



BISON IV OPERATING

LARIMER COUNTY, COLORADO (NAD 83)

SEC. 11 T5N R68W 6th P.M.

CE 5-68 11-10-14H

ORIGINAL WELLBORE

PROPOSAL #1

Anticollision Report

19 July, 2024



Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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	16,381.25	PROPOSAL #1 (ORIGINAL WELLBORE)	OWSG (Rev2) MWD	OWSG MWD - Standard

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Summary						
SEC. 11 T5N R68W 6th P.M.						
ABDN DD ENCORE 18-12 - Wellbore #1 - Wellbore #1	4,664.16	5,076.00	2,507.23	2,462.86	56.502	CC, ES
ABDN DD ENCORE 18-12 - Wellbore #1 - Wellbore #1	7,000.00	6,969.28	2,834.32	2,772.17	45.608	SF
ABDN DD ENCORE 4-12 - Wellbore #1 - Wellbore #1	3,955.54	4,662.17	2,805.97	2,758.43	59.033	CC
ABDN DD ENCORE 4-12 - Wellbore #1 - Wellbore #1	4,000.00	4,694.57	2,806.10	2,758.05	58.396	ES
ABDN DD ENCORE 4-12 - Wellbore #1 - Wellbore #1	6,900.00	6,996.77	3,275.13	3,204.74	46.529	SF
ABDN DD ENCORE 5-12 - Wellbore #1 - Wellbore #1	5,209.11	5,827.27	1,765.02	1,710.97	32.652	CC
ABDN DD ENCORE 5-12 - Wellbore #1 - Wellbore #1	5,300.00	5,889.22	1,765.81	1,710.90	32.158	ES
ABDN DD ENCORE 5-12 - Wellbore #1 - Wellbore #1	6,885.48	7,107.03	2,007.94	1,940.41	29.737	SF
ABDN DD MIRACLE 12-12 - Wellbore #1 - Wellbore #1	6,317.42	6,541.63	756.01	690.47	11.536	CC
ABDN DD MIRACLE 12-12 - Wellbore #1 - Wellbore #1	6,400.00	6,609.74	757.02	690.40	11.363	ES
ABDN DD MIRACLE 12-12 - Wellbore #1 - Wellbore #1	6,885.48	7,041.77	794.67	722.17	10.961	SF
ABDN DD MIRACLE 13-12 - Wellbore #1 - Wellbore #1	7,139.44	7,503.69	803.88	717.36	9.291	CC
ABDN DD MIRACLE 13-12 - Wellbore #1 - Wellbore #1	7,150.00	7,513.07	803.96	717.32	9.280	ES
ABDN DD MIRACLE 13-12 - Wellbore #1 - Wellbore #1	7,200.00	7,556.52	806.44	719.26	9.250	SF
ABDN VERT DONNAMITE 1 - Wellbore #1 - Design #1	16,381.25	7,146.00	1,133.26	879.72	4.470	CC, ES, SF
ABDN VERT KNESS 1 - Wellbore #1 - Design #1	400.00	406.00	3,258.38	3,249.43	364.108	CC
ABDN VERT KNESS 1 - Wellbore #1 - Design #1	500.00	505.98	3,260.12	3,248.80	287.980	ES
ABDN VERT KNESS 1 - Wellbore #1 - Design #1	700.00	705.45	3,274.06	3,258.02	204.114	SF
ABDN VERT MCWHINNEY-VANDERWATER1 - Wellbor	13,622.77	7,215.00	532.83	219.56	1.701	CC, ES, SF
ABDN VERT MEAN 1 - Wellbore #1 - Design #1	16,381.25	6,727.00	2,485.06	2,254.99	10.801	CC, ES, SF
ABDN VERT NASTY 1 - Wellbore #1 - Design #1	16,381.25	6,794.00	2,405.59	2,214.93	12.617	CC, ES, SF
ABDN VERT RAUSLER 1 - Wellbore #1 - Design #1						Out of range
CE 5-68 11-10-10H - ORIGINAL WELLBORE - PROPOS	409.57	409.79	65.39	62.89	26.186	CC, ES
CE 5-68 11-10-10H - ORIGINAL WELLBORE - PROPOS	16,381.25	15,910.78	1,751.84	1,270.50	3.639	SF
CE 5-68 11-10-11H - ORIGINAL WELLBORE - PROPOS	400.00	400.00	47.36	44.92	19.428	CC, ES
CE 5-68 11-10-11H - ORIGINAL WELLBORE - PROPOS	16,381.25	15,599.44	1,311.54	837.50	2.767	SF
CE 5-68 11-10-12H - ORIGINAL WELLBORE - PROPOS	400.00	400.00	32.79	30.35	13.450	CC, ES
CE 5-68 11-10-12H - ORIGINAL WELLBORE - PROPOS	16,381.25	15,616.72	894.97	429.09	1.921	SF
CE 5-68 11-10-13H - ORIGINAL WELLBORE - PROPOS	400.00	400.00	14.57	12.13	5.978	CC
CE 5-68 11-10-13H - ORIGINAL WELLBORE - PROPOS	16,381.25	15,765.69	445.54	-21.63	0.954	Level 3, ES, SF
CE 5-68 11-10-15H - ORIGINAL WELLBORE - PROPOS	300.00	300.00	14.57	12.85	8.466	CC, ES
CE 5-68 11-10-15H - ORIGINAL WELLBORE - PROPOS	16,381.25	16,305.41	473.36	20.92	1.046	Level 3, SF
CE 5-68 11-10-5H - ORIGINAL WELLBORE - PROPOSA	400.00	400.00	39.86	37.42	16.350	CC, ES
CE 5-68 11-10-5H - ORIGINAL WELLBORE - PROPOSA	700.00	699.45	54.31	49.77	11.955	SF
CE 5-68 11-10-6H - ORIGINAL WELLBORE - PROPOSA	400.00	400.00	31.48	29.05	12.916	CC, ES
CE 5-68 11-10-6H - ORIGINAL WELLBORE - PROPOSA	600.00	599.84	36.08	32.25	9.408	SF
CE 5-68 11-10-7H - ORIGINAL WELLBORE - PROPOSA	400.00	400.00	31.48	29.05	12.916	CC

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

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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 11-10-14H	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 11-10-7H - ORIGINAL WELLBORE - PROPOSA	500.00	499.98	31.83	28.69	10.142	ES
CE 5-68 11-10-7H - ORIGINAL WELLBORE - PROPOSA	16,381.25	15,455.54	3,065.62	2,596.12	6.530	SF
CE 5-68 11-10-8H - ORIGINAL WELLBORE - PROPOSA	300.00	300.00	94.72	93.00	55.047	CC, ES
CE 5-68 11-10-8H - ORIGINAL WELLBORE - PROPOSA	16,381.25	15,478.21	2,626.69	2,155.78	5.578	SF
CE 5-68 11-10-9H - ORIGINAL WELLBORE - PROPOSA	400.00	400.00	80.15	77.71	32.879	CC, ES
CE 5-68 11-10-9H - ORIGINAL WELLBORE - PROPOSA	16,381.25	15,495.74	2,197.59	1,723.85	4.639	SF
CE 5-68 11-3-1H - ORIGINAL WELLBORE - PROPOSAL	400.00	400.00	92.65	90.21	38.008	CC, ES
CE 5-68 11-3-1H - ORIGINAL WELLBORE - PROPOSAL	900.00	897.47	136.10	130.13	22.809	SF
CE 5-68 11-3-2H - ORIGINAL WELLBORE - PROPOSAL	400.00	400.00	79.04	76.60	32.424	CC, ES
CE 5-68 11-3-2H - ORIGINAL WELLBORE - PROPOSAL	800.00	798.70	106.92	101.66	20.351	SF
CE 5-68 11-3-3H - ORIGINAL WELLBORE - PROPOSAL	400.00	400.00	62.65	60.21	25.700	CC, ES
CE 5-68 11-3-3H - ORIGINAL WELLBORE - PROPOSAL	800.00	798.70	90.42	85.17	17.211	SF
CE 5-68 11-3-4H - ORIGINAL WELLBORE - PROPOSAL	400.00	400.00	50.44	48.00	20.692	CC, ES
CE 5-68 11-3-4H - ORIGINAL WELLBORE - PROPOSAL	700.00	699.45	65.77	61.23	14.477	SF
EXIST HZ ENCORE 1C-12HZ - Wellbore #1 - Wellbore #	743.45	929.36	2,019.55	2,013.66	342.920	CC
EXIST HZ ENCORE 1C-12HZ - Wellbore #1 - Wellbore #	800.00	997.82	2,019.82	2,013.41	315.207	ES
EXIST HZ ENCORE 1C-12HZ - Wellbore #1 - Wellbore #	5,300.00	4,875.25	3,268.80	3,219.77	66.672	SF
EXIST HZ ENCORE 26N-12HZ - Wellbore #1 - Wellbore	582.33	683.11	2,051.37	2,047.05	474.576	CC
EXIST HZ ENCORE 26N-12HZ - Wellbore #1 - Wellbore	600.00	699.84	2,051.42	2,046.96	460.959	ES
EXIST HZ ENCORE 26N-12HZ - Wellbore #1 - Wellbore	4,700.00	4,154.35	3,243.14	3,201.48	77.845	SF
EXIST HZ ENCORE 40N-12HZ - Wellbore #1 - Wellbore	6,928.54	7,988.00	1,702.20	1,637.50	26.312	CC, ES
EXIST HZ ENCORE 40N-12HZ - Wellbore #1 - Wellbore	7,000.00	7,988.00	1,703.65	1,638.64	26.204	SF
EXIST HZ ENCORE 41N-12HZ - Wellbore #1 - Wellbore	877.14	1,128.74	1,975.70	1,968.63	279.436	CC
EXIST HZ ENCORE 41N-12HZ - Wellbore #1 - Wellbore	900.00	1,153.89	1,975.76	1,968.49	271.727	ES
EXIST HZ ENCORE 41N-12HZ - Wellbore #1 - Wellbore	6,950.00	8,648.00	2,871.31	2,786.01	33.660	SF
EXIST HZ ENCORE 8C-12HZ - Wellbore #1 - Wellbore #	2,499.73	3,071.97	1,836.66	1,811.12	71.896	CC
EXIST HZ ENCORE 8C-12HZ - Wellbore #1 - Wellbore #	2,600.00	3,153.06	1,837.38	1,810.75	69.010	ES
EXIST HZ ENCORE 8C-12HZ - Wellbore #1 - Wellbore #	7,050.00	8,696.18	2,307.54	2,229.98	29.749	SF
EXIST HZ MIRACLE 13C-12HZ - Wellbore #1 - Wellbore	7,350.00	11,892.00	865.14	722.67	6.072	SF
EXIST HZ MIRACLE 13C-12HZ - Wellbore #1 - Wellbore	7,372.49	11,892.00	864.58	722.37	6.080	CC, ES
EXIST HZ MIRACLE 33N-12HZ - Wellbore #1 - Wellbore	7,250.00	11,657.00	486.54	368.70	4.129	ES, SF
EXIST HZ MIRACLE 33N-12HZ - Wellbore #1 - Wellbore	7,251.45	11,657.00	486.54	368.74	4.130	CC
EXIST HZ MIRACLE 40C-11HZ - ORIGINAL WELLBORE						Out of range
EXIST HZ MIRACLE 40C-11HZ - SIDETRACK - SIDETR	7,129.98	12,817.54	1,286.89	1,108.82	7.227	CC
EXIST HZ MIRACLE 40C-11HZ - SIDETRACK - SIDETR	7,150.00	12,821.92	1,287.08	1,108.21	7.196	ES
EXIST HZ MIRACLE 40C-11HZ - SIDETRACK - SIDETR	8,100.00	13,628.00	1,398.90	1,189.20	6.671	SF
EXIST HZ MIRACLE 40N-11HZ - Wellbore #1 - Wellbore	7,136.33	12,901.78	947.15	764.75	5.193	CC
EXIST HZ MIRACLE 40N-11HZ - Wellbore #1 - Wellbore	7,200.00	12,919.90	949.05	763.90	5.126	ES
EXIST HZ MIRACLE 40N-11HZ - Wellbore #1 - Wellbore	8,000.00	13,558.00	1,035.28	829.92	5.041	SF
EXIST HZ MIRACLE 9C-11HZ - Wellbore #1 - Wellbore #	7,507.54	13,228.27	445.47	256.08	2.352	CC
EXIST HZ MIRACLE 9C-11HZ - Wellbore #1 - Wellbore #	7,600.00	13,301.60	448.21	253.75	2.305	ES
EXIST HZ MIRACLE 9C-11HZ - Wellbore #1 - Wellbore #	8,000.00	13,682.00	467.75	259.21	2.243	SF
EXIST HZ PROWANT 18-1HZ - Wellbore #1 - Wellbore #	15,387.42	20,703.00	1,184.29	610.12	2.063	CC
EXIST HZ PROWANT 18-1HZ - Wellbore #1 - Wellbore #	15,400.00	20,703.00	1,184.36	609.91	2.062	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	16,381.25	7,096.26	1,651.96	1,506.78	11.379	CC, ES, SF

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

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Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
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Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-14H	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)						
700.00	699.45	1,691.00	1,652.78	2.25	8.05	-99.62	1,592.27	2,668.81	3,254.12	3,245.59	8.54	381.175				
800.00	798.70	1,760.25	1,718.91	2.63	8.48	-100.28	1,578.99	2,653.15	3,226.71	3,217.54	9.17	351.882				
900.00	897.47	1,832.77	1,788.39	3.03	8.91	-100.95	1,565.16	2,637.63	3,200.91	3,191.07	9.84	325.178				
1,000.00	995.62	1,982.03	1,931.18	3.46	9.83	-101.89	1,536.98	2,604.60	3,175.35	3,164.51	10.84	292.889				
1,100.00	1,093.06	2,056.85	2,002.71	3.92	10.29	-102.70	1,524.03	2,586.86	3,150.04	3,138.45	11.59	271.800				
1,200.00	1,189.64	2,175.13	2,115.84	4.43	11.03	-103.74	1,503.98	2,558.74	3,125.85	3,113.32	12.54	249.351				
1,225.96	1,214.56	2,244.26	2,181.66	4.56	11.47	-104.22	1,491.34	2,541.82	3,119.38	3,106.46	12.93	241.333				
1,300.00	1,285.55	2,278.11	2,213.93	4.97	11.68	-104.39	1,485.29	2,533.57	3,101.14	3,087.68	13.46	230.391				
1,400.00	1,381.42	2,424.66	2,353.51	5.52	12.62	-105.19	1,459.94	2,496.85	3,076.96	3,062.40	14.55	211.413				
1,500.00	1,477.29	2,530.54	2,453.83	6.09	13.33	-105.81	1,442.38	2,467.90	3,051.29	3,035.78	15.51	196.668				
1,600.00	1,573.17	2,585.00	2,505.38	6.66	13.69	-106.13	1,433.44	2,452.80	3,025.92	3,009.61	16.31	185.547				
1,700.00	1,669.04	2,640.96	2,558.57	7.24	14.05	-106.47	1,424.54	2,437.87	3,001.97	2,984.86	17.11	175.424				
1,800.00	1,764.91	2,694.41	2,609.75	7.83	14.39	-106.79	1,416.52	2,424.66	2,980.01	2,962.10	17.91	166.345				
1,900.00	1,860.78	2,832.68	2,741.93	8.42	15.25	-107.55	1,391.61	2,392.73	2,958.00	2,939.00	19.00	155.657				
2,000.00	1,956.66	2,950.84	2,854.49	9.01	16.01	-108.18	1,368.77	2,364.98	2,935.16	2,915.13	20.03	146.566				
2,100.00	2,052.53	2,999.42	2,900.85	9.61	16.31	-108.46	1,360.04	2,353.34	2,912.97	2,892.14	20.83	139.860				
2,200.00	2,148.40	3,132.73	3,028.29	10.21	17.15	-109.26	1,337.60	2,321.31	2,891.98	2,870.08	21.90	132.068				
2,300.00	2,244.27	3,211.00	3,102.86	10.81	17.66	-109.72	1,323.23	2,302.36	2,869.95	2,847.15	22.80	125.875				
2,400.00	2,340.15	3,262.03	3,151.61	11.41	17.98	-110.02	1,314.00	2,290.45	2,849.09	2,825.47	23.62	120.628				
2,500.00	2,436.02	3,351.99	3,237.97	12.01	18.53	-110.56	1,299.08	2,270.14	2,829.94	2,805.38	24.56	115.239				
2,600.00	2,531.89	3,495.53	3,375.03	12.61	19.44	-111.43	1,273.09	2,236.33	2,809.24	2,783.58	25.65	109.501				
2,700.00	2,627.76	3,567.00	3,443.25	13.22	19.89	-111.85	1,259.42	2,220.00	2,788.86	2,762.32	26.54	105.072				
2,800.00	2,723.64	3,627.40	3,501.08	13.82	20.27	-112.21	1,248.21	2,206.67	2,769.70	2,742.31	27.40	101.095				
2,900.00	2,819.51	3,804.28	3,669.96	14.43	21.39	-113.34	1,217.03	2,164.41	2,750.22	2,721.63	28.58	96.225				
3,000.00	2,915.38	3,908.14	3,768.50	15.03	22.08	-114.04	1,198.20	2,137.54	2,729.18	2,699.62	29.57	92.307				
3,100.00	3,011.25	3,991.65	3,847.74	15.64	22.63	-114.60	1,182.84	2,116.14	2,708.50	2,678.01	30.50	88.806				
3,200.00	3,107.13	4,040.74	3,894.46	16.25	22.95	-114.93	1,173.90	2,103.99	2,689.02	2,657.67	31.34	85.798				
3,300.00	3,203.00	4,096.00	3,947.43	16.85	23.30	-115.30	1,164.48	2,091.38	2,671.72	2,639.52	32.20	82.983				
3,400.00	3,298.87	4,227.68	4,073.61	17.46	24.12	-116.21	1,142.97	2,060.51	2,655.26	2,622.00	33.25	79.849				
3,500.00	3,394.74	4,336.68	4,177.34	18.07	24.82	-117.01	1,124.71	2,032.42	2,637.00	2,602.74	34.26	76.973				
3,600.00	3,490.62	4,480.07	4,313.45	18.68	25.77	-118.07	1,099.38	1,995.18	2,618.45	2,583.10	35.35	74.080				
3,700.00	3,586.49	4,544.00	4,374.05	19.29	26.20	-118.53	1,087.58	1,978.57	2,599.78	2,563.53	36.25	71.722				
3,800.00	3,682.36	4,607.40	4,434.34	19.90	26.62	-119.01	1,076.67	1,962.25	2,582.56	2,545.41	37.15	69.521				
3,900.00	3,778.23	4,665.04	4,489.36	20.51	26.98	-119.46	1,067.50	1,947.73	2,567.02	2,528.99	38.03	67.498				
4,000.00	3,874.10	4,722.00	4,543.97	21.12	27.34	-119.89	1,058.90	1,934.01	2,553.22	2,514.31	38.91	65.621				
4,100.00	3,969.98	4,785.11	4,604.72	21.73	27.71	-120.37	1,049.75	1,919.58	2,541.08	2,501.28	39.79	63.856				
4,200.00	4,065.85	4,845.76	4,663.32	22.34	28.06	-120.83	1,041.25	1,906.48	2,530.52	2,489.86	40.67	62.228				
4,300.00	4,161.72	4,898.00	4,713.99	22.95	28.36	-121.21	1,034.22	1,895.88	2,521.69	2,480.19	41.50	60.758				
4,400.00	4,257.59	4,953.10	4,767.67	23.56	28.65	-121.61	1,027.17	1,885.63	2,514.78	2,472.45	42.33	59.404				
4,500.00	4,353.47	4,987.00	4,800.83	24.17	28.82	-121.85	1,023.08	1,879.90	2,510.08	2,466.99	43.08	58.263				
4,600.00	4,449.34	5,042.16	4,855.01	24.78	29.08	-122.23	1,017.04	1,871.55	2,507.53	2,463.66	43.88	57.150				
4,664.16	4,510.85	5,076.00	4,888.40	25.17	29.24	-122.45	1,013.81	1,867.06	2,507.23	2,462.86	44.37	56.502	CC, ES			
4,700.00	4,545.21	5,076.00	4,888.40	25.39	29.24	-122.45	1,013.81	1,867.06	2,507.49	2,462.91	44.58	56.250				
4,800.00	4,641.08	5,141.00	4,952.72	26.00	29.50	-122.88	1,008.29	1,859.51	2,509.43	2,464.06	45.37	55.309				
4,900.00	4,736.96	5,200.63	5,011.89	26.61	29.73	-123.26	1,003.79	1,853.61	2,513.25	2,467.12	46.13	54.483				
5,000.00	4,832.83	5,252.00	5,062.94	27.22	29.93	-123.58	1,000.28	1,849.06	2,518.70	2,471.86	46.84	53.775				
5,100.00	4,928.70	5,309.96	5,120.64	27.83	30.12	-123.93	996.88	1,844.81	2,525.99	2,478.43	47.55	53.121				
5,200.00	5,024.57	5,361.24	5,171.79	28.44	30.29	-124.23	994.49	1,842.03	2,535.36	2,487.14	48.22	52.581				
5,300.00	5,120.45	5,428.00	5,238.45	29.05	30.49	-124.61	992.40	1,839.08	2,546.66	2,497.72	48.94	52.039				
5,400.00	5,216.32	5,472.68	5,283.10	29.66	30.61	-124.87	991.51	1,837.64	2,559.63	2,510.10	49.53	51.676				
5,500.00	5,312.19	5,537.51	5,347.91	30.28	30.77	-125.22	990.58	1,836.61	2,574.29	2,524.08	50.21	51.274				
5,600.00	5,408.06	5,622.33	5,432.72	30.89	30.98	-125.66	989.57	1,836.07	2,589.87	2,538.90	50.97	50.816				

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 11-10-14H
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 11-10-14H	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)			
5,700.00	5,503.94	5,711.97	5,522.36	31.50	31.18	-126.11	988.53	1,836.08	2,605.98	2,554.24	51.74	50.367	
5,800.00	5,599.81	5,810.09	5,620.46	32.11	31.42	-126.62	988.01	1,835.21	2,622.38	2,569.82	52.56	49.892	
5,900.00	5,695.68	5,915.20	5,725.56	32.72	31.69	-127.18	987.63	1,833.33	2,638.72	2,585.29	53.43	49.389	
6,000.00	5,791.55	6,013.46	5,823.80	33.33	31.94	-127.70	987.16	1,831.33	2,655.06	2,600.80	54.26	48.934	
6,100.00	5,887.43	6,111.08	5,921.40	33.95	32.20	-128.21	986.72	1,829.21	2,671.57	2,616.49	55.08	48.502	
6,200.00	5,983.30	6,207.11	6,017.40	34.56	32.45	-128.70	986.12	1,827.28	2,688.22	2,632.33	55.89	48.095	
6,300.00	6,079.17	6,300.04	6,110.31	35.17	32.70	-129.17	985.54	1,825.53	2,705.13	2,648.44	56.69	47.721	
6,400.00	6,175.04	6,393.01	6,203.27	35.78	32.95	-129.64	985.00	1,823.94	2,722.34	2,664.87	57.48	47.365	
6,500.00	6,270.92	6,495.26	6,305.50	36.39	33.22	-130.14	984.47	1,821.98	2,739.71	2,681.40	58.31	46.984	
6,600.00	6,366.79	6,584.00	6,394.22	37.00	33.46	-130.58	983.99	1,820.34	2,757.28	2,698.21	59.07	46.675	
6,700.00	6,462.66	6,679.86	6,490.08	37.62	33.72	-131.03	983.48	1,818.85	2,775.16	2,715.29	59.87	46.354	
6,800.00	6,558.53	6,775.37	6,585.57	38.23	33.98	-131.48	982.92	1,817.45	2,793.21	2,732.56	60.66	46.048	
6,885.48	6,640.48	6,862.95	6,673.14	38.75	34.22	-131.89	982.35	1,815.99	2,808.66	2,747.30	61.36	45.771	
6,900.00	6,654.42	6,876.18	6,686.36	38.84	34.25	-136.89	982.26	1,815.76	2,811.37	2,749.90	61.47	45.733	
6,950.00	6,702.60	6,921.94	6,732.12	39.12	34.38	-155.74	981.94	1,815.04	2,821.93	2,760.11	61.82	45.644	
7,000.00	6,750.76	6,969.28	6,779.45	39.38	34.51	-174.62	981.62	1,814.37	2,834.32	2,772.17	62.15	45.608 SF	
7,050.00	6,798.55	7,017.14	6,827.30	39.60	34.64	169.40	981.30	1,813.69	2,848.39	2,785.96	62.43	45.624	
7,100.00	6,845.60	7,078.93	6,889.08	39.79	34.82	157.07	980.81	1,812.64	2,863.94	2,801.18	62.76	45.632	
7,150.00	6,891.54	7,115.00	6,925.14	39.95	34.92	147.64	980.44	1,811.81	2,880.77	2,817.84	62.93	45.777	
7,200.00	6,936.05	7,157.43	6,967.56	40.08	35.04	140.30	980.08	1,810.87	2,899.05	2,835.94	63.11	45.935	
7,250.00	6,978.76	7,185.20	6,995.32	40.19	35.11	134.23	979.98	1,810.43	2,918.90	2,855.71	63.20	46.186	
7,300.00	7,019.37	7,216.07	7,026.20	40.28	35.20	129.09	979.97	1,810.08	2,940.14	2,876.85	63.29	46.457	
7,350.00	7,057.55	7,256.05	7,066.17	40.34	35.31	124.66	979.96	1,809.69	2,962.49	2,899.07	63.42	46.714	
7,400.00	7,093.02	7,293.21	7,103.33	40.39	35.41	120.66	979.92	1,809.35	2,985.81	2,922.28	63.53	46.999	
7,450.00	7,125.51	7,329.30	7,139.42	40.42	35.50	116.96	979.84	1,809.06	3,009.99	2,946.36	63.64	47.299	
7,500.00	7,154.78	7,361.83	7,171.95	40.43	35.59	113.44	979.71	1,808.81	3,034.94	2,971.21	63.73	47.621	
7,550.00	7,180.59	7,390.50	7,200.62	40.42	35.67	110.03	979.56	1,808.61	3,060.54	2,996.72	63.81	47.960	
7,600.00	7,202.75	7,415.00	7,225.12	40.40	35.74	106.69	979.41	1,808.45	3,086.69	3,022.80	63.89	48.313	
7,650.00	7,221.10	7,435.35	7,245.46	40.37	35.79	103.39	979.27	1,808.32	3,113.27	3,049.31	63.96	48.676	
7,700.00	7,235.49	7,451.37	7,261.49	40.32	35.83	100.12	979.15	1,808.22	3,140.14	3,076.11	64.02	49.046	
7,750.00	7,245.82	7,462.96	7,273.08	40.27	35.87	96.89	979.06	1,808.15	3,167.15	3,103.06	64.09	49.419	
7,800.00	7,252.01	7,470.03	7,280.15	40.20	35.89	93.72	979.00	1,808.11	3,194.15	3,130.00	64.15	49.794	
7,848.69	7,254.00	7,472.53	7,282.64	40.14	35.89	90.71	978.97	1,808.09	3,220.25	3,156.05	64.20	50.158	
7,900.00	7,254.00	7,472.86	7,282.98	40.07	35.89	90.71	978.97	1,808.09	3,247.90	3,183.63	64.27	50.535	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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		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)				
900.00	897.47	2,102.98	2,037.86	3.03	10.97	-106.68	1,783.37	2,475.37	3,267.56	3,255.76	11.79	277.070		
1,000.00	995.62	2,176.73	2,105.85	3.46	11.53	-107.78	1,778.81	2,447.16	3,237.56	3,224.95	12.60	256.915		
1,100.00	1,093.06	2,238.56	2,163.06	3.92	12.01	-108.79	1,775.15	2,423.99	3,209.71	3,196.31	13.40	239.513		
1,200.00	1,189.64	2,317.00	2,235.59	4.43	12.61	-109.94	1,771.55	2,394.36	3,183.93	3,169.60	14.33	222.131		
1,225.96	1,214.56	2,398.65	2,310.49	4.56	13.27	-110.80	1,768.97	2,361.96	3,177.36	3,162.47	14.89	213.350		
1,300.00	1,285.55	2,510.61	2,411.82	4.97	14.23	-111.89	1,766.41	2,314.40	3,157.69	3,141.75	15.94	198.085		
1,400.00	1,381.42	2,585.00	2,478.89	5.52	14.88	-112.63	1,764.95	2,282.26	3,131.57	3,114.57	16.99	184.302		
1,500.00	1,477.29	2,622.25	2,512.63	6.09	15.20	-113.00	1,764.25	2,266.50	3,106.94	3,089.08	17.86	173.982		
1,600.00	1,573.17	2,676.00	2,561.75	6.66	15.65	-113.52	1,763.37	2,244.70	3,084.37	3,065.54	18.83	163.835		
1,700.00	1,669.04	2,746.36	2,626.15	7.24	16.24	-114.22	1,762.69	2,216.36	3,063.27	3,043.38	19.90	153.941		
1,800.00	1,764.91	2,866.78	2,735.71	7.83	17.26	-115.45	1,761.84	2,166.40	3,042.42	3,021.15	21.27	143.028		
1,900.00	1,860.78	2,937.26	2,800.18	8.42	17.85	-116.16	1,759.97	2,137.99	3,022.14	2,999.78	22.36	135.147		
2,000.00	1,956.66	3,011.98	2,868.94	9.01	18.46	-116.88	1,757.12	2,108.88	3,002.94	2,979.47	23.47	127.944		
2,100.00	2,052.53	3,104.43	2,954.13	9.61	19.20	-117.79	1,753.42	2,073.18	2,984.67	2,959.99	24.67	120.978		
2,200.00	2,148.40	3,188.68	3,031.71	10.21	19.89	-118.62	1,749.90	2,040.51	2,966.99	2,941.14	25.85	114.793		
2,300.00	2,244.27	3,276.33	3,111.95	10.81	20.62	-119.52	1,747.55	2,005.32	2,950.22	2,923.15	27.07	108.980		
2,400.00	2,340.15	3,338.16	3,168.50	11.41	21.13	-120.17	1,746.14	1,980.34	2,934.49	2,906.32	28.16	104.191		
2,500.00	2,436.02	3,392.78	3,218.95	12.01	21.58	-120.72	1,744.51	1,959.50	2,920.55	2,891.33	29.22	99.966		
2,600.00	2,531.89	3,482.50	3,302.16	12.61	22.28	-121.62	1,741.55	1,926.08	2,907.86	2,877.42	30.43	95.544		
2,700.00	2,627.76	3,593.06	3,404.57	13.22	23.16	-122.73	1,737.14	1,884.64	2,895.38	2,863.62	31.77	91.147		
2,800.00	2,723.64	3,669.39	3,475.07	13.82	23.77	-123.51	1,734.53	1,855.50	2,883.79	2,850.86	32.94	87.557		
2,900.00	2,819.51	3,768.80	3,566.95	14.43	24.56	-124.53	1,730.72	1,817.75	2,872.97	2,838.74	34.23	83.931		
3,000.00	2,915.38	3,866.65	3,657.37	15.03	25.35	-125.54	1,726.52	1,780.58	2,862.72	2,827.20	35.52	80.604		
3,100.00	3,011.25	4,079.19	3,852.08	15.64	27.12	-127.76	1,713.71	1,696.41	2,851.33	2,813.93	37.40	76.247		
3,200.00	3,107.13	4,135.70	3,903.40	16.25	27.60	-128.37	1,709.63	1,673.11	2,839.18	2,800.68	38.50	73.736		
3,300.00	3,203.00	4,186.00	3,949.50	16.85	28.02	-128.90	1,706.23	1,653.27	2,829.14	2,789.56	39.58	71.487		
3,400.00	3,298.87	4,224.97	3,985.37	17.46	28.34	-129.30	1,704.02	1,638.22	2,821.23	2,780.66	40.58	69.526		
3,500.00	3,394.74	4,277.00	4,033.28	18.07	28.77	-129.86	1,702.14	1,618.00	2,815.61	2,773.96	41.64	67.614		
3,600.00	3,490.62	4,324.30	4,076.73	18.68	29.16	-130.38	1,701.29	1,599.34	2,812.01	2,769.33	42.69	65.871		
3,700.00	3,586.49	4,441.79	4,183.89	19.29	30.17	-131.72	1,700.60	1,551.17	2,809.96	2,765.77	44.19	63.582		
3,800.00	3,682.36	4,542.00	4,274.61	19.90	31.06	-132.88	1,699.11	1,508.64	2,807.54	2,761.93	45.61	61.556		
3,900.00	3,778.23	4,621.11	4,346.49	20.51	31.75	-133.78	1,697.50	1,475.64	2,806.18	2,759.31	46.87	59.872		
3,955.54	3,831.48	4,662.17	4,384.06	20.85	32.09	-134.23	1,696.40	1,459.11	2,805.97	2,758.43	47.53	59.033 CC		
4,000.00	3,874.10	4,694.57	4,413.89	21.12	32.36	-134.59	1,695.38	1,446.51	2,806.10	2,758.05	48.05	58.396 ES		
4,100.00	3,969.98	4,768.03	4,482.04	21.73	32.94	-135.36	1,692.64	1,419.24	2,807.37	2,758.17	49.20	57.064		
4,200.00	4,065.85	4,842.84	4,552.00	22.34	33.50	-136.11	1,689.50	1,392.93	2,809.92	2,759.61	50.31	55.852		
4,300.00	4,161.72	4,960.53	4,662.89	22.95	34.34	-137.25	1,683.53	1,353.96	2,813.49	2,761.87	51.61	54.509		
4,400.00	4,257.59	5,037.15	4,734.78	23.56	34.89	-138.00	1,679.09	1,327.85	2,816.85	2,764.15	52.70	53.453		
4,500.00	4,353.47	5,076.00	4,771.51	24.17	35.17	-138.37	1,676.91	1,315.35	2,822.01	2,768.44	53.57	52.680		
4,600.00	4,449.34	5,132.38	4,825.28	24.78	35.52	-138.88	1,674.06	1,298.67	2,829.11	2,774.64	54.47	51.937		
4,700.00	4,545.21	5,164.00	4,855.72	25.39	35.72	-139.15	1,672.70	1,290.20	2,838.48	2,783.25	55.23	51.395		
4,800.00	4,641.08	5,229.79	4,919.40	26.00	36.09	-139.69	1,670.45	1,273.85	2,849.63	2,793.53	56.10	50.791		
4,900.00	4,736.96	5,286.59	4,974.64	26.61	36.39	-140.14	1,669.09	1,260.71	2,862.60	2,805.69	56.91	50.302		
5,000.00	4,832.83	5,349.03	5,035.69	27.22	36.70	-140.60	1,667.89	1,247.63	2,877.07	2,819.36	57.71	49.855		
5,100.00	4,928.70	5,428.00	5,113.32	27.83	37.06	-141.15	1,666.46	1,233.29	2,892.79	2,834.24	58.54	49.413		
5,200.00	5,024.57	5,491.95	5,176.49	28.44	37.32	-141.56	1,665.31	1,223.33	2,909.54	2,850.27	59.27	49.090		
5,300.00	5,120.45	5,569.17	5,253.00	29.05	37.61	-142.02	1,664.02	1,212.98	2,927.28	2,867.26	60.02	48.771		
5,400.00	5,216.32	5,654.91	5,338.17	29.66	37.90	-142.49	1,662.51	1,203.33	2,945.71	2,884.94	60.78	48.468		
5,500.00	5,312.19	5,763.01	5,445.80	30.28	38.24	-143.03	1,660.00	1,193.59	2,964.40	2,902.82	61.58	48.140		
5,600.00	5,408.06	5,825.52	5,508.15	30.89	38.40	-143.31	1,658.16	1,189.47	2,983.29	2,921.10	62.19	47.972		
5,700.00	5,503.94	5,874.00	5,556.58	31.50	38.53	-143.50	1,657.24	1,187.53	3,003.78	2,941.05	62.73	47.885		
5,800.00	5,599.81	5,964.48	5,647.02	32.11	38.72	-143.84	1,656.04	1,185.33	3,025.22	2,961.84	63.38	47.732		

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 11-10-14H
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 11-10-14H	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													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		
5,900.00	5,695.68	6,057.89	5,740.41	32.72	38.92	-144.17	1,654.83	1,183.61	3,046.93	2,982.90	64.03	47.585		
6,000.00	5,791.55	6,153.12	5,835.62	33.33	39.12	-144.49	1,653.57	1,182.07	3,068.76	3,004.07	64.68	47.442		
6,100.00	5,887.43	6,235.80	5,918.28	33.95	39.29	-144.77	1,652.73	1,180.67	3,090.96	3,025.66	65.30	47.337		
6,200.00	5,983.30	6,334.27	6,016.74	34.56	39.50	-145.10	1,651.73	1,179.14	3,113.27	3,047.32	65.96	47.201		
6,300.00	6,079.17	6,407.00	6,089.46	35.17	39.64	-145.33	1,651.25	1,178.89	3,136.21	3,069.69	66.52	47.150		
6,400.00	6,175.04	6,505.24	6,187.70	35.78	39.81	-145.62	1,650.83	1,179.13	3,159.58	3,092.44	67.15	47.056		
6,500.00	6,270.92	6,613.89	6,296.35	36.39	40.01	-145.94	1,650.01	1,179.08	3,182.65	3,114.84	67.81	46.932		
6,600.00	6,366.79	6,712.26	6,394.71	37.00	40.21	-146.23	1,649.09	1,178.71	3,205.58	3,137.12	68.46	46.826		
6,700.00	6,462.66	6,804.46	6,486.91	37.62	40.40	-146.51	1,648.33	1,177.90	3,228.62	3,159.53	69.09	46.732		
6,800.00	6,558.53	6,900.11	6,582.55	38.23	40.61	-146.80	1,647.71	1,176.75	3,251.85	3,182.12	69.74	46.632		
6,885.48	6,640.48	6,983.08	6,665.50	38.75	40.80	-147.05	1,647.13	1,175.69	3,271.71	3,201.42	70.30	46.542		
6,900.00	6,654.42	6,996.77	6,679.20	38.84	40.83	-152.12	1,647.04	1,175.48	3,275.13	3,204.74	70.39	46.529 SF		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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	2,029.68	1,923.54	1.22	12.13	60.56	1,407.41	2,493.67	3,245.87	3,236.39	9.48	342.381		
500.00	499.98	2,080.52	1,968.24	1.56	12.59	-97.13	1,391.03	2,475.82	3,199.41	3,189.44	9.97	320.928		
600.00	599.84	2,131.00	2,012.94	1.90	13.05	-98.07	1,374.94	2,458.75	3,154.53	3,144.05	10.48	301.079		
700.00	699.45	2,192.35	2,067.54	2.25	13.59	-99.00	1,355.53	2,438.60	3,111.06	3,099.99	11.07	281.111		
800.00	798.70	2,255.05	2,123.53	2.63	14.14	-99.95	1,335.83	2,418.40	3,068.80	3,057.11	11.69	262.507		
900.00	897.47	2,311.00	2,173.77	3.03	14.62	-100.90	1,318.75	2,400.67	3,028.01	3,015.70	12.31	245.940		
1,000.00	995.62	2,349.78	2,208.86	3.46	14.94	-101.81	1,307.37	2,388.69	2,989.20	2,976.31	12.89	231.976		
1,100.00	1,093.06	2,401.00	2,255.69	3.92	15.36	-102.74	1,293.23	2,373.53	2,952.86	2,939.31	13.55	217.926		
1,200.00	1,189.64	2,669.55	2,499.03	4.43	17.62	-104.78	1,222.43	2,284.96	2,916.20	2,901.08	15.12	192.848		
1,225.96	1,214.56	2,659.30	2,489.84	4.56	17.53	-104.94	1,225.11	2,288.60	2,905.87	2,890.66	15.21	190.996		
1,300.00	1,285.55	2,712.33	2,537.33	4.97	18.00	-105.24	1,210.99	2,269.69	2,877.00	2,861.18	15.82	181.896		
1,400.00	1,381.42	2,761.00	2,581.22	5.52	18.42	-105.50	1,197.85	2,253.31	2,839.46	2,822.90	16.56	171.465		
1,500.00	1,477.29	2,836.61	2,649.71	6.09	19.06	-105.91	1,177.40	2,228.66	2,803.04	2,785.63	17.42	160.912		
1,600.00	1,573.17	2,968.79	2,769.14	6.66	20.20	-106.69	1,143.02	2,183.63	2,766.19	2,747.70	18.49	149.618		
1,700.00	1,669.04	3,028.00	2,822.43	7.24	20.71	-107.06	1,127.83	2,162.78	2,729.03	2,709.73	19.30	141.390		
1,800.00	1,764.91	3,096.08	2,883.98	7.83	21.29	-107.50	1,110.92	2,139.13	2,692.90	2,672.75	20.15	133.642		
1,900.00	1,860.78	3,163.01	2,944.97	8.42	21.85	-107.95	1,095.16	2,116.51	2,658.36	2,637.36	21.00	126.590		
2,000.00	1,956.66	3,278.86	3,050.54	9.01	22.82	-108.71	1,066.65	2,078.24	2,624.23	2,602.21	22.01	119.209		
2,100.00	2,052.53	3,361.04	3,125.16	9.61	23.51	-109.26	1,045.93	2,050.76	2,589.62	2,566.70	22.92	112.964		
2,200.00	2,148.40	3,436.22	3,193.60	10.21	24.14	-109.76	1,026.54	2,026.43	2,555.81	2,532.00	23.82	107.304		
2,300.00	2,244.27	3,517.06	3,267.34	10.81	24.80	-110.27	1,004.68	2,001.55	2,522.75	2,498.01	24.73	101.993		
2,400.00	2,340.15	3,637.56	3,377.00	11.41	25.81	-111.08	972.88	1,963.04	2,489.38	2,463.62	25.77	96.614		
2,500.00	2,436.02	3,739.00	3,468.93	12.01	26.67	-111.81	946.56	1,929.19	2,455.48	2,428.74	26.74	91.818		
2,600.00	2,531.89	3,823.91	3,546.04	12.61	27.39	-112.45	924.82	1,901.07	2,422.33	2,394.65	27.68	87.523		
2,700.00	2,627.76	3,972.38	3,679.64	13.22	28.69	-113.61	885.88	1,849.34	2,387.54	2,358.77	28.77	82.987		
2,800.00	2,723.64	4,098.11	3,792.02	13.82	29.81	-114.62	851.04	1,805.02	2,352.18	2,322.38	29.80	78.928		
2,900.00	2,819.51	4,170.60	3,856.68	14.43	30.47	-115.20	830.28	1,779.64	2,316.67	2,285.94	30.73	75.397		
3,000.00	2,915.38	4,233.43	3,912.93	15.03	31.02	-115.69	812.07	1,758.40	2,282.22	2,250.59	31.64	72.140		
3,100.00	3,011.25	4,342.72	4,011.17	15.64	31.98	-116.54	779.93	1,722.91	2,248.89	2,216.26	32.64	68.910		
3,200.00	3,107.13	4,422.16	4,082.22	16.25	32.68	-117.17	755.76	1,696.87	2,214.89	2,181.31	33.59	65.947		
3,300.00	3,203.00	4,517.19	4,167.49	16.85	33.52	-117.96	727.79	1,665.62	2,181.84	2,147.27	34.57	63.118		
3,400.00	3,298.87	4,605.16	4,246.19	17.46	34.30	-118.75	702.82	1,635.25	2,148.73	2,113.18	35.55	60.444		
3,500.00	3,394.74	4,754.60	4,378.97	18.07	35.67	-120.15	658.81	1,582.74	2,114.79	2,078.18	36.61	57.765		
3,600.00	3,490.62	4,859.89	4,471.90	18.68	36.65	-121.10	625.14	1,546.46	2,080.05	2,042.44	37.61	55.299		
3,700.00	3,586.49	4,940.65	4,542.87	19.29	37.41	-121.87	599.17	1,517.98	2,045.03	2,006.42	38.61	52.962		
3,800.00	3,682.36	5,021.03	4,613.78	19.90	38.17	-122.72	575.49	1,488.47	2,011.42	1,971.78	39.63	50.749		
3,900.00	3,778.23	5,111.07	4,692.77	20.51	39.03	-123.77	550.19	1,453.44	1,977.93	1,937.23	40.69	48.607		
4,000.00	3,874.10	5,160.00	4,735.76	21.12	39.50	-124.37	537.15	1,434.04	1,945.91	1,904.17	41.74	46.616		
4,100.00	3,969.98	5,217.14	4,786.39	21.73	40.02	-125.09	522.73	1,411.82	1,916.14	1,873.32	42.81	44.755		
4,200.00	4,065.85	5,247.00	4,813.13	22.34	40.30	-125.47	515.57	1,400.64	1,889.27	1,845.42	43.85	43.081		
4,300.00	4,161.72	5,294.75	4,856.50	22.95	40.68	-126.06	504.68	1,383.87	1,865.39	1,820.49	44.90	41.542		
4,400.00	4,257.59	5,337.00	4,895.55	23.56	41.03	-126.56	495.67	1,370.53	1,845.00	1,799.06	45.94	40.163		
4,500.00	4,353.47	5,396.52	4,951.18	24.17	41.46	-127.25	483.29	1,353.34	1,827.38	1,780.39	46.98	38.894		
4,600.00	4,449.34	5,468.03	5,018.39	24.78	41.97	-128.04	468.34	1,334.05	1,811.53	1,763.48	48.05	37.700		
4,700.00	4,545.21	5,514.00	5,061.75	25.39	42.29	-128.56	459.03	1,321.95	1,797.66	1,748.61	49.05	36.649		
4,800.00	4,641.08	5,583.51	5,127.77	26.00	42.74	-129.32	445.80	1,304.73	1,786.05	1,735.96	50.10	35.652		
4,900.00	4,736.96	5,648.14	5,189.72	26.61	43.14	-130.02	434.54	1,290.13	1,777.26	1,726.14	51.12	34.768		
5,000.00	4,832.83	5,693.00	5,232.84	27.22	43.41	-130.50	427.02	1,280.32	1,770.55	1,718.50	52.05	34.015		
5,100.00	4,928.70	5,760.27	5,297.92	27.83	43.77	-131.20	416.64	1,266.86	1,766.26	1,713.22	53.04	33.302		
5,200.00	5,024.57	5,820.87	5,357.04	28.44	44.08	-131.81	408.45	1,256.38	1,765.03	1,711.06	53.97	32.705		
5,209.11	5,033.31	5,827.27	5,363.30	28.50	44.11	-131.87	407.62	1,255.32	1,765.02	1,710.97	54.06	32.652 CC		
5,300.00	5,120.45	5,889.22	5,423.96	29.05	44.41	-132.48	399.91	1,245.32	1,765.81	1,710.90	54.91	32.158 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 11-10-14H
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 11-10-14H	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)				
5,400.00	5,216.32	5,960.00	5,493.45	29.66	44.73	-133.18	392.27	1,234.29	1,768.76	1,712.91	55.85	31.670		
5,500.00	5,312.19	6,018.38	5,550.94	30.28	44.97	-133.75	386.83	1,225.74	1,773.84	1,717.13	56.70	31.284		
5,600.00	5,408.06	6,087.69	5,619.40	30.89	45.25	-134.41	381.02	1,216.65	1,780.95	1,723.37	57.58	30.929		
5,700.00	5,503.94	6,156.55	5,687.60	31.50	45.51	-135.03	375.82	1,208.63	1,789.85	1,731.42	58.43	30.632		
5,800.00	5,599.81	6,224.00	5,754.55	32.11	45.74	-135.62	371.71	1,201.60	1,800.83	1,741.59	59.24	30.397		
5,900.00	5,695.68	6,289.80	5,819.98	32.72	45.95	-136.18	368.58	1,195.39	1,813.75	1,753.73	60.02	30.219		
6,000.00	5,791.55	6,358.09	5,887.97	33.33	46.15	-136.75	366.05	1,189.57	1,828.38	1,767.60	60.78	30.081		
6,100.00	5,887.43	6,427.97	5,957.66	33.95	46.34	-137.31	364.26	1,184.66	1,844.83	1,783.30	61.53	29.984		
6,200.00	5,983.30	6,504.42	6,033.97	34.56	46.54	-137.88	362.83	1,180.36	1,862.68	1,800.39	62.29	29.905		
6,300.00	6,079.17	6,580.00	6,109.48	35.17	46.71	-138.41	361.99	1,177.21	1,881.90	1,818.89	63.01	29.866		
6,400.00	6,175.04	6,663.42	6,192.86	35.78	46.89	-138.97	361.55	1,174.54	1,902.20	1,838.43	63.77	29.830		
6,500.00	6,270.92	6,752.33	6,281.74	36.39	47.07	-139.54	361.29	1,172.26	1,923.12	1,858.57	64.55	29.793		
6,600.00	6,366.79	6,846.00	6,375.39	37.00	47.26	-140.11	361.05	1,170.47	1,944.46	1,879.12	65.35	29.756		
6,700.00	6,462.66	6,931.75	6,461.14	37.62	47.42	-140.62	361.04	1,169.06	1,966.29	1,900.21	66.08	29.756		
6,800.00	6,558.53	7,024.00	6,553.37	38.23	47.60	-141.14	361.29	1,167.87	1,988.65	1,921.80	66.85	29.749		
6,885.48	6,640.48	7,107.03	6,636.40	38.75	47.76	-141.60	361.47	1,167.16	2,007.94	1,940.41	67.52	29.737 SF		
6,900.00	6,654.42	7,120.92	6,650.29	38.84	47.78	-146.68	361.49	1,167.06	2,011.27	1,943.64	67.63	29.738		
6,950.00	6,702.60	7,168.05	6,697.42	39.12	47.87	-165.78	361.55	1,166.77	2,023.52	1,955.55	67.97	29.771		
7,000.00	6,750.76	7,215.76	6,745.13	39.38	47.96	175.20	361.63	1,166.52	2,036.86	1,968.61	68.25	29.844		
7,050.00	6,798.55	7,264.44	6,793.80	39.60	48.05	159.19	361.72	1,166.16	2,051.16	1,982.68	68.49	29.950		
7,100.00	6,845.60	7,311.38	6,840.75	39.79	48.14	146.91	361.82	1,165.71	2,066.33	1,997.66	68.66	30.093		
7,150.00	6,891.54	7,355.86	6,885.22	39.95	48.23	137.69	361.93	1,165.34	2,082.32	2,013.53	68.79	30.272		
7,200.00	6,936.05	7,400.44	6,928.80	40.08	48.31	130.66	362.04	1,165.04	2,099.08	2,030.21	68.87	30.477		
7,250.00	6,978.76	7,445.29	6,974.65	40.19	48.40	125.14	362.10	1,164.82	2,116.52	2,047.58	68.94	30.703		
7,300.00	7,019.37	7,484.56	7,013.92	40.28	48.47	120.60	362.12	1,164.67	2,134.60	2,065.66	68.94	30.965		
7,350.00	7,057.55	7,516.59	7,045.95	40.34	48.53	116.67	362.19	1,164.62	2,153.41	2,084.55	68.87	31.268		
7,400.00	7,093.02	7,546.22	7,075.58	40.39	48.58	113.20	362.33	1,164.62	2,172.95	2,104.17	68.78	31.594		
7,450.00	7,125.51	7,573.63	7,102.99	40.42	48.63	110.06	362.51	1,164.66	2,193.16	2,124.49	68.67	31.938		
7,500.00	7,154.78	7,598.54	7,127.90	40.43	48.67	107.14	362.72	1,164.74	2,213.98	2,145.43	68.55	32.298		
7,550.00	7,180.59	7,620.40	7,149.75	40.42	48.70	104.36	362.93	1,164.84	2,235.34	2,166.92	68.42	32.671		
7,600.00	7,202.75	7,639.04	7,168.39	40.40	48.73	101.67	363.14	1,164.94	2,257.19	2,188.90	68.29	33.053		
7,650.00	7,221.10	7,655.36	7,184.71	40.37	48.76	99.06	363.34	1,165.05	2,279.42	2,211.25	68.17	33.437		
7,700.00	7,235.49	7,670.11	7,199.47	40.32	48.78	96.54	363.52	1,165.14	2,301.93	2,233.86	68.07	33.817		
7,750.00	7,245.82	7,680.66	7,210.01	40.27	48.80	94.04	363.64	1,165.19	2,324.62	2,256.64	67.97	34.198		
7,800.00	7,252.01	7,686.89	7,216.24	40.20	48.81	91.55	363.72	1,165.22	2,347.35	2,279.47	67.88	34.579		
7,848.69	7,254.00	7,688.73	7,218.08	40.14	48.81	89.16	363.74	1,165.23	2,369.40	2,301.60	67.80	34.948		
7,900.00	7,254.00	7,688.46	7,217.81	40.07	48.81	89.15	363.74	1,165.23	2,392.99	2,325.26	67.72	35.334		
8,000.00	7,254.00	7,687.93	7,217.28	39.96	48.81	89.14	363.73	1,165.23	2,411.39	2,373.72	67.67	36.076		
8,100.00	7,254.00	7,687.40	7,216.75	39.89	48.81	89.13	363.73	1,165.23	2,492.87	2,425.15	67.73	36.807		
8,200.00	7,254.00	7,686.85	7,216.21	39.87	48.81	89.11	363.72	1,165.22	2,547.24	2,479.37	67.87	37.531		
8,300.00	7,254.00	7,686.31	7,215.66	39.95	48.81	89.10	363.71	1,165.22	2,604.32	2,536.23	68.09	38.248		
8,400.00	7,254.00	7,685.76	7,215.11	40.29	48.81	89.08	363.71	1,165.22	2,663.92	2,595.55	68.37	38.961		
8,500.00	7,254.00	7,685.20	7,214.55	41.24	48.81	89.07	363.70	1,165.22	2,725.90	2,657.18	68.71	39.672		
8,600.00	7,254.00	7,684.64	7,213.99	42.78	48.81	89.05	363.69	1,165.21	2,790.08	2,720.98	69.09	40.382		
8,700.00	7,254.00	7,684.07	7,213.42	44.60	48.81	89.04	363.69	1,165.21	2,856.32	2,786.81	69.51	41.094		
8,800.00	7,254.00	7,683.49	7,212.84	46.57	48.81	89.02	363.68	1,165.21	2,924.48	2,854.52	69.95	41.807		
8,900.00	7,254.00	7,682.91	7,212.26	48.64	48.80	89.00	363.67	1,165.20	2,994.42	2,924.01	70.42	42.525		
9,000.00	7,254.00	7,682.33	7,211.68	50.78	48.80	88.99	363.67	1,165.20	3,066.04	2,995.14	70.89	43.248		
9,100.00	7,254.00	7,681.74	7,211.09	52.97	48.80	88.97	363.66	1,165.20	3,139.20	3,067.82	71.38	43.976		
9,200.00	7,254.00	7,681.14	7,210.49	55.21	48.80	88.96	363.65	1,165.20	3,213.82	3,141.94	71.88	44.710		

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 11-10-14H
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 11-10-14H	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)				
400.00	400.00	1,616.19	1,569.64	1.22	8.01	100.79	-567.49	2,976.74	3,255.87	3,248.18	7.69	423.635		
500.00	499.98	1,693.00	1,640.06	1.56	8.61	-56.37	-575.71	2,947.18	3,218.62	3,210.26	8.36	385.007		
600.00	599.84	1,762.45	1,703.83	1.90	9.16	-56.88	-583.47	2,920.79	3,180.17	3,171.15	9.02	352.521		
700.00	699.45	1,870.31	1,802.97	2.25	10.00	-57.39	-595.47	2,880.05	3,140.25	3,130.36	9.89	317.423		
800.00	798.70	2,012.07	1,932.82	2.63	11.15	-58.00	-609.60	2,824.94	3,097.34	3,086.40	10.94	283.020		
900.00	897.47	2,096.12	2,009.68	3.03	11.84	-58.82	-617.06	2,791.76	3,052.12	3,040.40	11.72	260.400		
1,000.00	995.62	2,169.29	2,076.84	3.46	12.43	-59.75	-622.97	2,763.34	3,005.77	2,993.30	12.46	241.215		
1,100.00	1,093.06	2,258.71	2,158.98	3.92	13.15	-60.79	-630.61	2,728.82	2,958.17	2,944.87	13.29	222.504		
1,200.00	1,189.64	2,390.80	2,280.18	4.43	14.23	-62.11	-639.53	2,677.09	2,908.36	2,894.03	14.33	202.964		
1,225.96	1,214.56	2,427.06	2,313.29	4.56	14.54	-62.49	-642.03	2,662.50	2,894.95	2,880.34	14.61	198.100		
1,300.00	1,285.55	2,514.60	2,392.85	4.97	15.29	-62.74	-648.62	2,626.58	2,856.06	2,840.71	15.35	186.099		
1,400.00	1,381.42	2,578.00	2,450.38	5.52	15.83	-62.92	-653.34	2,600.37	2,803.40	2,787.29	16.11	173.973		
1,500.00	1,477.29	2,630.96	2,498.64	6.09	16.28	-63.08	-657.36	2,578.93	2,751.63	2,734.78	16.85	163.292		
1,600.00	1,573.17	2,667.00	2,531.68	6.66	16.58	-63.19	-660.32	2,564.86	2,701.28	2,683.74	17.53	154.059		
1,700.00	1,669.04	2,723.60	2,583.85	7.24	17.03	-63.36	-665.32	2,543.49	2,652.19	2,633.88	18.31	144.826		
1,800.00	1,764.91	2,805.47	2,659.62	7.83	17.68	-63.60	-673.30	2,513.53	2,604.21	2,585.00	19.20	135.603		
1,900.00	1,860.78	2,964.11	2,804.92	8.42	18.99	-64.01	-690.60	2,452.25	2,554.30	2,533.89	20.41	125.136		
2,000.00	1,956.66	3,035.01	2,869.59	9.01	19.59	-64.20	-698.53	2,424.30	2,503.95	2,482.67	21.28	117.656		
2,100.00	2,052.53	3,111.00	2,939.14	9.61	20.23	-64.42	-706.83	2,394.84	2,454.19	2,432.02	22.17	110.685		
2,200.00	2,148.40	3,178.92	3,001.49	10.21	20.78	-64.62	-714.13	2,368.89	2,404.96	2,381.92	23.04	104.399		
2,300.00	2,244.27	3,254.54	3,071.05	10.81	21.40	-64.86	-722.14	2,340.34	2,356.19	2,332.27	23.93	98.471		
2,400.00	2,340.15	3,322.66	3,133.93	11.41	21.94	-65.11	-728.82	2,315.01	2,307.96	2,283.17	24.79	93.095		
2,500.00	2,436.02	3,387.12	3,193.81	12.01	22.45	-65.37	-734.20	2,291.77	2,260.67	2,235.03	25.64	88.170		
2,600.00	2,531.89	3,466.00	3,267.45	12.61	23.04	-65.76	-739.16	2,263.94	2,214.02	2,187.51	26.51	83.501		
2,700.00	2,627.76	3,539.60	3,336.32	13.22	23.59	-66.14	-743.52	2,238.36	2,167.92	2,140.55	27.38	79.192		
2,800.00	2,723.64	3,623.09	3,414.51	13.82	24.21	-66.57	-749.20	2,209.63	2,122.33	2,094.06	28.27	75.086		
2,900.00	2,819.51	3,798.03	3,577.49	14.43	25.55	-67.60	-758.35	2,146.77	2,075.58	2,046.27	29.31	70.815		
3,000.00	2,915.38	3,882.19	3,655.21	15.03	26.22	-68.18	-760.95	2,114.60	2,026.46	1,996.28	30.18	67.157		
3,100.00	3,011.25	4,021.68	3,783.44	15.64	27.37	-69.16	-766.36	2,059.99	1,976.79	1,945.69	31.10	63.563		
3,200.00	3,107.13	4,081.00	3,837.51	16.25	27.87	-69.58	-769.16	2,035.74	1,925.92	1,893.96	31.96	60.266		
3,300.00	3,203.00	4,139.17	3,890.81	16.85	28.35	-70.00	-772.25	2,012.67	1,876.38	1,843.56	32.82	57.171		
3,400.00	3,298.87	4,189.81	3,937.76	17.46	28.76	-70.37	-775.34	1,993.95	1,829.16	1,795.47	33.69	54.300		
3,500.00	3,394.74	4,333.29	4,070.52	18.07	29.90	-71.37	-786.82	1,940.80	1,782.71	1,748.09	34.62	51.498		
3,600.00	3,490.62	4,431.20	4,159.81	18.68	30.74	-72.03	-796.20	1,901.74	1,733.23	1,697.70	35.53	48.786		
3,700.00	3,586.49	4,512.76	4,234.15	19.29	31.44	-72.61	-804.39	1,869.19	1,683.92	1,647.48	36.44	46.213		
3,800.00	3,682.36	4,596.67	4,310.60	19.90	32.15	-73.21	-813.59	1,835.86	1,634.91	1,597.55	37.36	43.767		
3,900.00	3,778.23	4,664.96	4,372.94	20.51	32.73	-73.71	-821.30	1,809.04	1,586.49	1,548.20	38.28	41.441		
4,000.00	3,874.10	4,738.74	4,440.69	21.12	33.34	-74.30	-829.07	1,780.90	1,539.26	1,500.05	39.21	39.257		
4,100.00	3,969.98	4,821.79	4,517.04	21.73	34.02	-74.99	-838.07	1,749.48	1,492.54	1,452.41	40.13	37.193		
4,200.00	4,065.85	4,941.79	4,627.30	22.34	35.02	-76.11	-850.00	1,703.66	1,445.97	1,404.99	40.98	35.285		
4,300.00	4,161.72	5,052.00	4,727.18	22.95	35.98	-77.29	-859.77	1,658.12	1,396.41	1,354.59	41.81	33.395		
4,400.00	4,257.59	5,124.19	4,792.57	23.56	36.62	-78.15	-865.54	1,628.10	1,347.18	1,304.42	42.76	31.508		
4,500.00	4,353.47	5,204.18	4,865.40	24.17	37.31	-79.13	-872.50	1,595.77	1,299.28	1,255.59	43.69	29.742		
4,600.00	4,449.34	5,304.49	4,956.52	24.78	38.19	-80.43	-881.87	1,554.88	1,251.40	1,206.86	44.54	28.096		
4,700.00	4,545.21	5,393.98	5,037.34	25.39	38.99	-81.60	-891.85	1,517.78	1,203.01	1,157.57	45.45	26.472		
4,800.00	4,641.08	5,459.85	5,096.98	26.00	39.56	-82.52	-899.16	1,490.79	1,155.52	1,109.04	46.49	24.857		
4,900.00	4,736.96	5,528.38	5,159.56	26.61	40.15	-83.53	-906.84	1,463.92	1,110.04	1,062.50	47.54	23.351		
5,000.00	4,832.83	5,584.00	5,210.55	27.22	40.61	-84.37	-913.28	1,442.68	1,066.29	1,017.61	48.68	21.904		
5,100.00	4,928.70	5,650.21	5,271.91	27.83	41.12	-85.45	-920.29	1,418.82	1,025.14	975.36	49.79	20.590		
5,200.00	5,024.57	5,715.54	5,333.30	28.44	41.60	-86.62	-926.00	1,397.23	987.50	936.58	50.93	19.391		
5,300.00	5,120.45	5,790.25	5,403.90	29.05	42.12	-88.01	-932.59	1,373.71	952.11	900.06	52.05	18.291		
5,400.00	5,216.32	5,867.85	5,477.62	29.66	42.64	-89.48	-940.07	1,350.62	918.85	865.65	53.20	17.271		

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 11-10-14H
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 11-10-14H	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	5,312.19	5,947.76	5,553.74	30.28	43.16	-91.17	-946.10	1,327.10	887.42	833.02	54.40	16.313		
5,600.00	5,408.06	6,025.00	5,627.81	30.89	43.64	-92.95	-950.74	1,305.70	858.97	803.30	55.67	15.430		
5,700.00	5,503.94	6,104.28	5,704.17	31.50	44.11	-94.81	-955.65	1,284.96	833.02	776.04	56.98	14.619		
5,800.00	5,599.81	6,175.11	5,772.58	32.11	44.51	-96.53	-960.12	1,267.20	809.38	751.02	58.36	13.868		
5,900.00	5,695.68	6,241.91	5,837.58	32.72	44.86	-98.21	-963.48	1,252.16	789.81	730.03	59.78	13.213		
6,000.00	5,791.55	6,308.26	5,902.58	33.33	45.18	-99.95	-965.52	1,239.00	774.80	713.60	61.19	12.661		
6,100.00	5,887.43	6,380.00	5,973.30	33.95	45.49	-101.83	-966.96	1,227.08	764.41	701.80	62.61	12.210		
6,200.00	5,983.30	6,450.04	6,042.69	34.56	45.74	-103.63	-968.00	1,217.64	758.33	694.37	63.96	11.856		
6,300.00	6,079.17	6,527.83	6,120.03	35.17	46.00	-105.56	-968.91	1,209.27	756.06	690.75	65.31	11.577		
6,317.42	6,095.87	6,541.63	6,133.77	35.28	46.04	-105.90	-969.06	1,207.98	756.01	690.47	65.54	11.536 CC		
6,400.00	6,175.04	6,609.74	6,201.64	35.78	46.24	-107.53	-969.73	1,202.37	757.02	690.40	66.62	11.363 ES		
6,500.00	6,270.92	6,693.35	6,285.06	36.39	46.46	-109.47	-970.39	1,196.87	760.74	692.84	67.90	11.204		
6,600.00	6,366.79	6,779.37	6,370.98	37.00	46.67	-111.38	-970.80	1,192.65	767.02	697.88	69.14	11.094		
6,700.00	6,462.66	6,867.75	6,459.30	37.62	46.88	-113.27	-971.05	1,189.39	775.35	705.01	70.34	11.023		
6,800.00	6,558.53	6,961.22	6,552.73	38.23	47.08	-115.16	-971.52	1,186.97	785.27	713.75	71.53	10.978		
6,885.48	6,640.48	7,041.77	6,633.27	38.75	47.24	-116.70	-972.31	1,185.63	794.67	722.17	72.50	10.961 SF		
6,900.00	6,654.42	7,055.53	6,647.03	38.84	47.27	-121.78	-972.46	1,185.44	796.46	723.80	72.66	10.962		
6,950.00	6,702.60	7,103.14	6,694.63	39.12	47.36	-140.83	-973.01	1,184.87	804.56	731.42	73.14	11.000		
7,000.00	6,750.76	7,151.03	6,742.51	39.38	47.46	-159.79	-973.61	1,184.40	815.52	742.00	73.53	11.091		
7,050.00	6,798.55	7,198.91	6,790.39	39.60	47.55	-175.75	-974.24	1,184.00	829.15	755.32	73.83	11.231		
7,100.00	6,845.60	7,246.08	6,837.55	39.79	47.64	172.01	-974.89	1,183.65	845.29	771.25	74.04	11.417		
7,150.00	6,891.54	7,286.80	6,878.27	39.95	47.71	162.77	-975.43	1,183.46	863.93	789.80	74.13	11.655		
7,200.00	6,936.05	7,322.93	6,914.40	40.08	47.77	155.55	-975.72	1,183.59	885.27	811.17	74.11	11.946		
7,250.00	6,978.76	7,357.20	6,948.67	40.19	47.83	149.66	-975.82	1,183.99	909.23	835.22	74.02	12.284		
7,300.00	7,019.37	7,397.00	6,988.46	40.28	47.89	144.79	-975.70	1,184.82	935.72	861.77	73.95	12.653		
7,350.00	7,057.55	7,420.74	7,012.18	40.34	47.92	140.00	-975.54	1,185.47	964.45	890.76	73.69	13.089		
7,400.00	7,093.02	7,450.04	7,041.47	40.39	47.96	135.63	-975.27	1,186.41	995.33	921.87	73.46	13.549		
7,450.00	7,125.51	7,476.39	7,067.80	40.42	48.00	131.26	-974.97	1,187.37	1,028.18	954.98	73.20	14.046		
7,500.00	7,154.78	7,499.62	7,091.01	40.43	48.03	126.70	-974.65	1,188.31	1,062.84	989.93	72.91	14.578		
7,550.00	7,180.59	7,519.60	7,110.97	40.42	48.06	121.82	-974.34	1,189.18	1,099.09	1,026.50	72.60	15.140		
7,600.00	7,202.75	7,537.46	7,128.81	40.40	48.08	116.61	-974.04	1,190.02	1,136.74	1,064.46	72.28	15.727		
7,650.00	7,221.10	7,553.93	7,145.25	40.37	48.10	111.07	-973.77	1,190.81	1,175.49	1,103.52	71.98	16.331		
7,700.00	7,235.49	7,566.25	7,157.56	40.32	48.12	105.05	-973.58	1,191.41	1,215.12	1,143.46	71.66	16.956		
7,750.00	7,245.82	7,574.33	7,165.63	40.27	48.13	98.61	-973.46	1,191.80	1,255.38	1,184.04	71.34	17.597		
7,800.00	7,252.01	7,578.14	7,169.43	40.20	48.13	91.89	-973.41	1,191.99	1,295.98	1,224.97	71.01	18.250		
7,848.69	7,254.00	7,577.73	7,169.02	40.14	48.13	85.29	-973.41	1,191.97	1,335.57	1,264.88	70.69	18.894		
7,900.00	7,254.00	7,575.16	7,166.46	40.07	48.13	85.11	-973.45	1,191.84	1,377.56	1,307.19	70.36	19.577		
8,000.00	7,254.00	7,570.17	7,161.48	39.96	48.12	84.74	-973.52	1,191.60	1,461.08	1,391.26	69.82	20.927		
8,100.00	7,254.00	7,565.22	7,156.53	39.89	48.12	84.38	-973.60	1,191.36	1,546.54	1,477.18	69.36	22.297		
8,200.00	7,254.00	7,560.30	7,151.62	39.87	48.11	84.02	-973.67	1,191.12	1,633.63	1,564.65	68.98	23.682		
8,300.00	7,254.00	7,555.41	7,146.73	39.95	48.10	83.66	-973.75	1,190.88	1,722.12	1,653.45	68.67	25.078		
8,400.00	7,254.00	7,550.55	7,141.88	40.29	48.10	83.31	-973.82	1,190.65	1,811.79	1,743.38	68.41	26.484		
8,500.00	7,254.00	7,545.72	7,137.05	41.24	48.09	82.96	-973.90	1,190.42	1,902.48	1,834.28	68.20	27.896		
8,600.00	7,254.00	7,540.92	7,132.26	42.78	48.09	82.61	-973.98	1,190.19	1,994.05	1,926.03	68.02	29.315		
8,700.00	7,254.00	7,536.15	7,127.50	44.60	48.08	82.26	-974.06	1,189.96	2,086.38	2,018.50	67.88	30.738		
8,800.00	7,254.00	7,531.00	7,122.35	46.57	48.07	81.89	-974.15	1,189.72	2,179.38	2,111.62	67.75	32.166		
8,900.00	7,254.00	7,531.00	7,122.35	48.64	48.07	81.89	-974.15	1,189.72	2,272.96	2,205.27	67.69	33.579		
9,000.00	7,254.00	7,531.00	7,122.35	50.78	48.07	81.89	-974.15	1,189.72	2,367.07	2,299.43	67.64	34.995		
9,100.00	7,254.00	7,531.00	7,122.35	52.97	48.07	81.89	-974.15	1,189.72	2,461.65	2,394.04	67.61	36.412		
9,200.00	7,254.00	7,531.00	7,122.35	55.21	48.07	81.89	-974.15	1,189.72	2,556.64	2,489.06	67.58	37.831		
9,300.00	7,254.00	7,531.00	7,122.35	57.50	48.07	81.89	-974.15	1,189.72	2,651.99	2,584.43	67.57	39.251		
9,400.00	7,254.00	7,531.00	7,122.35	59.82	48.07	81.89	-974.15	1,189.72	2,747.68	2,680.12	67.56	40.672		

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 11-10-14H
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 11-10-14H	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												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				
9,500.00	7,254.00	7,531.00	7,122.35	62.17	48.07	81.89			-974.15	1,189.72	2,843.67	2,776.11	67.56	42.093				
9,600.00	7,254.00	7,506.41	7,097.80	64.55	48.04	80.12			-974.55	1,188.60	2,939.76	2,872.34	67.42	43.604				
9,700.00	7,254.00	7,503.60	7,094.99	66.96	48.04	79.91			-974.59	1,188.48	3,036.22	2,968.80	67.42	45.036				
9,800.00	7,254.00	7,500.85	7,092.23	69.39	48.03	79.72			-974.64	1,188.36	3,132.90	3,065.48	67.42	46.469				
9,900.00	7,254.00	7,498.15	7,089.54	71.84	48.03	79.52			-974.67	1,188.24	3,229.77	3,162.35	67.42	47.902				

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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	599.84	1,777.00	1,685.02	1.90	10.60	-53.10	-790.26	2,956.06	3,249.96	3,238.87	11.09	292.927		
700.00	699.45	1,862.48	1,760.47	2.25	11.39	-53.32	-811.82	2,922.15	3,211.16	3,199.09	12.06	266.192		
800.00	798.70	1,931.82	1,821.56	2.63	12.03	-53.68	-829.82	2,894.75	3,170.88	3,157.93	12.94	245.000		
900.00	897.47	1,995.24	1,877.59	3.03	12.62	-54.13	-846.40	2,870.08	3,129.47	3,115.66	13.80	226.758		
1,000.00	995.62	2,040.00	1,917.09	3.46	13.03	-54.69	-858.58	2,852.92	3,087.16	3,072.61	14.55	212.221		
1,100.00	1,093.06	2,108.26	1,977.54	3.92	13.66	-55.21	-877.39	2,827.40	3,043.96	3,028.47	15.49	196.545		
1,200.00	1,189.64	2,160.14	2,023.78	4.43	14.13	-55.86	-891.60	2,808.66	3,000.13	2,983.80	16.33	183.723		
1,225.96	1,214.56	2,173.25	2,035.51	4.56	14.24	-56.04	-895.21	2,804.02	2,988.66	2,972.10	16.55	180.553		
1,300.00	1,285.55	2,218.00	2,075.61	4.97	14.64	-55.92	-907.58	2,788.51	2,956.22	2,938.98	17.23	171.534		
1,400.00	1,381.42	2,287.48	2,137.90	5.52	15.25	-55.73	-927.22	2,764.81	2,913.08	2,894.84	18.24	159.740		
1,500.00	1,477.29	2,353.76	2,197.19	6.09	15.83	-55.53	-946.59	2,742.38	2,870.45	2,851.22	19.24	149.211		
1,600.00	1,573.17	2,420.38	2,256.80	6.66	16.42	-55.31	-966.62	2,720.38	2,828.73	2,808.47	20.26	139.628		
1,700.00	1,669.04	2,513.10	2,339.59	7.24	17.24	-54.99	-995.28	2,690.05	2,787.51	2,766.02	21.49	129.730		
1,800.00	1,764.91	2,650.10	2,461.18	7.83	18.48	-54.48	-1,038.00	2,643.58	2,745.28	2,722.23	23.06	119.073		
1,900.00	1,860.78	2,710.35	2,514.60	8.42	19.02	-54.24	-1,056.71	2,622.91	2,702.84	2,678.76	24.07	112.271		
2,000.00	1,956.66	2,767.35	2,565.55	9.01	19.53	-54.03	-1,074.09	2,604.19	2,661.64	2,636.57	25.07	106.153		
2,100.00	2,052.53	2,838.00	2,628.87	9.61	20.15	-53.76	-1,095.90	2,581.68	2,621.48	2,595.31	26.17	100.170		
2,200.00	2,148.40	2,953.68	2,732.00	10.21	21.18	-53.28	-1,132.57	2,544.26	2,581.14	2,553.53	27.60	93.503		
2,300.00	2,244.27	3,038.48	2,807.00	10.81	21.95	-52.88	-1,160.61	2,516.34	2,540.66	2,511.82	28.85	88.079		
2,400.00	2,340.15	3,134.64	2,891.91	11.41	22.83	-52.41	-1,192.64	2,484.54	2,500.21	2,470.03	30.18	82.848		
2,500.00	2,436.02	3,267.17	3,009.03	12.01	24.05	-51.75	-1,235.90	2,440.07	2,459.49	2,427.73	31.76	77.441		
2,600.00	2,531.89	3,361.60	3,092.45	12.61	24.92	-51.28	-1,265.56	2,407.25	2,417.38	2,384.31	33.07	73.092		
2,700.00	2,627.76	3,472.31	3,190.48	13.22	25.94	-50.72	-1,299.47	2,368.57	2,375.08	2,340.60	34.48	68.879		
2,800.00	2,723.64	3,578.75	3,285.14	13.82	26.91	-50.21	-1,330.50	2,331.08	2,332.33	2,296.49	35.84	65.073		
2,900.00	2,819.51	3,696.92	3,389.98	14.43	28.00	-49.62	-1,364.00	2,288.07	2,288.38	2,251.11	37.26	61.411		
3,000.00	2,915.38	3,774.70	3,458.83	15.03	28.73	-49.21	-1,386.17	2,259.46	2,244.30	2,205.83	38.47	58.343		
3,100.00	3,011.25	3,884.24	3,555.01	15.64	29.77	-48.56	-1,418.88	2,218.50	2,200.13	2,160.25	39.88	55.172		
3,200.00	3,107.13	3,987.00	3,644.09	16.25	30.79	-47.87	-1,450.79	2,178.46	2,154.99	2,113.70	41.29	52.194		
3,300.00	3,203.00	4,061.25	3,708.36	16.85	31.53	-47.33	-1,474.40	2,149.72	2,110.55	2,068.00	42.55	49.603		
3,400.00	3,298.87	4,133.22	3,770.76	17.46	32.24	-46.79	-1,497.43	2,122.25	2,066.86	2,023.06	43.80	47.188		
3,500.00	3,394.74	4,197.94	3,827.16	18.07	32.87	-46.30	-1,518.07	2,098.13	2,024.17	1,979.16	45.01	44.972		
3,600.00	3,490.62	4,261.62	3,883.19	18.68	33.48	-45.83	-1,538.06	2,075.39	1,982.88	1,936.68	46.21	42.915		
3,700.00	3,586.49	4,349.79	3,961.25	19.29	34.30	-45.19	-1,565.15	2,044.63	1,942.35	1,894.83	47.52	40.873		
3,800.00	3,682.36	4,463.04	4,060.92	19.90	35.36	-44.28	-1,600.80	2,004.37	1,901.78	1,852.80	48.99	38.823		
3,900.00	3,778.23	4,570.17	4,154.81	20.51	36.39	-43.38	-1,633.55	1,964.54	1,859.65	1,809.24	50.42	36.886		
4,000.00	3,874.10	4,700.56	4,269.84	21.12	37.62	-42.30	-1,671.15	1,916.00	1,817.49	1,765.59	51.90	35.017		
4,100.00	3,969.98	4,770.01	4,331.47	21.73	38.26	-41.74	-1,689.76	1,889.97	1,774.43	1,721.30	53.13	33.400		
4,200.00	4,065.85	4,903.57	4,450.22	22.34	39.50	-40.65	-1,723.74	1,839.17	1,730.61	1,676.07	54.54	31.733		
4,300.00	4,161.72	4,984.59	4,521.47	22.95	40.28	-39.89	-1,745.26	1,807.18	1,686.32	1,630.49	55.83	30.205		
4,400.00	4,257.59	5,066.39	4,592.97	23.56	41.07	-39.05	-1,767.91	1,774.53	1,642.45	1,585.30	57.15	28.740		
4,500.00	4,353.47	5,136.00	4,653.93	24.17	41.75	-38.30	-1,787.66	1,747.33	1,599.82	1,541.37	58.44	27.373		
4,600.00	4,449.34	5,192.24	4,703.49	24.78	42.28	-37.69	-1,803.79	1,726.20	1,558.88	1,499.19	59.69	26.116		
4,700.00	4,545.21	5,251.10	4,755.70	25.39	42.83	-37.04	-1,820.86	1,705.05	1,519.89	1,458.96	60.93	24.945		
4,800.00	4,641.08	5,313.00	4,810.72	26.00	43.39	-36.33	-1,839.73	1,683.90	1,483.25	1,421.09	62.17	23.860		
4,900.00	4,736.96	5,418.43	4,905.49	26.61	44.32	-35.16	-1,870.13	1,649.13	1,447.37	1,383.86	63.52	22.787		
5,000.00	4,832.83	5,506.74	4,984.72	27.22	45.10	-34.12	-1,895.43	1,619.48	1,411.35	1,346.53	64.81	21.776		
5,100.00	4,928.70	5,597.29	5,065.05	27.83	45.93	-32.92	-1,922.92	1,588.00	1,375.71	1,309.57	66.14	20.799		
5,200.00	5,024.57	5,679.27	5,137.67	28.44	46.69	-31.77	-1,948.23	1,559.61	1,341.04	1,273.59	67.45	19.882		
5,300.00	5,120.45	5,780.23	5,226.98	29.05	47.62	-30.27	-1,979.39	1,524.30	1,306.76	1,237.96	68.80	18.992		
5,400.00	5,216.32	5,882.44	5,317.91	29.66	48.56	-28.73	-2,009.39	1,488.53	1,272.39	1,202.26	70.13	18.144		
5,500.00	5,312.19	5,975.95	5,401.55	30.28	49.40	-27.30	-2,035.38	1,455.78	1,237.83	1,166.44	71.39	17.338		
5,600.00	5,408.06	6,059.82	5,476.69	30.89	50.15	-25.97	-2,058.70	1,426.72	1,204.27	1,131.64	72.62	16.582		

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 11-10-14H
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 11-10-14H	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	5,503.94	6,146.65	5,554.70	31.50	50.92	-24.54	-2,082.71	1,397.12	1,171.76	1,097.93	73.83	15.870		
5,800.00	5,599.81	6,232.46	5,632.06	32.11	51.66	-23.09	-2,106.17	1,368.32	1,140.22	1,065.21	75.01	15.201		
5,900.00	5,695.68	6,320.23	5,711.95	32.72	52.39	-21.63	-2,129.33	1,340.31	1,109.96	1,033.82	76.13	14.579		
6,000.00	5,791.55	6,413.76	5,798.53	33.33	53.11	-20.19	-2,151.44	1,312.73	1,080.19	1,002.99	77.20	13.993		
6,100.00	5,887.43	6,501.01	5,880.25	33.95	53.74	-18.92	-2,170.57	1,288.93	1,051.29	973.10	78.19	13.445		
6,200.00	5,983.30	6,588.05	5,962.86	34.56	54.31	-17.78	-2,188.00	1,267.78	1,023.43	944.30	79.13	12.934		
6,300.00	6,079.17	6,677.80	6,048.79	35.17	54.86	-16.69	-2,204.88	1,248.13	996.59	916.58	80.01	12.456		
6,400.00	6,175.04	6,767.78	6,135.71	35.78	55.36	-15.70	-2,220.27	1,230.69	970.35	889.51	80.85	12.002		
6,500.00	6,270.92	6,866.30	6,231.49	36.39	55.87	-14.73	-2,236.05	1,213.90	944.97	863.33	81.64	11.575		
6,600.00	6,366.79	6,968.87	6,331.90	37.00	56.35	-13.85	-2,249.79	1,198.05	918.70	836.32	82.38	11.151		
6,700.00	6,462.66	7,067.49	6,428.98	37.62	56.76	-13.15	-2,261.05	1,185.00	892.34	809.24	83.10	10.738		
6,800.00	6,558.53	7,179.08	6,539.40	38.23	57.18	-12.53	-2,270.89	1,172.17	865.02	781.29	83.73	10.331		
6,885.48	6,640.48	7,254.40	6,614.19	38.75	57.43	-12.23	-2,276.05	1,164.96	841.31	756.97	84.34	9.975		
6,900.00	6,654.42	7,268.55	6,628.27	38.84	57.47	-12.22	-2,276.94	1,163.83	837.44	753.01	84.43	9.918		
6,950.00	6,702.60	7,320.02	6,679.53	39.12	57.61	-13.05	-2,279.71	1,160.15	825.57	740.79	84.78	9.738		
7,000.00	6,750.76	7,371.03	6,730.42	39.38	57.74	-14.91	-2,281.75	1,157.21	816.04	730.86	85.18	9.580		
7,050.00	6,798.55	7,420.93	6,780.25	39.60	57.86	-17.87	-2,283.09	1,155.07	809.06	723.44	85.62	9.450		
7,100.00	6,845.60	7,468.03	6,827.32	39.79	57.96	-18.11	-2,283.84	1,153.68	804.92	718.81	86.11	9.348		
7,139.44	6,881.95	7,503.69	6,862.97	39.91	58.03	-19.52	-2,284.24	1,152.92	803.88	717.36	86.52	9.291 CC		
7,150.00	6,891.54	7,513.07	6,872.35	39.95	58.04	-19.24	-2,284.32	1,152.76	803.96	717.32	86.64	9.280 ES		
7,200.00	6,936.05	7,556.52	6,915.79	40.08	58.12	-19.11	-2,284.58	1,152.25	806.44	719.26	87.18	9.250 SF		
7,250.00	6,978.76	7,597.81	6,957.09	40.19	58.18	-104.34	-2,284.59	1,152.14	812.59	724.84	87.74	9.261		
7,300.00	7,019.37	7,636.13	6,995.40	40.28	58.23	-108.31	-2,284.41	1,152.38	822.61	734.31	88.30	9.316		
7,350.00	7,057.55	7,671.26	7,030.53	40.34	58.27	-111.25	-2,284.08	1,152.92	836.68	747.83	88.85	9.417		
7,400.00	7,093.02	7,703.40	7,062.66	40.39	58.31	-113.31	-2,283.63	1,153.69	854.84	765.48	89.37	9.566		
7,450.00	7,125.51	7,734.53	7,093.76	40.42	58.34	-114.68	-2,283.08	1,154.59	877.02	787.19	89.84	9.763		
7,500.00	7,154.78	7,762.09	7,121.31	40.43	58.36	-115.23	-2,282.51	1,155.47	903.06	812.80	90.26	10.005		
7,550.00	7,180.59	7,785.94	7,145.13	40.42	58.39	-114.94	-2,281.95	1,156.29	932.76	842.13	90.63	10.292		
7,600.00	7,202.75	7,810.90	7,170.07	40.40	58.41	-114.07	-2,281.23	1,157.18	965.79	874.84	90.95	10.619		
7,650.00	7,221.10	7,831.50	7,190.65	40.37	58.43	-112.15	-2,280.47	1,157.91	1,001.79	910.57	91.21	10.983		
7,700.00	7,235.49	7,847.08	7,206.20	40.32	58.44	-108.94	-2,279.79	1,158.47	1,040.42	948.98	91.44	11.379		
7,750.00	7,245.82	7,857.57	7,216.67	40.27	58.45	-104.15	-2,279.28	1,158.84	1,081.29	989.68	91.62	11.802		
7,800.00	7,252.01	7,862.94	7,222.03	40.20	58.46	-97.47	-2,279.01	1,159.03	1,124.00	1,032.23	91.77	12.249		
7,848.69	7,254.00	7,863.22	7,222.30	40.14	58.46	-88.95	-2,278.99	1,159.04	1,166.90	1,075.01	91.89	12.699		
7,900.00	7,254.00	7,860.93	7,220.03	40.07	58.45	-88.70	-2,279.11	1,158.96	1,212.87	1,120.89	91.99	13.185		
8,000.00	7,254.00	7,856.48	7,215.58	39.96	58.45	-88.22	-2,279.34	1,158.80	1,303.61	1,211.47	92.14	14.148		
8,100.00	7,254.00	7,852.03	7,211.14	39.89	58.45	-87.74	-2,279.56	1,158.64	1,395.60	1,303.35	92.24	15.130		
8,200.00	7,254.00	7,847.57	7,206.69	39.87	58.44	-87.26	-2,279.77	1,158.48	1,488.61	1,396.30	92.31	16.127		
8,300.00	7,254.00	7,843.11	7,202.24	39.95	58.44	-86.78	-2,279.97	1,158.33	1,582.46	1,490.11	92.35	17.136		
8,400.00	7,254.00	7,838.65	7,197.78	40.29	58.43	-86.30	-2,280.17	1,158.17	1,677.01	1,584.65	92.37	18.156		
8,500.00	7,254.00	7,834.18	7,193.32	41.24	58.43	-85.82	-2,280.36	1,158.01	1,772.16	1,679.78	92.38	19.184		
8,600.00	7,254.00	7,829.71	7,188.86	42.78	58.43	-85.34	-2,280.54	1,157.85	1,867.80	1,775.43	92.37	20.220		
8,700.00	7,254.00	7,825.24	7,184.39	44.60	58.42	-84.87	-2,280.72	1,157.69	1,963.87	1,871.51	92.36	21.262		
8,800.00	7,254.00	7,820.76	7,179.92	46.57	58.42	-84.39	-2,280.89	1,157.53	2,060.30	1,967.96	92.35	22.310		
8,900.00	7,254.00	7,816.28	7,175.45	48.64	58.41	-83.91	-2,281.05	1,157.37	2,157.06	2,064.73	92.33	23.362		
9,000.00	7,254.00	7,811.80	7,170.97	50.78	58.41	-83.44	-2,281.20	1,157.21	2,254.08	2,161.77	92.31	24.419		
9,100.00	7,254.00	7,807.31	7,166.49	52.97	58.41	-82.96	-2,281.35	1,157.05	2,351.36	2,259.07	92.29	25.478		
9,200.00	7,254.00	7,802.83	7,162.01	55.21	58.40	-82.49	-2,281.49	1,156.89	2,448.84	2,356.57	92.27	26.541		
9,300.00	7,254.00	7,798.33	7,157.52	57.50	58.40	-82.01	-2,281.62	1,156.73	2,546.51	2,454.27	92.24	27.606		
9,400.00	7,254.00	7,793.84	7,153.03	59.82	58.40	-81.54	-2,281.75	1,156.57	2,644.35	2,552.13	92.22	28.674		
9,500.00	7,254.00	7,789.34	7,148.53	62.17	58.39	-81.07	-2,281.87	1,156.41	2,742.34	2,650.14	92.20	29.743		
9,600.00	7,254.00	7,788.00	7,147.19	64.55	58.39	-80.93	-2,281.90	1,156.36	2,840.47	2,748.28	92.18	30.813		

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 11-10-14H
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 11-10-14H	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													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						
9,700.00	7,254.00	7,788.00	7,147.19	66.96	58.39	-80.93	-2,281.90	1,156.36	2,938.72	2,846.55	92.17	31.883						
9,800.00	7,254.00	7,788.00	7,147.19	69.39	58.39	-80.93	-2,281.90	1,156.36	3,037.09	2,944.93	92.16	32.955						
9,900.00	7,254.00	7,777.35	7,136.55	71.84	58.38	-79.82	-2,282.16	1,155.99	3,135.53	3,043.40	92.13	34.034						
10,000.00	7,254.00	7,774.57	7,133.78	74.30	58.38	-79.53	-2,282.23	1,155.89	3,234.09	3,141.97	92.12	35.109						

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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)				
14,200.00	7,254.00	7,146.00	7,146.00	184.41	143.34	-82.78	-2,375.98	-9,409.37	3,222.78	3,036.18	186.60	17.271		
14,300.00	7,254.00	7,146.00	7,146.00	187.09	143.34	-82.78	-2,375.98	-9,409.37	3,124.25	2,937.00	187.24	16.686		
14,400.00	7,254.00	7,146.00	7,146.00	189.77	143.34	-82.78	-2,375.98	-9,409.37	3,025.81	2,837.84	187.96	16.098		
14,500.00	7,254.00	7,146.00	7,146.00	192.46	143.34	-82.78	-2,375.98	-9,409.37	2,927.47	2,738.70	188.77	15.508		
14,600.00	7,254.00	7,146.00	7,146.00	195.14	143.34	-82.78	-2,375.98	-9,409.37	2,829.25	2,639.57	189.69	14.915		
14,700.00	7,254.00	7,146.00	7,146.00	197.83	143.34	-82.78	-2,375.98	-9,409.37	2,731.17	2,540.45	190.71	14.321		
14,800.00	7,254.00	7,146.00	7,146.00	200.52	143.34	-82.78	-2,375.98	-9,409.37	2,633.22	2,441.36	191.87	13.724		
14,900.00	7,254.00	7,146.00	7,146.00	203.20	143.34	-82.78	-2,375.98	-9,409.37	2,535.44	2,342.27	193.16	13.126		
15,000.00	7,254.00	7,146.00	7,146.00	205.89	143.34	-82.78	-2,375.98	-9,409.37	2,437.83	2,243.21	194.63	12.526		
15,100.00	7,254.00	7,146.00	7,146.00	208.58	143.34	-82.78	-2,375.98	-9,409.37	2,340.43	2,144.16	196.28	11.924		
15,200.00	7,254.00	7,146.00	7,146.00	211.27	143.34	-82.78	-2,375.98	-9,409.37	2,243.26	2,045.12	198.14	11.322		
15,300.00	7,254.00	7,146.00	7,146.00	213.96	143.34	-82.78	-2,375.98	-9,409.37	2,146.35	1,946.11	200.24	10.719		
15,400.00	7,254.00	7,146.00	7,146.00	216.66	143.34	-82.78	-2,375.98	-9,409.37	2,049.73	1,847.12	202.61	10.117		
15,500.00	7,254.00	7,146.00	7,146.00	219.35	143.34	-82.78	-2,375.98	-9,409.37	1,953.45	1,748.15	205.30	9.515		
15,600.00	7,254.00	7,146.00	7,146.00	222.04	143.34	-82.78	-2,375.98	-9,409.37	1,857.57	1,649.22	208.36	8.915		
15,700.00	7,254.00	7,146.00	7,146.00	224.74	143.34	-82.78	-2,375.98	-9,409.37	1,762.15	1,550.32	211.83	8.319		
15,800.00	7,254.00	7,146.00	7,146.00	227.43	143.34	-82.78	-2,375.98	-9,409.37	1,667.26	1,451.48	215.78	7.727		
15,900.00	7,254.00	7,146.00	7,146.00	230.13	143.34	-82.78	-2,375.98	-9,409.37	1,573.00	1,352.71	220.29	7.140		
16,000.00	7,254.00	7,146.00	7,146.00	232.82	143.34	-82.78	-2,375.98	-9,409.37	1,479.50	1,254.04	225.47	6.562		
16,100.00	7,254.00	7,146.00	7,146.00	235.52	143.34	-82.78	-2,375.98	-9,409.37	1,386.91	1,155.50	231.41	5.993		
16,200.00	7,254.00	7,146.00	7,146.00	238.22	143.34	-82.78	-2,375.98	-9,409.37	1,295.42	1,057.16	238.26	5.437		
16,300.00	7,254.00	7,146.00	7,146.00	240.91	143.34	-82.78	-2,375.98	-9,409.37	1,205.28	959.10	246.18	4.896		
16,381.25	7,254.00	7,146.00	7,146.00	243.10	143.34	-82.78	-2,375.98	-9,409.37	1,133.26	879.72	253.54	4.470	CC, ES, SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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	-25.50	2,941.02	-1,402.65	3,258.38					
100.00	100.00	106.00	106.00	0.14	1.34	-25.50	2,941.02	-1,402.65	3,258.38	3,256.90	1.48	2,203.111		
200.00	200.00	206.00	206.00	0.50	3.61	-25.50	2,941.02	-1,402.65	3,258.38	3,254.27	4.11	791.939		
300.00	300.00	306.00	306.00	0.86	5.69	-25.50	2,941.02	-1,402.65	3,258.38	3,251.83	6.55	497.534		
400.00	400.00	406.00	406.00	1.22	7.73	-25.50	2,941.02	-1,402.65	3,258.38	3,249.43	8.95	364.108 CC		
500.00	499.98	505.98	505.98	1.56	9.76	177.76	2,941.02	-1,402.65	3,260.12	3,248.80	11.32	287.980 ES		
600.00	599.84	605.84	605.84	1.90	11.78	177.76	2,941.02	-1,402.65	3,265.35	3,251.67	13.68	238.690		
700.00	699.45	705.45	705.45	2.25	13.79	177.76	2,941.02	-1,402.65	3,274.06	3,258.02	16.04	204.114 SF		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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)				
10,400.00	7,254.00	7,215.00	7,215.00	84.33	144.73	-90.00	-2,340.69	-5,655.25	3,266.52	3,083.11	183.41	17.810		
10,500.00	7,254.00	7,215.00	7,215.00	86.86	144.73	-90.00	-2,340.69	-5,655.25	3,167.90	2,984.45	183.45	17.269		
10,600.00	7,254.00	7,215.00	7,215.00	89.41	144.73	-90.00	-2,340.69	-5,655.25	3,069.37	2,885.86	183.51	16.726		
10,700.00	7,254.00	7,215.00	7,215.00	91.97	144.73	-90.00	-2,340.69	-5,655.25	2,970.94	2,787.34	183.60	16.181		
10,800.00	7,254.00	7,215.00	7,215.00	94.54	144.73	-90.00	-2,340.69	-5,655.25	2,872.62	2,688.89	183.72	15.635		
10,900.00	7,254.00	7,215.00	7,215.00	97.11	144.73	-90.00	-2,340.69	-5,655.25	2,774.41	2,590.53	183.88	15.088		
11,000.00	7,254.00	7,215.00	7,215.00	99.69	144.73	-90.00	-2,340.69	-5,655.25	2,676.34	2,492.25	184.09	14.538		
11,100.00	7,254.00	7,215.00	7,215.00	102.28	144.73	-90.00	-2,340.69	-5,655.25	2,578.42	2,394.07	184.35	13.987		
11,200.00	7,254.00	7,215.00	7,215.00	104.88	144.73	-90.00	-2,340.69	-5,655.25	2,480.67	2,295.99	184.67	13.433		
11,300.00	7,254.00	7,215.00	7,215.00	107.48	144.73	-90.00	-2,340.69	-5,655.25	2,383.10	2,198.03	185.07	12.877		
11,400.00	7,254.00	7,215.00	7,215.00	110.09	144.73	-90.00	-2,340.69	-5,655.25	2,285.74	2,100.18	185.56	12.318		
11,500.00	7,254.00	7,215.00	7,215.00	112.70	144.73	-90.00	-2,340.69	-5,655.25	2,188.62	2,002.46	186.16	11.757		
11,600.00	7,254.00	7,215.00	7,215.00	115.32	144.73	-90.00	-2,340.69	-5,655.25	2,091.77	1,904.89	186.88	11.193		
11,700.00	7,254.00	7,215.00	7,215.00	117.94	144.73	-90.00	-2,340.69	-5,655.25	1,995.23	1,807.48	187.76	10.627		
11,800.00	7,254.00	7,215.00	7,215.00	120.56	144.73	-90.00	-2,340.69	-5,655.25	1,899.05	1,710.24	188.81	10.058		
11,900.00	7,254.00	7,215.00	7,215.00	123.19	144.73	-90.00	-2,340.69	-5,655.25	1,803.29	1,613.20	190.09	9.487		
12,000.00	7,254.00	7,215.00	7,215.00	125.83	144.73	-90.00	-2,340.69	-5,655.25	1,708.01	1,516.38	191.63	8.913		
12,100.00	7,254.00	7,215.00	7,215.00	128.47	144.73	-90.00	-2,340.69	-5,655.25	1,613.30	1,419.82	193.47	8.339		
12,200.00	7,254.00	7,215.00	7,215.00	131.11	144.73	-90.00	-2,340.69	-5,655.25	1,519.27	1,323.57	195.70	7.763		
12,300.00	7,254.00	7,215.00	7,215.00	133.75	144.73	-90.00	-2,340.69	-5,655.25	1,426.05	1,227.68	198.37	7.189		
12,400.00	7,254.00	7,215.00	7,215.00	136.40	144.73	-90.00	-2,340.69	-5,655.25	1,333.82	1,132.24	201.58	6.617		
12,500.00	7,254.00	7,215.00	7,215.00	139.05	144.73	-90.00	-2,340.69	-5,655.25	1,242.79	1,037.35	205.43	6.050		
12,600.00	7,254.00	7,215.00	7,215.00	141.70	144.73	-90.00	-2,340.69	-5,655.25	1,153.24	943.18	210.06	5.490		
12,700.00	7,254.00	7,215.00	7,215.00	144.36	144.73	-90.00	-2,340.69	-5,655.25	1,065.56	849.93	215.62	4.942		
12,800.00	7,254.00	7,215.00	7,215.00	147.01	144.73	-90.00	-2,340.69	-5,655.25	980.23	757.95	222.29	4.410		
12,900.00	7,254.00	7,215.00	7,215.00	149.67	144.73	-90.00	-2,340.69	-5,655.25	897.94	667.70	230.25	3.900		
13,000.00	7,254.00	7,215.00	7,215.00	152.33	144.73	-90.00	-2,340.69	-5,655.25	819.60	579.91	239.69	3.419		
13,100.00	7,254.00	7,215.00	7,215.00	155.00	144.73	-90.00	-2,340.69	-5,655.25	746.45	495.70	250.76	2.977		
13,200.00	7,254.00	7,215.00	7,215.00	157.66	144.73	-90.00	-2,340.69	-5,655.25	680.18	416.79	263.39	2.582		
13,300.00	7,254.00	7,215.00	7,215.00	160.33	144.73	-90.00	-2,340.69	-5,655.25	622.97	345.79	277.18	2.248		
13,400.00	7,254.00	7,215.00	7,215.00	163.00	144.73	-90.00	-2,340.69	-5,655.25	577.52	286.41	291.12	1.984		
13,500.00	7,254.00	7,215.00	7,215.00	165.67	144.73	-90.00	-2,340.69	-5,655.25	546.79	243.34	303.44	1.802		
13,600.00	7,254.00	7,215.00	7,215.00	168.34	144.73	-90.00	-2,340.69	-5,655.25	533.32	221.29	312.03	1.709		
13,622.77	7,254.00	7,215.00	7,215.00	168.95	144.73	-90.00	-2,340.69	-5,655.25	532.83	219.56	313.27	1.701	CC, ES, SF	
13,700.00	7,254.00	7,215.00	7,215.00	171.02	144.73	-90.00	-2,340.69	-5,655.25	538.40	223.09	315.31	1.708		
13,800.00	7,254.00	7,215.00	7,215.00	173.69	144.73	-90.00	-2,340.69	-5,655.25	561.53	248.29	313.24	1.793		
13,900.00	7,254.00	7,215.00	7,215.00	176.37	144.73	-90.00	-2,340.69	-5,655.25	600.64	293.47	307.17	1.955		
14,000.00	7,254.00	7,215.00	7,215.00	179.05	144.73	-90.00	-2,340.69	-5,655.25	652.85	353.95	298.90	2.184		
14,100.00	7,254.00	7,215.00	7,215.00	181.73	144.73	-90.00	-2,340.69	-5,655.25	715.30	425.38	289.93	2.467		
14,200.00	7,254.00	7,215.00	7,215.00	184.41	144.73	-90.00	-2,340.69	-5,655.25	785.56	504.38	281.18	2.794		
14,300.00	7,254.00	7,215.00	7,215.00	187.09	144.73	-90.00	-2,340.69	-5,655.25	861.71	588.60	273.11	3.155		
14,400.00	7,254.00	7,215.00	7,215.00	189.77	144.73	-90.00	-2,340.69	-5,655.25	942.33	676.45	265.88	3.544		
14,500.00	7,254.00	7,215.00	7,215.00	192.46	144.73	-90.00	-2,340.69	-5,655.25	1,026.37	766.87	259.50	3.955		
14,600.00	7,254.00	7,215.00	7,215.00	195.14	144.73	-90.00	-2,340.69	-5,655.25	1,113.05	859.15	253.90	4.384		
14,700.00	7,254.00	7,215.00	7,215.00	197.83	144.73	-90.00	-2,340.69	-5,655.25	1,201.80	952.81	248.99	4.827		
14,800.00	7,254.00	7,215.00	7,215.00	200.52	144.73	-90.00	-2,340.69	-5,655.25	1,292.20	1,047.51	244.69	5.281		
14,900.00	7,254.00	7,215.00	7,215.00	203.20	144.73	-90.00	-2,340.69	-5,655.25	1,383.92	1,143.01	240.91	5.745		
15,000.00	7,254.00	7,215.00	7,215.00	205.89	144.73	-90.00	-2,340.69	-5,655.25	1,476.71	1,239.14	237.57	6.216		
15,100.00	7,254.00	7,215.00	7,215.00	208.58	144.73	-90.00	-2,340.69	-5,655.25	1,570.39	1,335.78	234.61	6.694		
15,200.00	7,254.00	7,215.00	7,215.00	211.27	144.73	-90.00	-2,340.69	-5,655.25	1,664.80	1,432.82	231.98	7.176		
15,300.00	7,254.00	7,215.00	7,215.00	213.96	144.73	-90.00	-2,340.69	-5,655.25	1,759.83	1,530.20	229.63	7.664		
15,400.00	7,254.00	7,215.00	7,215.00	216.66	144.73	-90.00	-2,340.69	-5,655.25	1,855.39	1,627.86	227.52	8.155		

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 11-10-14H
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 11-10-14H	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		
15,500.00	7,254.00	7,215.00	7,215.00	219.35	144.73	-90.00	-2,340.69	-5,655.25	1,951.39	1,725.76	225.63	8.649		
15,600.00	7,254.00	7,215.00	7,215.00	222.04	144.73	-90.00	-2,340.69	-5,655.25	2,047.77	1,823.85	223.91	9.145		
15,700.00	7,254.00	7,215.00	7,215.00	224.74	144.73	-90.00	-2,340.69	-5,655.25	2,144.48	1,922.12	222.36	9.644		
15,800.00	7,254.00	7,215.00	7,215.00	227.43	144.73	-90.00	-2,340.69	-5,655.25	2,241.48	2,020.54	220.95	10.145		
15,900.00	7,254.00	7,215.00	7,215.00	230.13	144.73	-90.00	-2,340.69	-5,655.25	2,338.74	2,119.08	219.66	10.647		
16,000.00	7,254.00	7,215.00	7,215.00	232.82	144.73	-90.00	-2,340.69	-5,655.25	2,436.21	2,217.73	218.48	11.151		
16,100.00	7,254.00	7,215.00	7,215.00	235.52	144.73	-90.00	-2,340.69	-5,655.25	2,533.89	2,316.49	217.40	11.655		
16,200.00	7,254.00	7,215.00	7,215.00	238.22	144.73	-90.00	-2,340.69	-5,655.25	2,631.73	2,415.33	216.40	12.161		
16,300.00	7,254.00	7,215.00	7,215.00	240.91	144.73	-90.00	-2,340.69	-5,655.25	2,729.74	2,514.25	215.49	12.668		
16,381.25	7,254.00	7,215.00	7,215.00	243.10	144.73	-90.00	-2,340.69	-5,655.25	2,809.47	2,594.67	214.80	13.080		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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
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)				
15,600.00	7,254.00	6,727.00	6,727.00	222.04	134.90	58.94	-1,034.83	-10,720.40	3,220.67	3,010.24	210.42	15.306		
15,700.00	7,254.00	6,727.00	6,727.00	224.74	134.90	58.94	-1,034.83	-10,720.40	3,125.27	2,912.87	212.40	14.714		
15,800.00	7,254.00	6,727.00	6,727.00	227.43	134.90	58.94	-1,034.83	-10,720.40	3,030.18	2,815.67	214.51	14.126		
15,900.00	7,254.00	6,727.00	6,727.00	230.13	134.90	58.94	-1,034.83	-10,720.40	2,935.41	2,718.64	216.77	13.542		
16,000.00	7,254.00	6,727.00	6,727.00	232.82	134.90	58.94	-1,034.83	-10,720.40	2,841.00	2,621.82	219.18	12.962		
16,100.00	7,254.00	6,727.00	6,727.00	235.52	134.90	58.94	-1,034.83	-10,720.40	2,746.98	2,525.22	221.76	12.387		
16,200.00	7,254.00	6,727.00	6,727.00	238.22	134.90	58.94	-1,034.83	-10,720.40	2,653.40	2,428.87	224.53	11.818		
16,300.00	7,254.00	6,727.00	6,727.00	240.91	134.90	58.94	-1,034.83	-10,720.40	2,560.31	2,332.81	227.50	11.254		
16,381.25	7,254.00	6,727.00	6,727.00	243.10	134.90	58.94	-1,034.83	-10,720.40	2,485.06	2,254.99	230.08	10.801	CC, ES, SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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		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)				
15,500.00	7,254.00	6,794.00	6,794.00	219.35	136.26	-51.03	-2,357.23	-10,729.33	3,262.61	3,082.13	180.48	18.078		
15,600.00	7,254.00	6,794.00	6,794.00	222.04	136.26	-51.03	-2,357.23	-10,729.33	3,164.69	2,983.48	181.21	17.464		
15,700.00	7,254.00	6,794.00	6,794.00	224.74	136.26	-51.03	-2,357.23	-10,729.33	3,066.90	2,884.87	182.03	16.848		
15,800.00	7,254.00	6,794.00	6,794.00	227.43	136.26	-51.03	-2,357.23	-10,729.33	2,969.27	2,786.33	182.94	16.231		
15,900.00	7,254.00	6,794.00	6,794.00	230.13	136.26	-51.03	-2,357.23	-10,729.33	2,871.79	2,687.84	183.95	15.612		
16,000.00	7,254.00	6,794.00	6,794.00	232.82	136.26	-51.03	-2,357.23	-10,729.33	2,774.49	2,589.42	185.07	14.991		
16,100.00	7,254.00	6,794.00	6,794.00	235.52	136.26	-51.03	-2,357.23	-10,729.33	2,677.40	2,491.07	186.32	14.370		
16,200.00	7,254.00	6,794.00	6,794.00	238.22	136.26	-51.03	-2,357.23	-10,729.33	2,580.52	2,392.80	187.72	13.747		
16,300.00	7,254.00	6,794.00	6,794.00	240.91	136.26	-51.03	-2,357.23	-10,729.33	2,483.89	2,294.62	189.27	13.124		
16,381.25	7,254.00	6,794.00	6,794.00	243.10	136.26	-51.03	-2,357.23	-10,729.33	2,405.59	2,214.93	190.66	12.617	CC, ES, SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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		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	0.01	65.57	0.00	65.57	65.57				
100.00	100.00	100.00	100.00	0.14	0.14	0.01	65.57	0.00	65.57	65.29	0.29	228.657		
200.00	200.00	200.00	200.00	0.50	0.50	0.01	65.57	0.00	65.57	64.57	1.00	65.331		
300.00	300.00	300.00	300.00	0.86	0.86	0.01	65.57	0.00	65.57	63.85	1.72	38.110		
400.00	400.00	400.21	400.19	1.22	1.21	1.53	65.38	1.74	65.40	62.97	2.43	26.910		
409.57	409.57	409.79	409.76	1.25	1.25	-154.91	65.34	2.09	65.39	62.89	2.50	26.186	CC, ES	
500.00	499.98	500.22	500.06	1.56	1.56	-151.34	64.80	6.95	66.70	63.57	3.13	21.336		
600.00	599.84	599.92	599.40	1.90	1.93	-146.49	63.86	15.37	71.40	67.57	3.83	18.636		
700.00	699.45	699.51	698.56	2.25	2.30	-143.23	62.85	24.48	79.41	74.85	4.56	17.428		
800.00	798.70	798.89	797.52	2.63	2.68	-141.93	61.84	33.58	90.32	85.03	5.30	17.056		
900.00	897.47	897.95	896.16	3.03	3.06	-142.07	60.83	42.64	103.99	97.94	6.05	17.193		
1,000.00	995.62	996.56	994.35	3.46	3.44	-143.13	59.83	51.66	120.40	113.59	6.81	17.676		
1,100.00	1,093.06	1,094.60	1,091.97	3.92	3.81	-144.71	58.83	60.63	139.65	132.07	7.58	18.414		
1,200.00	1,189.64	1,191.95	1,188.91	4.43	4.19	-146.52	57.84	69.54	161.85	153.49	8.36	19.354		
1,225.96	1,214.56	1,217.10	1,213.95	4.56	4.29	-147.01	57.58	71.84	168.11	159.54	8.57	19.619		
1,300.00	1,285.55	1,288.74	1,285.29	4.97	4.57	-148.45	56.85	78.40	186.30	177.16	9.14	20.377		
1,400.00	1,381.42	1,385.50	1,381.64	5.52	4.94	-150.00	55.87	87.25	211.01	201.09	9.92	21.271		
1,500.00	1,477.29	1,482.26	1,477.98	6.09	5.32	-151.22	54.88	96.11	235.84	225.14	10.70	22.041		
1,600.00	1,573.17	1,579.02	1,574.33	6.66	5.69	-152.21	53.90	104.96	260.75	249.27	11.48	22.708		
1,700.00	1,669.04	1,675.78	1,670.68	7.24	6.07	-153.03	52.91	113.82	285.72	273.45	12.27	23.292		
1,800.00	1,764.91	1,772.53	1,767.03	7.83	6.45	-153.72	51.93	122.67	310.73	297.68	13.05	23.807		
1,900.00	1,860.78	1,869.29	1,863.38	8.42	6.82	-154.30	50.94	131.52	335.78	321.94	13.84	24.263		
2,000.00	1,956.66	1,966.05	1,959.72	9.01	7.20	-154.81	49.96	140.38	360.86	346.24	14.63	24.670		
2,100.00	2,052.53	2,062.81	2,056.07	9.61	7.58	-155.24	48.97	149.23	385.96	370.55	15.42	25.036		
2,200.00	2,148.40	2,159.57	2,152.42	10.21	7.95	-155.63	47.99	158.09	411.09	394.88	16.21	25.366		
2,300.00	2,244.27	2,256.33	2,248.77	10.81	8.33	-155.97	47.00	166.94	436.22	419.22	17.00	25.665		
2,400.00	2,340.15	2,353.09	2,345.11	11.41	8.71	-156.27	46.02	175.80	461.37	443.58	17.79	25.937		
2,500.00	2,436.02	2,449.85	2,441.46	12.01	9.09	-156.54	45.03	184.65	486.53	467.95	18.58	26.186		
2,600.00	2,531.89	2,546.60	2,537.81	12.61	9.46	-156.79	44.05	193.50	511.70	492.33	19.37	26.414		
2,700.00	2,627.76	2,643.36	2,634.16	13.22	9.84	-157.01	43.06	202.36	536.88	516.71	20.16	26.625		
2,800.00	2,723.64	2,740.12	2,730.50	13.82	10.22	-157.21	42.08	211.21	562.06	541.10	20.96	26.819		
2,900.00	2,819.51	2,836.88	2,826.85	14.43	10.60	-157.40	41.09	220.07	587.25	565.50	21.75	26.999		
3,000.00	2,915.38	2,933.64	2,923.20	15.03	10.97	-157.57	40.11	228.92	612.44	589.90	22.54	27.166		
3,100.00	3,011.25	3,030.40	3,019.55	15.64	11.35	-157.73	39.12	237.77	637.64	614.31	23.34	27.321		
3,200.00	3,107.13	3,127.16	3,115.90	16.25	11.73	-157.87	38.13	246.63	662.85	638.71	24.13	27.466		
3,300.00	3,203.00	3,223.92	3,212.24	16.85	12.11	-158.00	37.15	255.48	688.06	663.13	24.93	27.602		
3,400.00	3,298.87	3,320.67	3,308.59	17.46	12.48	-158.13	36.16	264.34	713.27	687.54	25.72	27.729		
3,500.00	3,394.74	3,417.43	3,404.94	18.07	12.86	-158.24	35.18	273.19	738.48	711.96	26.52	27.849		
3,600.00	3,490.62	3,514.19	3,501.29	18.68	13.24	-158.35	34.19	282.05	763.70	736.38	27.31	27.961		
3,700.00	3,586.49	3,610.95	3,597.63	19.29	13.62	-158.45	33.21	290.90	788.91	760.81	28.11	28.067		
3,800.00	3,682.36	3,707.71	3,693.98	19.90	14.00	-158.55	32.22	299.75	814.14	785.23	28.90	28.167		
3,900.00	3,778.23	3,804.47	3,790.33	20.51	14.37	-158.64	31.24	308.61	839.36	809.66	29.70	28.262		
4,000.00	3,874.10	3,901.23	3,886.68	21.12	14.75	-158.72	30.25	317.46	864.58	834.09	30.50	28.351		
4,100.00	3,969.98	3,997.99	3,983.03	21.73	15.13	-158.80	29.27	326.32	889.81	858.52	31.29	28.436		
4,200.00	4,065.85	4,094.74	4,079.37	22.34	15.51	-158.88	28.28	335.17	915.04	882.95	32.09	28.517		
4,300.00	4,161.72	4,191.50	4,175.72	22.95	15.89	-158.95	27.30	344.02	940.27	907.38	32.88	28.594		
4,400.00	4,257.59	4,288.26	4,272.07	23.56	16.26	-159.01	26.31	352.88	965.50	931.82	33.68	28.667		
4,500.00	4,353.47	4,385.02	4,368.42	24.17	16.64	-159.08	25.33	361.73	990.73	956.25	34.48	28.736		
4,600.00	4,449.34	4,481.78	4,464.76	24.78	17.02	-159.14	24.34	370.59	1,015.96	980.69	35.27	28.803		
4,700.00	4,545.21	4,578.54	4,561.11	25.39	17.40	-159.20	23.36	379.44	1,041.19	1,005.12	36.07	28.866		
4,800.00	4,641.08	4,675.30	4,657.46	26.00	17.78	-159.25	22.37	388.29	1,066.43	1,029.56	36.87	28.926		
4,900.00	4,736.96	4,772.06	4,753.81	26.61	18.15	-159.30	21.39	397.15	1,091.66	1,054.00	37.66	28.984		

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 11-10-14H
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 11-10-14H	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											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)			
5,000.00	4,832.83	4,868.81	4,850.16	27.22	18.53	-159.35	20.40	406.00	1,116.90	1,078.44	38.46	29.040		
5,100.00	4,928.70	4,965.57	4,946.50	27.83	18.91	-159.40	19.42	414.86	1,142.14	1,102.88	39.26	29.093		
5,200.00	5,024.57	5,062.33	5,042.85	28.44	19.29	-159.45	18.43	423.71	1,167.38	1,127.32	40.06	29.144		
5,300.00	5,120.45	5,159.09	5,139.20	29.05	19.67	-159.49	17.45	432.57	1,192.61	1,151.76	40.85	29.193		
5,400.00	5,216.32	5,255.85	5,235.55	29.66	20.04	-159.53	16.46	441.42	1,217.85	1,176.20	41.65	29.240		
5,500.00	5,312.19	5,352.61	5,331.89	30.28	20.42	-159.57	15.48	450.27	1,243.09	1,200.65	42.45	29.285		
5,600.00	5,408.06	5,449.37	5,428.24	30.89	20.80	-159.61	14.49	459.13	1,268.33	1,225.09	43.25	29.328		
5,700.00	5,503.94	5,546.13	5,524.59	31.50	21.18	-159.65	13.51	467.98	1,293.57	1,249.53	44.04	29.370		
5,800.00	5,599.81	5,642.88	5,620.94	32.11	21.56	-159.69	12.52	476.84	1,318.82	1,273.97	44.84	29.410		
5,900.00	5,695.68	5,739.64	5,717.28	32.72	21.94	-159.72	11.54	485.69	1,344.06	1,298.42	45.64	29.449		
6,000.00	5,791.55	5,836.40	5,813.63	33.33	22.31	-159.75	10.55	494.54	1,369.30	1,322.86	46.44	29.487		
6,100.00	5,887.43	5,933.16	5,909.98	33.95	22.69	-159.79	9.57	503.40	1,394.54	1,347.31	47.24	29.523		
6,200.00	5,983.30	6,029.92	6,006.33	34.56	23.07	-159.82	8.58	512.25	1,419.79	1,371.75	48.03	29.558		
6,300.00	6,079.17	6,126.68	6,102.68	35.17	23.45	-159.85	7.60	521.11	1,445.03	1,396.20	48.83	29.591		
6,400.00	6,175.04	6,223.44	6,199.02	35.78	23.83	-159.87	6.61	529.96	1,470.27	1,420.64	49.63	29.624		
6,500.00	6,270.92	6,320.20	6,295.37	36.39	24.20	-159.90	5.63	538.82	1,495.52	1,445.09	50.43	29.655		
6,600.00	6,366.79	6,416.95	6,391.72	37.00	24.58	-159.93	4.64	547.67	1,520.76	1,469.53	51.23	29.686		
6,700.00	6,462.66	6,513.71	6,488.07	37.62	24.96	-159.96	3.66	556.52	1,546.01	1,493.98	52.03	29.715		
6,800.00	6,558.53	6,600.00	6,574.13	38.23	25.28	-160.07	2.76	562.11	1,571.43	1,518.71	52.72	29.810		
6,885.48	6,640.48	6,670.58	6,644.53	38.75	25.47	-160.48	1.94	557.89	1,593.83	1,540.67	53.16	29.981		
6,900.00	6,654.42	6,682.01	6,655.86	38.84	25.50	-165.66	1.81	556.39	1,597.71	1,544.49	53.23	30.018		
6,950.00	6,702.60	6,721.07	6,694.32	39.12	25.59	174.94	1.32	549.58	1,611.10	1,557.68	53.42	30.158		
7,000.00	6,750.76	6,759.76	6,731.86	39.38	25.67	155.69	0.83	540.26	1,624.45	1,570.86	53.59	30.313		
7,050.00	6,798.55	6,800.00	6,770.14	39.60	25.74	139.47	0.30	527.90	1,637.65	1,583.92	53.73	30.477		
7,100.00	6,845.60	6,836.31	6,803.87	39.79	25.80	127.06	-0.19	514.47	1,650.58	1,596.74	53.84	30.656		
7,150.00	6,891.54	6,874.30	6,838.17	39.95	25.85	117.78	-0.72	498.16	1,663.15	1,609.21	53.94	30.834		
7,200.00	6,936.05	6,912.18	6,871.21	40.08	25.90	110.76	-1.24	479.67	1,675.24	1,621.22	54.03	31.009		
7,250.00	6,978.76	6,950.00	6,902.92	40.19	25.95	105.33	-1.77	459.07	1,686.77	1,632.66	54.10	31.176		
7,300.00	7,019.37	6,987.78	6,933.16	40.28	26.00	101.04	-2.30	436.45	1,697.63	1,643.45	54.19	31.329		
7,350.00	7,057.55	7,025.60	6,961.89	40.34	26.05	97.59	-2.84	411.86	1,707.76	1,653.48	54.28	31.462		
7,400.00	7,093.02	7,063.49	6,988.97	40.39	26.11	94.80	-3.37	385.37	1,717.08	1,662.68	54.39	31.567		
7,450.00	7,125.51	7,100.00	7,013.35	40.42	26.18	92.52	-3.88	358.22	1,725.51	1,670.98	54.53	31.640		
7,500.00	7,154.78	7,139.62	7,037.80	40.43	26.26	90.68	-4.42	327.06	1,733.00	1,678.27	54.73	31.665		
7,550.00	7,180.59	7,177.92	7,059.33	40.42	26.37	89.20	-4.93	295.40	1,739.50	1,684.53	54.97	31.642		
7,600.00	7,202.75	7,216.42	7,078.80	40.40	26.49	88.05	-5.44	262.19	1,744.97	1,689.68	55.28	31.565		
7,650.00	7,221.10	7,250.00	7,093.92	40.37	26.62	87.17	-5.87	232.22	1,749.37	1,693.73	55.64	31.441		
7,700.00	7,235.49	7,294.12	7,111.08	40.32	26.82	86.60	-6.41	191.58	1,752.65	1,696.53	56.12	31.230		
7,750.00	7,245.82	7,333.37	7,123.67	40.27	27.03	86.26	-6.88	154.41	1,754.83	1,698.16	56.67	30.968		
7,800.00	7,252.01	7,372.93	7,133.76	40.20	27.27	86.17	-7.33	116.18	1,755.88	1,698.59	57.29	30.649		
7,848.69	7,254.00	7,411.76	7,141.07	40.14	27.54	86.31	-7.74	78.05	1,755.82	1,697.84	57.97	30.287		
7,900.00	7,254.00	7,450.00	7,145.74	40.07	27.83	86.46	-8.13	40.11	1,755.34	1,696.60	58.74	29.882		
8,000.00	7,254.00	7,542.68	7,148.00	39.96	28.68	86.54	-8.96	-52.50	1,755.13	1,694.53	60.59	28.965		
8,100.00	7,254.00	7,642.68	7,148.00	39.89	29.77	86.54	-9.84	-152.49	1,755.09	1,692.23	62.85	27.923		
8,200.00	7,254.00	7,742.68	7,148.00	39.87	31.06	86.54	-10.72	-252.49	1,755.05	1,689.56	65.49	26.799		
8,300.00	7,254.00	7,842.68	7,148.00	39.95	32.53	86.54	-11.59	-352.49	1,755.01	1,686.55	68.46	25.637		
8,400.00	7,254.00	7,942.68	7,148.00	40.29	34.16	86.54	-12.47	-452.48	1,754.97	1,683.25	71.71	24.472		
8,500.00	7,254.00	8,042.68	7,148.00	41.24	35.92	86.54	-13.35	-552.48	1,754.93	1,679.70	75.22	23.329		
8,600.00	7,254.00	8,142.68	7,148.00	42.78	37.79	86.54	-14.22	-652.48	1,754.89	1,675.93	78.95	22.227		
8,700.00	7,254.00	8,242.68	7,148.00	44.60	39.76	86.54	-15.10	-752.47	1,754.85	1,671.98	82.87	21.175		
8,800.00	7,254.00	8,342.68	7,148.00	46.57	41.82	86.54	-15.98	-852.47	1,754.81	1,667.85	86.95	20.181		
8,900.00	7,254.00	8,442.68	7,148.00	48.64	43.95	86.54	-16.85	-952.46	1,754.77	1,663.59	91.18	19.245		
9,000.00	7,254.00	8,542.68	7,148.00	50.78	46.14	86.54	-17.73	-1,052.46	1,754.73	1,659.20	95.52	18.369		

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 11-10-14H
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 11-10-14H	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		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)			
9,100.00	7,254.00	8,642.68	7,148.00	52.97	48.39	86.54	-18.61	-1,152.46	1,754.69	1,654.71	99.98	17.551		
9,200.00	7,254.00	8,742.68	7,148.00	55.21	50.68	86.54	-19.49	-1,252.45	1,754.65	1,650.13	104.52	16.787		
9,300.00	7,254.00	8,842.68	7,148.00	57.50	53.01	86.54	-20.36	-1,352.45	1,754.61	1,645.46	109.15	16.075		
9,400.00	7,254.00	8,942.68	7,148.00	59.82	55.38	86.54	-21.24	-1,452.44	1,754.57	1,640.72	113.85	15.411		
9,500.00	7,254.00	9,042.68	7,148.00	62.17	57.78	86.54	-22.12	-1,552.44	1,754.53	1,635.92	118.61	14.792		
9,600.00	7,254.00	9,142.68	7,148.00	64.55	60.20	86.54	-22.99	-1,652.44	1,754.49	1,631.06	123.43	14.215		
9,700.00	7,254.00	9,242.68	7,148.00	66.96	62.66	86.54	-23.87	-1,752.43	1,754.45	1,626.15	128.30	13.675		
9,800.00	7,254.00	9,342.68	7,148.00	69.39	65.13	86.54	-24.75	-1,852.43	1,754.41	1,621.20	133.21	13.171		
9,900.00	7,254.00	9,442.68	7,148.00	71.84	67.62	86.54	-25.62	-1,952.43	1,754.37	1,616.21	138.16	12.699		
10,000.00	7,254.00	9,542.68	7,148.00	74.30	70.13	86.54	-26.50	-2,052.42	1,754.33	1,611.19	143.14	12.256		
10,100.00	7,254.00	9,642.68	7,148.00	76.79	72.65	86.54	-27.38	-2,152.42	1,754.29	1,606.13	148.16	11.841		
10,200.00	7,254.00	9,742.68	7,148.00	79.29	75.19	86.54	-28.25	-2,252.41	1,754.25	1,601.05	153.20	11.451		
10,300.00	7,254.00	9,842.68	7,148.00	81.80	77.74	86.54	-29.13	-2,352.41	1,754.21	1,595.94	158.27	11.083		
10,400.00	7,254.00	9,942.68	7,148.00	84.33	80.30	86.54	-30.01	-2,452.41	1,754.17	1,590.80	163.37	10.738		
10,500.00	7,254.00	10,042.68	7,148.00	86.86	82.88	86.54	-30.89	-2,552.40	1,754.13	1,585.65	168.48	10.411		
10,600.00	7,254.00	10,142.68	7,148.00	89.41	85.46	86.54	-31.76	-2,652.40	1,754.09	1,580.47	173.62	10.103		
10,700.00	7,254.00	10,242.68	7,148.00	91.97	88.05	86.54	-32.64	-2,752.39	1,754.05	1,575.28	178.77	9.812		
10,800.00	7,254.00	10,342.68	7,148.00	94.54	90.64	86.54	-33.52	-2,852.39	1,754.01	1,570.07	183.94	9.536		
10,900.00	7,254.00	10,442.68	7,148.00	97.11	93.25	86.54	-34.39	-2,952.39	1,753.97	1,564.85	189.12	9.274		
11,000.00	7,254.00	10,542.68	7,148.00	99.69	95.86	86.54	-35.27	-3,052.38	1,753.93	1,559.61	194.32	9.026		
11,100.00	7,254.00	10,642.68	7,148.00	102.28	98.48	86.54	-36.15	-3,152.38	1,753.89	1,554.36	199.53	8.790		
11,200.00	7,254.00	10,742.68	7,148.00	104.88	101.10	86.54	-37.02	-3,252.38	1,753.85	1,549.10	204.75	8.566		
11,300.00	7,254.00	10,842.68	7,148.00	107.48	103.73	86.53	-37.90	-3,352.37	1,753.81	1,543.83	209.99	8.352		
11,400.00	7,254.00	10,942.68	7,148.00	110.09	106.36	86.53	-38.78	-3,452.37	1,753.77	1,538.54	215.23	8.148		
11,500.00	7,254.00	11,042.68	7,148.00	112.70	109.00	86.53	-39.65	-3,552.36	1,753.73	1,533.25	220.48	7.954		
11,600.00	7,254.00	11,142.68	7,148.00	115.32	111.64	86.53	-40.53	-3,652.36	1,753.69	1,527.95	225.74	7.769		
11,700.00	7,254.00	11,242.68	7,148.00	117.94	114.28	86.53	-41.41	-3,752.36	1,753.65	1,522.64	231.01	7.591		
11,800.00	7,254.00	11,342.68	7,148.00	120.56	116.93	86.53	-42.29	-3,852.35	1,753.61	1,517.33	236.29	7.422		
11,900.00	7,254.00	11,442.68	7,148.00	123.19	119.58	86.53	-43.16	-3,952.35	1,753.58	1,512.00	241.57	7.259		
12,000.00	7,254.00	11,542.68	7,148.00	125.83	122.24	86.53	-44.04	-4,052.34	1,753.54	1,506.67	246.86	7.103		
12,100.00	7,254.00	11,642.68	7,148.00	128.47	124.89	86.53	-44.92	-4,152.34	1,753.50	1,501.34	252.16	6.954		
12,200.00	7,254.00	11,742.68	7,148.00	131.11	127.55	86.53	-45.79	-4,252.34	1,753.46	1,496.00	257.46	6.811		
12,300.00	7,254.00	11,842.68	7,148.00	133.75	130.22	86.53	-46.67	-4,352.33	1,753.42	1,490.65	262.77	6.673		
12,400.00	7,254.00	11,942.68	7,148.00	136.40	132.88	86.53	-47.55	-4,452.33	1,753.38	1,485.30	268.08	6.541		
12,500.00	7,254.00	12,042.68	7,148.00	139.05	135.55	86.53	-48.42	-4,552.33	1,753.34	1,479.94	273.40	6.413		
12,600.00	7,254.00	12,142.68	7,148.00	141.70	138.22	86.53	-49.30	-4,652.32	1,753.30	1,474.58	278.72	6.291		
12,700.00	7,254.00	12,242.68	7,148.00	144.36	140.89	86.53	-50.18	-4,752.32	1,753.26	1,469.21	284.04	6.173		
12,800.00	7,254.00	12,342.68	7,148.00	147.01	143.56	86.53	-51.05	-4,852.31	1,753.22	1,463.84	289.37	6.059		
12,900.00	7,254.00	12,442.68	7,148.00	149.67	146.24	86.53	-51.93	-4,952.31	1,753.18	1,458.47	294.71	5.949		
13,000.00	7,254.00	12,542.68	7,148.00	152.33	148.91	86.53	-52.81	-5,052.31	1,753.14	1,453.09	300.04	5.843		
13,100.00	7,254.00	12,642.68	7,148.00	155.00	151.59	86.53	-53.69	-5,152.30	1,753.10	1,447.71	305.39	5.741		
13,200.00	7,254.00	12,742.68	7,148.00	157.66	154.27	86.53	-54.56	-5,252.30	1,753.06	1,442.33	310.73	5.642		
13,300.00	7,254.00	12,842.68	7,148.00	160.33	156.95	86.53	-55.44	-5,352.29	1,753.02	1,436.94	316.08	5.546		
13,400.00	7,254.00	12,942.68	7,148.00	163.00	159.64	86.53	-56.32	-5,452.29	1,752.98	1,431.55	321.43	5.454		
13,500.00	7,254.00	13,042.68	7,148.00	165.67	162.32	86.53	-57.19	-5,552.29	1,752.94	1,426.16	326.78	5.364		
13,600.00	7,254.00	13,142.68	7,148.00	168.34	165.01	86.53	-58.07	-5,652.28	1,752.90	1,420.76	332.14	5.278		
13,700.00	7,254.00	13,242.68	7,148.00	171.02	167.69	86.53	-58.95	-5,752.28	1,752.86	1,415.36	337.49	5.194		
13,800.00	7,254.00	13,342.68	7,148.00	173.69	170.38	86.53	-59.82	-5,852.28	1,752.82	1,409.96	342.85	5.112		
13,900.00	7,254.00	13,442.68	7,148.00	176.37	173.07	86.53	-60.70	-5,952.27	1,752.78	1,404.56	348.22	5.034		
14,000.00	7,254.00	13,542.68	7,148.00	179.05	175.76	86.53	-61.58	-6,052.27	1,752.74	1,399.16	353.58	4.957		
14,100.00	7,254.00	13,642.68	7,148.00	181.73	178.45	86.53	-62.45	-6,152.26	1,752.70	1,393.75	358.95	4.883		
14,200.00	7,254.00	13,742.68	7,148.00	184.41	181.14	86.53	-63.33	-6,252.26	1,752.66	1,388.34	364.32	4.811		

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 11-10-14H
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 11-10-14H	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		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			
14,300.00	7,254.00	13,842.68	7,148.00	187.09	183.83	86.53	-64.21	-6,352.26	1,752.62	1,382.93	369.69	4.741			
14,400.00	7,254.00	13,942.68	7,148.00	189.77	186.53	86.53	-65.09	-6,452.25	1,752.58	1,377.52	375.06	4.673			
14,500.00	7,254.00	14,042.68	7,148.00	192.46	189.22	86.53	-65.96	-6,552.25	1,752.54	1,372.10	380.44	4.607			
14,600.00	7,254.00	14,142.68	7,148.00	195.14	191.91	86.53	-66.84	-6,652.24	1,752.50	1,366.69	385.81	4.542			
14,700.00	7,254.00	14,242.68	7,148.00	197.83	194.61	86.53	-67.72	-6,752.24	1,752.46	1,361.27	391.19	4.480			
14,800.00	7,254.00	14,342.68	7,148.00	200.52	197.31	86.53	-68.59	-6,852.24	1,752.42	1,355.85	396.57	4.419			
14,900.00	7,254.00	14,442.68	7,148.00	203.20	200.00	86.53	-69.47	-6,952.23	1,752.38	1,350.43	401.95	4.360			
15,000.00	7,254.00	14,542.68	7,148.00	205.89	202.70	86.53	-70.35	-7,052.23	1,752.34	1,345.01	407.34	4.302			
15,100.00	7,254.00	14,642.68	7,148.00	208.58	205.40	86.53	-71.22	-7,152.23	1,752.30	1,339.58	412.72	4.246			
15,200.00	7,254.00	14,742.68	7,148.00	211.27	208.10	86.53	-72.10	-7,252.22	1,752.26	1,334.16	418.10	4.191			
15,300.00	7,254.00	14,842.68	7,148.00	213.96	210.80	86.53	-72.98	-7,352.22	1,752.22	1,328.73	423.49	4.138			
15,400.00	7,254.00	14,942.68	7,148.00	216.66	213.50	86.53	-73.86	-7,452.21	1,752.18	1,323.30	428.88	4.085			
15,500.00	7,254.00	15,042.68	7,148.00	219.35	216.20	86.53	-74.73	-7,552.21	1,752.14	1,317.88	434.27	4.035			
15,600.00	7,254.00	15,142.68	7,148.00	222.04	218.90	86.53	-75.61	-7,652.21	1,752.10	1,312.45	439.66	3.985			
15,700.00	7,254.00	15,242.68	7,148.00	224.74	221.60	86.53	-76.49	-7,752.20	1,752.06	1,307.01	445.05	3.937			
15,800.00	7,254.00	15,342.68	7,148.00	227.43	224.30	86.53	-77.36	-7,852.20	1,752.02	1,301.58	450.44	3.890			
15,900.00	7,254.00	15,442.68	7,148.00	230.13	227.01	86.53	-78.24	-7,952.19	1,751.98	1,296.15	455.83	3.843			
16,000.00	7,254.00	15,542.68	7,148.00	232.82	229.71	86.53	-79.12	-8,052.19	1,751.94	1,290.72	461.23	3.798			
16,100.00	7,254.00	15,642.68	7,148.00	235.52	232.41	86.53	-79.99	-8,152.19	1,751.90	1,285.28	466.62	3.754			
16,200.00	7,254.00	15,742.68	7,148.00	238.22	235.12	86.53	-80.87	-8,252.18	1,751.86	1,279.85	472.02	3.711			
16,300.00	7,254.00	15,842.68	7,148.00	240.91	237.82	86.53	-81.75	-8,352.18	1,751.83	1,274.41	477.42	3.669			
16,368.78	7,254.00	15,910.78	7,148.00	242.77	239.66	86.53	-82.34	-8,420.28	1,751.80	1,270.69	481.11	3.641			
16,381.25	7,254.00	15,910.78	7,148.00	243.10	239.66	86.53	-82.34	-8,420.28	1,751.84	1,270.50	481.34	3.639 SF			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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	47.36	0.00	47.36	47.07	0.29	165.141		
100.00	100.00	100.00	100.00	0.14	0.14	0.00	47.36	0.00	47.36	46.36	1.00	47.183		
200.00	200.00	200.00	200.00	0.50	0.50	0.00	47.36	0.00	47.36	45.64	1.72	27.524		
300.00	300.00	300.00	300.00	0.86	0.86	0.00	47.36	0.00	47.36	44.92	2.44	19.428	CC, ES	
400.00	400.00	400.00	400.00	1.22	1.22	0.00	47.36	0.00	48.97	45.83	3.14	15.597		
500.00	499.98	499.98	499.98	1.56	1.58	-157.53	47.36	0.00	53.84	50.00	3.84	14.030		
600.00	599.84	599.84	599.84	1.90	1.94	-159.63	47.36	0.00	62.09	57.54	4.54	13.663		
700.00	699.45	699.45	699.45	2.25	2.29	-162.38	47.36	0.00	72.08	66.83	5.24	13.751		
800.00	798.70	801.24	801.22	2.63	2.64	-165.03	45.65	0.53	82.05	76.12	5.93	13.836		
900.00	897.47	903.42	903.25	3.03	2.98	-167.29	40.47	2.16	92.95	86.32	6.63	14.019		
1,000.00	995.62	1,003.55	1,003.07	3.46	3.32	-169.28	32.91	4.52	107.24	99.90	7.34	14.612		
1,100.00	1,093.06	1,102.47	1,101.67	3.92	3.67	-171.12	25.32	6.90	125.03	116.97	8.05	15.522		
1,200.00	1,189.64	1,200.82	1,199.69	4.43	4.02	-172.72	17.78	9.26	130.21	121.97	8.24	15.793		
1,225.96	1,214.56	1,226.24	1,225.03	4.56	4.11	-173.10	15.83	9.87	145.36	136.59	8.77	16.567		
1,300.00	1,285.55	1,298.68	1,297.23	4.97	4.38	-174.06	10.27	11.61	165.88	156.38	9.49	17.472		
1,400.00	1,381.42	1,396.51	1,394.75	5.52	4.73	-175.08	2.76	13.97	186.43	176.21	10.22	18.244		
1,500.00	1,477.29	1,494.35	1,492.27	6.09	5.09	-175.88	-4.74	16.32	207.01	196.06	10.95	18.907		
1,600.00	1,573.17	1,592.18	1,589.79	6.66	5.46	-176.52	-12.25	18.67	227.61	215.93	11.68	19.484		
1,700.00	1,669.04	1,690.02	1,687.31	7.24	5.82	-177.04	-19.76	21.02	248.22	235.81	12.42	19.988		
1,800.00	1,764.91	1,787.86	1,784.83	7.83	6.19	-177.47	-27.26	23.37	268.85	255.69	13.16	20.433		
1,900.00	1,860.78	1,885.69	1,882.35	8.42	6.56	-177.84	-34.77	25.72	289.49	275.59	13.90	20.828		
2,000.00	1,956.66	1,983.53	1,979.87	9.01	6.93	-178.16	-42.27	28.07	310.13	295.49	14.64	21.181		
2,100.00	2,052.53	2,081.36	2,077.39	9.61	7.30	-178.44	-49.78	30.42	330.78	315.39	15.39	21.498		
2,200.00	2,148.40	2,179.20	2,174.91	10.21	7.67	-178.68	-57.29	32.77	351.43	335.30	16.13	21.784		
2,300.00	2,244.27	2,277.04	2,272.43	10.81	8.04	-178.89	-64.79	35.12	372.09	355.21	16.88	22.043		
2,400.00	2,340.15	2,374.87	2,369.95	11.41	8.41	-179.08	-72.30	37.47	392.75	375.12	17.63	22.279		
2,500.00	2,436.02	2,472.71	2,467.47	12.01	8.78	-179.24	-79.80	39.82	413.42	395.04	18.38	22.495		
2,600.00	2,531.89	2,570.54	2,564.99	12.61	9.15	-179.40	-87.31	42.17	434.08	414.96	19.13	22.693		
2,700.00	2,627.76	2,668.38	2,662.51	13.22	9.53	-179.53	-94.82	44.52	454.75	434.87	19.88	22.876		
2,800.00	2,723.64	2,766.22	2,760.03	13.82	9.90	-179.66	-102.32	46.87	475.42	454.79	20.63	23.045		
2,900.00	2,819.51	2,864.05	2,857.54	14.43	10.28	-179.77	-109.83	49.22	496.10	474.71	21.38	23.201		
3,000.00	2,915.38	2,961.89	2,955.06	15.03	10.65	-179.88	-117.33	51.57	516.77	494.63	22.14	23.346		
3,100.00	3,011.25	3,059.72	3,052.58	15.64	11.02	-179.97	-124.84	53.92	537.45	514.56	22.89	23.481		
3,200.00	3,107.13	3,157.56	3,150.10	16.25	11.40	-179.94	-132.35	56.27	558.12	534.48	23.64	23.607		
3,300.00	3,203.00	3,255.40	3,247.62	16.85	11.77	-179.86	-139.85	58.62	578.80	554.40	24.40	23.725		
3,400.00	3,298.87	3,353.23	3,345.14	17.46	12.15	-179.78	-147.36	60.97	599.48	574.33	25.15	23.835		
3,500.00	3,394.74	3,451.07	3,442.66	18.07	12.52	-179.71	-154.86	63.32	620.16	594.25	25.91	23.939		
3,600.00	3,490.62	3,548.90	3,540.18	18.68	12.90	-179.64	-162.37	65.68	640.84	614.18	26.66	24.037		
3,700.00	3,586.49	3,646.74	3,637.70	19.29	13.27	-179.58	-169.88	68.03	661.52	634.10	27.42	24.129		
3,800.00	3,682.36	3,744.58	3,735.22	19.90	13.65	-179.52	-177.38	70.38	682.20	654.03	28.17	24.215		
3,900.00	3,778.23	3,842.41	3,832.74	20.51	14.02	-179.47	-184.89	72.73	702.88	673.95	28.93	24.298		
4,000.00	3,874.10	3,940.25	3,930.26	21.12	14.40	-179.42	-192.39	75.08	723.56	693.88	29.68	24.375		
4,100.00	3,969.98	4,038.08	4,027.78	21.73	14.78	-179.37	-199.90	77.43	744.25	713.81	30.44	24.449		
4,200.00	4,065.85	4,135.92	4,125.30	22.34	15.15	-179.32	-207.41	79.78	764.93	733.73	31.20	24.519		
4,300.00	4,161.72	4,233.76	4,222.82	22.95	15.53	-179.28	-214.91	82.13	785.61	753.66	31.95	24.586		
4,400.00	4,257.59	4,331.59	4,320.33	23.56	15.90	-179.24	-222.42	84.48	806.30	773.59	32.71	24.649		
4,500.00	4,353.47	4,429.43	4,417.85	24.17	16.28	-179.20	-229.93	86.83	826.98	793.51	33.47	24.709		
4,600.00	4,449.34	4,527.26	4,515.37	24.78	16.66	-179.16	-237.43	89.18	847.67	813.44	34.23	24.767		
4,700.00	4,545.21	4,625.10	4,612.89	25.39	17.03	-179.13	-244.94	91.53	868.35	833.37	34.98	24.822		
4,800.00	4,641.08	4,722.94	4,710.41	26.00	17.41	-179.09	-252.44	93.88	889.04	853.30	35.74	24.875		
4,900.00	4,736.96	4,820.77	4,807.93	26.61	17.79	-179.06	-259.95	96.23	909.72	873.22	36.50	24.925		
5,000.00	4,832.83	4,918.61	4,905.45	27.22	18.16	-179.03	-267.46	98.58						

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 11-10-14H
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 11-10-14H	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		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	4,928.70	5,016.44	5,002.97	27.83	18.54	179.00	-274.96	100.93	930.41	893.15	37.26	24.973			
5,200.00	5,024.57	5,114.28	5,100.49	28.44	18.92	178.97	-282.47	103.28	951.10	913.08	38.01	25.019			
5,300.00	5,120.45	5,212.12	5,198.01	29.05	19.29	178.95	-289.97	105.63	971.78	933.01	38.77	25.063			
5,400.00	5,216.32	5,309.95	5,295.53	29.66	19.67	178.92	-297.48	107.98	992.47	952.94	39.53	25.106			
5,500.00	5,312.19	5,407.79	5,393.05	30.28	20.05	178.90	-304.99	110.33	1,013.15	972.86	40.29	25.147			
5,600.00	5,408.06	5,505.62	5,490.57	30.89	20.42	178.87	-312.49	112.68	1,033.84	992.79	41.05	25.186			
5,700.00	5,503.94	5,603.46	5,588.09	31.50	20.80	178.85	-320.00	115.03	1,054.53	1,012.72	41.81	25.224			
5,800.00	5,599.81	5,701.30	5,685.61	32.11	21.18	178.83	-327.50	117.39	1,075.22	1,032.65	42.57	25.260			
5,900.00	5,695.68	5,799.13	5,783.13	32.72	21.55	178.81	-335.01	119.74	1,095.90	1,052.58	43.32	25.295			
6,000.00	5,791.55	5,896.97	5,880.64	33.33	21.93	178.79	-342.52	122.09	1,116.59	1,072.51	44.08	25.329			
6,100.00	5,887.43	5,994.80	5,978.16	33.95	22.31	178.77	-350.02	124.44	1,137.28	1,092.43	44.84	25.361			
6,200.00	5,983.30	6,092.64	6,075.68	34.56	22.68	178.75	-357.53	126.79	1,157.96	1,112.36	45.60	25.393			
6,300.00	6,079.17	6,190.48	6,173.20	35.17	23.06	178.73	-365.03	129.14	1,178.65	1,132.29	46.36	25.423			
6,400.00	6,175.04	6,288.31	6,270.72	35.78	23.44	178.71	-372.54	131.49	1,199.34	1,152.22	47.12	25.453			
6,500.00	6,270.92	6,386.15	6,368.24	36.39	23.82	178.70	-380.05	133.84	1,220.03	1,172.15	47.88	25.481			
6,600.00	6,366.79	6,483.98	6,465.76	37.00	24.19	178.68	-387.55	136.19	1,240.72	1,192.08	48.64	25.508			
6,700.00	6,462.66	6,581.82	6,563.28	37.62	24.57	178.67	-395.06	138.54	1,261.40	1,212.01	49.40	25.535			
6,800.00	6,558.53	6,679.66	6,660.80	38.23	24.95	178.65	-402.56	140.89	1,282.09	1,231.93	50.16	25.561			
6,885.48	6,640.48	6,727.19	6,708.18	38.75	25.12	178.59	-406.22	140.71	1,300.82	1,250.27	50.55	25.733			
6,900.00	6,654.42	6,734.49	6,715.45	38.84	25.15	173.56	-406.79	140.34	1,304.18	1,253.57	50.61	25.771			
6,950.00	6,702.60	6,750.00	6,730.87	39.12	25.21	154.77	-407.98	139.26	1,315.29	1,264.58	50.71	25.938			
7,000.00	6,750.76	6,784.79	6,765.33	39.38	25.33	136.21	-410.68	135.30	1,325.35	1,274.40	50.95	26.015			
7,050.00	6,798.55	6,800.00	6,780.30	39.60	25.38	120.76	-411.85	132.91	1,334.59	1,283.60	50.99	26.175			
7,100.00	6,845.60	6,835.12	6,814.60	39.79	25.49	109.23	-414.56	125.88	1,342.65	1,291.46	51.19	26.229			
7,150.00	6,891.54	6,850.00	6,828.99	39.95	25.54	100.80	-415.70	122.26	1,349.81	1,298.63	51.18	26.376			
7,200.00	6,936.05	6,885.53	6,862.93	40.08	25.65	94.82	-418.40	112.13	1,355.71	1,304.35	51.36	26.396			
7,250.00	6,978.76	6,900.00	6,876.56	40.19	25.69	90.30	-419.49	107.40	1,360.64	1,309.33	51.31	26.517			
7,300.00	7,019.37	6,936.06	6,909.98	40.28	25.79	87.17	-422.18	94.13	1,364.29	1,312.79	51.50	26.491			
7,350.00	7,057.55	6,950.00	6,922.66	40.34	25.83	84.66	-423.21	88.44	1,366.97	1,315.52	51.45	26.567			
7,400.00	7,093.02	6,986.76	6,955.40	40.39	25.93	83.10	-425.87	71.96	1,368.36	1,316.67	51.69	26.475			
7,450.00	7,125.51	7,012.18	6,977.40	40.42	25.99	81.94	-427.67	59.35	1,368.73	1,316.91	51.82	26.412			
7,500.00	7,154.78	7,037.66	6,998.86	40.43	26.05	81.22	-429.44	45.75	1,368.04	1,316.04	52.00	26.306			
7,550.00	7,180.59	7,063.19	7,019.75	40.42	26.11	80.87	-431.17	31.16	1,366.32	1,314.08	52.24	26.153			
7,600.00	7,202.75	7,088.80	7,040.02	40.40	26.17	80.85	-432.87	15.61	1,363.63	1,311.08	52.55	25.949			
7,650.00	7,221.10	7,114.48	7,059.63	40.37	26.22	81.13	-434.52	-0.88	1,360.02	1,307.09	52.93	25.694			
7,700.00	7,235.49	7,150.00	7,085.51	40.32	26.30	81.88	-436.72	-25.11	1,355.63	1,302.13	53.50	25.341			
7,750.00	7,245.82	7,166.08	7,096.72	40.27	26.33	82.45	-437.68	-36.60	1,350.36	1,296.42	53.94	25.034			
7,800.00	7,252.01	7,200.00	7,119.28	40.20	26.39	83.66	-439.63	-61.84	1,344.53	1,289.89	54.64	24.606			
7,848.69	7,254.00	7,217.38	7,130.25	40.14	26.42	84.65	-440.59	-75.28	1,338.24	1,282.99	55.24	24.224			
7,900.00	7,254.00	7,250.00	7,149.73	40.07	26.49	85.48	-442.31	-101.39	1,331.96	1,275.89	56.07	23.754			
8,000.00	7,254.00	7,300.00	7,176.63	39.96	26.60	86.64	-444.73	-143.45	1,322.64	1,264.96	57.67	22.933			
8,100.00	7,254.00	7,373.63	7,209.35	39.89	26.86	88.05	-447.80	-209.28	1,316.59	1,256.93	59.66	22.069			
8,200.00	7,254.00	7,450.00	7,234.10	39.87	27.33	89.13	-450.31	-281.43	1,313.08	1,251.27	61.81	21.244			
8,300.00	7,254.00	7,531.19	7,249.68	39.95	28.06	89.81	-452.17	-361.02	1,311.38	1,247.19	64.19	20.430			
8,383.21	7,254.00	7,601.67	7,254.00	40.20	28.81	90.00	-453.09	-431.31	1,310.98	1,244.66	66.32	19.767			
8,400.00	7,254.00	7,618.36	7,254.00	40.29	29.01	90.00	-453.23	-448.01	1,310.98	1,244.18	66.81	19.624			
8,500.00	7,254.00	7,718.36	7,254.00	41.24	30.30	90.00	-454.06	-548.00	1,310.99	1,241.14	69.85	18.769			
8,600.00	7,254.00	7,818.36	7,254.00	42.78	31.76	90.00	-454.89	-648.00	1,310.99	1,237.81	73.18	17.914			
8,700.00	7,254.00	7,918.36	7,254.00	44.60	33.38	90.00	-455.72	-748.00	1,311.00	1,234.24	76.76	17.079			
8,800.00	7,254.00	8,018.36	7,254.00	46.57	35.14	90.00	-456.55	-847.99	1,311.01	1,230.45	80.56	16.274			
8,900.00	7,254.00	8,118.36	7,254.00	48.64	37.02	90.00	-457.38	-947.99	1,311.02	1,226.48	84.54	15.508			
9,000.00	7,254.00	8,218.36	7,254.00	50.78	38.99	90.00	-458.21	-1,047.98	1,311.02	1,222.34	88.68	14.784			

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 11-10-14H
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 11-10-14H	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)				
9,100.00	7,254.00	8,318.36	7,254.00	52.97	41.05	90.00	-459.04	-1,147.98	1,311.03	1,218.07	92.96	14.103		
9,200.00	7,254.00	8,418.36	7,254.00	55.21	43.18	90.00	-459.87	-1,247.98	1,311.04	1,213.68	97.36	13.466		
9,300.00	7,254.00	8,518.36	7,254.00	57.50	45.38	90.00	-460.70	-1,347.97	1,311.04	1,209.18	101.86	12.871		
9,400.00	7,254.00	8,618.36	7,254.00	59.82	47.63	90.00	-461.53	-1,447.97	1,311.05	1,204.60	106.45	12.316		
9,500.00	7,254.00	8,718.36	7,254.00	62.17	49.93	90.00	-462.36	-1,547.97	1,311.06	1,199.93	111.12	11.798		
9,600.00	7,254.00	8,818.36	7,254.00	64.55	52.27	90.00	-463.19	-1,647.96	1,311.06	1,195.20	115.86	11.316		
9,700.00	7,254.00	8,918.36	7,254.00	66.96	54.64	90.00	-464.02	-1,747.96	1,311.07	1,190.41	120.66	10.866		
9,800.00	7,254.00	9,018.36	7,254.00	69.39	57.04	90.00	-464.85	-1,847.96	1,311.08	1,185.56	125.52	10.446		
9,900.00	7,254.00	9,118.36	7,254.00	71.84	59.48	90.00	-465.68	-1,947.95	1,311.08	1,180.67	130.42	10.053		
10,000.00	7,254.00	9,218.36	7,254.00	74.30	61.93	90.00	-466.51	-2,047.95	1,311.09	1,175.73	135.36	9.686		
10,100.00	7,254.00	9,318.36	7,254.00	76.79	64.41	90.00	-467.34	-2,147.95	1,311.10	1,170.76	140.34	9.342		
10,200.00	7,254.00	9,418.36	7,254.00	79.29	66.91	90.00	-468.17	-2,247.94	1,311.10	1,165.75	145.35	9.020		
10,300.00	7,254.00	9,518.36	7,254.00	81.80	69.42	90.00	-469.00	-2,347.94	1,311.11	1,160.72	150.39	8.718		
10,400.00	7,254.00	9,618.36	7,254.00	84.33	71.95	90.00	-469.83	-2,447.94	1,311.12	1,155.65	155.46	8.434		
10,500.00	7,254.00	9,718.36	7,254.00	86.86	74.49	90.00	-470.66	-2,547.93	1,311.13	1,150.57	160.56	8.166		
10,600.00	7,254.00	9,818.36	7,254.00	89.41	77.04	90.00	-471.49	-2,647.93	1,311.13	1,145.45	165.68	7.914		
10,700.00	7,254.00	9,918.36	7,254.00	91.97	79.61	90.00	-472.32	-2,747.93	1,311.14	1,140.32	170.82	7.676		
10,800.00	7,254.00	10,018.36	7,254.00	94.54	82.18	90.00	-473.15	-2,847.92	1,311.15	1,135.17	175.97	7.451		
10,900.00	7,254.00	10,118.36	7,254.00	97.11	84.77	90.00	-473.98	-2,947.92	1,311.15	1,130.01	181.14	7.238		
11,000.00	7,254.00	10,218.36	7,254.00	99.69	87.36	90.00	-474.82	-3,047.92	1,311.16	1,124.83	186.33	7.037		
11,100.00	7,254.00	10,318.36	7,254.00	102.28	89.96	90.00	-475.65	-3,147.91	1,311.17	1,119.63	191.54	6.846		
11,200.00	7,254.00	10,418.36	7,254.00	104.88	92.57	90.00	-476.48	-3,247.91	1,311.17	1,114.42	196.75	6.664		
11,300.00	7,254.00	10,518.36	7,254.00	107.48	95.18	90.00	-477.31	-3,347.91	1,311.18	1,109.20	201.98	6.492		
11,400.00	7,254.00	10,618.36	7,254.00	110.09	97.80	90.00	-478.14	-3,447.90	1,311.19	1,103.97	207.22	6.328		
11,500.00	7,254.00	10,718.36	7,254.00	112.70	100.43	90.00	-478.97	-3,547.90	1,311.19	1,098.73	212.47	6.171		
11,600.00	7,254.00	10,818.36	7,254.00	115.32	103.06	90.00	-479.80	-3,647.90	1,311.20	1,093.47	217.73	6.022		
11,700.00	7,254.00	10,918.36	7,254.00	117.94	105.69	90.00	-480.63	-3,747.89	1,311.21	1,088.21	222.99	5.880		
11,800.00	7,254.00	11,018.36	7,254.00	120.56	108.33	90.00	-481.46	-3,847.89	1,311.21	1,082.94	228.27	5.744		
11,900.00	7,254.00	11,118.36	7,254.00	123.19	110.98	90.00	-482.29	-3,947.88	1,311.22	1,077.67	233.55	5.614		
12,000.00	7,254.00	11,218.36	7,254.00	125.83	113.62	90.00	-483.12	-4,047.88	1,311.23	1,072.38	238.84	5.490		
12,100.00	7,254.00	11,318.36	7,254.00	128.47	116.27	90.00	-483.95	-4,147.88	1,311.24	1,067.09	244.14	5.371		
12,200.00	7,254.00	11,418.36	7,254.00	131.11	118.93	90.00	-484.78	-4,247.87	1,311.24	1,061.80	249.45	5.257		
12,300.00	7,254.00	11,518.36	7,254.00	133.75	121.58	90.00	-485.61	-4,347.87	1,311.25	1,056.49	254.76	5.147		
12,400.00	7,254.00	11,618.36	7,254.00	136.40	124.24	90.00	-486.44	-4,447.87	1,311.26	1,051.19	260.07	5.042		
12,500.00	7,254.00	11,718.36	7,254.00	139.05	126.90	90.00	-487.27	-4,547.86	1,311.26	1,045.87	265.39	4.941		
12,600.00	7,254.00	11,818.36	7,254.00	141.70	129.57	90.00	-488.10	-4,647.86	1,311.27	1,040.55	270.72	4.844		
12,700.00	7,254.00	11,918.36	7,254.00	144.36	132.24	90.00	-488.93	-4,747.86	1,311.28	1,035.23	276.05	4.750		
12,800.00	7,254.00	12,018.36	7,254.00	147.01	134.90	90.00	-489.76	-4,847.85	1,311.28	1,029.90	281.38	4.660		
12,900.00	7,254.00	12,118.36	7,254.00	149.67	137.58	90.00	-490.59	-4,947.85	1,311.29	1,024.57	286.72	4.573		
13,000.00	7,254.00	12,218.36	7,254.00	152.33	140.25	90.00	-491.42	-5,047.85	1,311.30	1,019.24	292.06	4.490		
13,100.00	7,254.00	12,318.36	7,254.00	155.00	142.92	90.00	-492.25	-5,147.84	1,311.30	1,013.90	297.41	4.409		
13,200.00	7,254.00	12,418.36	7,254.00	157.66	145.60	90.00	-493.08	-5,247.84	1,311.31	1,008.55	302.76	4.331		
13,300.00	7,254.00	12,518.36	7,254.00	160.33	148.28	90.00	-493.91	-5,347.84	1,311.32	1,003.21	308.11	4.256		
13,400.00	7,254.00	12,618.36	7,254.00	163.00	150.96	90.00	-494.74	-5,447.83	1,311.32	997.86	313.47	4.183		
13,500.00	7,254.00	12,718.36	7,254.00	165.67	153.64	90.00	-495.57	-5,547.83	1,311.33	992.51	318.82	4.113		
13,600.00	7,254.00	12,818.36	7,254.00	168.34	156.32	90.00	-496.40	-5,647.83	1,311.34	987.15	324.19	4.045		
13,700.00	7,254.00	12,918.36	7,254.00	171.02	159.01	90.00	-497.23	-5,747.82	1,311.35	981.80	329.55	3.979		
13,800.00	7,254.00	13,018.36	7,254.00	173.69	161.69	90.00	-498.06	-5,847.82	1,311.35	976.44	334.92	3.915		
13,900.00	7,254.00	13,118.36	7,254.00	176.37	164.38	90.00	-498.89	-5,947.82	1,311.36	971.07	340.29	3.854		
14,000.00	7,254.00	13,218.36	7,254.00	179.05	167.06	90.00	-499.72	-6,047.81	1,311.37	965.71	345.66	3.794		
14,100.00	7,254.00	13,318.36	7,254.00	181.73	169.75	90.00	-500.55	-6,147.81	1,311.37	960.34	351.03	3.736		
14,200.00	7,254.00	13,418.36	7,254.00	184.41	172.44	90.00	-501.38	-6,247.81	1,311.38	954.97	356.41	3.679		

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 11-10-14H
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 11-10-14H	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				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	7,254.00	13,518.36	7,254.00	187.09	175.13	90.00	-502.21	-6,347.80	1,311.39	949.60	361.79	3.625		
14,400.00	7,254.00	13,618.36	7,254.00	189.77	177.83	90.00	-503.04	-6,447.80	1,311.39	944.23	367.17	3.572		
14,500.00	7,254.00	13,718.36	7,254.00	192.46	180.52	90.00	-503.87	-6,547.80	1,311.40	938.85	372.55	3.520		
14,600.00	7,254.00	13,818.36	7,254.00	195.14	183.21	90.00	-504.70	-6,647.79	1,311.41	933.48	377.93	3.470		
14,700.00	7,254.00	13,918.36	7,254.00	197.83	185.91	90.00	-505.53	-6,747.79	1,311.41	928.10	383.32	3.421		
14,800.00	7,254.00	14,018.36	7,254.00	200.52	188.60	90.00	-506.36	-6,847.79	1,311.42	922.72	388.70	3.374		
14,900.00	7,254.00	14,118.36	7,254.00	203.20	191.30	90.00	-507.19	-6,947.78	1,311.43	917.34	394.09	3.328		
15,000.00	7,254.00	14,218.36	7,254.00	205.89	193.99	90.00	-508.02	-7,047.78	1,311.44	911.95	399.48	3.283		
15,100.00	7,254.00	14,318.36	7,254.00	208.58	196.69	90.00	-508.85	-7,147.77	1,311.44	906.57	404.87	3.239		
15,200.00	7,254.00	14,418.36	7,254.00	211.27	199.39	90.00	-509.68	-7,247.77	1,311.45	901.18	410.26	3.197		
15,300.00	7,254.00	14,518.36	7,254.00	213.96	202.09	90.00	-510.51	-7,347.77	1,311.46	895.80	415.66	3.155		
15,400.00	7,254.00	14,618.36	7,254.00	216.66	204.79	90.00	-511.34	-7,447.76	1,311.46	890.41	421.05	3.115		
15,500.00	7,254.00	14,718.36	7,254.00	219.35	207.49	90.00	-512.17	-7,547.76	1,311.47	885.02	426.45	3.075		
15,600.00	7,254.00	14,818.36	7,254.00	222.04	210.19	90.00	-513.00	-7,647.76	1,311.48	879.63	431.85	3.037		
15,700.00	7,254.00	14,918.36	7,254.00	224.74	212.89	90.00	-513.83	-7,747.75	1,311.48	874.24	437.25	2.999		
15,800.00	7,254.00	15,018.36	7,254.00	227.43	215.59	90.00	-514.67	-7,847.75	1,311.49	868.84	442.65	2.963		
15,900.00	7,254.00	15,118.36	7,254.00	230.13	218.29	90.00	-515.50	-7,947.75	1,311.50	863.45	448.05	2.927		
16,000.00	7,254.00	15,218.36	7,254.00	232.82	220.99	90.00	-516.33	-8,047.74	1,311.50	858.05	453.45	2.892		
16,100.00	7,254.00	15,318.36	7,254.00	235.52	223.69	90.00	-517.16	-8,147.74	1,311.51	852.66	458.85	2.858		
16,200.00	7,254.00	15,418.36	7,254.00	238.22	226.40	90.00	-517.99	-8,247.74	1,311.52	847.26	464.26	2.825		
16,300.00	7,254.00	15,518.19	7,254.00	240.91	229.10	90.00	-518.81	-8,347.56	1,311.53	841.87	469.65	2.793		
16,381.25	7,254.00	15,599.44	7,254.00	243.10	231.29	90.00	-519.48	-8,428.81	1,311.54	837.50	474.05	2.767 SF		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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		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	CC, ES	
500.00	499.98	499.98	499.98	1.56	1.58	-157.87	32.79	0.00	34.40	31.26	3.14	10.956		
600.00	599.84	599.84	599.84	1.90	1.94	-160.72	32.79	0.00	39.29	35.46	3.84	10.240		
700.00	699.45	701.05	701.03	2.25	2.28	-163.72	31.11	0.60	45.90	41.37	4.53	10.137		
800.00	798.70	802.52	802.35	2.63	2.62	-166.18	26.05	2.42	52.50	47.29	5.21	10.075		
900.00	897.47	904.24	903.66	3.03	2.97	-168.28	17.60	5.47	59.09	53.19	5.90	10.010		
1,000.00	995.62	1,006.20	1,004.84	3.46	3.34	-170.14	5.74	9.74	65.65	59.05	6.60	9.944		
1,100.00	1,093.06	1,106.79	1,104.26	3.92	3.73	-171.85	-8.63	14.91	72.88	65.56	7.32	9.961		
1,200.00	1,189.64	1,206.20	1,202.49	4.43	4.13	-173.50	-23.06	20.11	83.38	75.33	8.05	10.363		
1,225.96	1,214.56	1,231.94	1,227.92	4.56	4.23	-173.90	-26.80	21.46	86.68	78.44	8.24	10.521		
1,300.00	1,285.55	1,305.32	1,300.42	4.97	4.53	-174.93	-37.44	25.29	96.44	87.66	8.78	10.982		
1,400.00	1,381.42	1,404.42	1,398.33	5.52	4.94	-176.03	-51.83	30.47	109.66	100.14	9.52	11.517		
1,500.00	1,477.29	1,503.53	1,496.25	6.09	5.36	-176.89	-66.21	35.65	122.91	112.64	10.27	11.972		
1,600.00	1,573.17	1,602.63	1,594.17	6.66	5.78	-177.59	-80.59	40.83	136.18	125.17	11.02	12.362		
1,700.00	1,669.04	1,701.73	1,692.09	7.24	6.20	-178.16	-94.97	46.01	149.47	137.70	11.77	12.699		
1,800.00	1,764.91	1,800.84	1,790.00	7.83	6.63	-178.64	-109.36	51.19	162.78	150.25	12.53	12.993		
1,900.00	1,860.78	1,899.94	1,887.92	8.42	7.05	-179.04	-123.74	56.36	176.09	162.80	13.29	13.251		
2,000.00	1,956.66	1,999.04	1,985.84	9.01	7.48	-179.39	-138.12	61.54	189.41	175.36	14.05	13.479		
2,100.00	2,052.53	2,098.14	2,083.75	9.61	7.92	-179.69	-152.50	66.72	202.73	187.92	14.82	13.683		
2,200.00	2,148.40	2,197.25	2,181.67	10.21	8.35	-179.96	-166.88	71.90	216.06	200.48	15.58	13.865		
2,300.00	2,244.27	2,296.35	2,279.59	10.81	8.78	-179.81	-181.27	77.08	229.40	213.05	16.35	14.029		
2,400.00	2,340.15	2,395.45	2,377.50	11.41	9.22	-179.60	-195.65	82.26	242.73	225.61	17.12	14.178		
2,500.00	2,436.02	2,494.56	2,475.42	12.01	9.65	-179.41	-210.03	87.44	256.07	238.18	17.89	14.313		
2,600.00	2,531.89	2,593.66	2,573.34	12.61	10.09	-179.24	-224.41	92.62	269.42	250.75	18.66	14.436		
2,700.00	2,627.76	2,692.76	2,671.25	13.22	10.53	-179.09	-238.80	97.80	282.76	263.33	19.44	14.549		
2,800.00	2,723.64	2,791.86	2,769.17	13.82	10.97	-178.95	-253.18	102.98	296.11	275.90	20.21	14.653		
2,900.00	2,819.51	2,890.97	2,867.09	14.43	11.40	-178.82	-267.56	108.15	309.46	288.47	20.98	14.748		
3,000.00	2,915.38	2,990.07	2,965.00	15.03	11.84	-178.71	-281.94	113.33	322.81	301.05	21.76	14.837		
3,100.00	3,011.25	3,089.17	3,062.92	15.64	12.28	-178.60	-296.32	118.51	336.16	313.62	22.53	14.919		
3,200.00	3,107.13	3,188.28	3,160.84	16.25	12.72	-178.50	-310.71	123.69	349.51	326.20	23.31	14.995		
3,300.00	3,203.00	3,287.38	3,258.76	16.85	13.16	-178.41	-325.09	128.87	362.86	338.78	24.08	15.066		
3,400.00	3,298.87	3,386.48	3,356.67	17.46	13.60	-178.32	-339.47	134.05	376.21	351.35	24.86	15.133		
3,500.00	3,394.74	3,485.58	3,454.59	18.07	14.04	-178.24	-353.85	139.23	389.57	363.93	25.64	15.195		
3,600.00	3,490.62	3,584.69	3,552.51	18.68	14.48	-178.17	-368.24	144.41	402.92	376.51	26.41	15.254		
3,700.00	3,586.49	3,683.79	3,650.42	19.29	14.92	-178.10	-382.62	149.59	416.28	389.09	27.19	15.309		
3,800.00	3,682.36	3,782.89	3,748.34	19.90	15.36	-178.03	-397.00	154.77	429.64	401.67	27.97	15.360		
3,900.00	3,778.23	3,882.00	3,846.26	20.51	15.81	-177.97	-411.38	159.94	442.99	414.24	28.75	15.409		
4,000.00	3,874.10	3,981.10	3,944.17	21.12	16.25	-177.92	-425.76	165.12	456.35	426.82	29.53	15.455		
4,100.00	3,969.98	4,080.20	4,042.09	21.73	16.69	-177.86	-440.15	170.30	469.71	439.40	30.31	15.499		
4,200.00	4,065.85	4,179.30	4,140.01	22.34	17.13	-177.81	-454.53	175.48	483.07	451.98	31.08	15.540		
4,300.00	4,161.72	4,278.41	4,237.92	22.95	17.57	-177.76	-468.91	180.66	496.42	464.56	31.86	15.579		
4,400.00	4,257.59	4,377.51	4,335.84	23.56	18.01	-177.72	-483.29	185.84	509.78	477.14	32.64	15.617		
4,500.00	4,353.47	4,476.61	4,433.76	24.17	18.46	-177.67	-497.68	191.02	523.14	489.72	33.42	15.652		
4,600.00	4,449.34	4,575.72	4,531.67	24.78	18.90	-177.63	-512.06	196.20	536.50	502.30	34.20	15.686		
4,700.00	4,545.21	4,674.82	4,629.59	25.39	19.34	-177.59	-526.44	201.38	549.86	514.88	34.98	15.718		
4,800.00	4,641.08	4,773.92	4,727.51	26.00	19.78	-177.55	-540.82	206.56	563.22	527.46	35.76	15.749		
4,900.00	4,736.96	4,873.03	4,825.43	26.61	20.22	-177.52	-555.20	211.73	576.58	540.04	36.54	15.778		
5,000.00	4,832.83	4,972.13	4,923.34	27.22	20.67	-177.48	-569.59	216.91	589.94	552.62	37.32	15.806		

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 11-10-14H
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 11-10-14H	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		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	4,928.70	5,071.23	5,021.26	27.83	21.11	177.45	-583.97	222.09	603.30	565.20	38.10	15.833			
5,200.00	5,024.57	5,170.33	5,119.18	28.44	21.55	177.42	-598.35	227.27	616.66	577.78	38.88	15.859			
5,300.00	5,120.45	5,269.44	5,217.09	29.05	21.99	177.39	-612.73	232.45	630.02	590.36	39.66	15.884			
5,400.00	5,216.32	5,368.54	5,315.01	29.66	22.44	177.36	-627.12	237.63	643.38	602.94	40.45	15.907			
5,500.00	5,312.19	5,467.64	5,412.93	30.28	22.88	177.33	-641.50	242.81	656.74	615.52	41.23	15.930			
5,600.00	5,408.06	5,566.75	5,510.84	30.89	23.32	177.31	-655.88	247.99	670.11	628.10	42.01	15.952			
5,700.00	5,503.94	5,665.85	5,608.76	31.50	23.77	177.28	-670.26	253.17	683.47	640.68	42.79	15.973			
5,800.00	5,599.81	5,764.95	5,706.68	32.11	24.21	177.26	-684.65	258.35	696.83	653.26	43.57	15.993			
5,900.00	5,695.68	5,864.05	5,804.59	32.72	24.65	177.23	-699.03	263.53	710.19	665.84	44.35	16.013			
6,000.00	5,791.55	5,963.16	5,902.51	33.33	25.09	177.21	-713.41	268.70	723.55	678.42	45.13	16.032			
6,100.00	5,887.43	6,062.26	6,000.43	33.95	25.54	177.19	-727.79	273.88	736.91	691.00	45.91	16.050			
6,200.00	5,983.30	6,161.36	6,098.34	34.56	25.98	177.17	-742.17	279.06	750.27	703.58	46.70	16.068			
6,300.00	6,079.17	6,260.47	6,196.26	35.17	26.42	177.15	-756.56	284.24	763.64	716.16	47.48	16.084			
6,400.00	6,175.04	6,359.57	6,294.18	35.78	26.87	177.13	-770.94	289.42	777.00	728.74	48.26	16.101			
6,500.00	6,270.92	6,458.67	6,392.10	36.39	27.31	177.11	-785.32	294.60	790.36	741.32	49.04	16.117			
6,600.00	6,366.79	6,550.00	6,482.34	37.00	27.72	177.08	-798.58	299.17	803.85	754.08	49.77	16.151			
6,700.00	6,462.66	6,610.04	6,541.69	37.62	27.96	176.76	-807.33	297.56	820.57	770.32	50.25	16.329			
6,800.00	6,558.53	6,668.57	6,599.07	38.23	28.18	176.09	-815.85	289.96	841.93	791.29	50.64	16.625			
6,885.48	6,640.48	6,715.94	6,644.75	38.75	28.33	175.29	-822.67	279.50	863.97	813.09	50.88	16.980			
6,900.00	6,654.42	6,723.75	6,652.19	38.84	28.36	170.08	-823.78	277.41	867.99	817.08	50.91	17.049			
6,950.00	6,702.60	6,750.00	6,676.99	39.12	28.44	150.70	-827.50	269.64	881.37	830.39	50.98	17.289			
7,000.00	6,750.76	6,777.38	6,702.44	39.38	28.51	131.57	-831.33	260.32	893.93	842.91	51.02	17.521			
7,050.00	6,798.55	6,800.00	6,723.12	39.60	28.58	115.65	-834.44	251.70	905.57	854.64	50.93	17.780			
7,100.00	6,845.60	6,830.85	6,750.75	39.79	28.65	103.55	-838.62	238.63	916.15	865.20	50.95	17.980			
7,150.00	6,891.54	6,850.00	6,767.53	39.95	28.70	94.76	-841.17	229.77	925.69	874.98	50.71	18.254			
7,200.00	6,936.05	6,884.24	6,796.76	40.08	28.77	88.23	-845.62	212.52	933.94	883.20	50.74	18.406			
7,250.00	6,978.76	6,900.00	6,809.87	40.19	28.80	83.41	-847.62	204.00	941.11	890.74	50.37	18.684			
7,300.00	7,019.37	6,937.61	6,840.16	40.28	28.87	79.78	-852.26	182.21	946.77	896.32	50.45	18.765			
7,350.00	7,057.55	6,964.31	6,860.77	40.34	28.92	77.05	-855.44	165.54	951.23	900.92	50.31	18.906			
7,400.00	7,093.02	7,000.00	6,887.08	40.39	28.97	75.06	-859.51	141.78	954.43	904.04	50.39	18.941			
7,450.00	7,125.51	7,017.76	6,899.62	40.42	28.99	73.54	-861.46	129.35	956.13	906.01	50.12	19.076			
7,500.00	7,154.78	7,050.00	6,921.37	40.43	29.04	72.58	-864.86	105.81	956.59	906.37	50.22	19.050			
7,550.00	7,180.59	7,071.34	6,935.03	40.42	29.06	71.93	-867.01	89.56	955.66	905.50	50.16	19.052			
7,600.00	7,202.75	7,100.00	6,952.42	40.40	29.09	71.71	-869.76	66.95	953.46	903.12	50.34	18.940			
7,650.00	7,221.10	7,125.10	6,966.72	40.37	29.11	71.77	-872.04	46.44	949.99	899.43	50.57	18.787			
7,700.00	7,235.49	7,150.00	6,980.00	40.32	29.14	72.12	-874.17	25.49	945.31	894.42	50.89	18.575			
7,750.00	7,245.82	7,179.10	6,994.37	40.27	29.16	72.83	-876.50	0.30	939.46	888.03	51.44	18.265			
7,800.00	7,252.01	7,200.00	7,003.90	40.20	29.18	73.65	-878.05	-18.24	932.57	880.62	51.95	17.953			
7,848.69	7,254.00	7,232.70	7,017.45	40.14	29.20	74.96	-880.30	-47.91	924.83	872.04	52.79	17.518			
7,900.00	7,254.00	7,261.23	7,027.88	40.07	29.22	75.57	-882.05	-74.40	916.91	863.26	53.65	17.091			
8,000.00	7,254.00	7,319.87	7,045.17	39.96	29.28	76.60	-885.07	-130.33	905.12	849.64	55.48	16.314			
8,100.00	7,254.00	7,381.75	7,057.17	39.89	29.38	77.32	-887.34	-190.96	897.81	840.36	57.45	15.627			
8,200.00	7,254.00	7,450.00	7,062.83	39.87	29.59	77.66	-888.74	-258.92	894.69	835.15	59.53	15.028			
8,228.45	7,254.00	7,463.97	7,063.00	39.87	29.65	77.67	-888.88	-272.89	894.51	834.43	60.08	14.889			
8,300.00	7,254.00	7,535.48	7,063.00	39.95	30.12	77.67	-889.47	-344.39	894.52	832.58	61.94	14.441			
8,400.00	7,254.00	7,635.48	7,063.00	40.29	31.17	77.67	-890.30	-444.39	894.52	829.70	64.82	13.799			
8,500.00	7,254.00	7,735.48	7,063.00	41.24	32.54	77.67	-891.13	-544.38	894.53	826.52	68.01	13.153			
8,600.00	7,254.00	7,835.48	7,063.00	42.78	34.12	77.67	-891.97	-644.38	894.53	823.08	71.45	12.519			
8,700.00	7,254.00	7,935.48	7,063.00	44.60	35.85	77.67	-892.80	-744.38	894.54	819.41	75.12	11.907			
8,800.00	7,254.00	8,035.48	7,063.00	46.57	37.71	77.67	-893.63	-844.37	894.54	815.56	78.99	11.325			
8,900.00	7,254.00	8,135.48	7,063.00	48.64	39.68	77.67	-894.46	-944.37	894.55	811.53	83.02	10.776			
9,000.00	7,254.00	8,235.48	7,063.00	50.78	41.73	77.67	-895.29	-1,044.37	894.56	807.37	87.19	10.260			

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 11-10-14H
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 11-10-14H	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		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)			
9,100.00	7,254.00	8,335.48	7,063.00	52.97	43.85	77.67	-896.12	-1,144.36	894.56	803.08	91.48	9.779		
9,200.00	7,254.00	8,435.48	7,063.00	55.21	46.04	77.67	-896.95	-1,244.36	894.57	798.69	95.88	9.330		
9,300.00	7,254.00	8,535.48	7,063.00	57.50	48.28	77.67	-897.78	-1,344.36	894.57	794.21	100.37	8.913		
9,400.00	7,254.00	8,635.48	7,063.00	59.82	50.56	77.67	-898.62	-1,444.35	894.58	789.64	104.93	8.525		
9,500.00	7,254.00	8,735.48	7,063.00	62.17	52.89	77.67	-899.45	-1,544.35	894.58	785.01	109.57	8.164		
9,600.00	7,254.00	8,835.48	7,063.00	64.55	55.26	77.67	-900.28	-1,644.34	894.59	780.32	114.27	7.829		
9,700.00	7,254.00	8,935.48	7,063.00	66.96	57.65	77.67	-901.11	-1,744.34	894.60	775.57	119.03	7.516		
9,800.00	7,254.00	9,035.48	7,063.00	69.39	60.08	77.67	-901.94	-1,844.34	894.60	770.77	123.83	7.225		
9,900.00	7,254.00	9,135.48	7,063.00	71.84	62.52	77.67	-902.77	-1,944.33	894.61	765.94	128.67	6.953		
10,000.00	7,254.00	9,235.48	7,063.00	74.30	64.99	77.67	-903.60	-2,044.33	894.61	761.06	133.55	6.699		
10,100.00	7,254.00	9,335.48	7,063.00	76.79	67.48	77.67	-904.44	-2,144.33	894.62	756.15	138.46	6.461		
10,200.00	7,254.00	9,435.48	7,063.00	79.29	69.99	77.67	-905.27	-2,244.32	894.62	751.22	143.41	6.238		
10,300.00	7,254.00	9,535.48	7,063.00	81.80	72.51	77.67	-906.10	-2,344.32	894.63	746.25	148.38	6.029		
10,400.00	7,254.00	9,635.48	7,063.00	84.33	75.05	77.67	-906.93	-2,444.32	894.63	741.26	153.37	5.833		
10,500.00	7,254.00	9,735.48	7,063.00	86.86	77.59	77.67	-907.76	-2,544.31	894.64	736.25	158.39	5.648		
10,600.00	7,254.00	9,835.48	7,063.00	89.41	80.15	77.67	-908.59	-2,644.31	894.65	731.22	163.42	5.474		
10,700.00	7,254.00	9,935.48	7,063.00	91.97	82.72	77.67	-909.42	-2,744.31	894.65	726.17	168.48	5.310		
10,800.00	7,254.00	10,035.48	7,063.00	94.54	85.30	77.67	-910.25	-2,844.30	894.66	721.11	173.55	5.155		
10,900.00	7,254.00	10,135.48	7,063.00	97.11	87.89	77.67	-911.09	-2,944.30	894.66	716.03	178.64	5.008		
11,000.00	7,254.00	10,235.48	7,063.00	99.69	90.48	77.67	-911.92	-3,044.30	894.67	710.93	183.74	4.869		
11,100.00	7,254.00	10,335.48	7,063.00	102.28	93.09	77.67	-912.75	-3,144.29	894.67	705.82	188.85	4.737		
11,200.00	7,254.00	10,435.48	7,063.00	104.88	95.70	77.67	-913.58	-3,244.29	894.68	700.70	193.98	4.612		
11,300.00	7,254.00	10,535.48	7,063.00	107.48	98.31	77.67	-914.41	-3,344.29	894.69	695.57	199.11	4.493		
11,400.00	7,254.00	10,635.48	7,063.00	110.09	100.93	77.67	-915.24	-3,444.28	894.69	690.43	204.26	4.380		
11,500.00	7,254.00	10,735.48	7,063.00	112.70	103.56	77.67	-916.07	-3,544.28	894.70	685.29	209.41	4.272		
11,600.00	7,254.00	10,835.48	7,063.00	115.32	106.19	77.67	-916.90	-3,644.28	894.70	680.13	214.57	4.170		
11,700.00	7,254.00	10,935.48	7,063.00	117.94	108.82	77.67	-917.74	-3,744.27	894.71	674.96	219.75	4.072		
11,800.00	7,254.00	11,035.48	7,063.00	120.56	111.46	77.67	-918.57	-3,844.27	894.71	669.79	224.93	3.978		
11,900.00	7,254.00	11,135.48	7,063.00	123.19	114.11	77.67	-919.40	-3,944.27	894.72	664.61	230.11	3.888		
12,000.00	7,254.00	11,235.48	7,063.00	125.83	116.75	77.67	-920.23	-4,044.26	894.73	659.42	235.30	3.802		
12,100.00	7,254.00	11,335.48	7,063.00	128.47	119.40	77.67	-921.06	-4,144.26	894.73	654.23	240.50	3.720		
12,200.00	7,254.00	11,435.48	7,063.00	131.11	122.06	77.67	-921.89	-4,244.26	894.74	649.03	245.71	3.641		
12,300.00	7,254.00	11,535.48	7,063.00	133.75	124.71	77.67	-922.72	-4,344.25	894.74	643.83	250.92	3.566		
12,400.00	7,254.00	11,635.48	7,063.00	136.40	127.37	77.67	-923.56	-4,444.25	894.75	638.62	256.13	3.493		
12,500.00	7,254.00	11,735.48	7,063.00	139.05	130.03	77.67	-924.39	-4,544.24	894.75	633.40	261.35	3.424		
12,600.00	7,254.00	11,835.48	7,063.00	141.70	132.70	77.67	-925.22	-4,644.24	894.76	628.19	266.57	3.357		
12,700.00	7,254.00	11,935.48	7,063.00	144.36	135.36	77.67	-926.05	-4,744.24	894.76	622.96	271.80	3.292		
12,800.00	7,254.00	12,035.48	7,063.00	147.01	138.03	77.67	-926.88	-4,844.23	894.77	617.74	277.03	3.230		
12,900.00	7,254.00	12,135.48	7,063.00	149.67	140.70	77.67	-927.71	-4,944.23	894.78	612.51	282.27	3.170		
13,000.00	7,254.00	12,235.48	7,063.00	152.33	143.37	77.67	-928.54	-5,044.23	894.78	607.27	287.51	3.112		
13,100.00	7,254.00	12,335.48	7,063.00	155.00	146.05	77.67	-929.37	-5,144.22	894.79	602.04	292.75	3.056		
13,200.00	7,254.00	12,435.48	7,063.00	157.66	148.72	77.67	-930.21	-5,244.22	894.79	596.80	297.99	3.003		
13,300.00	7,254.00	12,535.48	7,063.00	160.33	151.40	77.68	-931.04	-5,344.22	894.80	591.56	303.24	2.951		
13,400.00	7,254.00	12,635.48	7,063.00	163.00	154.08	77.68	-931.87	-5,444.21	894.80	586.31	308.49	2.901		
13,500.00	7,254.00	12,735.48	7,063.00	165.67	156.76	77.68	-932.70	-5,544.21	894.81	581.06	313.75	2.852		
13,600.00	7,254.00	12,835.48	7,063.00	168.34	159.44	77.68	-933.53	-5,644.21	894.82	575.81	319.01	2.805		
13,700.00	7,254.00	12,935.48	7,063.00	171.02	162.13	77.68	-934.36	-5,744.20	894.82	570.56	324.26	2.760		
13,800.00	7,254.00	13,035.48	7,063.00	173.69	164.81	77.68	-935.19	-5,844.20	894.83	565.30	329.53	2.716		
13,900.00	7,254.00	13,135.48	7,063.00	176.37	167.50	77.68	-936.02	-5,944.20	894.83	560.04	334.79	2.673		
14,000.00	7,254.00	13,235.48	7,063.00	179.05	170.18	77.68	-936.86	-6,044.19	894.84	554.78	340.05	2.631		
14,100.00	7,254.00	13,335.48	7,063.00	181.73	172.87	77.68	-937.69	-6,144.19	894.84	549.52	345.32	2.591		
14,200.00	7,254.00	13,435.48	7,063.00	184.41	175.56	77.68	-938.52	-6,244.19	894.85	544.26	350.59	2.552		

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 11-10-14H
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 11-10-14H	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		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	7,254.00	13,535.48	7,063.00	187.09	178.25	77.68	-939.35	-6,344.18	894.86	538.99	355.86	2.515			
14,400.00	7,254.00	13,635.48	7,063.00	189.77	180.94	77.68	-940.18	-6,444.18	894.86	533.73	361.14	2.478			
14,500.00	7,254.00	13,735.48	7,063.00	192.46	183.63	77.68	-941.01	-6,544.18	894.87	528.46	366.41	2.442			
14,600.00	7,254.00	13,835.48	7,063.00	195.14	186.33	77.68	-941.84	-6,644.17	894.87	523.19	371.69	2.408			
14,700.00	7,254.00	13,935.48	7,063.00	197.83	189.02	77.68	-942.68	-6,744.17	894.88	517.91	376.96	2.374			
14,800.00	7,254.00	14,035.48	7,063.00	200.52	191.71	77.68	-943.51	-6,844.17	894.88	512.64	382.24	2.341			
14,900.00	7,254.00	14,135.48	7,063.00	203.20	194.41	77.68	-944.34	-6,944.16	894.89	507.36	387.53	2.309			
15,000.00	7,254.00	14,235.48	7,063.00	205.89	197.10	77.68	-945.17	-7,044.16	894.89	502.09	392.81	2.278			
15,100.00	7,254.00	14,335.48	7,063.00	208.58	199.80	77.68	-946.00	-7,144.15	894.90	496.81	398.09	2.248			
15,200.00	7,254.00	14,435.48	7,063.00	211.27	202.50	77.68	-946.83	-7,244.15	894.91	491.53	403.38	2.219			
15,300.00	7,254.00	14,535.48	7,063.00	213.96	205.20	77.68	-947.66	-7,344.15	894.91	486.25	408.66	2.190			
15,400.00	7,254.00	14,635.48	7,063.00	216.66	207.89	77.68	-948.49	-7,444.14	894.92	480.97	413.95	2.162			
15,500.00	7,254.00	14,735.48	7,063.00	219.35	210.59	77.68	-949.33	-7,544.14	894.92	475.69	419.24	2.135			
15,600.00	7,254.00	14,835.48	7,063.00	222.04	213.29	77.68	-950.16	-7,644.14	894.93	470.40	424.53	2.108			
15,700.00	7,254.00	14,935.48	7,063.00	224.74	215.99	77.68	-950.99	-7,744.13	894.93	465.12	429.82	2.082			
15,800.00	7,254.00	15,035.48	7,063.00	227.43	218.69	77.68	-951.82	-7,844.13	894.94	459.83	435.11	2.057			
15,900.00	7,254.00	15,135.48	7,063.00	230.13	221.39	77.68	-952.65	-7,944.13	894.95	454.55	440.40	2.032			
16,000.00	7,254.00	15,235.48	7,063.00	232.82	224.10	77.68	-953.48	-8,044.12	894.95	449.26	445.69	2.008			
16,100.00	7,254.00	15,335.48	7,063.00	235.52	226.80	77.68	-954.31	-8,144.12	894.96	443.97	450.99	1.984			
16,200.00	7,254.00	15,435.48	7,063.00	238.22	229.50	77.68	-955.14	-8,244.12	894.96	438.68	456.28	1.961			
16,300.00	7,254.00	15,535.48	7,063.00	240.91	232.20	77.68	-955.98	-8,344.11	894.97	433.39	461.58	1.939			
16,381.25	7,254.00	15,616.72	7,063.00	243.10	234.40	77.68	-956.65	-8,425.36	894.97	429.09	465.88	1.921 SF			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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 11-10-13H - 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)	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	14.57	0.00	14.57							
100.00	100.00	100.00	100.00	0.14	0.14	0.00	14.57	0.00	14.57	14.29	0.29	50.813				
200.00	200.00	200.00	200.00	0.50	0.50	0.00	14.57	0.00	14.57	13.57	1.00	14.518				
300.00	300.00	300.00	300.00	0.86	0.86	0.00	14.57	0.00	14.57	12.85	1.72	8.469				
400.00	400.00	400.00	400.00	1.22	1.22	0.00	14.57	0.00	14.57	12.13	2.44	5.978 CC				
500.00	499.98	499.98	499.98	1.56	1.58	-159.17	14.57	0.00	16.19	13.05	3.14	5.157				
600.00	599.84	600.54	600.52	1.90	1.92	-163.73	12.85	0.39	19.42	15.60	3.82	5.084				
700.00	699.45	701.21	701.04	2.25	2.26	-168.57	7.69	1.58	22.64	18.14	4.50	5.036				
800.00	798.70	801.98	801.42	2.63	2.61	-173.58	-0.93	3.55	25.93	20.75	5.18	5.005				
900.00	897.47	902.86	901.53	3.03	2.98	-178.69	-12.99	6.32	29.38	23.51	5.87	5.002				
1,000.00	995.62	1,003.83	1,001.24	3.46	3.38	176.21	-28.50	9.87	33.07	26.49	6.58	5.028				
1,100.00	1,093.06	1,104.89	1,100.41	3.92	3.80	171.18	-47.44	14.22	37.08	29.77	7.30	5.077				
1,200.00	1,189.64	1,204.71	1,197.99	4.43	4.25	167.26	-67.93	18.91	42.99	34.92	8.08	5.322				
1,225.96	1,214.56	1,230.57	1,223.27	4.56	4.37	166.58	-73.23	20.13	45.11	36.83	8.28	5.446				
1,300.00	1,285.55	1,304.33	1,295.37	4.97	4.71	165.07	-88.37	23.60	51.50	42.62	8.88	5.802				
1,400.00	1,381.42	1,403.94	1,392.75	5.52	5.17	163.53	-108.81	28.28	60.17	50.48	9.68	6.213				
1,500.00	1,477.29	1,503.55	1,490.13	6.09	5.65	162.39	-129.25	32.97	68.87	58.36	10.51	6.555				
1,600.00	1,573.17	1,603.17	1,587.51	6.66	6.13	161.50	-149.69	37.65	77.59	66.25	11.34	6.844				
1,700.00	1,669.04	1,702.78	1,684.89	7.24	6.61	160.79	-170.14	42.34	86.33	74.15	12.18	7.089				
1,800.00	1,764.91	1,802.39	1,782.27	7.83	7.10	160.21	-190.58	47.02	95.08	82.05	13.02	7.300				
1,900.00	1,860.78	1,902.00	1,879.65	8.42	7.59	159.73	-211.02	51.71	103.83	89.96	13.88	7.483				
2,000.00	1,956.66	2,001.62	1,977.03	9.01	8.09	159.33	-231.46	56.40	112.60	97.86	14.73	7.643				
2,100.00	2,052.53	2,101.23	2,074.41	9.61	8.58	158.98	-251.90	61.08	121.36	105.77	15.59	7.784				
2,200.00	2,148.40	2,200.84	2,171.79	10.21	9.08	158.68	-272.35	65.77	130.13	113.68	16.45	7.909				
2,300.00	2,244.27	2,300.45	2,269.17	10.81	9.58	158.41	-292.79	70.45	138.91	121.59	17.32	8.020				
2,400.00	2,340.15	2,400.07	2,366.55	11.41	10.08	158.18	-313.23	75.14	147.68	129.49	18.19	8.120				
2,500.00	2,436.02	2,499.68	2,463.93	12.01	10.58	157.98	-333.67	79.82	156.46	137.40	19.06	8.210				
2,600.00	2,531.89	2,599.29	2,561.31	12.61	11.08	157.79	-354.11	84.51	165.24	145.31	19.93	8.291				
2,700.00	2,627.76	2,698.90	2,658.69	13.22	11.58	157.63	-374.56	89.20	174.02	153.22	20.80	8.365				
2,800.00	2,723.64	2,798.52	2,756.07	13.82	12.08	157.48	-395.00	93.88	182.81	161.13	21.68	8.433				
2,900.00	2,819.51	2,898.13	2,853.45	14.43	12.59	157.34	-415.44	98.57	191.59	169.04	22.55	8.495				
3,000.00	2,915.38	2,997.74	2,950.83	15.03	13.09	157.22	-435.88	103.25	200.38	176.95	23.43	8.552				
3,100.00	3,011.25	3,097.35	3,048.21	15.64	13.59	157.11	-456.32	107.94	209.16	184.85	24.31	8.605				
3,200.00	3,107.13	3,196.97	3,145.59	16.25	14.10	157.00	-476.76	112.62	217.95	192.76	25.19	8.653				
3,300.00	3,203.00	3,296.58	3,242.97	16.85	14.60	156.91	-497.21	117.31	226.74	200.67	26.07	8.698				
3,400.00	3,298.87	3,396.19	3,340.35	17.46	15.11	156.82	-517.65	122.00	235.52	208.58	26.95	8.740				
3,500.00	3,394.74	3,495.80	3,437.73	18.07	15.62	156.74	-538.09	126.68	244.31	216.49	27.83	8.780				
3,600.00	3,490.62	3,595.42	3,535.11	18.68	16.12	156.66	-558.53	131.37	253.10	224.39	28.71	8.816				
3,700.00	3,586.49	3,695.03	3,632.49	19.29	16.63	156.59	-578.97	136.05	261.89	232.30	29.59	8.851				
3,800.00	3,682.36	3,794.64	3,729.87	19.90	17.13	156.52	-599.42	140.74	270.68	240.21	30.47	8.883				
3,900.00	3,778.23	3,894.25	3,827.25	20.51	17.64	156.46	-619.86	145.42	279.47	248.12	31.36	8.913				
4,000.00	3,874.10	3,993.87	3,924.63	21.12	18.15	156.40	-640.30	150.11	288.26	256.02	32.24	8.942				
4,100.00	3,969.98	4,093.48	4,022.01	21.73	18.65	156.34	-660.74	154.80	297.05	263.93	33.12	8.969				
4,200.00	4,065.85	4,193.09	4,119.39	22.34	19.16	156.29	-681.18	159.48	305.84	271.84	34.01	8.994				
4,300.00	4,161.72	4,292.70	4,216.77	22.95	19.67	156.24	-701.63	164.17	314.64	279.75	34.89	9.018				
4,400.00	4,257.59	4,392.31	4,314.15	23.56	20.18	156.19	-722.07	168.85	323.43	287.65	35.77	9.041				
4,500.00	4,353.47	4,491.93	4,411.53	24.17	20.68	156.15	-742.51	173.54	332.22	295.56	36.66	9.063				
4,600.00	4,449.34	4,591.54	4,508.91	24.78	21.19	156.11	-762.95	178.22	341.01	303.47	37.54	9.083				
4,700.00	4,545.21	4,691.15	4,606.29	25.39	21.70	156.07	-783.39	182.91	349.80	311.37	38.43	9.103				
4,800.00	4,641.08	4,790.76	4,703.67	26.00	22.21	156.03	-803.83	187.60	358.59	319.28	39.31	9.123				
4,900.00	4,736.96	4,890.38	4,801.05	26.61	22.71	156.00	-824.28	192.28	367.39	327.19	40.20	9.139				
5,000.00	4,832.83	4,989.99	4,898.43	27.22	23.22	155.96	-844.72	196.97	376.18	335.09	41.09	9.156				

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 11-10-14H
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 11-10-14H	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 11-10-13H - 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	4,928.70	5,089.60	4,995.80	27.83	23.73	155.93	-865.16	201.65	384.97	343.00	41.97	9.172		
5,200.00	5,024.57	5,189.21	5,093.18	28.44	24.24	155.90	-885.60	206.34	393.77	350.91	42.86	9.188		
5,300.00	5,120.45	5,288.83	5,190.56	29.05	24.75	155.87	-906.04	211.02	402.56	358.81	43.74	9.203		
5,400.00	5,216.32	5,388.44	5,287.94	29.66	25.25	155.84	-926.49	215.71	411.35	366.72	44.63	9.217		
5,500.00	5,312.19	5,488.05	5,385.32	30.28	25.76	155.81	-946.93	220.40	420.14	374.63	45.52	9.231		
5,600.00	5,408.06	5,587.66	5,482.70	30.89	26.27	155.78	-967.37	225.08	428.94	382.53	46.40	9.244		
5,700.00	5,503.94	5,687.28	5,580.08	31.50	26.78	155.76	-987.81	229.77	437.73	390.44	47.29	9.256		
5,800.00	5,599.81	5,786.89	5,677.46	32.11	27.29	155.73	-1,008.25	234.45	446.52	398.35	48.18	9.269		
5,900.00	5,695.68	5,886.50	5,774.84	32.72	27.80	155.71	-1,028.70	239.14	455.32	406.25	49.06	9.280		
6,000.00	5,791.55	5,986.11	5,872.22	33.33	28.31	155.69	-1,049.14	243.82	464.11	414.16	49.95	9.291		
6,100.00	5,887.43	6,085.73	5,969.60	33.95	28.81	155.67	-1,069.58	248.51	472.90	422.07	50.84	9.302		
6,200.00	5,983.30	6,185.34	6,066.98	34.56	29.32	155.65	-1,090.02	253.20	481.70	429.97	51.73	9.313		
6,300.00	6,079.17	6,284.95	6,164.36	35.17	29.83	155.63	-1,110.46	257.88	490.49	437.88	52.61	9.323		
6,400.00	6,175.04	6,384.56	6,261.74	35.78	30.34	155.61	-1,130.90	262.57	499.29	445.79	53.50	9.332		
6,500.00	6,270.92	6,484.18	6,359.12	36.39	30.85	155.59	-1,151.35	267.25	508.08	453.69	54.39	9.342		
6,600.00	6,366.79	6,583.79	6,456.50	37.00	31.36	155.57	-1,171.79	271.94	516.87	461.60	55.28	9.351		
6,700.00	6,462.66	6,683.40	6,553.88	37.62	31.87	155.55	-1,192.23	276.62	525.67	469.50	56.16	9.360		
6,800.00	6,558.53	6,783.00	6,649.02	38.23	32.38	155.53	-1,212.67	281.30	534.47	477.31	57.04	9.369		
6,885.48	6,640.48	6,800.00	6,667.83	38.75	32.44	155.04	-1,216.21	275.36	551.17	494.06	57.11	9.652		
6,900.00	6,654.42	6,811.99	6,679.48	38.84	32.49	150.02	-1,218.67	273.97	554.07	496.83	57.23	9.681		
6,950.00	6,702.60	6,850.00	6,716.18	39.12	32.65	131.33	-1,226.44	267.89	563.39	505.83	57.56	9.788		
7,000.00	6,750.76	6,868.72	6,734.09	39.38	32.73	113.07	-1,230.24	263.99	571.07	513.80	57.27	9.971		
7,050.00	6,798.55	6,900.00	6,763.70	39.60	32.85	97.90	-1,236.53	256.14	577.49	520.29	57.21	10.095		
7,100.00	6,845.60	6,925.27	6,787.29	39.79	32.94	86.64	-1,241.55	248.60	582.44	525.62	56.83	10.249		
7,150.00	6,891.54	6,950.00	6,810.04	39.95	33.03	78.58	-1,246.41	240.20	585.96	529.66	56.30	10.408		
7,200.00	6,936.05	6,981.75	6,838.68	40.08	33.13	72.87	-1,252.53	227.96	587.95	531.99	55.96	10.507		
7,250.00	6,978.76	7,000.00	6,854.83	40.19	33.19	68.73	-1,255.99	220.19	588.63	533.70	54.93	10.716		
7,300.00	7,019.37	7,038.27	6,887.85	40.28	33.30	65.94	-1,263.09	202.22	587.53	532.75	54.78	10.725		
7,350.00	7,057.55	7,066.56	6,911.47	40.34	33.38	63.97	-1,268.18	187.51	585.13	531.00	54.12	10.811		
7,400.00	7,093.02	7,100.00	6,938.43	40.39	33.47	62.78	-1,274.01	168.61	581.33	527.61	53.72	10.822		
7,450.00	7,125.51	7,123.32	6,956.56	40.42	33.52	62.01	-1,277.94	154.49	576.07	523.27	52.80	10.910		
7,500.00	7,154.78	7,150.00	6,976.60	40.43	33.59	61.77	-1,282.30	137.43	569.52	517.42	52.10	10.932		
7,550.00	7,180.59	7,180.37	6,998.44	40.42	33.65	62.04	-1,287.06	116.87	561.69	510.01	51.68	10.868		
7,600.00	7,202.75	7,200.00	7,011.97	40.40	33.69	62.42	-1,290.02	102.96	552.80	502.01	50.79	10.884		
7,650.00	7,221.10	7,237.86	7,036.71	40.37	33.76	63.67	-1,295.46	74.83	542.57	491.50	51.07	10.624		
7,700.00	7,235.49	7,266.81	7,054.38	40.32	33.81	65.04	-1,299.36	52.23	531.48	480.43	51.05	10.411		
7,750.00	7,245.82	7,300.00	7,073.21	40.27	33.86	66.92	-1,303.55	25.24	519.58	468.12	51.46	10.097		
7,800.00	7,252.01	7,325.27	7,086.51	40.20	33.90	68.84	-1,306.52	3.96	506.94	455.20	51.74	9.798		
7,848.69	7,254.00	7,350.00	7,098.63	40.14	33.93	71.01	-1,309.25	-17.42	494.19	441.91	52.28	9.452		
7,900.00	7,254.00	7,385.37	7,114.36	40.07	33.98	72.69	-1,312.82	-48.89	481.60	428.14	53.47	9.008		
8,000.00	7,254.00	7,450.00	7,138.08	39.96	34.07	75.34	-1,318.31	-108.73	463.01	407.36	55.65	8.320		
8,100.00	7,254.00	7,522.59	7,156.66	39.89	34.17	77.50	-1,322.80	-178.71	451.44	393.32	58.12	7.767		
8,200.00	7,254.00	7,600.00	7,166.77	39.87	34.30	78.71	-1,325.56	-255.35	445.93	385.41	60.51	7.369		
8,254.70	7,254.00	7,640.15	7,168.00	39.88	34.39	78.86	-1,326.16	-295.46	445.19	383.51	61.69	7.217		
8,300.00	7,254.00	7,685.45	7,168.00	39.95	34.52	78.86	-1,326.53	-340.76	445.20	382.36	62.84	7.085		
8,400.00	7,254.00	7,785.45	7,168.00	40.29	34.95	78.86	-1,327.37	-440.76	445.20	379.54	65.66	6.781		
8,500.00	7,254.00	7,885.45	7,168.00	41.24	35.64	78.86	-1,328.20	-540.76	445.20	376.42	68.78	6.473		
8,600.00	7,254.00	7,985.45	7,168.00	42.78	36.65	78.86	-1,329.03	-640.75	445.21	373.04	72.17	6.169		
8,700.00	7,254.00	8,085.45	7,168.00	44.60	37.96	78.86	-1,329.86	-740.75	445.21	369.43	75.79	5.875		
8,800.00	7,254.00	8,185.45	7,168.00	46.57	39.50	78.86	-1,330.70	-840.75	445.22	365.61	79.60	5.593		
8,900.00	7,254.00	8,285.45	7,168.00	48.64	41.23	78.86	-1,331.53	-940.74	445.22	361.63	83.59	5.326		
9,000.00	7,254.00	8,385.45	7,168.00	50.78	43.10	78.86	-1,332.36	-1,040.74	445.23	357.50	87.73	5.075		

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 11-10-14H
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 11-10-14H	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 11-10-13H - 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				
9,100.00	7,254.00	8,485.45	7,168.00	52.97	45.07	78.86	-1,333.19	-1,140.73	445.23	353.24	91.99	4.840				
9,200.00	7,254.00	8,585.45	7,168.00	55.21	47.14	78.86	-1,334.03	-1,240.73	445.23	348.87	96.37	4.620				
9,300.00	7,254.00	8,685.45	7,168.00	57.50	49.27	78.86	-1,334.86	-1,340.73	445.24	344.40	100.84	4.415				
9,400.00	7,254.00	8,785.45	7,168.00	59.82	51.47	78.86	-1,335.69	-1,440.72	445.24	339.85	105.39	4.225				
9,500.00	7,254.00	8,885.45	7,168.00	62.17	53.72	78.86	-1,336.53	-1,540.72	445.25	335.23	110.01	4.047				
9,600.00	7,254.00	8,985.45	7,168.00	64.55	56.01	78.86	-1,337.36	-1,640.72	445.25	330.55	114.70	3.882				
9,700.00	7,254.00	9,085.45	7,168.00	66.96	58.35	78.86	-1,338.19	-1,740.71	445.26	325.81	119.45	3.728				
9,800.00	7,254.00	9,185.45	7,168.00	69.39	60.71	78.86	-1,339.02	-1,840.71	445.26	321.02	124.25	3.584				
9,900.00	7,254.00	9,285.45	7,168.00	71.84	63.11	78.86	-1,339.86	-1,940.71	445.26	316.18	129.08	3.449				
10,000.00	7,254.00	9,385.45	7,168.00	74.30	65.53	78.86	-1,340.69	-2,040.70	445.27	311.31	133.96	3.324				
10,100.00	7,254.00	9,485.45	7,168.00	76.79	67.98	78.86	-1,341.52	-2,140.70	445.27	306.40	138.88	3.206				
10,200.00	7,254.00	9,585.45	7,168.00	79.29	70.44	78.86	-1,342.35	-2,240.70	445.28	301.45	143.82	3.096				
10,300.00	7,254.00	9,685.45	7,168.00	81.80	72.93	78.86	-1,343.19	-2,340.69	445.28	296.49	148.80	2.993				
10,400.00	7,254.00	9,785.45	7,168.00	84.33	75.43	78.86	-1,344.02	-2,440.69	445.29	291.49	153.80	2.895				
10,500.00	7,254.00	9,885.45	7,168.00	86.86	77.94	78.86	-1,344.85	-2,540.69	445.29	286.47	158.82	2.804				
10,600.00	7,254.00	9,985.45	7,168.00	89.41	80.47	78.86	-1,345.69	-2,640.68	445.29	281.43	163.86	2.718				
10,700.00	7,254.00	10,085.45	7,168.00	91.97	83.02	78.86	-1,346.52	-2,740.68	445.30	276.38	168.92	2.636				
10,800.00	7,254.00	10,185.45	7,168.00	94.54	85.57	78.86	-1,347.35	-2,840.68	445.30	271.30	174.00	2.559				
10,900.00	7,254.00	10,285.45	7,168.00	97.11	88.13	78.86	-1,348.18	-2,940.67	445.31	266.21	179.10	2.486				
11,000.00	7,254.00	10,385.45	7,168.00	99.69	90.70	78.86	-1,349.02	-3,040.67	445.31	261.10	184.21	2.417				
11,100.00	7,254.00	10,485.45	7,168.00	102.28	93.29	78.87	-1,349.85	-3,140.67	445.32	255.98	189.33	2.352				
11,200.00	7,254.00	10,585.45	7,168.00	104.88	95.87	78.87	-1,350.68	-3,240.66	445.32	250.85	194.47	2.290				
11,300.00	7,254.00	10,685.45	7,168.00	107.48	98.47	78.87	-1,351.51	-3,340.66	445.32	245.71	199.62	2.231				
11,400.00	7,254.00	10,785.45	7,168.00	110.09	101.07	78.87	-1,352.35	-3,440.66	445.33	240.56	204.77	2.175				
11,500.00	7,254.00	10,885.45	7,168.00	112.70	103.68	78.87	-1,353.18	-3,540.65	445.33	235.39	209.94	2.121				
11,600.00	7,254.00	10,985.45	7,168.00	115.32	106.30	78.87	-1,354.01	-3,640.65	445.34	230.22	215.12	2.070				
11,700.00	7,254.00	11,085.45	7,168.00	117.94	108.92	78.87	-1,354.85	-3,740.64	445.34	225.04	220.30	2.022				
11,800.00	7,254.00	11,185.45	7,168.00	120.56	111.54	78.87	-1,355.68	-3,840.64	445.35	219.85	225.50	1.975				
11,900.00	7,254.00	11,285.45	7,168.00	123.19	114.17	78.87	-1,356.51	-3,940.64	445.35	214.66	230.70	1.930				
12,000.00	7,254.00	11,385.45	7,168.00	125.83	116.80	78.87	-1,357.34	-4,040.63	445.35	209.45	235.90	1.888				
12,100.00	7,254.00	11,485.45	7,168.00	128.47	119.44	78.87	-1,358.18	-4,140.63	445.36	204.24	241.12	1.847				
12,200.00	7,254.00	11,585.45	7,168.00	131.11	122.08	78.87	-1,359.01	-4,240.63	445.36	199.03	246.33	1.808				
12,300.00	7,254.00	11,685.45	7,168.00	133.75	124.73	78.87	-1,359.84	-4,340.62	445.37	193.81	251.56	1.770				
12,400.00	7,254.00	11,785.45	7,168.00	136.40	127.37	78.87	-1,360.67	-4,440.62	445.37	188.58	256.79	1.734				
12,500.00	7,254.00	11,885.45	7,168.00	139.05	130.02	78.87	-1,361.51	-4,540.62	445.38	183.35	262.02	1.700				
12,600.00	7,254.00	11,985.45	7,168.00	141.70	132.68	78.87	-1,362.34	-4,640.61	445.38	178.12	267.26	1.666				
12,700.00	7,254.00	12,085.45	7,168.00	144.36	135.33	78.87	-1,363.17	-4,740.61	445.38	172.88	272.51	1.634				
12,800.00	7,254.00	12,185.45	7,168.00	147.01	137.99	78.87	-1,364.00	-4,840.61	445.39	167.63	277.76	1.604				
12,900.00	7,254.00	12,285.45	7,168.00	149.67	140.65	78.87	-1,364.84	-4,940.60	445.39	162.39	283.01	1.574				
13,000.00	7,254.00	12,385.45	7,168.00	152.33	143.32	78.87	-1,365.67	-5,040.60	445.40	157.13	288.26	1.545				
13,100.00	7,254.00	12,485.45	7,168.00	155.00	145.98	78.87	-1,366.50	-5,140.60	445.40	151.88	293.52	1.517				
13,200.00	7,254.00	12,585.45	7,168.00	157.66	148.65	78.87	-1,367.34	-5,240.59	445.41	146.62	298.78	1.491 Level 3				
13,300.00	7,254.00	12,685.45	7,168.00	160.33	151.32	78.87	-1,368.17	-5,340.59	445.41	141.36	304.05	1.465 Level 3				
13,400.00	7,254.00	12,785.45	7,168.00	163.00	153.99	78.87	-1,369.00	-5,440.59	445.41	136.10	309.32	1.440 Level 3				
13,500.00	7,254.00	12,885.45	7,168.00	165.67	156.66	78.87	-1,369.83	-5,540.58	445.42	130.83	314.59	1.416 Level 3				
13,600.00	7,254.00	12,985.45	7,168.00	168.34	159.34	78.87	-1,370.67	-5,640.58	445.42	125.56	319.86	1.393 Level 3				
13,700.00	7,254.00	13,085.45	7,168.00	171.02	162.02	78.87	-1,371.50	-5,740.58	445.43	120.29	325.14	1.370 Level 3				
13,800.00	7,254.00	13,185.45	7,168.00	173.69	164.69	78.87	-1,372.33	-5,840.57	445.43	115.01	330.42	1.348 Level 3				
13,900.00	7,254.00	13,285.45	7,168.00	176.37	167.37	78.87	-1,373.16	-5,940.57	445.44	109.74	335.70	1.327 Level 3				
14,000.00	7,254.00	13,385.45	7,168.00	179.05	170.05	78.87	-1,374.00	-6,040.57	445.44	104.46	340.98	1.306 Level 3				
14,100.00	7,254.00	13,485.45	7,168.00	181.73	172.74	78.87	-1,374.83	-6,140.56	445.45	99.17	346.27	1.286 Level 3				
14,200.00	7,254.00	13,585.45	7,168.00	184.41	175.42	78.87	-1,375.66	-6,240.56	445.45	93.89	351.56	1.267 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 11-10-14H
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 11-10-14H	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 11-10-13H - 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	7,254.00	13,685.45	7,168.00	187.09	178.10	78.87	-1,376.50	-6,340.55	445.45	88.61	356.85	1.248	Level 3			
14,400.00	7,254.00	13,785.45	7,168.00	189.77	180.79	78.87	-1,377.33	-6,440.55	445.46	83.32	362.14	1.230	Level 3			
14,500.00	7,254.00	13,885.45	7,168.00	192.46	183.47	78.87	-1,378.16	-6,540.55	445.46	78.03	367.43	1.212	Level 3			
14,600.00	7,254.00	13,985.45	7,168.00	195.14	186.16	78.87	-1,378.99	-6,640.54	445.47	72.74	372.73	1.195	Level 3			
14,700.00	7,254.00	14,085.45	7,168.00	197.83	188.85	78.87	-1,379.83	-6,740.54	445.47	67.45	378.02	1.178	Level 3			
14,800.00	7,254.00	14,185.45	7,168.00	200.52	191.54	78.87	-1,380.66	-6,840.54	445.48	62.15	383.32	1.162	Level 3			
14,900.00	7,254.00	14,285.45	7,168.00	203.20	194.23	78.87	-1,381.49	-6,940.53	445.48	56.86	388.62	1.146	Level 3			
15,000.00	7,254.00	14,385.45	7,168.00	205.89	196.92	78.87	-1,382.32	-7,040.53	445.48	51.56	393.92	1.131	Level 3			
15,100.00	7,254.00	14,485.45	7,168.00	208.58	199.61	78.87	-1,383.16	-7,140.53	445.49	46.26	399.22	1.116	Level 3			
15,200.00	7,254.00	14,585.45	7,168.00	211.27	202.31	78.87	-1,383.99	-7,240.52	445.49	40.97	404.53	1.101	Level 3			
15,300.00	7,254.00	14,685.45	7,168.00	213.96	205.00	78.87	-1,384.82	-7,340.52	445.50	35.66	409.83	1.087	Level 3			
15,400.00	7,254.00	14,785.45	7,168.00	216.66	207.69	78.87	-1,385.66	-7,440.52	445.50	30.36	415.14	1.073	Level 3			
15,500.00	7,254.00	14,885.45	7,168.00	219.35	210.39	78.87	-1,386.49	-7,540.51	445.51	25.06	420.45	1.060	Level 3			
15,600.00	7,254.00	14,985.45	7,168.00	222.04	213.08	78.87	-1,387.32	-7,640.51	445.51	19.76	425.75	1.046	Level 3			
15,700.00	7,254.00	15,085.45	7,168.00	224.74	215.78	78.87	-1,388.15	-7,740.51	445.51	14.45	431.06	1.034	Level 3			
15,800.00	7,254.00	15,185.45	7,168.00	227.43	218.48	78.87	-1,388.99	-7,840.50	445.52	9.14	436.37	1.021	Level 3			
15,900.00	7,254.00	15,285.45	7,168.00	230.13	221.18	78.87	-1,389.82	-7,940.50	445.52	3.84	441.68	1.009	Level 3			
16,000.00	7,254.00	15,385.45	7,168.00	232.82	223.87	78.87	-1,390.65	-8,040.50	445.53	-1.47	447.00	0.997	Level 3			
16,100.00	7,254.00	15,485.45	7,168.00	235.52	226.57	78.87	-1,391.48	-8,140.49	445.53	-6.78	452.31	0.985	Level 3			
16,200.00	7,254.00	15,585.45	7,168.00	238.22	229.27	78.87	-1,392.32	-8,240.49	445.54	-12.09	457.62	0.974	Level 3			
16,300.00	7,254.00	15,685.45	7,168.00	240.91	231.97	78.87	-1,393.15	-8,340.49	445.54	-17.40	462.94	0.962	Level 3			
16,307.66	7,254.00	15,693.11	7,168.00	241.12	232.18	78.87	-1,393.21	-8,348.14	445.54	-17.81	463.35	0.962	Level 3			
16,381.25	7,254.00	15,765.69	7,168.00	243.10	234.14	78.87	-1,393.82	-8,420.73	445.54	-21.63	467.18	0.954	Level 3, ES, SF			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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		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			
0.00	0.00	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	0.14	0.14	-180.00	-14.57	0.00	14.57	14.28	0.29	50.798			
200.00	200.00	200.00	200.00	0.50	0.50	0.50	0.50	-180.00	-14.57	0.00	14.57	13.56	1.00	14.514			
300.00	300.00	300.00	300.00	0.86	0.86	0.86	0.86	-180.00	-14.57	0.00	14.57	12.85	1.72	8.466 CC, ES			
400.00	400.00	399.48	399.46	1.22	1.20	1.20	1.20	178.02	-16.20	0.56	16.22	13.80	2.42	6.695			
500.00	499.98	498.82	498.66	1.56	1.54	1.54	1.54	18.70	-21.09	2.23	19.59	16.49	3.10	6.316			
600.00	599.84	598.05	597.51	1.90	1.90	1.90	1.90	17.52	-29.22	5.02	23.04	19.26	3.78	6.099			
700.00	699.45	697.15	695.88	2.25	2.28	2.28	2.28	17.21	-40.57	8.90	26.53	22.07	4.46	5.944			
800.00	798.70	796.13	793.66	2.63	2.68	2.68	2.68	17.46	-55.11	13.88	30.06	24.90	5.16	5.827			
900.00	897.47	895.00	890.73	3.03	3.11	3.11	3.11	18.10	-72.82	19.94	33.63	27.76	5.86	5.734			
1,000.00	995.62	993.75	986.99	3.46	3.58	3.58	3.58	19.01	-93.65	27.07	37.23	30.65	6.58	5.655			
1,100.00	1,093.06	1,092.38	1,082.32	3.92	4.08	4.08	4.08	20.11	-117.59	35.26	40.88	33.56	7.32	5.584			
1,200.00	1,189.64	1,190.90	1,176.61	4.43	4.63	4.63	4.63	21.35	-144.58	44.50	44.57	36.50	8.08	5.517			
1,225.96	1,214.56	1,216.46	1,200.91	4.56	4.78	4.78	4.78	21.69	-152.08	47.07	45.54	37.26	8.28	5.499			
1,300.00	1,285.55	1,289.26	1,269.72	4.97	5.22	5.22	5.22	22.29	-174.57	54.77	49.21	40.35	8.86	5.553			
1,400.00	1,381.42	1,388.69	1,363.05	5.52	5.85	5.85	5.85	22.35	-206.99	65.86	55.99	46.30	9.69	5.778			
1,500.00	1,477.29	1,488.45	1,456.68	6.09	6.50	6.50	6.50	22.37	-239.58	77.02	62.84	52.30	10.54	5.961			
1,600.00	1,573.17	1,588.22	1,550.31	6.66	7.16	7.16	7.16	22.39	-272.17	88.17	69.69	58.29	11.40	6.112			
1,700.00	1,669.04	1,687.98	1,643.94	7.24	7.83	7.83	7.83	22.41	-304.77	99.33	76.54	64.27	12.27	6.238			
1,800.00	1,764.91	1,787.75	1,737.57	7.83	8.50	8.50	8.50	22.42	-337.36	110.49	83.39	70.25	13.14	6.345			
1,900.00	1,860.78	1,887.51	1,831.20	8.42	9.18	9.18	9.18	22.43	-369.96	121.64	90.24	76.22	14.02	6.436			
2,000.00	1,956.66	1,987.28	1,924.82	9.01	9.86	9.86	9.86	22.44	-402.55	132.80	97.09	82.19	14.90	6.515			
2,100.00	2,052.53	2,087.04	2,018.45	9.61	10.55	10.55	10.55	22.45	-435.14	143.96	103.94	88.15	15.79	6.584			
2,200.00	2,148.40	2,186.81	2,112.08	10.21	11.23	11.23	11.23	22.46	-467.74	155.11	110.79	94.12	16.67	6.645			
2,300.00	2,244.27	2,286.57	2,205.71	10.81	11.92	11.92	11.92	22.46	-500.33	166.27	117.64	100.08	17.56	6.699			
2,400.00	2,340.15	2,386.34	2,299.34	11.41	12.61	12.61	12.61	22.47	-532.93	177.42	124.49	106.04	18.45	6.746			
2,500.00	2,436.02	2,486.10	2,392.96	12.01	13.30	13.30	13.30	22.47	-565.52	188.58	131.34	112.00	19.35	6.789			
2,600.00	2,531.89	2,585.87	2,486.59	12.61	13.99	13.99	13.99	22.48	-598.12	199.74	138.19	117.95	20.24	6.828			
2,700.00	2,627.76	2,685.63	2,580.22	13.22	14.68	14.68	14.68	22.48	-630.71	210.89	145.04	123.91	21.14	6.863			
2,800.00	2,723.64	2,785.40	2,673.85	13.82	15.37	15.37	15.37	22.49	-663.30	222.05	151.89	129.86	22.03	6.894			
2,900.00	2,819.51	2,885.16	2,767.48	14.43	16.07	16.07	16.07	22.49	-695.90	233.21	158.74	135.81	22.93	6.923			
3,000.00	2,915.38	2,984.93	2,861.10	15.03	16.76	16.76	16.76	22.49	-728.49	244.36	165.59	141.77	23.83	6.950			
3,100.00	3,011.25	3,084.69	2,954.73	15.64	17.46	17.46	17.46	22.50	-761.09	255.52	172.44	147.72	24.73	6.974			
3,200.00	3,107.13	3,184.46	3,048.36	16.25	18.15	18.15	18.15	22.50	-793.68	266.68	179.29	153.67	25.63	6.997			
3,300.00	3,203.00	3,284.23	3,141.99	16.85	18.85	18.85	18.85	22.50	-826.28	277.83	186.15	159.62	26.53	7.017			
3,400.00	3,298.87	3,383.99	3,235.62	17.46	19.54	19.54	19.54	22.50	-858.87	288.99	193.00	165.57	27.43	7.037			
3,500.00	3,394.74	3,483.76	3,329.25	18.07	20.24	20.24	20.24	22.51	-891.46	300.14	199.85	171.52	28.33	7.054			
3,600.00	3,490.62	3,583.52	3,422.87	18.68	20.94	20.94	20.94	22.51	-924.06	311.30	206.70	177.47	29.23	7.071			
3,700.00	3,586.49	3,683.29	3,516.50	19.29	21.64	21.64	21.64	22.51	-956.65	322.46	213.55	183.41	30.13	7.087			
3,800.00	3,682.36	3,783.05	3,610.13	19.90	22.33	22.33	22.33	22.51	-989.25	333.61	220.40	189.36	31.04	7.101			
3,900.00	3,778.23	3,882.82	3,703.76	20.51	23.03	23.03	23.03	22.51	-1,021.84	344.77	227.25	195.31	31.94	7.115			
4,000.00	3,874.10	3,982.58	3,797.39	21.12	23.73	23.73	23.73	22.52	-1,054.43	355.93	234.10	201.26	32.84	7.128			
4,100.00	3,969.98	4,082.35	3,891.01	21.73	24.43	24.43	24.43	22.52	-1,087.03	367.08	240.95	207.20	33.75	7.140			
4,200.00	4,065.85	4,182.11	3,984.64	22.34	25.12	25.12	25.12	22.52	-1,119.62	378.24	247.80	213.15	34.65	7.152			
4,300.00	4,161.72	4,281.88	4,078.27	22.95	25.82	25.82	25.82	22.52	-1,152.22	389.39	254.65	219.10	35.55	7.162			
4,400.00	4,257.59	4,381.64	4,171.90	23.56	26.52	26.52	26.52	22.52	-1,184.81	400.55	261.50	225.04	36.46	7.173			
4,500.00	4,353.47	4,481.41	4,265.53	24.17	27.22	27.22	27.22	22.52	-1,217.41	411.71	268.35	230.99	37.36	7.182			
4,600.00	4,449.34	4,581.17	4,359.15	24.78	27.92	27.92	27.92	22.52	-1,250.00	422.86	275.20	236.93	38.27	7.192			
4,700.00	4,545.21	4,680.94	4,452.78	25.39	28.62	28.62	28.62	22.52	-1,282.59	434.02	282.05	242.88	39.17	7.200			
4,800.00	4,641.08	4,780.70	4,546.41	26.00	29.32	29.32	29.32	22.53	-1,315.19	445.18	288.90	248.82	40.08	7.209			
4,900.00	4,736.96	4,880.47	4,640.04	26.61	30.02	30.02	30.02	22.53	-1,347.78	456.33	295.75	254.77	40.98	7.217			
5,000.00	4,832.83	4,980.23	4,733.67	27.22	30.72	30.72	30.72	22.53	-1,380.38	467.49	302.60	260.71	41.89	7.224			

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 11-10-14H
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 11-10-14H	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		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	4,928.70	5,080.00	4,827.30	27.83	31.42	22.53	-1,412.97	478.65	309.45	266.66	42.79	7.231			
5,200.00	5,024.57	5,179.76	4,920.92	28.44	32.11	22.53	-1,445.56	489.80	316.30	272.60	43.70	7.238			
5,300.00	5,120.45	5,279.53	5,014.55	29.05	32.81	22.53	-1,478.16	500.96	323.15	278.55	44.60	7.245			
5,400.00	5,216.32	5,379.29	5,108.18	29.66	33.51	22.53	-1,510.75	512.11	330.00	284.49	45.51	7.251			
5,500.00	5,312.19	5,479.06	5,201.81	30.28	34.21	22.53	-1,543.35	523.27	336.85	290.44	46.42	7.257			
5,600.00	5,408.06	5,578.82	5,295.44	30.89	34.91	22.53	-1,575.94	534.43	343.70	296.38	47.32	7.263			
5,700.00	5,503.94	5,678.59	5,389.06	31.50	35.61	22.53	-1,608.54	545.58	350.55	302.32	48.23	7.268			
5,800.00	5,599.81	5,778.35	5,482.69	32.11	36.31	22.53	-1,641.13	556.74	357.40	308.27	49.14	7.274			
5,900.00	5,695.68	5,878.12	5,576.32	32.72	37.01	22.53	-1,673.72	567.90	364.25	314.21	50.04	7.279			
6,000.00	5,791.55	5,977.88	5,669.95	33.33	37.71	22.54	-1,706.32	579.05	371.11	320.16	50.95	7.284			
6,100.00	5,887.43	6,077.65	5,763.58	33.95	38.41	22.54	-1,738.91	590.21	377.96	326.10	51.86	7.289			
6,200.00	5,983.30	6,177.41	5,857.21	34.56	39.11	22.54	-1,771.51	601.37	384.81	332.04	52.76	7.293			
6,300.00	6,079.17	6,277.18	5,950.83	35.17	39.81	22.54	-1,804.10	612.52	391.66	337.99	53.67	7.298			
6,400.00	6,175.04	6,376.94	6,044.46	35.78	40.51	22.54	-1,836.69	623.68	398.51	343.93	54.58	7.302			
6,500.00	6,270.92	6,476.71	6,138.09	36.39	41.21	22.54	-1,869.29	634.83	405.36	349.87	55.48	7.306			
6,600.00	6,366.79	6,576.47	6,231.72	37.00	41.91	22.54	-1,901.88	645.99	412.21	355.82	56.39	7.310			
6,700.00	6,462.66	6,676.24	6,325.35	37.62	42.61	22.54	-1,934.48	657.15	419.06	361.76	57.30	7.314			
6,800.00	6,558.53	6,776.00	6,418.97	38.23	43.31	22.54	-1,967.07	668.30	425.91	367.70	58.20	7.318			
6,885.48	6,640.48	6,860.73	6,498.59	38.75	43.90	22.70	-1,994.80	676.60	431.79	372.77	59.02	7.316			
6,900.00	6,654.42	6,874.96	6,512.02	38.84	43.99	18.23	-1,999.48	677.11	432.80	373.62	59.18	7.313			
6,950.00	6,702.60	6,923.77	6,558.07	39.12	44.30	1.26	-2,015.56	676.15	436.33	376.63	59.69	7.309			
7,000.00	6,750.76	6,972.33	6,603.64	39.38	44.57	-15.64	-2,031.51	671.09	439.86	379.73	60.13	7.315			
7,050.00	6,798.55	7,020.65	6,648.41	39.60	44.81	-29.58	-2,047.21	662.01	443.38	382.88	60.50	7.329			
7,100.00	6,845.60	7,068.75	6,692.10	39.79	45.02	-39.83	-2,062.56	649.03	446.86	386.06	60.80	7.350			
7,150.00	6,891.54	7,116.65	6,734.42	39.95	45.20	-47.06	-2,077.47	632.30	450.26	389.23	61.03	7.378			
7,200.00	6,936.05	7,164.38	6,775.11	40.08	45.35	-52.16	-2,091.84	611.96	453.56	392.36	61.20	7.411			
7,250.00	6,978.76	7,211.94	6,813.93	40.19	45.49	-55.80	-2,105.58	588.18	456.73	395.40	61.33	7.447			
7,300.00	7,019.37	7,259.35	6,850.64	40.28	45.60	-58.46	-2,118.61	561.16	459.73	398.31	61.42	7.485			
7,350.00	7,057.55	7,306.65	6,885.01	40.34	45.69	-60.43	-2,130.84	531.10	462.56	401.07	61.49	7.522			
7,400.00	7,093.02	7,353.83	6,916.86	40.39	45.75	-61.91	-2,142.22	498.21	465.17	403.62	61.56	7.557			
7,450.00	7,125.51	7,400.00	6,945.43	40.42	45.81	-63.04	-2,152.47	463.44	467.56	405.97	61.60	7.591			
7,500.00	7,154.78	7,447.96	6,972.21	40.43	45.84	-63.91	-2,162.13	424.86	469.70	407.96	61.74	7.608			
7,550.00	7,180.59	7,494.94	6,995.39	40.42	45.86	-64.60	-2,170.54	384.89	471.58	409.68	61.90	7.619			
7,600.00	7,202.75	7,541.88	7,015.38	40.40	45.86	-65.13	-2,177.85	343.07	473.17	411.05	62.12	7.617			
7,650.00	7,221.10	7,588.82	7,032.07	40.37	45.85	-65.55	-2,184.02	299.65	474.47	412.05	62.42	7.601			
7,700.00	7,235.49	7,635.75	7,045.35	40.32	45.83	-65.89	-2,189.01	254.92	475.47	412.66	62.81	7.570			
7,750.00	7,245.82	7,682.71	7,055.12	40.27	45.80	-66.15	-2,192.79	209.17	476.16	412.87	63.29	7.523			
7,800.00	7,252.01	7,729.70	7,061.33	40.20	45.76	-66.35	-2,195.32	162.67	476.54	412.66	63.88	7.460			
7,848.69	7,254.00	7,775.51	7,063.90	40.14	45.71	-66.49	-2,196.58	116.96	476.60	412.07	64.53	7.386			
7,900.00	7,254.00	7,826.13	7,064.00	40.07	45.66	-66.50	-2,197.02	66.34	476.57	411.20	65.37	7.291			
8,000.00	7,254.00	7,926.13	7,064.00	39.96	45.57	-66.50	-2,197.82	-33.66	476.53	409.28	67.25	7.086			
8,100.00	7,254.00	8,026.13	7,064.00	39.89	45.52	-66.50	-2,198.61	-133.66	476.49	407.05	69.45	6.861			
8,200.00	7,254.00	8,126.13	7,064.00	39.87	45.51	-66.50	-2,199.41	-233.65	476.45	404.53	71.93	6.624			
8,300.00	7,254.00	8,226.13	7,064.00	39.95	45.54	-66.50	-2,200.20	-333.65	476.42	401.75	74.66	6.381			
8,400.00	7,254.00	8,326.13	7,064.00	40.29	45.66	-66.49	-2,201.00	-433.65	476.38	398.75	77.63	6.136			
8,500.00	7,254.00	8,426.13	7,064.00	41.24	45.91	-66.49	-2,201.80	-533.64	476.34	395.54	80.80	5.895			
8,600.00	7,254.00	8,526.13	7,064.00	42.78	46.39	-66.49	-2,202.59	-633.64	476.30	392.15	84.15	5.660			
8,700.00	7,254.00	8,626.13	7,064.00	44.60	47.24	-66.49	-2,203.39	-733.64	476.27	388.60	87.66	5.433			
8,800.00	7,254.00	8,726.13	7,064.00	46.57	48.50	-66.49	-2,204.18	-833.63	476.23	384.91	91.32	5.215			
8,900.00	7,254.00	8,826.13	7,064.00	48.64	50.13	-66.48	-2,204.98	-933.63	476.19	381.09	95.10	5.007			
9,000.00	7,254.00	8,926.13	7,064.00	50.78	51.98	-66.48	-2,205.77	-1,033.63	476.15	377.17	98.99	4.810			
9,100.00	7,254.00	9,026.13	7,064.00	52.97	53.99	-66.48	-2,206.57	-1,133.62	476.11	373.14	102.97	4.624			

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 11-10-14H
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 11-10-14H	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			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	7,254.00	9,126.13	7,064.00	55.21	56.11	-66.48	-2,207.37	-1,233.62	476.08	369.03	107.05	4.447		
9,300.00	7,254.00	9,226.13	7,064.00	57.50	58.29	-66.48	-2,208.16	-1,333.62	476.04	364.84	111.20	4.281		
9,400.00	7,254.00	9,326.13	7,064.00	59.82	60.54	-66.47	-2,208.96	-1,433.61	476.00	360.58	115.42	4.124		
9,500.00	7,254.00	9,426.13	7,064.00	62.17	62.83	-66.47	-2,209.75	-1,533.61	475.96	356.25	119.71	3.976		
9,600.00	7,254.00	9,526.13	7,064.00	64.55	65.16	-66.47	-2,210.55	-1,633.61	475.92	351.88	124.05	3.837		
9,700.00	7,254.00	9,626.13	7,064.00	66.96	67.52	-66.47	-2,211.34	-1,733.60	475.89	347.45	128.44	3.705		
9,800.00	7,254.00	9,726.13	7,064.00	69.39	69.91	-66.47	-2,212.14	-1,833.60	475.85	342.98	132.87	3.581		
9,900.00	7,254.00	9,826.13	7,064.00	71.84	72.33	-66.46	-2,212.94	-1,933.60	475.81	338.46	137.34	3.464		
10,000.00	7,254.00	9,926.13	7,064.00	74.30	74.77	-66.46	-2,213.73	-2,033.59	475.77	333.92	141.86	3.354		
10,100.00	7,254.00	10,026.13	7,064.00	76.79	77.23	-66.46	-2,214.53	-2,133.59	475.73	329.33	146.40	3.250		
10,200.00	7,254.00	10,126.13	7,064.00	79.29	79.70	-66.46	-2,215.32	-2,233.59	475.70	324.72	150.98	3.151		
10,300.00	7,254.00	10,226.13	7,064.00	81.80	82.19	-66.46	-2,216.12	-2,333.59	475.66	320.08	155.58	3.057		
10,400.00	7,254.00	10,326.13	7,064.00	84.33	84.70	-66.45	-2,216.91	-2,433.58	475.62	315.41	160.21	2.969		
10,500.00	7,254.00	10,426.13	7,064.00	86.86	87.22	-66.45	-2,217.71	-2,533.58	475.58	310.72	164.86	2.885		
10,600.00	7,254.00	10,526.13	7,064.00	89.41	89.75	-66.45	-2,218.51	-2,633.58	475.54	306.01	169.53	2.805		
10,700.00	7,254.00	10,626.13	7,064.00	91.97	92.29	-66.45	-2,219.30	-2,733.57	475.51	301.29	174.22	2.729		
10,800.00	7,254.00	10,726.13	7,064.00	94.54	94.84	-66.45	-2,220.10	-2,833.57	475.47	296.54	178.93	2.657		
10,900.00	7,254.00	10,826.13	7,064.00	97.11	97.40	-66.44	-2,220.89	-2,933.57	475.43	291.77	183.66	2.589		
11,000.00	7,254.00	10,926.13	7,064.00	99.69	99.97	-66.44	-2,221.69	-3,033.56	475.39	287.00	188.40	2.523		
11,100.00	7,254.00	11,026.13	7,064.00	102.28	102.54	-66.44	-2,222.48	-3,133.56	475.35	282.20	193.15	2.461		
11,200.00	7,254.00	11,126.13	7,064.00	104.88	105.13	-66.44	-2,223.28	-3,233.56	475.32	277.40	197.92	2.402		
11,300.00	7,254.00	11,226.13	7,064.00	107.48	107.72	-66.44	-2,224.08	-3,333.55	475.28	272.58	202.70	2.345		
11,400.00	7,254.00	11,326.13	7,064.00	110.09	110.31	-66.43	-2,224.87	-3,433.55	475.24	267.75	207.49	2.290		
11,500.00	7,254.00	11,426.13	7,064.00	112.70	112.92	-66.43	-2,225.67	-3,533.55	475.20	262.91	212.29	2.238		
11,600.00	7,254.00	11,526.13	7,064.00	115.32	115.52	-66.43	-2,226.46	-3,633.54	475.16	258.06	217.11	2.189		
11,700.00	7,254.00	11,626.13	7,064.00	117.94	118.14	-66.43	-2,227.26	-3,733.54	475.13	253.20	221.93	2.141		
11,800.00	7,254.00	11,726.13	7,064.00	120.56	120.75	-66.43	-2,228.05	-3,833.54	475.09	248.33	226.76	2.095		
11,900.00	7,254.00	11,826.13	7,064.00	123.19	123.38	-66.42	-2,228.85	-3,933.53	475.05	243.46	231.59	2.051		
12,000.00	7,254.00	11,926.13	7,064.00	125.83	126.00	-66.42	-2,229.65	-4,033.53	475.01	238.57	236.44	2.009		
12,100.00	7,254.00	12,026.13	7,064.00	128.47	128.63	-66.42	-2,230.44	-4,133.53	474.98	233.68	241.29	1.968		
12,200.00	7,254.00	12,126.13	7,064.00	131.11	131.27	-66.42	-2,231.24	-4,233.53	474.94	228.79	246.15	1.929		
12,300.00	7,254.00	12,226.13	7,064.00	133.75	133.90	-66.42	-2,232.03	-4,333.52	474.90	223.88	251.02	1.892		
12,400.00	7,254.00	12,326.13	7,064.00	136.40	136.54	-66.41	-2,232.83	-4,433.52	474.86	218.97	255.89	1.856		
12,500.00	7,254.00	12,426.13	7,064.00	139.05	139.19	-66.41	-2,233.62	-4,533.52	474.82	214.06	260.76	1.821		
12,600.00	7,254.00	12,526.13	7,064.00	141.70	141.83	-66.41	-2,234.42	-4,633.51	474.79	209.14	265.65	1.787		
12,700.00	7,254.00	12,626.13	7,064.00	144.36	144.48	-66.41	-2,235.22	-4,733.51	474.75	204.21	270.53	1.755		
12,800.00	7,254.00	12,726.13	7,064.00	147.01	147.13	-66.41	-2,236.01	-4,833.51	474.71	199.28	275.42	1.724		
12,900.00	7,254.00	12,826.13	7,064.00	149.67	149.79	-66.40	-2,236.81	-4,933.50	474.67	194.35	280.32	1.693		
13,000.00	7,254.00	12,926.13	7,064.00	152.33	152.44	-66.40	-2,237.60	-5,033.50	474.63	189.41	285.22	1.664		
13,100.00	7,254.00	13,026.13	7,064.00	155.00	155.10	-66.40	-2,238.40	-5,133.50	474.60	184.47	290.12	1.636		
13,200.00	7,254.00	13,126.13	7,064.00	157.66	157.76	-66.40	-2,239.19	-5,233.49	474.56	179.53	295.03	1.608		
13,300.00	7,254.00	13,226.13	7,064.00	160.33	160.43	-66.40	-2,239.99	-5,333.49	474.52	174.58	299.94	1.582		
13,400.00	7,254.00	13,326.13	7,064.00	163.00	163.09	-66.39	-2,240.79	-5,433.49	474.48	169.62	304.86	1.556		
13,500.00	7,254.00	13,426.13	7,064.00	165.67	165.76	-66.39	-2,241.58	-5,533.48	474.44	164.67	309.78	1.532		
13,600.00	7,254.00	13,526.13	7,064.00	168.34	168.42	-66.39	-2,242.38	-5,633.48	474.41	159.71	314.70	1.507		
13,700.00	7,254.00	13,626.13	7,064.00	171.02	171.09	-66.39	-2,243.17	-5,733.48	474.37	154.75	319.62	1.484	Level 3	
13,800.00	7,254.00	13,726.13	7,064.00	173.69	173.77	-66.39	-2,243.97	-5,833.47	474.33	149.78	324.55	1.462	Level 3	
13,900.00	7,254.00	13,826.13	7,064.00	176.37	176.44	-66.38	-2,244.76	-5,933.47	474.29	144.81	329.48	1.440	Level 3	
14,000.00	7,254.00	13,926.13	7,064.00	179.05	179.11	-66.38	-2,245.56	-6,033.47	474.25	139.84	334.41	1.418	Level 3	
14,100.00	7,254.00	14,026.13	7,064.00	181.73	181.79	-66.38	-2,246.36	-6,133.46	474.22	134.87	339.34	1.397	Level 3	
14,200.00	7,254.00	14,126.13	7,064.00	184.41	184.46	-66.38	-2,247.15	-6,233.46	474.18	129.90	344.28	1.377	Level 3	
14,300.00	7,254.00	14,226.13	7,064.00	187.09	187.14	-66.38	-2,247.95	-6,333.46	474.14	124.92	349.22	1.358	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 11-10-14H
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 11-10-14H	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:		
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		
14,400.00	7,254.00	14,326.13	7,064.00	189.77	189.82	-66.37	-2,248.74	-6,433.46	474.10	119.94	354.16	1.339	Level 3		
14,500.00	7,254.00	14,426.13	7,064.00	192.46	192.50	-66.37	-2,249.54	-6,533.45	474.06	114.96	359.10	1.320	Level 3		
14,600.00	7,254.00	14,526.13	7,064.00	195.14	195.18	-66.37	-2,250.33	-6,633.45	474.03	109.98	364.05	1.302	Level 3		
14,700.00	7,254.00	14,626.13	7,064.00	197.83	197.87	-66.37	-2,251.13	-6,733.45	473.99	104.99	368.99	1.285	Level 3		
14,800.00	7,254.00	14,726.13	7,064.00	200.52	200.55	-66.37	-2,251.93	-6,833.44	473.95	100.01	373.94	1.267	Level 3		
14,900.00	7,254.00	14,826.13	7,064.00	203.20	203.24	-66.36	-2,252.72	-6,933.44	473.91	95.02	378.89	1.251	Level 3		
15,000.00	7,254.00	14,926.13	7,064.00	205.89	205.92	-66.36	-2,253.52	-7,033.44	473.88	90.03	383.84	1.235	Level 3		
15,100.00	7,254.00	15,026.13	7,064.00	208.58	208.61	-66.36	-2,254.31	-7,133.43	473.84	85.04	388.80	1.219	Level 3		
15,200.00	7,254.00	15,126.13	7,064.00	211.27	211.30	-66.36	-2,255.11	-7,233.43	473.80	80.05	393.75	1.203	Level 3		
15,300.00	7,254.00	15,226.13	7,064.00	213.96	213.98	-66.36	-2,255.90	-7,333.43	473.76	75.05	398.71	1.188	Level 3		
15,400.00	7,254.00	15,326.13	7,064.00	216.66	216.67	-66.35	-2,256.70	-7,433.42	473.72	70.06	403.67	1.174	Level 3		
15,500.00	7,254.00	15,426.13	7,064.00	219.35	219.36	-66.35	-2,257.50	-7,533.42	473.69	65.06	408.63	1.159	Level 3		
15,600.00	7,254.00	15,526.13	7,064.00	222.04	222.05	-66.35	-2,258.29	-7,633.42	473.65	60.06	413.59	1.145	Level 3		
15,700.00	7,254.00	15,626.13	7,064.00	224.74	224.75	-66.35	-2,259.09	-7,733.41	473.61	55.06	418.55	1.132	Level 3		
15,800.00	7,254.00	15,726.13	7,064.00	227.43	227.44	-66.35	-2,259.88	-7,833.41	473.57	50.06	423.51	1.118	Level 3		
15,900.00	7,254.00	15,826.13	7,064.00	230.13	230.13	-66.34	-2,260.68	-7,933.41	473.53	45.06	428.47	1.105	Level 3		
16,000.00	7,254.00	15,926.13	7,064.00	232.82	232.82	-66.34	-2,261.47	-8,033.40	473.50	40.06	433.44	1.092	Level 3		
16,100.00	7,254.00	16,026.13	7,064.00	235.52	235.52	-66.34	-2,262.27	-8,133.40	473.46	35.06	438.40	1.080	Level 3		
16,200.00	7,254.00	16,126.13	7,064.00	238.22	238.21	-66.34	-2,263.07	-8,233.40	473.42	30.05	443.37	1.068	Level 3		
16,300.00	7,254.00	16,226.13	7,064.00	240.91	240.91	-66.34	-2,263.86	-8,333.40	473.38	25.05	448.34	1.056	Level 3		
16,373.34	7,254.00	16,299.47	7,064.00	242.89	242.89	-66.33	-2,264.44	-8,406.73	473.35	21.37	451.98	1.047	Level 3		
16,381.25	7,254.00	16,305.41	7,064.00	243.10	243.05	-66.33	-2,264.49	-8,412.67	473.36	20.92	452.44	1.046	Level 3, SF		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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													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	-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	CC, ES			
500.00	499.98	499.98	499.98	1.56	1.58	154.12	25.50	-30.63	41.42	38.28	3.14	13.194				
600.00	599.84	599.84	599.84	1.90	1.94	156.92	25.50	-30.63	46.18	42.35	3.84	12.038				
700.00	699.45	699.45	699.45	2.25	2.29	160.47	25.50	-30.63	54.31	49.77	4.54	11.955	SF			
800.00	798.70	798.70	798.70	2.63	2.65	163.95	25.50	-30.63	65.93	60.67	5.25	12.546				
900.00	897.47	897.47	897.47	3.03	3.00	166.93	25.50	-30.63	81.09	75.12	5.97	13.583				
1,000.00	995.62	995.62	995.62	3.46	3.35	169.34	25.50	-30.63	99.78	93.09	6.69	14.923				
1,100.00	1,093.06	1,093.06	1,093.06	3.92	3.70	171.22	25.50	-30.63	121.97	114.56	7.40	16.473				
1,200.00	1,189.64	1,189.64	1,189.64	4.43	4.05	172.69	25.50	-30.63	147.61	139.49	8.12	18.174				
1,225.96	1,214.56	1,214.56	1,214.56	4.56	4.14	173.01	25.50	-30.63	154.83	146.51	8.31	18.624				
1,300.00	1,285.55	1,285.55	1,285.55	4.97	4.39	173.85	25.50	-30.63	175.75	166.91	8.84	19.884				
1,400.00	1,381.42	1,381.42	1,381.42	5.52	4.74	174.70	25.50	-30.63	204.06	194.51	9.55	21.364				
1,500.00	1,477.29	1,477.29	1,477.29	6.09	5.08	175.35	25.50	-30.63	232.39	222.13	10.27	22.633				
1,600.00	1,573.17	1,573.17	1,573.17	6.66	5.42	175.86	25.50	-30.63	260.75	249.76	10.99	23.732				
1,700.00	1,669.04	1,669.04	1,669.04	7.24	5.77	176.26	25.50	-30.63	289.12	277.41	11.71	24.692				
1,800.00	1,764.91	1,764.91	1,764.91	7.83	6.11	176.60	25.50	-30.63	317.50	305.07	12.43	25.537				
1,900.00	1,860.78	1,860.78	1,860.78	8.42	6.46	176.88	25.50	-30.63	345.90	332.74	13.16	26.285				
2,000.00	1,956.66	1,956.66	1,956.66	9.01	6.80	177.11	25.50	-30.63	374.29	360.41	13.89	26.953				
2,100.00	2,052.53	2,052.53	2,052.53	9.61	7.14	177.32	25.50	-30.63	402.70	388.08	14.62	27.553				
2,200.00	2,148.40	2,148.40	2,148.40	10.21	7.49	177.49	25.50	-30.63	431.10	415.76	15.35	28.094				
2,300.00	2,244.27	2,238.70	2,238.70	10.81	7.81	177.66	25.76	-30.63	459.78	443.74	16.04	28.667				
2,400.00	2,340.15	2,321.49	2,321.45	11.41	8.11	177.90	28.08	-30.59	490.60	473.92	16.67	29.422				
2,500.00	2,436.02	2,400.00	2,399.84	12.01	8.39	178.22	32.48	-30.54	523.87	506.61	17.27	30.341				
2,600.00	2,531.89	2,482.50	2,482.05	12.61	8.68	178.63	39.42	-30.44	559.53	541.65	17.88	31.289				
2,700.00	2,627.76	2,560.57	2,559.62	13.22	8.96	179.08	48.16	-30.32	597.55	579.10	18.45	32.379				
2,800.00	2,723.64	2,636.93	2,635.24	13.82	9.24	179.55	58.75	-30.18	637.87	618.86	19.01	33.560				
2,900.00	2,819.51	2,711.52	2,708.81	14.43	9.51	-179.96	71.04	-30.02	680.42	660.89	19.54	34.826				
3,000.00	2,915.38	2,784.32	2,780.28	15.03	9.78	-179.46	84.88	-29.83	725.15	705.11	20.05	36.171				
3,100.00	3,011.25	2,855.29	2,849.59	15.64	10.05	-178.96	100.11	-29.63	772.00	751.46	20.54	37.587				
3,200.00	3,107.13	2,924.42	2,916.73	16.25	10.32	-178.47	116.60	-29.40	820.88	799.87	21.01	39.071				
3,300.00	3,203.00	3,000.00	2,989.64	16.85	10.63	-177.93	136.47	-29.14	871.80	850.24	21.56	40.439				
3,400.00	3,298.87	3,057.14	3,044.41	17.46	10.87	-177.52	152.76	-28.92	924.52	902.62	21.90	42.219				
3,500.00	3,394.74	3,120.74	3,104.97	18.07	11.15	-177.07	172.18	-28.66	979.13	956.81	22.32	43.875				
3,600.00	3,490.62	3,182.52	3,163.38	18.68	11.42	-176.63	192.33	-28.39	1,035.51	1,012.79	22.72	45.581				
3,700.00	3,586.49	3,242.51	3,219.65	19.29	11.71	-176.22	213.09	-28.11	1,093.59	1,070.48	23.10	47.332				
3,800.00	3,682.36	3,300.00	3,273.17	19.90	11.98	-175.82	234.08	-27.83	1,153.29	1,129.83	23.47	49.146				
3,900.00	3,778.23	3,357.19	3,325.98	20.51	12.27	-175.44	256.03	-27.53	1,214.56	1,190.73	23.83	50.959				
4,000.00	3,874.10	3,400.00	3,365.21	21.12	12.49	-175.15	273.15	-27.30	1,277.41	1,253.38	24.03	53.166				
4,100.00	3,969.98	3,465.05	3,424.34	21.73	12.85	-174.72	300.28	-26.94	1,341.53	1,317.01	24.51	54.732				
4,200.00	4,065.85	3,521.12	3,474.81	22.34	13.17	-174.37	324.70	-26.61	1,407.07	1,382.18	24.89	56.535				
4,300.00	4,161.72	3,595.75	3,541.81	22.95	13.60	-173.92	357.57	-26.17	1,473.09	1,447.58	25.51	57.748				
4,400.00	4,257.59	3,670.38	3,608.81	23.56	14.05	-173.51	390.44	-25.72	1,539.15	1,513.01	26.14	58.891				
4,500.00	4,353.47	3,745.02	3,675.81	24.17	14.51	-173.13	423.32	-25.28	1,605.25	1,578.48	26.77	59.973				
4,600.00	4,449.34	3,819.65	3,742.81	24.78	14.98	-172.79	456.19	-24.84	1,671.39	1,643.99	27.40	60.996				
4,700.00	4,545.21	3,894.28	3,809.81	25.39	15.46	-172.47	489.06	-24.40	1,737.56	1,709.52	28.04	61.965				
4,800.00	4,641.08	3,968.91	3,876.82	26.00	15.95	-172.17	521.93	-23.96	1,803.76	1,775.08	28.69	62.882				
4,900.00	4,736.96	4,043.54	3,943.82	26.61	16.44	-171.90	554.80	-23.52	1,869.99	1,840.65	29.33	63.752				
5,000.00	4,832.83	4,118.18	4,010.82	27.22	16.95	-171.64	587.67	-23.07	1,936.23	1,906.25	29.98	64.578				

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 11-10-14H
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 11-10-14H	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													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	4,928.70	4,192.81	4,077.82	27.83	17.46	-171.40	620.54	-22.63	2,002.50	1,971.87	30.64	65.364				
5,200.00	5,024.57	4,267.44	4,144.82	28.44	17.97	-171.17	653.41	-22.19	2,068.79	2,037.50	31.29	66.110				
5,300.00	5,120.45	4,342.07	4,211.83	29.05	18.50	-170.96	686.28	-21.75	2,135.10	2,103.14	31.95	66.821				
5,400.00	5,216.32	4,416.70	4,278.83	29.66	19.02	-170.76	719.15	-21.31	2,201.41	2,168.80	32.61	67.498				
5,500.00	5,312.19	4,491.34	4,345.83	30.28	19.55	-170.58	752.02	-20.87	2,267.75	2,234.47	33.28	68.144				
5,600.00	5,408.06	4,565.97	4,412.83	30.89	20.09	-170.40	784.89	-20.42	2,334.09	2,300.15	33.95	68.760				
5,700.00	5,503.94	4,640.60	4,479.83	31.50	20.63	-170.23	817.77	-19.98	2,400.45	2,365.84	34.61	69.348				
5,800.00	5,599.81	4,715.23	4,546.84	32.11	21.17	-170.08	850.64	-19.54	2,466.82	2,431.54	35.29	69.910				
5,900.00	5,695.68	4,789.86	4,613.84	32.72	21.72	-169.93	883.51	-19.10	2,533.20	2,497.24	35.96	70.447				
6,000.00	5,791.55	4,864.50	4,680.84	33.33	22.27	-169.78	916.38	-18.66	2,599.59	2,562.95	36.63	70.961				
6,100.00	5,887.43	4,939.13	4,747.84	33.95	22.82	-169.65	949.25	-18.22	2,665.99	2,628.67	37.31	71.453				
6,200.00	5,983.30	5,013.76	4,814.84	34.56	23.38	-169.52	982.12	-17.77	2,732.39	2,694.40	37.99	71.924				
6,300.00	6,079.17	5,088.39	4,881.84	35.17	23.93	-169.40	1,014.99	-17.33	2,798.80	2,760.13	38.67	72.376				
6,400.00	6,175.04	5,163.02	4,948.85	35.78	24.49	-169.28	1,047.86	-16.89	2,865.22	2,825.87	39.35	72.809				
6,500.00	6,270.92	5,237.66	5,015.85	36.39	25.06	-169.17	1,080.73	-16.45	2,931.65	2,891.61	40.04	73.225				
6,600.00	6,366.79	5,312.29	5,082.85	37.00	25.62	-169.06	1,113.60	-16.01	2,998.08	2,957.36	40.72	73.624				
6,700.00	6,462.66	5,386.92	5,149.85	37.62	26.19	-168.96	1,146.47	-15.57	3,064.51	3,023.11	41.41	74.007				
6,800.00	6,558.53	5,461.55	5,216.85	38.23	26.76	-168.87	1,179.34	-15.12	3,130.96	3,088.86	42.10	74.376				
6,885.48	6,640.48	5,525.34	5,274.12	38.75	27.24	-168.79	1,207.44	-14.75	3,187.75	3,145.06	42.69	74.679				
6,900.00	6,654.42	5,536.20	5,283.87	38.84	27.33	-174.72	1,212.22	-14.68	3,197.38	3,154.59	42.79	74.730				
6,950.00	6,702.60	5,573.66	5,317.50	39.12	27.61	163.50	1,228.72	-14.46	3,230.04	3,186.92	43.12	74.909				
7,000.00	6,750.76	5,611.08	5,351.10	39.38	27.90	142.16	1,245.20	-14.24	3,261.80	3,218.36	43.44	75.094				

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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				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	Warning
0.00	0.00	0.00	0.00	0.00	0.00	-76.63	7.28	-30.63	31.48				
100.00	100.00	100.00	100.00	0.14	0.14	-76.63	7.28	-30.63	31.48	31.20	0.29	109.782	
200.00	200.00	200.00	200.00	0.50	0.50	-76.63	7.28	-30.63	31.48	30.48	1.00	31.366	
300.00	300.00	300.00	300.00	0.86	0.86	-76.63	7.28	-30.63	31.48	29.76	1.72	18.297	
400.00	400.00	400.00	400.00	1.22	1.22	-76.63	7.28	-30.63	31.48	29.05	2.44	12.916	CC, ES
500.00	499.98	499.98	499.98	1.56	1.58	129.08	7.28	-30.63	32.55	29.42	3.14	10.372	
600.00	599.84	599.84	599.84	1.90	1.94	135.49	7.28	-30.63	36.08	32.25	3.84	9.408	SF
700.00	699.45	699.45	699.45	2.25	2.29	143.62	7.28	-30.63	42.74	38.20	4.54	9.408	
800.00	798.70	798.70	798.70	2.63	2.65	151.34	7.28	-30.63	53.07	47.81	5.26	10.092	
900.00	897.47	897.47	897.47	3.03	3.00	157.62	7.28	-30.63	67.24	61.26	5.98	11.252	
1,000.00	995.62	995.62	995.62	3.46	3.35	162.39	7.28	-30.63	85.22	78.53	6.69	12.732	
1,100.00	1,093.06	1,093.06	1,093.06	3.92	3.70	165.93	7.28	-30.63	106.91	99.50	7.41	14.424	
1,200.00	1,189.64	1,189.64	1,189.64	4.43	4.05	168.55	7.28	-30.63	132.20	124.07	8.13	16.260	
1,225.96	1,214.56	1,214.56	1,214.56	4.56	4.14	169.11	7.28	-30.63	139.34	131.02	8.32	16.745	
1,300.00	1,285.55	1,285.55	1,285.55	4.97	4.39	170.54	7.28	-30.63	160.09	151.24	8.85	18.094	
1,400.00	1,381.42	1,381.42	1,381.42	5.52	4.74	171.96	7.28	-30.63	188.22	178.66	9.56	19.689	
1,500.00	1,477.29	1,477.29	1,477.29	6.09	5.08	173.01	7.28	-30.63	216.43	206.16	10.28	21.062	
1,600.00	1,573.17	1,573.17	1,573.17	6.66	5.42	173.82	7.28	-30.63	244.69	233.70	11.00	22.255	
1,700.00	1,669.04	1,669.04	1,669.04	7.24	5.77	174.46	7.28	-30.63	272.99	261.27	11.72	23.299	
1,800.00	1,764.91	1,764.91	1,764.91	7.83	6.11	174.98	7.28	-30.63	301.31	288.87	12.44	24.220	
1,900.00	1,860.78	1,860.78	1,860.78	8.42	6.46	175.42	7.28	-30.63	329.66	316.49	13.17	25.038	
2,000.00	1,956.66	1,956.66	1,956.66	9.01	6.80	175.78	7.28	-30.63	358.01	344.12	13.89	25.769	
2,100.00	2,052.53	2,052.53	2,052.53	9.61	7.14	176.09	7.28	-30.63	386.38	371.76	14.62	26.425	
2,200.00	2,148.40	2,148.40	2,148.40	10.21	7.49	176.36	7.28	-30.63	414.76	399.41	15.35	27.017	
2,300.00	2,244.27	2,244.27	2,244.27	10.81	7.83	176.59	7.28	-30.63	443.14	427.06	16.08	27.555	
2,400.00	2,340.15	2,335.01	2,335.01	11.41	8.16	176.80	7.50	-30.63	471.75	454.97	16.78	28.117	
2,500.00	2,436.02	2,417.63	2,417.59	12.01	8.45	177.08	9.70	-30.60	502.42	485.01	17.41	28.856	
2,600.00	2,531.89	2,500.00	2,499.84	12.61	8.75	177.45	14.26	-30.55	535.53	517.50	18.03	29.696	
2,700.00	2,627.76	2,578.34	2,577.90	13.22	9.03	177.87	20.79	-30.47	571.03	552.41	18.61	30.678	
2,800.00	2,723.64	2,656.28	2,655.36	13.82	9.31	178.34	29.41	-30.36	608.87	589.69	19.18	31.742	
2,900.00	2,819.51	2,732.52	2,730.88	14.43	9.58	178.83	39.87	-30.24	649.00	629.27	19.73	32.895	
3,000.00	2,915.38	2,800.00	2,797.47	15.03	9.82	179.30	50.80	-30.11	691.40	671.22	20.18	34.259	
3,100.00	3,011.25	2,879.71	2,875.76	15.64	10.12	179.87	65.73	-29.93	735.89	715.13	20.76	35.445	
3,200.00	3,107.13	2,950.59	2,945.01	16.25	10.39	-179.62	80.83	-29.75	782.54	761.29	21.25	36.829	
3,300.00	3,203.00	3,019.65	3,012.10	16.85	10.66	-179.11	97.19	-29.55	831.23	809.51	21.71	38.281	
3,400.00	3,298.87	3,086.87	3,077.01	17.46	10.93	-178.61	114.66	-29.35	881.89	859.73	22.16	39.794	
3,500.00	3,394.74	3,152.25	3,139.74	18.07	11.20	-178.13	133.11	-29.12	934.47	911.88	22.59	41.364	
3,600.00	3,490.62	3,215.81	3,200.29	18.68	11.47	-177.66	152.41	-28.89	988.88	965.88	23.00	42.987	
3,700.00	3,586.49	3,277.55	3,258.69	19.29	11.75	-177.21	172.44	-28.65	1,045.07	1,021.67	23.40	44.661	
3,800.00	3,682.36	3,337.50	3,314.97	19.90	12.03	-176.78	193.09	-28.41	1,102.95	1,079.17	23.78	46.380	
3,900.00	3,778.23	3,400.00	3,373.17	20.51	12.32	-176.34	215.87	-28.13	1,162.48	1,138.28	24.20	48.036	
4,000.00	3,874.10	3,462.80	3,431.22	21.12	12.64	-175.90	239.81	-27.85	1,223.39	1,198.76	24.63	49.667	
4,100.00	3,969.98	3,541.41	3,503.85	21.73	13.04	-175.41	269.91	-27.49	1,284.59	1,259.32	25.27	50.836	
4,200.00	4,065.85	3,620.03	3,576.47	22.34	13.46	-174.95	300.01	-27.13	1,345.84	1,319.93	25.91	51.940	
4,300.00	4,161.72	3,698.64	3,649.09	22.95	13.89	-174.54	330.11	-26.77	1,407.14	1,380.58	26.56	52.984	
4,400.00	4,257.59	3,777.25	3,721.71	23.56	14.33	-174.16	360.21	-26.41	1,468.48	1,441.27	27.21	53.969	
4,500.00	4,353.47	3,855.87	3,794.33	24.17	14.77	-173.81	390.32	-26.05	1,529.85	1,501.99	27.86	54.903	
4,600.00	4,449.34	3,934.48	3,866.95	24.78	15.23	-173.49	420.42	-25.69	1,591.27	1,562.74	28.52	55.788	
4,700.00	4,545.21	4,013.09	3,939.57	25.39	15.69	-173.19	450.52	-25.33	1,652.71	1,623.52	29.19	56.628	
4,800.00	4,641.08	4,091.71	4,012.20	26.00	16.16	-172.91	480.62	-24.97	1,714.17	1,684.32	29.85	57.425	
4,900.00	4,736.96	4,170.32	4,084.82	26.61	16.64	-172.65	510.72	-24.61	1,775.66	1,745.14	30.52	58.182	
5,000.00	4,832.83	4,248.93	4,157.44	27.22	17.12	-172.41	540.82	-24.25	1,837.17	1,805.99	31.19	58.903	

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 11-10-14H
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 11-10-14H	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			
5,100.00	4,928.70	4,327.55	4,230.06	27.83	17.61	-172.18	570.93	-23.89	1,898.71	1,866.84	31.86	59.590			
5,200.00	5,024.57	4,406.16	4,302.68	28.44	18.10	-171.97	601.03	-23.53	1,960.25	1,927.71	32.54	60.244			
5,300.00	5,120.45	4,484.78	4,375.30	29.05	18.60	-171.77	631.13	-23.17	2,021.82	1,988.60	33.22	60.868			
5,400.00	5,216.32	4,563.39	4,447.92	29.66	19.10	-171.59	661.23	-22.81	2,083.39	2,049.50	33.90	61.464			
5,500.00	5,312.19	4,642.00	4,520.55	30.28	19.61	-171.41	691.33	-22.45	2,144.99	2,110.41	34.58	62.033			
5,600.00	5,408.06	4,720.62	4,593.17	30.89	20.11	-171.24	721.43	-22.09	2,206.59	2,171.33	35.26	62.577			
5,700.00	5,503.94	4,799.23	4,665.79	31.50	20.63	-171.08	751.54	-21.73	2,268.20	2,232.26	35.95	63.098			
5,800.00	5,599.81	4,877.84	4,738.41	32.11	21.14	-170.94	781.64	-21.37	2,329.83	2,293.19	36.63	63.596			
5,900.00	5,695.68	4,956.46	4,811.03	32.72	21.66	-170.79	811.74	-21.01	2,391.46	2,354.14	37.32	64.073			
6,000.00	5,791.55	5,035.07	4,883.65	33.33	22.18	-170.66	841.84	-20.65	2,453.10	2,415.09	38.01	64.531			
6,100.00	5,887.43	5,113.69	4,956.27	33.95	22.70	-170.53	871.94	-20.29	2,514.75	2,476.05	38.71	64.970			
6,200.00	5,983.30	5,192.30	5,028.90	34.56	23.23	-170.41	902.04	-19.93	2,576.41	2,537.01	39.40	65.392			
6,300.00	6,079.17	5,270.91	5,101.52	35.17	23.75	-170.29	932.15	-19.57	2,638.07	2,597.98	40.09	65.796			
6,400.00	6,175.04	5,349.53	5,174.14	35.78	24.28	-170.18	962.25	-19.21	2,699.74	2,658.95	40.79	66.185			
6,500.00	6,270.92	5,428.14	5,246.76	36.39	24.82	-170.08	992.35	-18.85	2,761.42	2,719.93	41.49	66.559			
6,600.00	6,366.79	5,506.75	5,319.38	37.00	25.35	-169.97	1,022.45	-18.49	2,823.10	2,780.92	42.19	66.919			
6,700.00	6,462.66	5,585.37	5,392.00	37.62	25.88	-169.88	1,052.55	-18.13	2,884.79	2,841.90	42.89	67.265			
6,800.00	6,558.53	5,663.98	5,464.62	38.23	26.42	-169.78	1,082.65	-17.77	2,946.48	2,902.90	43.59	67.598			
6,885.48	6,640.48	5,731.18	5,526.70	38.75	26.88	-169.71	1,108.38	-17.46	2,999.22	2,955.03	44.19	67.873			
6,900.00	6,654.42	5,742.61	5,537.26	38.84	26.96	-175.49	1,112.76	-17.41	3,008.15	2,963.86	44.29	67.920			
6,950.00	6,702.60	5,782.08	5,573.72	39.12	27.23	163.24	1,127.88	-17.23	3,038.38	2,993.75	44.63	68.079			
7,000.00	6,750.76	5,821.51	5,610.15	39.38	27.50	142.38	1,142.98	-17.05	3,067.64	3,022.68	44.96	68.238			
7,050.00	6,798.55	5,860.60	5,646.26	39.60	27.77	124.85	1,157.94	-16.87	3,095.75	3,050.49	45.26	68.396			
7,100.00	6,845.60	5,899.06	5,681.78	39.79	28.03	111.37	1,172.67	-16.69	3,122.55	3,077.01	45.55	68.554			
7,150.00	6,891.54	5,936.57	5,716.44	39.95	28.29	101.26	1,187.03	-16.52	3,147.91	3,102.09	45.82	68.707			
7,200.00	6,936.05	5,972.88	5,749.97	40.08	28.54	93.60	1,200.93	-16.35	3,171.69	3,125.63	46.06	68.854			
7,250.00	6,978.76	6,007.68	5,782.13	40.19	28.78	87.71	1,214.26	-16.19	3,193.82	3,147.52	46.29	68.991			
7,300.00	7,019.37	6,040.73	5,812.66	40.28	29.01	83.09	1,226.91	-16.04	3,214.19	3,167.68	46.51	69.110			
7,350.00	7,057.55	6,071.77	5,841.33	40.34	29.22	79.43	1,238.80	-15.90	3,232.76	3,186.05	46.71	69.204			
7,400.00	7,093.02	6,100.56	5,867.93	40.39	29.42	76.50	1,249.82	-15.77	3,249.47	3,202.56	46.91	69.266			
7,450.00	7,125.51	6,126.89	5,892.25	40.42	29.60	74.14	1,259.90	-15.65	3,264.29	3,217.18	47.11	69.286			
7,500.00	7,154.78	6,150.55	5,914.10	40.43	29.77	72.25	1,268.96	-15.54	3,277.19	3,229.87	47.32	69.252			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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		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	-103.38	-7.29	-30.63	31.48							
100.00	100.00	100.00	100.00	0.14	0.14	-103.38	-7.29	-30.63	31.48	31.20	0.29	109.785				
200.00	200.00	200.00	200.00	0.50	0.50	-103.38	-7.29	-30.63	31.48	30.48	1.00	31.367				
300.00	300.00	300.00	300.00	0.86	0.86	-103.38	-7.29	-30.63	31.48	29.76	1.72	18.298				
400.00	400.00	400.00	400.00	1.22	1.22	-103.38	-7.29	-30.63	31.48	29.05	2.44	12.916	CC			
500.00	499.98	499.98	499.98	1.56	1.58	102.97	-7.29	-30.63	31.83	28.69	3.14	10.142	ES			
600.00	599.84	599.84	599.84	1.90	1.94	111.71	-7.29	-30.63	33.40	29.56	3.83	8.709				
700.00	699.45	699.45	699.45	2.25	2.29	124.08	-7.29	-30.63	37.51	32.97	4.54	8.254				
800.00	798.70	798.70	798.70	2.63	2.65	136.74	-7.29	-30.63	45.49	40.23	5.26	8.644				
900.00	897.47	897.47	897.47	3.03	3.00	147.23	-7.29	-30.63	57.93	51.94	5.98	9.680				
1,000.00	995.62	995.62	995.62	3.46	3.35	155.00	-7.29	-30.63	74.74	68.04	6.70	11.149				
1,100.00	1,093.06	1,093.06	1,093.06	3.92	3.70	160.55	-7.29	-30.63	95.67	88.24	7.42	12.887				
1,200.00	1,189.64	1,189.64	1,189.64	4.43	4.05	164.50	-7.29	-30.63	120.44	112.30	8.14	14.793				
1,225.96	1,214.56	1,214.56	1,214.56	4.56	4.14	165.34	-7.29	-30.63	127.48	119.15	8.33	15.299				
1,300.00	1,285.55	1,285.55	1,285.55	4.97	4.39	167.40	-7.29	-30.63	147.99	139.13	8.86	16.706				
1,400.00	1,381.42	1,381.42	1,381.42	5.52	4.74	169.42	-7.29	-30.63	175.89	166.32	9.57	18.379				
1,500.00	1,477.29	1,477.29	1,477.29	6.09	5.08	170.88	-7.29	-30.63	203.94	193.65	10.29	19.827				
1,600.00	1,573.17	1,573.17	1,573.17	6.66	5.42	171.99	-7.29	-30.63	232.08	221.08	11.00	21.090				
1,700.00	1,669.04	1,669.04	1,669.04	7.24	5.77	172.86	-7.29	-30.63	260.29	248.56	11.73	22.199				
1,800.00	1,764.91	1,764.91	1,764.91	7.83	6.11	173.57	-7.29	-30.63	288.54	276.09	12.45	23.178				
1,900.00	1,860.78	1,860.78	1,860.78	8.42	6.46	174.14	-7.29	-30.63	316.82	303.65	13.17	24.049				
2,000.00	1,956.66	1,956.66	1,956.66	9.01	6.80	174.62	-7.29	-30.63	345.13	331.23	13.90	24.828				
2,100.00	2,052.53	2,052.53	2,052.53	9.61	7.14	175.03	-7.29	-30.63	373.46	358.83	14.63	25.529				
2,200.00	2,148.40	2,148.40	2,148.40	10.21	7.49	175.38	-7.29	-30.63	401.80	386.44	15.36	26.162				
2,300.00	2,244.27	2,244.27	2,244.27	10.81	7.83	175.69	-7.29	-30.63	430.16	414.07	16.09	26.737				
2,400.00	2,340.15	2,340.15	2,340.15	11.41	8.17	175.95	-7.29	-30.63	458.52	441.70	16.82	27.261				
2,500.00	2,436.02	2,431.30	2,431.30	12.01	8.50	176.19	-7.11	-30.63	487.07	469.55	17.52	27.803				
2,600.00	2,531.89	2,513.66	2,513.63	12.61	8.80	176.48	-5.03	-30.61	517.60	499.45	18.15	28.519				
2,700.00	2,627.76	2,600.00	2,599.84	13.22	9.11	176.89	-0.31	-30.56	550.59	531.78	18.80	29.281				
2,800.00	2,723.64	2,673.90	2,673.49	13.82	9.37	177.30	5.80	-30.49	585.89	566.54	19.34	30.287				
2,900.00	2,819.51	2,751.63	2,750.75	14.43	9.65	177.78	14.27	-30.40	623.55	603.64	19.91	31.320				
3,000.00	2,915.38	2,827.67	2,826.09	15.03	9.92	178.28	24.58	-30.30	663.50	643.05	20.45	32.441				
3,100.00	3,011.25	2,900.00	2,897.47	15.64	10.18	178.79	36.23	-30.17	705.67	684.72	20.95	33.678				
3,200.00	3,107.13	2,974.52	2,970.67	16.25	10.46	179.33	50.13	-30.03	750.00	728.53	21.48	34.923				
3,300.00	3,203.00	3,045.26	3,039.81	16.85	10.73	179.86	65.07	-29.87	796.45	774.49	21.96	36.273				
3,400.00	3,298.87	3,114.18	3,106.80	17.46	10.99	-179.62	81.27	-29.70	844.93	822.51	22.42	37.689				
3,500.00	3,394.74	3,181.28	3,171.63	18.07	11.26	-179.12	98.58	-29.52	895.39	872.53	22.86	39.167				
3,600.00	3,490.62	3,248.31	3,235.97	18.68	11.53	-178.61	117.38	-29.32	947.75	924.44	23.31	40.665				
3,700.00	3,586.49	3,332.55	3,316.61	19.29	11.89	-178.02	141.75	-29.07	1,000.93	976.96	23.96	41.767				
3,800.00	3,682.36	3,416.80	3,397.26	19.90	12.26	-177.49	166.13	-28.81	1,054.18	1,029.55	24.63	42.804				
3,900.00	3,778.23	3,501.05	3,477.90	20.51	12.64	-177.00	190.50	-28.55	1,107.49	1,082.20	25.30	43.782				
4,000.00	3,874.10	3,585.30	3,558.55	21.12	13.02	-176.56	214.87	-28.30	1,160.85	1,134.89	25.97	44.705				
4,100.00	3,969.98	3,669.55	3,639.20	21.73	13.42	-176.16	239.25	-28.04	1,214.26	1,187.62	26.64	45.576				
4,200.00	4,065.85	3,753.80	3,719.84	22.34	13.82	-175.79	263.62	-27.79	1,267.71	1,240.39	27.32	46.401				
4,300.00	4,161.72	3,838.05	3,800.49	22.95	14.22	-175.46	288.00	-27.53	1,321.19	1,293.19	28.00	47.183				
4,400.00	4,257.59	3,922.30	3,881.13	23.56	14.63	-175.14	312.37	-27.28	1,374.70	1,346.02	28.69	47.924				
4,500.00	4,353.47	4,006.55	3,961.78	24.17	15.05	-174.86	336.74	-27.02	1,428.24	1,398.87	29.37	48.627				
4,600.00	4,449.34	4,090.80	4,042.42	24.78	15.47	-174.59	361.12	-26.77	1,481.80	1,451.74	30.06	49.295				
4,700.00	4,545.21	4,175.05	4,123.07	25.39	15.90	-174.34	385.49	-26.51	1,535.39	1,504.64	30.75	49.931				
4,800.00	4,641.08	4,259.29	4,203.72	26.00	16.33	-174.11	409.86	-26.25	1,588.99	1,557.55	31.44	50.537				
4,900.00	4,736.96	4,343.54	4,284.36	26.61	16.77	-173.89	434.24	-26.00	1,642.61	1,610.47	32.14	51.114				
5,000.00	4,832.83	4,427.79	4,365.01	27.22	17.21	-173.68	458.61	-25.74	1,696.25	1,663.42	32.83	51.664				

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 11-10-14H
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 11-10-14H	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		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						
5,100.00	4,928.70	4,512.04	4,445.65	27.83	17.65	-173.49	482.98	-25.49	1,749.90	1,716.37	33.53	52.190						
5,200.00	5,024.57	4,596.29	4,526.30	28.44	18.09	-173.31	507.36	-25.23	1,803.56	1,769.34	34.23	52.693						
5,300.00	5,120.45	4,680.54	4,606.95	29.05	18.54	-173.14	531.73	-24.98	1,857.24	1,822.31	34.93	53.173						
5,400.00	5,216.32	4,764.79	4,687.59	29.66	18.99	-172.98	556.10	-24.72	1,910.93	1,875.30	35.63	53.633						
5,500.00	5,312.19	4,849.04	4,768.24	30.28	19.45	-172.83	580.48	-24.46	1,964.63	1,928.29	36.33	54.073						
5,600.00	5,408.06	4,933.29	4,848.88	30.89	19.90	-172.69	604.85	-24.21	2,018.33	1,981.30	37.04	54.496						
5,700.00	5,503.94	5,017.54	4,929.53	31.50	20.36	-172.55	629.22	-23.95	2,072.05	2,034.31	37.74	54.901						
5,800.00	5,599.81	5,101.78	5,010.18	32.11	20.82	-172.42	653.60	-23.70	2,125.77	2,087.32	38.45	55.290						
5,900.00	5,695.68	5,186.03	5,090.82	32.72	21.28	-172.30	677.97	-23.44	2,179.50	2,140.35	39.16	55.663						
6,000.00	5,791.55	5,270.28	5,171.47	33.33	21.75	-172.19	702.34	-23.19	2,233.24	2,193.37	39.86	56.022						
6,100.00	5,887.43	5,354.53	5,252.11	33.95	22.21	-172.07	726.72	-22.93	2,286.98	2,246.41	40.57	56.367						
6,200.00	5,983.30	5,438.78	5,332.76	34.56	22.68	-171.97	751.09	-22.68	2,340.73	2,299.45	41.28	56.699						
6,300.00	6,079.17	5,523.03	5,413.41	35.17	23.15	-171.87	775.47	-22.42	2,394.49	2,352.49	41.99	57.019						
6,400.00	6,175.04	5,607.28	5,494.05	35.78	23.62	-171.77	799.84	-22.16	2,448.25	2,405.54	42.71	57.327						
6,500.00	6,270.92	5,691.53	5,574.70	36.39	24.09	-171.68	824.21	-21.91	2,502.01	2,458.59	43.42	57.624						
6,600.00	6,366.79	5,775.78	5,655.34	37.00	24.56	-171.59	848.59	-21.65	2,555.78	2,511.65	44.13	57.911						
6,700.00	6,462.66	5,860.03	5,735.99	37.62	25.03	-171.50	872.96	-21.40	2,609.55	2,564.71	44.85	58.187						
6,800.00	6,558.53	5,944.28	5,816.64	38.23	25.51	-171.42	897.33	-21.14	2,663.33	2,617.77	45.56	58.454						
6,885.48	6,640.48	6,016.29	5,885.57	38.75	25.91	-171.35	918.17	-20.92	2,709.30	2,663.12	46.18	58.674						
6,900.00	6,654.42	6,028.54	5,897.30	38.84	25.98	-176.92	921.71	-20.89	2,717.08	2,670.80	46.28	58.711						
6,950.00	6,702.60	6,070.85	5,937.80	39.12	26.22	162.52	933.95	-20.76	2,743.23	2,696.60	46.63	58.833						
7,000.00	6,750.76	6,113.13	5,978.27	39.38	26.46	142.35	946.18	-20.63	2,768.31	2,721.35	46.96	58.947						
7,050.00	6,798.55	6,155.06	6,018.41	39.60	26.70	125.46	958.31	-20.50	2,792.17	2,744.89	47.28	59.055						
7,100.00	6,845.60	6,196.32	6,057.90	39.79	26.93	112.58	970.25	-20.38	2,814.67	2,767.09	47.58	59.155						
7,150.00	6,891.54	6,236.58	6,096.44	39.95	27.16	103.02	981.90	-20.25	2,835.73	2,787.86	47.86	59.247						
7,200.00	6,936.05	6,275.56	6,133.75	40.08	27.38	95.87	993.17	-20.14	2,855.25	2,807.12	48.13	59.327						
7,250.00	6,978.76	6,312.94	6,169.53	40.19	27.59	90.45	1,003.99	-20.02	2,873.18	2,824.81	48.37	59.394						
7,300.00	7,019.37	6,348.45	6,203.52	40.28	27.80	86.27	1,014.26	-19.92	2,889.49	2,840.88	48.61	59.443						
7,350.00	7,057.55	6,381.81	6,235.46	40.34	27.99	83.00	1,023.91	-19.81	2,904.15	2,855.31	48.84	59.468						
7,400.00	7,093.02	6,412.78	6,265.10	40.39	28.16	80.43	1,032.87	-19.72	2,917.15	2,868.09	49.06	59.464						
7,450.00	7,125.51	6,441.11	6,292.22	40.42	28.32	78.41	1,041.07	-19.63	2,928.49	2,879.21	49.28	59.423						
7,500.00	7,154.78	6,466.59	6,316.61	40.43	28.47	76.82	1,048.44	-19.56	2,938.20	2,888.68	49.52	59.337						
7,550.00	7,180.59	6,489.02	6,338.09	40.42	28.60	75.59	1,054.93	-19.49	2,946.28	2,896.52	49.77	59.201						
7,600.00	7,202.75	6,508.25	6,356.49	40.40	28.71	74.65	1,060.49	-19.43	2,952.77	2,902.73	50.04	59.008						
7,650.00	7,221.10	6,524.11	6,371.67	40.37	28.80	73.96	1,065.08	-19.38	2,957.68	2,907.34	50.34	58.755						
7,700.00	7,235.49	6,536.49	6,383.52	40.32	28.87	73.50	1,068.66	-19.34	2,961.04	2,910.38	50.67	58.441						
7,750.00	7,245.82	6,545.29	6,391.95	40.27	28.92	73.22	1,071.21	-19.32	2,962.88	2,911.86	51.03	58.066						
7,800.00	7,252.01	6,550.45	6,396.88	40.20	28.95	73.13	1,072.70	-19.30	2,963.21	2,911.80	51.41	57.637						
7,848.69	7,254.00	6,551.93	6,398.31	40.14	28.96	73.20	1,073.13	-19.30	2,962.11	2,910.30	51.81	57.172						
7,900.00	7,254.00	6,551.65	6,398.04	40.07	28.95	73.19	1,073.05	-19.30	2,960.65	2,908.39	52.27	56.646						
7,958.44	7,254.00	6,551.33	6,397.73	40.00	28.95	73.19	1,072.96	-19.30	2,960.08	2,907.21	52.87	55.990						
8,000.00	7,254.00	6,551.11	6,397.52	39.96	28.95	73.18	1,072.89	-19.30	2,960.37	2,907.08	53.29	55.555						
8,100.00	7,254.00	6,550.56	6,396.99	39.89	28.95	73.17	1,072.73	-19.30	2,963.46	2,909.00	54.46	54.412						
8,200.00	7,254.00	6,550.02	6,396.47	39.87	28.94	73.16	1,072.58	-19.30	2,969.92	2,914.15	55.77	53.253						
8,300.00	7,254.00	6,549.47	6,395.95	39.95	28.94	73.15	1,072.42	-19.31	2,979.72	2,922.53	57.18	52.109						
8,400.00	7,254.00	6,548.93	6,395.43	40.29	28.94	73.14	1,072.26	-19.31	2,992.83	2,934.15	58.68	51.004						
8,500.00	7,254.00	6,548.38	6,394.91	41.24	28.94	73.13	1,072.10	-19.31	3,009.21	2,948.97	60.24	49.957						
8,600.00	7,254.00	6,547.83	6,394.38	42.78	28.93	73.12	1,071.94	-19.31	3,028.80	2,966.97	61.83	48.982						
8,700.00	7,254.00	6,547.29	6,393.86	44.60	28.93	73.11	1,071.79	-19.31	3,051.55	2,988.09	63.46	48.088						
8,800.00	7,254.00	7,936.61	7,153.00	46.57	37.81	88.11	1,294.30	-862.17	3,063.58	2,983.94	79.64	38.466						
8,900.00	7,254.00	8,036.61	7,153.00	48.64	39.20	88.11	1,293.48	-962.17	3,063.60	2,980.14	83.46	36.707						
9,000.00	7,254.00	8,136.61	7,153.00	50.78	40.76	88.11	1,292.66	-1,062.16	3,063.62	2,976.16	87.46	35.029						

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 11-10-14H
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 11-10-14H	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 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)				
9,100.00	7,254.00	8,236.61	7,153.00	52.97	42.45	88.11	1,291.85	-1,162.16	3,063.64	2,972.03	91.61	33.442		
9,200.00	7,254.00	8,336.61	7,153.00	55.21	44.27	88.11	1,291.03	-1,262.16	3,063.66	2,967.76	95.89	31.948		
9,300.00	7,254.00	8,436.61	7,153.00	57.50	46.19	88.11	1,290.21	-1,362.15	3,063.68	2,963.38	100.29	30.547		
9,400.00	7,254.00	8,536.61	7,153.00	59.82	48.20	88.11	1,289.39	-1,462.15	3,063.69	2,958.90	104.80	29.235		
9,500.00	7,254.00	8,636.61	7,153.00	62.17	50.29	88.11	1,288.57	-1,562.15	3,063.71	2,954.33	109.39	28.008		
9,600.00	7,254.00	8,736.61	7,153.00	64.55	52.43	88.11	1,287.75	-1,662.14	3,063.73	2,949.68	114.05	26.862		
9,700.00	7,254.00	8,836.61	7,153.00	66.96	54.64	88.11	1,286.93	-1,762.14	3,063.75	2,944.96	118.79	25.792		
9,800.00	7,254.00	8,936.61	7,153.00	69.39	56.89	88.11	1,286.12	-1,862.14	3,063.77	2,940.19	123.58	24.791		
9,900.00	7,254.00	9,036.61	7,153.00	71.84	59.19	88.11	1,285.30	-1,962.13	3,063.79	2,935.36	128.43	23.856		
10,000.00	7,254.00	9,136.61	7,153.00	74.30	61.52	88.11	1,284.48	-2,062.13	3,063.81	2,930.48	133.32	22.980		
10,100.00	7,254.00	9,236.61	7,153.00	76.79	63.89	88.11	1,283.66	-2,162.13	3,063.82	2,925.56	138.26	22.160		
10,200.00	7,254.00	9,336.61	7,153.00	79.29	66.28	88.11	1,282.84	-2,262.12	3,063.84	2,920.61	143.23	21.391		
10,300.00	7,254.00	9,436.61	7,153.00	81.80	68.70	88.11	1,282.02	-2,362.12	3,063.86	2,915.62	148.24	20.668		
10,400.00	7,254.00	9,536.61	7,153.00	84.33	71.14	88.11	1,281.21	-2,462.12	3,063.88	2,910.60	153.28	19.989		
10,500.00	7,254.00	9,636.61	7,153.00	86.86	73.60	88.11	1,280.39	-2,562.11	3,063.90	2,905.56	158.34	19.350		
10,600.00	7,254.00	9,736.61	7,153.00	89.41	76.09	88.11	1,279.57	-2,662.11	3,063.92	2,900.49	163.43	18.748		
10,700.00	7,254.00	9,836.61	7,153.00	91.97	78.58	88.11	1,278.75	-2,762.11	3,063.94	2,895.40	168.54	18.179		
10,800.00	7,254.00	9,936.61	7,153.00	94.54	81.10	88.11	1,277.93	-2,862.10	3,063.95	2,890.28	173.67	17.642		
10,900.00	7,254.00	10,036.61	7,153.00	97.11	83.62	88.11	1,277.11	-2,962.10	3,063.97	2,885.15	178.82	17.134		
11,000.00	7,254.00	10,136.61	7,153.00	99.69	86.16	88.11	1,276.29	-3,062.10	3,063.99	2,880.00	183.99	16.653		
11,100.00	7,254.00	10,236.61	7,153.00	102.28	88.71	88.11	1,275.48	-3,162.09	3,064.01	2,874.84	189.17	16.197		
11,200.00	7,254.00	10,336.61	7,153.00	104.88	91.27	88.11	1,274.66	-3,262.09	3,064.03	2,869.66	194.37	15.764		
11,300.00	7,254.00	10,436.61	7,153.00	107.48	93.84	88.11	1,273.84	-3,362.09	3,064.05	2,864.47	199.58	15.353		
11,400.00	7,254.00	10,536.61	7,153.00	110.09	96.41	88.11	1,273.02	-3,462.08	3,064.07	2,859.27	204.80	14.961		
11,500.00	7,254.00	10,636.61	7,153.00	112.70	99.00	88.11	1,272.20	-3,562.08	3,064.08	2,854.05	210.03	14.589		
11,600.00	7,254.00	10,736.61	7,153.00	115.32	101.59	88.11	1,271.38	-3,662.08	3,064.10	2,848.83	215.27	14.233		
11,700.00	7,254.00	10,836.61	7,153.00	117.94	104.19	88.11	1,270.56	-3,762.07	3,064.12	2,843.59	220.53	13.895		
11,800.00	7,254.00	10,936.61	7,153.00	120.56	106.80	88.11	1,269.75	-3,862.07	3,064.14	2,838.35	225.79	13.571		
11,900.00	7,254.00	11,036.61	7,153.00	123.19	109.41	88.11	1,268.93	-3,962.07	3,064.16	2,833.10	231.06	13.261		
12,000.00	7,254.00	11,136.61	7,153.00	125.83	112.02	88.11	1,268.11	-4,062.06	3,064.18	2,827.84	236.34	12.965		
12,100.00	7,254.00	11,236.61	7,153.00	128.47	114.65	88.11	1,267.29	-4,162.06	3,064.20	2,822.57	241.62	12.682		
12,200.00	7,254.00	11,336.61	7,153.00	131.11	117.27	88.11	1,266.47	-4,262.06	3,064.21	2,817.30	246.92	12.410		
12,300.00	7,254.00	11,436.61	7,153.00	133.75	119.90	88.11	1,265.65	-4,362.05	3,064.23	2,812.02	252.21	12.149		
12,400.00	7,254.00	11,536.61	7,153.00	136.40	122.54	88.11	1,264.84	-4,462.05	3,064.25	2,806.73	257.52	11.899		
12,500.00	7,254.00	11,636.61	7,153.00	139.05	125.18	88.11	1,264.02	-4,562.05	3,064.27	2,801.44	262.83	11.659		
12,600.00	7,254.00	11,736.61	7,153.00	141.70	127.82	88.11	1,263.20	-4,662.04	3,064.29	2,796.14	268.14	11.428		
12,700.00	7,254.00	11,836.61	7,153.00	144.36	130.46	88.11	1,262.38	-4,762.04	3,064.31	2,790.84	273.47	11.205		
12,800.00	7,254.00	11,936.61	7,153.00	147.01	133.11	88.11	1,261.56	-4,862.04	3,064.33	2,785.54	278.79	10.992		
12,900.00	7,254.00	12,036.61	7,153.00	149.67	135.76	88.11	1,260.74	-4,962.03	3,064.34	2,780.22	284.12	10.785		
13,000.00	7,254.00	12,136.61	7,153.00	152.33	138.42	88.11	1,259.92	-5,062.03	3,064.36	2,774.91	289.45	10.587		
13,100.00	7,254.00	12,236.61	7,153.00	155.00	141.07	88.11	1,259.11	-5,162.03	3,064.38	2,769.59	294.79	10.395		
13,200.00	7,254.00	12,336.61	7,153.00	157.66	143.73	88.11	1,258.29	-5,262.02	3,064.40	2,764.27	300.13	10.210		
13,300.00	7,254.00	12,436.61	7,153.00	160.33	146.39	88.11	1,257.47	-5,362.02	3,064.42	2,758.94	305.48	10.032		
13,400.00	7,254.00	12,536.61	7,153.00	163.00	149.06	88.11	1,256.65	-5,462.02	3,064.44	2,753.61	310.83	9.859		
13,500.00	7,254.00	12,636.61	7,153.00	165.67	151.72	88.11	1,255.83	-5,562.01	3,064.46	2,748.28	316.18	9.692		
13,600.00	7,254.00	12,736.61	7,153.00	168.34	154.39	88.11	1,255.01	-5,662.01	3,064.47	2,742.94	321.53	9.531		
13,700.00	7,254.00	12,836.61	7,153.00	171.02	157.06	88.11	1,254.19	-5,762.01	3,064.49	2,737.60	326.89	9.375		
13,800.00	7,254.00	12,936.61	7,153.00	173.69	159.73	88.11	1,253.38	-5,862.00	3,064.51	2,732.26	332.25	9.224		
13,900.00	7,254.00	13,036.61	7,153.00	176.37	162.40	88.11	1,252.56	-5,962.00	3,064.53	2,726.92	337.61	9.077		
14,000.00	7,254.00	13,136.61	7,153.00	179.05	165.08	88.11	1,251.74	-6,062.00	3,064.55	2,721.57	342.98	8.935		
14,100.00	7,254.00	13,236.61	7,153.00	181.73	167.75	88.11	1,250.92	-6,161.99	3,064.57	2,716.22	348.34	8.798		
14,200.00	7,254.00	13,336.61	7,153.00	184.41	170.43	88.11	1,250.10	-6,261.99	3,064.59	2,710.87	353.71	8.664		

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 11-10-14H
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 11-10-14H	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 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)				
14,300.00	7,254.00	13,436.61	7,153.00	187.09	173.11	88.11	1,249.28	-6,361.99	3,064.60	2,705.52	359.09	8.534		
14,400.00	7,254.00	13,536.61	7,153.00	189.77	175.79	88.11	1,248.47	-6,461.98	3,064.62	2,700.16	364.46	8.409		
14,500.00	7,254.00	13,636.61	7,153.00	192.46	178.47	88.11	1,247.65	-6,561.98	3,064.64	2,694.81	369.84	8.286		
14,600.00	7,254.00	13,736.61	7,153.00	195.14	181.16	88.11	1,246.83	-6,661.98	3,064.66	2,689.45	375.21	8.168		
14,700.00	7,254.00	13,836.61	7,153.00	197.83	183.84	88.11	1,246.01	-6,761.97	3,064.68	2,684.09	380.59	8.052		
14,800.00	7,254.00	13,936.61	7,153.00	200.52	186.52	88.11	1,245.19	-6,861.97	3,064.70	2,678.72	385.97	7.940		
14,900.00	7,254.00	14,036.61	7,153.00	203.20	189.21	88.11	1,244.37	-6,961.97	3,064.72	2,673.36	391.36	7.831		
15,000.00	7,254.00	14,136.61	7,153.00	205.89	191.90	88.11	1,243.55	-7,061.96	3,064.73	2,667.99	396.74	7.725		
15,100.00	7,254.00	14,236.61	7,153.00	208.58	194.59	88.11	1,242.74	-7,161.96	3,064.75	2,662.63	402.13	7.621		
15,200.00	7,254.00	14,336.61	7,153.00	211.27	197.27	88.11	1,241.92	-7,261.96	3,064.77	2,657.26	407.52	7.521		
15,300.00	7,254.00	14,436.61	7,153.00	213.96	199.96	88.11	1,241.10	-7,361.95	3,064.79	2,651.89	412.90	7.423		
15,400.00	7,254.00	14,536.61	7,153.00	216.66	202.66	88.11	1,240.28	-7,461.95	3,064.81	2,646.51	418.30	7.327		
15,500.00	7,254.00	14,636.61	7,153.00	219.35	205.35	88.11	1,239.46	-7,561.95	3,064.83	2,641.14	423.69	7.234		
15,600.00	7,254.00	14,736.61	7,153.00	222.04	208.04	88.11	1,238.64	-7,661.94	3,064.85	2,635.77	429.08	7.143		
15,700.00	7,254.00	14,836.61	7,153.00	224.74	210.73	88.11	1,237.82	-7,761.94	3,064.86	2,630.39	434.47	7.054		
15,800.00	7,254.00	14,936.61	7,153.00	227.43	213.43	88.11	1,237.01	-7,861.94	3,064.88	2,625.01	439.87	6.968		
15,900.00	7,254.00	15,036.61	7,153.00	230.13	216.12	88.11	1,236.19	-7,961.93	3,064.90	2,619.64	445.27	6.883		
16,000.00	7,254.00	15,136.61	7,153.00	232.82	218.82	88.11	1,235.37	-8,061.93	3,064.92	2,614.26	450.66	6.801		
16,100.00	7,254.00	15,236.61	7,153.00	235.52	221.51	88.11	1,234.55	-8,161.92	3,064.94	2,608.88	456.06	6.720		
16,200.00	7,254.00	15,336.61	7,153.00	238.22	224.21	88.11	1,233.73	-8,261.92	3,064.96	2,603.50	461.46	6.642		
16,300.00	7,254.00	15,436.61	7,153.00	240.91	226.91	88.11	1,232.91	-8,361.92	3,064.98	2,598.12	466.86	6.565		
16,381.25	7,254.00	15,455.54	7,153.00	243.10	227.42	88.11	1,232.76	-8,380.85	3,065.62	2,596.12	469.50	6.530 SF		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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		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	94.72	0.00	94.72	94.43	0.29	330.282			
100.00	100.00	100.00	100.00	0.14	0.14	0.01	94.72	0.00	94.72	93.71	1.00	94.366			
200.00	200.00	200.00	200.00	0.50	0.50	0.01	94.72	0.00	94.72	93.00	1.72	55.047	CC, ES		
300.00	300.00	300.00	300.00	0.86	0.86	0.01	94.72	0.00	94.72	93.98	2.43	39.695			
400.00	400.00	396.76	396.75	1.22	1.21	0.03	96.35	0.05	96.41	99.94	3.12	32.989			
500.00	499.98	493.19	493.04	1.56	1.56	-156.94	101.23	0.21	103.06	112.45	3.81	30.477			
600.00	599.84	588.65	588.16	1.90	1.91	-157.67	109.24	0.46	116.26	131.43	4.51	30.172			
700.00	699.45	682.54	681.40	2.25	2.26	-158.63	120.21	0.81	135.94	156.14	5.20	31.013			
800.00	798.70	777.58	775.47	2.63	2.64	-159.66	133.75	1.24	161.35	184.27	5.91	32.189			
900.00	897.47	873.26	870.15	3.03	3.02	-160.72	147.58	1.68	190.18	215.61	6.62	33.592			
1,000.00	995.62	967.89	963.78	3.46	3.41	-161.72	161.25	2.11	222.23	250.16	7.32	35.179			
1,100.00	1,093.06	1,061.35	1,056.26	3.92	3.80	-162.66	174.76	2.54	257.48	287.90	8.03	36.873			
1,200.00	1,189.64	1,153.53	1,147.47	4.43	4.18	-163.50	188.08	2.96	295.92	298.20	8.21	37.302			
1,225.96	1,214.56	1,177.24	1,170.93	4.56	4.28	-163.71	191.51	3.07	306.42	327.95	8.73	38.576			
1,300.00	1,285.55	1,244.72	1,237.71	4.97	4.56	-164.41	201.26	3.38	336.67	368.17	9.42	40.073			
1,400.00	1,381.42	1,335.86	1,327.89	5.52	4.95	-165.17	214.43	3.80	377.59	408.43	10.12	41.351			
1,500.00	1,477.29	1,427.00	1,418.07	6.09	5.33	-165.78	227.60	4.22	418.56	448.73	10.83	42.453			
1,600.00	1,573.17	1,518.15	1,508.26	6.66	5.71	-166.29	240.77	4.63	459.55	489.04	11.53	43.411			
1,700.00	1,669.04	1,609.29	1,598.44	7.24	6.10	-166.71	253.94	5.05	500.57	529.38	12.24	44.252			
1,800.00	1,764.91	1,700.43	1,688.63	7.83	6.48	-167.07	267.11	5.47	541.62	569.72	12.95	44.994			
1,900.00	1,860.78	1,791.57	1,778.81	8.42	6.87	-167.38	280.28	5.89	582.67	610.08	13.66	45.655			
2,000.00	1,956.66	1,882.71	1,868.99	9.01	7.26	-167.64	293.45	6.30	623.74	650.44	14.38	46.246			
2,100.00	2,052.53	1,973.86	1,959.18	9.61	7.64	-167.88	306.62	6.72	664.82	690.81	15.09	46.777			
2,200.00	2,148.40	2,065.00	2,049.36	10.21	8.03	-168.09	319.79	7.14	705.90	731.19	15.81	47.257			
2,300.00	2,244.27	2,156.14	2,139.55	10.81	8.42	-168.27	332.96	7.56	747.00	771.57	16.52	47.693			
2,400.00	2,340.15	2,247.28	2,229.73	11.41	8.80	-168.44	346.14	7.98	788.10	811.96	17.24	48.091			
2,500.00	2,436.02	2,338.42	2,319.92	12.01	9.19	-168.58	359.31	8.39	829.20	852.35	17.96	48.455			
2,600.00	2,531.89	2,429.56	2,410.10	12.61	9.58	-168.72	372.48	8.81	870.31	892.74	18.68	48.789			
2,700.00	2,627.76	2,520.71	2,500.28	13.22	9.97	-168.84	385.65	9.23	911.42	933.13	19.40	49.097			
2,800.00	2,723.64	2,611.85	2,590.47	13.82	10.36	-168.95	398.82	9.65	952.53	973.53	20.12	49.382			
2,900.00	2,819.51	2,702.99	2,680.65	14.43	10.74	-169.06	411.99	10.07	993.65	1,013.93	20.84	49.646			
3,000.00	2,915.38	2,794.13	2,770.84	15.03	11.13	-169.15	425.16	10.48	1,034.77	1,054.33	21.57	49.891			
3,100.00	3,011.25	2,885.27	2,861.02	15.64	11.52	-169.24	438.33	10.90	1,075.89	1,094.73	22.29	50.119			
3,200.00	3,107.13	2,976.41	2,951.20	16.25	11.91	-169.32	451.50	11.32	1,117.02	1,135.13	23.01	50.332			
3,300.00	3,203.00	3,067.56	3,041.39	16.85	12.30	-169.39	464.67	11.74	1,158.14	1,175.54	23.73	50.531			
3,400.00	3,298.87	3,158.70	3,131.57	17.46	12.69	-169.46	477.84	12.15	1,199.27	1,215.94	24.46	50.718			
3,500.00	3,394.74	3,249.84	3,221.76	18.07	13.07	-169.53	491.01	12.57	1,240.40	1,256.35	25.18	50.894			
3,600.00	3,490.62	3,340.98	3,311.94	18.68	13.46	-169.59	504.18	12.99	1,281.53	1,296.76	25.90	51.059			
3,700.00	3,586.49	3,432.12	3,402.12	19.29	13.85	-169.65	517.35	13.41	1,322.66	1,337.16	26.63	51.214			
3,800.00	3,682.36	3,523.26	3,492.31	19.90	14.24	-169.70	530.53	13.83	1,363.79	1,377.57	27.35	51.361			
3,900.00	3,778.23	3,614.41	3,582.49	20.51	14.63	-169.75	543.70	14.24	1,404.93	1,417.98	28.08	51.499			
4,000.00	3,874.10	3,705.55	3,672.68	21.12	15.02	-169.80	556.87	14.66	1,446.06	1,458.39	28.80	51.630			
4,100.00	3,969.98	3,796.69	3,762.86	21.73	15.41	-169.85	570.04	15.08	1,487.20	1,498.80	29.53	51.755			
4,200.00	4,065.85	3,887.83	3,853.04	22.34	15.80	-169.89	583.21	15.50	1,528.33	1,539.21	30.26	51.872			
4,300.00	4,161.72	3,978.97	3,943.23	22.95	16.19	-169.93	596.38	15.92	1,569.47	1,579.62	30.98	51.984			
4,400.00	4,257.59	4,070.12	4,033.41	23.56	16.57	-169.97	609.55	16.33	1,610.60	1,620.03	31.71	52.091			
4,500.00	4,353.47	4,161.26	4,123.60	24.17	16.96	-170.00	622.72	16.75	1,651.74	1,660.44	32.44	52.192			
4,600.00	4,449.34	4,252.40	4,213.78	24.78	17.35	-170.04	635.89	17.17	1,692.88	1,700.86	33.16	52.288			
4,700.00	4,545.21	4,343.54	4,303.97	25.39	17.74	-170.07	649.06	17.59	1,734.02	1,741.27	33.89	52.380			
4,800.00	4,641.08	4,434.68	4,394.15	26.00	18.13	-170.10	662.23	18.00	1,775.16	1,781.68	34.62	52.468			
4,900.00	4,736.96	4,525.82	4,484.33	26.61	18.52	-170.13	675.40	18.42	1,816.30	1,822.09	35.34	52.552			
5,000.00	4,832.83	4,616.97	4,574.52	27.22	18.91	-170.16	688.57	18.84	1,857.44						

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 11-10-14H
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 11-10-14H	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		Distance		Separation		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	4,928.70	4,708.11	4,664.70	27.83	19.30	-170.19	701.74	19.26	1,898.58	1,862.50	36.07	52.632			
5,200.00	5,024.57	4,799.25	4,754.89	28.44	19.69	-170.22	714.92	19.68	1,939.72	1,902.92	36.80	52.709			
5,300.00	5,120.45	4,890.39	4,845.07	29.05	20.08	-170.24	728.09	20.09	1,980.86	1,943.33	37.53	52.782			
5,400.00	5,216.32	4,981.53	4,935.25	29.66	20.47	-170.27	741.26	20.51	2,022.00	1,983.74	38.26	52.852			
5,500.00	5,312.19	5,072.67	5,025.44	30.28	20.86	-170.29	754.43	20.93	2,063.14	2,024.15	38.99	52.919			
5,600.00	5,408.06	5,163.82	5,115.62	30.89	21.24	-170.31	767.60	21.35	2,104.28	2,064.57	39.72	52.984			
5,700.00	5,503.94	5,254.96	5,205.81	31.50	21.63	-170.33	780.77	21.76	2,145.42	2,104.98	40.44	53.046			
5,800.00	5,599.81	5,346.10	5,295.99	32.11	22.02	-170.35	793.94	22.18	2,186.57	2,145.39	41.17	53.105			
5,900.00	5,695.68	5,437.24	5,386.17	32.72	22.41	-170.37	807.11	22.60	2,227.71	2,185.80	41.90	53.163			
6,000.00	5,791.55	5,528.38	5,476.36	33.33	22.80	-170.39	820.28	23.02	2,268.85	2,226.22	42.63	53.217			
6,100.00	5,887.43	5,619.52	5,566.54	33.95	23.19	-170.41	833.45	23.44	2,309.99	2,266.63	43.36	53.270			
6,200.00	5,983.30	6,024.03	5,969.53	34.56	24.68	-170.68	864.40	24.42	2,345.47	2,299.50	45.96	51.028			
6,300.00	6,079.17	6,133.68	6,079.17	35.17	25.02	-170.81	864.46	24.42	2,373.57	2,326.82	46.75	50.767			
6,400.00	6,175.04	6,229.55	6,175.04	35.78	25.31	-170.92	864.46	24.42	2,401.67	2,354.19	47.48	50.583			
6,500.00	6,270.92	6,325.42	6,270.92	36.39	25.60	-171.02	864.46	24.42	2,429.78	2,381.58	48.21	50.404			
6,600.00	6,366.79	6,421.29	6,366.79	37.00	25.90	-171.13	864.46	24.42	2,457.90	2,408.97	48.93	50.231			
6,700.00	6,462.66	6,517.17	6,462.66	37.62	26.19	-171.23	864.46	24.42	2,486.02	2,436.37	49.66	50.062			
6,800.00	6,558.53	6,613.04	6,558.53	38.23	26.49	-171.33	864.46	24.42	2,514.16	2,463.77	50.39	49.898			
6,885.48	6,640.48	6,694.99	6,640.48	38.75	26.75	-171.41	864.46	24.42	2,538.21	2,487.20	51.01	49.761			
6,900.00	6,654.42	6,708.93	6,654.42	38.84	26.79	-176.52	864.46	24.42	2,542.25	2,491.14	51.11	49.738			
6,950.00	6,702.60	6,743.60	6,689.10	39.12	26.90	164.43	864.46	24.29	2,555.59	2,504.19	51.40	49.718			
7,000.00	6,750.76	6,766.36	6,711.83	39.38	26.96	145.58	864.45	23.36	2,568.26	2,516.65	51.61	49.761			
7,050.00	6,798.55	6,800.00	6,745.33	39.60	27.06	129.85	864.42	20.34	2,580.28	2,528.42	51.86	49.757			
7,100.00	6,845.60	6,800.00	6,745.33	39.79	27.06	117.84	864.42	20.34	2,591.48	2,539.56	51.92	49.912			
7,150.00	6,891.54	6,834.65	6,779.59	39.95	27.17	109.14	864.38	15.17	2,601.77	2,549.63	52.14	49.899			
7,200.00	6,936.05	6,850.00	6,794.65	40.08	27.21	102.63	864.36	12.22	2,611.23	2,558.97	52.25	49.973			
7,250.00	6,978.76	6,880.20	6,824.03	40.19	27.30	97.83	864.30	5.24	2,619.68	2,567.25	52.43	49.966			
7,300.00	7,019.37	6,900.00	6,843.08	40.28	27.36	94.11	864.26	-0.16	2,627.16	2,574.60	52.56	49.987			
7,350.00	7,057.55	6,925.76	6,867.55	40.34	27.43	91.29	864.19	-8.18	2,633.60	2,580.88	52.72	49.952			
7,400.00	7,093.02	6,950.00	6,890.24	40.39	27.50	89.12	864.12	-16.72	2,638.98	2,586.10	52.88	49.902			
7,450.00	7,125.51	6,971.30	6,909.86	40.42	27.55	87.44	864.05	-25.01	2,643.29	2,590.23	53.06	49.819			
7,500.00	7,154.78	7,000.00	6,935.78	40.43	27.63	86.28	863.95	-37.33	2,646.53	2,593.24	53.30	49.656			
7,550.00	7,180.59	7,016.78	6,950.64	40.42	27.67	85.34	863.89	-45.12	2,648.68	2,595.16	53.52	49.492			
7,600.00	7,202.75	7,050.00	6,979.35	40.40	27.76	84.92	863.75	-61.82	2,649.81	2,595.95	53.87	49.192			
7,650.00	7,221.10	7,062.13	6,989.59	40.37	27.79	84.51	863.70	-68.33	2,649.84	2,595.68	54.16	48.925			
7,700.00	7,235.49	7,084.73	7,008.28	40.32	27.85	84.50	863.59	-81.03	2,648.89	2,594.33	54.57	48.545			
7,750.00	7,245.82	7,100.00	7,020.62	40.27	27.89	84.61	863.52	-90.02	2,647.00	2,592.01	54.99	48.139			
7,800.00	7,252.01	7,129.66	7,043.89	40.20	27.96	85.15	863.37	-108.41	2,644.16	2,588.61	55.55	47.602			
7,848.69	7,254.00	7,150.00	7,059.27	40.14	28.01	85.76	863.26	-121.71	2,640.58	2,584.49	56.09	47.076			
7,900.00	7,254.00	7,175.21	7,077.68	40.07	28.07	86.16	863.12	-138.93	2,636.75	2,580.01	56.74	46.469			
8,000.00	7,254.00	7,228.21	7,113.80	39.96	28.21	86.94	862.80	-177.69	2,631.12	2,572.94	58.17	45.230			
8,100.00	7,254.00	7,291.06	7,151.77	39.89	28.38	87.77	862.39	-227.74	2,627.60	2,567.75	59.85	43.904			
8,200.00	7,254.00	7,364.79	7,189.02	39.87	28.64	88.58	861.87	-291.30	2,625.72	2,563.92	61.80	42.485			
8,300.00	7,254.00	7,450.00	7,221.48	39.95	29.05	89.29	861.22	-370.00	2,624.96	2,560.89	64.07	40.972			
8,400.00	7,254.00	7,543.01	7,243.17	40.29	29.73	89.76	860.48	-460.34	2,624.77	2,558.11	66.66	39.374			
8,445.14	7,254.00	7,587.21	7,248.29	40.62	30.13	89.88	860.12	-504.23	2,624.76	2,556.81	67.95	38.626			
8,500.00	7,254.00	7,641.68	7,250.00	41.24	30.70	89.91	859.68	-558.65	2,624.77	2,555.21	69.56	37.732			
8,600.00	7,254.00	7,741.68	7,250.00	42.78	31.93	89.91	858.85	-658.64	2,624.79	2,552.03	72.76	36.075			
8,700.00	7,254.00	7,841.68	7,250.00	44.60	33.36	89.91	858.03	-758.64	2,624.80	2,548.60	76.20	34.445			
8,800.00	7,254.00	7,941.68	7,250.00	46.57	34.94	89.91	857.21	-858.64	2,624.82	2,544.94	79.88	32.860			
8,900.00	7,254.00	8,041.68	7,250.00	48.64	36.67	89.91	856.39	-958.63	2,624.84	2,541.08	83.75	31.340			
9,000.00	7,254.00	8,141.68	7,250.00	50.78	38.52	89.91	855.57	-1,058.63	2,624.85	2,537.05	87.80	29.896			

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 11-10-14H
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 11-10-14H	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)				
9,100.00	7,254.00	8,241.68	7,250.00	52.97	40.47	89.91	854.75	-1,158.63	2,624.87	2,532.87	92.00	28.532		
9,200.00	7,254.00	8,341.68	7,250.00	55.21	42.50	89.91	853.93	-1,258.62	2,624.89	2,528.57	96.32	27.251		
9,300.00	7,254.00	8,441.68	7,250.00	57.50	44.61	89.91	853.11	-1,358.62	2,624.90	2,524.14	100.76	26.051		
9,400.00	7,254.00	8,541.68	7,250.00	59.82	46.79	89.91	852.29	-1,458.62	2,624.92	2,519.63	105.29	24.929		
9,500.00	7,254.00	8,641.68	7,250.00	62.17	49.02	89.91	851.47	-1,558.61	2,624.94	2,515.02	109.91	23.882		
9,600.00	7,254.00	8,741.68	7,250.00	64.55	51.29	89.91	850.65	-1,658.61	2,624.95	2,510.35	114.61	22.904		
9,700.00	7,254.00	8,841.68	7,250.00	66.96	53.61	89.91	849.83	-1,758.61	2,624.97	2,505.60	119.37	21.991		
9,800.00	7,254.00	8,941.68	7,250.00	69.39	55.97	89.91	849.01	-1,858.60	2,624.99	2,500.80	124.18	21.138		
9,900.00	7,254.00	9,041.68	7,250.00	71.84	58.36	89.91	848.19	-1,958.60	2,625.01	2,495.95	129.05	20.341		
10,000.00	7,254.00	9,141.68	7,250.00	74.30	60.77	89.91	847.37	-2,058.60	2,625.02	2,491.06	133.97	19.595		
10,100.00	7,254.00	9,241.68	7,250.00	76.79	63.21	89.91	846.55	-2,158.59	2,625.04	2,486.12	138.92	18.896		
10,200.00	7,254.00	9,341.68	7,250.00	79.29	65.68	89.91	845.73	-2,258.59	2,625.06	2,481.15	143.91	18.241		
10,300.00	7,254.00	9,441.68	7,249.99	81.80	68.16	89.91	844.91	-2,358.59	2,625.07	2,476.14	148.93	17.626		
10,400.00	7,254.00	9,541.68	7,249.99	84.33	70.66	89.91	844.09	-2,458.58	2,625.09	2,471.11	153.98	17.048		
10,500.00	7,254.00	9,641.68	7,249.99	86.86	73.18	89.91	843.27	-2,558.58	2,625.11	2,466.05	159.06	16.504		
10,600.00	7,254.00	9,741.68	7,249.99	89.41	75.71	89.91	842.45	-2,658.58	2,625.12	2,460.97	164.16	15.992		
10,700.00	7,254.00	9,841.68	7,249.99	91.97	78.25	89.91	841.63	-2,758.57	2,625.14	2,455.86	169.28	15.508		
10,800.00	7,254.00	9,941.68	7,249.99	94.54	80.81	89.91	840.81	-2,858.57	2,625.16	2,450.74	174.42	15.051		
10,900.00	7,254.00	10,041.68	7,249.99	97.11	83.37	89.91	839.99	-2,958.57	2,625.17	2,445.59	179.58	14.618		
11,000.00	7,254.00	10,141.68	7,249.99	99.69	85.95	89.91	839.17	-3,058.56	2,625.19	2,440.43	184.76	14.209		
11,100.00	7,254.00	10,241.68	7,249.99	102.28	88.53	89.91	838.35	-3,158.56	2,625.21	2,435.26	189.95	13.821		
11,200.00	7,254.00	10,341.68	7,249.99	104.88	91.12	89.91	837.53	-3,258.56	2,625.22	2,430.07	195.15	13.452		
11,300.00	7,254.00	10,441.68	7,249.99	107.48	93.72	89.91	836.71	-3,358.55	2,625.24	2,424.87	200.37	13.102		
11,400.00	7,254.00	10,541.68	7,249.99	110.09	96.33	89.91	835.89	-3,458.55	2,625.26	2,419.66	205.60	12.769		
11,500.00	7,254.00	10,641.68	7,249.99	112.70	98.94	89.91	835.07	-3,558.55	2,625.28	2,414.43	210.84	12.451		
11,600.00	7,254.00	10,741.68	7,249.99	115.32	101.56	89.91	834.25	-3,658.54	2,625.29	2,409.20	216.09	12.149		
11,700.00	7,254.00	10,841.68	7,249.99	117.94	104.18	89.91	833.43	-3,758.54	2,625.31	2,403.96	221.35	11.860		
11,800.00	7,254.00	10,941.68	7,249.99	120.56	106.81	89.91	832.61	-3,858.54	2,625.33	2,398.71	226.62	11.585		
11,900.00	7,254.00	11,041.68	7,249.99	123.19	109.44	89.91	831.79	-3,958.53	2,625.34	2,393.45	231.90	11.321		
12,000.00	7,254.00	11,141.68	7,249.99	125.83	112.08	89.91	830.97	-4,058.53	2,625.36	2,388.18	237.18	11.069		
12,100.00	7,254.00	11,241.68	7,249.99	128.47	114.72	89.91	830.15	-4,158.53	2,625.38	2,382.90	242.47	10.828		
12,200.00	7,254.00	11,341.68	7,249.99	131.11	117.37	89.91	829.33	-4,258.52	2,625.39	2,377.62	247.77	10.596		
12,300.00	7,254.00	11,441.68	7,249.99	133.75	120.02	89.91	828.51	-4,358.52	2,625.41	2,372.34	253.07	10.374		
12,400.00	7,254.00	11,541.68	7,249.99	136.40	122.67	89.91	827.69	-4,458.52	2,625.43	2,367.04	258.38	10.161		
12,500.00	7,254.00	11,641.68	7,249.99	139.05	125.32	89.91	826.87	-4,558.51	2,625.44	2,361.74	263.70	9.956		
12,600.00	7,254.00	11,741.68	7,249.99	141.70	127.98	89.91	826.05	-4,658.51	2,625.46	2,356.44	269.02	9.759		
12,700.00	7,254.00	11,841.68	7,249.99	144.36	130.64	89.91	825.23	-4,758.51	2,625.48	2,351.13	274.35	9.570		
12,800.00	7,254.00	11,941.68	7,249.99	147.01	133.30	89.91	824.41	-4,858.50	2,625.49	2,345.82	279.68	9.388		
12,900.00	7,254.00	12,041.68	7,249.99	149.67	135.97	89.91	823.59	-4,958.50	2,625.51	2,340.50	285.01	9.212		
13,000.00	7,254.00	12,141.68	7,249.99	152.33	138.63	89.91	822.77	-5,058.50	2,625.53	2,335.18	290.35	9.043		
13,100.00	7,254.00	12,241.68	7,249.99	155.00	141.30	89.91	821.95	-5,158.49	2,625.55	2,329.85	295.69	8.879		
13,200.00	7,254.00	12,341.68	7,249.99	157.66	143.97	89.91	821.13	-5,258.49	2,625.56	2,324.53	301.04	8.722		
13,300.00	7,254.00	12,441.68	7,249.99	160.33	146.65	89.91	820.31	-5,358.49	2,625.58	2,319.19	306.39	8.570		
13,400.00	7,254.00	12,541.68	7,249.99	163.00	149.32	89.91	819.48	-5,458.48	2,625.60	2,313.86	311.74	8.422		
13,500.00	7,254.00	12,641.68	7,249.99	165.67	152.00	89.91	818.66	-5,558.48	2,625.61	2,308.52	317.09	8.280		
13,600.00	7,254.00	12,741.68	7,249.99	168.34	154.68	89.91	817.84	-5,658.48	2,625.63	2,303.18	322.45	8.143		
13,700.00	7,254.00	12,841.68	7,249.99	171.02	157.36	89.91	817.02	-5,758.47	2,625.65	2,297.83	327.81	8.010		
13,800.00	7,254.00	12,941.68	7,249.98	173.69	160.04	89.91	816.20	-5,858.47	2,625.66	2,292.49	333.18	7.881		
13,900.00	7,254.00	13,041.68	7,249.98	176.37	162.72	89.91	815.38	-5,958.47	2,625.68	2,287.14	338.54	7.756		
14,000.00	7,254.00	13,141.68	7,249.98	179.05	165.40	89.91	814.56	-6,058.46	2,625.70	2,281.78	343.91	7.635		
14,100.00	7,254.00	13,241.68	7,249.98	181.73	168.09	89.91	813.74	-6,158.46	2,625.71	2,276.43	349.28	7.517		
14,200.00	7,254.00	13,341.68	7,249.98	184.41	170.77	89.91	812.92	-6,258.46	2,625.73	2,271.07	354.66	7.404		

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 11-10-14H
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 11-10-14H	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		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)				
14,300.00	7,254.00	13,441.68	7,249.98	187.09	173.46	89.91	812.10	-6,358.45	2,625.75	2,265.71	360.03	7.293		
14,400.00	7,254.00	13,541.68	7,249.98	189.77	176.15	89.91	811.28	-6,458.45	2,625.76	2,260.35	365.41	7.186		
14,500.00	7,254.00	13,641.68	7,249.98	192.46	178.84	89.91	810.46	-6,558.44	2,625.78	2,254.99	370.79	7.082		
14,600.00	7,254.00	13,741.68	7,249.98	195.14	181.53	89.91	809.64	-6,658.44	2,625.80	2,249.63	376.17	6.980		
14,700.00	7,254.00	13,841.68	7,249.98	197.83	184.22	89.91	808.82	-6,758.44	2,625.82	2,244.26	381.56	6.882		
14,800.00	7,254.00	13,941.68	7,249.98	200.52	186.91	89.91	808.00	-6,858.43	2,625.83	2,238.89	386.94	6.786		
14,900.00	7,254.00	14,041.68	7,249.98	203.20	189.60	89.91	807.18	-6,958.43	2,625.85	2,233.52	392.33	6.693		
15,000.00	7,254.00	14,141.68	7,249.98	205.89	192.30	89.91	806.36	-7,058.43	2,625.87	2,228.15	397.72	6.602		
15,100.00	7,254.00	14,241.68	7,249.98	208.58	194.99	89.91	805.54	-7,158.42	2,625.88	2,222.78	403.10	6.514		
15,200.00	7,254.00	14,341.68	7,249.98	211.27	197.69	89.91	804.72	-7,258.42	2,625.90	2,217.40	408.50	6.428		
15,300.00	7,254.00	14,441.68	7,249.98	213.96	200.38	89.91	803.90	-7,358.42	2,625.92	2,212.03	413.89	6.345		
15,400.00	7,254.00	14,541.68	7,249.98	216.66	203.08	89.91	803.08	-7,458.41	2,625.93	2,206.65	419.28	6.263		
15,500.00	7,254.00	14,641.68	7,249.98	219.35	205.78	89.91	802.26	-7,558.41	2,625.95	2,201.27	424.68	6.183		
15,600.00	7,254.00	14,741.68	7,249.98	222.04	208.48	89.91	801.44	-7,658.41	2,625.97	2,195.89	430.07	6.106		
15,700.00	7,254.00	14,841.68	7,249.98	224.74	211.17	89.91	800.62	-7,758.40	2,625.98	2,190.51	435.47	6.030		
15,800.00	7,254.00	14,941.68	7,249.98	227.43	213.87	89.91	799.80	-7,858.40	2,626.00	2,185.13	440.87	5.956		
15,900.00	7,254.00	15,041.68	7,249.98	230.13	216.57	89.91	798.98	-7,958.40	2,626.02	2,179.75	446.27	5.884		
16,000.00	7,254.00	15,141.68	7,249.98	232.82	219.27	89.91	798.16	-8,058.39	2,626.04	2,174.37	451.67	5.814		
16,100.00	7,254.00	15,241.68	7,249.98	235.52	221.97	89.91	797.34	-8,158.39	2,626.05	2,168.98	457.07	5.745		
16,200.00	7,254.00	15,341.68	7,249.98	238.22	224.68	89.91	796.52	-8,258.39	2,626.07	2,163.60	462.47	5.678		
16,300.00	7,254.00	15,434.75	7,249.99	240.91	227.19	89.91	795.70	-8,351.46	2,626.19	2,158.51	467.67	5.615		
16,381.25	7,254.00	15,478.21	7,250.00	243.10	228.36	89.91	795.61	-8,394.92	2,626.69	2,155.78	470.90	5.578 SF		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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		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	80.15	0.00	80.15	80.15						
100.00	100.00	100.00	100.00	0.14	0.14	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	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	80.15	0.00	80.15	78.42	1.72	46.578				
400.00	400.00	400.00	400.00	1.22	1.22	0.00	80.15	0.00	80.15	77.71	2.44	32.879	CC, ES			
500.00	499.98	497.77	497.75	1.56	1.57	-156.47	81.45	1.03	83.09	79.96	3.13	26.526				
600.00	599.84	595.03	594.87	1.90	1.92	-155.75	85.35	4.12	91.91	88.08	3.83	24.027				
700.00	699.45	694.13	693.75	2.25	2.28	-155.34	90.64	8.30	105.23	100.70	4.53	23.216				
800.00	798.70	792.75	792.14	2.63	2.64	-155.67	95.90	12.46	121.70	116.45	5.25	23.194				
900.00	897.47	890.78	889.95	3.03	3.00	-156.45	101.13	16.59	141.31	135.34	5.97	23.684				
1,000.00	995.62	988.10	987.03	3.46	3.36	-157.46	106.32	20.70	164.10	157.41	6.69	24.528				
1,100.00	1,093.06	1,084.57	1,083.29	3.92	3.71	-158.56	111.46	24.77	190.10	182.68	7.42	25.629				
1,200.00	1,189.64	1,180.10	1,178.60	4.43	4.07	-159.67	116.56	28.80	219.31	211.16	8.15	26.922				
1,225.96	1,214.56	1,204.73	1,203.17	4.56	4.16	-159.95	117.87	29.84	227.42	219.08	8.34	27.268				
1,300.00	1,285.55	1,274.87	1,273.14	4.97	4.42	-160.82	121.61	32.80	250.88	242.01	8.87	28.271				
1,400.00	1,381.42	1,369.60	1,367.66	5.52	4.77	-161.77	126.66	36.79	282.64	273.04	9.60	29.451				
1,500.00	1,477.29	1,464.33	1,462.17	6.09	5.12	-162.53	131.72	40.79	314.45	304.13	10.32	30.459				
1,600.00	1,573.17	1,559.06	1,556.68	6.66	5.48	-163.15	136.77	44.79	346.30	335.25	11.05	31.331				
1,700.00	1,669.04	1,653.79	1,651.19	7.24	5.83	-163.66	141.82	48.78	378.19	366.40	11.79	32.090				
1,800.00	1,764.91	1,748.52	1,745.70	7.83	6.18	-164.10	146.87	52.78	410.09	397.57	12.52	32.757				
1,900.00	1,860.78	1,843.25	1,840.21	8.42	6.53	-164.47	151.93	56.77	442.02	428.76	13.26	33.347				
2,000.00	1,956.66	1,937.99	1,934.73	9.01	6.89	-164.79	156.98	60.77	473.96	459.96	13.99	33.872				
2,100.00	2,052.53	2,032.72	2,029.24	9.61	7.24	-165.07	162.03	64.77	505.91	491.18	14.73	34.343				
2,200.00	2,148.40	2,127.45	2,123.75	10.21	7.59	-165.32	167.09	68.76	537.87	522.40	15.47	34.767				
2,300.00	2,244.27	2,222.18	2,218.26	10.81	7.95	-165.54	172.14	72.76	569.84	553.63	16.21	35.151				
2,400.00	2,340.15	2,316.91	2,312.77	11.41	8.30	-165.74	177.19	76.76	601.81	584.86	16.95	35.500				
2,500.00	2,436.02	2,411.64	2,407.28	12.01	8.65	-165.91	182.24	80.75	633.79	616.10	17.69	35.819				
2,600.00	2,531.89	2,506.37	2,501.80	12.61	9.01	-166.07	187.30	84.75	665.78	647.34	18.44	36.111				
2,700.00	2,627.76	2,601.10	2,596.31	13.22	9.36	-166.22	192.35	88.74	697.77	678.59	19.18	36.380				
2,800.00	2,723.64	2,695.83	2,690.82	13.82	9.72	-166.35	197.40	92.74	729.76	709.84	19.92	36.628				
2,900.00	2,819.51	2,790.56	2,785.33	14.43	10.07	-166.47	202.45	96.74	761.76	741.09	20.67	36.857				
3,000.00	2,915.38	2,885.30	2,879.84	15.03	10.42	-166.58	207.51	100.73	793.76	772.35	21.41	37.070				
3,100.00	3,011.25	2,980.03	2,974.35	15.64	10.78	-166.69	212.56	104.73	825.76	803.60	22.16	37.268				
3,200.00	3,107.13	3,074.76	3,068.87	16.25	11.13	-166.78	217.61	108.73	857.77	834.86	22.90	37.452				
3,300.00	3,203.00	3,169.49	3,163.38	16.85	11.48	-166.87	222.67	112.72	889.77	866.12	23.65	37.625				
3,400.00	3,298.87	3,264.22	3,257.89	17.46	11.84	-166.95	227.72	116.72	921.78	897.39	24.39	37.787				
3,500.00	3,394.74	3,358.95	3,352.40	18.07	12.19	-167.03	232.77	120.71	953.79	928.65	25.14	37.938				
3,600.00	3,490.62	3,453.68	3,446.91	18.68	12.55	-167.10	237.82	124.71	985.80	959.92	25.89	38.081				
3,700.00	3,586.49	3,548.41	3,541.42	19.29	12.90	-167.17	242.88	128.71	1,017.81	991.18	26.63	38.215				
3,800.00	3,682.36	3,643.14	3,635.94	19.90	13.25	-167.23	247.93	132.70	1,049.83	1,022.45	27.38	38.342				
3,900.00	3,778.23	3,737.87	3,730.45	20.51	13.61	-167.29	252.98	136.70	1,081.84	1,053.72	28.13	38.461				
4,000.00	3,874.10	3,832.60	3,824.96	21.12	13.96	-167.35	258.03	140.70	1,113.86	1,084.98	28.88	38.574				
4,100.00	3,969.98	3,927.34	3,919.47	21.73	14.32	-167.40	263.09	144.69	1,145.88	1,116.25	29.62	38.682				
4,200.00	4,065.85	4,022.07	4,013.98	22.34	14.67	-167.45	268.14	148.69	1,177.89	1,147.52	30.37	38.783				
4,300.00	4,161.72	4,116.80	4,108.49	22.95	15.02	-167.50	273.19	152.69	1,209.91	1,178.79	31.12	38.880				
4,400.00	4,257.59	4,211.53	4,203.01	23.56	15.38	-167.54	278.24	156.68	1,241.93	1,210.06	31.87	38.972				
4,500.00	4,353.47	4,306.26	4,297.52	24.17	15.73	-167.58	283.30	160.68	1,273.95	1,241.34	32.62	39.060				
4,600.00	4,449.34	4,400.99	4,392.03	24.78	16.09	-167.62	288.35	164.67	1,305.97	1,272.61	33.36	39.143				
4,700.00	4,545.21	4,495.72	4,486.54	25.39	16.44	-167.66	293.40	168.67	1,337.99	1,303.88	34.11	39.223				
4,800.00	4,641.08	4,590.45	4,581.05	26.00	16.79	-167.70	298.46	172.67	1,370.01	1,335.15	34.86	39.299				
4,900.00	4,736.96	4,685.18	4,675.56	26.61	17.15	-167.73	303.51	176.66	1,402.04	1,366.42	35.61	39.371				
5,000.00	4,832.83	4,779.91	4,770.08	27.22	17.50	-167.77	308.56	180.66	1,434.06	1,397.70	36.36	39.441				

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 11-10-14H
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 11-10-14H	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		Separation		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	4,928.70	4,874.65	4,864.59	27.83	17.86	-167.80	313.61	184.66	1,466.08	1,428.97	37.11	39.507			
5,200.00	5,024.57	4,969.38	4,959.10	28.44	18.21	-167.83	318.67	188.65	1,498.10	1,460.24	37.86	39.571			
5,300.00	5,120.45	5,064.11	5,053.61	29.05	18.56	-167.86	323.72	192.65	1,530.13	1,491.52	38.61	39.632			
5,400.00	5,216.32	5,158.84	5,148.12	29.66	18.92	-167.89	328.77	196.64	1,562.15	1,522.79	39.36	39.691			
5,500.00	5,312.19	5,253.57	5,242.63	30.28	19.27	-167.92	333.82	200.64	1,594.18	1,554.07	40.11	39.747			
5,600.00	5,408.06	5,348.30	5,337.15	30.89	19.63	-167.94	338.88	204.64	1,626.20	1,585.34	40.86	39.801			
5,700.00	5,503.94	5,443.03	5,431.66	31.50	19.98	-167.97	343.93	208.63	1,658.22	1,616.62	41.61	39.853			
5,800.00	5,599.81	5,537.76	5,526.17	32.11	20.33	-167.99	348.98	212.63	1,690.25	1,647.89	42.36	39.903			
5,900.00	5,695.68	5,632.49	5,620.68	32.72	20.69	-168.01	354.03	216.63	1,722.27	1,679.17	43.11	39.952			
6,000.00	5,791.55	5,727.22	5,715.19	33.33	21.04	-168.04	359.09	220.62	1,754.30	1,710.44	43.86	39.998			
6,100.00	5,887.43	5,821.95	5,809.70	33.95	21.40	-168.06	364.14	224.62	1,786.33	1,741.72	44.61	40.043			
6,200.00	5,983.30	5,916.69	5,904.22	34.56	21.75	-168.08	369.19	228.62	1,818.35	1,772.99	45.36	40.086			
6,300.00	6,079.17	6,011.42	5,998.73	35.17	22.10	-168.10	374.25	232.61	1,850.38	1,804.27	46.11	40.128			
6,400.00	6,175.04	6,106.15	6,093.24	35.78	22.46	-168.12	379.30	236.61	1,882.40	1,835.54	46.86	40.168			
6,500.00	6,270.92	6,200.88	6,187.75	36.39	22.81	-168.14	384.35	240.60	1,914.43	1,866.82	47.61	40.207			
6,600.00	6,366.79	6,295.61	6,282.26	37.00	23.17	-168.15	389.40	244.60	1,946.46	1,898.09	48.37	40.244			
6,700.00	6,462.66	6,390.34	6,376.77	37.62	23.52	-168.17	394.46	248.60	1,978.48	1,929.37	49.12	40.280			
6,800.00	6,558.53	6,482.24	6,468.46	38.23	23.86	-168.19	399.36	252.47	2,010.51	1,960.66	49.85	40.332			
6,885.48	6,640.48	6,530.97	6,517.11	38.75	24.04	-168.26	401.94	252.46	2,038.61	1,988.37	50.24	40.577			
6,900.00	6,654.42	6,538.89	6,525.00	38.84	24.06	-173.47	402.36	252.06	2,043.48	1,993.18	50.30	40.625			
6,950.00	6,702.60	6,586.10	6,552.09	39.12	24.15	167.04	403.78	249.88	2,060.06	2,009.56	50.49	40.797			
7,000.00	6,750.76	6,600.00	6,585.64	39.38	24.26	147.74	405.52	245.36	2,076.21	2,025.50	50.71	40.940			
7,050.00	6,798.55	6,620.54	6,605.81	39.60	24.31	131.54	406.56	241.66	2,091.79	2,040.97	50.82	41.160			
7,100.00	6,845.60	6,650.00	6,634.49	39.79	24.40	119.18	408.03	235.09	2,106.72	2,055.75	50.97	41.329			
7,150.00	6,891.54	6,675.15	6,658.68	39.95	24.46	110.00	409.26	228.32	2,120.89	2,069.81	51.08	41.519			
7,200.00	6,936.05	6,700.00	6,682.26	40.08	24.53	103.10	410.45	220.59	2,134.21	2,083.03	51.18	41.698			
7,250.00	6,978.76	6,730.13	6,710.38	40.19	24.60	97.86	411.85	209.86	2,146.58	2,095.28	51.31	41.837			
7,300.00	7,019.37	6,750.00	6,728.60	40.28	24.64	93.73	412.75	201.98	2,157.98	2,106.60	51.37	42.005			
7,350.00	7,057.55	6,785.69	6,760.59	40.34	24.72	90.58	414.32	186.26	2,168.25	2,116.70	51.54	42.065			
7,400.00	7,093.02	6,813.74	6,785.02	40.39	24.77	88.04	415.50	172.52	2,177.41	2,125.73	51.69	42.128			
7,450.00	7,125.51	6,850.00	6,815.54	40.42	24.84	86.13	416.96	153.02	2,185.42	2,133.53	51.90	42.109			
7,500.00	7,154.78	6,870.52	6,832.26	40.43	24.87	84.52	417.75	141.13	2,192.18	2,140.12	52.06	42.111			
7,550.00	7,180.59	6,900.00	6,855.49	40.42	24.92	83.37	418.83	123.04	2,197.73	2,145.42	52.31	42.013			
7,600.00	7,202.75	6,928.39	6,876.97	40.40	24.96	82.55	419.81	104.49	2,202.02	2,149.41	52.61	41.854			
7,650.00	7,221.10	6,950.00	6,892.68	40.37	24.99	81.95	420.52	89.68	2,205.08	2,152.15	52.93	41.660			
7,700.00	7,235.49	6,987.59	6,918.65	40.32	25.05	81.82	421.67	62.54	2,206.85	2,153.44	53.41	41.320			
7,750.00	7,245.82	7,017.77	6,938.18	40.27	25.10	81.86	422.52	39.55	2,207.39	2,153.48	53.91	40.946			
7,800.00	7,252.01	7,050.00	6,957.68	40.20	25.19	82.18	423.34	13.90	2,206.73	2,152.24	54.49	40.499			
7,848.69	7,254.00	7,078.67	6,973.78	40.14	25.32	82.69	424.00	-9.81	2,204.94	2,149.84	55.10	40.015			
7,900.00	7,254.00	7,112.02	6,991.00	40.07	25.49	83.14	424.67	-38.35	2,202.75	2,146.92	55.83	39.457			
8,000.00	7,254.00	7,183.70	7,022.22	39.96	25.95	83.95	425.79	-102.81	2,199.84	2,142.38	57.46	38.287			
8,100.00	7,254.00	7,263.52	7,047.24	39.89	26.58	84.60	426.48	-178.54	2,198.27	2,138.89	59.38	37.020			
8,200.00	7,254.00	7,350.00	7,062.20	39.87	27.40	84.99	426.56	-263.63	2,197.60	2,136.00	61.60	35.674			
8,300.00	7,254.00	7,441.93	7,065.00	39.95	28.44	85.07	425.94	-355.47	2,197.49	2,133.36	64.13	34.264			
8,332.90	7,254.00	7,474.83	7,065.00	40.01	28.84	85.07	425.67	-388.37	2,197.49	2,132.42	65.07	33.773			
8,400.00	7,254.00	7,541.93	7,065.00	40.29	29.73	85.07	425.11	-455.47	2,197.49	2,130.44	67.05	32.775			
8,500.00	7,254.00	7,641.93	7,065.00	41.24	31.20	85.07	424.27	-555.47	2,197.49	2,127.23	70.26	31.276			
8,600.00	7,254.00	7,741.93	7,065.00	42.78	32.83	85.07	423.43	-655.46	2,197.49	2,123.75	73.74	29.801			
8,700.00	7,254.00	7,841.93	7,065.00	44.60	34.60	85.07	422.59	-755.46	2,197.49	2,120.04	77.45	28.374			
8,800.00	7,254.00	7,941.93	7,065.00	46.57	36.48	85.07	421.75	-855.45	2,197.49	2,116.14	81.35	27.013			
8,900.00	7,254.00	8,041.93	7,065.00	48.64	38.46	85.07	420.92	-955.45	2,197.49	2,112.06	85.42	25.725			
9,000.00	7,254.00	8,141.93	7,065.00	50.78	40.53	85.07	420.08	-1,055.45	2,197.49	2,107.84	89.64	24.514			

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 11-10-14H
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 11-10-14H	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 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)			
9,100.00	7,254.00	8,241.93	7,065.00	52.97	42.67	85.07	419.24	-1,155.44	2,197.48	2,103.50	93.99	23.381	
9,200.00	7,254.00	8,341.93	7,065.00	55.21	44.88	85.07	418.40	-1,255.44	2,197.48	2,099.04	98.44	22.323	
9,300.00	7,254.00	8,441.93	7,065.00	57.50	47.14	85.07	417.56	-1,355.44	2,197.48	2,094.49	102.99	21.337	
9,400.00	7,254.00	8,541.93	7,065.00	59.82	49.44	85.07	416.73	-1,455.43	2,197.48	2,089.86	107.62	20.419	
9,500.00	7,254.00	8,641.93	7,065.00	62.17	51.79	85.07	415.89	-1,555.43	2,197.48	2,085.16	112.32	19.564	
9,600.00	7,254.00	8,741.93	7,065.00	64.55	54.17	85.07	415.05	-1,655.43	2,197.48	2,080.39	117.09	18.767	
9,700.00	7,254.00	8,841.93	7,065.00	66.96	56.58	85.07	414.21	-1,755.42	2,197.48	2,075.57	121.91	18.025	
9,800.00	7,254.00	8,941.93	7,065.00	69.39	59.01	85.07	413.37	-1,855.42	2,197.48	2,070.70	126.78	17.333	
9,900.00	7,254.00	9,041.93	7,065.00	71.84	61.48	85.07	412.54	-1,955.42	2,197.48	2,065.78	131.70	16.686	
10,000.00	7,254.00	9,141.93	7,065.00	74.30	63.96	85.07	411.70	-2,055.41	2,197.48	2,060.83	136.65	16.081	
10,100.00	7,254.00	9,241.93	7,065.00	76.79	66.46	85.07	410.86	-2,155.41	2,197.48	2,055.84	141.64	15.515	
10,200.00	7,254.00	9,341.93	7,065.00	79.29	68.98	85.07	410.02	-2,255.41	2,197.47	2,050.82	146.66	14.984	
10,300.00	7,254.00	9,441.93	7,065.00	81.80	71.51	85.07	409.18	-2,355.40	2,197.47	2,045.77	151.70	14.485	
10,400.00	7,254.00	9,541.93	7,065.00	84.33	74.06	85.07	408.35	-2,455.40	2,197.47	2,040.69	156.78	14.016	
10,500.00	7,254.00	9,641.93	7,065.00	86.86	76.62	85.07	407.51	-2,555.39	2,197.47	2,035.60	161.87	13.575	
10,600.00	7,254.00	9,741.93	7,065.00	89.41	79.19	85.07	406.67	-2,655.39	2,197.47	2,030.48	166.99	13.159	
10,700.00	7,254.00	9,841.93	7,065.00	91.97	81.77	85.07	405.83	-2,755.39	2,197.47	2,025.34	172.13	12.767	
10,800.00	7,254.00	9,941.93	7,065.00	94.54	84.35	85.07	404.99	-2,855.38	2,197.47	2,020.19	177.28	12.396	
10,900.00	7,254.00	10,041.93	7,065.00	97.11	86.95	85.07	404.16	-2,955.38	2,197.47	2,015.02	182.45	12.044	
11,000.00	7,254.00	10,141.93	7,065.00	99.69	89.55	85.07	403.32	-3,055.38	2,197.47	2,009.84	187.63	11.712	
11,100.00	7,254.00	10,241.93	7,065.00	102.28	92.16	85.07	402.48	-3,155.37	2,197.47	2,004.64	192.83	11.396	
11,200.00	7,254.00	10,341.93	7,065.00	104.88	94.78	85.07	401.64	-3,255.37	2,197.47	1,999.43	198.04	11.096	
11,300.00	7,254.00	10,441.93	7,065.00	107.48	97.40	85.07	400.80	-3,355.37	2,197.46	1,994.21	203.26	10.811	
11,400.00	7,254.00	10,541.93	7,065.00	110.09	100.03	85.07	399.97	-3,455.36	2,197.46	1,988.98	208.49	10.540	
11,500.00	7,254.00	10,641.93	7,065.00	112.70	102.66	85.07	399.13	-3,555.36	2,197.46	1,983.73	213.73	10.282	
11,600.00	7,254.00	10,741.93	7,065.00	115.32	105.30	85.07	398.29	-3,655.36	2,197.46	1,978.48	218.98	10.035	
11,700.00	7,254.00	10,841.93	7,065.00	117.94	107.94	85.07	397.45	-3,755.35	2,197.46	1,973.22	224.24	9.800	
11,800.00	7,254.00	10,941.93	7,065.00	120.56	110.59	85.07	396.61	-3,855.35	2,197.46	1,967.96	229.50	9.575	
11,900.00	7,254.00	11,041.93	7,065.00	123.19	113.24	85.07	395.78	-3,955.35	2,197.46	1,962.68	234.78	9.360	
12,000.00	7,254.00	11,141.93	7,065.00	125.83	115.89	85.07	394.94	-4,055.34	2,197.46	1,957.40	240.06	9.154	
12,100.00	7,254.00	11,241.93	7,065.00	128.47	118.55	85.07	394.10	-4,155.34	2,197.46	1,952.12	245.34	8.957	
12,200.00	7,254.00	11,341.93	7,065.00	131.11	121.20	85.07	393.26	-4,255.34	2,197.46	1,946.82	250.63	8.768	
12,300.00	7,254.00	11,441.93	7,065.00	133.75	123.87	85.07	392.42	-4,355.33	2,197.46	1,941.52	255.93	8.586	
12,400.00	7,254.00	11,541.93	7,065.00	136.40	126.53	85.07	391.59	-4,455.33	2,197.45	1,936.22	261.23	8.412	
12,500.00	7,254.00	11,641.93	7,065.00	139.05	129.20	85.07	390.75	-4,555.32	2,197.45	1,930.91	266.54	8.244	
12,600.00	7,254.00	11,741.93	7,065.00	141.70	131.86	85.07	389.91	-4,655.32	2,197.45	1,925.60	271.86	8.083	
12,700.00	7,254.00	11,841.93	7,065.00	144.36	134.53	85.07	389.07	-4,755.32	2,197.45	1,920.28	277.17	7.928	
12,800.00	7,254.00	11,941.93	7,065.00	147.01	137.21	85.07	388.23	-4,855.31	2,197.45	1,914.96	282.49	7.779	
12,900.00	7,254.00	12,041.93	7,065.00	149.67	139.88	85.07	387.40	-4,955.31	2,197.45	1,909.63	287.82	7.635	
13,000.00	7,254.00	12,141.93	7,065.00	152.33	142.56	85.07	386.56	-5,055.31	2,197.45	1,904.30	293.15	7.496	
13,100.00	7,254.00	12,241.93	7,065.00	155.00	145.24	85.07	385.72	-5,155.30	2,197.45	1,898.97	298.48	7.362	
13,200.00	7,254.00	12,341.93	7,065.00	157.66	147.92	85.07	384.88	-5,255.30	2,197.45	1,893.63	303.82	7.233	
13,300.00	7,254.00	12,441.93	7,065.00	160.33	150.60	85.07	384.04	-5,355.30	2,197.45	1,888.29	309.15	7.108	
13,400.00	7,254.00	12,541.93	7,065.00	163.00	153.28	85.07	383.21	-5,455.29	2,197.44	1,882.95	314.50	6.987	
13,500.00	7,254.00	12,641.93	7,065.00	165.67	155.96	85.07	382.37	-5,555.29	2,197.44	1,877.60	319.84	6.870	
13,600.00	7,254.00	12,741.93	7,065.00	168.34	158.65	85.07	381.53	-5,655.29	2,197.44	1,872.26	325.19	6.757	
13,700.00	7,254.00	12,841.93	7,065.00	171.02	161.33	85.07	380.69	-5,755.28	2,197.44	1,866.90	330.54	6.648	
13,800.00	7,254.00	12,941.93	7,065.00	173.69	164.02	85.07	379.85	-5,855.28	2,197.44	1,861.55	335.89	6.542	
13,900.00	7,254.00	13,041.93	7,065.00	176.37	166.71	85.07	379.02	-5,955.28	2,197.44	1,856.20	341.24	6.439	
14,000.00	7,254.00	13,141.93	7,065.00	179.05	169.40	85.07	378.18	-6,055.27	2,197.44	1,850.84	346.60	6.340	
14,100.00	7,254.00	13,241.93	7,065.00	181.73	172.09	85.07	377.34	-6,155.27	2,197.44	1,845.48	351.96	6.243	
14,200.00	7,254.00	13,341.93	7,065.00	184.41	174.78	85.07	376.50	-6,255.27	2,197.44	1,840.12	357.32	6.150	

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 11-10-14H
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 11-10-14H	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)			
14,300.00	7,254.00	13,441.93	7,065.00	187.09	177.48	85.07	375.66	-6,355.26	2,197.44	1,834.75	362.68	6.059	
14,400.00	7,254.00	13,541.93	7,065.00	189.77	180.17	85.07	374.83	-6,455.26	2,197.44	1,829.39	368.05	5.970	
14,500.00	7,254.00	13,641.93	7,065.00	192.46	182.86	85.07	373.99	-6,555.25	2,197.43	1,824.02	373.42	5.885	
14,600.00	7,254.00	13,741.93	7,065.00	195.14	185.56	85.07	373.15	-6,655.25	2,197.43	1,818.65	378.78	5.801	
14,700.00	7,254.00	13,841.93	7,065.00	197.83	188.25	85.07	372.31	-6,755.25	2,197.43	1,813.28	384.15	5.720	
14,800.00	7,254.00	13,941.93	7,065.00	200.52	190.95	85.07	371.47	-6,855.24	2,197.43	1,807.91	389.52	5.641	
14,900.00	7,254.00	14,041.93	7,065.00	203.20	193.65	85.07	370.64	-6,955.24	2,197.43	1,802.53	394.90	5.565	
15,000.00	7,254.00	14,141.93	7,065.00	205.89	196.35	85.07	369.80	-7,055.24	2,197.43	1,797.16	400.27	5.490	
15,100.00	7,254.00	14,241.93	7,065.00	208.58	199.04	85.07	368.96	-7,155.23	2,197.43	1,791.78	405.65	5.417	
15,200.00	7,254.00	14,341.93	7,065.00	211.27	201.74	85.07	368.12	-7,255.23	2,197.43	1,786.40	411.02	5.346	
15,300.00	7,254.00	14,441.93	7,065.00	213.96	204.44	85.07	367.28	-7,355.23	2,197.43	1,781.02	416.40	5.277	
15,400.00	7,254.00	14,541.93	7,065.00	216.66	207.14	85.07	366.45	-7,455.22	2,197.43	1,775.64	421.78	5.210	
15,500.00	7,254.00	14,641.93	7,065.00	219.35	209.85	85.07	365.61	-7,555.22	2,197.43	1,770.26	427.16	5.144	
15,600.00	7,254.00	14,741.93	7,065.00	222.04	212.55	85.07	364.77	-7,655.22	2,197.42	1,764.88	432.54	5.080	
15,700.00	7,254.00	14,841.93	7,065.00	224.74	215.25	85.07	363.93	-7,755.21	2,197.42	1,759.50	437.93	5.018	
15,800.00	7,254.00	14,941.93	7,065.00	227.43	217.95	85.07	363.09	-7,855.21	2,197.42	1,754.11	443.31	4.957	
15,900.00	7,254.00	15,041.93	7,065.00	230.13	220.65	85.07	362.26	-7,955.21	2,197.42	1,748.73	448.70	4.897	
16,000.00	7,254.00	15,141.93	7,065.00	232.82	223.36	85.07	361.42	-8,055.20	2,197.42	1,743.34	454.08	4.839	
16,100.00	7,254.00	15,241.93	7,065.00	235.52	226.06	85.07	360.58	-8,155.20	2,197.42	1,737.95	459.47	4.783	
16,200.00	7,254.00	15,341.93	7,065.00	238.22	228.77	85.07	359.74	-8,255.19	2,197.42	1,732.56	464.86	4.727	
16,300.00	7,254.00	15,441.93	7,065.00	240.91	231.47	85.07	358.90	-8,355.19	2,197.42	1,727.17	470.25	4.673	
16,351.79	7,254.00	15,493.72	7,065.00	242.31	232.87	85.07	358.47	-8,406.97	2,197.42	1,724.38	473.04	4.645	
16,381.25	7,254.00	15,495.74	7,065.00	243.10	232.93	85.07	358.45	-8,408.99	2,197.59	1,723.85	473.74	4.639 SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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				
0.00	0.00	0.00	0.00	0.00	0.00	-19.30	87.44	-30.63	92.65	92.65						
100.00	100.00	100.00	100.00	0.14	0.14	-19.30	87.44	-30.63	92.65	92.36	0.29	323.069				
200.00	200.00	200.00	200.00	0.50	0.50	-19.30	87.44	-30.63	92.65	91.65	1.00	92.306				
300.00	300.00	300.00	300.00	0.86	0.86	-19.30	87.44	-30.63	92.65	90.93	1.72	53.845				
400.00	400.00	400.00	400.00	1.22	1.22	-19.30	87.44	-30.63	92.65	90.21	2.44	38.008	CC, ES			
500.00	499.98	499.98	499.98	1.56	1.58	-176.11	87.44	-30.63	94.39	91.25	3.14	30.065				
600.00	599.84	599.84	599.84	1.90	1.94	-176.31	87.44	-30.63	99.61	95.77	3.84	25.957				
700.00	699.45	699.45	699.45	2.25	2.29	-176.60	87.44	-30.63	108.31	103.77	4.54	23.839				
800.00	798.70	798.70	798.70	2.63	2.65	-176.93	87.44	-30.63	120.48	115.22	5.25	22.932				
900.00	897.47	897.47	897.47	3.03	3.00	-177.27	87.44	-30.63	136.10	130.13	5.97	22.809	SF			
1,000.00	995.62	995.62	995.62	3.46	3.35	-177.59	87.44	-30.63	155.16	148.48	6.68	23.220				
1,100.00	1,093.06	1,093.06	1,093.06	3.92	3.70	-177.87	87.44	-30.63	177.64	170.24	7.40	24.009				
1,200.00	1,189.64	1,189.64	1,189.64	4.43	4.05	-178.13	87.44	-30.63	203.51	195.39	8.12	25.073				
1,225.96	1,214.56	1,214.56	1,214.56	4.56	4.14	-178.19	87.44	-30.63	210.77	202.46	8.31	25.372				
1,300.00	1,285.55	1,283.34	1,283.34	4.97	4.39	-178.32	87.63	-30.58	231.98	223.16	8.82	26.293				
1,400.00	1,381.42	1,372.26	1,372.22	5.52	4.70	-178.17	89.98	-30.03	262.54	253.04	9.50	27.641				
1,500.00	1,477.29	1,459.64	1,459.46	6.09	5.02	-177.74	94.90	-28.87	295.50	285.34	10.16	29.084				
1,600.00	1,573.17	1,545.37	1,544.85	6.66	5.33	-177.12	102.25	-27.13	330.83	320.02	10.81	30.609				
1,700.00	1,669.04	1,629.34	1,628.23	7.24	5.63	-176.40	111.85	-24.86	368.49	357.05	11.44	32.206				
1,800.00	1,764.91	1,711.45	1,709.46	7.83	5.93	-175.61	123.53	-22.10	408.47	396.41	12.06	33.870				
1,900.00	1,860.78	1,791.66	1,788.44	8.42	6.24	-174.80	137.13	-18.89	450.71	438.05	12.66	35.594				
2,000.00	1,956.66	1,869.89	1,865.06	9.01	6.55	-173.99	152.46	-15.27	495.17	481.92	13.25	37.368				
2,100.00	2,052.53	1,946.11	1,939.28	9.61	6.86	-173.18	169.34	-11.28	541.79	527.97	13.82	39.193				
2,200.00	2,148.40	2,020.29	2,011.04	10.21	7.18	-172.41	187.62	-6.97	590.52	576.14	14.38	41.063				
2,300.00	2,244.27	2,100.00	2,087.58	10.81	7.53	-171.58	209.27	-1.86	641.35	626.34	15.00	42.750				
2,400.00	2,340.15	2,162.49	2,147.14	11.41	7.83	-170.94	227.68	2.49	694.04	678.59	15.45	44.922				
2,500.00	2,436.02	2,230.51	2,211.48	12.01	8.16	-170.25	249.15	7.57	748.69	732.73	15.96	46.906				
2,600.00	2,531.89	2,300.00	2,276.65	12.61	8.52	-169.57	272.62	13.11	805.19	788.69	16.50	48.807				
2,700.00	2,627.76	2,360.47	2,332.87	13.22	8.85	-168.99	294.29	18.23	863.43	846.49	16.94	50.967				
2,800.00	2,723.64	2,422.46	2,390.00	13.82	9.21	-168.41	317.70	23.75	923.37	905.96	17.41	53.041				
2,900.00	2,819.51	2,482.50	2,444.83	14.43	9.56	-167.87	341.51	29.38	984.93	967.07	17.86	55.139				
3,000.00	2,915.38	2,540.63	2,497.42	15.03	9.93	-167.35	365.63	35.07	1,048.04	1,029.74	18.30	57.259				
3,100.00	3,011.25	2,600.00	2,550.59	15.64	10.31	-166.84	391.32	41.14	1,112.64	1,093.88	18.77	59.288				
3,200.00	3,107.13	2,651.36	2,596.14	16.25	10.66	-166.40	414.41	46.60	1,178.65	1,159.50	19.15	61.564				
3,300.00	3,203.00	2,700.00	2,638.88	16.85	10.99	-166.00	437.01	51.93	1,246.02	1,226.53	19.50	63.912				
3,400.00	3,298.87	2,755.02	2,686.74	17.46	11.40	-165.56	463.42	58.17	1,314.66	1,294.73	19.94	65.939				
3,500.00	3,394.74	2,800.00	2,725.48	18.07	11.73	-165.20	485.67	63.43	1,384.56	1,364.30	20.26	68.336				
3,600.00	3,490.62	2,852.02	2,769.82	18.68	12.13	-164.80	512.14	69.68	1,455.60	1,434.92	20.68	70.371				
3,700.00	3,586.49	2,900.00	2,810.28	19.29	12.51	-164.44	537.24	75.61	1,527.78	1,506.72	21.06	72.530				
3,800.00	3,682.36	2,942.78	2,845.98	19.90	12.87	-164.13	560.18	81.02	1,601.02	1,579.63	21.39	74.848				
3,900.00	3,778.23	3,000.00	2,893.18	20.51	13.34	-163.72	591.66	88.46	1,675.36	1,653.46	21.90	76.487				
4,000.00	3,874.10	3,027.72	2,915.81	21.12	13.59	-163.52	607.24	92.14	1,750.49	1,728.43	22.06	79.359				
4,100.00	3,969.98	3,068.14	2,948.52	21.73	13.94	-163.24	630.34	97.59	1,826.63	1,804.25	22.38	81.623				
4,200.00	4,065.85	3,100.00	2,974.07	22.34	14.22	-163.03	648.86	101.97	1,903.67	1,881.07	22.60	84.238				
4,300.00	4,161.72	3,145.10	3,009.88	22.95	14.64	-162.73	675.55	108.27	1,981.51	1,958.51	23.00	86.165				
4,400.00	4,257.59	3,191.90	3,046.64	23.56	15.08	-162.42	703.74	114.93	2,060.10	2,036.68	23.42	87.954				
4,500.00	4,353.47	3,252.93	3,094.51	24.17	15.66	-162.05	740.58	123.63	2,138.86	2,114.82	24.04	88.986				
4,600.00	4,449.34	3,313.96	3,142.38	24.78	16.25	-161.70	777.43	132.33	2,217.65	2,193.00	24.65	89.957				
4,700.00	4,545.21	3,375.00	3,190.25	25.39	16.84	-161.38	814.27	141.04	2,296.47	2,271.20	25.27	90.863				
4,800.00	4,641.08	3,436.03	3,238.12	26.00	17.44	-161.08	851.11	149.74	2,375.32	2,349.42	25.90	91.714				
4,900.00	4,736.96	3,497.06	3,286.00	26.61	18.04	-160.79	887.96	158.44	2,454.19	2,427.66	26.53	92.515				
5,000.00	4,832.83	3,558.09	3,333.87	27.22	18.65	-160.53	924.80	167.14	2,533.08	2,505.92	27.16	93.265				

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 11-10-14H
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 11-10-14H	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		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					
5,100.00	4,928.70	3,619.12	3,381.74	27.83	19.26		-160.28		961.64	175.84	2,611.99	2,584.19	27.80	93.972					
5,200.00	5,024.57	3,680.15	3,429.61	28.44	19.88		-160.04		998.49	184.55	2,690.92	2,662.48	28.43	94.638					
5,300.00	5,120.45	3,741.19	3,477.48	29.05	20.50		-159.82		1,035.33	193.25	2,769.86	2,740.79	29.08	95.266					
5,400.00	5,216.32	3,802.22	3,525.35	29.66	21.12		-159.61		1,072.17	201.95	2,848.82	2,819.10	29.72	95.859					
5,500.00	5,312.19	3,863.25	3,573.23	30.28	21.74		-159.41		1,109.02	210.65	2,927.80	2,897.43	30.37	96.418					
5,600.00	5,408.06	3,924.28	3,621.10	30.89	22.37		-159.22		1,145.86	219.35	3,006.79	2,975.77	31.01	96.948					
5,700.00	5,503.94	3,985.31	3,668.97	31.50	23.00		-159.04		1,182.70	228.05	3,085.78	3,054.12	31.67	97.448					
5,800.00	5,599.81	4,046.34	3,716.84	32.11	23.63		-158.87		1,219.55	236.76	3,164.79	3,132.47	32.32	97.922					
5,900.00	5,695.68	4,107.38	3,764.71	32.72	24.27		-158.71		1,256.39	245.46	3,243.81	3,210.84	32.98	98.371					

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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: Reference		0-OWSG (Rev2) MWD Offset		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	0.00	0.00	0.00	0.00	-22.80	72.86	-30.63	79.04					
100.00	100.00	100.00	100.00	0.14	0.14	-22.80	72.86	-30.63	79.04	78.75	0.29	275.600		
200.00	200.00	200.00	200.00	0.50	0.50	-22.80	72.86	-30.63	79.04	78.03	1.00	78.743		
300.00	300.00	300.00	300.00	0.86	0.86	-22.80	72.86	-30.63	79.04	77.32	1.72	45.933		
400.00	400.00	400.00	400.00	1.22	1.22	-22.80	72.86	-30.63	79.04	76.60	2.44	32.424	CC, ES	
500.00	499.98	499.98	499.98	1.56	1.58	-179.55	72.86	-30.63	80.78	77.64	3.14	25.730		
600.00	599.84	599.84	599.84	1.90	1.94	-179.58	72.86	-30.63	86.01	82.18	3.84	22.414		
700.00	699.45	699.45	699.45	2.25	2.29	-179.61	72.86	-30.63	94.73	90.19	4.54	20.851		
800.00	798.70	798.70	798.70	2.63	2.65	-179.66	72.86	-30.63	106.92	101.66	5.25	20.351	SF	
900.00	897.47	897.47	897.47	3.03	3.00	-179.70	72.86	-30.63	122.56	116.59	5.97	20.540		
1,000.00	995.62	995.62	995.62	3.46	3.35	-179.74	72.86	-30.63	141.64	134.96	6.68	21.197		
1,100.00	1,093.06	1,093.06	1,093.06	3.92	3.70	-179.77	72.86	-30.63	164.13	156.73	7.40	22.184		
1,200.00	1,189.64	1,189.64	1,189.64	4.43	4.05	-179.80	72.86	-30.63	190.01	181.90	8.12	23.411		
1,225.96	1,214.56	1,214.56	1,214.56	4.56	4.14	-179.81	72.86	-30.63	197.28	188.97	8.31	23.749		
1,300.00	1,285.55	1,285.55	1,285.55	4.97	4.39	-179.83	72.86	-30.63	218.33	209.50	8.83	24.719		
1,400.00	1,381.42	1,379.42	1,379.42	5.52	4.73	-179.82	73.01	-30.59	246.89	237.36	9.53	25.894		
1,500.00	1,477.29	1,468.26	1,468.23	6.09	5.05	-179.53	75.22	-30.01	277.28	267.07	10.21	27.156		
1,600.00	1,573.17	1,555.59	1,555.42	6.66	5.36	-178.98	79.99	-28.75	309.99	299.12	10.87	28.510		
1,700.00	1,669.04	1,641.31	1,640.81	7.24	5.67	-178.26	87.17	-26.85	345.01	333.49	11.52	29.947		
1,800.00	1,764.91	1,725.29	1,724.22	7.83	5.97	-177.44	96.59	-24.36	382.33	370.17	12.15	31.458		
1,900.00	1,860.78	1,807.46	1,805.52	8.42	6.27	-176.56	108.10	-21.33	421.91	409.14	12.77	33.037		
2,000.00	1,956.66	1,887.75	1,884.59	9.01	6.58	-175.67	121.51	-17.79	463.72	450.35	13.37	34.677		
2,100.00	2,052.53	1,966.08	1,961.35	9.61	6.88	-174.77	136.66	-13.79	507.73	493.77	13.96	36.370		
2,200.00	2,148.40	2,042.43	2,035.71	10.21	7.19	-173.89	153.38	-9.37	553.89	539.36	14.53	38.116		
2,300.00	2,244.27	2,116.76	2,107.64	10.81	7.51	-173.04	171.48	-4.59	602.15	587.06	15.09	39.910		
2,400.00	2,340.15	2,189.06	2,177.12	11.41	7.83	-172.22	190.82	0.51	652.44	636.81	15.63	41.747		
2,500.00	2,436.02	2,259.32	2,244.12	12.01	8.16	-171.44	211.23	5.90	704.70	688.55	16.15	43.623		
2,600.00	2,531.89	2,327.53	2,308.68	12.61	8.49	-170.69	232.56	11.53	758.87	742.21	16.66	45.538		
2,700.00	2,627.76	2,400.00	2,376.65	13.22	8.85	-169.92	256.84	17.94	814.92	797.68	17.23	47.291		
2,800.00	2,723.64	2,457.92	2,430.51	13.82	9.17	-169.32	277.43	23.37	872.67	855.03	17.64	49.466		
2,900.00	2,819.51	2,520.14	2,487.88	14.43	9.52	-168.69	300.73	29.52	932.15	914.04	18.11	51.477		
3,000.00	2,915.38	2,580.42	2,542.94	15.03	9.87	-168.09	324.44	35.78	993.26	974.70	18.56	53.514		
3,100.00	3,011.25	2,638.80	2,595.76	15.64	10.23	-167.53	348.46	42.12	1,055.93	1,036.93	19.00	55.574		
3,200.00	3,107.13	2,700.00	2,650.59	16.25	10.62	-166.95	374.76	49.07	1,120.11	1,100.62	19.48	57.493		
3,300.00	3,203.00	2,750.02	2,694.95	16.85	10.95	-166.50	397.09	54.96	1,185.69	1,165.85	19.84	59.765		
3,400.00	3,298.87	2,800.00	2,738.88	17.46	11.29	-166.05	420.15	61.05	1,252.65	1,232.45	20.20	62.008		
3,500.00	3,394.74	2,854.17	2,786.01	18.07	11.69	-165.58	445.98	67.87	1,320.90	1,300.27	20.63	64.032		
3,600.00	3,490.62	2,900.00	2,825.48	18.68	12.02	-165.19	468.49	73.81	1,390.41	1,369.45	20.96	66.346		
3,700.00	3,586.49	2,951.67	2,869.52	19.29	12.42	-164.76	494.61	80.70	1,461.09	1,439.71	21.37	68.363		
3,800.00	3,682.36	3,000.00	2,910.28	19.90	12.79	-164.37	519.73	87.33	1,532.90	1,511.15	21.75	70.472		
3,900.00	3,778.23	3,042.92	2,946.09	20.51	13.15	-164.03	542.59	93.37	1,605.79	1,583.72	22.07	72.744		
4,000.00	3,874.10	3,100.00	2,993.18	21.12	13.62	-163.58	573.79	101.61	1,679.80	1,657.21	22.58	74.377		
4,100.00	3,969.98	3,128.33	3,016.30	21.73	13.86	-163.37	589.61	105.78	1,754.61	1,731.87	22.74	77.165		
4,200.00	4,065.85	3,168.97	3,049.19	22.34	14.22	-163.07	612.70	111.88	1,830.43	1,807.38	23.06	79.386		
4,300.00	4,161.72	3,222.44	3,092.09	22.95	14.69	-162.68	643.56	120.03	1,907.01	1,883.46	23.55	80.978		
4,400.00	4,257.59	3,285.91	3,142.96	23.56	15.27	-162.25	680.25	129.71	1,983.72	1,959.54	24.18	82.050		
4,500.00	4,353.47	3,349.38	3,193.84	24.17	15.85	-161.86	716.94	139.39	2,060.46	2,035.65	24.81	83.051		
4,600.00	4,449.34	3,412.85	3,244.72	24.78	16.44	-161.49	753.62	149.08	2,137.24	2,111.80	25.45	83.993		
4,700.00	4,545.21	3,476.32	3,295.60	25.39	17.04	-161.14	790.31	158.76	2,214.06	2,187.98	26.09	84.874		
4,800.00	4,641.08	3,539.79	3,346.48	26.00	17.64	-160.82	826.99	168.45	2,290.91	2,264.18	26.73	85.702		
4,900.00	4,736.96	3,603.25	3,397.36	26.61	18.25	-160.52	863.68	178.13	2,367.79	2,340.41	27.38	86.482		
5,000.00	4,832.83	3,666.72	3,448.23	27.22	18.86	-160.24	900.37	187.82	2,444.69	2,416.66	28.03	87.214		

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 11-10-14H
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 11-10-14H	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		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)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
5,100.00	4,928.70	3,730.19	3,499.11	27.83	19.47	-159.98	937.05	197.50	2,521.61	2,492.93	28.69	87.906							
5,200.00	5,024.57	3,793.66	3,549.99	28.44	20.09	-159.73	973.74	207.19	2,598.56	2,569.22	29.34	88.559							
5,300.00	5,120.45	3,857.13	3,600.87	29.05	20.72	-159.49	1,010.42	216.87	2,675.52	2,645.52	30.00	89.175							
5,400.00	5,216.32	3,920.60	3,651.75	29.66	21.34	-159.27	1,047.11	226.55	2,752.50	2,721.84	30.67	89.758							
5,500.00	5,312.19	3,984.07	3,702.63	30.28	21.97	-159.06	1,083.80	236.24	2,829.50	2,798.17	31.33	90.309							
5,600.00	5,408.06	4,047.54	3,753.51	30.89	22.60	-158.86	1,120.48	245.92	2,906.52	2,874.52	32.00	90.831							
5,700.00	5,503.94	4,111.00	3,804.38	31.50	23.23	-158.68	1,157.17	255.61	2,983.54	2,950.87	32.67	91.326							
5,800.00	5,599.81	4,174.47	3,855.26	32.11	23.87	-158.50	1,193.85	265.29	3,060.58	3,027.24	33.34	91.795							
5,900.00	5,695.68	4,237.94	3,906.14	32.72	24.51	-158.33	1,230.54	274.98	3,137.63	3,103.62	34.02	92.240							
6,000.00	5,791.55	4,301.41	3,957.02	33.33	25.15	-158.16	1,267.23	284.66	3,214.69	3,180.00	34.69	92.664							

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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											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	-29.27	54.65	-30.63	62.65	62.65				
100.00	100.00	100.00	100.00	0.14	0.14	-29.27	54.65	-30.63	62.65	62.36	0.29	218.451		
200.00	200.00	200.00	200.00	0.50	0.50	-29.27	54.65	-30.63	62.65	61.64	1.00	62.415		
300.00	300.00	300.00	300.00	0.86	0.86	-29.27	54.65	-30.63	62.65	60.93	1.72	36.409		
400.00	400.00	400.00	400.00	1.22	1.22	-29.27	54.65	-30.63	62.65	60.21	2.44	25.700	CC, ES	
500.00	499.98	499.98	499.98	1.56	1.58	174.15	54.65	-30.63	64.38	61.24	3.14	20.508		
600.00	599.84	599.84	599.84	1.90	1.94	174.58	54.65	-30.63	69.59	65.75	3.84	18.135		
700.00	699.45	699.45	699.45	2.25	2.29	175.17	54.65	-30.63	78.27	73.73	4.54	17.229		
800.00	798.70	798.70	798.70	2.63	2.65	175.80	54.65	-30.63	90.42	85.17	5.25	17.211	SF	
900.00	897.47	897.47	897.47	3.03	3.00	176.40	54.65	-30.63	106.03	100.06	5.97	17.769		
1,000.00	995.62	995.62	995.62	3.46	3.35	176.93	54.65	-30.63	125.08	118.39	6.68	18.717		
1,100.00	1,093.06	1,093.06	1,093.06	3.92	3.70	177.38	54.65	-30.63	147.55	140.15	7.40	19.941		
1,200.00	1,189.64	1,189.64	1,189.64	4.43	4.05	177.75	54.65	-30.63	173.40	165.29	8.12	21.363		
1,225.96	1,214.56	1,214.56	1,214.56	4.56	4.14	177.83	54.65	-30.63	180.67	172.36	8.31	21.747		
1,300.00	1,285.55	1,285.55	1,285.55	4.97	4.39	178.06	54.65	-30.63	201.71	192.87	8.83	22.835		
1,400.00	1,381.42	1,381.42	1,381.42	5.52	4.74	178.30	54.65	-30.63	230.13	220.58	9.55	24.108		
1,500.00	1,477.29	1,477.29	1,477.29	6.09	5.08	178.48	54.65	-30.63	258.55	248.29	10.26	25.196		
1,600.00	1,573.17	1,573.17	1,573.17	6.66	5.42	178.63	54.65	-30.63	286.98	276.00	10.98	26.134		
1,700.00	1,669.04	1,669.04	1,669.04	7.24	5.77	178.76	54.65	-30.63	315.40	303.70	11.70	26.950		
1,800.00	1,764.91	1,764.91	1,764.91	7.83	6.11	178.86	54.65	-30.63	343.83	331.40	12.43	27.667		
1,900.00	1,860.78	1,860.78	1,860.78	8.42	6.46	178.95	54.65	-30.63	372.26	359.11	13.15	28.302		
2,000.00	1,956.66	1,956.66	1,956.66	9.01	6.80	179.02	54.65	-30.63	400.69	386.81	13.88	28.866		
2,100.00	2,052.53	2,047.18	2,047.18	9.61	7.12	179.12	55.02	-30.52	429.45	414.87	14.58	29.464		
2,200.00	2,148.40	2,132.32	2,132.27	10.21	7.43	179.40	57.57	-29.75	460.15	444.92	15.23	30.213		
2,300.00	2,244.27	2,216.08	2,215.87	10.81	7.73	179.84	62.45	-28.27	492.99	477.12	15.87	31.069		
2,400.00	2,340.15	2,300.00	2,299.45	11.41	8.03	-179.59	69.67	-26.09	527.96	511.46	16.50	31.993		
2,500.00	2,436.02	2,379.06	2,377.96	12.01	8.31	-178.95	78.62	-23.39	565.04	547.95	17.09	33.058		
2,600.00	2,531.89	2,458.12	2,456.17	12.61	8.60	-178.24	89.64	-20.06	604.21	586.53	17.68	34.176		
2,700.00	2,627.76	2,535.45	2,532.34	13.22	8.88	-177.50	102.41	-16.20	645.46	627.21	18.25	35.368		
2,800.00	2,723.64	2,611.01	2,606.39	13.82	9.17	-176.73	116.79	-11.86	688.75	669.95	18.80	36.630		
2,900.00	2,819.51	2,684.75	2,678.25	14.43	9.46	-175.96	132.62	-7.08	734.05	714.71	19.34	37.956		
3,000.00	2,915.38	2,756.66	2,747.89	15.03	9.75	-175.19	149.75	-1.91	781.32	761.46	19.86	39.341		
3,100.00	3,011.25	2,826.70	2,815.27	15.64	10.04	-174.43	168.04	3.62	830.53	810.16	20.36	40.783		
3,200.00	3,107.13	2,900.00	2,885.27	16.25	10.36	-173.64	188.87	9.91	881.63	860.72	20.91	42.159		
3,300.00	3,203.00	2,961.16	2,943.23	16.85	10.63	-172.98	207.56	15.55	934.52	913.19	21.33	43.818		
3,400.00	3,298.87	3,025.59	3,003.82	17.46	10.94	-172.29	228.52	21.89	989.20	967.42	21.79	45.407		
3,500.00	3,394.74	3,100.00	3,073.17	18.07	11.30	-171.50	254.34	29.68	1,045.69	1,023.31	22.37	46.741		
3,600.00	3,490.62	3,148.93	3,118.38	18.68	11.56	-170.99	272.26	35.10	1,103.65	1,080.99	22.66	48.708		
3,700.00	3,586.49	3,200.00	3,165.21	19.29	11.83	-170.46	291.74	40.98	1,163.33	1,140.36	22.97	50.638		
3,800.00	3,682.36	3,265.07	3,224.35	19.90	12.19	-169.79	317.72	48.83	1,224.48	1,201.01	23.48	52.158		
3,900.00	3,778.23	3,320.52	3,274.25	20.51	12.51	-169.24	340.87	55.82	1,287.14	1,263.28	23.87	53.933		
4,000.00	3,874.10	3,374.27	3,322.16	21.12	12.84	-168.71	364.19	62.86	1,351.22	1,326.98	24.24	55.738		
4,100.00	3,969.98	3,426.37	3,368.16	21.73	13.16	-168.20	387.61	69.94	1,416.65	1,392.05	24.61	57.570		
4,200.00	4,065.85	3,476.85	3,412.30	22.34	13.49	-167.72	411.06	77.02	1,483.39	1,458.43	24.96	59.428		
4,300.00	4,161.72	3,525.76	3,454.65	22.95	13.82	-167.27	434.49	84.10	1,551.38	1,526.07	25.30	61.309		
4,400.00	4,257.59	3,573.15	3,495.27	23.56	14.15	-166.83	457.85	91.15	1,620.56	1,594.92	25.64	63.211		
4,500.00	4,353.47	3,619.06	3,534.24	24.17	14.47	-166.42	481.09	98.17	1,690.88	1,664.92	25.96	65.134		
4,600.00	4,449.34	3,663.53	3,571.61	24.78	14.80	-166.02	504.17	105.14	1,762.29	1,736.01	26.27	67.073		
4,700.00	4,545.21	3,700.00	3,601.97	25.39	15.08	-165.70	523.50	110.98	1,834.76	1,808.27	26.49	69.263		
4,800.00	4,641.08	3,748.37	3,641.84	26.00	15.46	-165.29	549.71	118.90	1,908.19	1,881.32	26.88	70.998		
4,900.00	4,736.96	3,800.00	3,683.88	26.61	15.87	-164.85	578.41	127.56	1,982.65	1,955.33	27.31	72.588		
5,000.00	4,832.83	3,828.00	3,706.46	27.22	16.10	-164.62	594.27	132.35	2,057.91	2,030.46	27.45	74.978		

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 11-10-14H
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 11-10-14H	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		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	4,928.70	3,886.38	3,753.25	27.83	16.59	-164.15	627.67	142.44	2,133.86	2,105.86	27.99	76.226		
5,200.00	5,024.57	3,950.21	3,804.41	28.44	17.13	-163.67	664.21	153.48	2,209.89	2,181.27	28.62	77.213		
5,300.00	5,120.45	4,014.04	3,855.57	29.05	17.69	-163.22	700.75	164.52	2,285.99	2,256.74	29.25	78.147		
5,400.00	5,216.32	4,077.87	3,906.73	29.66	18.25	-162.80	737.29	175.55	2,362.14	2,332.25	29.89	79.029		
5,500.00	5,312.19	4,141.70	3,957.89	30.28	18.82	-162.41	773.83	186.59	2,438.35	2,407.82	30.53	79.863		
5,600.00	5,408.06	4,205.53	4,009.05	30.89	19.40	-162.03	810.37	197.62	2,514.60	2,483.42	31.18	80.655		
5,700.00	5,503.94	4,269.36	4,060.21	31.50	19.98	-161.68	846.91	208.66	2,590.90	2,559.07	31.83	81.403		
5,800.00	5,599.81	4,333.19	4,111.37	32.11	20.58	-161.35	883.45	219.70	2,667.23	2,634.75	32.48	82.113		
5,900.00	5,695.68	4,397.02	4,162.54	32.72	21.17	-161.04	919.99	230.73	2,743.60	2,710.46	33.14	82.789		
6,000.00	5,791.55	4,460.85	4,213.70	33.33	21.77	-160.74	956.53	241.77	2,820.01	2,786.20	33.80	83.428		
6,100.00	5,887.43	4,524.68	4,264.86	33.95	22.38	-160.46	993.07	252.81	2,896.44	2,861.97	34.47	84.037		
6,200.00	5,983.30	4,588.51	4,316.02	34.56	22.99	-160.19	1,029.61	263.84	2,972.90	2,937.77	35.13	84.617		
6,300.00	6,079.17	4,652.34	4,367.18	35.17	23.60	-159.94	1,066.15	274.88	3,049.39	3,013.59	35.80	85.168		
6,400.00	6,175.04	4,716.17	4,418.34	35.78	24.22	-159.70	1,102.69	285.91	3,125.90	3,089.43	36.48	85.693		
6,500.00	6,270.92	4,780.01	4,469.50	36.39	24.84	-159.47	1,139.23	296.95	3,202.44	3,165.29	37.15	86.194		
6,600.00	6,366.79	4,843.84	4,520.66	37.00	25.46	-159.25	1,175.76	307.99	3,278.99	3,241.16	37.83	86.671		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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		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	-37.39	40.07	-30.63	50.44					
100.00	100.00	100.00	100.00	0.14	0.14	-37.39	40.07	-30.63	50.44	50.15	0.29	175.878		
200.00	200.00	200.00	200.00	0.50	0.50	-37.39	40.07	-30.63	50.44	49.43	1.00	50.251		
300.00	300.00	300.00	300.00	0.86	0.86	-37.39	40.07	-30.63	50.44	48.72	1.72	29.313		
400.00	400.00	400.00	400.00	1.22	1.22	-37.39	40.07	-30.63	50.44	48.00	2.44	20.692 CC, ES		
500.00	499.98	499.98	499.98	1.56	1.58	166.33	40.07	-30.63	52.13	48.99	3.14	16.606		
600.00	599.84	599.84	599.84	1.90	1.94	167.55	40.07	-30.63	57.23	53.39	3.84	14.915		
700.00	699.45	699.45	699.45	2.25	2.29	169.15	40.07	-30.63	65.77	61.23	4.54	14.477 SF		
800.00	798.70	798.70	798.70	2.63	2.65	170.80	40.07	-30.63	77.77	72.52	5.25	14.803		
900.00	897.47	897.47	897.47	3.03	3.00	172.30	40.07	-30.63	93.25	87.28	5.97	15.626		
1,000.00	995.62	995.62	995.62	3.46	3.35	173.56	40.07	-30.63	112.19	105.51	6.68	16.786		
1,100.00	1,093.06	1,093.06	1,093.06	3.92	3.70	174.59	40.07	-30.63	134.57	127.17	7.40	18.184		
1,200.00	1,189.64	1,189.64	1,189.64	4.43	4.05	175.42	40.07	-30.63	160.36	152.24	8.12	19.752		
1,225.96	1,214.56	1,214.56	1,214.56	4.56	4.14	175.61	40.07	-30.63	167.61	159.30	8.31	20.171		
1,300.00	1,285.55	1,285.55	1,285.55	4.97	4.39	176.10	40.07	-30.63	188.61	179.78	8.84	21.347		
1,400.00	1,381.42	1,381.42	1,381.42	5.52	4.74	176.61	40.07	-30.63	216.99	207.45	9.55	22.727		
1,500.00	1,477.29	1,477.29	1,477.29	6.09	5.08	177.00	40.07	-30.63	245.39	235.12	10.26	23.908		
1,600.00	1,573.17	1,573.17	1,573.17	6.66	5.42	177.31	40.07	-30.63	273.79	262.80	10.98	24.927		
1,700.00	1,669.04	1,669.04	1,669.04	7.24	5.77	177.56	40.07	-30.63	302.20	290.49	11.71	25.817		
1,800.00	1,764.91	1,764.91	1,764.91	7.83	6.11	177.77	40.07	-30.63	330.61	318.18	12.43	26.598		
1,900.00	1,860.78	1,860.78	1,860.78	8.42	6.46	177.95	40.07	-30.63	359.02	345.87	13.16	27.290		
2,000.00	1,956.66	1,956.66	1,956.66	9.01	6.80	178.10	40.07	-30.63	387.44	373.56	13.88	27.907		
2,100.00	2,052.53	2,052.53	2,052.53	9.61	7.14	178.23	40.07	-30.63	415.86	401.25	14.61	28.460		
2,200.00	2,148.40	2,143.55	2,143.55	10.21	7.47	178.37	40.39	-30.52	444.55	429.24	15.31	29.037		
2,300.00	2,244.27	2,228.89	2,228.85	10.81	7.77	178.68	42.81	-29.67	475.04	459.08	15.97	29.755		
2,400.00	2,340.15	2,312.90	2,312.70	11.41	8.07	179.17	47.54	-28.02	507.59	490.99	16.60	30.571		
2,500.00	2,436.02	2,400.00	2,399.45	12.01	8.39	179.81	54.89	-25.44	542.21	524.95	17.26	31.407		
2,600.00	2,531.89	2,476.49	2,475.41	12.61	8.66	-179.53	63.39	-22.47	578.82	560.99	17.83	32.461		
2,700.00	2,627.76	2,555.89	2,553.97	13.22	8.95	-178.77	74.24	-18.67	617.49	599.07	18.42	33.522		
2,800.00	2,723.64	2,633.61	2,630.53	13.82	9.23	-177.97	86.84	-14.26	658.18	639.19	18.99	34.654		
2,900.00	2,819.51	2,709.57	2,704.98	14.43	9.52	-177.15	101.05	-9.29	700.88	681.33	19.55	35.853		
3,000.00	2,915.38	2,783.75	2,777.27	15.03	9.81	-176.32	116.72	-3.80	745.55	725.46	20.09	37.113		
3,100.00	3,011.25	2,856.09	2,847.34	15.64	10.10	-175.49	133.70	2.14	792.17	771.56	20.61	38.431		
3,200.00	3,107.13	2,926.59	2,915.17	16.25	10.39	-174.68	151.85	8.49	840.71	819.59	21.12	39.804		
3,300.00	3,203.00	3,000.00	2,985.27	16.85	10.71	-173.83	172.41	15.69	891.13	869.46	21.67	41.125		
3,400.00	3,298.87	3,061.99	3,044.02	17.46	10.99	-173.11	191.10	22.23	943.34	921.25	22.09	42.701		
3,500.00	3,394.74	3,126.91	3,105.06	18.07	11.29	-172.36	211.94	29.52	997.34	974.79	22.55	44.220		
3,600.00	3,490.62	3,200.00	3,173.17	18.68	11.64	-171.53	236.97	38.28	1,053.13	1,030.00	23.12	45.541		
3,700.00	3,586.49	3,251.21	3,220.48	19.29	11.91	-170.95	255.47	44.76	1,110.45	1,087.01	23.44	47.381		
3,800.00	3,682.36	3,300.00	3,265.21	19.90	12.16	-170.41	273.84	51.19	1,169.51	1,145.79	23.72	49.308		
3,900.00	3,778.23	3,368.32	3,327.29	20.51	12.54	-169.66	300.77	60.61	1,229.98	1,205.72	24.26	50.694		
4,000.00	3,874.10	3,424.24	3,377.58	21.12	12.86	-169.05	323.85	68.69	1,292.01	1,267.35	24.66	52.401		
4,100.00	3,969.98	3,478.46	3,425.88	21.73	13.19	-168.48	347.10	76.83	1,355.47	1,330.43	25.04	54.138		
4,200.00	4,065.85	3,531.02	3,472.25	22.34	13.52	-167.93	370.47	85.00	1,420.31	1,394.90	25.41	55.903		
4,300.00	4,161.72	3,581.96	3,516.75	22.95	13.84	-167.41	393.87	93.19	1,486.47	1,460.70	25.76	57.696		
4,400.00	4,257.59	3,631.32	3,559.44	23.56	14.18	-166.91	417.26	101.38	1,553.89	1,527.78	26.11	59.511		
4,500.00	4,353.47	3,679.15	3,600.38	24.17	14.51	-166.44	440.58	109.54	1,622.52	1,596.07	26.45	61.351		
4,600.00	4,449.34	3,725.49	3,639.66	24.78	14.84	-165.98	463.78	117.66	1,692.31	1,665.54	26.77	63.210		
4,700.00	4,545.21	3,770.38	3,677.33	25.39	15.17	-165.55	486.84	125.73	1,763.21	1,736.12	27.09	65.088		
4,800.00	4,641.08	3,813.87	3,713.45	26.00	15.49	-165.15	509.70	133.73	1,835.17	1,807.77	27.40	66.986		
4,900.00	4,736.96	3,871.77	3,761.13	26.61	15.94	-164.62	540.69	144.58	1,907.97	1,880.06	27.91	68.362		
5,000.00	4,832.83	3,938.79	3,816.31	27.22	16.48	-164.04	576.61	157.15	1,980.93	1,952.38	28.56	69.372		

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 11-10-14H
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 11-10-14H	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	4,928.70	4,005.82	3,871.49	27.83	17.02	-163.51	612.53	169.72	2,053.99	2,024.78	29.21	70.328			
5,200.00	5,024.57	4,072.85	3,926.66	28.44	17.58	-163.01	648.45	182.29	2,127.12	2,097.26	29.86	71.228			
5,300.00	5,120.45	4,139.88	3,981.84	29.05	18.14	-162.55	684.37	194.87	2,200.33	2,169.80	30.53	72.080			
5,400.00	5,216.32	4,206.90	4,037.01	29.66	18.71	-162.11	720.29	207.44	2,273.60	2,242.40	31.19	72.889			
5,500.00	5,312.19	4,273.93	4,092.19	30.28	19.29	-161.70	756.21	220.01	2,346.93	2,315.06	31.86	73.653			
5,600.00	5,408.06	4,340.96	4,147.37	30.89	19.87	-161.32	792.13	232.58	2,420.31	2,387.77	32.54	74.378			
5,700.00	5,503.94	4,407.99	4,202.54	31.50	20.46	-160.95	828.05	245.15	2,493.74	2,460.52	33.22	75.067			
5,800.00	5,599.81	4,475.01	4,257.72	32.11	21.06	-160.61	863.97	257.72	2,567.22	2,533.32	33.90	75.721			
5,900.00	5,695.68	4,542.04	4,312.89	32.72	21.66	-160.28	899.89	270.29	2,640.74	2,606.15	34.59	76.343			
6,000.00	5,791.55	4,609.07	4,368.07	33.33	22.27	-159.98	935.81	282.87	2,714.29	2,679.01	35.28	76.935			
6,100.00	5,887.43	4,676.10	4,423.25	33.95	22.88	-159.68	971.73	295.44	2,787.89	2,751.91	35.97	77.499			
6,200.00	5,983.30	4,743.12	4,478.42	34.56	23.49	-159.41	1,007.65	308.01	2,861.51	2,824.84	36.67	78.036			
6,300.00	6,079.17	4,810.15	4,533.60	35.17	24.11	-159.14	1,043.57	320.58	2,935.16	2,897.79	37.37	78.548			
6,400.00	6,175.04	4,877.18	4,588.77	35.78	24.73	-158.89	1,079.49	333.15	3,008.84	2,970.77	38.07	79.037			
6,500.00	6,270.92	4,944.21	4,643.95	36.39	25.36	-158.66	1,115.41	345.72	3,082.55	3,043.77	38.77	79.503			
6,600.00	6,366.79	5,011.24	4,699.13	37.00	25.99	-158.43	1,151.33	358.30	3,156.27	3,116.80	39.48	79.950			
6,700.00	6,462.66	5,078.26	4,754.30	37.62	26.62	-158.21	1,187.25	370.87	3,230.03	3,189.84	40.19	80.376			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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	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)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.00	0.00	6.00	6.00	0.00	0.00	23.03	1,867.41	793.79	2,029.12					
100.00	100.00	90.80	90.80	0.14	0.27	23.03	1,867.65	793.93	2,029.45	2,029.04	0.41	4,892.500		
200.00	200.00	188.82	188.81	0.50	0.62	23.02	1,868.61	794.08	2,030.41	2,029.29	1.12	1,811.318		
300.00	300.00	339.99	339.92	0.86	1.15	22.90	1,870.04	790.12	2,030.39	2,028.38	2.01	1,008.393		
400.00	400.00	497.23	496.74	1.22	1.72	22.63	1,868.92	778.94	2,026.78	2,023.84	2.94	689.013		
500.00	499.98	613.32	612.09	1.56	2.17	-134.54	1,868.18	766.00	2,023.13	2,019.41	3.72	543.599		
600.00	599.84	742.04	739.52	1.90	2.69	-135.17	1,867.43	747.81	2,020.96	2,016.39	4.57	442.173		
700.00	699.45	875.19	870.58	2.25	3.29	-136.02	1,865.99	724.50	2,019.70	2,014.21	5.49	367.890		
743.45	742.62	929.36	923.61	2.42	3.54	-136.42	1,865.40	713.39	2,019.55	2,013.66	5.89	342.920	CC	
800.00	798.70	997.82	990.34	2.63	3.86	-136.99	1,864.65	698.12	2,019.82	2,013.41	6.41	315.207	ES	
900.00	897.47	1,118.32	1,107.49	3.03	4.48	-138.04	1,862.60	670.00	2,021.78	2,014.42	7.37	274.342		
1,000.00	995.62	1,256.05	1,240.61	3.46	5.22	-139.38	1,858.86	634.93	2,025.33	2,016.87	8.46	239.336		
1,100.00	1,093.06	1,324.62	1,306.46	3.92	5.61	-140.07	1,857.12	615.86	2,031.60	2,022.33	9.27	219.215		
1,200.00	1,189.64	1,392.42	1,371.33	4.43	6.01	-140.76	1,856.50	596.16	2,042.42	2,032.33	10.09	202.419		
1,225.96	1,214.56	1,413.05	1,391.03	4.56	6.14	-140.98	1,856.47	590.03	2,045.95	2,035.62	10.33	198.061		
1,300.00	1,285.55	1,471.42	1,446.69	4.97	6.49	-141.73	1,856.60	572.46	2,056.79	2,045.78	11.01	186.845		
1,400.00	1,381.42	1,560.16	1,531.13	5.52	7.04	-142.88	1,857.10	545.20	2,072.43	2,060.43	12.00	172.726		
1,500.00	1,477.29	1,645.84	1,612.43	6.09	7.59	-144.00	1,857.75	518.14	2,089.06	2,076.08	12.99	160.844		
1,600.00	1,573.17	1,733.64	1,695.47	6.66	8.17	-145.15	1,858.65	489.64	2,106.77	2,092.77	14.00	150.467		
1,700.00	1,669.04	1,812.00	1,769.66	7.24	8.68	-146.16	1,859.32	464.41	2,125.41	2,110.46	14.95	142.126		
1,800.00	1,764.91	1,895.00	1,848.40	7.83	9.23	-147.20	1,860.48	438.20	2,145.55	2,129.62	15.93	134.685		
1,900.00	1,860.78	1,985.24	1,934.36	8.42	9.81	-148.29	1,861.83	410.77	2,166.87	2,149.94	16.94	127.940		
2,000.00	1,956.66	2,066.13	2,011.37	9.01	10.33	-149.25	1,862.82	386.04	2,188.80	2,170.91	17.88	122.393		
2,100.00	2,052.53	2,187.40	2,125.84	9.61	11.16	-150.74	1,864.12	346.07	2,211.27	2,192.15	19.12	115.627		
2,200.00	2,148.40	2,292.09	2,224.43	10.21	11.89	-152.02	1,863.82	310.83	2,233.37	2,213.10	20.27	110.195		
2,300.00	2,244.27	2,372.10	2,299.32	10.81	12.47	-153.00	1,863.52	282.69	2,256.21	2,234.96	21.24	106.210		
2,400.00	2,340.15	2,462.01	2,382.89	11.41	13.14	-154.13	1,863.30	249.54	2,280.02	2,257.71	22.31	102.187		
2,500.00	2,436.02	2,556.04	2,470.19	12.01	13.86	-155.30	1,862.80	214.61	2,304.55	2,281.13	23.41	98.433		
2,600.00	2,531.89	2,650.17	2,558.09	12.61	14.55	-156.42	1,861.93	180.96	2,329.67	2,305.18	24.49	95.134		
2,700.00	2,627.76	2,731.54	2,634.84	13.22	15.12	-157.31	1,861.12	153.96	2,355.53	2,330.10	25.43	92.625		
2,800.00	2,723.64	2,800.41	2,700.04	13.82	15.60	-158.04	1,860.75	131.77	2,382.51	2,356.23	26.28	90.673		
2,900.00	2,819.51	2,874.25	2,769.51	14.43	16.12	-158.84	1,860.97	106.73	2,410.95	2,383.81	27.15	88.806		
3,000.00	2,915.38	2,993.82	2,882.47	15.03	16.96	-160.08	1,860.91	67.54	2,439.81	2,411.45	28.36	86.032		
3,100.00	3,011.25	3,128.59	3,009.50	15.64	17.90	-161.46	1,858.26	22.62	2,467.62	2,437.94	29.67	83.157		
3,200.00	3,107.13	3,195.77	3,072.94	16.25	18.38	-162.12	1,856.60	0.58	2,495.63	2,465.14	30.49	81.848		
3,300.00	3,203.00	3,276.53	3,148.75	16.85	18.96	-162.94	1,855.06	-27.21	2,524.92	2,493.51	31.41	80.386		
3,400.00	3,298.87	3,372.68	3,239.10	17.46	19.65	-163.89	1,853.03	-60.06	2,554.64	2,522.19	32.44	78.744		
3,500.00	3,394.74	3,459.90	3,321.37	18.07	20.27	-164.71	1,851.09	-88.92	2,584.73	2,551.34	33.39	77.401		
3,600.00	3,490.62	3,535.46	3,392.67	18.68	20.80	-165.40	1,849.62	-113.89	2,615.62	2,581.37	34.25	76.370		
3,700.00	3,586.49	3,609.00	3,461.87	19.29	21.32	-166.08	1,848.58	-138.78	2,647.62	2,612.53	35.09	75.456		
3,800.00	3,682.36	3,652.17	3,502.35	19.90	21.64	-166.48	1,848.37	-153.77	2,681.04	2,645.35	35.68	75.133		
3,900.00	3,778.23	3,705.00	3,551.73	20.51	22.03	-166.97	1,848.80	-172.55	2,716.26	2,679.91	36.34	74.736		
4,000.00	3,874.10	3,747.29	3,591.06	21.12	22.36	-167.36	1,849.62	-188.07	2,753.16	2,716.25	36.92	74.579		
4,100.00	3,969.98	3,800.00	3,639.73	21.73	22.78	-167.87	1,851.15	-208.23	2,791.75	2,754.18	37.57	74.316		
4,200.00	4,065.85	3,885.05	3,717.91	22.34	23.47	-168.68	1,853.85	-241.62	2,831.37	2,792.84	38.53	73.489		
4,300.00	4,161.72	3,974.44	3,800.03	22.95	24.20	-169.51	1,856.34	-276.84	2,871.26	2,831.73	39.53	72.638		
4,400.00	4,257.59	4,218.43	4,027.39	23.56	26.05	-171.57	1,857.59	-365.15	2,908.61	2,866.74	41.87	69.473		
4,500.00	4,353.47	4,277.00	4,082.35	24.17	26.48	-172.03	1,856.93	-385.39	2,945.06	2,902.51	42.55	69.213		
4,600.00	4,449.34	4,337.62	4,139.11	24.78	26.93	-172.50	1,856.73	-406.65	2,982.70	2,939.45	43.25	68.965		
4,700.00	4,545.21	4,398.37	4,195.92	25.39	27.39	-172.97	1,857.02	-428.18	3,021.50	2,977.56	43.94	68.758		
4,800.00	4,641.08	4,466.00	4,259.07	26.00	27.90	-173.48	1,857.82	-452.39	3,061.33	3,016.63	44.70	68.493		
4,900.00	4,736.96	4,533.29	4,321.86	26.61	28.41	-173.99	1,858.99	-476.55	3,102.02	3,056.58	45.44	68.268		

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 11-10-14H
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 11-10-14H	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												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)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor						
5,000.00	4,832.83	4,604.91	4,388.73	27.22	28.94	-174.51	1,860.59	-502.14	3,143.43	3,097.21	46.22	68.017						
5,100.00	4,928.70	4,714.86	4,491.60	27.83	29.76	-175.27	1,863.46	-540.85	3,185.39	3,138.06	47.33	67.297						
5,200.00	5,024.57	4,801.03	4,572.43	28.44	30.40	-175.85	1,864.92	-570.67	3,226.66	3,178.42	48.23	66.895						
5,300.00	5,120.45	4,875.25	4,641.69	29.05	30.96	-176.35	1,866.34	-597.31	3,268.80	3,219.77	49.03	66.672 SF						

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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
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	22.70	1,898.01	794.07	2,057.42					
100.00	100.00	100.40	100.40	0.14	0.31	22.70	1,898.18	793.96	2,057.54	2,057.09	0.45	4,575.260		
200.00	200.00	202.62	202.61	0.50	0.67	22.67	1,898.78	793.24	2,057.82	2,056.65	1.17	1,752.829		
300.00	300.00	321.26	321.18	0.86	1.10	22.57	1,900.04	789.67	2,057.66	2,055.70	1.96	1,049.754		
400.00	400.00	484.91	484.31	1.22	1.71	22.23	1,901.27	776.93	2,055.38	2,052.45	2.92	702.981		
500.00	499.98	602.10	600.70	1.56	2.17	-134.95	1,901.40	763.23	2,052.28	2,048.56	3.72	551.456		
582.33	582.21	683.11	680.98	1.84	2.50	-135.32	1,901.70	752.47	2,051.37	2,047.05	4.32	474.576	CC	
600.00	599.84	699.84	697.55	1.90	2.57	-135.41	1,901.81	750.14	2,051.42	2,046.96	4.45	460.959	ES	
700.00	699.45	791.95	788.64	2.25	2.96	-135.90	1,902.90	736.46	2,053.36	2,048.17	5.19	395.631		
800.00	798.70	880.21	875.56	2.63	3.35	-136.45	1,905.08	721.33	2,058.43	2,052.49	5.94	346.315		
900.00	897.47	970.68	964.22	3.03	3.76	-137.09	1,908.48	703.70	2,066.76	2,060.03	6.73	306.962		
1,000.00	995.62	1,082.12	1,073.08	3.46	4.31	-137.99	1,913.02	680.27	2,077.95	2,070.28	7.66	271.108		
1,100.00	1,093.06	1,182.13	1,170.24	3.92	4.82	-138.85	1,916.79	656.89	2,091.28	2,082.69	8.58	243.658		
1,200.00	1,189.64	1,269.91	1,255.25	4.43	5.29	-139.62	1,920.63	635.35	2,108.15	2,098.68	9.48	222.426		
1,225.96	1,214.56	1,294.88	1,279.33	4.56	5.42	-139.85	1,921.81	628.84	2,113.07	2,103.34	9.73	217.173		
1,300.00	1,285.55	1,388.18	1,368.95	4.97	5.95	-141.00	1,926.04	603.25	2,127.33	2,116.75	10.58	201.099		
1,400.00	1,381.42	1,565.54	1,538.18	5.52	7.02	-143.21	1,930.02	550.38	2,144.91	2,132.85	12.06	177.834		
1,500.00	1,477.29	1,658.78	1,626.19	6.09	7.64	-144.41	1,930.49	519.62	2,161.25	2,148.14	13.11	164.869		
1,600.00	1,573.17	1,732.00	1,695.17	6.66	8.13	-145.36	1,931.54	495.08	2,179.25	2,165.22	14.03	155.279		
1,700.00	1,669.04	1,778.86	1,739.32	7.24	8.45	-145.96	1,932.77	479.44	2,199.18	2,184.39	14.79	148.728		
1,800.00	1,764.91	1,848.16	1,804.64	7.83	8.92	-146.84	1,935.22	456.40	2,221.07	2,205.39	15.68	141.649		
1,900.00	1,860.78	1,944.36	1,895.33	8.42	9.57	-148.04	1,938.80	424.52	2,244.12	2,227.37	16.75	133.955		
2,000.00	1,956.66	2,034.23	1,979.97	9.01	10.19	-149.14	1,941.46	394.44	2,267.41	2,249.62	17.79	127.479		
2,100.00	2,052.53	2,105.34	2,046.54	9.61	10.70	-150.03	1,944.12	369.59	2,292.14	2,273.45	18.69	122.622		
2,200.00	2,148.40	2,212.16	2,146.29	10.21	11.48	-151.36	1,947.98	331.58	2,317.73	2,297.86	19.87	116.666		
2,300.00	2,244.27	2,316.67	2,243.92	10.81	12.25	-152.64	1,950.39	294.34	2,343.05	2,322.02	21.03	111.437		
2,400.00	2,340.15	2,387.81	2,309.84	11.41	12.79	-153.52	1,952.23	267.66	2,369.51	2,347.56	21.94	107.993		
2,500.00	2,436.02	2,465.70	2,381.67	12.01	13.40	-154.49	1,954.55	237.64	2,397.23	2,374.31	22.92	104.597		
2,600.00	2,531.89	2,566.00	2,474.05	12.61	14.19	-155.72	1,956.80	198.63	2,425.20	2,401.13	24.08	100.732		
2,700.00	2,627.76	2,621.83	2,525.51	13.22	14.63	-156.40	1,958.14	177.03	2,454.47	2,429.61	24.86	98.732		
2,800.00	2,723.64	2,661.00	2,561.67	13.82	14.94	-156.86	1,959.83	162.06	2,486.08	2,460.59	25.49	97.530		
2,900.00	2,819.51	2,736.14	2,631.11	14.43	15.53	-157.73	1,963.86	133.65	2,519.33	2,492.93	26.40	95.419		
3,000.00	2,915.38	2,806.35	2,696.06	15.03	16.08	-158.52	1,968.01	107.32	2,553.80	2,526.53	27.26	93.669		
3,100.00	3,011.25	2,883.33	2,767.39	15.64	16.68	-159.36	1,972.94	78.78	2,589.38	2,561.21	28.17	91.929		
3,200.00	3,107.13	2,991.73	2,868.44	16.25	17.50	-160.49	1,979.77	40.15	2,625.48	2,596.17	29.31	89.585		
3,300.00	3,203.00	3,102.69	2,972.80	16.85	18.30	-161.56	1,985.54	2.89	2,660.95	2,630.51	30.43	87.431		
3,400.00	3,298.87	3,174.72	3,040.55	17.46	18.82	-162.24	1,989.13	-21.29	2,696.87	2,665.63	31.25	86.309		
3,500.00	3,394.74	3,239.27	3,100.96	18.07	19.29	-162.85	1,992.80	-43.74	2,734.04	2,702.05	31.99	85.455		
3,600.00	3,490.62	3,364.35	3,218.50	18.68	20.19	-163.98	1,998.90	-86.05	2,770.76	2,737.54	33.22	83.403		
3,700.00	3,586.49	3,424.34	3,275.17	19.29	20.61	-164.49	2,002.12	-105.45	2,808.34	2,774.43	33.91	82.824		
3,800.00	3,682.36	3,517.46	3,363.27	19.90	21.26	-165.26	2,007.50	-135.16	2,846.64	2,811.80	34.84	81.699		
3,900.00	3,778.23	3,569.44	3,412.37	20.51	21.62	-165.68	2,010.70	-151.88	2,885.73	2,850.28	35.45	81.405		
4,000.00	3,874.10	3,615.00	3,455.30	21.12	21.94	-166.05	2,013.97	-166.81	2,926.25	2,890.25	35.99	81.304		
4,100.00	3,969.98	3,661.39	3,498.81	21.73	22.29	-166.43	2,017.82	-182.43	2,968.27	2,931.73	36.54	81.232		
4,200.00	4,065.85	3,710.00	3,544.12	22.34	22.65	-166.83	2,022.49	-199.40	3,011.89	2,974.79	37.10	81.190		
4,300.00	4,161.72	3,750.31	3,581.53	22.95	22.96	-167.16	2,026.80	-213.79	3,056.94	3,019.37	37.58	81.351		
4,400.00	4,257.59	3,805.00	3,632.14	23.56	23.38	-167.61	2,033.17	-233.50	3,103.30	3,065.13	38.18	81.282		
4,500.00	4,353.47	3,904.64	3,724.19	24.17	24.16	-168.41	2,044.82	-269.82	3,150.24	3,111.04	39.20	80.366		
4,600.00	4,449.34	3,987.53	3,800.74	24.78	24.82	-169.06	2,054.06	-300.24	3,197.14	3,157.08	40.06	79.802		
4,700.00	4,545.21	4,154.35	3,956.16	25.39	26.07	-170.27	2,071.21	-358.31	3,243.14	3,201.48	41.66	77.845	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 11-10-14H
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 11-10-14H	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 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	24.04	1,778.88	793.52	1,947.84					
100.00	100.00	105.42	105.42	0.14	0.32	24.04	1,778.85	793.63	1,947.86	1,947.39	0.46	4,198.417		
200.00	200.00	243.16	243.15	0.50	0.81	24.05	1,777.86	793.50	1,947.26	1,945.95	1.31	1,486.573		
300.00	300.00	412.20	412.00	0.86	1.41	24.05	1,771.10	790.40	1,942.36	1,940.09	2.27	854.954		
400.00	400.00	646.83	645.38	1.22	2.31	23.93	1,751.46	777.17	1,931.04	1,927.55	3.49	554.045		
500.00	499.98	820.81	817.60	1.56	3.03	-133.22	1,731.43	762.97	1,918.75	1,914.29	4.46	430.317		
600.00	599.84	1,018.65	1,011.64	1.90	3.93	-133.86	1,699.14	742.11	1,902.69	1,897.18	5.50	345.672		
700.00	699.45	1,139.44	1,129.46	2.25	4.53	-134.44	1,676.31	728.43	1,886.79	1,880.50	6.29	299.966		
800.00	798.70	1,362.25	1,344.84	2.63	5.71	-135.44	1,625.82	702.20	1,869.96	1,862.50	7.45	250.853		
900.00	897.47	1,458.95	1,437.42	3.03	6.27	-136.12	1,601.00	689.43	1,851.99	1,843.79	8.20	225.914		
1,000.00	995.62	1,545.00	1,519.85	3.46	6.77	-136.78	1,579.31	677.64	1,836.86	1,827.93	8.93	205.685		
1,100.00	1,093.06	1,639.00	1,610.01	3.92	7.31	-137.54	1,556.15	664.52	1,824.87	1,815.16	9.72	187.808		
1,200.00	1,189.64	1,728.51	1,695.92	4.43	7.83	-138.30	1,534.42	651.94	1,815.98	1,805.47	10.51	172.705		
1,225.96	1,214.56	1,761.31	1,727.40	4.56	8.03	-138.57	1,526.47	647.28	1,814.15	1,803.39	10.76	168.641		
1,300.00	1,285.55	1,842.13	1,804.81	4.97	8.50	-139.20	1,506.35	635.63	1,808.75	1,797.33	11.42	158.430		
1,400.00	1,381.42	1,964.93	1,922.29	5.52	9.24	-140.14	1,475.10	618.35	1,801.44	1,789.08	12.36	145.750		
1,500.00	1,477.29	2,075.03	2,026.98	6.09	9.93	-141.05	1,446.10	600.48	1,792.77	1,779.50	13.27	135.054		
1,600.00	1,573.17	2,162.68	2,110.25	6.66	10.48	-141.82	1,423.37	585.17	1,784.51	1,770.39	14.13	126.324		
1,700.00	1,669.04	2,286.91	2,228.05	7.24	11.27	-142.94	1,390.93	562.75	1,776.35	1,761.24	15.10	117.606		
1,800.00	1,764.91	2,385.66	2,321.32	7.83	11.92	-143.86	1,364.58	543.89	1,767.73	1,751.72	16.01	110.403		
1,900.00	1,860.78	2,498.61	2,427.71	8.42	12.67	-144.94	1,333.74	521.74	1,758.84	1,741.86	16.97	103.629		
2,000.00	1,956.66	2,593.19	2,516.57	9.01	13.31	-145.86	1,307.37	502.98	1,749.81	1,731.93	17.88	97.860		
2,100.00	2,052.53	2,671.69	2,590.58	9.61	13.84	-146.61	1,285.90	488.03	1,741.98	1,723.24	18.74	92.958		
2,200.00	2,148.40	2,758.69	2,672.86	10.21	14.41	-147.43	1,262.58	472.04	1,735.33	1,715.71	19.63	88.421		
2,300.00	2,244.27	2,861.65	2,770.09	10.81	15.09	-148.44	1,235.03	452.35	1,729.04	1,708.46	20.57	84.047		
2,400.00	2,340.15	2,942.00	2,846.01	11.41	15.63	-149.23	1,213.83	436.76	1,723.57	1,702.12	21.45	80.352		
2,500.00	2,436.02	3,009.05	2,909.68	12.01	16.06	-149.89	1,196.85	424.35	1,719.81	1,697.54	22.28	77.206		
2,600.00	2,531.89	3,096.57	2,993.18	12.61	16.61	-150.72	1,175.70	408.89	1,717.79	1,694.62	23.17	74.134		
2,700.00	2,627.76	3,193.96	3,085.98	13.22	17.22	-151.67	1,152.15	391.05	1,716.17	1,692.07	24.11	71.188		
2,800.00	2,723.64	3,297.03	3,184.22	13.82	17.88	-152.67	1,127.01	372.57	1,714.91	1,689.84	25.07	68.412		
2,900.00	2,819.51	3,400.20	3,282.54	14.43	18.53	-153.63	1,101.22	354.89	1,713.60	1,687.58	26.03	65.842		
3,000.00	2,915.38	3,504.28	3,381.66	15.03	19.19	-154.60	1,074.75	337.42	1,712.36	1,685.37	26.99	63.444		
3,100.00	3,011.25	3,594.78	3,467.67	15.64	19.78	-155.47	1,051.71	321.26	1,711.46	1,683.54	27.92	61.300		
3,200.00	3,107.13	3,700.51	3,567.67	16.25	20.48	-156.58	1,024.97	299.71	1,711.04	1,682.11	28.93	59.134		
3,300.00	3,203.00	3,811.56	3,671.89	16.85	21.25	-157.82	996.14	274.46	1,710.40	1,680.39	30.01	56.998		
3,400.00	3,298.87	3,918.49	3,771.90	17.46	22.00	-159.04	967.53	249.71	1,709.61	1,678.53	31.08	55.005		
3,500.00	3,394.74	4,014.63	3,861.81	18.07	22.67	-160.12	941.20	228.08	1,708.90	1,676.79	32.11	53.220		
3,515.68	3,409.78	4,026.63	3,873.07	18.17	22.75	-160.24	937.94	225.56	1,708.88	1,676.63	32.26	52.978		
3,600.00	3,490.62	4,084.00	3,927.23	18.68	23.15	-160.83	922.59	214.45	1,709.46	1,676.45	33.01	51.786		
3,700.00	3,586.49	4,161.39	4,000.93	19.29	23.64	-161.54	902.82	201.58	1,711.73	1,677.82	33.91	50.486		
3,800.00	3,682.36	4,258.21	4,093.64	19.90	24.24	-162.38	879.07	186.94	1,715.32	1,680.45	34.87	49.193		
3,900.00	3,778.23	4,356.74	4,187.74	20.51	24.85	-163.27	854.57	170.98	1,719.04	1,683.19	35.85	47.945		
4,000.00	3,874.10	4,482.55	4,307.21	21.12	25.67	-164.45	821.87	149.04	1,722.12	1,685.14	36.98	46.567		
4,100.00	3,969.98	4,560.00	4,380.73	21.73	26.18	-165.18	801.71	135.36	1,725.66	1,687.75	37.91	45.519		
4,200.00	4,065.85	4,634.16	4,451.45	22.34	26.65	-165.86	783.29	122.71	1,730.77	1,691.96	38.81	44.595		
4,300.00	4,161.72	4,744.83	4,557.16	22.95	27.34	-166.85	756.19	104.35	1,736.66	1,696.78	39.88	43.548		
4,400.00	4,257.59	4,860.79	4,667.51	23.56	28.09	-167.89	726.27	84.96	1,741.66	1,700.68	40.98	42.496		
4,500.00	4,353.47	4,941.00	4,743.67	24.17	28.61	-168.62	705.23	71.18	1,746.80	1,704.87	41.94	41.655		
4,600.00	4,449.34	5,025.09	4,823.79	24.78	29.14	-169.37	683.90	57.17	1,753.13	1,710.23	42.90	40.869		
4,700.00	4,545.21	5,106.65	4,901.95	25.39	29.64	-170.05	664.32	44.58	1,760.90	1,717.07	43.83	40.180		
4,800.00	4,641.08	5,194.69	4,986.51	26.00	30.18	-170.76	643.80	31.16	1,769.68	1,724.89	44.79	39.515		
4,900.00	4,736.96	5,282.48	5,070.68	26.61	30.71	-171.50	623.46	16.67	1,779.22	1,733.46	45.76	38.883		

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 11-10-14H
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 11-10-14H	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 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	4,832.83	5,374.77	5,159.08	27.22	31.28	-172.30	602.32	0.66	1,789.55	1,742.79	46.77	38.263		
5,100.00	4,928.70	5,469.51	5,249.73	27.83	31.87	-173.12	580.56	-16.17	1,800.32	1,752.52	47.80	37.662		
5,200.00	5,024.57	5,562.49	5,338.98	28.44	32.43	-173.88	559.58	-31.65	1,811.59	1,762.77	48.82	37.111		
5,300.00	5,120.45	5,649.01	5,422.16	29.05	32.95	-174.56	540.38	-45.73	1,823.47	1,773.69	49.78	36.628		
5,400.00	5,216.32	5,725.87	5,496.11	29.66	33.41	-175.17	523.84	-58.59	1,836.46	1,785.76	50.70	36.225		
5,500.00	5,312.19	5,796.00	5,563.37	30.28	33.83	-175.77	509.23	-72.00	1,851.06	1,799.49	51.57	35.894		
5,600.00	5,408.06	5,937.38	5,697.35	30.89	34.75	-177.11	477.28	-103.84	1,865.42	1,812.37	53.05	35.165		
5,700.00	5,503.94	6,076.11	5,829.23	31.50	35.65	-178.31	443.97	-130.99	1,878.15	1,823.69	54.46	34.490		
5,800.00	5,599.81	6,193.10	5,940.84	32.11	36.39	-179.22	414.73	-150.42	1,889.35	1,833.69	55.67	33.941		
5,900.00	5,695.68	6,282.65	6,026.26	32.72	36.96	-179.90	392.21	-165.06	1,900.68	1,843.97	56.71	33.518		
6,000.00	5,791.55	6,898.18	6,601.55	33.33	40.26	177.82	205.81	-166.61	1,909.55	1,851.52	58.03	32.906		
6,100.00	5,887.43	7,739.29	7,114.06	33.95	40.23	-166.77	44.81	409.08	1,886.67	1,833.54	53.13	35.512		
6,200.00	5,983.30	7,774.62	7,120.07	34.56	40.16	-165.65	44.09	443.88	1,847.47	1,792.74	54.73	33.758		
6,300.00	6,079.17	7,903.05	7,133.89	35.17	39.90	-161.46	42.76	571.44	1,811.89	1,754.81	57.08	31.743		
6,400.00	6,175.04	7,916.46	7,134.44	35.78	39.87	-161.02	42.79	584.83	1,780.40	1,721.80	58.60	30.384		
6,500.00	6,270.92	7,929.77	7,135.00	36.39	39.84	-160.58	42.82	598.13	1,753.93	1,693.91	60.03	29.219		
6,600.00	6,366.79	7,942.98	7,135.54	37.00	39.82	-160.14	42.88	611.34	1,732.73	1,671.38	61.35	28.243		
6,700.00	6,462.66	7,956.10	7,136.08	37.62	39.79	-159.70	42.95	624.44	1,716.99	1,654.45	62.54	27.454		
6,800.00	6,558.53	7,969.12	7,136.61	38.23	39.77	-159.27	43.04	637.45	1,706.85	1,643.27	63.58	26.846		
6,885.48	6,640.48	7,980.18	7,137.05	38.75	39.75	-158.90	43.13	648.50	1,702.70	1,638.37	64.34	26.466		
6,900.00	6,654.42	7,988.00	7,137.37	38.84	39.74	-163.30	43.20	656.32	1,702.43	1,637.90	64.53	26.381		
6,928.54	6,681.90	7,988.00	7,137.37	39.00	39.74	-173.19	43.20	656.32	1,702.20	1,637.50	64.69	26.312	CC, ES	
6,950.00	6,702.60	7,988.00	7,137.37	39.12	39.74	178.99	43.20	656.32	1,702.33	1,637.52	64.80	26.269		
7,000.00	6,750.76	7,988.00	7,137.37	39.38	39.74	161.22	43.20	656.32	1,703.65	1,638.64	65.02	26.204	SF	
7,050.00	6,798.55	7,980.99	7,137.09	39.60	39.75	146.07	43.13	649.31	1,706.37	1,641.31	65.07	26.224		
7,100.00	6,845.60	7,973.23	7,136.77	39.79	39.76	134.49	43.07	641.56	1,710.44	1,645.39	65.05	26.293		
7,150.00	6,891.54	7,961.84	7,136.31	39.95	39.78	125.73	42.99	630.18	1,715.75	1,650.82	64.93	26.423		
7,200.00	6,936.05	7,946.94	7,135.70	40.08	39.81	118.92	42.90	615.29	1,722.17	1,657.45	64.72	26.610		
7,250.00	6,978.76	7,928.64	7,134.95	40.19	39.85	113.43	42.82	597.01	1,729.54	1,665.12	64.42	26.847		
7,300.00	7,019.37	7,907.11	7,134.06	40.28	39.89	108.83	42.77	575.49	1,737.66	1,673.61	64.05	27.130		
7,350.00	7,057.55	7,883.13	7,132.99	40.34	39.94	104.88	42.77	551.54	1,746.32	1,682.68	63.64	27.441		
7,400.00	7,093.02	7,858.66	7,131.30	40.39	39.99	101.45	42.88	527.13	1,755.35	1,692.12	63.23	27.762		
7,450.00	7,125.51	7,833.48	7,128.77	40.42	40.04	98.43	43.11	502.08	1,764.58	1,701.75	62.83	28.085		
7,500.00	7,154.78	7,807.62	7,125.37	40.43	40.09	95.73	43.47	476.45	1,773.85	1,711.42	62.43	28.412		
7,550.00	7,180.59	7,776.60	7,120.40	40.42	40.15	93.24	44.05	445.83	1,782.97	1,720.94	62.03	28.742		
7,600.00	7,202.75	7,740.74	7,114.32	40.40	40.23	90.98	44.78	410.50	1,791.66	1,730.02	61.64	29.067		
7,650.00	7,221.10	7,702.00	7,107.41	40.37	40.31	88.98	45.65	372.39	1,799.69	1,738.42	61.27	29.373		
7,700.00	7,235.49	7,702.00	7,107.41	40.32	40.31	87.83	45.65	372.39	1,807.33	1,746.00	61.32	29.472		
7,750.00	7,245.82	7,666.16	7,100.25	40.27	40.39	86.41	46.95	337.30	1,814.11	1,752.95	61.16	29.662		
7,800.00	7,252.01	7,647.42	7,096.03	40.20	40.42	85.43	48.00	319.07	1,820.57	1,759.38	61.19	29.753		
7,848.69	7,254.00	7,606.00	7,085.55	40.14	40.51	84.49	51.23	279.14	1,826.63	1,765.54	61.09	29.902		
7,900.00	7,254.00	7,606.00	7,085.55	40.07	40.51	84.49	51.23	279.14	1,832.40	1,771.02	61.38	29.853		
8,000.00	7,254.00	7,576.00	7,076.91	39.96	40.57	84.23	54.60	250.61	1,847.18	1,785.33	61.85	29.866		
8,100.00	7,254.00	7,576.00	7,076.91	39.89	40.57	84.23	54.60	250.61	1,866.19	1,803.51	62.68	29.774		
8,200.00	7,254.00	7,511.00	7,054.98	39.87	40.65	83.59	65.87	190.50	1,888.86	1,825.75	63.11	29.931		
8,300.00	7,254.00	7,511.00	7,054.98	39.95	40.65	83.59	65.87	190.50	1,914.78	1,850.67	64.11	29.867		
8,400.00	7,254.00	7,511.00	7,054.98	40.29	40.65	83.59	65.87	190.50	1,945.50	1,880.31	65.19	29.844		
8,500.00	7,254.00	7,460.27	7,034.30	41.24	40.68	83.00	77.98	145.82	1,978.37	1,912.43	65.94	30.003		
8,600.00	7,254.00	7,416.00	7,013.24	42.78	40.70	82.40	90.51	108.97	2,015.83	1,949.09	66.74	30.205		
8,700.00	7,254.00	7,416.00	7,013.24	44.60	40.70	82.40	90.51	108.97	2,055.70	1,987.81	67.89	30.279		
8,800.00	7,254.00	7,416.00	7,013.24	46.57	40.70	82.40	90.51	108.97	2,099.57	2,030.52	69.05	30.406		
8,900.00	7,254.00	7,360.40	6,982.47	48.64	40.69	81.55	107.48	65.91	2,145.18	2,075.35	69.83	30.720		

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 11-10-14H
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 11-10-14H	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		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	7,254.00	7,321.00	6,957.65	50.78	40.68	80.86	119.58	37.83	2,194.16	2,123.48	70.68	31.045		
9,100.00	7,254.00	7,299.49	6,943.09	52.97	40.66	80.46	125.99	23.35	2,245.42	2,173.77	71.65	31.338		
9,200.00	7,254.00	7,248.92	6,906.21	55.21	40.63	79.45	139.44	-8.50	2,298.66	2,226.27	72.39	31.754		
9,300.00	7,254.00	7,205.72	6,872.06	57.50	40.60	78.52	149.08	-33.11	2,353.77	2,280.62	73.15	32.176		
9,400.00	7,254.00	7,158.00	6,832.20	59.82	40.56	77.43	157.95	-57.77	2,410.87	2,337.04	73.84	32.651		
9,500.00	7,254.00	7,135.29	6,812.54	62.17	40.55	76.90	161.52	-68.56	2,469.94	2,395.26	74.68	33.075		
9,600.00	7,254.00	7,130.00	6,807.90	64.55	40.54	76.77	162.29	-70.98	2,531.22	2,455.61	75.62	33.475		
9,700.00	7,254.00	7,089.07	6,771.78	66.96	40.51	75.80	168.29	-89.28	2,594.26	2,518.00	76.26	34.021		
9,800.00	7,254.00	7,067.78	6,752.88	69.39	40.49	75.30	171.51	-98.53	2,659.33	2,582.32	77.01	34.533		
9,900.00	7,254.00	7,034.00	6,722.74	71.84	40.47	74.51	176.76	-112.86	2,726.26	2,648.62	77.64	35.114		
10,000.00	7,254.00	7,034.00	6,722.74	74.30	40.47	74.51	176.76	-112.86	2,794.74	2,716.27	78.47	35.614		
10,100.00	7,254.00	7,034.00	6,722.74	76.79	40.47	74.51	176.76	-112.86	2,865.08	2,785.82	79.26	36.146		
10,200.00	7,254.00	7,034.00	6,722.74	79.29	40.47	74.51	176.76	-112.86	2,937.14	2,857.13	80.01	36.710		
10,300.00	7,254.00	6,989.93	6,683.32	81.80	40.41	73.49	184.48	-130.99	3,009.78	2,929.32	80.46	37.406		
10,400.00	7,254.00	6,977.23	6,671.97	84.33	40.40	73.21	186.99	-136.11	3,084.27	3,003.20	81.07	38.043		
10,500.00	7,254.00	6,939.00	6,637.87	86.86	40.35	72.36	195.29	-151.23	3,160.35	3,078.83	81.53	38.763		
10,600.00	7,254.00	6,939.00	6,637.87	89.41	40.35	72.36	195.29	-151.23	3,237.02	3,154.87	82.15	39.405		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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	23.38	1,837.53	794.35	2,001.88					
100.00	100.00	89.56	89.56	0.14	0.26	23.38	1,837.81	794.47	2,002.25	2,001.84	0.41	4,896.845		
200.00	200.00	188.45	188.44	0.50	0.62	23.38	1,838.79	794.82	2,003.29	2,002.17	1.12	1,787.993		
300.00	300.00	392.15	392.08	0.86	1.33	23.34	1,836.41	792.26	2,001.87	1,999.68	2.19	914.235		
400.00	400.00	556.89	556.40	1.22	1.91	23.16	1,829.70	782.85	1,995.81	1,992.68	3.13	638.024		
500.00	499.98	684.75	683.54	1.56	2.39	-133.96	1,823.16	770.96	1,988.62	1,984.69	3.93	506.326		
600.00	599.84	810.00	807.55	1.90	2.90	-134.55	1,817.11	754.55	1,982.70	1,977.97	4.74	418.641		
700.00	699.45	927.86	923.55	2.25	3.41	-135.31	1,811.79	734.45	1,978.12	1,972.56	5.55	356.334		
800.00	798.70	1,022.12	1,015.96	2.63	3.83	-136.02	1,808.24	716.21	1,976.09	1,969.78	6.31	313.021		
877.14	874.94	1,128.74	1,120.12	2.94	4.34	-136.90	1,803.74	693.89	1,975.70	1,968.63	7.07	279.436 CC		
900.00	897.47	1,153.89	1,144.62	3.03	4.46	-137.12	1,802.56	688.37	1,975.76	1,968.49	7.27	271.727 ES		
1,000.00	995.62	1,253.91	1,241.90	3.46	4.96	-138.04	1,797.89	665.56	1,977.61	1,969.48	8.13	243.128		
1,100.00	1,093.06	1,398.79	1,382.22	3.92	5.73	-139.49	1,790.43	630.29	1,981.89	1,972.65	9.24	214.439		
1,200.00	1,189.64	1,501.39	1,480.91	4.43	6.31	-140.59	1,783.83	603.05	1,987.54	1,977.33	10.21	194.662		
1,225.96	1,214.56	1,522.63	1,501.29	4.56	6.43	-140.82	1,782.50	597.21	1,989.53	1,979.09	10.44	190.515		
1,300.00	1,285.55	1,586.55	1,562.56	4.97	6.80	-141.60	1,778.69	579.39	1,995.95	1,984.82	11.12	179.414		
1,400.00	1,381.42	1,694.62	1,666.24	5.52	7.43	-142.89	1,771.30	549.86	2,004.69	1,992.53	12.16	164.813		
1,500.00	1,477.29	1,766.09	1,735.06	6.09	7.84	-143.71	1,766.40	531.19	2,014.59	2,001.57	13.02	154.770		
1,600.00	1,573.17	1,864.19	1,829.64	6.66	8.41	-144.81	1,759.70	506.01	2,025.39	2,011.38	14.00	144.633		
1,700.00	1,669.04	1,993.62	1,953.81	7.24	9.18	-146.31	1,750.45	470.73	2,036.45	2,021.28	15.17	134.203		
1,800.00	1,764.91	2,109.57	2,063.44	7.83	9.95	-147.75	1,741.10	434.16	2,046.62	2,030.28	16.34	125.227		
1,900.00	1,860.78	2,219.52	2,166.04	8.42	10.72	-149.20	1,731.57	395.81	2,056.63	2,039.10	17.52	117.370		
2,000.00	1,956.66	2,317.33	2,257.42	9.01	11.42	-150.47	1,722.32	362.18	2,067.08	2,048.45	18.63	110.946		
2,100.00	2,052.53	2,419.05	2,352.80	9.61	12.14	-151.74	1,712.04	328.36	2,078.13	2,058.38	19.76	105.194		
2,200.00	2,148.40	2,526.81	2,453.86	10.21	12.89	-153.06	1,700.21	292.90	2,089.39	2,068.48	20.91	99.918		
2,300.00	2,244.27	2,613.07	2,535.02	10.81	13.49	-154.08	1,690.18	265.44	2,101.08	2,079.16	21.92	95.843		
2,400.00	2,340.15	2,691.28	2,609.16	11.41	14.01	-154.96	1,681.37	242.17	2,114.08	2,091.22	22.86	92.463		
2,500.00	2,436.02	2,788.97	2,702.28	12.01	14.65	-156.00	1,670.67	214.66	2,128.23	2,104.33	23.90	89.039		
2,600.00	2,531.89	2,873.80	2,782.77	12.61	15.20	-156.92	1,660.62	189.81	2,142.26	2,117.39	24.87	86.135		
2,700.00	2,627.76	2,941.00	2,846.49	13.22	15.65	-157.66	1,654.27	169.44	2,158.89	2,133.15	25.74	83.875		
2,800.00	2,723.64	2,970.17	2,874.10	13.82	15.86	-157.99	1,652.08	160.29	2,177.60	2,151.24	26.36	82.601		
2,900.00	2,819.51	3,037.00	2,936.87	14.43	16.32	-158.77	1,647.73	137.79	2,198.62	2,171.39	27.23	80.740		
3,000.00	2,915.38	3,117.12	3,011.90	15.03	16.90	-159.71	1,643.04	110.07	2,221.10	2,192.89	28.20	78.750		
3,100.00	3,011.25	3,208.63	3,097.79	15.64	17.56	-160.75	1,637.54	78.97	2,244.25	2,214.99	29.26	76.709		
3,200.00	3,107.13	3,297.94	3,181.49	16.25	18.20	-161.76	1,632.04	48.32	2,268.08	2,237.79	30.29	74.881		
3,300.00	3,203.00	3,388.38	3,266.18	16.85	18.86	-162.76	1,626.38	17.11	2,292.59	2,261.25	31.34	73.160		
3,400.00	3,298.87	3,480.73	3,352.21	17.46	19.54	-163.80	1,620.32	-15.90	2,317.74	2,285.33	32.40	71.532		
3,500.00	3,394.74	3,601.24	3,464.82	18.07	20.44	-165.11	1,611.69	-57.96	2,343.07	2,309.38	33.69	69.550		
3,600.00	3,490.62	3,699.15	3,555.95	18.68	21.18	-166.16	1,603.49	-92.80	2,368.11	2,333.30	34.80	68.041		
3,700.00	3,586.49	3,785.71	3,636.54	19.29	21.83	-167.08	1,596.10	-123.51	2,393.72	2,357.90	35.82	66.817		
3,800.00	3,682.36	3,900.24	3,743.27	19.90	22.69	-168.26	1,585.86	-163.78	2,419.66	2,382.59	37.07	65.276		
3,900.00	3,778.23	3,998.29	3,834.75	20.51	23.42	-169.24	1,576.42	-197.77	2,445.55	2,407.38	38.17	64.072		
4,000.00	3,874.10	4,124.88	3,953.81	21.12	24.32	-170.42	1,563.49	-238.77	2,471.09	2,431.64	39.46	62.630		
4,100.00	3,969.98	4,210.35	4,034.91	21.73	24.91	-171.15	1,554.46	-264.19	2,496.33	2,455.92	40.41	61.781		
4,200.00	4,065.85	4,276.00	4,096.84	22.34	25.36	-171.72	1,548.05	-284.99	2,523.09	2,481.88	41.21	61.231		
4,300.00	4,161.72	4,350.63	4,166.99	22.95	25.90	-172.39	1,541.12	-309.52	2,551.08	2,508.99	42.09	60.614		
4,400.00	4,257.59	4,423.92	4,235.90	23.56	26.42	-173.03	1,534.41	-333.54	2,579.75	2,536.79	42.96	60.057		
4,500.00	4,353.47	4,492.96	4,300.63	24.17	26.93	-173.63	1,528.50	-356.81	2,609.62	2,565.84	43.79	59.598		
4,600.00	4,449.34	4,566.99	4,369.74	24.78	27.48	-174.28	1,522.37	-382.62	2,640.56	2,595.89	44.66	59.119		
4,700.00	4,545.21	4,662.92	4,459.42	25.39	28.19	-175.11	1,514.59	-415.79	2,672.06	2,626.33	45.74	58.425		
4,800.00	4,641.08	4,750.74	4,541.23	26.00	28.86	-175.86	1,507.10	-446.80	2,703.92	2,657.18	46.74	57.850		
4,900.00	4,736.96	4,839.83	4,623.74	26.61	29.56	-176.64	1,499.04	-479.43	2,736.24	2,688.46	47.78	57.272		

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 11-10-14H
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 11-10-14H	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	4,832.83	4,976.58	4,750.86	27.22	30.60	-177.78	1,485.87	-528.08	2,768.25	2,719.02	49.23	56.226		
5,100.00	4,928.70	5,083.82	4,851.45	27.83	31.38	-178.61	1,474.97	-563.62	2,799.42	2,749.03	50.39	55.554		
5,200.00	5,024.57	5,171.98	4,934.47	28.44	32.01	-179.25	1,466.26	-591.98	2,830.91	2,779.55	51.36	55.118		
5,300.00	5,120.45	5,257.60	5,015.64	29.05	32.60	-179.83	1,458.42	-618.05	2,862.75	2,810.46	52.29	54.744		
5,400.00	5,216.32	5,322.00	5,076.75	29.66	33.03	-179.75	1,452.80	-637.61	2,895.27	2,842.24	53.03	54.593		
5,500.00	5,312.19	5,380.29	5,131.92	30.28	33.44	-179.36	1,448.10	-655.82	2,928.98	2,875.26	53.72	54.519		
5,600.00	5,408.06	5,457.14	5,191.46	30.89	33.85	-179.97	1,443.80	-674.03	2,967.79	2,914.27	54.41	54.445		
5,700.00	5,503.94	5,526.19	5,251.00	31.50	34.26	-180.58	1,439.50	-692.24	3,006.60	2,953.28	55.10	54.371		
5,800.00	5,599.81	5,601.24	5,310.54	32.11	34.67	-181.19	1,435.20	-710.45	3,045.41	2,992.29	55.79	54.297		
5,900.00	5,695.68	5,672.39	5,370.08	32.72	35.08	-181.80	1,430.90	-728.66	3,084.22	3,031.30	56.48	54.223		
6,000.00	5,791.55	5,743.54	5,429.62	33.33	35.49	-182.41	1,426.60	-746.87	3,123.03	3,070.31	57.17	54.149		
6,100.00	5,887.43	5,815.69	5,489.16	33.94	35.90	-183.02	1,422.30	-765.08	3,161.84	3,109.32	57.86	54.075		
6,200.00	5,983.30	5,893.84	5,548.70	34.55	36.31	-183.63	1,418.00	-783.29	3,200.65	3,148.33	58.55	54.001		
6,300.00	6,079.17	5,971.99	5,608.24	35.16	36.72	-184.24	1,413.70	-801.50	3,239.46	3,187.34	59.24	53.927		
6,400.00	6,175.04	6,050.14	5,667.78	35.77	37.13	-184.85	1,409.40	-819.71	3,278.27	3,226.35	59.93	53.853		
6,435.01	6,208.61	6,084.71	5,692.35	35.99	37.35	-185.07	1,407.20	-825.55	3,285.55	3,234.63	60.00	53.800		
6,500.00	6,270.92	6,147.02	5,751.89	36.60	37.76	-185.68	1,402.90	-843.76	3,324.36	3,273.64	60.69	53.726		
6,600.00	6,366.79	6,232.89	5,811.43	37.21	38.17	-186.29	1,398.60	-861.97	3,363.17	3,312.65	61.38	53.652		
6,700.00	6,462.66	6,318.76	5,870.97	37.82	38.58	-186.90	1,394.30	-880.18	3,401.98	3,351.66	62.07	53.578		
6,800.00	6,558.53	6,404.63	5,930.51	38.43	38.99	-187.51	1,390.00	-898.39	3,440.79	3,390.67	62.76	53.504		
6,885.48	6,640.48	6,480.48	5,990.05	38.75	39.21	-187.73	1,387.80	-904.23	3,455.57	3,405.45	62.83	53.481		
6,900.00	6,654.42	6,494.42	6,004.99	38.84	39.26	-187.80	1,387.20	-906.00	3,458.27	3,408.15	62.86	53.476		
6,950.00	6,702.60	6,542.60	6,053.17	39.12	39.54	-188.13	1,385.00	-911.84	3,463.11	3,413.00	62.93	53.461		
7,000.00	6,750.76	6,590.76	6,101.35	39.38	39.82	-188.46	1,382.80	-917.68	3,467.95	3,417.85	62.99	53.446		
7,050.00	6,798.95	6,638.95	6,149.53	39.60	40.04	-188.78	1,380.60	-923.52	3,472.79	3,422.70	63.05	53.431		
7,100.00	6,845.60	6,687.14	6,197.71	39.79	40.26	-189.00	1,378.40	-929.36	3,477.63	3,427.55	63.11	53.416		
7,150.00	6,891.54	6,735.08	6,245.89	39.95	40.48	-189.22	1,376.20	-935.20	3,482.47	3,432.40	63.17	53.401		
7,200.00	6,936.05	6,782.97	6,294.07	40.08	40.70	-189.44	1,374.00	-941.04	3,487.31	3,437.25	63.23	53.386		
7,250.00	6,978.76	6,830.86	6,342.25	40.19	40.92	-189.66	1,371.80	-946.88	3,492.15	3,442.10	63.29	53.371		
7,300.00	7,019.37	6,878.75	6,390.43	40.28	41.14	-189.88	1,369.60	-952.72	3,497.00	3,446.95	63.35	53.356		
7,350.00	7,057.55	6,926.64	6,438.61	40.34	41.36	-190.10	1,367.40	-958.56	3,501.84	3,451.80	63.41	53.341		
7,400.00	7,093.02	6,974.53	6,486.79	40.39	41.58	-190.32	1,365.20	-964.40	3,506.69	3,456.65	63.47	53.326		
7,450.00	7,125.51	7,022.42	6,534.97	40.42	41.80	-190.54	1,363.00	-970.24	3,511.53	3,461.50	63.53	53.311		
7,500.00	7,154.78	7,070.31	6,583.15	40.43	42.02	-190.76	1,360.80	-976.08	3,516.38	3,466.35	63.59	53.296		
7,550.00	7,180.59	7,118.20	6,631.33	40.42	42.24	-190.98	1,358.60	-981.92	3,521.22	3,471.20	63.65	53.281		
7,600.00	7,202.75	7,166.09	6,679.51	40.40	42.46	-191.20	1,356.40	-987.76	3,526.07	3,476.05	63.71	53.266		
7,650.00	7,221.10	7,213.98	6,727.69	40.37	42.68	-191.42	1,354.20	-993.60	3,530.91	3,480.90	63.77	53.251		
7,700.00	7,235.49	7,261.87	6,775.87	40.32	42.90	-191.64	1,352.00	-999.44	3,535.76	3,485.75	63.83	53.236		
7,750.00	7,245.82	7,270.16	6,784.05	40.27	43.12	-191.86	1,350.80	-1005.28	3,540.60	3,490.60	63.89	53.221		
7,800.00	7,252.01	7,278.35	6,792.23	40.20	43.34	-192.08	1,349.60	-1011.12	3,545.45	3,495.45	63.95	53.206		
7,848.69	7,254.00	7,286.54	6,800.41	40.14	43.56	-192.30	1,348.40	-1016.96	3,550.29	3,500.30	64.01	53.191		
7,900.00	7,254.00	7,294.73	6,808.59	40.07	43.78	-192.52	1,347.20	-1022.80	3,555.14	3,505.15	64.07	53.176		
8,000.00	7,254.00	7,302.92	6,816.77	39.96	44.00	-192.74	1,346.00	-1028.64	3,560.00	3,510.00	64.13	53.161		
8,100.00	7,254.00	7,311.11	6,824.95	39.89	44.22	-192.96	1,344.80	-1034.48	3,564.85	3,514.85	64.19	53.146		
8,200.00	7,254.00	7,319.30	6,833.13	39.87	44.44	-193.18	1,343.60	-1040.32	3,569.70	3,519.70	64.25	53.131		
8,219.51	7,254.00	7,327.49	6,841.31	39.87	44.66	-193.40	1,342.40	-1046.16	3,574.55	3,524.55	64.31	53.116		
8,300.00	7,254.00	7,335.68	6,849.49	39.95	44.88	-193.62	1,341.20	-1052.00	3,579.40	3,529.40	64.37	53.101		
8,400.00	7,254.00	7,343.87	6,857.67	40.29	45.10	-193.84	1,340.00	-1057.84	3,584.25	3,534.25	64.43	53.086		
8,500.00	7,254.00	7,352.06	6,865.85	41.24	45.32	-194.06	1,338.80	-1063.68	3,589.10	3,539.10	64.49	53.071		
8,600.00	7,254.00	7,360.25	6,874.03	42.78	45.54	-194.28	1,337.60	-1069.52	3,593.95	3,543.95	64.55	53.056		
8,700.00	7,254.00	7,368.44	6,882.21	44.60	45.76	-194.50	1,336.40	-1075.36	3,598.80	3,548.80	64.61	53.041		
8,800.00	7,254.00	7,376.63	6,890.39	46.57	45.98	-194.72	1,335.20	-1081.20	3,603.65	3,553.65	64.67	53.026		

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 11-10-14H
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 11-10-14H	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)				
8,900.00	7,254.00	7,265.71	6,816.87	48.64	41.12	81.68	1,263.85	-600.69	3,082.82	2,998.55	84.27	36.583		
9,000.00	7,254.00	7,225.00	6,794.87	50.78	41.03	81.27	1,264.66	-634.93	3,095.53	3,009.81	85.72	36.112		
9,100.00	7,254.00	7,169.90	6,762.40	52.97	40.97	80.68	1,265.72	-679.42	3,110.11	3,022.92	87.20	35.668		
9,200.00	7,254.00	7,130.00	6,736.83	55.21	40.93	80.21	1,266.31	-710.03	3,126.65	3,038.00	88.65	35.271		
9,300.00	7,254.00	7,068.96	6,694.77	57.50	40.92	79.44	1,266.74	-754.25	3,145.05	3,054.96	90.09	34.910		
9,400.00	7,254.00	7,035.00	6,669.99	59.82	40.91	78.99	1,266.66	-777.46	3,165.42	3,073.93	91.50	34.596		
9,500.00	7,254.00	7,001.99	6,645.09	62.17	40.92	78.54	1,266.59	-799.13	3,188.11	3,095.23	92.88	34.327		
9,600.00	7,254.00	6,978.24	6,626.76	64.55	40.92	78.21	1,266.70	-814.23	3,213.28	3,119.08	94.21	34.108		
9,700.00	7,254.00	6,940.00	6,596.53	66.96	40.93	77.67	1,267.15	-837.65	3,241.01	3,145.52	95.48	33.943		
9,800.00	7,254.00	6,940.00	6,596.53	69.39	40.93	77.67	1,267.15	-837.65	3,270.95	3,174.23	96.72	33.820		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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)				
0.00	0.00	6.00	6.00	0.00	0.00	23.70	1,808.75	794.07	1,975.38					
100.00	100.00	99.12	99.12	0.14	0.30	23.70	1,808.98	793.92	1,975.54	1,975.10	0.44	4,473.015		
200.00	200.00	215.50	215.50	0.50	0.71	23.67	1,809.46	793.09	1,975.66	1,974.44	1.21	1,626.855		
300.00	300.00	421.68	421.47	0.86	1.45	23.51	1,805.48	785.50	1,972.33	1,970.02	2.32	851.549		
400.00	400.00	519.90	519.38	1.22	1.82	23.37	1,802.05	778.60	1,966.33	1,963.30	3.03	649.595		
500.00	499.98	659.76	658.57	1.56	2.36	-133.80	1,797.88	765.70	1,961.29	1,957.41	3.89	504.443		
600.00	599.84	932.28	927.68	1.90	3.52	-135.00	1,777.34	728.62	1,952.50	1,947.22	5.27	370.282		
700.00	699.45	1,146.71	1,136.16	2.25	4.57	-136.39	1,748.77	687.65	1,938.75	1,932.27	6.47	299.616		
800.00	798.70	1,310.85	1,294.08	2.63	5.46	-137.68	1,720.26	653.17	1,923.52	1,916.01	7.51	256.237		
900.00	897.47	1,406.89	1,386.06	3.03	6.01	-138.59	1,702.15	632.32	1,909.54	1,901.24	8.30	230.037		
1,000.00	995.62	1,500.83	1,476.01	3.46	6.56	-139.50	1,684.43	611.86	1,898.46	1,889.34	9.12	208.234		
1,100.00	1,093.06	1,583.32	1,555.10	3.92	7.04	-140.34	1,669.22	594.01	1,890.89	1,880.97	9.92	190.679		
1,200.00	1,189.64	1,671.00	1,639.24	4.43	7.56	-141.24	1,653.56	574.92	1,886.98	1,876.21	10.77	175.251		
1,225.96	1,214.56	1,703.33	1,670.24	4.56	7.75	-141.57	1,647.82	567.78	1,886.49	1,875.46	11.03	170.997		
1,300.00	1,285.55	1,793.33	1,756.31	4.97	8.29	-142.51	1,631.30	547.30	1,885.05	1,873.26	11.79	159.904		
1,400.00	1,381.42	1,885.02	1,843.74	5.52	8.86	-143.49	1,614.25	525.60	1,883.16	1,870.45	12.71	148.176		
1,500.00	1,477.29	2,048.21	1,998.15	6.09	9.93	-145.32	1,582.56	483.47	1,880.77	1,866.80	13.97	134.641		
1,600.00	1,573.17	2,224.97	2,161.05	6.66	11.24	-147.59	1,543.24	427.37	1,874.65	1,859.26	15.39	121.805		
1,700.00	1,669.04	2,332.81	2,258.41	7.24	12.11	-149.09	1,517.42	388.82	1,867.05	1,850.50	16.55	112.787		
1,800.00	1,764.91	2,429.08	2,345.29	7.83	12.91	-150.44	1,493.97	354.64	1,860.28	1,842.60	17.68	105.216		
1,900.00	1,860.78	2,529.60	2,435.94	8.42	13.74	-151.84	1,468.86	319.19	1,854.09	1,835.25	18.84	98.393		
2,000.00	1,956.66	2,618.22	2,515.98	9.01	14.47	-153.07	1,446.24	288.60	1,848.65	1,828.70	19.95	92.665		
2,100.00	2,052.53	2,703.52	2,593.47	9.61	15.16	-154.22	1,424.46	260.37	1,844.47	1,823.44	21.03	87.697		
2,200.00	2,148.40	2,790.54	2,672.91	10.21	15.86	-155.36	1,402.25	232.67	1,841.49	1,819.37	22.12	83.245		
2,300.00	2,244.27	2,894.00	2,767.65	10.81	16.69	-156.69	1,375.70	200.67	1,839.47	1,816.17	23.30	78.935		
2,400.00	2,340.15	2,991.94	2,856.51	11.41	17.49	-158.01	1,349.74	168.71	1,837.39	1,812.92	24.47	75.084		
2,499.73	2,435.76	3,071.97	2,929.48	12.01	18.13	-159.06	1,328.75	143.43	1,836.66	1,811.12	25.55	71.896	CC	
2,500.00	2,436.02	3,072.19	2,929.68	12.01	18.14	-159.06	1,328.69	143.37	1,836.66	1,811.12	25.55	71.887		
2,600.00	2,531.89	3,153.06	3,003.93	12.61	18.78	-160.08	1,307.83	119.01	1,837.38	1,810.75	26.62	69.010	ES	
2,700.00	2,627.76	3,233.65	3,078.41	13.22	19.40	-161.07	1,287.49	95.93	1,839.51	1,811.84	27.68	66.468		
2,800.00	2,723.64	3,316.80	3,155.82	13.82	20.01	-162.03	1,266.93	73.61	1,842.97	1,814.26	28.72	64.180		
2,900.00	2,819.51	3,405.63	3,239.01	14.43	20.64	-163.02	1,245.33	51.15	1,847.51	1,817.75	29.76	62.080		
3,000.00	2,915.38	3,495.47	3,323.41	15.03	21.27	-163.99	1,223.70	29.25	1,852.92	1,822.11	30.81	60.142		
3,100.00	3,011.25	3,583.87	3,406.56	15.64	21.89	-164.93	1,202.63	7.90	1,859.19	1,827.34	31.85	58.375		
3,200.00	3,107.13	3,696.04	3,511.21	16.25	22.71	-166.20	1,175.44	-21.93	1,865.96	1,832.90	33.06	56.444		
3,300.00	3,203.00	3,767.27	3,576.77	16.85	23.26	-167.08	1,157.77	-43.43	1,873.27	1,839.19	34.09	54.954		
3,400.00	3,298.87	3,850.63	3,653.12	17.46	23.93	-168.15	1,137.81	-70.28	1,882.44	1,847.22	35.21	53.456		
3,500.00	3,394.74	3,948.63	3,742.70	18.07	24.73	-169.41	1,114.05	-102.16	1,892.29	1,855.83	36.46	51.902		
3,600.00	3,490.62	4,031.62	3,818.56	18.68	25.40	-170.46	1,093.81	-129.05	1,902.93	1,865.34	37.59	50.618		
3,700.00	3,586.49	4,108.12	3,888.90	19.29	26.00	-171.39	1,075.89	-153.20	1,915.18	1,876.51	38.67	49.531		
3,800.00	3,682.36	4,181.00	3,956.54	19.90	26.56	-172.23	1,059.38	-174.72	1,928.63	1,888.95	39.68	48.601		
3,900.00	3,778.23	4,261.41	4,031.56	20.51	27.16	-173.12	1,041.93	-197.81	1,943.47	1,902.74	40.73	47.714		
4,000.00	3,874.10	4,350.08	4,113.96	21.12	27.83	-174.13	1,023.17	-224.65	1,959.80	1,917.93	41.87	46.811		
4,100.00	3,969.98	4,429.83	4,187.34	21.73	28.46	-175.08	1,005.90	-250.66	1,977.00	1,934.05	42.96	46.023		
4,200.00	4,065.85	4,511.95	4,262.78	22.34	29.11	-176.05	988.51	-278.03	1,995.58	1,951.50	44.07	45.280		
4,300.00	4,161.72	4,605.39	4,348.95	22.95	29.85	-177.12	969.01	-308.46	2,014.99	1,969.71	45.28	44.501		
4,400.00	4,257.59	4,720.54	4,454.93	23.56	30.76	-178.42	944.23	-346.08	2,034.66	1,987.97	46.69	43.581		
4,500.00	4,353.47	4,817.20	4,543.58	24.17	31.54	-179.51	922.27	-377.69	2,053.98	2,006.04	47.94	42.847		
4,600.00	4,449.34	4,910.60	4,629.47	24.78	32.28	-179.47	901.23	-407.80	2,074.04	2,024.88	49.15	42.194		
4,700.00	4,545.21	5,007.75	4,718.97	25.39	33.05	-178.44	879.29	-438.52	2,094.51	2,044.11	50.40	41.562		
4,800.00	4,641.08	5,102.12	4,806.20	26.00	33.78	-177.49	858.03	-467.59	2,115.37	2,063.77	51.60	40.993		
4,900.00	4,736.96	5,193.47	4,890.59	26.61	34.49	-176.57	837.36	-495.81	2,136.77	2,083.99	52.78	40.485		

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 11-10-14H
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 11-10-14H	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
Measured Reference		Measured Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Depth (usft)	Vertical Depth (usft)	Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,000.00	4,832.83	5,275.10	4,966.32	27.22	35.12	175.79	819.30	-520.37	2,158.86	2,105.00	53.86	40.083		
5,100.00	4,928.70	5,360.01	5,044.81	27.83	35.77	174.96	800.64	-546.86	2,182.05	2,127.08	54.97	39.696		
5,200.00	5,024.57	5,467.51	5,145.00	28.44	36.57	174.00	777.68	-578.30	2,205.47	2,149.21	56.26	39.201		
5,300.00	5,120.45	5,564.60	5,236.64	29.05	37.25	173.24	757.91	-603.55	2,228.70	2,171.30	57.40	38.825		
5,400.00	5,216.32	5,674.39	5,340.81	29.66	37.97	172.43	736.28	-630.61	2,252.26	2,193.65	58.61	38.425		
5,500.00	5,312.19	5,789.82	5,451.30	30.28	38.70	171.69	714.02	-655.52	2,274.96	2,215.14	59.82	38.028		
5,600.00	5,408.06	5,916.11	5,572.59	30.89	39.45	170.95	689.02	-680.24	2,296.41	2,235.35	61.06	37.606		
5,700.00	5,503.94	5,988.00	5,642.25	31.50	39.84	170.59	676.40	-692.68	2,318.77	2,256.89	61.88	37.470		
5,800.00	5,599.81	6,029.42	5,682.56	32.11	40.06	170.40	670.01	-699.74	2,342.72	2,280.26	62.46	37.509		
5,900.00	5,695.68	6,084.94	5,736.71	32.72	40.35	170.16	662.37	-709.29	2,368.49	2,305.39	63.10	37.533		
6,000.00	5,791.55	6,197.98	5,847.36	33.33	40.89	169.73	647.98	-727.43	2,394.57	2,330.44	64.13	37.337		
6,100.00	5,887.43	6,274.00	5,922.22	33.95	41.24	169.50	639.85	-737.86	2,421.15	2,356.28	64.87	37.325		
6,200.00	5,983.30	6,361.43	6,017.78	34.56	41.81	169.14	628.79	-749.90	2,447.01	2,382.52	65.49	35.665		
6,300.00	6,079.17	6,458.41	6,113.89	35.17	42.32	168.73	628.85	-762.88	2,473.04	2,408.21	66.01	34.486		
6,400.00	6,175.04	6,554.94	6,210.00	35.78	42.87	168.29	628.91	-776.81	2,500.00	2,435.46	70.49	33.439		
6,500.00	6,270.92	6,650.82	6,306.15	36.39	43.46	167.82	628.97	-791.68	2,527.85	2,463.96	71.89	32.519		
6,600.00	6,366.79	6,746.71	6,401.31	37.00	44.09	167.33	629.04	-807.50	2,556.44	2,493.59	73.25	31.711		
6,700.00	6,462.66	6,842.60	6,496.46	37.62	44.76	166.82	629.11	-824.27	2,585.77	2,524.47	74.53	31.020		
6,800.00	6,558.53	6,938.49	6,591.61	38.23	45.47	166.29	629.19	-842.00	2,615.84	2,556.77	75.71	30.451		
6,885.48	6,640.48	7,024.38	6,686.76	38.75	46.22	165.74	629.26	-860.69	2,646.65	2,590.47	76.62	30.059		
6,900.00	6,654.42	7,110.27	6,781.91	38.84	46.99	165.17	629.27	-880.34	2,678.11	2,625.25	76.76	30.002		
6,905.09	6,659.32	7,197.16	6,877.06	38.87	47.79	164.59	629.27	-900.95	2,710.22	2,661.20	76.81	29.984		
6,950.00	6,702.60	7,284.05	6,972.21	39.12	48.61	163.99	629.28	-922.52	2,742.98	2,698.28	77.16	29.851		
7,000.00	6,750.76	7,370.94	7,067.36	39.38	49.44	163.37	629.27	-945.05	2,776.39	2,736.53	77.43	29.768		
7,050.00	6,798.55	7,458.83	7,162.51	39.60	50.28	162.74	629.23	-968.54	2,810.44	2,776.98	77.57	29.749 SF		
7,100.00	6,845.60	7,546.72	7,257.66	39.79	51.13	162.11	629.16	-993.99	2,845.14	2,819.55	77.57	29.793		
7,150.00	6,891.54	7,634.61	7,352.81	39.95	51.99	161.47	629.07	-1021.40	2,880.49	2,864.15	77.46	29.895		
7,200.00	6,936.05	7,722.50	7,448.96	40.08	52.86	160.82	628.97	-1050.77	2,916.49	2,910.76	77.24	30.049		
7,250.00	6,978.76	7,810.39	7,545.11	40.19	53.74	160.17	628.85	-1082.10	2,953.04	2,958.90	76.94	30.243		
7,300.00	7,019.37	7,898.28	7,641.26	40.28	54.62	159.52	628.72	-1115.29	2,990.14	2,256.73	76.54	30.483		
7,350.00	7,057.55	7,986.17	7,737.11	40.34	55.50	158.87	628.57	-1150.34	2,340.02	2,263.96	76.07	30.762		
7,400.00	7,093.02	8,074.06	7,832.96	40.39	56.38	158.22	628.39	-1187.25	2,346.91	2,271.38	75.53	31.074		
7,450.00	7,125.51	8,161.95	7,928.81	40.42	57.26	157.57	628.20	-1226.02	2,353.70	2,278.76	74.94	31.406		
7,500.00	7,154.78	8,249.84	8,024.66	40.43	58.14	156.92	627.98	-1266.65	2,360.22	2,285.89	74.33	31.752		
7,550.00	7,180.59	8,337.73	8,120.51	40.42	59.02	156.27	627.58	-1309.14	2,366.21	2,292.56	73.64	32.130		
7,600.00	7,202.75	8,425.62	8,216.36	40.40	59.90	155.62	623.36	-1353.49	2,370.90	2,298.88	72.02	32.920		
7,650.00	7,221.10	8,513.51	8,312.21	40.37	60.78	154.97	621.26	-1400.70	2,373.54	2,301.83	71.70	33.102		
7,700.00	7,235.49	8,601.40	8,408.06	40.32	61.66	154.32	619.09	-1450.77	2,375.32	2,303.90	71.42	33.259		
7,750.00	7,245.82	8,689.29	8,503.91	40.27	62.54	153.67	619.09	-1503.70	2,376.59	2,305.05	71.54	33.219		
7,800.00	7,252.01	8,777.18	8,606.42	40.20	63.42	153.02	617.26	-1559.49	2,376.79	2,305.39	71.40	33.288		
7,848.69	7,254.00	8,865.07	8,708.93	40.14	64.30	152.37	616.41	-1618.04	2,376.88	2,305.57	71.31	33.330		
7,895.06	7,254.00	8,952.96	8,810.44	40.08	65.18	151.72	616.41	-1679.35	2,376.43	2,304.89	71.54	33.218		
7,900.00	7,254.00	9,039.85	8,911.95	40.07	66.06	151.07	616.41	-1743.42	2,376.44	2,304.87	71.56	33.207		
8,000.00	7,254.00	9,126.74	9,013.46	39.96	66.94	150.42	616.25	-1810.25	2,377.08	2,305.26	71.82	33.097		
8,100.00	7,254.00	9,213.63	9,114.97	39.89	67.82	149.77	616.85	-1879.84	2,379.00	2,306.65	72.35	32.883		
8,200.00	7,254.00	9,300.52	9,216.48	39.87	68.70	149.12	618.34	-1952.19	2,382.83	2,309.83	73.00	32.640		
8,300.00	7,254.00	9,387.41	9,317.99	39.95	69.58	148.47	621.43	-2027.30	2,388.22	2,314.43	73.79	32.367		
8,400.00	7,254.00	9,474.30	9,419.50	40.29	70.46	147.82	625.53	-2105.17	2,394.58	2,319.86	74.71	32.050		
8,500.00	7,254.00	9,561.19	9,520.01	41.24	71.34	147.17	629.06	-2185.80	2,401.05	2,325.26	75.80	31.678		
8,600.00	7,254.00	9,648.08	9,620.52	42.78	72.22	146.52	628.63	-2269.19	2,407.19	2,330.25	76.95	31.284		
8,700.00	7,254.00	9,734.97	9,721.03	44.60	73.10	145.87	627.03	-2355.34	2,414.63	2,336.58	78.05	30.936		
8,800.00	7,254.00	9,821.86	9,821.54	46.57	73.98	145.22	625.50	-2444.25	2,424.57	2,345.41	79.16	30.629		

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 11-10-14H
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 11-10-14H	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)			
8,900.00	7,254.00	7,321.00	6,933.97	48.64	42.72	82.23	624.39	-605.40	2,437.52	2,357.29	80.23	30.380	
9,000.00	7,254.00	7,321.00	6,933.97	50.78	42.72	82.23	624.39	-605.40	2,453.95	2,372.64	81.31	30.181	
9,100.00	7,254.00	7,274.93	6,896.02	52.97	42.75	81.34	623.47	-631.51	2,473.24	2,390.92	82.32	30.046	
9,200.00	7,254.00	7,226.00	6,853.91	55.21	42.78	80.35	623.07	-656.39	2,496.60	2,413.36	83.24	29.991	
9,300.00	7,254.00	7,226.00	6,853.91	57.50	42.78	80.35	623.07	-656.39	2,522.53	2,438.32	84.21	29.954	
9,400.00	7,254.00	7,226.00	6,853.91	59.82	42.78	80.35	623.07	-656.39	2,552.12	2,466.98	85.14	29.977	
9,500.00	7,254.00	7,191.33	6,823.23	62.17	42.80	79.64	623.05	-672.53	2,584.78	2,498.84	85.94	30.077	
9,600.00	7,254.00	7,169.34	6,803.55	64.55	42.81	79.18	623.10	-682.34	2,620.49	2,533.78	86.72	30.219	
9,700.00	7,254.00	7,130.00	6,767.92	66.96	42.83	78.36	623.31	-699.02	2,659.29	2,571.89	87.40	30.428	
9,800.00	7,254.00	7,130.00	6,767.92	69.39	42.83	78.36	623.31	-699.02	2,700.63	2,612.50	88.14	30.641	
9,900.00	7,254.00	7,130.00	6,767.92	71.84	42.83	78.36	623.31	-699.02	2,745.00	2,656.17	88.83	30.901	
10,000.00	7,254.00	7,130.00	6,767.92	74.30	42.83	78.36	623.31	-699.02	2,792.25	2,702.77	89.48	31.205	
10,100.00	7,254.00	7,089.15	6,730.24	76.79	42.83	77.50	623.61	-714.76	2,841.34	2,751.37	89.97	31.582	
10,200.00	7,254.00	7,077.74	6,719.56	79.29	42.84	77.26	623.69	-718.79	2,893.32	2,802.81	90.50	31.970	
10,300.00	7,254.00	7,035.00	6,679.07	81.80	42.84	76.34	624.04	-732.45	2,948.22	2,857.35	90.87	32.446	
10,400.00	7,254.00	7,035.00	6,679.07	84.33	42.84	76.34	624.04	-732.45	3,004.48	2,913.10	91.38	32.878	
10,500.00	7,254.00	7,035.00	6,679.07	86.86	42.84	76.34	624.04	-732.45	3,062.98	2,971.11	91.87	33.341	
10,600.00	7,254.00	7,035.00	6,679.07	89.41	42.84	76.34	624.04	-732.45	3,123.58	3,031.26	92.32	33.833	
10,700.00	7,254.00	7,035.00	6,679.07	91.97	42.84	76.34	624.04	-732.45	3,186.17	3,093.42	92.75	34.351	
10,800.00	7,254.00	7,035.00	6,679.07	94.54	42.84	76.34	624.04	-732.45	3,250.64	3,157.48	93.16	34.893	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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)				
4,600.00	4,449.34	11,892.00	7,212.13	24.78	133.43	8.69	-2,452.58	939.77	3,195.99	3,118.33	77.66	41.154		
4,700.00	4,545.21	11,892.00	7,212.13	25.39	133.43	8.69	-2,452.58	939.77	3,098.47	3,019.94	78.53	39.457		
4,800.00	4,641.08	11,892.00	7,212.13	26.00	133.43	8.69	-2,452.58	939.77	3,001.11	2,921.67	79.45	37.775		
4,900.00	4,736.96	11,892.00	7,212.13	26.61	133.43	8.69	-2,452.58	939.77	2,903.93	2,823.51	80.42	36.109		
5,000.00	4,832.83	11,892.00	7,212.13	27.22	133.43	8.69	-2,452.58	939.77	2,806.95	2,725.50	81.46	34.459		
5,100.00	4,928.70	11,892.00	7,212.13	27.83	133.43	8.69	-2,452.58	939.77	2,710.19	2,627.63	82.56	32.826		
5,200.00	5,024.57	11,892.00	7,212.13	28.44	133.43	8.69	-2,452.58	939.77	2,613.67	2,529.93	83.74	31.212		
5,300.00	5,120.45	11,892.00	7,212.13	29.05	133.43	8.69	-2,452.58	939.77	2,517.43	2,432.43	85.00	29.617		
5,400.00	5,216.32	11,892.00	7,212.13	29.66	133.43	8.69	-2,452.58	939.77	2,421.49	2,335.14	86.35	28.043		
5,500.00	5,312.19	11,892.00	7,212.13	30.28	133.43	8.69	-2,452.58	939.77	2,325.89	2,238.09	87.80	26.490		
5,600.00	5,408.06	11,892.00	7,212.13	30.89	133.43	8.69	-2,452.58	939.77	2,230.67	2,141.31	89.36	24.961		
5,700.00	5,503.94	11,892.00	7,212.13	31.50	133.43	8.69	-2,452.58	939.77	2,135.90	2,044.84	91.05	23.457		
5,800.00	5,599.81	11,892.00	7,212.13	32.11	133.43	8.69	-2,452.58	939.77	2,041.62	1,948.74	92.88	21.980		
5,900.00	5,695.68	11,892.00	7,212.13	32.72	133.43	8.69	-2,452.58	939.77	1,947.91	1,853.04	94.87	20.532		
6,000.00	5,791.55	11,892.00	7,212.13	33.33	133.43	8.69	-2,452.58	939.77	1,854.86	1,757.82	97.04	19.115		
6,100.00	5,887.43	11,892.00	7,212.13	33.95	133.43	8.69	-2,452.58	939.77	1,762.58	1,663.17	99.40	17.731		
6,200.00	5,983.30	11,892.00	7,212.13	34.56	133.43	8.69	-2,452.58	939.77	1,671.17	1,569.18	102.00	16.385		
6,300.00	6,079.17	11,892.00	7,212.13	35.17	133.43	8.69	-2,452.58	939.77	1,580.82	1,475.98	104.84	15.078		
6,400.00	6,175.04	11,892.00	7,212.13	35.78	133.43	8.69	-2,452.58	939.77	1,491.69	1,383.72	107.97	13.816		
6,500.00	6,270.92	11,892.00	7,212.13	36.39	133.43	8.69	-2,452.58	939.77	1,404.02	1,292.61	111.41	12.602		
6,600.00	6,366.79	11,892.00	7,212.13	37.00	133.43	8.69	-2,452.58	939.77	1,318.12	1,202.92	115.20	11.442		
6,700.00	6,462.66	11,892.00	7,212.13	37.62	133.43	8.69	-2,452.58	939.77	1,234.34	1,114.97	119.37	10.340		
6,800.00	6,558.53	11,892.00	7,212.13	38.23	133.43	8.69	-2,452.58	939.77	1,153.14	1,029.21	123.93	9.305		
6,885.48	6,640.48	11,892.00	7,212.13	38.75	133.43	8.69	-2,452.58	939.77	1,086.23	958.09	128.14	8.477		
6,900.00	6,654.42	11,892.00	7,212.13	38.84	133.43	2.34	-2,452.58	939.77	1,075.15	946.27	128.88	8.342		
6,950.00	6,702.60	11,892.00	7,212.13	39.12	133.43	-20.62	-2,452.58	939.77	1,038.20	906.79	131.40	7.901		
7,000.00	6,750.76	11,892.00	7,212.13	39.38	133.43	-42.72	-2,452.58	939.77	1,003.45	869.60	133.85	7.497		
7,050.00	6,798.55	11,892.00	7,212.13	39.60	133.43	-61.10	-2,452.58	939.77	971.43	835.29	136.14	7.135		
7,100.00	6,845.60	11,892.00	7,212.13	39.79	133.43	-75.07	-2,452.58	939.77	942.67	804.46	138.22	6.820		
7,150.00	6,891.54	11,892.00	7,212.13	39.95	133.43	-85.36	-2,452.58	939.77	917.70	777.72	139.98	6.556		
7,200.00	6,936.05	11,892.00	7,212.13	40.08	133.43	-92.92	-2,452.58	939.77	897.05	755.69	141.36	6.346		
7,250.00	6,978.76	11,892.00	7,212.13	40.19	133.43	-98.47	-2,452.58	939.77	881.16	738.90	142.27	6.194		
7,300.00	7,019.37	11,892.00	7,212.13	40.28	133.43	-102.50	-2,452.58	939.77	870.44	727.79	142.65	6.102		
7,350.00	7,057.55	11,892.00	7,212.13	40.34	133.43	-105.35	-2,452.58	939.77	865.14	722.67	142.47	6.072 SF		
7,372.49	7,073.86	11,892.00	7,212.13	40.36	133.43	-106.30	-2,452.58	939.77	864.58	722.37	142.21	6.080 CC, ES		
7,400.00	7,093.02	11,892.00	7,212.13	40.39	133.43	-107.22	-2,452.58	939.77	865.42	723.69	141.74	6.106		
7,450.00	7,125.51	11,892.00	7,212.13	40.42	133.43	-108.24	-2,452.58	939.77	871.27	730.78	140.49	6.202		
7,500.00	7,154.78	11,892.00	7,212.13	40.43	133.43	-108.50	-2,452.58	939.77	882.53	743.74	138.79	6.359		
7,550.00	7,180.59	11,892.00	7,212.13	40.42	133.43	-108.03	-2,452.58	939.77	898.91	762.18	136.73	6.574		
7,600.00	7,202.75	11,892.00	7,212.13	40.40	133.43	-106.84	-2,452.58	939.77	920.02	785.60	134.42	6.844		
7,650.00	7,221.10	11,892.00	7,212.13	40.37	133.43	-104.91	-2,452.58	939.77	945.39	813.43	131.96	7.164		
7,700.00	7,235.49	11,892.00	7,212.13	40.32	133.43	-102.21	-2,452.58	939.77	974.50	845.05	129.45	7.528		
7,750.00	7,245.82	11,892.00	7,212.13	40.27	133.43	-98.68	-2,452.58	939.77	1,006.82	879.86	126.96	7.930		
7,800.00	7,252.01	11,892.00	7,212.13	40.20	133.43	-94.30	-2,452.58	939.77	1,041.81	917.26	124.55	8.365		
7,848.69	7,254.00	11,892.00	7,212.13	40.14	133.43	-89.19	-2,452.58	939.77	1,077.96	955.64	122.32	8.813		
7,900.00	7,254.00	11,892.00	7,212.13	40.07	133.43	-89.19	-2,452.58	939.77	1,117.48	997.38	120.10	9.304		
8,000.00	7,254.00	11,892.00	7,212.13	39.96	133.43	-89.19	-2,452.58	939.77	1,197.07	1,080.97	116.10	10.311		
8,100.00	7,254.00	11,892.00	7,212.13	39.89	133.43	-89.19	-2,452.58	939.77	1,279.53	1,167.03	112.50	11.373		
8,200.00	7,254.00	11,892.00	7,212.13	39.87	133.43	-89.19	-2,452.58	939.77	1,364.34	1,255.07	109.27	12.486		
8,300.00	7,254.00	11,892.00	7,212.13	39.95	133.43	-89.19	-2,452.58	939.77	1,451.08	1,344.70	106.38	13.641		
8,400.00	7,254.00	11,892.00	7,212.13	40.29	133.43	-89.19	-2,452.58	939.77	1,539.43	1,435.65	103.78	14.834		
8,500.00	7,254.00	11,892.00	7,212.13	41.24	133.43	-89.19	-2,452.58	939.77	1,629.13	1,527.68	101.45	16.059		

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 11-10-14H
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 11-10-14H	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)				
8,600.00	7,254.00	11,892.00	7,212.13	42.78	133.43	-89.19	-2,452.58	939.77	1,719.97	1,620.62	99.35	17.312		
8,700.00	7,254.00	11,892.00	7,212.13	44.60	133.43	-89.19	-2,452.58	939.77	1,811.77	1,714.30	97.47	18.589		
8,800.00	7,254.00	11,892.00	7,212.13	46.57	133.43	-89.19	-2,452.58	939.77	1,904.40	1,808.63	95.76	19.886		
8,900.00	7,254.00	11,892.00	7,212.13	48.64	133.43	-89.19	-2,452.58	939.77	1,997.73	1,903.51	94.23	21.201		
9,000.00	7,254.00	11,892.00	7,212.13	50.78	133.43	-89.19	-2,452.58	939.77	2,091.69	1,998.85	92.84	22.531		
9,100.00	7,254.00	11,892.00	7,212.13	52.97	133.43	-89.19	-2,452.58	939.77	2,186.18	2,094.60	91.58	23.873		
9,200.00	7,254.00	11,892.00	7,212.13	55.21	133.43	-89.19	-2,452.58	939.77	2,281.14	2,190.71	90.43	25.226		
9,300.00	7,254.00	11,892.00	7,212.13	57.50	133.43	-89.19	-2,452.58	939.77	2,376.51	2,287.13	89.39	26.587		
9,400.00	7,254.00	11,892.00	7,212.13	59.82	133.43	-89.19	-2,452.58	939.77	2,472.25	2,383.82	88.43	27.956		
9,500.00	7,254.00	11,892.00	7,212.13	62.17	133.43	-89.19	-2,452.58	939.77	2,568.31	2,480.75	87.57	29.330		
9,600.00	7,254.00	11,892.00	7,212.13	64.55	133.43	-89.19	-2,452.58	939.77	2,664.67	2,577.90	86.77	30.709		
9,700.00	7,254.00	11,892.00	7,212.13	66.96	133.43	-89.19	-2,452.58	939.77	2,761.28	2,675.24	86.04	32.092		
9,800.00	7,254.00	11,892.00	7,212.13	69.39	133.43	-89.19	-2,452.58	939.77	2,858.13	2,772.75	85.37	33.478		
9,900.00	7,254.00	11,892.00	7,212.13	71.84	133.43	-89.19	-2,452.58	939.77	2,955.18	2,870.42	84.76	34.866		
10,000.00	7,254.00	11,892.00	7,212.13	74.30	133.43	-89.19	-2,452.58	939.77	3,052.43	2,968.24	84.19	36.255		
10,100.00	7,254.00	11,892.00	7,212.13	76.79	133.43	-89.19	-2,452.58	939.77	3,149.85	3,066.17	83.67	37.644		
10,200.00	7,254.00	11,892.00	7,212.13	79.29	133.43	-89.19	-2,452.58	939.77	3,247.42	3,164.23	83.19	39.035		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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											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	4,065.85	11,657.00	7,060.41	22.34	132.27	-12.47	-2,010.77	947.43	3,278.34	3,213.79	64.54	50.792		
4,300.00	4,161.72	11,657.00	7,060.41	22.95	132.27	-12.47	-2,010.77	947.43	3,178.94	3,114.00	64.94	48.952		
4,400.00	4,257.59	11,657.00	7,060.41	23.56	132.27	-12.47	-2,010.77	947.43	3,079.58	3,014.22	65.36	47.120		
4,500.00	4,353.47	11,657.00	7,060.41	24.17	132.27	-12.47	-2,010.77	947.43	2,980.26	2,914.47	65.79	45.297		
4,600.00	4,449.34	11,657.00	7,060.41	24.78	132.27	-12.47	-2,010.77	947.43	2,880.99	2,814.74	66.25	43.484		
4,700.00	4,545.21	11,657.00	7,060.41	25.39	132.27	-12.47	-2,010.77	947.43	2,781.78	2,715.03	66.74	41.680		
4,800.00	4,641.08	11,657.00	7,060.41	26.00	132.27	-12.47	-2,010.77	947.43	2,682.62	2,615.36	67.26	39.887		
4,900.00	4,736.96	11,657.00	7,060.41	26.61	132.27	-12.47	-2,010.77	947.43	2,583.52	2,515.72	67.80	38.103		
5,000.00	4,832.83	11,657.00	7,060.41	27.22	132.27	-12.47	-2,010.77	947.43	2,484.50	2,416.11	68.39	36.331		
5,100.00	4,928.70	11,657.00	7,060.41	27.83	132.27	-12.47	-2,010.77	947.43	2,385.56	2,316.55	69.01	34.570		
5,200.00	5,024.57	11,657.00	7,060.41	28.44	132.27	-12.47	-2,010.77	947.43	2,286.71	2,217.04	69.67	32.820		
5,300.00	5,120.45	11,657.00	7,060.41	29.05	132.27	-12.47	-2,010.77	947.43	2,187.97	2,117.58	70.39	31.083		
5,400.00	5,216.32	11,657.00	7,060.41	29.66	132.27	-12.47	-2,010.77	947.43	2,089.34	2,018.18	71.17	29.359		
5,500.00	5,312.19	11,657.00	7,060.41	30.28	132.27	-12.47	-2,010.77	947.43	1,990.86	1,918.85	72.01	27.649		
5,600.00	5,408.06	11,657.00	7,060.41	30.89	132.27	-12.47	-2,010.77	947.43	1,892.53	1,819.61	72.92	25.953		
5,700.00	5,503.94	11,657.00	7,060.41	31.50	132.27	-12.47	-2,010.77	947.43	1,794.39	1,720.46	73.93	24.273		
5,800.00	5,599.81	11,657.00	7,060.41	32.11	132.27	-12.47	-2,010.77	947.43	1,696.46	1,621.43	75.03	22.609		
5,900.00	5,695.68	11,657.00	7,060.41	32.72	132.27	-12.47	-2,010.77	947.43	1,598.79	1,522.53	76.26	20.964		
6,000.00	5,791.55	11,657.00	7,060.41	33.33	132.27	-12.47	-2,010.77	947.43	1,501.43	1,423.79	77.64	19.339		
6,100.00	5,887.43	11,657.00	7,060.41	33.95	132.27	-12.47	-2,010.77	947.43	1,404.44	1,325.25	79.18	17.736		
6,200.00	5,983.30	11,657.00	7,060.41	34.56	132.27	-12.47	-2,010.77	947.43	1,307.90	1,226.96	80.94	16.158		
6,300.00	6,079.17	11,657.00	7,060.41	35.17	132.27	-12.47	-2,010.77	947.43	1,211.92	1,128.96	82.96	14.609		
6,400.00	6,175.04	11,657.00	7,060.41	35.78	132.27	-12.47	-2,010.77	947.43	1,116.65	1,031.36	85.29	13.093		
6,500.00	6,270.92	11,657.00	7,060.41	36.39	132.27	-12.47	-2,010.77	947.43	1,022.28	934.27	88.01	11.615		
6,600.00	6,366.79	11,657.00	7,060.41	37.00	132.27	-12.47	-2,010.77	947.43	929.09	837.86	91.23	10.184		
6,700.00	6,462.66	11,657.00	7,060.41	37.62	132.27	-12.47	-2,010.77	947.43	837.48	742.40	95.08	8.809		
6,800.00	6,558.53	11,657.00	7,060.41	38.23	132.27	-12.47	-2,010.77	947.43	748.02	648.32	99.70	7.503		
6,885.48	6,640.48	11,657.00	7,060.41	38.75	132.27	-12.47	-2,010.77	947.43	673.90	569.50	104.40	6.455		
6,900.00	6,654.42	11,657.00	7,060.41	38.84	132.27	-19.02	-2,010.77	947.43	661.63	556.36	105.27	6.285		
6,950.00	6,702.60	11,657.00	7,060.41	39.12	132.27	-42.12	-2,010.77	947.43	621.18	512.85	108.33	5.734		
7,000.00	6,750.76	11,657.00	7,060.41	39.38	132.27	-63.75	-2,010.77	947.43	584.14	472.76	111.38	5.244		
7,050.00	6,798.55	11,657.00	7,060.41	39.60	132.27	-81.33	-2,010.77	947.43	551.53	437.28	114.25	4.827		
7,100.00	6,845.60	11,657.00	7,060.41	39.79	132.27	-94.34	-2,010.77	947.43	524.42	407.78	116.65	4.496		
7,150.00	6,891.54	11,657.00	7,060.41	39.95	132.27	-103.61	-2,010.77	947.43	503.95	385.69	118.25	4.262		
7,200.00	6,936.05	11,657.00	7,060.41	40.08	132.27	-110.12	-2,010.77	947.43	491.08	372.36	118.73	4.136		
7,250.00	6,978.76	11,657.00	7,060.41	40.19	132.27	-114.59	-2,010.77	947.43	486.54	368.70	117.85	4.129 ES, SF		
7,251.45	6,979.97	11,657.00	7,060.41	40.19	132.27	-114.69	-2,010.77	947.43	486.54	368.74	117.80	4.130 CC		
7,300.00	7,019.37	11,657.00	7,060.41	40.28	132.27	-117.51	-2,010.77	947.43	490.59	374.98	115.61	4.244		
7,350.00	7,057.55	11,657.00	7,060.41	40.34	132.27	-119.15	-2,010.77	947.43	502.99	390.76	112.23	4.482		
7,400.00	7,093.02	11,657.00	7,060.41	40.39	132.27	-119.67	-2,010.77	947.43	523.05	414.96	108.09	4.839		
7,450.00	7,125.51	11,657.00	7,060.41	40.42	132.27	-119.11	-2,010.77	947.43	549.80	446.17	103.64	5.305		
7,500.00	7,154.78	11,657.00	7,060.41	40.43	132.27	-117.40	-2,010.77	947.43	582.13	482.90	99.23	5.866		
7,550.00	7,180.59	11,657.00	7,060.41	40.42	132.27	-114.40	-2,010.77	947.43	618.94	523.81	95.13	6.506		
7,600.00	7,202.75	11,657.00	7,060.41	40.40	132.27	-109.85	-2,010.77	947.43	659.22	567.75	91.47	7.207		
7,650.00	7,221.10	11,657.00	7,060.41	40.37	132.27	-103.41	-2,010.77	947.43	702.10	613.80	88.30	7.951		
7,700.00	7,235.49	11,657.00	7,060.41	40.32	132.27	-94.74	-2,010.77	947.43	746.84	661.21	85.63	8.722		
7,750.00	7,245.82	11,657.00	7,060.41	40.27	132.27	-83.74	-2,010.77	947.43	792.80	709.39	83.41	9.505		
7,800.00	7,252.01	11,657.00	7,060.41	40.20	132.27	-70.93	-2,010.77	947.43	839.47	757.88	81.59	10.289		
7,848.69	7,254.00	11,657.00	7,060.41	40.14	132.27	-57.96	-2,010.77	947.43	885.18	805.02	80.16	11.043		
7,900.00	7,254.00	11,657.00	7,060.41	40.07	132.27	-57.96	-2,010.77	947.43	933.53	854.64	78.88	11.834		
8,000.00	7,254.00	11,657.00	7,060.41	39.96	132.27	-57.96	-2,010.77	947.43	1,028.57	951.76	76.81	13.391		
8,100.00	7,254.00	11,657.00	7,060.41	39.89	132.27	-57.96	-2,010.77	947.43	1,124.48	1,049.30	75.18	14.958		

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 11-10-14H
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 11-10-14H	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)				
8,200.00	7,254.00	11,657.00	7,060.41	39.87	132.27	-57.96	-2,010.77	947.43	1,221.04	1,147.17	73.87	16.529		
8,300.00	7,254.00	11,657.00	7,060.41	39.95	132.27	-57.96	-2,010.77	947.43	1,318.11	1,245.29	72.82	18.101		
8,400.00	7,254.00	11,657.00	7,060.41	40.29	132.27	-57.96	-2,010.77	947.43	1,415.60	1,343.62	71.97	19.669		
8,500.00	7,254.00	11,657.00	7,060.41	41.24	132.27	-57.96	-2,010.77	947.43	1,513.41	1,442.13	71.28	21.232		
8,600.00	7,254.00	11,657.00	7,060.41	42.78	132.27	-57.96	-2,010.77	947.43	1,611.49	1,540.77	70.71	22.789		
8,700.00	7,254.00	11,657.00	7,060.41	44.60	132.27	-57.96	-2,010.77	947.43	1,709.79	1,639.54	70.25	24.339		
8,800.00	7,254.00	11,657.00	7,060.41	46.57	132.27	-57.96	-2,010.77	947.43	1,808.28	1,738.41	69.86	25.883		
8,900.00	7,254.00	11,657.00	7,060.41	48.64	132.27	-57.96	-2,010.77	947.43	1,906.92	1,837.38	69.54	27.420		
9,000.00	7,254.00	11,657.00	7,060.41	50.78	132.27	-57.96	-2,010.77	947.43	2,005.70	1,936.42	69.28	28.951		
9,100.00	7,254.00	11,657.00	7,060.41	52.97	132.27	-57.96	-2,010.77	947.43	2,104.60	2,035.54	69.06	30.475		
9,200.00	7,254.00	11,657.00	7,060.41	55.21	132.27	-57.96	-2,010.77	947.43	2,203.59	2,134.72	68.87	31.994		
9,300.00	7,254.00	11,657.00	7,060.41	57.50	132.27	-57.96	-2,010.77	947.43	2,302.67	2,233.95	68.72	33.507		
9,400.00	7,254.00	11,657.00	7,060.41	59.82	132.27	-57.96	-2,010.77	947.43	2,401.83	2,333.24	68.59	35.015		
9,500.00	7,254.00	11,657.00	7,060.41	62.17	132.27	-57.96	-2,010.77	947.43	2,501.06	2,432.57	68.49	36.518		
9,600.00	7,254.00	11,657.00	7,060.41	64.55	132.27	-57.96	-2,010.77	947.43	2,600.34	2,531.94	68.40	38.016		
9,700.00	7,254.00	11,657.00	7,060.41	66.96	132.27	-57.96	-2,010.77	947.43	2,699.68	2,631.35	68.33	39.510		
9,800.00	7,254.00	11,657.00	7,060.41	69.39	132.27	-57.96	-2,010.77	947.43	2,799.06	2,730.79	68.27	41.000		
9,900.00	7,254.00	11,657.00	7,060.41	71.84	132.27	-57.96	-2,010.77	947.43	2,898.49	2,830.27	68.22	42.486		
10,000.00	7,254.00	11,657.00	7,060.41	74.30	132.27	-57.96	-2,010.77	947.43	2,997.95	2,929.77	68.18	43.969		
10,100.00	7,254.00	11,657.00	7,060.41	76.79	132.27	-57.96	-2,010.77	947.43	3,097.45	3,029.30	68.15	45.448		
10,200.00	7,254.00	11,657.00	7,060.41	79.29	132.27	-57.96	-2,010.77	947.43	3,196.98	3,128.85	68.13	46.923		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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)				
4,200.00	4,065.85	13,252.15	7,214.17	22.34	166.08	-172.51	-390.66	360.89	3,222.61	3,158.22	64.39	50.051		
4,300.00	4,161.72	13,243.22	7,214.34	22.95	165.84	-172.16	-391.30	369.79	3,132.22	3,066.69	65.53	47.801		
4,400.00	4,257.59	13,221.00	7,214.82	23.56	165.24	-171.27	-392.92	391.95	3,042.43	2,975.80	66.63	45.663		
4,500.00	4,353.47	13,221.00	7,214.82	24.17	165.24	-171.27	-392.92	391.95	2,953.16	2,885.03	68.13	43.343		
4,600.00	4,449.34	13,221.00	7,214.82	24.78	165.24	-171.27	-392.92	391.95	2,864.60	2,794.81	69.79	41.044		
4,700.00	4,545.21	13,200.72	7,215.33	25.39	164.70	-170.46	-394.44	412.17	2,776.73	2,705.37	71.35	38.915		
4,800.00	4,641.08	13,187.89	7,215.68	26.00	164.36	-169.94	-395.43	424.95	2,689.64	2,616.45	73.18	36.752		
4,900.00	4,736.96	13,174.78	7,216.06	26.61	164.00	-169.41	-396.45	438.02	2,603.40	2,528.20	75.20	34.621		
5,000.00	4,832.83	13,161.38	7,216.47	27.22	163.64	-168.86	-397.51	451.37	2,518.09	2,440.68	77.41	32.529		
5,100.00	4,928.70	13,147.67	7,216.90	27.83	163.28	-168.30	-398.62	465.03	2,433.82	2,353.98	79.84	30.483		
5,200.00	5,024.57	13,140.10	7,217.12	28.44	163.07	-167.99	-399.24	472.58	2,350.66	2,268.06	82.60	28.457		
5,300.00	5,120.45	13,114.08	7,218.04	29.05	162.38	-166.92	-401.41	498.48	2,268.78	2,183.45	85.34	26.587		
5,400.00	5,216.32	13,089.08	7,218.82	29.66	161.71	-165.87	-403.54	523.39	2,188.22	2,099.87	88.35	24.768		
5,500.00	5,312.19	13,065.02	7,219.49	30.28	161.06	-164.86	-405.61	547.34	2,109.12	2,017.46	91.66	23.010		
5,600.00	5,408.06	13,042.66	7,220.03	30.89	160.46	-163.91	-407.56	569.61	2,031.69	1,936.39	95.30	21.319		
5,700.00	5,503.94	13,018.71	7,220.53	31.50	159.82	-162.89	-409.68	593.46	1,956.12	1,856.89	99.23	19.713		
5,800.00	5,599.81	12,995.64	7,220.93	32.11	159.20	-161.90	-411.76	616.43	1,882.64	1,779.14	103.50	18.190		
5,900.00	5,695.68	12,973.41	7,221.24	32.72	158.61	-160.94	-413.82	638.57	1,811.52	1,703.40	108.12	16.755		
6,000.00	5,791.55	12,919.83	7,221.47	33.33	157.17	-158.61	-419.08	691.89	1,743.02	1,630.59	112.43	15.503		
6,100.00	5,887.43	12,928.65	7,221.62	33.95	157.41	-159.00	-418.10	683.12	1,677.55	1,559.21	118.34	14.176		
6,200.00	5,983.30	12,898.74	7,221.63	34.56	156.61	-157.69	-421.12	712.87	1,615.36	1,491.61	123.75	13.053		
6,300.00	6,079.17	12,871.61	7,221.41	35.17	155.88	-156.50	-423.98	739.86	1,556.86	1,427.38	129.48	12.024		
6,400.00	6,175.04	12,846.88	7,221.04	35.78	155.22	-155.41	-426.69	764.44	1,502.52	1,367.06	135.46	11.092		
6,500.00	6,270.92	12,841.00	7,220.92	36.39	155.06	-155.15	-427.35	770.27	1,452.89	1,310.87	142.02	10.230		
6,600.00	6,366.79	12,825.08	7,220.58	37.00	154.63	-154.44	-429.10	786.10	1,408.50	1,260.12	148.38	9.492		
6,700.00	6,462.66	12,816.38	7,220.38	37.62	154.40	-154.05	-430.00	794.74	1,369.93	1,215.10	154.83	8.848		
6,800.00	6,558.53	12,807.97	7,220.18	38.23	154.18	-153.68	-430.86	803.11	1,337.66	1,176.64	161.02	8.307		
6,885.48	6,640.48	12,800.98	7,220.00	38.75	153.99	-153.37	-431.54	810.06	1,315.43	1,149.44	166.00	7.925		
6,900.00	6,654.42	12,799.94	7,219.98	38.84	153.96	-157.68	-431.64	811.09	1,312.18	1,145.38	166.81	7.867		
6,950.00	6,702.60	12,798.39	7,219.94	39.12	153.92	-174.34	-431.79	812.64	1,302.42	1,132.89	169.53	7.682		
7,000.00	6,750.76	12,799.90	7,219.98	39.38	153.96	168.70	-431.64	811.14	1,294.98	1,122.85	172.13	7.523		
7,050.00	6,798.55	12,804.40	7,220.09	39.60	154.08	154.37	-431.21	806.66	1,289.94	1,115.36	174.57	7.389		
7,100.00	6,845.60	12,811.78	7,220.27	39.79	154.28	143.39	-430.47	799.32	1,287.31	1,110.49	176.82	7.280		
7,129.98	6,873.30	12,817.54	7,220.41	39.88	154.43	138.17	-429.89	793.59	1,286.89	1,108.82	178.07	7.227 CC		
7,150.00	6,891.54	12,821.92	7,220.51	39.95	154.55	135.12	-429.43	789.23	1,287.08	1,108.21	178.86	7.196 ES		
7,200.00	6,936.05	12,841.00	7,220.92	40.08	155.06	128.44	-427.35	770.27	1,289.15	1,108.29	180.87	7.128		
7,250.00	6,978.76	12,859.56	7,221.25	40.19	155.56	123.10	-425.29	751.83	1,293.29	1,110.71	182.58	7.083		
7,300.00	7,019.37	12,895.81	7,221.62	40.28	156.53	117.98	-421.42	715.79	1,299.09	1,114.56	184.53	7.040		
7,350.00	7,057.55	12,936.14	7,221.58	40.34	157.61	113.39	-417.37	675.66	1,306.16	1,119.80	186.36	7.009		
7,400.00	7,093.02	12,974.02	7,221.23	40.39	158.62	109.42	-413.76	637.95	1,314.22	1,126.28	187.93	6.993		
7,450.00	7,125.51	13,015.27	7,220.59	40.42	159.73	105.78	-409.98	596.89	1,322.97	1,133.53	189.44	6.984		
7,500.00	7,154.78	13,057.72	7,219.67	40.43	160.87	102.50	-406.24	554.61	1,332.09	1,141.24	190.85	6.980		
7,550.00	7,180.59	13,101.71	7,218.43	40.42	162.04	99.56	-402.46	510.81	1,341.31	1,149.09	192.22	6.978		
7,600.00	7,202.75	13,149.56	7,216.84	40.40	163.33	96.91	-398.47	463.14	1,350.32	1,156.68	193.64	6.973		
7,650.00	7,221.10	13,201.78	7,215.31	40.37	164.73	94.61	-394.36	411.11	1,358.75	1,163.59	195.17	6.962		
7,700.00	7,235.49	13,254.38	7,214.13	40.32	166.14	92.74	-390.50	358.66	1,366.33	1,169.61	196.72	6.946		
7,750.00	7,245.82	13,307.71	7,213.55	40.27	167.57	91.32	-386.78	305.47	1,372.88	1,174.54	198.33	6.922		
7,800.00	7,252.01	13,360.45	7,213.37	40.20	168.99	90.34	-383.27	252.85	1,378.27	1,178.28	199.99	6.892		
7,848.69	7,254.00	13,412.01	7,213.16	40.14	170.38	89.80	-379.96	201.40	1,382.35	1,180.68	201.67	6.854		
7,900.00	7,254.00	13,470.67	7,212.99	40.07	171.95	89.79	-376.42	142.84	1,385.88	1,182.26	203.62	6.806		
8,000.00	7,254.00	13,580.67	7,212.75	39.96	174.91	89.78	-370.56	33.00	1,392.04	1,184.57	207.47	6.710		
8,100.00	7,254.00	13,628.00	7,212.49	39.89	176.18	89.77	-368.17	-14.27	1,398.90	1,189.20	209.70	6.671 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 11-10-14H
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 11-10-14H	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 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)				
8,200.00	7,254.00	13,628.00	7,212.49	39.87	176.18	89.77	-368.17	-14.27	1,412.03	1,202.07	209.96	6.725		
8,300.00	7,254.00	13,628.00	7,212.49	39.95	176.18	89.77	-368.17	-14.27	1,432.03	1,222.61	209.42	6.838		
8,400.00	7,254.00	13,628.00	7,212.49	40.29	176.18	89.77	-368.17	-14.27	1,458.64	1,250.49	208.15	7.008		
8,500.00	7,254.00	13,628.00	7,212.49	41.24	176.18	89.77	-368.17	-14.27	1,491.49	1,285.27	206.21	7.233		
8,600.00	7,254.00	13,628.00	7,212.49	42.78	176.18	89.77	-368.17	-14.27	1,530.17	1,326.46	203.72	7.511		
8,700.00	7,254.00	13,628.00	7,212.49	44.60	176.18	89.77	-368.17	-14.27	1,574.27	1,373.51	200.77	7.841		
8,800.00	7,254.00	13,628.00	7,212.49	46.57	176.18	89.77	-368.17	-14.27	1,623.34	1,425.87	197.47	8.221		
8,900.00	7,254.00	13,628.00	7,212.49	48.64	176.18	89.77	-368.17	-14.27	1,676.95	1,483.02	193.92	8.647		
9,000.00	7,254.00	13,628.00	7,212.49	50.78	176.18	89.77	-368.17	-14.27	1,734.66	1,544.45	190.21	9.120		
9,100.00	7,254.00	13,628.00	7,212.49	52.97	176.18	89.77	-368.17	-14.27	1,796.09	1,609.67	186.42	9.635		
9,200.00	7,254.00	13,628.00	7,212.49	55.21	176.18	89.77	-368.17	-14.27	1,860.88	1,678.28	182.60	10.191		
9,300.00	7,254.00	13,628.00	7,212.49	57.50	176.18	89.77	-368.17	-14.27	1,928.67	1,749.87	178.80	10.787		
9,400.00	7,254.00	13,628.00	7,212.49	59.82	176.18	89.77	-368.17	-14.27	1,999.17	1,824.10	175.06	11.420		
9,500.00	7,254.00	13,628.00	7,212.49	62.17	176.18	89.77	-368.17	-14.27	2,072.09	1,900.68	171.42	12.088		
9,600.00	7,254.00	13,628.00	7,212.49	64.55	176.18	89.77	-368.17	-14.27	2,147.20	1,979.33	167.88	12.790		
9,700.00	7,254.00	13,628.00	7,212.49	66.96	176.18	89.77	-368.17	-14.27	2,224.27	2,059.81	164.46	13.525		
9,800.00	7,254.00	13,628.00	7,212.49	69.39	176.18	89.77	-368.17	-14.27	2,303.10	2,141.93	161.17	14.290		
9,900.00	7,254.00	13,628.00	7,212.49	71.84	176.18	89.77	-368.17	-14.27	2,383.52	2,225.51	158.02	15.084		
10,000.00	7,254.00	13,628.00	7,212.49	74.30	176.18	89.77	-368.17	-14.27	2,465.38	2,310.38	155.00	15.905		
10,100.00	7,254.00	13,628.00	7,212.49	76.79	176.18	89.77	-368.17	-14.27	2,548.53	2,396.41	152.12	16.753		
10,200.00	7,254.00	13,628.00	7,212.49	79.29	176.18	89.77	-368.17	-14.27	2,632.85	2,483.48	149.38	17.626		
10,300.00	7,254.00	13,628.00	7,212.49	81.80	176.18	89.77	-368.17	-14.27	2,718.24	2,571.48	146.76	18.522		
10,400.00	7,254.00	13,628.00	7,212.49	84.33	176.18	89.77	-368.17	-14.27	2,804.59	2,660.33	144.26	19.441		
10,500.00	7,254.00	13,628.00	7,212.49	86.86	176.18	89.77	-368.17	-14.27	2,891.82	2,749.93	141.89	20.381		
10,600.00	7,254.00	13,628.00	7,212.49	89.41	176.18	89.77	-368.17	-14.27	2,979.85	2,840.22	139.63	21.341		
10,700.00	7,254.00	13,628.00	7,212.49	91.97	176.18	89.77	-368.17	-14.27	3,068.62	2,931.14	137.48	22.321		
10,800.00	7,254.00	13,628.00	7,212.49	94.54	176.18	89.77	-368.17	-14.27	3,158.06	3,022.63	135.43	23.319		
10,900.00	7,254.00	13,628.00	7,212.49	97.11	176.18	89.77	-368.17	-14.27	3,248.11	3,114.63	133.48	24.334		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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											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)				
4,000.00	3,874.10	13,219.00	7,083.65	21.12	166.31	-179.63	-739.92	325.32	3,247.05	3,189.09	57.96	56.024		
4,100.00	3,969.98	13,219.00	7,083.65	21.73	166.31	-179.63	-739.92	325.32	3,152.24	3,093.85	58.39	53.983		
4,200.00	4,065.85	13,219.00	7,083.65	22.34	166.31	-179.63	-739.92	325.32	3,057.77	2,998.87	58.90	51.918		
4,300.00	4,161.72	13,201.14	7,083.91	22.95	165.83	-178.69	-739.88	343.18	2,963.57	2,904.30	59.28	49.997		
4,400.00	4,257.59	13,192.54	7,084.06	23.56	165.60	-178.24	-739.85	351.77	2,869.76	2,809.91	59.84	47.954		
4,500.00	4,353.47	13,183.81	7,084.22	24.17	165.36	-177.77	-739.80	360.50	2,776.33	2,715.82	60.51	45.883		
4,600.00	4,449.34	13,174.93	7,084.39	24.78	165.13	-177.30	-739.75	369.38	2,683.34	2,622.05	61.29	43.784		
4,700.00	4,545.21	13,165.91	7,084.58	25.39	164.88	-176.82	-739.68	378.40	2,590.82	2,528.63	62.19	41.659		
4,800.00	4,641.08	13,156.74	7,084.79	26.00	164.64	-176.32	-739.60	387.57	2,498.84	2,435.60	63.24	39.512		
4,900.00	4,736.96	13,147.42	7,085.01	26.61	164.39	-175.81	-739.51	396.89	2,407.44	2,342.98	64.46	37.347		
5,000.00	4,832.83	13,137.93	7,085.25	27.22	164.14	-175.29	-739.41	406.36	2,316.70	2,250.83	65.87	35.169		
5,100.00	4,928.70	13,124.00	7,085.64	27.83	163.76	-174.53	-739.24	420.29	2,226.70	2,159.25	67.45	33.013		
5,200.00	5,024.57	13,115.38	7,085.88	28.44	163.53	-174.05	-739.13	428.91	2,137.51	2,068.17	69.34	30.826		
5,300.00	5,120.45	13,099.95	7,086.31	29.05	163.12	-173.19	-738.96	444.33	2,049.22	1,977.79	71.43	28.688		
5,400.00	5,216.32	13,084.48	7,086.74	29.66	162.71	-172.32	-738.83	459.80	1,961.96	1,888.12	73.84	26.572		
5,500.00	5,312.19	13,068.97	7,087.16	30.28	162.29	-171.44	-738.73	475.30	1,875.85	1,799.25	76.60	24.490		
5,600.00	5,408.06	13,053.42	7,087.57	30.89	161.87	-170.55	-738.67	490.84	1,791.06	1,711.31	79.75	22.458		
5,700.00	5,503.94	13,037.84	7,087.98	31.50	161.46	-169.66	-738.64	506.42	1,707.80	1,624.45	83.35	20.489		
5,800.00	5,599.81	13,022.47	7,088.38	32.11	161.05	-168.77	-738.64	521.79	1,626.30	1,538.85	87.45	18.597		
5,900.00	5,695.68	13,007.56	7,088.75	32.72	160.65	-167.91	-738.64	536.69	1,546.83	1,454.74	92.09	16.797		
6,000.00	5,791.55	12,992.85	7,089.11	33.33	160.25	-167.05	-738.65	551.39	1,469.74	1,372.42	97.32	15.103		
6,100.00	5,887.43	12,978.35	7,089.44	33.95	159.87	-166.20	-738.65	565.89	1,395.41	1,292.24	103.17	13.525		
6,200.00	5,983.30	12,964.03	7,089.76	34.56	159.48	-165.36	-738.64	580.20	1,324.33	1,214.65	109.67	12.075		
6,300.00	6,079.17	12,949.91	7,090.06	35.17	159.11	-164.53	-738.64	594.32	1,257.03	1,140.20	116.82	10.760		
6,400.00	6,175.04	12,935.97	7,090.35	35.78	158.73	-163.70	-738.63	608.26	1,194.17	1,069.57	124.59	9.585		
6,500.00	6,270.92	12,924.80	7,090.57	36.39	158.43	-163.04	-738.61	619.43	1,136.49	1,003.56	132.93	8.550		
6,600.00	6,366.79	12,914.12	7,090.79	37.00	158.15	-162.40	-738.57	630.11	1,084.85	943.20	141.65	7.659		
6,700.00	6,462.66	12,903.50	7,091.01	37.62	157.87	-161.77	-738.49	640.72	1,040.15	889.65	150.50	6.911		
6,800.00	6,558.53	12,892.95	7,091.23	38.23	157.58	-161.13	-738.39	651.27	1,003.33	844.17	159.16	6.304		
6,885.48	6,640.48	12,883.98	7,091.42	38.75	157.34	-160.60	-738.28	660.24	978.76	812.65	166.11	5.892		
6,900.00	6,654.42	12,882.61	7,091.45	38.84	157.31	-164.84	-738.26	661.61	975.25	808.02	167.23	5.832		
6,950.00	6,702.60	12,880.16	7,091.50	39.12	157.24	178.67	-738.22	664.06	964.66	793.68	170.98	5.642		
7,000.00	6,750.76	12,881.23	7,091.48	39.38	157.27	161.80	-738.24	662.98	956.49	782.00	174.49	5.482		
7,050.00	6,798.55	12,885.81	7,091.38	39.60	157.39	147.45	-738.30	658.41	950.86	773.16	177.70	5.351		
7,100.00	6,845.60	12,893.83	7,091.21	39.79	157.61	136.36	-738.40	650.39	947.80	767.24	180.56	5.249		
7,136.33	6,879.11	12,901.78	7,091.04	39.90	157.82	130.00	-738.48	642.44	947.15	764.75	182.40	5.193 CC		
7,150.00	6,891.54	12,905.23	7,090.97	39.95	157.91	127.90	-738.51	639.00	947.24	764.20	183.04	5.175		
7,200.00	6,936.05	12,919.90	7,090.67	40.08	158.30	121.20	-738.60	624.33	949.05	763.90	185.14	5.126 ES		
7,250.00	6,978.76	12,938.64	7,090.29	40.19	158.80	115.59	-738.63	605.59	953.01	766.11	186.90	5.099		
7,300.00	7,019.37	12,964.58	7,089.75	40.28	159.50	110.52	-738.64	579.65	958.75	770.35	188.40	5.089		
7,350.00	7,057.55	12,993.99	7,089.08	40.34	160.29	105.96	-738.65	550.25	965.89	776.24	189.65	5.093		
7,400.00	7,093.02	13,026.62	7,088.27	40.39	161.16	101.80	-738.64	517.63	974.01	783.32	190.70	5.108		
7,450.00	7,125.51	13,068.10	7,087.18	40.42	162.27	97.77	-738.73	476.17	982.63	790.92	191.71	5.126		
7,500.00	7,154.78	13,113.39	7,085.94	40.43	163.48	94.11	-739.11	430.90	991.17	798.50	192.68	5.144		
7,550.00	7,180.59	13,153.04	7,084.88	40.42	164.54	91.13	-739.57	391.27	999.34	805.86	193.48	5.165		
7,600.00	7,202.75	13,192.47	7,084.06	40.40	165.60	88.62	-739.85	351.85	1,007.08	812.81	194.28	5.184		
7,650.00	7,221.10	13,231.49	7,083.49	40.37	166.64	86.55	-739.91	312.83	1,014.12	819.01	195.12	5.197		
7,700.00	7,235.49	13,267.61	7,083.11	40.32	167.61	84.94	-739.60	276.71	1,020.43	824.46	195.98	5.207		
7,750.00	7,245.82	13,315.00	7,082.82	40.27	168.88	83.63	-738.56	229.33	1,025.96	828.75	197.22	5.202		
7,800.00	7,252.01	13,352.99	7,082.60	40.20	169.90	82.84	-737.49	191.36	1,030.18	831.82	198.36	5.194		
7,848.69	7,254.00	13,404.53	7,082.07	40.14	171.28	82.43	-736.19	139.84	1,032.67	832.68	199.99	5.164		
7,900.00	7,254.00	13,473.33	7,081.42	40.07	173.13	82.41	-735.10	71.05	1,033.97	831.79	202.18	5.114		

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 11-10-14H
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 11-10-14H	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											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)				
8,000.00	7,254.00	13,558.00	7,081.26	39.96	175.40	82.41	-734.87	-13.62	1,035.28	829.92	205.37	5.041 SF		
8,100.00	7,254.00	13,558.00	7,081.26	39.89	175.40	82.41	-734.87	-13.62	1,043.18	837.68	205.51	5.076		
8,200.00	7,254.00	13,558.00	7,081.26	39.87	175.40	82.41	-734.87	-13.62	1,060.50	856.28	204.22	5.193		
8,300.00	7,254.00	13,558.00	7,081.26	39.95	175.40	82.41	-734.87	-13.62	1,086.77	885.15	201.63	5.390		
8,400.00	7,254.00	13,558.00	7,081.26	40.29	175.40	82.41	-734.87	-13.62	1,121.38	923.43	197.95	5.665		
8,500.00	7,254.00	13,558.00	7,081.26	41.24	175.40	82.41	-734.87	-13.62	1,163.58	970.13	193.45	6.015		
8,600.00	7,254.00	13,558.00	7,081.26	42.78	175.40	82.41	-734.87	-13.62	1,212.58	1,024.19	188.38	6.437		
8,700.00	7,254.00	13,558.00	7,081.26	44.60	175.40	82.41	-734.87	-13.62	1,267.58	1,084.60	182.98	6.927		
8,800.00	7,254.00	13,558.00	7,081.26	46.57	175.40	82.41	-734.87	-13.62	1,327.85	1,150.40	177.45	7.483		
8,900.00	7,254.00	13,558.00	7,081.26	48.64	175.40	82.41	-734.87	-13.62	1,392.70	1,220.77	171.93	8.100		
9,000.00	7,254.00	13,558.00	7,081.26	50.78	175.40	82.41	-734.87	-13.62	1,461.51	1,294.98	166.53	8.776		
9,100.00	7,254.00	13,558.00	7,081.26	52.97	175.40	82.41	-734.87	-13.62	1,533.77	1,372.44	161.33	9.507		
9,200.00	7,254.00	13,558.00	7,081.26	55.21	175.40	82.41	-734.87	-13.62	1,609.00	1,452.64	156.36	10.290		
9,300.00	7,254.00	13,558.00	7,081.26	57.50	175.40	82.41	-734.87	-13.62	1,686.80	1,535.14	151.66	11.122		
9,400.00	7,254.00	13,558.00	7,081.26	59.82	175.40	82.41	-734.87	-13.62	1,766.84	1,619.60	147.23	12.000		
9,500.00	7,254.00	13,558.00	7,081.26	62.17	175.40	82.41	-734.87	-13.62	1,848.82	1,705.74	143.08	12.922		
9,600.00	7,254.00	13,558.00	7,081.26	64.55	175.40	82.41	-734.87	-13.62	1,932.50	1,793.31	139.19	13.884		
9,700.00	7,254.00	13,558.00	7,081.26	66.96	175.40	82.41	-734.87	-13.62	2,017.66	1,882.10	135.56	14.884		
9,800.00	7,254.00	13,558.00	7,081.26	69.39	175.40	82.41	-734.87	-13.62	2,104.14	1,971.97	132.17	15.920		
9,900.00	7,254.00	13,558.00	7,081.26	71.84	175.40	82.41	-734.87	-13.62	2,191.76	2,062.75	129.01	16.989		
10,000.00	7,254.00	13,558.00	7,081.26	74.30	175.40	82.41	-734.87	-13.62	2,280.40	2,154.35	126.06	18.090		
10,100.00	7,254.00	13,558.00	7,081.26	76.79	175.40	82.41	-734.87	-13.62	2,369.95	2,246.65	123.30	19.221		
10,200.00	7,254.00	13,558.00	7,081.26	79.29	175.40	82.41	-734.87	-13.62	2,460.30	2,339.57	120.73	20.379		
10,300.00	7,254.00	13,558.00	7,081.26	81.80	175.40	82.41	-734.87	-13.62	2,551.37	2,433.05	118.32	21.563		
10,400.00	7,254.00	13,558.00	7,081.26	84.33	175.40	82.41	-734.87	-13.62	2,643.09	2,527.01	116.07	22.771		
10,500.00	7,254.00	13,558.00	7,081.26	86.86	175.40	82.41	-734.87	-13.62	2,735.39	2,621.42	113.97	24.001		
10,600.00	7,254.00	13,558.00	7,081.26	89.41	175.40	82.41	-734.87	-13.62	2,828.21	2,716.21	112.00	25.253		
10,700.00	7,254.00	13,558.00	7,081.26	91.97	175.40	82.41	-734.87	-13.62	2,921.50	2,811.36	110.15	26.524		
10,800.00	7,254.00	13,558.00	7,081.26	94.54	175.40	82.41	-734.87	-13.62	3,015.23	2,906.82	108.41	27.813		
10,900.00	7,254.00	13,558.00	7,081.26	97.11	175.40	82.41	-734.87	-13.62	3,109.34	3,002.57	106.78	29.119		
11,000.00	7,254.00	13,558.00	7,081.26	99.69	175.40	82.41	-734.87	-13.62	3,203.82	3,098.57	105.24	30.442		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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	4,065.85	13,178.39	7,236.75	22.34	162.52	171.97	-1,299.38	480.31	3,235.03	3,175.39	59.64	54.247			
4,300.00	4,161.72	13,175.26	7,236.66	22.95	162.44	172.27	-1,299.28	483.44	3,136.34	3,076.77	59.57	52.648			
4,400.00	4,257.59	13,172.01	7,236.58	23.56	162.35	172.59	-1,299.19	486.69	3,037.72	2,978.22	59.51	51.048			
4,500.00	4,353.47	13,168.64	7,236.50	24.17	162.26	172.92	-1,299.09	490.06	2,939.20	2,879.75	59.44	49.446			
4,600.00	4,449.34	13,165.14	7,236.43	24.78	162.17	173.27	-1,298.98	493.55	2,840.76	2,781.38	59.38	47.842			
4,700.00	4,545.21	13,161.51	7,236.36	25.39	162.07	173.63	-1,298.87	497.19	2,742.43	2,683.11	59.32	46.234			
4,800.00	4,641.08	13,157.73	7,236.29	26.00	161.97	174.01	-1,298.76	500.96	2,644.21	2,584.95	59.26	44.621			
4,900.00	4,736.96	13,153.79	7,236.22	26.61	161.87	174.41	-1,298.64	504.90	2,546.11	2,486.90	59.21	43.003			
5,000.00	4,832.83	13,124.00	7,235.99	27.22	161.07	177.51	-1,297.69	534.67	2,448.45	2,389.61	58.84	41.610			
5,100.00	4,928.70	13,124.00	7,235.99	27.83	161.07	177.51	-1,297.69	534.67	2,350.57	2,291.70	58.87	39.931			
5,200.00	5,024.57	13,124.00	7,235.99	28.44	161.07	177.51	-1,297.69	534.67	2,252.87	2,193.95	58.91	38.241			
5,300.00	5,120.45	13,124.00	7,235.99	29.05	161.07	177.51	-1,297.69	534.67	2,155.38	2,096.39	58.99	36.537			
5,400.00	5,216.32	13,124.00	7,235.99	29.66	161.07	177.51	-1,297.69	534.67	2,058.13	1,999.02	59.11	34.817			
5,500.00	5,312.19	13,124.00	7,235.99	30.28	161.07	177.51	-1,297.69	534.67	1,961.16	1,901.87	59.29	33.078			
5,600.00	5,408.06	13,124.00	7,235.99	30.89	161.07	177.51	-1,297.69	534.67	1,864.51	1,804.97	59.54	31.316			
5,700.00	5,503.94	13,124.00	7,235.99	31.50	161.07	177.51	-1,297.69	534.67	1,768.23	1,708.34	59.89	29.526			
5,800.00	5,599.81	13,104.24	7,236.02	32.11	160.54	179.66	-1,297.02	554.42	1,672.23	1,612.15	60.09	27.831			
5,900.00	5,695.68	13,096.16	7,236.05	32.72	160.33	-179.45	-1,296.74	562.50	1,576.74	1,516.12	60.62	26.012			
6,000.00	5,791.55	13,087.87	7,236.10	33.33	160.11	-178.52	-1,296.44	570.78	1,481.78	1,420.41	61.37	24.146			
6,100.00	5,887.43	13,079.38	7,236.16	33.95	159.88	-177.55	-1,296.12	579.26	1,387.47	1,325.05	62.42	22.229			
6,200.00	5,983.30	13,070.67	7,236.25	34.56	159.65	-176.55	-1,295.79	587.97	1,293.93	1,230.07	63.86	20.261			
6,300.00	6,079.17	13,061.73	7,236.34	35.17	159.41	-175.52	-1,295.45	596.90	1,201.36	1,135.52	65.84	18.246			
6,400.00	6,175.04	13,052.56	7,236.46	35.78	159.17	-174.44	-1,295.08	606.07	1,109.98	1,041.46	68.53	16.198			
6,500.00	6,270.92	13,043.14	7,236.60	36.39	158.92	-173.32	-1,294.70	615.48	1,020.12	947.98	72.14	14.141			
6,600.00	6,366.79	13,036.07	7,236.70	37.00	158.73	-172.48	-1,294.41	622.54	932.19	855.19	77.00	12.107			
6,700.00	6,462.66	13,020.67	7,236.98	37.62	158.32	-170.62	-1,293.75	637.92	846.82	763.50	83.33	10.163			
6,800.00	6,558.53	13,006.08	7,237.19	38.23	157.93	-168.84	-1,293.15	652.50	764.77	673.13	91.64	8.345			
6,885.48	6,640.48	12,994.20	7,237.33	38.75	157.61	-167.38	-1,292.68	664.36	698.18	597.53	100.65	6.936			
6,900.00	6,654.42	12,992.46	7,237.34	38.84	157.57	-170.21	-1,292.61	666.11	687.24	584.86	102.38	6.713			
6,950.00	6,702.60	12,989.92	7,237.37	39.12	157.50	177.80	-1,292.51	668.64	650.45	541.63	108.83	5.977			
7,000.00	6,750.76	12,992.62	7,237.34	39.38	157.57	164.74	-1,292.61	665.94	615.42	499.39	116.03	5.304			
7,050.00	6,798.55	13,000.34	7,237.26	39.60	157.78	153.46	-1,292.92	658.23	582.69	458.77	123.92	4.702			
7,100.00	6,845.60	13,012.84	7,237.10	39.79	158.11	144.73	-1,293.43	645.74	552.77	420.41	132.37	4.176			
7,150.00	6,891.54	13,029.86	7,236.82	39.95	158.56	137.98	-1,294.14	628.74	526.10	384.93	141.17	3.727			
7,200.00	6,936.05	13,046.71	7,236.54	40.08	159.01	132.94	-1,294.84	611.91	503.08	353.05	150.03	3.353			
7,250.00	6,978.76	13,067.58	7,236.28	40.19	159.57	128.50	-1,295.67	591.05	484.04	325.40	158.64	3.051			
7,300.00	7,019.37	13,092.19	7,236.07	40.28	160.22	124.32	-1,296.59	566.46	469.08	302.41	166.67	2.814			
7,350.00	7,057.55	13,124.00	7,235.99	40.34	161.07	119.89	-1,297.69	534.67	458.13	284.26	173.86	2.635			
7,400.00	7,093.02	13,151.02	7,236.18	40.39	161.79	116.26	-1,298.55	507.66	450.85	270.90	179.95	2.505			
7,450.00	7,125.51	13,185.11	7,236.94	40.42	162.70	112.33	-1,299.57	473.60	446.86	261.93	184.93	2.416			
7,500.00	7,154.78	13,219.00	7,238.26	40.43	163.60	108.78	-1,300.50	439.75	445.51	256.67	188.84	2.359			
7,507.54	7,158.90	13,228.27	7,238.69	40.43	163.85	108.00	-1,300.73	430.49	445.47	256.08	189.39	2.352 CC			
7,550.00	7,180.59	13,261.43	7,240.01	40.42	164.74	105.06	-1,301.31	397.36	446.11	254.13	191.98	2.324			
7,600.00	7,202.75	13,301.60	7,241.18	40.40	165.81	101.88	-1,301.53	357.22	448.21	253.75	194.47	2.305 ES			
7,650.00	7,221.10	13,344.83	7,241.84	40.37	166.97	99.00	-1,301.25	313.99	451.29	254.75	196.54	2.296			
7,700.00	7,235.49	13,389.79	7,241.66	40.32	168.18	96.53	-1,300.58	269.03	454.70	256.36	198.34	2.293			
7,750.00	7,245.82	13,437.31	7,240.54	40.27	169.45	94.50	-1,299.56	221.54	458.05	258.02	200.04	2.290			
7,800.00	7,252.01	13,486.98	7,238.58	40.20	170.78	93.04	-1,298.46	171.92	460.78	259.07	201.71	2.284			
7,848.69	7,254.00	13,534.80	7,236.11	40.14	172.06	92.24	-1,297.38	124.18	462.63	259.31	203.33	2.275			
7,900.00	7,254.00	13,584.71	7,233.51	40.07	173.40	91.92	-1,296.13	74.35	464.25	259.20	205.05	2.264			
8,000.00	7,254.00	13,682.00	7,228.58	39.96	176.01	91.30	-1,293.41	-22.78	467.75	259.21	208.54	2.243 SF			
8,100.00	7,254.00	13,682.00	7,228.58	39.89	176.01	91.30	-1,293.41	-22.78	482.13	277.15	204.98	2.352			

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 11-10-14H
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 11-10-14H	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)				
8,200.00	7,254.00	13,682.00	7,228.58	39.87	176.01	91.30	-1,293.41	-22.78	515.85	320.25	195.60	2.637		
8,300.00	7,254.00	13,682.00	7,228.58	39.95	176.01	91.30	-1,293.41	-22.78	565.47	382.30	183.17	3.087		
8,400.00	7,254.00	13,682.00	7,228.58	40.29	176.01	91.30	-1,293.41	-22.78	627.22	457.12	170.11	3.687		
8,500.00	7,254.00	13,682.00	7,228.58	41.24	176.01	91.30	-1,293.41	-22.78	697.90	540.07	157.83	4.422		
8,600.00	7,254.00	13,682.00	7,228.58	42.78	176.01	91.30	-1,293.41	-22.78	775.06	628.14	146.92	5.275		
8,700.00	7,254.00	13,682.00	7,228.58	44.60	176.01	91.30	-1,293.41	-22.78	856.95	719.48	137.47	6.234		
8,800.00	7,254.00	13,682.00	7,228.58	46.57	176.01	91.30	-1,293.41	-22.78	942.35	812.97	129.38	7.283		
8,900.00	7,254.00	13,682.00	7,228.58	48.64	176.01	91.30	-1,293.41	-22.78	1,030.38	907.90	122.48	8.413		
9,000.00	7,254.00	13,682.00	7,228.58	50.78	176.01	91.30	-1,293.41	-22.78	1,120.42	1,003.84	116.58	9.611		
9,100.00	7,254.00	13,682.00	7,228.58	52.97	176.01	91.30	-1,293.41	-22.78	1,212.02	1,100.50	111.52	10.868		
9,200.00	7,254.00	13,682.00	7,228.58	55.21	176.01	91.30	-1,293.41	-22.78	1,304.85	1,197.70	107.15	12.177		
9,300.00	7,254.00	13,682.00	7,228.58	57.50	176.01	91.30	-1,293.41	-22.78	1,398.68	1,295.30	103.38	13.530		
9,400.00	7,254.00	13,682.00	7,228.58	59.82	176.01	91.30	-1,293.41	-22.78	1,493.30	1,393.22	100.09	14.920		
9,500.00	7,254.00	13,682.00	7,228.58	62.17	176.01	91.30	-1,293.41	-22.78	1,588.59	1,491.38	97.21	16.342		
9,600.00	7,254.00	13,682.00	7,228.58	64.55	176.01	91.30	-1,293.41	-22.78	1,684.42	1,589.74	94.68	17.791		
9,700.00	7,254.00	13,682.00	7,228.58	66.96	176.01	91.30	-1,293.41	-22.78	1,780.71	1,688.27	92.44	19.263		
9,800.00	7,254.00	13,682.00	7,228.58	69.39	176.01	91.30	-1,293.41	-22.78	1,877.38	1,786.93	90.46	20.754		
9,900.00	7,254.00	13,682.00	7,228.58	71.84	176.01	91.30	-1,293.41	-22.78	1,974.39	1,885.70	88.69	22.261		
10,000.00	7,254.00	13,682.00	7,228.58	74.30	176.01	91.30	-1,293.41	-22.78	2,071.68	1,984.57	87.12	23.781		
10,100.00	7,254.00	13,682.00	7,228.58	76.79	176.01	91.30	-1,293.41	-22.78	2,169.22	2,083.52	85.70	25.312		
10,200.00	7,254.00	13,682.00	7,228.58	79.29	176.01	91.30	-1,293.41	-22.78	2,266.98	2,182.55	84.43	26.851		
10,300.00	7,254.00	13,682.00	7,228.58	81.80	176.01	91.30	-1,293.41	-22.78	2,364.92	2,281.64	83.28	28.397		
10,400.00	7,254.00	13,682.00	7,228.58	84.33	176.01	91.30	-1,293.41	-22.78	2,463.03	2,380.78	82.24	29.949		
10,500.00	7,254.00	13,682.00	7,228.58	86.86	176.01	91.30	-1,293.41	-22.78	2,561.28	2,479.98	81.30	31.505		
10,600.00	7,254.00	13,682.00	7,228.58	89.41	176.01	91.30	-1,293.41	-22.78	2,659.66	2,579.22	80.44	33.063		
10,700.00	7,254.00	13,682.00	7,228.58	91.97	176.01	91.30	-1,293.41	-22.78	2,758.16	2,678.50	79.66	34.624		
10,800.00	7,254.00	13,682.00	7,228.58	94.54	176.01	91.30	-1,293.41	-22.78	2,856.77	2,777.82	78.95	36.185		
10,900.00	7,254.00	13,682.00	7,228.58	97.11	176.01	91.30	-1,293.41	-22.78	2,955.46	2,877.17	78.30	37.748		
11,000.00	7,254.00	13,682.00	7,228.58	99.69	176.01	91.30	-1,293.41	-22.78	3,054.25	2,976.55	77.70	39.310		
11,100.00	7,254.00	13,682.00	7,228.58	102.28	176.01	91.30	-1,293.41	-22.78	3,153.11	3,075.96	77.15	40.871		
11,200.00	7,254.00	13,682.00	7,228.58	104.88	176.01	91.30	-1,293.41	-22.78	3,252.03	3,175.39	76.64	42.431		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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 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	4,545.21	12,911.58	7,005.69	25.39	170.07	39.29	-3,058.23	371.38	3,239.14	3,112.62	126.52	25.602		
4,800.00	4,641.08	12,895.00	7,006.20	26.00	169.62	38.63	-3,058.16	387.96	3,148.77	3,020.74	128.03	24.593		
4,900.00	4,736.96	12,888.44	7,006.40	26.61	169.45	38.37	-3,058.14	394.51	3,058.94	2,929.07	129.86	23.555		
5,000.00	4,832.83	12,873.22	7,006.86	27.22	169.04	37.76	-3,058.09	409.73	2,969.69	2,838.11	131.58	22.570		
5,100.00	4,928.70	12,858.09	7,007.31	27.83	168.63	37.15	-3,058.04	424.85	2,881.08	2,747.69	133.39	21.599		
5,200.00	5,024.57	12,843.05	7,007.76	28.44	168.23	36.54	-3,057.99	439.89	2,793.16	2,657.86	135.29	20.645		
5,300.00	5,120.45	12,828.10	7,008.19	29.05	167.82	35.93	-3,057.94	454.83	2,706.00	2,568.70	137.30	19.708		
5,400.00	5,216.32	12,813.24	7,008.62	29.66	167.43	35.32	-3,057.89	469.68	2,619.68	2,480.26	139.42	18.790		
5,500.00	5,312.19	12,797.71	7,009.06	30.28	167.01	34.68	-3,057.83	485.21	2,534.28	2,392.65	141.63	17.894		
5,600.00	5,408.06	12,781.37	7,009.51	30.89	166.57	34.01	-3,057.75	501.55	2,449.90	2,305.97	143.93	17.021		
5,700.00	5,503.94	12,765.19	7,009.95	31.50	166.14	33.33	-3,057.66	517.72	2,366.64	2,220.29	146.35	16.171		
5,800.00	5,599.81	12,749.17	7,010.39	32.11	165.71	32.66	-3,057.55	533.73	2,284.63	2,135.73	148.90	15.343		
5,900.00	5,695.68	12,733.30	7,010.81	32.72	165.28	32.00	-3,057.43	549.59	2,204.01	2,052.44	151.57	14.541		
6,000.00	5,791.55	12,717.60	7,011.22	33.33	164.86	31.33	-3,057.29	565.29	2,124.93	1,970.56	154.37	13.766		
6,100.00	5,887.43	12,706.26	7,011.51	33.95	164.55	30.85	-3,057.20	576.63	2,047.59	1,890.18	157.41	13.008		
6,200.00	5,983.30	12,695.32	7,011.80	34.56	164.26	30.39	-3,057.12	587.56	1,972.22	1,811.63	160.58	12.281		
6,300.00	6,079.17	12,684.28	7,012.09	35.17	163.96	29.92	-3,057.05	598.59	1,899.04	1,735.19	163.85	11.590		
6,400.00	6,175.04	12,673.15	7,012.38	35.78	163.67	29.44	-3,057.01	609.72	1,828.33	1,661.13	167.19	10.935		
6,500.00	6,270.92	12,661.93	7,012.68	36.39	163.36	28.96	-3,056.97	620.94	1,760.37	1,589.79	170.58	10.320		
6,600.00	6,366.79	12,650.61	7,012.99	37.00	163.06	28.48	-3,056.96	632.26	1,695.49	1,521.53	173.96	9.746		
6,700.00	6,462.66	12,639.19	7,013.30	37.62	162.75	27.99	-3,056.96	643.67	1,634.07	1,456.77	177.29	9.217		
6,800.00	6,558.53	12,626.00	7,013.66	38.23	162.40	27.42	-3,056.98	656.85	1,576.50	1,396.06	180.43	8.737		
6,885.48	6,640.48	12,616.11	7,013.93	38.75	162.13	26.99	-3,057.01	666.74	1,530.66	1,347.66	183.01	8.364		
6,900.00	6,654.42	12,614.27	7,013.98	38.84	162.09	21.36	-3,057.01	668.58	1,523.19	1,339.78	183.42	8.305		
6,950.00	6,702.60	12,610.73	7,014.08	39.12	161.99	0.58	-3,057.02	672.12	1,498.12	1,313.29	184.83	8.105		
7,000.00	6,750.76	12,611.55	7,014.06	39.38	162.01	-19.73	-3,057.02	671.30	1,474.23	1,288.00	186.23	7.916		
7,050.00	6,798.55	12,616.72	7,013.92	39.60	162.15	-36.66	-3,057.00	666.13	1,451.77	1,264.17	187.61	7.738		
7,100.00	6,845.60	12,626.00	7,013.66	39.79	162.40	-49.46	-3,056.98	656.85	1,430.94	1,242.02	188.92	7.574		
7,150.00	6,891.54	12,637.76	7,013.34	39.95	162.72	-58.88	-3,056.96	645.10	1,411.89	1,221.78	190.11	7.427		
7,200.00	6,936.05	12,652.88	7,012.93	40.08	163.12	-65.78	-3,056.96	629.98	1,394.75	1,203.55	191.20	7.295		
7,250.00	6,978.76	12,671.46	7,012.43	40.19	163.62	-70.83	-3,057.00	611.41	1,379.58	1,187.38	192.20	7.178		
7,300.00	7,019.37	12,693.36	7,011.85	40.28	164.21	-74.54	-3,057.11	589.52	1,366.41	1,173.30	193.11	7.076		
7,350.00	7,057.55	12,719.11	7,011.18	40.34	164.90	-77.22	-3,057.31	563.77	1,355.21	1,161.24	193.97	6.987		
7,400.00	7,093.02	12,754.94	7,010.23	40.39	165.86	-78.90	-3,057.59	527.96	1,345.81	1,150.75	195.06	6.899		
7,450.00	7,125.51	12,794.08	7,009.16	40.42	166.91	-80.01	-3,057.81	488.84	1,337.99	1,141.85	196.14	6.822		
7,500.00	7,154.78	12,834.02	7,008.02	40.43	167.98	-80.75	-3,057.96	448.91	1,331.61	1,134.47	197.14	6.755		
7,550.00	7,180.59	12,875.72	7,006.78	40.42	169.10	-81.18	-3,058.10	407.23	1,326.55	1,128.40	198.15	6.695		
7,600.00	7,202.75	12,916.38	7,005.55	40.40	170.20	-81.45	-3,058.25	366.59	1,322.67	1,123.58	199.09	6.644		
7,650.00	7,221.10	12,956.24	7,004.39	40.37	171.27	-81.58	-3,058.57	326.75	1,319.96	1,119.94	200.02	6.599		
7,700.00	7,235.49	13,004.76	7,003.05	40.32	172.57	-81.49	-3,059.13	278.25	1,318.25	1,116.93	201.32	6.548		
7,750.00	7,245.82	13,069.54	7,001.21	40.27	174.31	-81.24	-3,059.32	213.50	1,316.84	1,113.55	203.30	6.477		
7,800.00	7,252.01	13,112.59	6,999.97	40.20	175.47	-81.21	-3,059.25	170.46	1,315.81	1,111.24	204.57	6.432		
7,837.52	7,253.90	13,143.97	6,999.10	40.15	176.31	-81.18	-3,059.37	139.10	1,315.59	1,110.01	205.58	6.400		
7,848.69	7,254.00	13,153.33	6,998.84	40.14	176.56	-81.16	-3,059.44	129.74	1,315.61	1,109.72	205.88	6.390		
7,900.00	7,254.00	13,215.31	6,997.14	40.07	178.23	-81.09	-3,059.75	67.78	1,315.67	1,107.65	208.03	6.325		
8,000.00	7,254.00	13,312.12	6,994.41	39.96	180.84	-80.96	-3,059.42	-28.99	1,314.95	1,103.45	211.50	6.217		
8,100.00	7,254.00	13,434.41	6,990.85	39.89	184.13	-80.80	-3,059.14	-151.21	1,314.47	1,098.48	215.99	6.086		
8,200.00	7,254.00	13,511.44	6,988.50	39.87	186.20	-80.69	-3,058.65	-228.21	1,313.49	1,094.31	219.18	5.993		
8,212.48	7,254.00	13,522.00	6,988.21	39.87	186.49	-80.68	-3,058.68	-238.77	1,313.48	1,093.86	219.62	5.981		
8,300.00	7,254.00	13,607.95	6,985.82	39.95	188.80	-80.57	-3,059.09	-324.68	1,313.57	1,090.43	223.14	5.887		
8,400.00	7,254.00	13,731.34	6,982.18	40.29	192.13	-80.40	-3,058.42	-448.01	1,312.67	1,084.62	228.05	5.756		
8,500.00	7,254.00	13,832.79	6,978.38	41.24	194.87	-80.22	-3,056.73	-549.38	1,310.83	1,078.46	232.37	5.641		

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 11-10-14H
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 11-10-14H	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		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	Warning			
8,600.00	7,254.00	13,930.67	6,974.65	42.78	197.51	-80.04	-3,055.32	-647.18	1,309.23	1,072.56	236.68	5.532				
8,700.00	7,254.00	14,053.55	6,970.09	44.60	200.83	-79.82	-3,052.77	-769.94	1,307.07	1,065.36	241.72	5.408				
8,800.00	7,254.00	14,156.33	6,966.27	46.57	203.61	-79.62	-3,049.25	-872.59	1,303.54	1,057.25	246.29	5.293				
8,900.00	7,254.00	14,247.77	6,962.94	48.64	206.08	-79.45	-3,046.52	-963.93	1,300.43	1,049.77	250.66	5.188				
9,000.00	7,254.00	14,368.66	6,958.36	50.78	209.35	-79.20	-3,041.82	-1,084.64	1,296.43	1,040.70	255.73	5.069				
9,100.00	7,254.00	14,459.13	6,954.88	52.97	211.80	-79.01	-3,037.92	-1,174.96	1,292.12	1,031.93	260.18	4.966				
9,200.00	7,254.00	14,555.01	6,951.29	55.21	214.40	-78.82	-3,034.87	-1,270.72	1,288.87	1,024.08	264.80	4.867				
9,300.00	7,254.00	14,661.87	6,947.05	57.50	217.29	-78.59	-3,030.74	-1,377.42	1,285.03	1,015.37	269.66	4.765				
9,400.00	7,254.00	14,745.53	6,943.75	59.82	219.56	-78.42	-3,027.77	-1,460.96	1,281.55	1,007.48	274.07	4.676				
9,500.00	7,254.00	14,842.74	6,940.63	62.17	222.19	-78.25	-3,025.68	-1,558.09	1,279.26	1,000.45	278.82	4.588				
9,600.00	7,254.00	14,970.57	6,937.19	64.55	225.65	-78.05	-3,021.20	-1,685.79	1,275.52	991.31	284.21	4.488				
9,700.00	7,254.00	15,049.02	6,935.47	66.96	227.78	-77.94	-3,018.49	-1,764.18	1,271.76	983.09	288.67	4.406				
9,800.00	7,254.00	15,149.54	6,933.77	69.39	230.50	-77.84	-3,015.91	-1,864.65	1,268.79	975.19	293.61	4.321				
9,900.00	7,254.00	15,253.69	6,932.46	71.84	233.33	-77.74	-3,013.25	-1,968.76	1,265.74	967.09	298.65	4.238				
10,000.00	7,254.00	15,358.10	6,931.19	74.30	236.16	-77.65	-3,009.89	-2,073.11	1,262.04	958.33	303.71	4.155				
10,100.00	7,254.00	15,450.53	6,930.08	76.79	238.67	-77.56	-3,007.21	-2,165.50	1,258.65	950.10	308.55	4.079				
10,200.00	7,254.00	15,548.28	6,929.91	79.29	241.32	-77.53	-3,005.12	-2,263.22	1,255.77	942.22	313.55	4.005				
10,300.00	7,254.00	15,680.35	6,930.22	81.80	244.90	-77.49	-3,001.02	-2,395.22	1,251.97	932.78	319.19	3.922				
10,400.00	7,254.00	15,769.91	6,929.78	84.33	247.33	-77.42	-2,997.13	-2,484.69	1,247.01	922.94	324.07	3.848				
10,500.00	7,254.00	15,853.20	6,929.50	86.86	249.59	-77.38	-2,994.40	-2,567.94	1,243.06	914.22	328.84	3.780				
10,600.00	7,254.00	15,958.37	6,929.16	89.41	252.45	-77.32	-2,991.15	-2,673.05	1,239.29	905.28	334.01	3.710				
10,700.00	7,254.00	16,036.54	6,928.75	91.97	254.57	-77.28	-2,989.49	-2,751.20	1,236.50	897.84	338.66	3.651				
10,800.00	7,254.00	16,135.45	6,927.64	94.54	257.25	-77.20	-2,987.95	-2,850.10	1,234.42	890.71	343.70	3.592				
10,900.00	7,254.00	16,215.65	6,926.67	97.11	259.42	-77.15	-2,987.61	-2,930.29	1,233.43	885.12	348.31	3.541				
11,000.00	7,254.00	16,333.26	6,925.19	99.69	262.61	-77.06	-2,986.79	-3,047.89	1,232.17	878.36	353.81	3.483				
11,100.00	7,254.00	16,424.79	6,924.03	102.28	265.09	-76.99	-2,985.87	-3,139.40	1,230.68	871.98	358.70	3.431				
11,200.00	7,254.00	16,515.35	6,923.01	104.88	267.54	-76.94	-2,986.01	-3,229.96	1,230.25	866.68	363.57	3.384				
11,300.00	7,254.00	16,622.90	6,921.68	107.48	270.45	-76.87	-2,986.07	-3,337.50	1,229.77	860.91	368.86	3.334				
11,400.00	7,254.00	16,714.87	6,920.60	110.09	272.95	-76.81	-2,985.83	-3,429.46	1,229.00	855.24	373.76	3.288				
11,414.65	7,254.00	16,727.06	6,920.49	110.47	273.28	-76.81	-2,985.90	-3,441.65	1,228.98	854.53	374.45	3.282				
11,500.00	7,254.00	16,803.47	6,919.97	112.70	275.34	-76.78	-2,986.76	-3,518.05	1,229.35	850.75	378.59	3.247				
11,600.00	7,254.00	16,929.73	6,918.74	115.32	278.76	-76.73	-2,987.60	-3,644.30	1,229.51	845.11	384.40	3.199				
11,700.00	7,254.00	17,021.47	6,917.39	117.94	281.25	-76.65	-2,987.08	-3,736.02	1,228.48	839.18	389.30	3.156				
11,800.00	7,254.00	17,116.49	6,916.38	120.56	283.82	-76.60	-2,987.26	-3,831.04	1,228.09	833.78	394.30	3.115				
11,900.00	7,254.00	17,253.91	6,915.74	123.19	287.55	-76.54	-2,985.55	-3,968.45	1,226.14	825.92	400.23	3.064				
12,000.00	7,254.00	17,349.90	6,915.79	125.83	290.16	-76.50	-2,982.83	-4,064.39	1,222.58	817.26	405.32	3.016				
12,100.00	7,254.00	17,468.87	6,916.08	128.47	293.39	-76.47	-2,979.63	-4,183.32	1,219.16	808.39	410.76	2.968				
12,200.00	7,254.00	17,555.29	6,916.25	131.11	295.74	-76.44	-2,976.87	-4,269.69	1,215.18	799.44	415.74	2.923				
12,300.00	7,254.00	17,661.25	6,916.38	133.75	298.62	-76.40	-2,973.58	-4,375.61	1,211.31	790.32	420.99	2.877				
12,400.00	7,254.00	17,750.59	6,916.34	136.40	301.05	-76.36	-2,970.95	-4,464.90	1,207.66	781.68	425.98	2.835				
12,500.00	7,254.00	17,831.09	6,916.51	139.05	303.24	-76.35	-2,969.77	-4,545.39	1,205.36	774.56	430.81	2.798				
12,600.00	7,254.00	17,912.00	6,916.75	141.70	305.43	-76.35	-2,969.73	-4,626.31	1,204.47	768.91	435.56	2.765				
12,615.17	7,254.00	17,928.04	6,916.79	142.10	305.87	-76.35	-2,969.84	-4,642.35	1,204.45	768.07	436.38	2.760				
12,700.00	7,254.00	18,002.00	6,916.97	144.36	307.87	-76.37	-2,971.11	-4,716.29	1,205.08	764.56	440.52	2.736				
12,800.00	7,254.00	18,083.94	6,917.26	147.01	310.08	-76.40	-2,973.55	-4,798.19	1,207.02	761.81	445.20	2.711				
12,900.00	7,254.00	18,191.28	6,917.63	149.67	312.98	-76.44	-2,976.82	-4,905.48	1,209.08	758.32	450.76	2.682				
13,000.00	7,254.00	18,280.60	6,918.08	152.33	315.39	-76.49	-2,979.75	-4,994.76	1,211.34	755.65	455.69	2.658				
13,100.00	7,254.00	18,378.45	6,918.61	155.00	318.03	-76.55	-2,983.51	-5,092.53	1,214.14	753.20	460.94	2.634				
13,200.00	7,254.00	18,478.79	6,919.31	157.66	320.74	-76.61	-2,987.37	-5,192.79	1,216.90	750.61	466.30	2.610				
13,300.00	7,254.00	18,577.86	6,920.04	160.33	323.41	-76.68	-2,991.38	-5,291.78	1,219.85	748.23	471.62	2.587				
13,400.00	7,254.00	18,687.34	6,920.70	163.00	326.37	-76.74	-2,995.34	-5,401.19	1,222.43	745.12	477.31	2.561				
13,500.00	7,254.00	18,790.95	6,921.02	165.67	329.17	-76.78	-2,998.26	-5,504.76	1,224.29	741.54	482.75	2.536				

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 11-10-14H
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 11-10-14H	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)				
13,600.00	7,254.00	18,908.36	6,921.68	168.34	332.35	-76.83	-3,000.92	-5,622.13	1,225.57	736.95	488.62	2.508		
13,700.00	7,254.00	19,023.54	6,920.71	171.02	335.47	-76.77	-3,000.72	-5,737.30	1,224.69	730.53	494.17	2.478		
13,752.47	7,254.00	19,065.69	6,919.70	172.42	336.62	-76.72	-3,000.65	-5,779.44	1,224.47	727.89	496.58	2.466		
13,800.00	7,254.00	19,109.83	6,918.37	173.69	337.82	-76.66	-3,000.80	-5,823.56	1,224.57	725.70	498.87	2.455		
13,900.00	7,254.00	19,218.94	6,914.45	176.37	340.77	-76.47	-3,000.95	-5,932.60	1,224.74	720.73	504.02	2.430		
14,000.00	7,254.00	19,330.11	6,910.02	179.05	343.79	-76.24	-2,999.59	-6,043.67	1,223.67	714.58	509.09	2.404		
14,100.00	7,254.00	19,429.49	6,906.16	181.73	346.49	-76.04	-2,998.07	-6,142.97	1,222.30	708.36	513.94	2.378		
14,200.00	7,254.00	19,528.39	6,902.77	184.41	349.18	-75.86	-2,996.79	-6,241.80	1,221.06	702.26	518.80	2.354		
14,300.00	7,254.00	19,639.47	6,898.93	187.09	352.20	-75.65	-2,994.62	-6,352.79	1,219.19	695.35	523.83	2.327		
14,400.00	7,254.00	19,747.48	6,895.07	189.77	355.13	-75.44	-2,992.29	-6,460.70	1,217.22	688.46	528.76	2.302		
14,500.00	7,254.00	19,862.78	6,890.41	192.46	358.27	-75.16	-2,987.58	-6,575.81	1,213.42	679.84	533.58	2.274		
14,600.00	7,254.00	19,966.55	6,886.09	195.14	361.09	-74.89	-2,982.85	-6,679.39	1,209.28	671.03	538.25	2.247		
14,700.00	7,254.00	20,048.40	6,882.69	197.83	363.32	-74.69	-2,979.53	-6,761.09	1,205.65	662.85	542.81	2.221		
14,800.00	7,254.00	20,158.54	6,878.14	200.52	366.31	-74.42	-2,975.73	-6,871.07	1,202.65	655.12	547.53	2.196		
14,900.00	7,254.00	20,242.00	6,874.90	203.20	368.58	-74.22	-2,973.05	-6,954.43	1,199.78	647.72	552.06	2.173		
15,000.00	7,254.00	20,345.71	6,870.85	205.89	371.40	-73.99	-2,970.21	-7,058.02	1,197.41	640.65	556.76	2.151		
15,100.00	7,254.00	20,454.49	6,866.57	208.58	374.36	-73.73	-2,966.49	-7,166.65	1,194.40	632.96	561.44	2.127		
15,200.00	7,254.00	20,557.80	6,862.92	211.27	377.17	-73.50	-2,962.59	-7,269.82	1,190.97	624.89	566.08	2.104		
15,300.00	7,254.00	20,668.94	6,859.31	213.96	380.20	-73.25	-2,957.86	-7,380.80	1,187.03	616.30	570.73	2.080		
15,387.42	7,254.00	20,703.00	6,858.17	216.32	381.13	-73.17	-2,956.20	-7,414.80	1,184.29	610.12	574.17	2.063 CC		
15,400.00	7,254.00	20,703.00	6,858.17	216.66	381.13	-73.17	-2,956.20	-7,414.80	1,184.36	609.91	574.45	2.062 ES, SF		
15,500.00	7,254.00	20,703.00	6,858.17	219.35	381.13	-73.17	-2,956.20	-7,414.80	1,189.63	615.23	574.41	2.071		
15,600.00	7,254.00	20,703.00	6,858.17	222.04	381.13	-73.17	-2,956.20	-7,414.80	1,203.22	632.75	570.47	2.109		
15,700.00	7,254.00	20,703.00	6,858.17	224.74	381.13	-73.17	-2,956.20	-7,414.80	1,224.85	661.88	562.98	2.176		
15,800.00	7,254.00	20,703.00	6,858.17	227.43	381.13	-73.17	-2,956.20	-7,414.80	1,254.11	701.67	552.43	2.270		
15,900.00	7,254.00	20,703.00	6,858.17	230.13	381.13	-73.17	-2,956.20	-7,414.80	1,290.46	751.02	539.45	2.392		
16,000.00	7,254.00	20,703.00	6,858.17	232.82	381.13	-73.17	-2,956.20	-7,414.80	1,333.35	808.69	524.65	2.541		
16,100.00	7,254.00	20,703.00	6,858.17	235.52	381.13	-73.17	-2,956.20	-7,414.80	1,382.15	873.49	508.65	2.717		
16,200.00	7,254.00	20,703.00	6,858.17	238.22	381.13	-73.17	-2,956.20	-7,414.80	1,436.26	944.29	491.97	2.919		
16,300.00	7,254.00	20,703.00	6,858.17	240.91	381.13	-73.17	-2,956.20	-7,414.80	1,495.11	1,020.07	475.04	3.147		
16,381.25	7,254.00	20,703.00	6,858.17	243.10	381.13	-73.17	-2,956.20	-7,414.80	1,546.05	1,084.70	461.34	3.351		

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

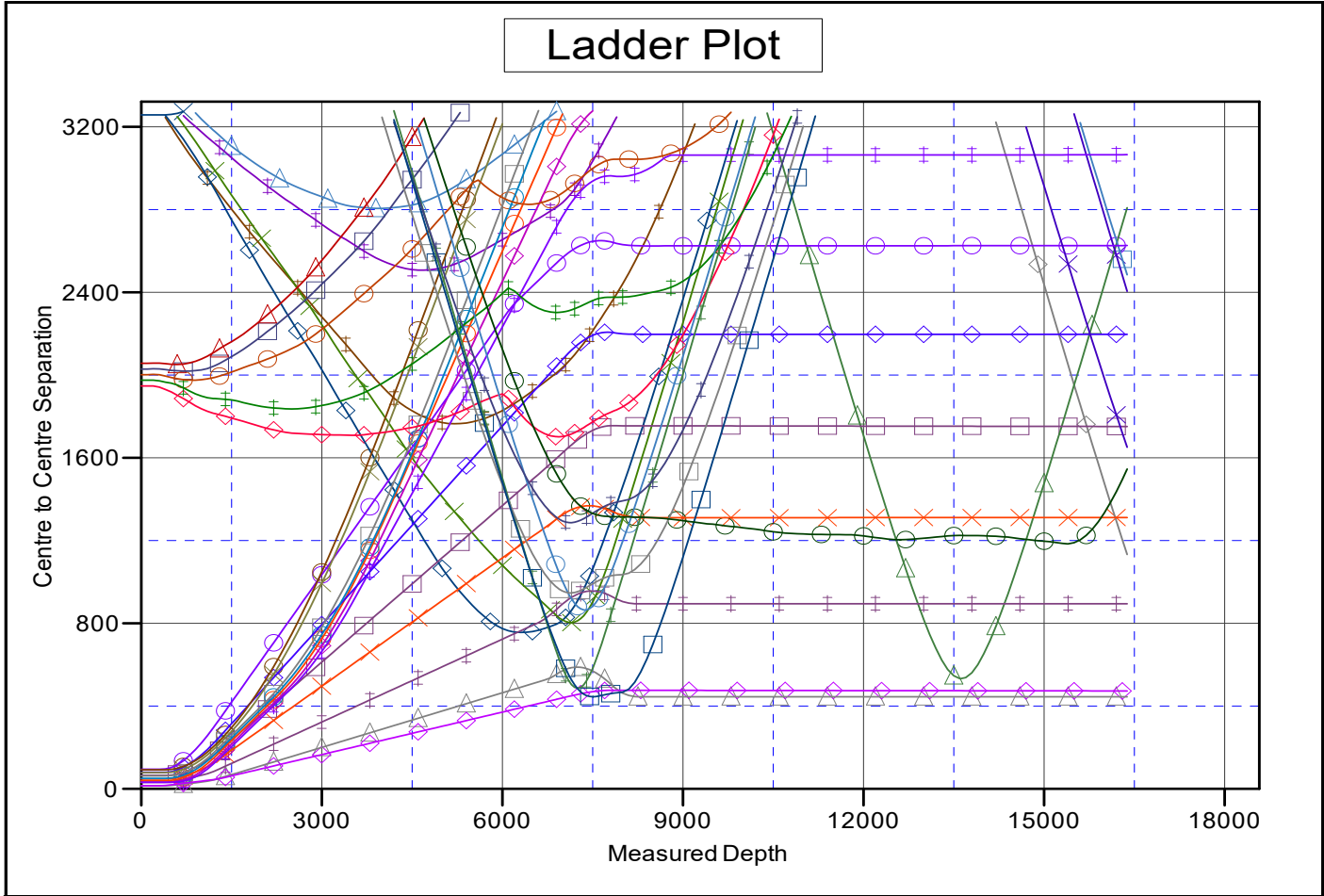
Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-14H	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)				
14,700.00	7,254.00	6,930.24	6,913.85	197.83	4.55	70.15	-983.47	-9,811.68	3,200.79	3,122.12	78.67	40.687		
14,800.00	7,254.00	6,940.11	6,923.67	200.52	4.57	70.73	-983.41	-9,812.65	3,105.06	3,024.35	80.71	38.472		
14,900.00	7,254.00	6,949.99	6,933.50	203.20	4.58	71.32	-983.35	-9,813.63	3,009.58	2,926.69	82.89	36.307		
15,000.00	7,254.00	6,959.86	6,943.33	205.89	4.59	71.91	-983.30	-9,814.60	2,914.37	2,829.14	85.23	34.194		
15,100.00	7,254.00	6,969.74	6,953.15	208.58	4.61	72.51	-983.24	-9,815.58	2,819.46	2,731.72	87.74	32.135		
15,200.00	7,254.00	6,979.61	6,962.98	211.27	4.62	73.11	-983.18	-9,816.56	2,724.87	2,634.44	90.43	30.132		
15,300.00	7,254.00	6,989.49	6,972.81	213.96	4.63	73.71	-983.13	-9,817.53	2,630.65	2,537.32	93.33	28.187		
15,400.00	7,254.00	6,999.36	6,982.63	216.66	4.65	74.32	-983.07	-9,818.51	2,536.83	2,440.38	96.45	26.303		
15,500.00	7,254.00	7,009.24	6,992.46	219.35	4.66	74.93	-983.01	-9,819.48	2,443.46	2,343.65	99.81	24.480		
15,600.00	7,254.00	7,019.11	7,002.28	222.04	4.67	75.54	-982.95	-9,820.46	2,350.60	2,247.14	103.45	22.721		
15,700.00	7,254.00	7,028.99	7,012.11	224.74	4.69	76.16	-982.90	-9,821.43	2,258.30	2,150.91	107.39	21.028		
15,800.00	7,254.00	7,038.86	7,021.94	227.43	4.70	76.78	-982.84	-9,822.41	2,166.64	2,054.98	111.66	19.403		
15,900.00	7,254.00	7,048.74	7,031.76	230.13	4.71	77.40	-982.78	-9,823.39	2,075.71	1,959.40	116.30	17.847		
16,000.00	7,254.00	7,058.61	7,041.59	232.82	4.73	78.02	-982.72	-9,824.36	1,985.59	1,864.24	121.35	16.362		
16,100.00	7,254.00	7,068.49	7,051.42	235.52	4.74	78.65	-982.67	-9,825.34	1,896.42	1,769.57	126.85	14.950		
16,200.00	7,254.00	7,078.36	7,061.24	238.22	4.75	79.28	-982.61	-9,826.31	1,808.33	1,675.47	132.85	13.611		
16,300.00	7,254.00	7,088.24	7,071.07	240.91	4.77	79.92	-982.55	-9,827.29	1,721.48	1,582.07	139.41	12.348		
16,381.25	7,254.00	7,096.26	7,079.05	243.10	4.78	80.44	-982.51	-9,828.08	1,651.96	1,506.78	145.18	11.379	CC, ES, SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-14H
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 11-10-14H	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 11-10-14H
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.35°



LEGEND

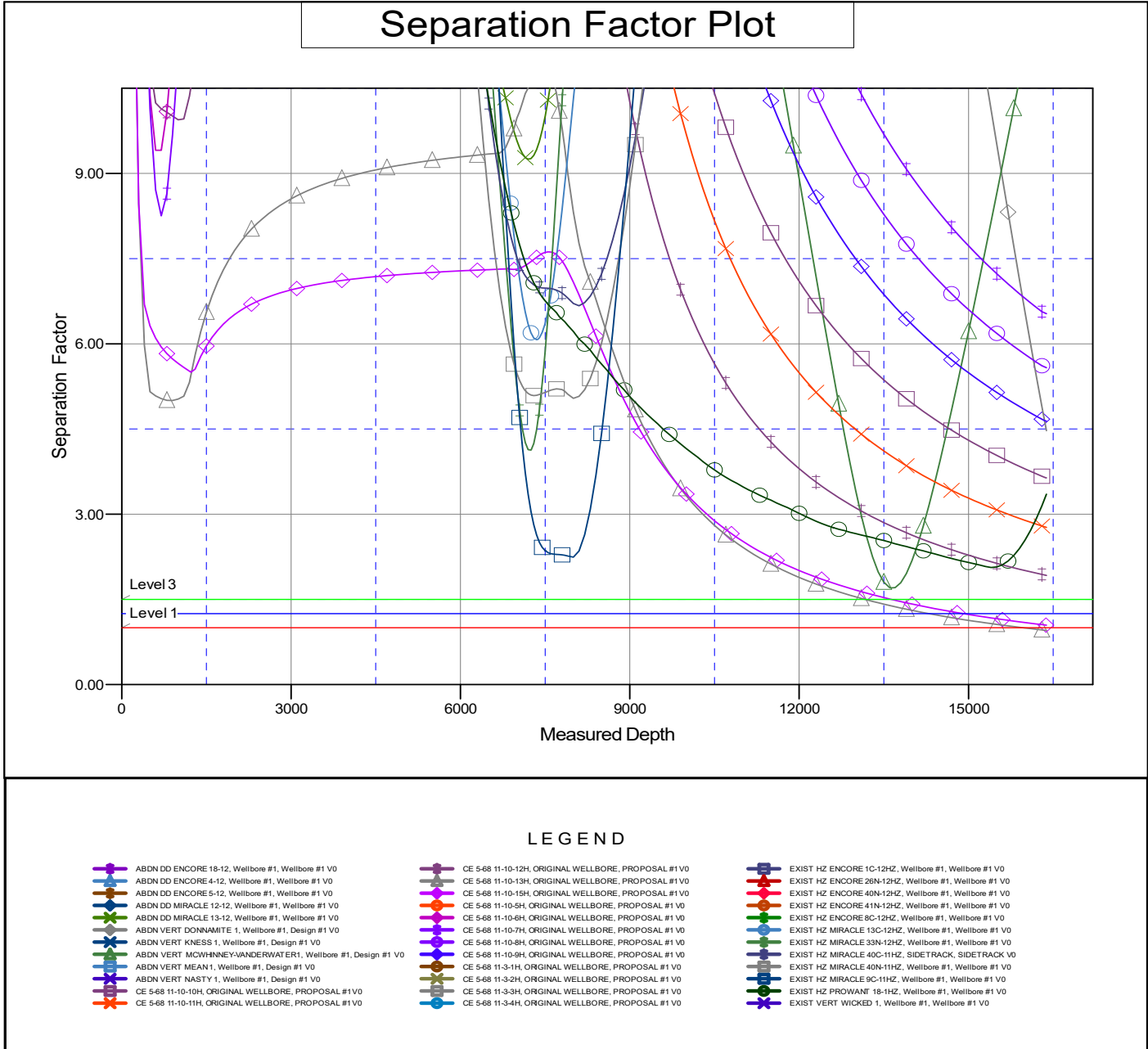
- ABDN DD ENCORE 18-12, Wellbore #1, Wellbore #1 V0
- CE 5-68 11-10-12H, ORIGINAL WELLBORE, PROPOSAL #1 V0
- EXIST HZ ENCORE 1C-12HZ, Wellbore #1, Wellbore #1 V0
- ABDN DD ENCORE 4-12, Wellbore #1, Wellbore #1 V0
- CE 5-68 11-10-13H, ORIGINAL WELLBORE, PROPOSAL #1 V0
- EXIST HZ ENCORE 26N-12HZ, Wellbore #1, Wellbore #1 V0
- ABDN DD ENCORE 5-12, Wellbore #1, Wellbore #1 V0
- CE 5-68 11-10-15H, ORIGINAL WELLBORE, PROPOSAL #1 V0
- EXIST HZ ENCORE 40N-12HZ, Wellbore #1, Wellbore #1 V0
- ABDN DD MIRACLE 12-12, Wellbore #1, Wellbore #1 V0
- CE 5-68 11-10-6H, ORIGINAL WELLBORE, PROPOSAL #1 V0
- EXIST HZ ENCORE 41N-12HZ, Wellbore #1, Wellbore #1 V0
- ABDN DD MIRACLE 13-12, Wellbore #1, Wellbore #1 V0
- CE 5-68 11-10-8H, ORIGINAL WELLBORE, PROPOSAL #1 V0
- EXIST HZ ENCORE 8C-12HZ, Wellbore #1, Wellbore #1 V0
- ABDN VERT DONNAMITE 1, Wellbore #1, Design #1 V0
- CE 5-68 11-10-7H, ORIGINAL WELLBORE, PROPOSAL #1 V0
- EXIST HZ MIRACLE 13C-12HZ, Wellbore #1, Wellbore #1 V0
- ABDN VERT KNESS 1, Wellbore #1, Design #1 V0
- CE 5-68 11-10-8H, ORIGINAL WELLBORE, PROPOSAL #1 V0
- EXIST HZ MIRACLE 33N-12HZ, Wellbore #1, Wellbore #1 V0
- ABDN VERT MCWHINNEY-VANDERWATER1, Wellbore #1, Design #1 V0
- CE 5-68 11-10-9H, ORIGINAL WELLBORE, PROPOSAL #1 V0
- EXIST HZ MIRACLE 40C-11HZ, SIDETRACK, SIDETRACK V0
- ABDN VERT MEAN 1, Wellbore #1, Design #1 V0
- CE 5-68 11-3-1H, ORIGINAL WELLBORE, PROPOSAL #1 V0
- EXIST HZ MIRACLE 40N-11HZ, Wellbore #1, Wellbore #1 V0
- ABDN VERT NASTY 1, Wellbore #1, Design #1 V0
- CE 5-68 11-3-2H, ORIGINAL WELLBORE, PROPOSAL #1 V0
- EXIST HZ MIRACLE 9C-11HZ, Wellbore #1, Wellbore #1 V0
- CE 5-68 11-10-10H, ORIGINAL WELLBORE, PROPOSAL #1 V0
- CE 5-68 11-3-3H, ORIGINAL WELLBORE, PROPOSAL #1 V0
- EXIST HZ PROWANT 18-1HZ, Wellbore #1, Wellbore #1 V0
- CE 5-68 11-3-4H, ORIGINAL WELLBORE, PROPOSAL #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 11-10-14H
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 11-10-14H	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 11-10-14H
 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