



BISON IV OPERATING

LARIMER COUNTY, COLORADO (NAD 83)

SEC. 11 T5N R68W 6th P.M.

CE 5-68 11-10-15H

ORIGINAL WELLBORE

PROPOSAL #1

Anticollision Report

19 July, 2024



Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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	16,305.41	PROPOSAL #1 (ORIGINAL WELLBORE)	OWSG (Rev2) MWD	OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SEC. 11 T5N R68W 6th P.M.						
ABDN DD ENCORE 18-12 - Wellbore #1 - Wellbore #1	4,337.32	4,898.00	2,730.83	2,687.17	62.539	CC
ABDN DD ENCORE 18-12 - Wellbore #1 - Wellbore #1	4,400.00	4,935.01	2,731.06	2,686.85	61.781	ES
ABDN DD ENCORE 18-12 - Wellbore #1 - Wellbore #1	6,950.00	6,805.01	3,217.09	3,153.79	50.821	SF
ABDN DD ENCORE 4-12 - Wellbore #1 - Wellbore #1	3,372.23	4,186.00	2,992.69	2,951.25	72.217	CC
ABDN DD ENCORE 4-12 - Wellbore #1 - Wellbore #1	3,400.00	4,186.00	2,992.82	2,951.16	71.840	ES
ABDN DD ENCORE 4-12 - Wellbore #1 - Wellbore #1	5,400.00	5,579.15	3,259.88	3,198.26	52.905	SF
ABDN DD ENCORE 5-12 - Wellbore #1 - Wellbore #1	4,871.78	5,605.00	2,044.03	1,990.92	38.488	CC
ABDN DD ENCORE 5-12 - Wellbore #1 - Wellbore #1	4,900.00	5,627.72	2,044.06	1,990.65	38.272	ES
ABDN DD ENCORE 5-12 - Wellbore #1 - Wellbore #1	6,100.00	6,361.05	2,197.65	2,134.23	34.653	SF
ABDN DD MIRACLE 12-12 - Wellbore #1 - Wellbore #1	5,984.00	6,238.05	1,019.98	952.22	15.052	CC
ABDN DD MIRACLE 12-12 - Wellbore #1 - Wellbore #1	6,000.00	6,247.57	1,020.04	952.06	15.006	ES
ABDN DD MIRACLE 12-12 - Wellbore #1 - Wellbore #1	6,400.00	6,519.93	1,054.34	981.82	14.539	SF
ABDN DD MIRACLE 13-12 - Wellbore #1 - Wellbore #1	7,002.92	7,274.70	551.14	459.96	6.045	CC, ES
ABDN DD MIRACLE 13-12 - Wellbore #1 - Wellbore #1	7,050.00	7,316.25	553.24	461.67	6.042	SF
ABDN VERT DONNAMITE 1 - Wellbore #1 - Design #1	16,305.41	7,024.00	1,002.91	815.97	5.365	CC, ES, SF
ABDN VERT KNESS 1 - Wellbore #1 - Design #1	300.00	306.00	3,271.53	3,264.99	499.543	CC
ABDN VERT KNESS 1 - Wellbore #1 - Design #1	400.00	405.98	3,273.27	3,264.33	366.377	ES
ABDN VERT KNESS 1 - Wellbore #1 - Design #1	500.00	505.84	3,278.47	3,267.16	290.039	SF
ABDN VERT MCWHINNEY-VANDERWATER1 - Wellbor	13,548.68	7,025.00	98.14	-211.17	0.317	Level 3, CC, ES, SF
ABDN VERT MEAN 1 - Wellbore #1 - Design #1	16,305.41	6,727.00	2,632.16	2,364.91	9.849	CC, ES, SF
ABDN VERT NASTY 1 - Wellbore #1 - Design #1	16,305.41	6,794.00	2,328.93	2,148.04	12.875	CC, ES, SF
ABDN VERT RAUSLER 1 - Wellbore #1 - Design #1						Out of range
CE 5-68 11-10-10H - ORIGINAL WELLBORE - PROPOS	300.00	300.00	80.14	78.42	46.576	CC, ES
CE 5-68 11-10-10H - ORIGINAL WELLBORE - PROPOS	16,305.41	15,910.78	2,183.78	1,701.74	4.530	SF
CE 5-68 11-10-11H - ORIGINAL WELLBORE - PROPOS	300.00	300.00	61.93	60.21	35.990	CC, ES
CE 5-68 11-10-11H - ORIGINAL WELLBORE - PROPOS	16,305.41	15,597.56	1,755.40	1,283.51	3.720	SF
CE 5-68 11-10-12H - ORIGINAL WELLBORE - PROPOS	300.00	300.00	47.35	45.63	27.521	CC, ES
CE 5-68 11-10-12H - ORIGINAL WELLBORE - PROPOS	16,305.41	15,614.91	1,307.90	831.09	2.743	SF
CE 5-68 11-10-13H - ORIGINAL WELLBORE - PROPOS	300.00	300.00	29.14	27.42	16.935	CC, ES
CE 5-68 11-10-13H - ORIGINAL WELLBORE - PROPOS	16,305.41	15,764.88	876.90	402.57	1.849	SF
CE 5-68 11-10-14H - ORIGINAL WELLBORE - PROPOS	300.00	300.00	14.57	12.85	8.466	CC, ES
CE 5-68 11-10-14H - ORIGINAL WELLBORE - PROPOS	16,305.41	16,379.46	473.35	21.06	1.047	Level 3, SF
CE 5-68 11-10-5H - ORIGINAL WELLBORE - PROPOSA	300.00	300.00	50.43	48.71	29.311	CC, ES
CE 5-68 11-10-5H - ORIGINAL WELLBORE - PROPOSA	700.00	698.70	77.38	72.83	17.005	SF
CE 5-68 11-10-6H - ORIGINAL WELLBORE - PROPOSA	300.00	300.00	37.62	35.90	21.866	CC, ES
CE 5-68 11-10-6H - ORIGINAL WELLBORE - PROPOSA	600.00	599.45	51.21	47.37	13.351	SF
CE 5-68 11-10-7H - ORIGINAL WELLBORE - PROPOSA	300.00	300.00	31.48	29.76	18.297	CC, 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 11-10-15H
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 11-10-15H	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	600.00	599.45	42.01	38.18	10.952	SF
CE 5-68 11-10-8H - ORIGINAL WELLBORE - PROPOSA	300.00	300.00	109.29	107.56	63.513	CC, ES
CE 5-68 11-10-8H - ORIGINAL WELLBORE - PROPOSA	16,305.41	15,478.21	3,065.80	2,595.73	6.522	SF
CE 5-68 11-10-9H - ORIGINAL WELLBORE - PROPOSA	300.00	300.00	94.71	92.99	55.045	CC, ES
CE 5-68 11-10-9H - ORIGINAL WELLBORE - PROPOSA	16,305.41	15,495.74	2,622.95	2,147.58	5.518	SF
CE 5-68 11-3-1H - ORIGINAL WELLBORE - PROPOSA	300.00	300.00	106.51	104.79	61.899	CC, ES
CE 5-68 11-3-1H - ORIGINAL WELLBORE - PROPOSAL	900.00	895.62	169.08	163.09	28.245	SF
CE 5-68 11-3-2H - ORIGINAL WELLBORE - PROPOSAL	300.00	300.00	92.64	90.92	53.838	CC, ES
CE 5-68 11-3-2H - ORIGINAL WELLBORE - PROPOSAL	800.00	797.47	136.16	130.89	25.852	SF
CE 5-68 11-3-3H - ORIGINAL WELLBORE - PROPOSAL	300.00	300.00	75.69	73.97	43.989	CC, ES
CE 5-68 11-3-3H - ORIGINAL WELLBORE - PROPOSAL	800.00	797.47	119.11	113.84	22.614	SF
CE 5-68 11-3-4H - ORIGINAL WELLBORE - PROPOSAL	300.00	300.00	62.64	60.92	36.404	CC, ES
CE 5-68 11-3-4H - ORIGINAL WELLBORE - PROPOSAL	700.00	698.70	90.20	85.65	19.826	SF
EXIST HZ ENCORE 1C-12HZ - Wellbore #1 - Wellbore #	495.61	607.93	2,040.64	2,036.98	556.395	CC
EXIST HZ ENCORE 1C-12HZ - Wellbore #1 - Wellbore #	600.00	741.30	2,041.48	2,036.92	447.121	ES
EXIST HZ ENCORE 1C-12HZ - Wellbore #1 - Wellbore #	4,700.00	4,348.26	3,273.92	3,229.80	74.198	SF
EXIST HZ ENCORE 26N-12HZ - Wellbore #1 - Wellbore	471.53	577.22	2,069.75	2,066.24	590.312	CC
EXIST HZ ENCORE 26N-12HZ - Wellbore #1 - Wellbore	500.00	601.72	2,069.86	2,066.16	559.145	ES
EXIST HZ ENCORE 26N-12HZ - Wellbore #1 - Wellbore	4,000.00	3,576.97	3,139.37	3,103.28	86.971	SF
EXIST HZ ENCORE 40N-12HZ - Wellbore #1 - Wellbore	2,102.03	2,679.53	1,844.13	1,825.00	96.417	CC
EXIST HZ ENCORE 40N-12HZ - Wellbore #1 - Wellbore	2,300.00	2,866.91	1,845.41	1,824.44	87.987	ES
EXIST HZ ENCORE 40N-12HZ - Wellbore #1 - Wellbore	6,950.00	7,968.18	2,138.91	2,073.24	32.571	SF
EXIST HZ ENCORE 41N-12HZ - Wellbore #1 - Wellbore	707.77	934.55	2,001.68	1,996.05	355.929	CC, ES
EXIST HZ ENCORE 41N-12HZ - Wellbore #1 - Wellbore	6,850.00	8,645.36	3,280.50	3,194.73	38.248	SF
EXIST HZ ENCORE 8C-12HZ - Wellbore #1 - Wellbore #	1,139.18	1,621.11	1,929.04	1,918.67	186.099	CC, ES
EXIST HZ ENCORE 8C-12HZ - Wellbore #1 - Wellbore #	9,600.00	7,081.26	3,022.67	2,931.90	33.300	SF
EXIST HZ MIRACLE 13C-12HZ - Wellbore #1 - Wellbore	7,335.83	11,892.00	630.67	530.46	6.293	CC, ES, SF
EXIST HZ MIRACLE 33N-12HZ - Wellbore #1 - Wellbore	7,213.41	11,657.00	464.32	384.14	5.791	CC
EXIST HZ MIRACLE 33N-12HZ - Wellbore #1 - Wellbore	7,250.00	11,657.00	466.83	383.44	5.598	ES
EXIST HZ MIRACLE 33N-12HZ - Wellbore #1 - Wellbore	7,300.00	11,657.00	478.20	391.15	5.493	SF
EXIST HZ MIRACLE 40C-11HZ - ORIGINAL WELLBORE						Out of range
EXIST HZ MIRACLE 40C-11HZ - SIDETRACK - SIDETR	7,020.48	12,785.75	1,732.37	1,556.67	9.859	CC
EXIST HZ MIRACLE 40C-11HZ - SIDETRACK - SIDETR	7,050.00	12,790.36	1,732.69	1,555.95	9.804	ES
EXIST HZ MIRACLE 40C-11HZ - SIDETRACK - SIDETR	8,000.00	13,628.00	1,841.87	1,632.04	8.778	SF
EXIST HZ MIRACLE 40N-11HZ - Wellbore #1 - Wellbore	7,044.35	12,907.44	1,393.46	1,213.02	7.723	CC
EXIST HZ MIRACLE 40N-11HZ - Wellbore #1 - Wellbore	7,100.00	12,919.69	1,394.48	1,211.83	7.635	ES
EXIST HZ MIRACLE 40N-11HZ - Wellbore #1 - Wellbore	8,000.00	13,558.00	1,467.51	1,258.53	7.022	SF
EXIST HZ MIRACLE 9C-11HZ - Wellbore #1 - Wellbore #	7,445.98	13,236.94	912.91	725.49	4.871	CC
EXIST HZ MIRACLE 9C-11HZ - Wellbore #1 - Wellbore #	7,900.00	13,651.29	925.80	720.26	4.504	ES
EXIST HZ MIRACLE 9C-11HZ - Wellbore #1 - Wellbore #	8,000.00	13,682.00	930.83	724.05	4.502	SF
EXIST HZ PROWANT 18-1HZ - Wellbore #1 - Wellbore #	15,313.08	20,703.00	716.13	131.28	1.224	Level 3, CC, 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	16,305.41	6,904.14	1,900.53	1,717.88	10.406	CC, ES, SF

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

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 11-10-15H
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 11-10-15H	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	698.70	1,691.00	1,652.78	2.29	8.05	-104.91	1,606.83	2,668.81	3,265.22	3,256.66	8.56	381.579		
800.00	797.47	1,762.65	1,721.21	2.69	8.49	-105.56	1,593.09	2,652.62	3,239.64	3,230.41	9.23	351.004		
900.00	895.62	1,836.08	1,791.56	3.13	8.93	-106.22	1,579.09	2,636.93	3,216.00	3,206.06	9.94	323.448		
1,000.00	993.06	1,984.85	1,933.88	3.61	9.85	-107.18	1,551.04	2,603.94	3,192.85	3,181.87	10.98	290.837		
1,100.00	1,089.64	2,059.92	2,005.64	4.12	10.31	-107.96	1,538.09	2,586.13	3,170.40	3,158.63	11.77	269.319		
1,200.00	1,185.27	2,185.16	2,125.40	4.68	11.09	-109.02	1,516.77	2,556.32	3,149.38	3,136.59	12.79	246.234		
1,300.00	1,279.82	2,280.26	2,215.98	5.29	11.70	-109.96	1,499.48	2,533.04	3,128.44	3,114.70	13.74	227.665		
1,310.06	1,289.26	2,286.56	2,221.99	5.35	11.74	-110.03	1,498.37	2,531.51	3,126.46	3,112.63	13.83	226.121		
1,400.00	1,373.67	2,385.54	2,316.31	5.93	12.37	-110.66	1,481.28	2,506.90	3,108.72	3,093.96	14.76	210.619		
1,500.00	1,467.52	2,531.40	2,454.64	6.58	13.33	-111.63	1,456.80	2,467.66	3,087.80	3,071.87	15.93	193.822		
1,600.00	1,561.37	2,585.00	2,505.38	7.24	13.69	-112.00	1,448.01	2,452.80	3,067.26	3,050.47	16.79	182.636		
1,700.00	1,655.22	2,640.23	2,557.88	7.91	14.04	-112.39	1,439.22	2,438.05	3,048.23	3,030.56	17.67	172.521		
1,800.00	1,749.06	2,690.18	2,605.69	8.59	14.36	-112.73	1,431.74	2,425.67	3,031.27	3,012.74	18.53	163.583		
1,900.00	1,842.91	2,832.86	2,742.11	9.27	15.25	-113.64	1,406.14	2,392.69	3,014.34	2,994.64	19.70	153.001		
2,000.00	1,936.76	2,949.71	2,853.42	9.95	16.00	-114.37	1,383.55	2,365.25	2,996.67	2,975.88	20.79	144.160		
2,100.00	2,030.61	2,997.52	2,899.03	10.63	16.30	-114.69	1,374.93	2,353.79	2,979.75	2,958.10	21.65	137.606		
2,200.00	2,124.46	3,120.72	3,016.85	11.32	17.08	-115.53	1,354.30	2,324.28	2,964.25	2,941.49	22.76	130.249		
2,300.00	2,218.31	3,211.00	3,102.86	12.01	17.66	-116.14	1,337.80	2,302.36	2,947.74	2,923.98	23.76	124.054		
2,400.00	2,312.16	3,259.21	3,148.91	12.70	17.96	-116.46	1,329.05	2,291.09	2,932.43	2,907.79	24.64	119.032		
2,500.00	2,406.00	3,329.04	3,215.96	13.39	18.39	-116.94	1,317.48	2,275.39	2,918.98	2,893.41	25.57	114.137		
2,600.00	2,499.85	3,491.98	3,371.64	14.09	19.42	-118.05	1,288.34	2,237.16	2,904.25	2,877.46	26.79	108.406		
2,700.00	2,593.70	3,567.00	3,443.25	14.78	19.89	-118.55	1,273.98	2,220.00	2,889.75	2,862.00	27.75	104.147		
2,800.00	2,687.55	3,622.35	3,496.24	15.47	20.24	-118.92	1,263.69	2,207.77	2,876.51	2,847.87	28.64	100.424		
2,900.00	2,781.40	3,793.13	3,659.37	16.17	21.32	-120.14	1,233.59	2,167.28	2,863.45	2,833.58	29.87	95.869		
3,000.00	2,875.25	3,898.95	3,759.78	16.87	22.02	-120.92	1,214.45	2,139.92	2,848.80	2,817.89	30.91	92.151		
3,100.00	2,969.10	3,983.67	3,840.17	17.56	22.58	-121.55	1,198.88	2,118.16	2,834.54	2,802.64	31.90	88.846		
3,200.00	3,062.95	4,035.80	3,889.74	18.26	22.92	-121.93	1,189.34	2,105.17	2,821.42	2,788.62	32.80	86.009		
3,300.00	3,156.79	4,096.00	3,947.43	18.96	23.30	-122.37	1,179.05	2,091.38	2,810.56	2,776.84	33.72	83.350		
3,400.00	3,250.64	4,190.77	4,038.35	19.66	23.88	-123.07	1,163.60	2,069.59	2,800.94	2,766.21	34.73	80.656		
3,500.00	3,344.49	4,323.65	4,164.94	20.35	24.74	-124.11	1,141.43	2,035.81	2,789.74	2,753.90	35.85	77.826		
3,600.00	3,438.34	4,471.71	4,305.54	21.05	25.72	-125.27	1,115.54	1,997.35	2,778.46	2,741.47	37.00	75.101		
3,700.00	3,532.19	4,544.00	4,374.05	21.75	26.20	-125.84	1,102.15	1,978.57	2,766.76	2,728.80	37.96	72.889		
3,800.00	3,626.04	4,596.20	4,423.67	22.45	26.54	-126.25	1,093.10	1,965.11	2,756.53	2,717.66	38.87	70.919		
3,900.00	3,719.89	4,652.00	4,476.89	23.15	26.90	-126.70	1,084.10	1,950.96	2,748.03	2,708.25	39.78	69.078		
4,000.00	3,813.73	4,722.00	4,543.97	23.85	27.34	-127.26	1,073.47	1,934.01	2,741.36	2,700.63	40.73	67.310		
4,100.00	3,907.58	4,767.36	4,587.61	24.55	27.61	-127.62	1,066.86	1,923.56	2,736.26	2,694.67	41.59	65.787		
4,200.00	4,001.43	4,811.00	4,629.71	25.25	27.87	-127.96	1,060.65	1,913.89	2,732.90	2,690.46	42.44	64.393		
4,300.00	4,095.28	4,898.00	4,713.99	25.95	28.36	-128.63	1,048.78	1,895.88	2,731.09	2,687.68	43.41	62.916		
4,337.32	4,130.31	4,898.00	4,713.99	26.21	28.36	-128.63	1,048.78	1,895.88	2,730.83	2,687.17	43.67	62.539 CC		
4,400.00	4,189.13	4,935.01	4,750.02	26.65	28.55	-128.90	1,044.00	1,888.87	2,731.06	2,686.85	44.21	61.781 ES		
4,500.00	4,282.98	4,987.00	4,800.83	27.35	28.82	-129.28	1,037.64	1,879.90	2,733.11	2,688.07	45.04	60.688		
4,600.00	4,376.83	5,023.32	4,836.48	28.05	28.99	-129.54	1,033.56	1,874.26	2,737.26	2,691.48	45.79	59.783		
4,700.00	4,470.67	5,076.00	4,888.40	28.75	29.24	-129.90	1,028.37	1,867.06	2,743.77	2,697.19	46.58	58.907		
4,800.00	4,564.52	5,111.40	4,923.40	29.45	29.38	-130.14	1,025.28	1,862.79	2,752.30	2,705.02	47.28	58.215		
4,900.00	4,658.37	5,164.00	4,975.53	30.15	29.60	-130.49	1,021.06	1,857.14	2,762.72	2,714.70	48.03	57.525		
5,000.00	4,752.22	5,224.43	5,035.53	30.85	29.82	-130.87	1,016.69	1,851.45	2,774.79	2,726.01	48.79	56.878		
5,100.00	4,846.07	5,277.32	5,088.12	31.56	30.01	-131.20	1,013.27	1,847.05	2,788.41	2,738.91	49.50	56.337		
5,200.00	4,939.92	5,338.00	5,148.60	32.26	30.22	-131.57	1,010.06	1,843.20	2,803.99	2,753.76	50.22	55.833		
5,300.00	5,033.77	5,373.26	5,183.79	32.96	30.32	-131.77	1,008.59	1,841.45	2,821.28	2,770.47	50.81	55.526		
5,400.00	5,127.61	5,428.00	5,238.45	33.66	30.49	-132.09	1,006.97	1,839.08	2,840.39	2,788.92	51.47	55.186		
5,500.00	5,221.46	5,479.19	5,289.60	34.36	30.62	-132.38	1,005.97	1,837.48	2,861.12	2,809.03	52.09	54.926		
5,600.00	5,315.31	5,544.04	5,354.43	35.06	30.79	-132.72	1,005.07	1,836.55	2,883.31	2,830.55	52.76	54.647		

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 11-10-15H
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 11-10-15H	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													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	5,409.16	5,627.19	5,437.58	35.76	30.99	-133.15	1,004.08	1,836.06	2,906.29	2,852.78	53.51	54.311		
5,800.00	5,503.01	5,714.69	5,525.08	36.47	31.19	-133.58	1,003.07	1,836.08	2,929.76	2,875.48	54.27	53.981		
5,900.00	5,596.86	5,807.75	5,618.13	37.17	31.41	-134.06	1,002.58	1,835.25	2,953.58	2,898.51	55.07	53.636		
6,000.00	5,690.71	5,911.50	5,721.86	37.87	31.68	-134.60	1,002.22	1,833.41	2,977.41	2,921.48	55.92	53.242		
6,100.00	5,784.55	6,008.03	5,818.38	38.57	31.93	-135.09	1,001.75	1,831.44	3,001.24	2,944.50	56.74	52.896		
6,200.00	5,878.40	6,103.77	5,914.08	39.27	32.18	-135.58	1,001.32	1,829.36	3,025.26	2,967.71	57.55	52.569		
6,300.00	5,972.25	6,198.45	6,008.74	39.97	32.43	-136.05	1,000.74	1,827.46	3,049.41	2,991.06	58.35	52.262		
6,400.00	6,066.10	6,289.81	6,100.09	40.68	32.67	-136.50	1,000.18	1,825.71	3,073.79	3,014.66	59.13	51.987		
6,500.00	6,159.95	6,380.18	6,190.45	41.38	32.91	-136.93	999.63	1,824.17	3,098.46	3,038.56	59.90	51.731		
6,600.00	6,253.80	6,479.28	6,289.52	42.08	33.18	-137.40	999.14	1,822.29	3,123.33	3,062.62	60.71	51.448		
6,700.00	6,347.65	6,566.54	6,376.77	42.78	33.42	-137.81	998.64	1,820.64	3,148.33	3,086.88	61.46	51.230		
6,800.00	6,441.49	6,661.10	6,471.31	43.48	33.67	-138.24	998.16	1,819.12	3,173.67	3,111.43	62.24	50.993		
6,823.95	6,463.97	6,683.67	6,493.88	43.65	33.73	-138.35	998.02	1,818.80	3,179.75	3,117.33	62.42	50.939		
6,850.00	6,488.47	6,707.58	6,517.79	43.83	33.80	-146.09	997.87	1,818.45	3,186.61	3,124.00	62.62	50.890		
6,900.00	6,535.65	6,753.66	6,563.86	44.16	33.92	-161.82	997.61	1,817.78	3,201.08	3,138.11	62.96	50.841		
6,950.00	6,582.74	6,805.01	6,615.21	44.45	34.06	-177.19	997.31	1,816.99	3,217.09	3,153.79	63.30	50.821 SF		
7,000.00	6,629.37	6,855.71	6,665.90	44.71	34.20	169.24	996.97	1,816.12	3,234.46	3,170.86	63.60	50.853		
7,050.00	6,675.19	6,899.39	6,709.57	44.94	34.32	157.93	996.67	1,815.39	3,253.14	3,189.30	63.84	50.956		
7,100.00	6,719.86	6,942.20	6,752.37	45.14	34.44	148.67	996.37	1,814.75	3,273.02	3,208.97	64.05	51.099		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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)				
1,000.00	993.06	2,175.95	2,105.13	3.61	11.53	-113.01	1,793.42	2,447.46	3,257.78	3,245.03	12.75	255.522		
1,100.00	1,089.64	2,237.04	2,161.66	4.12	12.00	-113.95	1,789.80	2,424.56	3,233.20	3,219.61	13.59	237.866		
1,200.00	1,185.27	2,317.00	2,235.59	4.68	12.61	-115.05	1,786.12	2,394.36	3,211.05	3,196.47	14.58	220.218		
1,300.00	1,279.82	2,506.64	2,408.24	5.29	14.20	-117.29	1,781.06	2,316.12	3,189.34	3,173.12	16.23	196.548		
1,310.06	1,289.26	2,513.65	2,414.55	5.35	14.26	-117.41	1,780.92	2,313.08	3,187.20	3,170.86	16.33	195.129		
1,400.00	1,373.67	2,576.46	2,471.18	5.93	14.81	-118.06	1,779.68	2,285.94	3,168.63	3,151.31	17.32	182.910		
1,500.00	1,467.52	2,618.42	2,509.15	6.58	15.16	-118.50	1,778.89	2,268.10	3,149.49	3,131.20	18.29	172.215		
1,600.00	1,561.37	2,676.00	2,561.75	7.24	15.65	-119.10	1,777.93	2,244.70	3,132.55	3,113.20	19.35	161.902		
1,700.00	1,655.22	2,730.33	2,611.52	7.91	16.10	-119.67	1,777.34	2,222.91	3,117.22	3,096.81	20.40	152.771		
1,800.00	1,749.06	2,846.28	2,717.07	8.59	17.09	-120.91	1,776.69	2,174.92	3,102.53	3,080.71	21.82	142.194		
1,900.00	1,842.91	2,924.95	2,788.87	9.27	17.75	-121.74	1,774.96	2,142.85	3,088.34	3,065.32	23.02	134.140		
2,000.00	1,936.76	2,998.86	2,856.85	9.95	18.35	-122.49	1,772.18	2,113.97	3,075.33	3,051.13	24.19	127.115		
2,100.00	2,030.61	3,085.59	2,936.77	10.63	19.05	-123.37	1,768.82	2,080.42	3,063.44	3,038.01	25.43	120.482		
2,200.00	2,124.46	3,171.52	3,015.95	11.32	19.75	-124.25	1,765.06	2,047.26	3,052.25	3,025.59	26.66	114.469		
2,300.00	2,218.31	3,253.48	3,091.07	12.01	20.43	-125.12	1,762.66	2,014.58	3,042.13	3,014.23	27.91	109.013		
2,400.00	2,312.16	3,323.98	3,155.48	12.70	21.02	-125.87	1,761.07	1,985.96	3,033.05	3,003.95	29.10	104.237		
2,500.00	2,406.00	3,389.00	3,215.44	13.39	21.55	-126.56	1,759.20	1,960.90	3,025.74	2,995.49	30.25	100.022		
2,600.00	2,499.85	3,454.62	3,276.32	14.09	22.06	-127.23	1,757.04	1,936.48	3,019.91	2,988.52	31.39	96.211		
2,700.00	2,593.70	3,575.22	3,388.06	14.78	23.01	-128.47	1,752.44	1,891.37	3,014.71	2,981.90	32.81	91.888		
2,800.00	2,687.55	3,641.28	3,449.13	15.47	23.54	-129.15	1,749.96	1,866.29	3,010.14	2,976.18	33.96	88.644		
2,900.00	2,781.40	3,736.56	3,537.13	16.17	24.30	-130.15	1,746.65	1,829.92	3,006.67	2,971.41	35.26	85.266		
3,000.00	2,875.25	3,828.73	3,622.35	16.87	25.04	-131.11	1,742.74	1,795.04	3,003.82	2,967.28	36.54	82.198		
3,100.00	2,969.10	4,035.74	3,812.60	17.56	26.74	-133.27	1,731.43	1,714.27	3,001.04	2,962.62	38.42	78.102		
3,200.00	3,062.95	4,120.78	3,889.80	18.26	27.47	-134.17	1,725.25	1,679.17	2,996.31	2,956.61	39.70	75.483		
3,300.00	3,156.79	4,186.00	3,949.50	18.96	28.02	-134.86	1,720.79	1,653.27	2,993.56	2,952.71	40.86	73.271		
3,372.23	3,224.58	4,186.00	3,949.50	19.46	28.02	-134.86	1,720.79	1,653.27	2,992.69	2,951.25	41.44	72.217	CC	
3,400.00	3,250.64	4,186.00	3,949.50	19.66	28.02	-134.86	1,720.79	1,653.27	2,992.82	2,951.16	41.66	71.840	ES	
3,500.00	3,344.49	4,248.02	4,006.60	20.35	28.53	-135.51	1,717.61	1,629.28	2,994.08	2,951.30	42.78	69.989		
3,600.00	3,438.34	4,292.50	4,047.53	21.05	28.90	-135.98	1,716.36	1,611.93	2,997.71	2,953.91	43.80	68.447		
3,700.00	3,532.19	4,349.39	4,099.72	21.75	29.37	-136.60	1,715.65	1,589.27	3,003.22	2,958.33	44.89	66.906		
3,800.00	3,626.04	4,489.58	4,227.17	22.45	30.59	-138.17	1,714.49	1,530.92	3,009.43	2,962.88	46.55	64.654		
3,900.00	3,719.89	4,574.66	4,304.21	23.15	31.34	-139.12	1,713.09	1,494.85	3,015.85	2,968.01	47.84	63.041		
4,000.00	3,813.73	4,652.39	4,375.09	23.85	32.01	-139.97	1,711.25	1,462.99	3,023.39	2,974.34	49.06	61.631		
4,100.00	3,907.58	4,722.00	4,439.27	24.55	32.58	-140.69	1,708.98	1,436.14	3,032.18	2,982.00	50.18	60.422		
4,200.00	4,001.43	4,799.23	4,511.15	25.25	33.18	-141.46	1,705.94	1,408.08	3,042.20	2,990.89	51.31	59.293		
4,300.00	4,095.28	4,875.43	4,582.67	25.95	33.73	-142.19	1,702.55	1,382.02	3,053.38	3,001.00	52.39	58.286		
4,400.00	4,189.13	5,004.90	4,704.47	26.65	34.66	-143.40	1,695.52	1,338.67	3,064.79	3,011.06	53.73	57.038		
4,500.00	4,282.98	5,076.00	4,771.51	27.35	35.17	-144.05	1,691.48	1,315.35	3,076.96	3,022.20	54.76	56.194		
4,600.00	4,376.83	5,105.85	4,799.89	28.05	35.36	-144.31	1,689.90	1,306.26	3,090.74	3,035.22	55.52	55.671		
4,700.00	4,470.67	5,164.00	4,855.72	28.75	35.72	-144.79	1,687.26	1,290.20	3,106.66	3,050.26	56.40	55.085		
4,800.00	4,564.52	5,193.13	4,883.87	29.45	35.89	-145.02	1,686.17	1,282.82	3,124.29	3,067.20	57.09	54.728		
4,900.00	4,658.37	5,252.00	4,940.97	30.15	36.21	-145.48	1,684.44	1,268.58	3,143.75	3,085.85	57.90	54.295		
5,000.00	4,752.22	5,299.26	4,987.00	30.85	36.45	-145.83	1,683.40	1,257.94	3,164.71	3,106.10	58.62	53.988		
5,100.00	4,846.07	5,361.96	5,048.37	31.56	36.76	-146.27	1,682.23	1,245.11	3,187.04	3,127.65	59.39	53.666		
5,200.00	4,939.92	5,428.00	5,113.32	32.26	37.06	-146.70	1,681.02	1,233.29	3,210.41	3,150.27	60.14	53.384		
5,300.00	5,033.77	5,502.14	5,186.57	32.96	37.36	-147.15	1,679.71	1,221.87	3,234.72	3,173.84	60.89	53.127		
5,400.00	5,127.61	5,579.15	5,262.90	33.66	37.64	-147.58	1,678.42	1,211.76	3,259.88	3,198.26	61.62	52.905	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 11-10-15H
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 11-10-15H	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			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)	(usft)			
400.00	399.98	2,034.61	1,927.87	1.20	12.18	-101.86	1,420.38	2,491.92	3,252.50	3,243.02	9.48	342.960		
500.00	499.84	2,083.41	1,970.79	1.55	12.62	-102.82	1,404.67	2,474.82	3,206.82	3,196.87	9.95	322.165		
600.00	599.45	2,131.00	2,012.94	1.91	13.05	-103.75	1,389.51	2,458.75	3,163.04	3,152.58	10.46	302.379		
700.00	698.70	2,197.44	2,072.08	2.29	13.64	-104.68	1,368.49	2,436.95	3,120.95	3,109.86	11.09	281.359		
800.00	797.47	2,259.74	2,127.73	2.69	14.18	-105.61	1,348.95	2,416.91	3,080.41	3,068.67	11.74	262.404		
900.00	895.62	2,311.00	2,173.77	3.13	14.62	-106.52	1,333.31	2,400.67	3,041.70	3,029.33	12.37	245.849		
1,000.00	993.06	2,352.81	2,211.61	3.61	14.97	-107.38	1,321.08	2,387.77	3,005.35	2,992.35	13.00	231.212		
1,100.00	1,089.64	2,401.00	2,255.69	4.12	15.36	-108.25	1,307.80	2,373.53	2,971.82	2,958.13	13.69	217.037		
1,200.00	1,185.27	2,443.61	2,297.76	4.68	15.74	-109.19	1,294.79	2,294.19	2,937.68	2,922.48	15.20	193.236		
1,300.00	1,279.82	2,491.16	2,340.77	5.29	16.03	-110.35	1,284.53	2,268.36	2,902.40	2,886.33	16.07	180.640		
1,310.06	1,289.26	2,491.16	2,340.77	5.35	16.07	-111.44	1,223.37	2,266.87	2,899.00	2,882.85	16.14	179.580		
1,400.00	1,373.67	2,761.00	2,581.22	5.93	18.42	-111.71	1,212.41	2,253.31	2,869.43	2,852.56	16.86	170.160		
1,500.00	1,467.52	2,844.12	2,656.52	6.58	19.13	-112.25	1,189.94	2,226.21	2,837.59	2,819.77	17.82	159.237		
1,600.00	1,561.37	2,976.44	2,776.02	7.24	20.26	-113.18	1,155.64	2,180.93	2,805.32	2,786.37	18.95	148.001		
1,700.00	1,655.22	3,051.00	2,843.15	7.91	20.91	-113.73	1,136.53	2,154.72	2,772.90	2,753.01	19.89	139.414		
1,800.00	1,749.06	3,117.00	2,903.02	8.59	21.47	-114.24	1,120.57	2,131.98	2,742.07	2,721.27	20.80	131.823		
1,900.00	1,842.91	3,167.41	2,948.99	9.27	21.89	-114.63	1,108.67	2,115.04	2,712.57	2,690.90	21.67	125.193		
2,000.00	1,936.76	3,288.90	3,059.65	9.95	22.90	-115.55	1,078.70	2,074.87	2,683.58	2,660.81	22.77	117.874		
2,100.00	2,030.61	3,365.86	3,129.54	10.63	23.55	-116.15	1,059.28	2,049.16	2,654.33	2,630.60	23.73	111.855		
2,200.00	2,124.46	3,442.18	3,199.04	11.32	24.19	-116.73	1,039.52	2,024.56	2,625.99	2,601.30	24.70	106.332		
2,300.00	2,218.31	3,523.59	3,273.30	12.01	24.86	-117.33	1,017.50	1,999.53	2,598.45	2,572.77	25.68	101.183		
2,400.00	2,312.16	3,669.01	3,405.47	12.70	26.07	-118.47	979.19	1,952.55	2,570.60	2,543.76	26.85	95.757		
2,500.00	2,406.00	3,739.00	3,468.93	13.39	26.67	-119.05	961.13	1,929.19	2,542.62	2,514.81	27.81	91.444		
2,600.00	2,499.85	3,836.37	3,557.34	14.09	27.49	-119.87	936.18	1,896.91	2,515.46	2,486.62	28.84	87.223		
2,700.00	2,593.70	3,980.26	3,686.70	14.78	28.76	-121.14	898.31	1,846.57	2,486.69	2,456.70	29.99	82.914		
2,800.00	2,687.55	4,102.79	3,796.20	15.47	29.86	-122.23	864.28	1,803.36	2,457.50	2,426.41	31.09	79.051		
2,900.00	2,781.40	4,181.00	3,865.96	16.17	30.56	-122.92	841.83	1,776.06	2,428.43	2,396.33	32.09	75.668		
3,000.00	2,875.25	4,240.61	3,919.38	16.87	31.09	-123.45	824.56	1,756.04	2,400.60	2,367.53	33.06	72.605		
3,100.00	2,969.10	4,373.34	4,038.51	17.56	32.25	-124.59	785.09	1,712.84	2,373.68	2,339.51	34.17	69.464		
3,200.00	3,062.95	4,431.36	4,090.48	18.26	32.76	-125.10	767.57	1,693.88	2,346.49	2,311.34	35.15	66.749		
3,300.00	3,156.79	4,531.77	4,180.54	18.96	33.65	-126.02	738.13	1,660.68	2,320.28	2,284.07	36.21	64.071		
3,400.00	3,250.64	4,612.43	4,252.69	19.66	34.37	-126.81	715.39	1,632.69	2,294.31	2,257.06	37.26	61.581		
3,500.00	3,344.49	4,771.33	4,393.75	20.35	35.82	-128.38	668.08	1,576.96	2,267.26	2,228.84	38.41	59.021		
3,600.00	3,438.34	4,889.23	4,497.68	21.05	36.92	-129.53	630.16	1,536.22	2,239.61	2,200.11	39.50	56.692		
3,700.00	3,532.19	4,951.36	4,552.31	21.75	37.51	-130.16	610.46	1,514.12	2,212.21	2,171.65	40.56	54.539		
3,800.00	3,626.04	5,037.18	4,627.98	22.45	38.32	-131.11	585.44	1,482.33	2,186.42	2,144.75	41.67	52.475		
3,900.00	3,719.89	5,117.60	4,698.50	23.15	39.09	-132.07	562.98	1,450.86	2,161.03	2,118.24	42.79	50.498		
4,000.00	3,813.73	5,160.00	4,735.76	23.85	39.50	-132.59	551.72	1,434.04	2,137.47	2,093.58	43.89	48.701		
4,100.00	3,907.58	5,217.87	4,787.04	24.55	40.03	-133.31	537.12	1,411.55	2,116.23	2,071.21	45.02	47.011		
4,200.00	4,001.43	5,247.00	4,813.13	25.25	40.30	-133.67	530.14	1,400.64	2,097.91	2,051.82	46.08	45.523		
4,300.00	4,095.28	5,292.26	4,854.21	25.95	40.66	-134.22	519.80	1,384.70	2,082.55	2,035.39	47.16	44.158		
4,400.00	4,189.13	5,337.00	4,895.55	26.65	41.03	-134.74	510.24	1,370.53	2,070.56	2,022.34	48.23	42.934		
4,500.00	4,282.98	5,387.61	4,942.83	27.35	41.40	-135.31	499.73	1,355.84	2,061.30	2,012.02	49.27	41.834		
4,600.00	4,376.83	5,457.92	5,008.87	28.05	41.90	-136.07	485.00	1,336.74	2,053.83	2,003.47	50.36	40.783		
4,700.00	4,470.67	5,514.00	5,061.75	28.75	42.29	-136.67	473.60	1,321.95	2,048.15	1,996.75	51.40	39.849		
4,800.00	4,564.52	5,571.69	5,116.49	29.45	42.66	-137.28	462.53	1,307.52	2,044.77	1,992.36	52.42	39.011		
4,871.78	4,631.88	5,605.00	5,148.34	29.96	42.88	-137.63	456.55	1,299.78	2,044.03	1,990.92	53.11	38.488 CC		
4,900.00	4,658.37	5,627.72	5,170.12	30.15	43.02	-137.86	452.61	1,294.67	2,044.06	1,990.65	53.41	38.272 ES		
5,000.00	4,752.22	5,693.00	5,232.84	30.85	43.41	-138.52	441.59	1,280.32	2,045.24	1,990.82	54.41	37.587		
5,100.00	4,846.07	5,742.11	5,280.29	31.56	43.67	-139.01	433.86	1,270.28	2,048.72	1,993.40	55.32	37.032		
5,200.00	4,939.92	5,782.00	5,319.09	32.26	43.89	-139.38	428.18	1,262.99	2,055.02	1,998.86	56.16	36.591		
5,300.00	5,033.77	5,857.42	5,392.80	32.96	44.26	-140.08	418.36	1,250.39	2,063.42	2,006.30	57.12	36.125		

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 11-10-15H
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 11-10-15H	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			Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,400.00	5,127.61	5,918.06	5,452.24	33.66	44.54	-140.62	411.20	1,240.79	2,073.70	2,015.71	57.99	35.761		
5,500.00	5,221.46	5,977.92	5,511.08	34.36	44.80	-141.17	405.11	1,231.58	2,086.06	2,027.23	58.83	35.459		
5,600.00	5,315.31	6,048.00	5,580.17	35.06	45.10	-141.78	398.83	1,221.72	2,100.37	2,040.67	59.70	35.181		
5,700.00	5,409.16	6,108.78	5,640.28	35.76	45.33	-142.29	393.93	1,214.09	2,116.38	2,055.89	60.49	34.988		
5,800.00	5,503.01	6,171.18	5,702.11	36.47	45.56	-142.79	389.40	1,207.04	2,134.03	2,072.77	61.26	34.837		
5,900.00	5,596.86	6,224.00	5,754.55	37.17	45.74	-143.20	386.28	1,201.60	2,153.61	2,091.67	61.94	34.768		
6,000.00	5,690.71	6,297.28	5,827.43	37.87	45.97	-143.76	382.83	1,194.71	2,174.86	2,112.14	62.72	34.675		
6,100.00	5,784.55	6,361.05	5,890.93	38.57	46.16	-144.22	380.53	1,189.34	2,197.65	2,134.23	63.42	34.653 SF		
6,200.00	5,878.40	6,427.14	5,956.83	39.27	46.34	-144.68	378.85	1,184.71	2,222.04	2,157.94	64.10	34.664		
6,300.00	5,972.25	6,493.00	6,022.57	39.97	46.51	-145.12	377.58	1,180.93	2,247.67	2,182.91	64.76	34.707		
6,400.00	6,066.10	6,580.00	6,109.48	40.68	46.71	-145.65	376.56	1,177.21	2,274.48	2,208.95	65.53	34.708		
6,500.00	6,159.95	6,651.00	6,180.45	41.38	46.86	-146.06	376.17	1,174.91	2,302.26	2,236.08	66.18	34.790		
6,600.00	6,253.80	6,737.21	6,266.62	42.08	47.04	-146.55	375.90	1,172.59	2,330.63	2,263.72	66.91	34.832		
6,700.00	6,347.65	6,828.50	6,357.89	42.78	47.22	-147.03	375.67	1,170.78	2,359.39	2,291.72	67.66	34.869		
6,800.00	6,441.49	6,912.28	6,441.66	43.48	47.39	-147.46	375.57	1,169.37	2,388.49	2,320.14	68.36	34.941		
6,823.95	6,463.97	6,937.00	6,466.38	43.65	47.43	-147.58	375.62	1,168.98	2,395.56	2,327.01	68.56	34.944		
6,850.00	6,488.47	6,954.80	6,484.18	43.83	47.47	-155.45	375.67	1,168.71	2,403.42	2,334.72	68.70	34.984		
6,900.00	6,535.65	7,000.14	6,529.52	44.16	47.55	-171.40	375.79	1,168.13	2,419.30	2,350.29	69.02	35.055		
6,950.00	6,582.74	7,046.97	6,576.34	44.45	47.64	173.11	375.92	1,167.65	2,436.11	2,366.82	69.29	35.158		
7,000.00	6,629.37	7,095.08	6,624.45	44.71	47.73	159.52	376.02	1,167.25	2,453.65	2,384.12	69.53	35.290		
7,050.00	6,675.19	7,140.83	6,670.20	44.94	47.82	148.30	376.08	1,166.93	2,471.82	2,402.11	69.71	35.458		
7,100.00	6,719.86	7,184.48	6,713.85	45.14	47.90	139.25	376.14	1,166.68	2,490.56	2,420.71	69.85	35.657		
7,150.00	6,763.03	7,227.82	6,757.19	45.31	47.98	131.94	376.22	1,166.44	2,509.77	2,439.81	69.96	35.877		
7,200.00	6,804.37	7,270.14	6,799.51	45.46	48.06	125.93	376.30	1,166.11	2,529.36	2,459.33	70.04	36.116		
7,250.00	6,843.57	7,309.30	6,838.67	45.58	48.14	120.88	376.38	1,165.73	2,549.27	2,479.20	70.08	36.377		
7,300.00	6,880.33	7,344.78	6,874.14	45.68	48.21	116.54	376.47	1,165.42	2,569.48	2,499.39	70.09	36.661		
7,350.00	6,914.37	7,377.57	6,906.93	45.75	48.27	112.73	376.55	1,165.18	2,589.93	2,519.86	70.08	36.959		
7,400.00	6,945.43	7,410.31	6,939.67	45.81	48.33	109.37	376.63	1,164.99	2,610.56	2,540.49	70.07	37.257		
7,450.00	6,973.28	7,439.96	6,969.32	45.84	48.39	106.33	376.67	1,164.84	2,631.30	2,561.25	70.05	37.563		
7,500.00	6,997.70	7,465.95	6,995.31	45.86	48.44	103.52	376.68	1,164.73	2,652.11	2,582.08	70.02	37.875		
7,550.00	7,018.51	7,484.02	7,013.38	45.86	48.47	100.81	376.69	1,164.67	2,672.93	2,602.97	69.96	38.205		
7,600.00	7,035.55	7,497.78	7,027.14	45.85	48.49	98.23	376.71	1,164.64	2,693.72	2,623.82	69.90	38.537		
7,650.00	7,048.69	7,508.36	7,037.72	45.82	48.51	95.78	376.73	1,164.63	2,714.38	2,644.54	69.85	38.863		
7,700.00	7,057.83	7,515.70	7,045.06	45.79	48.53	93.48	376.76	1,164.62	2,734.82	2,665.01	69.80	39.179		
7,750.00	7,062.89	7,519.76	7,049.12	45.74	48.53	91.30	376.77	1,164.61	2,754.90	2,685.13	69.77	39.485		
7,786.65	7,064.00	7,520.66	7,050.02	45.70	48.54	89.80	376.77	1,164.61	2,769.33	2,699.57	69.75	39.701		
7,800.00	7,064.00	7,520.66	7,050.02	45.69	48.54	89.80	376.77	1,164.61	2,774.55	2,704.80	69.75	39.779		
7,900.00	7,064.00	7,520.71	7,050.07	45.59	48.54	89.80	376.77	1,164.61	2,815.43	2,745.64	69.79	40.343		
8,000.00	7,064.00	7,520.75	7,050.11	45.53	48.54	89.80	376.77	1,164.61	2,859.22	2,789.29	69.93	40.889		
8,100.00	7,064.00	7,520.79	7,050.15	45.50	48.54	89.80	376.77	1,164.61	2,905.79	2,835.64	70.15	41.420		
8,200.00	7,064.00	7,520.84	7,050.20	45.53	48.54	89.80	376.77	1,164.61	2,955.02	2,884.56	70.46	41.942		
8,300.00	7,064.00	7,520.88	7,050.24	45.62	48.54	89.80	376.77	1,164.61	3,006.76	2,935.94	70.82	42.456		
8,400.00	7,064.00	7,520.92	7,050.28	45.83	48.54	89.80	376.77	1,164.61	3,060.90	2,989.66	71.24	42.967		
8,500.00	7,064.00	7,520.96	7,050.32	46.24	48.54	89.81	376.77	1,164.61	3,117.31	3,045.61	71.70	43.477		
8,600.00	7,064.00	7,521.00	7,050.36	46.98	48.54	89.81	376.77	1,164.61	3,175.86	3,103.67	72.20	43.988		
8,700.00	7,064.00	7,521.04	7,050.40	48.13	48.54	89.81	376.77	1,164.61	3,236.45	3,163.72	72.72	44.503		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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
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)				
400.00	399.98	1,617.42	1,570.77	1.20	8.02	-61.31	-553.05	2,976.27	3,252.57	3,244.89	7.68	423.334		
500.00	499.84	1,693.00	1,640.06	1.55	8.61	-61.87	-561.14	2,947.18	3,213.80	3,205.45	8.35	384.849		
600.00	599.45	1,763.49	1,704.78	1.91	9.16	-62.50	-569.02	2,920.40	3,174.08	3,165.06	9.02	351.789		
700.00	698.70	1,871.96	1,804.49	2.29	10.02	-63.16	-581.08	2,879.42	3,133.13	3,123.22	9.91	316.257		
800.00	797.47	2,012.67	1,933.36	2.69	11.16	-63.96	-595.09	2,824.70	3,089.46	3,078.49	10.97	281.741		
900.00	895.62	2,096.06	2,009.63	3.13	11.84	-64.92	-602.49	2,791.79	3,043.79	3,032.03	11.76	258.806		
1,000.00	993.06	2,168.99	2,076.57	3.61	12.43	-65.99	-608.37	2,763.45	2,997.28	2,984.75	12.53	239.230		
1,100.00	1,089.64	2,257.68	2,158.03	4.12	13.15	-67.17	-615.96	2,729.22	2,949.85	2,936.46	13.39	220.234		
1,200.00	1,185.27	2,388.15	2,277.76	4.68	14.21	-68.69	-624.79	2,678.15	2,900.58	2,886.12	14.46	200.619		
1,300.00	1,279.82	2,512.83	2,391.24	5.29	15.27	-70.37	-633.92	2,627.31	2,848.79	2,833.27	15.53	183.487		
1,310.06	1,289.26	2,521.26	2,398.88	5.35	15.34	-70.53	-634.57	2,623.82	2,843.49	2,827.87	15.62	182.041		
1,400.00	1,373.67	2,578.00	2,450.38	5.93	15.83	-70.82	-638.77	2,600.37	2,796.11	2,779.74	16.37	170.836		
1,500.00	1,467.52	2,628.83	2,496.69	6.58	16.26	-71.09	-642.62	2,579.78	2,744.35	2,727.19	17.17	159.876		
1,600.00	1,561.37	2,667.00	2,531.68	7.24	16.58	-71.29	-645.75	2,564.86	2,694.04	2,676.10	17.93	150.227		
1,700.00	1,655.22	2,720.17	2,580.68	7.91	17.00	-71.56	-650.44	2,544.76	2,645.06	2,626.28	18.77	140.890		
1,800.00	1,749.06	2,794.78	2,649.75	8.59	17.60	-71.95	-657.64	2,517.47	2,597.30	2,577.59	19.71	131.783		
1,900.00	1,842.91	2,958.67	2,799.96	9.27	18.95	-72.79	-675.43	2,454.41	2,547.88	2,526.90	20.98	121.436		
2,000.00	1,936.76	3,020.00	2,855.88	9.95	19.47	-73.12	-682.28	2,430.18	2,497.89	2,476.00	21.89	114.113		
2,100.00	2,030.61	3,097.13	2,926.43	10.63	20.11	-73.54	-690.77	2,400.18	2,448.53	2,425.67	22.85	107.133		
2,200.00	2,124.46	3,169.89	2,993.19	11.32	20.71	-73.96	-698.59	2,372.33	2,399.85	2,376.04	23.81	100.799		
2,300.00	2,218.31	3,243.93	3,061.28	12.01	21.31	-74.40	-706.48	2,344.32	2,351.73	2,326.96	24.77	94.953		
2,400.00	2,312.16	3,312.24	3,124.28	12.70	21.86	-74.84	-713.29	2,318.84	2,304.24	2,278.53	25.71	89.626		
2,500.00	2,406.00	3,377.00	3,184.39	13.39	22.37	-75.30	-718.86	2,295.37	2,257.81	2,231.17	26.64	84.748		
2,600.00	2,499.85	3,445.98	3,248.73	14.09	22.89	-75.83	-723.52	2,270.96	2,212.34	2,184.77	27.57	80.232		
2,700.00	2,593.70	3,520.23	3,318.19	14.78	23.45	-76.45	-727.68	2,245.06	2,167.59	2,139.07	28.52	76.001		
2,800.00	2,687.55	3,599.61	3,392.51	15.47	24.04	-77.11	-733.10	2,217.69	2,123.54	2,094.06	29.48	72.027		
2,900.00	2,781.40	3,727.64	3,512.21	16.17	25.00	-78.25	-740.74	2,172.91	2,079.48	2,048.96	30.52	68.133		
3,000.00	2,875.25	3,854.92	3,630.01	16.87	26.00	-79.53	-745.51	2,124.98	2,032.95	2,001.43	31.52	64.488		
3,100.00	2,969.10	3,971.34	3,737.41	17.56	26.95	-80.79	-749.62	2,080.25	1,986.56	1,954.06	32.50	61.124		
3,200.00	3,062.95	4,087.72	3,843.62	18.26	27.93	-82.08	-754.92	2,032.97	1,938.35	1,904.88	33.47	57.911		
3,300.00	3,156.79	4,123.52	3,876.40	18.96	28.22	-82.49	-756.81	2,018.70	1,891.19	1,856.75	34.44	54.915		
3,400.00	3,250.64	4,171.00	3,920.29	19.66	28.61	-83.03	-759.58	2,000.80	1,846.41	1,810.99	35.42	52.131		
3,500.00	3,344.49	4,240.42	3,984.79	20.35	29.15	-83.82	-764.36	1,975.58	1,803.39	1,766.98	36.41	49.524		
3,600.00	3,438.34	4,401.88	4,133.09	21.05	30.49	-85.66	-778.81	1,913.46	1,758.36	1,720.96	37.40	47.014		
3,700.00	3,532.19	4,485.79	4,209.57	21.75	31.20	-86.65	-787.03	1,879.93	1,712.72	1,674.31	38.41	44.590		
3,800.00	3,626.04	4,569.74	4,286.07	22.45	31.92	-87.67	-795.98	1,846.55	1,667.63	1,628.20	39.43	42.296		
3,900.00	3,719.89	4,643.28	4,353.10	23.15	32.55	-88.59	-804.34	1,817.47	1,623.17	1,582.70	40.47	40.109		
4,000.00	3,813.73	4,707.92	4,412.36	23.85	33.09	-89.44	-811.26	1,792.59	1,580.27	1,538.73	41.54	38.045		
4,100.00	3,907.58	4,792.00	4,489.64	24.55	33.78	-90.59	-820.28	1,760.73	1,538.49	1,495.91	42.59	36.127		
4,200.00	4,001.43	4,869.70	4,561.15	25.25	34.41	-91.70	-828.40	1,731.45	1,497.60	1,453.94	43.66	34.301		
4,300.00	4,095.28	5,014.69	4,693.46	25.95	35.65	-94.00	-842.24	1,673.81	1,455.58	1,411.01	44.56	32.662		
4,400.00	4,189.13	5,092.80	4,764.08	26.65	36.34	-95.39	-848.36	1,641.01	1,412.91	1,367.22	45.68	30.928		
4,500.00	4,282.98	5,162.56	4,827.50	27.35	36.95	-96.66	-854.34	1,612.58	1,372.09	1,325.23	46.86	29.278		
4,600.00	4,376.83	5,253.16	4,909.99	28.05	37.74	-98.38	-862.16	1,575.92	1,332.57	1,284.58	48.00	27.764		
4,700.00	4,470.67	5,356.38	5,003.39	28.75	38.65	-100.38	-873.10	1,533.39	1,292.85	1,243.76	49.09	26.336		
4,800.00	4,564.52	5,431.78	5,071.50	29.45	39.32	-101.91	-881.48	1,502.15	1,253.95	1,203.59	50.36	24.900		
4,900.00	4,658.37	5,493.00	5,127.20	30.15	39.85	-103.19	-888.29	1,477.66	1,217.48	1,165.74	51.75	23.527		
5,000.00	4,752.22	5,568.99	5,196.77	30.85	40.49	-104.80	-896.96	1,448.37	1,183.41	1,130.31	53.10	22.287		
5,100.00	4,846.07	5,622.70	5,246.28	31.56	40.91	-105.97	-903.00	1,428.46	1,152.07	1,097.47	54.60	21.099		
5,200.00	4,939.92	5,673.00	5,293.27	32.26	41.30	-107.11	-907.77	1,411.13	1,124.97	1,068.83	56.14	20.037		
5,300.00	5,033.77	5,744.65	5,360.77	32.96	41.81	-108.75	-913.96	1,387.93	1,101.48	1,043.86	57.62	19.116		
5,400.00	5,127.61	5,821.29	5,433.35	33.66	42.33	-110.51	-920.95	1,364.32	1,080.65	1,021.55	59.09	18.287		

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 11-10-15H
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 11-10-15H	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			Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,500.00	5,221.46	5,895.64	5,504.07	34.36	42.82	-112.22	-927.90	1,342.46	1,062.42	1,001.83	60.59	17.534		
5,600.00	5,315.31	5,964.14	5,569.40	35.06	43.26	-113.91	-932.54	1,322.38	1,047.37	985.24	62.13	16.858		
5,700.00	5,409.16	6,031.96	5,634.51	35.76	43.68	-115.58	-936.57	1,303.88	1,036.09	972.43	63.66	16.276		
5,800.00	5,503.01	6,115.00	5,714.49	36.47	44.18	-117.60	-941.80	1,282.17	1,027.34	962.19	65.15	15.770		
5,900.00	5,596.86	6,186.87	5,783.99	37.17	44.58	-119.35	-946.22	1,264.43	1,021.57	954.96	66.60	15.339		
5,984.00	5,675.69	6,238.05	5,833.82	37.76	44.84	-120.57	-948.75	1,252.98	1,019.98	952.22	67.76	15.052	CC	
6,000.00	5,690.71	6,247.57	5,843.12	37.87	44.89	-120.80	-949.14	1,250.97	1,020.04	952.06	67.98	15.006	ES	
6,100.00	5,784.55	6,308.64	5,902.95	38.57	45.18	-122.23	-950.96	1,238.93	1,022.99	953.74	69.25	14.773		
6,200.00	5,878.40	6,380.00	5,973.30	39.27	45.49	-123.84	-952.39	1,227.08	1,030.06	959.61	70.45	14.621		
6,300.00	5,972.25	6,444.65	6,037.35	39.97	45.72	-125.21	-953.36	1,218.30	1,040.67	969.17	71.51	14.553		
6,400.00	6,066.10	6,519.93	6,112.17	40.68	45.97	-126.70	-954.25	1,210.03	1,054.34	981.82	72.52	14.539	SF	
6,500.00	6,159.95	6,599.28	6,191.21	41.38	46.21	-128.17	-955.07	1,203.17	1,070.47	997.00	73.47	14.570		
6,600.00	6,253.80	6,680.37	6,272.11	42.08	46.43	-129.57	-955.74	1,197.63	1,088.65	1,014.29	74.37	14.639		
6,700.00	6,347.65	6,762.89	6,354.52	42.78	46.63	-130.91	-956.17	1,193.37	1,108.73	1,033.52	75.21	14.742		
6,800.00	6,441.49	6,848.72	6,440.28	43.48	46.83	-132.22	-956.44	1,190.00	1,130.30	1,054.28	76.02	14.868		
6,823.95	6,463.97	6,869.61	6,461.15	43.65	46.88	-132.52	-956.49	1,189.33	1,135.66	1,059.45	76.22	14.900		
6,850.00	6,488.47	6,894.15	6,485.69	43.83	46.93	-140.40	-956.56	1,188.61	1,141.84	1,065.41	76.43	14.940		
6,900.00	6,535.65	6,941.61	6,533.13	44.16	47.03	-156.30	-956.81	1,187.40	1,155.31	1,078.52	76.79	15.045		
6,950.00	6,582.74	6,989.17	6,580.68	44.45	47.14	-171.74	-957.19	1,186.45	1,170.75	1,093.66	77.09	15.186		
7,000.00	6,629.37	7,035.87	6,627.38	44.71	47.23	174.71	-957.67	1,185.72	1,187.99	1,110.65	77.34	15.361		
7,050.00	6,675.19	7,081.71	6,673.20	44.94	47.32	163.52	-958.19	1,185.11	1,206.90	1,129.37	77.53	15.568		
7,100.00	6,719.86	7,126.40	6,717.88	45.14	47.41	154.47	-958.73	1,184.63	1,227.38	1,149.70	77.69	15.799		
7,150.00	6,763.03	7,169.97	6,761.45	45.31	47.49	147.11	-959.29	1,184.24	1,249.33	1,171.53	77.80	16.059		
7,200.00	6,804.37	7,211.76	6,803.24	45.46	47.57	140.98	-959.85	1,183.90	1,272.67	1,194.80	77.87	16.343		
7,250.00	6,843.57	7,251.40	6,842.88	45.58	47.65	135.73	-960.40	1,183.62	1,297.35	1,219.43	77.91	16.651		
7,300.00	6,880.33	7,282.25	6,873.72	45.68	47.70	130.90	-960.81	1,183.46	1,323.36	1,245.50	77.87	16.995		
7,350.00	6,914.37	7,307.84	6,899.31	45.75	47.74	126.34	-961.06	1,183.49	1,350.82	1,273.06	77.77	17.370		
7,400.00	6,945.43	7,330.82	6,922.29	45.81	47.78	121.97	-961.19	1,183.65	1,379.62	1,301.98	77.64	17.770		
7,450.00	6,973.28	7,351.04	6,942.51	45.84	47.82	117.66	-961.24	1,183.90	1,409.63	1,332.15	77.49	18.192		
7,500.00	6,997.70	7,368.40	6,959.86	45.86	47.85	113.35	-961.24	1,184.19	1,440.71	1,363.40	77.31	18.636		
7,550.00	7,018.51	7,397.00	6,988.46	45.86	47.89	109.63	-961.14	1,184.82	1,472.78	1,395.54	77.23	19.069		
7,600.00	7,035.55	7,397.00	6,988.46	45.85	47.89	104.70	-961.14	1,184.82	1,505.38	1,428.45	76.93	19.568		
7,650.00	7,048.69	7,397.00	6,988.46	45.82	47.89	99.83	-961.14	1,184.82	1,538.60	1,461.97	76.64	20.077		
7,700.00	7,057.83	7,397.00	6,988.46	45.79	47.89	95.09	-961.14	1,184.82	1,572.17	1,495.81	76.36	20.589		
7,750.00	7,062.89	7,412.45	7,003.90	45.74	47.91	91.31	-961.04	1,185.24	1,605.71	1,529.47	76.24	21.061		
7,786.65	7,064.00	7,412.51	7,003.96	45.70	47.91	88.16	-961.04	1,185.24	1,630.26	1,554.20	76.07	21.432		
7,800.00	7,064.00	7,412.22	7,003.67	45.69	47.91	88.14	-961.04	1,185.23	1,639.21	1,563.21	76.00	21.567		
7,900.00	7,064.00	7,397.00	6,988.46	45.59	47.89	87.42	-961.14	1,184.82	1,708.13	1,632.68	75.46	22.637		
8,000.00	7,064.00	7,397.00	6,988.46	45.53	47.89	87.42	-961.14	1,184.82	1,779.92	1,704.83	75.09	23.702		
8,100.00	7,064.00	7,397.00	6,988.46	45.50	47.89	87.42	-961.14	1,184.82	1,854.33	1,779.55	74.78	24.798		
8,200.00	7,064.00	7,397.00	6,988.46	45.53	47.89	87.42	-961.14	1,184.82	1,931.05	1,856.54	74.51	25.918		
8,300.00	7,064.00	7,397.00	6,988.46	45.62	47.89	87.42	-961.14	1,184.82	2,009.81	1,935.54	74.27	27.061		
8,400.00	7,064.00	7,397.00	6,988.46	45.83	47.89	87.42	-961.14	1,184.82	2,090.40	2,016.33	74.07	28.222		
8,500.00	7,064.00	7,397.00	6,988.46	46.24	47.89	87.42	-961.14	1,184.82	2,172.59	2,098.69	73.90	29.398		
8,600.00	7,064.00	7,397.00	6,988.46	46.98	47.89	87.42	-961.14	1,184.82	2,256.23	2,182.47	73.76	30.588		
8,700.00	7,064.00	7,397.00	6,988.46	48.13	47.89	87.42	-961.14	1,184.82	2,341.15	2,267.50	73.64	31.790		
8,800.00	7,064.00	7,397.00	6,988.46	49.67	47.89	87.42	-961.14	1,184.82	2,427.22	2,353.67	73.55	33.002		
8,900.00	7,064.00	7,397.00	6,988.46	51.48	47.89	87.42	-961.14	1,184.82	2,514.32	2,440.85	73.47	34.222		
9,000.00	7,064.00	7,397.00	6,988.46	53.46	47.89	87.42	-961.14	1,184.82	2,602.34	2,528.93	73.41	35.449		
9,100.00	7,064.00	7,397.00	6,988.46	55.54	47.89	87.42	-961.14	1,184.82	2,691.21	2,617.84	73.36	36.683		
9,200.00	7,064.00	7,397.00	6,988.46	57.71	47.89	87.42	-961.14	1,184.82	2,780.83	2,707.50	73.33	37.922		
9,300.00	7,064.00	7,397.00	6,988.46	59.94	47.89	87.42	-961.14	1,184.82	2,871.13	2,797.83	73.31	39.166		

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 11-10-15H
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 11-10-15H	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				
9,400.00	7,064.00	7,397.00	6,988.46	62.22	47.89	62.22	47.89	87.42	-961.14	1,184.82	2,962.06	2,888.77	73.29	40.414				
9,500.00	7,064.00	7,397.00	6,988.46	64.55	47.89	64.55	47.89	87.42	-961.14	1,184.82	3,053.56	2,980.27	73.29	41.666				
9,600.00	7,064.00	7,397.00	6,988.46	66.90	47.89	66.90	47.89	87.42	-961.14	1,184.82	3,145.57	3,072.29	73.29	42.921				
9,700.00	7,064.00	7,397.00	6,988.46	69.28	47.89	69.28	47.89	87.42	-961.14	1,184.82	3,238.06	3,164.77	73.30	44.178				

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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	599.45	1,777.48	1,685.44	1.91	10.61	-58.65	-775.81	2,955.87	3,242.50	3,231.42	11.09	292.451		
700.00	698.70	1,865.00	1,762.68	2.29	11.41	-59.00	-797.91	2,921.15	3,202.35	3,190.27	12.08	265.144		
800.00	797.47	1,936.10	1,825.34	2.69	12.07	-59.47	-816.36	2,893.08	3,160.96	3,147.98	12.98	243.468		
900.00	895.62	1,999.54	1,881.39	3.13	12.66	-60.04	-832.99	2,868.42	3,118.69	3,104.83	13.86	224.980		
1,000.00	993.06	2,058.53	1,935.46	3.61	13.20	-60.67	-849.14	2,845.90	3,075.72	3,060.98	14.74	208.685		
1,100.00	1,089.64	2,129.00	1,996.00	4.12	13.85	-61.33	-868.50	2,819.83	3,032.30	3,016.57	15.73	192.811		
1,200.00	1,185.27	2,164.66	2,027.83	4.68	14.17	-62.12	-878.28	2,807.05	2,988.33	2,971.83	16.49	181.178		
1,300.00	1,279.82	2,218.00	2,075.61	5.29	14.64	-62.93	-893.01	2,788.51	2,944.13	2,926.71	17.42	169.021		
1,310.06	1,289.26	2,222.52	2,079.67	5.35	14.68	-63.02	-894.27	2,786.96	2,939.67	2,922.16	17.51	167.878		
1,400.00	1,373.67	2,295.70	2,145.26	5.93	15.32	-62.94	-915.02	2,762.01	2,899.83	2,881.29	18.54	156.395		
1,500.00	1,467.52	2,360.45	2,203.17	6.58	15.89	-62.87	-934.01	2,740.15	2,856.01	2,836.41	19.60	145.747		
1,600.00	1,561.37	2,429.59	2,265.03	7.24	16.50	-62.77	-954.86	2,717.37	2,813.03	2,792.33	20.70	135.897		
1,700.00	1,655.22	2,532.20	2,356.61	7.91	17.41	-62.61	-986.67	2,683.71	2,770.38	2,748.32	22.06	125.597		
1,800.00	1,749.06	2,666.60	2,475.77	8.59	18.63	-62.36	-1,028.59	2,637.84	2,726.48	2,702.83	23.65	115.268		
1,900.00	1,842.91	2,717.11	2,520.62	9.27	19.08	-62.27	-1,044.21	2,620.65	2,682.64	2,657.97	24.67	108.742		
2,000.00	1,936.76	2,775.51	2,572.86	9.95	19.60	-62.18	-1,062.02	2,601.56	2,640.00	2,614.25	25.75	102.541		
2,100.00	2,030.61	2,846.10	2,636.13	10.63	20.22	-62.06	-1,083.86	2,579.13	2,598.29	2,571.39	26.91	96.563		
2,200.00	2,124.46	2,966.47	2,743.34	11.32	21.29	-61.81	-1,122.16	2,540.04	2,556.05	2,527.63	28.42	89.930		
2,300.00	2,218.31	3,055.37	2,821.91	12.01	22.10	-61.59	-1,151.69	2,510.77	2,513.70	2,483.95	29.75	84.498		
2,400.00	2,312.16	3,150.78	2,906.16	12.70	22.98	-61.33	-1,183.42	2,479.18	2,471.22	2,440.09	31.13	79.393		
2,500.00	2,406.00	3,297.52	3,035.85	13.39	24.33	-60.96	-1,230.83	2,429.51	2,428.12	2,395.30	32.82	73.983		
2,600.00	2,499.85	3,376.30	3,105.43	14.09	25.06	-60.76	-1,255.63	2,402.15	2,383.91	2,349.82	34.08	69.947		
2,700.00	2,593.70	3,484.39	3,201.21	14.78	26.05	-60.50	-1,288.47	2,364.32	2,339.31	2,303.81	35.50	65.890		
2,800.00	2,687.55	3,596.24	3,300.68	15.47	27.07	-60.27	-1,320.94	2,324.82	2,294.26	2,257.34	36.92	62.141		
2,900.00	2,781.40	3,707.97	3,399.76	16.17	28.11	-60.04	-1,352.56	2,284.00	2,247.90	2,209.58	38.33	58.653		
3,000.00	2,875.25	3,783.91	3,466.97	16.87	28.81	-59.86	-1,374.28	2,256.09	2,201.48	2,161.92	39.57	55.640		
3,100.00	2,969.10	3,925.18	3,590.59	17.56	30.18	-59.43	-1,416.85	2,202.62	2,154.37	2,113.22	41.15	52.357		
3,200.00	3,062.95	4,000.33	3,655.62	18.26	30.93	-59.15	-1,440.44	2,173.28	2,106.42	2,063.98	42.44	49.629		
3,300.00	3,156.79	4,076.00	3,721.13	18.96	31.68	-58.85	-1,464.55	2,144.05	2,059.00	2,015.25	43.75	47.060		
3,400.00	3,250.64	4,147.96	3,783.58	19.66	32.39	-58.56	-1,487.57	2,116.70	2,012.22	1,967.17	45.05	44.666		
3,500.00	3,344.49	4,209.73	3,837.49	20.35	32.98	-58.31	-1,507.23	2,093.85	1,966.40	1,920.10	46.30	42.471		
3,600.00	3,438.34	4,277.22	3,896.97	21.05	33.62	-58.05	-1,528.33	2,069.93	1,921.88	1,874.31	47.57	40.402		
3,700.00	3,532.19	4,367.52	3,976.93	21.75	34.46	-57.72	-1,556.04	2,038.44	1,877.84	1,828.92	48.93	38.380		
3,800.00	3,626.04	4,497.43	4,091.03	22.45	35.69	-57.15	-1,596.95	1,991.70	1,833.16	1,782.72	50.45	36.340		
3,900.00	3,719.89	4,582.07	4,165.29	23.15	36.50	-56.78	-1,622.52	1,960.16	1,787.01	1,735.22	51.79	34.504		
4,000.00	3,813.73	4,686.98	4,257.87	23.85	37.49	-56.36	-1,652.73	1,921.14	1,740.61	1,687.44	53.17	32.736		
4,100.00	3,907.58	4,773.44	4,334.55	24.55	38.29	-56.05	-1,676.07	1,888.72	1,693.62	1,639.14	54.48	31.088		
4,200.00	4,001.43	4,908.78	4,454.81	25.25	39.55	-55.59	-1,710.53	1,837.11	1,645.61	1,589.80	55.81	29.487		
4,300.00	4,095.28	4,994.03	4,529.75	25.95	40.37	-55.22	-1,733.27	1,803.43	1,596.83	1,539.70	57.13	27.953		
4,400.00	4,189.13	5,075.00	4,600.49	26.65	41.16	-54.80	-1,755.76	1,771.12	1,548.06	1,489.59	58.47	26.478		
4,500.00	4,282.98	5,136.00	4,653.93	27.35	41.75	-54.47	-1,773.09	1,747.33	1,500.35	1,440.53	59.82	25.081		
4,600.00	4,376.83	5,201.11	4,711.34	28.05	42.36	-54.10	-1,791.78	1,722.94	1,454.15	1,392.98	61.17	23.771		
4,700.00	4,470.67	5,260.77	4,764.29	28.75	42.91	-53.76	-1,809.17	1,701.67	1,409.71	1,347.18	62.53	22.545		
4,800.00	4,564.52	5,324.88	4,821.31	29.45	43.50	-53.36	-1,828.85	1,679.95	1,367.29	1,303.40	63.89	21.402		
4,900.00	4,658.37	5,426.73	4,912.98	30.15	44.39	-52.80	-1,857.85	1,646.39	1,325.20	1,259.96	65.24	20.313		
5,000.00	4,752.22	5,523.71	4,999.84	30.85	45.25	-52.19	-1,885.92	1,613.66	1,282.65	1,216.05	66.59	19.260		
5,100.00	4,846.07	5,614.50	5,080.27	31.56	46.09	-51.49	-1,913.66	1,581.98	1,239.70	1,171.71	67.99	18.234		
5,200.00	4,939.92	5,701.85	5,157.68	32.26	46.90	-50.76	-1,940.65	1,551.80	1,197.32	1,127.92	69.40	17.253		
5,300.00	5,033.77	5,799.35	5,243.92	32.96	47.80	-49.87	-1,970.60	1,517.58	1,154.59	1,083.80	70.79	16.310		
5,400.00	5,127.61	5,895.32	5,329.40	33.66	48.68	-49.03	-1,998.46	1,484.02	1,111.63	1,039.48	72.15	15.407		
5,500.00	5,221.46	5,984.54	5,409.24	34.36	49.48	-48.24	-2,023.20	1,452.78	1,068.35	994.84	73.51	14.533		
5,600.00	5,315.31	6,068.58	5,484.54	35.06	50.23	-47.45	-2,046.56	1,423.71	1,025.63	950.74	74.89	13.695		

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 11-10-15H
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 11-10-15H	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	5,409.16	6,154.65	5,561.90	35.76	50.99	-46.59	-2,070.35	1,394.41	983.52	907.26	76.25	12.898	
5,800.00	5,503.01	6,237.59	5,636.70	36.47	51.71	-45.74	-2,092.99	1,366.64	941.95	864.32	77.63	12.134	
5,900.00	5,596.86	6,318.60	5,710.45	37.17	52.38	-44.94	-2,114.35	1,340.81	901.53	822.54	78.98	11.415	
6,000.00	5,690.71	6,402.38	5,787.93	37.87	53.03	-44.25	-2,134.28	1,315.97	862.04	781.77	80.27	10.739	
6,100.00	5,784.55	6,483.90	5,864.15	38.57	53.62	-43.68	-2,152.38	1,293.40	823.59	742.06	81.54	10.101	
6,200.00	5,878.40	6,563.39	5,939.37	39.27	54.16	-43.27	-2,168.63	1,273.54	786.62	703.84	82.78	9.503	
6,300.00	5,972.25	6,646.34	6,018.59	39.97	54.68	-42.97	-2,184.55	1,254.78	751.06	667.11	83.95	8.946	
6,400.00	6,066.10	6,728.00	6,097.20	40.68	55.15	-42.82	-2,199.05	1,238.12	716.70	631.59	85.11	8.421	
6,500.00	6,159.95	6,816.00	6,182.51	41.38	55.62	-42.82	-2,213.66	1,222.24	683.67	597.48	86.19	7.932	
6,600.00	6,253.80	6,911.41	6,275.57	42.08	56.09	-43.04	-2,227.82	1,206.68	651.24	564.04	87.19	7.469	
6,700.00	6,347.65	6,999.88	6,362.36	42.78	56.48	-43.50	-2,238.98	1,193.71	619.12	530.90	88.22	7.018	
6,800.00	6,441.49	7,090.24	6,451.46	43.48	56.85	-44.27	-2,248.78	1,182.30	587.93	498.72	89.21	6.590	
6,823.95	6,463.97	7,114.08	6,475.03	43.65	56.94	-44.52	-2,251.04	1,179.53	580.52	491.10	89.42	6.492	
6,850.00	6,488.47	7,140.08	6,500.76	43.83	57.03	-44.77	-2,253.30	1,176.55	572.92	483.27	89.66	6.390	
6,900.00	6,535.65	7,187.11	6,547.35	44.16	57.20	-45.00	-2,256.90	1,171.31	561.16	471.02	90.15	6.225	
6,950.00	6,582.74	7,229.26	6,589.20	44.45	57.34	-45.21	-2,259.84	1,167.15	553.79	463.12	90.67	6.108	
7,000.00	6,629.37	7,272.10	6,631.79	44.71	57.48	-45.48	-2,262.58	1,163.55	551.15	460.00	91.15	6.046	
7,002.92	6,632.07	7,274.70	6,634.39	44.73	57.48	-45.66	-2,262.74	1,163.35	551.14	459.96	91.18	6.045 CC, ES	
7,050.00	6,675.19	7,316.25	6,675.78	44.94	57.60	-45.92	-2,264.96	1,160.39	553.24	461.67	91.57	6.042 SF	
7,100.00	6,719.86	7,358.85	6,718.25	45.14	57.72	-46.19	-2,266.76	1,157.84	560.15	468.23	91.92	6.094	
7,150.00	6,763.03	7,399.15	6,758.49	45.31	57.81	-46.46	-2,268.02	1,155.91	572.01	479.83	92.17	6.206	
7,200.00	6,804.37	7,436.00	6,795.31	45.46	57.90	-46.73	-2,268.80	1,154.57	588.82	496.48	92.34	6.377	
7,250.00	6,843.57	7,474.06	6,833.35	45.58	57.97	-47.00	-2,269.34	1,153.54	610.43	518.01	92.41	6.605	
7,300.00	6,880.33	7,508.23	6,867.51	45.68	58.03	-47.27	-2,269.71	1,152.84	636.58	544.17	92.42	6.888	
7,350.00	6,914.37	7,539.36	6,898.64	45.75	58.09	-47.54	-2,269.94	1,152.40	666.99	574.63	92.36	7.222	
7,400.00	6,945.43	7,567.20	6,926.47	45.81	58.13	-47.81	-2,270.03	1,152.19	701.31	609.05	92.26	7.601	
7,450.00	6,973.28	7,591.75	6,951.02	45.84	58.17	-48.08	-2,270.04	1,152.13	739.12	646.98	92.14	8.022	
7,500.00	6,997.70	7,614.00	6,973.27	45.86	58.20	-48.35	-2,269.97	1,152.20	779.99	687.98	92.01	8.477	
7,550.00	7,018.51	7,630.17	6,989.44	45.86	58.22	-48.62	-2,269.89	1,152.32	823.47	731.60	91.87	8.964	
7,600.00	7,035.55	7,643.93	7,003.20	45.85	58.24	-48.89	-2,269.78	1,152.48	869.10	777.36	91.74	9.473	
7,650.00	7,048.69	7,654.18	7,013.45	45.82	58.25	-49.16	-2,269.69	1,152.62	916.42	824.79	91.63	10.001	
7,700.00	7,057.83	7,660.97	7,020.24	45.79	58.26	-49.43	-2,269.62	1,152.73	964.98	873.44	91.54	10.542	
7,750.00	7,062.89	7,664.35	7,023.61	45.74	58.26	-49.70	-2,269.59	1,152.79	1,014.34	922.87	91.47	11.090	
7,786.65	7,064.00	7,664.70	7,023.96	45.70	58.26	-49.97	-2,269.58	1,152.80	1,050.78	959.35	91.43	11.493	
7,800.00	7,064.00	7,664.50	7,023.77	45.69	58.26	-50.24	-2,269.59	1,152.80	1,064.07	972.66	91.42	11.640	
7,900.00	7,064.00	7,663.08	7,022.35	45.59	58.26	-50.51	-2,269.60	1,152.77	1,163.69	1,072.35	91.33	12.741	
8,000.00	7,064.00	7,661.72	7,020.99	45.53	58.26	-50.78	-2,269.62	1,152.75	1,263.36	1,172.10	91.26	13.843	
8,100.00	7,064.00	7,660.40	7,019.67	45.50	58.26	-51.05	-2,269.63	1,152.72	1,363.08	1,271.88	91.20	14.946	
8,200.00	7,064.00	7,659.14	7,018.41	45.53	58.25	-51.32	-2,269.64	1,152.70	1,462.84	1,371.69	91.15	16.049	
8,300.00	7,064.00	7,657.92	7,017.19	45.62	58.25	-51.59	-2,269.66	1,152.68	1,562.62	1,471.52	91.10	17.152	
8,400.00	7,064.00	7,656.74	7,016.01	45.83	58.25	-51.86	-2,269.67	1,152.66	1,662.43	1,571.37	91.07	18.255	
8,500.00	7,064.00	7,655.61	7,014.88	46.24	58.25	-52.13	-2,269.68	1,152.64	1,762.26	1,671.23	91.03	19.359	
8,600.00	7,064.00	7,654.51	7,013.78	46.98	58.25	-52.40	-2,269.69	1,152.63	1,862.11	1,771.11	91.00	20.462	
8,700.00	7,064.00	7,653.45	7,012.73	48.13	58.25	-52.67	-2,269.70	1,152.61	1,961.97	1,871.00	90.98	21.566	
8,800.00	7,064.00	7,652.43	7,011.70	49.67	58.25	-52.94	-2,269.71	1,152.60	2,061.85	1,970.90	90.95	22.669	
8,900.00	7,064.00	7,651.44	7,010.71	51.48	58.25	-53.21	-2,269.72	1,152.58	2,161.74	2,070.80	90.93	23.773	
9,000.00	7,064.00	7,650.49	7,009.76	53.46	58.24	-53.48	-2,269.73	1,152.57	2,261.63	2,170.71	90.92	24.876	
9,100.00	7,064.00	7,649.56	7,008.83	55.54	58.24	-53.75	-2,269.74	1,152.55	2,361.54	2,270.63	90.90	25.979	
9,200.00	7,064.00	7,648.66	7,007.93	57.71	58.24	-54.02	-2,269.74	1,152.54	2,461.45	2,370.56	90.89	27.082	
9,300.00	7,064.00	7,647.79	7,007.06	59.94	58.24	-54.29	-2,269.75	1,152.53	2,561.36	2,470.48	90.88	28.184	
9,400.00	7,064.00	7,646.95	7,006.22	62.22	58.24	-54.56	-2,269.76	1,152.52	2,661.29	2,570.42	90.87	29.286	
9,500.00	7,064.00	7,646.13	7,005.40	64.55	58.24	-54.83	-2,269.77	1,152.51	2,761.22	2,670.35	90.86	30.388	

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 11-10-15H
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 11-10-15H	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)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
9,600.00	7,064.00	7,645.34	7,004.61	66.90	58.24	66.90	58.24	-68.71	-2,269.77	1,152.49	2,861.15	2,770.29	90.86	31.490				
9,700.00	7,064.00	7,644.56	7,003.84	69.28	58.24	69.28	58.24	-68.31	-2,269.78	1,152.48	2,961.09	2,870.23	90.86	32.591				
9,800.00	7,064.00	7,643.82	7,003.09	71.69	58.24	71.69	58.24	-67.93	-2,269.79	1,152.47	3,061.03	2,970.17	90.85	33.692				
9,900.00	7,064.00	7,643.09	7,002.36	74.13	58.24	74.13	58.24	-67.56	-2,269.79	1,152.47	3,160.97	3,070.12	90.85	34.792				
10,000.00	7,064.00	7,642.38	7,001.65	76.58	58.24	76.58	58.24	-67.20	-2,269.80	1,152.46	3,260.92	3,170.07	90.85	35.892				

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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)				
14,100.00	7,064.00	7,024.00	7,024.00	183.77	140.88	-90.00	-2,361.41	-9,409.37	3,204.64	3,018.67	185.97	17.232		
14,200.00	7,064.00	7,024.00	7,024.00	186.44	140.88	-90.00	-2,361.41	-9,409.37	3,104.69	2,918.74	185.95	16.696		
14,300.00	7,064.00	7,024.00	7,024.00	189.12	140.88	-90.00	-2,361.41	-9,409.37	3,004.75	2,818.82	185.93	16.161		
14,400.00	7,064.00	7,024.00	7,024.00	191.80	140.88	-90.00	-2,361.41	-9,409.37	2,904.81	2,718.91	185.90	15.625		
14,500.00	7,064.00	7,024.00	7,024.00	194.48	140.88	-90.00	-2,361.41	-9,409.37	2,804.87	2,619.00	185.88	15.090		
14,600.00	7,064.00	7,024.00	7,024.00	197.17	140.88	-90.00	-2,361.41	-9,409.37	2,704.95	2,519.10	185.85	14.554		
14,700.00	7,064.00	7,024.00	7,024.00	199.85	140.88	-90.00	-2,361.41	-9,409.37	2,605.02	2,419.20	185.82	14.019		
14,800.00	7,064.00	7,024.00	7,024.00	202.53	140.88	-90.00	-2,361.41	-9,409.37	2,505.10	2,319.31	185.79	13.483		
14,900.00	7,064.00	7,024.00	7,024.00	205.22	140.88	-90.00	-2,361.41	-9,409.37	2,405.19	2,219.43	185.76	12.948		
15,000.00	7,064.00	7,024.00	7,024.00	207.91	140.88	-90.00	-2,361.41	-9,409.37	2,305.29	2,119.55	185.74	12.412		
15,100.00	7,064.00	7,024.00	7,024.00	210.59	140.88	-90.00	-2,361.41	-9,409.37	2,205.39	2,019.69	185.71	11.876		
15,200.00	7,064.00	7,024.00	7,024.00	213.28	140.88	-90.00	-2,361.41	-9,409.37	2,105.51	1,919.83	185.68	11.339		
15,300.00	7,064.00	7,024.00	7,024.00	215.97	140.88	-90.00	-2,361.41	-9,409.37	2,005.64	1,819.98	185.66	10.803		
15,400.00	7,064.00	7,024.00	7,024.00	218.66	140.88	-90.00	-2,361.41	-9,409.37	1,905.78	1,720.14	185.64	10.266		
15,500.00	7,064.00	7,024.00	7,024.00	221.35	140.88	-90.00	-2,361.41	-9,409.37	1,805.93	1,620.31	185.63	9.729		
15,600.00	7,064.00	7,024.00	7,024.00	224.04	140.88	-90.00	-2,361.41	-9,409.37	1,706.11	1,520.48	185.63	9.191		
15,700.00	7,064.00	7,024.00	7,024.00	226.73	140.88	-90.00	-2,361.41	-9,409.37	1,606.30	1,420.66	185.64	8.653		
15,800.00	7,064.00	7,024.00	7,024.00	229.43	140.88	-90.00	-2,361.41	-9,409.37	1,506.53	1,320.84	185.68	8.113		
15,900.00	7,064.00	7,024.00	7,024.00	232.12	140.88	-90.00	-2,361.41	-9,409.37	1,406.78	1,221.02	185.76	7.573		
16,000.00	7,064.00	7,024.00	7,024.00	234.81	140.88	-90.00	-2,361.41	-9,409.37	1,307.07	1,121.18	185.89	7.032		
16,100.00	7,064.00	7,024.00	7,024.00	237.51	140.88	-90.00	-2,361.41	-9,409.37	1,207.41	1,021.32	186.09	6.488		
16,200.00	7,064.00	7,024.00	7,024.00	240.20	140.88	-90.00	-2,361.41	-9,409.37	1,107.81	921.40	186.41	5.943		
16,300.00	7,064.00	7,024.00	7,024.00	242.90	140.88	-90.00	-2,361.41	-9,409.37	1,008.29	821.39	186.91	5.395		
16,305.41	7,064.00	7,024.00	7,024.00	243.05	140.88	-90.00	-2,361.41	-9,409.37	1,002.91	815.97	186.94	5.365	CC, ES, SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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
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	0.07	-25.39	2,955.59	-1,402.65	3,271.53					
100.00	100.00	106.00	106.00	0.14	1.34	-25.39	2,955.59	-1,402.65	3,271.53	3,270.06	1.48	2,212.006		
200.00	200.00	206.00	206.00	0.50	3.61	-25.39	2,955.59	-1,402.65	3,271.53	3,267.42	4.11	795.136		
300.00	300.00	306.00	306.00	0.86	5.69	-25.39	2,955.59	-1,402.65	3,271.53	3,264.99	6.55	499.543	CC	
400.00	399.98	405.98	405.98	1.20	7.73	173.51	2,955.59	-1,402.65	3,273.27	3,264.33	8.93	366.377	ES	
500.00	499.84	505.84	505.84	1.55	9.76	173.51	2,955.59	-1,402.65	3,278.47	3,267.16	11.30	290.039	SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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)			
10,300.00	7,064.00	7,025.00	7,025.00	84.04	140.90	-90.00	-2,326.13	-5,655.25	3,250.16	3,064.17	186.00	17.474	
10,400.00	7,064.00	7,025.00	7,025.00	86.56	140.90	-90.00	-2,326.13	-5,655.25	3,150.21	2,964.24	185.97	16.940	
10,500.00	7,064.00	7,025.00	7,025.00	89.08	140.90	-90.00	-2,326.13	-5,655.25	3,050.26	2,864.32	185.94	16.405	
10,600.00	7,064.00	7,025.00	7,025.00	91.62	140.90	-90.00	-2,326.13	-5,655.25	2,950.31	2,764.41	185.91	15.870	
10,700.00	7,064.00	7,025.00	7,025.00	94.17	140.90	-90.00	-2,326.13	-5,655.25	2,850.37	2,664.50	185.87	15.335	
10,800.00	7,064.00	7,025.00	7,025.00	96.73	140.90	-90.00	-2,326.13	-5,655.25	2,750.43	2,564.60	185.83	14.800	
10,900.00	7,064.00	7,025.00	7,025.00	99.30	140.90	-90.00	-2,326.13	-5,655.25	2,650.50	2,464.70	185.80	14.266	
11,000.00	7,064.00	7,025.00	7,025.00	101.87	140.90	-90.00	-2,326.13	-5,655.25	2,550.57	2,364.81	185.76	13.731	
11,100.00	7,064.00	7,025.00	7,025.00	104.45	140.90	-90.00	-2,326.13	-5,655.25	2,450.65	2,264.94	185.71	13.196	
11,200.00	7,064.00	7,025.00	7,025.00	107.04	140.90	-90.00	-2,326.13	-5,655.25	2,350.73	2,165.07	185.66	12.661	
11,300.00	7,064.00	7,025.00	7,025.00	109.64	140.90	-90.00	-2,326.13	-5,655.25	2,250.82	2,065.21	185.61	12.126	
11,400.00	7,064.00	7,025.00	7,025.00	112.24	140.90	-90.00	-2,326.13	-5,655.25	2,150.92	1,965.36	185.56	11.592	
11,500.00	7,064.00	7,025.00	7,025.00	114.84	140.90	-90.00	-2,326.13	-5,655.25	2,051.03	1,865.53	185.50	11.057	
11,600.00	7,064.00	7,025.00	7,025.00	117.45	140.90	-90.00	-2,326.13	-5,655.25	1,951.15	1,765.71	185.44	10.522	
11,700.00	7,064.00	7,025.00	7,025.00	120.07	140.90	-90.00	-2,326.13	-5,655.25	1,851.28	1,665.91	185.37	9.987	
11,800.00	7,064.00	7,025.00	7,025.00	122.69	140.90	-90.00	-2,326.13	-5,655.25	1,751.43	1,566.13	185.30	9.452	
11,900.00	7,064.00	7,025.00	7,025.00	125.32	140.90	-90.00	-2,326.13	-5,655.25	1,651.60	1,466.37	185.23	8.917	
12,000.00	7,064.00	7,025.00	7,025.00	127.95	140.90	-90.00	-2,326.13	-5,655.25	1,551.79	1,366.64	185.15	8.381	
12,100.00	7,064.00	7,025.00	7,025.00	130.58	140.90	-90.00	-2,326.13	-5,655.25	1,452.00	1,266.93	185.07	7.846	
12,200.00	7,064.00	7,025.00	7,025.00	133.21	140.90	-90.00	-2,326.13	-5,655.25	1,352.25	1,167.26	184.98	7.310	
12,300.00	7,064.00	7,025.00	7,025.00	135.85	140.90	-90.00	-2,326.13	-5,655.25	1,252.53	1,067.63	184.90	6.774	
12,400.00	7,064.00	7,025.00	7,025.00	138.50	140.90	-90.00	-2,326.13	-5,655.25	1,152.87	968.04	184.83	6.237	
12,500.00	7,064.00	7,025.00	7,025.00	141.14	140.90	-90.00	-2,326.13	-5,655.25	1,053.26	868.49	184.78	5.700	
12,600.00	7,064.00	7,025.00	7,025.00	143.79	140.90	-90.00	-2,326.13	-5,655.25	953.74	768.98	184.76	5.162	
12,700.00	7,064.00	7,025.00	7,025.00	146.44	140.90	-90.00	-2,326.13	-5,655.25	854.34	669.52	184.81	4.623	
12,800.00	7,064.00	7,025.00	7,025.00	149.09	140.90	-90.00	-2,326.13	-5,655.25	755.09	570.09	185.00	4.082	
12,900.00	7,064.00	7,025.00	7,025.00	151.75	140.90	-90.00	-2,326.13	-5,655.25	656.06	470.62	185.44	3.538	
13,000.00	7,064.00	7,025.00	7,025.00	154.41	140.90	-90.00	-2,326.13	-5,655.25	557.39	371.00	186.39	2.990	
13,100.00	7,064.00	7,025.00	7,025.00	157.07	140.90	-90.00	-2,326.13	-5,655.25	459.29	270.88	188.40	2.438	
13,200.00	7,064.00	7,025.00	7,025.00	159.73	140.90	-90.00	-2,326.13	-5,655.25	362.23	169.44	192.79	1.879	
13,300.00	7,064.00	7,025.00	7,025.00	162.39	140.90	-90.00	-2,326.13	-5,655.25	267.35	64.43	202.92	1.317	Level 3
13,400.00	7,064.00	7,025.00	7,025.00	165.06	140.90	-90.00	-2,326.13	-5,655.25	178.15	-49.89	228.04	0.781	Level 3
13,500.00	7,064.00	7,025.00	7,025.00	167.73	140.90	-90.00	-2,326.13	-5,655.25	109.55	-176.18	285.73	0.383	Level 3
13,548.68	7,064.00	7,025.00	7,025.00	169.03	140.90	-90.00	-2,326.13	-5,655.25	98.14	-211.17	309.31	0.317	Level 3, CC, ES, SF
13,600.00	7,064.00	7,025.00	7,025.00	170.40	140.90	-90.00	-2,326.13	-5,655.25	110.75	-188.43	299.18	0.370	Level 3
13,700.00	7,064.00	7,025.00	7,025.00	173.07	140.90	-90.00	-2,326.13	-5,655.25	180.36	-72.50	252.86	0.713	Level 3
13,800.00	7,064.00	7,025.00	7,025.00	175.74	140.90	-90.00	-2,326.13	-5,655.25	269.80	41.71	228.09	1.183	Level 3
13,900.00	7,064.00	7,025.00	7,025.00	178.41	140.90	-90.00	-2,326.13	-5,655.25	364.77	149.07	215.70	1.691	
14,000.00	7,064.00	7,025.00	7,025.00	181.09	140.90	-90.00	-2,326.13	-5,655.25	461.87	253.16	208.71	2.213	
14,100.00	7,064.00	7,025.00	7,025.00	183.77	140.90	-90.00	-2,326.13	-5,655.25	559.99	355.62	204.37	2.740	
14,200.00	7,064.00	7,025.00	7,025.00	186.44	140.90	-90.00	-2,326.13	-5,655.25	658.67	457.21	201.46	3.269	
14,300.00	7,064.00	7,025.00	7,025.00	189.12	140.90	-90.00	-2,326.13	-5,655.25	757.70	558.29	199.41	3.800	
14,400.00	7,064.00	7,025.00	7,025.00	191.80	140.90	-90.00	-2,326.13	-5,655.25	856.96	659.06	197.90	4.330	
14,500.00	7,064.00	7,025.00	7,025.00	194.48	140.90	-90.00	-2,326.13	-5,655.25	956.37	759.62	196.75	4.861	
14,600.00	7,064.00	7,025.00	7,025.00	197.17	140.90	-90.00	-2,326.13	-5,655.25	1,055.89	860.04	195.85	5.391	
14,700.00	7,064.00	7,025.00	7,025.00	199.85	140.90	-90.00	-2,326.13	-5,655.25	1,155.50	960.36	195.13	5.922	
14,800.00	7,064.00	7,025.00	7,025.00	202.53	140.90	-90.00	-2,326.13	-5,655.25	1,255.16	1,060.61	194.55	6.452	
14,900.00	7,064.00	7,025.00	7,025.00	205.22	140.90	-90.00	-2,326.13	-5,655.25	1,354.88	1,160.80	194.07	6.981	
15,000.00	7,064.00	7,025.00	7,025.00	207.91	140.90	-90.00	-2,326.13	-5,655.25	1,454.63	1,260.96	193.68	7.511	
15,100.00	7,064.00	7,025.00	7,025.00	210.59	140.90	-90.00	-2,326.13	-5,655.25	1,554.42	1,361.08	193.34	8.040	
15,200.00	7,064.00	7,025.00	7,025.00	213.28	140.90	-90.00	-2,326.13	-5,655.25	1,654.23	1,461.18	193.06	8.569	
15,300.00	7,064.00	7,025.00	7,025.00	215.97	140.90	-90.00	-2,326.13	-5,655.25	1,754.07	1,561.26	192.81	9.097	

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 11-10-15H
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 11-10-15H	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
Measured Depth (usft)	Vertical Depth (usft)	Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
		Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
15,400.00	7,064.00	7,025.00	7,025.00	218.66	140.90	-90.00	-2,326.13	-5,655.25	1,853.92	1,661.32	192.60	9.626		
15,500.00	7,064.00	7,025.00	7,025.00	221.35	140.90	-90.00	-2,326.13	-5,655.25	1,953.79	1,761.36	192.42	10.154		
15,600.00	7,064.00	7,025.00	7,025.00	224.04	140.90	-90.00	-2,326.13	-5,655.25	2,053.67	1,861.40	192.26	10.681		
15,700.00	7,064.00	7,025.00	7,025.00	226.73	140.90	-90.00	-2,326.13	-5,655.25	2,153.56	1,961.43	192.13	11.209		
15,800.00	7,064.00	7,025.00	7,025.00	229.43	140.90	-90.00	-2,326.13	-5,655.25	2,253.46	2,061.45	192.01	11.736		
15,900.00	7,064.00	7,025.00	7,025.00	232.12	140.90	-90.00	-2,326.13	-5,655.25	2,353.37	2,161.46	191.91	12.263		
16,000.00	7,064.00	7,025.00	7,025.00	234.81	140.90	-90.00	-2,326.13	-5,655.25	2,453.28	2,261.47	191.82	12.790		
16,100.00	7,064.00	7,025.00	7,025.00	237.51	140.90	-90.00	-2,326.13	-5,655.25	2,553.21	2,361.47	191.74	13.316		
16,200.00	7,064.00	7,025.00	7,025.00	240.20	140.90	-90.00	-2,326.13	-5,655.25	2,653.14	2,461.46	191.67	13.842		
16,300.00	7,064.00	7,025.00	7,025.00	242.90	140.90	-90.00	-2,326.13	-5,655.25	2,753.07	2,561.46	191.61	14.368		
16,305.41	7,064.00	7,025.00	7,025.00	243.05	140.90	-90.00	-2,326.13	-5,655.25	2,758.48	2,566.86	191.61	14.396		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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		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		
15,600.00	7,064.00	6,727.00	6,727.00	224.04	134.90	76.44	-1,020.27	-10,720.40	3,266.15	3,025.27	240.89	13.559		
15,700.00	7,064.00	6,727.00	6,727.00	226.73	134.90	76.44	-1,020.27	-10,720.40	3,174.44	2,930.45	243.99	13.011		
15,800.00	7,064.00	6,727.00	6,727.00	229.43	134.90	76.44	-1,020.27	-10,720.40	3,083.25	2,835.97	247.28	12.469		
15,900.00	7,064.00	6,727.00	6,727.00	232.12	134.90	76.44	-1,020.27	-10,720.40	2,992.62	2,741.85	250.77	11.934		
16,000.00	7,064.00	6,727.00	6,727.00	234.81	134.90	76.44	-1,020.27	-10,720.40	2,902.61	2,648.14	254.47	11.407		
16,100.00	7,064.00	6,727.00	6,727.00	237.51	134.90	76.44	-1,020.27	-10,720.40	2,813.27	2,554.87	258.40	10.887		
16,200.00	7,064.00	6,727.00	6,727.00	240.20	134.90	76.44	-1,020.27	-10,720.40	2,724.67	2,462.10	262.57	10.377		
16,300.00	7,064.00	6,727.00	6,727.00	242.90	134.90	76.44	-1,020.27	-10,720.40	2,636.89	2,369.88	267.00	9.876		
16,305.41	7,064.00	6,727.00	6,727.00	243.05	134.90	76.44	-1,020.27	-10,720.40	2,632.16	2,364.91	267.25	9.849	CC, ES, SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - ABDN VERT NASTY 1 - Wellbore #1 - Design #1													Offset Site Error:	0.00 usft
Survey Program: 0-INC													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
15,400.00	7,064.00	6,794.00	6,794.00	218.66	136.26	-18.66	-2,342.66	-10,729.33	3,231.09	3,049.77	181.31	17.821		
15,500.00	7,064.00	6,794.00	6,794.00	221.35	136.26	-18.66	-2,342.66	-10,729.33	3,131.35	2,950.07	181.28	17.274		
15,600.00	7,064.00	6,794.00	6,794.00	224.04	136.26	-18.66	-2,342.66	-10,729.33	3,031.64	2,850.39	181.24	16.727		
15,700.00	7,064.00	6,794.00	6,794.00	226.73	136.26	-18.66	-2,342.66	-10,729.33	2,931.94	2,750.74	181.20	16.180		
15,800.00	7,064.00	6,794.00	6,794.00	229.43	136.26	-18.66	-2,342.66	-10,729.33	2,832.27	2,651.11	181.16	15.634		
15,900.00	7,064.00	6,794.00	6,794.00	232.12	136.26	-18.66	-2,342.66	-10,729.33	2,732.62	2,551.50	181.11	15.088		
16,000.00	7,064.00	6,794.00	6,794.00	234.81	136.26	-18.66	-2,342.66	-10,729.33	2,632.99	2,451.93	181.06	14.542		
16,100.00	7,064.00	6,794.00	6,794.00	237.51	136.26	-18.66	-2,342.66	-10,729.33	2,533.40	2,352.39	181.01	13.996		
16,200.00	7,064.00	6,794.00	6,794.00	240.20	136.26	-18.66	-2,342.66	-10,729.33	2,433.83	2,252.88	180.95	13.450		
16,300.00	7,064.00	6,794.00	6,794.00	242.90	136.26	-18.66	-2,342.66	-10,729.33	2,334.31	2,153.42	180.89	12.905		
16,305.41	7,064.00	6,794.00	6,794.00	243.05	136.26	-18.66	-2,342.66	-10,729.33	2,328.93	2,148.04	180.88	12.875	CC, ES, SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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 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	0.00	80.14	0.00	80.14					
100.00	100.00	100.00	100.00	0.14	0.14	0.00	80.14	0.00	80.14	79.85	0.29	279.455		
200.00	200.00	200.00	200.00	0.50	0.50	0.00	80.14	0.00	80.14	79.14	1.00	79.844		
300.00	300.00	300.00	300.00	0.86	0.86	0.00	80.14	0.00	80.14	78.42	1.72	46.576 CC, ES		
400.00	399.98	400.28	400.25	1.20	1.21	-160.27	79.95	1.74	81.61	79.19	2.42	33.775		
500.00	499.84	500.34	500.18	1.55	1.56	-157.93	79.37	6.96	86.10	82.99	3.11	27.669		
600.00	599.45	599.99	599.46	1.91	1.93	-154.69	78.43	15.37	93.85	90.01	3.83	24.497		
700.00	698.70	699.29	698.34	2.29	2.30	-152.41	77.42	24.46	104.94	100.37	4.57	22.974		
800.00	797.47	798.25	798.88	2.69	2.68	-151.33	76.41	33.52	119.18	113.87	5.32	22.416		
900.00	895.62	896.74	894.95	3.13	3.05	-151.16	75.41	42.53	136.47	130.39	6.08	22.458		
1,000.00	993.06	994.64	992.44	3.61	3.43	-151.58	74.41	51.49	156.76	149.92	6.84	22.902		
1,100.00	1,089.64	1,091.84	1,089.22	4.12	3.80	-152.37	73.42	60.38	180.09	172.47	7.62	23.634		
1,200.00	1,185.27	1,188.20	1,185.18	4.68	4.18	-153.35	72.44	69.20	206.48	198.08	8.40	24.581		
1,300.00	1,279.82	1,283.63	1,280.20	5.29	4.55	-154.41	71.47	77.93	235.96	226.77	9.18	25.696		
1,310.06	1,289.26	1,293.17	1,289.70	5.35	4.58	-154.52	71.37	78.81	239.09	229.83	9.27	25.803		
1,400.00	1,373.67	1,378.44	1,374.61	5.93	4.91	-155.62	70.51	86.61	267.33	257.37	9.96	26.831		
1,500.00	1,467.52	1,473.24	1,469.01	6.58	5.28	-156.59	69.54	95.28	298.81	288.07	10.74	27.816		
1,600.00	1,561.37	1,568.05	1,563.41	7.24	5.65	-157.38	68.58	103.96	330.35	318.83	11.52	28.665		
1,700.00	1,655.22	1,662.86	1,657.82	7.91	6.02	-158.03	67.61	112.63	361.94	349.63	12.31	29.404		
1,800.00	1,749.06	1,757.66	1,752.22	8.59	6.39	-158.58	66.65	121.31	393.57	380.47	13.10	30.052		
1,900.00	1,842.91	1,852.47	1,846.62	9.27	6.76	-159.04	65.68	129.99	425.22	411.34	13.89	30.624		
2,000.00	1,936.76	1,947.27	1,941.02	9.95	7.13	-159.45	64.71	138.66	456.90	442.22	14.68	31.133		
2,100.00	2,030.61	2,042.08	2,035.43	10.63	7.50	-159.80	63.75	147.34	488.59	473.12	15.47	31.589		
2,200.00	2,124.46	2,136.89	2,129.83	11.32	7.87	-160.10	62.78	156.01	520.29	504.03	16.26	31.999		
2,300.00	2,218.31	2,231.69	2,224.23	12.01	8.23	-160.37	61.82	164.69	552.01	534.96	17.05	32.369		
2,400.00	2,312.16	2,326.50	2,318.64	12.70	8.60	-160.62	60.85	173.36	583.74	565.89	17.85	32.706		
2,500.00	2,406.00	2,421.30	2,413.04	13.39	8.97	-160.83	59.89	182.04	615.48	596.83	18.64	33.013		
2,600.00	2,499.85	2,516.11	2,507.44	14.09	9.34	-161.03	58.92	190.71	647.22	627.78	19.44	33.294		
2,700.00	2,593.70	2,610.92	2,601.85	14.78	9.71	-161.21	57.96	199.39	678.97	658.73	20.24	33.552		
2,800.00	2,687.55	2,705.72	2,696.25	15.47	10.08	-161.37	56.99	208.06	710.72	689.69	21.03	33.790		
2,900.00	2,781.40	2,800.53	2,790.65	16.17	10.45	-161.52	56.03	216.74	742.48	720.65	21.83	34.010		
3,000.00	2,875.25	2,895.33	2,885.06	16.87	10.82	-161.65	55.06	225.42	774.25	751.62	22.63	34.214		
3,100.00	2,969.10	2,990.14	2,979.46	17.56	11.19	-161.78	54.10	234.09	806.02	782.59	23.43	34.404		
3,200.00	3,062.95	3,084.94	3,073.86	18.26	11.56	-161.89	53.13	242.77	837.79	813.56	24.23	34.581		
3,300.00	3,156.79	3,179.75	3,168.27	18.96	11.93	-162.00	52.17	251.44	869.56	844.53	25.03	34.746		
3,400.00	3,250.64	3,274.56	3,262.67	19.66	12.30	-162.10	51.20	260.12	901.34	875.51	25.83	34.901		
3,500.00	3,344.49	3,369.36	3,357.07	20.35	12.67	-162.19	50.24	268.79	933.11	906.49	26.63	35.046		
3,600.00	3,438.34	3,464.17	3,451.48	21.05	13.04	-162.28	49.27	277.47	964.89	937.47	27.43	35.182		
3,700.00	3,532.19	3,558.97	3,545.88	21.75	13.42	-162.36	48.31	286.14	996.68	968.45	28.23	35.310		
3,800.00	3,626.04	3,653.78	3,640.28	22.45	13.79	-162.44	47.34	294.82	1,028.46	999.43	29.03	35.431		
3,900.00	3,719.89	3,748.59	3,734.68	23.15	14.16	-162.51	46.38	303.49	1,060.25	1,030.42	29.83	35.546		
4,000.00	3,813.73	3,843.39	3,829.09	23.85	14.53	-162.58	45.41	312.17	1,092.03	1,061.40	30.63	35.654		
4,100.00	3,907.58	3,938.20	3,923.49	24.55	14.90	-162.64	44.45	320.84	1,123.82	1,092.39	31.43	35.756		
4,200.00	4,001.43	4,033.00	4,017.89	25.25	15.27	-162.70	43.48	329.52	1,155.61	1,123.38	32.23	35.853		
4,300.00	4,095.28	4,127.81	4,112.30	25.95	15.64	-162.76	42.52	338.20	1,187.40	1,154.37	33.03	35.946		
4,400.00	4,189.13	4,222.61	4,206.70	26.65	16.01	-162.81	41.55	346.87	1,219.19	1,185.36	33.83	36.034		
4,500.00	4,282.98	4,317.42	4,301.10	27.35	16.38	-162.86	40.59	355.55	1,250.99	1,216.35	34.64	36.117		
4,600.00	4,376.83	4,412.23	4,395.51	28.05	16.75	-162.91	39.62	364.22	1,282.78	1,247.34	35.44	36.197		
4,700.00	4,470.67	4,507.03	4,489.91	28.75	17.12	-162.96	38.65	372.90	1,314.57	1,278.33	36.24	36.273		
4,800.00	4,564.52	4,601.84	4,584.31	29.45	17.49	-163.00	37.69	381.57	1,346.37	1,309.32	37.04	36.345		
4,900.00	4,658.37	4,696.64	4,678.72	30.15	17.86	-163.04	36.72	390.25	1,378.16	1,340.32	37.85	36.414		
5,000.00	4,752.22	4,791.45	4,773.12	30.85	18.23	-163.08	35.76	398.92	1,409.96	1,371.31	38.65	36.481		

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 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-10H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft			
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft			
Reference				Offset			Semi Major Axis			Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
5,100.00	4,846.07	4,886.26	4,867.52	31.56	18.60	-163.12	34.79	407.60	1,441.76	1,402.30	39.45	36.544					
5,200.00	4,939.92	4,981.06	4,961.93	32.26	18.97	-163.16	33.83	416.27	1,473.55	1,433.30	40.26	36.605					
5,300.00	5,033.77	5,075.87	5,056.33	32.96	19.34	-163.19	32.86	424.95	1,505.35	1,464.29	41.06	36.663					
5,400.00	5,127.61	5,170.67	5,150.73	33.66	19.71	-163.23	31.90	433.63	1,537.15	1,495.29	41.86	36.719					
5,500.00	5,221.46	5,265.48	5,245.14	34.36	20.08	-163.26	30.93	442.30	1,568.95	1,526.28	42.67	36.773					
5,600.00	5,315.31	5,360.29	5,339.54	35.06	20.45	-163.29	29.97	450.98	1,600.75	1,557.28	43.47	36.825					
5,700.00	5,409.16	5,455.09	5,433.94	35.76	20.82	-163.32	29.00	459.65	1,632.55	1,588.27	44.27	36.875					
5,800.00	5,503.01	5,549.90	5,528.35	36.47	21.19	-163.35	28.04	468.33	1,664.35	1,619.27	45.08	36.923					
5,900.00	5,596.86	5,644.70	5,622.75	37.17	21.56	-163.38	27.07	477.00	1,696.15	1,650.27	45.88	36.969					
6,000.00	5,690.71	5,739.51	5,717.15	37.87	21.93	-163.40	26.11	485.68	1,727.95	1,681.26	46.68	37.013					
6,100.00	5,784.55	5,834.31	5,811.55	38.57	22.30	-163.43	25.14	494.35	1,759.75	1,712.26	47.49	37.056					
6,200.00	5,878.40	5,929.12	5,905.96	39.27	22.68	-163.45	24.18	503.03	1,791.55	1,743.26	48.29	37.097					
6,300.00	5,972.25	6,023.93	6,000.36	39.97	23.05	-163.48	23.21	511.70	1,823.35	1,774.25	49.10	37.137					
6,400.00	6,066.10	6,118.73	6,094.76	40.68	23.42	-163.50	22.25	520.38	1,855.15	1,805.25	49.90	37.175					
6,500.00	6,159.95	6,213.54	6,189.17	41.38	23.79	-163.52	21.28	529.06	1,886.95	1,836.25	50.71	37.213					
6,600.00	6,253.80	6,308.34	6,283.57	42.08	24.16	-163.54	20.32	537.73	1,918.76	1,867.24	51.51	37.249					
6,700.00	6,347.65	6,403.15	6,377.97	42.78	24.53	-163.56	19.35	546.41	1,950.56	1,898.24	52.32	37.283					
6,800.00	6,441.49	6,497.96	6,472.38	43.48	24.90	-163.58	18.39	555.08	1,982.36	1,929.24	53.12	37.317					
6,823.95	6,463.97	6,520.66	6,494.98	43.65	24.99	-163.59	18.15	557.16	1,989.98	1,936.66	53.32	37.325					
6,850.00	6,488.47	6,545.36	6,519.58	43.83	25.08	-171.45	17.90	559.42	1,998.25	1,944.73	53.52	37.333					
6,900.00	6,535.65	6,586.22	6,560.35	44.16	25.23	172.76	17.48	561.92	2,014.09	1,960.23	53.85	37.399					
6,950.00	6,582.74	6,626.72	6,600.84	44.45	25.36	157.47	17.03	561.53	2,029.85	1,975.70	54.14	37.490					
7,000.00	6,629.37	6,667.42	6,641.40	44.71	25.47	144.12	16.55	558.27	2,045.41	1,991.01	54.40	37.600					
7,050.00	6,675.19	6,708.39	6,681.88	44.94	25.56	133.19	16.05	552.08	2,060.66	2,006.04	54.63	37.723					
7,100.00	6,719.86	6,750.00	6,722.45	45.14	25.65	124.49	15.52	542.85	2,075.50	2,020.67	54.83	37.852					
7,150.00	6,763.03	6,791.47	6,762.09	45.31	25.72	117.58	14.98	530.74	2,089.82	2,034.81	55.01	37.988					
7,200.00	6,804.37	6,833.74	6,801.51	45.46	25.79	112.06	14.41	515.49	2,103.51	2,048.34	55.18	38.122					
7,250.00	6,843.57	6,876.62	6,840.22	45.58	25.85	107.60	13.82	497.09	2,116.49	2,061.16	55.34	38.247					
7,300.00	6,880.33	6,920.18	6,878.03	45.68	25.91	103.96	13.21	475.49	2,128.67	2,073.17	55.49	38.359					
7,350.00	6,914.37	6,964.51	6,914.71	45.75	25.97	100.98	12.59	450.62	2,139.95	2,084.29	55.66	38.449					
7,400.00	6,945.43	7,009.67	6,949.98	45.81	26.03	98.55	11.95	422.45	2,150.26	2,094.42	55.84	38.509					
7,450.00	6,973.28	7,055.74	6,983.57	45.84	26.10	96.57	11.31	390.93	2,159.52	2,103.47	56.05	38.529					
7,500.00	6,997.70	7,102.80	7,015.15	45.86	26.18	94.99	10.65	356.07	2,167.67	2,111.37	56.30	38.501					
7,550.00	7,018.51	7,150.88	7,044.35	45.86	26.29	93.76	10.00	317.90	2,174.66	2,118.04	56.61	38.413					
7,600.00	7,035.55	7,200.05	7,070.79	45.85	26.43	92.85	9.34	276.47	2,180.41	2,123.42	57.00	38.256					
7,650.00	7,048.69	7,250.32	7,094.06	45.82	26.62	92.24	8.69	231.92	2,184.90	2,127.44	57.46	38.024					
7,700.00	7,057.83	7,301.73	7,113.71	45.79	26.85	91.90	8.06	184.45	2,188.09	2,130.06	58.02	37.711					
7,750.00	7,062.89	7,354.26	7,129.33	45.74	27.15	91.82	7.45	134.31	2,189.94	2,131.25	58.68	37.318					
7,786.65	7,064.00	7,393.47	7,137.95	45.70	27.41	91.93	7.02	96.07	2,190.43	2,131.20	59.23	36.980					
7,800.00	7,064.00	7,407.92	7,140.47	45.69	27.51	92.00	6.87	81.84	2,190.47	2,131.03	59.45	36.847					
7,900.00	7,064.00	7,516.90	7,148.00	45.59	28.42	92.20	5.83	-26.72	2,190.57	2,129.30	61.27	35.753					
8,000.00	7,064.00	7,616.90	7,148.00	45.53	29.45	92.20	4.95	-126.72	2,190.49	2,127.08	63.41	34.547					
8,100.00	7,064.00	7,716.90	7,148.00	45.50	30.70	92.20	4.08	-226.71	2,190.41	2,124.48	65.92	33.226					
8,200.00	7,064.00	7,816.90	7,148.00	45.53	32.13	92.20	3.20	-326.71	2,190.33	2,121.54	68.78	31.844					
8,300.00	7,064.00	7,916.90	7,148.00	45.62	33.72	92.20	2.32	-426.71	2,190.24	2,118.30	71.94	30.445					
8,400.00	7,064.00	8,016.90	7,148.00	45.83	35.45	92.20	1.45	-526.70	2,190.16	2,114.80	75.36	29.063					
8,500.00	7,064.00	8,116.90	7,148.00	46.24	37.29	92.20	0.57	-626.70	2,190.08	2,111.07	79.01	27.720					
8,600.00	7,064.00	8,216.90	7,148.00	46.98	39.24	92.20	-0.31	-726.69	2,190.00	2,107.15	82.85	26.433					
8,700.00	7,064.00	8,316.90	7,148.00	48.13	41.28	92.20	-1.18	-826.69	2,189.92	2,103.05	86.87	25.210					
8,800.00	7,064.00	8,416.90	7,148.00	49.67	43.39	92.20	-2.06	-926.69	2,189.84	2,098.81	91.03	24.056					
8,900.00	7,064.00	8,516.90	7,148.00	51.48	45.57	92.20	-2.94	-1,026.68	2,189.76	2,094.44	95.32	22.972					
9,000.00	7,064.00	8,616.90	7,148.00	53.46	47.80	92.20	-3.81	-1,126.68	2,189.68	2,089.95	99.73	21.957					

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 11-10-15H
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 11-10-15H	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: Reference		0-OWSG (Rev2) MWD Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance			Separation Factor	Offset Well Error: 0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		Warning
9,100.00	7,064.00	8,716.90	7,148.00	55.54	50.08	92.20	-4.69	-1,226.68	2,189.59	2,085.37	104.23	21.008	
9,200.00	7,064.00	8,816.90	7,148.00	57.71	52.40	92.20	-5.57	-1,326.67	2,189.51	2,080.70	108.81	20.121	
9,300.00	7,064.00	8,916.90	7,148.00	59.94	54.76	92.20	-6.45	-1,426.67	2,189.43	2,075.95	113.48	19.294	
9,400.00	7,064.00	9,016.90	7,148.00	62.22	57.16	92.20	-7.32	-1,526.66	2,189.35	2,071.14	118.21	18.521	
9,500.00	7,064.00	9,116.90	7,148.00	64.55	59.58	92.20	-8.20	-1,626.66	2,189.27	2,066.28	122.99	17.800	
9,600.00	7,064.00	9,216.90	7,148.00	66.90	62.02	92.20	-9.08	-1,726.66	2,189.19	2,061.35	127.83	17.125	
9,700.00	7,064.00	9,316.90	7,148.00	69.28	64.49	92.20	-9.95	-1,826.65	2,189.11	2,056.39	132.72	16.494	
9,800.00	7,064.00	9,416.90	7,148.00	71.69	66.98	92.20	-10.83	-1,926.65	2,189.03	2,051.38	137.65	15.903	
9,900.00	7,064.00	9,516.90	7,148.00	74.13	69.48	92.20	-11.71	-2,026.64	2,188.95	2,046.33	142.61	15.349	
10,000.00	7,064.00	9,616.90	7,148.00	76.58	72.00	92.20	-12.58	-2,126.64	2,188.86	2,041.25	147.61	14.829	
10,100.00	7,064.00	9,716.90	7,148.00	79.05	74.54	92.20	-13.46	-2,226.64	2,188.78	2,036.14	152.64	14.340	
10,200.00	7,064.00	9,816.90	7,148.00	81.54	77.08	92.20	-14.34	-2,326.63	2,188.70	2,031.01	157.69	13.879	
10,300.00	7,064.00	9,916.90	7,148.00	84.04	79.64	92.20	-15.21	-2,426.63	2,188.62	2,025.85	162.77	13.446	
10,400.00	7,064.00	10,016.90	7,148.00	86.56	82.21	92.20	-16.09	-2,526.63	2,188.54	2,020.66	167.88	13.037	
10,500.00	7,064.00	10,116.90	7,148.00	89.08	84.79	92.20	-16.97	-2,626.62	2,188.46	2,015.46	173.00	12.650	
10,600.00	7,064.00	10,216.90	7,148.00	91.62	87.38	92.20	-17.85	-2,726.62	2,188.38	2,010.23	178.14	12.284	
10,700.00	7,064.00	10,316.90	7,148.00	94.17	89.97	92.20	-18.72	-2,826.61	2,188.30	2,004.99	183.30	11.938	
10,800.00	7,064.00	10,416.90	7,148.00	96.73	92.58	92.20	-19.60	-2,926.61	2,188.21	1,999.74	188.48	11.610	
10,900.00	7,064.00	10,516.90	7,148.00	99.30	95.19	92.20	-20.48	-3,026.61	2,188.13	1,994.47	193.67	11.299	
11,000.00	7,064.00	10,616.90	7,148.00	101.87	97.80	92.20	-21.35	-3,126.60	2,188.05	1,989.18	198.87	11.003	
11,100.00	7,064.00	10,716.90	7,148.00	104.45	100.42	92.20	-22.23	-3,226.60	2,187.97	1,983.89	204.08	10.721	
11,200.00	7,064.00	10,816.90	7,148.00	107.04	103.05	92.20	-23.11	-3,326.59	2,187.89	1,978.58	209.31	10.453	
11,300.00	7,064.00	10,916.90	7,148.00	109.64	105.68	92.20	-23.98	-3,426.59	2,187.81	1,973.26	214.55	10.197	
11,400.00	7,064.00	11,016.90	7,148.00	112.24	108.32	92.20	-24.86	-3,526.59	2,187.73	1,967.93	219.79	9.954	
11,500.00	7,064.00	11,116.90	7,148.00	114.84	110.96	92.20	-25.74	-3,626.58	2,187.65	1,962.60	225.05	9.721	
11,600.00	7,064.00	11,216.90	7,148.00	117.45	113.60	92.20	-26.61	-3,726.58	2,187.57	1,957.25	230.31	9.498	
11,700.00	7,064.00	11,316.90	7,148.00	120.07	116.25	92.20	-27.49	-3,826.57	2,187.48	1,951.90	235.59	9.285	
11,800.00	7,064.00	11,416.90	7,148.00	122.69	118.90	92.20	-28.37	-3,926.57	2,187.40	1,946.54	240.87	9.081	
11,900.00	7,064.00	11,516.90	7,148.00	125.32	121.55	92.20	-29.25	-4,026.57	2,187.32	1,941.17	246.15	8.886	
12,000.00	7,064.00	11,616.90	7,148.00	127.95	124.21	92.20	-30.12	-4,126.56	2,187.24	1,935.80	251.45	8.699	
12,100.00	7,064.00	11,716.90	7,148.00	130.58	126.87	92.20	-31.00	-4,226.56	2,187.16	1,930.41	256.74	8.519	
12,200.00	7,064.00	11,816.90	7,148.00	133.21	129.53	92.20	-31.88	-4,326.56	2,187.08	1,925.03	262.05	8.346	
12,300.00	7,064.00	11,916.90	7,148.00	135.85	132.19	92.20	-32.75	-4,426.55	2,187.00	1,919.64	267.36	8.180	
12,400.00	7,064.00	12,016.90	7,148.00	138.50	134.86	92.20	-33.63	-4,526.55	2,186.92	1,914.24	272.68	8.020	
12,500.00	7,064.00	12,116.90	7,148.00	141.14	137.53	92.20	-34.51	-4,626.54	2,186.83	1,908.84	278.00	7.866	
12,600.00	7,064.00	12,216.90	7,148.00	143.79	140.20	92.20	-35.38	-4,726.54	2,186.75	1,903.43	283.32	7.718	
12,700.00	7,064.00	12,316.90	7,148.00	146.44	142.87	92.20	-36.26	-4,826.54	2,186.67	1,898.02	288.65	7.576	
12,800.00	7,064.00	12,416.90	7,148.00	149.09	145.55	92.20	-37.14	-4,926.53	2,186.59	1,892.61	293.98	7.438	
12,900.00	7,064.00	12,516.90	7,148.00	151.75	148.22	92.20	-38.01	-5,026.53	2,186.51	1,887.19	299.32	7.305	
13,000.00	7,064.00	12,616.90	7,148.00	154.41	150.90	92.20	-38.89	-5,126.52	2,186.43	1,881.77	304.66	7.177	
13,100.00	7,064.00	12,716.90	7,148.00	157.07	153.58	92.20	-39.77	-5,226.52	2,186.35	1,876.34	310.00	7.053	
13,200.00	7,064.00	12,816.90	7,148.00	159.73	156.26	92.20	-40.65	-5,326.52	2,186.27	1,870.92	315.35	6.933	
13,300.00	7,064.00	12,916.90	7,148.00	162.39	158.94	92.20	-41.52	-5,426.51	2,186.19	1,865.48	320.70	6.817	
13,400.00	7,064.00	13,016.90	7,148.00	165.06	161.63	92.20	-42.40	-5,526.51	2,186.10	1,860.05	326.06	6.705	
13,500.00	7,064.00	13,116.90	7,148.00	167.73	164.31	92.20	-43.28	-5,626.51	2,186.02	1,854.61	331.41	6.596	
13,600.00	7,064.00	13,216.90	7,148.00	170.40	167.00	92.20	-44.15	-5,726.50	2,185.94	1,849.17	336.77	6.491	
13,700.00	7,064.00	13,316.90	7,148.00	173.07	169.69	92.20	-45.03	-5,826.50	2,185.86	1,843.73	342.13	6.389	
13,800.00	7,064.00	13,416.90	7,148.00	175.74	172.38	92.20	-45.91	-5,926.49	2,185.78	1,838.28	347.50	6.290	
13,900.00	7,064.00	13,516.90	7,148.00	178.41	175.06	92.20	-46.78	-6,026.49	2,185.70	1,832.84	352.86	6.194	
14,000.00	7,064.00	13,616.90	7,148.00	181.09	177.75	92.20	-47.66	-6,126.49	2,185.62	1,827.39	358.23	6.101	
14,100.00	7,064.00	13,716.90	7,148.00	183.77	180.45	92.20	-48.54	-6,226.48	2,185.54	1,821.94	363.60	6.011	
14,200.00	7,064.00	13,816.90	7,148.00	186.44	183.14	92.20	-49.41	-6,326.48	2,185.45	1,816.48	368.97	5.923	

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 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-10H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
14,300.00	7,064.00	13,916.90	7,148.00	189.12	185.83	92.20	-50.29	-6,426.47	2,185.37	1,811.03	374.35	5.838			
14,400.00	7,064.00	14,016.90	7,148.00	191.80	188.53	92.20	-51.17	-6,526.47	2,185.29	1,805.57	379.72	5.755			
14,500.00	7,064.00	14,116.90	7,148.00	194.48	191.22	92.20	-52.05	-6,626.47	2,185.21	1,800.11	385.10	5.674			
14,600.00	7,064.00	14,216.90	7,148.00	197.17	193.92	92.20	-52.92	-6,726.46	2,185.13	1,794.65	390.48	5.596			
14,700.00	7,064.00	14,316.90	7,148.00	199.85	196.61	92.20	-53.80	-6,826.46	2,185.05	1,789.19	395.86	5.520			
14,800.00	7,064.00	14,416.90	7,148.00	202.53	199.31	92.20	-54.68	-6,926.45	2,184.97	1,783.72	401.24	5.445			
14,900.00	7,064.00	14,516.90	7,148.00	205.22	202.01	92.20	-55.55	-7,026.45	2,184.89	1,778.26	406.63	5.373			
15,000.00	7,064.00	14,616.90	7,148.00	207.91	204.70	92.20	-56.43	-7,126.45	2,184.81	1,772.79	412.01	5.303			
15,100.00	7,064.00	14,716.90	7,148.00	210.59	207.40	92.20	-57.31	-7,226.44	2,184.72	1,767.32	417.40	5.234			
15,200.00	7,064.00	14,816.90	7,148.00	213.28	210.10	92.20	-58.18	-7,326.44	2,184.64	1,761.85	422.79	5.167			
15,300.00	7,064.00	14,916.90	7,148.00	215.97	212.80	92.20	-59.06	-7,426.44	2,184.56	1,756.38	428.18	5.102			
15,400.00	7,064.00	15,016.90	7,148.00	218.66	215.50	92.20	-59.94	-7,526.43	2,184.48	1,750.91	433.57	5.038			
15,500.00	7,064.00	15,116.90	7,148.00	221.35	218.20	92.20	-60.82	-7,626.43	2,184.40	1,745.44	438.96	4.976			
15,600.00	7,064.00	15,216.90	7,148.00	224.04	220.90	92.20	-61.69	-7,726.42	2,184.32	1,739.96	444.36	4.916			
15,700.00	7,064.00	15,316.90	7,148.00	226.73	223.61	92.20	-62.57	-7,826.42	2,184.24	1,734.49	449.75	4.857			
15,800.00	7,064.00	15,416.90	7,148.00	229.43	226.31	92.20	-63.45	-7,926.42	2,184.16	1,729.01	455.15	4.799			
15,900.00	7,064.00	15,516.90	7,148.00	232.12	229.01	92.20	-64.32	-8,026.41	2,184.08	1,723.53	460.54	4.742			
16,000.00	7,064.00	15,616.90	7,148.00	234.81	231.72	92.20	-65.20	-8,126.41	2,183.99	1,718.05	465.94	4.687			
16,100.00	7,064.00	15,716.90	7,148.00	237.51	234.42	92.20	-66.08	-8,226.40	2,183.91	1,712.57	471.34	4.633			
16,200.00	7,064.00	15,816.90	7,148.00	240.20	237.12	92.20	-66.95	-8,326.40	2,183.83	1,707.09	476.74	4.581			
16,297.18	7,064.00	15,910.78	7,148.00	242.82	239.66	92.20	-67.78	-8,420.28	2,183.76	1,701.88	481.87	4.532			
16,300.00	7,064.00	15,910.78	7,148.00	242.90	239.66	92.20	-67.78	-8,420.28	2,183.76	1,701.83	481.93	4.531			
16,305.41	7,064.00	15,910.78	7,148.00	243.05	239.66	92.20	-67.78	-8,420.28	2,183.78	1,701.74	482.03	4.530 SF			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-11H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft		
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference				Offset			Semi Major Axis		Highside		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	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	61.93	0.00	61.93	61.93	0.29	215.939				
100.00	100.00	100.00	100.00	0.14	0.14	0.00	61.93	0.00	61.93	61.64	1.00	61.697				
200.00	200.00	200.00	200.00	0.50	0.50	0.00	61.93	0.00	61.93	60.92	1.72	35.990 CC, ES				
300.00	300.00	300.00	300.00	0.86	0.86	0.00	61.93	0.00	61.93	60.21	2.42	26.238				
400.00	399.98	399.98	399.98	1.20	1.22	-161.60	61.93	0.00	63.58	61.16	3.12	21.942				
500.00	499.84	499.84	499.84	1.55	1.58	-162.95	61.93	0.00	68.57	65.44	3.84	20.060				
600.00	599.45	599.45	599.45	1.91	1.93	-164.81	61.93	0.00	76.94	73.11	4.55	19.504				
700.00	698.70	698.70	698.70	2.29	2.29	-166.82	61.93	0.00	88.76	84.21	5.26	19.467				
800.00	797.47	801.04	801.02	2.69	2.64	-168.62	60.23	0.53	102.37	97.11	5.96	19.457				
900.00	895.62	903.96	903.78	3.13	2.98	-170.04	55.00	2.17	115.94	109.98	6.67	19.559				
1,000.00	993.06	1,003.95	1,003.46	3.61	3.32	-171.22	47.45	4.53	130.43	123.76	7.39	20.073				
1,100.00	1,089.64	1,102.30	1,101.50	4.12	3.67	-172.31	39.90	6.90	148.25	140.87	8.11	20.905				
1,200.00	1,185.27	1,199.97	1,198.85	4.68	4.02	-173.30	32.41	9.24	169.53	161.42	8.84	21.975				
1,300.00	1,279.82	1,296.82	1,295.39	5.29	4.37	-174.17	24.98	11.57	194.22	185.38	8.92	22.082				
1,310.06	1,289.26	1,306.52	1,305.05	5.35	4.40	-174.25	24.23	11.80	196.89	187.97	9.57	23.092				
1,400.00	1,373.67	1,393.15	1,391.40	5.93	4.72	-174.93	17.59	13.88	220.95	211.38	10.30	24.054				
1,500.00	1,467.52	1,489.47	1,487.41	6.58	5.08	-175.52	10.20	16.20	247.72	237.42	11.03	24.879				
1,600.00	1,561.37	1,585.79	1,583.42	7.24	5.43	-176.01	2.81	18.51	274.52	263.48	11.77	25.593				
1,700.00	1,655.22	1,682.11	1,679.43	7.91	5.79	-176.40	-4.58	20.83	301.33	289.55	12.52	26.216				
1,800.00	1,749.06	1,778.43	1,775.43	8.59	6.15	-176.73	-11.97	23.14	328.15	315.63	13.26	26.764				
1,900.00	1,842.91	1,874.75	1,871.44	9.27	6.52	-177.01	-19.36	25.45	354.98	341.71	14.01	27.249				
2,000.00	1,936.76	1,971.07	1,967.45	9.95	6.88	-177.26	-26.75	27.77	381.81	367.80	14.76	27.681				
2,100.00	2,030.61	2,067.39	2,063.46	10.63	7.24	-177.47	-34.14	30.08	408.66	393.89	15.52	28.069				
2,200.00	2,124.46	2,163.71	2,159.47	11.32	7.61	-177.65	-41.53	32.40	435.50	419.99	16.27	28.418				
2,300.00	2,218.31	2,260.03	2,255.48	12.01	7.97	-177.81	-48.92	34.71	462.35	446.08	17.03	28.734				
2,400.00	2,312.16	2,356.35	2,351.48	12.70	8.34	-177.96	-56.31	37.02	489.21	472.18	17.78	29.201				
2,500.00	2,406.00	2,452.67	2,447.49	13.39	8.71	-178.09	-63.70	39.34	516.06	498.28	18.54	29.823				
2,600.00	2,499.85	2,548.99	2,543.50	14.09	9.07	-178.20	-71.09	41.65	542.92	524.38	19.30	29.524				
2,700.00	2,593.70	2,645.31	2,639.51	14.78	9.44	-178.31	-78.48	43.97	569.78	550.48	20.06	29.745				
2,800.00	2,687.55	2,741.63	2,735.52	15.47	9.81	-178.41	-85.87	46.28	596.64	576.59	20.82	29.949				
2,900.00	2,781.40	2,837.95	2,831.53	16.17	10.18	-178.49	-93.26	48.60	623.51	602.69	21.58	30.137				
3,000.00	2,875.25	2,934.27	2,927.53	16.87	10.54	-178.58	-100.65	50.91	650.37	628.79	22.34	30.312				
3,100.00	2,969.10	3,030.59	3,023.54	17.56	10.91	-178.65	-108.04	53.22	677.24	654.90	23.10	30.475				
3,200.00	3,062.95	3,126.91	3,119.55	18.26	11.28	-178.72	-115.43	55.54	704.11	681.00	23.87	30.627				
3,300.00	3,156.79	3,223.23	3,215.56	18.96	11.65	-178.78	-122.82	57.85	730.97	707.11	24.63	30.769				
3,400.00	3,250.64	3,319.55	3,311.57	19.66	12.02	-178.84	-130.21	60.17	757.84	733.21	25.39	30.901				
3,500.00	3,344.49	3,415.87	3,407.57	20.35	12.39	-178.90	-137.60	62.48	784.71	759.32	26.16	31.026				
3,600.00	3,438.34	3,512.19	3,503.58	21.05	12.76	-178.95	-144.99	64.79	811.58	785.42	26.92	31.143				
3,700.00	3,532.19	3,608.51	3,599.59	21.75	13.13	-179.00	-152.38	67.11	838.45	811.53	27.69	31.253				
3,800.00	3,626.04	3,704.83	3,695.60	22.45	13.50	-179.04	-159.77	69.42	865.32	837.63	28.45	31.358				
3,900.00	3,719.89	3,801.15	3,791.61	23.15	13.87	-179.08	-167.16	71.74	892.19	863.74	29.22	31.456				
4,000.00	3,813.73	3,897.47	3,887.62	23.85	14.24	-179.12	-174.54	74.05	919.06	889.85	29.98	31.549				
4,100.00	3,907.58	3,993.79	3,983.62	24.55	14.61	-179.16	-181.93	76.36	945.94	915.95	30.75	31.637				
4,200.00	4,001.43	4,090.11	4,079.63	25.25	14.98	-179.20	-189.32	78.68	972.81	942.06	31.52	31.721				
4,300.00	4,095.28	4,186.43	4,175.64	25.95	15.35	-179.23	-196.71	80.99	999.68	968.17	32.28	31.800				
4,400.00	4,189.13	4,282.75	4,271.65	26.65	15.72	-179.26	-204.10	83.31	1,026.55	994.27	33.05	31.876				
4,500.00	4,282.98	4,379.07	4,367.66	27.35	16.09	-179.29	-211.49	85.62	1,053.43	1,020.38	33.81	31.947				
4,600.00	4,376.83	4,475.39	4,463.67	28.05	16.46	-179.32	-218.88	87.93	1,080.30	1,046.49	34.58	32.016				
4,700.00	4,470.67	4,571.71	4,559.67	28.75	16.83	-179.35	-226.27	90.25	1,107.17	1,072.59	35.35	32.081				
4,800.00	4,564.52	4,668.03	4,655.68	29.45	17.20	-179.38	-233.66	92.56	1,134.05	1,098.70	36.12	32.144				
4,900.00	4,658.37	4,764.35	4,751.69	30.15	17.57	-179.40	-241.05	94.88	1,160.92	1,124.81	36.88	32.204				
5,000.00	4,752.22	4,860.67	4,847.70	30.85	17.94	-179.42	-248.44	97.19	1,187.80	1,150.91						

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 11-10-15H
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 11-10-15H	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			Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	4,846.07	4,956.99	4,943.71	31.56	18.31	-179.45	-255.83	99.50	1,214.67	1,177.02	37.65	32.261		
5,200.00	4,939.92	5,053.31	5,039.72	32.26	18.68	-179.47	-263.22	101.82	1,241.55	1,203.13	38.42	32.316		
5,300.00	5,033.77	5,149.63	5,135.72	32.96	19.05	-179.49	-270.61	104.13	1,268.42	1,229.23	39.19	32.368		
5,400.00	5,127.61	5,245.95	5,231.73	33.66	19.42	-179.51	-278.00	106.45	1,295.30	1,255.34	39.96	32.418		
5,500.00	5,221.46	5,342.27	5,327.74	34.36	19.79	-179.53	-285.39	108.76	1,322.17	1,281.45	40.72	32.467		
5,600.00	5,315.31	5,438.59	5,423.75	35.06	20.16	-179.55	-292.78	111.07	1,349.05	1,307.55	41.49	32.513		
5,700.00	5,409.16	5,534.91	5,519.76	35.76	20.54	-179.56	-300.17	113.39	1,375.92	1,333.66	42.26	32.558		
5,800.00	5,503.01	5,631.23	5,615.76	36.47	20.91	-179.58	-307.56	115.70	1,402.80	1,359.77	43.03	32.601		
5,900.00	5,596.86	5,727.55	5,711.77	37.17	21.28	-179.60	-314.95	118.02	1,429.67	1,385.88	43.80	32.642		
6,000.00	5,690.71	5,823.87	5,807.78	37.87	21.65	-179.61	-322.34	120.33	1,456.55	1,411.98	44.57	32.682		
6,100.00	5,784.55	5,920.19	5,903.79	38.57	22.02	-179.63	-329.73	122.64	1,483.43	1,438.09	45.34	32.720		
6,200.00	5,878.40	6,016.51	5,999.80	39.27	22.39	-179.64	-337.12	124.96	1,510.30	1,464.20	46.11	32.757		
6,300.00	5,972.25	6,112.83	6,095.81	39.97	22.76	-179.66	-344.51	127.27	1,537.18	1,490.30	46.88	32.793		
6,400.00	6,066.10	6,209.15	6,191.81	40.68	23.13	-179.67	-351.90	129.59	1,564.05	1,516.41	47.65	32.827		
6,500.00	6,159.95	6,305.47	6,287.82	41.38	23.50	-179.68	-359.29	131.90	1,590.93	1,542.52	48.41	32.860		
6,600.00	6,253.80	6,401.79	6,383.83	42.08	23.88	-179.70	-366.68	134.21	1,617.81	1,568.62	49.18	32.893		
6,700.00	6,347.65	6,498.11	6,479.84	42.78	24.25	-179.71	-374.07	136.53	1,644.68	1,594.73	49.95	32.924		
6,800.00	6,441.49	6,594.43	6,575.85	43.48	24.62	-179.72	-381.46	138.84	1,671.56	1,620.84	50.72	32.954		
6,823.95	6,463.97	6,617.49	6,598.84	43.65	24.71	-179.72	-383.23	139.40	1,678.00	1,627.09	50.91	32.961		
6,850.00	6,488.47	6,642.63	6,623.89	43.83	24.80	172.62	-385.15	140.00	1,684.83	1,633.72	51.11	32.966		
6,900.00	6,535.65	6,688.27	6,669.38	44.16	24.98	157.37	-388.66	141.10	1,696.96	1,645.49	51.47	32.970		
6,950.00	6,582.74	6,714.92	6,695.95	44.45	25.08	142.70	-390.71	141.12	1,708.10	1,656.41	51.68	33.048		
7,000.00	6,629.37	6,750.00	6,730.87	44.71	25.21	130.09	-393.42	139.26	1,718.54	1,666.59	51.95	33.082		
7,050.00	6,675.19	6,765.47	6,746.22	44.94	25.26	119.82	-394.61	137.75	1,728.06	1,676.01	52.05	33.202		
7,100.00	6,719.86	6,800.00	6,780.30	45.14	25.38	111.98	-397.28	132.91	1,736.82	1,684.54	52.28	33.222		
7,150.00	6,763.03	6,816.16	6,796.14	45.31	25.43	105.80	-398.53	129.93	1,744.59	1,692.23	52.36	33.321		
7,200.00	6,804.37	6,850.00	6,828.99	45.46	25.54	101.22	-401.13	122.26	1,751.52	1,698.95	52.57	33.316		
7,250.00	6,843.57	6,867.09	6,845.39	45.58	25.59	97.51	-402.43	117.65	1,757.44	1,704.79	52.65	33.377		
7,300.00	6,880.33	6,900.00	6,876.56	45.68	25.69	94.84	-404.92	107.40	1,762.47	1,709.59	52.88	33.332		
7,350.00	6,914.37	6,918.34	6,893.66	45.75	25.74	92.64	-406.30	100.91	1,766.49	1,713.49	53.00	33.331		
7,400.00	6,945.43	6,950.00	6,922.66	45.81	25.83	91.17	-408.64	88.44	1,769.61	1,716.35	53.26	33.227		
7,450.00	6,973.28	6,970.04	6,940.64	45.84	25.88	89.97	-410.10	79.72	1,771.76	1,718.30	53.46	33.140		
7,500.00	6,997.70	7,000.00	6,966.93	45.86	25.96	89.31	-412.25	65.52	1,773.03	1,719.24	53.79	32.959		
7,550.00	7,018.51	7,022.30	6,985.99	45.86	26.02	88.85	-413.81	54.06	1,773.42	1,719.30	54.12	32.767		
7,600.00	7,035.55	7,050.00	7,009.04	45.85	26.08	88.79	-415.72	38.81	1,772.99	1,718.44	54.55	32.503		
7,650.00	7,048.69	7,075.26	7,029.39	45.82	26.14	88.94	-417.41	23.94	1,771.78	1,716.75	55.02	32.201		
7,700.00	7,057.83	7,100.00	7,048.66	45.79	26.19	89.33	-419.03	8.52	1,769.84	1,714.29	55.55	31.859		
7,750.00	7,062.89	7,129.11	7,070.47	45.74	26.25	90.05	-420.87	-10.67	1,767.26	1,711.08	56.18	31.458		
7,786.65	7,064.00	7,150.00	7,085.51	45.70	26.30	90.70	-422.15	-25.11	1,764.99	1,708.32	56.66	31.149		
7,800.00	7,064.00	7,156.53	7,090.10	45.69	26.31	90.85	-422.54	-29.74	1,764.14	1,707.30	56.84	31.036		
7,900.00	7,064.00	7,218.54	7,130.97	45.59	26.43	92.18	-426.08	-76.19	1,759.58	1,701.25	58.33	30.165		
8,000.00	7,064.00	7,293.27	7,173.22	45.53	26.58	93.56	-429.85	-137.65	1,757.64	1,697.59	60.05	29.270		
8,067.80	7,064.00	7,351.73	7,200.50	45.51	26.76	94.45	-432.39	-189.26	1,757.36	1,695.97	61.38	28.629		
8,100.00	7,064.00	7,381.67	7,212.40	45.50	26.90	94.84	-433.53	-216.71	1,757.40	1,695.35	62.05	28.323		
8,200.00	7,064.00	7,482.53	7,241.70	45.53	27.60	95.80	-436.59	-313.04	1,757.85	1,693.45	64.40	27.294		
8,300.00	7,064.00	7,591.40	7,253.91	45.62	28.70	96.20	-438.43	-421.04	1,758.13	1,690.99	67.14	26.186		
8,400.00	7,064.00	7,692.38	7,254.00	45.83	29.94	96.20	-439.28	-522.02	1,758.10	1,688.03	70.07	25.090		
8,500.00	7,064.00	7,792.38	7,254.00	46.24	31.36	96.20	-440.11	-622.02	1,758.07	1,684.79	73.28	23.991		
8,600.00	7,064.00	7,892.38	7,254.00	46.98	32.94	96.20	-440.94	-722.01	1,758.03	1,681.29	76.75	22.907		
8,700.00	7,064.00	7,992.38	7,254.00	48.13	34.67	96.20	-441.77	-822.01	1,758.00	1,677.56	80.44	21.856		
8,800.00	7,064.00	8,092.38	7,254.00	49.67	36.52	96.20	-442.60	-922.01	1,757.96	1,673.65	84.32	20.850		
8,900.00	7,064.00	8,192.38	7,254.00	51.48	38.47	96.20	-443.43	-1,022.00	1,757.93	1,669.57	88.36	19.894		

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 11-10-15H
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 11-10-15H	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				Rule Assigned:					Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,000.00	7,064.00	8,292.38	7,254.00	53.46	40.51	96.20	-444.26	-1,122.00	1,757.90	1,665.34	92.55	18.993	
9,100.00	7,064.00	8,392.38	7,254.00	55.54	42.62	96.20	-445.09	-1,222.00	1,757.86	1,660.99	96.87	18.147	
9,200.00	7,064.00	8,492.38	7,254.00	57.71	44.80	96.21	-445.92	-1,321.99	1,757.83	1,656.53	101.29	17.354	
9,300.00	7,064.00	8,592.38	7,254.00	59.94	47.04	96.21	-446.75	-1,421.99	1,757.79	1,651.98	105.81	16.613	
9,400.00	7,064.00	8,692.38	7,254.00	62.22	49.33	96.21	-447.58	-1,521.99	1,757.76	1,647.35	110.41	15.921	
9,500.00	7,064.00	8,792.38	7,254.00	64.55	51.65	96.21	-448.41	-1,621.98	1,757.72	1,642.64	115.08	15.274	
9,600.00	7,064.00	8,892.38	7,254.00	66.90	54.02	96.21	-449.24	-1,721.98	1,757.69	1,637.88	119.81	14.670	
9,700.00	7,064.00	8,992.38	7,254.00	69.28	56.42	96.21	-450.07	-1,821.98	1,757.66	1,633.05	124.60	14.106	
9,800.00	7,064.00	9,092.38	7,254.00	71.69	58.84	96.21	-450.90	-1,921.97	1,757.62	1,628.18	129.45	13.578	
9,900.00	7,064.00	9,192.38	7,254.00	74.13	61.29	96.21	-451.73	-2,021.97	1,757.59	1,623.26	134.33	13.084	
10,000.00	7,064.00	9,292.38	7,254.00	76.58	63.76	96.21	-452.56	-2,121.97	1,757.55	1,618.30	139.25	12.621	
10,100.00	7,064.00	9,392.38	7,254.00	79.05	66.26	96.21	-453.39	-2,221.96	1,757.52	1,613.31	144.21	12.187	
10,200.00	7,064.00	9,492.38	7,254.00	81.54	68.76	96.21	-454.22	-2,321.96	1,757.48	1,608.28	149.20	11.779	
10,300.00	7,064.00	9,592.38	7,254.00	84.04	71.29	96.21	-455.05	-2,421.96	1,757.45	1,603.23	154.22	11.395	
10,400.00	7,064.00	9,692.38	7,254.00	86.56	73.83	96.21	-455.88	-2,521.95	1,757.41	1,598.15	159.27	11.034	
10,500.00	7,064.00	9,792.38	7,254.00	89.08	76.38	96.21	-456.71	-2,621.95	1,757.38	1,593.04	164.34	10.694	
10,600.00	7,064.00	9,892.38	7,254.00	91.62	78.94	96.21	-457.54	-2,721.95	1,757.35	1,587.92	169.43	10.372	
10,700.00	7,064.00	9,992.38	7,254.00	94.17	81.51	96.21	-458.37	-2,821.94	1,757.31	1,582.77	174.54	10.068	
10,800.00	7,064.00	10,092.38	7,254.00	96.73	84.10	96.21	-459.20	-2,921.94	1,757.28	1,577.61	179.67	9.781	
10,900.00	7,064.00	10,192.38	7,254.00	99.30	86.69	96.21	-460.03	-3,021.93	1,757.24	1,572.43	184.81	9.508	
11,000.00	7,064.00	10,292.38	7,254.00	101.87	89.29	96.21	-460.86	-3,121.93	1,757.21	1,567.24	189.97	9.250	
11,100.00	7,064.00	10,392.38	7,254.00	104.45	91.89	96.21	-461.69	-3,221.93	1,757.17	1,562.03	195.14	9.005	
11,200.00	7,064.00	10,492.38	7,254.00	107.04	94.50	96.21	-462.52	-3,321.92	1,757.14	1,556.81	200.33	8.771	
11,300.00	7,064.00	10,592.38	7,254.00	109.64	97.12	96.21	-463.35	-3,421.92	1,757.11	1,551.58	205.52	8.549	
11,400.00	7,064.00	10,692.38	7,254.00	112.24	99.75	96.21	-464.18	-3,521.92	1,757.07	1,546.34	210.73	8.338	
11,500.00	7,064.00	10,792.38	7,254.00	114.84	102.37	96.21	-465.01	-3,621.91	1,757.04	1,541.09	215.95	8.136	
11,600.00	7,064.00	10,892.38	7,254.00	117.45	105.01	96.21	-465.84	-3,721.91	1,757.00	1,535.83	221.18	7.944	
11,700.00	7,064.00	10,992.38	7,254.00	120.07	107.65	96.21	-466.67	-3,821.91	1,756.97	1,530.56	226.41	7.760	
11,800.00	7,064.00	11,092.38	7,254.00	122.69	110.29	96.21	-467.50	-3,921.90	1,756.93	1,525.28	231.66	7.584	
11,900.00	7,064.00	11,192.38	7,254.00	125.32	112.93	96.21	-468.33	-4,021.90	1,756.90	1,519.99	236.91	7.416	
12,000.00	7,064.00	11,292.38	7,254.00	127.95	115.58	96.21	-469.16	-4,121.90	1,756.87	1,514.70	242.17	7.255	
12,100.00	7,064.00	11,392.38	7,254.00	130.58	118.24	96.21	-469.99	-4,221.89	1,756.83	1,509.40	247.43	7.100	
12,200.00	7,064.00	11,492.38	7,254.00	133.21	120.89	96.21	-470.82	-4,321.89	1,756.80	1,504.09	252.71	6.952	
12,300.00	7,064.00	11,592.38	7,254.00	135.85	123.55	96.21	-471.65	-4,421.89	1,756.76	1,498.78	257.98	6.810	
12,400.00	7,064.00	11,692.38	7,254.00	138.50	126.21	96.21	-472.48	-4,521.88	1,756.73	1,493.46	263.27	6.673	
12,500.00	7,064.00	11,792.38	7,254.00	141.14	128.88	96.21	-473.31	-4,621.88	1,756.69	1,488.14	268.56	6.541	
12,600.00	7,064.00	11,892.38	7,254.00	143.79	131.54	96.21	-474.15	-4,721.88	1,756.66	1,482.81	273.85	6.415	
12,700.00	7,064.00	11,992.38	7,254.00	146.44	134.21	96.21	-474.98	-4,821.87	1,756.63	1,477.48	279.15	6.293	
12,800.00	7,064.00	12,092.38	7,254.00	149.09	136.88	96.21	-475.81	-4,921.87	1,756.59	1,472.14	284.45	6.175	
12,900.00	7,064.00	12,192.38	7,254.00	151.75	139.55	96.21	-476.64	-5,021.87	1,756.56	1,466.80	289.75	6.062	
13,000.00	7,064.00	12,292.38	7,254.00	154.41	142.23	96.21	-477.47	-5,121.86	1,756.52	1,461.46	295.06	5.953	
13,100.00	7,064.00	12,392.38	7,254.00	157.07	144.90	96.21	-478.30	-5,221.86	1,756.49	1,456.11	300.38	5.848	
13,200.00	7,064.00	12,492.38	7,254.00	159.73	147.58	96.21	-479.13	-5,321.86	1,756.45	1,450.76	305.70	5.746	
13,300.00	7,064.00	12,592.38	7,254.00	162.39	150.26	96.21	-479.96	-5,421.85	1,756.42	1,445.40	311.02	5.647	
13,400.00	7,064.00	12,692.38	7,254.00	165.06	152.94	96.21	-480.79	-5,521.85	1,756.39	1,440.05	316.34	5.552	
13,500.00	7,064.00	12,792.38	7,254.00	167.73	155.62	96.21	-481.62	-5,621.85	1,756.35	1,434.69	321.67	5.460	
13,600.00	7,064.00	12,892.38	7,254.00	170.40	158.31	96.21	-482.45	-5,721.84	1,756.32	1,429.32	327.00	5.371	
13,700.00	7,064.00	12,992.38	7,254.00	173.07	160.99	96.21	-483.28	-5,821.84	1,756.28	1,423.96	332.33	5.285	
13,800.00	7,064.00	13,092.38	7,254.00	175.74	163.68	96.21	-484.11	-5,921.83	1,756.25	1,418.59	337.66	5.201	
13,900.00	7,064.00	13,192.38	7,254.00	178.41	166.37	96.21	-484.94	-6,021.83	1,756.21	1,413.22	343.00	5.120	
14,000.00	7,064.00	13,292.38	7,254.00	181.09	169.05	96.21	-485.77	-6,121.83	1,756.18	1,407.84	348.34	5.042	
14,100.00	7,064.00	13,392.38	7,254.00	183.77	171.74	96.21	-486.60	-6,221.82	1,756.15	1,402.47	353.68	4.965	

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 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-11H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,200.00	7,064.00	13,492.38	7,254.00	186.44	174.43	96.21	-487.43	-6,321.82	1,756.11	1,397.09	359.02	4.891		
14,300.00	7,064.00	13,592.38	7,254.00	189.12	177.13	96.21	-488.26	-6,421.82	1,756.08	1,391.71	364.37	4.819		
14,400.00	7,064.00	13,692.38	7,254.00	191.80	179.82	96.21	-489.09	-6,521.81	1,756.04	1,386.32	369.72	4.750		
14,500.00	7,064.00	13,792.38	7,254.00	194.48	182.51	96.21	-489.92	-6,621.81	1,756.01	1,380.94	375.07	4.682		
14,600.00	7,064.00	13,892.38	7,254.00	197.17	185.21	96.21	-490.75	-6,721.81	1,755.97	1,375.56	380.42	4.616		
14,700.00	7,064.00	13,992.38	7,254.00	199.85	187.90	96.21	-491.58	-6,821.80	1,755.94	1,370.17	385.77	4.552		
14,800.00	7,064.00	14,092.38	7,254.00	202.53	190.60	96.21	-492.41	-6,921.80	1,755.91	1,364.78	391.13	4.489		
14,900.00	7,064.00	14,192.38	7,254.00	205.22	193.29	96.21	-493.24	-7,021.80	1,755.87	1,359.39	396.48	4.429		
15,000.00	7,064.00	14,292.38	7,254.00	207.91	195.99	96.21	-494.07	-7,121.79	1,755.84	1,354.00	401.84	4.369		
15,100.00	7,064.00	14,392.38	7,254.00	210.59	198.69	96.21	-494.90	-7,221.79	1,755.80	1,348.60	407.20	4.312		
15,200.00	7,064.00	14,492.38	7,254.00	213.28	201.39	96.21	-495.73	-7,321.79	1,755.77	1,343.21	412.56	4.256		
15,300.00	7,064.00	14,592.38	7,254.00	215.97	204.08	96.21	-496.56	-7,421.78	1,755.73	1,337.81	417.92	4.201		
15,400.00	7,064.00	14,692.38	7,254.00	218.66	206.78	96.21	-497.39	-7,521.78	1,755.70	1,332.41	423.29	4.148		
15,500.00	7,064.00	14,792.38	7,254.00	221.35	209.48	96.21	-498.22	-7,621.78	1,755.67	1,327.01	428.65	4.096		
15,600.00	7,064.00	14,892.38	7,254.00	224.04	212.18	96.21	-499.05	-7,721.77	1,755.63	1,321.61	434.02	4.045		
15,700.00	7,064.00	14,992.38	7,254.00	226.73	214.89	96.21	-499.88	-7,821.77	1,755.60	1,316.21	439.38	3.996		
15,800.00	7,064.00	15,092.38	7,254.00	229.43	217.59	96.21	-500.71	-7,921.77	1,755.56	1,310.81	444.75	3.947		
15,900.00	7,064.00	15,192.38	7,254.00	232.12	220.29	96.21	-501.54	-8,021.76	1,755.53	1,305.41	450.12	3.900		
16,000.00	7,064.00	15,292.38	7,254.00	234.81	222.99	96.21	-502.37	-8,121.76	1,755.49	1,300.00	455.49	3.854		
16,100.00	7,064.00	15,392.38	7,254.00	237.51	225.70	96.21	-503.20	-8,221.76	1,755.46	1,294.60	460.86	3.809		
16,200.00	7,064.00	15,492.38	7,254.00	240.20	228.40	96.21	-504.03	-8,321.75	1,755.43	1,289.19	466.23	3.765		
16,300.00	7,064.00	15,592.15	7,254.00	242.90	231.10	96.21	-504.85	-8,421.52	1,755.40	1,283.80	471.60	3.722		
16,305.41	7,064.00	15,597.56	7,254.00	243.05	231.24	96.21	-504.89	-8,426.93	1,755.40	1,283.51	471.89	3.720 SF		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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	47.35	0.00	47.35	47.35					
100.00	100.00	100.00	100.00	0.14	0.14	0.00	47.35	0.00	47.35	47.07	0.29	165.127			
200.00	200.00	200.00	200.00	0.50	0.50	0.00	47.35	0.00	47.35	46.35	1.00	47.179			
300.00	300.00	300.00	300.00	0.86	0.86	0.00	47.35	0.00	47.35	45.63	1.72	27.521 CC, ES			
400.00	399.98	399.98	399.98	1.20	1.22	-161.76	47.35	0.00	49.01	46.59	2.42	20.225			
500.00	499.84	499.84	499.84	1.55	1.58	-163.47	47.35	0.00	54.00	50.88	3.12	17.282			
600.00	599.45	599.45	599.45	1.91	1.93	-165.70	47.35	0.00	62.41	58.57	3.84	16.272			
700.00	698.70	701.22	701.20	2.29	2.28	-167.72	45.67	0.61	72.58	68.05	4.54	16.001			
800.00	797.47	803.39	803.22	2.69	2.62	-169.19	40.56	2.45	82.77	77.54	5.23	15.821			
900.00	895.62	905.94	905.36	3.13	2.98	-170.29	32.00	5.53	92.92	86.99	5.94	15.652			
1,000.00	993.06	1,008.89	1,007.50	3.61	3.35	-171.13	19.95	9.87	103.02	96.37	6.65	15.489			
1,100.00	1,089.64	1,109.54	1,106.98	4.12	3.74	-171.84	5.54	15.06	113.82	106.44	7.38	15.421			
1,200.00	1,185.27	1,208.53	1,204.79	4.68	4.14	-172.59	-8.83	20.23	127.86	119.74	8.12	15.743			
1,300.00	1,279.82	1,306.97	1,302.05	5.29	4.54	-173.35	-23.12	25.38	145.34	136.47	8.87	16.385			
1,310.06	1,289.26	1,316.83	1,311.79	5.35	4.58	-173.42	-24.55	25.89	147.29	138.34	8.95	16.457			
1,400.00	1,373.67	1,405.02	1,398.93	5.93	4.94	-174.05	-37.35	30.50	164.88	155.26	9.62	17.133			
1,500.00	1,467.52	1,503.07	1,495.81	6.58	5.35	-174.61	-51.58	35.62	184.46	174.08	10.38	17.772			
1,600.00	1,561.37	1,601.13	1,592.68	7.24	5.77	-175.06	-65.80	40.75	204.05	192.91	11.14	18.318			
1,700.00	1,655.22	1,699.18	1,689.56	7.91	6.19	-175.43	-80.03	45.87	223.65	211.74	11.90	18.787			
1,800.00	1,749.06	1,797.23	1,786.44	8.59	6.61	-175.74	-94.26	51.00	243.25	230.58	12.67	19.196			
1,900.00	1,842.91	1,895.28	1,883.32	9.27	7.03	-176.00	-108.49	56.12	262.87	249.42	13.44	19.553			
2,000.00	1,936.76	1,993.33	1,980.19	9.95	7.46	-176.23	-122.72	61.24	282.48	268.27	14.22	19.869			
2,100.00	2,030.61	2,091.38	2,077.07	10.63	7.89	-176.43	-136.95	66.37	302.10	287.11	14.99	20.150			
2,200.00	2,124.46	2,189.43	2,173.95	11.32	8.32	-176.60	-151.18	71.49	321.73	305.96	15.77	20.400			
2,300.00	2,218.31	2,287.48	2,270.83	12.01	8.74	-176.76	-165.41	76.62	341.35	324.80	16.55	20.626			
2,400.00	2,312.16	2,385.54	2,367.71	12.70	9.18	-176.90	-179.64	81.74	360.98	343.65	17.33	20.830			
2,500.00	2,406.00	2,483.59	2,464.58	13.39	9.61	-177.02	-193.87	86.87	380.61	362.50	18.11	21.014			
2,600.00	2,499.85	2,581.64	2,561.46	14.09	10.04	-177.13	-208.10	91.99	400.25	381.35	18.89	21.183			
2,700.00	2,593.70	2,679.69	2,658.34	14.78	10.47	-177.23	-222.33	97.11	419.88	400.20	19.68	21.337			
2,800.00	2,687.55	2,777.74	2,755.22	15.47	10.90	-177.32	-236.56	102.24	439.51	419.05	20.46	21.479			
2,900.00	2,781.40	2,875.79	2,852.09	16.17	11.34	-177.41	-250.79	107.36	459.15	437.90	21.25	21.609			
3,000.00	2,875.25	2,973.84	2,948.97	16.87	11.77	-177.48	-265.02	112.49	478.78	456.75	22.03	21.730			
3,100.00	2,969.10	3,071.89	3,045.85	17.56	12.21	-177.56	-279.25	117.61	498.42	475.60	22.82	21.841			
3,200.00	3,062.95	3,169.95	3,142.73	18.26	12.64	-177.62	-293.48	122.73	518.06	494.45	23.61	21.945			
3,300.00	3,156.79	3,268.00	3,239.60	18.96	13.08	-177.68	-307.71	127.86	537.70	513.30	24.39	22.042			
3,400.00	3,250.64	3,366.05	3,336.48	19.66	13.51	-177.74	-321.94	132.98	557.34	532.15	25.18	22.132			
3,500.00	3,344.49	3,464.10	3,433.36	20.35	13.95	-177.79	-336.17	138.11	576.98	551.01	25.97	22.217			
3,600.00	3,438.34	3,562.15	3,530.24	21.05	14.38	-177.84	-350.40	143.23	596.62	569.86	26.76	22.296			
3,700.00	3,532.19	3,660.20	3,627.12	21.75	14.82	-177.89	-364.63	148.35	616.26	588.71	27.55	22.371			
3,800.00	3,626.04	3,758.25	3,723.99	22.45	15.26	-177.93	-378.86	153.48	635.90	607.56	28.34	22.441			
3,900.00	3,719.89	3,856.30	3,820.87	23.15	15.69	-177.97	-393.09	158.60	655.54	626.41	29.13	22.507			
4,000.00	3,813.73	3,954.35	3,917.75	23.85	16.13	-178.01	-407.32	163.73	675.18	645.26	29.92	22.569			
4,100.00	3,907.58	4,052.41	4,014.63	24.55	16.57	-178.05	-421.55	168.85	694.82	664.11	30.71	22.628			
4,200.00	4,001.43	4,150.46	4,111.50	25.25	17.00	-178.08	-435.77	173.97	714.46	682.96	31.50	22.684			
4,300.00	4,095.28	4,248.51	4,208.38	25.95	17.44	-178.11	-450.00	179.10	734.10	701.82	32.29	22.737			
4,400.00	4,189.13	4,346.56	4,305.26	26.65	17.88	-178.14	-464.23	184.22	753.74	720.67	33.08	22.787			
4,500.00	4,282.98	4,444.61	4,402.14	27.35	18.31	-178.17	-478.46	189.35	773.39	739.52	33.87	22.835			
4,600.00	4,376.83	4,542.66	4,499.02	28.05	18.75	-178.20	-492.69	194.47	793.03	758.37	34.66	22.881			
4,700.00	4,470.67	4,640.71	4,595.89	28.75	19.19	-178.23	-506.92	199.59	812.67	777.22	35.45	22.924			
4,800.00	4,564.52	4,738.76	4,692.77	29.45	19.63	-178.25	-521.15	204.72	832.32	796.07	36.24	22.965			
4,900.00	4,658.37	4,836.82	4,789.65	30.15	20.06	-178.27	-535.38	209.84	851.96	814.92	37.03	23.005			
5,000.00	4,752.22	4,934.87	4,886.53	30.85	20.50	-178.30	-549.61	214.97	871.60	833.78	37.83	23.043			

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 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-12H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Highside		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	4,846.07	5,032.92	4,983.40	31.56	20.94	-178.32	-563.84	220.09	891.24	852.63	38.62	23.079			
5,200.00	4,939.92	5,130.97	5,080.28	32.26	21.38	-178.34	-578.07	225.21	910.89	871.48	39.41	23.114			
5,300.00	5,033.77	5,229.02	5,177.16	32.96	21.81	-178.36	-592.30	230.34	930.53	890.33	40.20	23.147			
5,400.00	5,127.61	5,327.07	5,274.04	33.66	22.25	-178.38	-606.53	235.46	950.17	909.18	40.99	23.179			
5,500.00	5,221.46	5,425.12	5,370.92	34.36	22.69	-178.40	-620.76	240.59	969.82	928.03	41.79	23.209			
5,600.00	5,315.31	5,523.17	5,467.79	35.06	23.13	-178.41	-634.99	245.71	989.46	946.88	42.58	23.239			
5,700.00	5,409.16	5,621.22	5,564.67	35.76	23.57	-178.43	-649.22	250.84	1,009.11	965.74	43.37	23.267			
5,800.00	5,503.01	5,719.28	5,661.55	36.47	24.00	-178.45	-663.45	255.96	1,028.75	984.59	44.16	23.294			
5,900.00	5,596.86	5,817.33	5,758.43	37.17	24.44	-178.46	-677.68	261.08	1,048.39	1,003.44	44.96	23.320			
6,000.00	5,690.71	5,915.38	5,855.30	37.87	24.88	-178.48	-691.91	266.21	1,068.04	1,022.29	45.75	23.346			
6,100.00	5,784.55	6,013.43	5,952.18	38.57	25.32	-178.49	-706.14	271.33	1,087.68	1,041.14	46.54	23.370			
6,200.00	5,878.40	6,111.48	6,049.06	39.27	25.76	-178.51	-720.37	276.46	1,107.33	1,059.99	47.33	23.393			
6,300.00	5,972.25	6,209.53	6,145.94	39.97	26.20	-178.52	-734.60	281.58	1,126.97	1,078.84	48.13	23.416			
6,400.00	6,066.10	6,307.58	6,242.82	40.68	26.63	-178.53	-748.83	286.70	1,146.61	1,097.69	48.92	23.438			
6,500.00	6,159.95	6,405.63	6,339.69	41.38	27.07	-178.55	-763.06	291.83	1,166.26	1,116.54	49.71	23.459			
6,600.00	6,253.80	6,503.69	6,436.57	42.08	27.51	-178.56	-777.29	296.95	1,185.90	1,135.40	50.51	23.480			
6,700.00	6,347.65	6,576.30	6,508.36	42.78	27.83	-178.64	-787.84	299.24	1,206.25	1,155.14	51.12	23.598			
6,800.00	6,441.49	6,635.62	6,566.86	43.48	28.06	-178.98	-796.50	294.97	1,229.49	1,177.91	51.58	23.836			
6,823.95	6,463.97	6,650.00	6,580.95	43.65	28.12	-179.11	-798.59	293.01	1,235.51	1,183.83	51.69	23.904			
6,850.00	6,488.47	6,664.38	6,594.98	43.83	28.17	173.12	-800.68	290.70	1,242.11	1,190.32	51.78	23.986			
6,900.00	6,535.65	6,700.00	6,629.48	44.16	28.29	157.47	-805.82	283.45	1,254.43	1,202.39	52.03	24.109			
6,950.00	6,582.74	6,721.51	6,650.06	44.45	28.35	142.50	-808.90	278.02	1,266.11	1,213.98	52.13	24.288			
7,000.00	6,629.37	6,750.00	6,676.99	44.71	28.44	129.50	-812.93	269.64	1,277.15	1,224.88	52.27	24.435			
7,050.00	6,675.19	6,778.49	6,703.46	44.94	28.52	119.00	-816.91	259.92	1,287.44	1,235.05	52.39	24.576			
7,100.00	6,719.86	6,800.00	6,723.12	45.14	28.58	110.77	-819.88	251.70	1,296.93	1,244.52	52.41	24.744			
7,150.00	6,763.03	6,835.46	6,754.81	45.31	28.66	104.40	-824.67	236.55	1,305.47	1,252.89	52.58	24.829			
7,200.00	6,804.37	6,863.99	6,779.59	45.46	28.73	99.45	-828.44	222.93	1,313.09	1,260.42	52.66	24.933			
7,250.00	6,843.57	6,900.00	6,809.87	45.58	28.80	95.64	-833.05	204.00	1,319.75	1,266.92	52.83	24.980			
7,300.00	6,880.33	6,921.21	6,827.13	45.68	28.84	92.61	-835.70	191.96	1,325.32	1,272.46	52.86	25.074			
7,350.00	6,914.37	6,950.00	6,848.82	45.75	28.89	90.29	-839.18	174.60	1,329.87	1,276.89	52.98	25.100			
7,400.00	6,945.43	6,978.77	6,871.61	45.81	28.94	88.54	-842.55	156.11	1,333.36	1,280.21	53.15	25.086			
7,450.00	6,973.28	7,000.00	6,887.08	45.84	28.97	87.19	-844.95	141.78	1,335.82	1,282.54	53.28	25.072			
7,500.00	6,997.70	7,036.81	6,912.63	45.86	29.02	86.39	-848.93	115.59	1,337.15	1,283.50	53.64	24.928			
7,550.00	7,018.51	7,066.05	6,931.70	45.86	29.05	85.88	-851.92	93.64	1,337.46	1,283.47	53.99	24.773			
7,600.00	7,035.55	7,100.00	6,952.42	45.85	29.09	85.76	-855.19	66.95	1,336.77	1,282.31	54.46	24.548			
7,650.00	7,048.69	7,125.07	6,966.70	45.82	29.11	85.81	-857.47	46.47	1,335.07	1,280.14	54.92	24.307			
7,700.00	7,057.83	7,150.00	6,980.00	45.79	29.14	86.13	-859.60	25.49	1,332.45	1,276.98	55.46	24.023			
7,750.00	7,062.89	7,184.97	6,997.11	45.74	29.16	86.87	-862.37	-4.87	1,328.92	1,272.72	56.20	23.647			
7,786.65	7,064.00	7,200.00	7,003.90	45.70	29.18	87.39	-863.49	-18.24	1,325.84	1,269.17	56.67	23.395			
7,800.00	7,064.00	7,215.36	7,010.47	45.69	29.19	87.68	-864.57	-32.08	1,324.63	1,267.68	56.96	23.257			
7,900.00	7,064.00	7,279.98	7,034.02	45.59	29.24	88.69	-868.54	-92.08	1,317.56	1,258.92	58.64	22.469			
8,000.00	7,064.00	7,350.00	7,051.82	45.53	29.32	89.47	-871.72	-159.68	1,313.21	1,252.68	60.52	21.697			
8,100.00	7,064.00	7,423.24	7,061.57	45.50	29.49	89.89	-873.76	-232.20	1,311.11	1,248.52	62.59	20.949			
8,200.00	7,064.00	7,509.50	7,063.00	45.53	29.92	89.96	-874.69	-318.41	1,310.79	1,245.85	64.94	20.185			
8,300.00	7,064.00	7,609.50	7,063.00	45.62	30.85	89.96	-875.52	-418.41	1,310.75	1,242.98	67.77	19.341			
8,400.00	7,064.00	7,709.50	7,063.00	45.83	32.15	89.96	-876.35	-518.41	1,310.72	1,239.80	70.91	18.483			
8,500.00	7,064.00	7,809.50	7,063.00	46.24	33.69	89.96	-877.18	-618.40	1,310.68	1,236.35	74.33	17.634			
8,600.00	7,064.00	7,909.50	7,063.00	46.98	35.38	89.96	-878.01	-718.40	1,310.64	1,232.67	77.98	16.808			
8,700.00	7,064.00	8,009.50	7,063.00	48.13	37.21	89.96	-878.84	-818.40	1,310.61	1,228.78	81.83	16.016			
8,800.00	7,064.00	8,109.50	7,063.00	49.67	39.15	89.96	-879.68	-918.39	1,310.57	1,224.71	85.86	15.264			
8,900.00	7,064.00	8,209.50	7,063.00	51.48	41.18	89.96	-880.51	-1,018.39	1,310.54	1,220.50	90.04	14.555			
9,000.00	7,064.00	8,309.50	7,063.00	53.46	43.29	89.96	-881.34	-1,118.39	1,310.50	1,216.15	94.35	13.890			

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 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-12H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: Reference		0-OWSG (Rev2) MWD Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	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	
9,100.00	7,064.00	8,409.50	7,063.00	55.54	45.46	89.96	-882.17	-1,218.38	1,310.47	1,211.70	98.77	13.268		
9,200.00	7,064.00	8,509.50	7,063.00	57.71	47.69	89.96	-883.00	-1,318.38	1,310.43	1,207.14	103.29	12.687		
9,300.00	7,064.00	8,609.50	7,063.00	59.94	49.96	89.96	-883.83	-1,418.38	1,310.39	1,202.49	107.90	12.144		
9,400.00	7,064.00	8,709.50	7,063.00	62.22	52.28	89.96	-884.66	-1,518.37	1,310.36	1,197.78	112.58	11.639		
9,500.00	7,064.00	8,809.50	7,063.00	64.55	54.64	89.96	-885.50	-1,618.37	1,310.32	1,192.99	117.33	11.168		
9,600.00	7,064.00	8,909.50	7,063.00	66.90	57.03	89.96	-886.33	-1,718.37	1,310.29	1,188.15	122.14	10.728		
9,700.00	7,064.00	9,009.50	7,063.00	69.28	59.44	89.96	-887.16	-1,818.36	1,310.25	1,183.25	127.00	10.317		
9,800.00	7,064.00	9,109.50	7,063.00	71.69	61.88	89.96	-887.99	-1,918.36	1,310.22	1,178.31	131.90	9.933		
9,900.00	7,064.00	9,209.50	7,063.00	74.13	64.35	89.96	-888.82	-2,018.35	1,310.18	1,173.33	136.85	9.574		
10,000.00	7,064.00	9,309.50	7,063.00	76.58	66.83	89.96	-889.65	-2,118.35	1,310.15	1,168.31	141.83	9.237		
10,100.00	7,064.00	9,409.50	7,063.00	79.05	69.33	89.96	-890.48	-2,218.35	1,310.11	1,163.26	146.85	8.922		
10,200.00	7,064.00	9,509.50	7,063.00	81.54	71.85	89.96	-891.31	-2,318.34	1,310.07	1,158.18	151.89	8.625		
10,300.00	7,064.00	9,609.50	7,063.00	84.04	74.38	89.96	-892.15	-2,418.34	1,310.04	1,153.07	156.96	8.346		
10,400.00	7,064.00	9,709.50	7,063.00	86.56	76.93	89.96	-892.98	-2,518.34	1,310.00	1,147.94	162.06	8.083		
10,500.00	7,064.00	9,809.50	7,063.00	89.08	79.49	89.96	-893.81	-2,618.33	1,309.97	1,142.79	167.18	7.836		
10,600.00	7,064.00	9,909.50	7,063.00	91.62	82.05	89.96	-894.64	-2,718.33	1,309.93	1,137.62	172.31	7.602		
10,700.00	7,064.00	10,009.50	7,063.00	94.17	84.63	89.96	-895.47	-2,818.33	1,309.90	1,132.43	177.47	7.381		
10,800.00	7,064.00	10,109.50	7,063.00	96.73	87.22	89.96	-896.30	-2,918.32	1,309.86	1,127.22	182.64	7.172		
10,900.00	7,064.00	10,209.50	7,063.00	99.30	89.81	89.96	-897.13	-3,018.32	1,309.83	1,121.99	187.83	6.973		
11,000.00	7,064.00	10,309.50	7,063.00	101.87	92.41	89.96	-897.96	-3,118.32	1,309.79	1,116.76	193.03	6.785		
11,100.00	7,064.00	10,409.50	7,063.00	104.45	95.02	89.96	-898.80	-3,218.31	1,309.75	1,111.51	198.25	6.607		
11,200.00	7,064.00	10,509.50	7,063.00	107.04	97.63	89.96	-899.63	-3,318.31	1,309.72	1,106.24	203.47	6.437		
11,300.00	7,064.00	10,609.50	7,063.00	109.64	100.25	89.96	-900.46	-3,418.31	1,309.68	1,100.97	208.71	6.275		
11,400.00	7,064.00	10,709.50	7,063.00	112.24	102.87	89.96	-901.29	-3,518.30	1,309.65	1,095.69	213.96	6.121		
11,500.00	7,064.00	10,809.50	7,063.00	114.84	105.50	89.96	-902.12	-3,618.30	1,309.61	1,090.39	219.22	5.974		
11,600.00	7,064.00	10,909.50	7,063.00	117.45	108.14	89.96	-902.95	-3,718.30	1,309.58	1,085.09	224.48	5.834		
11,700.00	7,064.00	11,009.50	7,063.00	120.07	110.78	89.96	-903.78	-3,818.29	1,309.54	1,079.78	229.76	5.700		
11,800.00	7,064.00	11,109.50	7,063.00	122.69	113.42	89.96	-904.61	-3,918.29	1,309.50	1,074.46	235.04	5.571		
11,900.00	7,064.00	11,209.50	7,063.00	125.32	116.06	89.96	-905.45	-4,018.29	1,309.47	1,069.14	240.33	5.449		
12,000.00	7,064.00	11,309.50	7,063.00	127.95	118.71	89.96	-906.28	-4,118.28	1,309.43	1,063.81	245.63	5.331		
12,100.00	7,064.00	11,409.50	7,063.00	130.58	121.37	89.96	-907.11	-4,218.28	1,309.40	1,058.47	250.93	5.218		
12,200.00	7,064.00	11,509.50	7,063.00	133.21	124.02	89.96	-907.94	-4,318.28	1,309.36	1,053.12	256.24	5.110		
12,300.00	7,064.00	11,609.50	7,063.00	135.85	126.68	89.96	-908.77	-4,418.27	1,309.33	1,047.77	261.55	5.006		
12,400.00	7,064.00	11,709.50	7,063.00	138.50	129.34	89.96	-909.60	-4,518.27	1,309.29	1,042.42	266.87	4.906		
12,500.00	7,064.00	11,809.50	7,063.00	141.14	132.00	89.96	-910.43	-4,618.26	1,309.26	1,037.06	272.20	4.810		
12,600.00	7,064.00	11,909.50	7,063.00	143.79	134.67	89.96	-911.27	-4,718.26	1,309.22	1,031.69	277.53	4.717		
12,700.00	7,064.00	12,009.50	7,063.00	146.44	137.34	89.96	-912.10	-4,818.26	1,309.18	1,026.33	282.86	4.628		
12,800.00	7,064.00	12,109.50	7,063.00	149.09	140.01	89.96	-912.93	-4,918.25	1,309.15	1,020.95	288.20	4.543		
12,900.00	7,064.00	12,209.50	7,063.00	151.75	142.68	89.96	-913.76	-5,018.25	1,309.11	1,015.58	293.54	4.460		
13,000.00	7,064.00	12,309.50	7,063.00	154.41	145.35	89.96	-914.59	-5,118.25	1,309.08	1,010.20	298.88	4.380		
13,100.00	7,064.00	12,409.50	7,063.00	157.07	148.03	89.96	-915.42	-5,218.24	1,309.04	1,004.81	304.23	4.303		
13,200.00	7,064.00	12,509.50	7,063.00	159.73	150.71	89.96	-916.25	-5,318.24	1,309.01	999.42	309.58	4.228		
13,300.00	7,064.00	12,609.50	7,063.00	162.39	153.38	89.96	-917.08	-5,418.24	1,308.97	994.03	314.94	4.156		
13,400.00	7,064.00	12,709.50	7,063.00	165.06	156.06	89.96	-917.92	-5,518.23	1,308.94	988.64	320.30	4.087		
13,500.00	7,064.00	12,809.50	7,063.00	167.73	158.75	89.96	-918.75	-5,618.23	1,308.90	983.24	325.66	4.019		
13,600.00	7,064.00	12,909.50	7,063.00	170.40	161.43	89.96	-919.58	-5,718.23	1,308.86	977.84	331.02	3.954		
13,700.00	7,064.00	13,009.50	7,063.00	173.07	164.11	89.96	-920.41	-5,818.22	1,308.83	972.44	336.39	3.891		
13,800.00	7,064.00	13,109.50	7,063.00	175.74	166.80	89.96	-921.24	-5,918.22	1,308.79	967.04	341.75	3.830		
13,900.00	7,064.00	13,209.50	7,063.00	178.41	169.49	89.96	-922.07	-6,018.22	1,308.76	961.63	347.12	3.770		
14,000.00	7,064.00	13,309.50	7,063.00	181.09	172.17	89.96	-922.90	-6,118.21	1,308.72	956.22	352.50	3.713		
14,100.00	7,064.00	13,409.50	7,063.00	183.77	174.86	89.96	-923.73	-6,218.21	1,308.69	950.81	357.87	3.657		
14,200.00	7,064.00	13,509.50	7,063.00	186.44	177.55	89.96	-924.57	-6,318.21	1,308.65	945.40	363.25	3.603		

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 11-10-15H
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 11-10-15H	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	7,064.00	13,609.50	7,063.00	189.12	180.24	89.96	-925.40	-6,418.20	1,308.61	939.99	368.63	3.550			
14,400.00	7,064.00	13,709.50	7,063.00	191.80	182.93	89.96	-926.23	-6,518.20	1,308.58	934.57	374.01	3.499			
14,500.00	7,064.00	13,809.50	7,063.00	194.48	185.63	89.96	-927.06	-6,618.20	1,308.54	929.15	379.39	3.449			
14,600.00	7,064.00	13,909.50	7,063.00	197.17	188.32	89.96	-927.89	-6,718.19	1,308.51	923.73	384.78	3.401			
14,700.00	7,064.00	14,009.50	7,063.00	199.85	191.01	89.96	-928.72	-6,818.19	1,308.47	918.31	390.16	3.354			
14,800.00	7,064.00	14,109.50	7,063.00	202.53	193.71	89.96	-929.55	-6,918.19	1,308.44	912.89	395.55	3.308			
14,900.00	7,064.00	14,209.50	7,063.00	205.22	196.40	89.96	-930.39	-7,018.18	1,308.40	907.46	400.94	3.263			
15,000.00	7,064.00	14,309.50	7,063.00	207.91	199.10	89.96	-931.22	-7,118.18	1,308.37	902.04	406.33	3.220			
15,100.00	7,064.00	14,409.50	7,063.00	210.59	201.80	89.96	-932.05	-7,218.17	1,308.33	896.61	411.72	3.178			
15,200.00	7,064.00	14,509.50	7,063.00	213.28	204.49	89.96	-932.88	-7,318.17	1,308.29	891.18	417.12	3.137			
15,300.00	7,064.00	14,609.50	7,063.00	215.97	207.19	89.96	-933.71	-7,418.17	1,308.26	885.75	422.51	3.096			
15,400.00	7,064.00	14,709.50	7,063.00	218.66	209.89	89.96	-934.54	-7,518.16	1,308.22	880.32	427.91	3.057			
15,500.00	7,064.00	14,809.50	7,063.00	221.35	212.59	89.96	-935.37	-7,618.16	1,308.19	874.88	433.30	3.019			
15,600.00	7,064.00	14,909.50	7,063.00	224.04	215.29	89.96	-936.20	-7,718.16	1,308.15	869.45	438.70	2.982			
15,700.00	7,064.00	15,009.50	7,063.00	226.73	217.99	89.96	-937.04	-7,818.15	1,308.12	864.02	444.10	2.946			
15,800.00	7,064.00	15,109.50	7,063.00	229.43	220.69	89.96	-937.87	-7,918.15	1,308.08	858.58	449.50	2.910			
15,900.00	7,064.00	15,209.50	7,063.00	232.12	223.39	89.96	-938.70	-8,018.15	1,308.05	853.14	454.90	2.875			
16,000.00	7,064.00	15,309.50	7,063.00	234.81	226.10	89.96	-939.53	-8,118.14	1,308.01	847.70	460.30	2.842			
16,100.00	7,064.00	15,409.50	7,063.00	237.51	228.80	89.96	-940.36	-8,218.14	1,307.97	842.27	465.71	2.809			
16,200.00	7,064.00	15,509.50	7,063.00	240.20	231.50	89.96	-941.19	-8,318.14	1,307.94	836.83	471.11	2.776			
16,300.00	7,064.00	15,609.50	7,063.00	242.90	234.21	89.96	-942.02	-8,418.13	1,307.90	831.39	476.52	2.745			
16,305.41	7,064.00	15,614.91	7,063.00	243.05	234.35	89.96	-942.07	-8,423.54	1,307.90	831.09	476.81	2.743 SF			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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	29.14	0.00	29.14	29.14						
100.00	100.00	100.00	100.00	0.14	0.14	0.00	29.14	0.00	29.14	28.85	0.29	101.611				
200.00	200.00	200.00	200.00	0.50	0.50	0.00	29.14	0.00	29.14	28.14	1.00	29.032				
300.00	300.00	300.00	300.00	0.86	0.86	0.00	29.14	0.00	29.14	27.42	1.72	16.935 CC, ES				
400.00	399.98	399.98	399.98	1.20	1.22	-162.15	29.14	0.00	30.80	28.37	2.42	12.709				
500.00	499.84	499.84	499.84	1.55	1.58	-164.69	29.14	0.00	35.81	32.69	3.12	11.461				
600.00	599.45	600.96	600.94	1.91	1.92	-167.41	27.41	0.40	42.54	38.72	3.82	11.142				
700.00	698.70	702.34	702.17	2.29	2.26	-169.81	22.18	1.60	49.24	44.74	4.51	10.928				
800.00	797.47	803.95	803.38	2.69	2.62	-172.01	13.44	3.60	55.93	50.72	5.20	10.746				
900.00	895.62	905.82	904.46	3.13	2.99	-174.08	1.17	6.41	62.60	56.69	5.91	10.591				
1,000.00	993.06	1,007.92	1,005.26	3.61	3.39	-176.05	-14.63	10.03	69.25	62.63	6.62	10.456				
1,100.00	1,089.64	1,110.19	1,105.59	4.12	3.83	-177.97	-33.96	14.46	75.90	68.56	7.35	10.333				
1,200.00	1,185.27	1,209.79	1,202.96	4.68	4.27	-179.66	-54.40	19.15	84.42	76.32	8.10	10.425				
1,300.00	1,279.82	1,309.04	1,299.98	5.29	4.73	178.99	-74.77	23.82	96.46	87.60	8.87	10.880				
1,310.06	1,289.26	1,319.00	1,309.71	5.35	4.77	178.88	-76.81	24.29	97.87	88.92	8.95	10.939				
1,400.00	1,373.67	1,408.02	1,396.74	5.93	5.19	177.98	-95.08	28.47	110.61	100.96	9.64	11.471				
1,500.00	1,467.52	1,506.99	1,493.50	6.58	5.66	177.21	-115.39	33.13	124.80	114.37	10.42	11.972				
1,600.00	1,561.37	1,605.97	1,590.25	7.24	6.14	176.58	-135.70	37.79	139.00	127.79	11.21	12.397				
1,700.00	1,655.22	1,704.94	1,687.01	7.91	6.62	176.08	-156.01	42.44	153.22	141.22	12.01	12.761				
1,800.00	1,749.06	1,803.92	1,783.77	8.59	7.11	175.66	-176.32	47.10	167.45	154.65	12.81	13.076				
1,900.00	1,842.91	1,902.90	1,880.52	9.27	7.60	175.31	-196.64	51.75	181.69	168.08	13.61	13.350				
2,000.00	1,936.76	2,001.87	1,977.28	9.95	8.09	175.00	-216.95	56.41	195.93	181.52	14.42	13.591				
2,100.00	2,030.61	2,100.85	2,074.04	10.63	8.58	174.74	-237.26	61.06	210.18	194.95	15.23	13.805				
2,200.00	2,124.46	2,199.82	2,170.80	11.32	9.07	174.52	-257.57	65.72	224.43	208.39	16.04	13.995				
2,300.00	2,218.31	2,298.80	2,267.55	12.01	9.57	174.31	-277.88	70.38	238.68	221.83	16.85	14.164				
2,400.00	2,312.16	2,397.77	2,364.31	12.70	10.07	174.14	-298.19	75.03	252.94	235.27	17.67	14.317				
2,500.00	2,406.00	2,496.75	2,461.07	13.39	10.56	173.98	-318.50	79.69	267.20	248.71	18.48	14.456				
2,600.00	2,499.85	2,595.73	2,557.83	14.09	11.06	173.83	-338.81	84.34	281.46	262.16	19.30	14.582				
2,700.00	2,593.70	2,694.70	2,654.58	14.78	11.56	173.70	-359.13	89.00	295.72	275.60	20.12	14.696				
2,800.00	2,687.55	2,793.68	2,751.34	15.47	12.06	173.59	-379.44	93.65	309.98	289.04	20.94	14.801				
2,900.00	2,781.40	2,892.65	2,848.10	16.17	12.56	173.48	-399.75	98.31	324.25	302.48	21.76	14.898				
3,000.00	2,875.25	2,991.63	2,944.85	16.87	13.06	173.38	-420.06	102.97	338.52	315.93	22.59	14.987				
3,100.00	2,969.10	3,090.60	3,041.61	17.56	13.56	173.29	-440.37	107.62	352.78	329.37	23.41	15.069				
3,200.00	3,062.95	3,189.58	3,138.37	18.26	14.06	173.21	-460.68	112.28	367.05	342.81	24.24	15.145				
3,300.00	3,156.79	3,288.55	3,235.13	18.96	14.56	173.13	-480.99	116.93	381.32	356.26	25.06	15.216				
3,400.00	3,250.64	3,387.53	3,331.88	19.66	15.07	173.06	-501.30	121.59	395.59	369.70	25.89	15.282				
3,500.00	3,344.49	3,486.51	3,428.64	20.35	15.57	172.99	-521.61	126.24	409.85	383.14	26.71	15.344				
3,600.00	3,438.34	3,585.48	3,525.40	21.05	16.07	172.93	-541.93	130.90	424.12	396.59	27.54	15.402				
3,700.00	3,532.19	3,684.46	3,622.15	21.75	16.57	172.87	-562.24	135.56	438.39	410.03	28.36	15.456				
3,800.00	3,626.04	3,783.43	3,718.91	22.45	17.08	172.82	-582.55	140.21	452.67	423.47	29.19	15.507				
3,900.00	3,719.89	3,882.41	3,815.67	23.15	17.58	172.77	-602.86	144.87	466.94	436.92	30.02	15.555				
4,000.00	3,813.73	3,981.38	3,912.43	23.85	18.08	172.72	-623.17	149.52	481.21	450.36	30.85	15.600				
4,100.00	3,907.58	4,080.36	4,009.18	24.55	18.59	172.68	-643.48	154.18	495.48	463.80	31.67	15.643				
4,200.00	4,001.43	4,179.34	4,105.94	25.25	19.09	172.63	-663.79	158.83	509.75	477.25	32.50	15.683				
4,300.00	4,095.28	4,278.31	4,202.70	25.95	19.59	172.59	-684.10	163.49	524.02	490.69	33.33	15.722				
4,400.00	4,189.13	4,377.29	4,299.46	26.65	20.10	172.56	-704.42	168.15	538.30	504.14	34.16	15.758				
4,500.00	4,282.98	4,476.26	4,396.21	27.35	20.60	172.52	-724.73	172.80	552.57	517.58	34.99	15.792				
4,600.00	4,376.83	4,575.24	4,492.97	28.05	21.11	172.49	-745.04	177.46	566.84	531.02	35.82	15.825				
4,700.00	4,470.67	4,674.21	4,589.73	28.75	21.61	172.45	-765.35	182.11	581.11	544.47	36.65	15.857				
4,800.00	4,564.52	4,773.19	4,686.48	29.45	22.12	172.42	-785.66	186.77	595.39	557.91	37.48	15.886				
4,900.00	4,658.37	4,872.16	4,783.24	30.15	22.62	172.39	-805.97	191.43	609.66	571.35	38.31	15.915				
5,000.00	4,752.22	4,971.14	4,880.00	30.85	23.13	172.36	-826.28	196.08	623.93	584.80	39.14	15.942				

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 11-10-15H
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 11-10-15H	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	4,846.07	5,070.12	4,976.76	31.56	23.63	172.34	-846.59	200.74	638.21	598.24	39.97	15.968		
5,200.00	4,939.92	5,169.09	5,073.51	32.26	24.14	172.31	-866.90	205.39	652.48	611.68	40.80	15.993		
5,300.00	5,033.77	5,268.07	5,170.27	32.96	24.64	172.29	-887.22	210.05	666.76	625.13	41.63	16.017		
5,400.00	5,127.61	5,367.04	5,267.03	33.66	25.15	172.26	-907.53	214.70	681.03	638.57	42.46	16.039		
5,500.00	5,221.46	5,466.02	5,363.78	34.36	25.65	172.24	-927.84	219.36	695.30	652.01	43.29	16.061		
5,600.00	5,315.31	5,564.99	5,460.54	35.06	26.16	172.22	-948.15	224.02	709.58	665.46	44.12	16.082		
5,700.00	5,409.16	5,663.97	5,557.30	35.76	26.66	172.20	-968.46	228.67	723.85	678.90	44.95	16.103		
5,800.00	5,503.01	5,762.95	5,654.06	36.47	27.17	172.18	-988.77	233.33	738.13	692.34	45.78	16.122		
5,900.00	5,596.86	5,861.92	5,750.81	37.17	27.67	172.16	-1,009.08	237.98	752.40	705.79	46.61	16.141		
6,000.00	5,690.71	5,960.90	5,847.57	37.87	28.18	172.14	-1,029.39	242.64	766.68	719.23	47.45	16.159		
6,100.00	5,784.55	6,059.87	5,944.33	38.57	28.68	172.12	-1,049.71	247.29	780.95	732.67	48.28	16.176		
6,200.00	5,878.40	6,158.85	6,041.08	39.27	29.19	172.10	-1,070.02	251.95	795.22	746.12	49.11	16.193		
6,300.00	5,972.25	6,257.82	6,137.84	39.97	29.69	172.09	-1,090.33	256.61	809.50	759.56	49.94	16.209		
6,400.00	6,066.10	6,356.80	6,234.60	40.68	30.20	172.07	-1,110.64	261.26	823.77	773.00	50.77	16.225		
6,500.00	6,159.95	6,455.78	6,331.36	41.38	30.70	172.05	-1,130.95	265.92	838.05	786.44	51.60	16.240		
6,600.00	6,253.80	6,554.75	6,428.11	42.08	31.21	172.04	-1,151.26	270.57	852.32	799.89	52.44	16.254		
6,700.00	6,347.65	6,653.73	6,524.87	42.78	31.71	172.03	-1,171.57	275.23	866.60	813.33	53.27	16.269		
6,800.00	6,441.49	6,736.35	6,605.66	43.48	32.13	171.98	-1,188.54	278.60	881.25	827.26	53.99	16.323		
6,823.95	6,463.97	6,750.00	6,619.02	43.65	32.20	171.94	-1,191.35	278.50	885.24	831.12	54.12	16.358		
6,850.00	6,488.47	6,765.67	6,634.34	43.83	32.28	164.48	-1,194.57	277.99	889.61	835.36	54.26	16.397		
6,900.00	6,535.65	6,800.00	6,667.83	44.16	32.44	149.52	-1,201.64	275.36	897.44	842.91	54.54	16.456		
6,950.00	6,582.74	6,824.12	6,691.23	44.45	32.54	135.19	-1,206.59	272.30	904.40	849.75	54.65	16.548		
7,000.00	6,629.37	6,850.00	6,716.18	44.71	32.65	122.86	-1,211.87	267.89	910.53	855.80	54.73	16.636		
7,050.00	6,675.19	6,882.52	6,747.21	44.94	32.78	113.06	-1,218.46	260.73	915.75	860.89	54.86	16.692		
7,100.00	6,719.86	6,911.75	6,774.71	45.14	32.89	105.53	-1,224.31	252.77	920.05	865.15	54.91	16.757		
7,150.00	6,763.03	6,950.00	6,810.04	45.31	33.03	99.94	-1,231.84	240.20	923.49	868.42	55.08	16.767		
7,200.00	6,804.37	6,970.37	6,828.49	45.46	33.10	95.61	-1,235.78	232.53	925.85	870.94	54.91	16.861		
7,250.00	6,843.57	7,000.00	6,854.83	45.58	33.19	92.46	-1,241.43	220.19	927.36	872.45	54.91	16.890		
7,300.00	6,880.33	7,029.32	6,880.23	45.68	33.28	90.16	-1,246.88	206.63	927.96	873.05	54.90	16.901		
7,350.00	6,914.37	7,050.00	6,897.73	45.75	33.34	88.40	-1,250.65	196.27	927.74	872.98	54.76	16.943		
7,400.00	6,945.43	7,088.77	6,929.50	45.81	33.44	87.49	-1,257.51	175.13	926.54	871.53	55.01	16.843		
7,450.00	6,973.28	7,118.75	6,953.05	45.84	33.51	86.90	-1,262.61	157.32	924.61	869.46	55.15	16.765		
7,500.00	6,997.70	7,150.00	6,976.60	45.86	33.59	86.73	-1,267.73	137.43	921.95	866.56	55.39	16.645		
7,550.00	7,018.51	7,179.33	6,997.71	45.86	33.65	86.87	-1,272.33	117.59	918.60	862.92	55.69	16.496		
7,600.00	7,035.55	7,210.00	7,018.68	45.85	33.71	87.35	-1,276.93	95.69	914.67	858.56	56.10	16.303		
7,650.00	7,048.69	7,240.98	7,038.67	45.82	33.76	88.12	-1,281.32	72.44	910.22	853.59	56.63	16.074		
7,700.00	7,057.83	7,272.30	7,057.60	45.79	33.81	89.15	-1,285.51	47.84	905.36	848.10	57.26	15.810		
7,750.00	7,062.89	7,300.00	7,073.21	45.74	33.86	90.31	-1,288.98	25.24	900.20	842.26	57.94	15.537		
7,786.65	7,064.00	7,327.57	7,087.68	45.70	33.90	91.52	-1,292.22	2.00	896.27	837.68	58.60	15.296		
7,800.00	7,064.00	7,336.27	7,092.01	45.69	33.91	91.80	-1,293.19	-5.48	894.87	836.05	58.82	15.213		
7,900.00	7,064.00	7,406.39	7,122.80	45.59	34.01	93.81	-1,300.19	-68.05	886.88	826.25	60.62	14.629		
8,000.00	7,064.00	7,484.66	7,148.03	45.53	34.11	95.47	-1,306.11	-141.84	882.41	819.80	62.61	14.094		
8,100.00	7,064.00	7,569.23	7,163.96	45.50	34.24	96.52	-1,310.15	-224.72	880.35	815.60	64.75	13.596		
8,200.00	7,064.00	7,659.48	7,168.00	45.53	34.44	96.79	-1,311.75	-314.79	879.88	812.80	67.08	13.117		
8,300.00	7,064.00	7,759.48	7,168.00	45.62	34.81	96.79	-1,312.58	-414.79	879.84	810.01	69.83	12.600		
8,400.00	7,064.00	7,859.48	7,168.00	45.83	35.43	96.79	-1,313.41	-514.79	879.80	806.94	72.87	12.074		
8,500.00	7,064.00	7,959.48	7,168.00	46.24	36.36	96.79	-1,314.25	-614.78	879.77	803.60	76.17	11.550		
8,600.00	7,064.00	8,059.48	7,168.00	46.98	37.60	96.79	-1,315.08	-714.78	879.73	800.02	79.71	11.036		
8,700.00	7,064.00	8,159.48	7,168.00	48.13	39.08	96.79	-1,315.91	-814.78	879.69	796.24	83.45	10.541		
8,800.00	7,064.00	8,259.48	7,168.00	49.67	40.77	96.79	-1,316.75	-914.77	879.66	792.28	87.38	10.068		
8,900.00	7,064.00	8,359.48	7,168.00	51.48	42.60	96.79	-1,317.58	-1,014.77	879.62	788.17	91.45	9.619		
9,000.00	7,064.00	8,459.48	7,168.00	53.46	44.55	96.79	-1,318.41	-1,114.76	879.58	783.92	95.66	9.195		

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 11-10-15H
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 11-10-15H	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	7,064.00	8,559.48	7,168.00	55.54	46.59	96.79	-1,319.24	-1,214.76	879.55	779.56	99.99	8.797				
9,200.00	7,064.00	8,659.48	7,168.00	57.71	48.71	96.79	-1,320.08	-1,314.76	879.51	775.10	104.42	8.423				
9,300.00	7,064.00	8,759.48	7,168.00	59.94	50.89	96.79	-1,320.91	-1,414.75	879.47	770.54	108.93	8.073				
9,400.00	7,064.00	8,859.48	7,168.00	62.22	53.13	96.79	-1,321.74	-1,514.75	879.44	765.91	113.53	7.746				
9,500.00	7,064.00	8,959.48	7,168.00	64.55	55.41	96.79	-1,322.57	-1,614.75	879.40	761.20	118.20	7.440				
9,600.00	7,064.00	9,059.48	7,168.00	66.90	57.74	96.79	-1,323.41	-1,714.74	879.36	756.44	122.92	7.154				
9,700.00	7,064.00	9,159.48	7,168.00	69.28	60.10	96.79	-1,324.24	-1,814.74	879.33	751.62	127.71	6.886				
9,800.00	7,064.00	9,259.48	7,168.00	71.69	62.48	96.79	-1,325.07	-1,914.74	879.29	746.76	132.54	6.634				
9,900.00	7,064.00	9,359.48	7,168.00	74.13	64.90	96.79	-1,325.90	-2,014.73	879.25	741.84	137.41	6.399				
10,000.00	7,064.00	9,459.48	7,168.00	76.58	67.34	96.79	-1,326.74	-2,114.73	879.22	736.90	142.32	6.178				
10,100.00	7,064.00	9,559.48	7,168.00	79.05	69.80	96.79	-1,327.57	-2,214.73	879.18	731.91	147.27	5.970				
10,200.00	7,064.00	9,659.48	7,168.00	81.54	72.28	96.79	-1,328.40	-2,314.72	879.14	726.90	152.25	5.774				
10,300.00	7,064.00	9,759.48	7,168.00	84.04	74.78	96.79	-1,329.24	-2,414.72	879.11	721.85	157.25	5.590				
10,400.00	7,064.00	9,859.48	7,168.00	86.56	77.29	96.79	-1,330.07	-2,514.72	879.07	716.78	162.29	5.417				
10,500.00	7,064.00	9,959.48	7,168.00	89.08	79.82	96.79	-1,330.90	-2,614.71	879.03	711.69	167.34	5.253				
10,600.00	7,064.00	10,059.48	7,168.00	91.62	82.35	96.79	-1,331.73	-2,714.71	879.00	706.58	172.42	5.098				
10,700.00	7,064.00	10,159.48	7,168.00	94.17	84.91	96.80	-1,332.57	-2,814.71	878.96	701.44	177.52	4.951				
10,800.00	7,064.00	10,259.48	7,168.00	96.73	87.47	96.80	-1,333.40	-2,914.70	878.92	696.29	182.63	4.813				
10,900.00	7,064.00	10,359.48	7,168.00	99.30	90.04	96.80	-1,334.23	-3,014.70	878.89	691.12	187.76	4.681				
11,000.00	7,064.00	10,459.48	7,168.00	101.87	92.61	96.80	-1,335.06	-3,114.70	878.85	685.94	192.91	4.556				
11,100.00	7,064.00	10,559.48	7,168.00	104.45	95.20	96.80	-1,335.90	-3,214.69	878.81	680.74	198.07	4.437				
11,200.00	7,064.00	10,659.48	7,168.00	107.04	97.80	96.80	-1,336.73	-3,314.69	878.78	675.53	203.24	4.324				
11,300.00	7,064.00	10,759.48	7,168.00	109.64	100.40	96.80	-1,337.56	-3,414.68	878.74	670.31	208.43	4.216				
11,400.00	7,064.00	10,859.48	7,168.00	112.24	103.00	96.80	-1,338.40	-3,514.68	878.70	665.08	213.62	4.113				
11,500.00	7,064.00	10,959.48	7,168.00	114.84	105.62	96.80	-1,339.23	-3,614.68	878.67	659.84	218.83	4.015				
11,600.00	7,064.00	11,059.48	7,168.00	117.45	108.23	96.80	-1,340.06	-3,714.67	878.63	654.58	224.05	3.922				
11,700.00	7,064.00	11,159.48	7,168.00	120.07	110.86	96.80	-1,340.89	-3,814.67	878.59	649.32	229.27	3.832				
11,800.00	7,064.00	11,259.48	7,168.00	122.69	113.49	96.80	-1,341.73	-3,914.67	878.56	644.05	234.50	3.746				
11,900.00	7,064.00	11,359.48	7,168.00	125.32	116.12	96.80	-1,342.56	-4,014.66	878.52	638.78	239.74	3.664				
12,000.00	7,064.00	11,459.48	7,168.00	127.95	118.75	96.80	-1,343.39	-4,114.66	878.48	633.49	244.99	3.586				
12,100.00	7,064.00	11,559.48	7,168.00	130.58	121.39	96.80	-1,344.22	-4,214.66	878.45	628.20	250.25	3.510				
12,200.00	7,064.00	11,659.48	7,168.00	133.21	124.04	96.80	-1,345.06	-4,314.65	878.41	622.90	255.51	3.438				
12,300.00	7,064.00	11,759.48	7,168.00	135.85	126.69	96.80	-1,345.89	-4,414.65	878.37	617.60	260.77	3.368				
12,400.00	7,064.00	11,859.48	7,168.00	138.50	129.34	96.80	-1,346.72	-4,514.65	878.33	612.29	266.05	3.301				
12,500.00	7,064.00	11,959.48	7,168.00	141.14	131.99	96.80	-1,347.56	-4,614.64	878.30	606.97	271.32	3.237				
12,600.00	7,064.00	12,059.48	7,168.00	143.79	134.64	96.80	-1,348.39	-4,714.64	878.26	601.65	276.61	3.175				
12,700.00	7,064.00	12,159.48	7,168.00	146.44	137.30	96.80	-1,349.22	-4,814.64	878.22	596.33	281.89	3.115				
12,800.00	7,064.00	12,259.48	7,168.00	149.09	139.96	96.80	-1,350.05	-4,914.63	878.19	591.00	287.19	3.058				
12,900.00	7,064.00	12,359.48	7,168.00	151.75	142.63	96.80	-1,350.89	-5,014.63	878.15	585.67	292.48	3.002				
13,000.00	7,064.00	12,459.48	7,168.00	154.41	145.29	96.80	-1,351.72	-5,114.63	878.11	580.33	297.78	2.949				
13,100.00	7,064.00	12,559.48	7,168.00	157.07	147.96	96.80	-1,352.55	-5,214.62	878.08	574.99	303.09	2.897				
13,200.00	7,064.00	12,659.48	7,168.00	159.73	150.63	96.80	-1,353.38	-5,314.62	878.04	569.65	308.39	2.847				
13,300.00	7,064.00	12,759.48	7,168.00	162.39	153.30	96.80	-1,354.22	-5,414.62	878.00	564.30	313.70	2.799				
13,400.00	7,064.00	12,859.48	7,168.00	165.06	155.97	96.80	-1,355.05	-5,514.61	877.97	558.95	319.02	2.752				
13,500.00	7,064.00	12,959.48	7,168.00	167.73	158.64	96.80	-1,355.88	-5,614.61	877.93	553.59	324.34	2.707				
13,600.00	7,064.00	13,059.48	7,168.00	170.40	161.32	96.80	-1,356.72	-5,714.61	877.89	548.24	329.66	2.663				
13,700.00	7,064.00	13,159.48	7,168.00	173.07	164.00	96.80	-1,357.55	-5,814.60	877.86	542.88	334.98	2.621				
13,800.00	7,064.00	13,259.48	7,168.00	175.74	166.68	96.80	-1,358.38	-5,914.60	877.82	537.52	340.30	2.580				
13,900.00	7,064.00	13,359.48	7,168.00	178.41	169.36	96.80	-1,359.21	-6,014.59	877.78	532.15	345.63	2.540				
14,000.00	7,064.00	13,459.48	7,168.00	181.09	172.04	96.80	-1,360.05	-6,114.59	877.75	526.78	350.96	2.501				
14,100.00	7,064.00	13,559.48	7,168.00	183.77	174.72	96.80	-1,360.88	-6,214.59	877.71	521.41	356.29	2.463				
14,200.00	7,064.00	13,659.48	7,168.00	186.44	177.41	96.81	-1,361.71	-6,314.58	877.67	516.04	361.63	2.427				

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 11-10-15H
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 11-10-15H	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 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	7,064.00	13,759.48	7,168.00	189.12	180.09	96.81	-1,362.54	-6,414.58	877.64	510.67	366.97	2.392	
14,400.00	7,064.00	13,859.48	7,168.00	191.80	182.78	96.81	-1,363.38	-6,514.58	877.60	505.29	372.31	2.357	
14,500.00	7,064.00	13,959.48	7,168.00	194.48	185.46	96.81	-1,364.21	-6,614.57	877.56	499.92	377.65	2.324	
14,600.00	7,064.00	14,059.48	7,168.00	197.17	188.15	96.81	-1,365.04	-6,714.57	877.53	494.54	382.99	2.291	
14,700.00	7,064.00	14,159.48	7,168.00	199.85	190.84	96.81	-1,365.88	-6,814.57	877.49	489.16	388.33	2.260	
14,800.00	7,064.00	14,259.48	7,168.00	202.53	193.53	96.81	-1,366.71	-6,914.56	877.45	483.77	393.68	2.229	
14,900.00	7,064.00	14,359.48	7,168.00	205.22	196.22	96.81	-1,367.54	-7,014.56	877.42	478.39	399.03	2.199	
15,000.00	7,064.00	14,459.48	7,168.00	207.91	198.91	96.81	-1,368.37	-7,114.56	877.38	473.00	404.38	2.170	
15,100.00	7,064.00	14,559.48	7,168.00	210.59	201.61	96.81	-1,369.21	-7,214.55	877.34	467.61	409.73	2.141	
15,200.00	7,064.00	14,659.48	7,168.00	213.28	204.30	96.81	-1,370.04	-7,314.55	877.31	462.22	415.08	2.114	
15,300.00	7,064.00	14,759.48	7,168.00	215.97	206.99	96.81	-1,370.87	-7,414.55	877.27	456.83	420.43	2.087	
15,400.00	7,064.00	14,859.48	7,168.00	218.66	209.69	96.81	-1,371.70	-7,514.54	877.23	451.44	425.79	2.060	
15,500.00	7,064.00	14,959.48	7,168.00	221.35	212.38	96.81	-1,372.54	-7,614.54	877.20	446.05	431.15	2.035	
15,600.00	7,064.00	15,059.48	7,168.00	224.04	215.08	96.81	-1,373.37	-7,714.54	877.16	440.65	436.50	2.010	
15,700.00	7,064.00	15,159.48	7,168.00	226.73	217.78	96.81	-1,374.20	-7,814.53	877.12	435.26	441.86	1.985	
15,800.00	7,064.00	15,259.48	7,168.00	229.43	220.48	96.81	-1,375.03	-7,914.53	877.09	429.86	447.22	1.961	
15,900.00	7,064.00	15,359.48	7,168.00	232.12	223.17	96.81	-1,375.87	-8,014.53	877.05	424.46	452.58	1.938	
16,000.00	7,064.00	15,459.48	7,168.00	234.81	225.87	96.81	-1,376.70	-8,114.52	877.01	419.07	457.95	1.915	
16,100.00	7,064.00	15,559.48	7,168.00	237.51	228.57	96.81	-1,377.53	-8,214.52	876.97	413.67	463.31	1.893	
16,200.00	7,064.00	15,659.48	7,168.00	240.20	231.27	96.81	-1,378.37	-8,314.51	876.94	408.27	468.67	1.871	
16,300.00	7,064.00	15,759.47	7,168.00	242.90	233.97	96.81	-1,379.20	-8,414.50	876.90	402.86	474.04	1.850	
16,305.41	7,064.00	15,764.88	7,168.00	243.05	234.12	96.81	-1,379.24	-8,419.91	876.90	402.57	474.33	1.849 SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-14H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.57	0.00	14.57	14.57					
100.00	100.00	100.00	100.00	0.14	0.14	0.00	14.57	0.00	14.57	14.28	0.29	50.798			
200.00	200.00	200.00	200.00	0.50	0.50	0.00	14.57	0.00	14.57	13.56	1.00	14.514			
300.00	300.00	300.00	300.00	0.86	0.86	0.00	14.57	0.00	14.57	12.85	1.72	8.466 CC, ES			
400.00	399.98	399.98	399.98	1.20	1.22	-163.09	14.57	0.00	16.23	13.81	2.42	6.697			
500.00	499.84	500.51	500.49	1.55	1.56	-165.68	12.95	0.70	19.62	16.52	3.11	6.314			
600.00	599.45	601.16	601.00	1.91	1.91	-166.84	8.08	2.79	23.10	19.30	3.79	6.090			
700.00	698.70	701.94	701.38	2.29	2.26	-167.12	-0.04	6.28	26.62	22.13	4.49	5.929			
800.00	797.47	802.83	801.50	2.69	2.64	-166.83	-11.41	11.17	30.18	24.99	5.20	5.807			
900.00	895.62	903.83	901.24	3.13	3.04	-166.15	-26.03	17.45	33.79	27.87	5.92	5.710			
1,000.00	993.06	1,004.96	1,000.47	3.61	3.48	-165.19	-43.90	25.13	37.44	30.78	6.65	5.628			
1,100.00	1,089.64	1,106.19	1,099.06	4.12	3.95	-164.03	-64.99	34.20	41.13	33.73	7.41	5.552			
1,200.00	1,185.27	1,207.54	1,196.89	4.68	4.47	-162.72	-89.31	44.65	44.89	36.70	8.19	5.482			
1,300.00	1,279.82	1,307.68	1,292.91	5.29	5.01	-161.84	-115.41	55.88	49.80	40.78	9.02	5.522			
1,310.06	1,289.26	1,317.72	1,302.54	5.35	5.06	-161.82	-118.04	57.00	50.47	41.37	9.10	5.544			
1,400.00	1,373.67	1,407.45	1,388.56	5.93	5.56	-161.80	-141.47	67.08	56.63	46.77	9.86	5.743			
1,500.00	1,467.52	1,507.21	1,484.21	6.58	6.13	-161.77	-167.54	78.28	63.48	52.77	10.71	5.926			
1,600.00	1,561.37	1,606.98	1,579.86	7.24	6.70	-161.75	-193.60	89.48	70.33	58.76	11.57	6.077			
1,700.00	1,655.22	1,706.74	1,675.50	7.91	7.28	-161.74	-219.66	100.69	77.18	64.74	12.44	6.204			
1,800.00	1,749.06	1,806.51	1,771.15	8.59	7.87	-161.73	-245.72	111.89	84.03	70.72	13.31	6.312			
1,900.00	1,842.91	1,906.28	1,866.80	9.27	8.46	-161.71	-271.78	123.09	90.88	76.69	14.19	6.404			
2,000.00	1,936.76	2,006.04	1,962.45	9.95	9.05	-161.70	-297.84	134.30	97.73	82.66	15.07	6.484			
2,100.00	2,030.61	2,105.81	2,058.09	10.63	9.64	-161.70	-323.90	145.50	104.58	88.63	15.96	6.554			
2,200.00	2,124.46	2,205.57	2,153.74	11.32	10.24	-161.69	-349.96	156.70	111.43	94.59	16.84	6.616			
2,300.00	2,218.31	2,305.34	2,249.39	12.01	10.84	-161.68	-376.02	167.90	118.28	100.55	17.73	6.671			
2,400.00	2,312.16	2,405.10	2,345.04	12.70	11.44	-161.68	-402.08	179.11	125.14	106.51	18.62	6.719			
2,500.00	2,406.00	2,504.87	2,440.68	13.39	12.04	-161.67	-428.15	190.31	131.99	112.47	19.52	6.763			
2,600.00	2,499.85	2,604.63	2,536.33	14.09	12.64	-161.67	-454.21	201.51	138.84	118.43	20.41	6.803			
2,700.00	2,593.70	2,704.40	2,631.98	14.78	13.24	-161.66	-480.27	212.72	145.69	124.38	21.30	6.838			
2,800.00	2,687.55	2,804.16	2,727.62	15.47	13.85	-161.66	-506.33	223.92	152.54	130.34	22.20	6.871			
2,900.00	2,781.40	2,903.93	2,823.27	16.17	14.45	-161.66	-532.39	235.12	159.39	136.29	23.10	6.900			
3,000.00	2,875.25	3,003.69	2,918.92	16.87	15.06	-161.65	-558.45	246.33	166.24	142.24	24.00	6.928			
3,100.00	2,969.10	3,103.46	3,014.57	17.56	15.66	-161.65	-584.51	257.53	173.09	148.19	24.90	6.953			
3,200.00	3,062.95	3,203.22	3,110.21	18.26	16.27	-161.65	-610.57	268.73	179.94	154.14	25.79	6.976			
3,300.00	3,156.79	3,302.99	3,205.86	18.96	16.87	-161.64	-636.63	279.93	186.79	160.09	26.69	6.997			
3,400.00	3,250.64	3,402.75	3,301.51	19.66	17.48	-161.64	-662.69	291.14	193.64	166.04	27.60	7.017			
3,500.00	3,344.49	3,502.52	3,397.16	20.35	18.09	-161.64	-688.75	302.34	200.49	171.99	28.50	7.036			
3,600.00	3,438.34	3,602.28	3,492.80	21.05	18.69	-161.64	-714.82	313.54	207.34	177.94	29.40	7.053			
3,700.00	3,532.19	3,702.05	3,588.45	21.75	19.30	-161.64	-740.88	324.75	214.19	183.89	30.30	7.069			
3,800.00	3,626.04	3,801.81	3,684.10	22.45	19.91	-161.63	-766.94	335.95	221.04	189.84	31.20	7.084			
3,900.00	3,719.89	3,901.58	3,779.74	23.15	20.52	-161.63	-793.00	347.15	227.89	195.78	32.11	7.098			
4,000.00	3,813.73	4,001.34	3,875.39	23.85	21.12	-161.63	-819.06	358.35	234.74	201.73	33.01	7.111			
4,100.00	3,907.58	4,101.11	3,971.04	24.55	21.73	-161.63	-845.12	369.56	241.59	207.68	33.91	7.124			
4,200.00	4,001.43	4,200.87	4,066.69	25.25	22.34	-161.63	-871.18	380.76	248.44	213.63	34.82	7.136			
4,300.00	4,095.28	4,300.64	4,162.33	25.95	22.95	-161.63	-897.24	391.96	255.29	219.57	35.72	7.147			
4,400.00	4,189.13	4,400.40	4,257.98	26.65	23.56	-161.63	-923.30	403.17	262.14	225.52	36.62	7.158			
4,500.00	4,282.98	4,500.17	4,353.63	27.35	24.17	-161.62	-949.36	414.37	268.99	231.46	37.53	7.168			
4,600.00	4,376.83	4,599.93	4,449.27	28.05	24.78	-161.62	-975.42	425.57	275.84	237.41	38.43	7.177			
4,700.00	4,470.67	4,699.70	4,544.92	28.75	25.39	-161.62	-1,001.49	436.77	282.69	243.36	39.34	7.186			
4,800.00	4,564.52	4,799.46	4,640.57	29.45	26.00	-161.62	-1,027.55	447.98	289.54	249.30	40.24	7.195			
4,900.00	4,658.37	4,899.23	4,736.22	30.15	26.60	-161.62	-1,053.61	459.18	296.39	255.25	41.15	7.203			
5,000.00	4,752.22	4,998.99	4,831.86	30.85	27.21	-161.62	-1,079.67	470.38	303.24	261.19	42.05	7.211			

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 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-14H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD										Rule Assigned:			Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
5,100.00	4,846.07	5,098.76	4,927.51	31.56	27.82	-161.62	-1,105.73	481.59	310.10	267.14	42.96	7.218		
5,200.00	4,939.92	5,198.52	5,023.16	32.26	28.43	-161.62	-1,131.79	492.79	316.95	273.08	43.87	7.225		
5,300.00	5,033.77	5,298.29	5,118.81	32.96	29.04	-161.62	-1,157.85	503.99	323.80	279.03	44.77	7.232		
5,400.00	5,127.61	5,398.05	5,214.45	33.66	29.65	-161.62	-1,183.91	515.19	330.65	284.97	45.68	7.239		
5,500.00	5,221.46	5,497.82	5,310.10	34.36	30.26	-161.61	-1,209.97	526.40	337.50	290.91	46.58	7.245		
5,600.00	5,315.31	5,597.58	5,405.75	35.06	30.87	-161.61	-1,236.03	537.60	344.35	296.86	47.49	7.251		
5,700.00	5,409.16	5,697.35	5,501.39	35.76	31.48	-161.61	-1,262.09	548.80	351.20	302.80	48.39	7.257		
5,800.00	5,503.01	5,797.11	5,597.04	36.47	32.09	-161.61	-1,288.16	560.01	358.05	308.75	49.30	7.262		
5,900.00	5,596.86	5,896.88	5,692.69	37.17	32.70	-161.61	-1,314.22	571.21	364.90	314.69	50.21	7.268		
6,000.00	5,690.71	5,996.64	5,788.34	37.87	33.31	-161.61	-1,340.28	582.41	371.75	320.63	51.11	7.273		
6,100.00	5,784.55	6,096.41	5,883.98	38.57	33.92	-161.61	-1,366.34	593.62	378.60	326.58	52.02	7.278		
6,200.00	5,878.40	6,196.17	5,979.63	39.27	34.53	-161.61	-1,392.40	604.82	385.45	332.52	52.93	7.283		
6,300.00	5,972.25	6,295.94	6,075.28	39.97	35.14	-161.61	-1,418.46	616.02	392.30	338.47	53.83	7.287		
6,400.00	6,066.10	6,395.70	6,170.93	40.68	35.75	-161.61	-1,444.52	627.22	399.15	344.41	54.74	7.292		
6,500.00	6,159.95	6,495.47	6,266.57	41.38	36.36	-161.61	-1,470.58	638.43	406.00	350.35	55.65	7.296		
6,600.00	6,253.80	6,595.23	6,362.22	42.08	36.98	-161.61	-1,496.64	649.63	412.85	356.30	56.55	7.300		
6,700.00	6,347.65	6,695.00	6,457.87	42.78	37.59	-161.61	-1,522.70	660.83	419.70	362.24	57.46	7.304		
6,800.00	6,441.49	6,794.76	6,553.51	43.48	38.20	-161.61	-1,548.77	672.04	426.55	368.18	58.37	7.308		
6,823.95	6,463.97	6,818.65	6,576.42	43.65	38.34	-161.61	-1,555.01	674.72	428.19	369.61	58.59	7.309		
6,850.00	6,488.47	6,844.64	6,601.33	43.83	38.50	-168.71	-1,561.79	677.64	429.99	371.14	58.85	7.307		
6,900.00	6,535.65	6,894.45	6,649.09	44.16	38.81	177.33	-1,574.81	683.16	433.50	374.03	59.48	7.289		
6,950.00	6,582.74	6,945.09	6,697.86	44.45	39.10	164.01	-1,588.12	685.83	437.10	376.98	60.13	7.270		
7,000.00	6,629.37	6,996.28	6,747.18	44.71	39.36	152.57	-1,601.62	683.97	440.74	380.03	60.71	7.259		
7,050.00	6,675.19	7,048.02	6,796.66	44.94	39.59	143.46	-1,615.21	677.47	444.38	383.16	61.22	7.259		
7,100.00	6,719.86	7,100.31	6,845.89	45.14	39.79	136.49	-1,628.76	666.23	447.99	386.35	61.64	7.268		
7,150.00	6,763.03	7,153.17	6,894.41	45.31	39.96	131.20	-1,642.17	650.18	451.54	389.57	61.97	7.287		
7,200.00	6,804.37	7,206.58	6,941.77	45.46	40.10	127.17	-1,655.29	629.33	454.98	392.77	62.21	7.314		
7,250.00	6,843.57	7,260.52	6,987.49	45.58	40.21	124.07	-1,668.01	603.72	458.28	395.91	62.37	7.348		
7,300.00	6,880.33	7,314.98	7,031.07	45.68	40.30	121.67	-1,680.18	573.45	461.40	398.95	62.45	7.388		
7,350.00	6,914.37	7,369.92	7,072.02	45.75	40.36	119.77	-1,691.67	538.70	464.31	401.83	62.48	7.431		
7,400.00	6,945.43	7,425.31	7,109.86	45.81	40.40	118.27	-1,702.34	499.71	466.98	404.50	62.48	7.474		
7,450.00	6,973.28	7,481.10	7,144.11	45.84	40.42	117.07	-1,712.07	456.79	469.37	406.89	62.48	7.513		
7,500.00	6,997.70	7,537.24	7,174.34	45.86	40.42	116.11	-1,720.72	410.32	471.45	408.95	62.51	7.543		
7,550.00	7,018.51	7,593.65	7,200.15	45.86	40.40	115.34	-1,728.19	360.73	473.21	410.61	62.60	7.560		
7,600.00	7,035.55	7,650.29	7,221.20	45.85	40.36	114.72	-1,734.39	308.55	474.61	411.83	62.79	7.559		
7,650.00	7,048.69	7,707.06	7,237.20	45.82	40.31	114.24	-1,739.22	254.32	475.65	412.55	63.10	7.538		
7,700.00	7,057.83	7,763.89	7,247.96	45.79	40.25	113.87	-1,742.62	198.64	476.32	412.76	63.56	7.494		
7,750.00	7,062.89	7,820.72	7,253.34	45.74	40.17	113.61	-1,744.57	142.13	476.60	412.44	64.16	7.428		
7,786.65	7,064.00	7,860.70	7,254.00	45.70	40.12	113.50	-1,745.08	102.16	476.58	411.88	64.70	7.366		
7,800.00	7,064.00	7,874.05	7,254.00	45.69	40.10	113.50	-1,745.20	88.81	476.58	411.66	64.92	7.341		
7,900.00	7,064.00	7,974.05	7,254.00	45.59	39.99	113.50	-1,746.03	-11.18	476.54	409.81	66.73	7.142		
8,000.00	7,064.00	8,074.05	7,254.00	45.53	39.90	113.50	-1,746.87	-111.18	476.50	407.66	68.85	6.921		
8,100.00	7,064.00	8,174.05	7,254.00	45.50	39.86	113.50	-1,747.71	-211.18	476.46	405.21	71.26	6.687		
8,200.00	7,064.00	8,274.05	7,254.00	45.53	39.90	113.50	-1,748.54	-311.17	476.43	402.50	73.93	6.444		
8,300.00	7,064.00	8,374.05	7,254.00	45.62	40.15	113.51	-1,749.38	-411.17	476.39	399.55	76.84	6.200		
8,400.00	7,064.00	8,474.05	7,254.00	45.83	40.92	113.51	-1,750.22	-511.17	476.35	396.39	79.96	5.957		
8,500.00	7,064.00	8,574.05	7,254.00	46.24	42.34	113.51	-1,751.05	-611.16	476.31	393.05	83.27	5.720		
8,600.00	7,064.00	8,674.05	7,254.00	46.98	44.12	113.51	-1,751.89	-711.16	476.27	389.54	86.74	5.491		
8,700.00	7,064.00	8,774.05	7,254.00	48.13	46.06	113.51	-1,752.73	-811.16	476.24	385.88	90.36	5.271		
8,800.00	7,064.00	8,874.05	7,254.00	49.67	48.10	113.52	-1,753.57	-911.15	476.20	382.09	94.11	5.060		
8,900.00	7,064.00	8,974.05	7,254.00	51.48	50.22	113.52	-1,754.40	-1,011.15	476.16	378.19	97.97	4.860		
9,000.00	7,064.00	9,074.05	7,254.00	53.46	52.40	113.52	-1,755.24	-1,111.15	476.12	374.19	101.93	4.671		

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 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-14H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		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	7,064.00	9,174.05	7,254.00	55.54	54.63	113.52	-1,756.08	-1,211.14	476.09	370.10	105.99	4.492		
9,200.00	7,064.00	9,274.05	7,254.00	57.71	56.90	113.52	-1,756.91	-1,311.14	476.05	365.93	110.12	4.323		
9,300.00	7,064.00	9,374.05	7,254.00	59.94	59.21	113.53	-1,757.75	-1,411.14	476.01	361.69	114.32	4.164		
9,400.00	7,064.00	9,474.05	7,254.00	62.22	61.56	113.53	-1,758.59	-1,511.13	475.97	357.38	118.59	4.013		
9,500.00	7,064.00	9,574.05	7,254.00	64.55	63.93	113.53	-1,759.43	-1,611.13	475.93	353.01	122.92	3.872		
9,600.00	7,064.00	9,674.05	7,254.00	66.90	66.33	113.53	-1,760.26	-1,711.13	475.90	348.60	127.30	3.739		
9,700.00	7,064.00	9,774.05	7,254.00	69.28	68.76	113.53	-1,761.10	-1,811.12	475.86	344.14	131.72	3.613		
9,800.00	7,064.00	9,874.05	7,254.00	71.69	71.20	113.54	-1,761.94	-1,911.12	475.82	339.64	136.18	3.494		
9,900.00	7,064.00	9,974.05	7,254.00	74.13	73.66	113.54	-1,762.77	-2,011.11	475.78	335.10	140.69	3.382		
10,000.00	7,064.00	10,074.05	7,254.00	76.58	76.14	113.54	-1,763.61	-2,111.11	475.74	330.52	145.22	3.276		
10,100.00	7,064.00	10,174.05	7,254.00	79.05	78.64	113.54	-1,764.45	-2,211.11	475.71	325.92	149.79	3.176		
10,200.00	7,064.00	10,274.05	7,254.00	81.54	81.15	113.54	-1,765.29	-2,311.10	475.67	321.28	154.39	3.081		
10,300.00	7,064.00	10,374.05	7,254.00	84.04	83.67	113.55	-1,766.12	-2,411.10	475.63	316.62	159.01	2.991		
10,400.00	7,064.00	10,474.05	7,254.00	86.56	86.21	113.55	-1,766.96	-2,511.10	475.59	311.94	163.65	2.906		
10,500.00	7,064.00	10,574.05	7,254.00	89.08	88.75	113.55	-1,767.80	-2,611.09	475.55	307.23	168.32	2.825		
10,600.00	7,064.00	10,674.05	7,254.00	91.62	91.31	113.55	-1,768.63	-2,711.09	475.52	302.51	173.01	2.749		
10,700.00	7,064.00	10,774.05	7,254.00	94.17	93.87	113.55	-1,769.47	-2,811.09	475.48	297.77	177.71	2.676		
10,800.00	7,064.00	10,874.05	7,254.00	96.73	96.44	113.56	-1,770.31	-2,911.08	475.44	293.01	182.43	2.606		
10,900.00	7,064.00	10,974.05	7,254.00	99.30	99.02	113.56	-1,771.14	-3,011.08	475.40	288.23	187.17	2.540		
11,000.00	7,064.00	11,074.05	7,254.00	101.87	101.61	113.56	-1,771.98	-3,111.08	475.36	283.44	191.92	2.477		
11,100.00	7,064.00	11,174.05	7,254.00	104.45	104.20	113.56	-1,772.82	-3,211.07	475.33	278.64	196.69	2.417		
11,200.00	7,064.00	11,274.05	7,254.00	107.04	106.80	113.56	-1,773.66	-3,311.07	475.29	273.83	201.46	2.359		
11,300.00	7,064.00	11,374.05	7,254.00	109.64	109.41	113.57	-1,774.49	-3,411.07	475.25	269.00	206.25	2.304		
11,400.00	7,064.00	11,474.05	7,254.00	112.24	112.02	113.57	-1,775.33	-3,511.06	475.21	264.16	211.05	2.252		
11,500.00	7,064.00	11,574.05	7,254.00	114.84	114.64	113.57	-1,776.17	-3,611.06	475.17	259.31	215.86	2.201		
11,600.00	7,064.00	11,674.05	7,254.00	117.45	117.26	113.57	-1,777.00	-3,711.05	475.14	254.46	220.68	2.153		
11,700.00	7,064.00	11,774.05	7,254.00	120.07	119.88	113.57	-1,777.84	-3,811.05	475.10	249.59	225.51	2.107		
11,800.00	7,064.00	11,874.05	7,254.00	122.69	122.51	113.57	-1,778.68	-3,911.05	475.06	244.72	230.34	2.062		
11,900.00	7,064.00	11,974.05	7,254.00	125.32	125.14	113.58	-1,779.52	-4,011.04	475.02	239.84	235.19	2.020		
12,000.00	7,064.00	12,074.05	7,254.00	127.95	127.78	113.58	-1,780.35	-4,111.04	474.98	234.95	240.04	1.979		
12,100.00	7,064.00	12,174.05	7,254.00	130.58	130.42	113.58	-1,781.19	-4,211.04	474.95	230.05	244.90	1.939		
12,200.00	7,064.00	12,274.05	7,254.00	133.21	133.06	113.58	-1,782.03	-4,311.03	474.91	225.15	249.76	1.901		
12,300.00	7,064.00	12,374.05	7,254.00	135.85	135.71	113.58	-1,782.86	-4,411.03	474.87	220.24	254.63	1.865		
12,400.00	7,064.00	12,474.05	7,254.00	138.50	138.36	113.59	-1,783.70	-4,511.03	474.83	215.33	259.50	1.830		
12,500.00	7,064.00	12,574.05	7,254.00	141.14	141.01	113.59	-1,784.54	-4,611.02	474.80	210.41	264.38	1.796		
12,600.00	7,064.00	12,674.05	7,254.00	143.79	143.67	113.59	-1,785.38	-4,711.02	474.76	205.49	269.27	1.763		
12,700.00	7,064.00	12,774.05	7,254.00	146.44	146.32	113.59	-1,786.21	-4,811.02	474.72	200.56	274.16	1.732		
12,800.00	7,064.00	12,874.05	7,254.00	149.09	148.98	113.59	-1,787.05	-4,911.01	474.68	195.63	279.06	1.701		
12,900.00	7,064.00	12,974.05	7,254.00	151.75	151.64	113.60	-1,787.89	-5,011.01	474.64	190.69	283.95	1.672		
13,000.00	7,064.00	13,074.05	7,254.00	154.41	154.31	113.60	-1,788.72	-5,111.01	474.61	185.75	288.86	1.643		
13,100.00	7,064.00	13,174.05	7,254.00	157.07	156.97	113.60	-1,789.56	-5,211.00	474.57	180.80	293.76	1.615		
13,200.00	7,064.00	13,274.05	7,254.00	159.73	159.64	113.60	-1,790.40	-5,311.00	474.53	175.85	298.67	1.589		
13,300.00	7,064.00	13,374.05	7,254.00	162.39	162.31	113.60	-1,791.23	-5,411.00	474.49	170.90	303.59	1.563		
13,400.00	7,064.00	13,474.05	7,254.00	165.06	164.98	113.61	-1,792.07	-5,510.99	474.45	165.95	308.51	1.538		
13,500.00	7,064.00	13,574.05	7,254.00	167.73	167.65	113.61	-1,792.91	-5,610.99	474.42	160.99	313.43	1.514		
13,600.00	7,064.00	13,674.05	7,254.00	170.40	170.32	113.61	-1,793.75	-5,710.98	474.38	156.03	318.35	1.490 Level 3		
13,700.00	7,064.00	13,774.05	7,254.00	173.07	173.00	113.61	-1,794.58	-5,810.98	474.34	151.06	323.28	1.467 Level 3		
13,800.00	7,064.00	13,874.05	7,254.00	175.74	175.68	113.61	-1,795.42	-5,910.98	474.30	146.10	328.20	1.445 Level 3		
13,900.00	7,064.00	13,974.05	7,254.00	178.41	178.35	113.62	-1,796.26	-6,010.97	474.26	141.13	333.14	1.424 Level 3		
14,000.00	7,064.00	14,074.05	7,254.00	181.09	181.03	113.62	-1,797.09	-6,110.97	474.23	136.16	338.07	1.403 Level 3		
14,100.00	7,064.00	14,174.05	7,254.00	183.77	183.71	113.62	-1,797.93	-6,210.97	474.19	131.18	343.01	1.382 Level 3		
14,200.00	7,064.00	14,274.05	7,254.00	186.44	186.39	113.62	-1,798.77	-6,310.96	474.15	126.21	347.94	1.363 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 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-14H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft		
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
14,300.00	7,064.00	14,374.05	7,254.00	189.12	189.08	113.62	-1,799.61	-6,410.96	474.11	121.23	352.88	1.344	Level 3			
14,400.00	7,064.00	14,474.05	7,254.00	191.80	191.76	113.63	-1,800.44	-6,510.96	474.07	116.25	357.83	1.325	Level 3			
14,500.00	7,064.00	14,574.05	7,254.00	194.48	194.45	113.63	-1,801.28	-6,610.95	474.04	111.27	362.77	1.307	Level 3			
14,600.00	7,064.00	14,674.05	7,254.00	197.17	197.13	113.63	-1,802.12	-6,710.95	474.00	106.28	367.72	1.289	Level 3			
14,700.00	7,064.00	14,774.05	7,254.00	199.85	199.82	113.63	-1,802.95	-6,810.95	473.96	101.30	372.66	1.272	Level 3			
14,800.00	7,064.00	14,874.05	7,254.00	202.53	202.51	113.64	-1,803.79	-6,910.94	473.92	96.31	377.61	1.255	Level 3			
14,900.00	7,064.00	14,974.05	7,254.00	205.22	205.19	113.64	-1,804.63	-7,010.94	473.89	91.32	382.57	1.239	Level 3			
15,000.00	7,064.00	15,074.05	7,254.00	207.91	207.88	113.64	-1,805.47	-7,110.94	473.85	86.33	387.52	1.223	Level 3			
15,100.00	7,064.00	15,174.05	7,254.00	210.59	210.57	113.64	-1,806.30	-7,210.93	473.81	81.34	392.47	1.207	Level 3			
15,200.00	7,064.00	15,274.05	7,254.00	213.28	213.27	113.64	-1,807.14	-7,310.93	473.77	76.34	397.43	1.192	Level 3			
15,300.00	7,064.00	15,374.05	7,254.00	215.97	215.96	113.65	-1,807.98	-7,410.93	473.73	71.35	402.39	1.177	Level 3			
15,400.00	7,064.00	15,474.05	7,254.00	218.66	218.65	113.65	-1,808.81	-7,510.92	473.70	66.35	407.34	1.163	Level 3			
15,500.00	7,064.00	15,574.05	7,254.00	221.35	221.34	113.65	-1,809.65	-7,610.92	473.66	61.35	412.30	1.149	Level 3			
15,600.00	7,064.00	15,674.05	7,254.00	224.04	224.04	113.65	-1,810.49	-7,710.91	473.62	56.35	417.27	1.135	Level 3			
15,700.00	7,064.00	15,774.05	7,254.00	226.73	226.73	113.65	-1,811.32	-7,810.91	473.58	51.35	422.23	1.122	Level 3			
15,800.00	7,064.00	15,874.05	7,254.00	229.43	229.43	113.66	-1,812.16	-7,910.91	473.54	46.35	427.19	1.109	Level 3			
15,900.00	7,064.00	15,974.05	7,254.00	232.12	232.12	113.66	-1,813.00	-8,010.90	473.51	41.35	432.15	1.096	Level 3			
16,000.00	7,064.00	16,074.05	7,254.00	234.81	234.82	113.66	-1,813.84	-8,110.90	473.47	36.35	437.12	1.083	Level 3			
16,100.00	7,064.00	16,174.05	7,254.00	237.51	237.52	113.66	-1,814.67	-8,210.90	473.43	31.34	442.09	1.071	Level 3			
16,200.00	7,064.00	16,274.05	7,254.00	240.20	240.21	113.66	-1,815.51	-8,310.89	473.39	26.34	447.05	1.059	Level 3			
16,300.00	7,064.00	16,374.05	7,254.00	242.90	242.91	113.67	-1,816.35	-8,410.89	473.35	21.33	452.02	1.047	Level 3			
16,305.41	7,064.00	16,379.46	7,254.00	243.05	243.06	113.67	-1,816.39	-8,416.30	473.35	21.06	452.29	1.047	Level 3, SF			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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	-37.39	40.07	-30.63	50.43						
100.00	100.00	100.00	100.00	0.14	0.14	-37.39	40.07	-30.63	50.43	50.15	0.29	175.867			
200.00	200.00	200.00	200.00	0.50	0.50	-37.39	40.07	-30.63	50.43	49.43	1.00	50.248			
300.00	300.00	300.00	300.00	0.86	0.86	-37.39	40.07	-30.63	50.43	48.71	1.72	29.311	CC, ES		
400.00	399.98	399.98	399.98	1.20	1.22	162.10	40.07	-30.63	52.09	49.67	2.42	21.499			
500.00	499.84	499.84	499.84	1.55	1.58	163.69	40.07	-30.63	57.10	53.97	3.12	18.274			
600.00	599.45	599.45	599.45	1.91	1.93	165.79	40.07	-30.63	65.51	61.67	3.83	17.082			
700.00	698.70	698.70	698.70	2.29	2.29	167.95	40.07	-30.63	77.38	72.83	4.55	17.005	SF		
800.00	797.47	797.47	797.47	2.69	2.64	169.91	40.07	-30.63	92.74	87.47	5.27	17.601			
900.00	895.62	895.62	895.62	3.13	3.00	171.57	40.07	-30.63	111.58	105.60	5.99	18.630			
1,000.00	993.06	993.06	993.06	3.61	3.34	172.93	40.07	-30.63	133.88	127.17	6.71	19.950			
1,100.00	1,089.64	1,089.64	1,089.64	4.12	3.69	174.02	40.07	-30.63	159.61	152.18	7.43	21.473			
1,200.00	1,185.27	1,185.27	1,185.27	4.68	4.03	174.89	40.07	-30.63	188.72	180.56	8.16	23.139			
1,300.00	1,279.82	1,279.82	1,279.82	5.29	4.37	175.59	40.07	-30.63	221.18	212.30	8.88	24.910			
1,310.06	1,289.26	1,289.26	1,289.26	5.35	4.41	175.65	40.07	-30.63	224.62	215.67	8.96	25.077			
1,400.00	1,373.67	1,373.67	1,373.67	5.93	4.71	176.18	40.07	-30.63	255.61	246.01	9.60	26.631			
1,500.00	1,467.52	1,467.52	1,467.52	6.58	5.05	176.63	40.07	-30.63	290.08	279.77	10.31	28.123			
1,600.00	1,561.37	1,561.37	1,561.37	7.24	5.38	176.99	40.07	-30.63	324.57	313.53	11.04	29.411			
1,700.00	1,655.22	1,655.22	1,655.22	7.91	5.72	177.28	40.07	-30.63	359.06	347.30	11.76	30.534			
1,800.00	1,749.06	1,749.06	1,749.06	8.59	6.05	177.52	40.07	-30.63	393.56	381.08	12.49	31.520			
1,900.00	1,842.91	1,842.91	1,842.91	9.27	6.39	177.72	40.07	-30.63	428.07	414.85	13.22	32.393			
2,000.00	1,936.76	1,936.76	1,936.76	9.95	6.73	177.89	40.07	-30.63	462.58	448.63	13.95	33.170			
2,100.00	2,030.61	2,030.61	2,030.61	10.63	7.06	178.03	40.07	-30.63	497.09	482.41	14.68	33.866			
2,200.00	2,124.46	2,124.46	2,124.46	11.32	7.40	178.16	40.07	-30.63	531.61	516.19	15.41	34.493			
2,300.00	2,218.31	2,215.46	2,215.46	12.01	7.73	178.27	40.11	-30.63	566.17	550.04	16.13	35.104			
2,400.00	2,312.16	2,300.00	2,299.98	12.70	8.03	178.43	41.81	-30.61	602.39	585.59	16.80	35.860			
2,500.00	2,406.00	2,370.50	2,370.40	13.39	8.28	178.61	45.14	-30.56	640.89	623.53	17.36	36.924			
2,600.00	2,499.85	2,445.54	2,445.24	14.09	8.55	178.85	50.58	-30.49	681.70	663.76	17.94	38.001			
2,700.00	2,593.70	2,518.88	2,518.22	14.78	8.81	179.12	57.80	-30.39	724.73	706.23	18.50	39.175			
2,800.00	2,687.55	2,600.00	2,598.70	15.47	9.10	179.45	67.95	-30.25	769.98	750.85	19.13	40.256			
2,900.00	2,781.40	2,660.29	2,658.31	16.17	9.32	179.71	76.96	-30.13	817.16	797.61	19.56	41.782			
3,000.00	2,875.25	2,728.32	2,725.33	16.87	9.57	-179.97	88.64	-29.98	866.43	846.38	20.06	43.200			
3,100.00	2,969.10	2,800.00	2,795.62	17.56	9.84	-179.63	102.67	-29.79	917.66	897.07	20.59	44.566			
3,200.00	3,062.95	2,859.00	2,853.21	18.26	10.07	-179.34	115.53	-29.62	970.72	949.73	21.00	46.235			
3,300.00	3,156.79	2,921.67	2,914.06	18.96	10.31	-179.03	130.48	-29.41	1,025.60	1,004.16	21.44	47.842			
3,400.00	3,250.64	2,982.57	2,972.87	19.66	10.56	-178.72	146.28	-29.20	1,082.22	1,060.35	21.86	49.503			
3,500.00	3,344.49	3,041.72	3,029.67	20.35	10.81	-178.42	162.83	-28.98	1,140.49	1,118.22	22.27	51.212			
3,600.00	3,438.34	3,100.00	3,085.27	21.05	11.05	-178.13	180.27	-28.75	1,200.37	1,177.70	22.67	52.946			
3,700.00	3,532.19	3,154.90	3,137.32	21.75	11.30	-177.85	197.73	-28.51	1,261.77	1,238.73	23.04	54.765			
3,800.00	3,626.04	3,200.00	3,179.82	22.45	11.50	-177.62	212.82	-28.31	1,324.69	1,301.39	23.30	56.858			
3,900.00	3,719.89	3,261.46	3,237.34	23.15	11.80	-177.32	234.46	-28.02	1,388.93	1,365.18	23.75	58.475			
4,000.00	3,813.73	3,300.00	3,273.17	23.85	11.98	-177.13	248.65	-27.83	1,454.63	1,430.69	23.94	60.750			
4,100.00	3,907.58	3,361.69	3,330.11	24.55	12.30	-176.82	272.37	-27.51	1,521.47	1,497.05	24.42	62.316			
4,200.00	4,001.43	3,400.00	3,365.21	25.25	12.49	-176.64	287.72	-27.30	1,589.65	1,565.04	24.62	64.577			
4,300.00	4,095.28	3,455.91	3,416.06	25.95	12.80	-176.37	310.96	-26.99	1,658.93	1,633.90	25.03	66.268			
4,400.00	4,189.13	3,506.72	3,461.88	26.65	13.08	-176.13	332.93	-26.69	1,729.39	1,703.99	25.40	68.096			
4,500.00	4,282.98	3,567.39	3,516.35	27.35	13.43	-175.85	359.65	-26.33	1,800.51	1,774.62	25.88	69.561			
4,600.00	4,376.83	3,637.33	3,579.13	28.05	13.85	-175.55	390.45	-25.92	1,871.67	1,845.19	26.49	70.667			
4,700.00	4,470.67	3,707.26	3,641.91	28.75	14.27	-175.28	421.25	-25.51	1,942.86	1,915.77	27.09	71.713			
4,800.00	4,564.52	3,777.19	3,704.69	29.45	14.71	-175.02	452.05	-25.09	2,014.08	1,986.37	27.70	72.703			
4,900.00	4,658.37	3,847.12	3,767.47	30.15	15.16	-174.79	482.85	-24.68	2,085.30	2,056.99	28.32	73.640			
5,000.00	4,752.22	3,917.05	3,830.25	30.85	15.61	-174.56	513.65	-24.26	2,156.55	2,127.62	28.94	74.530			

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 11-10-15H
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 11-10-15H	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 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		
5,100.00	4,846.07	3,986.98	3,893.04	31.56	16.07	-174.35	544.45	-23.85	2,227.81	2,198.26	29.56	75.374		
5,200.00	4,939.92	4,056.91	3,955.82	32.26	16.53	-174.16	575.25	-23.44	2,299.09	2,268.91	30.18	76.175		
5,300.00	5,033.77	4,126.84	4,018.60	32.96	17.01	-173.97	606.05	-23.02	2,370.38	2,339.57	30.81	76.937		
5,400.00	5,127.61	4,196.77	4,081.38	33.66	17.48	-173.80	636.85	-22.61	2,441.68	2,410.24	31.44	77.663		
5,500.00	5,221.46	4,266.70	4,144.16	34.36	17.97	-173.64	667.65	-22.20	2,512.99	2,480.91	32.07	78.352		
5,600.00	5,315.31	4,336.63	4,206.94	35.06	18.46	-173.48	698.45	-21.78	2,584.30	2,551.60	32.71	79.010		
5,700.00	5,409.16	4,406.56	4,269.72	35.76	18.95	-173.34	729.25	-21.37	2,655.63	2,622.29	33.35	79.637		
5,800.00	5,503.01	4,476.49	4,332.50	36.47	19.45	-173.20	760.05	-20.95	2,726.97	2,692.98	33.99	80.235		
5,900.00	5,596.86	4,546.42	4,395.28	37.17	19.95	-173.07	790.85	-20.54	2,798.31	2,763.68	34.63	80.806		
6,000.00	5,690.71	4,616.35	4,458.06	37.87	20.45	-172.94	821.65	-20.13	2,869.66	2,834.39	35.27	81.351		
6,100.00	5,784.55	4,686.28	4,520.85	38.57	20.96	-172.82	852.45	-19.71	2,941.02	2,905.10	35.92	81.873		
6,200.00	5,878.40	4,756.21	4,583.63	39.27	21.47	-172.71	883.25	-19.30	3,012.38	2,975.81	36.57	82.371		
6,300.00	5,972.25	4,826.14	4,646.41	39.97	21.99	-172.60	914.05	-18.88	3,083.75	3,046.53	37.22	82.849		
6,400.00	6,066.10	4,896.07	4,709.19	40.68	22.50	-172.50	944.85	-18.47	3,155.12	3,117.25	37.87	83.306		
6,500.00	6,159.95	4,966.00	4,771.97	41.38	23.02	-172.40	975.65	-18.06	3,226.50	3,187.97	38.53	83.743		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-6H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft	
Reference				Offset			Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
0.00	0.00	0.00	0.00	0.00	0.00	-54.50	21.85	-30.63	37.62						
100.00	100.00	100.00	100.00	0.14	0.14	-54.50	21.85	-30.63	37.62	37.34	0.29	131.196			
200.00	200.00	200.00	200.00	0.50	0.50	-54.50	21.85	-30.63	37.62	36.62	1.00	37.484			
300.00	300.00	300.00	300.00	0.86	0.86	-54.50	21.85	-30.63	37.62	35.90	1.72	21.866	CC, ES		
400.00	399.98	399.98	399.98	1.20	1.22	145.87	21.85	-30.63	39.06	36.63	2.42	16.121			
500.00	499.84	499.84	499.84	1.55	1.58	149.70	21.85	-30.63	43.49	40.36	3.12	13.922			
600.00	599.45	599.45	599.45	1.91	1.93	154.55	21.85	-30.63	51.21	47.37	3.84	13.351	SF		
700.00	698.70	698.70	698.70	2.29	2.29	159.28	21.85	-30.63	62.44	57.89	4.55	13.715			
800.00	797.47	797.47	797.47	2.69	2.64	163.30	21.85	-30.63	77.28	72.01	5.27	14.657			
900.00	895.62	895.62	895.62	3.13	3.00	166.49	21.85	-30.63	95.73	89.74	5.99	15.971			
1,000.00	993.06	993.06	993.06	3.61	3.34	168.96	21.85	-30.63	117.74	111.03	6.72	17.531			
1,100.00	1,089.64	1,089.64	1,089.64	4.12	3.69	170.86	21.85	-30.63	143.25	135.81	7.44	19.257			
1,200.00	1,185.27	1,185.27	1,185.27	4.68	4.03	172.32	21.85	-30.63	172.20	164.04	8.16	21.099			
1,300.00	1,279.82	1,279.82	1,279.82	5.29	4.37	173.46	21.85	-30.63	204.54	195.65	8.88	23.021			
1,310.06	1,289.26	1,289.26	1,289.26	5.35	4.41	173.56	21.85	-30.63	207.97	199.01	8.96	23.203			
1,400.00	1,373.67	1,373.67	1,373.67	5.93	4.71	174.40	21.85	-30.63	238.88	229.28	9.60	24.873			
1,500.00	1,467.52	1,467.52	1,467.52	6.58	5.05	175.10	21.85	-30.63	273.29	262.96	10.32	26.480			
1,600.00	1,561.37	1,561.37	1,561.37	7.24	5.38	175.65	21.85	-30.63	307.72	296.68	11.04	27.871			
1,700.00	1,655.22	1,655.22	1,655.22	7.91	5.72	176.09	21.85	-30.63	342.17	330.41	11.76	29.085			
1,800.00	1,749.06	1,749.06	1,749.06	8.59	6.05	176.45	21.85	-30.63	376.64	364.15	12.49	30.152			
1,900.00	1,842.91	1,842.91	1,842.91	9.27	6.39	176.75	21.85	-30.63	411.12	397.90	13.22	31.998			
2,000.00	1,936.76	1,936.76	1,936.76	9.95	6.73	177.00	21.85	-30.63	445.60	431.65	13.95	31.942			
2,100.00	2,030.61	2,030.61	2,030.61	10.63	7.06	177.21	21.85	-30.63	480.10	465.41	14.68	32.698			
2,200.00	2,124.46	2,124.46	2,124.46	11.32	7.40	177.40	21.85	-30.63	514.59	499.18	15.42	33.379			
2,300.00	2,218.31	2,218.31	2,218.31	12.01	7.74	177.56	21.85	-30.63	549.10	532.95	16.15	33.996			
2,400.00	2,312.16	2,310.22	2,310.22	12.70	8.07	177.71	21.87	-30.63	583.62	566.75	16.87	34.586			
2,500.00	2,406.00	2,388.27	2,388.25	13.39	8.35	177.86	23.21	-30.61	619.63	602.13	17.50	35.415			
2,600.00	2,499.85	2,464.72	2,464.63	14.09	8.62	178.07	26.58	-30.57	657.97	639.88	18.10	36.358			
2,700.00	2,593.70	2,539.53	2,539.25	14.78	8.89	178.33	31.86	-30.51	698.59	679.91	18.68	37.406			
2,800.00	2,687.55	2,612.64	2,612.02	15.47	9.15	178.61	38.89	-30.43	741.41	722.18	19.23	38.550			
2,900.00	2,781.40	2,684.03	2,682.88	16.17	9.41	178.91	47.55	-30.32	786.37	766.61	19.77	39.781			
3,000.00	2,875.25	2,753.67	2,751.77	16.87	9.66	179.22	57.69	-30.20	833.41	813.13	20.28	41.091			
3,100.00	2,969.10	2,821.53	2,818.66	17.56	9.90	179.55	69.19	-30.06	882.46	861.68	20.78	42.474			
3,200.00	3,062.95	2,887.63	2,883.51	18.26	10.15	179.87	81.90	-29.91	933.44	912.19	21.25	43.925			
3,300.00	3,156.79	2,951.94	2,946.33	18.96	10.40	-179.80	95.71	-29.75	986.29	964.58	21.71	45.438			
3,400.00	3,250.64	3,014.50	3,007.11	19.66	10.64	-179.48	110.48	-29.57	1,040.94	1,018.80	22.14	47.009			
3,500.00	3,344.49	3,075.30	3,065.87	20.35	10.88	-179.17	126.11	-29.38	1,097.32	1,074.76	22.56	48.633			
3,600.00	3,438.34	3,134.37	3,122.62	21.05	11.13	-178.86	142.49	-29.19	1,155.37	1,132.41	22.97	50.307			
3,700.00	3,532.19	3,200.00	3,185.27	21.75	11.40	-178.52	162.05	-28.95	1,215.06	1,191.61	23.45	51.821			
3,800.00	3,626.04	3,247.42	3,230.24	22.45	11.62	-178.28	177.08	-28.77	1,276.20	1,252.47	23.73	53.789			
3,900.00	3,719.89	3,300.00	3,279.82	23.15	11.85	-178.01	194.61	-28.56	1,338.85	1,314.78	24.07	55.630			
4,000.00	3,813.73	3,353.89	3,330.28	23.85	12.11	-177.73	213.51	-28.34	1,402.90	1,378.48	24.43	57.428			
4,100.00	3,907.58	3,404.75	3,377.57	24.55	12.35	-177.47	232.22	-28.11	1,468.31	1,443.55	24.76	59.300			
4,200.00	4,001.43	3,468.64	3,436.62	25.25	12.67	-177.16	256.61	-27.82	1,534.80	1,509.55	25.25	60.777			
4,300.00	4,095.28	3,542.87	3,505.20	25.95	13.05	-176.82	285.04	-27.48	1,601.44	1,575.56	25.87	61.896			
4,400.00	4,189.13	3,617.11	3,573.77	26.65	13.44	-176.50	313.46	-27.14	1,668.10	1,641.60	26.50	62.954			
4,500.00	4,282.98	3,691.35	3,642.35	27.35	13.85	-176.21	341.89	-26.80	1,734.79	1,707.67	27.13	63.955			
4,600.00	4,376.83	3,765.58	3,710.93	28.05	14.26	-175.95	370.31	-26.46	1,801.51	1,773.75	27.76	64.902			
4,700.00	4,470.67	3,839.82	3,779.51	28.75	14.68	-175.70	398.74	-26.12	1,868.24	1,839.85	28.39	65.800			
4,800.00	4,564.52	3,914.06	3,848.09	29.45	15.11	-175.46	427.17	-25.78	1,934.99	1,905.96	29.03	66.652			
4,900.00	4,658.37	3,988.29	3,916.66	30.15	15.55	-175.25	455.59	-25.44	2,001.76	1,972.09	29.67	67.461			
5,000.00	4,752.22	4,062.53	3,985.24	30.85	15.99	-175.04	484.02	-25.10	2,068.54	2,038.23	30.32	68.229			

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 11-10-15H
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 11-10-15H	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	4,846.07	4,136.77	4,053.82	31.56	16.44	-174.85	512.44	-24.76	2,135.34	2,104.38	30.96	68.960				
5,200.00	4,939.92	4,211.00	4,122.40	32.26	16.89	-174.68	540.87	-24.42	2,202.15	2,170.54	31.61	69.656				
5,300.00	5,033.77	4,285.24	4,190.97	32.96	17.35	-174.51	569.29	-24.08	2,268.97	2,236.70	32.27	70.319				
5,400.00	5,127.61	4,359.47	4,259.55	33.66	17.81	-174.35	597.72	-23.74	2,335.80	2,302.88	32.92	70.951				
5,500.00	5,221.46	4,433.71	4,328.13	34.36	18.28	-174.20	626.14	-23.40	2,402.64	2,369.07	33.58	71.554				
5,600.00	5,315.31	4,507.95	4,396.71	35.06	18.75	-174.06	654.57	-23.06	2,469.49	2,435.26	34.24	72.131				
5,700.00	5,409.16	4,582.18	4,465.29	35.76	19.22	-173.92	683.00	-22.72	2,536.35	2,501.45	34.90	72.681				
5,800.00	5,503.01	4,656.42	4,533.86	36.47	19.70	-173.80	711.42	-22.38	2,603.21	2,567.65	35.56	73.207				
5,900.00	5,596.86	4,730.66	4,602.44	37.17	20.18	-173.67	739.85	-22.04	2,670.08	2,633.86	36.22	73.711				
6,000.00	5,690.71	4,804.89	4,671.02	37.87	20.66	-173.56	768.27	-21.70	2,736.96	2,700.07	36.89	74.193				
6,100.00	5,784.55	4,879.13	4,739.60	38.57	21.15	-173.45	796.70	-21.36	2,803.85	2,766.29	37.56	74.655				
6,200.00	5,878.40	4,953.37	4,808.17	39.27	21.64	-173.34	825.12	-21.02	2,870.73	2,832.51	38.23	75.098				
6,300.00	5,972.25	5,027.60	4,876.75	39.97	22.13	-173.24	853.55	-20.68	2,937.63	2,898.73	38.90	75.523				
6,400.00	6,066.10	5,101.84	4,945.33	40.68	22.62	-173.15	881.97	-20.34	3,004.53	2,964.96	39.57	75.931				
6,500.00	6,159.95	5,176.07	5,013.91	41.38	23.12	-173.06	910.40	-20.00	3,071.43	3,031.19	40.24	76.322				
6,600.00	6,253.80	5,250.31	5,082.49	42.08	23.62	-172.97	938.83	-19.66	3,138.34	3,097.42	40.92	76.698				
6,700.00	6,347.65	5,324.55	5,151.06	42.78	24.12	-172.89	967.25	-19.32	3,205.25	3,163.65	41.59	77.060				
6,800.00	6,441.49	5,398.78	5,219.64	43.48	24.62	-172.81	995.68	-18.98	3,272.16	3,229.89	42.27	77.407				

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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	-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	CC, ES		
400.00	399.98	399.98	399.98	1.20	1.22	124.86	7.28	-30.63	32.45	30.03	2.42	13.396			
500.00	499.84	499.84	499.84	1.55	1.58	131.71	7.28	-30.63	35.70	32.58	3.12	11.432			
600.00	599.45	599.45	599.45	1.91	1.93	140.53	7.28	-30.63	42.01	38.18	3.84	10.952	SF		
700.00	698.70	698.70	698.70	2.29	2.29	148.97	7.28	-30.63	52.02	47.46	4.56	11.417			
800.00	797.47	797.47	797.47	2.69	2.64	155.87	7.28	-30.63	65.94	60.66	5.28	12.492			
900.00	895.62	895.62	895.62	3.13	3.00	161.08	7.28	-30.63	83.75	77.75	6.00	13.956			
1,000.00	993.06	993.06	993.06	3.61	3.34	164.93	7.28	-30.63	105.32	98.60	6.72	15.664			
1,100.00	1,089.64	1,089.64	1,089.64	4.12	3.69	167.77	7.28	-30.63	130.53	123.08	7.45	17.529			
1,200.00	1,185.27	1,185.27	1,185.27	4.68	4.03	169.89	7.28	-30.63	159.26	151.09	8.17	19.495			
1,300.00	1,279.82	1,279.82	1,279.82	5.29	4.37	171.50	7.28	-30.63	191.44	182.54	8.89	21.529			
1,310.06	1,289.26	1,289.26	1,289.26	5.35	4.41	171.64	7.28	-30.63	194.86	185.89	8.97	21.723			
1,400.00	1,373.67	1,373.67	1,373.67	5.93	4.71	172.79	7.28	-30.63	225.67	216.06	9.61	23.480			
1,500.00	1,467.52	1,467.52	1,467.52	6.58	5.05	173.74	7.28	-30.63	259.99	249.66	10.33	25.176			
1,600.00	1,561.37	1,561.37	1,561.37	7.24	5.38	174.47	7.28	-30.63	294.36	283.31	11.05	26.646			
1,700.00	1,655.22	1,655.22	1,655.22	7.91	5.72	175.05	7.28	-30.63	328.77	317.00	11.77	27.931			
1,800.00	1,749.06	1,749.06	1,749.06	8.59	6.05	175.52	7.28	-30.63	363.20	350.70	12.50	29.063			
1,900.00	1,842.91	1,842.91	1,842.91	9.27	6.39	175.91	7.28	-30.63	397.64	384.42	13.23	30.067			
2,000.00	1,936.76	1,936.76	1,936.76	9.95	6.73	176.24	7.28	-30.63	432.10	418.15	13.96	30.962			
2,100.00	2,030.61	2,030.61	2,030.61	10.63	7.06	176.52	7.28	-30.63	466.57	451.89	14.69	31.766			
2,200.00	2,124.46	2,124.46	2,124.46	11.32	7.40	176.76	7.28	-30.63	501.05	485.63	15.42	32.491			
2,300.00	2,218.31	2,218.31	2,218.31	12.01	7.74	176.96	7.28	-30.63	535.54	519.38	16.16	33.148			
2,400.00	2,312.16	2,312.16	2,312.16	12.70	8.07	177.15	7.28	-30.63	570.03	553.14	16.89	33.746			
2,500.00	2,406.00	2,400.00	2,400.00	13.39	8.39	177.30	7.28	-30.63	604.56	586.97	17.59	34.376			
2,600.00	2,499.85	2,482.71	2,482.69	14.09	8.68	177.47	8.48	-30.62	640.36	622.12	18.24	35.106			
2,700.00	2,593.70	2,558.82	2,558.74	14.78	8.96	177.69	11.68	-30.58	678.52	659.68	18.84	36.019			
2,800.00	2,687.55	2,633.32	2,633.06	15.47	9.22	177.95	16.78	-30.53	718.94	699.53	19.41	37.034			
2,900.00	2,781.40	2,700.00	2,699.45	16.17	9.46	178.20	22.97	-30.46	761.58	741.68	19.91	38.253			
3,000.00	2,875.25	2,777.26	2,776.17	16.87	9.74	178.53	32.09	-30.37	806.30	785.80	20.50	39.337			
3,100.00	2,969.10	2,846.65	2,844.84	17.56	9.99	178.85	42.03	-30.26	853.12	832.11	21.01	40.610			
3,200.00	3,062.95	2,914.29	2,911.53	18.26	10.23	179.18	53.32	-30.15	901.93	880.44	21.50	41.955			
3,300.00	3,156.79	2,980.18	2,976.22	18.96	10.48	179.50	65.83	-30.02	952.68	930.71	21.97	43.368			
3,400.00	3,250.64	3,044.31	3,038.90	19.66	10.72	179.83	79.43	-29.87	1,005.30	982.88	22.42	44.842			
3,500.00	3,344.49	3,100.00	3,093.06	20.35	10.94	-179.88	92.37	-29.74	1,059.74	1,036.96	22.78	46.527			
3,600.00	3,438.34	3,167.36	3,158.22	21.05	11.20	-179.53	109.44	-29.56	1,115.85	1,092.58	23.27	47.960			
3,700.00	3,532.19	3,226.30	3,214.89	21.75	11.44	-179.22	125.62	-29.39	1,173.66	1,149.99	23.66	49.596			
3,800.00	3,626.04	3,301.05	3,286.45	22.45	11.76	-178.84	147.21	-29.16	1,232.63	1,208.39	24.25	50.838			
3,900.00	3,719.89	3,381.47	3,363.43	23.15	12.10	-178.47	170.47	-28.92	1,291.70	1,266.80	24.90	51.882			
4,000.00	3,813.73	3,461.88	3,440.41	23.85	12.46	-178.13	193.74	-28.67	1,350.79	1,325.24	25.55	52.865			
4,100.00	3,907.58	3,542.30	3,517.39	24.55	12.83	-177.81	217.00	-28.43	1,409.92	1,383.71	26.21	53.794			
4,200.00	4,001.43	3,622.72	3,594.36	25.25	13.20	-177.53	240.27	-28.19	1,469.07	1,442.20	26.87	54.673			
4,300.00	4,095.28	3,703.13	3,671.34	25.95	13.57	-177.26	263.53	-27.94	1,528.24	1,500.71	27.53	55.504			
4,400.00	4,189.13	3,783.55	3,748.32	26.65	13.96	-177.01	286.80	-27.70	1,587.44	1,559.23	28.20	56.291			
4,500.00	4,282.98	3,863.97	3,825.30	27.35	14.35	-176.78	310.06	-27.45	1,646.65	1,617.78	28.87	57.037			
4,600.00	4,376.83	3,944.39	3,902.28	28.05	14.74	-176.57	333.33	-27.21	1,705.87	1,676.33	29.54	57.746			
4,700.00	4,470.67	4,024.80	3,979.25	28.75	15.14	-176.37	356.59	-26.97	1,765.11	1,734.90	30.21	58.420			
4,800.00	4,564.52	4,105.22	4,056.23	29.45	15.55	-176.19	379.86	-26.72	1,824.37	1,793.48	30.89	59.061			
4,900.00	4,658.37	4,185.64	4,133.21	30.15	15.96	-176.01	403.12	-26.48	1,883.63	1,852.07	31.57	59.672			
5,000.00	4,752.22	4,266.05	4,210.19	30.85	16.37	-175.85	426.39	-26.23	1,942.91	1,910.66	32.25	60.254			

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 11-10-15H
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 11-10-15H	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		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	4,846.07	4,346.47	4,287.17	31.56	16.78	-175.70	449.65	-25.99	2,002.20	1,969.27	32.93	60.809		
5,200.00	4,939.92	4,426.89	4,364.14	32.26	17.20	-175.55	472.92	-25.75	2,061.49	2,027.88	33.61	61.339		
5,300.00	5,033.77	4,507.31	4,441.12	32.96	17.62	-175.41	496.18	-25.50	2,120.79	2,086.50	34.29	61.845		
5,400.00	5,127.61	4,587.72	4,518.10	33.66	18.05	-175.28	519.45	-25.26	2,180.11	2,145.13	34.98	62.330		
5,500.00	5,221.46	4,668.14	4,595.08	34.36	18.48	-175.16	542.71	-25.01	2,239.42	2,203.76	35.66	62.793		
5,600.00	5,315.31	4,748.56	4,672.06	35.06	18.91	-175.04	565.98	-24.77	2,298.75	2,262.39	36.35	63.237		
5,700.00	5,409.16	4,828.97	4,749.03	35.76	19.34	-174.93	589.24	-24.53	2,358.08	2,321.04	37.04	63.662		
5,800.00	5,503.01	4,909.39	4,826.01	36.47	19.77	-174.83	612.51	-24.28	2,417.41	2,379.68	37.73	64.071		
5,900.00	5,596.86	4,989.81	4,902.99	37.17	20.21	-174.73	635.77	-24.04	2,476.75	2,438.33	38.42	64.462		
6,000.00	5,690.71	5,070.23	4,979.97	37.87	20.65	-174.63	659.04	-23.79	2,536.10	2,496.98	39.11	64.838		
6,100.00	5,784.55	5,150.64	5,056.94	38.57	21.09	-174.54	682.30	-23.55	2,595.44	2,555.64	39.81	65.199		
6,200.00	5,878.40	5,231.06	5,133.92	39.27	21.53	-174.46	705.56	-23.31	2,654.80	2,614.30	40.50	65.547		
6,300.00	5,972.25	5,311.48	5,210.90	39.97	21.97	-174.37	728.83	-23.06	2,714.15	2,672.96	41.20	65.881		
6,400.00	6,066.10	5,391.89	5,287.88	40.68	22.42	-174.29	752.09	-22.82	2,773.51	2,731.62	41.89	66.202		
6,500.00	6,159.95	5,472.31	5,364.86	41.38	22.86	-174.22	775.36	-22.57	2,832.88	2,790.29	42.59	66.512		
6,600.00	6,253.80	5,552.73	5,441.83	42.08	23.31	-174.14	798.62	-22.33	2,892.25	2,848.96	43.29	66.810		
6,700.00	6,347.65	5,633.14	5,518.81	42.78	23.76	-174.07	821.89	-22.09	2,951.62	2,907.63	43.99	67.098		
6,800.00	6,441.49	5,713.56	5,595.79	43.48	24.21	-174.01	845.15	-21.84	3,010.99	2,966.30	44.69	67.375		
6,823.95	6,463.97	5,732.82	5,614.22	43.65	24.32	-173.99	850.73	-21.78	3,025.21	2,980.35	44.86	67.440		
6,850.00	6,488.47	5,753.81	5,634.32	43.83	24.44	177.18	856.80	-21.72	3,040.58	2,995.54	45.04	67.510		
6,900.00	6,535.65	5,794.22	5,673.00	44.16	24.66	159.70	868.49	-21.60	3,069.44	3,024.06	45.38	67.639		
6,950.00	6,582.74	5,834.52	5,711.57	44.45	24.89	143.00	880.15	-21.47	3,097.30	3,051.60	45.71	67.763		
7,000.00	6,629.37	5,874.41	5,749.75	44.71	25.11	128.49	891.69	-21.35	3,124.00	3,077.98	46.02	67.882		
7,050.00	6,675.19	5,913.58	5,787.25	44.94	25.33	116.66	903.02	-21.23	3,149.38	3,103.06	46.32	67.996		
7,100.00	6,719.86	5,951.74	5,823.78	45.14	25.55	107.26	914.06	-21.12	3,173.31	3,126.71	46.60	68.104		
7,150.00	6,763.03	5,988.59	5,859.06	45.31	25.76	99.84	924.72	-21.01	3,195.69	3,148.83	46.86	68.204		
7,200.00	6,804.37	6,023.86	5,892.82	45.46	25.96	93.96	934.92	-20.90	3,216.42	3,169.32	47.10	68.290		
7,250.00	6,843.57	6,057.28	5,924.81	45.58	26.15	89.26	944.59	-20.80	3,235.45	3,188.12	47.33	68.359		
7,300.00	6,880.33	6,088.59	5,954.78	45.68	26.32	85.49	953.65	-20.70	3,252.72	3,205.17	47.55	68.402		
7,350.00	6,914.37	6,117.55	5,982.50	45.75	26.49	82.45	962.03	-20.62	3,268.19	3,220.42	47.77	68.410		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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)				
0.00	0.00	0.00	0.00	0.00	0.00	0.00	109.29	0.00	109.29	109.00	0.29	381.081		
100.00	100.00	100.00	100.00	0.14	0.14	0.00	109.29	0.00	109.29	108.28	1.00	108.880		
200.00	200.00	200.00	200.00	0.50	0.50	0.00	109.29	0.00	109.29	107.56	1.72	63.513 CC, ES		
300.00	300.00	300.00	300.00	0.86	0.86	0.00	109.29	0.00	109.29	110.20	2.41	46.638		
400.00	399.98	396.22	396.20	1.20	1.21	-161.33	110.90	0.05	112.62	119.48	3.11	39.398		
500.00	499.84	491.79	491.65	1.55	1.55	-161.94	115.70	0.20	122.59	135.35	3.81	36.511		
600.00	599.45	586.08	585.61	1.91	1.90	-162.75	123.55	0.45	139.17	157.73	4.51	36.003		
700.00	698.70	678.50	677.40	2.29	2.25	-163.59	134.24	0.79	162.23	185.92	5.20	36.730		
800.00	797.47	772.02	769.97	2.69	2.62	-164.39	147.52	1.21	191.12	217.60	5.91	37.824		
900.00	895.62	866.56	863.52	3.13	3.00	-165.18	161.18	1.65	223.51	252.51	6.62	39.164		
1,000.00	993.06	959.93	955.91	3.61	3.38	-165.92	174.67	2.07	259.13	290.62	7.32	40.716		
1,100.00	1,089.64	1,052.00	1,047.01	4.12	3.76	-166.58	187.98	2.50	297.94	331.89	8.02	42.378		
1,200.00	1,185.27	1,142.67	1,136.73	4.68	4.14	-167.19	201.08	2.91	339.91	376.28	8.72	44.145		
1,300.00	1,279.82	1,231.82	1,224.94	5.29	4.51	-167.72	213.96	3.32	385.00	380.91	8.80	44.289		
1,310.06	1,289.26	1,240.70	1,233.73	5.35	4.55	-167.77	215.24	3.36	389.71	422.53	9.42	45.878		
1,400.00	1,373.67	1,320.02	1,312.21	5.93	4.88	-168.36	226.71	3.73	431.94	468.83	10.10	47.400		
1,500.00	1,467.52	1,408.21	1,399.48	6.58	5.25	-168.89	239.45	4.13	478.93	515.15	10.80	48.711		
1,600.00	1,561.37	1,496.41	1,486.75	7.24	5.62	-169.33	252.20	4.53	525.95	561.49	11.49	49.850		
1,700.00	1,655.22	1,584.60	1,574.01	7.91	5.99	-169.69	264.94	4.94	572.99	607.85	12.19	50.847		
1,800.00	1,749.06	1,672.79	1,661.28	8.59	6.37	-170.00	277.69	5.34	620.04	654.21	12.90	51.726		
1,900.00	1,842.91	1,760.98	1,748.54	9.27	6.74	-170.27	290.43	5.75	667.11	700.58	13.60	52.507		
2,000.00	1,936.76	1,849.18	1,835.81	9.95	7.11	-170.50	303.17	6.15	714.18	746.95	14.31	53.205		
2,100.00	2,030.61	1,937.37	1,923.08	10.63	7.49	-170.70	315.92	6.56	761.26	793.34	15.02	53.832		
2,200.00	2,124.46	2,025.56	2,010.34	11.32	7.86	-170.88	328.66	6.96	808.35	839.72	15.73	54.398		
2,300.00	2,218.31	2,113.75	2,097.61	12.01	8.24	-171.04	341.41	7.36	855.45	886.11	16.44	54.911		
2,400.00	2,312.16	2,201.95	2,184.87	12.70	8.61	-171.18	354.15	7.77	902.55	932.50	17.15	55.378		
2,500.00	2,406.00	2,290.14	2,272.14	13.39	8.99	-171.31	366.90	8.17	949.65	978.89	17.86	55.806		
2,600.00	2,499.85	2,378.33	2,359.41	14.09	9.36	-171.43	379.64	8.58	996.76	1,025.29	18.57	56.198		
2,700.00	2,593.70	2,466.52	2,446.67	14.78	9.74	-171.53	392.39	8.98	1,043.87	1,071.69	19.29	56.558		
2,800.00	2,687.55	2,554.72	2,533.94	15.47	10.11	-171.63	405.13	9.39	1,090.98	1,118.09	20.00	56.891		
2,900.00	2,781.40	2,642.91	2,621.20	16.17	10.49	-171.72	417.87	9.79	1,138.09	1,164.49	20.72	57.200		
3,000.00	2,875.25	2,731.10	2,708.47	16.87	10.86	-171.80	430.62	10.19	1,185.21	1,210.89	21.44	57.486		
3,100.00	2,969.10	2,819.30	2,795.74	17.56	11.24	-171.88	443.36	10.60	1,232.33	1,257.29	22.15	57.752		
3,200.00	3,062.95	2,907.49	2,883.00	18.26	11.62	-171.95	456.11	11.00	1,279.45	1,303.69	22.87	58.001		
3,300.00	3,156.79	2,995.68	2,970.27	18.96	11.99	-172.01	468.85	11.41	1,326.57	1,350.10	23.59	58.233		
3,400.00	3,250.64	3,083.87	3,057.53	19.66	12.37	-172.07	481.60	11.81	1,373.69	1,396.50	24.31	58.450		
3,500.00	3,344.49	3,172.07	3,144.80	20.35	12.74	-172.13	494.34	12.22	1,420.81	1,442.91	25.03	58.654		
3,600.00	3,438.34	3,260.26	3,232.07	21.05	13.12	-172.18	507.09	12.62	1,467.94	1,489.31	25.75	58.845		
3,700.00	3,532.19	3,348.45	3,319.33	21.75	13.50	-172.23	519.83	13.02	1,515.06	1,535.72	26.47	59.026		
3,800.00	3,626.04	3,436.64	3,406.60	22.45	13.87	-172.28	532.58	13.43	1,562.19	1,582.13	27.19	59.195		
3,900.00	3,719.89	3,524.84	3,493.86	23.15	14.25	-172.32	545.32	13.83	1,609.31	1,628.53	27.91	59.356		
4,000.00	3,813.73	3,613.03	3,581.13	23.85	14.62	-172.36	558.06	14.24	1,656.44	1,674.94	28.63	59.508		
4,100.00	3,907.58	3,701.22	3,668.39	24.55	15.00	-172.40	570.81	14.64	1,703.57	1,721.35	29.35	59.651		
4,200.00	4,001.43	3,789.41	3,755.66	25.25	15.38	-172.44	583.55	15.05	1,750.70	1,767.76	30.07	59.787		
4,300.00	4,095.28	3,877.61	3,842.93	25.95	15.75	-172.47	596.30	15.45	1,797.83	1,814.16	30.79	59.916		
4,400.00	4,189.13	3,965.80	3,930.19	26.65	16.13	-172.51	609.04	15.85	1,844.96	1,860.57	31.51	60.039		
4,500.00	4,282.98	4,053.99	4,017.46	27.35	16.51	-172.54	621.79	16.26	1,892.09	1,906.98	32.24	60.155		
4,600.00	4,376.83	4,142.18	4,104.72	28.05	16.88	-172.57	634.53	16.66	1,939.22	1,953.39	32.96	60.266		
4,700.00	4,470.67	4,230.38	4,191.99	28.75	17.26	-172.60	647.28	17.07	1,986.35	1,999.80	33.68	60.372		
4,800.00	4,564.52	4,318.57	4,279.26	29.45	17.64	-172.62	660.02	17.47	2,033.48	2,046.20	34.41	60.473		
4,900.00	4,658.37	4,406.76	4,366.52	30.15	18.01	-172.65	672.77	17.88	2,080.61					
5,000.00	4,752.22	4,494.95	4,453.79	30.85	18.39	-172.67	685.51	18.28	2,127.74					

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 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-8H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD										Rule Assigned:			Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
5,100.00	4,846.07	4,583.15	4,541.05	31.56	18.76	-172.70	698.25	18.69	2,174.87	2,139.02	35.85	60.661			
5,200.00	4,939.92	4,671.34	4,628.32	32.26	19.14	-172.72	711.00	19.09	2,222.01	2,185.43	36.58	60.748			
5,300.00	5,033.77	4,759.53	4,715.59	32.96	19.52	-172.74	723.74	19.49	2,269.14	2,231.84	37.30	60.832			
5,400.00	5,127.61	4,847.72	4,802.85	33.66	19.89	-172.76	736.49	19.90	2,316.27	2,278.25	38.03	60.912			
5,500.00	5,221.46	4,935.92	4,890.12	34.36	20.27	-172.78	749.23	20.30	2,363.41	2,324.65	38.75	60.989			
5,600.00	5,315.31	5,024.11	4,977.38	35.06	20.65	-172.80	761.98	20.71	2,410.54	2,371.06	39.48	61.062			
5,700.00	5,409.16	5,112.30	5,064.65	35.76	21.02	-172.82	774.72	21.11	2,457.67	2,417.47	40.20	61.133			
5,800.00	5,503.01	5,200.50	5,151.92	36.47	21.40	-172.84	787.47	21.52	2,504.81	2,463.88	40.93	61.201			
5,900.00	5,596.86	5,288.69	5,239.18	37.17	21.78	-172.86	800.21	21.92	2,551.94	2,510.29	41.65	61.265			
6,000.00	5,690.71	5,376.88	5,326.45	37.87	22.15	-172.87	812.96	22.32	2,599.08	2,556.69	42.38	61.328			
6,100.00	5,784.55	5,465.07	5,413.71	38.57	22.53	-172.89	825.70	22.73	2,646.21	2,603.10	43.11	61.387			
6,200.00	5,878.40	5,553.27	5,500.98	39.27	22.91	-172.90	838.44	23.13	2,693.34	2,649.51	43.83	61.445			
6,300.00	5,972.25	5,756.51	5,702.51	39.97	23.75	-172.96	864.44	23.96	2,739.59	2,694.22	45.38	60.376			
6,400.00	6,066.10	6,120.61	6,066.10	40.68	24.98	-173.22	879.03	24.42	2,774.74	2,727.03	47.71	58.156			
6,500.00	6,159.95	6,214.45	6,159.95	41.38	25.26	-173.30	879.03	24.42	2,809.06	2,760.62	48.44	57.985			
6,600.00	6,253.80	6,308.30	6,253.80	42.08	25.55	-173.38	879.03	24.42	2,843.39	2,794.21	49.18	57.818			
6,700.00	6,347.65	6,402.15	6,347.65	42.78	25.84	-173.46	879.03	24.42	2,877.72	2,827.81	49.91	57.656			
6,800.00	6,441.49	6,496.00	6,441.49	43.48	26.13	-173.54	879.03	24.42	2,912.06	2,861.41	50.65	57.498			
6,823.95	6,463.97	6,518.47	6,463.97	43.65	26.20	-173.56	879.03	24.42	2,920.28	2,869.46	50.82	57.461			
6,850.00	6,488.47	6,542.98	6,488.47	43.83	26.27	178.52	879.03	24.42	2,929.12	2,878.10	51.01	57.420			
6,900.00	6,535.65	6,590.16	6,535.65	44.16	26.42	162.69	879.03	24.42	2,945.42	2,894.05	51.37	57.336			
6,950.00	6,582.74	6,637.25	6,582.74	44.45	26.57	147.54	879.03	24.42	2,960.77	2,909.05	51.72	57.247			
7,000.00	6,629.37	6,683.88	6,629.37	44.71	26.71	134.47	879.03	24.42	2,975.07	2,923.02	52.05	57.153			
7,050.00	6,675.19	6,729.70	6,675.19	44.94	26.85	123.97	879.03	24.42	2,988.27	2,935.89	52.38	57.055			
7,100.00	6,719.86	6,750.00	6,695.49	45.14	26.92	115.59	879.02	24.12	3,000.48	2,947.93	52.55	57.098			
7,150.00	6,763.03	6,774.58	6,720.03	45.31	26.99	109.07	879.01	22.80	3,011.81	2,959.08	52.73	57.115			
7,200.00	6,804.37	6,800.00	6,745.33	45.46	27.06	103.97	878.99	20.34	3,022.24	2,969.32	52.91	57.115			
7,250.00	6,843.57	6,818.34	6,763.51	45.58	27.12	99.88	878.97	17.86	3,031.67	2,978.62	53.06	57.139			
7,300.00	6,880.33	6,850.00	6,794.65	45.68	27.21	96.76	878.93	12.22	3,040.13	2,986.85	53.28	57.063			
7,350.00	6,914.37	6,861.93	6,806.30	45.75	27.25	94.10	878.90	9.65	3,047.48	2,994.07	53.40	57.065			
7,400.00	6,945.43	6,883.64	6,827.35	45.81	27.31	92.09	878.86	4.35	3,053.78	3,000.18	53.60	56.969			
7,450.00	6,973.28	6,900.00	6,843.08	45.84	27.36	90.47	878.82	-0.16	3,059.00	3,005.20	53.81	56.852			
7,500.00	6,997.70	6,926.83	6,868.57	45.86	27.43	89.37	878.76	-8.54	3,063.11	3,009.01	54.10	56.617			
7,550.00	7,018.51	6,950.00	6,890.24	45.86	27.50	88.56	878.69	-16.72	3,066.14	3,011.72	54.42	56.347			
7,600.00	7,035.55	6,969.61	6,908.31	45.85	27.55	88.02	878.63	-24.33	3,068.08	3,013.32	54.76	56.024			
7,650.00	7,048.69	6,990.77	6,927.51	45.82	27.60	87.77	878.55	-33.23	3,068.96	3,013.79	55.17	55.627			
7,700.00	7,057.83	7,011.74	6,946.20	45.79	27.66	87.79	878.47	-42.74	3,068.81	3,013.18	55.63	55.165			
7,750.00	7,062.89	7,032.46	6,964.31	45.74	27.71	88.04	878.39	-52.79	3,067.66	3,011.52	56.14	54.644			
7,786.65	7,064.00	7,050.00	6,979.35	45.70	27.76	88.42	878.32	-61.82	3,066.21	3,009.66	56.55	54.219			
7,800.00	7,064.00	7,050.00	6,979.35	45.69	27.76	88.42	878.32	-61.82	3,065.62	3,008.94	56.68	54.089			
7,900.00	7,064.00	7,100.00	7,020.62	45.59	27.89	89.19	878.09	-90.02	3,062.55	3,004.59	57.96	52.837			
7,994.74	7,064.00	7,157.31	7,064.69	45.53	28.03	90.01	877.79	-126.62	3,061.68	3,002.29	59.39	51.555			
8,000.00	7,064.00	7,160.90	7,067.33	45.53	28.04	90.06	877.77	-129.06	3,061.68	3,002.21	59.47	51.485			
8,100.00	7,064.00	7,239.28	7,120.88	45.50	28.24	91.06	877.30	-186.20	3,062.53	3,001.30	61.23	50.013			
8,200.00	7,064.00	7,339.96	7,177.39	45.53	28.54	92.12	876.62	-269.37	3,064.38	3,001.03	63.35	48.371			
8,300.00	7,064.00	7,464.81	7,225.91	45.62	29.14	93.03	875.67	-384.13	3,066.27	3,000.30	65.97	46.481			
8,400.00	7,064.00	7,608.02	7,249.52	45.83	30.34	93.47	874.52	-525.00	3,067.20	2,998.02	69.18	44.336			
8,500.00	7,064.00	7,715.65	7,250.00	46.24	31.59	93.48	873.64	-632.62	3,067.20	2,994.85	72.35	42.395			
8,600.00	7,064.00	7,815.65	7,250.00	46.98	32.96	93.48	872.82	-732.62	3,067.18	2,991.48	75.69	40.522			
8,700.00	7,064.00	7,915.65	7,250.00	48.13	34.51	93.48	872.00	-832.61	3,067.15	2,987.88	79.28	38.690			
8,800.00	7,064.00	8,015.65	7,250.00	49.67	36.20	93.48	871.18	-932.61	3,067.13	2,984.06	83.07	36.923			
8,900.00	7,064.00	8,115.65	7,250.00	51.48	38.02	93.48	870.36	-1,032.61	3,067.10	2,980.06	87.04	35.237			

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 11-10-15H
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 11-10-15H	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		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	7,064.00	8,215.65	7,250.00	53.46	39.95	93.48	869.54	-1,132.60	3,067.08	2,975.90	91.17	33.640
9,100.00	7,064.00	8,315.65	7,250.00	55.54	41.96	93.48	868.71	-1,232.60	3,067.05	2,971.61	95.44	32.136
9,200.00	7,064.00	8,415.65	7,250.00	57.71	44.05	93.48	867.89	-1,332.60	3,067.03	2,967.21	99.82	30.725
9,300.00	7,064.00	8,515.65	7,250.00	59.94	46.21	93.48	867.07	-1,432.59	3,067.00	2,962.70	104.31	29.404
9,400.00	7,064.00	8,615.65	7,250.00	62.22	48.43	93.48	866.25	-1,532.59	3,066.98	2,958.10	108.88	28.168
9,500.00	7,064.00	8,715.65	7,250.00	64.55	50.70	93.48	865.43	-1,632.59	3,066.96	2,953.42	113.53	27.014
9,600.00	7,064.00	8,815.65	7,250.00	66.90	53.00	93.48	864.61	-1,732.58	3,066.93	2,948.68	118.25	25.935
9,700.00	7,064.00	8,915.65	7,250.00	69.28	55.35	93.48	863.79	-1,832.58	3,066.91	2,943.87	123.03	24.927
9,800.00	7,064.00	9,015.65	7,250.00	71.69	57.73	93.48	862.97	-1,932.58	3,066.88	2,939.02	127.87	23.985
9,900.00	7,064.00	9,115.65	7,250.00	74.13	60.14	93.48	862.15	-2,032.57	3,066.86	2,934.11	132.75	23.103
10,000.00	7,064.00	9,215.65	7,250.00	76.58	62.57	93.48	861.33	-2,132.57	3,066.83	2,929.16	137.67	22.277
10,100.00	7,064.00	9,315.65	7,250.00	79.05	65.03	93.48	860.51	-2,232.57	3,066.81	2,924.18	142.63	21.502
10,200.00	7,064.00	9,415.65	7,249.99	81.54	67.51	93.48	859.69	-2,332.56	3,066.78	2,919.16	147.63	20.774
10,300.00	7,064.00	9,515.65	7,249.99	84.04	70.01	93.48	858.87	-2,432.56	3,066.76	2,914.11	152.65	20.090
10,400.00	7,064.00	9,615.65	7,249.99	86.56	72.52	93.48	858.05	-2,532.56	3,066.73	2,909.03	157.70	19.446
10,500.00	7,064.00	9,715.65	7,249.99	89.08	75.05	93.48	857.23	-2,632.55	3,066.71	2,903.93	162.78	18.840
10,600.00	7,064.00	9,815.65	7,249.99	91.62	77.59	93.48	856.41	-2,732.55	3,066.69	2,898.81	167.88	18.267
10,700.00	7,064.00	9,915.65	7,249.99	94.17	80.14	93.48	855.59	-2,832.55	3,066.66	2,893.66	173.00	17.727
10,800.00	7,064.00	10,015.65	7,249.99	96.73	82.70	93.48	854.77	-2,932.54	3,066.64	2,888.50	178.14	17.215
10,900.00	7,064.00	10,115.65	7,249.99	99.30	85.27	93.48	853.95	-3,032.54	3,066.61	2,883.32	183.29	16.731
11,000.00	7,064.00	10,215.65	7,249.99	101.87	87.86	93.48	853.13	-3,132.54	3,066.59	2,878.12	188.46	16.271
11,100.00	7,064.00	10,315.65	7,249.99	104.45	90.45	93.48	852.31	-3,232.53	3,066.56	2,872.91	193.65	15.836
11,200.00	7,064.00	10,415.65	7,249.99	107.04	93.04	93.48	851.49	-3,332.53	3,066.54	2,867.69	198.85	15.421
11,300.00	7,064.00	10,515.65	7,249.99	109.64	95.65	93.48	850.67	-3,432.52	3,066.51	2,862.45	204.06	15.027
11,400.00	7,064.00	10,615.65	7,249.99	112.24	98.26	93.48	849.85	-3,532.52	3,066.49	2,857.21	209.28	14.652
11,500.00	7,064.00	10,715.65	7,249.99	114.84	100.88	93.48	849.03	-3,632.52	3,066.47	2,851.95	214.52	14.295
11,600.00	7,064.00	10,815.65	7,249.99	117.45	103.50	93.48	848.21	-3,732.51	3,066.44	2,846.68	219.76	13.954
11,700.00	7,064.00	10,915.65	7,249.99	120.07	106.13	93.48	847.39	-3,832.51	3,066.42	2,841.40	225.01	13.628
11,800.00	7,064.00	11,015.65	7,249.99	122.69	108.76	93.48	846.57	-3,932.51	3,066.39	2,836.12	230.27	13.316
11,900.00	7,064.00	11,115.65	7,249.99	125.32	111.39	93.48	845.75	-4,032.50	3,066.37	2,830.83	235.54	13.018
12,000.00	7,064.00	11,215.65	7,249.99	127.95	114.03	93.48	844.93	-4,132.50	3,066.34	2,825.53	240.82	12.733
12,100.00	7,064.00	11,315.65	7,249.99	130.58	116.68	93.48	844.11	-4,232.50	3,066.32	2,820.22	246.10	12.460
12,200.00	7,064.00	11,415.65	7,249.99	133.21	119.33	93.48	843.29	-4,332.49	3,066.29	2,814.90	251.39	12.197
12,300.00	7,064.00	11,515.65	7,249.99	135.85	121.98	93.48	842.47	-4,432.49	3,066.27	2,809.58	256.68	11.946
12,400.00	7,064.00	11,615.65	7,249.99	138.50	124.63	93.48	841.65	-4,532.49	3,066.25	2,804.26	261.99	11.704
12,500.00	7,064.00	11,715.65	7,249.99	141.14	127.29	93.48	840.83	-4,632.48	3,066.22	2,798.93	267.29	11.471
12,600.00	7,064.00	11,815.65	7,249.99	143.79	129.95	93.48	840.01	-4,732.48	3,066.20	2,793.59	272.60	11.248
12,700.00	7,064.00	11,915.65	7,249.99	146.44	132.61	93.48	839.19	-4,832.48	3,066.17	2,788.25	277.92	11.033
12,800.00	7,064.00	12,015.65	7,249.99	149.09	135.27	93.48	838.37	-4,932.47	3,066.15	2,782.91	283.24	10.825
12,900.00	7,064.00	12,115.65	7,249.99	151.75	137.94	93.48	837.55	-5,032.47	3,066.12	2,777.56	288.56	10.625
13,000.00	7,064.00	12,215.65	7,249.99	154.41	140.61	93.48	836.73	-5,132.47	3,066.10	2,772.21	293.89	10.433
13,100.00	7,064.00	12,315.65	7,249.99	157.07	143.28	93.48	835.91	-5,232.46	3,066.07	2,766.85	299.23	10.247
13,200.00	7,064.00	12,415.65	7,249.99	159.73	145.95	93.48	835.09	-5,332.46	3,066.05	2,761.49	304.56	10.067
13,300.00	7,064.00	12,515.65	7,249.99	162.39	148.63	93.48	834.27	-5,432.46	3,066.03	2,756.12	309.90	9.894
13,400.00	7,064.00	12,615.65	7,249.99	165.06	151.30	93.48	833.45	-5,532.45	3,066.00	2,750.76	315.24	9.726
13,500.00	7,064.00	12,715.65	7,249.99	167.73	153.98	93.48	832.63	-5,632.45	3,065.98	2,745.39	320.59	9.564
13,600.00	7,064.00	12,815.65	7,249.99	170.40	156.66	93.48	831.81	-5,732.45	3,065.95	2,740.01	325.94	9.407
13,700.00	7,064.00	12,915.65	7,249.98	173.07	159.34	93.48	830.99	-5,832.44	3,065.93	2,734.64	331.29	9.255
13,800.00	7,064.00	13,015.65	7,249.98	175.74	162.02	93.48	830.17	-5,932.44	3,065.90	2,729.26	336.64	9.107
13,900.00	7,064.00	13,115.65	7,249.98	178.41	164.70	93.48	829.34	-6,032.44	3,065.88	2,723.88	342.00	8.965
14,000.00	7,064.00	13,215.65	7,249.98	181.09	167.39	93.48	828.52	-6,132.43	3,065.85	2,718.49	347.36	8.826
14,100.00	7,064.00	13,315.65	7,249.98	183.77	170.07	93.48	827.70	-6,232.43	3,065.83	2,713.11	352.72	8.692

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 11-10-15H
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 11-10-15H	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)			
14,200.00	7,064.00	13,415.65	7,249.98	186.44	172.76	93.48	826.88	-6,332.43	3,065.80	2,707.72	358.08	8.562	
14,300.00	7,064.00	13,515.65	7,249.98	189.12	175.45	93.48	826.06	-6,432.42	3,065.78	2,702.33	363.45	8.435	
14,400.00	7,064.00	13,615.65	7,249.98	191.80	178.14	93.48	825.24	-6,532.42	3,065.76	2,696.94	368.82	8.312	
14,500.00	7,064.00	13,715.65	7,249.98	194.48	180.83	93.48	824.42	-6,632.42	3,065.73	2,691.55	374.19	8.193	
14,600.00	7,064.00	13,815.65	7,249.98	197.17	183.52	93.48	823.60	-6,732.41	3,065.71	2,686.15	379.56	8.077	
14,700.00	7,064.00	13,915.65	7,249.98	199.85	186.21	93.48	822.78	-6,832.41	3,065.68	2,680.75	384.93	7.964	
14,800.00	7,064.00	14,015.65	7,249.98	202.53	188.90	93.48	821.96	-6,932.41	3,065.66	2,675.35	390.30	7.855	
14,900.00	7,064.00	14,115.65	7,249.98	205.22	191.60	93.48	821.14	-7,032.40	3,065.63	2,669.95	395.68	7.748	
15,000.00	7,064.00	14,215.65	7,249.98	207.91	194.29	93.48	820.32	-7,132.40	3,065.61	2,664.55	401.06	7.644	
15,100.00	7,064.00	14,315.65	7,249.98	210.59	196.99	93.48	819.50	-7,232.40	3,065.58	2,659.15	406.44	7.543	
15,200.00	7,064.00	14,415.65	7,249.98	213.28	199.68	93.48	818.68	-7,332.39	3,065.56	2,653.74	411.82	7.444	
15,300.00	7,064.00	14,515.65	7,249.98	215.97	202.38	93.48	817.86	-7,432.39	3,065.54	2,648.33	417.20	7.348	
15,400.00	7,064.00	14,615.65	7,249.98	218.66	205.08	93.48	817.04	-7,532.39	3,065.51	2,642.93	422.58	7.254	
15,500.00	7,064.00	14,715.65	7,249.98	221.35	207.77	93.48	816.22	-7,632.38	3,065.49	2,637.52	427.97	7.163	
15,600.00	7,064.00	14,815.65	7,249.98	224.04	210.47	93.48	815.40	-7,732.38	3,065.46	2,632.11	433.35	7.074	
15,700.00	7,064.00	14,915.65	7,249.98	226.73	213.17	93.48	814.58	-7,832.38	3,065.44	2,626.70	438.74	6.987	
15,800.00	7,064.00	15,015.65	7,249.98	229.43	215.87	93.48	813.76	-7,932.37	3,065.41	2,621.28	444.13	6.902	
15,900.00	7,064.00	15,115.65	7,249.98	232.12	218.57	93.48	812.94	-8,032.37	3,065.39	2,615.87	449.52	6.819	
16,000.00	7,064.00	15,215.65	7,249.98	234.81	221.27	93.48	812.12	-8,132.37	3,065.36	2,610.45	454.91	6.738	
16,100.00	7,064.00	15,315.65	7,249.98	237.51	223.97	93.48	811.30	-8,232.36	3,065.34	2,605.04	460.30	6.659	
16,185.11	7,064.00	15,400.00	7,249.98	239.80	226.25	93.48	810.61	-8,316.71	3,065.32	2,600.45	464.87	6.594	
16,200.00	7,064.00	15,407.53	7,249.98	240.20	226.45	93.48	810.57	-8,324.24	3,065.35	2,599.89	465.45	6.586	
16,300.00	7,064.00	15,478.21	7,250.00	242.90	228.36	93.48	810.17	-8,394.92	3,065.73	2,595.78	469.95	6.524	
16,305.41	7,064.00	15,478.21	7,250.00	243.05	228.36	93.48	810.17	-8,394.92	3,065.80	2,595.73	470.07	6.522 SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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)				
0.00	0.00	0.00	0.00	0.00	0.00	0.00	94.71	0.00	94.71					
100.00	100.00	100.00	100.00	0.14	0.14	0.00	94.71	0.00	94.71	94.43	0.29	330.268		
200.00	200.00	200.00	200.00	0.50	0.50	0.00	94.71	0.00	94.71	93.71	1.00	94.362		
300.00	300.00	300.00	300.00	0.86	0.86	0.00	94.71	0.00	94.71	92.99	1.72	55.045 CC, ES		
400.00	399.98	399.98	399.98	1.20	1.22	-161.43	94.71	0.00	96.37	93.94	2.42	39.768		
500.00	499.84	497.15	497.13	1.55	1.57	-161.72	96.01	1.02	102.65	99.53	3.12	32.916		
600.00	599.45	594.97	594.82	1.91	1.92	-161.42	99.91	4.11	114.86	111.03	3.83	30.024		
700.00	698.70	692.08	691.71	2.29	2.27	-161.15	105.09	8.21	131.66	127.12	4.54	29.012		
800.00	797.47	790.04	789.44	2.69	2.63	-161.33	110.32	12.34	151.72	146.46	5.26	28.853		
900.00	895.62	887.27	886.44	3.13	2.98	-161.79	115.51	16.45	175.02	169.04	5.98	29.256		
1,000.00	993.06	983.65	982.60	3.61	3.34	-162.40	120.65	20.51	201.55	194.84	6.71	30.042		
1,100.00	1,089.64	1,079.06	1,077.79	4.12	3.69	-163.08	125.74	24.54	231.32	223.88	7.44	31.102		
1,200.00	1,185.27	1,173.39	1,171.90	4.68	4.04	-163.77	130.77	28.52	264.30	256.14	8.17	32.363		
1,300.00	1,279.82	1,266.52	1,264.81	5.29	4.39	-164.44	135.73	32.44	300.49	291.59	8.90	33.775		
1,310.06	1,289.26	1,275.82	1,274.09	5.35	4.42	-164.50	136.23	32.84	304.30	295.33	8.98	33.901		
1,400.00	1,373.67	1,358.89	1,356.97	5.93	4.73	-165.20	140.66	36.34	338.59	328.97	9.62	35.187		
1,500.00	1,467.52	1,451.25	1,449.11	6.58	5.07	-165.83	145.59	40.24	376.75	366.41	10.34	36.419		
1,600.00	1,561.37	1,543.61	1,541.26	7.24	5.42	-166.35	150.51	44.13	414.94	403.87	11.07	37.480		
1,700.00	1,655.22	1,635.97	1,633.41	7.91	5.76	-166.78	155.44	48.03	453.16	441.36	11.80	38.402		
1,800.00	1,749.06	1,728.33	1,725.55	8.59	6.11	-167.14	160.37	51.93	491.40	478.86	12.53	39.209		
1,900.00	1,842.91	1,820.69	1,817.70	9.27	6.45	-167.45	165.29	55.82	529.65	516.38	13.27	39.922		
2,000.00	1,936.76	1,913.05	1,909.85	9.95	6.79	-167.72	170.22	59.72	567.91	553.91	14.00	40.556		
2,100.00	2,030.61	2,005.41	2,001.99	10.63	7.14	-167.95	175.14	63.61	606.18	591.44	14.74	41.123		
2,200.00	2,124.46	2,097.77	2,094.14	11.32	7.48	-168.16	180.07	67.51	644.46	628.98	15.48	41.632		
2,300.00	2,218.31	2,190.13	2,186.29	12.01	7.83	-168.34	185.00	71.41	682.74	666.52	16.22	42.092		
2,400.00	2,312.16	2,282.49	2,278.43	12.70	8.17	-168.50	189.92	75.30	721.03	704.07	16.96	42.510		
2,500.00	2,406.00	2,374.85	2,370.58	13.39	8.52	-168.65	194.85	79.20	759.33	741.62	17.70	42.891		
2,600.00	2,499.85	2,467.21	2,462.73	14.09	8.86	-168.78	199.78	83.10	797.62	779.18	18.45	43.240		
2,700.00	2,593.70	2,559.57	2,554.87	14.78	9.21	-168.90	204.70	86.99	835.93	816.73	19.19	43.560		
2,800.00	2,687.55	2,651.93	2,647.02	15.47	9.55	-169.02	209.63	90.89	874.23	854.29	19.93	43.855		
2,900.00	2,781.40	2,744.29	2,739.17	16.17	9.90	-169.12	214.55	94.79	912.54	891.86	20.68	44.127		
3,000.00	2,875.25	2,836.65	2,831.32	16.87	10.24	-169.21	219.48	98.68	950.85	929.42	21.43	44.380		
3,100.00	2,969.10	2,929.02	2,923.46	17.56	10.59	-169.29	224.41	102.58	989.16	966.99	22.17	44.614		
3,200.00	3,062.95	3,021.38	3,015.61	18.26	10.93	-169.37	229.33	106.47	1,027.47	1,004.55	22.92	44.833		
3,300.00	3,156.79	3,113.74	3,107.76	18.96	11.28	-169.45	234.26	110.37	1,065.78	1,042.12	23.66	45.037		
3,400.00	3,250.64	3,206.10	3,199.90	19.66	11.62	-169.52	239.19	114.27	1,104.10	1,079.69	24.41	45.228		
3,500.00	3,344.49	3,298.46	3,292.05	20.35	11.97	-169.58	244.11	118.16	1,142.42	1,117.26	25.16	45.407		
3,600.00	3,438.34	3,390.82	3,384.20	21.05	12.31	-169.64	249.04	122.06	1,180.74	1,154.83	25.91	45.575		
3,700.00	3,532.19	3,483.18	3,476.34	21.75	12.66	-169.70	253.96	125.96	1,219.05	1,192.40	26.66	45.733		
3,800.00	3,626.04	3,575.54	3,568.49	22.45	13.00	-169.75	258.89	129.85	1,257.37	1,229.97	27.40	45.882		
3,900.00	3,719.89	3,667.90	3,660.64	23.15	13.35	-169.80	263.82	133.75	1,295.70	1,267.54	28.15	46.023		
4,000.00	3,813.73	3,760.26	3,752.78	23.85	13.69	-169.84	268.74	137.64	1,334.02	1,305.11	28.90	46.156		
4,100.00	3,907.58	3,852.62	3,844.93	24.55	14.04	-169.89	273.67	141.54	1,372.34	1,342.69	29.65	46.282		
4,200.00	4,001.43	3,944.98	3,937.08	25.25	14.38	-169.93	278.60	145.44	1,410.66	1,380.26	30.40	46.401		
4,300.00	4,095.28	4,037.34	4,029.22	25.95	14.73	-169.97	283.52	149.33	1,448.99	1,417.84	31.15	46.515		
4,400.00	4,189.13	4,129.70	4,121.37	26.65	15.07	-170.01	288.45	153.23	1,487.31	1,455.41	31.90	46.622		
4,500.00	4,282.98	4,222.06	4,213.52	27.35	15.42	-170.04	293.37	157.13	1,525.64	1,492.98	32.65	46.724		
4,600.00	4,376.83	4,314.42	4,305.66	28.05	15.76	-170.08	298.30	161.02	1,563.96	1,530.56	33.40	46.822		
4,700.00	4,470.67	4,406.78	4,397.81	28.75	16.11	-170.11	303.23	164.92	1,602.29	1,568.13	34.15	46.915		
4,800.00	4,564.52	4,499.14	4,489.96	29.45	16.45	-170.14	308.15	168.81	1,640.61	1,605.71	34.90	47.003		
4,900.00	4,658.37	4,591.50	4,582.10	30.15	16.80	-170.17	313.08	172.71	1,678.94	1,643.28	35.66	47.088		
5,000.00	4,752.22	4,683.87	4,674.25	30.85	17.14	-170.20	318.01	176.61	1,717.27	1,680.86	36.41	47.169		

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 11-10-15H
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 11-10-15H	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)				
5,100.00	4,846.07	4,776.23	4,766.40	31.56	17.49	-170.22	322.93	180.50	1,755.59	1,718.44	37.16	47.246		
5,200.00	4,939.92	4,868.59	4,858.54	32.26	17.83	-170.25	327.86	184.40	1,793.92	1,756.01	37.91	47.320		
5,300.00	5,033.77	4,960.95	4,950.69	32.96	18.18	-170.27	332.78	188.30	1,832.25	1,793.59	38.66	47.391		
5,400.00	5,127.61	5,053.31	5,042.84	33.66	18.52	-170.30	337.71	192.19	1,870.58	1,831.16	39.41	47.459		
5,500.00	5,221.46	5,145.67	5,134.98	34.36	18.87	-170.32	342.64	196.09	1,908.91	1,868.74	40.17	47.525		
5,600.00	5,315.31	5,238.03	5,227.13	35.06	19.21	-170.34	347.56	199.99	1,947.23	1,906.31	40.92	47.587		
5,700.00	5,409.16	5,330.39	5,319.28	35.76	19.56	-170.36	352.49	203.88	1,985.56	1,943.89	41.67	47.648		
5,800.00	5,503.01	5,422.75	5,411.42	36.47	19.90	-170.38	357.42	207.78	2,023.89	1,981.47	42.42	47.705		
5,900.00	5,596.86	5,515.11	5,503.57	37.17	20.25	-170.40	362.34	211.67	2,062.22	2,019.04	43.18	47.761		
6,000.00	5,690.71	5,607.47	5,595.72	37.87	20.59	-170.42	367.27	215.57	2,100.55	2,056.62	43.93	47.815		
6,100.00	5,784.55	5,699.83	5,687.86	38.57	20.94	-170.44	372.19	219.47	2,138.88	2,094.20	44.68	47.866		
6,200.00	5,878.40	5,792.19	5,780.01	39.27	21.28	-170.46	377.12	223.36	2,177.21	2,131.77	45.44	47.916		
6,300.00	5,972.25	5,884.55	5,872.16	39.97	21.63	-170.47	382.05	227.26	2,215.54	2,169.35	46.19	47.964		
6,400.00	6,066.10	5,976.91	5,964.30	40.68	21.98	-170.49	386.97	231.16	2,253.87	2,206.92	46.95	48.010		
6,500.00	6,159.95	6,069.27	6,056.45	41.38	22.32	-170.50	391.90	235.05	2,292.20	2,244.50	47.70	48.054		
6,600.00	6,253.80	6,161.63	6,148.60	42.08	22.67	-170.52	396.83	238.95	2,330.53	2,282.08	48.45	48.097		
6,700.00	6,347.65	6,253.99	6,240.74	42.78	23.01	-170.53	401.75	242.84	2,368.86	2,319.65	49.21	48.139		
6,800.00	6,441.49	6,346.35	6,332.89	43.48	23.36	-170.55	406.68	246.74	2,407.19	2,357.23	49.96	48.179		
6,823.95	6,463.97	6,368.47	6,354.95	43.65	23.44	-170.55	407.86	247.67	2,416.37	2,366.23	50.14	48.188		
6,850.00	6,488.47	6,392.56	6,378.99	43.83	23.53	-178.60	409.14	248.69	2,426.28	2,375.94	50.34	48.197		
6,900.00	6,535.65	6,438.80	6,425.13	44.16	23.70	165.35	411.61	250.64	2,444.80	2,394.09	50.71	48.212		
6,950.00	6,582.74	6,482.24	6,468.46	44.45	23.86	149.95	413.93	252.47	2,462.58	2,411.53	51.05	48.239		
7,000.00	6,629.37	6,510.64	6,496.81	44.71	23.97	136.51	415.44	252.97	2,479.70	2,428.43	51.26	48.370		
7,050.00	6,675.19	6,537.64	6,523.76	44.94	24.06	125.52	416.86	252.13	2,496.22	2,444.77	51.45	48.514		
7,100.00	6,719.86	6,564.75	6,550.74	45.14	24.15	116.81	418.28	250.02	2,512.04	2,460.41	51.63	48.656		
7,150.00	6,763.03	6,600.00	6,585.64	45.31	24.26	109.99	420.09	245.36	2,527.09	2,475.24	51.85	48.740		
7,200.00	6,804.37	6,619.47	6,604.76	45.46	24.31	104.45	421.08	241.87	2,541.21	2,489.25	51.96	48.911		
7,250.00	6,843.57	6,650.00	6,634.49	45.58	24.40	100.11	422.60	235.09	2,554.39	2,502.25	52.14	48.994		
7,300.00	6,880.33	6,675.16	6,658.68	45.68	24.46	96.56	423.83	228.32	2,566.54	2,514.25	52.29	49.084		
7,350.00	6,914.37	6,700.00	6,682.26	45.75	24.53	93.68	425.01	220.59	2,577.61	2,525.15	52.46	49.139		
7,400.00	6,945.43	6,732.20	6,712.29	45.81	24.60	91.45	426.51	209.07	2,587.53	2,534.84	52.69	49.112		
7,450.00	6,973.28	6,761.38	6,738.90	45.84	24.67	89.65	427.82	197.19	2,596.27	2,543.34	52.93	49.052		
7,500.00	6,997.70	6,791.08	6,765.34	45.86	24.73	88.27	429.12	183.71	2,603.79	2,550.58	53.21	48.933		
7,550.00	7,018.51	6,821.38	6,791.55	45.86	24.79	87.25	430.38	168.57	2,610.07	2,556.53	53.54	48.748		
7,600.00	7,035.55	6,850.00	6,815.54	45.85	24.84	86.54	431.52	153.02	2,615.10	2,561.19	53.91	48.505		
7,650.00	7,048.69	6,884.19	6,843.14	45.82	24.89	86.20	432.82	132.90	2,618.86	2,564.49	54.37	48.168		
7,700.00	7,057.83	6,916.91	6,868.40	45.79	24.94	86.12	433.99	112.12	2,621.36	2,566.49	54.87	47.772		
7,750.00	7,062.89	6,950.00	6,892.68	45.74	24.99	86.32	435.09	89.68	2,622.61	2,567.18	55.43	47.314		
7,786.65	7,064.00	6,976.28	6,911.03	45.70	25.03	86.66	435.91	70.89	2,622.75	2,566.86	55.89	46.929		
7,800.00	7,064.00	6,985.87	6,917.50	45.69	25.05	86.80	436.19	63.82	2,622.69	2,566.63	56.06	46.785		
7,817.69	7,064.00	6,999.04	6,926.21	45.67	25.07	86.99	436.57	53.94	2,622.66	2,566.36	56.31	46.577		
7,900.00	7,064.00	7,067.73	6,967.78	45.59	25.27	87.90	438.32	-0.66	2,623.14	2,565.62	57.52	45.603		
8,000.00	7,064.00	7,168.84	7,016.41	45.53	25.85	88.96	440.16	-89.14	2,624.50	2,565.15	59.34	44.227		
8,100.00	7,064.00	7,288.30	7,052.83	45.50	26.80	89.76	441.15	-202.68	2,625.81	2,564.18	61.63	42.605		
8,200.00	7,064.00	7,415.99	7,065.00	45.53	28.12	90.02	440.73	-329.53	2,626.25	2,561.86	64.39	40.789		
8,300.00	7,064.00	7,515.99	7,065.00	45.62	29.37	90.02	439.89	-429.52	2,626.21	2,559.02	67.19	39.085		
8,400.00	7,064.00	7,615.99	7,065.00	45.83	30.80	90.02	439.05	-529.52	2,626.17	2,555.86	70.31	37.351		
8,500.00	7,064.00	7,715.99	7,065.00	46.24	32.39	90.02	438.21	-629.51	2,626.12	2,552.42	73.71	35.630		
8,600.00	7,064.00	7,815.99	7,065.00	46.98	34.12	90.02	437.38	-729.51	2,626.08	2,548.74	77.34	33.955		
8,700.00	7,064.00	7,915.99	7,065.00	48.13	35.98	90.02	436.54	-829.51	2,626.04	2,544.86	81.18	32.348		
8,800.00	7,064.00	8,015.99	7,065.00	49.67	37.94	90.02	435.70	-929.50	2,626.00	2,540.79	85.20	30.821		
8,900.00	7,064.00	8,115.99	7,065.00	51.48	39.98	90.02	434.86	-1,029.50	2,625.95	2,536.58	89.38	29.381		

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 11-10-15H
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 11-10-15H	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: Reference		0-OWSG (Rev2) MWD Offset			Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	+N/-S (usft)		+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)						
9,000.00	7,064.00	8,215.99	7,065.00	53.46	42.11	90.02	434.02	-1,129.50	2,625.91	2,532.23	93.68	28.030				
9,100.00	7,064.00	8,315.99	7,065.00	55.54	44.30	90.02	433.19	-1,229.49	2,625.87	2,527.77	98.10	26.767				
9,200.00	7,064.00	8,415.99	7,065.00	57.71	46.54	90.02	432.35	-1,329.49	2,625.83	2,523.20	102.62	25.587				
9,300.00	7,064.00	8,515.99	7,065.00	59.94	48.84	90.02	431.51	-1,429.49	2,625.78	2,518.56	107.23	24.488				
9,400.00	7,064.00	8,615.99	7,065.00	62.22	51.17	90.02	430.67	-1,529.48	2,625.74	2,513.83	111.91	23.462				
9,500.00	7,064.00	8,715.99	7,065.00	64.55	53.54	90.02	429.83	-1,629.48	2,625.70	2,509.04	116.66	22.507				
9,600.00	7,064.00	8,815.99	7,065.00	66.90	55.95	90.02	429.00	-1,729.48	2,625.66	2,504.19	121.47	21.616				
9,700.00	7,064.00	8,915.99	7,065.00	69.28	58.38	90.02	428.16	-1,829.47	2,625.62	2,499.29	126.33	20.784				
9,800.00	7,064.00	9,015.99	7,065.00	71.69	60.83	90.02	427.32	-1,929.47	2,625.57	2,494.34	131.24	20.006				
9,900.00	7,064.00	9,115.99	7,065.00	74.13	63.31	90.02	426.48	-2,029.47	2,625.53	2,489.35	136.18	19.279				
10,000.00	7,064.00	9,215.99	7,065.00	76.58	65.81	90.02	425.64	-2,129.46	2,625.49	2,484.32	141.17	18.598				
10,100.00	7,064.00	9,315.99	7,065.00	79.05	68.32	90.02	424.81	-2,229.46	2,625.45	2,479.26	146.18	17.960				
10,200.00	7,064.00	9,415.99	7,065.00	81.54	70.85	90.02	423.97	-2,329.45	2,625.40	2,474.17	151.23	17.360				
10,300.00	7,064.00	9,515.99	7,065.00	84.04	73.40	90.02	423.13	-2,429.45	2,625.36	2,469.06	156.30	16.797				
10,400.00	7,064.00	9,615.99	7,065.00	86.56	75.95	90.02	422.29	-2,529.45	2,625.32	2,463.92	161.40	16.266				
10,500.00	7,064.00	9,715.99	7,065.00	89.08	78.52	90.02	421.45	-2,629.44	2,625.28	2,458.76	166.52	15.766				
10,600.00	7,064.00	9,815.99	7,065.00	91.62	81.10	90.02	420.62	-2,729.44	2,625.23	2,453.58	171.66	15.293				
10,700.00	7,064.00	9,915.99	7,065.00	94.17	83.68	90.02	419.78	-2,829.44	2,625.19	2,448.38	176.82	14.847				
10,800.00	7,064.00	10,015.99	7,065.00	96.73	86.28	90.02	418.94	-2,929.43	2,625.15	2,443.16	181.99	14.425				
10,900.00	7,064.00	10,115.99	7,065.00	99.30	88.88	90.02	418.10	-3,029.43	2,625.11	2,437.93	187.18	14.025				
11,000.00	7,064.00	10,215.99	7,065.00	101.87	91.49	90.02	417.26	-3,129.43	2,625.07	2,432.68	192.38	13.645				
11,100.00	7,064.00	10,315.99	7,065.00	104.45	94.10	90.02	416.43	-3,229.42	2,625.02	2,427.43	197.60	13.285				
11,200.00	7,064.00	10,415.99	7,065.00	107.04	96.72	90.02	415.59	-3,329.42	2,624.98	2,422.15	202.83	12.942				
11,300.00	7,064.00	10,515.99	7,065.00	109.64	99.35	90.02	414.75	-3,429.42	2,624.94	2,416.87	208.07	12.616				
11,400.00	7,064.00	10,615.99	7,065.00	112.24	101.98	90.02	413.91	-3,529.41	2,624.90	2,411.58	213.31	12.305				
11,500.00	7,064.00	10,715.99	7,065.00	114.84	104.62	90.02	413.07	-3,629.41	2,624.85	2,406.28	218.57	12.009				
11,600.00	7,064.00	10,815.99	7,065.00	117.45	107.26	90.02	412.24	-3,729.41	2,624.81	2,400.97	223.84	11.726				
11,700.00	7,064.00	10,915.99	7,065.00	120.07	109.90	90.02	411.40	-3,829.40	2,624.77	2,395.65	229.12	11.456				
11,800.00	7,064.00	11,015.99	7,065.00	122.69	112.55	90.02	410.56	-3,929.40	2,624.73	2,390.33	234.40	11.198				
11,900.00	7,064.00	11,115.99	7,065.00	125.32	115.20	90.02	409.72	-4,029.39	2,624.68	2,384.99	239.69	10.950				
12,000.00	7,064.00	11,215.99	7,065.00	127.95	117.86	90.02	408.88	-4,129.39	2,624.64	2,379.65	244.99	10.713				
12,100.00	7,064.00	11,315.99	7,065.00	130.58	120.51	90.02	408.05	-4,229.39	2,624.60	2,374.31	250.29	10.486				
12,200.00	7,064.00	11,415.99	7,065.00	133.21	123.17	90.02	407.21	-4,329.38	2,624.56	2,368.96	255.60	10.268				
12,300.00	7,064.00	11,515.99	7,065.00	135.85	125.84	90.02	406.37	-4,429.38	2,624.52	2,363.60	260.92	10.059				
12,400.00	7,064.00	11,615.99	7,065.00	138.50	128.50	90.02	405.53	-4,529.38	2,624.47	2,358.24	266.24	9.858				
12,500.00	7,064.00	11,715.99	7,065.00	141.14	131.17	90.02	404.69	-4,629.37	2,624.43	2,352.87	271.56	9.664				
12,600.00	7,064.00	11,815.99	7,065.00	143.79	133.84	90.02	403.86	-4,729.37	2,624.39	2,347.50	276.89	9.478				
12,700.00	7,064.00	11,915.99	7,065.00	146.44	136.51	90.02	403.02	-4,829.37	2,624.35	2,342.12	282.23	9.299				
12,800.00	7,064.00	12,015.99	7,065.00	149.09	139.19	90.02	402.18	-4,929.36	2,624.30	2,336.74	287.56	9.126				
12,900.00	7,064.00	12,115.99	7,065.00	151.75	141.86	90.02	401.34	-5,029.36	2,624.26	2,331.36	292.91	8.959				
13,000.00	7,064.00	12,215.99	7,065.00	154.41	144.54	90.02	400.50	-5,129.36	2,624.22	2,325.97	298.25	8.799				
13,100.00	7,064.00	12,315.99	7,065.00	157.07	147.22	90.02	399.67	-5,229.35	2,624.18	2,320.58	303.60	8.643				
13,200.00	7,064.00	12,415.99	7,065.00	159.73	149.90	90.02	398.83	-5,329.35	2,624.13	2,315.18	308.95	8.494				
13,300.00	7,064.00	12,515.99	7,065.00	162.39	152.58	90.02	397.99	-5,429.35	2,624.09	2,309.78	314.31	8.349				
13,400.00	7,064.00	12,615.99	7,065.00	165.06	155.27	90.02	397.15	-5,529.34	2,624.05	2,304.38	319.67	8.209				
13,500.00	7,064.00	12,715.99	7,065.00	167.73	157.95	90.02	396.31	-5,629.34	2,624.01	2,298.98	325.03	8.073				
13,600.00	7,064.00	12,815.99	7,065.00	170.40	160.64	90.02	395.48	-5,729.34	2,623.97	2,293.57	330.39	7.942				
13,700.00	7,064.00	12,915.99	7,065.00	173.07	163.32	90.02	394.64	-5,829.33	2,623.92	2,288.16	335.76	7.815				
13,800.00	7,064.00	13,015.99	7,065.00	175.74	166.01	90.02	393.80	-5,929.33	2,623.88	2,282.75	341.13	7.692				
13,900.00	7,064.00	13,115.99	7,065.00	178.41	168.70	90.02	392.96	-6,029.32	2,623.84	2,277.34	346.50	7.572				
14,000.00	7,064.00	13,215.99	7,065.00	181.09	171.39	90.02	392.12	-6,129.32	2,623.80	2,271.92	351.87	7.457				
14,100.00	7,064.00	13,315.99	7,065.00	183.77	174.08	90.02	391.29	-6,229.32	2,623.75	2,266.50	357.25	7.344				

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 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-10-9H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft			
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft			
Reference				Offset		Semi Major Axis		Highside		Offset Wellbore Centre		Distance		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			
14,200.00	7,064.00	13,415.99	7,065.00	186.44	176.78	90.02		90.02	390.45	-6,329.31	2,623.71	2,261.08	362.63	7.235			
14,300.00	7,064.00	13,515.99	7,065.00	189.12	179.47	90.02		90.02	389.61	-6,429.31	2,623.67	2,255.66	368.01	7.129			
14,400.00	7,064.00	13,615.99	7,065.00	191.80	182.16	90.02		90.02	388.77	-6,529.31	2,623.63	2,250.24	373.39	7.027			
14,500.00	7,064.00	13,715.99	7,065.00	194.48	184.86	90.02		90.02	387.93	-6,629.30	2,623.58	2,244.81	378.77	6.927			
14,600.00	7,064.00	13,815.99	7,065.00	197.17	187.55	90.02		90.02	387.10	-6,729.30	2,623.54	2,239.39	384.16	6.829			
14,700.00	7,064.00	13,915.99	7,065.00	199.85	190.25	90.02		90.02	386.26	-6,829.30	2,623.50	2,233.96	389.54	6.735			
14,800.00	7,064.00	14,015.99	7,065.00	202.53	192.95	90.02		90.02	385.42	-6,929.29	2,623.46	2,228.53	394.93	6.643			
14,900.00	7,064.00	14,115.99	7,065.00	205.22	195.65	90.02		90.02	384.58	-7,029.29	2,623.42	2,223.10	400.32	6.553			
15,000.00	7,064.00	14,215.99	7,065.00	207.91	198.34	90.02		90.02	383.74	-7,129.29	2,623.37	2,217.66	405.71	6.466			
15,100.00	7,064.00	14,315.99	7,065.00	210.59	201.04	90.02		90.02	382.91	-7,229.28	2,623.33	2,212.23	411.10	6.381			
15,200.00	7,064.00	14,415.99	7,065.00	213.28	203.74	90.02		90.02	382.07	-7,329.28	2,623.29	2,206.79	416.50	6.298			
15,300.00	7,064.00	14,515.99	7,065.00	215.97	206.44	90.02		90.02	381.23	-7,429.28	2,623.25	2,201.35	421.89	6.218			
15,400.00	7,064.00	14,615.99	7,065.00	218.66	209.14	90.02		90.02	380.39	-7,529.27	2,623.20	2,195.92	427.29	6.139			
15,500.00	7,064.00	14,715.99	7,065.00	221.35	211.85	90.02		90.02	379.55	-7,629.27	2,623.16	2,190.48	432.69	6.062			
15,600.00	7,064.00	14,815.99	7,065.00	224.04	214.55	90.02		90.02	378.72	-7,729.26	2,623.12	2,185.03	438.09	5.988			
15,700.00	7,064.00	14,915.99	7,065.00	226.73	217.25	90.02		90.02	377.88	-7,829.26	2,623.08	2,179.59	443.48	5.915			
15,800.00	7,064.00	15,015.99	7,065.00	229.43	219.95	90.02		90.02	377.04	-7,929.26	2,623.03	2,174.15	448.89	5.843			
15,900.00	7,064.00	15,115.99	7,065.00	232.12	222.66	90.02		90.02	376.20	-8,029.25	2,622.99	2,168.71	454.29	5.774			
16,000.00	7,064.00	15,215.99	7,065.00	234.81	225.36	90.02		90.02	375.36	-8,129.25	2,622.95	2,163.26	459.69	5.706			
16,100.00	7,064.00	15,315.99	7,065.00	237.51	228.06	90.02		90.02	374.53	-8,229.25	2,622.91	2,157.81	465.09	5.640			
16,200.00	7,064.00	15,415.99	7,065.00	240.20	230.77	90.02		90.02	373.69	-8,329.24	2,622.87	2,152.37	470.50	5.575			
16,280.86	7,064.00	15,495.74	7,065.00	242.38	232.93	90.02		90.02	373.02	-8,408.99	2,622.83	2,148.00	474.83	5.524			
16,300.00	7,064.00	15,495.74	7,065.00	242.90	232.93	90.02		90.02	373.02	-8,408.99	2,622.90	2,147.65	475.25	5.519			
16,305.41	7,064.00	15,495.74	7,065.00	243.05	232.93	90.02		90.02	373.02	-8,408.99	2,622.95	2,147.58	475.37	5.518 SF			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - CE 5-68 11-3-1H - ORIGINAL WELLBORE - PROPOSAL #1													Offset Site Error:	0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft	
Reference				Offset			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			
0.00	0.00	0.00	0.00	0.00	0.00	-16.71	102.01	-30.63	106.51	106.51	0.29	371.391			
100.00	100.00	100.00	100.00	0.14	0.14	-16.71	102.01	-30.63	106.51	106.22	1.00	106.112			
200.00	200.00	200.00	200.00	0.50	0.50	-16.71	102.01	-30.63	106.51	105.50	1.72	61.899 CC, ES			
300.00	300.00	300.00	300.00	0.86	0.86	-16.71	102.01	-30.63	106.51	104.79	2.42	44.672			
400.00	399.98	399.98	399.98	1.20	1.22	-177.85	102.01	-30.63	108.25	105.83	3.12	36.315			
500.00	499.84	499.84	499.84	1.55	1.58	-177.95	102.01	-30.63	113.48	110.36	3.84	31.862			
600.00	599.45	599.45	599.45	1.91	1.93	-178.09	102.01	-30.63	122.19	118.36	4.55	29.535			
700.00	698.70	698.70	698.70	2.29	2.29	-178.25	102.01	-30.63	134.37	129.82	5.27	28.481			
800.00	797.47	797.47	797.47	2.69	2.64	-178.43	102.01	-30.63	150.01	144.74	5.99	28.245 SF			
900.00	895.62	895.62	895.62	3.13	3.00	-178.60	102.01	-30.63	169.08	163.09	6.71	28.563			
1,000.00	993.06	993.06	993.06	3.61	3.34	-178.75	102.01	-30.63	191.57	184.86	7.43	29.272			
1,100.00	1,089.64	1,089.64	1,089.64	4.12	3.69	-178.89	102.01	-30.63	217.44	210.02	8.15	30.264			
1,200.00	1,185.27	1,185.27	1,185.27	4.68	4.03	-179.01	102.01	-30.63	246.68	238.52	8.86	31.519			
1,300.00	1,279.82	1,277.52	1,277.52	5.29	4.36	-179.10	102.14	-30.60	279.35	270.49	8.94	31.651			
1,310.06	1,289.26	1,286.21	1,286.21	5.35	4.40	-179.09	102.23	-30.58	282.90	273.96	9.54	33.113			
1,400.00	1,373.67	1,363.04	1,363.01	5.93	4.67	-178.97	104.18	-30.12	315.82	306.29	10.19	34.805			
1,500.00	1,467.52	1,446.78	1,446.63	6.58	4.97	-178.65	108.58	-29.08	354.66	344.47	10.83	36.557			
1,600.00	1,561.37	1,528.66	1,528.22	7.24	5.27	-178.20	115.19	-27.52	395.79	384.96	11.45	38.363			
1,700.00	1,655.22	1,608.62	1,607.68	7.91	5.55	-177.67	123.82	-25.48	439.15	427.71	12.05	40.219			
1,800.00	1,749.06	1,686.59	1,684.90	8.59	5.84	-177.09	134.32	-23.00	484.70	472.65	12.64	42.123			
1,900.00	1,842.91	1,762.54	1,759.81	9.27	6.13	-176.50	146.51	-20.12	532.37	519.73	13.21	44.063			
2,000.00	1,936.76	1,836.45	1,832.36	9.95	6.41	-175.89	160.22	-16.88	582.09	568.88	13.77	46.044			
2,100.00	2,030.61	1,908.30	1,902.53	10.63	6.70	-175.30	175.30	-13.32	633.82	620.05	14.30	48.059			
2,200.00	2,124.46	1,978.10	1,970.28	11.32	6.99	-174.71	191.57	-9.48	687.47	673.17	14.83	50.106			
2,300.00	2,218.31	2,045.84	2,035.64	12.01	7.29	-174.15	208.90	-5.38	742.98	728.15	15.34	52.184			
2,400.00	2,312.16	2,111.55	2,098.62	12.70	7.59	-173.60	227.14	-1.07	800.28	784.95	15.83	54.287			
2,500.00	2,406.00	2,175.25	2,159.25	13.39	7.89	-173.08	246.16	3.42	859.30	843.48	16.31	56.415			
2,600.00	2,499.85	2,236.97	2,217.56	14.09	8.20	-172.58	265.84	8.07	919.98	903.67	16.81	58.447			
2,700.00	2,593.70	2,300.00	2,276.65	14.78	8.52	-172.08	287.19	13.11	982.24	965.43	17.22	60.739			
2,800.00	2,687.55	2,354.62	2,327.45	15.47	8.82	-171.65	306.71	17.72	1,046.00	1,028.78	17.54	63.368			
2,900.00	2,781.40	2,400.00	2,369.36	16.17	9.07	-171.30	323.65	21.72	1,111.28	1,093.75	18.08	65.140			
3,000.00	2,875.25	2,464.84	2,428.75	16.87	9.46	-170.81	348.96	27.70	1,177.81	1,159.73	18.49	67.367			
3,100.00	2,969.10	2,517.28	2,476.35	17.56	9.78	-170.42	370.38	32.76	1,245.73	1,227.24	18.89	69.605			
3,200.00	3,062.95	2,568.01	2,522.01	18.26	10.10	-170.05	391.91	37.84	1,314.91	1,296.02	19.28	71.858			
3,300.00	3,156.79	2,617.09	2,565.79	18.96	10.42	-169.70	413.48	42.94	1,385.30	1,366.02	19.65	74.120			
3,400.00	3,250.64	2,664.56	2,607.77	19.66	10.75	-169.37	435.04	48.03	1,456.82	1,437.17	19.90	76.876			
3,500.00	3,344.49	2,700.00	2,638.88	20.35	10.99	-169.12	451.58	51.93	1,529.50	1,509.61	20.38	78.675			
3,600.00	3,438.34	2,754.89	2,686.63	21.05	11.39	-168.75	477.92	58.16	1,603.11	1,582.74	20.75	80.871			
3,700.00	3,532.19	2,800.00	2,725.48	21.75	11.73	-168.45	500.24	63.43	1,677.77	1,657.03	21.06	83.260			
3,800.00	3,626.04	2,839.42	2,759.13	22.45	12.03	-168.19	520.22	68.15	1,753.38	1,732.32	21.39	85.563			
3,900.00	3,719.89	2,879.65	2,793.17	23.15	12.35	-167.93	541.08	73.07	1,829.89	1,808.50	21.48	88.792			
4,000.00	3,813.73	2,900.00	2,810.28	23.85	12.51	-167.80	551.81	75.61	1,907.40	1,885.92	22.02	90.171			
4,100.00	3,907.58	2,956.25	2,857.15	24.55	12.98	-167.45	582.07	82.75	1,985.44	1,963.42	22.41	92.123			
4,200.00	4,001.43	3,000.00	2,893.18	25.25	13.34	-167.18	606.23	88.46	2,064.43	2,042.02	22.62	94.787			
4,300.00	4,095.28	3,028.04	2,916.06	25.95	13.59	-167.01	621.99	92.18	2,144.13	2,121.51	22.91	97.093			
4,400.00	4,189.13	3,062.24	2,943.77	26.65	13.89	-166.81	641.51	96.79	2,224.56	2,201.64	23.25	99.164			
4,500.00	4,282.98	3,100.00	2,974.07	27.35	14.22	-166.59	663.43	101.97	2,305.67	2,282.42	23.47	101.702			
4,600.00	4,376.83	3,127.47	2,995.94	28.05	14.48	-166.43	679.62	105.79	2,387.42	2,363.94	23.85	103.566			
4,700.00	4,470.67	3,166.85	3,026.99	28.75	14.84	-166.20	703.18	111.36	2,469.81	2,445.97	24.24	105.303			
4,800.00	4,564.52	3,207.30	3,058.72	29.45	15.22	-165.97	727.61	117.13	2,552.61	2,528.37	24.82	106.181			
4,900.00	4,658.37	3,262.79	3,102.24	30.15	15.75	-165.68	761.10	125.04	2,635.47	2,610.65	25.40	107.007			
5,000.00	4,752.22	3,318.27	3,145.76	30.85	16.29	-165.41	794.60	132.95	2,718.35	2,692.94					

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 11-10-15H
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 11-10-15H	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			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	4,846.07	3,373.76	3,189.28	31.56	16.83	-165.15	828.09	140.86	2,801.24	2,775.25	25.99	107.779	
5,200.00	4,939.92	3,429.24	3,232.80	32.26	17.37	-164.91	861.58	148.77	2,884.16	2,857.58	26.58	108.503	
5,300.00	5,033.77	3,484.73	3,276.32	32.96	17.92	-164.68	895.08	156.68	2,967.09	2,939.92	27.18	109.184	
5,400.00	5,127.61	3,540.21	3,319.84	33.66	18.47	-164.46	928.57	164.59	3,050.04	3,022.27	27.77	109.823	
5,500.00	5,221.46	3,595.69	3,363.36	34.36	19.03	-164.25	962.07	172.50	3,133.00	3,104.63	28.37	110.426	
5,600.00	5,315.31	3,651.18	3,406.88	35.06	19.59	-164.05	995.56	180.41	3,215.97	3,186.99	28.98	110.990	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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)	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	-19.31	87.43	-30.63	92.64	92.64	0.29	323.029				
100.00	100.00	100.00	100.00	0.14	0.14	0.14	0.14	-19.31	87.43	-30.63	92.64	92.35	1.00	92.294				
200.00	200.00	200.00	200.00	0.50	0.50	0.50	0.50	-19.31	87.43	-30.63	92.64	91.63	1.72	53.838 CC, ES				
300.00	300.00	300.00	300.00	0.86	0.86	0.86	0.86	-19.31	87.43	-30.63	92.64	90.92	2.42	38.949				
400.00	399.98	399.98	399.98	1.20	1.22	1.20	1.22	179.60	87.43	-30.63	94.38	91.96	3.12	31.878				
500.00	499.84	499.84	499.84	1.55	1.58	1.55	1.58	179.62	87.43	-30.63	99.62	96.49	3.83	28.248				
600.00	599.45	599.45	599.45	1.91	1.93	1.91	1.93	179.65	87.43	-30.63	108.33	104.50	4.55	26.490				
700.00	698.70	698.70	698.70	2.29	2.29	2.29	2.29	179.68	87.43	-30.63	120.52	115.97	5.27	25.852 SF				
800.00	797.47	797.47	797.47	2.69	2.64	2.69	2.64	179.72	87.43	-30.63	136.16	130.89	5.99	25.933				
900.00	895.62	895.62	895.62	3.13	3.00	3.13	3.00	179.75	87.43	-30.63	155.24	149.25	6.71	26.500				
1,000.00	993.06	993.06	993.06	3.61	3.34	3.61	3.34	179.78	87.43	-30.63	177.73	171.03	7.43	27.410				
1,100.00	1,089.64	1,089.64	1,089.64	4.12	3.69	4.12	3.69	179.80	87.43	-30.63	203.61	196.18	8.15	28.568				
1,200.00	1,185.27	1,185.27	1,185.27	4.68	4.03	4.68	4.03	179.83	87.43	-30.63	232.85	224.70	8.87	29.910				
1,300.00	1,279.82	1,279.82	1,279.82	5.29	4.37	5.29	4.37	179.85	87.43	-30.63	265.40	256.53	8.95	30.034				
1,310.06	1,289.26	1,289.26	1,289.26	5.35	4.41	5.35	4.41	179.85	87.43	-30.63	268.86	259.91	9.58	31.304				
1,400.00	1,373.67	1,371.78	1,371.78	5.93	4.70	5.93	4.70	179.87	87.51	-30.61	299.99	290.41	10.25	32.805				
1,500.00	1,467.52	1,457.08	1,457.05	6.58	5.01	6.58	5.01	-179.92	89.36	-30.12	336.28	326.03	10.90	34.379				
1,600.00	1,561.37	1,540.65	1,540.51	7.24	5.31	7.24	5.31	-179.53	93.56	-29.01	374.85	363.95	11.54	36.020				
1,700.00	1,655.22	1,622.40	1,621.99	7.91	5.60	7.91	5.60	-179.01	99.94	-27.33	415.66	404.12	12.14	37.779				
1,800.00	1,749.06	1,700.00	1,699.13	8.59	5.88	8.59	5.88	-178.44	108.07	-25.18	458.68	446.54	12.76	39.476				
1,900.00	1,842.91	1,780.20	1,778.59	9.27	6.17	9.27	6.17	-177.79	118.60	-22.40	503.83	491.06	13.35	41.286				
2,000.00	1,936.76	1,856.15	1,853.52	9.95	6.46	9.95	6.46	-177.14	130.55	-19.25	551.07	537.73	13.92	43.133				
2,100.00	2,030.61	1,930.09	1,928.14	10.63	6.74	10.63	6.74	-176.49	144.02	-15.69	600.36	586.44	14.45	45.087				
2,200.00	2,124.46	2,000.00	1,994.44	11.32	7.02	11.32	7.02	-175.86	158.42	-11.89	651.63	637.18	15.01	46.956				
2,300.00	2,218.31	2,071.89	2,064.27	12.01	7.32	12.01	7.32	-175.21	174.90	-7.54	704.81	689.80	15.53	48.921				
2,400.00	2,312.16	2,139.75	2,129.78	12.70	7.61	12.70	7.61	-174.60	192.01	-3.02	759.85	744.31	15.98	51.110				
2,500.00	2,406.00	2,200.00	2,187.58	13.39	7.88	13.39	7.88	-174.06	208.46	1.32	816.69	800.71	16.53	52.946				
2,600.00	2,499.85	2,269.45	2,253.75	14.09	8.20	14.09	8.20	-173.44	228.87	6.71	875.20	858.67	17.01	55.001				
2,700.00	2,593.70	2,331.35	2,312.27	14.78	8.51	14.78	8.51	-172.90	248.36	11.85	935.40	918.39	17.56	56.775				
2,800.00	2,687.55	2,400.00	2,376.65	15.47	8.85	15.47	8.85	-172.31	271.40	17.94	997.22	979.66	19.81	70.534				
2,900.00	2,781.40	2,449.39	2,422.60	16.17	9.12	16.17	9.12	-171.89	288.90	22.56	1,060.46	1,042.55	18.29	61.527				
3,000.00	2,875.25	2,500.00	2,469.36	16.87	9.40	16.87	9.40	-171.47	307.62	27.50	1,125.23	1,106.94	18.78	63.451				
3,100.00	2,969.10	2,560.05	2,524.39	17.56	9.75	17.56	9.75	-170.98	330.87	33.63	1,191.35	1,172.58	19.04	66.133				
3,200.00	3,062.95	2,600.00	2,560.71	18.26	9.99	18.26	9.99	-170.66	346.95	37.88	1,258.91	1,239.87	19.58	67.789				
3,300.00	3,156.79	2,663.70	2,618.14	18.96	10.39	18.96	10.39	-170.16	373.59	44.91	1,327.56	1,307.97	21.75	81.102				
3,400.00	3,250.64	2,700.00	2,650.59	19.66	10.62	19.66	10.62	-169.88	389.33	49.07	1,397.59	1,377.78	20.35	72.184				
3,500.00	3,344.49	2,760.74	2,704.41	20.35	11.03	20.35	11.03	-169.42	416.54	56.25	1,468.61	1,448.27	20.63	74.704				
3,600.00	3,438.34	2,800.00	2,738.88	21.05	11.29	21.05	11.29	-169.12	434.72	61.05	1,540.84	1,520.22	21.06	76.625				
3,700.00	3,532.19	2,851.57	2,783.75	21.75	11.67	21.75	11.67	-168.75	459.28	67.53	1,614.08	1,593.02	21.47	78.634				
3,800.00	3,626.04	2,900.00	2,825.48	22.45	12.02	22.45	12.02	-168.40	483.06	73.81	1,688.36	1,666.89	22.70	79.857				
3,900.00	3,719.89	2,936.61	2,856.73	23.15	12.30	23.15	12.30	-168.14	501.48	78.67	1,763.57	1,741.83	22.07	83.351				
4,000.00	3,813.73	2,977.08	2,891.01	23.85	12.62	23.85	12.62	-167.86	522.30	84.17	1,839.71	1,817.63	22.19	86.379				
4,100.00	3,907.58	3,000.00	2,910.28	24.55	12.79	24.55	12.79	-167.70	534.29	87.33	1,916.82	1,894.63	23.12	89.689				
4,200.00	4,001.43	3,054.18	2,955.44	25.25	13.24	25.25	13.24	-167.34	563.24	94.98	1,994.55	1,971.85	23.30	92.378				
4,300.00	4,095.28	3,100.00	2,993.18	25.95	13.62	25.95	13.62	-167.04	588.36	101.61	2,073.21	2,050.10	23.59	94.638				
4,400.00	4,189.13	3,126.46	3,014.78	26.65	13.85	26.65	13.85	-166.86	603.13	105.51	2,152.56	2,129.26	23.95	96.575				
4,500.00	4,282.98	3,160.90	3,042.69	27.35	14.15	27.35	14.15	-166.64	622.64	110.66	2,232.67	2,209.07	24.55	97.539				
4,600.00	4,376.83	3,200.79	3,074.73	28.05	14.50	28.05	14.50	-166.39	645.62	116.72	2,313.44	2,289.48	25.15	98.444				
4,700.00	4,470.67	3,258.85	3,121.27	28.75	15.02	28.75	15.02	-166.04	679.17	125.58	2,394.42	2,369.87	25.75	99.291				
4,800.00	4,564.52	3,316.90	3,167.80	29.45	15.55	29.45	15.55	-165.72	712.73	134.44	2,475.43	2,450.28						
4,900.00	4,658.37	3,374.95	3,214.34	30.15	16.09	30.15	16.09	-165.41	746.29	143.30	2,556.46	2,530.71						
5,000.00	4,752.22	3,433.01	3,260.88	30.85	16.63	30.85	16.63	-165.12	779.84	152.15	2,637.52	2,611.17						

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 11-10-15H
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 11-10-15H	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 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	4,846.07	3,491.06	3,307.42	31.56	17.18	-164.85	813.40	161.01	2,718.60	2,691.64	26.96	100.832	
5,200.00	4,939.92	3,549.12	3,353.96	32.26	17.73	-164.60	846.95	169.87	2,799.70	2,772.12	27.57	101.531	
5,300.00	5,033.77	3,607.17	3,400.49	32.96	18.28	-164.35	880.51	178.73	2,880.82	2,852.63	28.19	102.192	
5,400.00	5,127.61	3,665.22	3,447.03	33.66	18.84	-164.13	914.07	187.59	2,961.95	2,933.14	28.81	102.812	
5,500.00	5,221.46	3,723.28	3,493.57	34.36	19.41	-163.91	947.62	196.45	3,043.10	3,013.67	29.43	103.398	
5,600.00	5,315.31	3,781.33	3,540.11	35.06	19.97	-163.71	981.18	205.30	3,124.27	3,094.21	30.06	103.949	
5,700.00	5,409.16	3,839.38	3,586.65	35.76	20.54	-163.51	1,014.74	214.16	3,205.44	3,174.76	30.68	104.470	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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		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	-23.87	69.22	-30.63	75.69							
100.00	100.00	100.00	100.00	0.14	0.14	-23.87	69.22	-30.63	75.69	75.40	0.29	263.935				
200.00	200.00	200.00	200.00	0.50	0.50	-23.87	69.22	-30.63	75.69	74.69	1.00	75.410				
300.00	300.00	300.00	300.00	0.86	0.86	-23.87	69.22	-30.63	75.69	73.97	1.72	43.989	CC, ES			
400.00	399.98	399.98	399.98	1.20	1.22	175.13	69.22	-30.63	77.43	75.01	2.42	31.953				
500.00	499.84	499.84	499.84	1.55	1.58	175.43	69.22	-30.63	82.65	79.52	3.12	26.448				
600.00	599.45	599.45	599.45	1.91	1.93	175.86	69.22	-30.63	91.34	87.50	3.83	23.817				
700.00	698.70	698.70	698.70	2.29	2.29	176.33	69.22	-30.63	103.49	98.94	4.55	22.748				
800.00	797.47	797.47	797.47	2.69	2.64	176.79	69.22	-30.63	119.11	113.84	5.27	22.614	SF			
900.00	895.62	895.62	895.62	3.13	3.00	177.22	69.22	-30.63	138.16	132.18	5.99	23.079				
1,000.00	993.06	993.06	993.06	3.61	3.34	177.59	69.22	-30.63	160.64	153.93	6.71	23.949				
1,100.00	1,089.64	1,089.64	1,089.64	4.12	3.69	177.90	69.22	-30.63	186.50	179.07	7.43	25.103				
1,200.00	1,185.27	1,185.27	1,185.27	4.68	4.03	178.17	69.22	-30.63	215.72	207.57	8.15	26.463				
1,300.00	1,279.82	1,279.82	1,279.82	5.29	4.37	178.39	69.22	-30.63	248.26	239.39	8.87	27.975				
1,310.06	1,289.26	1,289.26	1,289.26	5.35	4.41	178.41	69.22	-30.63	251.72	242.76	8.95	28.115				
1,400.00	1,373.67	1,373.67	1,373.67	5.93	4.71	178.58	69.22	-30.63	282.76	273.17	9.59	29.474				
1,500.00	1,467.52	1,467.52	1,467.52	6.58	5.05	178.74	69.22	-30.63	317.29	306.98	10.31	30.774				
1,600.00	1,561.37	1,561.37	1,561.37	7.24	5.38	178.86	69.22	-30.63	351.81	340.78	11.03	31.894				
1,700.00	1,655.22	1,655.22	1,655.22	7.91	5.72	178.96	69.22	-30.63	386.34	374.58	11.75	32.867				
1,800.00	1,749.06	1,749.06	1,749.06	8.59	6.05	179.05	69.22	-30.63	420.87	408.39	12.48	33.719				
1,900.00	1,842.91	1,842.91	1,842.91	9.27	6.39	179.12	69.22	-30.63	455.39	442.18	13.21	34.472				
2,000.00	1,936.76	1,936.76	1,936.76	9.95	6.73	179.18	69.22	-30.63	489.92	475.98	13.94	35.142				
2,100.00	2,030.61	2,026.68	2,026.68	10.63	7.05	179.24	69.34	-30.59	524.57	509.92	14.65	35.810				
2,200.00	2,124.46	2,107.51	2,107.49	11.32	7.34	179.41	71.15	-30.05	560.86	545.57	15.29	36.676				
2,300.00	2,218.31	2,186.82	2,186.69	12.01	7.62	179.69	75.05	-28.87	599.26	583.34	15.92	37.646				
2,400.00	2,312.16	2,264.53	2,264.16	12.70	7.90	-179.95	80.90	-27.10	639.72	623.19	16.53	38.710				
2,500.00	2,406.00	2,340.58	2,339.78	13.39	8.17	-179.51	88.57	-24.78	682.20	665.09	17.12	39.859				
2,600.00	2,499.85	2,414.92	2,413.47	14.09	8.44	-179.03	97.93	-21.96	726.66	708.98	17.69	41.086				
2,700.00	2,593.70	2,487.51	2,485.16	14.78	8.71	-178.52	108.83	-18.66	773.07	754.83	18.24	42.383				
2,800.00	2,687.55	2,558.32	2,554.79	15.47	8.97	-177.99	121.13	-14.95	821.36	802.59	18.78	43.745				
2,900.00	2,781.40	2,627.33	2,622.33	16.17	9.23	-177.45	134.71	-10.85	871.51	852.21	19.30	45.167				
3,000.00	2,875.25	2,700.00	2,693.06	16.87	9.52	-176.86	150.68	-6.02	923.48	903.62	19.85	46.514				
3,100.00	2,969.10	2,759.92	2,751.04	17.56	9.76	-176.37	165.14	-1.66	977.15	956.87	20.28	48.172				
3,200.00	3,062.95	2,823.52	2,812.22	18.26	10.03	-175.83	181.75	3.36	1,032.55	1,011.79	20.76	49.747				
3,300.00	3,156.79	2,885.32	2,871.29	18.96	10.29	-175.31	199.13	8.61	1,089.58	1,068.37	21.21	51.367				
3,400.00	3,250.64	2,945.35	2,928.29	19.66	10.56	-174.81	217.18	14.06	1,148.20	1,126.55	21.65	53.026				
3,500.00	3,344.49	3,000.00	2,979.82	20.35	10.81	-174.34	234.61	19.32	1,208.36	1,186.32	22.04	54.829				
3,600.00	3,438.34	3,060.21	3,036.17	21.05	11.11	-173.84	254.89	25.45	1,269.98	1,247.48	22.49	56.456				
3,700.00	3,532.19	3,115.10	3,087.15	21.75	11.38	-173.38	274.36	31.33	1,333.02	1,310.13	22.90	58.222				
3,800.00	3,626.04	3,168.34	3,136.22	22.45	11.66	-172.93	294.14	37.30	1,397.43	1,374.15	23.28	60.016				
3,900.00	3,719.89	3,219.97	3,183.43	23.15	11.94	-172.51	314.15	43.35	1,463.16	1,439.49	23.66	61.839				
4,000.00	3,813.73	3,270.03	3,228.83	23.85	12.22	-172.10	334.32	49.44	1,530.13	1,506.11	24.03	63.686				
4,100.00	3,907.58	3,318.56	3,272.49	24.55	12.50	-171.70	354.61	55.57	1,598.32	1,573.94	24.38	65.558				
4,200.00	4,001.43	3,365.60	3,314.47	25.25	12.78	-171.33	374.94	61.71	1,667.66	1,642.94	24.72	67.449				
4,300.00	4,095.28	3,400.00	3,344.94	25.95	12.99	-171.06	390.22	66.33	1,738.17	1,713.25	24.92	69.751				
4,400.00	4,189.13	3,455.40	3,393.60	26.65	13.35	-170.62	415.57	73.98	1,809.62	1,784.24	25.38	71.291				
4,500.00	4,282.98	3,500.00	3,432.39	27.35	13.64	-170.28	436.63	80.34	1,882.15	1,856.43	25.72	73.179				
4,600.00	4,376.83	3,539.77	3,466.70	28.05	13.91	-169.97	455.90	86.16	1,955.65	1,929.64	26.01	75.197				
4,700.00	4,470.67	3,580.03	3,501.14	28.75	14.19	-169.67	475.86	92.19	2,030.08	2,003.77	26.31	77.171				
4,800.00	4,564.52	3,600.00	3,518.11	29.45	14.33	-169.52	485.93	95.23	2,105.54	2,079.18	26.36	79.882				
4,900.00	4,658.37	3,656.91	3,566.07	30.15	14.75	-169.10	515.26	104.09	2,181.57	2,154.68	26.88	81.147				
5,000.00	4,752.22	3,700.00	3,601.97	30.85	15.08	-168.78	538.07	110.98	2,258.57	2,231.33	27.24	82.909				

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 11-10-15H
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 11-10-15H	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			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	4,846.07	3,729.20	3,626.09	31.56	15.31	-168.57	553.82	115.74	2,336.32	2,308.89	27.43	85.158			
5,200.00	4,939.92	3,763.72	3,654.40	32.26	15.58	-168.33	572.74	121.45	2,414.83	2,387.13	27.70	87.172			
5,300.00	5,033.77	3,800.00	3,683.88	32.96	15.87	-168.07	592.97	127.56	2,494.06	2,466.06	28.00	89.083			
5,400.00	5,127.61	3,836.28	3,713.09	33.66	16.16	-167.82	613.56	133.78	2,573.98	2,545.68	28.30	90.950			
5,500.00	5,221.46	3,882.71	3,750.31	34.36	16.56	-167.50	640.14	141.81	2,654.35	2,625.61	28.74	92.356			
5,600.00	5,315.31	3,941.16	3,797.16	35.06	17.06	-167.13	673.61	151.92	2,734.78	2,705.44	29.34	93.219			
5,700.00	5,409.16	3,999.62	3,844.01	35.76	17.56	-166.77	707.07	162.02	2,815.25	2,785.32	29.94	94.038			
5,800.00	5,503.01	4,058.07	3,890.86	36.47	18.08	-166.44	740.53	172.13	2,895.76	2,865.22	30.54	94.806			
5,900.00	5,596.86	4,116.52	3,937.71	37.17	18.60	-166.12	773.99	182.23	2,976.31	2,945.16	31.15	95.535			
6,000.00	5,690.71	4,174.97	3,984.56	37.87	19.12	-165.82	807.45	192.34	3,056.89	3,025.12	31.77	96.224			
6,100.00	5,784.55	4,233.42	4,031.41	38.57	19.66	-165.53	840.91	202.45	3,137.49	3,105.10	32.39	96.875			
6,200.00	5,878.40	4,291.87	4,078.26	39.27	20.19	-165.26	874.37	212.55	3,218.12	3,185.12	33.01	97.494			

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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		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	-29.27	54.64	-30.63	62.64	62.64						
100.00	100.00	100.00	100.00	0.14	0.14	0.14	0.14	-29.27	54.64	-30.63	62.64	62.35	0.29	218.427				
200.00	200.00	200.00	200.00	0.50	0.50	0.50	0.50	-29.27	54.64	-30.63	62.64	61.64	1.00	62.408				
300.00	300.00	300.00	300.00	0.86	0.86	0.86	0.86	-29.27	54.64	-30.63	62.64	60.92	1.72	36.404 CC, ES				
400.00	399.98	399.98	399.98	1.20	1.22	1.20	1.22	169.90	54.64	-30.63	64.36	61.93	2.42	26.560				
500.00	499.84	499.84	499.84	1.55	1.58	1.55	1.58	170.64	54.64	-30.63	69.52	66.39	3.12	22.248				
600.00	599.45	599.45	599.45	1.91	1.93	1.91	1.93	171.65	54.64	-30.63	78.13	74.29	3.83	20.373				
700.00	698.70	698.70	698.70	2.29	2.29	2.29	2.29	172.74	54.64	-30.63	90.20	85.65	4.55	19.826 SF				
800.00	797.47	797.47	797.47	2.69	2.64	2.69	2.64	173.78	54.64	-30.63	105.74	100.47	5.27	20.074				
900.00	895.62	895.62	895.62	3.13	3.00	3.13	3.00	174.69	54.64	-30.63	124.73	118.74	5.99	20.832				
1,000.00	993.06	993.06	993.06	3.61	3.34	3.61	3.34	175.47	54.64	-30.63	147.14	140.44	6.71	21.934				
1,100.00	1,089.64	1,089.64	1,089.64	4.12	3.69	4.12	3.69	176.11	54.64	-30.63	172.96	165.53	7.43	23.277				
1,200.00	1,185.27	1,185.27	1,185.27	4.68	4.03	4.68	4.03	176.64	54.64	-30.63	202.14	193.99	8.15	24.793				
1,300.00	1,279.82	1,279.82	1,279.82	5.29	4.37	5.29	4.37	177.07	54.64	-30.63	234.65	225.78	8.88	26.437				
1,310.06	1,289.26	1,289.26	1,289.26	5.35	4.41	5.35	4.41	177.11	54.64	-30.63	238.11	229.15	8.95	26.590				
1,400.00	1,373.67	1,373.67	1,373.67	5.93	4.71	5.93	4.71	177.44	54.64	-30.63	269.13	259.54	9.60	28.048				
1,500.00	1,467.52	1,467.52	1,467.52	6.58	5.05	6.58	5.05	177.73	54.64	-30.63	303.64	293.33	10.31	29.445				
1,600.00	1,561.37	1,561.37	1,561.37	7.24	5.38	7.24	5.38	177.96	54.64	-30.63	338.15	327.12	11.03	30.650				
1,700.00	1,655.22	1,655.22	1,655.22	7.91	5.72	7.91	5.72	178.15	54.64	-30.63	372.66	360.91	11.76	31.698				
1,800.00	1,749.06	1,749.06	1,749.06	8.59	6.05	8.59	6.05	178.31	54.64	-30.63	407.18	394.70	12.48	32.618				
1,900.00	1,842.91	1,842.91	1,842.91	9.27	6.39	9.27	6.39	178.44	54.64	-30.63	441.70	428.49	13.21	33.431				
2,000.00	1,936.76	1,936.76	1,936.76	9.95	6.73	9.95	6.73	178.55	54.64	-30.63	476.22	462.28	13.94	34.154				
2,100.00	2,030.61	2,030.61	2,030.61	10.63	7.06	10.63	7.06	178.65	54.64	-30.63	510.74	496.07	14.68	34.802				
2,200.00	2,124.46	2,121.32	2,121.32	11.32	7.39	11.32	7.39	178.74	54.72	-30.60	545.34	529.95	15.39	35.437				
2,300.00	2,218.31	2,200.00	2,199.98	12.01	7.67	12.01	7.67	178.92	56.29	-30.05	581.43	565.42	16.02	36.301				
2,400.00	2,312.16	2,281.69	2,281.57	12.70	7.96	12.70	7.96	179.22	60.08	-28.73	619.55	602.89	16.66	37.189				
2,500.00	2,406.00	2,359.59	2,359.24	13.39	8.24	13.39	8.24	179.62	65.73	-26.75	659.66	642.39	17.27	38.202				
2,600.00	2,499.85	2,435.87	2,435.10	14.09	8.51	14.09	8.51	-179.92	73.20	-24.13	701.73	683.87	17.86	39.295				
2,700.00	2,593.70	2,510.48	2,509.07	14.78	8.78	14.78	8.78	-179.41	82.35	-20.93	745.74	727.30	18.43	40.462				
2,800.00	2,687.55	2,583.36	2,581.07	15.47	9.05	15.47	9.05	-178.86	93.04	-17.19	791.63	772.65	18.99	41.696				
2,900.00	2,781.40	2,654.50	2,651.05	16.17	9.31	16.17	9.31	-178.30	105.13	-12.96	839.39	819.87	19.52	42.993				
3,000.00	2,875.25	2,723.87	2,718.95	16.87	9.58	16.87	9.58	-177.72	118.50	-8.28	888.97	868.93	20.05	44.348				
3,100.00	2,969.10	2,800.00	2,793.06	17.56	9.87	17.56	9.87	-177.06	134.96	-2.52	940.38	919.74	20.64	45.565				
3,200.00	3,062.95	2,857.25	2,848.46	18.26	10.10	18.26	10.10	-176.56	148.55	2.24	993.41	972.37	21.04	47.214				
3,300.00	3,156.79	2,921.25	2,910.05	18.96	10.37	18.96	10.37	-175.99	164.99	7.99	1,048.18	1,026.66	21.51	48.719				
3,400.00	3,250.64	2,983.49	2,969.55	19.66	10.63	19.66	10.63	-175.43	182.21	14.02	1,104.58	1,082.61	21.97	50.268				
3,500.00	3,344.49	3,043.96	3,026.97	20.35	10.90	20.35	10.90	-174.88	200.11	20.28	1,162.56	1,140.14	22.42	51.855				
3,600.00	3,438.34	3,100.00	3,079.82	21.05	11.16	21.05	11.16	-174.37	217.71	26.44	1,222.08	1,199.26	22.82	53.556				
3,700.00	3,532.19	3,159.72	3,135.72	21.75	11.45	21.75	11.45	-173.83	237.54	33.38	1,283.07	1,259.80	23.27	55.142				
3,800.00	3,626.04	3,215.07	3,187.13	22.45	11.72	22.45	11.72	-173.33	256.90	40.16	1,345.48	1,321.81	23.67	56.836				
3,900.00	3,719.89	3,268.77	3,236.62	23.15	12.00	23.15	12.00	-172.85	276.57	47.04	1,409.27	1,385.20	24.07	58.558				
4,000.00	3,813.73	3,320.86	3,284.24	23.85	12.28	23.85	12.28	-172.39	296.49	54.01	1,474.37	1,449.93	24.45	60.310				
4,100.00	3,907.58	3,371.38	3,330.06	24.55	12.56	24.55	12.56	-171.95	316.58	61.04	1,540.74	1,515.93	24.82	62.087				
4,200.00	4,001.43	3,420.37	3,374.12	25.25	12.84	25.25	12.84	-171.52	336.79	68.12	1,608.33	1,583.16	25.17	63.888				
4,300.00	4,095.28	3,467.86	3,416.48	25.95	13.13	25.95	13.13	-171.11	357.06	75.21	1,677.09	1,651.57	25.52	65.711				
4,400.00	4,189.13	3,500.00	3,444.94	26.65	13.32	26.65	13.32	-170.84	371.15	80.14	1,747.06	1,721.37	25.69	68.018				
4,500.00	4,282.98	3,558.56	3,496.35	27.35	13.69	27.35	13.69	-170.34	397.59	89.40	1,817.93	1,791.74	26.19	69.416				
4,600.00	4,376.83	3,600.00	3,532.39	28.05	13.96	28.05	13.96	-169.99	416.90	96.16	1,889.91	1,863.43	26.48	71.360				
4,700.00	4,470.67	3,643.80	3,570.15	28.75	14.26	28.75	14.26	-169.63	437.85	103.49	1,962.88	1,936.06	26.82	73.188				
4,800.00	4,564.52	3,700.00	3,618.11	29.45	14.65	29.45	14.65	-169.18	465.51	113.17	2,036.89	2,009.57	27.32	74.561				
4,900.00	4,658.37	3,723.92	3,638.34	30.15	14.83	30.15	14.83	-168.98	477.56	117.39	2,111.61	2,084.19	27.42	77.015				
5,000.00	4,752.22	3,762.17	3,670.47	30.85	15.11	30.85	15.11	-168.68	497.15	124.24	2,187.29	2,159.58	27.71	78.944				

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 11-10-15H
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 11-10-15H	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		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		
5,100.00	4,846.07	3,800.00	3,701.97	31.56	15.39	-168.38	516.92	131.16	2,263.80	2,235.80	28.00	80.861		
5,200.00	4,939.92	3,839.31	3,734.42	32.26	15.69	-168.08	537.86	138.49	2,341.10	2,312.78	28.31	82.682		
5,300.00	5,033.77	3,901.15	3,785.33	32.96	16.17	-167.61	571.01	150.09	2,418.71	2,389.78	28.93	83.610		
5,400.00	5,127.61	3,963.00	3,836.23	33.66	16.67	-167.18	604.15	161.69	2,496.39	2,466.84	29.55	84.482		
5,500.00	5,221.46	4,024.84	3,887.14	34.36	17.18	-166.77	637.29	173.29	2,574.12	2,543.94	30.17	85.308		
5,600.00	5,315.31	4,086.68	3,938.05	35.06	17.69	-166.39	670.43	184.89	2,651.90	2,621.10	30.80	86.087		
5,700.00	5,409.16	4,148.53	3,988.96	35.76	18.21	-166.03	703.57	196.49	2,729.73	2,698.29	31.44	86.822		
5,800.00	5,503.01	4,210.37	4,039.87	36.47	18.74	-165.68	736.72	208.09	2,807.60	2,775.52	32.08	87.519		
5,900.00	5,596.86	4,272.21	4,090.78	37.17	19.27	-165.36	769.86	219.69	2,885.50	2,852.78	32.72	88.177		
6,000.00	5,690.71	4,334.06	4,141.68	37.87	19.81	-165.05	803.00	231.29	2,963.45	2,930.08	33.37	88.801		
6,100.00	5,784.55	4,395.90	4,192.59	38.57	20.36	-164.75	836.14	242.88	3,041.42	3,007.40	34.02	89.394		
6,200.00	5,878.40	4,457.75	4,243.50	39.27	20.91	-164.47	869.28	254.48	3,119.43	3,084.75	34.68	89.955		
6,300.00	5,972.25	4,519.59	4,294.41	39.97	21.46	-164.21	902.43	266.08	3,197.47	3,162.13	35.34	90.489		
6,400.00	6,066.10	4,581.43	4,345.32	40.68	22.02	-163.96	935.57	277.68	3,275.53	3,239.53	36.00	90.995		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 1C-12HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.00	0.00	6.00	6.00	0.00	0.00	22.87	1,881.97	793.79	2,042.53					
100.00	100.00	90.72	90.72	0.14	0.27	22.87	1,882.22	793.93	2,042.87	2,042.45	0.41	4,928.275		
200.00	200.00	188.63	188.63	0.50	0.62	22.86	1,883.18	794.09	2,043.83	2,042.71	1.12	1,824.344		
300.00	300.00	339.91	339.83	0.86	1.15	22.75	1,884.61	790.12	2,043.82	2,041.80	2.01	1,015.210		
400.00	399.98	497.32	496.83	1.20	1.72	-138.71	1,883.48	778.93	2,041.53	2,038.60	2.92	697.963		
495.61	495.45	607.93	606.75	1.53	2.15	-139.14	1,882.76	766.70	2,040.64	2,036.98	3.67	556.395	CC	
500.00	499.84	612.98	611.75	1.55	2.17	-139.16	1,882.75	766.05	2,040.65	2,036.94	3.70	551.271		
600.00	599.45	741.30	738.78	1.91	2.69	-139.82	1,882.01	747.93	2,041.48	2,036.92	4.57	447.121	ES	
700.00	698.70	873.89	869.32	2.29	3.28	-140.67	1,880.58	724.75	2,043.48	2,037.98	5.50	371.563		
800.00	797.47	995.93	988.50	2.69	3.86	-141.63	1,879.24	698.55	2,047.12	2,040.69	6.43	318.251		
900.00	895.62	1,115.92	1,105.16	3.13	4.46	-142.66	1,877.22	670.58	2,052.84	2,045.43	7.41	277.061		
1,000.00	993.06	1,252.96	1,237.65	3.61	5.20	-143.96	1,873.53	635.76	2,060.37	2,051.85	8.52	241.951		
1,100.00	1,089.64	1,322.26	1,304.19	4.12	5.60	-144.61	1,871.72	616.53	2,070.75	2,061.41	9.34	221.729		
1,200.00	1,185.27	1,388.35	1,367.44	4.68	5.99	-145.24	1,871.08	597.37	2,085.82	2,075.66	10.16	205.225		
1,300.00	1,279.82	1,466.09	1,441.61	5.29	6.46	-146.01	1,871.15	574.08	2,105.31	2,094.23	11.09	189.871		
1,310.06	1,289.26	1,478.00	1,452.96	5.35	6.53	-146.15	1,871.21	570.45	2,107.51	2,096.30	11.21	188.028		
1,400.00	1,373.67	1,552.01	1,523.39	5.93	6.99	-147.12	1,871.62	547.72	2,127.71	2,115.63	12.08	176.150		
1,500.00	1,467.52	1,636.01	1,603.12	6.58	7.53	-148.23	1,872.23	521.30	2,151.11	2,138.04	13.07	164.593		
1,600.00	1,561.37	1,721.21	1,683.71	7.24	8.09	-149.36	1,873.10	493.65	2,175.59	2,161.52	14.08	154.565		
1,700.00	1,655.22	1,809.18	1,766.99	7.91	8.67	-150.50	1,873.87	465.32	2,200.99	2,185.89	15.10	145.760		
1,800.00	1,749.06	1,872.05	1,826.59	8.59	9.08	-151.29	1,874.63	445.33	2,227.69	2,211.74	15.95	139.642		
1,900.00	1,842.91	1,962.45	1,912.62	9.27	9.66	-152.39	1,876.14	417.62	2,255.83	2,238.86	16.97	132.930		
2,000.00	1,936.76	2,047.64	1,993.80	9.95	10.21	-153.40	1,877.12	391.81	2,284.40	2,266.45	17.95	127.272		
2,100.00	2,030.61	2,153.95	2,094.42	10.63	10.93	-154.68	1,878.51	357.51	2,313.79	2,294.70	19.09	121.228		
2,200.00	2,124.46	2,270.05	2,203.65	11.32	11.73	-156.08	1,878.54	318.18	2,342.75	2,322.44	20.31	115.365		
2,300.00	2,218.31	2,349.65	2,278.40	12.01	12.30	-157.03	1,878.14	290.83	2,372.10	2,350.82	21.28	111.462		
2,400.00	2,312.16	2,434.75	2,357.58	12.70	12.94	-158.07	1,877.95	259.65	2,402.46	2,380.15	22.31	107.684		
2,500.00	2,406.00	2,525.84	2,442.15	13.39	13.63	-159.17	1,877.57	225.82	2,433.51	2,410.12	23.39	104.046		
2,600.00	2,499.85	2,618.35	2,528.26	14.09	14.32	-160.25	1,876.83	192.03	2,465.11	2,440.65	24.46	100.772		
2,700.00	2,593.70	2,702.82	2,607.69	14.78	14.92	-161.17	1,875.95	163.29	2,497.28	2,471.83	25.44	98.148		
2,800.00	2,687.55	2,775.52	2,676.52	15.47	15.43	-161.91	1,875.39	139.91	2,530.34	2,504.02	26.32	96.136		
2,900.00	2,781.40	2,847.00	2,743.89	16.17	15.93	-162.65	1,875.42	116.03	2,564.72	2,537.54	27.18	94.359		
3,000.00	2,875.25	2,931.80	2,823.83	16.87	16.52	-163.51	1,875.69	87.73	2,600.00	2,571.86	28.14	92.403		
3,100.00	2,969.10	3,075.19	2,959.04	17.56	17.53	-164.91	1,874.15	40.07	2,634.68	2,605.15	29.53	89.210		
3,200.00	3,062.95	3,167.85	3,046.62	18.26	18.18	-165.78	1,871.80	9.89	2,668.63	2,638.09	30.55	87.361		
3,300.00	3,156.79	3,231.48	3,106.48	18.96	18.63	-166.38	1,870.48	-11.64	2,703.66	2,672.32	31.34	86.278		
3,400.00	3,250.64	3,327.69	3,196.78	19.66	19.33	-167.29	1,868.57	-44.81	2,739.40	2,707.01	32.39	84.578		
3,500.00	3,344.49	3,421.32	3,284.95	20.35	19.99	-168.13	1,866.50	-76.22	2,775.37	2,741.97	33.41	83.079		
3,600.00	3,438.34	3,497.92	3,357.26	21.05	20.53	-168.80	1,864.89	-101.46	2,811.86	2,777.58	34.28	82.024		
3,700.00	3,532.19	3,565.65	3,421.11	21.75	21.01	-169.38	1,863.71	-124.02	2,849.18	2,814.10	35.09	81.205		
3,800.00	3,626.04	3,609.00	3,461.87	22.45	21.32	-169.75	1,863.15	-138.78	2,887.67	2,851.98	35.69	80.919		
3,900.00	3,719.89	3,668.64	3,517.76	23.15	21.76	-170.26	1,862.99	-159.58	2,927.50	2,891.08	36.42	80.377		
4,000.00	3,813.73	3,705.00	3,551.73	23.85	22.03	-170.57	1,863.36	-172.55	2,969.01	2,932.06	36.95	80.362		
4,100.00	3,907.58	3,758.78	3,601.70	24.55	22.45	-171.04	1,864.48	-192.38	3,011.98	2,974.35	37.63	80.046		
4,200.00	4,001.43	3,807.25	3,646.40	25.25	22.83	-171.47	1,865.97	-211.06	3,056.42	3,018.17	38.25	79.901		
4,300.00	4,095.28	3,902.54	3,733.98	25.95	23.61	-172.31	1,868.92	-248.52	3,101.53	3,062.20	39.34	78.847		
4,400.00	4,189.13	3,988.90	3,813.32	26.65	24.31	-173.06	1,871.30	-282.53	3,146.85	3,106.52	40.33	78.020		
4,500.00	4,282.98	4,235.04	4,042.99	27.35	26.18	-174.95	1,871.93	-370.85	3,188.69	3,145.94	42.75	74.587		
4,600.00	4,376.83	4,277.00	4,082.35	28.05	26.48	-175.25	1,871.50	-385.39	3,230.83	3,187.52	43.31	74.602		
4,700.00	4,470.67	4,348.26	4,149.07	28.75	27.01	-175.76	1,871.31	-410.41	3,273.92	3,229.80	44.12	74.198	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 11-10-15H
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 11-10-15H	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	22.55	1,912.57	794.07	2,070.87					
100.00	100.00	100.34	100.34	0.14	0.31	22.54	1,912.75	793.96	2,070.99	2,070.54	0.45	4,607.196		
200.00	200.00	202.50	202.50	0.50	0.67	22.52	1,913.35	793.24	2,071.27	2,070.10	1.17	1,764.886		
300.00	300.00	320.95	320.88	0.86	1.10	22.41	1,914.60	789.69	2,071.12	2,069.16	1.96	1,057.233		
400.00	399.98	484.72	484.12	1.20	1.70	-139.09	1,915.83	776.95	2,070.18	2,067.27	2.91	712.259		
471.53	471.43	577.22	576.01	1.45	2.07	-139.45	1,915.93	766.34	2,069.75	2,066.24	3.51	590.312	CC	
500.00	499.84	601.72	600.32	1.55	2.17	-139.56	1,915.97	763.28	2,069.86	2,066.16	3.70	559.145	ES	
600.00	599.45	698.99	696.71	1.91	2.56	-140.02	1,916.37	750.26	2,072.01	2,067.56	4.45	465.999		
700.00	698.70	790.43	787.14	2.29	2.95	-140.51	1,917.44	736.70	2,077.19	2,071.99	5.20	399.444		
800.00	797.47	877.74	873.13	2.69	3.34	-141.04	1,919.57	721.78	2,085.71	2,079.74	5.97	349.543		
900.00	895.62	966.64	960.28	3.13	3.75	-141.65	1,922.88	704.52	2,097.71	2,090.95	6.76	310.089		
1,000.00	993.06	1,075.46	1,066.59	3.61	4.27	-142.50	1,927.33	681.75	2,112.81	2,105.11	7.70	274.432		
1,100.00	1,089.64	1,177.27	1,165.53	4.12	4.79	-143.35	1,931.16	658.05	2,130.22	2,121.58	8.64	246.578		
1,200.00	1,185.27	1,262.58	1,248.18	4.68	5.25	-144.06	1,934.86	637.22	2,151.30	2,141.77	9.53	225.698		
1,300.00	1,279.82	1,375.48	1,356.77	5.29	5.88	-145.15	1,940.10	606.80	2,175.64	2,165.03	10.61	204.977		
1,310.06	1,289.26	1,389.72	1,370.42	5.35	5.96	-145.30	1,940.66	602.82	2,178.21	2,167.46	10.74	202.722		
1,400.00	1,373.67	1,548.38	1,521.90	5.93	6.92	-147.32	1,944.46	555.82	2,200.25	2,188.17	12.09	182.028		
1,500.00	1,467.52	1,652.03	1,619.84	6.58	7.60	-148.67	1,945.02	521.88	2,223.42	2,210.21	13.20	168.391		
1,600.00	1,561.37	1,709.31	1,673.79	7.24	7.98	-149.42	1,945.66	502.67	2,247.98	2,233.94	14.04	160.143		
1,700.00	1,655.22	1,767.81	1,728.91	7.91	8.37	-150.17	1,947.01	483.13	2,274.54	2,259.67	14.87	152.935		
1,800.00	1,749.06	1,830.76	1,788.24	8.59	8.80	-150.98	1,949.14	462.18	2,302.98	2,287.25	15.73	146.404		
1,900.00	1,842.91	1,915.50	1,868.12	9.27	9.37	-152.04	1,952.36	434.09	2,332.74	2,316.01	16.73	139.432		
2,000.00	1,936.76	2,017.23	1,963.99	9.95	10.07	-153.29	1,955.50	400.22	2,362.75	2,344.90	17.85	132.383		
2,100.00	2,030.61	2,090.00	2,032.21	10.63	10.59	-154.19	1,958.06	375.03	2,393.92	2,375.15	18.77	127.557		
2,200.00	2,124.46	2,173.41	2,110.11	11.32	11.19	-155.22	1,961.25	345.38	2,426.18	2,406.41	19.77	122.708		
2,300.00	2,218.31	2,294.35	2,223.11	12.01	12.08	-156.67	1,964.49	302.40	2,458.33	2,437.28	21.05	116.771		
2,400.00	2,312.16	2,362.11	2,286.09	12.70	12.59	-157.48	1,966.08	277.46	2,491.06	2,469.12	21.94	113.530		
2,500.00	2,406.00	2,436.14	2,354.43	13.39	13.16	-158.38	1,968.21	249.08	2,525.05	2,502.17	22.89	110.325		
2,600.00	2,499.85	2,556.36	2,465.17	14.09	14.12	-159.82	1,971.23	202.39	2,559.72	2,535.51	24.21	105.736		
2,700.00	2,593.70	2,603.81	2,508.89	14.78	14.49	-160.38	1,972.14	183.96	2,594.72	2,569.79	24.93	104.081		
2,800.00	2,687.55	2,661.00	2,561.67	15.47	14.94	-161.03	1,974.40	162.06	2,631.93	2,606.21	25.72	102.339		
2,900.00	2,781.40	2,699.23	2,596.99	16.17	15.24	-161.46	1,976.39	147.57	2,670.80	2,644.47	26.33	101.440		
3,000.00	2,875.25	2,766.85	2,659.51	16.87	15.77	-162.20	1,980.20	122.10	2,710.97	2,683.80	27.18	99.759		
3,100.00	2,969.10	2,834.40	2,722.04	17.56	16.30	-162.93	1,984.34	96.87	2,752.21	2,724.20	28.01	98.250		
3,200.00	3,062.95	2,916.94	2,798.63	18.26	16.94	-163.78	1,989.68	66.57	2,794.31	2,765.35	28.96	96.490		
3,300.00	3,156.79	3,050.99	2,924.13	18.96	17.93	-165.06	1,997.52	20.13	2,836.37	2,806.07	30.31	93.584		
3,400.00	3,250.64	3,135.21	3,003.41	19.66	18.53	-165.82	2,001.70	-7.96	2,878.00	2,846.78	31.22	92.176		
3,500.00	3,344.49	3,193.79	3,058.43	20.35	18.96	-166.34	2,004.74	-27.84	2,920.36	2,888.42	31.93	91.448		
3,600.00	3,438.34	3,310.82	3,168.04	21.05	19.81	-167.37	2,011.09	-68.33	2,963.63	2,930.51	33.12	89.471		
3,700.00	3,532.19	3,380.94	3,234.16	21.75	20.31	-167.95	2,014.29	-91.46	3,006.29	2,972.38	33.91	88.655		
3,800.00	3,626.04	3,445.95	3,295.61	22.45	20.76	-168.47	2,017.96	-112.35	3,050.05	3,015.41	34.64	88.041		
3,900.00	3,719.89	3,519.00	3,364.72	23.15	21.27	-169.03	2,022.16	-135.65	3,094.28	3,058.85	35.43	87.330		
4,000.00	3,813.73	3,576.97	3,419.48	23.85	21.68	-169.47	2,025.78	-154.33	3,139.37	3,103.28	36.10	86.971	SF	
4,100.00	3,907.58	3,615.00	3,455.30	24.55	21.94	-169.76	2,028.54	-166.81	3,185.78	3,149.19	36.59	87.078		
4,200.00	4,001.43	3,662.32	3,499.68	25.25	22.29	-170.12	2,032.47	-182.75	3,233.50	3,196.34	37.15	87.029		

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 11-10-15H
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 11-10-15H	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	23.87	1,793.45	793.52	1,961.16					
100.00	100.00	105.43	105.43	0.14	0.32	23.87	1,793.41	793.63	1,961.17	1,960.70	0.46	4,226.732		
200.00	200.00	243.68	243.68	0.50	0.81	23.88	1,792.42	793.50	1,960.57	1,959.25	1.31	1,494.602		
300.00	300.00	412.91	412.71	0.86	1.41	23.88	1,785.63	790.39	1,955.65	1,953.38	2.27	859.855		
400.00	399.98	648.46	646.99	1.20	2.31	-137.54	1,765.86	777.05	1,945.54	1,942.07	3.47	560.556		
500.00	499.84	826.95	823.66	1.55	3.06	-138.02	1,745.15	762.41	1,935.84	1,931.38	4.46	434.462		
600.00	599.45	1,022.83	1,015.72	1.91	3.95	-138.73	1,712.94	741.63	1,922.52	1,917.01	5.51	348.905		
700.00	698.70	1,144.81	1,134.69	2.29	4.55	-139.31	1,689.82	727.84	1,909.69	1,903.37	6.32	302.165		
800.00	797.47	1,378.28	1,360.17	2.69	5.80	-140.39	1,636.20	700.13	1,895.83	1,888.28	7.54	251.415		
900.00	895.62	1,464.66	1,442.88	3.13	6.30	-140.99	1,614.11	688.66	1,881.43	1,873.15	8.27	227.442		
1,000.00	993.06	1,551.12	1,525.72	3.61	6.80	-141.61	1,592.36	676.79	1,870.12	1,861.09	9.03	207.117		
1,100.00	1,089.64	1,643.05	1,613.89	4.12	7.34	-142.30	1,569.73	663.96	1,862.18	1,852.35	9.83	189.420		
1,200.00	1,185.27	1,735.00	1,702.15	4.68	7.87	-143.01	1,547.42	651.02	1,857.54	1,846.88	10.66	174.286		
1,300.00	1,279.82	1,848.77	1,811.16	5.29	8.54	-143.93	1,519.26	634.69	1,855.39	1,843.80	11.58	160.174		
1,310.06	1,289.26	1,858.08	1,820.08	5.35	8.60	-144.00	1,516.92	633.39	1,855.33	1,843.66	11.67	158.974		
1,400.00	1,373.67	1,977.09	1,933.88	5.93	9.32	-144.96	1,486.47	616.51	1,854.74	1,842.17	12.57	147.509		
1,500.00	1,467.52	2,082.45	2,034.03	6.58	9.98	-145.88	1,458.72	599.18	1,852.88	1,839.38	13.50	137.225		
1,600.00	1,561.37	2,168.58	2,115.86	7.24	10.52	-146.65	1,436.42	584.16	1,851.57	1,837.20	14.38	128.795		
1,700.00	1,655.22	2,291.16	2,232.07	7.91	11.30	-147.78	1,404.37	561.96	1,850.28	1,834.90	15.38	120.318		
1,800.00	1,749.06	2,394.39	2,329.56	8.59	11.98	-148.75	1,376.80	542.20	1,848.65	1,832.32	16.33	113.240		
1,900.00	1,842.91	2,507.50	2,436.07	9.27	12.73	-149.83	1,345.85	519.98	1,846.73	1,829.42	17.31	106.673		
2,000.00	1,936.76	2,599.39	2,522.41	9.95	13.35	-150.72	1,320.22	501.77	1,844.79	1,826.56	18.23	101.179		
2,100.00	2,030.61	2,677.81	2,596.36	10.63	13.88	-151.45	1,298.81	486.89	1,844.13	1,825.02	19.11	96.508		
2,102.03	2,032.51	2,679.53	2,597.99	10.65	13.89	-151.47	1,298.35	486.57	1,844.13	1,825.00	19.13	96.417	CC	
2,200.00	2,124.46	2,765.84	2,679.63	11.32	14.46	-152.27	1,275.24	470.73	1,844.61	1,824.60	20.02	92.160		
2,300.00	2,218.31	2,866.91	2,775.06	12.01	15.13	-153.23	1,248.19	451.32	1,845.41	1,824.44	20.97	87.987	ES	
2,400.00	2,312.16	2,942.00	2,846.01	12.70	15.63	-153.95	1,228.40	436.76	1,847.13	1,825.28	21.84	84.562		
2,500.00	2,406.00	3,011.14	2,911.67	13.39	16.07	-154.59	1,210.91	423.98	1,850.55	1,827.86	22.68	81.584		
2,600.00	2,499.85	3,098.72	2,995.23	14.09	16.62	-155.39	1,189.75	408.50	1,855.63	1,832.05	23.59	78.669		
2,700.00	2,593.70	3,195.75	3,087.69	14.78	17.24	-156.28	1,166.28	390.72	1,861.10	1,836.56	24.53	75.862		
2,800.00	2,687.55	3,299.55	3,186.62	15.47	17.89	-157.22	1,140.96	372.13	1,866.89	1,841.38	25.51	73.196		
2,900.00	2,781.40	3,403.09	3,285.29	16.17	18.55	-158.13	1,115.06	354.41	1,872.60	1,846.13	26.48	70.731		
3,000.00	2,875.25	3,507.76	3,384.97	16.87	19.22	-159.03	1,088.43	336.82	1,878.35	1,850.90	27.45	68.426		
3,100.00	2,969.10	3,596.85	3,469.65	17.56	19.79	-159.82	1,065.75	320.87	1,884.44	1,856.06	28.38	66.405		
3,200.00	3,062.95	3,703.89	3,570.85	18.26	20.50	-160.84	1,038.67	298.95	1,890.94	1,861.54	29.40	64.307		
3,300.00	3,156.79	3,816.78	3,676.78	18.96	21.28	-161.99	1,009.33	273.25	1,897.16	1,866.67	30.49	62.218		
3,400.00	3,250.64	3,925.14	3,778.12	19.66	22.04	-163.10	980.29	248.18	1,903.16	1,871.58	31.57	60.277		
3,500.00	3,344.49	4,019.20	3,866.09	20.35	22.70	-164.04	954.53	227.12	1,909.19	1,876.60	32.59	58.584		
3,600.00	3,438.34	4,084.00	3,927.23	21.05	23.15	-164.62	937.16	214.45	1,916.49	1,883.04	33.45	57.286		
3,700.00	3,532.19	4,160.87	4,000.43	21.75	23.63	-165.25	917.52	201.66	1,925.40	1,891.07	34.34	56.071		
3,800.00	3,626.04	4,257.21	4,092.68	22.45	24.23	-165.98	893.89	187.10	1,935.58	1,900.28	35.30	54.834		
3,900.00	3,719.89	4,356.02	4,187.04	23.15	24.85	-166.76	869.32	171.10	1,945.81	1,909.53	36.28	53.629		
4,000.00	3,813.73	4,485.15	4,309.68	23.85	25.69	-167.81	835.75	148.57	1,955.29	1,917.86	37.43	52.233		
4,100.00	3,907.58	4,560.00	4,380.73	24.55	26.18	-168.42	816.28	135.36	1,965.20	1,926.86	38.34	51.262		
4,200.00	4,001.43	4,631.72	4,449.11	25.25	26.63	-168.98	798.45	123.12	1,976.56	1,937.35	39.21	50.410		
4,300.00	4,095.28	4,742.97	4,555.38	25.95	27.33	-169.83	771.22	104.65	1,988.69	1,948.40	40.28	49.371		
4,400.00	4,189.13	4,862.34	4,668.98	26.65	28.10	-170.74	740.43	84.70	1,999.81	1,958.40	41.40	48.300		
4,500.00	4,282.98	4,941.00	4,743.67	27.35	28.61	-171.34	719.80	71.18	2,010.98	1,968.65	42.33	47.504		
4,600.00	4,376.83	5,022.19	4,821.02	28.05	29.13	-171.95	699.18	57.63	2,023.24	1,979.98	43.26	46.764		
4,700.00	4,470.67	5,100.60	4,896.15	28.75	29.61	-172.50	680.31	45.49	2,036.88	1,992.72	44.17	46.120		
4,800.00	4,564.52	5,186.80	4,978.94	29.45	30.13	-173.08	660.20	32.41	2,051.47	2,006.37	45.11	45.482		
4,900.00	4,658.37	5,274.03	5,062.58	30.15	30.66	-173.69	639.98	18.10	2,066.70	2,020.64	46.06	44.868		

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 11-10-15H
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 11-10-15H	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			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)	(usft)			
5,000.00	4,752.22	5,364.73	5,149.46	30.85	31.22	-174.34	619.20	2.43	2,082.63	2,035.57	47.05	44.262		
5,100.00	4,846.07	5,459.05	5,239.71	31.56	31.80	-175.01	597.51	-14.36	2,098.89	2,050.82	48.07	43.660		
5,200.00	4,939.92	5,550.31	5,327.28	32.26	32.36	-175.63	576.87	-29.66	2,115.60	2,066.53	49.07	43.115		
5,300.00	5,033.77	5,636.63	5,410.26	32.96	32.87	-176.20	557.66	-43.70	2,132.83	2,082.80	50.03	42.634		
5,400.00	5,127.61	5,701.00	5,472.19	33.66	33.26	-176.61	543.70	-54.32	2,151.02	2,100.18	50.84	42.313		
5,500.00	5,221.46	5,780.37	5,548.40	34.36	33.74	-177.15	527.01	-68.84	2,170.44	2,118.68	51.76	41.931		
5,600.00	5,315.31	5,925.59	5,686.21	35.06	34.67	-178.28	494.64	-101.20	2,189.95	2,136.70	53.25	41.123		
5,700.00	5,409.16	6,063.96	5,817.64	35.76	35.57	-179.28	461.50	-128.90	2,207.69	2,153.03	54.66	40.386		
5,800.00	5,503.01	6,188.97	5,936.90	36.47	36.37	-179.94	430.35	-149.74	2,223.88	2,167.96	55.93	39.765		
5,900.00	5,596.86	6,276.32	6,020.21	37.17	36.92	-179.40	408.35	-164.03	2,240.02	2,183.08	56.94	39.340		
6,000.00	5,690.71	6,901.95	6,604.90	37.87	40.27	-177.82	219.32	-165.24	2,249.96	2,191.09	58.87	38.221		
6,100.00	5,784.55	7,724.54	7,111.47	38.57	40.26	-169.44	59.70	394.56	2,234.51	2,178.63	55.87	39.992		
6,200.00	5,878.40	7,760.24	7,117.66	39.27	40.19	-168.53	58.94	429.70	2,208.07	2,150.81	57.26	38.565		
6,300.00	5,972.25	7,881.15	7,132.74	39.97	39.94	-165.38	57.37	549.57	2,185.35	2,126.02	59.33	36.834		
6,400.00	6,066.10	7,910.63	7,134.20	40.68	39.88	-164.60	57.34	579.02	2,165.89	2,105.14	60.74	35.656		
6,500.00	6,159.95	7,923.43	7,134.73	41.38	39.86	-164.26	57.37	591.80	2,150.79	2,088.88	61.90	34.744		
6,600.00	6,253.80	7,936.12	7,135.26	42.08	39.83	-163.93	57.42	604.48	2,140.17	2,077.19	62.97	33.986		
6,700.00	6,347.65	7,948.71	7,135.77	42.78	39.81	-163.59	57.47	617.06	2,134.10	2,070.16	63.94	33.377		
6,782.19	6,424.78	7,958.97	7,136.19	43.36	39.79	-163.32	57.54	627.32	2,132.54	2,067.89	64.65	32.985		
6,800.00	6,441.49	7,961.19	7,136.28	43.48	39.78	-163.26	57.55	629.53	2,132.61	2,067.82	64.80	32.913		
6,823.95	6,463.97	7,964.17	7,136.41	43.65	39.78	-163.18	57.57	632.50	2,132.94	2,067.96	64.98	32.822		
6,850.00	6,488.47	7,966.90	7,136.52	43.83	39.77	-170.17	57.59	635.24	2,133.59	2,068.42	65.17	32.737		
6,900.00	6,535.65	7,969.37	7,136.62	44.16	39.77	-175.49	57.61	637.71	2,135.70	2,070.23	65.47	32.622		
6,950.00	6,582.74	7,968.18	7,136.57	44.45	39.77	161.41	57.60	636.52	2,138.91	2,073.24	65.67	32.571 SF		
7,000.00	6,629.37	7,963.37	7,136.37	44.71	39.78	149.01	57.56	631.71	2,143.20	2,077.42	65.78	32.582		
7,050.00	6,675.19	7,954.99	7,136.03	44.94	39.80	138.78	57.51	623.34	2,148.49	2,082.69	65.80	32.653		
7,100.00	6,719.86	7,943.13	7,135.55	45.14	39.82	130.53	57.45	611.49	2,154.70	2,088.97	65.73	32.781		
7,150.00	6,763.03	7,927.90	7,134.92	45.31	39.85	123.83	57.38	596.26	2,161.69	2,096.11	65.58	32.961		
7,200.00	6,804.37	7,909.41	7,134.15	45.46	39.88	118.29	57.34	577.80	2,169.33	2,103.96	65.37	33.187		
7,250.00	6,843.57	7,887.10	7,133.20	45.58	39.93	113.60	57.33	555.51	2,177.44	2,112.35	65.08	33.456		
7,300.00	6,880.33	7,860.62	7,131.46	45.68	39.98	109.54	57.43	529.08	2,185.84	2,121.08	64.76	33.755		
7,350.00	6,914.37	7,833.60	7,128.79	45.75	40.04	106.02	57.68	502.19	2,194.36	2,129.92	64.44	34.055		
7,400.00	6,945.43	7,805.79	7,125.10	45.81	40.10	102.96	58.07	474.64	2,202.86	2,138.75	64.11	34.360		
7,450.00	6,973.28	7,774.30	7,120.02	45.84	40.16	100.22	58.66	443.56	2,211.19	2,147.40	63.79	34.664		
7,500.00	6,997.70	7,739.42	7,114.09	45.86	40.23	97.79	59.38	409.20	2,219.12	2,155.65	63.47	34.961		
7,550.00	7,018.51	7,702.00	7,107.41	45.86	40.31	95.67	60.22	372.39	2,226.50	2,163.32	63.17	35.245		
7,600.00	7,035.55	7,702.00	7,107.41	45.85	40.31	94.35	60.22	372.39	2,233.49	2,170.23	63.26	35.305		
7,650.00	7,048.69	7,668.77	7,100.81	45.82	40.38	92.85	61.39	339.85	2,239.76	2,176.62	63.15	35.468		
7,700.00	7,057.83	7,651.39	7,096.95	45.79	40.42	91.79	62.33	322.93	2,245.68	2,182.48	63.20	35.531		
7,750.00	7,062.89	7,606.00	7,085.55	45.74	40.51	90.74	65.80	279.14	2,251.48	2,188.39	63.09	35.686		
7,786.65	7,064.00	7,606.00	7,085.55	45.70	40.51	90.40	65.80	279.14	2,254.66	2,191.37	63.30	35.620		
7,800.00	7,064.00	7,606.00	7,085.55	45.69	40.51	90.40	65.80	279.14	2,255.84	2,192.46	63.38	35.592		
7,900.00	7,064.00	7,588.66	7,080.67	45.59	40.54	90.27	67.61	262.59	2,266.82	2,202.86	63.96	35.439		
8,000.00	7,064.00	7,576.00	7,076.91	45.53	40.57	90.18	69.17	250.61	2,281.30	2,216.60	64.71	35.256		
8,100.00	7,064.00	7,542.79	7,066.24	45.50	40.61	89.90	74.25	219.58	2,298.91	2,233.49	65.43	35.138		
8,200.00	7,064.00	7,511.00	7,054.98	45.53	40.65	89.62	80.43	190.50	2,320.00	2,253.77	66.23	35.031		
8,300.00	7,064.00	7,511.00	7,054.98	45.62	40.65	89.62	80.43	190.50	2,344.27	2,276.94	67.33	34.819		
8,400.00	7,064.00	7,474.75	7,040.59	45.83	40.67	89.26	88.84	158.32	2,371.45	2,303.18	68.26	34.740		
8,500.00	7,064.00	7,452.71	7,030.89	46.24	40.68	89.02	94.56	139.37	2,401.80	2,332.48	69.31	34.651		
8,600.00	7,064.00	7,416.00	7,013.24	46.98	40.70	88.58	105.08	108.97	2,435.34	2,365.05	70.29	34.684		
8,700.00	7,064.00	7,416.00	7,013.24	48.13	40.70	88.58	105.08	108.97	2,471.40	2,399.88	71.51	34.558		
8,800.00	7,064.00	7,377.18	6,992.30	49.67	40.69	88.06	116.90	78.51	2,510.18	2,437.64	72.54	34.603		

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 11-10-15H
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 11-10-15H	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)				
8,900.00	7,064.00	7,321.00	6,957.65	51.48	40.68	87.22	134.15	37.83	2,551.79	2,478.34	73.45	34.743		
9,000.00	7,064.00	7,321.00	6,957.65	53.46	40.68	87.22	134.15	37.83	2,595.07	2,520.41	74.66	34.758		
9,100.00	7,064.00	7,214.04	6,878.80	55.54	40.60	85.34	161.91	-28.54	2,640.10	2,564.81	75.30	35.063		
9,200.00	7,064.00	7,140.51	6,817.09	57.71	40.55	83.88	175.31	-66.14	2,686.19	2,610.14	76.05	35.321		
9,300.00	7,064.00	7,130.00	6,807.90	59.94	40.54	83.66	176.86	-70.98	2,734.37	2,657.22	77.15	35.442		
9,400.00	7,064.00	7,087.78	6,770.64	62.22	40.51	82.79	183.05	-89.84	2,784.66	2,706.63	78.03	35.686		
9,500.00	7,064.00	7,065.93	6,751.24	64.55	40.49	82.34	186.36	-99.33	2,837.37	2,758.36	79.01	35.912		
9,600.00	7,064.00	7,034.00	6,722.74	66.90	40.47	81.68	191.33	-112.86	2,892.31	2,812.41	79.89	36.202		
9,700.00	7,064.00	7,034.00	6,722.74	69.28	40.47	81.68	191.33	-112.86	2,949.26	2,868.32	80.94	36.436		
9,800.00	7,064.00	7,034.00	6,722.74	71.69	40.47	81.68	191.33	-112.86	3,008.46	2,926.51	81.95	36.710		
9,900.00	7,064.00	7,034.00	6,722.74	74.13	40.47	81.68	191.33	-112.86	3,069.78	2,986.86	82.92	37.020		
10,000.00	7,064.00	6,991.90	6,685.09	76.58	40.42	80.82	198.67	-130.19	3,132.13	3,048.50	83.63	37.452		
10,100.00	7,064.00	6,980.21	6,674.64	79.05	40.40	80.59	200.96	-134.91	3,196.72	3,112.25	84.47	37.845		
10,200.00	7,064.00	6,939.00	6,637.87	81.54	40.35	79.77	209.86	-151.23	3,263.42	3,178.29	85.13	38.334		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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	23.21	1,852.10	794.35	2,015.26					
100.00	100.00	89.47	89.47	0.14	0.26	23.21	1,852.38	794.47	2,015.63	2,015.22	0.41	4,933.500		
200.00	200.00	188.30	188.29	0.50	0.62	23.21	1,853.36	794.82	2,016.67	2,015.55	1.12	1,800.767		
300.00	300.00	392.98	392.91	0.86	1.33	23.17	1,850.95	792.23	2,015.24	2,013.05	2.19	919.132		
400.00	399.98	558.03	557.54	1.20	1.91	-138.22	1,844.21	782.77	2,010.47	2,007.36	3.11	645.673		
500.00	499.84	685.53	684.30	1.55	2.40	-138.65	1,837.69	770.87	2,006.00	2,002.09	3.91	513.195		
600.00	599.45	810.44	807.99	1.91	2.90	-139.26	1,831.66	754.49	2,003.05	1,998.31	4.73	423.095		
700.00	698.70	927.73	923.42	2.29	3.41	-140.01	1,826.36	734.47	2,001.69	1,996.12	5.57	359.657		
707.77	706.40	934.55	930.12	2.32	3.44	-140.06	1,826.07	733.19	2,001.68	1,996.05	5.62	355.929	CC, ES	
800.00	797.47	1,020.94	1,014.81	2.69	3.83	-140.70	1,822.85	716.44	2,003.14	1,996.79	6.34	315.859		
900.00	895.62	1,152.86	1,143.62	3.13	4.46	-141.79	1,817.18	688.60	2,006.52	1,999.20	7.32	274.133		
1,000.00	993.06	1,252.45	1,240.48	3.61	4.96	-142.67	1,812.53	665.91	2,012.30	2,004.11	8.20	245.436		
1,100.00	1,089.64	1,396.47	1,379.98	4.12	5.71	-144.07	1,805.15	630.88	2,020.75	2,011.43	9.32	216.807		
1,200.00	1,185.27	1,499.82	1,479.41	4.68	6.30	-145.12	1,798.50	603.48	2,030.73	2,020.42	10.31	197.039		
1,300.00	1,279.82	1,582.64	1,558.81	5.29	6.78	-145.97	1,793.49	580.49	2,044.34	2,033.11	11.22	182.128		
1,310.06	1,289.26	1,595.22	1,570.86	5.35	6.85	-146.11	1,792.74	576.97	2,045.92	2,034.58	11.34	180.381		
1,400.00	1,373.67	1,691.82	1,663.55	5.93	7.41	-147.28	1,786.07	550.61	2,059.95	2,047.66	12.29	167.614		
1,500.00	1,467.52	1,766.00	1,734.97	6.58	7.84	-148.15	1,780.97	531.21	2,076.68	2,063.50	13.17	157.649		
1,600.00	1,561.37	1,857.76	1,823.45	7.24	8.37	-149.19	1,774.70	507.67	2,094.37	2,080.23	14.14	148.091		
1,700.00	1,655.22	1,981.00	1,941.77	7.91	9.10	-150.61	1,766.01	474.38	2,112.47	2,097.18	15.29	138.127		
1,800.00	1,749.06	2,098.39	2,052.95	8.59	9.87	-152.06	1,756.59	437.90	2,129.68	2,113.21	16.47	129.288		
1,900.00	1,842.91	2,209.56	2,156.76	9.27	10.65	-153.50	1,747.04	399.31	2,146.74	2,129.07	17.67	121.513		
2,000.00	1,936.76	2,307.03	2,247.77	9.95	11.35	-154.74	1,737.90	365.66	2,164.17	2,145.39	18.78	115.227		
2,100.00	2,030.61	2,406.78	2,341.29	10.63	12.05	-155.96	1,727.89	332.41	2,182.18	2,162.28	19.90	109.656		
2,200.00	2,124.46	2,514.43	2,442.24	11.32	12.81	-157.25	1,716.19	296.93	2,200.40	2,179.34	21.06	104.473		
2,300.00	2,218.31	2,603.38	2,525.87	12.01	13.42	-158.27	1,705.86	268.44	2,218.91	2,196.81	22.10	100.425		
2,400.00	2,312.16	2,679.80	2,598.25	12.70	13.94	-159.10	1,697.21	245.50	2,238.62	2,215.59	23.03	97.194		
2,500.00	2,406.00	2,764.68	2,679.14	13.39	14.49	-159.97	1,687.95	221.50	2,259.51	2,235.51	24.00	94.148		
2,600.00	2,499.85	2,846.00	2,756.43	14.09	15.02	-160.81	1,678.45	198.10	2,280.42	2,255.48	24.94	91.428		
2,700.00	2,593.70	2,908.76	2,815.91	14.78	15.44	-161.46	1,671.61	179.28	2,302.86	2,277.08	25.78	89.327		
2,800.00	2,687.55	2,941.00	2,846.49	15.47	15.65	-161.80	1,668.84	169.44	2,328.01	2,301.60	26.40	88.169		
2,900.00	2,781.40	3,012.18	2,913.64	16.17	16.15	-162.57	1,663.80	146.39	2,355.03	2,327.73	27.30	86.255		
3,000.00	2,875.25	3,087.42	2,984.04	16.87	16.69	-163.41	1,659.36	120.22	2,383.75	2,355.51	28.24	84.242		
3,100.00	2,969.10	3,178.05	3,069.11	17.56	17.34	-164.39	1,653.97	89.44	2,413.16	2,383.88	29.29	82.402		
3,200.00	3,062.95	3,266.78	3,152.27	18.26	17.97	-165.33	1,648.53	58.96	2,443.14	2,412.82	30.32	80.587		
3,300.00	3,156.79	3,355.42	3,235.40	18.96	18.62	-166.25	1,643.04	28.68	2,473.73	2,442.38	31.35	78.903		
3,400.00	3,250.64	3,445.60	3,319.44	19.66	19.28	-167.20	1,637.20	-3.47	2,504.87	2,472.47	32.40	77.300		
3,500.00	3,344.49	3,550.82	3,417.79	20.35	20.06	-168.26	1,630.13	-40.20	2,536.42	2,502.84	33.58	75.529		
3,600.00	3,438.34	3,664.45	3,523.65	21.05	20.91	-169.40	1,621.00	-80.47	2,567.47	2,532.63	34.83	73.709		
3,700.00	3,532.19	3,753.46	3,606.51	21.75	21.59	-170.28	1,613.41	-112.08	2,598.77	2,562.88	35.89	72.418		
3,800.00	3,626.04	3,854.82	3,700.93	22.45	22.35	-171.25	1,604.65	-147.89	2,630.58	2,593.54	37.04	71.022		
3,900.00	3,719.89	3,959.78	3,798.80	23.15	23.14	-172.22	1,594.73	-184.46	2,662.17	2,623.95	38.22	69.656		
4,000.00	3,813.73	4,080.62	3,912.01	23.85	24.02	-173.28	1,582.68	-224.97	2,693.67	2,654.16	39.51	68.180		
4,100.00	3,907.58	4,181.00	4,007.05	24.55	24.70	-174.07	1,572.10	-255.49	2,724.52	2,683.94	40.59	67.125		
4,200.00	4,001.43	4,242.41	4,065.23	25.25	25.13	-174.55	1,565.81	-274.11	2,756.14	2,714.77	41.37	66.619		
4,300.00	4,095.28	4,308.90	4,127.75	25.95	25.60	-175.09	1,559.56	-295.84	2,789.26	2,747.06	42.20	66.102		
4,400.00	4,189.13	4,392.91	4,206.76	26.65	26.20	-175.75	1,551.77	-323.31	2,822.96	2,779.79	43.17	65.386		
4,500.00	4,282.98	4,466.00	4,275.38	27.35	26.73	-176.33	1,545.34	-347.64	2,857.59	2,813.53	44.06	64.858		
4,600.00	4,376.83	4,528.08	4,333.46	28.05	27.19	-176.82	1,540.14	-368.94	2,893.22	2,848.36	44.86	64.499		
4,700.00	4,470.67	4,611.34	4,411.13	28.75	27.81	-177.48	1,533.32	-398.13	2,929.64	2,883.80	45.84	63.907		
4,800.00	4,564.52	4,703.50	4,497.33	29.45	28.50	-178.18	1,525.80	-429.86	2,966.33	2,919.42	46.92	63.227		
4,900.00	4,658.37	4,792.09	4,579.54	30.15	29.18	-178.88	1,517.94	-461.92	3,003.32	2,955.35	47.97	62.609		

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 11-10-15H
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 11-10-15H	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	4,752.22	4,903.21	4,682.51	30.85	30.04	-179.74	1,507.68	-502.42	3,040.53	2,991.28	49.25	61.738		
5,100.00	4,846.07	5,040.06	4,810.33	31.56	31.07	179.28	1,493.99	-549.32	3,076.82	3,026.09	50.74	60.640		
5,200.00	4,939.92	5,122.54	4,887.87	32.26	31.66	178.74	1,485.66	-576.19	3,112.88	3,061.17	51.70	60.205		
5,300.00	5,033.77	5,209.38	4,969.87	32.96	32.27	178.19	1,477.32	-603.53	3,149.32	3,096.63	52.69	59.769		
5,400.00	5,127.61	5,286.20	5,042.79	33.66	32.79	177.74	1,470.47	-626.71	3,186.17	3,132.59	53.58	59.468		
5,500.00	5,221.46	5,346.93	5,100.37	34.36	33.20	177.38	1,465.28	-645.30	3,223.75	3,169.43	54.32	59.347		
5,600.00	5,315.31	5,394.80	5,145.62	35.06	33.54	177.10	1,461.59	-660.47	3,262.59	3,207.65	54.94	59.380		
5,700.00	5,409.16	5,409.04	5,145.62	35.76	33.54	177.10	1,461.59	-660.47	3,262.59	3,207.65	54.94	59.380		
5,700.00	5,409.16	8,409.04	6,946.24	35.76	51.97	-163.67	1,275.35	520.58	3,258.55	3,187.15	71.40	45.639		
5,800.00	5,503.01	8,429.30	6,947.04	36.47	52.31	-163.32	1,275.10	540.83	3,244.84	3,171.96	72.88	44.522		
5,900.00	5,596.86	8,449.25	6,947.80	37.17	52.64	-162.96	1,274.84	560.76	3,234.08	3,159.75	74.33	43.512		
6,000.00	5,690.71	8,470.84	6,948.58	37.87	53.01	-162.58	1,274.53	582.34	3,226.28	3,150.52	75.76	42.585		
6,100.00	5,784.55	8,497.69	6,949.49	38.57	53.48	-162.11	1,274.08	609.17	3,221.46	3,144.20	77.26	41.696		
6,200.00	5,878.40	8,523.80	6,950.29	39.27	53.94	-161.65	1,273.58	635.26	3,219.62	3,140.92	78.70	40.909		
6,211.75	5,889.43	8,526.82	6,950.37	39.35	53.99	-161.60	1,273.52	638.27	3,219.60	3,140.73	78.87	40.824		
6,300.00	5,972.25	8,549.18	6,950.98	39.97	54.39	-161.21	1,273.03	660.63	3,220.76	3,140.68	80.08	40.221		
6,400.00	6,066.10	8,573.88	6,951.59	40.68	54.82	-160.77	1,272.43	685.31	3,224.90	3,143.51	81.38	39.626		
6,500.00	6,159.95	8,587.77	6,951.89	41.38	55.08	-160.53	1,272.09	699.19	3,232.05	3,149.61	82.44	39.206		
6,600.00	6,253.80	8,605.02	6,952.23	42.08	55.40	-160.22	1,271.66	716.43	3,242.19	3,158.70	83.49	38.834		
6,700.00	6,347.65	8,621.78	6,952.52	42.78	55.71	-159.93	1,271.23	733.19	3,255.30	3,170.84	84.46	38.541		
6,800.00	6,441.49	8,638.08	6,952.77	43.48	56.00	-159.64	1,270.80	749.47	3,271.35	3,185.99	85.36	38.322		
6,823.95	6,463.97	8,641.91	6,952.82	43.65	56.07	-159.57	1,270.70	753.31	3,275.63	3,190.06	85.57	38.280		
6,850.00	6,488.47	8,645.36	6,952.87	43.83	56.14	-167.00	1,270.61	756.75	3,280.50	3,194.73	85.77	38.248 SF		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 8C-12HZ - Wellbore #1 - Wellbore #1														Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
0.00	0.00	6.00	6.00	0.00	0.00	23.53	1,823.32	794.07	1,988.73						
100.00	100.00	99.04	99.04	0.14	0.30	23.53	1,823.55	793.92	1,988.89	1,988.45	0.44	4,505.871			
200.00	200.00	215.51	215.50	0.50	0.71	23.50	1,824.03	793.09	1,989.01	1,987.80	1.21	1,637.818			
300.00	300.00	422.72	422.50	0.86	1.46	23.34	1,820.01	785.43	1,985.68	1,983.36	2.32	855.931			
400.00	399.98	520.29	519.76	1.20	1.82	-138.00	1,816.61	778.57	1,980.99	1,977.97	3.01	657.941			
500.00	499.84	661.10	659.90	1.55	2.36	-138.48	1,812.40	765.56	1,978.67	1,974.79	3.87	510.946			
600.00	599.45	936.72	932.03	1.91	3.54	-139.79	1,791.42	727.88	1,972.74	1,967.46	5.28	373.367			
700.00	698.70	1,151.02	1,140.32	2.29	4.59	-141.23	1,762.67	686.76	1,962.08	1,955.58	6.50	301.862			
800.00	797.47	1,314.71	1,297.78	2.69	5.49	-142.50	1,734.09	652.35	1,950.21	1,942.65	7.56	258.111			
900.00	895.62	1,410.89	1,389.89	3.13	6.04	-143.37	1,715.97	631.44	1,939.91	1,931.54	8.37	231.692			
1,000.00	993.06	1,504.24	1,479.28	3.61	6.58	-144.23	1,698.36	611.12	1,932.75	1,923.55	9.21	209.896			
1,100.00	1,089.64	1,586.75	1,558.40	4.12	7.06	-145.00	1,683.17	593.27	1,929.33	1,919.30	10.03	192.394			
1,139.18	1,127.23	1,621.11	1,591.36	4.34	7.26	-145.33	1,676.99	585.82	1,929.04	1,918.67	10.37	186.099	CC, ES		
1,200.00	1,185.27	1,675.56	1,643.61	4.68	7.58	-145.85	1,667.33	573.92	1,929.74	1,918.84	10.90	177.023			
1,300.00	1,279.82	1,797.81	1,760.58	5.29	8.32	-147.08	1,645.04	546.25	1,932.99	1,921.05	11.94	161.858			
1,310.06	1,289.26	1,809.35	1,771.58	5.35	8.39	-147.20	1,642.89	543.51	1,933.44	1,921.40	12.05	160.495			
1,400.00	1,373.67	1,887.73	1,846.33	5.93	8.87	-148.05	1,628.32	524.96	1,938.02	1,925.14	12.88	150.480			
1,500.00	1,467.52	2,056.95	2,006.33	6.58	9.99	-149.97	1,595.30	480.96	1,942.50	1,928.31	14.19	136.872			
1,600.00	1,561.37	2,233.72	2,168.99	7.24	11.31	-152.23	1,555.75	424.32	1,943.27	1,927.62	15.65	124.206			
1,700.00	1,655.22	2,338.55	2,263.58	7.91	12.16	-153.67	1,530.61	386.77	1,942.77	1,925.95	16.81	115.544			
1,705.50	1,660.38	2,343.46	2,268.01	7.95	12.20	-153.74	1,529.42	385.02	1,942.76	1,925.89	16.87	115.129			
1,800.00	1,749.06	2,435.78	2,351.34	8.59	12.96	-155.00	1,506.89	352.27	1,943.12	1,925.16	17.96	108.179			
1,900.00	1,842.91	2,536.74	2,442.38	9.27	13.80	-156.36	1,481.61	316.69	1,944.04	1,924.89	19.14	101.561			
2,000.00	1,936.76	2,624.08	2,521.28	9.95	14.52	-157.52	1,459.31	286.62	1,945.71	1,925.46	20.25	96.082			
2,100.00	2,030.61	2,709.27	2,598.70	10.63	15.21	-158.61	1,437.56	258.51	1,948.63	1,927.29	21.34	91.319			
2,200.00	2,124.46	2,796.06	2,677.97	11.32	15.91	-159.70	1,415.40	230.95	1,952.69	1,930.26	22.43	87.048			
2,300.00	2,218.31	2,903.40	2,776.21	12.01	16.77	-161.01	1,387.81	197.67	1,957.61	1,933.96	23.64	82.798			
2,400.00	2,312.16	2,997.82	2,861.85	12.70	17.53	-162.20	1,362.76	166.81	1,962.44	1,937.64	24.80	79.145			
2,500.00	2,406.00	3,077.37	2,934.43	13.39	18.18	-163.17	1,341.91	141.77	1,968.60	1,942.74	25.87	76.100			
2,600.00	2,499.85	3,157.30	3,007.83	14.09	18.81	-164.11	1,321.32	117.77	1,976.13	1,949.20	26.94	73.366			
2,700.00	2,593.70	3,236.94	3,081.46	14.78	19.42	-165.00	1,301.23	95.01	1,985.00	1,957.03	27.98	70.952			
2,800.00	2,687.55	3,323.00	3,161.62	15.47	20.06	-165.92	1,279.99	72.01	1,995.12	1,966.09	29.03	68.724			
2,900.00	2,781.40	3,407.22	3,240.50	16.17	20.65	-166.78	1,259.52	50.75	2,006.22	1,976.17	30.05	66.766			
3,000.00	2,875.25	3,496.28	3,324.18	16.87	21.27	-167.65	1,238.08	29.06	2,018.13	1,987.03	31.09	64.907			
3,100.00	2,969.10	3,584.09	3,406.77	17.56	21.89	-168.49	1,217.14	7.84	2,030.81	1,998.68	32.13	63.210			
3,200.00	3,062.95	3,700.11	3,514.97	18.26	22.74	-169.68	1,188.99	-23.11	2,043.86	2,010.49	33.37	61.257			
3,300.00	3,156.79	3,768.36	3,577.77	18.96	23.27	-170.44	1,172.07	-43.77	2,057.34	2,022.97	34.37	59.860			
3,400.00	3,250.64	3,851.69	3,654.10	19.66	23.94	-171.40	1,152.13	-70.63	2,072.49	2,037.00	35.49	58.393			
3,500.00	3,344.49	3,950.30	3,744.23	20.35	24.74	-172.53	1,128.21	-102.70	2,088.19	2,051.45	36.74	56.837			
3,600.00	3,438.34	4,031.80	3,818.72	21.05	25.40	-173.44	1,108.33	-129.11	2,104.55	2,066.68	37.86	55.584			
3,700.00	3,532.19	4,105.77	3,886.73	21.75	25.99	-174.25	1,091.00	-152.48	2,122.38	2,083.46	38.91	54.541			
3,800.00	3,626.04	4,181.00	3,956.54	22.45	26.56	-175.01	1,073.95	-174.72	2,141.31	2,101.37	39.95	53.603			
3,900.00	3,719.89	4,255.65	4,026.18	23.15	27.11	-175.74	1,057.71	-196.14	2,161.53	2,120.58	40.96	52.777			
4,000.00	3,813.73	4,342.95	4,107.37	23.85	27.77	-176.61	1,039.28	-222.39	2,183.11	2,141.03	42.08	51.875			
4,100.00	3,907.58	4,423.90	4,181.89	24.55	28.41	-177.45	1,021.74	-248.69	2,205.33	2,162.14	43.19	51.062			
4,200.00	4,001.43	4,503.37	4,254.89	25.25	29.04	-178.28	1,004.88	-275.19	2,228.75	2,184.46	44.29	50.321			
4,300.00	4,095.28	4,594.94	4,339.32	25.95	29.77	-179.20	985.77	-305.07	2,252.96	2,207.47	45.50	49.519			
4,400.00	4,189.13	4,710.99	4,446.16	26.65	30.68	-179.66	960.93	-342.94	2,277.36	2,230.43	46.93	48.524			
4,500.00	4,282.98	4,811.65	4,538.49	27.35	31.49	-178.67	938.09	-375.89	2,301.19	2,252.95	48.24	47.702			
4,600.00	4,376.83	4,903.68	4,623.11	28.05	32.23	-177.80	917.36	-405.58	2,325.64	2,276.17	49.47	47.014			
4,700.00	4,470.67	4,999.99	4,711.81	28.75	32.99	-176.91	895.60	-436.12	2,350.41	2,299.68	50.73	46.335			
4,800.00	4,564.52	5,094.77	4,799.42	29.45	33.73	-176.08	874.27	-465.31	2,375.48	2,323.52	51.96	45.714			

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 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ ENCORE 8C-12HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
4,900.00	4,658.37	5,184.97	4,882.72	30.15	34.43	175.30	853.82	-493.24	2,400.96	2,347.80	53.16	45.166		
5,000.00	4,752.22	5,266.85	4,958.67	30.85	35.06	174.62	835.69	-517.85	2,427.03	2,372.76	54.27	44.721		
5,100.00	4,846.07	5,347.74	5,033.44	31.56	35.68	173.95	817.88	-543.06	2,454.04	2,398.66	55.37	44.318		
5,200.00	4,939.92	5,449.33	5,127.95	32.26	36.44	173.15	796.06	-573.25	2,481.39	2,424.74	56.66	43.798		
5,300.00	5,033.77	5,547.22	5,220.20	32.96	37.13	172.48	775.97	-599.11	2,508.66	2,450.82	57.85	43.366		
5,400.00	5,127.61	5,642.44	5,310.36	33.66	37.77	171.88	757.04	-623.17	2,536.32	2,477.34	58.98	43.001		
5,500.00	5,221.46	5,763.05	5,425.70	34.36	38.53	171.22	733.85	-649.73	2,563.44	2,503.16	60.28	42.525		
5,600.00	5,315.31	5,885.56	5,543.15	35.06	39.27	170.60	709.56	-674.66	2,589.49	2,527.94	61.55	42.069		
5,700.00	5,409.16	5,954.03	5,609.28	35.76	39.66	170.30	696.68	-686.86	2,615.66	2,553.29	62.37	41.936		
5,800.00	5,503.01	5,988.00	5,642.25	36.47	39.84	170.17	690.97	-692.68	2,643.60	2,580.69	62.92	42.018		
5,900.00	5,596.86	6,056.81	5,709.27	37.17	40.20	169.92	680.67	-704.44	2,672.96	2,609.27	63.69	41.970		
6,000.00	5,690.71	6,142.75	5,793.24	37.87	40.63	169.63	669.54	-718.92	2,703.76	2,639.19	64.57	41.874		
6,100.00	5,784.55	6,223.49	5,872.43	38.57	41.01	169.40	659.58	-731.10	2,734.44	2,669.06	65.38	41.824		
6,200.00	5,878.40	6,274.00	5,922.22	39.27	41.24	169.28	654.42	-737.86	2,766.23	2,700.28	65.95	41.946		
6,300.00	5,972.25	6,624.32	7,271.85	39.97	48.27	-163.72	643.40	588.78	2,762.17	2,691.14	71.02	38.892		
6,400.00	6,066.10	8,635.23	7,271.97	40.68	48.41	-163.50	643.45	599.69	2,748.94	2,676.64	72.30	38.019		
6,500.00	6,159.95	8,646.29	7,272.10	41.38	48.56	-163.27	643.51	610.75	2,739.25	2,665.73	73.53	37.255		
6,600.00	6,253.80	8,658.12	7,272.25	42.08	48.71	-163.02	643.57	622.59	2,733.15	2,658.45	74.70	36.591		
6,700.00	6,347.65	8,671.85	7,272.40	42.78	48.90	-162.73	643.65	636.31	2,730.63	2,654.80	75.83	36.010		
6,719.85	6,366.27	8,674.51	7,272.42	42.92	48.94	-162.68	643.66	638.97	2,730.56	2,654.51	76.05	35.907		
6,800.00	6,441.49	8,685.01	7,272.51	43.48	49.09	-162.46	643.72	649.48	2,731.72	2,654.84	76.88	35.532		
6,823.95	6,463.97	8,688.09	7,272.53	43.65	49.13	-162.40	643.74	652.55	2,732.51	2,655.40	77.12	35.433		
6,850.00	6,488.47	8,690.75	7,272.55	43.83	49.17	-169.45	643.76	655.21	2,733.62	2,656.26	77.36	35.338		
6,900.00	6,535.65	8,692.19	7,272.55	44.16	49.19	176.10	643.77	656.66	2,736.43	2,658.71	77.72	35.209		
6,950.00	6,582.74	8,688.93	7,272.53	44.45	49.14	161.94	643.75	653.40	2,740.14	2,662.19	77.96	35.149		
7,000.00	6,629.37	8,681.14	7,272.48	44.71	49.03	149.48	643.70	645.60	2,744.71	2,666.64	78.07	35.157		
7,050.00	6,675.19	8,668.99	7,272.37	44.94	48.86	139.22	643.63	633.45	2,750.06	2,672.00	78.06	35.229		
7,100.00	6,719.86	8,655.00	7,272.21	45.14	48.67	131.00	643.56	619.47	2,756.09	2,678.11	77.98	35.343		
7,150.00	6,763.03	8,634.12	7,271.95	45.31	48.40	124.32	643.45	598.59	2,762.68	2,684.92	77.77	35.526		
7,200.00	6,804.37	8,611.46	7,271.72	45.46	48.11	118.87	643.33	575.93	2,769.71	2,692.22	77.49	35.744		
7,250.00	6,843.57	8,585.05	7,271.50	45.58	47.77	114.31	643.19	549.52	2,777.01	2,699.89	77.12	36.007		
7,300.00	6,880.33	8,554.31	7,271.30	45.68	47.39	110.42	643.03	518.78	2,784.43	2,707.75	76.68	36.313		
7,350.00	6,914.37	8,516.34	7,270.85	45.75	46.96	107.02	642.84	480.81	2,791.76	2,715.62	76.14	36.665		
7,400.00	6,945.43	8,478.92	7,270.06	45.81	46.53	104.13	642.64	443.40	2,798.81	2,723.21	75.60	37.020		
7,450.00	6,973.28	8,424.06	7,268.29	45.84	45.97	101.46	642.29	388.58	2,805.38	2,730.48	74.90	37.457		
7,500.00	6,997.70	8,259.26	7,261.43	45.86	44.55	98.09	637.74	224.00	2,810.77	2,737.79	72.98	38.513		
7,550.00	7,018.51	8,223.13	7,260.49	45.86	44.30	96.60	635.87	187.93	2,814.10	2,741.39	72.71	38.701		
7,600.00	7,035.55	8,179.00	7,260.01	45.85	44.01	95.41	633.66	143.86	2,816.65	2,744.24	72.42	38.896		
7,650.00	7,048.69	8,179.00	7,260.01	45.82	44.01	94.76	633.66	143.86	2,818.55	2,745.99	72.56	38.845		
7,700.00	7,057.83	8,139.10	7,260.01	45.79	43.80	94.17	632.06	103.99	2,819.57	2,747.12	72.45	38.918		
7,750.00	7,062.89	8,116.99	7,260.09	45.74	43.69	93.91	631.47	81.89	2,820.07	2,747.56	72.51	38.890		
7,786.65	7,064.00	8,083.00	7,260.31	45.70	43.53	93.87	630.98	47.91	2,820.14	2,747.67	72.47	38.915		
7,800.00	7,064.00	8,083.00	7,260.31	45.69	43.53	93.87	630.98	47.91	2,820.01	2,747.46	72.54	38.874		
7,822.18	7,064.00	8,083.00	7,260.31	45.66	43.53	93.87	630.98	47.91	2,819.92	2,747.23	72.69	38.796		
7,900.00	7,064.00	8,021.17	7,259.11	45.59	43.29	93.85	630.79	-13.90	2,820.19	2,747.35	72.84	38.720		
8,000.00	7,064.00	7,952.33	7,253.36	45.53	43.09	93.73	631.29	-82.48	2,821.20	2,747.91	73.30	38.490		
8,100.00	7,064.00	7,893.00	7,243.17	45.50	42.93	93.52	632.90	-140.89	2,823.64	2,749.70	73.94	38.190		
8,200.00	7,064.00	7,809.45	7,221.35	45.53	42.78	93.07	636.36	-221.43	2,827.16	2,752.45	74.71	37.843		
8,300.00	7,064.00	7,636.63	7,150.66	45.62	42.63	91.63	643.02	-378.56	2,830.54	2,754.86	75.68	37.400		
8,400.00	7,064.00	7,404.64	6,998.94	45.83	42.66	88.56	641.26	-552.83	2,829.53	2,752.60	76.93	36.781		
8,436.30	7,064.00	7,384.03	6,983.37	45.95	42.68	88.25	640.66	-566.31	2,829.39	2,752.01	77.38	36.567		
8,500.00	7,064.00	7,350.26	6,957.23	46.24	42.70	87.72	639.72	-587.66	2,829.86	2,751.73	78.13	36.220		

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 11-10-15H
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 11-10-15H	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)				
8,600.00	7,064.00	7,321.00	6,933.97	46.98	42.72	87.24	638.95	-605.40	2,832.68	2,753.33	79.35	35.700		
8,700.00	7,064.00	7,280.48	6,900.69	48.13	42.74	86.57	638.12	-628.50	2,838.24	2,757.66	80.58	35.223		
8,800.00	7,064.00	7,255.39	6,879.42	49.67	42.76	86.14	637.80	-641.80	2,846.85	2,765.03	81.81	34.797		
8,900.00	7,064.00	7,226.00	6,853.91	51.48	42.78	85.63	637.63	-656.39	2,858.52	2,775.49	83.03	34.427		
9,000.00	7,064.00	7,226.00	6,853.91	53.46	42.78	85.63	637.63	-656.39	2,873.30	2,789.04	84.26	34.100		
9,100.00	7,064.00	7,180.20	6,813.29	55.54	42.80	84.81	637.64	-677.54	2,890.84	2,805.42	85.42	33.844		
9,200.00	7,064.00	7,155.51	6,791.08	57.71	42.81	84.36	637.72	-688.33	2,911.41	2,824.85	86.56	33.634		
9,300.00	7,064.00	7,130.00	6,767.92	59.94	42.83	83.90	637.87	-699.02	2,934.91	2,847.24	87.67	33.477		
9,400.00	7,064.00	7,130.00	6,767.92	62.22	42.83	83.90	637.87	-699.02	2,961.40	2,872.62	88.78	33.356		
9,500.00	7,064.00	7,096.51	6,737.09	64.55	42.83	83.28	638.12	-712.07	2,990.57	2,900.79	89.78	33.310		
9,600.00	7,064.00	7,081.26	6,722.85	66.90	42.84	83.00	638.24	-717.57	3,022.67	2,931.90	90.77	33.300 SF		
9,700.00	7,064.00	7,067.48	6,709.91	69.28	42.84	82.74	638.34	-722.28	3,057.54	2,965.82	91.72	33.337		
9,800.00	7,064.00	7,035.00	6,679.07	71.69	42.84	82.13	638.61	-732.45	3,095.28	3,002.72	92.55	33.443		
9,900.00	7,064.00	7,035.00	6,679.07	74.13	42.84	82.13	638.61	-732.45	3,135.32	3,041.87	93.45	33.550		
10,000.00	7,064.00	7,035.00	6,679.07	76.58	42.84	82.13	638.61	-732.45	3,178.01	3,083.71	94.30	33.700		
10,100.00	7,064.00	7,035.00	6,679.07	79.05	42.84	82.13	638.61	-732.45	3,223.24	3,128.13	95.11	33.890		
10,200.00	7,064.00	7,035.00	6,679.07	81.54	42.84	82.13	638.61	-732.45	3,270.90	3,175.02	95.87	34.117		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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)				
4,500.00	4,282.98	11,892.00	7,212.13	27.35	133.43	-23.54	-2,438.01	939.77	3,248.97	3,180.54	68.43	47.478		
4,600.00	4,376.83	11,892.00	7,212.13	28.05	133.43	-23.54	-2,438.01	939.77	3,149.27	3,080.52	68.75	45.806		
4,700.00	4,470.67	11,892.00	7,212.13	28.75	133.43	-23.54	-2,438.01	939.77	3,049.60	2,980.51	69.09	44.140		
4,800.00	4,564.52	11,892.00	7,212.13	29.45	133.43	-23.54	-2,438.01	939.77	2,949.94	2,880.50	69.44	42.481		
4,900.00	4,658.37	11,892.00	7,212.13	30.15	133.43	-23.54	-2,438.01	939.77	2,850.31	2,780.50	69.81	40.829		
5,000.00	4,752.22	11,892.00	7,212.13	30.85	133.43	-23.54	-2,438.01	939.77	2,750.71	2,680.51	70.20	39.184		
5,100.00	4,846.07	11,892.00	7,212.13	31.56	133.43	-23.54	-2,438.01	939.77	2,651.14	2,580.53	70.61	37.548		
5,200.00	4,939.92	11,892.00	7,212.13	32.26	133.43	-23.54	-2,438.01	939.77	2,551.60	2,480.56	71.04	35.919		
5,300.00	5,033.77	11,892.00	7,212.13	32.96	133.43	-23.54	-2,438.01	939.77	2,452.10	2,380.60	71.49	34.298		
5,400.00	5,127.61	11,892.00	7,212.13	33.66	133.43	-23.54	-2,438.01	939.77	2,352.64	2,280.66	71.98	32.686		
5,500.00	5,221.46	11,892.00	7,212.13	34.36	133.43	-23.54	-2,438.01	939.77	2,253.23	2,180.73	72.49	31.082		
5,600.00	5,315.31	11,892.00	7,212.13	35.06	133.43	-23.54	-2,438.01	939.77	2,153.87	2,080.83	73.05	29.487		
5,700.00	5,409.16	11,892.00	7,212.13	35.76	133.43	-23.54	-2,438.01	939.77	2,054.58	1,980.94	73.64	27.901		
5,800.00	5,503.01	11,892.00	7,212.13	36.47	133.43	-23.54	-2,438.01	939.77	1,955.35	1,881.08	74.28	26.325		
5,900.00	5,596.86	11,892.00	7,212.13	37.17	133.43	-23.54	-2,438.01	939.77	1,856.21	1,781.24	74.97	24.759		
6,000.00	5,690.71	11,892.00	7,212.13	37.87	133.43	-23.54	-2,438.01	939.77	1,757.17	1,681.44	75.73	23.204		
6,100.00	5,784.55	11,892.00	7,212.13	38.57	133.43	-23.54	-2,438.01	939.77	1,658.24	1,581.68	76.56	21.659		
6,200.00	5,878.40	11,892.00	7,212.13	39.27	133.43	-23.54	-2,438.01	939.77	1,559.45	1,481.97	77.48	20.127		
6,300.00	5,972.25	11,892.00	7,212.13	39.97	133.43	-23.54	-2,438.01	939.77	1,460.83	1,382.32	78.51	18.607		
6,400.00	6,066.10	11,892.00	7,212.13	40.68	133.43	-23.54	-2,438.01	939.77	1,362.40	1,282.74	79.67	17.102		
6,500.00	6,159.95	11,892.00	7,212.13	41.38	133.43	-23.54	-2,438.01	939.77	1,264.23	1,183.25	80.98	15.611		
6,600.00	6,253.80	11,892.00	7,212.13	42.08	133.43	-23.54	-2,438.01	939.77	1,166.36	1,083.86	82.50	14.138		
6,700.00	6,347.65	11,892.00	7,212.13	42.78	133.43	-23.54	-2,438.01	939.77	1,068.89	984.62	84.26	12.685		
6,800.00	6,441.49	11,892.00	7,212.13	43.48	133.43	-23.54	-2,438.01	939.77	971.93	885.57	86.35	11.255		
6,823.95	6,463.97	11,892.00	7,212.13	43.65	133.43	-23.54	-2,438.01	939.77	948.80	861.89	86.91	10.917		
6,850.00	6,488.47	11,892.00	7,212.13	43.83	133.43	-36.92	-2,438.01	939.77	923.80	836.26	87.55	10.552		
6,900.00	6,535.65	11,892.00	7,212.13	44.16	133.43	-59.69	-2,438.01	939.77	876.82	787.96	88.86	9.867		
6,950.00	6,582.74	11,892.00	7,212.13	44.45	133.43	-78.92	-2,438.01	939.77	831.64	741.35	90.30	9.210		
7,000.00	6,629.37	11,892.00	7,212.13	44.71	133.43	-94.47	-2,438.01	939.77	788.96	697.12	91.85	8.590		
7,050.00	6,675.19	11,892.00	7,212.13	44.94	133.43	-106.52	-2,438.01	939.77	749.55	656.06	93.49	8.017		
7,100.00	6,719.86	11,892.00	7,212.13	45.14	133.43	-115.67	-2,438.01	939.77	714.28	619.09	95.18	7.504		
7,150.00	6,763.03	11,892.00	7,212.13	45.31	133.43	-122.58	-2,438.01	939.77	684.06	587.23	96.83	7.065		
7,200.00	6,804.37	11,892.00	7,212.13	45.46	133.43	-127.80	-2,438.01	939.77	659.85	561.55	98.31	6.712		
7,250.00	6,843.57	11,892.00	7,212.13	45.58	133.43	-131.74	-2,438.01	939.77	642.52	543.07	99.45	6.461		
7,300.00	6,880.33	11,892.00	7,212.13	45.68	133.43	-134.69	-2,438.01	939.77	632.75	532.65	100.10	6.321		
7,335.83	6,905.01	11,892.00	7,212.13	45.73	133.43	-136.31	-2,438.01	939.77	630.67	530.46	100.21	6.293	CC, ES, SF	
7,350.00	6,914.37	11,892.00	7,212.13	45.75	133.43	-136.84	-2,438.01	939.77	631.00	530.83	100.17	6.300		
7,400.00	6,945.43	11,892.00	7,212.13	45.81	133.43	-138.32	-2,438.01	939.77	637.32	537.71	99.61	6.398		
7,450.00	6,973.28	11,892.00	7,212.13	45.84	133.43	-139.21	-2,438.01	939.77	651.45	552.94	98.50	6.613		
7,500.00	6,997.70	11,892.00	7,212.13	45.86	133.43	-139.52	-2,438.01	939.77	672.78	575.79	96.99	6.937		
7,550.00	7,018.51	11,892.00	7,212.13	45.86	133.43	-139.24	-2,438.01	939.77	700.50	605.26	95.24	7.355		
7,600.00	7,035.55	11,892.00	7,212.13	45.85	133.43	-138.30	-2,438.01	939.77	733.70	640.29	93.41	7.855		
7,650.00	7,048.69	11,892.00	7,212.13	45.82	133.43	-136.55	-2,438.01	939.77	771.43	679.80	91.63	8.419		
7,700.00	7,057.83	11,892.00	7,212.13	45.79	133.43	-133.71	-2,438.01	939.77	812.79	722.81	89.98	9.033		
7,750.00	7,062.89	11,892.00	7,212.13	45.74	133.43	-129.26	-2,438.01	939.77	856.98	768.46	88.51	9.682		
7,786.65	7,064.00	11,892.00	7,212.13	45.70	133.43	-124.46	-2,438.01	939.77	890.73	803.16	87.57	10.172		
7,800.00	7,064.00	11,892.00	7,212.13	45.69	133.43	-124.46	-2,438.01	939.77	903.21	815.96	87.25	10.353		
7,900.00	7,064.00	11,892.00	7,212.13	45.59	133.43	-124.46	-2,438.01	939.77	997.42	912.30	85.11	11.719		
8,000.00	7,064.00	11,892.00	7,212.13	45.53	133.43	-124.46	-2,438.01	939.77	1,092.65	1,009.25	83.40	13.102		
8,100.00	7,064.00	11,892.00	7,212.13	45.50	133.43	-124.46	-2,438.01	939.77	1,188.67	1,106.67	82.00	14.496		
8,200.00	7,064.00	11,892.00	7,212.13	45.53	133.43	-124.46	-2,438.01	939.77	1,285.29	1,204.44	80.85	15.896		
8,300.00	7,064.00	11,892.00	7,212.13	45.62	133.43	-124.46	-2,438.01	939.77	1,382.40	1,302.49	79.91	17.299		

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 11-10-15H
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 11-10-15H	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)				
8,400.00	7,064.00	11,892.00	7,212.13	45.83	133.43	-124.46	-2,438.01	939.77	1,479.89	1,400.77	79.13	18.703		
8,500.00	7,064.00	11,892.00	7,212.13	46.24	133.43	-124.46	-2,438.01	939.77	1,577.70	1,499.23	78.47	20.106		
8,600.00	7,064.00	11,892.00	7,212.13	46.98	133.43	-124.46	-2,438.01	939.77	1,675.76	1,597.84	77.92	21.506		
8,700.00	7,064.00	11,892.00	7,212.13	48.13	133.43	-124.46	-2,438.01	939.77	1,774.04	1,696.59	77.45	22.905		
8,800.00	7,064.00	11,892.00	7,212.13	49.67	133.43	-124.46	-2,438.01	939.77	1,872.50	1,795.45	77.06	24.300		
8,900.00	7,064.00	11,892.00	7,212.13	51.48	133.43	-124.46	-2,438.01	939.77	1,971.12	1,894.40	76.72	25.693		
9,000.00	7,064.00	11,892.00	7,212.13	53.46	133.43	-124.46	-2,438.01	939.77	2,069.87	1,993.44	76.43	27.082		
9,100.00	7,064.00	11,892.00	7,212.13	55.54	133.43	-124.46	-2,438.01	939.77	2,168.74	2,092.56	76.18	28.468		
9,200.00	7,064.00	11,892.00	7,212.13	57.71	133.43	-124.46	-2,438.01	939.77	2,267.70	2,191.74	75.97	29.852		
9,300.00	7,064.00	11,892.00	7,212.13	59.94	133.43	-124.46	-2,438.01	939.77	2,366.75	2,290.97	75.78	31.232		
9,400.00	7,064.00	11,892.00	7,212.13	62.22	133.43	-124.46	-2,438.01	939.77	2,465.88	2,390.26	75.62	32.609		
9,500.00	7,064.00	11,892.00	7,212.13	64.55	133.43	-124.46	-2,438.01	939.77	2,565.08	2,489.60	75.48	33.983		
9,600.00	7,064.00	11,892.00	7,212.13	66.90	133.43	-124.46	-2,438.01	939.77	2,664.33	2,588.97	75.36	35.355		
9,700.00	7,064.00	11,892.00	7,212.13	69.28	133.43	-124.46	-2,438.01	939.77	2,763.64	2,688.39	75.25	36.724		
9,800.00	7,064.00	11,892.00	7,212.13	71.69	133.43	-124.46	-2,438.01	939.77	2,863.00	2,787.83	75.16	38.090		
9,900.00	7,064.00	11,892.00	7,212.13	74.13	133.43	-124.46	-2,438.01	939.77	2,962.40	2,887.31	75.08	39.454		
10,000.00	7,064.00	11,892.00	7,212.13	76.58	133.43	-124.46	-2,438.01	939.77	3,061.84	2,986.82	75.02	40.816		
10,100.00	7,064.00	11,892.00	7,212.13	79.05	133.43	-124.46	-2,438.01	939.77	3,161.31	3,086.36	74.96	42.176		
10,200.00	7,064.00	11,892.00	7,212.13	81.54	133.43	-124.46	-2,438.01	939.77	3,260.82	3,185.92	74.90	43.533		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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	4,001.43	11,657.00	7,060.41	25.25	132.27	-113.55	-1,996.21	947.43	3,264.91	3,206.93	57.98	56.315		
4,300.00	4,095.28	11,657.00	7,060.41	25.95	132.27	-113.55	-1,996.21	947.43	3,165.27	3,107.28	57.99	54.586		
4,400.00	4,189.13	11,657.00	7,060.41	26.65	132.27	-113.55	-1,996.21	947.43	3,065.65	3,007.66	57.99	52.862		
4,500.00	4,282.98	11,657.00	7,060.41	27.35	132.27	-113.55	-1,996.21	947.43	2,966.06	2,908.07	58.00	51.143		
4,600.00	4,376.83	11,657.00	7,060.41	28.05	132.27	-113.55	-1,996.21	947.43	2,866.50	2,808.51	57.99	49.430		
4,700.00	4,470.67	11,657.00	7,060.41	28.75	132.27	-113.55	-1,996.21	947.43	2,766.97	2,708.99	57.98	47.722		
4,800.00	4,564.52	11,657.00	7,060.41	29.45	132.27	-113.55	-1,996.21	947.43	2,667.48	2,609.51	57.96	46.020		
4,900.00	4,658.37	11,657.00	7,060.41	30.15	132.27	-113.55	-1,996.21	947.43	2,568.02	2,510.08	57.94	44.324		
5,000.00	4,752.22	11,657.00	7,060.41	30.85	132.27	-113.55	-1,996.21	947.43	2,468.61	2,410.71	57.90	42.633		
5,100.00	4,846.07	11,657.00	7,060.41	31.56	132.27	-113.55	-1,996.21	947.43	2,369.25	2,311.39	57.86	40.949		
5,200.00	4,939.92	11,657.00	7,060.41	32.26	132.27	-113.55	-1,996.21	947.43	2,269.94	2,212.14	57.80	39.270		
5,300.00	5,033.77	11,657.00	7,060.41	32.96	132.27	-113.55	-1,996.21	947.43	2,170.70	2,112.96	57.74	37.597		
5,400.00	5,127.61	11,657.00	7,060.41	33.66	132.27	-113.55	-1,996.21	947.43	2,071.53	2,013.87	57.66	35.929		
5,500.00	5,221.46	11,657.00	7,060.41	34.36	132.27	-113.55	-1,996.21	947.43	1,972.44	1,914.88	57.56	34.267		
5,600.00	5,315.31	11,657.00	7,060.41	35.06	132.27	-113.55	-1,996.21	947.43	1,873.45	1,816.00	57.45	32.611		
5,700.00	5,409.16	11,657.00	7,060.41	35.76	132.27	-113.55	-1,996.21	947.43	1,774.58	1,717.25	57.32	30.959		
5,800.00	5,503.01	11,657.00	7,060.41	36.47	132.27	-113.55	-1,996.21	947.43	1,675.83	1,618.66	57.17	29.311		
5,900.00	5,596.86	11,657.00	7,060.41	37.17	132.27	-113.55	-1,996.21	947.43	1,577.25	1,520.24	57.01	27.668		
6,000.00	5,690.71	11,657.00	7,060.41	37.87	132.27	-113.55	-1,996.21	947.43	1,478.86	1,422.03	56.82	26.027		
6,100.00	5,784.55	11,657.00	7,060.41	38.57	132.27	-113.55	-1,996.21	947.43	1,380.69	1,324.08	56.61	24.387		
6,200.00	5,878.40	11,657.00	7,060.41	39.27	132.27	-113.55	-1,996.21	947.43	1,282.81	1,226.42	56.39	22.748		
6,300.00	5,972.25	11,657.00	7,060.41	39.97	132.27	-113.55	-1,996.21	947.43	1,185.29	1,129.12	56.16	21.104		
6,400.00	6,066.10	11,657.00	7,060.41	40.68	132.27	-113.55	-1,996.21	947.43	1,088.21	1,032.27	55.94	19.453		
6,500.00	6,159.95	11,657.00	7,060.41	41.38	132.27	-113.55	-1,996.21	947.43	991.72	935.96	55.75	17.787		
6,600.00	6,253.80	11,657.00	7,060.41	42.08	132.27	-113.55	-1,996.21	947.43	895.99	840.33	55.66	16.097		
6,700.00	6,347.65	11,657.00	7,060.41	42.78	132.27	-113.55	-1,996.21	947.43	801.31	745.53	55.78	14.365		
6,800.00	6,441.49	11,657.00	7,060.41	43.48	132.27	-113.55	-1,996.21	947.43	708.10	651.75	56.34	12.567		
6,823.95	6,463.97	11,657.00	7,060.41	43.65	132.27	-113.55	-1,996.21	947.43	686.06	629.47	56.59	12.123		
6,850.00	6,488.47	11,657.00	7,060.41	43.83	132.27	-116.99	-1,996.21	947.43	662.42	605.48	56.94	11.633		
6,900.00	6,535.65	11,657.00	7,060.41	44.16	132.27	-126.12	-1,996.21	947.43	618.91	560.92	57.98	10.674		
6,950.00	6,582.74	11,657.00	7,060.41	44.45	132.27	-136.36	-1,996.21	947.43	578.58	518.94	59.63	9.702		
7,000.00	6,629.37	11,657.00	7,060.41	44.71	132.27	-145.77	-1,996.21	947.43	542.48	480.44	62.04	8.744		
7,050.00	6,675.19	11,657.00	7,060.41	44.94	132.27	-153.57	-1,996.21	947.43	511.81	446.51	65.30	7.838		
7,100.00	6,719.86	11,657.00	7,060.41	45.14	132.27	-159.77	-1,996.21	947.43	487.85	418.46	69.39	7.030		
7,150.00	6,763.03	11,657.00	7,060.41	45.31	132.27	-164.72	-1,996.21	947.43	471.82	397.74	74.08	6.369		
7,200.00	6,804.37	11,657.00	7,060.41	45.46	132.27	-168.76	-1,996.21	947.43	464.66	385.73	78.92	5.887		
7,213.41	6,815.10	11,657.00	7,060.41	45.49	132.27	-169.73	-1,996.21	947.43	464.32	384.14	80.18	5.791 CC		
7,250.00	6,843.57	11,657.00	7,060.41	45.58	132.27	-172.21	-1,996.21	947.43	466.83	383.44	83.40	5.598 ES		
7,300.00	6,880.33	11,657.00	7,060.41	45.68	132.27	-175.32	-1,996.21	947.43	478.20	391.15	87.05	5.493 SF		
7,350.00	6,914.37	11,657.00	7,060.41	45.75	132.27	-178.28	-1,996.21	947.43	498.05	408.38	89.67	5.554		
7,400.00	6,945.43	11,657.00	7,060.41	45.81	132.27	-178.68	-1,996.21	947.43	525.29	434.02	91.26	5.756		
7,450.00	6,973.28	11,657.00	7,060.41	45.84	132.27	-175.35	-1,996.21	947.43	558.63	466.66	91.97	6.074		
7,500.00	6,997.70	11,657.00	7,060.41	45.86	132.27	-171.42	-1,996.21	947.43	596.83	504.83	92.00	6.487		
7,550.00	7,018.51	11,657.00	7,060.41	45.86	132.27	-166.45	-1,996.21	947.43	638.76	547.21	91.56	6.977		
7,600.00	7,035.55	11,657.00	7,060.41	45.85	132.27	-159.73	-1,996.21	947.43	683.44	592.66	90.78	7.528		
7,650.00	7,048.69	11,657.00	7,060.41	45.82	132.27	-150.09	-1,996.21	947.43	730.06	640.26	89.80	8.130		
7,700.00	7,057.83	11,657.00	7,060.41	45.79	132.27	-135.84	-1,996.21	947.43	777.95	689.27	88.69	8.772		
7,750.00	7,062.89	11,657.00	7,060.41	45.74	132.27	-115.84	-1,996.21	947.43	826.56	739.07	87.49	9.447		
7,786.65	7,064.00	11,657.00	7,060.41	45.70	132.27	-99.01	-1,996.21	947.43	862.37	775.79	86.59	9.960		
7,800.00	7,064.00	11,657.00	7,060.41	45.69	132.27	-99.01	-1,996.21	947.43	875.43	789.17	86.26	10.149		
7,900.00	7,064.00	11,657.00	7,060.41	45.59	132.27	-99.01	-1,996.21	947.43	973.48	889.36	84.12	11.572		
8,000.00	7,064.00	11,657.00	7,060.41	45.53	132.27	-99.01	-1,996.21	947.43	1,071.89	989.47	82.42	13.006		

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 11-10-15H
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 11-10-15H	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)				
8,100.00	7,064.00	11,657.00	7,060.41	45.50	132.27	99.01	-1,996.21	947.43	1,170.56	1,089.53	81.04	14.445		
8,200.00	7,064.00	11,657.00	7,060.41	45.53	132.27	99.01	-1,996.21	947.43	1,269.45	1,189.55	79.90	15.888		
8,300.00	7,064.00	11,657.00	7,060.41	45.62	132.27	99.01	-1,996.21	947.43	1,368.50	1,289.54	78.96	17.332		
8,400.00	7,064.00	11,657.00	7,060.41	45.83	132.27	99.01	-1,996.21	947.43	1,467.68	1,389.51	78.16	18.777		
8,500.00	7,064.00	11,657.00	7,060.41	46.24	132.27	99.01	-1,996.21	947.43	1,566.96	1,489.47	77.48	20.223		
8,600.00	7,064.00	11,657.00	7,060.41	46.98	132.27	99.01	-1,996.21	947.43	1,666.32	1,589.42	76.90	21.668		
8,700.00	7,064.00	11,657.00	7,060.41	48.13	132.27	99.01	-1,996.21	947.43	1,765.76	1,689.36	76.40	23.112		
8,800.00	7,064.00	11,657.00	7,060.41	49.67	132.27	99.01	-1,996.21	947.43	1,865.26	1,789.30	75.96	24.556		
8,900.00	7,064.00	11,657.00	7,060.41	51.48	132.27	99.01	-1,996.21	947.43	1,964.81	1,889.24	75.57	25.998		
9,000.00	7,064.00	11,657.00	7,060.41	53.46	132.27	99.01	-1,996.21	947.43	2,064.40	1,989.17	75.23	27.439		
9,100.00	7,064.00	11,657.00	7,060.41	55.54	132.27	99.01	-1,996.21	947.43	2,164.04	2,089.10	74.93	28.879		
9,200.00	7,064.00	11,657.00	7,060.41	57.71	132.27	99.01	-1,996.21	947.43	2,263.70	2,189.03	74.66	30.318		
9,300.00	7,064.00	11,657.00	7,060.41	59.94	132.27	99.01	-1,996.21	947.43	2,363.39	2,288.97	74.42	31.756		
9,400.00	7,064.00	11,657.00	7,060.41	62.22	132.27	99.01	-1,996.21	947.43	2,463.11	2,388.90	74.21	33.192		
9,500.00	7,064.00	11,657.00	7,060.41	64.55	132.27	99.01	-1,996.21	947.43	2,562.85	2,488.83	74.01	34.627		
9,600.00	7,064.00	11,657.00	7,060.41	66.90	132.27	99.01	-1,996.21	947.43	2,662.60	2,588.77	73.84	36.060		
9,700.00	7,064.00	11,657.00	7,060.41	69.28	132.27	99.01	-1,996.21	947.43	2,762.38	2,688.70	73.68	37.492		
9,800.00	7,064.00	11,657.00	7,060.41	71.69	132.27	99.01	-1,996.21	947.43	2,862.17	2,788.64	73.53	38.923		
9,900.00	7,064.00	11,657.00	7,060.41	74.13	132.27	99.01	-1,996.21	947.43	2,961.98	2,888.58	73.40	40.353		
10,000.00	7,064.00	11,657.00	7,060.41	76.58	132.27	99.01	-1,996.21	947.43	3,061.80	2,988.51	73.28	41.781		
10,100.00	7,064.00	11,657.00	7,060.41	79.05	132.27	99.01	-1,996.21	947.43	3,161.63	3,088.45	73.17	43.208		
10,200.00	7,064.00	11,657.00	7,060.41	81.54	132.27	99.01	-1,996.21	947.43	3,261.47	3,188.39	73.07	44.634		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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)				
4,300.00	4,095.28	13,221.00	7,214.82	25.95	165.24	-172.01	-378.36	391.95	3,247.00	3,174.33	72.67	44.681		
4,400.00	4,189.13	13,221.00	7,214.82	26.65	165.24	-172.01	-378.36	391.95	3,163.97	3,089.26	74.70	42.354		
4,500.00	4,282.98	13,221.00	7,214.82	27.35	165.24	-172.01	-378.36	391.95	3,081.95	3,005.05	76.90	40.077		
4,600.00	4,376.83	13,199.13	7,215.38	28.05	164.66	-171.33	-380.00	413.76	3,000.92	2,921.94	78.98	37.996		
4,700.00	4,470.67	13,185.88	7,215.74	28.75	164.30	-170.92	-381.01	426.96	2,921.01	2,839.66	81.35	35.908		
4,800.00	4,564.52	13,172.34	7,216.13	29.45	163.94	-170.50	-382.07	440.46	2,842.30	2,758.40	83.89	33.880		
4,900.00	4,658.37	13,158.47	7,216.56	30.15	163.57	-170.07	-383.18	454.27	2,764.88	2,678.25	86.63	31.917		
5,000.00	4,752.22	13,144.29	7,217.01	30.85	163.19	-169.63	-384.33	468.40	2,688.86	2,599.31	89.55	30.025		
5,100.00	4,846.07	13,133.34	7,217.37	31.56	162.89	-169.28	-385.23	479.31	2,614.37	2,521.63	92.74	28.191		
5,200.00	4,939.92	13,105.06	7,218.33	32.26	162.13	-168.40	-387.61	507.46	2,541.50	2,445.65	95.85	26.515		
5,300.00	5,033.77	13,077.90	7,219.14	32.96	161.41	-167.54	-389.93	534.52	2,470.35	2,371.16	99.19	24.905		
5,400.00	5,127.61	13,051.78	7,219.82	33.66	160.71	-166.71	-392.19	560.53	2,401.07	2,298.32	102.75	23.367		
5,500.00	5,221.46	13,026.20	7,220.38	34.36	160.02	-165.89	-394.44	586.01	2,333.85	2,227.32	106.53	21.908		
5,600.00	5,315.31	12,999.47	7,220.87	35.06	159.30	-165.03	-396.85	612.62	2,268.85	2,158.36	110.49	20.535		
5,700.00	5,409.16	12,973.75	7,221.23	35.76	158.62	-164.21	-399.22	638.23	2,206.29	2,091.63	114.66	19.243		
5,800.00	5,503.01	12,910.63	7,221.41	36.47	156.92	-162.16	-405.48	701.04	2,146.25	2,027.98	118.27	18.147		
5,900.00	5,596.86	12,914.38	7,221.66	37.17	157.03	-162.29	-404.95	697.32	2,089.35	1,966.00	123.36	16.938		
6,000.00	5,690.71	12,871.83	7,221.42	37.87	155.89	-160.90	-409.38	739.63	2,035.34	1,907.70	127.65	15.945		
6,100.00	5,784.55	12,841.00	7,220.92	38.57	155.06	-159.89	-412.78	770.27	1,984.64	1,852.37	132.27	15.005		
6,200.00	5,878.40	12,841.00	7,220.92	39.27	155.06	-159.89	-412.78	770.27	1,937.69	1,800.05	137.64	14.078		
6,300.00	5,972.25	12,820.99	7,220.49	39.97	154.53	-159.24	-414.96	790.17	1,894.71	1,752.11	142.60	13.287		
6,400.00	6,066.10	12,812.33	7,220.28	40.68	154.29	-158.95	-415.85	798.77	1,856.11	1,708.32	147.79	12.559		
6,500.00	6,159.95	12,803.97	7,220.08	41.38	154.07	-158.68	-416.68	807.08	1,822.14	1,669.24	152.90	11.917		
6,600.00	6,253.80	12,795.89	7,219.87	42.08	153.85	-158.41	-417.46	815.13	1,793.05	1,635.19	157.86	11.359		
6,700.00	6,347.65	12,788.07	7,219.67	42.78	153.64	-158.15	-418.18	822.91	1,769.08	1,606.49	162.59	10.881		
6,800.00	6,441.49	12,780.51	7,219.46	43.48	153.44	-157.91	-418.86	830.44	1,750.46	1,583.44	167.02	10.480		
6,823.95	6,463.97	12,778.73	7,219.41	43.65	153.39	-157.85	-419.02	832.21	1,746.82	1,578.79	168.03	10.396		
6,850.00	6,488.47	12,777.20	7,219.36	43.83	153.35	-164.44	-419.15	833.74	1,743.26	1,574.15	169.11	10.308		
6,900.00	6,535.65	12,776.40	7,219.34	44.16	153.33	-178.06	-419.22	834.53	1,737.82	1,566.68	171.14	10.154		
6,950.00	6,582.74	12,778.39	7,219.40	44.45	153.38	168.51	-419.05	832.55	1,734.23	1,561.13	173.10	10.018		
7,000.00	6,629.37	12,783.08	7,219.53	44.71	153.51	156.68	-418.64	827.88	1,732.53	1,557.56	174.97	9.902		
7,020.48	6,648.26	12,785.75	7,219.60	44.81	153.58	152.45	-418.39	825.22	1,732.37	1,556.67	175.71	9.859	CC	
7,050.00	6,675.19	12,790.36	7,219.73	44.94	153.71	146.96	-417.97	820.63	1,732.69	1,555.95	176.74	9.804	ES	
7,100.00	6,719.86	12,800.13	7,219.98	45.14	153.97	139.13	-417.05	810.91	1,734.67	1,556.28	178.40	9.724		
7,150.00	6,763.03	12,812.25	7,220.28	45.31	154.29	132.77	-415.86	798.85	1,738.38	1,558.44	179.94	9.661		
7,200.00	6,804.37	12,841.00	7,220.92	45.46	155.06	127.08	-412.78	770.27	1,743.79	1,562.06	181.73	9.596		
7,250.00	6,843.57	12,846.50	7,221.03	45.58	155.21	122.89	-412.17	764.81	1,750.46	1,567.70	182.76	9.578		
7,300.00	6,880.33	12,896.43	7,221.62	45.68	156.54	118.15	-406.79	715.17	1,758.20	1,573.40	184.81	9.514		
7,350.00	6,914.37	12,950.64	7,221.46	45.75	158.00	113.90	-401.42	661.24	1,766.41	1,579.58	186.83	9.454		
7,400.00	6,945.43	12,992.89	7,220.97	45.81	159.13	110.42	-397.45	619.17	1,774.97	1,586.51	188.46	9.418		
7,450.00	6,973.28	13,041.64	7,220.05	45.84	160.43	107.22	-393.08	570.63	1,783.61	1,593.44	190.16	9.379		
7,500.00	6,997.70	13,087.63	7,218.86	45.86	161.67	104.48	-389.09	524.83	1,792.15	1,600.40	191.75	9.346		
7,550.00	7,018.51	13,137.41	7,217.24	45.86	163.00	102.06	-384.89	475.25	1,800.37	1,606.98	193.39	9.310		
7,600.00	7,035.55	13,191.56	7,215.58	45.85	164.45	99.97	-380.58	421.30	1,808.00	1,612.88	195.12	9.266		
7,650.00	7,048.69	13,245.50	7,214.29	45.82	165.90	98.30	-376.57	367.52	1,814.82	1,617.97	196.85	9.219		
7,700.00	7,057.83	13,298.38	7,213.61	45.79	167.32	97.05	-372.85	314.78	1,820.74	1,622.18	198.55	9.170		
7,750.00	7,062.89	13,352.21	7,213.40	45.74	168.77	96.20	-369.25	261.07	1,825.65	1,625.34	200.30	9.114		
7,786.65	7,064.00	13,391.96	7,213.24	45.70	169.84	95.83	-366.67	221.41	1,828.55	1,626.95	201.60	9.070		
7,800.00	7,064.00	13,406.46	7,213.18	45.69	170.23	95.82	-365.75	206.94	1,829.50	1,627.42	202.08	9.053		
7,900.00	7,064.00	13,524.19	7,212.97	45.59	173.39	95.79	-358.89	89.40	1,836.06	1,630.03	206.03	8.912		
8,000.00	7,064.00	13,628.00	7,212.49	45.53	176.18	95.76	-353.61	-14.27	1,841.87	1,632.04	209.83	8.778	SF	
8,100.00	7,064.00	13,628.00	7,212.49	45.50	176.18	95.76	-353.61	-14.27	1,850.42	1,639.70	210.72	8.782		

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 11-10-15H
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 11-10-15H	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	
Measured Reference Depth (usft)	Vertical Reference Depth (usft)	Measured Offset Depth (usft)	Vertical Offset Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,200.00	7,064.00	13,628.00	7,212.49	45.53	176.18	95.76	-353.61	-14.27	1,864.30	1,653.12	211.18	8.828	
8,300.00	7,064.00	13,628.00	7,212.49	45.62	176.18	95.76	-353.61	-14.27	1,883.39	1,672.18	211.21	8.917	
8,400.00	7,064.00	13,628.00	7,212.49	45.83	176.18	95.76	-353.61	-14.27	1,907.55	1,696.72	210.82	9.048	
8,500.00	7,064.00	13,628.00	7,212.49	46.24	176.18	95.76	-353.61	-14.27	1,936.57	1,726.53	210.04	9.220	
8,600.00	7,064.00	13,628.00	7,212.49	46.98	176.18	95.76	-353.61	-14.27	1,970.24	1,761.36	208.89	9.432	
8,700.00	7,064.00	13,628.00	7,212.49	48.13	176.18	95.76	-353.61	-14.27	2,008.34	1,800.93	207.41	9.683	
8,800.00	7,064.00	13,628.00	7,212.49	49.67	176.18	95.76	-353.61	-14.27	2,050.60	1,844.96	205.64	9.972	
8,900.00	7,064.00	13,628.00	7,212.49	51.48	176.18	95.76	-353.61	-14.27	2,096.79	1,893.16	203.63	10.297	
9,000.00	7,064.00	13,628.00	7,212.49	53.46	176.18	95.76	-353.61	-14.27	2,146.65	1,945.22	201.42	10.657	
9,100.00	7,064.00	13,628.00	7,212.49	55.54	176.18	95.76	-353.61	-14.27	2,199.92	2,000.87	199.06	11.052	
9,200.00	7,064.00	13,628.00	7,212.49	57.71	176.18	95.76	-353.61	-14.27	2,256.38	2,059.80	196.57	11.479	
9,300.00	7,064.00	13,628.00	7,212.49	59.94	176.18	95.76	-353.61	-14.27	2,315.77	2,121.77	194.00	11.937	
9,400.00	7,064.00	13,628.00	7,212.49	62.22	176.18	95.76	-353.61	-14.27	2,377.89	2,186.51	191.37	12.425	
9,500.00	7,064.00	13,628.00	7,212.49	64.55	176.18	95.76	-353.61	-14.27	2,442.52	2,253.81	188.72	12.943	
9,600.00	7,064.00	13,628.00	7,212.49	66.90	176.18	95.76	-353.61	-14.27	2,509.48	2,323.43	186.05	13.488	
9,700.00	7,064.00	13,628.00	7,212.49	69.28	176.18	95.76	-353.61	-14.27	2,578.57	2,395.17	183.40	14.060	
9,800.00	7,064.00	13,628.00	7,212.49	71.69	176.18	95.76	-353.61	-14.27	2,649.64	2,468.87	180.77	14.657	
9,900.00	7,064.00	13,628.00	7,212.49	74.13	176.18	95.76	-353.61	-14.27	2,722.53	2,544.34	178.19	15.279	
10,000.00	7,064.00	13,628.00	7,212.49	76.58	176.18	95.76	-353.61	-14.27	2,797.09	2,621.45	175.65	15.925	
10,100.00	7,064.00	13,628.00	7,212.49	79.05	176.18	95.76	-353.61	-14.27	2,873.20	2,700.04	173.16	16.593	
10,200.00	7,064.00	13,628.00	7,212.49	81.54	176.18	95.76	-353.61	-14.27	2,950.74	2,780.00	170.74	17.282	
10,300.00	7,064.00	13,628.00	7,212.49	84.04	176.18	95.76	-353.61	-14.27	3,029.59	2,861.21	168.38	17.992	
10,400.00	7,064.00	13,628.00	7,212.49	86.56	176.18	95.76	-353.61	-14.27	3,109.66	2,943.57	166.09	18.722	
10,500.00	7,064.00	13,628.00	7,212.49	89.08	176.18	95.76	-353.61	-14.27	3,190.85	3,026.98	163.87	19.471	
10,600.00	7,064.00	13,628.00	7,212.49	91.62	176.18	95.76	-353.61	-14.27	3,273.09	3,111.36	161.73	20.239	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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		Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
4,100.00	3,907.58	13,219.00	7,083.65	24.55	166.31	-177.09	-725.36	325.32	3,231.68	3,169.53	62.15	51.995			
4,200.00	4,001.43	13,219.00	7,083.65	25.25	166.31	-177.09	-725.36	325.32	3,142.44	3,079.16	63.28	49.662			
4,300.00	4,095.28	13,219.00	7,083.65	25.95	166.31	-177.09	-725.36	325.32	3,053.86	2,989.32	64.54	47.319			
4,400.00	4,189.13	13,194.44	7,084.02	26.65	165.65	-176.15	-725.29	349.88	2,965.85	2,900.18	65.68	45.160			
4,500.00	4,282.98	13,186.04	7,084.17	27.35	165.42	-175.82	-725.25	358.27	2,878.66	2,811.50	67.16	42.863			
4,600.00	4,376.83	13,177.53	7,084.34	28.05	165.20	-175.49	-725.19	366.78	2,792.29	2,723.47	68.82	40.571			
4,700.00	4,470.67	13,168.90	7,084.52	28.75	164.96	-175.16	-725.13	375.41	2,706.82	2,636.14	70.69	38.294			
4,800.00	4,564.52	13,160.13	7,084.71	29.45	164.73	-174.82	-725.06	384.17	2,622.34	2,549.58	72.76	36.041			
4,900.00	4,658.37	13,151.24	7,084.92	30.15	164.49	-174.47	-724.98	393.06	2,538.93	2,463.87	75.07	33.822			
5,000.00	4,752.22	13,142.23	7,085.14	30.85	164.25	-174.12	-724.89	402.07	2,456.72	2,379.10	77.62	31.650			
5,100.00	4,846.07	13,124.00	7,085.64	31.56	163.76	-173.40	-724.67	420.29	2,375.85	2,295.51	80.33	29.575			
5,200.00	4,939.92	13,123.63	7,085.65	32.26	163.75	-173.38	-724.67	420.66	2,296.37	2,212.82	83.55	27.485			
5,300.00	5,033.77	13,107.57	7,086.10	32.96	163.32	-172.75	-724.47	436.72	2,218.51	2,131.64	86.87	25.537			
5,400.00	5,127.61	13,091.43	7,086.55	33.66	162.89	-172.11	-724.32	452.85	2,142.39	2,051.88	90.51	23.671			
5,500.00	5,221.46	13,075.20	7,086.99	34.36	162.46	-171.46	-724.20	469.07	2,068.19	1,973.72	94.47	21.893			
5,600.00	5,315.31	13,058.90	7,087.43	35.06	162.02	-170.81	-724.12	485.37	1,996.14	1,897.38	98.76	20.212			
5,700.00	5,409.16	13,042.51	7,087.86	35.76	161.58	-170.16	-724.08	501.75	1,926.47	1,823.07	103.40	18.632			
5,800.00	5,503.01	13,026.31	7,088.28	36.47	161.15	-169.51	-724.07	517.94	1,859.45	1,751.07	108.37	17.158			
5,900.00	5,596.86	13,011.44	7,088.66	37.17	160.75	-168.91	-724.07	532.81	1,795.38	1,681.67	113.71	15.790			
6,000.00	5,690.71	12,996.78	7,089.01	37.87	160.36	-168.32	-724.08	547.47	1,734.60	1,615.24	119.36	14.533			
6,100.00	5,784.55	12,982.31	7,089.35	38.57	159.97	-167.74	-724.08	561.93	1,677.46	1,552.17	125.29	13.388			
6,200.00	5,878.40	12,968.03	7,089.67	39.27	159.59	-167.16	-724.08	576.21	1,624.36	1,492.89	131.47	12.356			
6,300.00	5,972.25	12,953.94	7,089.98	39.97	159.21	-166.59	-724.07	590.29	1,575.70	1,437.89	137.81	11.434			
6,400.00	6,066.10	12,940.04	7,090.26	40.68	158.84	-166.02	-724.07	604.19	1,531.92	1,387.68	144.24	10.621			
6,500.00	6,159.95	12,934.00	7,090.39	41.38	158.68	-165.78	-724.06	610.23	1,493.45	1,342.66	150.79	9.904			
6,600.00	6,253.80	12,918.73	7,090.69	42.08	158.27	-165.16	-724.02	625.50	1,460.71	1,303.69	157.02	9.303			
6,700.00	6,347.65	12,909.05	7,090.89	42.78	158.01	-164.76	-723.97	635.18	1,434.13	1,271.06	163.07	8.795			
6,800.00	6,441.49	12,899.45	7,091.09	43.48	157.76	-164.37	-723.89	644.78	1,414.06	1,245.37	168.69	8.383			
6,823.95	6,463.97	12,897.16	7,091.14	43.65	157.70	-164.28	-723.87	647.06	1,410.25	1,240.29	169.96	8.298			
6,850.00	6,488.47	12,895.11	7,091.18	43.83	157.64	-170.82	-723.84	649.11	1,406.53	1,235.22	171.31	8.211			
6,900.00	6,535.65	12,893.65	7,091.22	44.16	157.60	175.64	-723.83	650.57	1,400.66	1,226.83	173.84	8.057			
6,950.00	6,582.74	12,895.42	7,091.18	44.45	157.65	162.26	-723.85	648.80	1,396.52	1,220.26	176.26	7.923			
7,000.00	6,629.37	12,900.39	7,091.07	44.71	157.78	150.46	-723.90	643.83	1,394.13	1,215.59	178.54	7.809			
7,044.35	6,670.07	12,907.44	7,090.93	44.92	157.97	141.72	-723.96	636.79	1,393.46	1,213.02	180.44	7.723 CC			
7,050.00	6,675.19	12,908.51	7,090.90	44.94	158.00	140.72	-723.96	635.71	1,393.47	1,212.80	180.67	7.713			
7,100.00	6,719.86	12,919.69	7,090.67	45.14	158.30	132.85	-724.03	624.54	1,394.48	1,211.83	182.64	7.635 ES			
7,150.00	6,763.03	12,934.00	7,090.39	45.31	158.68	126.44	-724.06	610.23	1,397.04	1,212.59	184.45	7.574			
7,200.00	6,804.37	12,957.07	7,089.91	45.46	159.30	120.88	-724.07	587.16	1,400.97	1,214.74	186.23	7.523			
7,250.00	6,843.57	12,984.02	7,089.31	45.58	160.02	116.08	-724.08	560.22	1,405.98	1,218.10	187.88	7.483			
7,300.00	6,880.33	13,014.40	7,088.58	45.68	160.83	111.86	-724.07	529.85	1,411.83	1,222.40	189.44	7.453			
7,350.00	6,914.37	13,052.99	7,087.59	45.75	161.86	107.97	-724.10	491.28	1,418.22	1,227.20	191.01	7.425			
7,400.00	6,945.43	13,099.34	7,086.33	45.81	163.10	104.40	-724.39	444.94	1,424.66	1,232.03	192.64	7.396			
7,450.00	6,973.28	13,140.69	7,085.18	45.84	164.21	101.43	-724.87	403.61	1,430.87	1,236.80	194.07	7.373			
7,500.00	6,997.70	13,175.87	7,084.37	45.86	165.15	99.03	-725.18	368.44	1,436.92	1,241.59	195.33	7.356			
7,550.00	7,018.51	13,219.00	7,083.65	45.86	166.31	96.88	-725.36	325.32	1,442.66	1,245.94	196.73	7.333			
7,600.00	7,035.55	13,245.60	7,083.32	45.85	167.02	95.36	-725.28	298.72	1,447.93	1,250.19	197.75	7.322			
7,650.00	7,048.69	13,278.02	7,083.03	45.82	167.89	94.07	-724.87	266.31	1,452.77	1,253.88	198.89	7.304			
7,700.00	7,057.83	13,315.00	7,082.82	45.79	168.88	93.07	-724.00	229.33	1,457.06	1,256.90	200.16	7.280			
7,750.00	7,062.89	13,364.20	7,082.51	45.74	170.20	92.37	-722.62	180.15	1,460.39	1,258.61	201.78	7.238			
7,786.65	7,064.00	13,405.19	7,082.06	45.70	171.30	92.12	-721.61	139.18	1,461.91	1,258.79	203.12	7.197			
7,800.00	7,064.00	13,423.97	7,081.82	45.69	171.81	92.11	-721.20	120.40	1,462.30	1,258.58	203.72	7.178			
7,900.00	7,064.00	13,549.01	7,081.27	45.59	175.16	92.09	-720.32	-4.63	1,463.69	1,255.76	207.93	7.039			

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 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ MIRACLE 40N-11HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft
Survey Program: 16-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
8,000.00	7,064.00	13,558.00	7,081.26	45.53	175.40	92.09	-720.31	-13.62	1,467.51	1,258.53	208.98	7.022 SF		
8,100.00	7,064.00	13,558.00	7,081.26	45.50	175.40	92.09	-720.31	-13.62	1,478.07	1,268.95	209.12	7.068		
8,200.00	7,064.00	13,558.00	7,081.26	45.53	175.40	92.09	-720.31	-13.62	1,495.26	1,286.69	208.57	7.169		
8,300.00	7,064.00	13,558.00	7,081.26	45.62	175.40	92.09	-720.31	-13.62	1,518.85	1,311.48	207.37	7.324		
8,400.00	7,064.00	13,558.00	7,081.26	45.83	175.40	92.09	-720.31	-13.62	1,548.55	1,342.99	205.56	7.533		
8,500.00	7,064.00	13,558.00	7,081.26	46.24	175.40	92.09	-720.31	-13.62	1,584.02	1,380.79	203.23	7.794		
8,600.00	7,064.00	13,558.00	7,081.26	46.98	175.40	92.09	-720.31	-13.62	1,624.88	1,424.42	200.47	8.106		
8,700.00	7,064.00	13,558.00	7,081.26	48.13	175.40	92.09	-720.31	-13.62	1,670.73	1,473.38	197.35	8.466		
8,800.00	7,064.00	13,558.00	7,081.26	49.67	175.40	92.09	-720.31	-13.62	1,721.18	1,527.20	193.97	8.873		
8,900.00	7,064.00	13,558.00	7,081.26	51.48	175.40	92.09	-720.31	-13.62	1,775.83	1,585.41	190.42	9.326		
9,000.00	7,064.00	13,558.00	7,081.26	53.46	175.40	92.09	-720.31	-13.62	1,834.31	1,647.56	186.75	9.822		
9,100.00	7,064.00	13,558.00	7,081.26	55.54	175.40	92.09	-720.31	-13.62	1,896.26	1,713.23	183.03	10.360		
9,200.00	7,064.00	13,558.00	7,081.26	57.71	175.40	92.09	-720.31	-13.62	1,961.35	1,782.04	179.31	10.938		
9,300.00	7,064.00	13,558.00	7,081.26	59.94	175.40	92.09	-720.31	-13.62	2,029.29	1,853.66	175.62	11.555		
9,400.00	7,064.00	13,558.00	7,081.26	62.22	175.40	92.09	-720.31	-13.62	2,099.79	1,927.78	172.01	12.208		
9,500.00	7,064.00	13,558.00	7,081.26	64.55	175.40	92.09	-720.31	-13.62	2,172.61	2,004.13	168.48	12.895		
9,600.00	7,064.00	13,558.00	7,081.26	66.90	175.40	92.09	-720.31	-13.62	2,247.52	2,082.46	165.06	13.617		
9,700.00	7,064.00	13,558.00	7,081.26	69.28	175.40	92.09	-720.31	-13.62	2,324.32	2,162.56	161.75	14.370		
9,800.00	7,064.00	13,558.00	7,081.26	71.69	175.40	92.09	-720.31	-13.62	2,402.82	2,244.25	158.57	15.153		
9,900.00	7,064.00	13,558.00	7,081.26	74.13	175.40	92.09	-720.31	-13.62	2,482.87	2,327.35	155.52	15.965		
10,000.00	7,064.00	13,558.00	7,081.26	76.58	175.40	92.09	-720.31	-13.62	2,564.33	2,411.73	152.60	16.805		
10,100.00	7,064.00	13,558.00	7,081.26	79.05	175.40	92.09	-720.31	-13.62	2,647.05	2,497.25	149.80	17.671		
10,200.00	7,064.00	13,558.00	7,081.26	81.54	175.40	92.09	-720.31	-13.62	2,730.93	2,583.81	147.13	18.562		
10,300.00	7,064.00	13,558.00	7,081.26	84.04	175.40	92.09	-720.31	-13.62	2,815.87	2,671.29	144.58	19.476		
10,400.00	7,064.00	13,558.00	7,081.26	86.56	175.40	92.09	-720.31	-13.62	2,901.76	2,759.61	142.15	20.414		
10,500.00	7,064.00	13,558.00	7,081.26	89.08	175.40	92.09	-720.31	-13.62	2,988.53	2,848.70	139.83	21.373		
10,600.00	7,064.00	13,558.00	7,081.26	91.62	175.40	92.09	-720.31	-13.62	3,076.11	2,938.49	137.62	22.352		
10,700.00	7,064.00	13,558.00	7,081.26	94.17	175.40	92.09	-720.31	-13.62	3,164.42	3,028.90	135.51	23.351		
10,800.00	7,064.00	13,558.00	7,081.26	96.73	175.40	92.09	-720.31	-13.62	3,253.41	3,119.90	133.51	24.369		

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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	4,001.43	13,180.56	7,236.81	25.25	162.58	-177.80	-1,284.87	478.15	3,277.46	3,219.76	57.71	56.796		
4,300.00	4,095.28	13,177.60	7,236.73	25.95	162.50	-177.63	-1,284.78	481.11	3,181.85	3,124.05	57.80	55.053		
4,400.00	4,189.13	13,174.53	7,236.65	26.65	162.42	-177.45	-1,284.70	484.17	3,086.50	3,028.57	57.93	53.281		
4,500.00	4,282.98	13,171.36	7,236.57	27.35	162.33	-177.26	-1,284.60	487.34	2,991.45	2,933.34	58.11	51.478		
4,600.00	4,376.83	13,168.07	7,236.49	28.05	162.25	-177.07	-1,284.50	490.63	2,896.73	2,838.38	58.35	49.641		
4,700.00	4,470.67	13,164.65	7,236.42	28.75	162.15	-176.87	-1,284.40	494.04	2,802.36	2,743.70	58.67	47.768		
4,800.00	4,564.52	13,161.11	7,236.35	29.45	162.06	-176.66	-1,284.30	497.58	2,708.39	2,649.33	59.06	45.856		
4,900.00	4,658.37	13,157.44	7,236.28	30.15	161.96	-176.44	-1,284.18	501.25	2,614.85	2,555.29	59.56	43.904		
5,000.00	4,752.22	13,153.62	7,236.22	30.85	161.86	-176.22	-1,284.07	505.07	2,521.79	2,461.62	60.17	41.908		
5,100.00	4,846.07	13,124.00	7,235.99	31.56	161.07	-174.45	-1,283.12	534.67	2,429.57	2,368.92	60.65	40.058		
5,200.00	4,939.92	13,124.00	7,235.99	32.26	161.07	-174.45	-1,283.12	534.67	2,337.57	2,275.96	61.62	37.938		
5,300.00	5,033.77	13,124.00	7,235.99	32.96	161.07	-174.45	-1,283.12	534.67	2,246.26	2,183.48	62.78	35.782		
5,400.00	5,127.61	13,124.00	7,235.99	33.66	161.07	-174.45	-1,283.12	534.67	2,155.71	2,091.54	64.17	33.596		
5,500.00	5,221.46	13,124.00	7,235.99	34.36	161.07	-174.45	-1,283.12	534.67	2,066.04	2,000.21	65.82	31.387		
5,600.00	5,315.31	13,124.00	7,235.99	35.06	161.07	-174.45	-1,283.12	534.67	1,977.35	1,909.56	67.79	29.167		
5,700.00	5,409.16	13,124.00	7,235.99	35.76	161.07	-174.45	-1,283.12	534.67	1,889.80	1,819.68	70.12	26.950		
5,800.00	5,503.01	13,124.00	7,235.99	36.47	161.07	-174.45	-1,283.12	534.67	1,803.54	1,730.68	72.86	24.752		
5,900.00	5,596.86	13,106.55	7,236.01	37.17	160.61	-173.40	-1,282.53	552.11	1,718.65	1,642.77	75.88	22.650		
6,000.00	5,690.71	13,098.95	7,236.04	37.87	160.40	-172.94	-1,282.27	559.71	1,635.46	1,555.93	79.53	20.564		
6,100.00	5,784.55	13,091.17	7,236.08	38.57	160.20	-172.47	-1,281.99	567.48	1,554.21	1,470.44	83.77	18.554		
6,200.00	5,878.40	13,083.21	7,236.13	39.27	159.98	-171.98	-1,281.70	575.44	1,475.20	1,386.54	88.66	16.639		
6,300.00	5,972.25	13,075.07	7,236.20	39.97	159.77	-171.49	-1,281.39	583.57	1,398.82	1,304.57	94.25	14.841		
6,400.00	6,066.10	13,066.73	7,236.29	40.68	159.55	-170.98	-1,281.07	591.90	1,325.52	1,224.92	100.60	13.176		
6,500.00	6,159.95	13,058.20	7,236.39	41.38	159.32	-170.46	-1,280.74	600.42	1,255.84	1,148.12	107.72	11.658		
6,600.00	6,253.80	13,049.47	7,236.50	42.08	159.09	-169.92	-1,280.39	609.15	1,190.41	1,074.79	115.62	10.296		
6,700.00	6,347.65	13,040.52	7,236.64	42.78	158.85	-169.37	-1,280.02	618.09	1,129.96	1,005.72	124.23	9.095		
6,800.00	6,441.49	13,032.95	7,236.76	43.48	158.65	-168.90	-1,279.71	625.65	1,075.33	941.87	133.46	8.057		
6,823.95	6,463.97	13,029.21	7,236.83	43.65	158.55	-168.67	-1,279.55	629.39	1,063.21	927.50	135.71	7.834		
6,850.00	6,488.47	13,025.98	7,236.89	43.83	158.46	-174.01	-1,279.41	632.62	1,050.43	912.23	138.20	7.601		
6,900.00	6,535.65	13,024.29	7,236.92	44.16	158.41	174.53	-1,279.34	634.31	1,027.10	884.01	143.10	7.178		
6,950.00	6,582.74	13,028.33	7,236.85	44.45	158.52	162.94	-1,279.51	630.27	1,005.60	857.50	148.09	6.790		
7,000.00	6,629.37	13,037.85	7,236.66	44.71	158.78	152.62	-1,279.92	620.75	986.15	833.04	153.11	6.441		
7,050.00	6,675.19	13,044.48	7,236.58	44.94	158.95	144.58	-1,280.19	614.14	968.99	811.02	157.97	6.134		
7,100.00	6,719.86	13,057.89	7,236.39	45.14	159.31	138.01	-1,280.73	600.73	954.21	791.50	162.71	5.865		
7,150.00	6,763.03	13,074.91	7,236.20	45.31	159.76	132.70	-1,281.39	583.73	941.87	774.64	167.23	5.632		
7,200.00	6,804.37	13,095.44	7,236.06	45.46	160.31	128.27	-1,282.14	563.21	931.94	760.47	171.47	5.435		
7,250.00	6,843.57	13,124.00	7,235.99	45.58	161.07	124.21	-1,283.12	534.67	924.31	748.86	175.45	5.268		
7,300.00	6,880.33	13,145.01	7,236.11	45.68	161.63	121.11	-1,283.80	513.67	918.81	739.85	178.96	5.134		
7,350.00	6,914.37	13,173.56	7,236.62	45.75	162.39	118.12	-1,284.67	485.15	915.27	733.11	182.16	5.024		
7,400.00	6,945.43	13,205.18	7,237.66	45.81	163.24	115.38	-1,285.56	453.55	913.41	728.37	185.04	4.936		
7,445.98	6,971.16	13,236.94	7,239.06	45.84	164.08	113.09	-1,286.35	421.83	912.91	725.49	187.42	4.871	CC	
7,450.00	6,973.28	13,239.81	7,239.18	45.84	164.16	112.90	-1,286.40	418.96	912.92	725.30	187.62	4.866		
7,500.00	6,997.70	13,276.15	7,240.49	45.86	165.13	110.68	-1,286.89	382.65	913.51	723.54	189.96	4.809		
7,550.00	7,018.51	13,315.00	7,241.46	45.86	166.17	108.68	-1,286.92	343.81	914.96	722.83	192.13	4.762		
7,600.00	7,035.55	13,358.08	7,241.88	45.85	167.33	106.89	-1,286.52	300.74	916.91	722.70	194.21	4.721		
7,650.00	7,048.69	13,403.49	7,241.43	45.82	168.54	105.38	-1,285.74	255.34	919.01	722.80	196.21	4.684		
7,700.00	7,057.83	13,454.99	7,239.93	45.79	169.93	104.15	-1,284.60	203.87	920.97	722.73	198.25	4.646		
7,750.00	7,062.89	13,508.00	7,237.52	45.74	171.35	103.31	-1,283.43	150.94	922.44	722.21	200.24	4.607		
7,786.65	7,064.00	13,542.36	7,235.71	45.70	172.27	103.00	-1,282.63	116.63	923.24	721.73	201.51	4.582		
7,800.00	7,064.00	13,554.99	7,235.05	45.69	172.60	102.96	-1,282.32	104.02	923.51	721.54	201.97	4.573		
7,900.00	7,064.00	13,651.29	7,230.13	45.59	175.19	102.61	-1,279.71	7.88	925.80	720.26	205.54	4.504	ES	
8,000.00	7,064.00	13,682.00	7,228.58	45.53	176.01	102.51	-1,278.84	-22.78	930.83	724.05	206.78	4.502	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 11-10-15H
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 11-10-15H	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											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)			
8,100.00	7,064.00	13,682.00	7,228.58	45.50	176.01	102.51	-1,278.84	-22.78	945.95	740.55	205.41	4.605	
8,200.00	7,064.00	13,682.00	7,228.58	45.53	176.01	102.51	-1,278.84	-22.78	971.19	768.76	202.44	4.798	
8,300.00	7,064.00	13,682.00	7,228.58	45.62	176.01	102.51	-1,278.84	-22.78	1,005.79	807.63	198.16	5.076	
8,400.00	7,064.00	13,682.00	7,228.58	45.83	176.01	102.51	-1,278.84	-22.78	1,048.81	855.89	192.92	5.437	
8,500.00	7,064.00	13,682.00	7,228.58	46.24	176.01	102.51	-1,278.84	-22.78	1,099.26	912.19	187.08	5.876	
8,600.00	7,064.00	13,682.00	7,228.58	46.98	176.01	102.51	-1,278.84	-22.78	1,156.19	975.25	180.94	6.390	
8,700.00	7,064.00	13,682.00	7,228.58	48.13	176.01	102.51	-1,278.84	-22.78	1,218.67	1,043.94	174.74	6.974	
8,800.00	7,064.00	13,682.00	7,228.58	49.67	176.01	102.51	-1,278.84	-22.78	1,285.90	1,117.25	168.65	7.625	
8,900.00	7,064.00	13,682.00	7,228.58	51.48	176.01	102.51	-1,278.84	-22.78	1,357.18	1,194.38	162.80	8.336	
9,000.00	7,064.00	13,682.00	7,228.58	53.46	176.01	102.51	-1,278.84	-22.78	1,431.90	1,274.65	157.25	9.106	
9,100.00	7,064.00	13,682.00	7,228.58	55.54	176.01	102.51	-1,278.84	-22.78	1,509.54	1,357.51	152.03	9.929	
9,200.00	7,064.00	13,682.00	7,228.58	57.71	176.01	102.51	-1,278.84	-22.78	1,589.69	1,442.53	147.16	10.802	
9,300.00	7,064.00	13,682.00	7,228.58	59.94	176.01	102.51	-1,278.84	-22.78	1,671.97	1,529.34	142.63	11.722	
9,400.00	7,064.00	13,682.00	7,228.58	62.22	176.01	102.51	-1,278.84	-22.78	1,756.10	1,617.66	138.44	12.685	
9,500.00	7,064.00	13,682.00	7,228.58	64.55	176.01	102.51	-1,278.84	-22.78	1,841.81	1,707.25	134.56	13.687	
9,600.00	7,064.00	13,682.00	7,228.58	66.90	176.01	102.51	-1,278.84	-22.78	1,928.90	1,797.92	130.98	14.727	
9,700.00	7,064.00	13,682.00	7,228.58	69.28	176.01	102.51	-1,278.84	-22.78	2,017.19	1,889.52	127.66	15.801	
9,800.00	7,064.00	13,682.00	7,228.58	71.69	176.01	102.51	-1,278.84	-22.78	2,106.52	1,981.92	124.60	16.906	
9,900.00	7,064.00	13,682.00	7,228.58	74.13	176.01	102.51	-1,278.84	-22.78	2,196.78	2,075.01	121.77	18.041	
10,000.00	7,064.00	13,682.00	7,228.58	76.58	176.01	102.51	-1,278.84	-22.78	2,287.84	2,168.70	119.15	19.202	
10,100.00	7,064.00	13,682.00	7,228.58	79.05	176.01	102.51	-1,278.84	-22.78	2,379.62	2,262.91	116.72	20.388	
10,200.00	7,064.00	13,682.00	7,228.58	81.54	176.01	102.51	-1,278.84	-22.78	2,472.04	2,357.58	114.46	21.597	
10,300.00	7,064.00	13,682.00	7,228.58	84.04	176.01	102.51	-1,278.84	-22.78	2,565.03	2,452.66	112.37	22.827	
10,400.00	7,064.00	13,682.00	7,228.58	86.56	176.01	102.51	-1,278.84	-22.78	2,658.53	2,548.11	110.42	24.076	
10,500.00	7,064.00	13,682.00	7,228.58	89.08	176.01	102.51	-1,278.84	-22.78	2,752.48	2,643.87	108.61	25.343	
10,600.00	7,064.00	13,682.00	7,228.58	91.62	176.01	102.51	-1,278.84	-22.78	2,846.85	2,739.93	106.92	26.625	
10,700.00	7,064.00	13,682.00	7,228.58	94.17	176.01	102.51	-1,278.84	-22.78	2,941.59	2,836.24	105.35	27.923	
10,800.00	7,064.00	13,682.00	7,228.58	96.73	176.01	102.51	-1,278.84	-22.78	3,036.66	2,932.79	103.87	29.234	
10,900.00	7,064.00	13,682.00	7,228.58	99.30	176.01	102.51	-1,278.84	-22.78	3,132.05	3,029.55	102.50	30.557	
11,000.00	7,064.00	13,682.00	7,228.58	101.87	176.01	102.51	-1,278.84	-22.78	3,227.71	3,126.50	101.21	31.891	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Offset Design: SEC. 11 T5N R68W 6th P.M. - EXIST HZ PROWANT 18-1HZ - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 usft			
Survey Program: 18-OWSG (Rev2) MWD											Rule Assigned:		Offset Well Error:	0.00 usft			
Reference				Offset			Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Minimum Separation		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					
4,600.00	4,376.83	12,925.36	7,005.28	28.05	170.44	44.72	-3,043.74	357.62	3,231.49	3,116.86	114.62	28.192					
4,700.00	4,470.67	12,914.84	7,005.59	28.75	170.15	44.14	-3,043.68	368.13	3,135.73	3,020.02	115.72	27.098					
4,800.00	4,564.52	12,895.00	7,006.20	29.45	169.62	43.04	-3,043.59	387.96	3,040.22	2,923.56	116.66	26.060					
4,900.00	4,658.37	12,892.83	7,006.26	30.15	169.56	42.91	-3,043.59	390.13	2,944.92	2,826.83	118.09	24.939					
5,000.00	4,752.22	12,877.73	7,006.72	30.85	169.16	42.06	-3,043.54	405.22	2,849.89	2,730.60	119.29	23.891					
5,100.00	4,846.07	12,862.73	7,007.17	31.56	168.75	41.19	-3,043.49	420.22	2,755.14	2,634.57	120.57	22.851					
5,200.00	4,939.92	12,847.81	7,007.62	32.26	168.35	40.32	-3,043.44	435.13	2,660.70	2,538.75	121.95	21.819					
5,300.00	5,033.77	12,832.99	7,008.05	32.96	167.96	39.44	-3,043.39	449.95	2,566.59	2,443.17	123.42	20.796					
5,400.00	5,127.61	12,818.25	7,008.47	33.66	167.56	38.56	-3,043.34	464.68	2,472.87	2,347.87	125.00	19.783					
5,500.00	5,221.46	12,803.47	7,008.89	34.36	167.16	37.66	-3,043.28	479.45	2,379.57	2,252.88	126.69	18.782					
5,600.00	5,315.31	12,787.58	7,009.34	35.06	166.74	36.69	-3,043.21	495.33	2,286.75	2,158.26	128.48	17.798					
5,700.00	5,409.16	12,771.86	7,009.77	35.76	166.31	35.71	-3,043.13	511.05	2,194.46	2,064.04	130.42	16.826					
5,800.00	5,503.01	12,756.31	7,010.19	36.47	165.90	34.73	-3,043.03	526.60	2,102.77	1,970.27	132.50	15.869					
5,900.00	5,596.86	12,740.91	7,010.61	37.17	165.48	33.76	-3,042.92	541.98	2,011.77	1,877.01	134.76	14.928					
6,000.00	5,690.71	12,725.68	7,011.01	37.87	165.08	32.78	-3,042.80	557.21	1,921.56	1,784.36	137.21	14.005					
6,100.00	5,784.55	12,716.00	7,011.26	38.57	164.82	32.15	-3,042.71	566.89	1,832.27	1,692.23	140.03	13.085					
6,200.00	5,878.40	12,700.79	7,011.65	39.27	164.41	31.16	-3,042.59	582.09	1,744.03	1,601.13	142.90	12.205					
6,300.00	5,972.25	12,689.47	7,011.95	39.97	164.10	30.41	-3,042.51	593.41	1,657.04	1,510.91	146.14	11.339					
6,400.00	6,066.10	12,678.03	7,012.25	40.68	163.80	29.66	-3,042.46	604.85	1,571.51	1,421.88	149.63	10.502					
6,500.00	6,159.95	12,666.47	7,012.56	41.38	163.49	28.89	-3,042.42	616.40	1,487.68	1,334.28	153.40	9.698					
6,600.00	6,253.80	12,654.79	7,012.88	42.08	163.17	28.11	-3,042.39	628.07	1,405.85	1,248.41	157.44	8.929					
6,700.00	6,347.65	12,642.99	7,013.20	42.78	162.86	27.31	-3,042.39	639.87	1,326.39	1,164.64	161.75	8.200					
6,800.00	6,441.49	12,626.00	7,013.66	43.48	162.40	26.16	-3,042.41	656.85	1,249.76	1,083.67	166.09	7.525					
6,823.95	6,463.97	12,626.00	7,013.66	43.65	162.40	26.16	-3,042.41	656.85	1,231.88	1,064.55	167.33	7.362					
6,850.00	6,488.47	12,625.50	7,013.67	43.83	162.39	16.29	-3,042.41	657.35	1,212.60	1,043.94	168.66	7.189					
6,900.00	6,535.65	12,623.02	7,013.74	44.16	162.32	-3.40	-3,042.42	659.84	1,176.14	1,005.03	171.11	6.874					
6,950.00	6,582.74	12,624.88	7,013.69	44.45	162.37	-22.03	-3,042.42	657.97	1,140.67	967.01	173.65	6.569					
7,000.00	6,629.37	12,626.00	7,013.66	44.71	162.40	-38.42	-3,042.41	656.85	1,106.56	930.53	176.04	6.286					
7,050.00	6,675.19	12,639.73	7,013.28	44.94	162.77	-51.17	-3,042.39	643.13	1,074.13	895.30	178.83	6.006					
7,100.00	6,719.86	12,652.75	7,012.93	45.14	163.12	-61.40	-3,042.39	630.11	1,043.70	862.31	181.39	5.754					
7,150.00	6,763.03	12,669.47	7,012.48	45.31	163.57	-69.29	-3,042.43	613.40	1,015.53	831.64	183.89	5.522					
7,200.00	6,804.37	12,689.77	7,011.94	45.46	164.11	-75.32	-3,042.52	593.11	989.81	803.52	186.29	5.313					
7,250.00	6,843.57	12,716.00	7,011.26	45.58	164.82	-79.77	-3,042.71	566.89	966.72	778.03	188.68	5.123					
7,300.00	6,880.33	12,745.42	7,010.49	45.68	165.61	-83.08	-3,042.96	537.48	946.25	755.32	190.93	4.956					
7,350.00	6,914.37	12,781.25	7,009.51	45.75	166.57	-85.35	-3,043.18	501.66	928.32	735.13	193.18	4.805					
7,400.00	6,945.43	12,819.51	7,008.44	45.81	167.59	-86.95	-3,043.34	463.42	912.84	717.57	195.27	4.675					
7,450.00	6,973.28	12,859.37	7,007.27	45.84	168.66	-88.05	-3,043.48	423.57	899.75	702.58	197.17	4.563					
7,500.00	6,997.70	12,901.03	7,006.01	45.86	169.78	-88.75	-3,043.62	381.93	888.92	689.99	198.93	4.468					
7,550.00	7,018.51	12,941.07	7,004.82	45.86	170.86	-89.24	-3,043.86	341.91	880.33	679.88	200.45	4.392					
7,600.00	7,035.55	12,984.00	7,003.62	45.85	172.01	-89.46	-3,044.33	299.00	873.89	671.92	201.97	4.327					
7,650.00	7,048.69	13,040.00	7,002.06	45.82	173.52	-89.31	-3,044.77	243.03	869.07	665.07	204.00	4.260					
7,700.00	7,057.83	13,092.13	7,000.56	45.79	174.92	-89.23	-3,044.68	190.92	865.40	659.59	205.81	4.205					
7,750.00	7,062.89	13,135.93	6,999.32	45.74	176.09	-89.22	-3,044.76	147.14	863.38	656.12	207.25	4.166					
7,786.65	7,064.00	13,169.83	6,998.39	45.70	177.01	-89.16	-3,045.01	113.25	863.00	654.60	208.40	4.141					
7,800.00	7,064.00	13,185.85	6,997.96	45.69	177.44	-89.13	-3,045.12	97.23	862.99	654.01	208.98	4.130					
7,803.70	7,064.00	13,190.30	6,997.83	45.68	177.56	-89.13	-3,045.14	92.79	862.98	653.83	209.14	4.126					
7,900.00	7,064.00	13,291.51	6,994.98	45.59	180.28	-88.93	-3,044.84	-8.38	861.95	649.15	212.80	4.051					
8,000.00	7,064.00	13,395.56	6,992.08	45.53	183.08	-88.74	-3,045.01	-112.39	861.39	644.66	216.73	3.974					
8,100.00	7,064.00	13,491.93	6,989.06	45.50	185.68	-88.54	-3,044.08	-208.71	859.72	639.16	220.56	3.898					
8,200.00	7,064.00	13,585.90	6,986.44	45.53	188.21	-88.36	-3,044.42	-302.64	859.35	634.89	224.47	3.828					
8,300.00	7,064.00	13,699.92	6,983.17	45.62	191.28	-88.14	-3,044.26	-416.61	858.53	629.34	229.19	3.746					
8,400.00	7,064.00	13,804.78	6,979.48	45.83	194.11	-87.89	-3,042.64	-521.40	856.31	622.60	233.71	3.664					

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 11-10-15H
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 11-10-15H	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)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
8,500.00	7,064.00	13,901.58	6,975.74	46.24	196.72	-87.63	-3,041.16	-618.11	854.14	616.05	238.09	3.587				
8,600.00	7,064.00	14,009.22	6,971.74	46.98	199.63	-87.36	-3,039.43	-725.66	851.92	609.06	242.85	3.508				
8,700.00	7,064.00	14,118.91	6,967.65	48.13	202.60	-87.07	-3,035.99	-835.22	848.14	600.43	247.71	3.424				
8,800.00	7,064.00	14,213.64	6,964.18	49.67	205.16	-86.82	-3,032.88	-929.84	844.27	591.98	252.30	3.346				
8,900.00	7,064.00	14,326.44	6,960.00	51.48	208.21	-86.52	-3,029.13	-1,042.49	840.41	583.11	257.30	3.266				
9,000.00	7,064.00	14,425.83	6,956.15	53.46	210.90	-86.23	-3,024.69	-1,141.71	835.40	573.32	262.09	3.188				
9,100.00	7,064.00	14,513.48	6,952.85	55.54	213.27	-85.99	-3,021.61	-1,229.24	831.34	564.63	266.71	3.117				
9,200.00	7,064.00	14,622.22	6,948.66	57.71	216.22	-85.67	-3,017.76	-1,337.83	827.28	555.54	271.74	3.044				
9,300.00	7,064.00	14,716.72	6,944.82	59.94	218.78	-85.38	-3,014.06	-1,432.19	822.92	546.36	276.56	2.976				
9,400.00	7,064.00	14,806.96	6,941.71	62.22	221.22	-85.15	-3,011.89	-1,522.34	819.98	538.66	281.33	2.915				
9,500.00	7,064.00	14,922.20	6,938.43	64.55	224.34	-84.90	-3,008.78	-1,637.49	816.79	530.24	286.56	2.850				
9,600.00	7,064.00	15,017.18	6,936.12	66.90	226.91	-84.71	-3,004.84	-1,732.36	812.12	520.62	291.49	2.786				
9,700.00	7,064.00	15,111.68	6,934.36	69.28	229.48	-84.56	-3,002.31	-1,826.81	808.82	512.37	296.45	2.728				
9,800.00	7,064.00	15,211.57	6,932.95	71.69	232.18	-84.44	-2,999.78	-1,926.66	805.64	504.12	301.52	2.672				
9,900.00	7,064.00	15,318.75	6,931.68	74.13	235.09	-84.32	-2,996.63	-2,033.78	802.04	495.32	306.72	2.615				
10,000.00	7,064.00	15,414.15	6,930.45	76.58	237.68	-84.20	-2,993.61	-2,129.13	798.23	486.47	311.76	2.560				
10,100.00	7,064.00	15,508.68	6,929.85	79.05	240.24	-84.14	-2,991.36	-2,223.63	795.13	478.31	316.82	2.510				
10,200.00	7,064.00	15,616.80	6,930.29	81.54	243.17	-84.15	-2,988.97	-2,331.72	792.12	470.00	322.12	2.459				
10,300.00	7,064.00	15,726.34	6,930.02	84.04	246.15	-84.09	-2,984.41	-2,441.16	787.17	459.79	327.38	2.404				
10,400.00	7,064.00	15,817.14	6,929.58	86.56	248.61	-84.02	-2,980.86	-2,531.89	782.56	450.08	332.48	2.354				
10,500.00	7,064.00	15,917.74	6,929.33	89.08	251.34	-83.98	-2,977.95	-2,632.45	778.91	441.23	337.68	2.307				
10,600.00	7,064.00	16,006.84	6,928.91	91.62	253.76	-83.92	-2,975.38	-2,721.51	775.34	432.59	342.75	2.262				
10,700.00	7,064.00	16,104.75	6,928.08	94.17	256.42	-83.84	-2,973.90	-2,819.40	773.13	425.21	347.92	2.222				
10,800.00	7,064.00	16,191.97	6,926.92	96.73	258.78	-83.74	-2,972.98	-2,906.61	771.46	418.60	352.86	2.186				
10,900.00	7,064.00	16,301.68	6,925.62	99.30	261.75	-83.64	-2,972.62	-3,016.31	770.50	412.24	358.26	2.151				
11,000.00	7,064.00	16,398.78	6,924.35	101.87	264.38	-83.53	-2,971.48	-3,113.39	768.70	405.28	363.41	2.115				
11,100.00	7,064.00	16,488.60	6,923.31	104.45	266.82	-83.44	-2,971.34	-3,203.21	767.87	399.46	368.41	2.084				
11,200.00	7,064.00	16,592.32	6,922.07	107.04	269.63	-83.35	-2,971.56	-3,306.92	767.43	393.71	373.72	2.054				
11,300.00	7,064.00	16,691.91	6,920.82	109.64	272.32	-83.24	-2,971.22	-3,406.50	766.45	387.52	378.93	2.023				
11,343.16	7,064.00	16,729.94	6,920.47	110.76	273.35	-83.22	-2,971.35	-3,444.53	766.30	385.23	381.07	2.011				
11,400.00	7,064.00	16,782.50	6,920.11	112.24	274.78	-83.19	-2,971.91	-3,497.09	766.49	382.55	383.94	1.996				
11,500.00	7,064.00	16,890.66	6,919.23	114.84	277.70	-83.13	-2,973.19	-3,605.23	767.01	377.62	389.40	1.970				
11,600.00	7,064.00	16,994.90	6,917.80	117.45	280.53	-83.01	-2,972.61	-3,709.46	765.83	371.12	394.70	1.940				
11,700.00	7,064.00	17,088.90	6,916.59	120.07	283.08	-82.91	-2,972.56	-3,803.46	765.14	365.33	399.80	1.914				
11,800.00	7,064.00	17,206.09	6,915.87	122.69	286.25	-82.85	-2,972.04	-3,920.64	764.02	358.65	405.37	1.885				
11,900.00	7,064.00	17,314.22	6,915.73	125.32	289.19	-82.80	-2,969.17	-4,028.72	760.59	349.87	410.72	1.852				
12,000.00	7,064.00	17,413.26	6,915.96	127.95	291.88	-82.79	-2,966.88	-4,127.74	757.48	341.46	416.01	1.821				
12,100.00	7,064.00	17,516.67	6,916.17	130.58	294.69	-82.76	-2,963.43	-4,231.09	753.33	332.01	421.32	1.788				
12,200.00	7,064.00	17,616.87	6,916.34	133.21	297.42	-82.74	-2,960.48	-4,331.25	749.60	322.98	426.62	1.757				
12,300.00	7,064.00	17,714.49	6,916.37	135.85	300.07	-82.70	-2,957.36	-4,428.82	745.65	313.75	431.90	1.726				
12,400.00	7,064.00	17,802.27	6,916.41	138.50	302.46	-82.68	-2,955.45	-4,516.57	742.71	305.62	437.09	1.699				
12,500.00	7,064.00	17,891.55	6,916.70	141.14	304.88	-82.69	-2,955.08	-4,605.85	741.46	299.22	442.23	1.677				
12,537.81	7,064.00	17,925.03	6,916.78	142.14	305.78	-82.70	-2,955.25	-4,639.34	741.34	297.19	444.15	1.669				
12,600.00	7,064.00	17,978.49	6,916.91	143.79	307.23	-82.71	-2,956.01	-4,692.79	741.70	294.48	447.22	1.658				
12,700.00	7,064.00	18,069.48	6,917.20	146.44	309.69	-82.75	-2,958.50	-4,783.74	743.58	291.32	452.26	1.644				
12,800.00	7,064.00	18,173.45	6,917.58	149.09	312.50	-82.80	-2,961.77	-4,887.66	745.88	288.09	457.78	1.629				
12,900.00	7,064.00	18,270.00	6,918.01	151.75	315.11	-82.86	-2,964.79	-4,984.16	748.13	285.10	463.03	1.616				
13,000.00	7,064.00	18,364.58	6,918.54	154.41	317.66	-82.93	-2,968.40	-5,078.67	751.05	282.85	468.20	1.604				
13,100.00	7,064.00	18,465.17	6,919.20	157.07	320.37	-83.00	-2,972.28	-5,179.19	754.00	280.37	473.62	1.592				
13,200.00	7,064.00	18,563.76	6,919.94	159.73	323.03	-83.09	-2,976.24	-5,277.69	757.11	278.14	478.97	1.581				
13,300.00	7,064.00	18,669.01	6,920.62	162.39	325.88	-83.17	-2,980.19	-5,382.86	759.97	275.38	484.59	1.568				
13,400.00	7,064.00	18,772.86	6,920.97	165.06	328.68	-83.21	-2,983.19	-5,486.67	762.01	271.89	490.12	1.555				

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 11-10-15H
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 11-10-15H	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
Measured Reference Depth (usft)	Vertical Reference Depth (usft)	Measured Offset Depth (usft)	Vertical Offset Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
13,500.00	7,064.00	18,879.60	6,921.45	167.73	331.57	-83.27	-2,985.85	-5,593.38	763.65	267.91	495.74	1.540		
13,600.00	7,064.00	18,999.09	6,921.16	170.40	334.81	-83.24	-2,986.33	-5,712.85	763.26	261.75	501.51	1.522		
13,700.00	7,064.00	19,088.01	6,919.05	173.07	337.22	-83.07	-2,986.16	-5,801.75	762.55	256.05	506.50	1.506		
13,800.00	7,064.00	19,190.61	6,915.53	175.74	340.01	-82.81	-2,986.47	-5,904.29	762.49	250.82	511.66	1.490	Level 3	
13,900.00	7,064.00	19,300.44	6,911.22	178.41	342.99	-82.47	-2,985.47	-6,014.03	761.28	244.43	516.84	1.473	Level 3	
14,000.00	7,064.00	19,401.12	6,907.22	181.09	345.72	-82.14	-2,983.91	-6,114.62	759.49	237.63	521.86	1.455	Level 3	
14,100.00	7,064.00	19,499.65	6,903.71	183.77	348.40	-81.86	-2,982.57	-6,213.07	757.85	230.97	526.88	1.438	Level 3	
14,200.00	7,064.00	19,607.55	6,900.08	186.44	351.33	-81.56	-2,980.81	-6,320.90	755.94	223.99	531.95	1.421	Level 3	
14,300.00	7,064.00	19,704.00	6,896.65	189.12	353.95	-81.27	-2,978.76	-6,417.26	753.58	216.67	536.92	1.404	Level 3	
14,400.00	7,064.00	19,821.67	6,892.11	191.80	357.15	-80.87	-2,974.82	-6,534.78	750.05	208.29	541.76	1.384	Level 3	
14,500.00	7,064.00	19,923.05	6,887.90	194.48	359.91	-80.49	-2,970.31	-6,635.97	745.55	198.98	546.56	1.364	Level 3	
14,600.00	7,064.00	20,017.47	6,883.97	197.17	362.48	-80.12	-2,966.05	-6,730.21	741.02	189.61	551.41	1.344	Level 3	
14,700.00	7,064.00	20,115.13	6,879.94	199.85	365.13	-79.76	-2,962.83	-6,827.73	737.70	181.50	556.20	1.326	Level 3	
14,800.00	7,064.00	20,211.60	6,876.04	202.53	367.76	-79.40	-2,959.33	-6,924.06	734.09	173.13	560.96	1.309	Level 3	
14,900.00	7,064.00	20,309.50	6,872.31	205.22	370.42	-79.06	-2,956.68	-7,021.85	731.36	165.64	565.72	1.293	Level 3	
15,000.00	7,064.00	20,415.10	6,868.09	207.91	373.29	-78.68	-2,953.36	-7,127.31	728.27	157.89	570.37	1.277	Level 3	
15,100.00	7,064.00	20,517.05	6,864.31	210.59	376.06	-78.31	-2,949.58	-7,229.12	724.59	149.57	575.02	1.260	Level 3	
15,200.00	7,064.00	20,620.58	6,860.91	213.28	378.88	-77.97	-2,945.53	-7,332.52	720.66	141.00	579.66	1.243	Level 3	
15,300.00	7,064.00	20,703.00	6,858.17	215.97	381.13	-77.68	-2,941.64	-7,414.80	716.25	131.86	584.39	1.226	Level 3	
15,313.08	7,064.00	20,703.00	6,858.17	216.32	381.13	-77.68	-2,941.64	-7,414.80	716.13	131.28	584.85	1.224	Level 3, CC, ES, SF	
15,400.00	7,064.00	20,703.00	6,858.17	218.66	381.13	-77.68	-2,941.64	-7,414.80	721.38	138.28	583.10	1.237	Level 3	
15,500.00	7,064.00	20,703.00	6,858.17	221.35	381.13	-77.68	-2,941.64	-7,414.80	740.12	168.74	571.38	1.295	Level 3	
15,600.00	7,064.00	20,703.00	6,858.17	224.04	381.13	-77.68	-2,941.64	-7,414.80	771.47	220.18	551.29	1.399	Level 3	
15,700.00	7,064.00	20,703.00	6,858.17	226.73	381.13	-77.68	-2,941.64	-7,414.80	813.97	288.31	525.66	1.548		
15,800.00	7,064.00	20,703.00	6,858.17	229.43	381.13	-77.68	-2,941.64	-7,414.80	865.99	368.76	497.22	1.742		
15,900.00	7,064.00	20,703.00	6,858.17	232.12	381.13	-77.68	-2,941.64	-7,414.80	925.91	457.78	468.14	1.978		
16,000.00	7,064.00	20,703.00	6,858.17	234.81	381.13	-77.68	-2,941.64	-7,414.80	992.32	552.48	439.84	2.256		
16,100.00	7,064.00	20,703.00	6,858.17	237.51	381.13	-77.68	-2,941.64	-7,414.80	1,064.00	650.84	413.16	2.575		
16,200.00	7,064.00	20,703.00	6,858.17	240.20	381.13	-77.68	-2,941.64	-7,414.80	1,139.94	751.44	388.50	2.934		
16,300.00	7,064.00	20,703.00	6,858.17	242.90	381.13	-77.68	-2,941.64	-7,414.80	1,219.37	853.38	365.98	3.332		
16,305.41	7,064.00	20,703.00	6,858.17	243.05	381.13	-77.68	-2,941.64	-7,414.80	1,223.75	858.92	364.82	3.354		

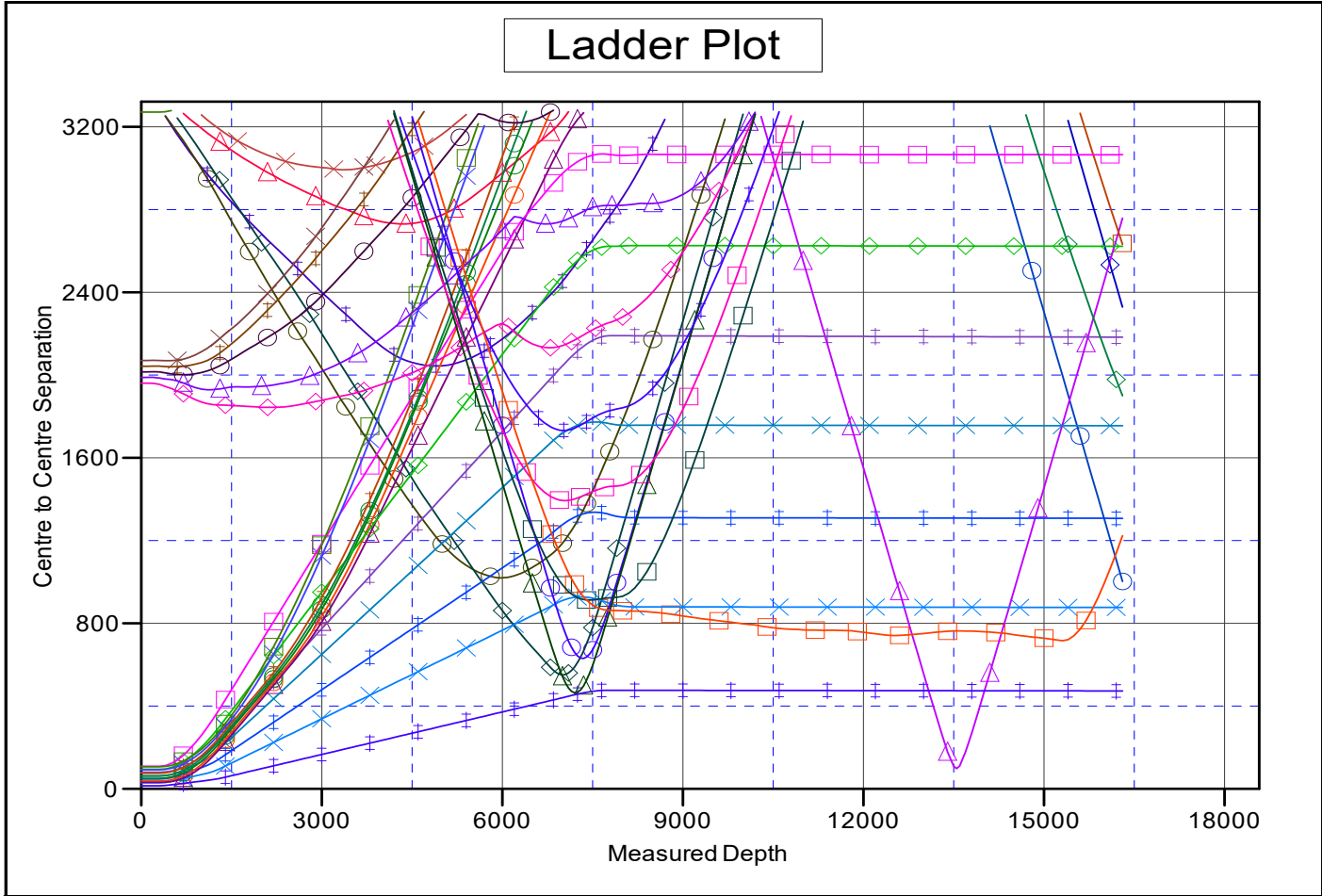
Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
Project:	LARIMER COUNTY, COLORADO (NAD 83)	TVD Reference:	KBE @ 5000.00usft
Reference Site:	SEC. 11 T5N R68W 6th P.M.	MD Reference:	KBE @ 5000.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	CE 5-68 11-10-15H	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	7,064.00	6,745.60	6,730.12	199.85	4.30	76.75	-969.97	-9,793.44	3,258.07	3,153.66	104.41	31.205		
14,800.00	7,064.00	6,755.48	6,739.95	202.53	4.31	77.17	-969.92	-9,794.41	3,166.98	3,059.58	107.40	29.489		
14,900.00	7,064.00	6,765.35	6,749.77	205.22	4.33	77.58	-969.86	-9,795.39	3,076.40	2,965.84	110.56	27.825		
15,000.00	7,064.00	6,775.23	6,759.60	207.91	4.34	78.00	-969.80	-9,796.36	2,986.40	2,872.48	113.92	26.215		
15,100.00	7,064.00	6,785.10	6,769.43	210.59	4.35	78.42	-969.74	-9,797.34	2,897.02	2,779.54	117.48	24.660		
15,200.00	7,064.00	6,794.98	6,779.25	213.28	4.37	78.84	-969.69	-9,798.31	2,808.32	2,687.05	121.26	23.159		
15,300.00	7,064.00	6,804.85	6,789.08	215.97	4.38	79.26	-969.63	-9,799.29	2,720.36	2,595.08	125.28	21.714		
15,400.00	7,064.00	6,814.73	6,798.91	218.66	4.39	79.68	-969.57	-9,800.27	2,633.23	2,503.68	129.55	20.326		
15,500.00	7,064.00	6,824.60	6,808.73	221.35	4.41	80.11	-969.51	-9,801.24	2,547.01	2,412.92	134.09	18.994		
15,600.00	7,064.00	6,834.48	6,818.56	224.04	4.42	80.53	-969.46	-9,802.22	2,461.79	2,322.87	138.92	17.721		
15,700.00	7,064.00	6,844.35	6,828.39	226.73	4.43	80.95	-969.40	-9,803.19	2,377.68	2,233.62	144.06	16.505		
15,800.00	7,064.00	6,854.23	6,838.21	229.43	4.45	81.38	-969.34	-9,804.17	2,294.81	2,145.29	149.52	15.348		
15,900.00	7,064.00	6,864.11	6,848.04	232.12	4.46	81.81	-969.29	-9,805.14	2,213.30	2,057.98	155.32	14.250		
16,000.00	7,064.00	6,873.98	6,857.87	234.81	4.47	82.24	-969.23	-9,806.12	2,133.33	1,971.84	161.48	13.211		
16,100.00	7,064.00	6,883.86	6,867.69	237.51	4.49	82.66	-969.17	-9,807.10	2,055.06	1,887.04	168.02	12.231		
16,200.00	7,064.00	6,893.73	6,877.52	240.20	4.50	83.09	-969.11	-9,808.07	1,978.70	1,803.76	174.94	11.311		
16,300.00	7,064.00	6,903.61	6,887.35	242.90	4.52	83.52	-969.06	-9,809.05	1,904.47	1,722.24	182.24	10.450		
16,305.41	7,064.00	6,904.14	6,887.88	243.05	4.52	83.55	-969.05	-9,809.10	1,900.53	1,717.88	182.64	10.406	CC, ES, SF	

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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 11-10-15H
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.35°



LEGEND

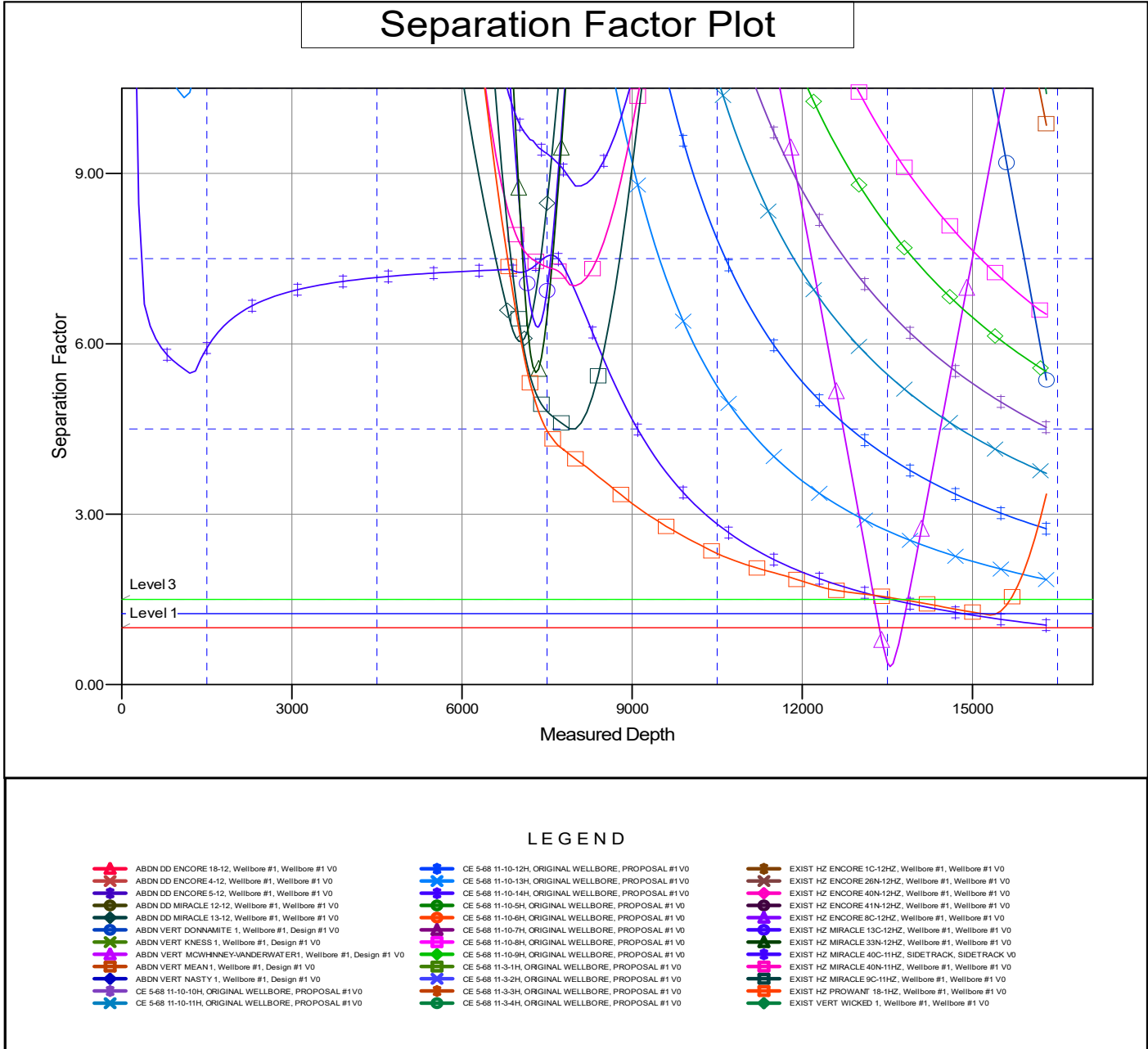
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| <ul style="list-style-type: none"> ABDN DD ENCORE 18-12, Wellbore #1, Wellbore #1 V0 ABDN DD ENCORE 4-12, Wellbore #1, Wellbore #1 V0 ABDN DD ENCORE 5-12, Wellbore #1, Wellbore #1 V0 ABDN DD MIRACLE 12-12, Wellbore #1, Wellbore #1 V0 ABDN DD MIRACLE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

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

Company:	BISON IV OPERATING	Local Co-ordinate Reference:	Well CE 5-68 11-10-15H
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 11-10-15H	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 11-10-15H
 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