34.30	39.87	-101.22	-1,777.19	-251.69	445.69	385.04	60.65	7.349		
7,637.97	7,168.00	8,252.50	7,254.00	34.39	39.88	-101.14	-1,777.50	-289.63	445.19	383.56	61.63	7.224		
7,638.04	7,168.00	8,252.57	7,254.00	34.39	39.88	-101.14	-1,777.50	-289.69	445.19	383.56	61.63	7.223		
7,700.00	7,168.00	8,314.53	7,254.00	34.57	39.97	-101.14	-1,778.02	-351.66	445.20	381.97	63.23	7.041		
7,800.00	7,168.00	8,414.53	7,254.00	35.03	40.38	-101.14	-1,778.86	-451.65	445.20	379.11	66.09	6.736		
7,900.00	7,168.00	8,514.53	7,254.00	35.77	41.43	-101.14	-1,779.70	-551.65	445.21	375.95	69.25	6.429		
8,000.00	7,168.00	8,614.53	7,254.00	36.82	43.03	-101.14	-1,780.53	-651.64	445.21	372.53	72.68	6.126		
8,100.00	7,168.00	8,714.53	7,254.00	38.17	44.88	-101.14	-1,781.37	-751.64	445.21	368.89	76.33	5.833		
8,200.00	7,168.00	8,814.53	7,254.00	39.74	46.87	-101.14	-1,782.21	-851.64	445.22	365.05	80.17	5.553		
8,300.00	7,168.00	8,914.53	7,254.00	41.49	48.95	-101.14	-1,783.04	-951.63	445.22	361.04	84.18	5.289		
8,400.00	7,168.00	9,014.53	7,254.00	43.37	51.09	-101.14	-1,783.88	-1,051.63	445.23	356.89	88.34	5.040		
8,500.00	7,168.00	9,114.53	7,254.00	45.36	53.29	-101.14	-1,784.72	-1,151.63	445.23	352.61	92.62	4.807		
8,600.00	7,168.00	9,214.53	7,254.00	47.44	55.54	-101.14	-1,785.56	-1,251.62	445.24	348.23	97.01	4.590		
8,700.00	7,168.00	9,314.53	7,254.00	49.59	57.83	-101.14	-1,786.39	-1,351.62	445.24	343.75	101.49	4.387		
8,800.00	7,168.00	9,414.53	7,254.00	51.79	60.16	-101.14	-1,787.23	-1,451.62	445.24	339.19	106.06	4.198		
8,900.00	7,168.00	9,514.53	7,254.00	54.05	62.52	-101.14	-1,788.07	-1,551.61	445.25	334.56	110.69	4.022		
9,000.00	7,168.00	9,614.53	7,254.00	56.35	64.90	-101.14	-1,788.90	-1,651.61	445.25	329.86	115.39	3.859		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-14H - ORIGINAL WELLBORE - PROPOSAL #1											Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD											Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,100.00	7,168.00	9,714.53	7,254.00	58.69	67.31	-101.14	-1,789.74	-1,751.61	445.26	325.11	120.14	3.706	
9,200.00	7,168.00	9,814.53	7,254.00	61.06	69.74	-101.14	-1,790.58	-1,851.60	445.26	320.31	124.95	3.564	
9,300.00	7,168.00	9,914.53	7,254.00	63.46	72.19	-101.14	-1,791.42	-1,951.60	445.27	315.47	129.79	3.431	
9,400.00	7,168.00	10,014.53	7,254.00	65.88	74.66	-101.14	-1,792.25	-2,051.60	445.27	310.59	134.68	3.306	
9,500.00	7,168.00	10,114.53	7,254.00	68.33	77.15	-101.14	-1,793.09	-2,151.59	445.27	305.68	139.60	3.190	
9,600.00	7,168.00	10,214.53	7,254.00	70.80	79.65	-101.14	-1,793.93	-2,251.59	445.28	300.73	144.54	3.081	
9,700.00	7,168.00	10,314.53	7,254.00	73.29	82.17	-101.14	-1,794.76	-2,351.59	445.28	295.76	149.52	2.978	
9,800.00	7,168.00	10,414.53	7,254.00	75.79	84.70	-101.14	-1,795.60	-2,451.58	445.29	290.76	154.53	2.882	
9,900.00	7,168.00	10,514.53	7,254.00	78.31	87.23	-101.14	-1,796.44	-2,551.58	445.29	285.74	159.55	2.791	
10,000.00	7,168.00	10,614.53	7,254.00	80.84	89.78	-101.14	-1,797.28	-2,651.57	445.30	280.70	164.60	2.705	
10,100.00	7,168.00	10,714.53	7,254.00	83.39	92.34	-101.14	-1,798.11	-2,751.57	445.30	275.64	169.66	2.625	
10,200.00	7,168.00	10,814.53	7,254.00	85.94	94.91	-101.14	-1,798.95	-2,851.57	445.30	270.56	174.74	2.548	
10,300.00	7,168.00	10,914.53	7,254.00	88.51	97.48	-101.14	-1,799.79	-2,951.56	445.31	265.47	179.84	2.476	
10,400.00	7,168.00	11,014.53	7,254.00	91.08	100.07	-101.14	-1,800.62	-3,051.56	445.31	260.36	184.95	2.408	
10,500.00	7,168.00	11,114.53	7,254.00	93.66	102.66	-101.13	-1,801.46	-3,151.56	445.32	255.24	190.08	2.343	
10,600.00	7,168.00	11,214.53	7,254.00	96.25	105.25	-101.13	-1,802.30	-3,251.55	445.32	250.10	195.22	2.281	
10,700.00	7,168.00	11,314.53	7,254.00	98.85	107.86	-101.13	-1,803.13	-3,351.55	445.33	244.96	200.37	2.223	
10,800.00	7,168.00	11,414.53	7,254.00	101.45	110.46	-101.13	-1,803.97	-3,451.55	445.33	239.80	205.52	2.167	
10,900.00	7,168.00	11,514.53	7,254.00	104.06	113.08	-101.13	-1,804.81	-3,551.54	445.33	234.64	210.69	2.114	
11,000.00	7,168.00	11,614.53	7,254.00	106.68	115.70	-101.13	-1,805.65	-3,651.54	445.34	229.47	215.87	2.063	
11,100.00	7,168.00	11,714.53	7,254.00	109.30	118.32	-101.13	-1,806.48	-3,751.54	445.34	224.28	221.06	2.015	
11,200.00	7,168.00	11,814.53	7,254.00	111.92	120.95	-101.13	-1,807.32	-3,851.53	445.35	219.10	226.25	1.968	
11,300.00	7,168.00	11,914.53	7,254.00	114.55	123.58	-101.13	-1,808.16	-3,951.53	445.35	213.90	231.45	1.924	
11,400.00	7,168.00	12,014.53	7,254.00	117.19	126.21	-101.13	-1,808.99	-4,051.53	445.36	208.70	236.66	1.882	
11,500.00	7,168.00	12,114.53	7,254.00	119.82	128.85	-101.13	-1,809.83	-4,151.52	445.36	203.49	241.87	1.841	
11,600.00	7,168.00	12,214.53	7,254.00	122.47	131.49	-101.13	-1,810.67	-4,251.52	445.36	198.27	247.09	1.802	
11,700.00	7,168.00	12,314.53	7,254.00	125.11	134.13	-101.13	-1,811.51	-4,351.52	445.37	193.05	252.32	1.765	
11,800.00	7,168.00	12,414.53	7,254.00	127.76	136.78	-101.13	-1,812.34	-4,451.51	445.37	187.82	257.55	1.729	
11,900.00	7,168.00	12,514.53	7,254.00	130.41	139.43	-101.13	-1,813.18	-4,551.51	445.38	182.59	262.79	1.695	
12,000.00	7,168.00	12,614.53	7,254.00	133.06	142.09	-101.13	-1,814.02	-4,651.50	445.38	177.35	268.03	1.662	
12,100.00	7,168.00	12,714.53	7,254.00	135.72	144.74	-101.13	-1,814.85	-4,751.50	445.39	172.11	273.27	1.630	
12,200.00	7,168.00	12,814.53	7,254.00	138.38	147.40	-101.13	-1,815.69	-4,851.50	445.39	166.87	278.52	1.599	
12,300.00	7,168.00	12,914.53	7,254.00	141.04	150.06	-101.13	-1,816.53	-4,951.49	445.39	161.62	283.77	1.570	
12,400.00	7,168.00	13,014.53	7,254.00	143.70	152.72	-101.13	-1,817.37	-5,051.49	445.40	156.37	289.03	1.541	
12,500.00	7,168.00	13,114.53	7,254.00	146.37	155.38	-101.13	-1,818.20	-5,151.49	445.40	151.11	294.29	1.513	
12,600.00	7,168.00	13,214.53	7,254.00	149.04	158.05	-101.13	-1,819.04	-5,251.48	445.41	145.86	299.55	1.487	Level 3
12,700.00	7,168.00	13,314.53	7,254.00	151.71	160.72	-101.13	-1,819.88	-5,351.48	445.41	140.59	304.82	1.461	Level 3
12,800.00	7,168.00	13,414.53	7,254.00	154.38	163.39	-101.13	-1,820.71	-5,451.48	445.42	135.33	310.09	1.436	Level 3
12,900.00	7,168.00	13,514.53	7,254.00	157.05	166.06	-101.13	-1,821.55	-5,551.47	445.42	130.06	315.36	1.412	Level 3
13,000.00	7,168.00	13,614.53	7,254.00	159.73	168.73	-101.13	-1,822.39	-5,651.47	445.42	124.79	320.63	1.389	Level 3
13,100.00	7,168.00	13,714.53	7,254.00	162.41	171.41	-101.13	-1,823.22	-5,751.47	445.43	119.52	325.91	1.367	Level 3
13,200.00	7,168.00	13,814.53	7,254.00	165.08	174.08	-101.13	-1,824.06	-5,851.46	445.43	114.24	331.19	1.345	Level 3
13,300.00	7,168.00	13,914.53	7,254.00	167.76	176.76	-101.13	-1,824.90	-5,951.46	445.44	108.97	336.47	1.324	Level 3
13,400.00	7,168.00	14,014.53	7,254.00	170.44	179.44	-101.13	-1,825.74	-6,051.46	445.44	103.69	341.75	1.303	Level 3
13,500.00	7,168.00	14,114.53	7,254.00	173.13	182.12	-101.13	-1,826.57	-6,151.45	445.45	98.41	347.04	1.284	Level 3
13,600.00	7,168.00	14,214.53	7,254.00	175.81	184.80	-101.13	-1,827.41	-6,251.45	445.45	93.12	352.33	1.264	Level 3
13,700.00	7,168.00	14,314.53	7,254.00	178.49	187.48	-101.13	-1,828.25	-6,351.45	445.45	87.84	357.62	1.246	Level 3
13,800.00	7,168.00	14,414.53	7,254.00	181.18	190.16	-101.13	-1,829.09	-6,451.44	445.46	82.55	362.91	1.227	Level 3
13,900.00	7,168.00	14,514.53	7,254.00	183.87	192.85	-101.13	-1,829.92	-6,551.44	445.46	77.26	368.20	1.210	Level 3
14,000.00	7,168.00	14,614.53	7,254.00	186.55	195.53	-101.13	-1,830.76	-6,651.43	445.47	71.97	373.50	1.193	Level 3
14,100.00	7,168.00	14,714.53	7,254.00	189.24	198.22	-101.13	-1,831.60	-6,751.43	445.47	66.68	378.79	1.176	Level 3
14,200.00	7,168.00	14,814.53	7,254.00	191.93	200.91	-101.13	-1,832.43	-6,851.43	445.48	61.38	384.09	1.160	Level 3

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-14H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference				Semi Major Axis			Offset Wellbore Centre		Distance			Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,300.00	7,168.00	14,914.53	7,254.00	194.62	203.59	-101.13	-1,833.27	-6,951.42	445.48	56.09	389.39	1.144	Level 3	
14,400.00	7,168.00	15,014.53	7,254.00	197.31	206.28	-101.13	-1,834.11	-7,051.42	445.48	50.79	394.69	1.129	Level 3	
14,500.00	7,168.00	15,114.53	7,254.00	200.01	208.97	-101.13	-1,834.94	-7,151.42	445.49	45.49	400.00	1.114	Level 3	
14,600.00	7,168.00	15,214.53	7,254.00	202.70	211.66	-101.13	-1,835.78	-7,251.41	445.49	40.19	405.30	1.099	Level 3	
14,700.00	7,168.00	15,314.53	7,254.00	205.39	214.35	-101.13	-1,836.62	-7,351.41	445.50	34.89	410.60	1.085	Level 3	
14,800.00	7,168.00	15,414.53	7,254.00	208.09	217.05	-101.13	-1,837.46	-7,451.41	445.50	29.59	415.91	1.071	Level 3	
14,900.00	7,168.00	15,514.53	7,254.00	210.78	219.74	-101.13	-1,838.29	-7,551.40	445.51	24.29	421.22	1.058	Level 3	
15,000.00	7,168.00	15,614.53	7,254.00	213.48	222.43	-101.13	-1,839.13	-7,651.40	445.51	18.98	426.53	1.045	Level 3	
15,100.00	7,168.00	15,714.53	7,254.00	216.17	225.13	-101.13	-1,839.97	-7,751.40	445.51	13.68	431.84	1.032	Level 3	
15,200.00	7,168.00	15,814.53	7,254.00	218.87	227.82	-101.13	-1,840.80	-7,851.39	445.52	8.37	437.15	1.019	Level 3	
15,300.00	7,168.00	15,914.53	7,254.00	221.57	230.52	-101.13	-1,841.64	-7,951.39	445.52	3.07	442.46	1.007	Level 3	
15,400.00	7,168.00	16,014.53	7,254.00	224.27	233.21	-101.13	-1,842.48	-8,051.39	445.53	-2.24	447.77	0.995	Level 3	
15,500.00	7,168.00	16,114.53	7,254.00	226.97	235.91	-101.13	-1,843.31	-8,151.38	445.53	-7.55	453.08	0.983	Level 3	
15,600.00	7,168.00	16,214.53	7,254.00	229.66	238.61	-101.13	-1,844.15	-8,251.38	445.54	-12.86	458.40	0.972	Level 3	
15,700.00	7,168.00	16,314.53	7,254.00	232.36	241.30	-101.13	-1,844.99	-8,351.38	445.54	-18.17	463.71	0.961	Level 3	
15,765.69	7,168.00	16,380.23	7,254.00	234.14	243.08	-101.13	-1,845.54	-8,417.07	445.54	-21.66	467.21	0.954	Level 3, ES, SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-15H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft		
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.00	0.00	0.00	0.00	0.00	0.00	-180.00	-29.14	0.00	29.14	29.14	0.29	101.611				
100.00	100.00	100.00	100.00	0.14	0.14	-180.00	-29.14	0.00	29.14	28.85	1.00	29.032				
200.00	200.00	200.00	200.00	0.50	0.50	-180.00	-29.14	0.00	29.14	28.14	1.72	16.935 CC, ES				
300.00	300.00	300.00	300.00	0.86	0.86	-180.00	-29.14	0.00	29.14	27.42	2.42	12.712				
400.00	400.00	399.01	398.99	1.22	1.20	178.97	-30.76	0.55	30.78	28.36	3.12	11.468				
500.00	500.00	497.78	497.62	1.58	1.54	176.45	-35.60	2.21	35.74	32.63	3.80	11.164				
600.00	599.98	596.24	595.71	1.92	1.89	6.67	-43.62	4.96	42.38	38.58	4.46	10.971				
700.00	699.84	694.47	693.22	2.26	2.27	4.32	-54.79	8.78	48.98	44.52	5.14	10.807				
800.00	799.45	792.47	790.04	2.60	2.66	2.18	-69.09	13.67	55.55	50.41	5.82	10.668				
900.00	898.70	890.24	886.07	2.97	3.09	0.18	-86.46	19.62	62.08	56.26	6.50	10.546				
1,000.00	997.47	987.79	981.20	3.36	3.55	-1.72	-106.88	26.61	68.59	62.08	7.19	10.436				
1,100.00	1,095.62	1,085.11	1,075.32	3.78	4.05	-3.55	-130.29	34.62	75.07	67.88	7.25	10.430				
1,107.69	1,103.14	1,092.59	1,082.51	3.81	4.09	-3.69	-132.21	35.28	75.57	68.33	7.89	10.527				
1,200.00	1,193.38	1,182.10	1,168.22	4.23	4.58	-5.23	-156.61	43.63	83.02	75.13	8.59	10.988				
1,300.00	1,291.14	1,278.45	1,259.54	4.69	5.16	-6.59	-185.70	53.59	94.38	85.79	9.34	11.604				
1,400.00	1,388.90	1,376.38	1,351.51	5.15	5.78	-7.64	-217.54	64.48	108.35	99.02	10.12	12.110				
1,500.00	1,486.66	1,475.36	1,444.39	5.63	6.42	-8.45	-249.87	75.55	122.54	112.42	10.91	12.537				
1,600.00	1,584.42	1,574.33	1,537.28	6.11	7.07	-9.09	-282.21	86.62	136.74	125.84	11.70	12.901				
1,700.00	1,682.18	1,673.31	1,630.17	6.60	7.73	-9.61	-314.55	97.69	150.96	139.26	12.50	13.214				
1,800.00	1,779.94	1,772.29	1,723.06	7.09	8.40	-10.04	-346.88	108.76	165.19	152.69	13.30	13.486				
1,900.00	1,877.69	1,871.26	1,815.94	7.58	9.07	-10.40	-379.22	119.83	179.42	166.12	14.11	13.724				
2,000.00	1,975.45	1,970.24	1,908.83	8.08	9.75	-10.71	-411.55	130.89	193.67	179.55	14.92	13.934				
2,100.00	2,073.21	2,069.21	2,001.72	8.58	10.42	-10.98	-443.89	141.96	207.91	192.99	15.73	14.120				
2,200.00	2,170.97	2,168.19	2,094.60	9.07	11.10	-11.21	-476.23	153.03	222.16	206.43	16.55	14.287				
2,300.00	2,268.73	2,267.16	2,187.49	9.57	11.78	-11.42	-508.56	164.10	236.42	219.87	17.36	14.437				
2,400.00	2,366.49	2,366.14	2,280.38	10.08	12.47	-11.60	-540.90	175.17	250.67	233.31	18.18	14.572				
2,500.00	2,464.25	2,465.12	2,373.27	10.58	13.15	-11.76	-573.24	186.23	264.93	246.75	19.00	14.694				
2,600.00	2,562.00	2,564.09	2,466.15	11.08	13.84	-11.91	-605.57	197.30	279.19	260.19	19.82	14.806				
2,700.00	2,659.76	2,663.07	2,559.04	11.59	14.52	-12.04	-637.91	208.37	293.45	273.63	20.64	14.907				
2,800.00	2,757.52	2,762.04	2,651.93	12.09	15.21	-12.16	-670.24	219.44	307.72	287.08	21.46	15.001				
2,900.00	2,855.28	2,861.02	2,744.82	12.60	15.90	-12.27	-702.58	230.51	321.98	300.52	22.29	15.087				
3,000.00	2,953.04	2,959.99	2,837.70	13.10	16.59	-12.36	-734.92	241.57	336.25	313.96	23.11	15.167				
3,100.00	3,050.80	3,058.97	2,930.59	13.61	17.28	-12.46	-767.25	252.64	350.51	327.40	23.94	15.240				
3,200.00	3,148.56	3,157.94	3,023.48	14.11	17.97	-12.54	-799.59	263.71	364.78	340.85	24.76	15.309				
3,300.00	3,246.31	3,256.92	3,116.36	14.62	18.66	-12.62	-831.93	274.78	379.05	354.29	25.59	15.372				
3,400.00	3,344.07	3,355.90	3,209.25	15.13	19.35	-12.69	-864.26	285.85	393.32	367.73	26.41	15.432				
3,500.00	3,441.83	3,454.87	3,302.14	15.64	20.04	-12.76	-896.60	296.91	407.59	381.17	27.24	15.487				
3,600.00	3,539.59	3,553.85	3,395.03	16.14	20.73	-12.82	-928.94	307.98	421.86	394.62	28.07	15.540				
3,700.00	3,637.35	3,652.82	3,487.91	16.65	21.42	-12.88	-961.27	319.05	436.13	408.06	28.89	15.588				
3,800.00	3,735.11	3,751.80	3,580.80	17.16	22.11	-12.93	-993.61	330.12	450.40	421.50	29.72	15.634				
3,900.00	3,832.87	3,850.77	3,673.69	17.67	22.81	-12.98	-1,025.94	341.19	464.67	434.95	30.55	15.678				
4,000.00	3,930.62	3,949.75	3,766.57	18.18	23.50	-13.03	-1,058.28	352.25	478.94	448.39	31.38	15.719				
4,100.00	4,028.38	4,048.73	3,859.46	18.69	24.19	-13.08	-1,090.62	363.32	493.21	461.83	32.21	15.757				
4,200.00	4,126.14	4,147.70	3,952.35	19.20	24.88	-13.12	-1,122.95	374.39	507.48	475.28	33.03	15.794				
4,300.00	4,223.90	4,246.68	4,045.24	19.71	25.58	-13.16	-1,155.29	385.46	521.75	488.72	33.86	15.829				
4,400.00	4,321.66	4,345.65	4,138.12	20.21	26.27	-13.20	-1,187.63	396.53	536.03	502.16	34.69	15.862				
4,500.00	4,419.42	4,444.63	4,231.01	20.72	26.96	-13.24	-1,219.96	407.59	550.30	515.61	35.52	15.893				
4,600.00	4,517.18	4,543.60	4,323.90	21.23	27.66	-13.27	-1,252.30	418.66	564.57	529.05	36.35	15.923				
4,700.00	4,614.94	4,642.58	4,416.79	21.74	28.35	-13.30	-1,284.63	429.73	578.84	542.49	37.18	15.952				
4,800.00	4,712.69	4,741.56	4,509.67	22.25	29.04	-13.34	-1,316.97	440.80	593.12	555.94	38.01	15.979				
4,900.00	4,810.45	4,840.53	4,602.56	22.76	29.74	-13.37	-1,349.31	451.87	607.39	569.38	38.84	16.005				
5,000.00	4,908.21	4,939.51	4,695.45	23.27	30.43	-13.39	-1,381.64	462.94	621.66	582.82						

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-15H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)			
5,100.00	5,005.97	5,038.48	4,788.33	23.78	31.12	-13.42	-1,413.98	474.00	635.94	596.26	39.67	16.029		
5,200.00	5,103.73	5,137.46	4,881.22	24.29	31.82	-13.45	-1,446.32	485.07	650.21	609.71	40.50	16.053		
5,300.00	5,201.49	5,236.43	4,974.11	24.80	32.51	-13.47	-1,478.65	496.14	664.49	623.15	41.33	16.076		
5,400.00	5,299.25	5,335.41	5,067.00	25.31	33.21	-13.50	-1,510.99	507.21	678.76	636.59	42.17	16.097		
5,500.00	5,397.00	5,434.38	5,158.88	25.82	33.90	-13.52	-1,543.32	518.28	693.03	650.04	43.00	16.118		
5,600.00	5,494.76	5,533.36	5,252.77	26.33	34.59	-13.54	-1,575.66	529.34	707.31	663.48	43.83	16.138		
5,700.00	5,592.52	5,632.34	5,345.66	26.84	35.29	-13.56	-1,608.00	540.41	721.58	676.92	44.66	16.157		
5,800.00	5,690.28	5,731.31	5,438.55	27.36	35.98	-13.58	-1,640.33	551.48	735.86	690.37	45.49	16.176		
5,900.00	5,788.04	5,830.29	5,531.43	27.87	36.68	-13.60	-1,672.67	562.55	750.13	703.81	46.32	16.194		
6,000.00	5,885.80	5,929.26	5,624.32	28.38	37.37	-13.62	-1,705.01	573.62	764.41	717.25	47.15	16.211		
6,100.00	5,983.56	6,028.24	5,717.21	28.89	38.07	-13.64	-1,737.34	584.68	778.68	730.69	47.99	16.227		
6,200.00	6,081.31	6,127.21	5,810.09	29.40	38.76	-13.66	-1,769.68	595.75	792.96	744.14	48.82	16.243		
6,300.00	6,179.07	6,226.19	5,902.98	29.91	39.46	-13.67	-1,802.01	606.82	807.23	757.58	49.65	16.259		
6,400.00	6,276.83	6,325.17	5,995.87	30.42	40.15	-13.69	-1,834.35	617.89	821.50	771.02	50.48	16.273		
6,500.00	6,374.59	6,424.14	6,088.76	30.93	40.85	-13.71	-1,866.69	628.96	835.78	784.47	51.31	16.288		
6,600.00	6,472.35	6,523.12	6,181.64	31.44	41.54	-13.72	-1,899.02	640.02	850.05	797.91	52.15	16.302		
6,700.00	6,570.11	6,622.09	6,274.53	31.95	42.23	-13.73	-1,931.36	651.09	864.33	811.35	52.98	16.315		
6,712.06	6,581.89	6,634.02	6,285.73	32.01	42.32	-13.74	-1,935.26	652.43	866.05	812.97	53.08	16.317		
6,750.00	6,619.02	6,671.47	6,320.87	32.20	42.58	-13.75	-1,947.49	656.61	872.01	818.60	53.41	16.327		
6,800.00	6,667.83	6,720.29	6,366.69	32.44	42.92	-13.76	-1,963.44	662.07	881.49	827.61	53.88	16.360		
6,850.00	6,716.18	6,768.18	6,411.63	32.65	43.26	-13.77	-1,979.09	667.43	892.83	838.43	54.40	16.412		
6,900.00	6,763.70	6,814.76	6,455.35	32.85	43.59	-13.78	-1,994.31	672.64	906.04	851.07	54.96	16.484		
6,950.00	6,810.04	6,935.83	6,509.39	33.03	44.37	-13.79	-2,034.10	674.83	918.98	862.99	55.99	16.412		
7,000.00	6,854.83	7,135.91	6,750.86	33.19	45.26	-13.80	-2,097.85	624.12	926.48	870.44	56.04	16.532		
7,050.00	6,897.73	7,336.03	6,904.86	33.34	45.73	-13.81	-2,152.51	510.63	927.64	872.72	54.91	16.893		
7,100.00	6,938.43	7,536.80	7,013.38	33.47	45.86	-13.82	-2,191.68	347.68	923.73	869.40	54.34	17.000		
7,150.00	6,976.60	7,670.51	7,052.93	33.59	45.81	-13.83	-2,206.50	221.13	916.65	861.24	55.41	16.543		
7,200.00	7,011.97	7,775.57	7,063.90	33.69	45.71	-13.84	-2,211.16	116.90	908.16	851.07	57.09	15.908		
7,250.00	7,044.25	7,819.84	7,064.00	33.78	45.66	-13.85	-2,211.54	72.63	900.09	841.92	58.18	15.472		
7,300.00	7,073.21	7,860.12	7,064.00	33.86	45.63	-13.86	-2,211.86	32.35	893.82	834.66	59.16	15.109		
7,350.00	7,098.63	7,902.83	7,064.00	33.93	45.59	-13.87	-2,212.20	-10.36	889.08	828.96	60.12	14.788		
7,400.00	7,120.30	7,947.64	7,064.00	34.00	45.56	-13.88	-2,212.56	-55.16	885.63	824.48	61.15	14.483		
7,450.00	7,138.08	7,994.20	7,064.00	34.07	45.53	-13.89	-2,212.93	-101.73	883.19	821.02	62.18	14.205		
7,500.00	7,151.81	8,042.18	7,064.00	34.14	45.51	-13.90	-2,213.31	-149.70	881.56	818.28	63.28	13.930		
7,550.00	7,161.39	8,091.19	7,064.00	34.21	45.50	-13.91	-2,213.70	-198.71	880.54	816.13	64.41	13.671		
7,600.00	7,166.77	8,140.87	7,064.00	34.30	45.51	-13.92	-2,214.10	-248.39	880.01	814.40	65.61	13.412		
7,638.04	7,168.00	8,178.88	7,064.00	34.39	45.51	-13.93	-2,214.40	-286.40	879.89	813.34	66.54	13.223		
7,700.00	7,168.00	8,240.84	7,064.00	34.57	45.55	-13.94	-2,214.89	-348.36	879.86	811.70	68.16	12.909		
7,800.00	7,168.00	8,340.84	7,064.00	35.03	45.69	-13.95	-2,215.69	-448.36	879.83	808.81	71.02	12.388		
7,900.00	7,168.00	8,440.84	7,064.00	35.77	45.96	-13.96	-2,216.49	-548.35	879.79	805.62	74.17	11.862		
8,000.00	7,168.00	8,540.84	7,064.00	36.82	46.49	-13.97	-2,217.28	-648.35	879.75	802.18	77.58	11.341		
8,100.00	7,168.00	8,640.84	7,064.00	38.17	47.40	-13.98	-2,218.08	-748.35	879.72	798.51	81.20	10.834		
8,200.00	7,168.00	8,740.84	7,064.00	39.74	48.72	-13.99	-2,218.87	-848.34	879.68	794.66	85.02	10.347		
8,300.00	7,168.00	8,840.84	7,064.00	41.49	50.39	-14.00	-2,219.67	-948.34	879.64	790.63	89.01	9.883		
8,400.00	7,168.00	8,940.84	7,064.00	43.37	52.27	-14.01	-2,220.46	-1,048.34	879.61	786.47	93.14	9.444		
8,500.00	7,168.00	9,040.84	7,064.00	45.36	54.30	-14.02	-2,221.26	-1,148.33	879.57	782.17	97.40	9.031		
8,600.00	7,168.00	9,140.84	7,064.00	47.44	56.42	-14.03	-2,222.06	-1,248.33	879.53	777.76	101.77	8.642		
8,700.00	7,168.00	9,240.84	7,064.00	49.59	58.62	-14.04	-2,222.85	-1,348.33	879.50	773.26	106.24	8.279		
8,800.00	7,168.00	9,340.84	7,064.00	51.79	60.87	-14.05	-2,223.65	-1,448.32	879.46	768.67	110.79	7.938		
8,900.00	7,168.00	9,440.84	7,064.00	54.05	63.17	-14.06	-2,224.44	-1,548.32	879.42	764.01	115.41	7.620		
9,000.00	7,168.00	9,540.84	7,064.00	56.35	65.51	-14.07	-2,225.24	-1,648.32	879.39	759.28	120.10	7.322		
9,100.00	7,168.00	9,640.84	7,064.00	58.69	67.87	-14.08	-2,226.03	-1,748.32	879.35	754.49	124.85	7.043		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-15H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
9,200.00	7,168.00	9,740.84	7,064.00	61.06	70.27	-83.21	-2,226.83	-1,848.31	879.31	749.66	129.66	6.782			
9,300.00	7,168.00	9,840.84	7,064.00	63.46	72.69	-83.21	-2,227.62	-1,948.31	879.28	744.77	134.50	6.537			
9,400.00	7,168.00	9,940.84	7,064.00	65.88	75.13	-83.21	-2,228.42	-2,048.31	879.24	739.84	139.39	6.308			
9,500.00	7,168.00	10,040.84	7,064.00	68.33	77.59	-83.21	-2,229.22	-2,148.30	879.20	734.88	144.32	6.092			
9,600.00	7,168.00	10,140.84	7,064.00	70.80	80.07	-83.21	-2,230.01	-2,248.30	879.17	729.88	149.28	5.889			
9,700.00	7,168.00	10,240.84	7,064.00	73.29	82.56	-83.21	-2,230.81	-2,348.30	879.13	724.86	154.27	5.699			
9,800.00	7,168.00	10,340.84	7,064.00	75.79	85.07	-83.21	-2,231.60	-2,448.29	879.09	719.80	159.29	5.519			
9,900.00	7,168.00	10,440.84	7,064.00	78.31	87.59	-83.21	-2,232.40	-2,548.29	879.05	714.72	164.33	5.349			
10,000.00	7,168.00	10,540.84	7,064.00	80.84	90.12	-83.21	-2,233.19	-2,648.29	879.02	709.62	169.40	5.189			
10,100.00	7,168.00	10,640.84	7,064.00	83.39	92.66	-83.20	-2,233.99	-2,748.28	878.98	704.50	174.48	5.038			
10,200.00	7,168.00	10,740.84	7,064.00	85.94	95.22	-83.20	-2,234.79	-2,848.28	878.94	699.36	179.59	4.894			
10,300.00	7,168.00	10,840.84	7,064.00	88.51	97.78	-83.20	-2,235.58	-2,948.28	878.91	694.20	184.71	4.758			
10,400.00	7,168.00	10,940.84	7,064.00	91.08	100.35	-83.20	-2,236.38	-3,048.27	878.87	689.03	189.85	4.629			
10,500.00	7,168.00	11,040.84	7,064.00	93.66	102.92	-83.20	-2,237.17	-3,148.27	878.83	683.84	195.00	4.507			
10,600.00	7,168.00	11,140.84	7,064.00	96.25	105.51	-83.20	-2,237.97	-3,248.27	878.80	678.63	200.16	4.390			
10,700.00	7,168.00	11,240.84	7,064.00	98.85	108.10	-83.20	-2,238.76	-3,348.26	878.76	673.42	205.34	4.280			
10,800.00	7,168.00	11,340.84	7,064.00	101.45	110.70	-83.20	-2,239.56	-3,448.26	878.72	668.19	210.53	4.174			
10,900.00	7,168.00	11,440.84	7,064.00	104.06	113.30	-83.20	-2,240.36	-3,548.26	878.69	662.96	215.73	4.073			
11,000.00	7,168.00	11,540.84	7,064.00	106.68	115.91	-83.20	-2,241.15	-3,648.26	878.65	657.71	220.94	3.977			
11,100.00	7,168.00	11,640.84	7,064.00	109.30	118.52	-83.20	-2,241.95	-3,748.25	878.61	652.45	226.16	3.885			
11,200.00	7,168.00	11,740.84	7,064.00	111.92	121.14	-83.20	-2,242.74	-3,848.25	878.58	647.19	231.39	3.797			
11,300.00	7,168.00	11,840.84	7,064.00	114.55	123.76	-83.20	-2,243.54	-3,948.25	878.54	641.92	236.62	3.713			
11,400.00	7,168.00	11,940.84	7,064.00	117.19	126.39	-83.20	-2,244.33	-4,048.24	878.50	636.64	241.87	3.632			
11,500.00	7,168.00	12,040.84	7,064.00	119.82	129.02	-83.20	-2,245.13	-4,148.24	878.47	631.35	247.12	3.555			
11,600.00	7,168.00	12,140.84	7,064.00	122.47	131.65	-83.20	-2,245.93	-4,248.24	878.43	626.05	252.38	3.481			
11,700.00	7,168.00	12,240.84	7,064.00	125.11	134.29	-83.20	-2,246.72	-4,348.23	878.39	620.75	257.64	3.409			
11,800.00	7,168.00	12,340.84	7,064.00	127.76	136.93	-83.20	-2,247.52	-4,448.23	878.36	615.45	262.91	3.341			
11,900.00	7,168.00	12,440.84	7,064.00	130.41	139.58	-83.20	-2,248.31	-4,548.23	878.32	610.14	268.18	3.275			
12,000.00	7,168.00	12,540.84	7,064.00	133.06	142.22	-83.20	-2,249.11	-4,648.22	878.28	604.82	273.46	3.212			
12,100.00	7,168.00	12,640.84	7,064.00	135.72	144.87	-83.20	-2,249.90	-4,748.22	878.25	599.50	278.75	3.151			
12,200.00	7,168.00	12,740.84	7,064.00	138.38	147.52	-83.20	-2,250.70	-4,848.22	878.21	594.17	284.04	3.092			
12,300.00	7,168.00	12,840.84	7,064.00	141.04	150.18	-83.20	-2,251.50	-4,948.21	878.17	588.84	289.33	3.035			
12,400.00	7,168.00	12,940.84	7,064.00	143.70	152.83	-83.20	-2,252.29	-5,048.21	878.14	583.51	294.63	2.980			
12,500.00	7,168.00	13,040.84	7,064.00	146.37	155.49	-83.20	-2,253.09	-5,148.21	878.10	578.17	299.93	2.928			
12,600.00	7,168.00	13,140.84	7,064.00	149.04	158.15	-83.20	-2,253.88	-5,248.20	878.06	572.83	305.24	2.877			
12,700.00	7,168.00	13,240.84	7,064.00	151.71	160.82	-83.20	-2,254.68	-5,348.20	878.03	567.48	310.54	2.827			
12,800.00	7,168.00	13,340.84	7,064.00	154.38	163.48	-83.20	-2,255.47	-5,448.20	877.99	562.13	315.86	2.780			
12,900.00	7,168.00	13,440.84	7,064.00	157.05	166.15	-83.20	-2,256.27	-5,548.20	877.95	556.78	321.17	2.734			
13,000.00	7,168.00	13,540.84	7,064.00	159.73	168.82	-83.20	-2,257.07	-5,648.19	877.92	551.43	326.49	2.689			
13,100.00	7,168.00	13,640.84	7,064.00	162.41	171.49	-83.20	-2,257.86	-5,748.19	877.88	546.07	331.81	2.646			
13,200.00	7,168.00	13,740.84	7,064.00	165.08	174.16	-83.20	-2,258.66	-5,848.19	877.84	540.71	337.13	2.604			
13,300.00	7,168.00	13,840.84	7,064.00	167.76	176.83	-83.20	-2,259.45	-5,948.18	877.81	535.34	342.46	2.563			
13,400.00	7,168.00	13,940.84	7,064.00	170.44	179.51	-83.20	-2,260.25	-6,048.18	877.77	529.98	347.79	2.524			
13,500.00	7,168.00	14,040.84	7,064.00	173.13	182.18	-83.20	-2,261.04	-6,148.18	877.73	524.61	353.12	2.486			
13,600.00	7,168.00	14,140.84	7,064.00	175.81	184.86	-83.19	-2,261.84	-6,248.17	877.70	519.24	358.46	2.449			
13,700.00	7,168.00	14,240.84	7,064.00	178.49	187.54	-83.19	-2,262.64	-6,348.17	877.66	513.87	363.79	2.413			
13,800.00	7,168.00	14,340.84	7,064.00	181.18	190.22	-83.19	-2,263.43	-6,448.17	877.62	508.49	369.13	2.378			
13,900.00	7,168.00	14,440.84	7,064.00	183.87	192.90	-83.19	-2,264.23	-6,548.16	877.58	503.12	374.47	2.344			
14,000.00	7,168.00	14,540.84	7,064.00	186.55	195.58	-83.19	-2,265.02	-6,648.16	877.55	497.74	379.81	2.310			
14,100.00	7,168.00	14,640.84	7,064.00	189.24	198.26	-83.19	-2,265.82	-6,748.16	877.51	492.36	385.15	2.278			
14,200.00	7,168.00	14,740.84	7,064.00	191.93	200.95	-83.19	-2,266.61	-6,848.15	877.47	486.98	390.50	2.247			
14,300.00	7,168.00	14,840.84	7,064.00	194.62	203.63	-83.19	-2,267.41	-6,948.15	877.44	481.59	395.85	2.217			

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-15H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
14,400.00	7,168.00	14,940.84	7,064.00	197.31	206.32	-83.19	-2,268.21	-7,048.15	877.40	476.21	401.19	2.187			
14,500.00	7,168.00	15,040.84	7,064.00	200.01	209.00	-83.19	-2,269.00	-7,148.14	877.36	470.82	406.54	2.158			
14,600.00	7,168.00	15,140.84	7,064.00	202.70	211.69	-83.19	-2,269.80	-7,248.14	877.33	465.43	411.90	2.130			
14,700.00	7,168.00	15,240.84	7,064.00	205.39	214.38	-83.19	-2,270.59	-7,348.14	877.29	460.04	417.25	2.103			
14,800.00	7,168.00	15,340.84	7,064.00	208.09	217.07	-83.19	-2,271.39	-7,448.13	877.25	454.65	422.60	2.076			
14,900.00	7,168.00	15,440.84	7,064.00	210.78	219.76	-83.19	-2,272.18	-7,548.13	877.22	449.26	427.96	2.050			
15,000.00	7,168.00	15,540.84	7,064.00	213.48	222.45	-83.19	-2,272.98	-7,648.13	877.18	443.86	433.32	2.024			
15,100.00	7,168.00	15,640.84	7,064.00	216.17	225.14	-83.19	-2,273.78	-7,748.13	877.14	438.47	438.67	2.000			
15,200.00	7,168.00	15,740.84	7,064.00	218.87	227.83	-83.19	-2,274.57	-7,848.12	877.11	433.07	444.03	1.975			
15,300.00	7,168.00	15,840.84	7,064.00	221.57	230.53	-83.19	-2,275.37	-7,948.12	877.07	427.68	449.39	1.952			
15,400.00	7,168.00	15,940.84	7,064.00	224.27	233.22	-83.19	-2,276.16	-8,048.12	877.03	422.28	454.75	1.929			
15,500.00	7,168.00	16,040.84	7,064.00	226.97	235.91	-83.19	-2,276.96	-8,148.11	877.00	416.88	460.12	1.906			
15,600.00	7,168.00	16,140.84	7,064.00	229.66	238.61	-83.19	-2,277.75	-8,248.11	876.96	411.48	465.48	1.884			
15,700.00	7,168.00	16,240.84	7,064.00	232.36	241.31	-83.19	-2,278.55	-8,348.11	876.92	406.08	470.85	1.862			
15,764.40	7,168.00	16,305.25	7,064.00	234.10	243.04	-83.19	-2,279.06	-8,412.51	876.90	402.60	474.30	1.849			
15,765.69	7,168.00	16,305.41	7,064.00	234.14	243.05	-83.19	-2,279.06	-8,412.67	876.90	402.53	474.37	1.849 SF			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-5H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD										Rule Assigned:		Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.00	0.00	0.00	0.00	0.00	0.00	-70.36	10.93	-30.63	32.52					
100.00	100.00	100.00	100.00	0.14	0.14	-70.36	10.93	-30.63	32.52	32.23	0.29	113.400		
200.00	200.00	200.00	200.00	0.50	0.50	-70.36	10.93	-30.63	32.52	31.52	1.00	32.400		
300.00	300.00	300.00	300.00	0.86	0.86	-70.36	10.93	-30.63	32.52	30.80	1.72	18.900		
400.00	400.00	400.00	400.00	1.22	1.22	-70.36	10.93	-30.63	32.52	30.08	2.44	13.341		
500.00	500.00	500.00	500.00	1.58	1.58	-70.36	10.93	-30.63	32.52	29.37	3.15	10.309	CC, ES	
600.00	599.98	599.98	599.98	1.92	1.94	125.05	10.93	-30.63	33.49	29.64	3.85	8.689		
700.00	699.84	699.84	699.84	2.26	2.29	131.69	10.93	-30.63	36.75	32.20	4.55	8.081	SF	
800.00	799.45	799.45	799.45	2.60	2.65	140.29	10.93	-30.63	43.05	37.80	5.25	8.197		
900.00	898.70	898.70	898.70	2.97	3.01	148.61	10.93	-30.63	53.01	47.05	5.96	8.892		
1,000.00	997.47	997.47	997.47	3.36	3.36	155.48	10.93	-30.63	66.89	60.22	6.68	10.021		
1,100.00	1,095.62	1,095.62	1,095.62	3.78	3.71	160.72	10.93	-30.63	84.66	77.27	7.39	11.456		
1,107.69	1,103.14	1,103.14	1,103.14	3.81	3.74	161.06	10.93	-30.63	86.18	78.74	7.44	11.576		
1,200.00	1,193.38	1,193.38	1,193.38	4.23	4.06	164.50	10.93	-30.63	104.79	96.69	8.10	12.934		
1,300.00	1,291.14	1,291.14	1,291.14	4.69	4.41	167.08	10.93	-30.63	125.23	116.42	8.81	14.213		
1,400.00	1,388.90	1,388.90	1,388.90	5.15	4.76	168.92	10.93	-30.63	145.85	136.33	9.52	15.314		
1,500.00	1,486.66	1,486.66	1,486.66	5.63	5.11	170.31	10.93	-30.63	166.57	156.34	10.24	16.270		
1,600.00	1,584.42	1,584.42	1,584.42	6.11	5.46	171.40	10.93	-30.63	187.37	176.42	10.95	17.104		
1,700.00	1,682.18	1,682.18	1,682.18	6.60	5.82	172.26	10.93	-30.63	208.22	196.55	11.67	17.838		
1,800.00	1,779.94	1,779.94	1,779.94	7.09	6.17	172.97	10.93	-30.63	229.11	216.72	12.39	18.487		
1,900.00	1,877.69	1,877.69	1,877.69	7.58	6.52	173.56	10.93	-30.63	250.02	236.91	13.11	19.065		
2,000.00	1,975.45	1,975.45	1,975.45	8.08	6.87	174.06	10.93	-30.63	270.96	257.13	13.84	19.584		
2,100.00	2,073.21	2,073.21	2,073.21	8.58	7.22	174.49	10.93	-30.63	291.91	277.36	14.56	20.050		
2,200.00	2,170.97	2,170.97	2,170.97	9.07	7.57	174.86	10.93	-30.63	312.88	297.60	15.28	20.473		
2,300.00	2,268.73	2,261.88	2,261.87	9.57	7.89	175.20	11.60	-30.62	334.56	318.60	15.96	20.962		
2,400.00	2,366.49	2,348.82	2,348.75	10.08	8.20	175.62	14.79	-30.58	358.96	342.36	16.60	21.623		
2,500.00	2,464.25	2,434.39	2,434.13	10.58	8.51	176.10	20.51	-30.50	386.15	368.93	17.22	22.425		
2,600.00	2,562.00	2,518.47	2,517.82	11.08	8.81	176.63	28.61	-30.39	416.08	398.26	17.82	23.355		
2,700.00	2,659.76	2,600.00	2,598.70	11.59	9.10	177.17	38.81	-30.25	448.70	430.32	18.38	24.414		
2,800.00	2,757.52	2,681.78	2,679.51	12.09	9.40	177.73	51.34	-30.09	483.93	464.99	18.94	25.551		
2,900.00	2,855.28	2,760.84	2,757.26	12.60	9.69	178.27	65.65	-29.89	521.72	502.25	19.47	26.799		
3,000.00	2,953.04	2,838.09	2,832.82	13.10	9.99	178.80	81.69	-29.68	561.98	542.01	19.97	28.135		
3,100.00	3,050.80	2,913.48	2,906.12	13.61	10.28	179.31	99.31	-29.44	604.64	584.18	20.46	29.553		
3,200.00	3,148.56	2,986.97	2,977.11	14.11	10.58	179.80	118.33	-29.19	649.62	628.69	20.92	31.048		
3,300.00	3,246.31	3,058.55	3,045.76	14.62	10.88	-179.74	138.61	-28.91	696.83	675.46	21.37	32.612		
3,400.00	3,344.07	3,128.20	3,112.05	15.13	11.18	-179.30	159.97	-28.63	746.19	724.40	21.79	34.242		
3,500.00	3,441.83	3,200.00	3,179.82	15.64	11.50	-178.87	183.68	-28.31	797.63	775.37	22.25	35.844		
3,600.00	3,539.59	3,261.72	3,237.58	16.14	11.80	-178.51	205.41	-28.02	851.02	828.43	22.59	37.679		
3,700.00	3,637.35	3,325.61	3,296.87	16.65	12.11	-178.15	229.21	-27.70	906.33	883.37	22.96	39.477		
3,800.00	3,735.11	3,400.00	3,365.21	17.16	12.49	-177.74	258.58	-27.30	963.56	940.07	23.49	41.028		
3,900.00	3,832.87	3,447.75	3,408.67	17.67	12.76	-177.50	278.36	-27.04	1,022.31	998.65	23.66	43.214		
4,000.00	3,930.62	3,506.72	3,461.88	18.18	13.08	-177.20	303.79	-26.69	1,082.84	1,058.84	23.99	45.129		
4,100.00	4,028.38	3,584.56	3,531.76	18.69	13.53	-176.83	338.07	-26.23	1,144.20	1,119.59	24.60	46.507		
4,200.00	4,126.14	3,663.31	3,602.46	19.20	14.01	-176.50	372.76	-25.77	1,205.58	1,180.36	25.23	47.786		
4,300.00	4,223.90	3,742.07	3,673.16	19.71	14.49	-176.19	407.45	-25.30	1,267.00	1,241.14	25.86	48.995		
4,400.00	4,321.66	3,820.82	3,743.87	20.21	14.99	-175.92	442.13	-24.83	1,328.43	1,301.93	26.49	50.139		
4,500.00	4,419.42	3,899.58	3,814.57	20.72	15.49	-175.67	476.82	-24.37	1,389.88	1,362.74	27.13	51.224		
4,600.00	4,517.18	3,978.33	3,885.27	21.23	16.01	-175.44	511.50	-23.90	1,451.34	1,423.56	27.78	52.251		
4,700.00	4,614.94	4,057.08	3,955.97	21.74	16.54	-175.23	546.19	-23.44	1,512.82	1,484.40	28.42	53.226		
4,800.00	4,712.69	4,135.84	4,026.67	22.25	17.07	-175.04	580.88	-22.97	1,574.31	1,545.23	29.07	54.152		
4,900.00	4,810.45	4,214.59	4,097.38	22.76	17.61	-174.86	615.56	-22.50	1,635.81	1,606.08	29.72	55.033		
5,000.00	4,908.21	4,293.34	4,168.08	23.27	18.15	-174.69	650.25	-22.04	1,697.31	1,666.94	30.38	55.870		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-5H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD										Rule Assigned:			Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,100.00	5,005.97	4,372.10	4,238.78	23.78	18.71	-174.54	684.93	-21.57	1,758.83	1,727.79	31.04	56.668		
5,200.00	5,103.73	4,450.85	4,309.48	24.29	19.27	-174.39	719.62	-21.11	1,820.36	1,788.66	31.70	57.428		
5,300.00	5,201.49	4,529.60	4,380.18	24.80	19.83	-174.26	754.31	-20.64	1,881.89	1,849.53	32.36	58.153		
5,400.00	5,299.25	4,608.36	4,450.89	25.31	20.40	-174.13	788.99	-20.17	1,943.42	1,910.40	33.03	58.846		
5,500.00	5,397.00	4,687.11	4,521.59	25.82	20.97	-174.01	823.68	-19.71	2,004.97	1,971.27	33.69	59.507		
5,600.00	5,494.76	4,765.86	4,592.29	26.33	21.54	-173.90	858.36	-19.24	2,066.51	2,032.15	34.36	60.139		
5,700.00	5,592.52	4,844.62	4,662.99	26.84	22.12	-173.80	893.05	-18.77	2,128.07	2,093.03	35.03	60.744		
5,800.00	5,690.28	4,923.37	4,733.69	27.36	22.70	-173.70	927.74	-18.31	2,189.62	2,153.92	35.71	61.323		
5,900.00	5,788.04	5,002.12	4,804.40	27.87	23.29	-173.60	962.42	-17.84	2,251.18	2,214.80	36.38	61.877		
6,000.00	5,885.80	5,080.88	4,875.10	28.38	23.88	-173.51	997.11	-17.38	2,312.75	2,275.69	37.06	62.409		
6,100.00	5,983.56	5,159.63	4,945.80	28.89	24.47	-173.43	1,031.79	-16.91	2,374.31	2,336.58	37.74	62.918		
6,200.00	6,081.31	5,238.39	5,016.50	29.40	25.06	-173.35	1,066.48	-16.44	2,435.88	2,397.47	38.42	63.408		
6,300.00	6,179.07	5,317.14	5,087.21	29.91	25.66	-173.27	1,101.17	-15.98	2,497.46	2,458.36	39.10	63.877		
6,400.00	6,276.83	5,395.89	5,157.91	30.42	26.26	-173.20	1,135.85	-15.51	2,559.03	2,519.25	39.78	64.329		
6,500.00	6,374.59	5,474.65	5,228.61	30.93	26.86	-173.13	1,170.54	-15.05	2,620.61	2,580.15	40.47	64.762		
6,600.00	6,472.35	5,553.40	5,299.31	31.44	27.46	-173.07	1,205.22	-14.58	2,682.19	2,641.04	41.15	65.179		
6,700.00	6,570.11	5,632.15	5,370.01	31.95	28.06	-173.00	1,239.91	-14.11	2,743.77	2,701.94	41.84	65.581		
6,712.06	6,581.89	5,641.65	5,378.54	32.01	28.13	-173.00	1,244.09	-14.06	2,751.20	2,709.28	41.92	65.628		
6,750.00	6,619.02	5,671.54	5,405.37	32.20	28.36	166.30	1,257.26	-13.88	2,774.46	2,732.28	42.18	65.778		
6,800.00	6,667.83	5,710.81	5,440.63	32.44	28.66	141.23	1,274.55	-13.65	2,804.68	2,762.17	42.51	65.978		
6,850.00	6,716.18	5,749.67	5,475.51	32.65	28.96	122.38	1,291.67	-13.42	2,834.23	2,791.40	42.83	66.182		
6,900.00	6,763.70	5,787.82	5,509.76	32.85	29.26	109.09	1,308.47	-13.19	2,862.92	2,819.80	43.12	66.388		
6,950.00	6,810.04	5,824.97	5,543.12	33.03	29.54	99.52	1,324.83	-12.97	2,890.61	2,847.20	43.41	66.594		
7,000.00	6,854.83	5,860.84	5,575.32	33.19	29.82	92.35	1,340.63	-12.76	2,917.15	2,873.48	43.67	66.797		
7,050.00	6,897.73	5,895.16	5,606.13	33.34	30.09	86.77	1,355.75	-12.56	2,942.43	2,898.51	43.92	66.993		
7,100.00	6,938.43	5,927.66	5,635.30	33.47	30.34	82.31	1,370.06	-12.36	2,966.35	2,922.20	44.16	67.175		
7,150.00	6,976.60	5,958.09	5,662.63	33.59	30.57	78.68	1,383.47	-12.18	2,988.83	2,944.44	44.39	67.336		
7,200.00	7,011.97	5,986.24	5,687.90	33.69	30.79	75.68	1,395.86	-12.02	3,009.79	2,965.18	44.61	67.467		
7,250.00	7,044.25	6,011.87	5,710.91	33.78	30.99	73.17	1,407.15	-11.87	3,029.18	2,984.34	44.84	67.557		
7,300.00	7,073.21	6,034.80	5,731.50	33.86	31.17	71.08	1,417.25	-11.73	3,046.94	3,001.87	45.08	67.596		
7,350.00	7,098.63	6,054.86	5,749.50	33.93	31.32	69.31	1,426.09	-11.61	3,063.03	3,017.71	45.33	67.575		
7,400.00	7,120.30	6,071.88	5,764.78	34.00	31.45	67.84	1,433.58	-11.51	3,077.42	3,031.82	45.60	67.486		
7,450.00	7,138.08	6,085.74	5,777.23	34.07	31.56	66.61	1,439.69	-11.43	3,090.07	3,044.17	45.90	67.323		
7,500.00	7,151.81	6,096.34	5,786.74	34.14	31.64	65.60	1,444.35	-11.37	3,100.94	3,054.71	46.23	67.083		
7,550.00	7,161.39	6,103.59	5,793.25	34.21	31.70	64.79	1,447.55	-11.32	3,110.01	3,063.43	46.58	66.767		
7,600.00	7,166.77	6,107.43	5,796.70	34.30	31.73	64.17	1,449.24	-11.30	3,117.25	3,070.29	46.96	66.380		
7,638.04	7,168.00	6,108.06	5,797.27	34.39	31.74	63.82	1,449.52	-11.30	3,121.51	3,074.25	47.27	66.042		
7,700.00	7,168.00	6,107.47	5,796.73	34.57	31.73	63.81	1,449.26	-11.30	3,128.18	3,080.37	47.81	65.432		
7,800.00	7,168.00	6,106.51	5,795.87	35.03	31.72	63.79	1,448.84	-11.31	3,141.49	3,092.67	48.82	64.347		
7,900.00	7,168.00	6,105.55	5,795.01	35.77	31.72	63.77	1,448.41	-11.31	3,157.91	3,107.93	49.98	63.187		
8,000.00	7,168.00	6,104.59	5,794.15	36.82	31.71	63.75	1,447.99	-11.32	3,177.40	3,126.15	51.25	61.998		
8,100.00	7,168.00	6,103.63	5,793.29	38.17	31.70	63.74	1,447.57	-11.32	3,199.89	3,147.27	52.62	60.816		
8,200.00	7,168.00	6,102.68	5,792.43	39.74	31.69	63.72	1,447.15	-11.33	3,225.33	3,171.27	54.05	59.672		
8,300.00	7,168.00	6,101.72	5,791.57	41.49	31.69	63.70	1,446.73	-11.33	3,253.64	3,198.10	55.54	58.586		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-6H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
0.00	0.00	0.00	0.00	0.00	0.00	-103.39	-7.29	-30.63	31.48						
100.00	100.00	100.00	100.00	0.14	0.14	-103.39	-7.29	-30.63	31.48	31.20	0.29	109.788			
200.00	200.00	200.00	200.00	0.50	0.50	-103.39	-7.29	-30.63	31.48	30.48	1.00	31.368			
300.00	300.00	300.00	300.00	0.86	0.86	-103.39	-7.29	-30.63	31.48	29.76	1.72	18.298			
400.00	400.00	400.00	400.00	1.22	1.22	-103.39	-7.29	-30.63	31.48	29.05	2.44	12.916			
500.00	500.00	500.00	500.00	1.58	1.58	-103.39	-7.29	-30.63	31.48	28.33	3.15	9.981			
538.77	538.77	538.77	538.77	1.71	1.72	90.00	-7.29	-30.63	31.48	28.06	3.43	9.190	CC		
600.00	599.98	599.98	599.98	1.92	1.94	92.69	-7.29	-30.63	31.52	27.66	3.85	8.177			
700.00	699.84	699.84	699.84	2.26	2.29	102.01	-7.29	-30.63	32.19	27.65	4.55	7.080	ES		
800.00	799.45	799.45	799.45	2.60	2.65	115.99	-7.29	-30.63	35.06	29.81	5.25	6.676			
900.00	898.70	898.70	898.70	2.97	3.01	130.98	-7.29	-30.63	41.88	35.91	5.97	7.018			
1,000.00	997.47	997.47	997.47	3.36	3.36	143.54	-7.29	-30.63	53.50	46.82	6.69	8.003			
1,100.00	1,095.62	1,095.62	1,095.62	3.78	3.71	152.69	-7.29	-30.63	69.84	62.44	7.40	9.436			
1,107.69	1,103.14	1,103.14	1,103.14	3.81	3.74	153.27	-7.29	-30.63	71.28	63.82	7.46	9.560			
1,200.00	1,193.38	1,193.38	1,193.38	4.23	4.06	158.88	-7.29	-30.63	89.13	81.02	8.11	10.985			
1,300.00	1,291.14	1,291.14	1,291.14	4.69	4.41	162.86	-7.29	-30.63	109.08	100.26	8.82	12.364			
1,400.00	1,388.90	1,388.90	1,388.90	5.15	4.76	165.61	-7.29	-30.63	129.38	119.85	9.53	13.571			
1,500.00	1,486.66	1,486.66	1,486.66	5.63	5.11	167.61	-7.29	-30.63	149.89	139.64	10.25	14.627			
1,600.00	1,584.42	1,584.42	1,584.42	6.11	5.46	169.12	-7.29	-30.63	170.53	159.57	10.96	15.554			
1,700.00	1,682.18	1,682.18	1,682.18	6.60	5.82	170.31	-7.29	-30.63	191.26	179.58	11.68	16.373			
1,800.00	1,779.94	1,779.94	1,779.94	7.09	6.17	171.27	-7.29	-30.63	212.06	199.66	12.40	17.101			
1,900.00	1,877.69	1,877.69	1,877.69	7.58	6.52	172.05	-7.29	-30.63	232.90	219.78	13.12	17.750			
2,000.00	1,975.45	1,975.45	1,975.45	8.08	6.87	172.71	-7.29	-30.63	253.77	239.93	13.84	18.333			
2,100.00	2,073.21	2,073.21	2,073.21	8.58	7.22	173.27	-7.29	-30.63	274.68	260.11	14.57	18.858			
2,200.00	2,170.97	2,170.97	2,170.97	9.07	7.57	173.75	-7.29	-30.63	295.60	280.31	15.29	19.335			
2,300.00	2,268.73	2,268.73	2,268.73	9.57	7.92	174.16	-7.29	-30.63	316.54	300.53	16.01	19.768			
2,400.00	2,366.49	2,359.81	2,359.81	10.08	8.24	174.54	-6.67	-30.62	338.16	321.46	16.69	20.260			
2,500.00	2,464.25	2,446.71	2,446.64	10.58	8.56	174.99	-3.53	-30.58	362.45	345.13	17.33	20.916			
2,600.00	2,562.00	2,532.24	2,531.98	11.08	8.86	175.50	2.12	-30.52	389.54	371.60	17.94	21.708			
2,700.00	2,659.76	2,616.28	2,615.64	11.59	9.16	176.06	10.15	-30.42	419.37	400.83	18.54	22.624			
2,800.00	2,757.52	2,700.00	2,698.70	12.09	9.46	176.64	20.59	-30.30	451.88	432.76	19.12	23.633			
2,900.00	2,855.28	2,779.53	2,777.29	12.60	9.75	177.21	32.75	-30.15	487.00	467.35	19.65	24.780			
3,000.00	2,953.04	2,858.56	2,855.03	13.10	10.04	177.78	46.99	-29.98	524.68	504.51	20.18	26.005			
3,100.00	3,050.80	2,935.80	2,930.59	13.61	10.33	178.33	62.97	-29.79	564.84	544.16	20.68	27.316			
3,200.00	3,148.56	3,011.17	3,003.89	14.11	10.63	178.86	80.52	-29.58	607.39	586.24	21.16	28.709			
3,300.00	3,246.31	3,084.66	3,074.88	14.62	10.92	179.37	99.49	-29.35	652.27	630.65	21.62	30.176			
3,400.00	3,344.07	3,156.23	3,143.54	15.13	11.22	179.85	119.71	-29.11	699.38	677.33	22.05	31.713			
3,500.00	3,441.83	3,225.88	3,209.84	15.64	11.52	-179.70	141.02	-28.86	748.64	726.17	22.47	33.315			
3,600.00	3,539.59	3,300.00	3,279.82	16.14	11.85	-179.24	165.47	-28.56	800.00	777.04	22.96	34.844			
3,700.00	3,637.35	3,359.40	3,335.42	16.65	12.13	-178.88	186.36	-28.31	853.29	830.03	23.25	36.695			
3,800.00	3,735.11	3,425.78	3,397.02	17.16	12.45	-178.49	211.06	-28.02	908.51	884.85	23.65	38.408			
3,900.00	3,832.87	3,505.00	3,470.21	17.67	12.85	-178.06	241.39	-27.66	964.73	940.49	24.24	39.793			
4,000.00	3,930.62	3,587.47	3,546.39	18.18	13.29	-177.66	272.97	-27.28	1,021.00	996.11	24.88	41.030			
4,100.00	4,028.38	3,669.94	3,622.58	18.69	13.73	-177.31	304.55	-26.90	1,077.30	1,051.77	25.53	42.199			
4,200.00	4,126.14	3,752.41	3,698.76	19.20	14.19	-176.99	336.13	-26.52	1,133.62	1,107.44	26.18	43.305			
4,300.00	4,223.90	3,834.88	3,774.94	19.71	14.65	-176.69	367.71	-26.14	1,189.96	1,163.13	26.83	44.352			
4,400.00	4,321.66	3,917.35	3,851.13	20.21	15.13	-176.43	399.29	-25.77	1,246.33	1,218.84	27.49	45.344			
4,500.00	4,419.42	3,999.82	3,927.31	20.72	15.61	-176.19	430.87	-25.39	1,302.71	1,274.56	28.14	46.286			
4,600.00	4,517.18	4,082.29	4,003.50	21.23	16.11	-175.97	462.44	-25.01	1,359.10	1,330.30	28.81	47.180			
4,700.00	4,614.94	4,164.76	4,079.68	21.74	16.61	-175.76	494.02	-24.63	1,415.51	1,386.04	29.47	48.030			
4,800.00	4,712.69	4,247.23	4,155.87	22.25	17.11	-175.57	525.60	-24.26	1,471.93	1,441.79	30.14	48.839			
4,900.00	4,810.45	4,329.71	4,232.05	22.76	17.62	-175.40	557.18	-23.88	1,528.36	1,497.55	30.81	49.610			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-6H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference				Offset			Semi Major Axis			Distance		Minimum Separation	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,000.00	4,908.21	4,412.18	4,308.24	23.27	18.14	-175.24	588.76	-23.50	1,584.80	1,553.32	31.48	50.344		
5,100.00	5,005.97	4,494.65	4,384.42	23.78	18.66	-175.09	620.34	-23.12	1,641.24	1,609.09	32.15	51.045		
5,200.00	5,103.73	4,577.12	4,460.61	24.29	19.19	-174.94	651.92	-22.75	1,697.70	1,664.87	32.83	51.714		
5,300.00	5,201.49	4,659.59	4,536.79	24.80	19.72	-174.81	683.49	-22.37	1,754.16	1,720.65	33.51	52.353		
5,400.00	5,299.25	4,742.06	4,612.97	25.31	20.25	-174.69	715.07	-21.99	1,810.62	1,776.44	34.19	52.964		
5,500.00	5,397.00	4,824.53	4,689.16	25.82	20.79	-174.57	746.65	-21.61	1,867.10	1,832.23	34.87	53.549		
5,600.00	5,494.76	4,907.00	4,765.34	26.33	21.33	-174.46	778.23	-21.24	1,923.57	1,888.02	35.55	54.109		
5,700.00	5,592.52	4,989.47	4,841.53	26.84	21.88	-174.36	809.81	-20.86	1,980.05	1,943.82	36.23	54.646		
5,800.00	5,690.28	5,071.94	4,917.71	27.36	22.42	-174.26	841.39	-20.48	2,036.54	1,999.62	36.92	55.161		
5,900.00	5,788.04	5,154.41	4,993.90	27.87	22.97	-174.17	872.97	-20.10	2,093.03	2,055.42	37.61	55.655		
6,000.00	5,885.80	5,236.88	5,070.08	28.38	23.53	-174.08	904.54	-19.72	2,149.52	2,111.23	38.30	56.129		
6,100.00	5,983.56	5,319.36	5,146.27	28.89	24.08	-174.00	936.12	-19.35	2,206.02	2,167.03	38.99	56.585		
6,200.00	6,081.31	5,401.83	5,222.45	29.40	24.64	-173.92	967.70	-18.97	2,262.52	2,222.84	39.68	57.023		
6,300.00	6,179.07	5,484.30	5,298.64	29.91	25.20	-173.85	999.28	-18.59	2,319.02	2,278.65	40.37	57.444		
6,400.00	6,276.83	5,566.77	5,374.82	30.42	25.76	-173.77	1,030.86	-18.21	2,375.52	2,334.46	41.06	57.850		
6,500.00	6,374.59	5,649.24	5,451.01	30.93	26.32	-173.71	1,062.44	-17.84	2,432.03	2,390.27	41.76	58.240		
6,600.00	6,472.35	5,731.71	5,527.19	31.44	26.88	-173.64	1,094.02	-17.46	2,488.54	2,446.08	42.45	58.617		
6,700.00	6,570.11	5,814.18	5,603.37	31.95	27.45	-173.58	1,125.59	-17.08	2,545.05	2,501.90	43.15	58.979		
6,712.06	6,581.89	5,824.12	5,612.56	32.01	27.52	-173.57	1,129.40	-17.04	2,551.86	2,508.63	43.24	59.022		
6,750.00	6,619.02	5,855.43	5,641.48	32.20	27.73	166.09	1,141.39	-16.89	2,573.19	2,529.69	43.50	59.157		
6,800.00	6,667.83	5,896.57	5,679.48	32.44	28.01	141.50	1,157.14	-16.70	2,600.83	2,556.99	43.83	59.334		
6,850.00	6,716.18	5,937.28	5,717.09	32.65	28.29	123.10	1,172.73	-16.52	2,627.78	2,583.62	44.15	59.513		
6,900.00	6,763.70	5,977.26	5,754.03	32.85	28.57	110.23	1,188.04	-16.33	2,653.89	2,609.42	44.46	59.691		
6,950.00	6,810.04	6,016.21	5,790.00	33.03	28.84	101.05	1,202.95	-16.16	2,679.02	2,634.27	44.75	59.867		
7,000.00	6,854.83	6,053.82	5,824.75	33.19	29.10	94.24	1,217.36	-15.98	2,703.07	2,658.05	45.02	60.039		
7,050.00	6,897.73	6,089.82	5,858.00	33.34	29.35	88.98	1,231.14	-15.82	2,725.95	2,680.67	45.28	60.202		
7,100.00	6,938.43	6,123.92	5,889.50	33.47	29.58	84.81	1,244.20	-15.66	2,747.57	2,702.05	45.53	60.352		
7,150.00	6,976.60	6,155.87	5,919.02	33.59	29.80	81.43	1,256.43	-15.52	2,767.89	2,722.13	45.76	60.483		
7,200.00	7,011.97	6,185.42	5,946.32	33.69	30.01	78.64	1,267.75	-15.38	2,786.85	2,740.85	46.00	60.587		
7,250.00	7,044.25	6,212.36	5,971.20	33.78	30.20	76.33	1,278.06	-15.26	2,804.42	2,758.19	46.24	60.655		
7,300.00	7,073.21	6,236.46	5,993.47	33.86	30.36	74.39	1,287.29	-15.15	2,820.58	2,774.09	46.48	60.680		
7,350.00	7,098.63	6,257.56	6,012.96	33.93	30.51	72.75	1,295.37	-15.05	2,835.29	2,788.54	46.75	60.653		
7,400.00	7,120.30	6,275.49	6,029.52	34.00	30.63	71.37	1,302.23	-14.97	2,848.53	2,801.50	47.03	60.568		
7,450.00	7,138.08	6,290.12	6,043.03	34.07	30.74	70.21	1,307.83	-14.90	2,860.29	2,812.95	47.34	60.420		
7,500.00	7,151.81	6,301.32	6,053.38	34.14	30.81	69.25	1,312.12	-14.85	2,870.56	2,822.88	47.68	60.208		
7,550.00	7,161.39	6,309.03	6,060.50	34.21	30.87	68.45	1,315.07	-14.81	2,879.29	2,831.25	48.04	59.932		
7,600.00	7,166.77	6,313.17	6,064.33	34.30	30.90	67.82	1,316.66	-14.80	2,886.48	2,838.05	48.43	59.597		
7,638.04	7,168.00	6,313.92	6,065.02	34.39	30.90	67.44	1,316.95	-14.79	2,890.90	2,842.16	48.74	59.307		
7,700.00	7,168.00	6,313.43	6,064.57	34.57	30.90	67.43	1,316.76	-14.79	2,898.00	2,848.70	49.30	58.787		
7,800.00	7,168.00	6,312.66	6,063.86	35.03	30.89	67.42	1,316.46	-14.80	2,912.20	2,861.88	50.32	57.873		
7,900.00	7,168.00	6,311.88	6,063.14	35.77	30.89	67.40	1,316.17	-14.80	2,929.75	2,878.27	51.48	56.907		
8,000.00	7,168.00	6,311.10	6,062.42	36.82	30.88	67.39	1,315.87	-14.81	2,950.59	2,897.83	52.76	55.929		
8,100.00	7,168.00	6,310.33	6,061.70	38.17	30.88	67.37	1,315.57	-14.81	2,974.64	2,920.53	54.12	54.969		
8,200.00	7,168.00	6,309.55	6,060.99	39.74	30.87	67.36	1,315.28	-14.81	3,001.84	2,946.30	55.54	54.052		
8,300.00	7,168.00	6,308.77	6,060.27	41.49	30.87	67.34	1,314.98	-14.82	3,032.09	2,975.09	57.00	53.195		
8,400.00	7,168.00	6,308.00	6,059.55	43.37	30.86	67.32	1,314.68	-14.82	3,065.30	3,006.81	58.49	52.410		
8,500.00	7,168.00	8,308.18	7,056.00	45.36	45.98	87.91	1,717.56	-1,181.82	3,067.61	2,983.36	84.25	36.410		
8,600.00	7,168.00	8,408.18	7,056.00	47.44	47.58	87.91	1,716.70	-1,281.82	3,067.58	2,979.12	88.46	34.679		
8,700.00	7,168.00	8,508.18	7,056.00	49.59	49.31	87.91	1,715.83	-1,381.81	3,067.55	2,974.76	92.79	33.059		
8,800.00	7,168.00	8,608.18	7,056.00	51.79	51.15	87.91	1,714.97	-1,481.81	3,067.51	2,970.28	97.24	31.547		
8,900.00	7,168.00	8,708.18	7,056.00	54.05	53.09	87.91	1,714.10	-1,581.81	3,067.48	2,965.70	101.78	30.138		
9,000.00	7,168.00	8,808.18	7,056.00	56.35	55.10	87.91	1,713.24	-1,681.80	3,067.45	2,961.04	106.41	28.827		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-6H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error: 0.00 usft
Survey Program: Reference		0-OWSG (Rev2) MWD Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance Between		Minimum Separation (usft)	Separation Factor	Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)			Warning
9,100.00	7,168.00	8,908.18	7,056.00	58.69	57.19	87.91	1,712.37	-1,781.80	3,067.41	2,956.31	111.11	27.607	
9,200.00	7,168.00	9,008.18	7,056.00	61.06	59.34	87.91	1,711.50	-1,881.80	3,067.38	2,951.51	115.88	26.471	
9,300.00	7,168.00	9,108.18	7,056.00	63.46	61.54	87.91	1,710.64	-1,981.79	3,067.35	2,946.65	120.70	25.413	
9,400.00	7,168.00	9,208.18	7,056.00	65.88	63.79	87.91	1,709.77	-2,081.79	3,067.32	2,941.74	125.57	24.426	
9,500.00	7,168.00	9,308.18	7,056.00	68.33	66.08	87.91	1,708.91	-2,181.78	3,067.28	2,936.79	130.49	23.505	
9,600.00	7,168.00	9,408.18	7,056.00	70.80	68.40	87.91	1,708.04	-2,281.78	3,067.25	2,931.80	135.45	22.645	
9,700.00	7,168.00	9,508.18	7,056.00	73.29	70.76	87.91	1,707.18	-2,381.78	3,067.22	2,926.77	140.45	21.839	
9,800.00	7,168.00	9,608.18	7,056.00	75.79	73.14	87.91	1,706.31	-2,481.77	3,067.18	2,921.71	145.47	21.084	
9,900.00	7,168.00	9,708.18	7,056.00	78.31	75.55	87.91	1,705.45	-2,581.77	3,067.15	2,916.62	150.53	20.376	
10,000.00	7,168.00	9,808.18	7,056.00	80.84	77.98	87.91	1,704.58	-2,681.77	3,067.12	2,911.51	155.61	19.710	
10,100.00	7,168.00	9,908.18	7,056.00	83.39	80.44	87.91	1,703.71	-2,781.76	3,067.09	2,906.37	160.72	19.084	
10,200.00	7,168.00	10,008.18	7,056.00	85.94	82.91	87.91	1,702.85	-2,881.76	3,067.05	2,901.21	165.84	18.494	
10,300.00	7,168.00	10,108.18	7,056.00	88.51	85.39	87.91	1,701.98	-2,981.75	3,067.02	2,896.03	170.99	17.937	
10,400.00	7,168.00	10,208.18	7,056.00	91.08	87.89	87.91	1,701.12	-3,081.75	3,066.99	2,890.83	176.15	17.411	
10,500.00	7,168.00	10,308.18	7,056.00	93.66	90.41	87.91	1,700.25	-3,181.75	3,066.95	2,885.62	181.33	16.913	
10,600.00	7,168.00	10,408.18	7,056.00	96.25	92.94	87.91	1,699.39	-3,281.74	3,066.92	2,880.39	186.53	16.442	
10,700.00	7,168.00	10,508.18	7,056.00	98.85	95.47	87.91	1,698.52	-3,381.74	3,066.89	2,875.15	191.74	15.995	
10,800.00	7,168.00	10,608.18	7,056.00	101.45	98.02	87.91	1,697.65	-3,481.74	3,066.86	2,869.90	196.96	15.571	
10,900.00	7,168.00	10,708.18	7,056.00	104.06	100.58	87.91	1,696.79	-3,581.73	3,066.82	2,864.63	202.19	15.168	
11,000.00	7,168.00	10,808.18	7,056.00	106.68	103.15	87.91	1,695.92	-3,681.73	3,066.79	2,859.35	207.44	14.784	
11,100.00	7,168.00	10,908.18	7,056.00	109.30	105.72	87.91	1,695.06	-3,781.72	3,066.76	2,854.07	212.69	14.419	
11,200.00	7,168.00	11,008.18	7,056.00	111.92	108.31	87.91	1,694.19	-3,881.72	3,066.72	2,848.77	217.95	14.071	
11,300.00	7,168.00	11,108.18	7,056.00	114.55	110.90	87.91	1,693.33	-3,981.72	3,066.69	2,843.47	223.22	13.738	
11,400.00	7,168.00	11,208.18	7,056.00	117.19	113.49	87.91	1,692.46	-4,081.71	3,066.66	2,838.16	228.50	13.421	
11,500.00	7,168.00	11,308.18	7,056.00	119.82	116.09	87.91	1,691.59	-4,181.71	3,066.62	2,832.84	233.79	13.117	
11,600.00	7,168.00	11,408.18	7,056.00	122.47	118.70	87.91	1,690.73	-4,281.71	3,066.59	2,827.51	239.08	12.827	
11,700.00	7,168.00	11,508.18	7,056.00	125.11	121.31	87.91	1,689.86	-4,381.70	3,066.56	2,822.18	244.38	12.548	
11,800.00	7,168.00	11,608.18	7,056.00	127.76	123.93	87.91	1,689.00	-4,481.70	3,066.53	2,816.84	249.69	12.281	
11,900.00	7,168.00	11,708.18	7,056.00	130.41	126.55	87.91	1,688.13	-4,581.69	3,066.49	2,811.49	255.00	12.025	
12,000.00	7,168.00	11,808.18	7,056.00	133.06	129.18	87.91	1,687.27	-4,681.69	3,066.46	2,806.14	260.32	11.780	
12,100.00	7,168.00	11,908.18	7,056.00	135.72	131.81	87.91	1,686.40	-4,781.69	3,066.43	2,800.79	265.64	11.544	
12,200.00	7,168.00	12,008.18	7,056.00	138.38	134.44	87.91	1,685.54	-4,881.68	3,066.39	2,795.43	270.97	11.317	
12,300.00	7,168.00	12,108.18	7,056.00	141.04	137.08	87.91	1,684.67	-4,981.68	3,066.36	2,790.06	276.30	11.098	
12,400.00	7,168.00	12,208.18	7,056.00	143.70	139.72	87.91	1,683.80	-5,081.68	3,066.33	2,784.70	281.63	10.888	
12,500.00	7,168.00	12,308.18	7,056.00	146.37	142.37	87.91	1,682.94	-5,181.67	3,066.30	2,779.32	286.97	10.685	
12,600.00	7,168.00	12,408.18	7,056.00	149.04	145.01	87.91	1,682.07	-5,281.67	3,066.26	2,773.95	292.31	10.490	
12,700.00	7,168.00	12,508.18	7,056.00	151.71	147.66	87.91	1,681.21	-5,381.66	3,066.23	2,768.57	297.66	10.301	
12,800.00	7,168.00	12,608.18	7,056.00	154.38	150.32	87.91	1,680.34	-5,481.66	3,066.20	2,763.19	303.01	10.119	
12,900.00	7,168.00	12,708.18	7,056.00	157.05	152.97	87.91	1,679.48	-5,581.66	3,066.16	2,757.80	308.36	9.943	
13,000.00	7,168.00	12,808.18	7,056.00	159.73	155.63	87.91	1,678.61	-5,681.65	3,066.13	2,752.41	313.72	9.773	
13,100.00	7,168.00	12,908.18	7,056.00	162.41	158.29	87.91	1,677.74	-5,781.65	3,066.10	2,747.02	319.08	9.609	
13,200.00	7,168.00	13,008.18	7,056.00	165.08	160.95	87.91	1,676.88	-5,881.65	3,066.07	2,741.62	324.44	9.450	
13,300.00	7,168.00	13,108.18	7,056.00	167.76	163.61	87.91	1,676.01	-5,981.64	3,066.03	2,736.23	329.80	9.297	
13,400.00	7,168.00	13,208.18	7,056.00	170.44	166.28	87.91	1,675.15	-6,081.64	3,066.00	2,730.83	335.17	9.148	
13,500.00	7,168.00	13,308.18	7,056.00	173.13	168.95	87.91	1,674.28	-6,181.63	3,065.97	2,725.43	340.54	9.003	
13,600.00	7,168.00	13,408.18	7,056.00	175.81	171.61	87.91	1,673.42	-6,281.63	3,065.93	2,720.02	345.91	8.863	
13,700.00	7,168.00	13,508.18	7,056.00	178.49	174.29	87.91	1,672.55	-6,381.63	3,065.90	2,714.62	351.29	8.728	
13,800.00	7,168.00	13,608.18	7,056.00	181.18	176.96	87.91	1,671.68	-6,481.62	3,065.87	2,709.21	356.66	8.596	
13,900.00	7,168.00	13,708.18	7,056.00	183.87	179.63	87.91	1,670.82	-6,581.62	3,065.83	2,703.80	362.04	8.468	
14,000.00	7,168.00	13,808.18	7,056.00	186.55	182.31	87.91	1,669.95	-6,681.62	3,065.80	2,698.38	367.42	8.344	
14,100.00	7,168.00	13,908.18	7,056.00	189.24	184.98	87.91	1,669.09	-6,781.61	3,065.77	2,692.97	372.80	8.224	
14,200.00	7,168.00	14,008.18	7,056.00	191.93	187.66	87.91	1,668.22	-6,881.61	3,065.74	2,687.55	378.18	8.107	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-6H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Highside		Rule Assigned:				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
14,300.00	7,168.00	14,108.18	7,056.00	194.62	190.34	87.91	1,667.36	-6,981.60	3,065.70	2,682.14	383.57	7.993			
14,400.00	7,168.00	14,208.18	7,056.00	197.31	193.02	87.91	1,666.49	-7,081.60	3,065.67	2,676.72	388.95	7.882			
14,500.00	7,168.00	14,308.18	7,056.00	200.01	195.70	87.91	1,665.63	-7,181.60	3,065.64	2,671.30	394.34	7.774			
14,600.00	7,168.00	14,408.18	7,056.00	202.70	198.38	87.91	1,664.76	-7,281.59	3,065.60	2,665.88	399.73	7.669			
14,700.00	7,168.00	14,508.18	7,056.00	205.39	201.07	87.91	1,663.89	-7,381.59	3,065.57	2,660.45	405.12	7.567			
14,800.00	7,168.00	14,608.18	7,056.00	208.09	203.75	87.91	1,663.03	-7,481.59	3,065.54	2,655.03	410.51	7.468			
14,900.00	7,168.00	14,708.18	7,056.00	210.78	206.44	87.91	1,662.16	-7,581.58	3,065.51	2,649.60	415.90	7.371			
15,000.00	7,168.00	14,808.18	7,056.00	213.48	209.13	87.91	1,661.30	-7,681.58	3,065.47	2,644.18	421.30	7.276			
15,100.00	7,168.00	14,908.18	7,056.00	216.17	211.81	87.91	1,660.43	-7,781.57	3,065.44	2,638.75	426.69	7.184			
15,200.00	7,168.00	15,008.18	7,056.00	218.87	214.50	87.91	1,659.57	-7,881.57	3,065.41	2,633.32	432.09	7.094			
15,300.00	7,168.00	15,108.18	7,056.00	221.57	217.19	87.91	1,658.70	-7,981.57	3,065.37	2,627.89	437.49	7.007			
15,400.00	7,168.00	15,208.18	7,056.00	224.27	219.88	87.91	1,657.83	-8,081.56	3,065.34	2,622.46	442.88	6.921			
15,500.00	7,168.00	15,308.18	7,056.00	226.97	222.57	87.91	1,656.97	-8,181.56	3,065.31	2,617.02	448.28	6.838			
15,600.00	7,168.00	15,408.18	7,056.00	229.66	225.26	87.91	1,656.10	-8,281.56	3,065.27	2,611.59	453.68	6.756			
15,689.02	7,168.00	15,496.19	7,056.00	232.07	227.63	87.91	1,655.34	-8,369.57	3,065.25	2,606.78	458.47	6.686			
15,700.00	7,168.00	15,496.19	7,056.00	232.36	227.63	87.91	1,655.34	-8,369.57	3,065.27	2,606.48	458.79	6.681			
15,765.69	7,168.00	15,496.19	7,056.00	234.14	227.63	87.91	1,655.34	-8,369.57	3,066.20	2,605.63	460.57	6.657 SF			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-7H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	-125.51	-21.86	-30.63	37.63					
100.00	100.00	100.00	100.00	0.14	0.14	-125.51	-21.86	-30.63	37.63	37.34	0.29	131.212		
200.00	200.00	200.00	200.00	0.50	0.50	-125.51	-21.86	-30.63	37.63	36.62	1.00	37.489		
300.00	300.00	300.00	300.00	0.86	0.86	-125.51	-21.86	-30.63	37.63	35.91	1.72	21.869		
400.00	400.00	400.00	400.00	1.22	1.22	-125.51	-21.86	-30.63	37.63	35.19	2.44	15.437		
500.00	500.00	500.00	500.00	1.58	1.58	-125.51	-21.86	-30.63	37.63	34.47	3.15	11.928		
600.00	599.98	599.98	599.98	1.92	1.94	69.91	-21.86	-30.63	36.99	33.14	3.85	9.597		
700.00	699.84	699.84	699.84	2.26	2.29	77.87	-21.86	-30.63	35.54	30.99	4.55	7.815		
787.98	787.49	787.49	787.49	2.56	2.61	90.00	-21.86	-30.63	34.74	29.57	5.17	6.721	CC	
800.00	799.45	799.45	799.45	2.60	2.65	92.02	-21.86	-30.63	34.76	29.51	5.25	6.617	ES	
900.00	898.70	898.70	898.70	2.97	3.01	110.93	-21.86	-30.63	37.24	31.27	5.97	6.234		
1,000.00	997.47	997.47	997.47	3.36	3.36	129.48	-21.86	-30.63	45.29	38.59	6.70	6.761		
1,100.00	1,095.62	1,095.62	1,095.62	3.78	3.71	143.58	-21.86	-30.63	59.37	51.95	7.42	8.003		
1,107.69	1,103.14	1,103.14	1,103.14	3.81	3.74	144.46	-21.86	-30.63	60.68	53.21	7.47	8.120		
1,200.00	1,193.38	1,193.38	1,193.38	4.23	4.06	152.81	-21.86	-30.63	77.42	69.29	8.13	9.523		
1,300.00	1,291.14	1,291.14	1,291.14	4.69	4.41	158.51	-21.86	-30.63	96.69	87.86	8.84	10.942		
1,400.00	1,388.90	1,388.90	1,388.90	5.15	4.76	162.29	-21.86	-30.63	116.59	107.04	9.55	12.212		
1,500.00	1,486.66	1,486.66	1,486.66	5.63	5.11	164.97	-21.86	-30.63	136.83	126.57	10.26	13.337		
1,600.00	1,584.42	1,584.42	1,584.42	6.11	5.46	166.96	-21.86	-30.63	157.28	146.31	10.97	14.333		
1,700.00	1,682.18	1,682.18	1,682.18	6.60	5.82	168.49	-21.86	-30.63	177.88	166.19	11.69	15.216		
1,800.00	1,779.94	1,779.94	1,779.94	7.09	6.17	169.70	-21.86	-30.63	198.57	186.16	12.41	16.002		
1,900.00	1,877.69	1,877.69	1,877.69	7.58	6.52	170.68	-21.86	-30.63	219.33	206.20	13.13	16.706		
2,000.00	1,975.45	1,975.45	1,975.45	8.08	6.87	171.49	-21.86	-30.63	240.14	226.29	13.85	17.339		
2,100.00	2,073.21	2,073.21	2,073.21	8.58	7.22	172.18	-21.86	-30.63	260.99	246.42	14.57	17.911		
2,200.00	2,170.97	2,170.97	2,170.97	9.07	7.57	172.76	-21.86	-30.63	281.87	266.57	15.29	18.429		
2,300.00	2,268.73	2,268.73	2,268.73	9.57	7.92	173.26	-21.86	-30.63	302.77	286.75	16.02	18.901		
2,400.00	2,366.49	2,366.49	2,366.49	10.08	8.27	173.70	-21.86	-30.63	323.70	306.95	16.74	19.333		
2,500.00	2,464.25	2,464.25	2,464.25	10.58	8.60	174.09	-21.28	-30.62	345.25	327.83	17.42	19.818		
2,600.00	2,562.00	2,544.44	2,544.37	11.08	8.91	174.56	-18.22	-30.59	369.45	351.40	18.06	20.461		
2,700.00	2,659.76	2,629.83	2,629.58	11.59	9.21	175.08	-12.64	-30.53	396.44	377.77	18.67	21.236		
2,800.00	2,757.52	2,713.74	2,713.12	12.09	9.51	175.65	-4.70	-30.45	426.17	406.91	19.26	22.130		
2,900.00	2,855.28	2,800.00	2,798.70	12.60	9.82	176.26	6.02	-30.34	458.58	438.72	19.87	23.083		
3,000.00	2,953.04	2,876.76	2,874.56	13.10	10.10	176.82	17.72	-30.21	493.58	473.21	20.37	24.236		
3,100.00	3,050.80	2,955.69	2,952.22	13.61	10.39	177.40	31.87	-30.07	531.14	510.26	20.88	25.433		
3,200.00	3,148.56	3,032.83	3,027.70	14.11	10.68	177.97	47.75	-29.90	571.18	549.80	21.38	26.715		
3,300.00	3,246.31	3,100.00	3,093.06	14.62	10.94	178.45	63.23	-29.74	613.68	591.94	21.74	28.222		
3,400.00	3,344.07	3,181.54	3,171.88	15.13	11.26	179.02	84.08	-29.52	658.37	636.07	22.31	29.514		
3,500.00	3,441.83	3,255.96	3,243.30	15.64	11.57	179.53	105.02	-29.30	705.33	682.55	22.78	30.964		
3,600.00	3,539.59	3,343.62	3,327.20	16.14	11.94	-179.93	130.38	-29.03	753.08	729.64	23.44	32.129		
3,700.00	3,637.35	3,431.27	3,411.11	16.65	12.32	-179.45	155.74	-28.77	800.87	776.76	24.10	33.226		
3,800.00	3,735.11	3,518.93	3,495.01	17.16	12.72	-179.02	181.10	-28.50	848.70	823.93	24.77	34.262		
3,900.00	3,832.87	3,606.58	3,578.92	17.67	13.12	-178.65	206.46	-28.23	896.56	871.12	25.44	35.240		
4,000.00	3,930.62	3,694.24	3,662.83	18.18	13.53	-178.30	231.82	-27.97	944.45	918.33	26.12	36.164		
4,100.00	4,028.38	3,781.89	3,746.73	18.69	13.95	-178.00	257.18	-27.70	992.36	965.57	26.79	37.040		
4,200.00	4,126.14	3,869.55	3,830.64	19.20	14.37	-177.72	282.54	-27.44	1,040.29	1,012.82	27.47	37.870		
4,300.00	4,223.90	3,957.20	3,914.55	19.71	14.81	-177.46	307.90	-27.17	1,088.24	1,060.09	28.15	38.657		
4,400.00	4,321.66	4,044.86	3,998.45	20.21	15.24	-177.23	333.25	-26.90	1,136.21	1,107.38	28.83	39.405		
4,500.00	4,419.42	4,132.51	4,082.36	20.72	15.69	-177.01	358.61	-26.64	1,184.19	1,154.67	29.52	40.117		
4,600.00	4,517.18	4,220.17	4,166.27	21.23	16.13	-176.81	383.97	-26.37	1,232.18	1,201.98	30.20	40.794		
4,700.00	4,614.94	4,307.82	4,250.17	21.74	16.58	-176.63	409.33	-26.11	1,280.18	1,249.29	30.89	41.439		
4,800.00	4,712.69	4,395.48	4,334.08	22.25	17.04	-176.46	434.69	-25.84	1,328.19	1,296.61	31.58	42.055		
4,900.00	4,810.45	4,483.13	4,417.98	22.76	17.50	-176.30	460.05	-25.57	1,376.21	1,343.94	32.27	42.642		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-7H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference				Offset			Semi Major Axis			Distance			Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,908.21	4,570.79	4,501.89	23.27	17.96	-176.15	485.41	-25.31	1,424.24	1,391.27	32.97	43.203		
5,100.00	5,005.97	4,658.44	4,585.80	23.78	18.43	-176.02	510.77	-25.04	1,472.27	1,438.61	33.66	43.740		
5,200.00	5,103.73	4,746.10	4,669.70	24.29	18.89	-175.89	536.12	-24.78	1,520.31	1,485.96	34.35	44.253		
5,300.00	5,201.49	4,833.75	4,753.61	24.80	19.37	-175.77	561.48	-24.51	1,568.36	1,533.31	35.05	44.745		
5,400.00	5,299.25	4,921.41	4,837.52	25.31	19.84	-175.65	586.84	-24.25	1,616.41	1,580.66	35.75	45.217		
5,500.00	5,397.00	5,009.07	4,921.42	25.82	20.32	-175.54	612.20	-23.98	1,664.46	1,628.02	36.45	45.669		
5,600.00	5,494.76	5,096.72	5,005.33	26.33	20.79	-175.44	637.56	-23.71	1,712.52	1,675.38	37.15	46.103		
5,700.00	5,592.52	5,184.38	5,089.23	26.84	21.27	-175.35	662.92	-23.45	1,760.58	1,722.74	37.85	46.520		
5,800.00	5,690.28	5,272.03	5,173.14	27.36	21.76	-175.26	688.28	-23.18	1,808.65	1,770.10	38.55	46.921		
5,900.00	5,788.04	5,359.69	5,257.05	27.87	22.24	-175.17	713.64	-22.92	1,856.72	1,817.47	39.25	47.306		
6,000.00	5,885.80	5,447.34	5,340.95	28.38	22.73	-175.09	739.00	-22.65	1,904.79	1,864.84	39.95	47.677		
6,100.00	5,983.56	5,535.00	5,424.86	28.89	23.21	-175.01	764.35	-22.38	1,952.87	1,912.21	40.66	48.034		
6,200.00	6,081.31	5,622.65	5,508.77	29.40	23.70	-174.94	789.71	-22.12	2,000.95	1,959.59	41.36	48.379		
6,300.00	6,179.07	5,710.31	5,592.67	29.91	24.19	-174.86	815.07	-21.85	2,049.03	2,006.96	42.07	48.710		
6,400.00	6,276.83	5,797.96	5,676.58	30.42	24.68	-174.80	840.43	-21.59	2,097.11	2,054.34	42.77	49.030		
6,500.00	6,374.59	5,885.62	5,760.49	30.93	25.18	-174.73	865.79	-21.32	2,145.20	2,101.72	43.48	49.339		
6,600.00	6,472.35	5,973.27	5,844.39	31.44	25.67	-174.67	891.15	-21.05	2,193.29	2,149.10	44.19	49.637		
6,700.00	6,570.11	6,060.93	5,928.30	31.95	26.17	-174.61	916.51	-20.79	2,241.37	2,196.48	44.89	49.925		
6,712.06	6,581.89	6,071.49	5,938.41	32.01	26.23	-174.61	919.57	-20.76	2,247.17	2,202.19	44.98	49.959		
6,750.00	6,619.02	6,104.77	5,970.27	32.20	26.41	165.58	929.19	-20.65	2,265.28	2,220.03	45.25	50.065		
6,800.00	6,667.83	6,148.51	6,012.14	32.44	26.66	141.66	941.85	-20.52	2,288.62	2,243.03	45.59	50.201		
6,850.00	6,716.18	6,191.81	6,053.59	32.65	26.91	123.92	954.37	-20.39	2,311.24	2,265.32	45.92	50.334		
6,900.00	6,763.70	6,234.35	6,094.30	32.85	27.15	111.68	966.68	-20.26	2,333.03	2,286.80	46.23	50.463		
6,950.00	6,810.04	6,275.79	6,133.97	33.03	27.38	103.10	978.67	-20.14	2,353.90	2,307.37	46.53	50.587		
7,000.00	6,854.83	6,315.83	6,172.30	33.19	27.61	96.85	990.25	-20.01	2,373.78	2,326.97	46.82	50.705		
7,050.00	6,897.73	6,354.16	6,208.99	33.34	27.83	92.11	1,001.34	-19.90	2,392.62	2,345.54	47.09	50.814		
7,100.00	6,938.43	6,390.49	6,243.77	33.47	28.04	88.41	1,011.85	-19.79	2,410.40	2,363.06	47.34	50.912		
7,150.00	6,976.60	6,424.54	6,276.36	33.59	28.23	85.47	1,021.70	-19.68	2,427.10	2,379.50	47.60	50.994		
7,200.00	7,011.97	6,456.06	6,306.53	33.69	28.41	83.07	1,030.82	-19.59	2,442.71	2,394.86	47.85	51.054		
7,250.00	7,044.25	6,484.79	6,334.04	33.78	28.57	81.10	1,039.13	-19.50	2,457.24	2,409.14	48.10	51.087		
7,300.00	7,073.21	6,510.53	6,358.68	33.86	28.72	79.45	1,046.58	-19.42	2,470.70	2,422.34	48.36	51.088		
7,350.00	7,098.63	6,533.08	6,380.26	33.93	28.85	78.06	1,053.10	-19.35	2,483.11	2,434.47	48.64	51.049		
7,400.00	7,120.30	6,552.27	6,398.63	34.00	28.96	76.87	1,058.65	-19.30	2,494.47	2,445.53	48.94	50.968		
7,450.00	7,138.08	6,567.94	6,413.63	34.07	29.05	75.86	1,063.19	-19.25	2,504.79	2,455.52	49.27	50.842		
7,500.00	7,151.81	6,579.99	6,425.16	34.14	29.12	74.98	1,066.68	-19.21	2,514.07	2,464.45	49.62	50.669		
7,550.00	7,161.39	6,588.32	6,433.14	34.21	29.16	74.22	1,069.08	-19.19	2,522.31	2,472.31	49.99	50.452		
7,600.00	7,166.77	6,592.86	6,437.49	34.30	29.19	73.57	1,070.40	-19.17	2,529.49	2,479.09	50.39	50.193		
7,638.04	7,168.00	6,593.76	6,438.35	34.39	29.19	73.15	1,070.66	-19.17	2,534.22	2,483.51	50.71	49.974		
7,700.00	7,168.00	6,593.43	6,438.02	34.57	29.19	73.14	1,070.56	-19.17	2,542.16	2,490.89	51.27	49.586		
7,800.00	7,168.00	6,592.88	6,437.50	35.03	29.19	73.13	1,070.40	-19.17	2,558.09	2,505.80	52.29	48.921		
7,900.00	7,168.00	6,592.34	6,436.98	35.77	29.19	73.12	1,070.25	-19.18	2,577.80	2,524.36	53.44	48.240		
8,000.00	7,168.00	6,591.79	6,436.46	36.82	29.18	73.10	1,070.09	-19.18	2,601.21	2,546.53	54.68	47.572		
8,100.00	7,168.00	7,851.22	7,153.00	38.17	36.77	89.67	1,280.43	-776.78	2,625.12	2,556.51	68.61	38.263		
8,200.00	7,168.00	7,951.22	7,153.00	39.74	38.01	89.67	1,279.61	-876.78	2,625.13	2,553.07	72.06	36.430		
8,300.00	7,168.00	8,051.22	7,153.00	41.49	39.42	89.67	1,278.79	-976.78	2,625.14	2,549.39	75.75	34.656		
8,400.00	7,168.00	8,151.22	7,153.00	43.37	41.00	89.67	1,277.97	-1,076.77	2,625.16	2,545.52	79.64	32.963		
8,500.00	7,168.00	8,251.22	7,153.00	45.36	42.71	89.67	1,277.15	-1,176.77	2,625.17	2,541.47	83.71	31.362		
8,600.00	7,168.00	8,351.22	7,153.00	47.44	44.55	89.67	1,276.34	-1,276.77	2,625.19	2,537.26	87.92	29.858		
8,700.00	7,168.00	8,451.22	7,153.00	49.59	46.48	89.67	1,275.52	-1,376.76	2,625.20	2,532.93	92.27	28.452		
8,800.00	7,168.00	8,551.22	7,153.00	51.79	48.50	89.67	1,274.70	-1,476.76	2,625.22	2,528.49	96.72	27.141		
8,900.00	7,168.00	8,651.22	7,153.00	54.05	50.60	89.67	1,273.88	-1,576.76	2,625.23	2,523.95	101.28	25.921		
9,000.00	7,168.00	8,751.22	7,153.00	56.35	52.75	89.67	1,273.06	-1,676.75	2,625.24	2,519.33	105.92	24.786		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-7H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:		0.00 usft
Reference				Offset		Semi Major Axis		Highside		Distance			Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
9,100.00	7,168.00	8,851.22	7,153.00	58.69	54.97	89.67	1,272.24	-1,776.75	2,625.26	2,514.63	110.63	23.731			
9,200.00	7,168.00	8,951.22	7,153.00	61.06	57.23	89.67	1,271.42	-1,876.75	2,625.27	2,509.87	115.40	22.748			
9,300.00	7,168.00	9,051.22	7,153.00	63.46	59.53	89.67	1,270.61	-1,976.74	2,625.29	2,505.05	120.24	21.834			
9,400.00	7,168.00	9,151.22	7,153.00	65.88	61.86	89.67	1,269.79	-2,076.74	2,625.30	2,500.18	125.12	20.982			
9,500.00	7,168.00	9,251.22	7,153.00	68.33	64.23	89.67	1,268.97	-2,176.74	2,625.31	2,495.26	130.05	20.187			
9,600.00	7,168.00	9,351.22	7,153.00	70.80	66.63	89.67	1,268.15	-2,276.73	2,625.33	2,490.31	135.02	19.444			
9,700.00	7,168.00	9,451.22	7,153.00	73.29	69.05	89.67	1,267.33	-2,376.73	2,625.34	2,485.32	140.02	18.749			
9,800.00	7,168.00	9,551.22	7,153.00	75.79	71.50	89.67	1,266.51	-2,476.73	2,625.36	2,480.30	145.06	18.099			
9,900.00	7,168.00	9,651.22	7,153.00	78.31	73.97	89.67	1,265.70	-2,576.72	2,625.37	2,475.25	150.12	17.488			
10,000.00	7,168.00	9,751.22	7,153.00	80.84	76.45	89.67	1,264.88	-2,676.72	2,625.39	2,470.17	155.21	16.915			
10,100.00	7,168.00	9,851.22	7,153.00	83.39	78.95	89.67	1,264.06	-2,776.72	2,625.40	2,465.07	160.33	16.375			
10,200.00	7,168.00	9,951.22	7,153.00	85.94	81.46	89.67	1,263.24	-2,876.71	2,625.41	2,459.95	165.46	15.867			
10,300.00	7,168.00	10,051.22	7,153.00	88.51	83.99	89.67	1,262.42	-2,976.71	2,625.43	2,454.81	170.62	15.388			
10,400.00	7,168.00	10,151.22	7,153.00	91.08	86.53	89.67	1,261.60	-3,076.71	2,625.44	2,449.66	175.79	14.935			
10,500.00	7,168.00	10,251.22	7,153.00	93.66	89.08	89.67	1,260.78	-3,176.70	2,625.46	2,444.48	180.97	14.507			
10,600.00	7,168.00	10,351.22	7,153.00	96.25	91.64	89.67	1,259.97	-3,276.70	2,625.47	2,439.30	186.18	14.102			
10,700.00	7,168.00	10,451.22	7,153.00	98.85	94.21	89.67	1,259.15	-3,376.70	2,625.49	2,434.09	191.39	13.718			
10,800.00	7,168.00	10,551.22	7,153.00	101.45	96.79	89.67	1,258.33	-3,476.69	2,625.50	2,428.88	196.62	13.353			
10,900.00	7,168.00	10,651.22	7,153.00	104.06	99.38	89.67	1,257.51	-3,576.69	2,625.51	2,423.66	201.86	13.007			
11,000.00	7,168.00	10,751.22	7,153.00	106.68	101.97	89.67	1,256.69	-3,676.69	2,625.53	2,418.42	207.11	12.677			
11,100.00	7,168.00	10,851.22	7,153.00	109.30	104.57	89.67	1,255.87	-3,776.68	2,625.54	2,413.18	212.37	12.363			
11,200.00	7,168.00	10,951.22	7,153.00	111.92	107.18	89.67	1,255.05	-3,876.68	2,625.56	2,407.92	217.64	12.064			
11,300.00	7,168.00	11,051.22	7,153.00	114.55	109.79	89.67	1,254.24	-3,976.68	2,625.57	2,402.66	222.91	11.778			
11,400.00	7,168.00	11,151.22	7,153.00	117.19	112.41	89.67	1,253.42	-4,076.67	2,625.58	2,397.39	228.20	11.506			
11,500.00	7,168.00	11,251.22	7,153.00	119.82	115.03	89.67	1,252.60	-4,176.67	2,625.60	2,392.11	233.49	11.245			
11,600.00	7,168.00	11,351.22	7,153.00	122.47	117.66	89.67	1,251.78	-4,276.67	2,625.61	2,386.82	238.79	10.996			
11,700.00	7,168.00	11,451.22	7,153.00	125.11	120.29	89.67	1,250.96	-4,376.66	2,625.63	2,381.53	244.09	10.757			
11,800.00	7,168.00	11,551.22	7,153.00	127.76	122.92	89.67	1,250.14	-4,476.66	2,625.64	2,376.24	249.41	10.528			
11,900.00	7,168.00	11,651.22	7,153.00	130.41	125.56	89.67	1,249.33	-4,576.66	2,625.66	2,370.93	254.72	10.308			
12,000.00	7,168.00	11,751.22	7,153.00	133.06	128.20	89.67	1,248.51	-4,676.65	2,625.67	2,365.63	260.04	10.097			
12,100.00	7,168.00	11,851.22	7,153.00	135.72	130.85	89.67	1,247.69	-4,776.65	2,625.68	2,360.31	265.37	9.894			
12,200.00	7,168.00	11,951.22	7,153.00	138.38	133.50	89.67	1,246.87	-4,876.65	2,625.70	2,355.00	270.70	9.700			
12,300.00	7,168.00	12,051.22	7,153.00	141.04	136.15	89.67	1,246.05	-4,976.64	2,625.71	2,349.67	276.04	9.512			
12,400.00	7,168.00	12,151.22	7,153.00	143.70	138.80	89.67	1,245.23	-5,076.64	2,625.73	2,344.35	281.38	9.332			
12,500.00	7,168.00	12,251.22	7,153.00	146.37	141.46	89.67	1,244.41	-5,176.64	2,625.74	2,339.02	286.72	9.158			
12,600.00	7,168.00	12,351.22	7,153.00	149.04	144.12	89.67	1,243.60	-5,276.63	2,625.76	2,333.68	292.07	8.990			
12,700.00	7,168.00	12,451.22	7,153.00	151.71	146.78	89.67	1,242.78	-5,376.63	2,625.77	2,328.35	297.42	8.828			
12,800.00	7,168.00	12,551.22	7,153.00	154.38	149.45	89.67	1,241.96	-5,476.63	2,625.78	2,323.01	302.78	8.672			
12,900.00	7,168.00	12,651.22	7,153.00	157.05	152.11	89.67	1,241.14	-5,576.62	2,625.80	2,317.66	308.13	8.522			
13,000.00	7,168.00	12,751.22	7,153.00	159.73	154.78	89.67	1,240.32	-5,676.62	2,625.81	2,312.32	313.50	8.376			
13,100.00	7,168.00	12,851.22	7,153.00	162.41	157.45	89.67	1,239.50	-5,776.62	2,625.83	2,306.97	318.86	8.235			
13,200.00	7,168.00	12,951.22	7,153.00	165.08	160.12	89.67	1,238.68	-5,876.61	2,625.84	2,301.62	324.22	8.099			
13,300.00	7,168.00	13,051.22	7,153.00	167.76	162.79	89.67	1,237.87	-5,976.61	2,625.85	2,296.26	329.59	7.967			
13,400.00	7,168.00	13,151.22	7,153.00	170.44	165.47	89.67	1,237.05	-6,076.61	2,625.87	2,290.90	334.96	7.839			
13,500.00	7,168.00	13,251.22	7,153.00	173.13	168.15	89.67	1,236.23	-6,176.60	2,625.88	2,285.55	340.34	7.716			
13,600.00	7,168.00	13,351.22	7,153.00	175.81	170.82	89.67	1,235.41	-6,276.60	2,625.90	2,280.18	345.71	7.596			
13,700.00	7,168.00	13,451.22	7,153.00	178.49	173.50	89.67	1,234.59	-6,376.60	2,625.91	2,274.82	351.09	7.479			
13,800.00	7,168.00	13,551.22	7,153.00	181.18	176.18	89.67	1,233.77	-6,476.59	2,625.93	2,269.46	356.47	7.366			
13,900.00	7,168.00	13,651.22	7,153.00	183.87	178.86	89.67	1,232.96	-6,576.59	2,625.94	2,264.09	361.85	7.257			
14,000.00	7,168.00	13,751.22	7,153.00	186.55	181.55	89.67	1,232.14	-6,676.59	2,625.95	2,258.72	367.24	7.151			
14,100.00	7,168.00	13,851.22	7,153.00	189.24	184.23	89.67	1,231.32	-6,776.58	2,625.97	2,253.35	372.62	7.047			
14,200.00	7,168.00	13,951.22	7,153.00	191.93	186.92	89.67	1,230.50	-6,876.58	2,625.98	2,247.98	378.01	6.947			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-7H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Highside		Rule Assigned:				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
14,300.00	7,168.00	14,051.22	7,153.00	194.62	189.60	89.67	1,229.68	-6,976.58	2,626.00	2,242.60	383.40	6.849			
14,400.00	7,168.00	14,151.22	7,153.00	197.31	192.29	89.67	1,228.86	-7,076.57	2,626.01	2,237.23	388.79	6.754			
14,500.00	7,168.00	14,251.22	7,153.00	200.01	194.98	89.67	1,228.04	-7,176.57	2,626.03	2,231.85	394.18	6.662			
14,600.00	7,168.00	14,351.22	7,153.00	202.70	197.67	89.67	1,227.23	-7,276.57	2,626.04	2,226.47	399.57	6.572			
14,700.00	7,168.00	14,451.22	7,153.00	205.39	200.36	89.67	1,226.41	-7,376.56	2,626.05	2,221.09	404.96	6.485			
14,800.00	7,168.00	14,551.22	7,153.00	208.09	203.05	89.67	1,225.59	-7,476.56	2,626.07	2,215.71	410.36	6.399			
14,900.00	7,168.00	14,651.22	7,153.00	210.78	205.74	89.67	1,224.77	-7,576.56	2,626.08	2,210.33	415.76	6.316			
15,000.00	7,168.00	14,751.22	7,153.00	213.48	208.43	89.67	1,223.95	-7,676.55	2,626.10	2,204.94	421.15	6.235			
15,100.00	7,168.00	14,851.22	7,153.00	216.17	211.13	89.67	1,223.13	-7,776.55	2,626.11	2,199.56	426.55	6.157			
15,200.00	7,168.00	14,951.22	7,153.00	218.87	213.82	89.67	1,222.31	-7,876.55	2,626.12	2,194.17	431.95	6.080			
15,300.00	7,168.00	15,051.22	7,153.00	221.57	216.51	89.67	1,221.50	-7,976.54	2,626.14	2,188.78	437.36	6.005			
15,400.00	7,168.00	15,151.22	7,153.00	224.27	219.21	89.67	1,220.68	-8,076.54	2,626.15	2,183.40	442.76	5.931			
15,500.00	7,168.00	15,251.22	7,153.00	226.97	221.91	89.67	1,219.86	-8,176.54	2,626.17	2,178.01	448.16	5.860			
15,600.00	7,168.00	15,351.22	7,153.00	229.66	224.60	89.67	1,219.04	-8,276.53	2,626.18	2,172.62	453.57	5.790			
15,700.00	7,168.00	15,451.22	7,153.00	232.36	227.30	89.67	1,218.22	-8,376.53	2,626.20	2,167.23	458.97	5.722			
15,765.69	7,168.00	15,455.54	7,153.00	234.14	227.42	89.67	1,218.19	-8,380.85	2,626.92	2,166.13	460.79	5.701 SF			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-8H - ORIGINAL WELLBORE - PROPOSAL #1														Offset Site Error: 0.00 usft			
Survey Program: 0-OWSG (Rev2) MWD								Rule Assigned:						Offset Well Error: 0.00 usft			
Reference				Offset				Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80.15	0.00	80.15	80.15					
100.00	100.00	100.00	100.00	0.14	0.14	0.00	0.00	0.00	80.15	0.00	80.15	79.86	0.29	279.470			
200.00	200.00	200.00	200.00	0.50	0.50	0.00	0.00	0.00	80.15	0.00	80.15	79.14	1.00	79.849			
300.00	300.00	300.00	300.00	0.86	0.86	0.00	0.00	0.00	80.15	0.00	80.15	78.42	1.72	46.578	CC, ES		
400.00	400.00	397.24	397.22	1.22	1.21	0.04	0.04	0.04	81.80	0.05	81.84	79.41	2.43	33.674			
500.00	500.00	494.26	494.11	1.58	1.56	0.14	0.14	0.14	86.73	0.21	86.93	83.79	3.14	27.687			
600.00	599.98	590.65	590.15	1.92	1.92	-166.99	-166.99	-166.99	94.87	0.47	97.07	93.24	3.83	25.332			
700.00	699.84	685.72	684.56	2.26	2.27	-167.32	-167.32	-167.32	106.06	0.82	113.89	109.38	4.52	25.226			
800.00	799.45	781.88	779.73	2.60	2.65	-167.79	-167.79	-167.79	119.80	1.26	136.55	131.34	5.21	26.223			
900.00	898.70	878.39	875.22	2.97	3.05	-168.36	-168.36	-168.36	133.75	1.70	162.69	156.78	5.91	27.543			
1,000.00	997.47	973.93	969.76	3.36	3.44	-168.93	-168.93	-168.93	147.55	2.14	192.14	185.53	6.61	29.080			
1,100.00	1,095.62	1,068.38	1,063.22	3.78	3.83	-169.49	-169.49	-169.49	161.20	2.57	224.86	217.56	7.30	30.788			
1,107.69	1,103.14	1,075.60	1,070.36	3.81	3.86	-169.53	-169.53	-169.53	162.25	2.60	227.51	220.16	7.36	30.923			
1,200.00	1,193.38	1,162.18	1,156.03	4.23	4.22	-170.07	-170.07	-170.07	174.76	3.00	259.47	251.47	8.00	32.440			
1,300.00	1,291.14	1,255.96	1,248.83	4.69	4.61	-170.52	-170.52	-170.52	188.31	3.43	294.11	285.42	8.69	33.850			
1,400.00	1,388.90	1,349.75	1,341.63	5.15	5.00	-170.88	-170.88	-170.88	201.86	3.86	328.76	319.37	9.38	35.038			
1,500.00	1,486.66	1,443.54	1,434.43	5.63	5.40	-171.17	-171.17	-171.17	215.42	4.29	363.42	353.34	10.08	36.051			
1,600.00	1,584.42	1,537.33	1,527.24	6.11	5.79	-171.41	-171.41	-171.41	228.97	4.72	398.08	387.30	10.78	36.924			
1,700.00	1,682.18	1,631.11	1,620.04	6.60	6.19	-171.61	-171.61	-171.61	242.52	5.15	432.75	421.27	11.48	37.684			
1,800.00	1,779.94	1,724.90	1,712.84	7.09	6.59	-171.78	-171.78	-171.78	256.08	5.58	467.43	455.24	12.19	38.350			
1,900.00	1,877.69	1,818.69	1,805.64	7.58	6.98	-171.93	-171.93	-171.93	269.63	6.01	502.10	489.21	12.89	38.938			
2,000.00	1,975.45	1,912.48	1,898.44	8.08	7.38	-172.06	-172.06	-172.06	283.18	6.44	536.78	523.18	13.60	39.462			
2,100.00	2,073.21	2,006.26	1,991.25	8.58	7.78	-172.17	-172.17	-172.17	296.73	6.87	571.47	557.15	14.31	39.931			
2,200.00	2,170.97	2,100.05	2,084.05	9.07	8.18	-172.27	-172.27	-172.27	310.29	7.30	606.15	591.13	15.02	40.353			
2,300.00	2,268.73	2,193.84	2,176.85	9.57	8.58	-172.36	-172.36	-172.36	323.84	7.73	640.84	625.10	15.73	40.735			
2,400.00	2,366.49	2,287.63	2,269.65	10.08	8.98	-172.44	-172.44	-172.44	337.39	8.16	675.52	659.08	16.44	41.081			
2,500.00	2,464.25	2,381.41	2,362.45	10.58	9.37	-172.51	-172.51	-172.51	350.95	8.59	710.21	693.05	17.16	41.398			
2,600.00	2,562.00	2,475.20	2,455.26	11.08	9.77	-172.58	-172.58	-172.58	364.50	9.02	744.90	727.03	17.87	41.688			
2,700.00	2,659.76	2,568.99	2,548.06	11.59	10.17	-172.64	-172.64	-172.64	378.05	9.45	779.59	761.01	18.58	41.954			
2,800.00	2,757.52	2,662.78	2,640.86	12.09	10.57	-172.69	-172.69	-172.69	391.61	9.88	814.28	794.98	19.30	42.200			
2,900.00	2,855.28	2,756.56	2,733.66	12.60	10.97	-172.74	-172.74	-172.74	405.16	10.31	848.97	828.96	20.01	42.427			
3,000.00	2,953.04	2,850.35	2,826.47	13.10	11.37	-172.79	-172.79	-172.79	418.71	10.74	883.66	862.93	20.72	42.638			
3,100.00	3,050.80	2,944.14	2,919.27	13.61	11.77	-172.83	-172.83	-172.83	432.27	11.17	918.35	896.91	21.44	42.834			
3,200.00	3,148.56	3,037.93	3,012.07	14.11	12.17	-172.87	-172.87	-172.87	445.82	11.60	953.04	930.89	22.16	43.016			
3,300.00	3,246.31	3,131.71	3,104.87	14.62	12.57	-172.91	-172.91	-172.91	459.37	12.03	987.74	964.86	22.87	43.187			
3,400.00	3,344.07	3,225.50	3,197.67	15.13	12.97	-172.94	-172.94	-172.94	472.92	12.46	1,022.43	998.84	23.59	43.346			
3,500.00	3,441.83	3,319.29	3,290.48	15.64	13.37	-172.98	-172.98	-172.98	486.48	12.89	1,057.12	1,032.82	24.30	43.496			
3,600.00	3,539.59	3,413.08	3,383.28	16.14	13.77	-173.01	-173.01	-173.01	500.03	13.32	1,091.81	1,066.79	25.02	43.637			
3,700.00	3,637.35	3,506.86	3,476.08	16.65	14.17	-173.03	-173.03	-173.03	513.58	13.75	1,126.51	1,100.77	25.74	43.769			
3,800.00	3,735.11	3,600.65	3,568.88	17.16	14.57	-173.06	-173.06	-173.06	527.14	14.18	1,161.20	1,134.75	26.45	43.894			
3,900.00	3,832.87	3,694.44	3,661.68	17.67	14.97	-173.08	-173.08	-173.08	540.69	14.61	1,195.90	1,168.72	27.17	44.012			
4,000.00	3,930.62	3,788.23	3,754.49	18.18	15.37	-173.11	-173.11	-173.11	554.24	15.04	1,230.59	1,202.70	27.89	44.124			
4,100.00	4,028.38	3,882.01	3,847.29	18.69	15.77	-173.13	-173.13	-173.13	567.80	15.47	1,265.28	1,236.68	28.61	44.229			
4,200.00	4,126.14	3,975.80	3,940.09	19.20	16.17	-173.15	-173.15	-173.15	581.35	15.90	1,299.98	1,270.65	29.33	44.329			
4,300.00	4,223.90	4,069.59	4,032.89	19.71	16.57	-173.17	-173.17	-173.17	594.90	16.33	1,334.67	1,304.63	30.04	44.424			
4,400.00	4,321.66	4,163.38	4,125.69	20.21	16.97	-173.19	-173.19	-173.19	608.45	16.76	1,369.37	1,338.61	30.76	44.515			
4,500.00	4,419.42	4,257.16	4,218.50	20.72	17.37	-173.21	-173.21	-173.21	622.01	17.19	1,404.06	1,372.58	31.48	44.601			
4,600.00	4,517.18	4,350.95	4,311.30	21.23	17.77	-173.23	-173.23	-173.23	635.56	17.62	1,438.76	1,406.56	32.20	44.682			
4,700.00	4,614.94	4,444.74	4,404.10	21.74	18.17	-173.24	-173.24	-173.24	649.11	18.05	1,473.45	1,440.53	32.92	44.760			
4,800.00	4,712.69	4,538.53	4,496.90	22.25	18.57	-173.26	-173.26	-173.26	662.67	18.48	1,508.15	1,474.51	33.64	44.835			
4,900.00	4,810.45	4,632.31	4,589.71	22.76	18.97	-173.27	-173.27	-173.27	676.22	18.91	1,542.84	1,508.49	34.36	44.906			
5,000.00	4,908.21	4,726.10	4,682.51	23.27	19.38	-173.29	-173.29	-173.29	689.77	19.34	1,577.54	1,542.46	35.08	44.974			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-8H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD							Rule Assigned:					Offset Well Error:	0.00 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,100.00	5,005.97	4,819.89	4,775.31	23.78	19.78	-173.30	703.33	19.77	1,612.23	1,576.44	35.80	45.039		
5,200.00	5,103.73	4,913.68	4,868.11	24.29	20.18	-173.31	716.88	20.20	1,646.93	1,610.41	36.52	45.101		
5,300.00	5,201.49	5,007.46	4,960.91	24.80	20.58	-173.33	730.43	20.63	1,681.62	1,644.39	37.24	45.160		
5,400.00	5,299.25	5,101.25	5,053.72	25.31	20.98	-173.34	743.99	21.06	1,716.32	1,678.36	37.96	45.218		
5,500.00	5,397.00	5,195.04	5,146.52	25.82	21.38	-173.35	757.54	21.49	1,751.02	1,712.34	38.68	45.272		
5,600.00	5,494.76	5,288.83	5,239.32	26.33	21.78	-173.36	771.09	21.92	1,785.71	1,746.31	39.40	45.325		
5,700.00	5,592.52	5,382.61	5,332.12	26.84	22.18	-173.37	784.64	22.35	1,820.41	1,780.29	40.12	45.376		
5,800.00	5,690.28	5,476.40	5,424.92	27.36	22.58	-173.38	798.20	22.78	1,855.10	1,814.26	40.84	45.424		
5,900.00	5,788.04	5,570.19	5,517.73	27.87	22.98	-173.39	811.75	23.21	1,889.80	1,848.24	41.56	45.471		
6,000.00	5,885.80	5,739.37	5,685.43	28.38	23.68	-173.42	833.97	23.92	1,923.75	1,880.97	42.78	44.970		
6,100.00	5,983.56	6,030.88	5,976.37	28.89	24.70	-173.56	849.87	24.42	1,949.96	1,905.45	44.51	43.811		
6,200.00	6,081.31	6,135.82	6,081.31	29.40	25.02	-173.63	849.89	24.42	1,970.89	1,925.64	45.26	43.550		
6,300.00	6,179.07	6,233.58	6,179.07	29.91	25.32	-173.70	849.89	24.42	1,991.82	1,945.85	45.97	43.326		
6,400.00	6,276.83	6,331.34	6,276.83	30.42	25.62	-173.77	849.89	24.42	2,012.75	1,966.06	46.69	43.107		
6,500.00	6,374.59	6,429.10	6,374.59	30.93	25.92	-173.83	849.89	24.42	2,033.69	1,986.28	47.41	42.896		
6,600.00	6,472.35	6,526.85	6,472.35	31.44	26.22	-173.89	849.89	24.42	2,054.63	2,006.50	48.13	42.690		
6,700.00	6,570.11	6,624.61	6,570.11	31.95	26.53	-173.96	849.89	24.42	2,075.57	2,026.72	48.85	42.490		
6,712.06	6,581.89	6,636.40	6,581.89	32.01	26.56	-173.96	849.89	24.42	2,078.09	2,029.16	48.94	42.466		
6,750.00	6,619.02	6,673.52	6,619.02	32.20	26.68	167.42	849.89	24.42	2,085.90	2,036.70	49.21	42.391		
6,800.00	6,667.83	6,722.33	6,667.83	32.44	26.83	145.05	849.89	24.42	2,095.74	2,046.19	49.56	42.290		
6,850.00	6,716.18	6,759.58	6,705.06	32.65	26.94	128.72	849.88	23.73	2,105.13	2,055.28	49.84	42.235		
6,900.00	6,763.70	6,800.00	6,745.33	32.85	27.06	117.74	849.85	20.34	2,114.23	2,064.10	50.13	42.177		
6,950.00	6,810.04	6,829.36	6,774.38	33.03	27.15	110.21	849.82	16.09	2,122.96	2,072.61	50.35	42.160		
7,000.00	6,854.83	6,864.67	6,808.97	33.19	27.25	104.89	849.76	9.02	2,131.31	2,080.71	50.60	42.123		
7,050.00	6,897.73	6,900.00	6,843.08	33.34	27.36	100.98	849.68	-0.16	2,139.21	2,088.38	50.84	42.080		
7,100.00	6,938.43	6,936.41	6,877.57	33.47	27.46	98.02	849.59	-11.82	2,146.63	2,095.55	51.08	42.022		
7,150.00	6,976.60	6,972.97	6,911.38	33.59	27.56	95.75	849.47	-25.69	2,153.52	2,102.18	51.34	41.950		
7,200.00	7,011.97	7,010.08	6,944.73	33.69	27.66	93.98	849.34	-41.96	2,159.85	2,108.24	51.61	41.852		
7,250.00	7,044.25	7,050.00	6,979.35	33.78	27.76	92.64	849.18	-61.82	2,165.59	2,113.68	51.92	41.714		
7,300.00	7,073.21	7,086.27	7,009.53	33.86	27.85	91.58	849.01	-81.92	2,170.72	2,118.47	52.24	41.549		
7,350.00	7,098.63	7,125.53	7,040.70	33.93	27.95	90.83	848.82	-105.78	2,175.21	2,122.58	52.63	41.329		
7,400.00	7,120.30	7,165.71	7,070.83	34.00	28.05	90.31	848.60	-132.35	2,179.05	2,125.97	53.08	41.054		
7,450.00	7,138.08	7,206.92	7,099.72	34.07	28.15	90.02	848.36	-161.72	2,182.22	2,128.63	53.59	40.719		
7,500.00	7,151.81	7,250.00	7,127.58	34.14	28.27	89.94	848.09	-194.57	2,184.72	2,130.53	54.19	40.319		
7,550.00	7,161.39	7,293.00	7,152.85	34.21	28.39	90.03	847.80	-229.34	2,186.54	2,131.68	54.86	39.857		
7,600.00	7,166.77	7,338.17	7,176.52	34.30	28.54	90.32	847.49	-267.81	2,187.68	2,132.06	55.62	39.329		
7,638.04	7,168.00	7,373.65	7,192.93	34.39	28.67	90.65	847.23	-299.25	2,188.09	2,131.82	56.27	38.887		
7,700.00	7,168.00	7,435.09	7,216.65	34.57	28.97	91.27	846.77	-355.89	2,188.53	2,131.08	57.45	38.092		
7,800.00	7,168.00	7,544.39	7,243.38	35.03	29.74	91.97	845.90	-461.70	2,189.26	2,129.48	59.78	36.620		
7,900.00	7,168.00	7,656.28	7,250.00	35.77	30.87	92.15	844.98	-573.25	2,189.48	2,126.95	62.54	35.011		
8,000.00	7,168.00	7,756.28	7,250.00	36.82	32.13	92.15	844.16	-673.25	2,189.50	2,124.01	65.49	33.432		
8,100.00	7,168.00	7,856.28	7,250.00	38.17	33.58	92.15	843.34	-773.24	2,189.51	2,120.77	68.74	31.853		
8,200.00	7,168.00	7,956.28	7,250.00	39.74	35.19	92.15	842.52	-873.24	2,189.52	2,117.27	72.25	30.305		
8,300.00	7,168.00	8,056.28	7,250.00	41.49	36.94	92.15	841.70	-973.24	2,189.53	2,113.54	75.99	28.814		
8,400.00	7,168.00	8,156.28	7,250.00	43.37	38.80	92.15	840.88	-1,073.23	2,189.55	2,109.62	79.93	27.394		
8,500.00	7,168.00	8,256.28	7,250.00	45.36	40.76	92.15	840.06	-1,173.23	2,189.56	2,105.53	84.03	26.056		
8,600.00	7,168.00	8,356.28	7,250.00	47.44	42.81	92.15	839.24	-1,273.23	2,189.57	2,101.29	88.28	24.802		
8,700.00	7,168.00	8,456.28	7,250.00	49.59	44.93	92.15	838.42	-1,373.22	2,189.58	2,096.93	92.66	23.631		
8,800.00	7,168.00	8,556.28	7,250.00	51.79	47.11	92.15	837.60	-1,473.22	2,189.60	2,092.45	97.14	22.540		
8,900.00	7,168.00	8,656.28	7,250.00	54.05	49.35	92.15	836.78	-1,573.22	2,189.61	2,087.89	101.72	21.526		
9,000.00	7,168.00	8,756.28	7,250.00	56.35	51.63	92.15	835.96	-1,673.21	2,189.62	2,083.24	106.38	20.583		
9,100.00	7,168.00	8,856.28	7,250.00	58.69	53.96	92.15	835.14	-1,773.21	2,189.63	2,078.52	111.11	19.707		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-8H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft		
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference							Offset				Rule Assigned:		Distance		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
							+N/-S (usft)	+E/-W (usft)								
9,200.00	7,168.00	8,956.28	7,250.00	61.06	56.32	92.15	834.32	-1,873.21	2,189.65	2,073.74	115.90	18.892				
9,300.00	7,168.00	9,056.28	7,250.00	63.46	58.71	92.15	833.50	-1,973.20	2,189.66	2,068.91	120.75	18.134				
9,400.00	7,168.00	9,156.28	7,250.00	65.88	61.13	92.15	832.68	-2,073.20	2,189.67	2,064.02	125.65	17.427				
9,500.00	7,168.00	9,256.28	7,250.00	68.33	63.57	92.15	831.86	-2,173.20	2,189.68	2,059.10	130.59	16.768				
9,600.00	7,168.00	9,356.28	7,250.00	70.80	66.04	92.15	831.04	-2,273.19	2,189.70	2,054.13	135.57	16.152				
9,700.00	7,168.00	9,456.28	7,249.99	73.29	68.52	92.15	830.22	-2,373.19	2,189.71	2,049.13	140.58	15.577				
9,800.00	7,168.00	9,556.28	7,249.99	75.79	71.03	92.15	829.40	-2,473.19	2,189.72	2,044.10	145.62	15.037				
9,900.00	7,168.00	9,656.28	7,249.99	78.31	73.54	92.15	828.58	-2,573.18	2,189.73	2,039.04	150.69	14.531				
10,000.00	7,168.00	9,756.28	7,249.99	80.84	76.08	92.15	827.76	-2,673.18	2,189.75	2,033.96	155.79	14.056				
10,100.00	7,168.00	9,856.28	7,249.99	83.39	78.62	92.15	826.94	-2,773.18	2,189.76	2,028.85	160.91	13.609				
10,200.00	7,168.00	9,956.28	7,249.99	85.94	81.18	92.15	826.12	-2,873.17	2,189.77	2,023.73	166.04	13.188				
10,300.00	7,168.00	10,056.28	7,249.99	88.51	83.75	92.15	825.30	-2,973.17	2,189.78	2,018.58	171.20	12.791				
10,400.00	7,168.00	10,156.28	7,249.99	91.08	86.32	92.15	824.48	-3,073.17	2,189.80	2,013.42	176.38	12.416				
10,500.00	7,168.00	10,256.28	7,249.99	93.66	88.91	92.15	823.66	-3,173.16	2,189.81	2,008.24	181.57	12.061				
10,600.00	7,168.00	10,356.28	7,249.99	96.25	91.50	92.15	822.84	-3,273.16	2,189.82	2,003.05	186.77	11.725				
10,700.00	7,168.00	10,456.28	7,249.99	98.85	94.10	92.15	822.02	-3,373.16	2,189.83	1,997.85	191.99	11.406				
10,800.00	7,168.00	10,556.28	7,249.99	101.45	96.71	92.15	821.20	-3,473.15	2,189.85	1,992.63	197.22	11.104				
10,900.00	7,168.00	10,656.28	7,249.99	104.06	99.32	92.15	820.38	-3,573.15	2,189.86	1,987.40	202.46	10.816				
11,000.00	7,168.00	10,756.28	7,249.99	106.68	101.94	92.15	819.56	-3,673.15	2,189.87	1,982.16	207.71	10.543				
11,100.00	7,168.00	10,856.28	7,249.99	109.30	104.57	92.15	818.74	-3,773.14	2,189.88	1,976.92	212.97	10.283				
11,200.00	7,168.00	10,956.28	7,249.99	111.92	107.20	92.15	817.92	-3,873.14	2,189.90	1,971.66	218.24	10.035				
11,300.00	7,168.00	11,056.28	7,249.99	114.55	109.83	92.15	817.10	-3,973.14	2,189.91	1,966.40	223.51	9.798				
11,400.00	7,168.00	11,156.28	7,249.99	117.19	112.47	92.15	816.28	-4,073.13	2,189.92	1,961.12	228.80	9.571				
11,500.00	7,168.00	11,256.28	7,249.99	119.82	115.11	92.15	815.46	-4,173.13	2,189.93	1,955.84	234.09	9.355				
11,600.00	7,168.00	11,356.28	7,249.99	122.47	117.75	92.15	814.64	-4,273.13	2,189.95	1,950.56	239.39	9.148				
11,700.00	7,168.00	11,456.28	7,249.99	125.11	120.40	92.15	813.82	-4,373.12	2,189.96	1,945.27	244.69	8.950				
11,800.00	7,168.00	11,556.28	7,249.99	127.76	123.05	92.15	813.00	-4,473.12	2,189.97	1,939.97	250.00	8.760				
11,900.00	7,168.00	11,656.28	7,249.99	130.41	125.71	92.15	812.18	-4,573.12	2,189.98	1,934.66	255.32	8.577				
12,000.00	7,168.00	11,756.28	7,249.99	133.06	128.37	92.15	811.35	-4,673.11	2,190.00	1,929.36	260.64	8.402				
12,100.00	7,168.00	11,856.28	7,249.99	135.72	131.03	92.15	810.53	-4,773.11	2,190.01	1,924.04	265.97	8.234				
12,200.00	7,168.00	11,956.28	7,249.99	138.38	133.69	92.15	809.71	-4,873.11	2,190.02	1,918.72	271.30	8.072				
12,300.00	7,168.00	12,056.28	7,249.99	141.04	136.36	92.15	808.89	-4,973.10	2,190.03	1,913.40	276.63	7.917				
12,400.00	7,168.00	12,156.28	7,249.99	143.70	139.02	92.15	808.07	-5,073.10	2,190.05	1,908.08	281.97	7.767				
12,500.00	7,168.00	12,256.28	7,249.99	146.37	141.69	92.15	807.25	-5,173.10	2,190.06	1,902.75	287.31	7.623				
12,600.00	7,168.00	12,356.28	7,249.99	149.04	144.36	92.15	806.43	-5,273.09	2,190.07	1,897.41	292.66	7.483				
12,700.00	7,168.00	12,456.28	7,249.99	151.71	147.04	92.15	805.61	-5,373.09	2,190.08	1,892.08	298.01	7.349				
12,800.00	7,168.00	12,556.28	7,249.99	154.38	149.71	92.15	804.79	-5,473.09	2,190.10	1,886.74	303.36	7.219				
12,900.00	7,168.00	12,656.28	7,249.99	157.05	152.39	92.15	803.97	-5,573.08	2,190.11	1,881.39	308.72	7.094				
13,000.00	7,168.00	12,756.28	7,249.99	159.73	155.07	92.15	803.15	-5,673.08	2,190.12	1,876.05	314.07	6.973				
13,100.00	7,168.00	12,856.28	7,249.98	162.41	157.75	92.15	802.33	-5,773.08	2,190.13	1,870.70	319.44	6.856				
13,200.00	7,168.00	12,956.28	7,249.98	165.08	160.43	92.15	801.51	-5,873.07	2,190.15	1,865.35	324.80	6.743				
13,300.00	7,168.00	13,056.28	7,249.98	167.76	163.11	92.15	800.69	-5,973.07	2,190.16	1,859.99	330.17	6.634				
13,400.00	7,168.00	13,156.28	7,249.98	170.44	165.80	92.15	799.87	-6,073.07	2,190.17	1,854.64	335.53	6.527				
13,500.00	7,168.00	13,256.28	7,249.98	173.13	168.48	92.15	799.05	-6,173.06	2,190.18	1,849.28	340.91	6.425				
13,600.00	7,168.00	13,356.28	7,249.98	175.81	171.17	92.15	798.23	-6,273.06	2,190.20	1,843.92	346.28	6.325				
13,700.00	7,168.00	13,456.28	7,249.98	178.49	173.85	92.15	797.41	-6,373.06	2,190.21	1,838.55	351.65	6.228				
13,800.00	7,168.00	13,556.28	7,249.98	181.18	176.54	92.15	796.59	-6,473.05	2,190.22	1,833.19	357.03	6.135				
13,900.00	7,168.00	13,656.28	7,249.98	183.87	179.23	92.15	795.77	-6,573.05	2,190.23	1,827.82	362.41	6.044				
14,000.00	7,168.00	13,756.28	7,249.98	186.55	181.92	92.15	794.95	-6,673.05	2,190.25	1,822.46	367.79	5.955				
14,100.00	7,168.00	13,856.28	7,249.98	189.24	184.61	92.15	794.13	-6,773.04	2,190.26	1,817.09	373.17	5.869				
14,200.00	7,168.00	13,956.28	7,249.98	191.93	187.31	92.15	793.31	-6,873.04	2,190.27	1,811.71	378.56	5.786				
14,300.00	7,168.00	14,056.28	7,249.98	194.62	190.00	92.15	792.49	-6,973.04	2,190.28	1,806.34	383.94	5.705				

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-8H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,400.00	7,168.00	14,156.28	7,249.98	197.31	192.69	92.15	791.67	-7,073.03	2,190.30	1,800.97	389.33	5.626		
14,500.00	7,168.00	14,256.28	7,249.98	200.01	195.39	92.15	790.85	-7,173.03	2,190.31	1,795.59	394.72	5.549		
14,600.00	7,168.00	14,356.28	7,249.98	202.70	198.08	92.14	790.03	-7,273.03	2,190.32	1,790.21	400.11	5.474		
14,700.00	7,168.00	14,456.28	7,249.98	205.39	200.78	92.14	789.21	-7,373.02	2,190.33	1,784.83	405.50	5.402		
14,800.00	7,168.00	14,556.28	7,249.98	208.09	203.47	92.14	788.39	-7,473.02	2,190.35	1,779.45	410.89	5.331		
14,900.00	7,168.00	14,656.28	7,249.98	210.78	206.17	92.14	787.57	-7,573.02	2,190.36	1,774.07	416.29	5.262		
15,000.00	7,168.00	14,756.28	7,249.98	213.48	208.87	92.14	786.75	-7,673.01	2,190.37	1,768.69	421.68	5.194		
15,100.00	7,168.00	14,856.28	7,249.98	216.17	211.57	92.14	785.93	-7,773.01	2,190.38	1,763.31	427.08	5.129		
15,200.00	7,168.00	14,956.28	7,249.98	218.87	214.27	92.14	785.11	-7,873.01	2,190.40	1,757.92	432.47	5.065		
15,300.00	7,168.00	15,056.28	7,249.98	221.57	216.97	92.14	784.29	-7,973.00	2,190.41	1,752.54	437.87	5.002		
15,400.00	7,168.00	15,156.28	7,249.98	224.27	219.67	92.14	783.47	-8,073.00	2,190.42	1,747.15	443.27	4.941		
15,500.00	7,168.00	15,256.28	7,249.98	226.97	222.37	92.14	782.65	-8,173.00	2,190.43	1,741.76	448.67	4.882		
15,600.00	7,168.00	15,356.28	7,249.98	229.66	225.07	92.14	781.83	-8,272.99	2,190.45	1,736.37	454.07	4.824		
15,700.00	7,168.00	15,450.48	7,249.99	232.36	227.62	92.15	781.19	-8,367.19	2,190.60	1,731.29	459.31	4.769		
15,765.69	7,168.00	15,478.21	7,250.00	234.14	228.36	92.15	781.03	-8,394.92	2,191.11	1,729.45	461.66	4.746 SF		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-9H - ORIGINAL WELLBORE - PROPOSAL #1														Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD														Offset Well Error:	0.00 usft	
Reference				Offset				Semi Major Axis				Distance				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.00	0.00	0.00	0.00	0.00	0.00	0.00	65.57	0.00	65.57	65.29	0.29	228.657				
100.00	100.00	100.00	100.00	0.14	0.14	0.00	65.57	0.00	65.57	64.57	1.00	65.331				
200.00	200.00	200.00	200.00	0.50	0.50	0.00	65.57	0.00	65.57	63.85	1.72	38.110				
300.00	300.00	300.00	300.00	0.86	0.86	0.00	65.57	0.00	65.57	63.14	2.44	26.901	CC, ES			
400.00	400.00	400.00	400.00	1.22	1.22	0.00	65.57	0.00	66.93	63.78	3.15	21.263				
500.00	500.00	498.20	498.18	1.58	1.57	0.89	66.89	1.04	72.75	68.90	3.84	18.932				
600.00	599.98	596.10	595.94	1.92	1.92	-164.07	70.84	4.16	83.35	78.81	4.54	18.364				
700.00	699.84	695.50	695.12	2.26	2.28	-162.30	76.14	8.36	97.29	92.05	5.24	18.559				
800.00	799.45	794.51	793.90	2.60	2.64	-161.56	81.42	12.53	114.51	108.56	5.95	19.242				
900.00	898.70	893.01	892.17	2.97	3.01	-161.53	86.67	16.69	134.99	128.33	6.66	20.258				
1,000.00	997.47	990.88	989.82	3.36	3.37	-161.94	91.89	20.82	158.72	151.34	7.38	21.511				
1,100.00	1,095.62	1,088.00	1,086.71	3.78	3.73	-162.58	97.07	24.91	160.68	153.25	7.43	21.616				
1,107.69	1,103.14	1,095.43	1,094.12	3.81	3.75	-162.63	97.47	25.23	184.33	176.24	8.09	22.779				
1,200.00	1,193.38	1,184.64	1,183.12	4.23	4.08	-163.33	102.23	28.99	209.98	201.17	8.80	23.850				
1,300.00	1,291.14	1,281.28	1,279.54	4.69	4.44	-163.92	107.38	33.07	235.64	226.12	9.52	24.753				
1,400.00	1,388.90	1,377.91	1,375.95	5.15	4.80	-164.37	112.54	37.14	261.31	251.07	10.24	25.522				
1,500.00	1,486.66	1,474.55	1,472.36	5.63	5.16	-164.74	117.69	41.22	286.99	276.03	10.96	26.186				
1,600.00	1,584.42	1,571.18	1,568.77	6.11	5.52	-165.04	122.84	45.30	312.68	301.00	11.68	26.764				
1,700.00	1,682.18	1,667.82	1,665.19	6.60	5.88	-165.29	128.00	49.37	338.37	325.97	12.41	27.271				
1,800.00	1,779.94	1,764.46	1,761.60	7.09	6.24	-165.51	133.15	53.45	364.07	350.93	13.13	27.719				
1,900.00	1,877.69	1,861.09	1,858.01	7.58	6.60	-165.69	138.31	57.53	389.77	375.91	13.86	28.118				
2,000.00	1,975.45	1,957.73	1,954.42	8.08	6.96	-165.85	143.46	61.60	415.47	400.88	14.59	28.476				
2,100.00	2,073.21	2,054.37	2,050.84	8.58	7.32	-165.99	148.62	65.68	441.17	425.85	15.32	28.798				
2,200.00	2,170.97	2,151.00	2,147.25	9.07	7.68	-166.11	153.77	69.76	466.88	450.83	16.05	29.090				
2,300.00	2,268.73	2,247.64	2,243.66	9.57	8.04	-166.22	158.92	73.83	492.58	475.80	16.78	29.355				
2,400.00	2,366.49	2,344.27	2,340.07	10.08	8.40	-166.32	164.08	77.91	518.29	500.78	17.51	29.598				
2,500.00	2,464.25	2,440.91	2,436.49	10.58	8.76	-166.41	169.23	81.99	544.00	525.76	18.24	29.820				
2,600.00	2,562.00	2,537.55	2,532.90	11.08	9.12	-166.49	174.39	86.06	569.71	550.73	18.98	30.024				
2,700.00	2,659.76	2,634.18	2,629.31	11.59	9.49	-166.56	179.54	90.14	595.42	575.71	19.71	30.212				
2,800.00	2,757.52	2,730.82	2,725.72	12.09	9.85	-166.63	184.70	94.22	621.13	600.69	20.44	30.387				
2,900.00	2,855.28	2,827.46	2,822.14	12.60	10.21	-166.69	189.85	98.29	646.84	625.67	21.17	30.549				
3,000.00	2,953.04	2,924.09	2,918.55	13.10	10.57	-166.74	195.00	102.37	672.55	650.65	21.91	30.700				
3,100.00	3,050.80	3,020.73	3,014.96	13.61	10.93	-166.79	200.16	106.45	698.27	675.63	22.64	30.840				
3,200.00	3,148.56	3,117.36	3,111.37	14.11	11.29	-166.84	205.31	110.52	723.98	700.60	23.38	30.972				
3,300.00	3,246.31	3,214.00	3,207.79	14.62	11.65	-166.89	210.47	114.60	749.69	725.58	24.11	31.095				
3,400.00	3,344.07	3,310.64	3,304.20	15.13	12.01	-166.93	215.62	118.68	775.41	750.56	24.84	31.210				
3,500.00	3,441.83	3,407.27	3,400.61	15.64	12.37	-166.97	220.78	122.75	801.12	775.54	25.58	31.319				
3,600.00	3,539.59	3,503.91	3,497.02	16.14	12.73	-167.00	225.93	126.83	826.84	800.52	26.31	31.421				
3,700.00	3,637.35	3,600.54	3,593.44	16.65	13.09	-167.04	231.08	130.91	852.55	825.50	27.05	31.518				
3,800.00	3,735.11	3,697.18	3,689.85	17.16	13.46	-167.07	236.24	134.98	878.26	850.48	27.78	31.610				
3,900.00	3,832.87	3,793.82	3,786.26	17.67	13.82	-167.10	241.39	139.06	903.98	875.46	28.52	31.696				
4,000.00	3,930.62	3,890.45	3,882.67	18.18	14.18	-167.13	246.55	143.14	929.70	900.44	29.26	31.778				
4,100.00	4,028.38	3,987.09	3,979.09	18.69	14.54	-167.16	251.70	147.21	955.41	925.42	29.99	31.856				
4,200.00	4,126.14	4,083.73	4,075.50	19.20	14.90	-167.18	256.86	151.29	981.13	950.40	30.73	31.930				
4,300.00	4,223.90	4,180.36	4,171.91	19.71	15.26	-167.20	262.01	155.37	1,006.84	975.38	31.46	32.000				
4,400.00	4,321.66	4,277.00	4,268.32	20.21	15.62	-167.23	267.16	159.44	1,032.56	1,000.36	32.20	32.067				
4,500.00	4,419.42	4,373.63	4,364.74	20.72	15.98	-167.25	272.32	163.52	1,058.27	1,025.34	32.94	32.131				
4,600.00	4,517.18	4,470.27	4,461.15	21.23	16.34	-167.27	277.47	167.60	1,083.99	1,050.32	33.67	32.192				
4,700.00	4,614.94	4,566.91	4,557.56	21.74	16.71	-167.29	282.63	171.67	1,109.71	1,075.30	34.41	32.250				
4,800.00	4,712.69	4,663.54	4,653.97	22.25	17.07	-167.31	287.78	175.75	1,135.42	1,100.28	35.15	32.306				
4,900.00	4,810.45	4,760.18	4,750.39	22.76	17.43	-167.33	292.94	179.83	1,161.14	1,125.26	35.88	32.359				
5,000.00	4,908.21	4,856.82	4,846.80	23.27	17.79	-167.34	298.09	183.90								

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-9H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD										Rule Assigned:			Offset Well Error:	0.00 usft
Reference				Offset			Semi Major Axis		Highside		Distance			Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,005.97	4,953.45	4,943.21	23.78	18.15	-167.36	303.24	187.98	1,186.86	1,150.24	36.62	32.410		
5,200.00	5,103.73	5,050.09	5,039.62	24.29	18.51	-167.38	308.40	192.06	1,212.57	1,175.22	37.36	32.459		
5,300.00	5,201.49	5,146.72	5,136.04	24.80	18.87	-167.39	313.55	196.13	1,238.29	1,200.20	38.09	32.506		
5,400.00	5,299.25	5,243.36	5,232.45	25.31	19.23	-167.40	318.71	200.21	1,264.01	1,225.18	38.83	32.551		
5,500.00	5,397.00	5,340.00	5,328.86	25.82	19.59	-167.42	323.86	204.29	1,289.72	1,250.15	39.57	32.595		
5,600.00	5,494.76	5,436.63	5,425.27	26.33	19.96	-167.43	329.02	208.36	1,315.44	1,275.13	40.31	32.636		
5,700.00	5,592.52	5,533.27	5,521.69	26.84	20.32	-167.44	334.17	212.44	1,341.16	1,300.11	41.04	32.676		
5,800.00	5,690.28	5,629.90	5,618.10	27.36	20.68	-167.46	339.32	216.52	1,366.87	1,325.09	41.78	32.715		
5,900.00	5,788.04	5,726.54	5,714.51	27.87	21.04	-167.47	344.48	220.59	1,392.59	1,350.07	42.52	32.752		
6,000.00	5,885.80	5,823.18	5,810.92	28.38	21.40	-167.48	349.63	224.67	1,418.31	1,375.05	43.26	32.788		
6,100.00	5,983.56	5,919.81	5,907.34	28.89	21.76	-167.49	354.79	228.75	1,444.03	1,400.03	43.99	32.823		
6,200.00	6,081.31	6,016.45	6,003.75	29.40	22.12	-167.50	359.94	232.82	1,469.74	1,425.01	44.73	32.856		
6,300.00	6,179.07	6,113.09	6,100.16	29.91	22.48	-167.51	365.10	236.90	1,495.46	1,449.99	45.47	32.888		
6,400.00	6,276.83	6,209.72	6,196.57	30.42	22.85	-167.52	370.25	240.98	1,521.18	1,474.97	46.21	32.919		
6,500.00	6,374.59	6,306.36	6,292.99	30.93	23.21	-167.53	375.41	245.05	1,546.90	1,499.95	46.95	32.949		
6,600.00	6,472.35	6,402.99	6,389.40	31.44	23.57	-167.54	380.56	249.13	1,572.61	1,524.93	47.69	32.978		
6,700.00	6,570.11	6,499.30	6,485.49	31.95	23.93	-167.56	385.69	252.94	1,598.33	1,549.91	48.42	33.009		
6,712.06	6,581.89	6,510.72	6,496.89	32.01	23.97	-167.58	386.30	252.97	1,601.44	1,552.93	48.50	33.016		
6,750.00	6,619.02	6,546.55	6,532.64	32.20	24.09	173.51	388.19	251.58	1,611.21	1,562.45	48.76	33.042		
6,800.00	6,667.83	6,593.63	6,579.35	32.44	24.24	150.61	390.62	246.36	1,624.07	1,575.00	49.07	33.094		
6,850.00	6,716.18	6,640.60	6,625.38	32.65	24.37	133.69	392.99	237.34	1,636.81	1,587.45	49.36	33.159		
6,900.00	6,763.70	6,687.52	6,670.46	32.85	24.49	122.09	395.28	224.60	1,649.32	1,599.70	49.63	33.234		
6,950.00	6,810.04	6,734.43	6,714.35	33.03	24.61	113.98	397.47	208.21	1,661.52	1,611.65	49.87	33.314		
7,000.00	6,854.83	6,781.38	6,756.79	33.19	24.71	108.05	399.56	188.26	1,673.31	1,623.20	50.11	33.393		
7,050.00	6,897.73	6,828.42	6,797.52	33.34	24.80	103.53	401.53	164.86	1,684.59	1,634.26	50.34	33.466		
7,100.00	6,938.43	6,875.58	6,836.31	33.47	24.88	99.95	403.36	138.12	1,695.30	1,644.72	50.57	33.523		
7,150.00	6,976.60	6,922.89	6,872.88	33.59	24.95	97.07	405.05	108.17	1,705.33	1,654.51	50.82	33.556		
7,200.00	7,011.97	6,970.37	6,906.98	33.69	25.02	94.70	406.59	75.19	1,714.62	1,663.53	51.10	33.555		
7,250.00	7,044.25	7,018.05	6,938.36	33.78	25.10	92.74	407.95	39.34	1,723.11	1,671.69	51.42	33.510		
7,300.00	7,073.21	7,065.93	6,966.77	33.86	25.26	91.13	409.14	0.83	1,730.71	1,678.91	51.80	33.411		
7,350.00	7,098.63	7,114.03	6,991.98	33.93	25.51	89.80	410.14	-40.10	1,737.38	1,685.13	52.25	33.249		
7,400.00	7,120.30	7,162.33	7,013.76	34.00	25.80	88.73	410.93	-83.20	1,743.07	1,690.28	52.79	33.017		
7,450.00	7,138.08	7,210.83	7,031.90	34.07	26.15	87.90	411.52	-128.16	1,747.73	1,694.30	53.43	32.711		
7,500.00	7,151.81	7,259.52	7,046.23	34.14	26.55	87.28	411.89	-174.67	1,751.33	1,697.17	54.17	32.332		
7,550.00	7,161.39	7,308.37	7,056.60	34.21	26.99	86.87	412.04	-222.39	1,753.84	1,698.84	55.01	31.885		
7,600.00	7,166.77	7,357.36	7,062.88	34.30	27.48	86.66	411.97	-270.96	1,755.25	1,699.30	55.94	31.376		
7,638.04	7,168.00	7,394.71	7,064.88	34.39	27.88	86.63	411.76	-308.25	1,755.57	1,698.85	56.71	30.955		
7,700.00	7,168.00	7,456.46	7,065.00	34.57	28.62	86.64	411.25	-370.00	1,755.56	1,697.44	58.12	30.207		
7,800.00	7,168.00	7,556.46	7,065.00	35.03	29.94	86.64	410.41	-469.99	1,755.56	1,694.87	60.68	28.930		
7,900.00	7,168.00	7,656.46	7,065.00	35.77	31.43	86.64	409.57	-569.99	1,755.55	1,691.94	63.61	27.600		
8,000.00	7,168.00	7,756.46	7,065.00	36.82	33.08	86.64	408.74	-669.99	1,755.55	1,688.70	66.85	26.262		
8,100.00	7,168.00	7,856.46	7,065.00	38.17	34.87	86.64	407.90	-769.98	1,755.54	1,685.18	70.36	24.951		
8,200.00	7,168.00	7,956.46	7,065.00	39.74	36.76	86.64	407.06	-869.98	1,755.54	1,681.43	74.10	23.691		
8,300.00	7,168.00	8,056.46	7,065.00	41.49	38.76	86.64	406.22	-969.98	1,755.53	1,677.48	78.05	22.494		
8,400.00	7,168.00	8,156.46	7,065.00	43.37	40.84	86.64	405.38	-1,069.97	1,755.52	1,673.37	82.16	21.367		
8,500.00	7,168.00	8,256.46	7,065.00	45.36	42.99	86.64	404.55	-1,169.97	1,755.52	1,669.10	86.42	20.314		
8,600.00	7,168.00	8,356.46	7,065.00	47.44	45.20	86.64	403.71	-1,269.97	1,755.51	1,664.71	90.80	19.333		
8,700.00	7,168.00	8,456.46	7,065.00	49.59	47.47	86.64	402.87	-1,369.96	1,755.51	1,660.21	95.30	18.421		
8,800.00	7,168.00	8,556.46	7,065.00	51.79	49.78	86.64	402.03	-1,469.96	1,755.50	1,655.62	99.89	17.575		
8,900.00	7,168.00	8,656.46	7,065.00	54.05	52.13	86.64	401.19	-1,569.96	1,755.50	1,650.94	104.56	16.790		
9,000.00	7,168.00	8,756.46	7,065.00	56.35	54.51	86.64	400.36	-1,669.95	1,755.49	1,646.20	109.30	16.062		
9,100.00	7,168.00	8,856.46	7,065.00	58.69	56.93	86.64	399.52	-1,769.95	1,755.49	1,641.39	114.10	15.386		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-9H - ORIGINAL WELLBORE - PROPOSAL #1												Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD												Offset Well Error: 0.00 usft	
Reference Offset				Semi Major Axis		Highside		Offset Wellbore Centre		Distance			Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
9,200.00	7,168.00	8,956.46	7,065.00	61.06	59.37	86.64	398.68	-1,869.95	1,755.48	1,636.53	118.95	14.758	
9,300.00	7,168.00	9,056.46	7,065.00	63.46	61.84	86.64	397.84	-1,969.94	1,755.48	1,631.62	123.86	14.173	
9,400.00	7,168.00	9,156.46	7,065.00	65.88	64.32	86.64	397.00	-2,069.94	1,755.47	1,626.67	128.81	13.629	
9,500.00	7,168.00	9,256.46	7,065.00	68.33	66.83	86.64	396.17	-2,169.94	1,755.47	1,621.68	133.79	13.121	
9,600.00	7,168.00	9,356.46	7,065.00	70.80	69.35	86.64	395.33	-2,269.93	1,755.46	1,616.65	138.81	12.646	
9,700.00	7,168.00	9,456.46	7,065.00	73.29	71.88	86.64	394.49	-2,369.93	1,755.46	1,611.60	143.86	12.203	
9,800.00	7,168.00	9,556.46	7,065.00	75.79	74.43	86.64	393.65	-2,469.92	1,755.45	1,606.51	148.94	11.787	
9,900.00	7,168.00	9,656.46	7,065.00	78.31	76.99	86.64	392.81	-2,569.92	1,755.45	1,601.41	154.04	11.396	
10,000.00	7,168.00	9,756.46	7,065.00	80.84	79.56	86.64	391.98	-2,669.92	1,755.44	1,596.28	159.16	11.029	
10,100.00	7,168.00	9,856.46	7,065.00	83.39	82.14	86.64	391.14	-2,769.91	1,755.43	1,591.13	164.30	10.684	
10,200.00	7,168.00	9,956.46	7,065.00	85.94	84.73	86.64	390.30	-2,869.91	1,755.43	1,585.96	169.47	10.359	
10,300.00	7,168.00	10,056.46	7,065.00	88.51	87.33	86.64	389.46	-2,969.91	1,755.42	1,580.78	174.64	10.051	
10,400.00	7,168.00	10,156.46	7,065.00	91.08	89.93	86.64	388.62	-3,069.90	1,755.42	1,575.58	179.84	9.761	
10,500.00	7,168.00	10,256.46	7,065.00	93.66	92.54	86.64	387.79	-3,169.90	1,755.41	1,570.37	185.04	9.486	
10,600.00	7,168.00	10,356.46	7,065.00	96.25	95.16	86.64	386.95	-3,269.90	1,755.41	1,565.14	190.26	9.226	
10,700.00	7,168.00	10,456.46	7,065.00	98.85	97.79	86.64	386.11	-3,369.89	1,755.40	1,559.91	195.50	8.979	
10,800.00	7,168.00	10,556.46	7,065.00	101.45	100.41	86.64	385.27	-3,469.89	1,755.40	1,554.66	200.74	8.745	
10,900.00	7,168.00	10,656.46	7,065.00	104.06	103.05	86.64	384.43	-3,569.89	1,755.39	1,549.40	205.99	8.522	
11,000.00	7,168.00	10,756.46	7,065.00	106.68	105.69	86.64	383.60	-3,669.88	1,755.39	1,544.13	211.25	8.309	
11,100.00	7,168.00	10,856.46	7,065.00	109.30	108.33	86.64	382.76	-3,769.88	1,755.38	1,538.86	216.52	8.107	
11,200.00	7,168.00	10,956.46	7,065.00	111.92	110.97	86.64	381.92	-3,869.88	1,755.38	1,533.57	221.80	7.914	
11,300.00	7,168.00	11,056.46	7,065.00	114.55	113.62	86.64	381.08	-3,969.87	1,755.37	1,528.28	227.09	7.730	
11,400.00	7,168.00	11,156.46	7,065.00	117.19	116.28	86.64	380.24	-4,069.87	1,755.37	1,522.99	232.38	7.554	
11,500.00	7,168.00	11,256.46	7,065.00	119.82	118.93	86.64	379.41	-4,169.86	1,755.36	1,517.68	237.68	7.385	
11,600.00	7,168.00	11,356.46	7,065.00	122.47	121.59	86.64	378.57	-4,269.86	1,755.36	1,512.37	242.99	7.224	
11,700.00	7,168.00	11,456.46	7,065.00	125.11	124.25	86.64	377.73	-4,369.86	1,755.35	1,507.05	248.30	7.070	
11,800.00	7,168.00	11,556.46	7,065.00	127.76	126.92	86.64	376.89	-4,469.85	1,755.34	1,501.73	253.61	6.921	
11,900.00	7,168.00	11,656.46	7,065.00	130.41	129.58	86.64	376.05	-4,569.85	1,755.34	1,496.41	258.93	6.779	
12,000.00	7,168.00	11,756.46	7,065.00	133.06	132.25	86.64	375.22	-4,669.85	1,755.33	1,491.08	264.26	6.642	
12,100.00	7,168.00	11,856.46	7,065.00	135.72	134.92	86.64	374.38	-4,769.84	1,755.33	1,485.74	269.59	6.511	
12,200.00	7,168.00	11,956.46	7,065.00	138.38	137.60	86.64	373.54	-4,869.84	1,755.32	1,480.40	274.92	6.385	
12,300.00	7,168.00	12,056.46	7,065.00	141.04	140.27	86.64	372.70	-4,969.84	1,755.32	1,475.06	280.26	6.263	
12,400.00	7,168.00	12,156.46	7,065.00	143.70	142.95	86.64	371.86	-5,069.83	1,755.31	1,469.71	285.60	6.146	
12,500.00	7,168.00	12,256.46	7,065.00	146.37	145.62	86.64	371.03	-5,169.83	1,755.31	1,464.36	290.95	6.033	
12,600.00	7,168.00	12,356.46	7,065.00	149.04	148.30	86.64	370.19	-5,269.83	1,755.30	1,459.01	296.30	5.924	
12,700.00	7,168.00	12,456.46	7,065.00	151.71	150.99	86.64	369.35	-5,369.82	1,755.30	1,453.65	301.65	5.819	
12,800.00	7,168.00	12,556.46	7,065.00	154.38	153.67	86.64	368.51	-5,469.82	1,755.29	1,448.29	307.00	5.717	
12,900.00	7,168.00	12,656.46	7,065.00	157.05	156.35	86.64	367.67	-5,569.82	1,755.29	1,442.93	312.36	5.619	
13,000.00	7,168.00	12,756.46	7,065.00	159.73	159.04	86.64	366.84	-5,669.81	1,755.28	1,437.56	317.72	5.525	
13,100.00	7,168.00	12,856.46	7,065.00	162.41	161.72	86.64	366.00	-5,769.81	1,755.28	1,432.19	323.08	5.433	
13,200.00	7,168.00	12,956.46	7,065.00	165.08	164.41	86.64	365.16	-5,869.81	1,755.27	1,426.82	328.45	5.344	
13,300.00	7,168.00	13,056.46	7,065.00	167.76	167.10	86.64	364.32	-5,969.80	1,755.27	1,421.45	333.82	5.258	
13,400.00	7,168.00	13,156.46	7,065.00	170.44	169.79	86.64	363.48	-6,069.80	1,755.26	1,416.07	339.19	5.175	
13,500.00	7,168.00	13,256.46	7,065.00	173.13	172.48	86.64	362.65	-6,169.79	1,755.26	1,410.70	344.56	5.094	
13,600.00	7,168.00	13,356.46	7,065.00	175.81	175.17	86.64	361.81	-6,269.79	1,755.25	1,405.32	349.93	5.016	
13,700.00	7,168.00	13,456.46	7,065.00	178.49	177.87	86.64	360.97	-6,369.79	1,755.24	1,399.94	355.31	4.940	
13,800.00	7,168.00	13,556.46	7,065.00	181.18	180.56	86.64	360.13	-6,469.78	1,755.24	1,394.56	360.68	4.866	
13,900.00	7,168.00	13,656.46	7,065.00	183.87	183.25	86.64	359.29	-6,569.78	1,755.23	1,389.17	366.06	4.795	
14,000.00	7,168.00	13,756.46	7,065.00	186.55	185.95	86.64	358.46	-6,669.78	1,755.23	1,383.79	371.44	4.725	
14,100.00	7,168.00	13,856.46	7,065.00	189.24	188.65	86.64	357.62	-6,769.77	1,755.22	1,378.40	376.83	4.658	
14,200.00	7,168.00	13,956.46	7,065.00	191.93	191.34	86.64	356.78	-6,869.77	1,755.22	1,373.01	382.21	4.592	
14,300.00	7,168.00	14,056.46	7,065.00	194.62	194.04	86.64	355.94	-6,969.77	1,755.21	1,367.62	387.59	4.528	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-9H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error: 0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,400.00	7,168.00	14,156.46	7,065.00	197.31	196.74	86.64	355.10	-7,069.76	1,755.21	1,362.23	392.98	4.466	
14,500.00	7,168.00	14,256.46	7,065.00	200.01	199.44	86.64	354.27	-7,169.76	1,755.20	1,356.83	398.37	4.406	
14,600.00	7,168.00	14,356.46	7,065.00	202.70	202.14	86.64	353.43	-7,269.76	1,755.20	1,351.44	403.76	4.347	
14,700.00	7,168.00	14,456.46	7,065.00	205.39	204.84	86.64	352.59	-7,369.75	1,755.19	1,346.04	409.15	4.290	
14,800.00	7,168.00	14,556.46	7,065.00	208.09	207.54	86.64	351.75	-7,469.75	1,755.19	1,340.65	414.54	4.234	
14,900.00	7,168.00	14,656.46	7,065.00	210.78	210.24	86.64	350.91	-7,569.75	1,755.18	1,335.25	419.93	4.180	
15,000.00	7,168.00	14,756.46	7,065.00	213.48	212.94	86.64	350.08	-7,669.74	1,755.18	1,329.85	425.33	4.127	
15,100.00	7,168.00	14,856.46	7,065.00	216.17	215.64	86.64	349.24	-7,769.74	1,755.17	1,324.45	430.72	4.075	
15,200.00	7,168.00	14,956.46	7,065.00	218.87	218.34	86.64	348.40	-7,869.74	1,755.17	1,319.05	436.12	4.025	
15,300.00	7,168.00	15,056.46	7,065.00	221.57	221.05	86.64	347.56	-7,969.73	1,755.16	1,313.65	441.51	3.975	
15,400.00	7,168.00	15,156.46	7,065.00	224.27	223.75	86.64	346.72	-8,069.73	1,755.15	1,308.24	446.91	3.927	
15,500.00	7,168.00	15,256.46	7,065.00	226.97	226.45	86.64	345.89	-8,169.72	1,755.15	1,302.84	452.31	3.880	
15,600.00	7,168.00	15,356.46	7,065.00	229.66	229.16	86.64	345.05	-8,269.72	1,755.14	1,297.43	457.71	3.835	
15,700.00	7,168.00	15,456.46	7,065.00	232.36	231.86	86.64	344.21	-8,369.72	1,755.14	1,292.03	463.11	3.790	
15,738.66	7,168.00	15,495.12	7,065.00	233.41	232.91	86.64	343.89	-8,408.37	1,755.14	1,289.94	465.20	3.773	
15,765.69	7,168.00	15,495.74	7,065.00	234.14	232.93	86.64	343.88	-8,408.99	1,755.33	1,289.56	465.77	3.769 SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-3-1H - ORIGINAL WELLBORE - PROPOSAL #1														Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD												Rule Assigned:		Offset Well Error:		0.00 usft
Reference				Offset				Distance				Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
0.00	0.00	0.00	0.00	0.00	0.00	-22.80	72.87	-30.63	79.04	79.04						
100.00	100.00	100.00	100.00	0.14	0.14	-22.80	72.87	-30.63	79.04	78.76	0.29	275.626				
200.00	200.00	200.00	200.00	0.50	0.50	-22.80	72.87	-30.63	79.04	78.04	1.00	78.750				
300.00	300.00	300.00	300.00	0.86	0.86	-22.80	72.87	-30.63	79.04	77.32	1.72	45.938				
400.00	400.00	400.00	400.00	1.22	1.22	-22.80	72.87	-30.63	79.04	76.61	2.44	32.427				
500.00	500.00	500.00	500.00	1.58	1.58	-22.80	72.87	-30.63	79.04	75.89	3.15	25.057	CC, ES			
600.00	599.98	599.98	599.98	1.92	1.94	170.32	72.87	-30.63	80.76	76.91	3.86	20.949				
700.00	699.84	699.84	699.84	2.26	2.29	170.89	72.87	-30.63	85.93	81.38	4.55	18.887				
800.00	799.45	799.45	799.45	2.60	2.65	171.70	72.87	-30.63	94.54	89.29	5.25	18.003				
900.00	898.70	898.70	898.70	2.97	3.01	172.61	72.87	-30.63	106.62	100.66	5.96	17.895	SF			
1,000.00	997.47	997.47	997.47	3.36	3.36	173.52	72.87	-30.63	122.15	115.48	6.67	18.319				
1,100.00	1,095.62	1,095.62	1,095.62	3.78	3.71	174.36	72.87	-30.63	141.13	133.75	7.38	19.125				
1,107.69	1,103.14	1,103.14	1,103.14	3.81	3.74	174.42	72.87	-30.63	142.73	135.29	7.43	19.200				
1,200.00	1,193.38	1,193.38	1,193.38	4.23	4.06	175.09	72.87	-30.63	162.08	154.00	8.09	20.036				
1,300.00	1,291.14	1,288.99	1,288.99	4.69	4.41	175.68	73.13	-30.57	183.31	174.53	8.79	20.858				
1,400.00	1,388.90	1,380.74	1,380.69	5.15	4.73	176.49	75.77	-29.94	206.83	197.36	9.47	21.846				
1,500.00	1,486.66	1,471.09	1,470.87	5.63	5.06	177.49	81.17	-28.67	233.07	222.94	10.13	23.003				
1,600.00	1,584.42	1,559.91	1,559.31	6.11	5.38	178.58	89.17	-26.78	262.04	251.25	10.78	24.305				
1,700.00	1,682.18	1,647.06	1,645.79	6.60	5.69	179.70	99.60	-24.31	293.70	282.29	11.41	25.732				
1,800.00	1,779.94	1,732.43	1,730.16	7.09	6.01	-179.19	112.31	-21.31	328.03	316.00	12.03	27.270				
1,900.00	1,877.69	1,815.94	1,812.27	7.58	6.33	-178.13	127.09	-17.82	364.97	352.34	12.63	28.904				
2,000.00	1,975.45	1,900.00	1,894.44	8.08	6.67	-177.08	144.33	-13.75	404.47	391.24	13.23	30.564				
2,100.00	2,073.21	1,977.05	1,969.27	8.58	6.99	-176.16	162.18	-9.54	446.44	432.67	13.77	32.420				
2,200.00	2,170.97	2,054.56	2,044.02	9.07	7.33	-175.28	182.10	-4.83	490.83	476.51	14.32	34.286				
2,300.00	2,268.73	2,129.98	2,116.21	9.57	7.67	-174.45	203.37	0.19	537.54	522.69	14.84	36.213				
2,400.00	2,366.49	2,200.00	2,182.68	10.08	8.01	-173.72	224.77	5.25	586.50	571.19	15.31	38.298				
2,500.00	2,464.25	2,274.52	2,252.82	10.58	8.39	-172.98	249.27	11.03	637.60	621.75	15.85	40.232				
2,600.00	2,562.00	2,343.64	2,317.27	11.08	8.76	-172.33	273.57	16.77	690.78	674.45	16.33	42.313				
2,700.00	2,659.76	2,410.68	2,379.18	11.59	9.14	-171.73	298.58	22.68	745.93	729.15	16.79	44.437				
2,800.00	2,757.52	2,475.65	2,438.60	12.09	9.52	-171.17	324.17	28.72	802.98	785.75	17.23	46.597				
2,900.00	2,855.28	2,538.59	2,495.57	12.60	9.91	-170.66	350.19	34.87	861.84	844.18	17.66	48.792				
3,000.00	2,953.04	2,600.00	2,550.59	13.10	10.31	-170.17	376.75	41.14	922.43	904.34	18.09	51.005				
3,100.00	3,050.80	2,658.52	2,602.45	13.61	10.71	-169.73	403.12	47.37	984.66	966.18	18.48	53.273				
3,200.00	3,148.56	2,715.60	2,652.50	14.11	11.11	-169.32	429.83	53.68	1,048.46	1,029.59	18.87	55.554				
3,300.00	3,246.31	2,770.81	2,700.38	14.62	11.51	-168.94	456.59	60.00	1,113.75	1,094.50	19.25	57.856				
3,400.00	3,344.07	2,824.22	2,746.18	15.13	11.92	-168.58	483.32	66.31	1,180.47	1,160.85	19.62	60.180				
3,500.00	3,441.83	2,875.86	2,789.98	15.64	12.32	-168.25	509.96	72.60	1,248.54	1,228.57	19.97	62.521				
3,600.00	3,539.59	2,925.80	2,831.85	16.14	12.72	-167.94	536.44	78.86	1,317.90	1,297.58	20.31	64.878				
3,700.00	3,637.35	2,974.09	2,871.88	16.65	13.13	-167.65	562.72	85.06	1,388.48	1,367.83	20.65	67.248				
3,800.00	3,735.11	3,020.78	2,910.15	17.16	13.53	-167.38	588.75	91.21	1,460.22	1,439.25	20.97	69.631				
3,900.00	3,832.87	3,065.93	2,946.74	17.67	13.92	-167.12	614.49	97.29	1,533.07	1,511.79	21.29	72.022				
4,000.00	3,930.62	3,100.00	2,974.07	18.18	14.22	-166.93	634.29	101.97	1,607.02	1,585.55	21.47	74.850				
4,100.00	4,028.38	3,151.81	3,015.16	18.69	14.70	-166.66	664.99	109.22	1,681.88	1,659.99	21.89	76.831				
4,200.00	4,126.14	3,208.14	3,059.37	19.20	15.23	-166.37	698.97	117.25	1,757.56	1,735.19	22.38	78.545				
4,300.00	4,223.90	3,273.10	3,110.33	19.71	15.85	-166.06	738.18	126.51	1,833.32	1,810.35	22.98	79.789				
4,400.00	4,321.66	3,338.06	3,161.28	20.21	16.48	-165.77	777.40	135.77	1,909.11	1,885.53	23.58	80.956				
4,500.00	4,419.42	3,403.02	3,212.24	20.72	17.11	-165.51	816.62	145.03	1,984.91	1,960.72	24.19	82.052				
4,600.00	4,517.18	3,467.98	3,263.19	21.23	17.75	-165.27	855.83	154.29	2,060.73	2,035.92	24.80	83.079				
4,700.00	4,614.94	3,532.95	3,314.15	21.74	18.40	-165.04	895.05	163.56	2,136.56	2,111.14	25.42	84.047				
4,800.00	4,712.69	3,597.91	3,365.10	22.25	19.05	-164.83	934.26	172.82	2,212.41	2,186.37	26.04	84.959				
4,900.00	4,810.45	3,662.87	3,416.05	22.76	19.70	-164.64	973.48	182.08	2,288.27	2,261.60	26.66	85.816				
5,000.00	4,908.21	3,727.83	3,467.01	23.27	20.36	-164.45	1,012.70	191.34	2,364.13	2,336.84	27.29	86.626				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-3-1H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft		
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference				Offset			Semi Major Axis		Highside		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,100.00	5,005.97	3,792.79	3,517.96	23.78	21.02	-164.28	1,051.91	200.61	2,440.01	2,412.09	27.92	87.391				
5,200.00	5,103.73	3,857.76	3,568.92	24.29	21.69	-164.12	1,091.13	209.87	2,515.90	2,487.35	28.55	88.113				
5,300.00	5,201.49	3,922.72	3,619.87	24.80	22.36	-163.96	1,130.34	219.13	2,591.80	2,562.61	29.19	88.797				
5,400.00	5,299.25	3,987.68	3,670.83	25.31	23.03	-163.82	1,169.56	228.39	2,667.70	2,637.87	29.82	89.445				
5,500.00	5,397.00	4,052.64	3,721.78	25.82	23.70	-163.68	1,208.78	237.65	2,743.61	2,713.15	30.46	90.059				
5,600.00	5,494.76	4,117.60	3,772.74	26.33	24.37	-163.56	1,247.99	246.92	2,819.53	2,788.42	31.11	90.641				
5,700.00	5,592.52	4,182.57	3,823.69	26.84	25.05	-163.43	1,287.21	256.18	2,895.45	2,863.70	31.75	91.193				
5,800.00	5,690.28	4,247.53	3,874.65	27.36	25.73	-163.32	1,326.42	265.44	2,971.38	2,938.98	32.40	91.718				
5,900.00	5,788.04	4,312.49	3,925.60	27.87	26.41	-163.21	1,365.64	274.70	3,047.31	3,014.26	33.05	92.217				
6,000.00	5,885.80	4,377.45	3,976.56	28.38	27.09	-163.10	1,404.86	283.96	3,123.24	3,089.55	33.70	92.691				
6,100.00	5,983.56	4,442.41	4,027.51	28.89	27.78	-163.00	1,444.07	293.23	3,199.19	3,164.84	34.35	93.142				
6,200.00	6,081.31	4,507.38	4,078.46	29.40	28.46	-162.91	1,483.29	302.49	3,275.13	3,240.13	35.00	93.572				

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-3-2H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program:		0-OWSG (Rev2) MWD		Semi Major Axis		Highside Toolface	Offset Wellbore Centre		Rule Assigned:				Offset Well Error:	0.00 usft
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset		+N/-S	+E/-W	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)			
0.00	0.00	0.00	0.00	0.00	0.00	-27.72	58.29	-30.63	65.85					
100.00	100.00	100.00	100.00	0.14	0.14	-27.72	58.29	-30.63	65.85	65.56	0.29	229.604		
200.00	200.00	200.00	200.00	0.50	0.50	-27.72	58.29	-30.63	65.85	64.84	1.00	65.601		
300.00	300.00	300.00	300.00	0.86	0.86	-27.72	58.29	-30.63	65.85	64.12	1.72	38.267		
400.00	400.00	400.00	400.00	1.22	1.22	-27.72	58.29	-30.63	65.85	63.41	2.44	27.012		
500.00	500.00	500.00	500.00	1.58	1.58	-27.72	58.29	-30.63	65.85	62.69	3.15	20.873	CC, ES	
600.00	599.98	599.98	599.98	1.92	1.94	165.56	58.29	-30.63	67.53	63.68	3.86	17.517		
700.00	699.84	699.84	699.84	2.26	2.29	166.57	58.29	-30.63	72.61	68.06	4.55	15.961		
800.00	799.45	799.45	799.45	2.60	2.65	167.96	58.29	-30.63	81.12	75.87	5.25	15.447	SF	
900.00	898.70	898.70	898.70	2.97	3.01	169.48	58.29	-30.63	93.07	87.11	5.96	15.621		
1,000.00	997.47	997.47	997.47	3.36	3.36	170.94	58.29	-30.63	108.49	101.83	6.67	16.270		
1,100.00	1,095.62	1,095.62	1,095.62	3.78	3.71	172.24	58.29	-30.63	127.38	120.00	7.38	17.259		
1,107.69	1,103.14	1,103.14	1,103.14	3.81	3.74	172.33	58.29	-30.63	128.97	121.54	7.43	17.347		
1,200.00	1,193.38	1,193.38	1,193.38	4.23	4.06	173.33	58.29	-30.63	148.26	140.17	8.09	18.325		
1,300.00	1,291.14	1,291.14	1,291.14	4.69	4.41	174.16	58.29	-30.63	169.20	160.40	8.80	19.228		
1,400.00	1,388.90	1,388.84	1,386.84	5.15	4.76	174.83	58.52	-30.57	190.37	180.87	9.50	20.035		
1,500.00	1,486.66	1,478.56	1,478.51	5.63	5.09	175.71	61.08	-29.89	213.74	203.56	10.18	20.995		
1,600.00	1,584.42	1,568.90	1,568.68	6.11	5.41	176.78	66.37	-28.50	239.79	228.94	10.84	22.112		
1,700.00	1,682.18	1,657.72	1,657.13	6.60	5.73	177.95	74.25	-26.41	268.52	257.03	11.49	23.366		
1,800.00	1,779.94	1,744.89	1,743.64	7.09	6.04	179.15	84.56	-23.69	299.92	287.80	12.12	24.740		
1,900.00	1,877.69	1,830.31	1,828.06	7.58	6.36	-179.66	97.13	-20.38	333.96	321.22	12.74	26.224		
2,000.00	1,975.45	1,913.87	1,910.24	8.08	6.68	-178.52	111.77	-16.51	370.60	357.27	13.33	27.799		
2,100.00	2,073.21	2,000.00	1,994.44	8.58	7.02	-177.37	129.28	-11.89	409.81	395.85	13.96	29.362		
2,200.00	2,170.97	2,075.14	2,067.42	9.07	7.33	-176.40	146.55	-7.33	451.45	436.98	14.47	31.201		
2,300.00	2,268.73	2,152.74	2,142.28	9.57	7.67	-175.44	166.32	-2.11	495.52	480.51	15.01	33.010		
2,400.00	2,366.49	2,228.27	2,214.58	10.08	8.01	-174.55	187.44	3.46	541.92	526.38	15.54	34.882		
2,500.00	2,464.25	2,300.00	2,282.68	10.58	8.35	-173.75	209.20	9.21	590.56	574.54	16.02	36.862		
2,600.00	2,562.00	2,373.06	2,351.45	11.08	8.72	-172.96	233.04	15.50	641.37	624.83	16.53	38.795		
2,700.00	2,659.76	2,442.31	2,416.03	11.59	9.08	-172.26	257.20	21.88	694.25	677.24	17.01	40.824		
2,800.00	2,757.52	2,500.00	2,469.36	12.09	9.40	-171.69	278.48	27.50	749.19	731.85	17.34	43.203		
2,900.00	2,855.28	2,574.59	2,537.64	12.60	9.84	-171.00	307.52	35.16	805.89	787.98	17.90	45.011		
3,000.00	2,953.04	2,637.67	2,594.75	13.10	10.22	-170.44	333.42	42.00	864.47	846.14	18.33	47.160		
3,100.00	3,050.80	2,700.00	2,650.59	13.61	10.62	-169.91	360.19	49.07	924.80	906.04	18.76	49.302		
3,200.00	3,148.56	2,757.90	2,701.91	14.11	11.01	-169.44	386.11	55.91	986.78	967.64	19.14	51.553		
3,300.00	3,246.31	2,815.12	2,752.09	14.62	11.40	-168.99	412.70	62.93	1,050.33	1,030.81	19.53	53.792		
3,400.00	3,344.07	2,870.49	2,800.10	15.13	11.80	-168.58	439.35	69.96	1,115.39	1,095.49	19.90	56.054		
3,500.00	3,441.83	2,924.04	2,846.03	15.64	12.20	-168.19	465.97	76.99	1,181.88	1,161.62	20.26	58.338		
3,600.00	3,539.59	2,975.83	2,889.95	16.14	12.61	-167.83	492.51	84.00	1,249.73	1,229.13	20.61	60.642		
3,700.00	3,637.35	3,025.91	2,931.94	16.65	13.01	-167.49	518.90	90.96	1,318.88	1,297.93	20.95	62.962		
3,800.00	3,735.11	3,074.34	2,972.09	17.16	13.41	-167.18	545.08	97.87	1,389.26	1,367.98	21.28	65.297		
3,900.00	3,832.87	3,121.18	3,010.48	17.67	13.80	-166.88	571.02	104.72	1,460.81	1,439.22	21.59	67.646		
4,000.00	3,930.62	3,166.46	3,047.17	18.18	14.20	-166.61	596.68	111.50	1,533.48	1,511.57	21.91	70.005		
4,100.00	4,028.38	3,223.68	3,093.07	18.69	14.70	-166.27	629.71	120.21	1,607.04	1,584.66	22.38	71.808		
4,200.00	4,126.14	3,290.90	3,146.96	19.20	15.31	-165.91	668.56	130.47	1,680.74	1,657.75	22.99	73.110		
4,300.00	4,223.90	3,358.12	3,200.85	19.71	15.93	-165.58	707.42	140.73	1,754.46	1,730.86	23.60	74.328		
4,400.00	4,321.66	3,425.34	3,254.74	20.21	16.56	-165.27	746.27	150.99	1,828.21	1,803.99	24.22	75.473		
4,500.00	4,419.42	3,492.57	3,308.62	20.72	17.19	-164.99	785.13	161.24	1,901.98	1,877.14	24.85	76.549		
4,600.00	4,517.18	3,559.79	3,362.51	21.23	17.83	-164.72	823.98	171.50	1,975.78	1,950.30	25.47	77.560		
4,700.00	4,614.94	3,627.01	3,416.40	21.74	18.48	-164.48	862.84	181.76	2,049.58	2,023.48	26.10	78.514		
4,800.00	4,712.69	3,694.23	3,470.29	22.25	19.12	-164.25	901.70	192.01	2,123.41	2,096.67	26.74	79.413		
4,900.00	4,810.45	3,761.45	3,524.17	22.76	19.78	-164.04	940.55	202.27	2,197.25	2,169.87	27.38	80.260		
5,000.00	4,908.21	3,828.68	3,578.06	23.27	20.44	-163.85	979.41	212.53	2,271.10	2,243.08	28.02	81.062		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-3-2H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis			Distance			Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
5,100.00	5,005.97	3,895.90	3,631.95	23.78	21.10	-163.66	1,018.26	222.79	2,344.96	2,316.30	28.66	81.821			
5,200.00	5,103.73	3,963.12	3,685.84	24.29	21.76	-163.49	1,057.12	233.04	2,418.84	2,389.53	29.31	82.537			
5,300.00	5,201.49	4,030.34	3,739.72	24.80	22.43	-163.32	1,095.97	243.30	2,492.72	2,462.76	29.95	83.217			
5,400.00	5,299.25	4,097.57	3,793.61	25.31	23.10	-163.17	1,134.83	253.56	2,566.61	2,536.01	30.60	83.863			
5,500.00	5,397.00	4,164.79	3,847.50	25.82	23.77	-163.02	1,173.69	263.81	2,640.51	2,609.25	31.26	84.474			
5,600.00	5,494.76	4,232.01	3,901.39	26.33	24.45	-162.89	1,212.54	274.07	2,714.42	2,682.50	31.91	85.055			
5,700.00	5,592.52	4,299.23	3,955.28	26.84	25.12	-162.76	1,251.40	284.33	2,788.33	2,755.76	32.57	85.609			
5,800.00	5,690.28	4,366.46	4,009.16	27.36	25.80	-162.63	1,290.25	294.59	2,862.25	2,829.02	33.23	86.134			
5,900.00	5,788.04	4,433.68	4,063.05	27.87	26.48	-162.51	1,329.11	304.84	2,936.18	2,902.29	33.89	86.634			
6,000.00	5,885.80	4,500.90	4,116.94	28.38	27.17	-162.40	1,367.96	315.10	3,010.11	2,975.55	34.55	87.111			
6,100.00	5,983.56	4,568.12	4,170.83	28.89	27.85	-162.30	1,406.82	325.36	3,084.04	3,048.82	35.22	87.564			
6,200.00	6,081.31	4,635.35	4,224.71	29.40	28.54	-162.19	1,445.68	335.61	3,157.99	3,122.10	35.89	87.998			
6,300.00	6,179.07	4,702.57	4,278.60	29.91	29.22	-162.10	1,484.53	345.87	3,231.93	3,195.37	36.56	88.411			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-3-3H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error: 0.00 usft	
Survey Program: Reference			0-OWSG (Rev2) MWD Offset		Semi Major Axis			Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-37.39	40.08	-30.63	50.44					
100.00	100.00	100.00	100.00	0.14	0.14	-37.39	40.08	-30.63	50.44	50.15	0.29	175.889		
200.00	200.00	200.00	200.00	0.50	0.50	-37.39	40.08	-30.63	50.44	49.44	1.00	50.254		
300.00	300.00	300.00	300.00	0.86	0.86	-37.39	40.08	-30.63	50.44	48.72	1.72	29.315		
400.00	400.00	400.00	400.00	1.22	1.22	-37.39	40.08	-30.63	50.44	48.00	2.44	20.693		
500.00	500.00	500.00	500.00	1.58	1.58	-37.39	40.08	-30.63	50.44	47.29	3.15	15.990	CC, ES	
600.00	599.98	599.98	599.98	1.92	1.94	156.30	40.08	-30.63	52.03	48.18	3.86	13.498		
700.00	699.84	699.84	699.84	2.26	2.29	158.39	40.08	-30.63	56.87	52.32	4.55	12.501		
800.00	799.45	799.45	799.45	2.60	2.65	161.16	40.08	-30.63	65.05	59.80	5.25	12.387	SF	
900.00	898.70	898.70	898.70	2.97	3.01	164.04	40.08	-30.63	76.69	70.73	5.96	12.870		
1,000.00	997.47	997.47	997.47	3.36	3.36	166.65	40.08	-30.63	91.84	85.17	6.67	13.770		
1,100.00	1,095.62	1,095.62	1,095.62	3.78	3.71	168.86	40.08	-30.63	110.50	103.12	7.38	14.969		
1,107.69	1,103.14	1,103.14	1,103.14	3.81	3.74	169.01	40.08	-30.63	112.08	104.65	7.44	15.072		
1,200.00	1,193.38	1,193.38	1,193.38	4.23	4.06	170.63	40.08	-30.63	131.23	123.14	8.09	16.215		
1,300.00	1,291.14	1,291.14	1,291.14	4.69	4.41	171.92	40.08	-30.63	152.05	143.25	8.80	17.274		
1,400.00	1,388.90	1,388.90	1,388.90	5.15	4.76	172.90	40.08	-30.63	172.93	163.41	9.51	18.175		
1,500.00	1,486.66	1,486.66	1,486.66	5.63	5.11	173.67	40.08	-30.63	193.84	183.61	10.23	18.949		
1,600.00	1,584.42	1,584.42	1,584.42	6.11	5.46	174.29	40.08	-30.63	214.79	203.84	10.95	19.621		
1,700.00	1,682.18	1,682.18	1,682.18	6.60	5.82	174.80	40.08	-30.63	235.75	224.08	11.67	20.210		
1,800.00	1,779.94	1,779.94	1,779.94	7.09	6.17	175.22	40.08	-30.63	256.73	244.34	12.39	20.728		
1,900.00	1,877.69	1,877.69	1,877.69	7.58	6.52	175.59	40.08	-30.63	277.72	264.61	13.11	21.189		
2,000.00	1,975.45	1,975.45	1,975.45	8.08	6.87	175.90	40.08	-30.63	298.71	284.89	13.83	21.600		
2,100.00	2,073.21	2,066.96	2,066.96	8.58	7.19	176.23	40.83	-30.40	320.43	305.92	14.51	22.080		
2,200.00	2,170.97	2,155.35	2,155.27	9.07	7.51	176.76	44.11	-29.41	344.62	329.45	15.17	22.722		
2,300.00	2,268.73	2,242.42	2,242.13	9.57	7.82	177.46	49.89	-27.67	371.34	355.53	15.80	23.499		
2,400.00	2,366.49	2,328.06	2,327.34	10.08	8.13	178.26	58.04	-25.20	400.58	384.16	16.42	24.397		
2,500.00	2,464.25	2,412.14	2,410.72	10.58	8.43	179.13	68.41	-22.07	432.32	415.31	17.02	25.406		
2,600.00	2,562.00	2,500.00	2,497.47	11.08	8.75	-179.91	81.74	-18.05	466.59	448.94	17.65	26.433		
2,700.00	2,659.76	2,575.28	2,571.42	11.59	9.03	-179.06	95.19	-13.98	503.23	485.07	18.15	27.721		
2,800.00	2,757.52	2,654.18	2,648.51	12.09	9.34	-178.16	111.27	-9.13	542.31	523.62	18.69	29.013		
2,900.00	2,855.28	2,731.21	2,723.30	12.60	9.64	-177.28	128.92	-3.79	583.74	564.53	19.21	30.386		
3,000.00	2,953.04	2,800.00	2,789.64	13.10	9.92	-176.50	146.31	1.46	627.51	607.88	19.63	31.966		
3,100.00	3,050.80	2,879.55	2,865.79	13.61	10.27	-175.61	168.32	8.10	673.43	653.24	20.19	33.351		
3,200.00	3,148.56	2,950.80	2,933.44	14.11	10.59	-174.83	189.74	14.57	721.55	700.89	20.66	34.933		
3,300.00	3,246.31	3,020.09	2,998.67	14.62	10.91	-174.10	212.11	21.33	771.75	750.65	21.10	36.575		
3,400.00	3,344.07	3,087.42	3,061.50	15.13	11.24	-173.40	235.28	28.33	823.97	802.44	21.53	38.274		
3,500.00	3,441.83	3,152.81	3,121.95	15.64	11.58	-172.75	259.14	35.54	878.12	856.18	21.94	40.023		
3,600.00	3,539.59	3,216.27	3,180.06	16.14	11.92	-172.13	283.55	42.91	934.13	911.79	22.34	41.822		
3,700.00	3,637.35	3,277.83	3,235.88	16.65	12.26	-171.55	308.40	50.41	991.92	969.20	22.72	43.665		
3,800.00	3,735.11	3,337.51	3,289.45	17.16	12.61	-171.01	333.58	58.02	1,051.41	1,028.33	23.08	45.548		
3,900.00	3,832.87	3,400.00	3,344.94	17.67	12.99	-170.46	361.08	66.33	1,112.55	1,089.05	23.50	47.344		
4,000.00	3,930.62	3,451.40	3,390.10	18.18	13.32	-170.02	384.58	73.42	1,175.23	1,151.45	23.78	49.427		
4,100.00	4,028.38	3,500.00	3,432.39	18.69	13.64	-169.61	407.49	80.34	1,239.42	1,215.39	24.03	51.588		
4,200.00	4,126.14	3,558.26	3,482.55	19.20	14.04	-169.14	435.87	88.91	1,305.00	1,280.58	24.42	53.435		
4,300.00	4,223.90	3,600.00	3,518.11	19.71	14.33	-168.82	456.79	95.23	1,371.99	1,347.39	24.60	55.770		
4,400.00	4,321.66	3,658.45	3,567.36	20.21	14.77	-168.37	486.93	104.33	1,440.19	1,415.17	25.03	57.549		
4,500.00	4,419.42	3,700.00	3,601.97	20.72	15.08	-168.06	508.93	110.98	1,509.69	1,484.46	25.23	59.844		
4,600.00	4,517.18	3,752.35	3,645.10	21.23	15.49	-167.69	537.33	119.56	1,580.32	1,554.73	25.59	61.750		
4,700.00	4,614.94	3,800.00	3,683.88	21.74	15.87	-167.35	563.83	127.56	1,652.09	1,626.19	25.90	63.782		
4,800.00	4,712.69	3,842.72	3,718.26	22.25	16.22	-167.06	588.11	134.90	1,724.92	1,698.76	26.16	65.941		
4,900.00	4,810.45	3,910.14	3,772.30	22.76	16.79	-166.63	626.71	146.55	1,798.21	1,771.45	26.76	67.198		
5,000.00	4,908.21	3,977.56	3,826.33	23.27	17.37	-166.23	665.30	158.21	1,871.54	1,844.17	27.37	68.387		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-3-3H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
5,100.00	5,005.97	4,044.98	3,880.37	23.78	17.96	-165.86	703.90	169.87	1,944.90	1,916.92	27.98	69.514			
5,200.00	5,103.73	4,112.40	3,934.41	24.29	18.56	-165.51	742.49	181.52	2,018.31	1,989.71	28.60	70.582			
5,300.00	5,201.49	4,179.82	3,988.45	24.80	19.17	-165.19	781.08	193.18	2,091.74	2,062.53	29.22	71.594			
5,400.00	5,299.25	4,247.24	4,042.49	25.31	19.78	-164.89	819.68	204.84	2,165.21	2,135.37	29.84	72.555			
5,500.00	5,397.00	4,314.66	4,096.53	25.82	20.40	-164.61	858.27	216.49	2,238.70	2,208.23	30.47	73.469			
5,600.00	5,494.76	4,382.08	4,150.56	26.33	21.03	-164.35	896.87	228.15	2,312.21	2,281.11	31.10	74.336			
5,700.00	5,592.52	4,449.51	4,204.60	26.84	21.66	-164.10	935.46	239.81	2,385.75	2,354.00	31.74	75.161			
5,800.00	5,690.28	4,516.93	4,258.64	27.36	22.30	-163.87	974.06	251.46	2,459.30	2,426.92	32.38	75.947			
5,900.00	5,788.04	4,584.35	4,312.68	27.87	22.95	-163.65	1,012.65	263.12	2,532.87	2,499.84	33.02	76.696			
6,000.00	5,885.80	4,651.77	4,366.72	28.38	23.59	-163.45	1,051.24	274.78	2,606.46	2,572.79	33.67	77.409			
6,100.00	5,983.56	4,719.19	4,420.75	28.89	24.24	-163.25	1,089.84	286.43	2,680.06	2,645.74	34.32	78.089			
6,200.00	6,081.31	4,786.61	4,474.79	29.40	24.90	-163.07	1,128.43	298.09	2,753.67	2,718.70	34.97	78.739			
6,300.00	6,179.07	4,854.03	4,528.83	29.91	25.56	-162.89	1,167.03	309.75	2,827.30	2,791.67	35.63	79.358			
6,400.00	6,276.83	4,921.45	4,582.87	30.42	26.22	-162.73	1,205.62	321.40	2,900.94	2,864.66	36.28	79.951			
6,500.00	6,374.59	4,988.87	4,636.91	30.93	26.88	-162.57	1,244.22	333.06	2,974.59	2,937.65	36.94	80.517			
6,600.00	6,472.35	5,056.29	4,690.94	31.44	27.55	-162.42	1,282.81	344.72	3,048.25	3,010.64	37.61	81.058			
6,700.00	6,570.11	5,123.71	4,744.98	31.95	28.22	-162.28	1,321.40	356.37	3,121.92	3,083.65	38.27	81.576			
6,712.06	6,581.89	5,131.84	4,751.50	32.01	28.30	-162.26	1,326.06	357.78	3,130.80	3,092.45	38.35	81.637			
6,750.00	6,619.02	5,157.22	4,771.84	32.20	28.55	175.85	1,340.58	362.17	3,158.82	3,120.22	38.60	81.841			
6,800.00	6,667.83	5,189.91	4,798.04	32.44	28.88	149.06	1,359.30	367.82	3,195.80	3,156.90	38.90	82.153			
6,850.00	6,716.18	5,221.51	4,823.37	32.65	29.20	128.40	1,377.39	373.28	3,232.62	3,193.44	39.18	82.511			
6,900.00	6,763.70	5,251.79	4,847.64	32.85	29.50	113.28	1,394.72	378.52	3,269.05	3,229.62	39.43	82.913			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-3-4H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD Reference Offset											Rule Assigned:		Offset Well Error:		0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
0.00	0.00	0.00	0.00	0.00	0.00	-50.22	25.50	-30.63	39.86						
100.00	100.00	100.00	100.00	0.14	0.14	-50.22	25.50	-30.63	39.86	39.57	0.29	138.976			
200.00	200.00	200.00	200.00	0.50	0.50	-50.22	25.50	-30.63	39.86	38.85	1.00	39.708			
300.00	300.00	300.00	300.00	0.86	0.86	-50.22	25.50	-30.63	39.86	38.13	1.72	23.163			
400.00	400.00	400.00	400.00	1.22	1.22	-50.22	25.50	-30.63	39.86	37.42	2.44	16.350			
500.00	500.00	500.00	500.00	1.58	1.58	-50.22	25.50	-30.63	39.86	36.70	3.15	12.634	CC, ES		
600.00	599.98	599.98	599.98	1.92	1.94	144.14	25.50	-30.63	41.26	37.40	3.85	10.702			
700.00	699.84	699.84	699.84	2.26	2.29	147.95	25.50	-30.63	45.60	41.05	4.55	10.026	SF		
800.00	799.45	799.45	799.45	2.60	2.65	152.86	25.50	-30.63	53.19	47.94	5.25	10.130			
900.00	898.70	898.70	898.70	2.97	3.01	157.73	25.50	-30.63	64.29	58.33	5.96	10.787			
1,000.00	997.47	997.47	997.47	3.36	3.36	161.94	25.50	-30.63	79.01	72.33	6.67	11.842			
1,100.00	1,095.62	1,095.62	1,095.62	3.78	3.71	165.32	25.50	-30.63	97.35	89.96	7.39	13.181			
1,107.69	1,103.14	1,103.14	1,103.14	3.81	3.74	165.55	25.50	-30.63	98.91	91.47	7.44	13.294			
1,200.00	1,193.38	1,193.38	1,193.38	4.23	4.06	167.91	25.50	-30.63	117.85	109.75	8.10	14.555			
1,300.00	1,291.14	1,291.14	1,291.14	4.69	4.41	169.73	25.50	-30.63	138.52	129.72	8.81	15.730			
1,400.00	1,388.90	1,388.90	1,388.90	5.15	4.76	171.08	25.50	-30.63	159.30	149.78	9.52	16.736			
1,500.00	1,486.66	1,486.66	1,486.66	5.63	5.11	172.12	25.50	-30.63	180.13	169.90	10.23	17.603			
1,600.00	1,584.42	1,584.42	1,584.42	6.11	5.46	172.94	25.50	-30.63	201.02	190.07	10.95	18.358			
1,700.00	1,682.18	1,682.18	1,682.18	6.60	5.82	173.61	25.50	-30.63	221.93	210.26	11.67	19.020			
1,800.00	1,779.94	1,779.94	1,779.94	7.09	6.17	174.16	25.50	-30.63	242.87	230.48	12.39	19.604			
1,900.00	1,877.69	1,877.69	1,877.69	7.58	6.52	174.63	25.50	-30.63	263.83	250.72	13.11	20.124			
2,000.00	1,975.45	1,975.45	1,975.45	8.08	6.87	175.02	25.50	-30.63	284.80	270.97	13.83	20.590			
2,100.00	2,073.21	2,073.21	2,073.21	8.58	7.22	175.37	25.50	-30.63	305.78	291.23	14.56	21.008			
2,200.00	2,170.97	2,164.99	2,164.99	9.07	7.55	175.73	26.20	-30.39	327.42	312.18	15.24	21.485			
2,300.00	2,268.73	2,253.52	2,253.45	9.57	7.86	176.30	29.38	-29.27	351.44	335.54	15.89	22.112			
2,400.00	2,366.49	2,340.77	2,340.49	10.08	8.17	177.04	35.05	-27.29	377.91	361.38	16.53	22.863			
2,500.00	2,464.25	2,426.60	2,425.90	10.58	8.48	177.90	43.05	-24.49	406.84	389.70	17.15	23.728			
2,600.00	2,562.00	2,510.90	2,509.50	11.08	8.78	178.83	53.27	-20.91	438.23	420.49	17.74	24.697			
2,700.00	2,659.76	2,593.57	2,591.14	11.59	9.09	179.80	65.53	-16.62	472.06	453.74	18.32	25.765			
2,800.00	2,757.52	2,674.52	2,670.68	12.09	9.39	-179.22	79.69	-11.66	508.30	489.42	18.88	26.922			
2,900.00	2,855.28	2,753.69	2,748.03	12.60	9.69	-178.24	95.59	-6.10	546.93	527.51	19.42	28.164			
3,000.00	2,953.04	2,831.00	2,823.09	13.10	10.00	-177.28	113.05	0.01	587.90	567.96	19.94	29.485			
3,100.00	3,050.80	2,900.00	2,889.64	13.61	10.28	-176.44	130.25	6.03	631.20	610.84	20.36	31.006			
3,200.00	3,148.56	2,979.91	2,966.14	14.11	10.62	-175.47	152.05	13.66	676.64	655.72	20.92	32.342			
3,300.00	3,246.31	3,051.46	3,034.06	14.62	10.94	-174.62	173.27	21.09	724.29	702.90	21.38	33.870			
3,400.00	3,344.07	3,121.05	3,099.57	15.13	11.26	-173.82	195.43	28.84	774.02	752.19	21.83	35.457			
3,500.00	3,441.83	3,188.69	3,162.67	15.64	11.59	-173.06	218.41	36.89	825.78	803.52	22.26	37.101			
3,600.00	3,539.59	3,254.38	3,223.39	16.14	11.93	-172.34	242.07	45.17	879.49	856.82	22.67	38.796			
3,700.00	3,637.35	3,318.15	3,281.77	16.65	12.26	-171.67	266.29	53.64	935.06	912.00	23.06	40.541			
3,800.00	3,735.11	3,380.00	3,337.84	17.16	12.61	-171.04	290.94	62.27	992.43	968.98	23.44	42.330			
3,900.00	3,832.87	3,439.98	3,391.65	17.67	12.96	-170.44	315.94	71.02	1,051.52	1,027.71	23.81	44.161			
4,000.00	3,930.62	3,500.00	3,444.94	18.18	13.32	-169.86	342.01	80.14	1,112.25	1,088.06	24.19	45.983			
4,100.00	4,028.38	3,554.46	3,492.77	18.69	13.67	-169.35	366.57	88.74	1,174.56	1,150.06	24.50	47.936			
4,200.00	4,126.14	3,600.00	3,532.39	19.20	13.96	-168.94	387.76	96.16	1,238.42	1,213.72	24.70	50.137			
4,300.00	4,223.90	3,661.88	3,585.64	19.71	14.39	-168.39	417.51	106.57	1,303.62	1,278.47	25.15	51.844			
4,400.00	4,321.66	3,700.00	3,618.11	20.21	14.65	-168.07	436.37	113.17	1,370.32	1,345.06	25.26	54.239			
4,500.00	4,419.42	3,762.60	3,670.83	20.72	15.11	-167.55	468.23	124.32	1,438.16	1,412.41	25.74	55.862			
4,600.00	4,517.18	3,810.57	3,710.72	21.23	15.47	-167.16	493.37	133.12	1,507.33	1,481.30	26.03	57.908			
4,700.00	4,614.94	3,871.32	3,760.76	21.74	15.94	-166.69	525.88	144.49	1,577.49	1,550.99	26.51	59.514			
4,800.00	4,712.69	3,941.67	3,818.68	22.25	16.50	-166.18	563.58	157.69	1,647.82	1,620.70	27.12	60.750			
4,900.00	4,810.45	4,012.03	3,876.60	22.76	17.07	-165.72	601.29	170.89	1,718.21	1,690.46	27.75	61.922			
5,000.00	4,908.21	4,082.39	3,934.51	23.27	17.65	-165.29	638.99	184.08	1,788.65	1,760.27	28.38	63.031			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-3-4H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft		
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,100.00	5,005.97	4,152.75	3,992.43	23.78	18.25	-164.90	676.70	197.28	1,859.14	1,830.13	29.01	64.083				
5,200.00	5,103.73	4,223.10	4,050.35	24.29	18.85	-164.53	714.40	210.48	1,929.67	1,900.02	29.65	65.081				
5,300.00	5,201.49	4,293.46	4,108.27	24.80	19.46	-164.19	752.11	223.67	2,000.24	1,969.94	30.29	66.030				
5,400.00	5,299.25	4,363.82	4,166.18	25.31	20.07	-163.87	789.81	236.87	2,070.84	2,039.90	30.94	66.931				
5,500.00	5,397.00	4,434.18	4,224.10	25.82	20.70	-163.57	827.52	250.06	2,141.47	2,109.88	31.59	67.788				
5,600.00	5,494.76	4,504.54	4,282.02	26.33	21.32	-163.29	865.22	263.26	2,212.13	2,179.89	32.24	68.605				
5,700.00	5,592.52	4,574.89	4,339.94	26.84	21.96	-163.03	902.93	276.46	2,282.82	2,249.91	32.90	69.382				
5,800.00	5,690.28	4,645.25	4,397.85	27.36	22.60	-162.78	940.63	289.65	2,353.52	2,319.96	33.56	70.123				
5,900.00	5,788.04	4,715.61	4,455.77	27.87	23.24	-162.55	978.34	302.85	2,424.25	2,390.03	34.23	70.830				
6,000.00	5,885.80	4,785.97	4,513.69	28.38	23.89	-162.33	1,016.04	316.04	2,495.00	2,460.11	34.89	71.505				
6,100.00	5,983.56	4,856.33	4,571.61	28.89	24.54	-162.13	1,053.75	329.24	2,565.76	2,530.20	35.56	72.149				
6,200.00	6,081.31	4,926.68	4,629.52	29.40	25.20	-161.93	1,091.45	342.44	2,636.55	2,600.31	36.23	72.766				
6,300.00	6,179.07	4,997.04	4,687.44	29.91	25.85	-161.74	1,129.16	355.63	2,707.34	2,670.43	36.91	73.355				
6,400.00	6,276.83	5,067.40	4,745.36	30.42	26.52	-161.57	1,166.86	368.83	2,778.15	2,740.57	37.58	73.919				
6,500.00	6,374.59	5,137.76	4,803.28	30.93	27.18	-161.40	1,204.57	382.03	2,848.97	2,810.71	38.26	74.458				
6,600.00	6,472.35	5,208.12	4,861.19	31.44	27.85	-161.24	1,242.27	395.22	2,919.80	2,880.86	38.94	74.976				
6,700.00	6,570.11	5,278.47	4,919.11	31.95	28.52	-161.09	1,279.98	408.42	2,990.65	2,951.02	39.63	75.471				
6,712.06	6,581.89	5,286.96	4,926.09	32.01	28.60	-161.07	1,284.52	410.01	2,999.19	2,959.48	39.71	75.530				
6,750.00	6,619.02	5,313.43	4,947.89	32.20	28.85	177.37	1,298.71	414.97	3,026.16	2,986.20	39.96	75.726				
6,800.00	6,667.83	5,347.51	4,975.94	32.44	29.18	150.99	1,316.97	421.37	3,061.84	3,021.56	40.27	76.026				
6,850.00	6,716.18	5,380.43	5,003.04	32.65	29.49	130.68	1,334.61	427.54	3,097.45	3,056.89	40.56	76.374				
6,900.00	6,763.70	5,411.93	5,028.97	32.85	29.79	115.86	1,351.50	433.45	3,132.77	3,091.96	40.81	76.766				
6,950.00	6,810.04	5,441.79	5,053.55	33.03	30.08	104.72	1,367.50	439.05	3,167.60	3,126.57	41.03	77.196				
7,000.00	6,854.83	5,469.77	5,076.58	33.19	30.35	96.00	1,382.49	444.30	3,201.73	3,160.51	41.23	77.661				
7,050.00	6,897.73	5,495.66	5,097.90	33.34	30.60	88.92	1,396.37	449.15	3,234.99	3,193.60	41.39	78.154				
7,100.00	6,938.43	5,519.26	5,117.33	33.47	30.82	83.02	1,409.02	453.58	3,267.21	3,225.67	41.53	78.664				

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 1C-12HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program:		16-OWSG (Rev2) MWD		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			Warning	
0.00	0.00	6.00	6.00	0.00	0.00	23.19	1,852.83	793.79	2,015.71					
100.00	100.00	90.88	90.88	0.14	0.27	23.19	1,853.08	793.93	2,016.05	2,015.64	0.42	4,856.797		
200.00	200.00	189.00	189.00	0.50	0.62	23.19	1,854.04	794.08	2,017.01	2,015.89	1.12	1,798.318		
300.00	300.00	340.07	339.99	0.86	1.15	23.07	1,855.47	790.11	2,016.98	2,014.96	2.01	1,001.585		
400.00	400.00	497.07	496.57	1.22	1.72	22.79	1,854.35	778.96	2,013.35	2,010.41	2.94	684.588		
500.00	500.00	613.40	612.17	1.58	2.17	22.45	1,853.61	765.99	2,008.45	2,004.71	3.74	537.153		
600.00	599.98	742.50	739.97	1.92	2.70	-145.20	1,852.85	747.74	2,003.96	1,999.37	4.59	436.279		
700.00	699.84	876.54	871.91	2.26	3.29	-145.96	1,851.41	724.23	2,000.69	1,995.19	5.50	363.808		
800.00	799.45	1,000.44	992.89	2.60	3.88	-146.85	1,850.04	697.52	1,999.07	1,992.67	6.40	312.186		
828.24	827.52	1,033.87	1,025.42	2.71	4.04	-147.11	1,849.58	689.84	1,998.98	1,992.32	6.66	300.021 CC		
900.00	898.70	1,122.64	1,111.68	2.97	4.50	-147.82	1,847.93	668.96	1,999.52	1,992.17	7.35	272.060 ES		
1,000.00	997.47	1,263.57	1,247.85	3.36	5.26	-149.06	1,844.04	632.87	2,001.69	1,993.26	8.43	237.456		
1,100.00	1,095.62	1,330.22	1,311.82	3.78	5.65	-149.67	1,842.45	614.26	2,006.92	1,997.72	9.19	218.273		
1,107.69	1,103.14	1,335.53	1,316.92	3.81	5.68	-149.72	1,842.37	612.74	2,007.52	1,998.26	9.25	216.931		
1,200.00	1,193.38	1,402.31	1,380.77	4.23	6.07	-150.45	1,841.91	593.23	2,015.60	2,005.60	10.00	201.567		
1,300.00	1,291.14	1,486.04	1,460.61	4.69	6.58	-151.37	1,842.11	568.00	2,025.61	2,014.71	10.89	185.948		
1,400.00	1,388.90	1,579.60	1,549.61	5.15	7.17	-152.41	1,842.65	539.16	2,036.47	2,024.61	11.86	171.642		
1,500.00	1,486.66	1,669.24	1,634.56	5.63	7.74	-153.43	1,843.42	510.54	2,048.08	2,035.25	12.83	159.594		
1,600.00	1,584.42	1,762.00	1,722.32	6.11	8.36	-154.48	1,844.33	480.50	2,060.47	2,046.63	13.84	148.931		
1,700.00	1,682.18	1,843.45	1,799.45	6.60	8.89	-155.39	1,845.08	454.35	2,073.63	2,058.87	14.76	140.454		
1,800.00	1,779.94	1,920.38	1,872.54	7.09	9.39	-156.23	1,846.37	430.40	2,088.37	2,072.72	15.66	133.388		
1,900.00	1,877.69	2,021.75	1,969.17	7.58	10.04	-157.29	1,847.64	399.77	2,103.60	2,086.90	16.70	125.962		
2,000.00	1,975.45	2,121.49	2,063.81	8.08	10.70	-158.35	1,849.06	368.31	2,119.47	2,101.72	17.75	119.400		
2,100.00	2,073.21	2,247.22	2,182.12	8.58	11.57	-159.74	1,849.52	325.78	2,134.73	2,115.72	19.01	112.301		
2,200.00	2,170.97	2,341.64	2,270.91	9.07	12.25	-160.77	1,849.02	293.69	2,149.95	2,129.88	20.07	107.145		
2,300.00	2,268.73	2,433.80	2,356.69	9.57	12.93	-161.83	1,848.82	260.00	2,165.95	2,144.82	21.13	102.497		
2,400.00	2,366.49	2,530.74	2,446.70	10.08	13.66	-162.94	1,848.40	224.00	2,182.54	2,160.29	22.25	98.108		
2,500.00	2,464.25	2,625.57	2,535.02	10.58	14.37	-163.99	1,847.62	189.49	2,199.62	2,176.29	23.33	94.283		
2,600.00	2,562.00	2,711.34	2,615.74	11.08	14.98	-164.87	1,846.73	160.50	2,217.37	2,193.06	24.31	91.201		
2,700.00	2,659.76	2,787.92	2,688.25	11.59	15.51	-165.62	1,846.20	135.88	2,236.15	2,210.94	25.22	88.683		
2,800.00	2,757.52	2,862.87	2,758.80	12.09	16.04	-166.37	1,846.35	110.59	2,256.29	2,230.19	26.10	86.444		
2,900.00	2,855.28	2,977.53	2,867.09	12.60	16.84	-167.47	1,846.47	72.93	2,277.02	2,249.73	27.28	83.462		
3,000.00	2,953.04	3,114.54	2,996.20	13.10	17.80	-168.78	1,844.06	27.14	2,296.55	2,267.93	28.62	80.239		
3,100.00	3,050.80	3,193.83	3,071.11	13.61	18.36	-169.52	1,842.07	1.24	2,316.02	2,286.48	29.54	78.405		
3,200.00	3,148.56	3,279.88	3,151.89	14.11	18.98	-170.34	1,840.43	-28.37	2,336.65	2,306.14	30.51	76.578		
3,300.00	3,246.31	3,377.74	3,243.86	14.62	19.68	-171.25	1,838.34	-61.76	2,357.66	2,326.09	31.57	74.670		
3,400.00	3,344.07	3,466.81	3,327.90	15.13	20.31	-172.04	1,836.38	-91.20	2,379.07	2,346.51	32.56	73.075		
3,500.00	3,441.83	3,545.83	3,402.45	15.64	20.87	-172.74	1,834.87	-117.35	2,401.28	2,367.82	33.46	71.769		
3,600.00	3,539.59	3,609.00	3,461.87	16.14	21.32	-173.30	1,834.01	-138.78	2,424.63	2,390.40	34.24	70.823		
3,700.00	3,637.35	3,668.44	3,517.57	16.65	21.76	-173.83	1,833.85	-159.51	2,449.59	2,414.61	34.99	70.018		
3,800.00	3,735.11	3,705.00	3,551.73	17.16	22.03	-174.16	1,834.22	-172.55	2,476.55	2,441.03	35.53	69.711		
3,900.00	3,832.87	3,775.60	3,617.25	17.67	22.59	-174.81	1,835.81	-198.78	2,505.13	2,468.76	36.37	68.874		
4,000.00	3,930.62	3,854.68	3,690.00	18.18	23.22	-175.56	1,838.36	-229.67	2,535.31	2,498.00	37.30	67.963		
4,100.00	4,028.38	3,950.50	3,778.03	18.69	24.00	-176.46	1,841.12	-267.41	2,565.82	2,527.42	38.40	66.819		
4,200.00	4,126.14	4,181.00	3,992.20	19.20	25.78	-178.43	1,843.65	-352.41	2,595.71	2,555.06	40.66	63.843		
4,300.00	4,223.90	4,252.29	4,059.17	19.71	26.30	-178.99	1,842.58	-376.80	2,622.44	2,580.96	41.48	63.225		
4,400.00	4,321.66	4,317.03	4,119.84	20.21	26.78	-179.50	1,842.17	-399.40	2,650.45	2,608.21	42.24	62.746		
4,500.00	4,419.42	4,372.00	4,171.27	20.72	27.19	-179.92	1,842.27	-418.81	2,679.77	2,636.85	42.91	62.450		
4,600.00	4,517.18	4,450.47	4,244.57	21.23	27.78	-179.47	1,843.02	-446.81	2,710.19	2,666.41	43.79	61.896		
4,700.00	4,614.94	4,525.21	4,314.32	21.74	28.34	-178.91	1,844.26	-473.65	2,741.64	2,697.02	44.62	61.440		
4,800.00	4,712.69	4,601.14	4,385.20	22.25	28.92	-178.35	1,845.92	-500.80	2,773.89	2,728.42	45.46	61.013		
4,900.00	4,810.45	4,705.01	4,482.37	22.76	29.69	-177.61	1,848.68	-537.43	2,806.81	2,760.26	46.55	60.298		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 1C-12HZ - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft	
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,000.00	4,908.21	4,801.52	4,572.88	23.27	30.41	176.95	1,850.36	-570.84	2,839.03	2,791.46	47.56	59.688		
5,100.00	5,005.97	4,886.04	4,651.75	23.78	31.04	176.36	1,851.96	-601.20	2,872.09	2,823.62	48.48	59.249		
5,200.00	5,103.73	5,020.48	4,777.42	24.29	32.05	175.44	1,853.05	-648.93	2,904.34	2,854.50	49.84	58.270		
5,300.00	5,201.49	5,166.31	4,914.91	24.80	33.09	174.54	1,852.46	-697.52	2,935.08	2,883.82	51.26	57.260		
5,400.00	5,299.25	5,257.59	5,001.60	25.31	33.71	174.02	1,852.17	-726.12	2,965.75	2,913.57	52.18	56.839		
5,500.00	5,397.00	5,337.91	5,078.08	25.82	34.24	173.59	1,852.38	-750.63	2,996.88	2,943.88	53.00	56.549		
5,600.00	5,494.76	5,418.00	5,154.27	26.33	34.78	173.16	1,852.82	-775.31	3,028.57	2,974.76	53.81	56.283		
5,700.00	5,592.52	5,471.29	5,204.89	26.84	35.14	172.88	1,853.47	-791.98	3,061.21	3,006.81	54.40	56.277		
5,800.00	5,690.28	5,577.09	5,305.49	27.36	35.84	172.35	1,856.04	-824.61	3,095.00	3,039.58	55.41	55.852		
5,900.00	5,788.04	5,766.23	5,487.38	27.87	36.99	171.52	1,857.65	-876.37	3,125.90	3,068.86	57.03	54.808		
6,000.00	5,885.80	5,983.03	5,699.03	28.38	38.10	170.82	1,856.83	-923.11	3,153.82	3,095.18	58.65	53.776		
6,100.00	5,983.56	8,460.92	7,257.64	28.89	48.83	-167.82	1,812.19	255.43	3,164.47	3,096.65	67.82	46.663		
6,200.00	6,081.31	8,470.78	7,257.55	29.40	48.96	-167.63	1,812.20	265.28	3,145.60	3,076.63	68.98	45.603		
6,300.00	6,179.07	8,480.09	7,257.45	29.91	49.09	-167.46	1,812.20	274.59	3,129.81	3,059.72	70.09	44.654		
6,400.00	6,276.83	8,446.36	7,257.65	30.42	48.63	-168.08	1,812.05	240.87	3,117.13	3,046.60	70.53	44.197		
6,500.00	6,374.59	8,476.70	7,257.50	30.93	49.06	-167.52	1,812.22	271.20	3,107.67	3,035.81	71.86	43.249		
6,600.00	6,472.35	8,480.10	7,257.47	31.44	49.11	-167.46	1,812.22	274.60	3,101.37	3,028.64	72.72	42.645		
6,700.00	6,570.11	8,483.48	7,257.43	31.95	49.16	-167.40	1,812.23	277.99	3,098.28	3,024.74	73.53	42.134		
6,712.06	6,581.89	8,483.89	7,257.43	32.01	49.16	-167.39	1,812.23	278.39	3,098.12	3,024.50	73.63	42.079		
6,744.45	6,613.59	8,484.16	7,257.43	32.17	49.17	177.42	1,812.23	278.66	3,097.95	3,024.09	73.86	41.945		
6,750.00	6,619.02	8,484.04	7,257.43	32.20	49.17	174.80	1,812.23	278.55	3,097.95	3,024.06	73.89	41.924		
6,800.00	6,667.83	8,480.81	7,257.46	32.44	49.12	153.19	1,812.22	275.31	3,098.46	3,024.29	74.17	41.776		
6,850.00	6,716.18	8,449.32	7,257.64	32.65	48.67	136.93	1,812.08	243.82	3,099.78	3,025.80	73.98	41.898		
6,900.00	6,763.70	8,461.16	7,257.64	32.85	48.83	126.67	1,812.19	255.66	3,101.91	3,027.48	74.43	41.676		
6,950.00	6,810.04	8,426.59	7,257.84	33.03	48.36	118.96	1,812.05	221.10	3,104.69	3,030.53	74.16	41.864		
7,000.00	6,854.83	8,384.27	7,257.86	33.19	47.77	113.21	1,811.63	178.78	3,107.94	3,034.18	73.76	42.137		
7,050.00	6,897.73	8,369.00	7,257.80	33.34	47.56	109.21	1,811.42	163.51	3,111.59	3,037.85	73.73	42.200		
7,100.00	6,938.43	8,345.98	7,257.74	33.47	47.27	105.95	1,811.13	140.50	3,115.64	3,042.03	73.61	42.327		
7,150.00	6,976.60	8,329.65	7,257.77	33.59	47.07	103.38	1,811.02	124.16	3,120.08	3,046.51	73.56	42.413		
7,200.00	7,011.97	8,311.50	7,257.86	33.69	46.84	101.21	1,810.99	106.01	3,124.80	3,051.31	73.49	42.519		
7,250.00	7,044.25	8,274.00	7,258.26	33.78	46.36	99.13	1,811.20	68.52	3,129.81	3,056.64	73.17	42.772		
7,300.00	7,073.21	8,274.00	7,258.26	33.86	46.36	97.74	1,811.20	68.52	3,134.74	3,061.38	73.36	42.732		
7,350.00	7,098.63	8,243.46	7,258.80	33.93	46.02	96.25	1,811.62	37.99	3,139.71	3,066.50	73.21	42.885		
7,400.00	7,120.30	8,215.77	7,259.48	34.00	45.70	95.01	1,812.15	10.31	3,144.56	3,071.43	73.13	42.999		
7,450.00	7,138.08	8,179.00	7,260.64	34.07	45.29	93.91	1,813.08	-26.43	3,149.20	3,076.21	72.99	43.146		
7,500.00	7,151.81	8,179.00	7,260.64	34.14	45.29	93.17	1,813.08	-26.43	3,153.62	3,080.33	73.29	43.029		
7,550.00	7,161.39	8,143.40	7,261.98	34.21	44.93	92.44	1,814.39	-61.98	3,157.67	3,084.37	73.30	43.079		
7,600.00	7,166.77	8,122.49	7,262.81	34.30	44.72	91.92	1,815.41	-82.85	3,161.54	3,088.05	73.49	43.022		
7,638.04	7,168.00	8,084.00	7,264.46	34.39	44.34	91.64	1,817.78	-121.23	3,164.47	3,091.02	73.45	43.081		
7,700.00	7,168.00	8,084.00	7,264.46	34.57	44.34	91.64	1,817.78	-121.23	3,168.96	3,094.96	74.00	42.822		
7,800.00	7,168.00	8,042.94	7,265.77	35.03	43.98	91.66	1,821.10	-162.13	3,178.04	3,103.33	74.71	42.538		
7,900.00	7,168.00	7,623.87	7,167.60	35.77	41.35	89.88	1,837.02	-563.52	3,179.93	3,106.04	73.89	43.038		
8,000.00	7,168.00	7,562.02	7,137.62	36.82	41.16	89.34	1,837.00	-617.61	3,181.16	3,106.01	75.14	42.334		
8,100.00	7,168.00	7,508.48	7,108.27	38.17	41.01	88.82	1,837.45	-662.37	3,184.04	3,107.51	76.53	41.603		
8,200.00	7,168.00	7,422.60	7,055.08	39.74	40.88	87.86	1,838.18	-729.74	3,188.26	3,110.24	78.02	40.864		
8,300.00	7,168.00	7,349.15	7,003.73	41.49	40.82	86.94	1,838.26	-782.20	3,193.73	3,114.12	79.61	40.117		
8,400.00	7,168.00	7,298.26	6,964.97	43.37	40.80	86.24	1,838.03	-815.17	3,200.95	3,119.70	81.25	39.395		
8,500.00	7,168.00	7,260.33	6,934.86	45.36	40.80	85.70	1,837.92	-838.23	3,210.46	3,127.54	82.92	38.716		
8,600.00	7,168.00	7,226.00	6,906.81	47.44	40.79	85.20	1,837.90	-858.02	3,222.38	3,137.79	84.59	38.092		
8,700.00	7,168.00	7,187.63	6,874.55	49.59	40.80	84.63	1,837.87	-878.78	3,236.72	3,150.47	86.26	37.524		
8,800.00	7,168.00	7,154.19	6,845.66	51.79	40.81	84.11	1,837.75	-895.62	3,253.50	3,165.60	87.90	37.014		
8,900.00	7,168.00	7,122.48	6,817.66	54.05	40.82	83.61	1,837.56	-910.48	3,272.77	3,183.27	89.50	36.566 SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 26N-12HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft		
Survey Program: 16-OWSG (Rev2) MWD													Rule Assigned:		Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
0.00	0.00	6.00	6.00	0.00	0.00	22.86	1,883.44	794.07	2,043.99							
100.00	100.00	100.46	100.46	0.14	0.31	22.86	1,883.61	793.96	2,044.11	2,043.66	0.45	4,543.375				
200.00	200.00	202.73	202.72	0.50	0.67	22.83	1,884.21	793.24	2,044.38	2,043.21	1.17	1,740.790				
300.00	300.00	321.56	321.49	0.86	1.10	22.72	1,885.47	789.66	2,044.21	2,042.25	1.96	1,042.290				
400.00	400.00	484.96	484.37	1.22	1.71	22.38	1,886.69	776.93	2,041.90	2,038.98	2.92	698.328				
500.00	500.00	602.24	600.83	1.58	2.17	22.02	1,886.83	763.21	2,037.55	2,033.81	3.74	544.956				
600.00	599.98	700.43	698.14	1.92	2.57	-145.48	1,887.24	750.06	2,034.36	2,029.88	4.47	454.842				
652.14	652.06	750.00	747.19	2.10	2.77	-145.71	1,887.71	742.90	2,033.92	2,029.08	4.85	419.450	CC, ES			
700.00	699.84	793.35	790.02	2.26	2.97	-145.93	1,888.35	736.23	2,034.32	2,029.12	5.20	391.304				
800.00	799.45	882.86	878.16	2.60	3.36	-146.44	1,890.59	720.84	2,037.71	2,031.77	5.94	343.102				
900.00	898.70	975.50	968.94	2.97	3.79	-147.04	1,894.11	702.72	2,044.64	2,037.92	6.72	304.410				
1,000.00	997.47	1,091.25	1,081.97	3.36	4.35	-147.90	1,898.80	678.23	2,054.61	2,046.97	7.64	268.819				
1,100.00	1,095.62	1,189.62	1,177.51	3.78	4.86	-148.68	1,902.52	655.09	2,066.94	2,058.42	8.52	242.525				
1,107.69	1,103.14	1,195.93	1,183.63	3.81	4.89	-148.73	1,902.78	653.57	2,068.05	2,059.47	8.58	240.902				
1,200.00	1,193.38	1,282.79	1,267.67	4.23	5.36	-149.58	1,906.66	632.02	2,081.77	2,072.36	9.41	221.328				
1,300.00	1,291.14	1,413.76	1,393.48	4.69	6.10	-150.94	1,912.40	596.06	2,096.48	2,085.95	10.53	199.115				
1,400.00	1,388.90	1,587.05	1,558.54	5.15	7.17	-152.81	1,915.63	543.45	2,108.71	2,096.74	11.96	176.284				
1,500.00	1,486.66	1,675.50	1,641.94	5.63	7.75	-153.80	1,916.06	514.00	2,119.90	2,106.97	12.93	163.969				
1,600.00	1,584.42	1,732.00	1,695.17	6.11	8.13	-154.44	1,916.97	495.08	2,132.88	2,119.18	13.70	155.679				
1,700.00	1,682.18	1,803.03	1,762.10	6.60	8.61	-155.24	1,918.98	471.40	2,147.74	2,133.17	14.57	147.423				
1,800.00	1,779.94	1,884.45	1,838.84	7.09	9.16	-156.15	1,922.03	444.37	2,164.16	2,148.66	15.51	139.565				
1,900.00	1,877.69	2,003.11	1,950.70	7.58	9.97	-157.45	1,925.94	404.98	2,180.98	2,164.28	16.70	130.595				
2,000.00	1,975.45	2,071.48	2,014.89	8.08	10.46	-158.21	1,928.20	381.55	2,198.35	2,180.78	17.56	125.161				
2,100.00	2,073.21	2,166.49	2,103.66	8.58	11.14	-159.28	1,931.87	347.85	2,216.86	2,198.23	18.63	119.002				
2,200.00	2,170.97	2,291.74	2,220.68	9.07	12.06	-160.66	1,935.30	303.34	2,235.14	2,215.22	19.92	112.197				
2,300.00	2,268.73	2,375.00	2,298.01	9.57	12.69	-161.60	1,937.29	272.56	2,253.76	2,232.85	20.92	107.743				
2,400.00	2,366.49	2,450.95	2,368.08	10.08	13.28	-162.47	1,939.52	243.35	2,273.55	2,251.67	21.88	103.923				
2,500.00	2,464.25	2,558.23	2,466.89	10.58	14.13	-163.69	1,942.05	201.65	2,293.60	2,270.51	23.09	99.328				
2,600.00	2,562.00	2,618.34	2,522.29	11.08	14.61	-164.37	1,943.45	178.37	2,314.64	2,290.72	23.92	96.785				
2,700.00	2,659.76	2,661.00	2,561.67	11.59	14.94	-164.84	1,945.26	162.06	2,338.06	2,313.48	24.58	95.116				
2,800.00	2,757.52	2,739.68	2,634.39	12.09	15.56	-165.69	1,949.49	132.31	2,363.20	2,337.67	25.53	92.552				
2,900.00	2,855.28	2,813.98	2,703.13	12.60	16.14	-166.47	1,953.91	104.47	2,389.55	2,363.11	26.44	90.370				
3,000.00	2,953.04	2,896.64	2,779.75	13.10	16.78	-167.32	1,959.23	73.93	2,416.99	2,389.58	27.41	88.191				
3,100.00	3,050.80	3,011.34	2,886.83	13.61	17.64	-168.42	1,966.31	33.43	2,444.80	2,416.20	28.61	85.455				
3,200.00	3,148.56	3,116.35	2,985.66	14.11	18.39	-169.36	1,971.64	-1.66	2,472.03	2,442.33	29.70	83.227				
3,300.00	3,246.31	3,189.15	3,054.08	14.62	18.92	-170.01	1,975.34	-26.24	2,499.84	2,469.30	30.54	81.858				
3,400.00	3,344.07	3,297.64	3,155.65	15.13	19.72	-170.98	1,981.34	-63.89	2,528.70	2,497.04	31.66	79.864				
3,500.00	3,441.83	3,381.35	3,234.54	15.64	20.31	-171.68	1,985.18	-91.60	2,556.99	2,524.43	32.57	78.514				
3,600.00	3,539.59	3,455.43	3,304.58	16.14	20.83	-172.27	1,989.37	-115.38	2,586.54	2,553.16	33.38	77.489				
3,700.00	3,637.35	3,538.45	3,383.11	16.65	21.41	-172.92	1,994.15	-141.87	2,616.59	2,582.34	34.25	76.387				
3,800.00	3,735.11	3,594.49	3,435.99	17.16	21.80	-173.35	1,997.87	-160.06	2,647.88	2,612.98	34.91	75.851				
3,900.00	3,832.87	3,645.13	3,483.59	17.67	22.17	-173.75	2,001.83	-176.89	2,680.74	2,645.22	35.52	75.480				
4,000.00	3,930.62	3,710.00	3,544.12	18.18	22.65	-174.27	2,007.91	-199.40	2,715.43	2,679.19	36.24	74.928				
4,100.00	4,028.38	3,743.42	3,575.14	18.69	22.91	-174.54	2,011.46	-211.33	2,751.57	2,714.89	36.68	75.011				
4,200.00	4,126.14	3,805.00	3,632.14	19.20	23.38	-175.03	2,018.60	-233.50	2,789.29	2,751.92	37.37	74.637				
4,300.00	4,223.90	3,906.11	3,725.55	19.71	24.17	-175.83	2,030.41	-270.36	2,827.65	2,789.21	38.43	73.572				
4,400.00	4,321.66	3,993.49	3,806.25	20.21	24.86	-176.51	2,040.15	-302.42	2,865.95	2,826.58	39.37	72.801				
4,500.00	4,419.42	4,186.51	3,986.28	20.72	26.31	-177.88	2,059.63	-369.18	2,903.62	2,862.40	41.22	70.437				
4,600.00	4,517.18	4,272.74	4,066.75	21.23	26.96	-178.49	2,066.37	-399.43	2,939.40	2,897.27	42.13	69.775				
4,700.00	4,614.94	4,395.82	4,181.19	21.74	27.91	-179.36	2,075.08	-443.88	2,975.16	2,931.79	43.37	68.599				
4,800.00	4,712.69	4,517.54	4,295.08	22.25	28.82	-179.82	2,082.15	-486.23	3,009.70	2,965.12	44.58	67.516				
4,900.00	4,810.45	4,607.67	4,379.79	22.76	29.47	-179.26	2,087.59	-516.54	3,044.56	2,999.07	45.49	66.925				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 26N-12HZ - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft						
Survey Program: 16-OWSG (Rev2) MWD												Offset Well Error:	0.00 usft						
Reference				Offset			Semi Major Axis		Highside		Offset Wellbore Centre			Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor							
5,000.00	4,908.21	4,707.84	4,474.25	23.27	30.19	178.66	2,093.44	-549.35	3,079.29	3,032.81	46.48	66.250							
5,100.00	5,005.97	4,789.22	4,550.94	23.78	30.77	178.17	2,098.14	-576.18	3,114.28	3,066.97	47.31	65.823							
5,200.00	5,103.73	4,864.52	4,621.42	24.29	31.33	177.71	2,102.40	-602.34	3,149.91	3,101.81	48.10	65.488							
5,300.00	5,201.49	4,951.20	4,702.52	24.80	31.98	177.19	2,107.51	-632.50	3,186.04	3,137.05	48.99	65.034							
5,400.00	5,299.25	5,078.45	4,822.75	25.31	32.87	176.50	2,115.17	-673.45	3,221.70	3,171.52	50.19	64.191							
5,500.00	5,397.00	5,182.04	4,921.25	25.82	33.56	175.99	2,121.41	-704.93	3,257.12	3,205.95	51.16	63.659 SF							

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 40N-12HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft		
Survey Program: 16-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference				Offset			Semi Major Axis		Highside		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.00	0.00	6.00	6.00	0.00	0.00	24.22	1,764.31	793.52	1,934.54							
100.00	100.00	105.40	105.40	0.14	0.32	24.22	1,764.27	793.63	1,934.56	1,934.09	0.46	4,170.128				
200.00	200.00	242.64	242.64	0.50	0.80	24.23	1,763.30	793.50	1,933.96	1,932.65	1.31	1,478.503				
300.00	300.00	465.41	465.09	0.86	1.61	24.22	1,753.41	788.62	1,929.17	1,926.70	2.47	780.283				
400.00	400.00	645.31	643.87	1.22	2.30	24.11	1,737.04	777.28	1,917.83	1,914.35	3.48	551.125				
500.00	500.00	815.48	812.34	1.58	3.01	23.97	1,717.58	763.46	1,904.42	1,899.96	4.46	427.131				
600.00	599.98	1,015.02	1,008.09	1.92	3.92	-143.59	1,685.23	742.53	1,886.32	1,880.80	5.52	341.864				
700.00	699.84	1,135.01	1,125.14	2.26	4.50	-144.02	1,662.61	728.92	1,868.64	1,862.36	6.28	297.546				
800.00	799.45	1,350.44	1,333.53	2.60	5.65	-144.72	1,614.29	703.71	1,850.60	1,843.20	7.40	250.178				
900.00	898.70	1,455.11	1,433.74	2.97	6.25	-145.25	1,587.41	689.95	1,831.46	1,823.32	8.14	224.969				
1,000.00	997.47	1,545.00	1,519.85	3.36	6.77	-145.78	1,564.74	677.64	1,815.41	1,806.56	8.86	205.009				
1,100.00	1,095.62	1,634.50	1,605.69	3.78	7.29	-146.34	1,542.68	665.16	1,802.76	1,793.17	9.59	187.980				
1,107.69	1,103.14	1,641.63	1,612.53	3.81	7.33	-146.39	1,540.94	664.15	1,801.93	1,792.28	9.65	186.774				
1,200.00	1,193.38	1,727.27	1,694.73	4.23	7.83	-146.83	1,520.15	652.11	1,792.20	1,781.84	10.35	173.112				
1,300.00	1,291.14	1,841.81	1,804.50	4.69	8.50	-147.43	1,491.86	635.67	1,781.25	1,770.05	11.20	159.032				
1,400.00	1,388.90	1,966.24	1,923.54	5.15	9.25	-148.07	1,460.19	618.16	1,769.96	1,757.87	12.09	146.442				
1,500.00	1,486.66	2,078.40	2,030.18	5.63	9.95	-148.72	1,430.64	599.89	1,757.04	1,744.09	12.94	135.754				
1,600.00	1,584.42	2,167.03	2,114.38	6.11	10.51	-149.28	1,407.68	584.42	1,744.31	1,730.58	13.73	127.025				
1,700.00	1,682.18	2,290.67	2,231.60	6.60	11.30	-150.10	1,375.36	562.05	1,731.35	1,716.71	14.64	118.248				
1,800.00	1,779.94	2,395.55	2,330.66	7.09	11.99	-150.83	1,347.35	541.98	1,717.71	1,702.21	15.50	110.816				
1,900.00	1,877.69	2,509.22	2,437.68	7.58	12.75	-151.64	1,316.23	519.64	1,703.50	1,687.10	16.39	103.903				
2,000.00	1,975.45	2,601.79	2,524.66	8.08	13.37	-152.32	1,290.42	501.31	1,689.01	1,671.78	17.23	98.031				
2,100.00	2,073.21	2,682.52	2,600.81	8.58	13.91	-152.90	1,268.40	486.01	1,675.64	1,657.61	18.03	92.941				
2,200.00	2,170.97	2,774.39	2,687.71	9.07	14.51	-153.55	1,243.82	469.15	1,663.20	1,644.34	18.87	88.160				
2,300.00	2,268.73	2,875.46	2,783.13	9.57	15.18	-154.31	1,216.77	449.64	1,650.74	1,631.00	19.74	83.624				
2,400.00	2,366.49	2,942.00	2,846.01	10.08	15.63	-154.83	1,199.26	436.76	1,639.17	1,618.66	20.51	79.926				
2,500.00	2,464.25	3,037.00	2,936.34	10.58	16.23	-155.54	1,175.48	419.43	1,629.26	1,607.89	21.37	76.250				
2,600.00	2,562.00	3,120.63	3,016.12	11.08	16.76	-156.16	1,155.31	404.51	1,620.56	1,598.37	22.19	73.032				
2,700.00	2,659.76	3,217.84	3,108.74	11.59	17.38	-156.92	1,131.79	386.71	1,612.02	1,588.95	23.07	69.889				
2,800.00	2,757.52	3,323.69	3,209.62	12.09	18.05	-157.72	1,105.83	367.92	1,603.57	1,579.59	23.97	66.892				
2,900.00	2,855.28	3,425.51	3,306.66	12.60	18.69	-158.47	1,080.25	350.69	1,594.97	1,570.11	24.86	64.146				
3,000.00	2,953.04	3,529.91	3,406.04	13.10	19.36	-159.24	1,053.60	333.00	1,586.23	1,560.46	25.77	61.549				
3,100.00	3,050.80	3,627.33	3,498.56	13.61	19.99	-160.03	1,028.95	315.04	1,577.71	1,551.03	26.67	59.146				
3,200.00	3,148.56	3,743.32	3,607.90	14.11	20.77	-161.10	999.41	290.08	1,568.80	1,541.12	27.68	56.678				
3,300.00	3,246.31	3,854.13	3,711.74	14.62	21.54	-162.19	970.27	264.62	1,559.26	1,530.56	28.69	54.343				
3,400.00	3,344.07	3,960.42	3,811.09	15.13	22.29	-163.25	941.52	240.13	1,549.41	1,519.71	29.70	52.161				
3,500.00	3,441.83	4,043.05	3,888.52	15.64	22.87	-164.04	918.93	222.23	1,539.94	1,509.32	30.62	50.285				
3,600.00	3,539.59	4,115.68	3,957.31	16.14	23.35	-164.65	899.77	208.92	1,532.20	1,500.71	31.49	48.662				
3,700.00	3,637.35	4,189.82	4,028.17	16.65	23.81	-165.21	881.30	197.37	1,526.43	1,494.10	32.33	47.215				
3,800.00	3,735.11	4,296.74	4,130.45	17.16	24.48	-166.01	854.93	180.79	1,521.23	1,487.94	33.29	45.702				
3,900.00	3,832.87	4,410.69	4,239.12	17.67	25.20	-166.92	826.36	161.86	1,515.86	1,481.57	34.29	44.207				
4,000.00	3,930.62	4,513.64	4,336.67	18.18	25.87	-167.80	799.08	143.48	1,509.22	1,473.94	35.28	42.781				
4,100.00	4,028.38	4,591.29	4,410.53	18.69	26.38	-168.45	779.27	129.98	1,503.94	1,467.77	36.18	41.574				
4,200.00	4,126.14	4,679.15	4,494.45	19.20	26.93	-169.17	757.84	115.22	1,500.11	1,463.00	37.11	40.427				
4,300.00	4,223.90	4,799.36	4,609.11	19.71	27.69	-170.16	727.74	95.31	1,495.95	1,457.78	38.17	39.195				
4,400.00	4,321.66	4,903.96	4,708.50	20.21	28.37	-171.03	700.36	77.59	1,490.95	1,451.77	39.18	38.050				
4,500.00	4,419.42	4,987.10	4,787.52	20.72	28.90	-171.74	678.79	63.34	1,486.55	1,446.43	40.13	37.047				
4,600.00	4,517.18	5,065.97	4,862.93	21.23	29.40	-172.38	659.42	50.78	1,483.77	1,442.73	41.04	36.155				
4,700.00	4,614.94	5,152.92	4,946.41	21.74	29.92	-173.05	638.94	37.65	1,482.25	1,440.28	41.97	35.314				
4,800.00	4,712.69	5,247.34	5,037.00	22.25	30.50	-173.81	617.00	22.57	1,481.39	1,438.44	42.95	34.489				
4,875.17	4,786.18	5,315.71	5,102.52	22.64	30.92	-174.38	601.27	10.99	1,481.18	1,437.49	43.69	33.902				
4,900.00	4,810.45	5,340.06	5,125.84	22.76	31.07	-174.59	595.71	6.76	1,481.19	1,437.25	43.95	33.705				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 40N-12HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft	
Survey Program: 16-OWSG (Rev2) MWD										Rule Assigned:			Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Highside		Distance		Minimum Separation	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
5,000.00	4,908.21	5,438.21	5,219.76	23.27	31.67	-175.45	573.15	-10.70	1,481.36	1,436.38	44.98	32.932			
5,100.00	5,005.97	5,530.94	5,308.68	23.78	32.24	-176.23	552.08	-26.48	1,482.06	1,436.08	45.99	32.227			
5,200.00	5,103.73	5,623.06	5,397.21	24.29	32.79	-176.97	531.51	-41.49	1,483.37	1,436.38	46.98	31.573			
5,300.00	5,201.49	5,701.00	5,472.19	24.80	33.26	-177.61	514.56	-54.32	1,485.62	1,437.72	47.90	31.012			
5,400.00	5,299.25	5,786.69	5,554.46	25.31	33.77	-178.36	496.57	-70.11	1,489.20	1,440.30	48.89	30.457			
5,500.00	5,397.00	5,923.83	5,684.54	25.82	34.66	-179.78	465.92	-100.80	1,492.42	1,442.13	50.30	29.672			
5,600.00	5,494.76	6,039.66	5,794.48	26.33	35.42	179.10	438.25	-124.56	1,494.35	1,442.81	51.54	28.993			
5,700.00	5,592.52	6,158.83	5,908.17	26.84	36.18	178.09	408.86	-144.77	1,495.19	1,442.45	52.74	28.349			
5,800.00	5,690.28	6,254.21	5,999.11	27.36	36.78	177.30	384.74	-160.43	1,495.65	1,441.83	53.82	27.790			
5,900.00	5,788.04	6,348.00	6,088.71	27.87	37.37	176.54	361.43	-175.50	1,496.74	1,441.86	54.88	27.271			
6,000.00	5,885.80	6,463.77	6,199.36	28.38	38.09	175.63	332.43	-193.31	1,497.81	1,441.75	56.05	26.721			
6,100.00	5,983.56	6,885.17	6,590.01	28.89	40.23	175.10	195.02	-171.28	1,476.86	1,420.65	56.21	26.276			
6,200.00	6,081.31	6,939.00	6,637.87	29.40	40.35	175.73	180.72	-151.23	1,458.43	1,401.50	56.93	25.618			
6,300.00	6,179.07	6,970.29	6,665.78	29.91	40.39	176.13	173.84	-138.88	1,443.67	1,385.90	57.77	24.990			
6,400.00	6,276.83	7,533.07	7,062.91	30.42	40.62	-170.68	46.87	210.61	1,428.47	1,375.02	53.45	26.723			
6,500.00	6,374.59	7,556.27	7,070.71	30.93	40.59	-169.78	42.88	232.09	1,395.21	1,340.38	54.82	25.449			
6,600.00	6,472.35	7,576.00	7,076.91	31.44	40.57	-169.00	40.03	250.61	1,367.83	1,311.75	56.09	24.388			
6,700.00	6,570.11	7,594.23	7,082.27	31.95	40.53	-168.27	37.84	267.90	1,346.82	1,289.62	57.20	23.545			
6,712.06	6,581.89	7,596.23	7,082.84	32.01	40.53	-168.19	37.63	269.80	1,344.74	1,287.41	57.32	23.459			
6,750.00	6,619.02	7,606.00	7,085.55	32.20	40.51	174.98	36.66	279.14	1,338.84	1,281.17	57.68	23.212			
6,800.00	6,667.83	7,606.00	7,085.55	32.44	40.51	154.11	36.66	279.14	1,332.64	1,274.57	58.07	22.949			
6,850.00	6,716.18	7,606.00	7,085.55	32.65	40.51	138.99	36.66	279.14	1,328.38	1,270.02	58.36	22.760			
6,900.00	6,763.70	7,606.00	7,085.55	32.85	40.51	128.95	36.66	279.14	1,326.13	1,267.57	58.56	22.645			
6,930.53	6,792.16	7,606.00	7,085.55	32.96	40.51	124.50	36.66	279.14	1,325.75	1,267.12	58.63	22.611	CC, ES		
6,950.00	6,810.04	7,606.00	7,085.55	33.03	40.51	122.14	36.66	279.14	1,325.90	1,267.24	58.66	22.602	SF		
7,000.00	6,854.83	7,606.00	7,085.55	33.19	40.51	117.25	36.66	279.14	1,327.71	1,269.03	58.68	22.627			
7,050.00	6,897.73	7,606.00	7,085.55	33.34	40.51	113.49	36.66	279.14	1,331.53	1,272.91	58.62	22.716			
7,100.00	6,938.43	7,606.00	7,085.55	33.47	40.51	110.41	36.66	279.14	1,337.31	1,278.81	58.49	22.863			
7,150.00	6,976.60	7,591.15	7,081.39	33.59	40.54	107.15	38.18	264.96	1,344.76	1,286.50	58.26	23.083			
7,200.00	7,011.97	7,576.00	7,076.91	33.69	40.57	104.18	40.03	250.61	1,353.99	1,296.01	57.98	23.353			
7,250.00	7,044.25	7,576.00	7,076.91	33.78	40.57	101.95	40.03	250.61	1,364.61	1,306.85	57.76	23.626			
7,300.00	7,073.21	7,576.00	7,076.91	33.86	40.57	99.80	40.03	250.61	1,376.73	1,319.17	57.55	23.921			
7,350.00	7,098.63	7,553.86	7,069.92	33.93	40.59	97.00	43.26	229.85	1,389.70	1,332.45	57.25	24.274			
7,400.00	7,120.30	7,542.52	7,066.15	34.00	40.61	94.65	45.16	219.33	1,403.75	1,346.71	57.04	24.610			
7,450.00	7,138.08	7,511.00	7,054.98	34.07	40.65	91.85	51.29	190.50	1,418.95	1,362.21	56.74	25.009			
7,500.00	7,151.81	7,511.00	7,054.98	34.14	40.65	90.00	51.29	190.50	1,433.93	1,377.22	56.71	25.284			
7,550.00	7,161.39	7,511.00	7,054.98	34.21	40.65	88.19	51.29	190.50	1,449.61	1,392.84	56.77	25.533			
7,600.00	7,166.77	7,511.00	7,054.98	34.30	40.65	86.41	51.29	190.50	1,465.85	1,408.93	56.92	25.752			
7,638.04	7,168.00	7,478.92	7,042.34	34.39	40.67	84.61	58.67	161.97	1,477.47	1,420.64	56.83	25.997			
7,700.00	7,168.00	7,461.00	7,034.62	34.57	40.68	84.32	63.22	146.45	1,497.88	1,440.88	57.00	26.278			
7,800.00	7,168.00	7,416.00	7,013.24	35.03	40.70	83.51	75.94	108.97	1,534.59	1,477.37	57.22	26.818			
7,900.00	7,168.00	7,416.00	7,013.24	35.77	40.70	83.51	75.94	108.97	1,574.86	1,516.89	57.97	27.168			
8,000.00	7,168.00	7,370.01	6,988.16	36.82	40.69	82.58	89.96	73.08	1,618.80	1,560.40	58.40	27.718			
8,100.00	7,168.00	7,321.00	6,957.65	38.17	40.68	81.47	105.01	37.83	1,666.46	1,607.63	58.83	28.328			
8,200.00	7,168.00	7,299.36	6,943.00	39.74	40.66	80.95	111.45	23.26	1,716.86	1,657.29	59.57	28.820			
8,300.00	7,168.00	7,245.70	6,903.75	41.49	40.63	79.54	125.64	-10.42	1,769.80	1,709.78	60.02	29.485			
8,400.00	7,168.00	7,200.40	6,867.72	43.37	40.59	78.26	135.59	-35.99	1,825.10	1,764.54	60.57	30.134			
8,500.00	7,168.00	7,158.00	6,832.20	45.36	40.56	77.01	143.38	-57.77	1,882.88	1,821.75	61.13	30.801			
8,600.00	7,168.00	7,130.00	6,807.90	47.44	40.54	76.16	147.72	-70.98	1,943.17	1,881.33	61.84	31.423			
8,700.00	7,168.00	7,103.37	6,784.43	49.59	40.52	75.35	151.59	-82.96	2,005.99	1,943.43	62.56	32.067			
8,800.00	7,168.00	7,079.10	6,762.94	51.79	40.50	74.62	155.22	-93.63	2,071.20	2,007.92	63.28	32.731			
8,900.00	7,168.00	7,034.00	6,722.74	54.05	40.47	73.27	162.19	-112.86	2,138.83	2,075.05	63.78	33.537			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 40N-12HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,000.00	7,168.00	7,034.00	6,722.74	56.35	40.47	73.27	162.19	-112.86	2,208.07	2,143.38	64.69	34.131		
9,100.00	7,168.00	7,034.00	6,722.74	58.69	40.47	73.27	162.19	-112.86	2,279.60	2,214.03	65.57	34.768		
9,200.00	7,168.00	7,002.46	6,694.53	61.06	40.43	72.35	167.56	-125.89	2,352.64	2,286.52	66.12	35.582		
9,300.00	7,168.00	6,987.36	6,681.03	63.46	40.41	71.92	170.41	-132.03	2,427.49	2,360.70	66.79	36.346		
9,400.00	7,168.00	6,972.59	6,667.83	65.88	40.39	71.50	173.37	-137.97	2,503.85	2,436.42	67.43	37.134		
9,500.00	7,168.00	6,939.00	6,637.87	68.33	40.35	70.57	180.72	-151.23	2,581.80	2,513.90	67.90	38.024		
9,600.00	7,168.00	6,939.00	6,637.87	70.80	40.35	70.57	180.72	-151.23	2,660.65	2,592.06	68.58	38.793		
9,700.00	7,168.00	6,939.00	6,637.87	73.29	40.35	70.57	180.72	-151.23	2,740.87	2,671.64	69.23	39.592		
9,800.00	7,168.00	6,939.00	6,637.87	75.79	40.35	70.57	180.72	-151.23	2,822.36	2,752.53	69.83	40.416		
9,900.00	7,168.00	6,939.00	6,637.87	78.31	40.35	70.57	180.72	-151.23	2,905.01	2,834.61	70.40	41.265		
10,000.00	7,168.00	6,939.00	6,637.87	80.84	40.35	70.57	180.72	-151.23	2,988.72	2,917.79	70.93	42.137		
10,100.00	7,168.00	6,899.71	6,602.91	83.39	40.27	69.54	190.80	-166.06	3,072.25	3,001.03	71.22	43.136		
10,200.00	7,168.00	6,891.94	6,596.01	85.94	40.25	69.34	193.02	-168.87	3,157.34	3,085.68	71.67	44.057		
10,300.00	7,168.00	6,884.39	6,589.32	88.51	40.23	69.15	195.25	-171.56	3,243.21	3,171.12	72.09	44.990		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 41N-12HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD										Rule Assigned:		Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.00	0.00	6.00	6.00	0.00	0.00	23.55	1,822.96	794.35	1,988.51					
100.00	100.00	89.65	89.65	0.14	0.26	23.54	1,823.24	794.47	1,988.88	1,988.47	0.41	4,860.270		
200.00	200.00	188.59	188.58	0.50	0.62	23.54	1,824.22	794.82	1,989.93	1,988.81	1.12	1,775.244		
300.00	300.00	391.32	391.26	0.86	1.32	23.50	1,821.87	792.29	1,988.51	1,986.33	2.19	909.325		
400.00	400.00	555.78	555.29	1.22	1.91	23.33	1,815.18	782.94	1,982.46	1,979.34	3.12	634.559		
500.00	500.00	683.91	682.70	1.58	2.39	23.09	1,808.63	771.05	1,974.05	1,970.11	3.94	500.681		
600.00	599.98	809.48	807.03	1.92	2.90	-144.51	1,802.56	754.63	1,965.88	1,961.12	4.76	413.305		
700.00	699.84	928.14	923.83	2.26	3.41	-145.17	1,797.20	734.39	1,959.34	1,953.78	5.56	352.634		
800.00	799.45	1,024.23	1,018.02	2.60	3.84	-145.82	1,793.59	715.78	1,955.66	1,949.35	6.30	310.184		
900.00	898.70	1,156.60	1,147.26	2.97	4.48	-146.80	1,787.86	687.77	1,953.89	1,946.65	7.24	269.842		
930.27	928.65	1,190.24	1,180.01	3.09	4.64	-147.07	1,786.28	680.23	1,953.78	1,946.27	7.50	260.353	CC, ES	
1,000.00	997.47	1,257.87	1,245.75	3.36	4.98	-147.63	1,783.14	664.64	1,954.56	1,946.48	8.08	241.904		
1,100.00	1,095.62	1,401.18	1,384.52	3.78	5.74	-148.90	1,775.72	629.68	1,957.73	1,948.58	9.15	213.995		
1,107.69	1,103.14	1,410.35	1,393.36	3.81	5.79	-148.99	1,775.14	627.33	1,958.00	1,948.78	9.22	212.269		
1,200.00	1,193.38	1,508.88	1,488.09	4.23	6.35	-149.96	1,768.79	600.99	1,961.15	1,951.06	10.09	194.285		
1,300.00	1,291.14	1,602.70	1,578.04	4.69	6.89	-150.92	1,763.14	574.89	1,965.20	1,954.20	11.00	178.692		
1,400.00	1,388.90	1,705.59	1,676.79	5.15	7.49	-151.94	1,755.94	546.95	1,969.14	1,957.18	11.95	164.730		
1,500.00	1,486.66	1,787.33	1,755.55	5.63	7.97	-152.72	1,750.42	525.75	1,974.21	1,961.41	12.80	154.203		
1,600.00	1,584.42	1,883.35	1,848.09	6.11	8.52	-153.62	1,743.84	501.03	1,979.81	1,966.08	13.73	144.231		
1,700.00	1,682.18	2,025.64	1,984.27	6.60	9.39	-155.04	1,733.33	461.19	1,984.92	1,969.98	14.93	132.935		
1,800.00	1,779.94	2,150.55	2,101.79	7.09	10.23	-156.44	1,723.08	420.13	1,988.78	1,972.66	16.12	123.376		
1,900.00	1,877.69	2,257.04	2,201.05	7.58	10.99	-157.69	1,713.54	382.76	1,992.23	1,974.99	17.24	115.561		
2,000.00	1,975.45	2,355.70	2,293.36	8.08	11.69	-158.80	1,703.96	349.32	1,996.07	1,977.76	18.31	109.017		
2,100.00	2,073.21	2,465.03	2,395.91	8.58	12.46	-160.00	1,692.55	313.16	2,000.16	1,980.72	19.44	102.883		
2,200.00	2,170.97	2,570.10	2,494.53	9.07	13.20	-161.14	1,680.59	278.92	2,004.17	1,983.63	20.54	97.557		
2,300.00	2,268.73	2,648.31	2,568.37	9.57	13.73	-161.94	1,671.60	254.77	2,009.01	1,987.53	21.47	93.566		
2,400.00	2,366.49	2,728.90	2,644.98	10.08	14.26	-162.72	1,662.68	231.46	2,015.10	1,992.72	22.39	90.001		
2,500.00	2,464.25	2,865.36	2,774.75	10.58	15.14	-164.03	1,646.88	192.32	2,021.42	1,997.80	23.62	85.570		
2,600.00	2,562.00	2,899.77	2,807.39	11.08	15.38	-164.37	1,643.34	182.00	2,028.70	2,004.41	24.29	83.515		
2,700.00	2,659.76	2,941.00	2,846.49	11.59	15.65	-164.78	1,639.70	169.44	2,038.66	2,013.69	24.98	81.624		
2,800.00	2,757.52	3,016.73	2,917.90	12.09	16.18	-165.58	1,634.38	144.84	2,050.70	2,024.80	25.91	79.160		
2,900.00	2,855.28	3,101.08	2,996.85	12.60	16.79	-166.51	1,629.41	115.54	2,064.34	2,037.43	26.91	76.712		
3,000.00	2,953.04	3,196.41	3,086.33	13.10	17.47	-167.54	1,623.71	83.17	2,078.63	2,050.63	28.00	74.246		
3,100.00	3,050.80	3,289.34	3,173.42	13.61	18.14	-168.53	1,618.00	51.25	2,093.46	2,064.40	29.07	72.025		
3,200.00	3,148.56	3,385.56	3,263.55	14.11	18.84	-169.55	1,611.98	18.11	2,108.89	2,078.72	30.17	69.902		
3,300.00	3,246.31	3,480.56	3,352.06	14.62	19.54	-170.58	1,605.76	-15.84	2,124.77	2,093.50	31.27	67.945		
3,400.00	3,344.07	3,604.05	3,467.44	15.13	20.46	-171.86	1,596.89	-58.96	2,140.80	2,108.20	32.60	65.676		
3,500.00	3,441.83	3,704.10	3,560.56	15.64	21.21	-172.91	1,588.49	-94.56	2,156.38	2,122.63	33.75	63.895		
3,600.00	3,539.59	3,793.63	3,643.92	16.14	21.89	-173.84	1,580.85	-126.31	2,172.50	2,137.69	34.82	62.399		
3,700.00	3,637.35	3,908.41	3,750.89	16.65	22.75	-174.99	1,570.52	-166.62	2,188.81	2,152.73	36.08	60.666		
3,800.00	3,735.11	4,011.46	3,847.06	17.16	23.52	-176.01	1,560.55	-202.26	2,205.09	2,167.85	37.24	59.213		
3,900.00	3,832.87	4,129.19	3,957.89	17.67	24.35	-177.07	1,548.46	-240.08	2,221.07	2,182.60	38.47	57.734		
4,000.00	3,930.62	4,214.81	4,039.13	18.18	24.94	-177.79	1,539.43	-265.54	2,236.96	2,197.52	39.44	56.713		
4,100.00	4,028.38	4,276.51	4,097.32	18.69	25.36	-178.33	1,533.43	-285.16	2,254.38	2,214.14	40.24	56.023		
4,200.00	4,126.14	4,372.48	4,187.54	19.20	26.05	-179.18	1,524.51	-316.64	2,272.87	2,231.55	41.32	55.011		
4,300.00	4,223.90	4,445.05	4,255.73	19.71	26.58	-179.82	1,517.99	-340.59	2,292.18	2,249.97	42.21	54.307		
4,400.00	4,321.66	4,522.43	4,328.18	20.21	27.15	-179.49	1,511.47	-366.97	2,312.70	2,269.55	43.14	53.603		
4,500.00	4,419.42	4,610.00	4,409.88	20.72	27.80	-178.70	1,504.29	-397.67	2,334.15	2,289.98	44.17	52.845		
4,600.00	4,517.18	4,706.89	4,500.49	21.23	28.53	-177.86	1,496.37	-431.05	2,355.99	2,310.71	45.28	52.032		
4,700.00	4,614.94	4,801.40	4,588.16	21.74	29.25	-177.00	1,487.96	-465.33	2,378.15	2,331.76	46.39	51.270		
4,800.00	4,712.69	4,914.88	4,693.36	22.25	30.14	-175.99	1,477.41	-506.57	2,400.54	2,352.88	47.67	50.362		
4,900.00	4,810.45	5,039.89	4,810.17	22.76	31.07	-174.96	1,464.87	-549.27	2,422.15	2,373.14	49.01	49.420		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 41N-12HZ - Wellbore #1 - Wellbore #1											Offset Site Error:	0.00 usft	
Survey Program: 16-OWSG (Rev2) MWD							Rule Assigned:				Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,000.00	4,908.21	5,127.55	4,892.58	23.27	31.70	174.28	1,456.02	-577.81	2,443.69	2,393.68	50.01	48.864	
5,100.00	5,005.97	5,217.77	4,977.83	23.78	32.33	173.61	1,447.42	-606.07	2,465.75	2,414.75	51.01	48.342	
5,200.00	5,103.73	5,299.72	5,055.62	24.29	32.88	173.05	1,440.15	-630.82	2,488.39	2,436.47	51.92	47.928	
5,300.00	5,201.49	5,363.24	5,115.80	24.80	33.32	172.61	1,434.84	-650.40	2,512.04	2,459.36	52.68	47.684	
5,400.00	5,299.25	5,418.00	5,167.49	25.31	33.70	172.22	1,430.81	-668.02	2,537.31	2,483.95	53.36	47.553	
5,500.00	5,397.00	5,506.78	5,250.97	25.82	34.34	171.58	1,424.64	-697.62	2,563.64	2,509.29	54.35	47.170	
5,600.00	5,494.76	5,651.48	5,388.05	26.33	35.33	170.63	1,414.05	-742.64	2,589.06	2,533.25	55.80	46.395	
5,700.00	5,592.52	5,740.40	5,472.15	26.84	35.95	170.05	1,406.79	-770.60	2,614.30	2,557.53	56.78	46.046	
5,800.00	5,690.28	8,117.64	6,939.43	27.36	47.58	-168.31	1,251.37	229.33	2,594.16	2,530.10	64.06	40.498	
5,900.00	5,788.04	8,129.55	6,939.75	27.87	47.74	-168.04	1,251.22	241.23	2,567.10	2,501.67	65.43	39.232	
6,000.00	5,885.80	8,141.08	6,940.04	28.38	47.90	-167.78	1,251.05	252.76	2,543.66	2,476.90	66.76	38.102	
6,100.00	5,983.56	8,152.25	6,940.30	28.89	48.05	-167.52	1,250.88	263.93	2,523.93	2,455.91	68.02	37.105	
6,200.00	6,081.31	8,163.08	6,940.55	29.40	48.20	-167.27	1,250.71	274.75	2,508.00	2,438.79	69.21	36.237	
6,300.00	6,179.07	8,173.58	6,940.77	29.91	48.34	-167.03	1,250.53	285.25	2,495.95	2,425.63	70.32	35.494	
6,400.00	6,276.83	8,183.78	6,940.97	30.42	48.48	-166.79	1,250.34	295.44	2,487.83	2,416.49	71.34	34.873	
6,500.00	6,374.59	8,193.67	6,941.15	30.93	48.61	-166.57	1,250.15	305.33	2,483.69	2,411.43	72.27	34.369	
6,553.56	6,426.95	8,197.81	6,941.23	31.20	48.69	-166.47	1,250.07	309.47	2,483.12	2,410.39	72.73	34.143	
6,600.00	6,472.35	8,202.01	6,941.30	31.44	48.75	-166.37	1,249.99	313.67	2,483.55	2,410.45	73.10	33.975	
6,700.00	6,570.11	8,210.85	6,941.44	31.95	48.88	-166.17	1,249.81	322.50	2,487.41	2,413.58	73.82	33.693	
6,712.06	6,581.89	8,211.89	6,941.46	32.01	48.90	-166.15	1,249.79	323.55	2,488.14	2,414.24	73.91	33.667	
6,750.00	6,619.02	8,213.53	6,941.48	32.20	48.92	-175.79	1,249.76	325.19	2,490.87	2,416.75	74.12	33.606	
6,800.00	6,667.83	8,210.71	6,941.44	32.44	48.88	153.77	1,249.81	322.37	2,495.43	2,421.14	74.29	33.591	
6,850.00	6,716.18	8,202.37	6,941.30	32.65	48.76	137.46	1,249.98	314.03	2,501.04	2,426.71	74.33	33.647	
6,900.00	6,763.70	8,189.28	6,941.07	32.85	48.55	126.24	1,250.24	300.94	2,507.60	2,433.35	74.25	33.771	
6,950.00	6,810.04	8,169.41	6,940.68	33.03	48.28	118.22	1,250.60	281.08	2,515.00	2,440.94	74.06	33.957	
7,000.00	6,854.83	8,144.34	6,940.12	33.19	47.94	112.16	1,251.00	256.02	2,523.07	2,449.30	73.77	34.202	
7,050.00	6,897.73	8,114.35	6,939.34	33.34	47.53	107.31	1,251.41	226.05	2,531.63	2,458.24	73.38	34.499	
7,100.00	6,938.43	8,079.42	6,938.29	33.47	47.06	103.24	1,251.78	191.13	2,540.46	2,467.55	72.91	34.843	
7,150.00	6,976.60	8,035.63	6,937.20	33.59	46.52	99.66	1,252.05	147.36	2,549.34	2,476.97	72.37	35.229	
7,200.00	7,011.97	7,986.30	6,936.60	33.69	45.92	96.52	1,252.08	98.03	2,557.97	2,486.21	71.76	35.645	
7,250.00	7,044.25	7,949.64	6,936.30	33.78	45.51	94.01	1,252.00	61.37	2,566.23	2,494.87	71.37	35.958	
7,300.00	7,073.21	7,910.52	6,935.81	33.86	45.08	91.82	1,251.92	22.25	2,574.04	2,503.07	70.97	36.270	
7,350.00	7,098.63	7,865.00	6,935.05	33.93	44.61	89.87	1,251.81	-23.26	2,581.22	2,510.64	70.58	36.571	
7,400.00	7,120.30	7,813.99	6,934.11	34.00	44.12	88.20	1,251.57	-74.26	2,587.50	2,517.28	70.22	36.849	
7,450.00	7,138.08	7,728.82	6,933.24	34.07	43.40	86.62	1,250.56	-159.42	2,592.53	2,522.78	69.75	37.170	
7,500.00	7,151.81	7,676.08	6,933.32	34.14	42.99	85.67	1,249.36	-212.14	2,595.85	2,526.23	69.61	37.290	
7,550.00	7,161.39	7,641.20	6,931.54	34.21	42.75	85.06	1,248.55	-246.96	2,598.20	2,528.54	69.66	37.299	
7,600.00	7,166.77	7,606.00	6,927.91	34.30	42.52	84.65	1,247.76	-281.96	2,599.58	2,529.82	69.76	37.264	
7,638.04	7,168.00	7,586.71	6,925.23	34.39	42.40	84.51	1,247.38	-301.06	2,600.02	2,530.11	69.92	37.187	
7,700.00	7,168.00	7,554.92	6,919.98	34.57	42.21	84.39	1,246.96	-332.40	2,600.72	2,530.49	70.23	37.033	
7,800.00	7,168.00	7,511.00	6,910.99	35.03	41.97	84.20	1,246.80	-375.40	2,603.41	2,532.52	70.89	36.722	
7,900.00	7,168.00	7,442.06	6,892.22	35.77	41.66	83.79	1,247.11	-441.70	2,607.76	2,536.10	71.67	36.388	
8,000.00	7,168.00	7,383.63	6,871.48	36.82	41.43	83.34	1,247.64	-496.31	2,613.80	2,541.21	72.59	36.006	
8,100.00	7,168.00	7,321.00	6,844.38	38.17	41.23	82.75	1,248.40	-552.74	2,621.66	2,548.04	73.62	35.612	
8,200.00	7,168.00	7,275.78	6,822.09	39.74	41.14	82.27	1,249.10	-592.08	2,631.44	2,556.68	74.77	35.195	
8,300.00	7,168.00	7,225.00	6,794.87	41.49	41.03	81.68	1,250.09	-634.93	2,643.33	2,567.38	75.95	34.804	
8,400.00	7,168.00	7,172.23	6,763.84	43.37	40.98	81.02	1,251.10	-677.58	2,657.32	2,580.12	77.20	34.423	
8,500.00	7,168.00	7,130.00	6,736.83	45.36	40.93	80.44	1,251.74	-710.03	2,673.47	2,595.04	78.43	34.088	
8,600.00	7,168.00	7,065.33	6,692.17	47.44	40.91	79.49	1,252.17	-756.78	2,691.71	2,612.03	79.69	33.779	
8,700.00	7,168.00	7,035.00	6,669.99	49.59	40.91	79.02	1,252.08	-777.46	2,712.27	2,631.38	80.89	33.530	
8,800.00	7,168.00	6,996.29	6,640.72	51.79	40.92	78.40	1,252.03	-802.80	2,735.45	2,653.37	82.08	33.326	
8,900.00	7,168.00	6,970.66	6,620.83	54.05	40.92	77.98	1,252.19	-818.96	2,761.50	2,678.27	83.23	33.181	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 41N-12HZ - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,000.00	7,168.00	6,940.00	6,596.53	56.35	40.93	77.47	1,252.58	-837.65	2,790.35	2,706.03	84.32	33.092	
9,100.00	7,168.00	6,940.00	6,596.53	58.69	40.93	77.47	1,252.58	-837.65	2,822.04	2,736.68	85.36	33.060 SF	
9,200.00	7,168.00	6,940.00	6,596.53	61.06	40.93	77.47	1,252.58	-837.65	2,856.88	2,770.54	86.34	33.089	
9,300.00	7,168.00	6,940.00	6,596.53	63.46	40.93	77.47	1,252.58	-837.65	2,894.76	2,807.50	87.26	33.175	
9,400.00	7,168.00	6,894.74	6,559.52	65.88	40.96	76.70	1,254.20	-863.64	2,933.84	2,845.67	88.18	33.273	
9,500.00	7,168.00	6,883.79	6,550.36	68.33	40.96	76.51	1,254.85	-869.60	2,976.49	2,887.49	89.00	33.444	
9,600.00	7,168.00	6,844.00	6,516.45	70.80	40.98	75.83	1,258.09	-890.15	3,022.38	2,932.58	89.80	33.657	
9,700.00	7,168.00	6,844.00	6,516.45	73.29	40.98	75.83	1,258.09	-890.15	3,069.55	2,979.05	90.51	33.915	
9,800.00	7,168.00	6,844.00	6,516.45	75.79	40.98	75.83	1,258.09	-890.15	3,119.22	3,028.06	91.16	34.216	
9,900.00	7,168.00	6,844.00	6,516.45	78.31	40.98	75.83	1,258.09	-890.15	3,171.26	3,079.50	91.76	34.559	
10,000.00	7,168.00	6,844.00	6,516.45	80.84	40.98	75.83	1,258.09	-890.15	3,225.56	3,133.25	92.32	34.940	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 8C-12HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.00	0.00	6.00	6.00	0.00	0.00	23.87	1,794.18	794.07	1,962.05					
100.00	100.00	99.19	99.19	0.14	0.30	23.87	1,794.41	793.92	1,962.21	1,961.76	0.44	4,440.223		
200.00	200.00	215.50	215.49	0.50	0.71	23.84	1,794.89	793.09	1,962.32	1,961.11	1.21	1,615.904		
300.00	300.00	420.66	420.45	0.86	1.45	23.68	1,790.95	785.56	1,959.00	1,956.69	2.31	847.146		
400.00	400.00	519.50	518.98	1.22	1.82	23.54	1,787.49	778.63	1,952.99	1,949.96	3.03	645.502		
500.00	500.00	658.20	657.02	1.58	2.35	23.24	1,783.37	765.87	1,946.73	1,942.83	3.90	499.180		
600.00	599.98	928.37	923.85	1.92	3.50	-144.82	1,763.19	729.27	1,935.76	1,930.48	5.28	366.454		
700.00	699.84	1,143.51	1,133.07	2.26	4.55	-146.01	1,734.70	688.31	1,920.15	1,913.69	6.46	297.117		
800.00	799.45	1,308.46	1,291.79	2.60	5.45	-147.12	1,706.14	653.69	1,903.31	1,895.84	7.48	254.530		
900.00	898.70	1,405.29	1,384.53	2.97	6.00	-147.89	1,687.88	632.67	1,887.88	1,879.63	8.25	228.907		
1,000.00	997.47	1,500.35	1,475.56	3.36	6.56	-148.68	1,669.95	611.96	1,875.57	1,866.54	9.04	207.587		
1,100.00	1,095.62	1,584.21	1,555.95	3.78	7.05	-149.39	1,654.49	593.82	1,866.98	1,857.17	9.80	190.450		
1,107.69	1,103.14	1,591.10	1,562.56	3.81	7.09	-149.45	1,653.24	592.33	1,866.48	1,856.61	9.86	189.218		
1,200.00	1,193.38	1,674.89	1,642.96	4.23	7.58	-150.12	1,638.31	574.07	1,860.93	1,850.31	10.62	175.260		
1,300.00	1,291.14	1,799.84	1,762.51	4.69	8.33	-151.14	1,615.52	545.77	1,854.59	1,843.00	11.59	159.995		
1,400.00	1,388.90	1,892.12	1,850.52	5.15	8.90	-151.93	1,598.36	523.93	1,847.99	1,835.54	12.45	148.406		
1,500.00	1,486.66	2,072.89	2,021.20	5.63	10.10	-153.62	1,562.80	476.33	1,840.15	1,826.42	13.73	134.064		
1,600.00	1,584.42	2,248.64	2,182.50	6.11	11.43	-155.57	1,523.08	419.06	1,827.87	1,812.78	15.09	121.138		
1,700.00	1,682.18	2,350.11	2,274.02	6.60	12.25	-156.81	1,498.67	382.65	1,814.10	1,797.94	16.16	112.261		
1,800.00	1,779.94	2,451.03	2,365.09	7.09	13.09	-158.05	1,473.97	346.87	1,800.89	1,783.64	17.25	104.411		
1,900.00	1,877.69	2,553.27	2,457.28	7.58	13.94	-159.30	1,448.27	310.92	1,787.92	1,769.56	18.36	97.382		
2,000.00	1,975.45	2,639.31	2,535.10	8.08	14.65	-160.35	1,426.28	281.51	1,775.60	1,756.21	19.39	91.553		
2,100.00	2,073.21	2,726.51	2,614.42	8.58	15.35	-161.37	1,404.02	252.95	1,764.37	1,743.94	20.43	86.367		
2,200.00	2,170.97	2,814.96	2,695.27	9.07	16.06	-162.39	1,381.44	225.09	1,754.11	1,732.63	21.47	81.682		
2,300.00	2,268.73	2,934.93	2,804.83	9.57	17.03	-163.78	1,350.33	187.41	1,744.23	1,721.54	22.69	76.865		
2,400.00	2,366.49	3,018.41	2,880.59	10.08	17.70	-164.79	1,328.19	160.22	1,734.26	1,710.52	23.74	73.041		
2,500.00	2,464.25	3,100.06	2,955.21	10.58	18.36	-165.75	1,306.89	134.84	1,725.66	1,700.87	24.79	69.604		
2,600.00	2,562.00	3,181.58	3,030.23	11.08	19.00	-166.67	1,286.01	110.70	1,718.38	1,692.55	25.83	66.532		
2,700.00	2,659.76	3,263.70	3,106.32	11.59	19.62	-167.57	1,265.44	87.67	1,712.43	1,685.58	26.85	63.782		
2,800.00	2,757.52	3,349.17	3,186.10	12.09	20.24	-168.45	1,244.47	65.33	1,707.70	1,679.83	27.87	61.284		
2,900.00	2,855.28	3,439.67	3,270.96	12.60	20.88	-169.35	1,222.54	42.76	1,703.87	1,674.97	28.89	58.976		
3,000.00	2,953.04	3,530.92	3,356.78	13.10	21.52	-170.23	1,200.66	20.81	1,700.80	1,670.87	29.92	56.839		
3,100.00	3,050.80	3,629.13	3,449.01	13.61	22.21	-171.21	1,177.30	-3.53	1,698.42	1,667.42	31.00	54.782		
3,200.00	3,148.56	3,736.22	3,548.23	14.11	23.02	-172.40	1,150.81	-33.86	1,695.63	1,663.43	32.20	52.658		
3,300.00	3,246.31	3,812.47	3,618.20	14.62	23.62	-173.34	1,132.37	-57.90	1,694.16	1,660.88	33.28	50.911		
3,400.00	3,344.07	3,913.84	3,710.91	15.13	24.45	-174.61	1,107.96	-90.84	1,693.61	1,659.07	34.54	49.032		
3,469.32	3,411.84	3,982.10	3,773.27	15.48	25.00	-175.47	1,091.28	-113.04	1,693.49	1,658.08	35.41	47.822 CC		
3,500.00	3,441.83	4,007.14	3,796.15	15.64	25.20	-175.79	1,085.15	-121.17	1,693.54	1,657.78	35.76	47.355 ES		
3,600.00	3,539.59	4,086.00	3,868.50	16.14	25.84	-176.76	1,066.42	-146.32	1,694.89	1,658.00	36.88	45.953		
3,700.00	3,637.35	4,168.09	3,944.51	16.65	26.46	-177.72	1,047.70	-171.04	1,697.70	1,659.71	37.99	44.687		
3,800.00	3,735.11	4,243.06	4,014.44	17.16	27.02	-178.56	1,031.25	-192.49	1,701.86	1,662.83	39.03	43.602		
3,900.00	3,832.87	4,331.99	4,097.23	17.67	27.69	-179.57	1,012.49	-218.96	1,707.62	1,667.43	40.19	42.494		
4,000.00	3,930.62	4,420.97	4,179.20	18.18	28.39	-179.34	993.23	-247.73	1,713.99	1,672.61	41.38	41.422		
4,100.00	4,028.38	4,505.26	4,256.63	18.69	29.06	-178.30	975.34	-275.82	1,721.68	1,679.12	42.55	40.461		
4,200.00	4,126.14	4,599.44	4,343.47	19.20	29.80	-177.16	955.69	-306.53	1,730.34	1,686.54	43.80	39.505		
4,300.00	4,223.90	4,713.25	4,448.23	19.71	30.70	-175.80	931.29	-343.68	1,739.28	1,694.06	45.22	38.464		
4,400.00	4,321.66	4,813.46	4,540.16	20.21	31.51	-174.60	908.54	-376.48	1,747.78	1,701.25	46.53	37.559		
4,500.00	4,419.42	4,908.04	4,627.11	20.72	32.26	-173.49	887.24	-406.97	1,757.09	1,709.29	47.80	36.761		
4,600.00	4,517.18	5,005.24	4,716.65	21.23	33.03	-172.37	865.28	-437.75	1,766.88	1,717.80	49.07	36.006		
4,700.00	4,614.94	5,101.83	4,805.94	21.74	33.78	-171.30	843.53	-467.51	1,777.15	1,726.82	50.33	35.309		
4,800.00	4,712.69	5,194.35	4,891.40	22.25	34.50	-170.29	822.59	-496.08	1,787.99	1,736.44	51.55	34.684		
4,900.00	4,810.45	5,279.74	4,970.62	22.76	35.16	-169.38	803.70	-521.80	1,799.66	1,746.96	52.70	34.147		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 8C-12HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft	
Survey Program: 16-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis			Distance			Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
5,000.00	4,908.21	5,369.39	5,053.50	23.27	35.85	168.42	784.03	-549.73	1,812.43	1,758.54	53.89	33.631			
5,100.00	5,005.97	5,471.92	5,149.14	23.78	36.60	167.41	762.20	-579.50	1,825.57	1,770.42	55.15	33.099			
5,200.00	5,103.73	5,567.39	5,239.28	24.29	37.27	166.57	742.78	-604.26	1,838.82	1,782.52	56.30	32.660			
5,300.00	5,201.49	5,672.60	5,339.10	24.80	37.96	165.72	722.05	-630.21	1,852.51	1,795.02	57.48	32.227			
5,400.00	5,299.25	5,785.65	5,447.32	25.31	38.67	164.91	700.28	-654.61	1,865.57	1,806.90	58.67	31.796			
5,500.00	5,397.00	5,893.00	5,550.29	25.82	39.32	164.20	678.94	-676.13	1,877.65	1,817.86	59.79	31.405			
5,600.00	5,494.76	5,970.46	5,625.22	26.33	39.75	163.76	664.72	-689.69	1,890.29	1,829.64	60.66	31.164			
5,700.00	5,592.52	6,031.47	5,684.56	26.84	40.07	163.45	655.13	-700.10	1,905.04	1,843.65	61.39	31.033			
5,800.00	5,690.28	6,099.75	5,751.19	27.36	40.42	163.12	645.90	-711.83	1,921.79	1,859.65	62.14	30.928			
5,900.00	5,788.04	6,203.83	5,853.10	27.87	40.92	162.68	632.71	-728.29	1,938.77	1,875.67	63.09	30.729			
6,000.00	5,885.80	6,274.00	5,922.22	28.38	41.24	162.46	625.28	-737.86	1,956.59	1,892.80	63.79	30.673			
6,100.00	5,983.56	6,344.98	5,992.49	28.89	41.51	162.29	619.72	-746.12	1,975.81	1,911.38	64.43	30.668			
6,200.00	6,081.31	6,419.87	6,066.95	29.40	41.76	162.20	616.01	-753.22	1,996.38	1,931.34	65.04	30.696			
6,300.00	6,179.07	6,516.65	6,163.47	29.91	42.04	162.18	613.70	-759.71	2,017.75	1,952.04	65.71	30.706			
6,400.00	6,276.83	6,600.46	6,260.15	30.42	44.15	-171.13	605.58	165.29	2,010.49	1,948.24	62.25	32.297			
6,500.00	6,374.59	6,203.75	7,260.19	30.93	44.17	-171.03	605.75	168.58	1,983.40	1,919.83	63.57	31.200			
6,600.00	6,472.35	8,207.22	7,260.23	31.44	44.19	-170.93	605.92	172.05	1,961.04	1,896.24	64.80	30.263			
6,700.00	6,570.11	8,210.88	7,260.28	31.95	44.22	-170.82	606.10	175.70	1,943.56	1,877.64	65.92	29.484			
6,712.06	6,581.89	8,211.33	7,260.29	32.01	44.22	-170.80	606.13	176.15	1,941.79	1,875.74	66.05	29.401			
6,750.00	6,619.02	8,211.84	7,260.29	32.20	44.22	171.90	606.15	176.66	1,936.64	1,870.22	66.42	29.157			
6,800.00	6,667.83	8,209.62	7,260.26	32.44	44.21	150.92	606.04	174.44	1,930.80	1,863.96	66.84	28.887			
6,850.00	6,716.18	8,204.00	7,260.19	32.65	44.17	135.68	605.76	168.82	1,926.09	1,858.92	67.17	28.674			
6,900.00	6,763.70	8,194.88	7,260.10	32.85	44.11	125.51	605.30	159.72	1,922.51	1,855.09	67.41	28.519			
6,950.00	6,810.04	8,179.00	7,260.01	33.03	44.01	118.48	604.52	143.86	1,920.02	1,852.48	67.54	28.428			
7,000.00	6,854.83	8,179.00	7,260.01	33.19	44.01	113.91	604.52	143.86	1,918.63	1,850.91	67.71	28.334			
7,050.00	6,897.73	8,179.00	7,260.01	33.34	44.01	110.55	604.52	143.86	1,918.41	1,850.59	67.82	28.285			
7,051.77	6,899.21	8,156.72	7,259.99	33.34	43.89	109.88	603.54	121.60	1,918.19	1,850.47	67.71	28.328			
7,100.00	6,938.43	8,142.18	7,260.00	33.47	43.82	107.08	603.02	107.07	1,918.73	1,851.03	67.70	28.344			
7,150.00	6,976.60	8,125.24	7,260.05	33.59	43.74	104.65	602.52	90.14	1,920.13	1,852.51	67.62	28.394			
7,200.00	7,011.97	8,106.53	7,260.14	33.69	43.64	102.57	602.12	71.43	1,922.29	1,854.78	67.51	28.474			
7,250.00	7,044.25	8,083.00	7,260.31	33.78	43.53	100.69	601.84	47.91	1,925.11	1,857.76	67.35	28.582			
7,300.00	7,073.21	8,051.05	7,260.13	33.86	43.40	98.91	601.68	15.95	1,928.33	1,861.14	67.19	28.699			
7,350.00	7,098.63	8,012.99	7,258.70	33.93	43.27	97.25	601.66	-22.08	1,931.64	1,864.61	67.03	28.817			
7,400.00	7,120.30	7,988.00	7,257.04	34.00	43.18	95.99	601.75	-47.01	1,934.99	1,868.06	66.93	28.912			
7,450.00	7,138.08	7,947.80	7,252.76	34.07	43.07	94.68	602.23	-86.97	1,938.28	1,871.43	66.85	28.993			
7,500.00	7,151.81	7,918.03	7,248.09	34.14	43.00	93.66	602.94	-116.36	1,941.62	1,874.80	66.82	29.057			
7,550.00	7,161.39	7,886.49	7,241.76	34.21	42.92	92.77	604.01	-147.23	1,944.90	1,878.07	66.83	29.103			
7,600.00	7,166.77	7,845.48	7,231.73	34.30	42.84	91.95	605.64	-186.96	1,947.87	1,880.96	66.91	29.110			
7,638.04	7,168.00	7,814.36	7,222.85	34.39	42.79	91.44	607.00	-216.76	1,949.82	1,882.82	67.01	29.100			
7,700.00	7,168.00	7,751.18	7,201.49	34.57	42.71	90.81	609.85	-276.13	1,952.87	1,885.60	67.27	29.029			
7,800.00	7,168.00	7,625.30	7,144.68	35.03	42.62	89.14	614.13	-388.18	1,957.56	1,889.61	67.96	28.806			
7,900.00	7,168.00	7,488.96	7,059.80	35.77	42.63	86.66	614.21	-494.54	1,961.38	1,892.60	68.78	28.517			
8,000.00	7,168.00	7,416.00	7,007.40	36.82	42.66	85.13	612.46	-545.26	1,966.34	1,896.88	69.46	28.307			
8,100.00	7,168.00	7,360.36	6,965.13	38.17	42.69	83.90	610.86	-581.38	1,974.22	1,904.07	70.15	28.144			
8,200.00	7,168.00	7,321.00	6,933.97	39.74	42.72	82.99	609.81	-605.40	1,985.67	1,914.86	70.81	28.043			
8,300.00	7,168.00	7,290.07	6,908.69	41.49	42.74	82.26	609.14	-623.21	2,001.03	1,929.57	71.46	28.002 SF			
8,400.00	7,168.00	7,264.97	6,887.60	43.37	42.75	81.65	608.77	-636.81	2,020.49	1,948.39	72.10	28.024			
8,500.00	7,168.00	7,226.00	6,853.91	45.36	42.78	80.69	608.50	-656.39	2,044.21	1,971.52	72.69	28.122			
8,600.00	7,168.00	7,226.00	6,853.91	47.44	42.78	80.69	608.50	-656.39	2,071.67	1,998.36	73.31	28.259			
8,700.00	7,168.00	7,194.28	6,825.86	49.59	42.80	79.89	608.48	-671.19	2,103.11	2,029.26	73.85	28.478			
8,800.00	7,168.00	7,169.81	6,803.97	51.79	42.81	79.27	608.53	-682.13	2,138.23	2,063.86	74.37	28.751			
8,900.00	7,168.00	7,130.00	6,767.92	54.05	42.83	78.25	608.73	-699.02	2,177.03	2,102.23	74.81	29.102			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 8C-12HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
9,000.00	7,168.00	7,130.00	6,767.92	56.35	42.83	78.25	608.73	-699.02	2,219.00	2,143.67	75.33	29.456		
9,100.00	7,168.00	7,130.00	6,767.92	58.69	42.83	78.25	608.73	-699.02	2,264.62	2,188.79	75.83	29.864		
9,200.00	7,168.00	7,095.96	6,736.57	61.06	42.83	77.38	608.98	-712.28	2,312.99	2,236.81	76.18	30.361		
9,300.00	7,168.00	7,082.62	6,724.13	63.46	42.84	77.03	609.08	-717.09	2,364.59	2,288.01	76.58	30.876		
9,400.00	7,168.00	7,070.41	6,712.67	65.88	42.84	76.71	609.18	-721.29	2,419.04	2,342.08	76.97	31.429		
9,500.00	7,168.00	7,035.00	6,679.07	68.33	42.84	75.78	609.47	-732.45	2,476.53	2,399.32	77.21	32.075		
9,600.00	7,168.00	7,035.00	6,679.07	70.80	42.84	75.78	609.47	-732.45	2,535.95	2,458.33	77.62	32.672		
9,700.00	7,168.00	7,035.00	6,679.07	73.29	42.84	75.78	609.47	-732.45	2,597.86	2,519.85	78.01	33.301		
9,800.00	7,168.00	7,035.00	6,679.07	75.79	42.84	75.78	609.47	-732.45	2,662.08	2,583.70	78.39	33.961		
9,900.00	7,168.00	7,035.00	6,679.07	78.31	42.84	75.78	609.47	-732.45	2,728.46	2,649.71	78.75	34.648		
10,000.00	7,168.00	7,035.00	6,679.07	80.84	42.84	75.78	609.47	-732.45	2,796.84	2,717.75	79.10	35.360		
10,100.00	7,168.00	7,035.00	6,679.07	83.39	42.84	75.78	609.47	-732.45	2,867.08	2,787.65	79.43	36.095		
10,200.00	7,168.00	7,035.00	6,679.07	85.94	42.84	75.78	609.47	-732.45	2,939.04	2,859.29	79.75	36.852		
10,300.00	7,168.00	7,035.00	6,679.07	88.51	42.84	75.78	609.47	-732.45	3,012.61	2,932.54	80.06	37.628		
10,400.00	7,168.00	7,035.00	6,679.07	91.08	42.84	75.78	609.47	-732.45	3,087.66	3,007.30	80.36	38.423		
10,500.00	7,168.00	6,995.87	6,641.28	93.66	42.83	74.75	609.87	-742.59	3,162.73	3,082.27	80.45	39.311		
10,600.00	7,168.00	6,991.99	6,637.51	96.25	42.82	74.65	609.91	-743.45	3,240.15	3,159.43	80.71	40.144		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ MIRACLE 13C-12HZ - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft
Survey Program: 17-OWSG (Rev2) MWD										Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
4,700.00	4,614.94	11,892.00	7,212.13	21.74	133.43	-16.90	-2,467.15	939.77	3,203.91	3,117.87	86.04	37.238	
4,800.00	4,712.69	11,892.00	7,212.13	22.25	133.43	-16.90	-2,467.15	939.77	3,112.14	3,024.80	87.34	35.634	
4,900.00	4,810.45	11,892.00	7,212.13	22.76	133.43	-16.90	-2,467.15	939.77	3,020.90	2,932.19	88.71	34.055	
5,000.00	4,908.21	11,892.00	7,212.13	23.27	133.43	-16.90	-2,467.15	939.77	2,930.22	2,840.08	90.15	32.505	
5,100.00	5,005.97	11,892.00	7,212.13	23.78	133.43	-16.90	-2,467.15	939.77	2,840.18	2,748.51	91.67	30.984	
5,200.00	5,103.73	11,892.00	7,212.13	24.29	133.43	-16.90	-2,467.15	939.77	2,750.82	2,657.55	93.27	29.493	
5,300.00	5,201.49	11,892.00	7,212.13	24.80	133.43	-16.90	-2,467.15	939.77	2,662.22	2,567.25	94.96	28.034	
5,400.00	5,299.25	11,892.00	7,212.13	25.31	133.43	-16.90	-2,467.15	939.77	2,574.45	2,477.70	96.75	26.609	
5,500.00	5,397.00	11,892.00	7,212.13	25.82	133.43	-16.90	-2,467.15	939.77	2,487.61	2,388.97	98.64	25.220	
5,600.00	5,494.76	11,892.00	7,212.13	26.33	133.43	-16.90	-2,467.15	939.77	2,401.79	2,301.16	100.63	23.867	
5,700.00	5,592.52	11,892.00	7,212.13	26.84	133.43	-16.90	-2,467.15	939.77	2,317.11	2,214.37	102.74	22.554	
5,800.00	5,690.28	11,892.00	7,212.13	27.36	133.43	-16.90	-2,467.15	939.77	2,233.69	2,128.74	104.96	21.282	
5,900.00	5,788.04	11,892.00	7,212.13	27.87	133.43	-16.90	-2,467.15	939.77	2,151.69	2,044.40	107.30	20.054	
6,000.00	5,885.80	11,892.00	7,212.13	28.38	133.43	-16.90	-2,467.15	939.77	2,071.27	1,961.51	109.76	18.871	
6,100.00	5,983.56	11,892.00	7,212.13	28.89	133.43	-16.90	-2,467.15	939.77	1,992.63	1,880.29	112.34	17.737	
6,200.00	6,081.31	11,892.00	7,212.13	29.40	133.43	-16.90	-2,467.15	939.77	1,915.98	1,800.93	115.05	16.654	
6,300.00	6,179.07	11,892.00	7,212.13	29.91	133.43	-16.90	-2,467.15	939.77	1,841.56	1,723.70	117.86	15.625	
6,400.00	6,276.83	11,892.00	7,212.13	30.42	133.43	-16.90	-2,467.15	939.77	1,769.68	1,648.90	120.77	14.653	
6,500.00	6,374.59	11,892.00	7,212.13	30.93	133.43	-16.90	-2,467.15	939.77	1,700.63	1,576.87	123.76	13.741	
6,600.00	6,472.35	11,892.00	7,212.13	31.44	133.43	-16.90	-2,467.15	939.77	1,634.79	1,507.99	126.80	12.893	
6,700.00	6,570.11	11,892.00	7,212.13	31.95	133.43	-16.90	-2,467.15	939.77	1,572.56	1,442.72	129.84	12.111	
6,712.06	6,581.89	11,892.00	7,212.13	32.01	133.43	-16.90	-2,467.15	939.77	1,565.32	1,435.12	130.21	12.022	
6,750.00	6,619.02	11,892.00	7,212.13	32.20	133.43	-37.05	-2,467.15	939.77	1,543.45	1,412.13	131.32	11.753	
6,800.00	6,667.83	11,892.00	7,212.13	32.44	133.43	-61.13	-2,467.15	939.77	1,517.30	1,384.63	132.66	11.437	
6,850.00	6,716.18	11,892.00	7,212.13	32.65	133.43	-78.78	-2,467.15	939.77	1,494.52	1,360.68	133.84	11.167	
6,900.00	6,763.70	11,892.00	7,212.13	32.85	133.43	-90.70	-2,467.15	939.77	1,475.45	1,340.65	134.80	10.945	
6,950.00	6,810.04	11,892.00	7,212.13	33.03	133.43	-98.77	-2,467.15	939.77	1,460.37	1,324.85	135.53	10.776	
7,000.00	6,854.83	11,892.00	7,212.13	33.19	133.43	-104.34	-2,467.15	939.77	1,449.54	1,313.55	135.99	10.659	
7,050.00	6,897.73	11,892.00	7,212.13	33.34	133.43	-108.21	-2,467.15	939.77	1,443.13	1,306.95	136.18	10.597	
7,095.67	6,935.00	11,892.00	7,212.13	33.46	133.43	-110.66	-2,467.15	939.77	1,441.23	1,305.11	136.12	10.588	CC, ES, SF
7,100.00	6,938.43	11,892.00	7,212.13	33.47	133.43	-110.85	-2,467.15	939.77	1,441.24	1,305.15	136.10	10.590	
7,150.00	6,976.60	11,892.00	7,212.13	33.59	133.43	-112.54	-2,467.15	939.77	1,443.92	1,308.17	135.74	10.637	
7,200.00	7,011.97	11,892.00	7,212.13	33.69	133.43	-113.45	-2,467.15	939.77	1,451.10	1,315.96	135.14	10.738	
7,250.00	7,044.25	11,892.00	7,212.13	33.78	133.43	-113.67	-2,467.15	939.77	1,462.68	1,328.37	134.32	10.890	
7,300.00	7,073.21	11,892.00	7,212.13	33.86	133.43	-113.26	-2,467.15	939.77	1,478.47	1,345.16	133.30	11.091	
7,350.00	7,098.63	11,892.00	7,212.13	33.93	133.43	-112.24	-2,467.15	939.77	1,498.20	1,366.06	132.14	11.338	
7,400.00	7,120.30	11,892.00	7,212.13	34.00	133.43	-110.61	-2,467.15	939.77	1,521.59	1,390.72	130.87	11.627	
7,450.00	7,138.08	11,892.00	7,212.13	34.07	133.43	-108.35	-2,467.15	939.77	1,548.28	1,418.77	129.52	11.954	
7,500.00	7,151.81	11,892.00	7,212.13	34.14	133.43	-105.45	-2,467.15	939.77	1,577.93	1,449.80	128.13	12.315	
7,550.00	7,161.39	11,892.00	7,212.13	34.21	133.43	-101.86	-2,467.15	939.77	1,610.14	1,483.41	126.73	12.706	
7,600.00	7,166.77	11,892.00	7,212.13	34.30	133.43	-97.57	-2,467.15	939.77	1,644.53	1,519.19	125.34	13.120	
7,638.04	7,168.00	11,892.00	7,212.13	34.39	133.43	-93.83	-2,467.15	939.77	1,671.90	1,547.60	124.31	13.450	
7,700.00	7,168.00	11,892.00	7,212.13	34.57	133.43	-93.83	-2,467.15	939.77	1,717.77	1,595.10	122.67	14.003	
7,800.00	7,168.00	11,892.00	7,212.13	35.03	133.43	-93.83	-2,467.15	939.77	1,793.85	1,673.67	120.17	14.927	
7,900.00	7,168.00	11,892.00	7,212.13	35.77	133.43	-93.83	-2,467.15	939.77	1,872.17	1,754.34	117.83	15.889	
8,000.00	7,168.00	11,892.00	7,212.13	36.82	133.43	-93.83	-2,467.15	939.77	1,952.47	1,836.84	115.63	16.885	
8,100.00	7,168.00	11,892.00	7,212.13	38.17	133.43	-93.83	-2,467.15	939.77	2,034.52	1,920.95	113.58	17.913	
8,200.00	7,168.00	11,892.00	7,212.13	39.74	133.43	-93.83	-2,467.15	939.77	2,118.12	2,006.46	111.65	18.971	
8,300.00	7,168.00	11,892.00	7,212.13	41.49	133.43	-93.83	-2,467.15	939.77	2,203.08	2,093.22	109.86	20.054	
8,400.00	7,168.00	11,892.00	7,212.13	43.37	133.43	-93.83	-2,467.15	939.77	2,289.25	2,181.08	108.17	21.163	
8,500.00	7,168.00	11,892.00	7,212.13	45.36	133.43	-93.83	-2,467.15	939.77	2,376.51	2,269.91	106.60	22.293	
8,600.00	7,168.00	11,892.00	7,212.13	47.44	133.43	-93.83	-2,467.15	939.77	2,464.74	2,359.61	105.13	23.444	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ MIRACLE 13C-12HZ - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 usft						
Survey Program: 17-OWSG (Rev2) MWD												Offset Well Error:	0.00 usft						
Reference				Offset			Semi Major Axis		Highside		Offset Wellbore Centre			Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
8,700.00	7,168.00	11,892.00	7,212.13	49.59	133.43	-93.83			-2,467.15	939.77	2,553.84	2,450.08	103.76	24.613					
8,800.00	7,168.00	11,892.00	7,212.13	51.79	133.43	-93.83			-2,467.15	939.77	2,643.71	2,541.24	102.48	25.799					
8,900.00	7,168.00	11,892.00	7,212.13	54.05	133.43	-93.83			-2,467.15	939.77	2,734.29	2,633.02	101.27	27.000					
9,000.00	7,168.00	11,892.00	7,212.13	56.35	133.43	-93.83			-2,467.15	939.77	2,825.51	2,725.36	100.14	28.214					
9,100.00	7,168.00	11,892.00	7,212.13	58.69	133.43	-93.83			-2,467.15	939.77	2,917.30	2,818.21	99.09	29.441					
9,200.00	7,168.00	11,892.00	7,212.13	61.06	133.43	-93.83			-2,467.15	939.77	3,009.61	2,911.51	98.10	30.680					
9,300.00	7,168.00	11,892.00	7,212.13	63.46	133.43	-93.83			-2,467.15	939.77	3,102.40	3,005.23	97.17	31.928					
9,400.00	7,168.00	11,892.00	7,212.13	65.88	133.43	-93.83			-2,467.15	939.77	3,195.62	3,099.33	96.30	33.185					

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ MIRACLE 33N-12HZ - Wellbore #1 - Wellbore #1											Offset Site Error:	0.00 usft	
Survey Program: 17-OWSG (Rev2) MWD											Offset Well Error:	0.00 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
4,300.00	4,223.90	11,657.00	7,060.41	19.71	132.27	-30.08	-2,025.35	947.43	3,248.27	3,176.88	71.40	45.497	
4,400.00	4,321.66	11,657.00	7,060.41	20.21	132.27	-30.08	-2,025.35	947.43	3,152.68	3,080.47	72.21	43.662	
4,500.00	4,419.42	11,657.00	7,060.41	20.72	132.27	-30.08	-2,025.35	947.43	3,057.37	2,984.31	73.06	41.847	
4,600.00	4,517.18	11,657.00	7,060.41	21.23	132.27	-30.08	-2,025.35	947.43	2,962.37	2,888.40	73.97	40.050	
4,700.00	4,614.94	11,657.00	7,060.41	21.74	132.27	-30.08	-2,025.35	947.43	2,867.71	2,792.79	74.92	38.275	
4,800.00	4,712.69	11,657.00	7,060.41	22.25	132.27	-30.08	-2,025.35	947.43	2,773.42	2,697.48	75.94	36.521	
4,900.00	4,810.45	11,657.00	7,060.41	22.76	132.27	-30.08	-2,025.35	947.43	2,679.55	2,602.53	77.02	34.790	
5,000.00	4,908.21	11,657.00	7,060.41	23.27	132.27	-30.08	-2,025.35	947.43	2,586.14	2,507.97	78.17	33.084	
5,100.00	5,005.97	11,657.00	7,060.41	23.78	132.27	-30.08	-2,025.35	947.43	2,493.24	2,413.85	79.39	31.404	
5,200.00	5,103.73	11,657.00	7,060.41	24.29	132.27	-30.08	-2,025.35	947.43	2,400.91	2,320.21	80.70	29.751	
5,300.00	5,201.49	11,657.00	7,060.41	24.80	132.27	-30.08	-2,025.35	947.43	2,309.22	2,227.12	82.10	28.128	
5,400.00	5,299.25	11,657.00	7,060.41	25.31	132.27	-30.08	-2,025.35	947.43	2,218.24	2,134.65	83.59	26.537	
5,500.00	5,397.00	11,657.00	7,060.41	25.82	132.27	-30.08	-2,025.35	947.43	2,128.08	2,042.89	85.19	24.980	
5,600.00	5,494.76	11,657.00	7,060.41	26.33	132.27	-30.08	-2,025.35	947.43	2,038.84	1,951.93	86.91	23.459	
5,700.00	5,592.52	11,657.00	7,060.41	26.84	132.27	-30.08	-2,025.35	947.43	1,950.63	1,861.88	88.75	21.978	
5,800.00	5,690.28	11,657.00	7,060.41	27.36	132.27	-30.08	-2,025.35	947.43	1,863.62	1,772.89	90.74	20.539	
5,900.00	5,788.04	11,657.00	7,060.41	27.87	132.27	-30.08	-2,025.35	947.43	1,777.98	1,685.12	92.86	19.146	
6,000.00	5,885.80	11,657.00	7,060.41	28.38	132.27	-30.08	-2,025.35	947.43	1,693.91	1,598.77	95.15	17.803	
6,100.00	5,983.56	11,657.00	7,060.41	28.89	132.27	-30.08	-2,025.35	947.43	1,611.66	1,514.07	97.59	16.514	
6,200.00	6,081.31	11,657.00	7,060.41	29.40	132.27	-30.08	-2,025.35	947.43	1,531.53	1,431.33	100.20	15.285	
6,300.00	6,179.07	11,657.00	7,060.41	29.91	132.27	-30.08	-2,025.35	947.43	1,453.86	1,350.89	102.97	14.119	
6,400.00	6,276.83	11,657.00	7,060.41	30.42	132.27	-30.08	-2,025.35	947.43	1,379.07	1,273.18	105.89	13.024	
6,500.00	6,374.59	11,657.00	7,060.41	30.93	132.27	-30.08	-2,025.35	947.43	1,307.65	1,198.72	108.92	12.005	
6,600.00	6,472.35	11,657.00	7,060.41	31.44	132.27	-30.08	-2,025.35	947.43	1,240.19	1,128.16	112.03	11.070	
6,700.00	6,570.11	11,657.00	7,060.41	31.95	132.27	-30.08	-2,025.35	947.43	1,177.36	1,062.23	115.13	10.226	
6,712.06	6,581.89	11,657.00	7,060.41	32.01	132.27	-30.08	-2,025.35	947.43	1,170.14	1,054.64	115.50	10.131	
6,750.00	6,619.02	11,657.00	7,060.41	32.20	132.27	-49.82	-2,025.35	947.43	1,148.64	1,032.04	116.60	9.851	
6,800.00	6,667.83	11,657.00	7,060.41	32.44	132.27	-73.32	-2,025.35	947.43	1,123.96	1,006.12	117.84	9.538	
6,850.00	6,716.18	11,657.00	7,060.41	32.65	132.27	-90.37	-2,025.35	947.43	1,103.86	985.07	118.79	9.293	
6,900.00	6,763.70	11,657.00	7,060.41	32.85	132.27	-101.70	-2,025.35	947.43	1,088.75	969.37	119.39	9.120	
6,950.00	6,810.04	11,657.00	7,060.41	33.03	132.27	-109.18	-2,025.35	947.43	1,078.97	959.38	119.59	9.022	
7,000.00	6,854.83	11,657.00	7,060.41	33.19	132.27	-114.17	-2,025.35	947.43	1,074.72	955.35	119.37	9.003 SF	
7,012.71	6,865.92	11,657.00	7,060.41	33.23	132.27	-115.14	-2,025.35	947.43	1,074.54	955.29	119.25	9.011 CC, ES	
7,050.00	6,897.73	11,657.00	7,060.41	33.34	132.27	-117.46	-2,025.35	947.43	1,076.11	957.37	118.73	9.063	
7,100.00	6,938.43	11,657.00	7,060.41	33.47	132.27	-119.49	-2,025.35	947.43	1,083.10	965.40	117.70	9.202	
7,150.00	6,976.60	11,657.00	7,060.41	33.59	132.27	-120.53	-2,025.35	947.43	1,095.54	979.21	116.33	9.417	
7,200.00	7,011.97	11,657.00	7,060.41	33.69	132.27	-120.73	-2,025.35	947.43	1,113.14	998.46	114.68	9.707	
7,250.00	7,044.25	11,657.00	7,060.41	33.78	132.27	-120.13	-2,025.35	947.43	1,135.55	1,022.73	112.82	10.065	
7,300.00	7,073.21	11,657.00	7,060.41	33.86	132.27	-118.75	-2,025.35	947.43	1,162.32	1,051.48	110.84	10.486	
7,350.00	7,098.63	11,657.00	7,060.41	33.93	132.27	-116.55	-2,025.35	947.43	1,192.95	1,084.15	108.80	10.965	
7,400.00	7,120.30	11,657.00	7,060.41	34.00	132.27	-113.46	-2,025.35	947.43	1,226.93	1,120.18	106.76	11.493	
7,450.00	7,138.08	11,657.00	7,060.41	34.07	132.27	-109.37	-2,025.35	947.43	1,263.75	1,158.99	104.77	12.063	
7,500.00	7,151.81	11,657.00	7,060.41	34.14	132.27	-104.17	-2,025.35	947.43	1,302.90	1,200.04	102.87	12.666	
7,550.00	7,161.39	11,657.00	7,060.41	34.21	132.27	-97.79	-2,025.35	947.43	1,343.89	1,242.81	101.08	13.295	
7,600.00	7,166.77	11,657.00	7,060.41	34.30	132.27	-90.23	-2,025.35	947.43	1,386.26	1,286.83	99.43	13.942	
7,638.04	7,168.00	11,657.00	7,060.41	34.39	132.27	-83.79	-2,025.35	947.43	1,419.15	1,320.88	98.27	14.442	
7,700.00	7,168.00	11,657.00	7,060.41	34.57	132.27	-83.79	-2,025.35	947.43	1,473.39	1,376.88	96.51	15.267	
7,800.00	7,168.00	11,657.00	7,060.41	35.03	132.27	-83.79	-2,025.35	947.43	1,562.14	1,468.21	93.93	16.632	
7,900.00	7,168.00	11,657.00	7,060.41	35.77	132.27	-83.79	-2,025.35	947.43	1,652.17	1,560.54	91.63	18.031	
8,000.00	7,168.00	11,657.00	7,060.41	36.82	132.27	-83.79	-2,025.35	947.43	1,743.29	1,653.72	89.58	19.461	
8,100.00	7,168.00	11,657.00	7,060.41	38.17	132.27	-83.79	-2,025.35	947.43	1,835.34	1,747.59	87.75	20.916	
8,200.00	7,168.00	11,657.00	7,060.41	39.74	132.27	-83.79	-2,025.35	947.43	1,928.18	1,842.07	86.11	22.393	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ MIRACLE 33N-12HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 17-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
8,300.00	7,168.00	11,657.00	7,060.41	41.49	132.27	-83.79	-2,025.35	947.43	2,021.70	1,937.07	84.64	23.887		
8,400.00	7,168.00	11,657.00	7,060.41	43.37	132.27	-83.79	-2,025.35	947.43	2,115.81	2,032.50	83.31	25.396		
8,500.00	7,168.00	11,657.00	7,060.41	45.36	132.27	-83.79	-2,025.35	947.43	2,210.45	2,128.33	82.12	26.918		
8,600.00	7,168.00	11,657.00	7,060.41	47.44	132.27	-83.79	-2,025.35	947.43	2,305.53	2,224.49	81.04	28.449		
8,700.00	7,168.00	11,657.00	7,060.41	49.59	132.27	-83.79	-2,025.35	947.43	2,401.01	2,320.95	80.07	29.987		
8,800.00	7,168.00	11,657.00	7,060.41	51.79	132.27	-83.79	-2,025.35	947.43	2,496.85	2,417.67	79.19	31.531		
8,900.00	7,168.00	11,657.00	7,060.41	54.05	132.27	-83.79	-2,025.35	947.43	2,593.00	2,514.62	78.39	33.080		
9,000.00	7,168.00	11,657.00	7,060.41	56.35	132.27	-83.79	-2,025.35	947.43	2,689.44	2,611.78	77.66	34.631		
9,100.00	7,168.00	11,657.00	7,060.41	58.69	132.27	-83.79	-2,025.35	947.43	2,786.12	2,709.12	77.00	36.184		
9,200.00	7,168.00	11,657.00	7,060.41	61.06	132.27	-83.79	-2,025.35	947.43	2,883.03	2,806.64	76.40	37.738		
9,300.00	7,168.00	11,657.00	7,060.41	63.46	132.27	-83.79	-2,025.35	947.43	2,980.15	2,904.30	75.85	39.291		
9,400.00	7,168.00	11,657.00	7,060.41	65.88	132.27	-83.79	-2,025.35	947.43	3,077.45	3,002.10	75.35	40.844		
9,500.00	7,168.00	11,657.00	7,060.41	68.33	132.27	-83.79	-2,025.35	947.43	3,174.91	3,100.02	74.89	42.395		
9,600.00	7,168.00	11,657.00	7,060.41	70.80	132.27	-83.79	-2,025.35	947.43	3,272.53	3,198.06	74.47	43.944		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ MIRACLE 40C-11HZ - SIDETRACK - SIDETRACK													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
4,100.00	4,028.38	13,449.26	7,213.03	18.69	171.38	-175.63	-392.25	164.21	3,233.19	3,172.25	60.95	53.050		
4,200.00	4,126.14	13,443.83	7,213.05	19.20	171.23	-175.31	-392.57	169.64	3,137.74	3,076.19	61.55	50.982		
4,300.00	4,223.90	13,438.32	7,213.06	19.71	171.08	-174.98	-392.91	175.13	3,042.56	2,980.34	62.22	48.899		
4,400.00	4,321.66	13,432.75	7,213.08	20.21	170.93	-174.65	-393.25	180.69	2,947.70	2,884.72	62.98	46.803		
4,500.00	4,419.42	13,427.11	7,213.10	20.72	170.78	-174.31	-393.59	186.32	2,853.17	2,789.33	63.84	44.695		
4,600.00	4,517.18	13,421.40	7,213.12	21.23	170.63	-173.97	-393.95	192.02	2,759.01	2,694.21	64.80	42.576		
4,700.00	4,614.94	13,412.00	7,213.16	21.74	170.38	-173.41	-394.54	201.40	2,665.27	2,599.43	65.85	40.477		
4,800.00	4,712.69	13,409.42	7,213.17	22.25	170.31	-173.26	-394.70	203.97	2,571.98	2,504.87	67.11	38.324		
4,900.00	4,810.45	13,402.67	7,213.20	22.76	170.12	-172.85	-395.13	210.72	2,479.20	2,410.72	68.49	36.201		
5,000.00	4,908.21	13,395.92	7,213.23	23.27	169.94	-172.45	-395.56	217.45	2,386.99	2,316.95	70.04	34.082		
5,100.00	5,005.97	13,389.17	7,213.25	23.78	169.76	-172.04	-395.99	224.19	2,295.41	2,223.62	71.79	31.974		
5,200.00	5,103.73	13,382.43	7,213.28	24.29	169.58	-171.64	-396.42	230.91	2,204.54	2,130.77	73.77	29.884		
5,300.00	5,201.49	13,375.70	7,213.31	24.80	169.40	-171.23	-396.86	237.63	2,114.47	2,038.47	76.01	27.820		
5,400.00	5,299.25	13,368.97	7,213.33	25.31	169.22	-170.82	-397.29	244.35	2,025.32	1,946.79	78.53	25.790		
5,500.00	5,397.00	13,362.24	7,213.36	25.82	169.04	-170.42	-397.73	251.06	1,937.20	1,855.82	81.38	23.804		
5,600.00	5,494.76	13,355.52	7,213.38	26.33	168.86	-170.01	-398.17	257.77	1,850.27	1,765.67	84.59	21.872		
5,700.00	5,592.52	13,348.81	7,213.41	26.84	168.68	-169.60	-398.61	264.47	1,764.69	1,676.48	88.21	20.005		
5,800.00	5,690.28	13,342.10	7,213.43	27.36	168.50	-169.19	-399.05	271.16	1,680.69	1,588.40	92.29	18.211		
5,900.00	5,788.04	13,335.39	7,213.46	27.87	168.32	-168.78	-399.50	277.85	1,598.50	1,501.64	96.86	16.503		
6,000.00	5,885.80	13,328.69	7,213.48	28.38	168.14	-168.37	-399.94	284.53	1,518.42	1,416.45	101.98	14.890		
6,100.00	5,983.56	13,322.00	7,213.50	28.89	167.96	-167.96	-400.39	291.21	1,440.81	1,333.12	107.68	13.380		
6,200.00	6,081.31	13,316.00	7,213.52	29.40	167.80	-167.60	-400.79	297.20	1,366.07	1,252.05	114.03	11.980		
6,300.00	6,179.07	13,310.00	7,213.52	29.91	167.80	-167.60	-400.79	297.20	1,294.74	1,173.61	121.13	10.688		
6,400.00	6,276.83	13,304.47	7,213.57	30.42	167.49	-166.89	-401.57	308.70	1,227.35	1,098.72	128.64	9.541		
6,500.00	6,374.59	13,298.65	7,213.61	30.93	167.33	-166.53	-401.97	314.51	1,164.65	1,027.82	136.83	8.512		
6,600.00	6,472.35	13,292.58	7,213.65	31.44	167.17	-166.16	-402.39	320.57	1,107.40	961.91	145.49	7.612		
6,700.00	6,570.11	13,286.25	7,213.71	31.95	167.00	-165.77	-402.82	326.88	1,056.49	902.09	154.40	6.843		
6,712.06	6,581.89	13,285.47	7,213.72	32.01	166.98	-165.72	-402.88	327.65	1,050.83	895.35	155.48	6.759		
6,750.00	6,619.02	13,284.15	7,213.73	32.20	166.94	178.43	-402.97	328.98	1,033.77	874.87	158.90	6.506		
6,800.00	6,667.83	13,285.93	7,213.71	32.44	166.99	159.06	-402.85	327.20	1,013.29	849.85	163.44	6.200		
6,850.00	6,716.18	13,291.85	7,213.66	32.65	167.15	145.07	-402.44	321.30	995.32	827.38	167.94	5.927		
6,900.00	6,763.70	13,301.98	7,213.58	32.85	167.42	135.78	-401.74	311.19	980.06	807.75	172.32	5.688		
6,950.00	6,810.04	13,316.41	7,213.52	33.03	167.81	129.39	-400.77	296.79	967.63	791.13	176.51	5.482		
7,000.00	6,854.83	13,336.45	7,213.45	33.19	168.35	124.53	-399.43	276.79	958.03	777.54	180.49	5.308		
7,050.00	6,897.73	13,360.60	7,213.37	33.34	168.99	120.54	-397.84	252.69	951.14	766.97	184.18	5.164		
7,100.00	6,938.43	13,388.69	7,213.26	33.47	169.75	117.05	-396.02	224.67	946.80	759.24	187.56	5.048		
7,150.00	6,976.60	13,420.72	7,213.12	33.59	170.61	113.82	-393.99	192.70	944.73	754.10	190.63	4.956		
7,178.30	6,996.99	13,440.87	7,213.05	33.64	171.15	112.06	-392.75	172.59	944.44	752.19	192.25	4.913 CC		
7,200.00	7,011.97	13,457.11	7,213.01	33.69	171.59	110.75	-391.78	156.38	944.60	751.17	193.43	4.883		
7,250.00	7,044.25	13,497.02	7,212.97	33.78	172.66	107.84	-389.50	116.53	946.02	750.05	195.97	4.827 ES		
7,300.00	7,073.21	13,540.35	7,212.94	33.86	173.83	105.10	-387.18	73.27	948.60	750.28	198.32	4.783		
7,350.00	7,098.63	13,584.57	7,212.73	33.93	175.02	102.63	-384.93	29.11	951.95	751.50	200.45	4.749		
7,400.00	7,120.30	13,628.00	7,212.49	34.00	176.18	100.49	-382.75	-14.27	955.85	753.47	202.38	4.723 SF		
7,450.00	7,138.08	13,628.00	7,212.49	34.07	176.18	99.54	-382.75	-14.27	961.18	758.46	202.72	4.742		
7,500.00	7,151.81	13,628.00	7,212.49	34.14	176.18	98.46	-382.75	-14.27	968.83	766.30	202.54	4.783		
7,550.00	7,161.39	13,628.00	7,212.49	34.21	176.18	97.25	-382.75	-14.27	978.70	776.83	201.87	4.848		
7,600.00	7,166.77	13,628.00	7,212.49	34.30	176.18	95.91	-382.75	-14.27	990.65	789.91	200.74	4.935		
7,638.04	7,168.00	13,628.00	7,212.49	34.39	176.18	94.81	-382.75	-14.27	1,001.03	801.43	199.60	5.015		
7,700.00	7,168.00	13,628.00	7,212.49	34.57	176.18	94.81	-382.75	-14.27	1,020.52	823.20	197.33	5.172		
7,800.00	7,168.00	13,628.00	7,212.49	35.03	176.18	94.81	-382.75	-14.27	1,058.90	866.07	192.83	5.491		
7,900.00	7,168.00	13,628.00	7,212.49	35.77	176.18	94.81	-382.75	-14.27	1,105.02	917.43	187.60	5.890		
8,000.00	7,168.00	13,628.00	7,212.49	36.82	176.18	94.81	-382.75	-14.27	1,157.96	976.04	181.92	6.365		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ MIRACLE 40C-11HZ - SIDETRACK - SIDETRACK													Offset Site Error:	0.00 usft		
Survey Program: 16-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference				Offset			Semi Major Axis		Highside		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Reference	Offset	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
8,100.00	7,168.00	13,628.00	7,212.49	38.17	176.18	94.81		-382.75	-14.27	1,216.83	1,040.78	176.05	6.912			
8,200.00	7,168.00	13,628.00	7,212.49	39.74	176.18	94.81		-382.75	-14.27	1,280.81	1,110.63	170.18	7.526			
8,300.00	7,168.00	13,628.00	7,212.49	41.49	176.18	94.81		-382.75	-14.27	1,349.18	1,184.73	164.45	8.204			
8,400.00	7,168.00	13,628.00	7,212.49	43.37	176.18	94.81		-382.75	-14.27	1,421.30	1,262.35	158.94	8.942			
8,500.00	7,168.00	13,628.00	7,212.49	45.36	176.18	94.81		-382.75	-14.27	1,496.63	1,342.91	153.72	9.736			
8,600.00	7,168.00	13,628.00	7,212.49	47.44	176.18	94.81		-382.75	-14.27	1,574.70	1,425.91	148.79	10.583			
8,700.00	7,168.00	13,628.00	7,212.49	49.59	176.18	94.81		-382.75	-14.27	1,655.14	1,510.95	144.19	11.479			
8,800.00	7,168.00	13,628.00	7,212.49	51.79	176.18	94.81		-382.75	-14.27	1,737.61	1,597.72	139.89	12.421			
8,900.00	7,168.00	13,628.00	7,212.49	54.05	176.18	94.81		-382.75	-14.27	1,821.84	1,685.94	135.89	13.406			
9,000.00	7,168.00	13,628.00	7,212.49	56.35	176.18	94.81		-382.75	-14.27	1,907.59	1,775.41	132.18	14.432			
9,100.00	7,168.00	13,628.00	7,212.49	58.69	176.18	94.81		-382.75	-14.27	1,994.67	1,865.93	128.73	15.494			
9,200.00	7,168.00	13,628.00	7,212.49	61.06	176.18	94.81		-382.75	-14.27	2,082.91	1,957.37	125.53	16.592			
9,300.00	7,168.00	13,628.00	7,212.49	63.46	176.18	94.81		-382.75	-14.27	2,172.17	2,049.61	122.56	17.723			
9,400.00	7,168.00	13,628.00	7,212.49	65.88	176.18	94.81		-382.75	-14.27	2,262.32	2,142.52	119.80	18.884			
9,500.00	7,168.00	13,628.00	7,212.49	68.33	176.18	94.81		-382.75	-14.27	2,353.28	2,236.05	117.23	20.074			
9,600.00	7,168.00	13,628.00	7,212.49	70.80	176.18	94.81		-382.75	-14.27	2,444.94	2,330.10	114.84	21.290			
9,700.00	7,168.00	13,628.00	7,212.49	73.29	176.18	94.81		-382.75	-14.27	2,537.23	2,424.62	112.61	22.531			
9,800.00	7,168.00	13,628.00	7,212.49	75.79	176.18	94.81		-382.75	-14.27	2,630.08	2,519.55	110.53	23.795			
9,900.00	7,168.00	13,628.00	7,212.49	78.31	176.18	94.81		-382.75	-14.27	2,723.44	2,614.85	108.59	25.081			
10,000.00	7,168.00	13,628.00	7,212.49	80.84	176.18	94.81		-382.75	-14.27	2,817.25	2,710.49	106.77	26.387			
10,100.00	7,168.00	13,628.00	7,212.49	83.39	176.18	94.81		-382.75	-14.27	2,911.48	2,806.41	105.07	27.711			
10,200.00	7,168.00	13,628.00	7,212.49	85.94	176.18	94.81		-382.75	-14.27	3,006.08	2,902.61	103.47	29.052			
10,300.00	7,168.00	13,628.00	7,212.49	88.51	176.18	94.81		-382.75	-14.27	3,101.02	2,999.05	101.97	30.410			
10,400.00	7,168.00	13,628.00	7,212.49	91.08	176.18	94.81		-382.75	-14.27	3,196.27	3,095.70	100.57	31.783			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ MIRACLE 40N-11HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: Reference		16-OWSG (Rev2) MWD Offset		Semi Major Axis			Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
4,000.00	3,930.62	13,429.74	7,081.76	18.18	171.96	174.58	-750.23	114.64	3,188.72	3,129.88	58.84	54.195		
4,100.00	4,028.38	13,425.52	7,081.80	18.69	171.85	174.97	-750.31	118.86	3,090.51	3,031.60	58.91	52.460		
4,200.00	4,126.14	13,410.00	7,082.00	19.20	171.43	176.40	-750.64	134.37	2,992.44	2,933.56	58.88	50.819		
4,300.00	4,223.90	13,423.41	7,081.81	19.71	171.79	175.16	-750.33	120.96	2,894.42	2,835.23	59.19	48.901		
4,400.00	4,321.66	13,414.22	7,081.94	20.21	171.54	176.01	-750.54	130.15	2,796.58	2,737.30	59.28	47.176		
4,500.00	4,419.42	13,405.25	7,082.06	20.72	171.30	176.85	-750.75	139.12	2,698.88	2,639.47	59.40	45.432		
4,600.00	4,517.18	13,396.48	7,082.17	21.23	171.07	177.67	-750.95	147.89	2,601.33	2,541.76	59.57	43.668		
4,700.00	4,614.94	13,387.91	7,082.27	21.74	170.84	178.48	-751.16	156.46	2,503.95	2,444.16	59.79	41.882		
4,800.00	4,712.69	13,379.53	7,082.36	22.25	170.61	179.28	-751.37	164.83	2,406.76	2,346.70	60.06	40.073		
4,900.00	4,810.45	13,371.34	7,082.44	22.76	170.39	-179.93	-751.58	173.02	2,309.80	2,249.39	60.40	38.240		
5,000.00	4,908.21	13,363.33	7,082.51	23.27	170.18	-179.15	-751.79	181.03	2,213.08	2,152.24	60.83	36.379		
5,100.00	5,005.97	13,355.49	7,082.58	23.78	169.97	-178.39	-751.99	188.86	2,116.64	2,055.27	61.37	34.491		
5,200.00	5,103.73	13,347.82	7,082.64	24.29	169.76	-177.64	-752.20	196.53	2,020.52	1,958.50	62.03	32.575		
5,300.00	5,201.49	13,340.32	7,082.69	24.80	169.56	-176.90	-752.41	204.03	1,924.78	1,861.94	62.84	30.629		
5,400.00	5,299.25	13,332.97	7,082.73	25.31	169.36	-176.17	-752.61	211.37	1,829.47	1,765.62	63.85	28.654		
5,500.00	5,397.00	13,325.77	7,082.77	25.82	169.17	-175.46	-752.82	218.56	1,734.66	1,669.58	65.08	26.654		
5,600.00	5,494.76	13,318.73	7,082.80	26.33	168.98	-174.75	-753.02	225.61	1,640.45	1,573.85	66.60	24.630		
5,700.00	5,592.52	13,315.00	7,082.82	26.84	168.88	-174.38	-753.13	229.33	1,546.94	1,478.41	68.52	22.576		
5,800.00	5,690.28	13,315.00	7,082.82	27.36	168.88	-174.38	-753.13	229.33	1,454.28	1,383.35	70.93	20.502		
5,900.00	5,788.04	13,303.59	7,082.87	27.87	168.57	-173.23	-753.45	240.74	1,362.61	1,288.92	73.69	18.490		
6,000.00	5,885.80	13,298.92	7,082.89	28.38	168.45	-172.76	-753.57	245.41	1,272.20	1,194.98	77.21	16.476		
6,100.00	5,983.56	13,294.22	7,082.92	28.89	168.32	-172.29	-753.68	250.11	1,183.30	1,101.77	81.53	14.514		
6,200.00	6,081.31	13,289.50	7,082.95	29.40	168.20	-171.81	-753.79	254.83	1,096.30	1,009.48	86.81	12.628		
6,300.00	6,179.07	13,284.75	7,082.98	29.91	168.07	-171.32	-753.88	259.58	1,011.67	918.41	93.26	10.848		
6,400.00	6,276.83	13,279.97	7,083.01	30.42	167.94	-170.84	-753.97	264.35	930.07	828.98	101.09	9.201		
6,500.00	6,374.59	13,275.18	7,083.05	30.93	167.81	-170.35	-754.06	269.15	852.37	741.87	110.50	7.714		
6,600.00	6,472.35	13,270.35	7,083.09	31.44	167.68	-169.86	-754.14	273.97	779.73	658.07	121.66	6.409		
6,700.00	6,570.11	13,265.50	7,083.13	31.95	167.55	-169.36	-754.21	278.82	713.70	579.16	134.54	5.305		
6,712.06	6,581.89	13,264.91	7,083.13	32.01	167.54	-169.30	-754.21	279.41	706.27	570.08	136.20	5.186		
6,750.00	6,619.02	13,264.11	7,083.14	32.20	167.52	175.74	-754.23	280.21	683.76	542.19	141.57	4.830		
6,800.00	6,667.83	13,266.25	7,083.12	32.44	167.57	157.30	-754.20	278.07	656.36	507.43	148.93	4.407		
6,850.00	6,716.18	13,272.02	7,083.07	32.65	167.73	143.95	-754.11	272.30	631.99	475.56	156.43	4.040		
6,900.00	6,763.70	13,281.39	7,083.00	32.85	167.98	135.05	-753.95	262.93	611.10	447.24	163.87	3.729		
6,950.00	6,810.04	13,294.31	7,082.92	33.03	168.33	128.78	-753.68	250.02	594.02	423.04	170.98	3.474		
7,000.00	6,854.83	13,315.00	7,082.82	33.19	168.88	123.51	-753.13	229.33	580.96	403.29	177.66	3.270		
7,050.00	6,897.73	13,334.46	7,082.72	33.34	169.40	119.33	-752.57	209.88	571.82	388.37	183.45	3.117		
7,100.00	6,938.43	13,363.22	7,082.51	33.47	170.18	114.94	-751.79	181.13	566.33	377.78	188.55	3.004		
7,150.00	6,976.60	13,395.54	7,082.18	33.59	171.04	110.68	-750.98	148.83	564.07	371.31	192.76	2.926		
7,165.56	6,987.92	13,406.28	7,082.05	33.62	171.33	109.38	-750.72	138.09	563.94	370.05	193.89	2.909 CC		
7,200.00	7,011.97	13,432.89	7,081.73	33.69	172.05	106.39	-750.18	111.49	564.48	368.31	196.17	2.878		
7,250.00	7,044.25	13,475.37	7,081.42	33.78	173.19	102.15	-749.66	69.02	566.79	367.90	198.89	2.850 ES		
7,300.00	7,073.21	13,518.06	7,081.32	33.86	174.33	98.33	-749.53	26.33	570.30	369.35	200.96	2.838 SF		
7,350.00	7,098.63	13,558.00	7,081.26	33.93	175.40	95.11	-749.45	-13.62	574.69	372.20	202.49	2.838		
7,400.00	7,120.30	13,558.00	7,081.26	34.00	175.40	93.89	-749.45	-13.62	581.35	379.30	202.05	2.877		
7,450.00	7,138.08	13,558.00	7,081.26	34.07	175.40	92.45	-749.45	-13.62	591.50	391.04	200.47	2.951		
7,500.00	7,151.81	13,558.00	7,081.26	34.14	175.40	90.78	-749.45	-13.62	604.90	407.01	197.89	3.057		
7,550.00	7,161.39	13,558.00	7,081.26	34.21	175.40	88.88	-749.45	-13.62	621.23	426.75	194.48	3.194		
7,600.00	7,166.77	13,558.00	7,081.26	34.30	175.40	86.79	-749.45	-13.62	640.15	449.72	190.44	3.362		
7,638.04	7,168.00	13,558.00	7,081.26	34.39	175.40	85.08	-749.45	-13.62	656.06	469.03	187.03	3.508		
7,700.00	7,168.00	13,558.00	7,081.26	34.57	175.40	85.08	-749.45	-13.62	685.23	504.19	181.04	3.785		
7,800.00	7,168.00	13,558.00	7,081.26	35.03	175.40	85.08	-749.45	-13.62	740.85	570.04	170.81	4.337		
7,900.00	7,168.00	13,558.00	7,081.26	35.77	175.40	85.08	-749.45	-13.62	805.10	644.44	160.65	5.011		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ MIRACLE 40N-11HZ - Wellbore #1 - Wellbore #1											Offset Site Error:	0.00 usft	
Survey Program: 16-OWSG (Rev2) MWD											Offset Well Error:	0.00 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
8,000.00	7,168.00	13,558.00	7,081.26	36.82	175.40	85.08	-749.45	-13.62	876.07	724.96	151.11	5.798	
8,100.00	7,168.00	13,558.00	7,081.26	38.17	175.40	85.08	-749.45	-13.62	952.27	809.86	142.42	6.687	
8,200.00	7,168.00	13,558.00	7,081.26	39.74	175.40	85.08	-749.45	-13.62	1,032.54	897.90	134.64	7.669	
8,300.00	7,168.00	13,558.00	7,081.26	41.49	175.40	85.08	-749.45	-13.62	1,116.00	988.26	127.75	8.736	
8,400.00	7,168.00	13,558.00	7,081.26	43.37	175.40	85.08	-749.45	-13.62	1,201.99	1,080.34	121.66	9.880	
8,500.00	7,168.00	13,558.00	7,081.26	45.36	175.40	85.08	-749.45	-13.62	1,290.00	1,173.72	116.28	11.094	
8,600.00	7,168.00	13,558.00	7,081.26	47.44	175.40	85.08	-749.45	-13.62	1,379.65	1,268.11	111.54	12.369	
8,700.00	7,168.00	13,558.00	7,081.26	49.59	175.40	85.08	-749.45	-13.62	1,470.63	1,363.30	107.33	13.702	
8,800.00	7,168.00	13,558.00	7,081.26	51.79	175.40	85.08	-749.45	-13.62	1,562.71	1,459.12	103.60	15.084	
8,900.00	7,168.00	13,558.00	7,081.26	54.05	175.40	85.08	-749.45	-13.62	1,655.72	1,555.44	100.27	16.512	
9,000.00	7,168.00	13,558.00	7,081.26	56.35	175.40	85.08	-749.45	-13.62	1,749.49	1,652.19	97.30	17.980	
9,100.00	7,168.00	13,558.00	7,081.26	58.69	175.40	85.08	-749.45	-13.62	1,843.92	1,749.29	94.63	19.485	
9,200.00	7,168.00	13,558.00	7,081.26	61.06	175.40	85.08	-749.45	-13.62	1,938.91	1,846.67	92.24	21.021	
9,300.00	7,168.00	13,558.00	7,081.26	63.46	175.40	85.08	-749.45	-13.62	2,034.38	1,944.30	90.07	22.586	
9,400.00	7,168.00	13,558.00	7,081.26	65.88	175.40	85.08	-749.45	-13.62	2,130.26	2,042.15	88.11	24.176	
9,500.00	7,168.00	13,558.00	7,081.26	68.33	175.40	85.08	-749.45	-13.62	2,226.51	2,140.17	86.34	25.789	
9,600.00	7,168.00	13,558.00	7,081.26	70.80	175.40	85.08	-749.45	-13.62	2,323.07	2,238.35	84.72	27.421	
9,700.00	7,168.00	13,558.00	7,081.26	73.29	175.40	85.08	-749.45	-13.62	2,419.91	2,336.67	83.24	29.070	
9,800.00	7,168.00	13,558.00	7,081.26	75.79	175.40	85.08	-749.45	-13.62	2,517.00	2,435.11	81.89	30.735	
9,900.00	7,168.00	13,558.00	7,081.26	78.31	175.40	85.08	-749.45	-13.62	2,614.31	2,533.65	80.66	32.412	
10,000.00	7,168.00	13,558.00	7,081.26	80.84	175.40	85.08	-749.45	-13.62	2,711.82	2,632.29	79.52	34.101	
10,100.00	7,168.00	13,558.00	7,081.26	83.39	175.40	85.08	-749.45	-13.62	2,809.50	2,731.02	78.48	35.800	
10,200.00	7,168.00	13,558.00	7,081.26	85.94	175.40	85.08	-749.45	-13.62	2,907.33	2,829.82	77.51	37.507	
10,300.00	7,168.00	13,558.00	7,081.26	88.51	175.40	85.08	-749.45	-13.62	3,005.31	2,928.69	76.63	39.221	
10,400.00	7,168.00	13,558.00	7,081.26	91.08	175.40	85.08	-749.45	-13.62	3,103.42	3,027.62	75.80	40.940	
10,500.00	7,168.00	13,558.00	7,081.26	93.66	175.40	85.08	-749.45	-13.62	3,201.65	3,126.61	75.04	42.665	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ MIRACLE 9C-11HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 128-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
4,200.00	4,126.14	13,675.82	7,228.89	19.20	175.84	110.80	-1,308.15	-16.61	3,202.52	3,133.93	68.59	46.692		
4,300.00	4,223.90	13,665.60	7,229.41	19.71	175.57	111.03	-1,308.44	-6.40	3,103.05	3,034.44	68.62	45.223		
4,400.00	4,321.66	13,655.38	7,229.92	20.21	175.29	111.27	-1,308.73	3.80	3,003.59	2,934.94	68.65	43.755		
4,500.00	4,419.42	13,645.15	7,230.44	20.72	175.02	111.53	-1,309.02	14.01	2,904.12	2,835.45	68.67	42.288		
4,600.00	4,517.18	13,634.93	7,230.96	21.23	174.75	111.80	-1,309.31	24.22	2,804.66	2,735.95	68.70	40.823		
4,700.00	4,614.94	13,624.71	7,231.47	21.74	174.47	112.10	-1,309.60	34.42	2,705.19	2,636.46	68.73	39.359		
4,800.00	4,712.69	13,614.62	7,231.98	22.25	174.20	112.41	-1,309.89	44.49	2,605.73	2,536.96	68.76	37.895		
4,900.00	4,810.45	13,604.70	7,232.49	22.76	173.94	112.75	-1,310.16	54.40	2,506.26	2,437.47	68.79	36.432		
5,000.00	4,908.21	13,594.75	7,233.00	23.27	173.67	113.11	-1,310.43	64.32	2,406.80	2,337.98	68.82	34.972		
5,100.00	5,005.97	13,584.79	7,233.51	23.78	173.40	113.50	-1,310.70	74.27	2,307.35	2,238.50	68.85	33.514		
5,200.00	5,103.73	13,574.80	7,234.02	24.29	173.14	113.93	-1,310.96	84.25	2,207.89	2,139.02	68.87	32.058		
5,300.00	5,201.49	13,564.79	7,234.54	24.80	172.87	114.40	-1,311.22	94.24	2,108.44	2,039.55	68.89	30.605		
5,400.00	5,299.25	13,554.76	7,235.06	25.31	172.60	114.92	-1,311.47	104.25	2,008.99	1,940.08	68.91	29.154		
5,500.00	5,397.00	13,544.70	7,235.59	25.82	172.33	115.48	-1,311.72	114.29	1,909.55	1,840.63	68.92	27.706		
5,600.00	5,494.76	13,534.62	7,236.11	26.33	172.06	116.11	-1,311.96	124.35	1,810.11	1,741.18	68.93	26.261		
5,700.00	5,592.52	13,524.53	7,236.65	26.84	171.79	116.82	-1,312.19	134.43	1,710.67	1,641.75	68.92	24.820		
5,800.00	5,690.28	13,523.09	7,236.67	27.36	171.75	116.92	-1,312.24	135.87	1,611.22	1,542.18	69.04	23.339		
5,900.00	5,788.04	13,502.67	7,237.80	27.87	171.20	118.63	-1,312.69	156.25	1,511.81	1,442.95	68.87	21.953		
6,000.00	5,885.80	13,484.47	7,238.70	28.38	170.71	120.55	-1,313.09	174.42	1,412.35	1,343.64	68.71	20.555		
6,100.00	5,983.56	13,468.15	7,239.42	28.89	170.28	122.70	-1,313.45	190.73	1,312.85	1,244.29	68.56	19.149		
6,200.00	6,081.31	13,453.43	7,239.99	29.40	169.88	125.13	-1,313.78	205.44	1,213.30	1,144.90	68.40	17.737		
6,300.00	6,179.07	13,440.08	7,240.45	29.91	169.53	127.90	-1,314.07	218.77	1,113.73	1,045.49	68.24	16.321		
6,400.00	6,276.83	13,427.93	7,240.82	30.42	169.20	131.05	-1,314.34	230.91	1,014.14	946.09	68.06	14.902		
6,500.00	6,374.59	13,418.55	7,241.07	30.93	168.95	134.04	-1,314.54	240.29	914.54	846.67	67.87	13.475		
6,600.00	6,472.35	13,405.91	7,241.38	31.44	168.61	139.11	-1,314.83	252.92	814.94	747.38	67.56	12.062		
6,700.00	6,570.11	13,395.07	7,241.58	31.95	168.32	144.78	-1,315.05	263.76	715.33	648.13	67.20	10.645		
6,712.06	6,581.89	13,393.86	7,241.60	32.01	168.29	145.50	-1,315.08	264.96	703.32	636.17	67.15	10.474		
6,750.00	6,619.02	13,392.02	7,241.63	32.20	168.24	176.17	-1,315.11	266.80	665.48	598.47	67.01	9.932		
6,800.00	6,667.83	13,395.12	7,241.58	32.44	168.32	-155.78	-1,315.05	263.71	615.66	548.81	66.85	9.210		
6,850.00	6,716.18	13,403.91	7,241.42	32.65	168.56	-156.95	-1,314.87	254.92	566.23	499.53	66.70	8.489		
6,900.00	6,763.70	13,417.83	7,241.09	32.85	168.93	-161.73	-1,314.56	241.01	517.52	450.95	66.57	7.774		
6,950.00	6,810.04	13,434.13	7,240.64	33.03	169.37	-165.77	-1,314.20	224.72	469.89	403.50	66.38	7.078		
7,000.00	6,854.83	13,455.35	7,239.92	33.19	169.93	-169.17	-1,313.73	203.51	423.63	357.41	66.22	6.398		
7,050.00	6,897.73	13,480.42	7,238.89	33.34	170.61	-172.02	-1,313.18	178.47	379.05	312.98	66.07	5.737		
7,100.00	6,938.43	13,509.03	7,237.46	33.47	171.37	-174.54	-1,312.55	149.90	336.41	270.43	65.98	5.099		
7,150.00	6,976.60	13,537.44	7,235.97	33.59	172.13	-176.67	-1,311.89	121.54	296.17	230.30	65.87	4.496		
7,200.00	7,011.97	13,569.63	7,234.29	33.69	173.00	-178.84	-1,311.10	89.40	258.76	192.74	66.02	3.919		
7,250.00	7,044.25	13,605.02	7,232.47	33.78	173.95	178.83	-1,310.15	54.07	224.51	157.86	66.66	3.368		
7,300.00	7,073.21	13,643.46	7,230.53	33.86	174.98	176.25	-1,309.07	15.70	193.76	125.57	68.19	2.842		
7,350.00	7,098.63	13,682.00	7,228.58	33.93	176.01	173.55	-1,307.98	-22.78	166.79	95.83	70.96	2.351		
7,400.00	7,120.30	13,682.00	7,228.58	34.00	176.01	173.57	-1,307.98	-22.78	151.00	78.03	72.96	2.070		
7,415.30	7,126.17	13,682.00	7,228.58	34.02	176.01	173.46	-1,307.98	-22.78	150.03	76.28	73.75	2.034 CC, ES, SF		
7,450.00	7,138.08	13,682.00	7,228.58	34.07	176.01	173.01	-1,307.98	-22.78	154.95	80.34	74.61	2.077		
7,500.00	7,151.81	13,682.00	7,228.58	34.14	176.01	171.84	-1,307.98	-22.78	177.32	104.05	73.27	2.420		
7,550.00	7,161.39	13,682.00	7,228.58	34.21	176.01	169.83	-1,307.98	-22.78	212.21	141.55	70.66	3.003		
7,600.00	7,166.77	13,682.00	7,228.58	34.30	176.01	166.52	-1,307.98	-22.78	254.34	186.07	68.27	3.726		
7,638.04	7,168.00	13,682.00	7,228.58	34.39	176.01	162.48	-1,307.98	-22.78	289.15	222.35	66.80	4.329		
7,700.00	7,168.00	13,682.00	7,228.58	34.57	176.01	162.48	-1,307.98	-22.78	347.87	282.74	65.12	5.342		
7,800.00	7,168.00	13,682.00	7,228.58	35.03	176.01	162.48	-1,307.98	-22.78	444.49	380.78	63.71	6.977		
7,900.00	7,168.00	13,682.00	7,228.58	35.77	176.01	162.48	-1,307.98	-22.78	542.34	479.30	63.04	8.603		
8,000.00	7,168.00	13,682.00	7,228.58	36.82	176.01	162.48	-1,307.98	-22.78	640.85	578.15	62.70	10.220		
8,100.00	7,168.00	13,682.00	7,228.58	38.17	176.01	162.48	-1,307.98	-22.78	739.77	677.23	62.53	11.830		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ MIRACLE 9C-11HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 128-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Measured Reference Depth (usft)	Vertical Depth (usft)	Measured Offset Depth (usft)	Vertical Offset Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
8,200.00	7,168.00	13,682.00	7,228.58	39.74	176.01	162.48	-1,307.98	-22.78	838.94	776.49	62.44	13.435		
8,300.00	7,168.00	13,682.00	7,228.58	41.49	176.01	162.48	-1,307.98	-22.78	938.28	875.88	62.41	15.035		
8,400.00	7,168.00	13,682.00	7,228.58	43.37	176.01	162.48	-1,307.98	-22.78	1,037.75	975.36	62.39	16.633		
8,500.00	7,168.00	13,682.00	7,228.58	45.36	176.01	162.48	-1,307.98	-22.78	1,137.32	1,074.92	62.40	18.228		
8,600.00	7,168.00	13,682.00	7,228.58	47.44	176.01	162.48	-1,307.98	-22.78	1,236.95	1,174.54	62.41	19.820		
8,700.00	7,168.00	13,682.00	7,228.58	49.59	176.01	162.48	-1,307.98	-22.78	1,336.64	1,274.21	62.43	21.411		
8,800.00	7,168.00	13,682.00	7,228.58	51.79	176.01	162.48	-1,307.98	-22.78	1,436.37	1,373.92	62.45	23.000		
8,900.00	7,168.00	13,682.00	7,228.58	54.05	176.01	162.48	-1,307.98	-22.78	1,536.14	1,473.67	62.48	24.588		
9,000.00	7,168.00	13,682.00	7,228.58	56.35	176.01	162.48	-1,307.98	-22.78	1,635.94	1,573.43	62.50	26.174		
9,100.00	7,168.00	13,682.00	7,228.58	58.69	176.01	162.48	-1,307.98	-22.78	1,735.76	1,673.23	62.53	27.758		
9,200.00	7,168.00	13,682.00	7,228.58	61.06	176.01	162.48	-1,307.98	-22.78	1,835.60	1,773.04	62.56	29.341		
9,300.00	7,168.00	13,682.00	7,228.58	63.46	176.01	162.48	-1,307.98	-22.78	1,935.45	1,872.86	62.59	30.923		
9,400.00	7,168.00	13,682.00	7,228.58	65.88	176.01	162.48	-1,307.98	-22.78	2,035.32	1,972.70	62.62	32.504		
9,500.00	7,168.00	13,682.00	7,228.58	68.33	176.01	162.48	-1,307.98	-22.78	2,135.20	2,072.56	62.65	34.083		
9,600.00	7,168.00	13,682.00	7,228.58	70.80	176.01	162.48	-1,307.98	-22.78	2,235.10	2,172.42	62.68	35.660		
9,700.00	7,168.00	13,682.00	7,228.58	73.29	176.01	162.48	-1,307.98	-22.78	2,335.00	2,272.29	62.71	37.236		
9,800.00	7,168.00	13,682.00	7,228.58	75.79	176.01	162.48	-1,307.98	-22.78	2,434.91	2,372.17	62.74	38.811		
9,900.00	7,168.00	13,682.00	7,228.58	78.31	176.01	162.48	-1,307.98	-22.78	2,534.82	2,472.06	62.77	40.384		
10,000.00	7,168.00	13,682.00	7,228.58	80.84	176.01	162.48	-1,307.98	-22.78	2,634.75	2,571.95	62.80	41.955		
10,100.00	7,168.00	13,682.00	7,228.58	83.39	176.01	162.48	-1,307.98	-22.78	2,734.68	2,671.85	62.83	43.525		
10,200.00	7,168.00	13,682.00	7,228.58	85.94	176.01	162.48	-1,307.98	-22.78	2,834.61	2,771.75	62.86	45.094		
10,300.00	7,168.00	13,682.00	7,228.58	88.51	176.01	162.48	-1,307.98	-22.78	2,934.55	2,871.66	62.89	46.660		
10,400.00	7,168.00	13,682.00	7,228.58	91.08	176.01	162.48	-1,307.98	-22.78	3,034.49	2,971.57	62.92	48.225		
10,500.00	7,168.00	13,682.00	7,228.58	93.66	176.01	162.48	-1,307.98	-22.78	3,134.44	3,071.48	62.95	49.789		
10,600.00	7,168.00	13,682.00	7,228.58	96.25	176.01	162.48	-1,307.98	-22.78	3,234.39	3,171.40	62.99	51.350		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ PROWANT 18-1HZ - Wellbore #1 - Wellbore #1													Offset Site Error: 0.00 usft
Survey Program: 18-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft
Reference				Offset				Rule Assigned:					Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
4,800.00	4,712.69	13,144.85	6,999.08	22.25	176.33	18.56	-3,073.95	138.22	3,248.71	3,107.93	140.79	23.076	
4,900.00	4,810.45	13,139.63	6,999.22	22.76	176.19	18.39	-3,073.92	143.44	3,164.60	3,021.64	142.95	22.137	
5,000.00	4,908.21	13,134.37	6,999.36	23.27	176.05	18.22	-3,073.89	148.70	3,081.42	2,936.21	145.20	21.221	
5,100.00	5,005.97	13,129.06	6,999.51	23.78	175.91	18.05	-3,073.87	154.00	2,999.25	2,851.71	147.54	20.328	
5,200.00	5,103.73	13,123.72	6,999.66	24.29	175.77	17.87	-3,073.85	159.34	2,918.19	2,768.22	149.97	19.458	
5,300.00	5,201.49	13,118.33	6,999.81	24.80	175.62	17.69	-3,073.83	164.73	2,838.32	2,685.84	152.49	18.614	
5,400.00	5,299.25	13,112.90	6,999.97	25.31	175.48	17.51	-3,073.82	170.16	2,759.75	2,604.66	155.09	17.794	
5,500.00	5,397.00	13,107.43	7,000.12	25.82	175.33	17.33	-3,073.82	175.63	2,682.59	2,524.81	157.78	17.002	
5,600.00	5,494.76	13,101.91	7,000.28	26.33	175.18	17.15	-3,073.81	181.14	2,606.97	2,446.42	160.55	16.238	
5,700.00	5,592.52	13,096.35	7,000.44	26.84	175.03	16.97	-3,073.82	186.70	2,533.02	2,369.62	163.40	15.502	
5,800.00	5,690.28	13,090.75	7,000.60	27.36	174.88	16.79	-3,073.82	192.30	2,460.90	2,294.58	166.32	14.797	
5,900.00	5,788.04	13,085.16	7,000.76	27.87	174.73	16.61	-3,073.85	197.92	2,390.80	2,221.93	169.24	14.158	
6,000.00	5,885.80	13,079.51	7,000.92	28.38	174.58	16.43	-3,073.81	203.56	2,322.79	2,150.30	172.10	13.466	
6,100.00	5,983.56	13,073.82	7,001.08	28.89	174.43	16.25	-3,073.88	209.21	2,257.21	2,081.87	175.03	12.874	
6,200.00	6,081.31	13,068.09	7,001.24	29.40	174.28	16.07	-3,073.91	214.87	2,194.18	2,016.01	178.01	12.315	
6,300.00	6,179.07	13,062.24	7,001.40	29.91	174.13	15.89	-3,073.92	220.54	2,133.92	1,952.95	180.97	11.791	
6,400.00	6,276.83	13,056.47	7,001.56	30.42	173.98	15.71	-3,073.89	226.21	2,076.70	1,892.98	183.92	11.304	
6,500.00	6,374.59	13,050.63	7,001.72	30.93	173.83	15.53	-3,073.84	231.89	2,022.75	1,836.39	186.86	10.854	
6,600.00	6,472.35	13,044.74	7,001.88	31.44	173.68	15.35	-3,073.76	237.58	1,972.36	1,783.50	189.77	10.444	
6,700.00	6,570.11	13,038.81	7,002.04	31.95	173.53	15.17	-3,073.65	243.28	1,925.81	1,734.65	192.63	10.075	
6,712.06	6,581.89	12,998.54	7,003.22	32.01	172.40	13.74	-3,073.64	284.47	1,920.47	1,729.05	191.42	10.033	
6,750.00	6,619.02	12,996.20	7,003.28	32.20	172.34	-5.99	-3,073.61	286.81	1,904.04	1,711.77	192.27	9.903	
6,800.00	6,667.83	12,999.22	7,003.20	32.44	172.42	-29.66	-3,073.65	283.79	1,883.37	1,689.88	193.48	9.734	
6,850.00	6,716.18	13,009.07	7,002.93	32.65	172.68	-46.99	-3,073.74	273.95	1,863.96	1,669.17	194.80	9.569	
6,900.00	6,763.70	13,025.57	7,002.47	32.85	173.13	-58.65	-3,073.85	257.45	1,845.95	1,649.76	196.19	9.409	
6,950.00	6,810.04	13,048.52	7,001.82	33.03	173.74	-66.50	-3,073.92	234.51	1,829.40	1,631.74	197.66	9.255	
7,000.00	6,854.83	13,077.66	7,000.97	33.19	174.53	-71.90	-3,073.86	205.38	1,814.31	1,615.14	199.18	9.109	
7,050.00	6,897.73	13,093.59	7,000.51	33.34	174.96	-76.21	-3,073.82	189.46	1,800.79	1,600.66	200.13	8.998	
7,100.00	6,938.43	13,114.39	6,999.92	33.47	175.52	-79.34	-3,073.83	168.67	1,788.91	1,587.80	201.12	8.895	
7,150.00	6,976.60	13,138.09	6,999.26	33.59	176.15	-81.66	-3,073.91	144.98	1,778.67	1,576.59	202.08	8.802	
7,200.00	7,011.97	13,164.99	6,998.53	33.69	176.88	-83.34	-3,074.11	118.08	1,770.03	1,566.97	203.05	8.717	
7,250.00	7,044.25	13,220.73	6,996.99	33.78	178.38	-83.99	-3,074.32	62.36	1,762.64	1,557.75	204.89	8.603	
7,300.00	7,073.21	13,267.01	6,995.67	33.86	179.62	-84.61	-3,074.07	16.11	1,756.14	1,549.78	206.36	8.510	
7,350.00	7,098.63	13,299.47	6,994.76	33.93	180.49	-85.26	-3,073.98	-16.34	1,750.89	1,543.51	207.38	8.443	
7,400.00	7,120.30	13,343.00	6,993.58	34.00	181.67	-85.56	-3,074.13	-59.85	1,746.93	1,538.18	208.75	8.368	
7,450.00	7,138.08	13,403.59	6,991.84	34.07	183.30	-85.55	-3,074.09	-120.42	1,743.74	1,533.07	210.67	8.277	
7,500.00	7,151.81	13,454.70	6,990.20	34.14	184.67	-85.62	-3,073.45	-171.49	1,740.74	1,528.41	212.33	8.198	
7,550.00	7,161.39	13,489.87	6,989.12	34.21	185.62	-85.76	-3,073.22	-206.65	1,738.73	1,525.14	213.58	8.141	
7,600.00	7,166.77	13,527.05	6,988.07	34.30	186.62	-85.80	-3,073.28	-243.81	1,737.73	1,522.78	214.96	8.084	
7,638.04	7,168.00	13,564.73	6,987.02	34.39	187.64	-85.78	-3,073.46	-281.48	1,737.51	1,521.17	216.33	8.032	
7,700.00	7,168.00	13,633.18	6,985.11	34.57	189.48	-85.71	-3,073.75	-349.90	1,737.39	1,518.53	218.86	7.938	
7,800.00	7,168.00	13,761.93	6,981.12	35.03	192.95	-85.58	-3,072.53	-478.58	1,735.80	1,512.20	223.60	7.763	
7,900.00	7,168.00	13,859.02	6,977.37	35.77	195.58	-85.45	-3,070.90	-575.58	1,733.60	1,506.00	227.60	7.617	
8,000.00	7,168.00	13,959.07	6,973.59	36.82	198.28	-85.32	-3,069.48	-675.55	1,731.65	1,499.82	231.83	7.469	
8,100.00	7,168.00	14,092.32	6,968.63	38.17	201.88	-85.14	-3,066.04	-808.66	1,728.52	1,491.48	237.04	7.292	
8,200.00	7,168.00	14,187.25	6,965.13	39.74	204.44	-85.01	-3,062.81	-903.48	1,724.62	1,483.23	241.39	7.144	
8,300.00	7,168.00	14,299.23	6,961.04	41.49	207.47	-84.86	-3,059.39	-1,015.32	1,721.12	1,474.88	246.24	6.990	
8,400.00	7,168.00	14,410.21	6,956.75	43.37	210.48	-84.70	-3,054.53	-1,126.12	1,716.26	1,465.12	251.14	6.834	
8,500.00	7,168.00	14,487.57	6,953.81	45.36	212.57	-84.59	-3,051.51	-1,203.36	1,711.91	1,456.54	255.36	6.704	
8,600.00	7,168.00	14,601.17	6,949.49	47.44	215.65	-84.43	-3,047.73	-1,316.82	1,708.16	1,447.70	260.45	6.558	
8,700.00	7,168.00	14,686.00	6,946.05	49.59	217.94	-84.31	-3,044.33	-1,401.51	1,703.81	1,438.85	264.96	6.430	
8,800.00	7,168.00	14,776.00	6,942.70	51.79	220.38	-84.18	-3,041.65	-1,491.40	1,700.40	1,430.78	269.63	6.306	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ PROWANT 18-1HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft			
Survey Program: 18-OWSG (Rev2) MWD										Rule Assigned:			Offset Well Error:	0.00 usft			
Reference				Offset			Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Minimum Separation	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Reference	Offset	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
8,900.00	7,168.00	14,884.16	6,939.46	54.05	223.31	-84.06			-3,039.22	-1,599.48	1,697.68	1,422.93	274.76	6.179			
9,000.00	7,168.00	14,998.80	6,936.52	56.35	226.42	-83.94			-3,034.62	-1,714.00	1,693.03	1,412.98	280.05	6.045			
9,100.00	7,168.00	15,080.15	6,934.90	58.69	228.62	-83.88			-3,032.26	-1,795.29	1,689.48	1,404.80	284.67	5.935			
9,200.00	7,168.00	15,180.07	6,933.34	61.06	231.33	-83.81			-3,029.71	-1,895.17	1,686.28	1,396.55	289.73	5.820			
9,300.00	7,168.00	15,291.76	6,932.01	63.46	234.36	-83.75			-3,026.67	-2,006.81	1,682.89	1,387.82	295.07	5.703			
9,400.00	7,168.00	15,388.55	6,930.79	65.88	236.98	-83.70			-3,023.51	-2,103.54	1,678.96	1,378.85	300.11	5.594			
9,500.00	7,168.00	15,476.43	6,929.93	68.33	239.37	-83.66			-3,021.17	-2,191.39	1,675.60	1,370.62	304.98	5.494			
9,600.00	7,168.00	15,575.65	6,930.06	70.80	242.06	-83.65			-3,019.13	-2,290.58	1,672.71	1,362.58	310.13	5.394			
9,700.00	7,168.00	15,712.88	6,930.08	73.29	245.78	-83.63			-3,014.14	-2,427.72	1,668.12	1,352.05	316.07	5.278			
9,800.00	7,168.00	15,797.96	6,929.65	75.79	248.09	-83.60			-3,010.64	-2,512.72	1,663.29	1,342.31	320.98	5.182			
9,900.00	7,168.00	15,888.80	6,929.43	78.31	250.56	-83.58			-3,007.99	-2,603.53	1,659.56	1,333.56	325.99	5.091			
10,000.00	7,168.00	15,981.09	6,929.05	80.84	253.06	-83.55			-3,005.09	-2,695.77	1,655.68	1,324.64	331.05	5.001			
10,100.00	7,168.00	16,062.93	6,928.55	83.39	255.28	-83.52			-3,003.70	-2,777.60	1,653.19	1,317.33	335.86	4.922			
10,200.00	7,168.00	16,153.78	6,927.39	85.94	257.74	-83.47			-3,002.31	-2,868.42	1,651.01	1,310.15	340.87	4.844			
10,300.00	7,168.00	16,241.07	6,926.39	88.51	260.11	-83.44			-3,002.20	-2,955.71	1,650.14	1,304.36	345.78	4.772			
10,400.00	7,168.00	16,357.10	6,924.88	91.08	263.25	-83.38			-3,001.08	-3,071.72	1,648.45	1,297.04	351.41	4.691			
10,500.00	7,168.00	16,441.42	6,923.84	93.66	265.54	-83.33			-3,000.39	-3,156.04	1,646.98	1,290.71	356.27	4.623			
10,600.00	7,168.00	16,534.25	6,922.79	96.25	268.05	-83.30			-3,000.64	-3,248.85	1,646.53	1,285.19	361.34	4.557			
10,700.00	7,168.00	16,646.97	6,921.37	98.85	271.11	-83.24			-3,000.53	-3,361.56	1,645.77	1,278.85	366.92	4.485			
10,800.00	7,168.00	16,728.14	6,920.49	101.45	273.30	-83.21			-3,000.48	-3,442.73	1,645.03	1,273.34	371.69	4.426			
10,805.00	7,168.00	16,732.01	6,920.46	101.58	273.41	-83.21			-3,000.51	-3,446.60	1,645.03	1,273.10	371.92	4.423			
10,900.00	7,168.00	16,814.76	6,919.89	104.06	275.65	-83.19			-3,001.50	-3,529.35	1,645.44	1,268.84	376.59	4.369			
11,000.00	7,168.00	16,949.70	6,918.46	106.68	279.30	-83.14			-3,002.02	-3,664.27	1,645.12	1,262.32	382.80	4.298			
11,100.00	7,168.00	17,039.49	6,917.13	109.30	281.74	-83.09			-3,001.62	-3,754.05	1,644.03	1,256.22	387.81	4.239			
11,200.00	7,168.00	17,145.08	6,916.19	111.92	284.60	-83.05			-3,001.83	-3,859.63	1,643.53	1,250.30	393.24	4.179			
11,300.00	7,168.00	17,298.28	6,915.72	114.55	288.76	-83.02			-2,998.74	-4,012.79	1,640.71	1,241.04	399.66	4.105			
11,400.00	7,168.00	17,375.00	6,915.86	117.19	290.84	-83.01			-2,996.89	-4,089.49	1,637.37	1,232.84	404.53	4.048			
11,500.00	7,168.00	17,496.04	6,916.13	119.82	294.13	-83.00			-2,993.24	-4,210.47	1,633.47	1,223.21	410.25	3.982			
11,600.00	7,168.00	17,589.33	6,916.31	122.47	296.67	-82.99			-2,990.47	-4,303.72	1,629.65	1,214.20	415.45	3.923			
11,700.00	7,168.00	17,690.35	6,916.39	125.11	299.41	-82.98			-2,987.23	-4,404.69	1,625.63	1,204.84	420.79	3.863			
11,800.00	7,168.00	17,771.72	6,916.35	127.76	301.63	-82.96			-2,985.07	-4,486.03	1,622.21	1,196.46	425.75	3.810			
11,900.00	7,168.00	17,847.76	6,916.57	130.41	303.69	-82.97			-2,984.25	-4,562.07	1,620.26	1,189.73	430.53	3.763			
11,999.18	7,168.00	17,926.65	6,916.78	133.04	305.83	-82.97			-2,984.40	-4,640.96	1,619.61	1,184.31	435.30	3.721			
12,000.00	7,168.00	17,927.26	6,916.78	133.06	305.84	-82.97			-2,984.41	-4,641.56	1,619.61	1,184.27	435.33	3.720			
12,100.00	7,168.00	18,002.00	6,916.97	135.72	307.87	-82.98			-2,985.68	-4,716.29	1,620.43	1,180.51	439.92	3.683			
12,200.00	7,168.00	18,091.00	6,917.29	138.38	310.27	-83.00			-2,988.36	-4,805.25	1,622.53	1,177.62	444.91	3.647			
12,300.00	7,168.00	18,196.24	6,917.65	141.04	313.11	-83.02			-2,991.53	-4,910.44	1,624.65	1,174.21	450.44	3.607			
12,400.00	7,168.00	18,281.88	6,918.08	143.70	315.43	-83.05			-2,994.37	-4,996.03	1,627.05	1,171.74	455.31	3.574			
12,500.00	7,168.00	18,379.17	6,918.62	146.37	318.05	-83.08			-2,998.11	-5,093.25	1,629.97	1,169.39	460.58	3.539			
12,600.00	7,168.00	18,479.19	6,919.31	149.04	320.75	-83.11			-3,001.96	-5,193.20	1,632.88	1,166.93	465.95	3.504			
12,700.00	7,168.00	18,578.10	6,920.05	151.71	323.42	-83.15			-3,005.96	-5,292.02	1,635.98	1,164.69	471.29	3.471			
12,800.00	7,168.00	18,692.48	6,920.72	154.38	326.51	-83.19			-3,010.08	-5,406.33	1,638.67	1,161.50	477.17	3.434			
12,900.00	7,168.00	18,796.80	6,921.04	157.05	329.33	-83.21			-3,013.00	-5,510.60	1,640.59	1,157.90	482.68	3.399			
13,000.00	7,168.00	18,930.18	6,921.76	159.73	332.94	-83.24			-3,015.71	-5,643.95	1,641.80	1,152.74	489.07	3.357			
13,100.00	7,168.00	19,040.58	6,920.33	162.41	335.94	-83.19			-3,015.23	-5,754.34	1,640.63	1,145.98	494.65	3.317			
13,200.00	7,168.00	19,128.99	6,917.74	165.08	338.33	-83.09			-3,015.44	-5,842.70	1,640.37	1,140.75	499.62	3.283			
13,300.00	7,168.00	19,252.05	6,913.16	167.76	341.67	-82.93			-3,015.24	-5,965.68	1,639.88	1,134.48	505.40	3.245			
13,400.00	7,168.00	19,359.32	6,908.84	170.44	344.59	-82.77			-3,013.70	-6,072.85	1,638.13	1,127.36	510.76	3.207			
13,500.00	7,168.00	19,456.18	6,905.20	173.13	347.22	-82.63			-3,012.27	-6,169.63	1,636.32	1,120.40	515.92	3.172			
13,600.00	7,168.00	19,562.11	6,901.66	175.81	350.09	-82.50			-3,010.87	-6,275.49	1,634.62	1,113.36	521.26	3.136			
13,700.00	7,168.00	19,667.15	6,897.95	178.49	352.95	-82.36			-3,008.60	-6,380.45	1,632.10	1,105.53	526.57	3.099			
13,800.00	7,168.00	19,810.05	6,892.58	181.18	356.83	-82.14			-3,004.43	-6,523.17	1,629.10	1,096.72	532.37	3.060			

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ PROWANT 18-1HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 18-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
13,900.00	7,168.00	19,905.53	6,888.63	183.87	359.43	-81.98	-3,000.25	-6,618.48	1,624.49	1,087.01	537.49	3.022		
14,000.00	7,168.00	20,000.35	6,884.68	186.55	362.01	-81.82	-2,995.88	-6,713.12	1,619.70	1,077.12	542.58	2.985		
14,100.00	7,168.00	20,083.33	6,881.25	189.24	364.27	-81.68	-2,993.04	-6,795.98	1,616.03	1,068.52	547.51	2.952		
14,200.00	7,168.00	20,187.87	6,876.96	191.93	367.11	-81.50	-2,989.24	-6,900.36	1,612.20	1,059.48	552.72	2.917		
14,300.00	7,168.00	20,275.89	6,873.62	194.62	369.50	-81.37	-2,986.74	-6,988.28	1,609.11	1,051.42	557.69	2.885		
14,400.00	7,168.00	20,386.06	6,869.23	197.31	372.50	-81.19	-2,983.51	-7,098.32	1,605.99	1,043.01	562.98	2.853		
14,500.00	7,168.00	20,493.46	6,865.14	200.01	375.42	-81.02	-2,979.61	-7,205.57	1,602.17	1,033.96	568.21	2.820		
14,600.00	7,168.00	20,597.15	6,861.65	202.70	378.24	-80.87	-2,975.63	-7,309.13	1,598.08	1,024.69	573.39	2.787		
14,700.00	7,168.00	20,703.00	6,858.17	205.39	381.13	-80.71	-2,970.78	-7,414.80	1,593.23	1,014.64	578.59	2.754		
14,772.82	7,168.00	20,703.00	6,858.17	207.35	381.13	-80.71	-2,970.78	-7,414.80	1,591.57	1,010.55	581.02	2.739 CC		
14,800.00	7,168.00	20,703.00	6,858.17	208.09	381.13	-80.71	-2,970.78	-7,414.80	1,591.80	1,010.18	581.62	2.737 ES, SF		
14,900.00	7,168.00	20,703.00	6,858.17	210.78	381.13	-80.71	-2,970.78	-7,414.80	1,596.64	1,014.25	582.39	2.742		
15,000.00	7,168.00	20,703.00	6,858.17	213.48	381.13	-80.71	-2,970.78	-7,414.80	1,607.70	1,026.76	580.94	2.767		
15,100.00	7,168.00	20,703.00	6,858.17	216.17	381.13	-80.71	-2,970.78	-7,414.80	1,624.85	1,047.48	577.37	2.814		
15,200.00	7,168.00	20,703.00	6,858.17	218.87	381.13	-80.71	-2,970.78	-7,414.80	1,647.90	1,076.04	571.85	2.882		
15,300.00	7,168.00	20,703.00	6,858.17	221.57	381.13	-80.71	-2,970.78	-7,414.80	1,676.61	1,112.00	564.61	2.970		
15,400.00	7,168.00	20,703.00	6,858.17	224.27	381.13	-80.71	-2,970.78	-7,414.80	1,710.69	1,154.80	555.88	3.077		
15,500.00	7,168.00	20,703.00	6,858.17	226.97	381.13	-80.71	-2,970.78	-7,414.80	1,749.82	1,203.88	545.95	3.205		
15,600.00	7,168.00	20,703.00	6,858.17	229.66	381.13	-80.71	-2,970.78	-7,414.80	1,793.69	1,258.63	535.06	3.352		
15,700.00	7,168.00	20,703.00	6,858.17	232.36	381.13	-80.71	-2,970.78	-7,414.80	1,841.94	1,318.48	523.46	3.519		
15,765.69	7,168.00	20,703.00	6,858.17	234.14	381.13	-80.71	-2,970.78	-7,414.80	1,875.87	1,360.30	515.57	3.638		

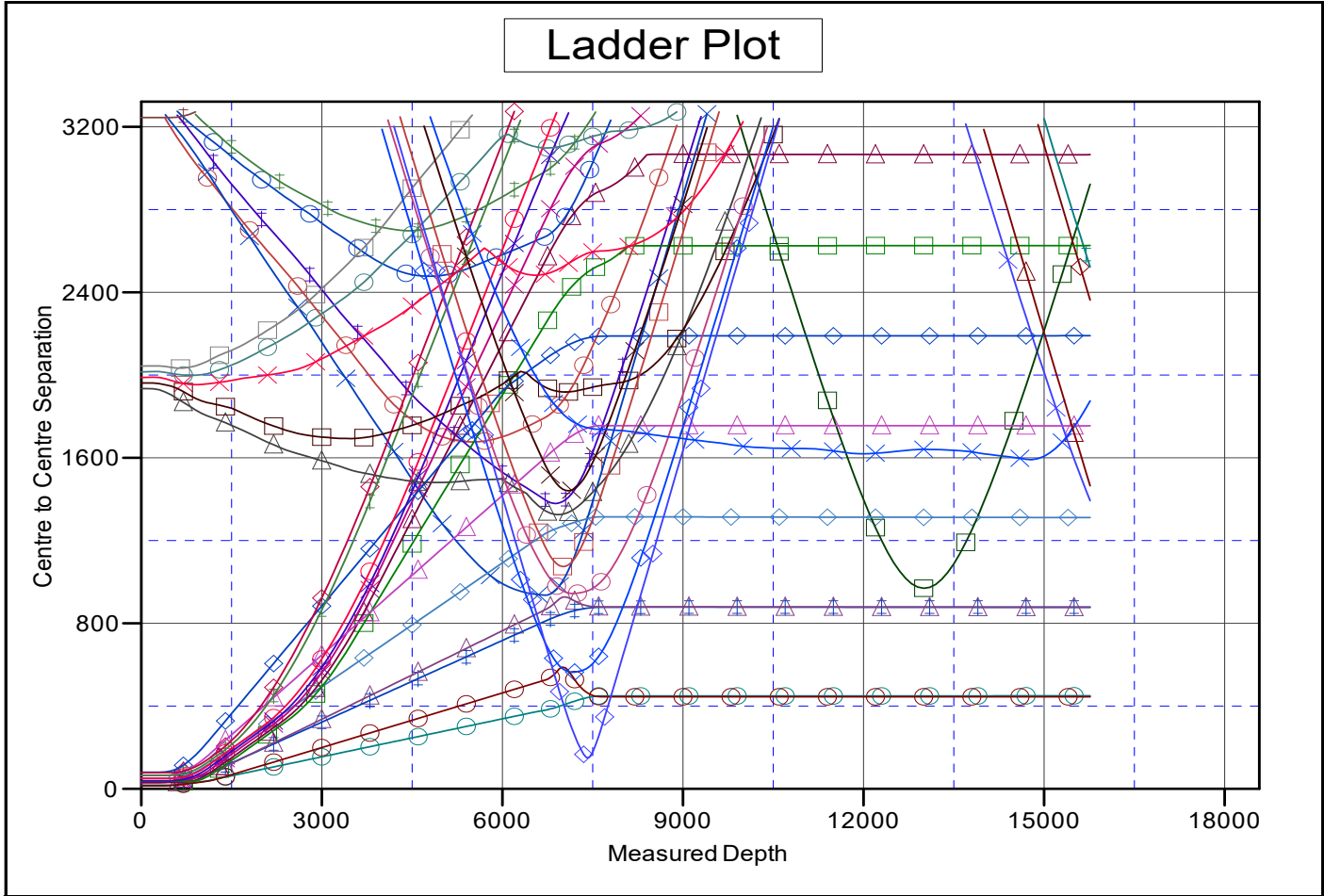
Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST VERT WICKED 1 - Wellbore #1 - Wellbore #1												Offset Site Error: 0.00 usft	
Survey Program: 100-GYD_CT												Offset Well Error: 0.00 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,000.00	7,168.00	6,839.12	6,823.17	186.55	4.43	53.23	-998.57	-9,802.68	3,187.87	3,134.62	53.25	59.864	
14,100.00	7,168.00	6,848.99	6,833.00	189.24	4.44	54.10	-998.51	-9,803.65	3,089.27	3,035.13	54.13	57.068	
14,200.00	7,168.00	6,858.87	6,842.83	191.93	4.45	54.99	-998.46	-9,804.63	2,990.73	2,935.64	55.08	54.297	
14,300.00	7,168.00	6,868.74	6,852.65	194.62	4.47	55.90	-998.40	-9,805.60	2,892.25	2,836.15	56.10	51.552	
14,400.00	7,168.00	6,878.62	6,862.48	197.31	4.48	56.83	-998.34	-9,806.58	2,793.85	2,736.64	57.21	48.837	
14,500.00	7,168.00	6,888.49	6,872.31	200.01	4.49	57.78	-998.28	-9,807.55	2,695.53	2,637.13	58.40	46.153	
14,600.00	7,168.00	6,898.37	6,882.13	202.70	4.51	58.75	-998.23	-9,808.53	2,597.30	2,537.60	59.70	43.504	
14,700.00	7,168.00	6,908.24	6,891.96	205.39	4.52	59.74	-998.17	-9,809.50	2,499.17	2,438.06	61.12	40.891	
14,800.00	7,168.00	6,918.12	6,901.79	208.09	4.53	60.75	-998.11	-9,810.48	2,401.16	2,338.50	62.66	38.319	
14,900.00	7,168.00	6,927.99	6,911.61	210.78	4.55	61.78	-998.05	-9,811.46	2,303.27	2,238.92	64.35	35.791	
15,000.00	7,168.00	6,937.87	6,921.44	213.48	4.56	62.83	-998.00	-9,812.43	2,205.54	2,139.32	66.21	33.311	
15,100.00	7,168.00	6,947.74	6,931.27	216.17	4.58	63.90	-997.94	-9,813.41	2,107.96	2,039.70	68.26	30.881	
15,200.00	7,168.00	6,957.62	6,941.09	218.87	4.59	64.99	-997.88	-9,814.38	2,010.58	1,940.05	70.53	28.508	
15,300.00	7,168.00	6,967.49	6,950.92	221.57	4.60	66.10	-997.82	-9,815.36	1,913.41	1,840.37	73.04	26.195	
15,400.00	7,168.00	6,977.37	6,960.75	224.27	4.62	67.23	-997.77	-9,816.33	1,816.50	1,740.65	75.85	23.948	
15,500.00	7,168.00	6,987.24	6,970.57	226.97	4.63	68.37	-997.71	-9,817.31	1,719.89	1,640.89	79.00	21.771	
15,600.00	7,168.00	6,997.12	6,980.40	229.66	4.64	69.54	-997.65	-9,818.29	1,623.62	1,541.08	82.54	19.670	
15,700.00	7,168.00	7,006.99	6,990.22	232.36	4.66	70.72	-997.60	-9,819.26	1,527.78	1,441.22	86.56	17.651	
15,765.69	7,168.00	7,013.48	6,996.68	234.14	4.67	71.50	-997.56	-9,819.90	1,465.08	1,375.59	89.49	16.372	CC, ES, SF

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KBE @ 5000.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000

Coordinates are relative to: CE 5-68 11-10-13H
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.35°



LEGEND

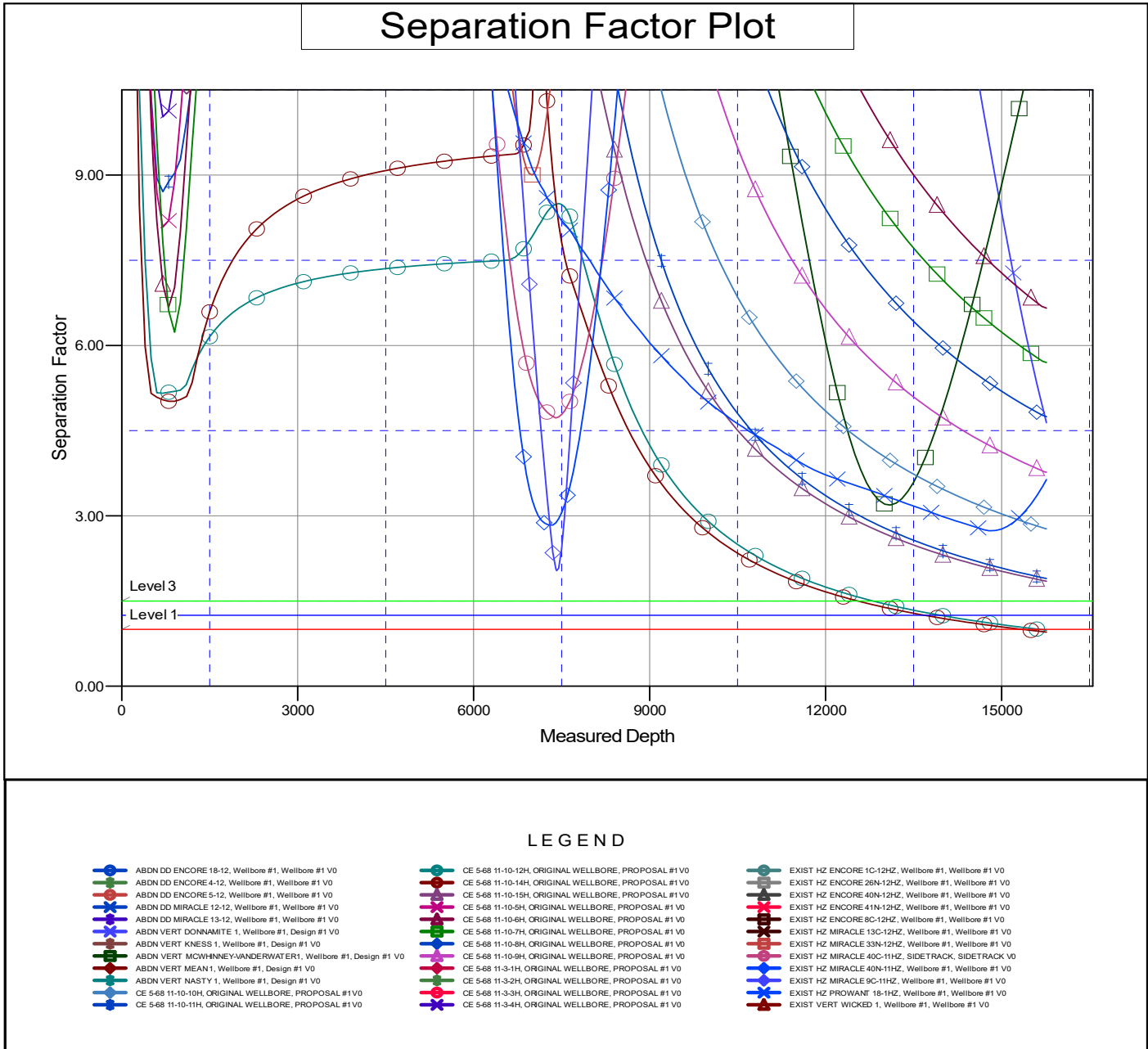
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|---|---|--|
| <ul style="list-style-type: none"> ABDN DD ENCORE 18-12, Wellbore #1, Wellbore #1 V0 ABDN DD ENCORE 4-12, Wellbore #1, Wellbore #1 V0 ABDN DD ENCORE 5-12, Wellbore #1, Wellbore #1 V0 ABDN DD MIRACLE 12-12, Wellbore #1, Wellbore #1 V0 ABDN DD MIRACLE 13-12, Wellbore #1, Wellbore #1 V0 ABDN VERT DONNAMITE 1, Wellbore #1, Design #1 V0 ABDN VERT KNESS 1, Wellbore #1, Design #1 V0 ABDN VERT MCWHINNEY-VANDERWATER1, Wellbore #1, Design #1 V0 ABDN VERT MEAN 1, Wellbore #1, Design #1 V0 ABDN VERT NASTY 1, Wellbore #1, Design #1 V0 CE 5-68 11-10-10H, ORIGINAL WELLBORE, PROPOSAL #1 V0 CE 5-68 11-10-11H, ORIGINAL WELLBORE, PROPOSAL #1 V0 | <ul style="list-style-type: none"> CE 5-68 11-10-12H, ORIGINAL WELLBORE, PROPOSAL #1 V0 CE 5-68 11-10-14H, ORIGINAL WELLBORE, PROPOSAL #1 V0 CE 5-68 11-10-15H, ORIGINAL WELLBORE, PROPOSAL #1 V0 CE 5-68 11-10-6H, ORIGINAL WELLBORE, PROPOSAL #1 V0 CE 5-68 11-10-6H, ORIGINAL WELLBORE, PROPOSAL #1 V0 CE 5-68 11-10-7H, ORIGINAL WELLBORE, PROPOSAL #1 V0 CE 5-68 11-10-8H, ORIGINAL WELLBORE, PROPOSAL #1 V0 CE 5-68 11-10-9H, ORIGINAL WELLBORE, PROPOSAL #1 V0 CE 5-68 11-3-1H, ORIGINAL WELLBORE, PROPOSAL #1 V0 CE 5-68 11-3-2H, ORIGINAL WELLBORE, PROPOSAL #1 V0 CE 5-68 11-3-3H, ORIGINAL WELLBORE, PROPOSAL #1 V0 CE 5-68 11-3-4H, ORIGINAL WELLBORE, PROPOSAL #1 V0 | <ul style="list-style-type: none"> EXIST HZ ENCORE 1C-12HZ, Wellbore #1, Wellbore #1 V0 EXIST HZ ENCORE 26N-12HZ, Wellbore #1, Wellbore #1 V0 EXIST HZ ENCORE 40N-12HZ, Wellbore #1, Wellbore #1 V0 EXIST HZ ENCORE 41N-12HZ, Wellbore #1, Wellbore #1 V0 EXIST HZ ENCORE 8C-12HZ, Wellbore #1, Wellbore #1 V0 EXIST HZ MIRACLE 13C-12HZ, Wellbore #1, Wellbore #1 V0 EXIST HZ MIRACLE 33N-12HZ, Wellbore #1, Wellbore #1 V0 EXIST HZ MIRACLE 40C-11HZ, SIDETRACK, SIDETRACK V0 EXIST HZ MIRACLE 40N-11HZ, Wellbore #1, Wellbore #1 V0 EXIST HZ MIRACLE 9C-11HZ, Wellbore #1, Wellbore #1 V0 EXIST HZ PROWANT 18-1HZ, Wellbore #1, Wellbore #1 V0 EXIST VERT WICKED 1, Wellbore #1, Wellbore #1 V0 |
|---|---|--|

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-13H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-13H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KBE @ 5000.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000

Coordinates are relative to: CE 5-68 11-10-13H
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.35°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation