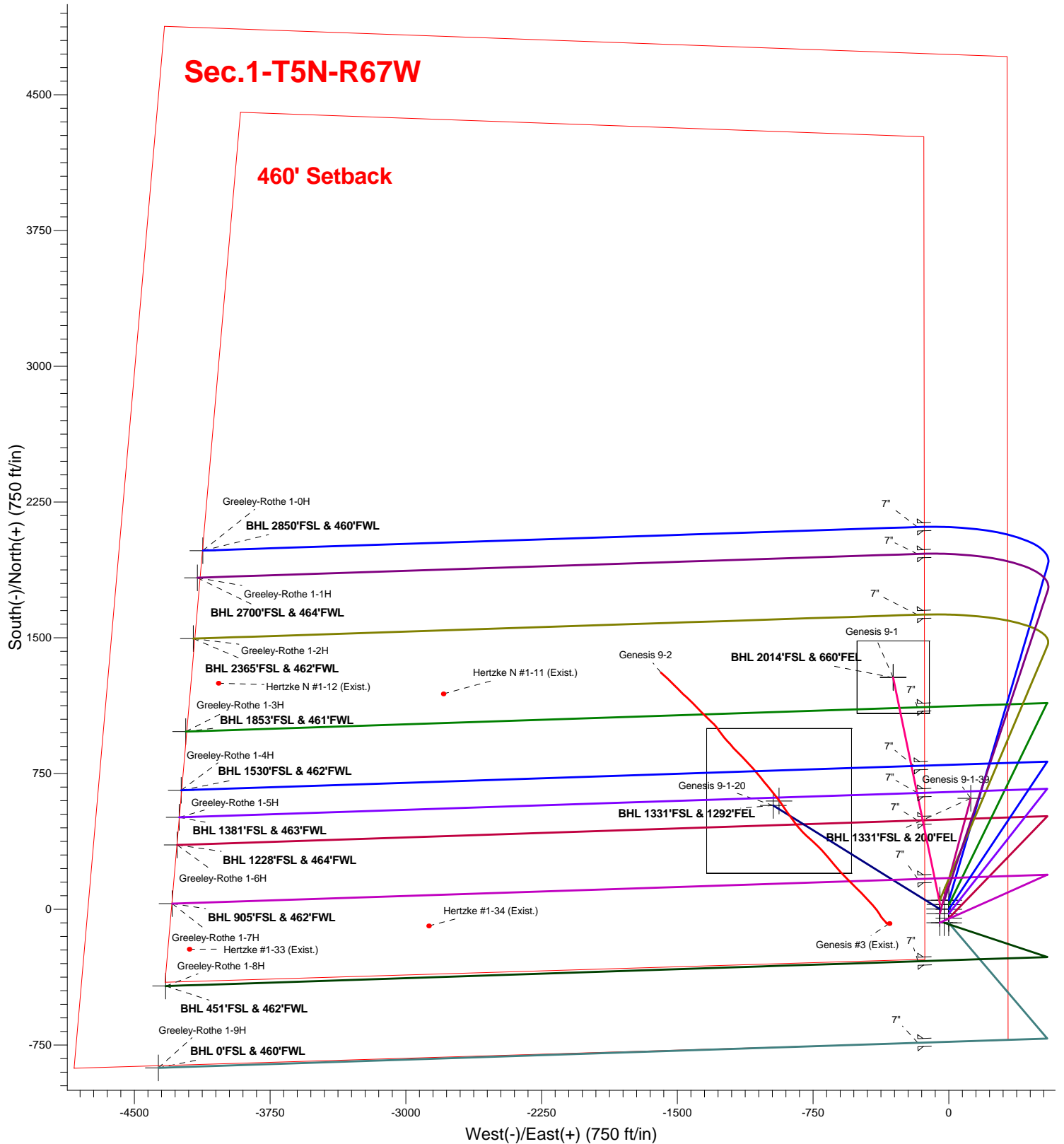
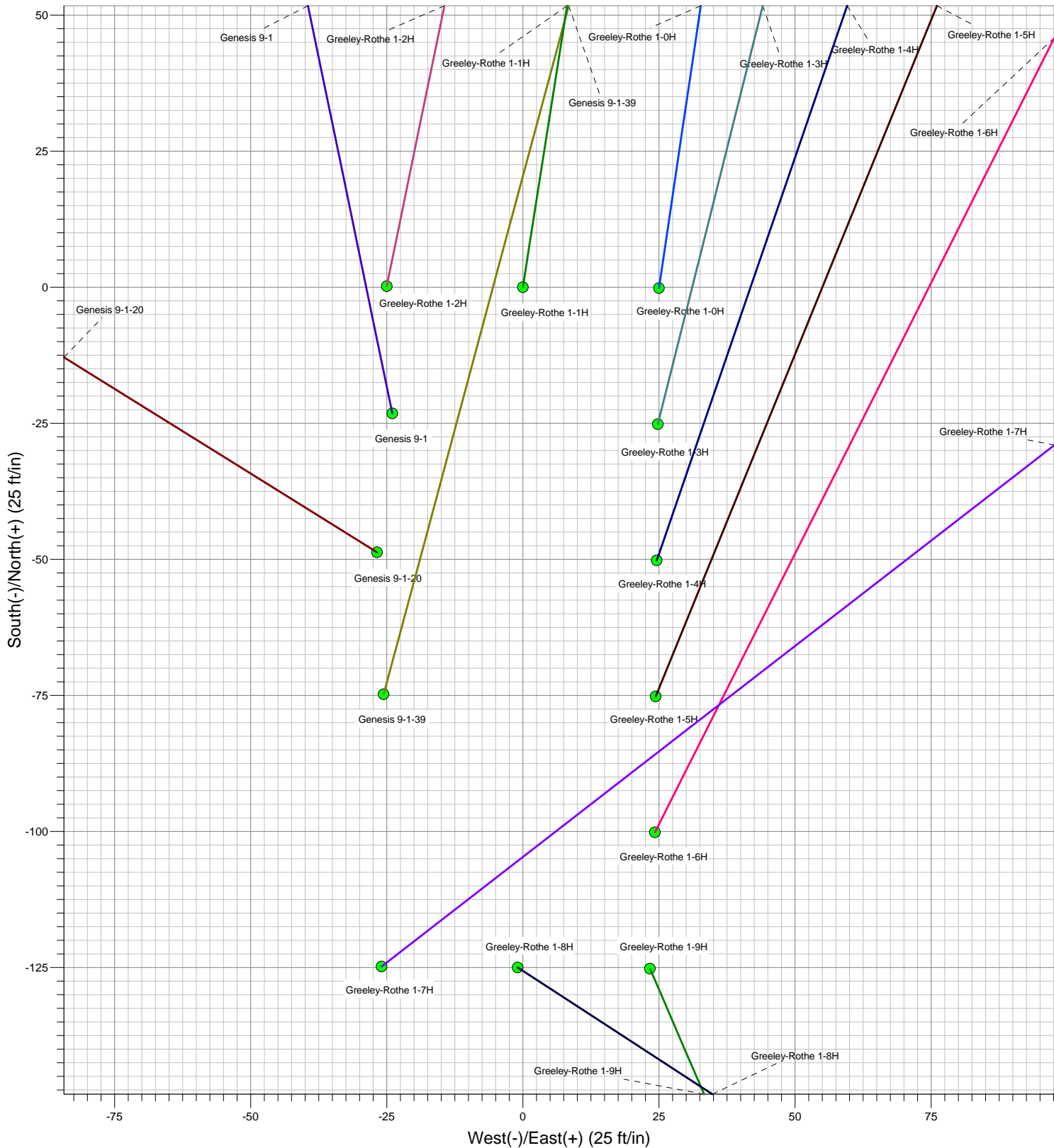


Sec.1-T5N-R67W

460' Setback



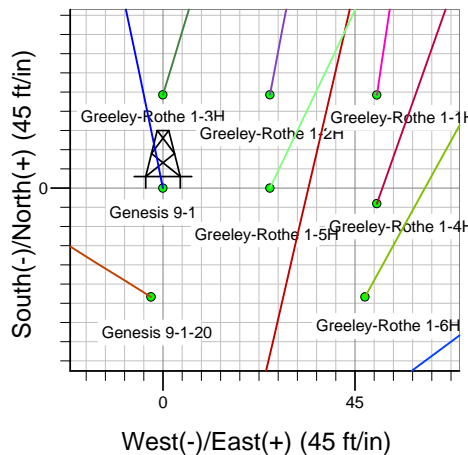
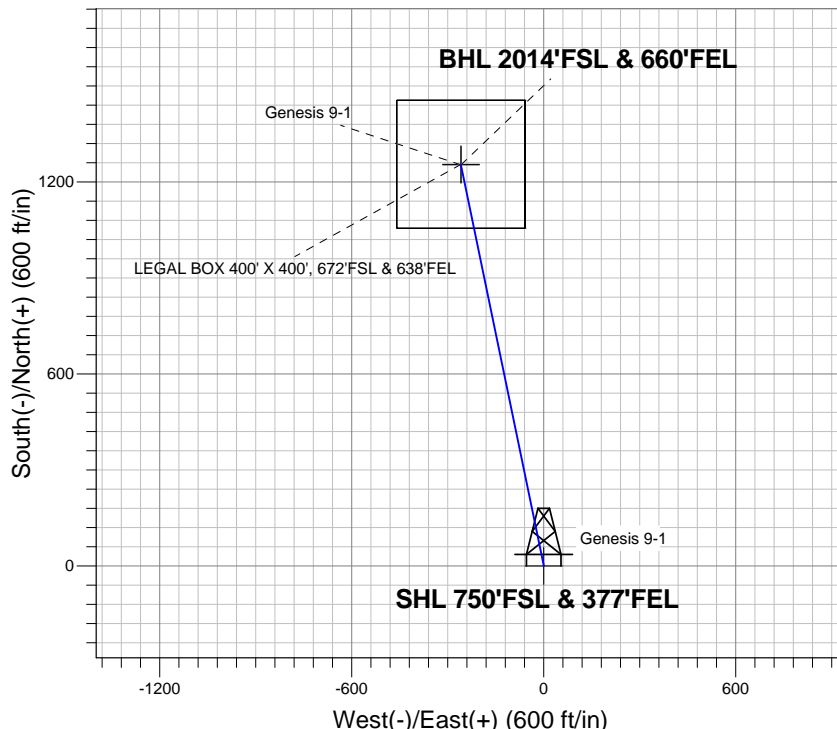
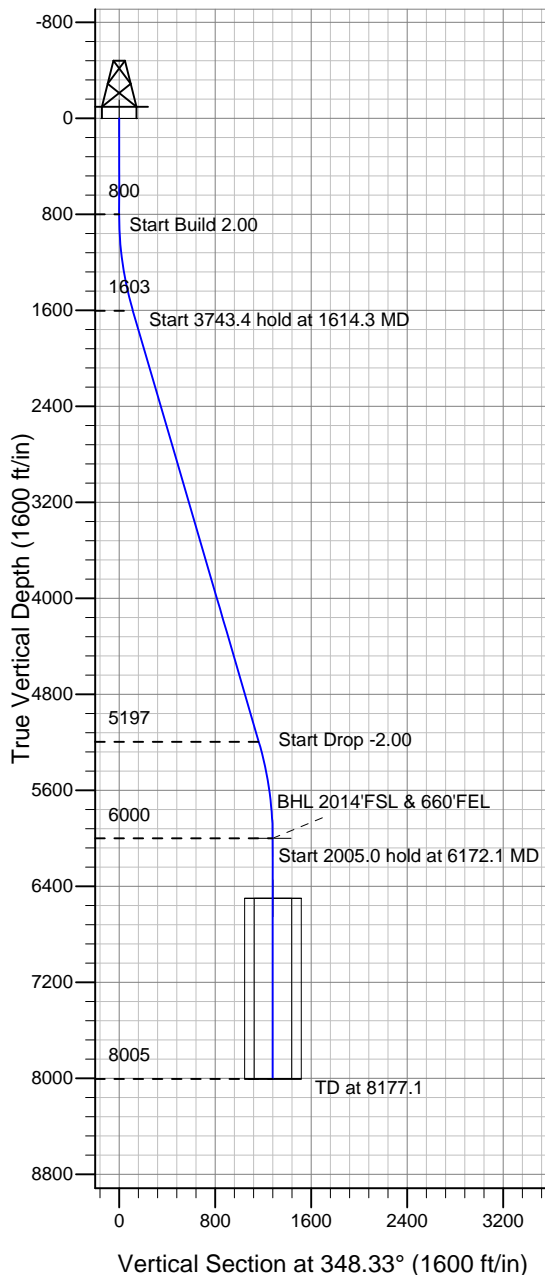


Well Name: **Genesis 9-1**

Surface Location: Greeley-Rothe Pad Sec.1-T5N-R67W
 North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone
 Ground Elevation: 4876.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1397858.21	3185480.02	40.423610	-104.833790	
RKB - 15' WELL @ 4891.0ft (RKB - 15')						

KP KAUFFMAN



Genesis 9-1
 Plan #2 (5-2-14)
 14:16, May 09 2014



Azimuths to True North
 Magnetic North: 8.51°

Magnetic Field
 Strength: 52831.4snT
 Dip Angle: 66.96°
 Date: 5/6/2014
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
SHL 750'FSL & 377'FEL	1.0	0.0	0.0	40.423610	-104.833790	Point
BHL 2014'FSL & 660'FEL	6000.0	1253.2	-258.9	40.427050	-104.834720	Point
LEGAL BOX 400' X 400', 672'FSL & 638'FEL	6500.0	1255.3	-258.9	40.427056	-104.834720	Rectangle (Sides: L400.0 W400.0)

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1614.3	16.29	348.33	1603.4	112.6	-23.3	2.00	348.33	115.0	
4	5357.7	16.29	348.33	5196.6	1140.7	-235.7	0.00	0.00	1164.8	
5	6172.1	0.00	0.00	6000.0	1253.2	-258.9	2.00	180.00	1279.7	BHL 2014'FSL & 660'FEL
6	8177.1	0.00	0.00	8005.0	1253.2	-258.9	0.00	0.00	1279.7	



KP KAUFFMAN

SEC.1-T5N-R67W

Greeley-Rothe Pad Sec.1-T5N-R67W

Genesis 9-1

Wellbore #1

Plan: Plan #2 (5-2-14)

Standard Planning Report

09 May, 2014

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,614.3	16.29	348.33	1,603.4	112.6	-23.3	2.00	2.00	0.00	348.33	
5,357.7	16.29	348.33	5,196.6	1,140.7	-235.7	0.00	0.00	0.00	0.00	
6,172.1	0.00	0.00	6,000.0	1,253.2	-258.9	2.00	-2.00	0.00	180.00	BHL 2014'FSL & 66'
8,177.1	0.00	0.00	8,005.0	1,253.2	-258.9	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Genesis 9-1
Company:	KP KAUFFMAN	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Project:	SEC.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	North Reference:	True
Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (5-2-14)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL 750'FSL & 377'FEL									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	2.00	348.33	900.0	1.7	-0.4	1.7	2.00	2.00	0.00
1,000.0	4.00	348.33	999.8	6.8	-1.4	7.0	2.00	2.00	0.00
1,100.0	6.00	348.33	1,099.5	15.4	-3.2	15.7	2.00	2.00	0.00
1,200.0	8.00	348.33	1,198.7	27.3	-5.6	27.9	2.00	2.00	0.00
1,300.0	10.00	348.33	1,297.5	42.6	-8.8	43.5	2.00	2.00	0.00
1,400.0	12.00	348.33	1,395.6	61.3	-12.7	62.6	2.00	2.00	0.00
1,500.0	14.00	348.33	1,493.1	83.3	-17.2	85.1	2.00	2.00	0.00
1,600.0	16.00	348.33	1,589.6	108.7	-22.5	111.0	2.00	2.00	0.00
1,614.3	16.29	348.33	1,603.4	112.6	-23.3	115.0	2.00	2.00	0.00
1,700.0	16.29	348.33	1,685.6	136.1	-28.1	139.0	0.00	0.00	0.00
1,800.0	16.29	348.33	1,781.6	163.6	-33.8	167.0	0.00	0.00	0.00
1,900.0	16.29	348.33	1,877.6	191.0	-39.5	195.1	0.00	0.00	0.00
2,000.0	16.29	348.33	1,973.6	218.5	-45.1	223.1	0.00	0.00	0.00
2,100.0	16.29	348.33	2,069.6	246.0	-50.8	251.2	0.00	0.00	0.00
2,200.0	16.29	348.33	2,165.6	273.4	-56.5	279.2	0.00	0.00	0.00
2,300.0	16.29	348.33	2,261.6	300.9	-62.2	307.2	0.00	0.00	0.00
2,400.0	16.29	348.33	2,357.6	328.4	-67.8	335.3	0.00	0.00	0.00
2,500.0	16.29	348.33	2,453.5	355.8	-73.5	363.3	0.00	0.00	0.00
2,600.0	16.29	348.33	2,549.5	383.3	-79.2	391.4	0.00	0.00	0.00
2,700.0	16.29	348.33	2,645.5	410.8	-84.9	419.4	0.00	0.00	0.00
2,800.0	16.29	348.33	2,741.5	438.2	-90.5	447.5	0.00	0.00	0.00
2,900.0	16.29	348.33	2,837.5	465.7	-96.2	475.5	0.00	0.00	0.00
3,000.0	16.29	348.33	2,933.5	493.1	-101.9	503.6	0.00	0.00	0.00
3,100.0	16.29	348.33	3,029.5	520.6	-107.6	531.6	0.00	0.00	0.00
3,200.0	16.29	348.33	3,125.4	548.1	-113.2	559.6	0.00	0.00	0.00
3,300.0	16.29	348.33	3,221.4	575.5	-118.9	587.7	0.00	0.00	0.00
3,400.0	16.29	348.33	3,317.4	603.0	-124.6	615.7	0.00	0.00	0.00
3,500.0	16.29	348.33	3,413.4	630.5	-130.3	643.8	0.00	0.00	0.00
3,600.0	16.29	348.33	3,509.4	657.9	-135.9	671.8	0.00	0.00	0.00
3,700.0	16.29	348.33	3,605.4	685.4	-141.6	699.9	0.00	0.00	0.00
3,800.0	16.29	348.33	3,701.4	712.9	-147.3	727.9	0.00	0.00	0.00
3,900.0	16.29	348.33	3,797.4	740.3	-152.9	756.0	0.00	0.00	0.00
4,000.0	16.29	348.33	3,893.3	767.8	-158.6	784.0	0.00	0.00	0.00
4,100.0	16.29	348.33	3,989.3	795.2	-164.3	812.0	0.00	0.00	0.00
4,200.0	16.29	348.33	4,085.3	822.7	-170.0	840.1	0.00	0.00	0.00
4,300.0	16.29	348.33	4,181.3	850.2	-175.6	868.1	0.00	0.00	0.00
4,400.0	16.29	348.33	4,277.3	877.6	-181.3	896.2	0.00	0.00	0.00
4,500.0	16.29	348.33	4,373.3	905.1	-187.0	924.2	0.00	0.00	0.00
4,600.0	16.29	348.33	4,469.3	932.6	-192.7	952.3	0.00	0.00	0.00
4,700.0	16.29	348.33	4,565.3	960.0	-198.3	980.3	0.00	0.00	0.00
4,800.0	16.29	348.33	4,661.2	987.5	-204.0	1,008.3	0.00	0.00	0.00
4,900.0	16.29	348.33	4,757.2	1,015.0	-209.7	1,036.4	0.00	0.00	0.00
5,000.0	16.29	348.33	4,853.2	1,042.4	-215.4	1,064.4	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Genesis 9-1
Company:	KP KAUFFMAN	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Project:	SEC.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	North Reference:	True
Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #2 (5-2-14)		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
5,100.0	16.29	348.33	4,949.2	1,069.9	-221.0	1,092.5	0.00	0.00	0.00	
5,200.0	16.29	348.33	5,045.2	1,097.3	-226.7	1,120.5	0.00	0.00	0.00	
5,300.0	16.29	348.33	5,141.2	1,124.8	-232.4	1,148.6	0.00	0.00	0.00	
5,357.7	16.29	348.33	5,196.6	1,140.7	-235.7	1,164.8	0.00	0.00	0.00	
5,400.0	15.44	348.33	5,237.3	1,152.0	-238.0	1,176.3	2.00	-2.00	0.00	
5,500.0	13.44	348.33	5,334.1	1,176.4	-243.0	1,201.2	2.00	-2.00	0.00	
5,600.0	11.44	348.33	5,431.7	1,197.5	-247.4	1,222.8	2.00	-2.00	0.00	
5,700.0	9.44	348.33	5,530.1	1,215.2	-251.1	1,240.9	2.00	-2.00	0.00	
5,800.0	7.44	348.33	5,629.0	1,229.6	-254.0	1,255.6	2.00	-2.00	0.00	
5,900.0	5.44	348.33	5,728.3	1,240.6	-256.3	1,266.8	2.00	-2.00	0.00	
6,000.0	3.44	348.33	5,828.0	1,248.2	-257.9	1,274.6	2.00	-2.00	0.00	
6,100.0	1.44	348.33	5,927.9	1,252.4	-258.7	1,278.8	2.00	-2.00	0.00	
6,172.1	0.00	0.00	6,000.0	1,253.2	-258.9	1,279.7	2.00	-2.00	0.00	
BHL 2014'FSL & 660'FEL										
6,200.0	0.00	0.00	6,027.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,127.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,227.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,327.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,427.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
6,672.1	0.00	0.00	6,500.0	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
LEGAL BOX 400' X 400', 672'FSL & 638'FEL										
6,700.0	0.00	0.00	6,527.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,627.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,727.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,827.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
7,100.0	0.00	0.00	6,927.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,027.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,127.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,227.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,327.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,427.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,527.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,627.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,727.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,827.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
8,100.0	0.00	0.00	7,927.9	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	
8,177.1	0.00	0.00	8,005.0	1,253.2	-258.9	1,279.7	0.00	0.00	0.00	



KP KAUFFMAN

SEC.1-T5N-R67W

Greeley-Rothe Pad Sec.1-T5N-R67W

Genesis 9-1

Wellbore #1

Plan #2 (5-2-14)

Anticollision Report

09 May, 2014

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Reference	Plan #2 (5-2-14)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 5/9/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	8,177.1	Plan #2 (5-2-14) (Wellbore #1)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Genesis 9-1 Pad Sec.1-T5N-R67W						
Genesis #3 (Exist.) - Wellbore #1 - Wellbore #1	800.0	804.0	299.3	281.6	16.849	CC
Genesis #3 (Exist.) - Wellbore #1 - Wellbore #1	1,100.0	1,103.5	302.2	277.8	12.369	ES
Genesis #3 (Exist.) - Wellbore #1 - Wellbore #1	2,100.0	2,073.6	419.8	373.3	9.036	SF
Genesis 9-2 - Wellbore #1 - Wellbore #1	182.6	184.6	312.9	312.3	516.208	CC
Genesis 9-2 - Wellbore #1 - Wellbore #1	200.0	201.6	313.0	312.3	459.524	ES
Genesis 9-2 - Wellbore #1 - Wellbore #1	5,600.0	5,504.9	992.4	941.4	19.474	SF
Greeley-Rothe Pad Sec.1-T5N-R67W						
Genesis 9-1-20 - Wellbore #1 - Plan #1 (5-02-14)	800.0	800.0	25.7	22.3	7.611	CC, ES
Genesis 9-1-20 - Wellbore #1 - Plan #1 (5-02-14)	900.0	900.0	27.3	23.5	7.152	SF
Genesis 9-1-39 - Wellbore #1 - Plan #1 (5-02-14)	800.0	800.0	55.7	52.3	16.511	CC, ES
Genesis 9-1-39 - Wellbore #1 - Plan #1 (5-02-14)	1,000.0	999.8	62.5	58.2	14.646	SF
Greeley-Rothe 1-1H - Wellbore #1 - Plan #1 (5-02-14)	200.0	199.0	54.7	54.0	81.347	CC, ES
Greeley-Rothe 1-1H - Wellbore #1 - Plan #1 (5-02-14)	7,558.5	7,991.1	595.2	553.0	14.112	SF
Greeley-Rothe 1-2H - Wellbore #1 - Plan #1 (5-02-14)	400.0	399.0	33.2	31.7	21.163	CC, ES
Greeley-Rothe 1-2H - Wellbore #1 - Plan #1 (5-02-14)	7,445.1	7,807.7	340.4	299.6	8.331	SF
Greeley-Rothe 1-3H - Wellbore #1 - Plan #1 (5-02-14)	600.0	599.0	21.9	19.4	8.846	CC, ES
Greeley-Rothe 1-3H - Wellbore #1 - Plan #1 (5-02-14)	7,442.1	7,670.7	172.2	132.8	4.374	SF
Greeley-Rothe 1-4H - Wellbore #1 - Plan #1 (5-02-14)	800.0	800.0	50.2	46.9	14.904	CC, ES
Greeley-Rothe 1-4H - Wellbore #1 - Plan #1 (5-02-14)	1,100.0	1,099.4	56.6	51.9	11.996	SF
Greeley-Rothe 1-5H - Wellbore #1 - Plan #1 (5-02-14)	800.0	800.0	25.1	21.7	7.432	CC
Greeley-Rothe 1-5H - Wellbore #1 - Plan #1 (5-02-14)	900.0	900.0	25.5	21.6	6.668	ES
Greeley-Rothe 1-5H - Wellbore #1 - Plan #1 (5-02-14)	1,000.0	999.8	27.3	23.1	6.406	SF
Greeley-Rothe 1-6H - Wellbore #1 - Plan #1 (5-02-14)	800.0	800.0	53.8	50.4	15.948	CC, ES
Greeley-Rothe 1-6H - Wellbore #1 - Plan #1 (5-02-14)	1,000.0	999.8	58.5	54.2	13.708	SF
Greeley-Rothe 1-7H - Wellbore #1 - Plan #1 (5-02-14)	800.0	800.0	69.6	66.2	20.639	CC, ES
Greeley-Rothe 1-7H - Wellbore #1 - Plan #1 (5-02-14)	1,100.0	1,099.5	83.4	78.7	17.697	SF
Greeley-Rothe 1-8H - Wellbore #1 - Plan #1 (5-02-14)	800.0	801.0	90.0	86.6	26.668	CC, ES
Greeley-Rothe 1-8H - Wellbore #1 - Plan #1 (5-02-14)	1,100.0	1,100.5	104.8	100.1	22.239	SF
Greeley-Rothe 1-9H - Wellbore #1 - Plan #1 (5-02-14)	800.0	801.0	112.5	109.1	33.333	CC, ES
Greeley-Rothe 1-9H - Wellbore #1 - Plan #1 (5-02-14)	1,100.0	1,096.1	129.5	124.8	27.647	SF
Hertzke #1-33 (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Hertzke #1-34 (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Hertzke N #1-11 (Exist.) - Wellbore #1 - Wellbore #1						Out of range
Hertzke N #1-12 (Exist.) - Wellbore #1 - Wellbore #1						Out of range

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

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design													Genesis 9-1 Pad Sec.1-T5N-R67W - Genesis #3 (Exist.) - Wellbore #1 - Wellbore #1		Offset Site Error:		0.0 ft
Survey Program: 7800-UNKNOWN													Offset Well Error:		0.0 ft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
0.0	0.0	4.0	4.0	0.0	0.1	-110.67	-105.6	-280.1	299.3	299.3	0.08	3,732.472					
100.0	100.0	104.0	104.0	0.1	2.1	-110.67	-105.6	-280.1	299.3	297.2	2.19	136.526					
200.0	200.0	204.0	204.0	0.3	4.1	-110.67	-105.6	-280.1	299.3	294.9	4.42	67.766					
300.0	300.0	304.0	304.0	0.6	6.1	-110.67	-105.6	-280.1	299.3	292.7	6.64	45.068					
400.0	400.0	404.0	404.0	0.8	8.1	-110.67	-105.6	-280.1	299.3	290.5	8.87	33.760					
500.0	500.0	504.0	504.0	1.0	10.1	-110.67	-105.6	-280.1	299.3	288.3	11.09	26.988					
600.0	600.0	604.0	604.0	1.2	12.1	-110.67	-105.6	-280.1	299.3	286.0	13.32	22.479					
700.0	700.0	704.0	704.0	1.5	14.1	-110.67	-105.6	-280.1	299.3	283.8	15.54	19.261					
800.0	800.0	804.0	804.0	1.7	16.1	-110.67	-105.6	-280.1	299.3	281.6	17.77	16.849	CC				
900.0	900.0	904.0	904.0	1.9	18.1	-99.32	-105.6	-280.1	299.6	279.6	19.99	14.989					
1,000.0	999.8	1,003.8	1,003.8	2.1	20.1	-100.28	-105.6	-280.1	300.5	278.3	22.21	13.531					
1,100.0	1,099.5	1,103.5	1,103.5	2.4	22.1	-101.87	-105.6	-280.1	302.2	277.8	24.43	12.369	ES				
1,200.0	1,198.7	1,202.7	1,202.7	2.6	24.1	-104.04	-105.6	-280.1	304.9	278.3	26.66	11.439					
1,300.0	1,297.5	1,301.5	1,301.5	2.9	26.0	-106.74	-105.6	-280.1	309.1	280.3	28.89	10.702					
1,400.0	1,395.6	1,399.6	1,399.6	3.2	28.0	-109.90	-105.6	-280.1	315.3	284.1	31.12	10.130					
1,500.0	1,493.1	1,497.1	1,497.1	3.6	29.9	-113.40	-105.6	-280.1	323.7	290.4	33.34	9.711					
1,600.0	1,589.6	1,593.6	1,593.6	4.0	31.9	-117.15	-105.6	-280.1	335.1	299.6	35.52	9.434					
1,700.0	1,685.6	1,689.6	1,689.6	4.5	33.8	-121.09	-105.6	-280.1	349.2	311.5	37.73	9.255					
1,800.0	1,781.6	1,785.6	1,785.6	4.9	35.7	-124.77	-105.6	-280.1	364.9	324.9	39.93	9.137					
1,900.0	1,877.6	1,881.6	1,881.6	5.4	37.6	-128.14	-105.6	-280.1	382.0	339.9	42.12	9.069					
2,000.0	1,973.6	1,977.6	1,977.6	6.0	39.6	-131.23	-105.6	-280.1	400.3	356.0	44.29	9.038					
2,100.0	2,069.6	2,073.6	2,073.6	6.5	41.5	-134.05	-105.6	-280.1	419.8	373.3	46.45	9.036	SF				
2,200.0	2,165.6	2,169.6	2,169.6	7.0	43.4	-136.62	-105.6	-280.1	440.1	391.5	48.60	9.056					
2,300.0	2,261.6	2,265.6	2,265.6	7.6	45.3	-138.98	-105.6	-280.1	461.3	410.5	50.74	9.091					
2,400.0	2,357.6	2,361.6	2,361.6	8.1	47.2	-141.13	-105.6	-280.1	483.1	430.3	52.87	9.139					
2,500.0	2,453.5	2,457.5	2,457.5	8.6	49.2	-143.09	-105.6	-280.1	505.6	450.6	54.99	9.194					
2,600.0	2,549.5	2,553.5	2,553.5	9.2	51.1	-144.89	-105.6	-280.1	528.6	471.5	57.11	9.256					
2,700.0	2,645.5	2,649.5	2,649.5	9.7	53.0	-146.55	-105.6	-280.1	552.1	492.8	59.22	9.322					
2,800.0	2,741.5	2,745.5	2,745.5	10.3	54.9	-148.07	-105.6	-280.1	575.9	514.6	61.33	9.390					
2,900.0	2,837.5	2,841.5	2,841.5	10.9	56.8	-149.47	-105.6	-280.1	600.2	536.7	63.44	9.460					
3,000.0	2,933.5	2,937.5	2,937.5	11.4	58.7	-150.76	-105.6	-280.1	624.7	559.2	65.55	9.531					
3,100.0	3,029.5	3,033.5	3,033.5	12.0	60.7	-151.96	-105.6	-280.1	649.6	581.9	67.66	9.601					
3,200.0	3,125.4	3,129.4	3,129.4	12.5	62.6	-153.07	-105.6	-280.1	674.7	604.9	69.76	9.671					
3,300.0	3,221.4	3,225.4	3,225.4	13.1	64.5	-154.10	-105.6	-280.1	700.0	628.1	71.87	9.739					
3,400.0	3,317.4	3,321.4	3,321.4	13.7	66.4	-155.06	-105.6	-280.1	725.5	651.5	73.98	9.807					
3,500.0	3,413.4	3,417.4	3,417.4	14.2	68.3	-155.96	-105.6	-280.1	751.2	675.1	76.09	9.873					
3,600.0	3,509.4	3,513.4	3,513.4	14.8	70.3	-156.80	-105.6	-280.1	777.1	698.9	78.19	9.938					
3,700.0	3,605.4	3,609.4	3,609.4	15.3	72.2	-157.58	-105.6	-280.1	803.1	722.8	80.30	10.000					
3,800.0	3,701.4	3,705.4	3,705.4	15.9	74.1	-158.32	-105.6	-280.1	829.2	746.8	82.41	10.062					
3,900.0	3,797.4	3,801.4	3,801.4	16.5	76.0	-159.01	-105.6	-280.1	855.5	770.9	84.52	10.121					
4,000.0	3,893.3	3,897.3	3,897.3	17.0	77.9	-159.66	-105.6	-280.1	881.8	795.2	86.63	10.179					
4,100.0	3,989.3	3,993.3	3,993.3	17.6	79.9	-160.27	-105.6	-280.1	908.3	819.6	88.75	10.235					
4,200.0	4,085.3	4,089.3	4,089.3	18.2	81.8	-160.85	-105.6	-280.1	934.9	844.0	90.86	10.289					
4,300.0	4,181.3	4,185.3	4,185.3	18.7	83.7	-161.39	-105.6	-280.1	961.5	868.5	92.97	10.342					
4,400.0	4,277.3	4,281.3	4,281.3	19.3	85.6	-161.91	-105.6	-280.1	988.2	893.1	95.09	10.393					

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 78-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	2.0	2.0	0.0	0.0	-109.70	-105.7	-295.1	313.5					
100.0	100.0	103.3	103.3	0.1	0.1	-109.82	-106.2	-294.6	313.1	312.9	0.25	1,238.023		
182.6	182.6	184.6	184.6	0.3	0.3	-109.76	-105.8	-294.5	312.9	312.3	0.61	516.208 CC		
200.0	200.0	201.6	201.5	0.3	0.3	-109.71	-105.5	-294.6	313.0	312.3	0.68	459.524 ES		
300.0	300.0	297.6	297.5	0.6	0.6	-109.09	-102.5	-296.4	313.6	312.5	1.12	281.002		
400.0	400.0	392.1	391.8	0.8	0.8	-108.06	-97.9	-300.3	316.0	314.4	1.56	202.157		
500.0	500.0	487.1	486.4	1.0	1.0	-106.53	-90.9	-306.4	320.0	318.0	2.03	157.754		
600.0	600.0	584.2	582.8	1.2	1.3	-104.65	-82.2	-314.4	325.6	323.1	2.51	129.549		
700.0	700.0	685.0	682.7	1.5	1.6	-102.61	-72.3	-323.0	331.5	328.5	3.02	109.908		
800.0	800.0	785.0	781.4	1.7	2.0	-100.05	-58.8	-331.5	337.3	333.7	3.53	95.454		
900.0	900.0	875.3	869.9	1.9	2.3	-85.76	-43.8	-340.7	344.8	340.7	4.12	83.628		
1,000.0	999.8	961.8	954.1	2.1	2.7	-83.44	-27.8	-352.1	355.6	350.9	4.68	75.985		
1,100.0	1,099.5	1,049.1	1,038.6	2.4	3.1	-81.49	-11.0	-366.8	370.0	364.7	5.26	70.349		
1,200.0	1,198.7	1,144.9	1,130.7	2.6	3.6	-79.80	8.5	-384.5	385.7	379.8	5.91	65.319		
1,300.0	1,297.5	1,245.2	1,227.0	2.9	4.1	-78.57	29.6	-403.2	401.2	394.6	6.58	60.990		
1,400.0	1,395.6	1,340.6	1,318.6	3.2	4.6	-77.99	49.2	-420.8	415.9	408.6	7.27	57.219		
1,500.0	1,493.1	1,434.3	1,408.5	3.6	5.1	-77.92	67.9	-439.6	431.4	423.4	8.01	53.871		
1,600.0	1,589.6	1,536.8	1,506.9	4.0	5.6	-78.39	87.9	-460.0	446.2	437.3	8.86	50.374		
1,700.0	1,685.6	1,636.4	1,602.8	4.5	6.1	-79.39	106.8	-479.4	460.1	450.3	9.75	47.194		
1,800.0	1,781.6	1,738.4	1,701.1	4.9	6.6	-80.45	125.8	-498.8	473.8	463.1	10.69	44.335		
1,900.0	1,877.6	1,838.0	1,797.2	5.4	7.1	-81.41	144.5	-517.0	486.9	475.2	11.65	41.806		
2,000.0	1,973.6	1,933.2	1,888.8	6.0	7.6	-82.17	163.2	-535.1	500.6	488.0	12.61	39.694		
2,100.0	2,069.6	2,036.3	1,987.9	6.5	8.2	-82.91	183.9	-554.5	514.4	500.8	13.64	37.721		
2,200.0	2,165.6	2,144.1	2,091.7	7.0	8.7	-83.65	205.5	-573.6	527.0	512.4	14.69	35.879		
2,300.0	2,261.6	2,241.9	2,186.1	7.6	9.3	-84.27	225.6	-589.8	538.6	522.9	15.70	34.299		
2,400.0	2,357.6	2,336.5	2,277.3	8.1	9.7	-84.86	244.7	-606.5	551.3	534.6	16.71	32.985		
2,500.0	2,453.5	2,438.0	2,375.0	8.6	10.3	-85.43	265.4	-624.4	564.0	546.3	17.77	31.746		
2,600.0	2,549.5	2,536.3	2,469.6	9.2	10.8	-85.94	285.7	-641.6	576.6	557.8	18.81	30.657		
2,700.0	2,645.5	2,625.5	2,555.4	9.7	11.3	-86.40	303.9	-657.8	590.0	570.2	19.81	29.782		
2,800.0	2,741.5	2,712.9	2,639.3	10.3	11.8	-86.85	321.2	-675.5	605.6	584.8	20.81	29.102		
2,900.0	2,837.5	2,812.5	2,734.8	10.9	12.3	-87.36	340.5	-696.3	621.9	600.0	21.87	28.434		
3,000.0	2,933.5	2,915.3	2,833.5	11.4	12.9	-87.91	360.0	-717.2	637.8	614.9	22.94	27.803		
3,100.0	3,029.5	3,015.0	2,929.4	12.0	13.4	-88.46	378.5	-737.0	653.3	629.3	24.00	27.220		
3,200.0	3,125.4	3,117.8	3,028.4	12.5	14.0	-89.00	397.7	-757.3	668.7	643.7	25.08	26.667		
3,300.0	3,221.4	3,231.3	3,137.7	13.1	14.6	-89.50	420.1	-778.0	682.6	656.4	26.21	26.038		
3,400.0	3,317.4	3,340.9	3,243.2	13.7	15.1	-89.87	443.2	-796.3	694.6	667.3	27.34	25.411		
3,500.0	3,413.4	3,440.6	3,339.4	14.2	15.7	-90.19	464.4	-812.2	706.0	677.6	28.41	24.852		
3,600.0	3,509.4	3,542.8	3,438.0	14.8	16.2	-90.53	485.9	-828.3	717.1	687.7	29.50	24.312		
3,700.0	3,605.4	3,639.6	3,531.0	15.3	16.7	-90.72	507.9	-843.5	728.0	697.5	30.57	23.812		
3,800.0	3,701.4	3,730.6	3,617.7	15.9	17.2	-90.72	530.4	-859.2	739.9	708.3	31.63	23.392		
3,900.0	3,797.4	3,828.7	3,710.7	16.5	17.8	-90.59	556.0	-877.1	752.4	719.7	32.76	22.971		
4,000.0	3,893.3	3,917.5	3,794.7	17.0	18.4	-90.43	579.8	-893.9	765.5	731.7	33.83	22.628		
4,100.0	3,989.3	4,008.8	3,880.6	17.6	19.0	-90.25	604.1	-912.6	780.2	745.3	34.92	22.344		
4,200.0	4,085.3	4,113.1	3,979.2	18.2	19.7	-90.13	630.9	-933.6	794.7	758.7	36.07	22.031		
4,300.0	4,181.3	4,207.4	4,068.9	18.7	20.2	-90.14	653.5	-952.2	809.3	772.1	37.15	21.784		
4,400.0	4,277.3	4,307.5	4,164.3	19.3	20.8	-90.25	676.2	-972.1	824.1	785.8	38.27	21.536		
4,500.0	4,373.3	4,409.6	4,261.4	19.9	21.4	-90.27	700.5	-992.2	838.5	799.1	39.39	21.288		
4,600.0	4,469.3	4,511.0	4,357.9	20.4	22.0	-90.30	724.8	-1,011.9	852.7	812.2	40.51	21.047		
4,700.0	4,565.3	4,613.0	4,455.1	21.0	22.6	-90.37	748.6	-1,031.1	866.5	824.9	41.63	20.813		
4,800.0	4,661.2	4,705.8	4,544.1	21.6	23.1	-90.54	768.8	-1,048.6	880.5	837.8	42.69	20.627		
4,900.0	4,757.2	4,801.2	4,635.8	22.1	23.7	-90.81	787.7	-1,066.7	895.2	851.4	43.75	20.459		
5,000.0	4,853.2	4,897.8	4,728.8	22.7	24.2	-91.11	806.4	-1,085.1	910.0	865.2	44.82	20.302		

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

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design Genesis 9-1 Pad Sec.1-T5N-R67W - Genesis 9-2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 ft
Survey Program: 78-MWD												Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,100.0	4,949.2	4,989.9	4,817.2	23.3	24.7	-91.37	824.5	-1,103.2	925.4	879.5	45.87	20.174	
5,200.0	5,045.2	5,102.0	4,925.0	23.8	25.3	-91.68	846.3	-1,125.0	940.6	893.6	47.02	20.007	
5,300.0	5,141.2	5,220.7	5,039.8	24.4	25.9	-92.10	868.5	-1,145.5	954.0	905.9	48.19	19.799	
5,400.0	5,237.3	5,318.6	5,134.6	24.9	26.4	-92.52	887.0	-1,161.1	966.1	916.9	49.23	19.624	
5,500.0	5,334.1	5,407.2	5,220.3	25.3	26.8	-92.90	903.8	-1,176.2	979.1	929.0	50.10	19.542	
5,600.0	5,431.7	5,504.9	5,314.3	25.7	27.3	-93.01	923.6	-1,193.8	992.4	941.4	50.96	19.474 SF	

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-173.77	-25.5	-2.8	25.7					
100.0	100.0	100.0	100.0	0.1	0.1	-173.77	-25.5	-2.8	25.7	25.4	0.22	114.170		
200.0	200.0	200.0	200.0	0.3	0.3	-173.77	-25.5	-2.8	25.7	25.0	0.67	38.057		
300.0	300.0	300.0	300.0	0.6	0.6	-173.77	-25.5	-2.8	25.7	24.5	1.12	22.834		
400.0	400.0	400.0	400.0	0.8	0.8	-173.77	-25.5	-2.8	25.7	24.1	1.57	16.310		
500.0	500.0	500.0	500.0	1.0	1.0	-173.77	-25.5	-2.8	25.7	23.6	2.02	12.686		
600.0	600.0	600.0	600.0	1.2	1.2	-173.77	-25.5	-2.8	25.7	23.2	2.47	10.379		
700.0	700.0	700.0	700.0	1.5	1.5	-173.77	-25.5	-2.8	25.7	22.7	2.92	8.782		
800.0	800.0	800.0	800.0	1.7	1.7	-173.77	-25.5	-2.8	25.7	22.3	3.37	7.611 CC, ES		
900.0	900.0	900.0	900.0	1.9	1.9	-163.21	-25.5	-2.8	27.3	23.5	3.82	7.152 SF		
1,000.0	999.8	999.8	999.8	2.1	2.1	-165.86	-25.5	-2.8	32.4	28.1	4.27	7.583		
1,100.0	1,099.5	1,100.2	1,100.2	2.4	2.4	-166.71	-24.6	-4.3	40.0	35.3	4.71	8.489		
1,200.0	1,198.7	1,200.5	1,200.3	2.6	2.6	-164.65	-21.8	-8.7	49.2	44.1	5.15	9.568		
1,300.0	1,297.5	1,300.7	1,300.1	2.9	2.8	-161.18	-17.2	-16.2	60.3	54.7	5.60	10.777		
1,400.0	1,395.6	1,400.6	1,399.3	3.2	3.1	-157.22	-10.7	-26.5	73.5	67.4	6.08	12.087		
1,500.0	1,493.1	1,500.2	1,497.7	3.6	3.3	-153.25	-2.5	-39.8	88.9	82.2	6.61	13.448		
1,600.0	1,589.6	1,599.3	1,595.0	4.0	3.6	-149.50	7.5	-55.8	106.7	99.5	7.21	14.800		
1,700.0	1,685.6	1,698.1	1,691.2	4.5	4.0	-145.95	19.2	-74.6	125.9	118.0	7.92	15.894		
1,800.0	1,781.6	1,796.0	1,786.1	4.9	4.4	-142.60	31.9	-94.9	145.3	136.6	8.71	16.670		
1,900.0	1,877.6	1,893.8	1,880.9	5.4	4.8	-140.03	44.5	-115.3	165.0	155.4	9.55	17.276		
2,000.0	1,973.6	1,991.6	1,975.7	6.0	5.2	-138.02	57.2	-135.6	185.0	174.6	10.42	17.754		
2,100.0	2,069.6	2,089.4	2,070.6	6.5	5.7	-136.39	69.8	-155.9	205.1	193.8	11.31	18.138		
2,200.0	2,165.6	2,187.2	2,165.4	7.0	6.2	-135.06	82.5	-176.2	225.4	213.2	12.22	18.448		
2,300.0	2,261.6	2,285.0	2,260.2	7.6	6.6	-133.95	95.1	-196.5	245.8	232.6	13.14	18.703		
2,400.0	2,357.6	2,382.7	2,355.0	8.1	7.1	-133.00	107.8	-216.9	266.2	252.1	14.08	18.914		
2,500.0	2,453.5	2,480.5	2,449.9	8.6	7.6	-132.19	120.4	-237.2	286.7	271.7	15.02	19.091		
2,600.0	2,549.5	2,578.3	2,544.7	9.2	8.1	-131.49	133.1	-257.5	307.3	291.3	15.97	19.241		
2,700.0	2,645.5	2,676.1	2,639.5	9.7	8.5	-130.88	145.7	-277.8	327.9	311.0	16.93	19.370		
2,800.0	2,741.5	2,773.9	2,734.4	10.3	9.0	-130.34	158.4	-298.1	348.5	330.6	17.89	19.480		
2,900.0	2,837.5	2,871.7	2,829.2	10.9	9.5	-129.86	171.0	-318.4	369.2	350.3	18.86	19.577		
3,000.0	2,933.5	2,969.5	2,924.0	11.4	10.0	-129.43	183.7	-338.8	389.8	370.0	19.83	19.661		
3,100.0	3,029.5	3,067.3	3,018.8	12.0	10.5	-129.05	196.3	-359.1	410.5	389.7	20.80	19.735		
3,200.0	3,125.4	3,165.1	3,113.7	12.5	11.0	-128.70	209.0	-379.4	431.3	409.5	21.78	19.801		
3,300.0	3,221.4	3,262.9	3,208.5	13.1	11.5	-128.38	221.6	-399.7	452.0	429.2	22.76	19.860		
3,400.0	3,317.4	3,360.7	3,303.3	13.7	12.0	-128.09	234.3	-420.0	472.7	449.0	23.74	19.912		
3,500.0	3,413.4	3,458.5	3,398.1	14.2	12.5	-127.83	246.9	-440.3	493.5	468.7	24.72	19.960		
3,600.0	3,509.4	3,556.3	3,493.0	14.8	13.0	-127.58	259.6	-460.7	514.2	488.5	25.71	20.003		
3,700.0	3,605.4	3,654.1	3,587.8	15.3	13.5	-127.36	272.2	-481.0	535.0	508.3	26.69	20.042		
3,800.0	3,701.4	3,751.9	3,682.6	15.9	14.0	-127.15	284.9	-501.3	555.8	528.1	27.68	20.077		
3,900.0	3,797.4	3,849.7	3,777.4	16.5	14.5	-126.96	297.5	-521.6	576.5	547.9	28.67	20.109		
4,000.0	3,893.3	3,947.5	3,872.3	17.0	15.0	-126.78	310.2	-541.9	597.3	567.7	29.66	20.139		
4,100.0	3,989.3	4,045.3	3,967.1	17.6	15.5	-126.61	322.8	-562.3	618.1	587.5	30.65	20.166		
4,200.0	4,085.3	4,143.1	4,061.9	18.2	16.0	-126.46	335.4	-582.6	638.9	607.3	31.64	20.192		
4,300.0	4,181.3	4,240.9	4,156.7	18.7	16.5	-126.31	348.1	-602.9	659.7	627.1	32.63	20.215		
4,400.0	4,277.3	4,338.7	4,251.6	19.3	17.1	-126.17	360.7	-623.2	680.5	646.9	33.63	20.237		
4,500.0	4,373.3	4,436.5	4,346.4	19.9	17.6	-126.04	373.4	-643.5	701.3	666.7	34.62	20.257		
4,600.0	4,469.3	4,534.3	4,441.2	20.4	18.1	-125.92	386.0	-663.8	722.1	686.5	35.62	20.276		
4,700.0	4,565.3	4,632.1	4,536.0	21.0	18.6	-125.80	398.7	-684.2	742.9	706.3	36.61	20.293		
4,800.0	4,661.2	4,729.9	4,630.9	21.6	19.1	-125.70	411.3	-704.5	763.8	726.2	37.61	20.310		
4,900.0	4,757.2	4,827.7	4,725.7	22.1	19.6	-125.59	424.0	-724.8	784.6	746.0	38.60	20.325		
5,000.0	4,853.2	4,925.5	4,820.5	22.7	20.1	-125.49	436.6	-745.1	805.4	765.8	39.60	20.339		
5,100.0	4,949.2	5,023.3	4,915.3	23.3	20.6	-125.40	449.3	-765.4	826.2	785.6	40.59	20.353		

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

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design		Greeley-Rothe Pad Sec.1-T5N-R67W - Genesis 9-1-20 - Wellbore #1 - Plan #1 (5-02-14)											Offset Site Error:		0.0 ft
Survey Program: 0-MWD													Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5,200.0	5,045.2	5,121.1	5,010.2	23.8	21.1	-125.31	461.9	-785.7	847.0	805.5	41.59	20.366			
5,300.0	5,141.2	5,218.9	5,105.0	24.4	21.6	-125.23	474.6	-806.1	867.9	825.3	42.59	20.378			
5,400.0	5,237.3	5,316.8	5,199.9	24.9	22.1	-125.28	487.2	-826.4	888.5	844.9	43.58	20.386			
5,500.0	5,334.1	5,414.9	5,295.0	25.3	22.7	-125.35	499.9	-846.8	907.5	863.0	44.51	20.391			
5,600.0	5,431.7	5,519.1	5,396.4	25.7	23.1	-125.29	512.5	-867.0	924.3	879.0	45.34	20.387			
5,700.0	5,530.1	5,624.2	5,499.6	26.0	23.5	-125.25	523.2	-884.2	938.4	892.4	46.03	20.387			
5,800.0	5,629.0	5,730.1	5,604.1	26.3	23.8	-125.22	532.0	-898.2	949.9	903.3	46.63	20.371			
5,900.0	5,728.3	5,836.4	5,709.7	26.5	24.0	-125.20	538.7	-909.0	958.7	911.6	47.13	20.341			
6,000.0	5,828.0	5,943.1	5,816.0	26.7	24.2	-125.18	543.4	-916.5	964.8	917.2	47.53	20.296			
6,100.0	5,927.9	6,050.1	5,922.9	26.9	24.4	-125.17	545.9	-920.7	968.1	920.3	47.84	20.236			
6,200.0	6,027.9	6,155.2	6,027.9	27.0	24.5	-136.84	546.5	-921.6	968.8	920.7	48.06	20.157			
6,300.0	6,127.9	6,255.2	6,127.9	27.1	24.6	-136.84	546.5	-921.6	968.8	920.5	48.30	20.059			
6,400.0	6,227.9	6,355.2	6,227.9	27.2	24.7	-136.84	546.5	-921.6	968.8	920.3	48.54	19.959			
6,500.0	6,327.9	6,455.2	6,327.9	27.3	24.9	-136.84	546.5	-921.6	968.8	920.0	48.78	19.859			
6,600.0	6,427.9	6,555.2	6,427.9	27.4	25.0	-136.84	546.5	-921.6	968.8	919.8	49.03	19.759			
6,700.0	6,527.9	6,655.2	6,527.9	27.5	25.1	-136.84	546.5	-921.6	968.8	919.5	49.28	19.659			
6,800.0	6,627.9	6,755.2	6,627.9	27.6	25.2	-136.84	546.5	-921.6	968.8	919.3	49.53	19.558			
6,900.0	6,727.9	6,855.2	6,727.9	27.7	25.4	-136.84	546.5	-921.6	968.8	919.0	49.79	19.458			
7,000.0	6,827.9	6,955.2	6,827.9	27.8	25.5	-136.84	546.5	-921.6	968.8	918.8	50.05	19.358			
7,100.0	6,927.9	7,055.2	6,927.9	28.0	25.6	-136.84	546.5	-921.6	968.8	918.5	50.31	19.257			
7,200.0	7,027.9	7,155.2	7,027.9	28.1	25.8	-136.84	546.5	-921.6	968.8	918.2	50.57	19.157			
7,265.3	7,093.2	7,220.5	7,093.2	28.2	25.8	-136.84	546.5	-921.6	968.8	918.1	50.75	19.091			
7,300.0	7,127.9	7,251.2	7,124.0	28.2	25.9	-136.84	546.5	-921.6	968.8	918.0	50.83	19.059			
7,400.0	7,227.9	7,251.2	7,124.0	28.3	25.9	-136.84	546.5	-921.6	974.4	923.4	50.97	19.117			
7,500.0	7,327.9	7,251.2	7,124.0	28.4	25.9	-136.84	546.5	-921.6	990.0	938.9	51.10	19.373			

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	156.41	-51.0	22.3	55.7					
100.0	100.0	100.0	100.0	0.1	0.1	156.41	-51.0	22.3	55.7	55.4	0.22	247.665		
200.0	200.0	200.0	200.0	0.3	0.3	156.41	-51.0	22.3	55.7	55.0	0.67	82.555		
300.0	300.0	300.0	300.0	0.6	0.6	156.41	-51.0	22.3	55.7	54.5	1.12	49.533		
400.0	400.0	400.0	400.0	0.8	0.8	156.41	-51.0	22.3	55.7	54.1	1.57	35.381		
500.0	500.0	500.0	500.0	1.0	1.0	156.41	-51.0	22.3	55.7	53.6	2.02	27.518		
600.0	600.0	600.0	600.0	1.2	1.2	156.41	-51.0	22.3	55.7	53.2	2.47	22.515		
700.0	700.0	700.0	700.0	1.5	1.5	156.41	-51.0	22.3	55.7	52.7	2.92	19.051		
800.0	800.0	800.0	800.0	1.7	1.7	156.41	-51.0	22.3	55.7	52.3	3.37	16.511 CC, ES		
900.0	900.0	900.0	900.0	1.9	1.9	168.44	-51.0	22.3	57.4	53.6	3.82	15.016		
1,000.0	999.8	999.8	999.8	2.1	2.1	169.38	-51.0	22.3	62.5	58.2	4.27	14.646 SF		
1,100.0	1,099.5	1,099.5	1,099.5	2.4	2.4	170.65	-51.0	22.3	71.1	66.4	4.71	15.088		
1,200.0	1,198.7	1,198.7	1,198.7	2.6	2.6	171.98	-51.0	22.3	83.1	78.0	5.15	16.138		
1,300.0	1,297.5	1,297.5	1,297.5	2.9	2.8	173.21	-51.0	22.3	98.7	93.1	5.59	17.655		
1,400.0	1,395.6	1,395.6	1,395.6	3.2	3.0	174.27	-51.0	22.3	117.6	111.6	6.02	19.539		
1,500.0	1,493.1	1,493.1	1,493.1	3.6	3.2	175.15	-51.0	22.3	140.0	133.6	6.45	21.715		
1,600.0	1,589.6	1,589.6	1,589.6	4.0	3.5	175.87	-51.0	22.3	165.8	159.0	6.87	24.126		
1,700.0	1,685.6	1,685.6	1,685.6	4.5	3.7	176.46	-51.0	22.3	193.8	186.5	7.33	26.424		
1,800.0	1,781.6	1,781.6	1,781.6	4.9	3.9	176.91	-51.0	22.3	221.8	214.0	7.81	28.416		
1,900.0	1,877.6	1,877.6	1,877.6	5.4	4.1	177.25	-51.0	22.3	249.8	241.5	8.28	30.164		
2,000.0	1,973.6	1,973.6	1,973.6	6.0	4.3	177.53	-51.0	22.3	277.8	269.1	8.76	31.708		
2,100.0	2,069.6	2,069.6	2,069.6	6.5	4.5	177.76	-51.0	22.3	305.8	296.6	9.25	33.081		
2,200.0	2,165.6	2,165.6	2,165.6	7.0	4.8	177.95	-51.0	22.3	333.9	324.1	9.73	34.308		
2,300.0	2,261.6	2,269.4	2,269.4	7.6	5.0	178.05	-50.2	22.5	361.2	351.0	10.24	35.293		
2,400.0	2,357.6	2,379.2	2,379.1	8.1	5.2	177.89	-45.6	23.5	385.5	374.8	10.75	35.862		
2,500.0	2,453.5	2,490.7	2,490.2	8.6	5.5	177.46	-36.7	25.6	406.5	395.2	11.27	36.051		
2,600.0	2,549.5	2,603.6	2,602.3	9.2	5.7	176.80	-23.4	28.7	424.0	412.2	11.81	35.897		
2,700.0	2,645.5	2,717.6	2,714.8	9.7	6.0	175.91	-5.6	32.8	438.2	425.8	12.37	35.434		
2,800.0	2,741.5	2,832.3	2,827.1	10.3	6.3	174.80	16.7	37.9	448.9	436.0	12.94	34.685		
2,900.0	2,837.5	2,942.2	2,934.0	10.9	6.7	173.52	42.0	43.8	456.6	443.0	13.53	33.748		
3,000.0	2,933.5	3,041.5	3,030.2	11.4	7.0	172.35	65.7	49.3	463.6	449.5	14.11	32.848		
3,100.0	3,029.5	3,140.8	3,126.5	12.0	7.3	171.21	89.4	54.8	470.8	456.1	14.72	31.990		
3,200.0	3,125.4	3,240.1	3,222.8	12.5	7.7	170.11	113.1	60.3	478.3	462.9	15.34	31.173		
3,300.0	3,221.4	3,339.4	3,319.0	13.1	8.1	169.04	136.9	65.8	485.8	469.9	15.99	30.393		
3,400.0	3,317.4	3,438.7	3,415.3	13.7	8.5	168.00	160.6	71.3	493.6	476.9	16.65	29.651		
3,500.0	3,413.4	3,538.0	3,511.6	14.2	8.9	167.00	184.3	76.7	501.5	484.2	17.33	28.943		
3,600.0	3,509.4	3,637.3	3,607.8	14.8	9.3	166.03	208.1	82.2	509.6	491.5	18.03	28.269		
3,700.0	3,605.4	3,736.6	3,704.1	15.3	9.7	165.08	231.8	87.7	517.8	499.0	18.74	27.628		
3,800.0	3,701.4	3,835.9	3,800.4	15.9	10.1	164.17	255.5	93.2	526.1	506.6	19.47	27.018		
3,900.0	3,797.4	3,935.2	3,896.7	16.5	10.6	163.29	279.3	98.7	534.6	514.3	20.22	26.437		
4,000.0	3,893.3	4,034.5	3,992.9	17.0	11.0	162.43	303.0	104.2	543.2	522.2	20.98	25.886		
4,100.0	3,989.3	4,133.8	4,089.2	17.6	11.5	161.60	326.7	109.7	551.9	530.1	21.76	25.361		
4,200.0	4,085.3	4,233.1	4,185.5	18.2	11.9	160.79	350.5	115.2	560.7	538.1	22.55	24.863		
4,300.0	4,181.3	4,332.4	4,281.7	18.7	12.4	160.01	374.2	120.7	569.6	546.3	23.35	24.389		
4,400.0	4,277.3	4,431.7	4,378.0	19.3	12.8	159.26	397.9	126.2	578.6	554.5	24.17	23.939		
4,500.0	4,373.3	4,531.0	4,474.3	19.9	13.3	158.53	421.7	131.7	587.8	562.8	25.00	23.511		
4,600.0	4,469.3	4,630.4	4,570.5	20.4	13.8	157.82	445.4	137.2	597.0	571.1	25.84	23.105		
4,700.0	4,565.3	4,729.7	4,666.8	21.0	14.2	157.13	469.1	142.7	606.3	579.6	26.69	22.718		
4,800.0	4,661.2	4,829.0	4,763.1	21.6	14.7	156.46	492.9	148.1	615.7	588.1	27.55	22.351		
4,900.0	4,757.2	4,920.1	4,851.6	22.1	15.1	155.90	514.1	153.1	625.6	597.2	28.33	22.083		
5,000.0	4,853.2	5,006.7	4,936.2	22.7	15.4	155.56	532.0	157.2	637.4	608.4	29.01	21.974		
5,100.0	4,949.2	5,092.9	5,021.0	23.3	15.7	155.40	547.3	160.7	651.2	621.6	29.63	21.976		

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

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,200.0	5,045.2	5,178.6	5,105.7	23.8	15.9	155.41	560.0	163.7	667.0	636.8	30.20	22.084		
5,300.0	5,141.2	5,263.8	5,190.2	24.4	16.1	155.59	570.2	166.0	684.7	653.9	30.72	22.291		
5,400.0	5,237.3	5,348.2	5,274.2	24.9	16.3	155.97	577.9	167.8	704.0	672.9	31.18	22.579		
5,500.0	5,334.1	5,432.3	5,358.1	25.3	16.5	156.49	583.1	169.0	722.8	691.2	31.56	22.898		
5,600.0	5,431.7	5,516.1	5,441.9	25.7	16.6	157.03	586.0	169.7	740.3	708.4	31.88	23.219		
5,700.0	5,530.1	5,604.3	5,530.1	26.0	16.8	157.60	586.6	169.8	756.6	724.4	32.14	23.537		
5,800.0	5,629.0	5,703.2	5,629.0	26.3	16.9	158.12	586.6	169.8	770.2	737.8	32.41	23.766		
5,900.0	5,728.3	5,802.5	5,728.3	26.5	17.1	158.50	586.6	169.8	780.6	748.0	32.66	23.902		
6,000.0	5,828.0	5,902.2	5,828.0	26.7	17.2	158.76	586.6	169.8	787.8	754.9	32.90	23.949		
6,100.0	5,927.9	6,002.1	5,927.9	26.9	17.4	158.90	586.6	169.8	791.8	758.7	33.12	23.909		
6,200.0	6,027.9	6,102.1	6,027.9	27.0	17.6	147.25	586.6	169.8	792.7	759.3	33.36	23.762		
6,300.0	6,127.9	6,202.1	6,127.9	27.1	17.7	147.25	586.6	169.8	792.7	759.0	33.70	23.521		
6,400.0	6,227.9	6,302.1	6,227.9	27.2	17.9	147.25	586.6	169.8	792.7	758.6	34.05	23.283		
6,500.0	6,327.9	6,402.1	6,327.9	27.3	18.1	147.25	586.6	169.8	792.7	758.3	34.39	23.048		
6,600.0	6,427.9	6,502.1	6,427.9	27.4	18.2	147.25	586.6	169.8	792.7	757.9	34.74	22.816		
6,700.0	6,527.9	6,602.1	6,527.9	27.5	18.4	147.25	586.6	169.8	792.7	757.6	35.09	22.587		
6,800.0	6,627.9	6,702.1	6,627.9	27.6	18.6	147.25	586.6	169.8	792.7	757.2	35.45	22.362		
6,900.0	6,727.9	6,802.1	6,727.9	27.7	18.7	147.25	586.6	169.8	792.7	756.9	35.80	22.139		
7,000.0	6,827.9	6,902.1	6,827.9	27.8	18.9	147.25	586.6	169.8	792.7	756.5	36.16	21.920		
7,100.0	6,927.9	7,002.1	6,927.9	28.0	19.1	147.25	586.6	169.8	792.7	756.1	36.52	21.704		
7,200.0	7,027.9	7,102.1	7,027.9	28.1	19.2	147.25	586.6	169.8	792.7	755.8	36.88	21.491		
7,300.0	7,127.9	7,202.1	7,127.9	28.2	19.4	147.25	586.6	169.8	792.7	755.4	37.25	21.281		
7,400.0	7,227.9	7,209.2	7,135.0	28.3	19.4	147.25	586.6	169.8	798.1	760.7	37.44	21.319		
7,500.0	7,327.9	7,209.2	7,135.0	28.4	19.4	147.25	586.6	169.8	815.8	778.2	37.61	21.691		
7,600.0	7,427.9	7,209.2	7,135.0	28.6	19.4	147.25	586.6	169.8	845.1	807.3	37.79	22.365		
7,700.0	7,527.9	7,209.2	7,135.0	28.7	19.4	147.25	586.6	169.8	884.7	846.8	37.96	23.305		
7,800.0	7,627.9	7,209.2	7,135.0	28.8	19.4	147.25	586.6	169.8	933.4	895.3	38.14	24.474		
7,900.0	7,727.9	7,209.2	7,135.0	28.9	19.4	147.25	586.6	169.8	989.9	951.6	38.32	25.834		

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	66.45	21.8	50.1	54.7					
100.0	100.0	99.0	99.0	0.1	0.1	66.45	21.8	50.1	54.7	54.4	0.22	244.448		
200.0	200.0	199.0	199.0	0.3	0.3	66.45	21.8	50.1	54.7	54.0	0.67	81.347 CC, ES		
300.0	300.0	298.0	297.9	0.6	0.6	64.99	23.5	50.4	55.6	54.5	1.12	49.666		
400.0	400.0	396.7	396.5	0.8	0.8	60.84	28.5	51.1	58.6	57.0	1.57	37.248		
500.0	500.0	495.0	494.4	1.0	1.0	54.87	36.8	52.4	64.2	62.2	2.04	31.456		
600.0	600.0	592.5	591.3	1.2	1.3	48.19	48.4	54.1	73.0	70.5	2.52	28.910		
700.0	700.0	689.2	686.8	1.5	1.6	41.76	63.0	56.3	85.4	82.4	3.02	28.266		
800.0	800.0	784.7	780.7	1.7	2.0	36.16	80.7	58.9	101.6	98.0	3.52	28.815		
900.0	900.0	879.3	873.0	1.9	2.4	43.49	101.1	62.0	120.2	116.2	3.96	30.336		
1,000.0	999.8	973.3	963.9	2.1	2.8	40.71	124.4	65.5	139.7	135.3	4.45	31.414		
1,100.0	1,099.5	1,066.6	1,053.4	2.4	3.3	38.97	150.5	69.4	159.8	154.9	4.95	32.303		
1,200.0	1,198.7	1,159.2	1,141.4	2.6	3.8	37.92	179.2	73.7	180.4	174.9	5.47	32.982		
1,300.0	1,297.5	1,256.8	1,233.5	2.9	4.4	37.47	211.1	78.5	199.9	193.9	6.03	33.136		
1,400.0	1,395.6	1,355.4	1,326.5	3.2	5.0	37.67	243.3	83.4	216.8	210.2	6.62	32.742		
1,500.0	1,493.1	1,454.3	1,419.9	3.6	5.7	38.37	275.7	88.2	230.9	223.7	7.27	31.776		
1,600.0	1,589.6	1,553.5	1,513.5	4.0	6.3	39.53	308.2	93.1	242.5	234.5	7.98	30.397		
1,700.0	1,685.6	1,652.8	1,607.2	4.5	6.9	41.02	340.6	98.0	252.4	243.7	8.76	28.807		
1,800.0	1,781.6	1,752.1	1,700.9	4.9	7.6	42.42	373.1	102.8	262.6	253.0	9.59	27.377		
1,900.0	1,877.6	1,851.4	1,794.6	5.4	8.2	43.72	405.6	107.7	272.8	262.4	10.45	26.105		
2,000.0	1,973.6	1,950.7	1,888.3	6.0	8.8	44.92	438.1	112.6	283.2	271.9	11.34	24.976		
2,100.0	2,069.6	2,049.9	1,982.0	6.5	9.5	46.04	470.6	117.5	293.7	281.5	12.25	23.972		
2,200.0	2,165.6	2,149.2	2,075.7	7.0	10.1	47.08	503.1	122.3	304.3	291.1	13.19	23.078		
2,300.0	2,261.6	2,248.5	2,169.4	7.6	10.8	48.05	535.5	127.2	315.0	300.9	14.14	22.280		
2,400.0	2,357.6	2,347.8	2,263.1	8.1	11.4	48.95	568.0	132.1	325.8	310.7	15.11	21.565		
2,500.0	2,453.5	2,447.1	2,356.8	8.6	12.1	49.80	600.5	136.9	336.7	320.6	16.09	20.923		
2,600.0	2,549.5	2,546.4	2,450.5	9.2	12.7	50.60	633.0	141.8	347.6	330.5	17.09	20.344		
2,700.0	2,645.5	2,645.7	2,544.2	9.7	13.4	51.34	665.5	146.7	358.6	340.5	18.09	19.820		
2,800.0	2,741.5	2,745.0	2,637.9	10.3	14.0	52.05	698.0	151.6	369.6	350.5	19.11	19.344		
2,900.0	2,837.5	2,844.3	2,731.6	10.9	14.7	52.71	730.4	156.4	380.7	360.6	20.13	18.912		
3,000.0	2,933.5	2,943.5	2,825.3	11.4	15.3	53.33	762.9	161.3	391.9	370.7	21.16	18.516		
3,100.0	3,029.5	3,042.8	2,919.0	12.0	15.9	53.92	795.4	166.2	403.0	380.8	22.20	18.154		
3,200.0	3,125.4	3,142.1	3,012.7	12.5	16.6	54.48	827.9	171.1	414.3	391.0	23.25	17.822		
3,300.0	3,221.4	3,241.4	3,106.3	13.1	17.2	55.01	860.4	175.9	425.5	401.2	24.30	17.515		
3,400.0	3,317.4	3,340.7	3,200.0	13.7	17.9	55.51	892.9	180.8	436.8	411.5	25.35	17.233		
3,500.0	3,413.4	3,440.0	3,293.7	14.2	18.5	55.98	925.3	185.7	448.2	421.8	26.41	16.971		
3,600.0	3,509.4	3,539.3	3,387.4	14.8	19.2	56.43	957.8	190.6	459.5	432.1	27.47	16.728		
3,700.0	3,605.4	3,638.6	3,481.1	15.3	19.8	56.86	990.3	195.4	470.9	442.4	28.54	16.502		
3,800.0	3,701.4	3,737.9	3,574.8	15.9	20.5	57.27	1,022.8	200.3	482.3	452.7	29.61	16.291		
3,900.0	3,797.4	3,837.1	3,668.5	16.5	21.1	57.67	1,055.3	205.2	493.8	463.1	30.68	16.094		
4,000.0	3,893.3	3,936.4	3,762.2	17.0	21.8	58.04	1,087.8	210.1	505.2	473.5	31.75	15.910		
4,100.0	3,989.3	4,035.7	3,855.9	17.6	22.4	58.40	1,120.2	214.9	516.7	483.9	32.83	15.737		
4,200.0	4,085.3	4,135.0	3,949.6	18.2	23.1	58.74	1,152.7	219.8	528.2	494.3	33.91	15.575		
4,300.0	4,181.3	4,234.3	4,043.3	18.7	23.7	59.06	1,185.2	224.7	539.7	504.7	34.99	15.423		
4,400.0	4,277.3	4,333.6	4,137.0	19.3	24.4	59.38	1,217.7	229.6	551.2	515.1	36.08	15.279		
4,500.0	4,373.3	4,432.9	4,230.7	19.9	25.0	59.68	1,250.2	234.4	562.8	525.6	37.16	15.143		
4,600.0	4,469.3	4,532.2	4,324.4	20.4	25.7	59.97	1,282.7	239.3	574.3	536.1	38.25	15.015		
4,700.0	4,565.3	4,631.5	4,418.1	21.0	26.3	60.24	1,315.1	244.2	585.9	546.6	39.34	14.894		
4,800.0	4,661.2	4,730.7	4,511.8	21.6	27.0	60.51	1,347.6	249.1	597.5	557.1	40.43	14.779		
4,900.0	4,757.2	4,830.0	4,605.5	22.1	27.6	60.76	1,380.1	253.9	609.1	567.6	41.52	14.670		
5,000.0	4,853.2	4,929.3	4,699.2	22.7	28.3	61.01	1,412.6	258.8	620.7	578.1	42.61	14.566		
5,100.0	4,949.2	5,028.6	4,792.9	23.3	28.9	61.25	1,445.1	263.7	632.3	588.6	43.71	14.468		

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

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,200.0	5,045.2	5,127.9	4,886.6	23.8	29.6	61.48	1,477.6	268.6	644.0	599.2	44.80	14.374		
5,300.0	5,141.2	5,227.2	4,980.3	24.4	30.2	61.70	1,510.0	273.4	655.6	609.7	45.90	14.285		
5,400.0	5,237.3	5,326.5	5,074.0	24.9	30.9	61.98	1,542.5	278.3	667.4	620.4	46.97	14.209		
5,500.0	5,334.1	5,425.6	5,167.5	25.3	31.5	62.18	1,574.9	283.2	680.5	632.7	47.87	14.217		
5,600.0	5,431.7	5,524.4	5,260.8	25.7	32.2	62.15	1,607.3	288.0	695.3	646.7	48.64	14.295		
5,700.0	5,530.1	5,622.9	5,353.7	26.0	32.8	61.91	1,639.5	292.9	711.7	662.5	49.29	14.441		
5,800.0	5,629.0	5,720.8	5,446.1	26.3	33.4	61.49	1,671.5	297.7	729.9	680.1	49.81	14.654		
5,900.0	5,728.3	5,818.0	5,537.9	26.5	34.1	60.91	1,703.3	302.4	749.8	699.6	50.21	14.935		
6,000.0	5,828.0	5,935.9	5,649.7	26.7	34.7	60.01	1,740.2	308.0	770.5	720.1	50.42	15.281		
6,100.0	5,927.9	6,059.3	5,768.3	26.9	35.3	59.06	1,773.9	313.0	790.0	739.5	50.49	15.645		
6,200.0	6,027.9	6,184.3	5,889.8	27.0	35.7	46.36	1,802.8	317.4	808.1	757.6	50.46	16.015		
6,300.0	6,127.9	6,311.5	6,014.6	27.1	36.2	45.31	1,826.9	321.0	823.4	773.0	50.41	16.332		
6,400.0	6,227.9	6,440.6	6,142.3	27.2	36.5	44.53	1,845.7	323.8	835.3	784.8	50.45	16.557		
6,500.0	6,327.9	6,571.2	6,272.3	27.3	36.8	43.99	1,858.9	325.8	843.6	793.0	50.55	16.687		
6,600.0	6,427.9	6,702.8	6,403.6	27.4	37.0	43.70	1,866.2	326.9	848.2	797.5	50.73	16.720		
6,700.0	6,527.9	6,826.1	6,526.9	27.5	37.1	43.64	1,867.8	327.1	849.2	798.3	50.96	16.665		
6,800.0	6,627.9	6,926.1	6,626.9	27.6	37.2	43.64	1,867.8	327.1	849.2	798.0	51.19	16.589		
6,900.0	6,727.9	7,276.8	6,968.9	27.7	37.3	40.56	1,865.8	265.3	841.8	791.1	50.66	16.618		
7,000.0	6,827.9	7,645.4	7,253.3	27.8	37.2	26.09	1,858.4	37.4	797.4	751.0	46.35	17.201		
7,100.0	6,927.9	7,803.1	7,332.5	28.0	37.2	14.95	1,854.0	-98.6	742.4	698.8	43.56	17.041		
7,200.0	7,027.9	7,882.5	7,360.6	28.1	37.3	8.19	1,851.6	-172.8	690.5	648.0	42.46	16.263		
7,300.0	7,127.9	7,929.3	7,373.3	28.2	37.3	3.95	1,850.1	-217.7	647.0	604.9	42.09	15.372		
7,400.0	7,227.9	7,959.8	7,379.9	28.3	37.4	1.10	1,849.1	-247.5	615.3	573.3	42.02	14.642		
7,500.0	7,327.9	7,981.3	7,383.8	28.4	37.4	-0.93	1,848.4	-268.6	598.0	555.9	42.10	14.203		
7,558.5	7,386.4	7,991.1	7,385.4	28.5	37.4	-1.87	1,848.1	-278.3	595.2	553.0	42.18	14.112 SF		
7,600.0	7,427.9	7,997.1	7,386.3	28.6	37.5	-2.44	1,847.9	-284.3	596.6	554.4	42.24	14.125		
7,700.0	7,527.9	8,009.3	7,388.0	28.7	37.5	-3.60	1,847.5	-296.4	611.5	569.0	42.41	14.417		
7,800.0	7,627.9	8,019.0	7,389.2	28.8	37.5	-4.53	1,847.2	-305.9	641.5	598.9	42.61	15.057		
7,900.0	7,727.9	8,026.9	7,390.1	28.9	37.5	-5.28	1,847.0	-313.7	684.8	642.0	42.81	15.998		
8,000.0	7,827.9	8,033.4	7,390.7	29.1	37.5	-5.90	1,846.8	-320.2	739.1	696.1	43.01	17.184		
8,100.0	7,927.9	8,038.8	7,391.2	29.2	37.6	-6.42	1,846.6	-325.6	802.2	759.0	43.22	18.560		
8,177.1	8,005.0	8,050.0	7,392.1	29.3	37.6	-7.48	1,846.2	-336.8	855.6	812.2	43.40	19.713		

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	48.91	21.9	25.1	33.3					
100.0	100.0	99.0	99.0	0.1	0.1	48.91	21.9	25.1	33.2	33.0	0.22	148.672		
200.0	200.0	199.0	199.0	0.3	0.3	48.91	21.9	25.1	33.2	32.6	0.67	49.475		
300.0	300.0	299.0	299.0	0.6	0.6	48.91	21.9	25.1	33.2	32.1	1.12	29.645		
400.0	400.0	399.0	399.0	0.8	0.8	48.91	21.9	25.1	33.2	31.7	1.57	21.163 CC, ES		
500.0	500.0	498.1	498.0	1.0	1.0	47.19	23.5	25.4	34.6	32.6	2.02	17.141		
600.0	600.0	596.9	596.7	1.2	1.2	42.72	28.5	26.3	38.9	36.4	2.47	15.732		
700.0	700.0	695.2	694.7	1.5	1.5	37.17	36.8	27.9	46.4	43.4	2.93	15.831		
800.0	800.0	792.9	791.7	1.7	1.7	31.92	48.3	30.1	57.4	54.0	3.39	16.894		
900.0	900.0	889.9	887.5	1.9	2.0	39.96	62.9	32.9	70.6	66.7	3.85	18.333		
1,000.0	999.8	986.4	982.3	2.1	2.3	38.27	80.6	36.2	84.4	80.1	4.31	19.583		
1,100.0	1,099.5	1,082.4	1,076.0	2.4	2.7	37.71	101.3	40.1	98.8	94.1	4.79	20.647		
1,200.0	1,198.7	1,177.9	1,168.4	2.6	3.2	37.87	125.0	44.6	113.7	108.4	5.28	21.525		
1,300.0	1,297.5	1,272.8	1,259.4	2.9	3.6	38.47	151.5	49.7	129.0	123.2	5.81	22.220		
1,400.0	1,395.6	1,371.5	1,353.5	3.2	4.2	39.61	180.7	55.2	143.4	137.0	6.38	22.473		
1,500.0	1,493.1	1,470.7	1,448.0	3.6	4.7	41.38	210.1	60.8	155.3	148.3	7.01	22.161		
1,600.0	1,589.6	1,570.0	1,542.7	4.0	5.3	43.73	239.6	66.4	164.8	157.0	7.72	21.340		
1,700.0	1,685.6	1,669.3	1,637.4	4.5	5.9	46.44	269.1	72.0	173.0	164.5	8.53	20.275		
1,800.0	1,781.6	1,768.6	1,732.1	4.9	6.4	48.93	298.5	77.6	181.6	172.2	9.40	19.312		
1,900.0	1,877.6	1,868.0	1,826.8	5.4	7.0	51.19	328.0	83.2	190.5	180.1	10.32	18.459		
2,000.0	1,973.6	1,967.3	1,921.5	6.0	7.6	53.25	357.4	88.8	199.6	188.3	11.27	17.708		
2,100.0	2,069.6	2,066.6	2,016.2	6.5	8.2	55.12	386.9	94.3	209.0	196.7	12.26	17.049		
2,200.0	2,165.6	2,166.0	2,110.9	7.0	8.8	56.83	416.3	99.9	218.6	205.3	13.27	16.471		
2,300.0	2,261.6	2,265.3	2,205.6	7.6	9.4	58.40	445.8	105.5	228.4	214.0	14.31	15.963		
2,400.0	2,357.6	2,364.7	2,300.3	8.1	9.9	59.84	475.3	111.1	238.3	222.9	15.36	15.516		
2,500.0	2,453.5	2,464.0	2,395.0	8.6	10.5	61.16	504.7	116.7	248.3	231.9	16.42	15.121		
2,600.0	2,549.5	2,563.3	2,489.7	9.2	11.1	62.38	534.2	122.3	258.5	241.0	17.50	14.771		
2,700.0	2,645.5	2,662.7	2,584.4	9.7	11.7	63.51	563.6	127.9	268.8	250.2	18.59	14.460		
2,800.0	2,741.5	2,762.0	2,679.1	10.3	12.3	64.55	593.1	133.5	279.2	259.5	19.69	14.182		
2,900.0	2,837.5	2,861.3	2,773.8	10.9	12.9	65.52	622.6	139.1	289.7	268.9	20.79	13.933		
3,000.0	2,933.5	2,960.7	2,868.5	11.4	13.5	66.42	652.0	144.7	300.2	278.3	21.90	13.709		
3,100.0	3,029.5	3,060.0	2,963.2	12.0	14.1	67.26	681.5	150.3	310.8	287.8	23.01	13.507		
3,200.0	3,125.4	3,159.3	3,057.9	12.5	14.7	68.05	710.9	155.9	321.5	297.4	24.13	13.323		
3,300.0	3,221.4	3,258.7	3,152.6	13.1	15.3	68.78	740.4	161.4	332.2	307.0	25.25	13.157		
3,400.0	3,317.4	3,358.0	3,247.3	13.7	15.9	69.47	769.9	167.0	343.0	316.6	26.38	13.005		
3,500.0	3,413.4	3,457.3	3,342.0	14.2	16.5	70.11	799.3	172.6	353.8	326.3	27.50	12.866		
3,600.0	3,509.4	3,556.7	3,436.7	14.8	17.1	70.72	828.8	178.2	364.7	336.1	28.63	12.739		
3,700.0	3,605.4	3,656.0	3,531.4	15.3	17.7	71.29	858.2	183.8	375.6	345.9	29.76	12.622		
3,800.0	3,701.4	3,755.3	3,626.1	15.9	18.3	71.84	887.7	189.4	386.6	355.7	30.89	12.514		
3,900.0	3,797.4	3,854.7	3,720.8	16.5	18.9	72.35	917.1	195.0	397.6	365.5	32.02	12.414		
4,000.0	3,893.3	3,954.0	3,815.5	17.0	19.5	72.83	946.6	200.6	408.6	375.4	33.16	12.322		
4,100.0	3,989.3	4,053.3	3,910.2	17.6	20.1	73.29	976.1	206.2	419.6	385.3	34.29	12.236		
4,200.0	4,085.3	4,152.7	4,004.9	18.2	20.7	73.72	1,005.5	211.8	430.6	395.2	35.43	12.156		
4,300.0	4,181.3	4,252.0	4,099.6	18.7	21.3	74.13	1,035.0	217.4	441.7	405.2	36.56	12.081		
4,400.0	4,277.3	4,351.4	4,194.3	19.3	21.9	74.52	1,064.4	223.0	452.8	415.1	37.70	12.012		
4,500.0	4,373.3	4,450.7	4,289.0	19.9	22.5	74.90	1,093.9	228.6	464.0	425.1	38.84	11.947		
4,600.0	4,469.3	4,550.0	4,383.7	20.4	23.1	75.25	1,123.4	234.1	475.1	435.1	39.97	11.885		
4,700.0	4,565.3	4,649.4	4,478.4	21.0	23.6	75.59	1,152.8	239.7	486.3	445.1	41.11	11.828		
4,800.0	4,661.2	4,748.7	4,573.1	21.6	24.2	75.92	1,182.3	245.3	497.4	455.2	42.25	11.774		
4,900.0	4,757.2	4,848.0	4,667.8	22.1	24.8	76.23	1,211.7	250.9	508.6	465.2	43.39	11.723		
5,000.0	4,853.2	4,947.4	4,762.5	22.7	25.4	76.53	1,241.2	256.5	519.8	475.3	44.53	11.675		
5,100.0	4,949.2	5,046.7	4,857.2	23.3	26.0	76.81	1,270.7	262.1	531.0	485.4	45.66	11.630		

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

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,200.0	5,045.2	5,146.0	4,951.9	23.8	26.6	77.08	1,300.1	267.7	542.3	495.5	46.80	11.587		
5,300.0	5,141.2	5,245.4	5,046.6	24.4	27.2	77.34	1,329.6	273.3	553.5	505.6	47.94	11.546		
5,400.0	5,237.3	5,344.7	5,141.3	24.9	27.8	77.66	1,359.0	278.9	564.8	515.8	49.06	11.514		
5,500.0	5,334.1	5,444.0	5,236.0	25.3	28.4	77.82	1,388.5	284.5	576.8	526.8	50.00	11.537		
5,600.0	5,431.7	5,543.1	5,330.5	25.7	29.0	77.67	1,417.9	290.0	589.5	538.6	50.82	11.600		
5,700.0	5,530.1	5,641.9	5,424.7	26.0	29.6	77.22	1,447.2	295.6	602.9	551.4	51.52	11.703		
5,800.0	5,629.0	5,740.3	5,518.5	26.3	30.2	76.51	1,476.3	301.1	617.3	565.2	52.10	11.849		
5,900.0	5,728.3	5,850.5	5,624.0	26.5	30.8	75.50	1,507.6	307.1	632.0	579.5	52.50	12.038		
6,000.0	5,828.0	5,964.3	5,734.1	26.7	31.2	74.46	1,535.8	312.4	645.4	592.7	52.76	12.233		
6,100.0	5,927.9	6,079.1	5,846.3	26.9	31.6	73.41	1,559.8	317.0	657.6	604.7	52.92	12.426		
6,200.0	6,027.9	6,195.0	5,960.4	27.0	32.0	60.63	1,579.5	320.7	668.5	615.5	52.97	12.620		
6,300.0	6,127.9	6,312.1	6,076.4	27.1	32.3	59.61	1,594.8	323.6	677.2	624.2	53.01	12.775		
6,400.0	6,227.9	6,430.3	6,194.1	27.2	32.5	58.92	1,605.6	325.7	683.4	630.2	53.11	12.868		
6,500.0	6,327.9	6,549.3	6,312.9	27.3	32.7	58.55	1,611.6	326.8	686.8	633.5	53.26	12.895		
6,600.0	6,427.9	6,663.3	6,426.9	27.4	32.8	58.46	1,612.9	327.1	687.5	634.1	53.47	12.858		
6,700.0	6,527.9	6,763.3	6,526.9	27.5	32.9	58.46	1,612.9	327.1	687.5	633.8	53.69	12.805		
6,800.0	6,627.9	7,142.4	6,893.4	27.6	33.0	54.83	1,610.3	247.8	674.7	621.4	53.34	12.649		
6,900.0	6,727.9	7,471.9	7,142.1	27.7	32.9	40.12	1,603.4	36.2	618.1	568.4	49.72	12.434		
7,000.0	6,827.9	7,621.2	7,217.6	27.8	32.9	25.73	1,599.3	-92.2	547.9	502.3	45.59	12.017		
7,100.0	6,927.9	7,699.4	7,246.1	28.0	32.9	15.29	1,596.9	-164.9	478.3	435.3	42.98	11.129		
7,200.0	7,027.9	7,746.5	7,259.3	28.1	33.0	8.12	1,595.4	-210.1	416.5	374.9	41.66	9.999		
7,300.0	7,127.9	7,777.6	7,266.4	28.2	33.0	3.11	1,594.5	-240.4	369.1	328.0	41.08	8.985		
7,400.0	7,227.9	7,799.7	7,270.7	28.3	33.1	-0.53	1,593.8	-262.1	343.3	302.5	40.87	8.400		
7,445.1	7,273.1	7,807.7	7,272.1	28.4	33.1	-1.86	1,593.5	-269.9	340.4	299.6	40.86	8.331 SF		
7,500.0	7,327.9	7,816.2	7,273.4	28.4	33.1	-3.26	1,593.2	-278.3	344.7	303.8	40.89	8.431		
7,600.0	7,427.9	7,828.9	7,275.3	28.6	33.1	-5.38	1,592.8	-290.9	373.3	332.3	41.00	9.105		
7,700.0	7,527.9	7,839.0	7,276.6	28.7	33.2	-7.05	1,592.5	-300.9	423.7	382.5	41.17	10.293		
7,800.0	7,627.9	7,850.0	7,277.8	28.8	33.2	-8.87	1,592.2	-311.8	489.4	448.0	41.37	11.831		
7,900.0	7,727.9	7,850.0	7,277.8	28.9	33.2	-8.87	1,592.2	-311.8	565.1	523.5	41.56	13.596		
8,000.0	7,827.9	7,850.0	7,277.8	29.1	33.2	-8.87	1,592.2	-311.8	647.4	605.7	41.76	15.504		
8,100.0	7,927.9	7,864.8	7,279.3	29.2	33.2	-11.29	1,591.7	-326.5	733.9	691.8	42.04	17.456		
8,177.1	8,005.0	7,868.1	7,279.6	29.3	33.2	-11.83	1,591.6	-329.8	802.7	760.5	42.22	19.012		

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	0.00	21.9	0.0	21.9					
100.0	100.0	99.0	99.0	0.1	0.1	0.00	21.9	0.0	21.9	21.6	0.22	97.703		
200.0	200.0	199.0	199.0	0.3	0.3	0.00	21.9	0.0	21.9	21.2	0.67	32.513		
300.0	300.0	299.0	299.0	0.6	0.6	0.00	21.9	0.0	21.9	20.7	1.12	19.482		
400.0	400.0	399.0	399.0	0.8	0.8	0.00	21.9	0.0	21.9	20.3	1.57	13.908		
500.0	500.0	499.0	499.0	1.0	1.0	0.00	21.9	0.0	21.9	19.8	2.02	10.814		
600.0	600.0	599.0	599.0	1.2	1.2	0.00	21.9	0.0	21.9	19.4	2.47	8.846 CC, ES		
700.0	700.0	698.2	698.2	1.5	1.5	1.19	23.5	0.5	23.5	20.6	2.92	8.045		
800.0	800.0	797.2	797.1	1.7	1.7	3.98	28.3	2.0	28.5	25.1	3.37	8.450		
900.0	900.0	895.9	895.4	1.9	1.9	19.46	36.5	4.4	35.3	31.4	3.82	9.235		
1,000.0	999.8	994.3	993.0	2.1	2.2	24.26	47.8	7.9	42.4	38.1	4.27	9.932		
1,100.0	1,099.5	1,092.3	1,089.9	2.4	2.4	29.51	62.2	12.2	50.1	45.4	4.72	10.612		
1,200.0	1,198.7	1,190.0	1,185.8	2.6	2.8	34.85	79.8	17.6	58.6	53.4	5.18	11.302		
1,300.0	1,297.5	1,288.9	1,282.5	2.9	3.1	40.31	99.8	23.6	67.2	61.5	5.69	11.820		
1,400.0	1,395.6	1,388.4	1,379.7	3.2	3.5	46.38	120.0	29.8	74.0	67.7	6.24	11.843		
1,500.0	1,493.1	1,487.8	1,476.9	3.6	3.9	53.34	140.2	35.9	79.3	72.4	6.90	11.490		
1,600.0	1,589.6	1,587.0	1,573.8	4.0	4.3	61.36	160.4	42.0	83.9	76.3	7.69	10.910		
1,700.0	1,685.6	1,686.1	1,670.6	4.5	4.7	69.76	180.5	48.1	89.3	80.7	8.63	10.352		
1,800.0	1,781.6	1,785.1	1,767.4	4.9	5.1	77.12	200.6	54.2	96.4	86.8	9.62	10.024		
1,900.0	1,877.6	1,884.1	1,864.1	5.4	5.6	83.39	220.7	60.3	104.9	94.2	10.63	9.869		
2,000.0	1,973.6	1,983.1	1,960.9	6.0	6.0	88.68	240.8	66.4	114.4	102.8	11.63	9.834		
2,100.0	2,069.6	2,082.2	2,057.7	6.5	6.4	93.14	261.0	72.5	124.7	112.1	12.63	9.878		
2,200.0	2,165.6	2,181.2	2,154.5	7.0	6.9	96.90	281.1	78.6	135.7	122.1	13.61	9.972		
2,300.0	2,261.6	2,280.2	2,251.2	7.6	7.3	100.09	301.2	84.7	147.2	132.6	14.58	10.096		
2,400.0	2,357.6	2,379.3	2,348.0	8.1	7.7	102.82	321.3	90.8	159.1	143.5	15.54	10.238		
2,500.0	2,453.5	2,478.3	2,444.8	8.6	8.2	105.16	341.5	96.9	171.2	154.8	16.48	10.389		
2,600.0	2,549.5	2,577.3	2,541.5	9.2	8.6	107.19	361.6	103.1	183.7	166.2	17.42	10.542		
2,700.0	2,645.5	2,676.3	2,638.3	9.7	9.0	108.96	381.7	109.2	196.3	177.9	18.35	10.694		
2,800.0	2,741.5	2,775.4	2,735.1	10.3	9.5	110.52	401.8	115.3	209.1	189.8	19.28	10.844		
2,900.0	2,837.5	2,874.4	2,831.9	10.9	9.9	111.90	421.9	121.4	222.0	201.8	20.20	10.989		
3,000.0	2,933.5	2,973.4	2,928.6	11.4	10.4	113.12	442.1	127.5	235.0	213.9	21.12	11.128		
3,100.0	3,029.5	3,072.5	3,025.4	12.0	10.8	114.22	462.2	133.6	248.1	226.1	22.03	11.262		
3,200.0	3,125.4	3,171.5	3,122.2	12.5	11.2	115.21	482.3	139.7	261.3	238.4	22.94	11.390		
3,300.0	3,221.4	3,270.5	3,218.9	13.1	11.7	116.10	502.4	145.8	274.6	250.7	23.85	11.512		
3,400.0	3,317.4	3,369.6	3,315.7	13.7	12.1	116.91	522.5	151.9	287.9	263.2	24.76	11.629		
3,500.0	3,413.4	3,468.6	3,412.5	14.2	12.6	117.64	542.7	158.0	301.3	275.6	25.67	11.740		
3,600.0	3,509.4	3,567.6	3,509.3	14.8	13.0	118.32	562.8	164.1	314.7	288.2	26.57	11.845		
3,700.0	3,605.4	3,666.6	3,606.0	15.3	13.5	118.94	582.9	170.2	328.2	300.7	27.47	11.946		
3,800.0	3,701.4	3,765.7	3,702.8	15.9	13.9	119.51	603.0	176.3	341.7	313.3	28.38	12.042		
3,900.0	3,797.4	3,864.7	3,799.6	16.5	14.3	120.04	623.1	182.4	355.2	326.0	29.28	12.133		
4,000.0	3,893.3	3,963.7	3,896.3	17.0	14.8	120.53	643.3	188.5	368.8	338.6	30.18	12.220		
4,100.0	3,989.3	4,062.8	3,993.1	17.6	15.2	120.98	663.4	194.6	382.4	351.3	31.08	12.303		
4,200.0	4,085.3	4,161.8	4,089.9	18.2	15.7	121.40	683.5	200.7	396.0	364.0	31.98	12.382		
4,300.0	4,181.3	4,260.8	4,186.7	18.7	16.1	121.80	703.6	206.8	409.6	376.7	32.88	12.457		
4,400.0	4,277.3	4,359.8	4,283.4	19.3	16.6	122.17	723.7	212.9	423.3	389.5	33.78	12.530		
4,500.0	4,373.3	4,458.9	4,380.2	19.9	17.0	122.51	743.9	219.0	436.9	402.2	34.68	12.599		
4,600.0	4,469.3	4,557.9	4,477.0	20.4	17.5	122.84	764.0	225.1	450.6	415.0	35.58	12.665		
4,700.0	4,565.3	4,656.9	4,573.7	21.0	17.9	123.14	784.1	231.2	464.3	427.8	36.48	12.728		
4,800.0	4,661.2	4,756.0	4,670.5	21.6	18.4	123.43	804.2	237.3	478.0	440.6	37.38	12.789		
4,900.0	4,757.2	4,855.0	4,767.3	22.1	18.8	123.71	824.3	243.4	491.7	453.4	38.27	12.847		
5,000.0	4,853.2	4,954.0	4,864.1	22.7	19.2	123.96	844.5	249.5	505.4	466.3	39.17	12.903		
5,100.0	4,949.2	5,053.0	4,960.8	23.3	19.7	124.21	864.6	255.6	519.2	479.1	40.07	12.957		

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

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design												Greeley-Rothe Pad Sec.1-T5N-R67W - Greeley-Rothe 1-3H - Wellbore #1 - Plan #1 (5-02-14)		Offset Site Error:		0.0 ft
Survey Program: 0-MWD														Offset Well Error:		0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)					
5,200.0	5,045.2	5,152.1	5,057.6	23.8	20.1	124.44	884.7	261.7	532.9	491.9	40.97	13.008				
5,300.0	5,141.2	5,251.1	5,154.4	24.4	20.6	124.66	904.8	267.8	546.6	504.8	41.86	13.058				
5,400.0	5,237.3	5,350.2	5,251.2	24.9	21.0	124.94	925.0	273.9	560.2	517.5	42.75	13.105				
5,500.0	5,334.1	5,449.4	5,348.2	25.3	21.5	125.07	945.1	280.1	572.2	528.6	43.58	13.129				
5,600.0	5,431.7	5,548.9	5,445.4	25.7	21.9	124.88	965.3	286.2	582.1	537.7	44.43	13.103				
5,700.0	5,530.1	5,648.4	5,542.6	26.0	22.4	124.40	985.5	292.3	590.1	544.8	45.28	13.032				
5,800.0	5,629.0	5,747.7	5,639.7	26.3	22.8	123.63	1,005.7	298.4	596.2	550.1	46.14	12.921				
5,900.0	5,728.3	5,846.9	5,736.6	26.5	23.3	122.58	1,025.9	304.6	600.6	553.6	47.01	12.778				
6,000.0	5,828.0	5,945.4	5,832.9	26.7	23.7	121.27	1,045.6	310.5	603.5	555.6	47.82	12.619				
6,100.0	5,927.9	6,043.5	5,929.4	26.9	24.0	119.95	1,062.6	315.7	605.0	556.5	48.51	12.471				
6,200.0	6,027.9	6,142.3	6,027.1	27.0	24.3	106.98	1,076.5	319.9	605.2	556.1	49.08	12.332				
6,208.5	6,036.5	6,150.8	6,035.5	27.0	24.3	106.87	1,077.6	320.2	605.2	556.1	49.12	12.320				
6,300.0	6,127.9	6,241.8	6,126.0	27.1	24.5	105.91	1,087.3	323.2	605.3	555.7	49.57	12.210				
6,400.0	6,227.9	6,342.0	6,225.8	27.2	24.7	105.17	1,094.8	325.5	605.5	555.5	49.98	12.115				
6,500.0	6,327.9	6,442.6	6,326.4	27.3	24.9	104.76	1,098.9	326.7	605.6	555.3	50.30	12.040				
6,600.0	6,427.9	6,543.2	6,426.9	27.4	25.0	104.67	1,099.9	327.0	605.7	555.1	50.55	11.982				
6,700.0	6,527.9	6,643.2	6,526.9	27.5	25.1	104.67	1,099.9	327.0	605.7	554.9	50.78	11.927				
6,800.0	6,627.9	6,743.2	6,610.3	27.6	25.3	106.56	1,097.8	263.7	593.1	542.3	50.79	11.676				
6,900.0	6,727.9	6,843.2	6,710.3	27.7	25.0	116.04	1,091.6	71.9	534.2	485.6	48.55	11.001				
7,000.0	6,827.9	6,943.2	6,810.3	27.8	25.0	129.69	1,087.4	-59.1	455.8	411.2	44.53	10.236				
7,100.0	6,927.9	7,043.2	6,910.3	28.0	25.0	144.16	1,084.9	-137.3	372.6	332.1	40.57	9.185				
7,200.0	7,027.9	7,143.2	7,010.3	28.1	25.1	157.06	1,083.3	-187.0	291.8	253.4	38.36	7.606				
7,300.0	7,127.9	7,243.2	7,110.3	28.2	25.1	167.43	1,082.2	-220.8	221.3	183.2	38.09	5.809				
7,400.0	7,227.9	7,343.2	7,210.3	28.3	25.2	175.39	1,081.4	-245.1	177.1	138.2	38.89	4.553				
7,442.1	7,270.1	7,385.2	7,252.1	28.4	25.2	178.15	1,081.1	-253.4	172.2	132.8	39.37	4.374 SF				
7,500.0	7,327.9	7,443.2	7,310.3	28.4	25.3	-178.53	1,080.8	-263.3	181.4	141.3	40.07	4.526				
7,600.0	7,427.9	7,543.2	7,410.3	28.6	25.3	-173.85	1,080.4	-277.5	232.1	190.8	41.26	5.624				
7,700.0	7,527.9	7,643.2	7,510.3	28.7	25.4	-170.19	1,080.0	-288.9	307.2	264.9	42.35	7.254				
7,800.0	7,627.9	7,743.2	7,716.1	28.8	25.4	-167.27	1,079.7	-298.1	393.3	349.9	43.32	9.078				
7,900.0	7,727.9	7,843.2	7,727.2	28.9	25.4	-164.89	1,079.4	-305.8	484.5	440.3	44.17	10.969				
8,000.0	7,827.9	7,930.4	7,777.9	29.1	25.5	-162.94	1,079.2	-312.3	578.4	533.5	44.91	12.880				
8,100.0	7,927.9	7,736.0	7,278.5	29.2	25.5	-161.29	1,079.0	-317.9	674.0	628.5	45.56	14.794				
8,177.1	8,005.0	7,750.0	7,279.7	29.3	25.6	-157.34	1,078.6	-331.8	748.6	701.7	46.88	15.970				

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	94.16	-3.6	50.1	50.2					
100.0	100.0	100.0	100.0	0.1	0.1	94.16	-3.6	50.1	50.2	50.0	0.22	223.561		
200.0	200.0	200.0	200.0	0.3	0.3	94.16	-3.6	50.1	50.2	49.6	0.67	74.520		
300.0	300.0	300.0	300.0	0.6	0.6	94.16	-3.6	50.1	50.2	49.1	1.12	44.712		
400.0	400.0	400.0	400.0	0.8	0.8	94.16	-3.6	50.1	50.2	48.7	1.57	31.937		
500.0	500.0	500.0	500.0	1.0	1.0	94.16	-3.6	50.1	50.2	48.2	2.02	24.840		
600.0	600.0	600.0	600.0	1.2	1.2	94.16	-3.6	50.1	50.2	47.8	2.47	20.324		
700.0	700.0	700.0	700.0	1.5	1.5	94.16	-3.6	50.1	50.2	47.3	2.92	17.197		
800.0	800.0	800.0	800.0	1.7	1.7	94.16	-3.6	50.1	50.2	46.9	3.37	14.904 CC, ES		
900.0	900.0	900.0	900.0	1.9	1.9	107.72	-3.6	50.1	50.8	46.9	3.82	13.287		
1,000.0	999.8	999.8	999.8	2.1	2.1	113.12	-3.6	50.1	52.6	48.3	4.27	12.320		
1,100.0	1,099.5	1,099.4	1,099.4	2.4	2.4	119.42	-2.0	50.7	56.6	51.9	4.72	11.996 SF		
1,200.0	1,198.7	1,199.1	1,199.0	2.6	2.6	124.26	2.9	52.4	63.0	57.8	5.18	12.167		
1,300.0	1,297.5	1,298.9	1,298.3	2.9	2.8	127.57	11.0	55.3	71.5	65.8	5.66	12.639		
1,400.0	1,395.6	1,398.7	1,397.4	3.2	3.1	129.59	22.5	59.4	81.9	75.7	6.17	13.274		
1,500.0	1,493.1	1,498.4	1,495.9	3.6	3.3	130.62	37.1	64.6	94.0	87.2	6.73	13.971		
1,600.0	1,589.6	1,598.1	1,593.8	4.0	3.6	130.92	55.0	70.9	107.8	100.4	7.35	14.657		
1,700.0	1,685.6	1,697.8	1,690.9	4.5	4.0	130.47	76.1	78.3	122.4	114.3	8.07	15.153		
1,800.0	1,781.6	1,796.8	1,786.9	4.9	4.3	129.30	98.9	86.4	136.6	127.8	8.87	15.407		
1,900.0	1,877.6	1,895.7	1,882.8	5.4	4.8	128.34	121.7	94.5	151.0	141.3	9.70	15.557		
2,000.0	1,973.6	1,994.7	1,978.8	6.0	5.2	127.55	144.5	102.6	165.3	154.7	10.57	15.641		
2,100.0	2,069.6	2,093.6	2,074.7	6.5	5.6	126.88	167.3	110.7	179.7	168.2	11.46	15.681		
2,200.0	2,165.6	2,192.5	2,170.6	7.0	6.1	126.32	190.1	118.8	194.1	181.7	12.37	15.694		
2,300.0	2,261.6	2,291.5	2,266.6	7.6	6.5	125.83	212.9	126.8	208.5	195.2	13.29	15.688		
2,400.0	2,357.6	2,390.4	2,362.5	8.1	7.0	125.40	235.8	134.9	223.0	208.7	14.23	15.671		
2,500.0	2,453.5	2,489.4	2,458.4	8.6	7.4	125.03	258.6	143.0	237.4	222.2	15.17	15.646		
2,600.0	2,549.5	2,588.3	2,554.4	9.2	7.9	124.70	281.4	151.1	251.9	235.7	16.13	15.617		
2,700.0	2,645.5	2,687.2	2,650.3	9.7	8.4	124.41	304.2	159.2	266.3	249.2	17.09	15.586		
2,800.0	2,741.5	2,786.2	2,746.2	10.3	8.8	124.14	327.0	167.2	280.8	262.7	18.05	15.553		
2,900.0	2,837.5	2,885.1	2,842.2	10.9	9.3	123.90	349.8	175.3	295.3	276.2	19.02	15.519		
3,000.0	2,933.5	2,984.1	2,938.1	11.4	9.8	123.69	372.6	183.4	309.7	289.7	20.00	15.486		
3,100.0	3,029.5	3,083.0	3,034.0	12.0	10.3	123.49	395.4	191.5	324.2	303.2	20.98	15.454		
3,200.0	3,125.4	3,181.9	3,130.0	12.5	10.8	123.31	418.3	199.6	338.7	316.7	21.96	15.422		
3,300.0	3,221.4	3,280.9	3,225.9	13.1	11.3	123.15	441.1	207.6	353.2	330.2	22.95	15.392		
3,400.0	3,317.4	3,379.8	3,321.8	13.7	11.7	122.99	463.9	215.7	367.7	343.7	23.93	15.362		
3,500.0	3,413.4	3,478.8	3,417.8	14.2	12.2	122.85	486.7	223.8	382.2	357.2	24.92	15.334		
3,600.0	3,509.4	3,577.7	3,513.7	14.8	12.7	122.72	509.5	231.9	396.7	370.7	25.91	15.307		
3,700.0	3,605.4	3,676.6	3,609.6	15.3	13.2	122.60	532.3	240.0	411.1	384.2	26.91	15.281		
3,800.0	3,701.4	3,775.6	3,705.6	15.9	13.7	122.49	555.1	248.1	425.6	397.7	27.90	15.256		
3,900.0	3,797.4	3,874.5	3,801.5	16.5	14.2	122.38	578.0	256.1	440.1	411.2	28.90	15.232		
4,000.0	3,893.3	3,973.5	3,897.4	17.0	14.7	122.28	600.8	264.2	454.6	424.8	29.89	15.209		
4,100.0	3,989.3	4,072.4	3,993.4	17.6	15.2	122.19	623.6	272.3	469.1	438.3	30.89	15.187		
4,200.0	4,085.3	4,171.3	4,089.3	18.2	15.7	122.10	646.4	280.4	483.6	451.8	31.89	15.167		
4,300.0	4,181.3	4,270.3	4,185.2	18.7	16.2	122.02	669.2	288.5	498.1	465.3	32.89	15.147		
4,400.0	4,277.3	4,369.2	4,281.2	19.3	16.7	121.94	692.0	296.5	512.7	478.8	33.89	15.127		
4,500.0	4,373.3	4,467.7	4,376.9	19.9	17.1	121.99	713.7	304.2	527.2	492.4	34.78	15.158		
4,600.0	4,469.3	4,565.9	4,473.1	20.4	17.4	122.39	732.3	310.8	541.9	506.3	35.57	15.234		
4,700.0	4,565.3	4,663.7	4,569.6	21.0	17.7	123.12	747.7	316.3	556.7	520.4	36.28	15.346		
4,800.0	4,661.2	4,760.9	4,665.9	21.6	18.0	124.14	759.9	320.6	571.9	535.0	36.89	15.500		
4,900.0	4,757.2	4,857.2	4,761.7	22.1	18.2	125.41	769.0	323.8	587.5	550.1	37.42	15.700		
5,000.0	4,853.2	4,952.5	4,856.8	22.7	18.4	126.91	775.0	325.9	603.8	565.9	37.85	15.953		
5,100.0	4,949.2	5,046.6	4,950.8	23.3	18.5	128.60	778.0	327.0	620.9	582.7	38.18	16.263		

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

Greeley-Rothe Pad Sec.1-T5N-R67W - Greeley-Rothe 1-4H - Wellbore #1 - Plan #1 (5-02-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
5,200.0	5,045.2	5,141.0	5,045.2	23.8	18.6	130.45	778.4	327.1	639.1	600.7	38.43	16.630		
5,300.0	5,141.2	5,237.0	5,141.2	24.4	18.7	132.27	778.4	327.1	658.1	619.4	38.66	17.022		
5,400.0	5,237.3	5,333.0	5,237.3	24.9	18.9	134.09	778.4	327.1	677.5	638.6	38.87	17.430		
5,500.0	5,334.1	5,429.9	5,334.1	25.3	19.0	135.80	778.4	327.1	695.4	656.3	39.01	17.823		
5,600.0	5,431.7	5,527.5	5,431.7	25.7	19.1	137.21	778.4	327.1	711.2	672.0	39.17	18.155		
5,700.0	5,530.1	5,625.9	5,530.1	26.0	19.2	138.36	778.4	327.1	724.7	685.4	39.34	18.422		
5,800.0	5,629.0	5,724.8	5,629.0	26.3	19.4	139.26	778.4	327.1	735.8	696.3	39.51	18.621		
5,900.0	5,728.3	5,824.1	5,728.3	26.5	19.5	139.94	778.4	327.1	744.4	704.7	39.70	18.752		
6,000.0	5,828.0	5,923.8	5,828.0	26.7	19.6	140.39	778.4	327.1	750.3	710.4	39.88	18.813		
6,100.0	5,927.9	6,023.7	5,927.9	26.9	19.8	140.64	778.4	327.1	753.6	713.5	40.07	18.805		
6,200.0	6,027.9	6,123.7	6,027.9	27.0	19.9	129.02	778.4	327.1	754.3	714.0	40.29	18.721		
6,300.0	6,127.9	6,223.7	6,127.9	27.1	20.1	129.02	778.4	327.1	754.3	713.7	40.57	18.592		
6,400.0	6,227.9	6,323.7	6,227.9	27.2	20.2	129.02	778.4	327.1	754.3	713.4	40.85	18.463		
6,500.0	6,327.9	6,423.7	6,327.9	27.3	20.4	129.02	778.4	327.1	754.3	713.2	41.14	18.334		
6,600.0	6,427.9	6,523.7	6,427.9	27.4	20.5	129.02	778.4	327.1	754.3	712.9	41.43	18.206		
6,700.0	6,527.9	6,623.7	6,527.9	27.5	20.7	129.02	778.4	327.1	754.3	712.6	41.72	18.079		
6,800.0	6,627.9	6,723.7	6,627.9	27.6	20.9	132.03	776.5	269.9	744.8	703.5	41.22	18.067		
6,900.0	6,727.9	6,823.7	6,727.9	27.7	20.8	144.11	770.6	90.3	701.3	663.5	37.86	18.522		
7,000.0	6,827.9	6,923.7	6,827.9	27.8	20.8	155.83	766.3	-40.4	645.8	609.8	35.96	17.958		
7,100.0	6,927.9	7,023.7	6,927.9	28.0	20.9	164.27	763.7	-121.1	591.5	555.6	35.91	16.475		
7,200.0	7,027.9	7,123.7	7,027.9	28.1	21.1	170.09	762.0	-173.1	545.4	508.8	36.63	14.890		
7,300.0	7,127.9	7,223.7	7,127.9	28.2	21.3	174.19	760.8	-208.8	512.0	474.5	37.50	13.654		
7,400.0	7,227.9	7,323.7	7,227.9	28.3	21.5	177.18	760.0	-234.6	495.3	456.9	38.34	12.917		
7,439.0	7,267.0	7,363.0	7,267.0	28.4	21.6	178.13	759.7	-242.8	493.8	455.1	38.64	12.779		
7,500.0	7,327.9	7,423.7	7,327.9	28.4	21.7	179.31	759.4	-253.0	497.4	458.3	39.05	12.737		
7,600.0	7,427.9	7,523.7	7,427.9	28.6	21.9	-178.81	758.9	-269.2	518.5	478.8	39.75	13.044		
7,700.0	7,527.9	7,623.7	7,527.9	28.7	22.0	-177.41	758.5	-281.3	556.6	516.3	40.34	13.800		
7,800.0	7,627.9	7,723.7	7,627.9	28.8	22.2	-176.27	758.1	-291.2	608.7	567.8	40.86	14.897		
7,900.0	7,727.9	7,823.7	7,727.9	28.9	22.3	-174.99	757.8	-302.4	671.5	630.1	41.43	16.208		
8,000.0	7,827.9	7,923.7	7,827.9	29.1	22.3	-174.99	757.8	-302.4	742.4	700.8	41.62	17.839		
8,100.0	7,927.9	8,023.7	7,927.9	29.2	22.3	-174.99	757.8	-302.4	819.4	777.6	41.80	19.601		
8,177.1	8,005.0	7,714.2	7,278.3	29.3	22.5	-173.38	757.3	-316.5	881.6	839.2	42.46	20.766		

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0ft
Survey Program: 0-MWD													Offset Well Error:	0.0ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.02	0.0	25.1	25.1					
100.0	100.0	100.0	100.0	0.1	0.1	90.02	0.0	25.1	25.1	24.8	0.22	111.486		
200.0	200.0	200.0	200.0	0.3	0.3	90.02	0.0	25.1	25.1	24.4	0.67	37.162		
300.0	300.0	300.0	300.0	0.6	0.6	90.02	0.0	25.1	25.1	23.9	1.12	22.297		
400.0	400.0	400.0	400.0	0.8	0.8	90.02	0.0	25.1	25.1	23.5	1.57	15.927		
500.0	500.0	500.0	500.0	1.0	1.0	90.02	0.0	25.1	25.1	23.0	2.02	12.387		
600.0	600.0	600.0	600.0	1.2	1.2	90.02	0.0	25.1	25.1	22.6	2.47	10.135		
700.0	700.0	700.0	700.0	1.5	1.5	90.02	0.0	25.1	25.1	22.1	2.92	8.576		
800.0	800.0	800.0	800.0	1.7	1.7	90.02	0.0	25.1	25.1	21.7	3.37	7.432 CC		
900.0	900.0	900.0	900.0	1.9	1.9	105.53	0.0	25.1	25.5	21.6	3.82	6.668 ES		
1,000.0	999.8	999.8	999.8	2.1	2.1	116.11	0.0	25.1	27.3	23.1	4.27	6.406 SF		
1,100.0	1,099.5	1,099.5	1,099.5	2.4	2.4	130.09	0.0	25.1	32.1	27.4	4.72	6.815		
1,200.0	1,198.7	1,198.7	1,198.7	2.6	2.6	143.06	0.0	25.1	41.1	35.9	5.17	7.955		
1,300.0	1,297.5	1,297.5	1,297.5	2.9	2.8	152.86	0.0	25.1	54.4	48.8	5.61	9.711		
1,400.0	1,395.6	1,395.6	1,395.6	3.2	3.0	159.66	0.0	25.1	72.0	66.0	6.04	11.918		
1,500.0	1,493.1	1,494.9	1,494.9	3.6	3.2	163.62	1.4	25.7	92.5	86.0	6.47	14.296		
1,600.0	1,589.6	1,594.6	1,594.5	4.0	3.5	165.18	6.0	27.9	114.5	107.6	6.90	16.586		
1,700.0	1,685.6	1,694.9	1,694.4	4.5	3.7	165.37	13.7	31.6	136.5	129.1	7.38	18.486		
1,800.0	1,781.6	1,796.1	1,794.8	4.9	3.9	164.49	24.7	36.8	156.4	148.5	7.90	19.799		
1,900.0	1,877.6	1,897.9	1,895.4	5.4	4.2	162.85	38.9	43.7	174.3	165.8	8.45	20.612		
2,000.0	1,973.6	1,996.8	1,992.7	6.0	4.5	161.02	54.7	51.2	191.0	181.9	9.04	21.122		
2,100.0	2,069.6	2,095.2	2,089.6	6.5	4.8	159.49	70.5	58.7	207.8	198.2	9.66	21.523		
2,200.0	2,165.6	2,193.7	2,186.5	7.0	5.1	158.18	86.2	66.3	224.8	214.5	10.29	21.844		
2,300.0	2,261.6	2,292.1	2,283.3	7.6	5.4	157.06	102.0	73.8	241.9	231.0	10.95	22.096		
2,400.0	2,357.6	2,390.5	2,380.2	8.1	5.7	156.09	117.7	81.3	259.1	247.5	11.62	22.296		
2,500.0	2,453.5	2,488.9	2,477.1	8.6	6.0	155.24	133.5	88.8	276.3	264.0	12.31	22.454		
2,600.0	2,549.5	2,587.4	2,573.9	9.2	6.4	154.49	149.2	96.4	293.6	280.6	13.00	22.579		
2,700.0	2,645.5	2,685.8	2,670.8	9.7	6.7	153.82	165.0	103.9	310.9	297.2	13.71	22.678		
2,800.0	2,741.5	2,784.2	2,767.7	10.3	7.1	153.22	180.7	111.4	328.3	313.9	14.43	22.756		
2,900.0	2,837.5	2,882.6	2,864.5	10.9	7.4	152.68	196.4	118.9	345.7	330.5	15.15	22.817		
3,000.0	2,933.5	2,981.1	2,961.4	11.4	7.8	152.20	212.2	126.5	363.1	347.2	15.88	22.865		
3,100.0	3,029.5	3,079.5	3,058.3	12.0	8.2	151.76	227.9	134.0	380.6	363.9	16.62	22.902		
3,200.0	3,125.4	3,177.9	3,155.1	12.5	8.5	151.35	243.7	141.5	398.0	380.7	17.36	22.930		
3,300.0	3,221.4	3,276.3	3,252.0	13.1	8.9	150.98	259.4	149.0	415.5	397.4	18.10	22.952		
3,400.0	3,317.4	3,374.8	3,348.9	13.7	9.2	150.65	275.2	156.6	433.0	414.2	18.85	22.967		
3,500.0	3,413.4	3,473.2	3,445.7	14.2	9.6	150.33	290.9	164.1	450.5	430.9	19.61	22.978		
3,600.0	3,509.4	3,571.6	3,542.6	14.8	10.0	150.04	306.7	171.6	468.0	447.7	20.36	22.985		
3,700.0	3,605.4	3,670.0	3,639.5	15.3	10.4	149.77	322.4	179.1	485.6	464.5	21.12	22.989		
3,800.0	3,701.4	3,768.5	3,736.3	15.9	10.7	149.52	338.2	186.6	503.1	481.2	21.88	22.991		
3,900.0	3,797.4	3,866.9	3,833.2	16.5	11.1	149.29	353.9	194.2	520.7	498.0	22.65	22.990		
4,000.0	3,893.3	3,965.3	3,930.1	17.0	11.5	149.07	369.6	201.7	538.2	514.8	23.41	22.988		
4,100.0	3,989.3	4,063.8	4,026.9	17.6	11.9	148.87	385.4	209.2	555.8	531.6	24.18	22.985		
4,200.0	4,085.3	4,162.2	4,123.8	18.2	12.2	148.68	401.1	216.7	573.4	548.4	24.95	22.980		
4,300.0	4,181.3	4,260.6	4,220.7	18.7	12.6	148.50	416.9	224.3	590.9	565.2	25.72	22.974		
4,400.0	4,277.3	4,359.0	4,317.5	19.3	13.0	148.33	432.6	231.8	608.5	582.0	26.49	22.968		
4,500.0	4,373.3	4,457.5	4,414.4	19.9	13.4	148.17	448.4	239.3	626.1	598.9	27.27	22.961		
4,600.0	4,469.3	4,555.9	4,511.3	20.4	13.8	148.02	464.1	246.8	643.7	615.7	28.04	22.954		
4,700.0	4,565.3	4,654.3	4,608.1	21.0	14.1	147.87	479.9	254.4	661.3	632.5	28.82	22.946		
4,800.0	4,661.2	4,752.7	4,705.0	21.6	14.5	147.74	495.6	261.9	678.9	649.3	29.60	22.939		
4,900.0	4,757.2	4,851.2	4,801.9	22.1	14.9	147.61	511.4	269.4	696.5	666.1	30.38	22.930		
5,000.0	4,853.2	4,949.6	4,898.7	22.7	15.3	147.49	527.1	276.9	714.1	683.0	31.15	22.922		
5,100.0	4,949.2	5,048.0	4,995.6	23.3	15.7	147.37	542.8	284.5	731.7	699.8	31.93	22.914		

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

Greeley-Rothe Pad Sec.1-T5N-R67W - Greeley-Rothe 1-5H - Wellbore #1 - Plan #1 (5-02-14)													Offset Site Error: 0.0 ft	
Survey Program: 0-MWD													Offset Well Error: 0.0 ft	
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
5,200.0	5,045.2	5,146.4	5,092.5	23.8	16.1	147.26	558.6	292.0	749.4	716.6	32.72	22.906		
5,300.0	5,141.2	5,244.9	5,189.3	24.4	16.4	147.15	574.3	299.5	767.0	733.5	33.50	22.897		
5,400.0	5,237.3	5,343.3	5,286.3	24.9	16.8	147.12	590.1	307.0	784.3	750.1	34.28	22.877		
5,500.0	5,334.1	5,433.9	5,375.6	25.3	17.1	147.17	603.5	313.4	799.8	764.8	34.93	22.898		
5,600.0	5,431.7	5,524.1	5,465.0	25.7	17.3	147.27	614.3	318.6	813.4	777.9	35.47	22.933		
5,700.0	5,530.1	5,614.4	5,554.8	26.0	17.6	147.41	622.5	322.5	825.2	789.3	35.93	22.968		
5,800.0	5,629.0	5,704.7	5,644.9	26.3	17.7	147.60	628.2	325.2	835.2	798.9	36.31	23.004		
5,900.0	5,728.3	5,795.0	5,735.1	26.5	17.9	147.84	631.3	326.7	843.3	806.7	36.60	23.044		
6,000.0	5,828.0	5,887.9	5,828.0	26.7	18.0	148.12	632.0	327.1	849.6	812.8	36.81	23.079		
6,100.0	5,927.9	5,987.8	5,927.9	26.9	18.2	148.31	632.0	327.1	853.2	816.2	37.03	23.044		
6,200.0	6,027.9	6,087.8	6,027.9	27.0	18.3	136.67	632.0	327.1	854.0	816.8	37.26	22.921		
6,300.0	6,127.9	6,187.8	6,127.9	27.1	18.5	136.67	632.0	327.1	854.0	816.4	37.56	22.734		
6,400.0	6,227.9	6,287.8	6,227.9	27.2	18.6	136.67	632.0	327.1	854.0	816.1	37.87	22.549		
6,500.0	6,327.9	6,387.8	6,327.9	27.3	18.8	136.67	632.0	327.1	854.0	815.8	38.19	22.365		
6,600.0	6,427.9	6,487.8	6,427.9	27.4	19.0	136.67	632.0	327.1	854.0	815.5	38.50	22.182		
6,700.0	6,527.9	6,587.8	6,527.9	27.5	19.1	136.67	632.0	327.1	854.0	815.2	38.82	22.001		
6,800.0	6,627.9	6,687.8	6,627.9	27.6	19.3	136.67	632.0	327.1	854.0	814.9	39.14	21.821		
6,900.0	6,727.9	6,967.0	6,903.2	27.7	19.5	138.56	630.8	290.7	848.7	809.6	39.06	21.726		
7,000.0	6,827.9	7,297.7	7,182.4	27.8	19.4	148.96	625.1	119.2	814.4	777.7	36.69	22.198		
7,100.0	6,927.9	7,473.3	7,290.7	28.0	19.3	159.19	620.5	-18.5	768.0	732.4	35.61	21.566		
7,200.0	7,027.9	7,570.7	7,335.3	28.1	19.4	166.39	617.6	-105.0	722.6	686.6	36.00	20.073		
7,300.0	7,127.9	7,630.6	7,356.7	28.2	19.7	171.25	615.8	-160.8	684.4	647.5	36.83	18.584		
7,400.0	7,227.9	7,670.6	7,368.4	28.3	20.1	174.65	614.5	-199.1	656.8	619.1	37.68	17.429		
7,500.0	7,327.9	7,699.0	7,375.4	28.4	20.4	177.11	613.6	-226.6	642.2	603.8	38.45	16.703		
7,549.9	7,377.9	7,710.3	7,377.9	28.5	20.6	178.09	613.2	-237.6	640.4	601.6	38.81	16.502		
7,600.0	7,427.9	7,720.2	7,379.9	28.6	20.7	178.96	612.9	-247.3	642.3	603.1	39.14	16.409		
7,700.0	7,527.9	7,736.6	7,382.9	28.7	21.0	-179.60	612.4	-263.4	657.1	617.4	39.74	16.536		
7,800.0	7,627.9	7,750.0	7,385.2	28.8	21.2	-178.42	611.9	-276.6	686.0	645.7	40.27	17.034		
7,900.0	7,727.9	7,760.3	7,386.7	28.9	21.3	-177.52	611.6	-286.7	727.3	686.6	40.74	17.851		
8,000.0	7,827.9	7,769.1	7,387.9	29.1	21.5	-176.74	611.3	-295.4	779.2	738.0	41.18	18.923		
8,100.0	7,927.9	7,776.5	7,388.8	29.2	21.6	-176.09	611.0	-302.8	839.6	798.1	41.57	20.196		
8,177.1	8,005.0	7,781.4	7,389.4	29.3	21.7	-175.66	610.9	-307.7	891.1	849.2	41.86	21.287		

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	118.32	-25.5	47.3	53.8					
100.0	100.0	100.0	100.0	0.1	0.1	118.32	-25.5	47.3	53.8	53.5	0.22	239.222		
200.0	200.0	200.0	200.0	0.3	0.3	118.32	-25.5	47.3	53.8	53.1	0.67	79.741		
300.0	300.0	300.0	300.0	0.6	0.6	118.32	-25.5	47.3	53.8	52.6	1.12	47.844		
400.0	400.0	400.0	400.0	0.8	0.8	118.32	-25.5	47.3	53.8	52.2	1.57	34.175		
500.0	500.0	500.0	500.0	1.0	1.0	118.32	-25.5	47.3	53.8	51.7	2.02	26.580		
600.0	600.0	600.0	600.0	1.2	1.2	118.32	-25.5	47.3	53.8	51.3	2.47	21.747		
700.0	700.0	700.0	700.0	1.5	1.5	118.32	-25.5	47.3	53.8	50.8	2.92	18.402		
800.0	800.0	800.0	800.0	1.7	1.7	118.32	-25.5	47.3	53.8	50.4	3.37	15.948 CC, ES		
900.0	900.0	900.0	900.0	1.9	1.9	131.37	-25.5	47.3	54.9	51.1	3.82	14.373		
1,000.0	999.8	999.8	999.8	2.1	2.1	135.17	-25.5	47.3	58.5	54.2	4.27	13.708 SF		
1,100.0	1,099.5	1,099.5	1,099.5	2.4	2.4	140.50	-25.5	47.3	65.0	60.3	4.72	13.780		
1,200.0	1,198.7	1,198.7	1,198.7	2.6	2.6	146.33	-25.5	47.3	74.8	69.6	5.16	14.489		
1,300.0	1,297.5	1,297.5	1,297.5	2.9	2.8	151.82	-25.5	47.3	88.3	82.7	5.61	15.743		
1,400.0	1,395.6	1,395.6	1,395.6	3.2	3.0	156.57	-25.5	47.3	105.5	99.5	6.05	17.449		
1,500.0	1,493.1	1,493.1	1,493.1	3.6	3.2	160.47	-25.5	47.3	126.5	120.1	6.48	19.519		
1,600.0	1,589.6	1,589.6	1,589.6	4.0	3.5	163.59	-25.5	47.3	151.3	144.3	6.91	21.879		
1,700.0	1,685.6	1,688.9	1,688.9	4.5	3.7	165.81	-24.3	48.0	177.6	170.2	7.38	24.069		
1,800.0	1,781.6	1,789.7	1,789.6	4.9	3.9	166.68	-20.0	50.4	202.1	194.3	7.86	25.713		
1,900.0	1,877.6	1,891.7	1,891.2	5.4	4.1	166.60	-12.5	54.5	224.6	216.2	8.36	26.860		
2,000.0	1,973.6	1,993.3	1,992.1	6.0	4.4	165.87	-2.0	60.3	245.1	236.2	8.89	27.584		
2,100.0	2,069.6	2,091.3	2,089.2	6.5	4.6	165.08	9.1	66.4	265.0	255.6	9.42	28.120		
2,200.0	2,165.6	2,189.2	2,186.4	7.0	4.9	164.40	20.2	72.5	285.0	275.0	9.98	28.564		
2,300.0	2,261.6	2,287.2	2,283.5	7.6	5.1	163.82	31.3	78.6	305.0	294.4	10.54	28.937		
2,400.0	2,357.6	2,385.1	2,380.6	8.1	5.4	163.30	42.3	84.7	325.0	313.9	11.11	29.248		
2,500.0	2,453.5	2,483.0	2,477.7	8.6	5.7	162.84	53.4	90.8	345.0	333.3	11.69	29.509		
2,600.0	2,549.5	2,581.0	2,574.8	9.2	5.9	162.44	64.5	96.9	365.1	352.8	12.28	29.730		
2,700.0	2,645.5	2,678.9	2,671.9	9.7	6.2	162.07	75.6	103.0	385.1	372.3	12.87	29.916		
2,800.0	2,741.5	2,776.8	2,769.1	10.3	6.5	161.75	86.6	109.1	405.2	391.8	13.47	30.075		
2,900.0	2,837.5	2,874.8	2,866.2	10.9	6.8	161.45	97.7	115.2	425.3	411.3	14.08	30.210		
3,000.0	2,933.5	2,972.7	2,963.3	11.4	7.1	161.18	108.8	121.3	445.4	430.8	14.69	30.325		
3,100.0	3,029.5	3,070.6	3,060.4	12.0	7.4	160.93	119.8	127.4	465.6	450.3	15.30	30.424		
3,200.0	3,125.4	3,168.6	3,157.5	12.5	7.7	160.71	130.9	133.4	485.7	469.8	15.92	30.509		
3,300.0	3,221.4	3,266.5	3,254.6	13.1	7.9	160.50	142.0	139.5	505.8	489.3	16.54	30.582		
3,400.0	3,317.4	3,364.5	3,351.8	13.7	8.2	160.31	153.1	145.6	526.0	508.8	17.16	30.645		
3,500.0	3,413.4	3,462.4	3,448.9	14.2	8.5	160.13	164.1	151.7	546.1	528.3	17.79	30.699		
3,600.0	3,509.4	3,560.3	3,546.0	14.8	8.8	159.96	175.2	157.8	566.2	547.8	18.42	30.746		
3,700.0	3,605.4	3,658.3	3,643.1	15.3	9.1	159.81	186.3	163.9	586.4	567.4	19.05	30.787		
3,800.0	3,701.4	3,756.2	3,740.2	15.9	9.4	159.67	197.4	170.0	606.6	586.9	19.68	30.822		
3,900.0	3,797.4	3,854.1	3,837.4	16.5	9.8	159.53	208.4	176.1	626.7	606.4	20.31	30.853		
4,000.0	3,893.3	3,952.1	3,934.5	17.0	10.1	159.41	219.5	182.2	646.9	625.9	20.95	30.879		
4,100.0	3,989.3	4,050.0	4,031.6	17.6	10.4	159.29	230.6	188.3	667.0	645.5	21.59	30.902		
4,200.0	4,085.3	4,148.0	4,128.7	18.2	10.7	159.18	241.7	194.4	687.2	665.0	22.22	30.922		
4,300.0	4,181.3	4,245.9	4,225.8	18.7	11.0	159.07	252.7	200.5	707.4	684.5	22.86	30.939		
4,400.0	4,277.3	4,343.8	4,322.9	19.3	11.3	158.97	263.8	206.6	727.6	704.1	23.50	30.954		
4,500.0	4,373.3	4,441.8	4,420.1	19.9	11.6	158.88	274.9	212.7	747.7	723.6	24.15	30.967		
4,600.0	4,469.3	4,539.7	4,517.2	20.4	11.9	158.79	286.0	218.8	767.9	743.1	24.79	30.978		
4,700.0	4,565.3	4,637.6	4,614.3	21.0	12.2	158.70	297.0	224.9	788.1	762.7	25.43	30.987		
4,800.0	4,661.2	4,735.6	4,711.4	21.6	12.5	158.62	308.1	231.0	808.3	782.2	26.08	30.995		
4,900.0	4,757.2	4,833.5	4,808.5	22.1	12.8	158.55	319.2	237.1	828.5	801.7	26.72	31.001		
5,000.0	4,853.2	4,931.4	4,905.6	22.7	13.1	158.47	330.3	243.2	848.6	821.3	27.37	31.007		
5,100.0	4,949.2	5,029.4	5,002.8	23.3	13.5	158.40	341.3	249.3	868.8	840.8	28.02	31.011		

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

Greeley-Rothe Pad Sec.1-T5N-R67W - Greeley-Rothe 1-6H - Wellbore #1 - Plan #1 (5-02-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
5,200.0	5,045.2	5,127.3	5,099.9	23.8	13.8	158.34	352.4	255.4	889.0	860.3	28.66	31.015		
5,300.0	5,141.2	5,225.3	5,197.0	24.4	14.1	158.28	363.5	261.5	909.2	879.9	29.31	31.018		
5,400.0	5,237.3	5,323.2	5,294.2	24.9	14.4	158.27	374.6	267.6	929.1	899.1	29.98	30.992		
5,500.0	5,334.1	5,421.7	5,391.8	25.3	14.7	158.27	385.7	273.7	946.3	915.7	30.63	30.899		
5,600.0	5,431.7	5,520.7	5,489.9	25.7	15.0	158.17	396.9	279.9	960.4	929.1	31.26	30.728		
5,700.0	5,530.1	5,620.0	5,588.4	26.0	15.3	157.97	408.1	286.0	971.3	939.4	31.86	30.484		
5,800.0	5,629.0	5,719.5	5,687.1	26.3	15.7	157.68	419.4	292.2	978.9	946.5	32.44	30.173		
5,900.0	5,728.3	5,819.1	5,785.9	26.5	16.0	157.30	430.6	298.4	983.4	950.4	33.00	29.797		
6,000.0	5,828.0	5,918.7	5,884.7	26.7	16.3	156.81	441.9	304.6	984.8	951.2	33.54	29.359		
6,100.0	5,927.9	6,018.2	5,983.3	26.9	16.6	156.22	453.1	310.8	983.0	948.9	34.06	28.862		
6,200.0	6,027.9	6,110.9	6,075.2	27.0	16.9	143.93	463.3	316.4	978.4	943.9	34.52	28.339		
6,300.0	6,127.9	6,200.0	6,163.9	27.1	17.1	143.47	471.0	320.6	974.3	939.3	34.97	27.859		
6,400.0	6,227.9	6,285.3	6,249.0	27.2	17.3	143.16	476.0	323.4	971.4	936.1	35.36	27.475		
6,500.0	6,327.9	6,373.0	6,336.7	27.3	17.4	142.98	478.9	325.0	969.9	934.2	35.70	27.168		
6,600.0	6,427.9	6,464.3	6,427.9	27.4	17.6	142.94	479.5	325.3	969.6	933.6	36.01	26.925		
6,700.0	6,527.9	6,564.3	6,527.9	27.5	17.7	142.94	479.5	325.3	969.6	933.2	36.34	26.677		
6,800.0	6,627.9	6,670.4	6,627.9	27.6	18.0	145.42	477.8	275.7	962.8	926.6	36.22	26.580		
6,900.0	6,727.9	7,173.8	7,078.7	27.7	17.9	154.77	472.3	109.1	931.9	897.2	34.70	26.856		
7,000.0	6,827.9	7,338.6	7,179.2	27.8	17.9	163.14	468.0	-20.9	892.6	858.0	34.58	25.812		
7,100.0	6,927.9	7,432.4	7,222.2	28.0	18.3	168.89	465.2	-104.2	855.3	820.0	35.38	24.177		
7,200.0	7,027.9	7,491.2	7,243.5	28.1	19.0	172.78	463.4	-158.9	824.9	788.5	36.33	22.706		
7,300.0	7,127.9	7,530.9	7,255.3	28.2	19.5	175.51	462.1	-196.8	803.7	766.5	37.21	21.600		
7,400.0	7,227.9	7,559.3	7,262.4	28.3	19.9	177.50	461.2	-224.3	793.6	755.6	37.97	20.900		
7,436.4	7,264.3	7,567.8	7,264.3	28.4	20.0	178.09	460.9	-232.5	792.8	754.6	38.22	20.740		
7,500.0	7,327.9	7,580.7	7,267.1	28.4	20.2	179.00	460.5	-245.1	795.2	756.6	38.63	20.584		
7,600.0	7,427.9	7,600.0	7,270.7	28.6	20.5	-179.63	459.9	-264.1	808.8	769.6	39.26	20.600		
7,700.0	7,527.9	7,610.5	7,272.5	28.7	20.7	-178.88	459.5	-274.5	834.0	794.2	39.71	21.000		
7,800.0	7,627.9	7,621.3	7,274.2	28.8	20.9	-178.11	459.2	-285.1	869.7	829.5	40.17	21.650		
7,900.0	7,727.9	7,630.3	7,275.5	28.9	21.0	-177.47	458.9	-294.0	914.9	874.3	40.59	22.541		
8,000.0	7,827.9	7,637.9	7,276.5	29.1	21.1	-176.93	458.6	-301.5	968.2	927.2	40.97	23.633		

Greeley-Rothe Pad Sec.1-T5N-R67W - Greeley-Rothe 1-7H - Wellbore #1 - Plan #1 (5-02-14)													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
0.0	0.0	0.0	0.0	0.0	0.0	137.14	-51.0	47.3	69.6					
100.0	100.0	100.0	100.0	0.1	0.1	137.14	-51.0	47.3	69.6	69.4	0.22	309.591		
200.0	200.0	200.0	200.0	0.3	0.3	137.14	-51.0	47.3	69.6	68.9	0.67	103.197		
300.0	300.0	300.0	300.0	0.6	0.6	137.14	-51.0	47.3	69.6	68.5	1.12	61.918		
400.0	400.0	400.0	400.0	0.8	0.8	137.14	-51.0	47.3	69.6	68.0	1.57	44.227		
500.0	500.0	500.0	500.0	1.0	1.0	137.14	-51.0	47.3	69.6	67.6	2.02	34.399		
600.0	600.0	600.0	600.0	1.2	1.2	137.14	-51.0	47.3	69.6	67.1	2.47	28.145		
700.0	700.0	700.0	700.0	1.5	1.5	137.14	-51.0	47.3	69.6	66.7	2.92	23.815		
800.0	800.0	800.0	800.0	1.7	1.7	137.14	-51.0	47.3	69.6	66.2	3.37	20.639	CC, ES	
900.0	900.0	900.0	900.0	1.9	1.9	149.53	-51.0	47.3	71.1	67.3	3.82	18.606		
1,000.0	999.8	999.8	999.8	2.1	2.1	151.49	-51.0	47.3	75.6	71.4	4.27	17.724		
1,100.0	1,099.5	1,099.5	1,099.5	2.4	2.4	154.28	-51.0	47.3	83.4	78.7	4.71	17.697	SF	
1,200.0	1,198.7	1,198.7	1,198.7	2.6	2.6	157.40	-51.0	47.3	94.5	89.4	5.16	18.336		
1,300.0	1,297.5	1,297.5	1,297.5	2.9	2.8	160.45	-51.0	47.3	109.2	103.6	5.60	19.506		
1,400.0	1,395.6	1,395.6	1,395.6	3.2	3.0	163.22	-51.0	47.3	127.3	121.3	6.03	21.106		
1,500.0	1,493.1	1,493.1	1,493.1	3.6	3.2	165.60	-51.0	47.3	149.0	142.6	6.47	23.051		
1,600.0	1,589.6	1,589.6	1,589.6	4.0	3.5	167.60	-51.0	47.3	174.3	167.4	6.89	25.276		
1,700.0	1,685.6	1,685.6	1,685.6	4.5	3.7	169.29	-51.0	47.3	201.8	194.4	7.36	27.429		
1,800.0	1,781.6	1,781.6	1,781.6	4.9	3.9	170.59	-51.0	47.3	229.4	221.6	7.83	29.309		
1,900.0	1,877.6	1,877.6	1,877.6	5.4	4.1	171.61	-51.0	47.3	257.1	248.8	8.30	30.969		
2,000.0	1,973.6	1,973.6	1,973.6	6.0	4.3	172.43	-51.0	47.3	284.9	276.2	8.78	32.441		
2,100.0	2,069.6	2,072.1	2,072.0	6.5	4.5	172.96	-50.5	48.1	312.5	303.2	9.27	33.717		
2,200.0	2,165.6	2,172.0	2,171.9	7.0	4.8	172.86	-47.9	51.5	339.1	329.3	9.76	34.743		
2,300.0	2,261.6	2,272.4	2,272.0	7.6	5.0	172.22	-43.3	57.7	364.6	354.3	10.26	35.524		
2,400.0	2,357.6	2,373.0	2,371.9	8.1	5.2	171.16	-36.5	66.8	389.2	378.4	10.79	36.077		
2,500.0	2,453.5	2,469.8	2,468.0	8.6	5.4	170.02	-29.0	77.0	413.4	402.1	11.33	36.499		
2,600.0	2,549.5	2,566.6	2,563.8	9.2	5.7	169.00	-21.4	87.1	437.7	425.9	11.88	36.847		
2,700.0	2,645.5	2,663.3	2,659.7	9.7	5.9	168.09	-13.8	97.3	462.2	449.8	12.44	37.148		
2,800.0	2,741.5	2,760.0	2,755.6	10.3	6.2	167.27	-6.3	107.4	486.8	473.7	13.02	37.391		
2,900.0	2,837.5	2,856.7	2,851.5	10.9	6.4	166.53	1.3	117.6	511.4	497.8	13.60	37.597		
3,000.0	2,933.5	2,953.4	2,947.4	11.4	6.7	165.86	8.9	127.8	536.1	521.9	14.20	37.768		
3,100.0	3,029.5	3,050.1	3,043.2	12.0	7.0	165.24	16.4	137.9	560.9	546.1	14.80	37.910		
3,200.0	3,125.4	3,146.8	3,139.1	12.5	7.3	164.68	24.0	148.1	585.8	570.4	15.40	38.028		
3,300.0	3,221.4	3,243.5	3,235.0	13.1	7.5	164.17	31.6	158.2	610.6	594.6	16.02	38.126		
3,400.0	3,317.4	3,340.3	3,330.9	13.7	7.8	163.69	39.1	168.4	635.6	618.9	16.64	38.206		
3,500.0	3,413.4	3,437.0	3,426.7	14.2	8.1	163.25	46.7	178.6	660.5	643.3	17.26	38.272		
3,600.0	3,509.4	3,533.7	3,522.6	14.8	8.4	162.84	54.3	188.7	685.5	667.7	17.89	38.326		
3,700.0	3,605.4	3,630.4	3,618.5	15.3	8.7	162.46	61.8	198.9	710.6	692.1	18.52	38.370		
3,800.0	3,701.4	3,727.1	3,714.4	15.9	9.0	162.11	69.4	209.1	735.6	716.5	19.15	38.405		
3,900.0	3,797.4	3,823.8	3,810.3	16.5	9.3	161.78	77.0	219.2	760.7	740.9	19.79	38.433		
4,000.0	3,893.3	3,920.5	3,906.1	17.0	9.6	161.47	84.5	229.4	785.8	765.4	20.44	38.454		
4,100.0	3,989.3	4,017.2	4,002.0	17.6	9.9	161.18	92.1	239.5	811.0	789.9	21.08	38.470		
4,200.0	4,085.3	4,114.0	4,097.9	18.2	10.2	160.91	99.7	249.7	836.1	814.4	21.73	38.481		
4,300.0	4,181.3	4,210.7	4,193.8	18.7	10.5	160.65	107.2	259.9	861.3	838.9	22.38	38.489		
4,400.0	4,277.3	4,307.4	4,289.7	19.3	10.8	160.41	114.8	270.0	886.4	863.4	23.03	38.493		
4,500.0	4,373.3	4,404.1	4,385.5	19.9	11.1	160.18	122.4	280.2	911.6	887.9	23.68	38.495		
4,600.0	4,469.3	4,500.8	4,481.4	20.4	11.4	159.96	129.9	290.3	936.8	912.5	24.34	38.494		
4,700.0	4,565.3	4,597.5	4,577.3	21.0	11.7	159.76	137.5	300.5	962.0	937.1	24.99	38.491		
4,800.0	4,661.2	4,692.7	4,671.7	21.6	11.9	159.59	144.7	310.2	987.3	961.7	25.63	38.528		

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 ft
Greeley-Rothe Pad Sec.1-T5N-R67W - Greeley-Rothe 1-8H - Wellbore #1 - Plan #1 (5-02-14)												Offset Well Error:	0.0 ft
Survey Program: 0-MWD													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	148.26	-76.5	47.3	90.0	90.0	0.00	N/A	
100.0	100.0	101.0	101.0	0.1	0.1	148.26	-76.5	47.3	90.0	89.7	0.23	396.323	
200.0	200.0	201.0	201.0	0.3	0.3	148.26	-76.5	47.3	90.0	89.3	0.68	132.985	
300.0	300.0	301.0	301.0	0.6	0.6	148.26	-76.5	47.3	90.0	88.8	1.13	79.897	
400.0	400.0	401.0	401.0	0.8	0.8	148.26	-76.5	47.3	90.0	88.4	1.58	57.102	
500.0	500.0	501.0	501.0	1.0	1.0	148.26	-76.5	47.3	90.0	87.9	2.03	44.427	
600.0	600.0	601.0	601.0	1.2	1.2	148.26	-76.5	47.3	90.0	87.5	2.47	36.357	
700.0	700.0	701.0	701.0	1.5	1.5	148.26	-76.5	47.3	90.0	87.0	2.92	30.768	
800.0	800.0	801.0	801.0	1.7	1.7	148.26	-76.5	47.3	90.0	86.6	3.37	26.668 CC, ES	
900.0	900.0	901.0	901.0	1.9	1.9	160.30	-76.5	47.3	91.6	87.8	3.82	23.964	
1,000.0	999.8	1,000.8	1,000.8	2.1	2.1	161.31	-76.5	47.3	96.6	92.3	4.27	22.611	
1,100.0	1,099.5	1,100.5	1,100.5	2.4	2.4	162.79	-76.5	47.3	104.8	100.1	4.71	22.239 SF	
1,200.0	1,198.7	1,199.7	1,199.7	2.6	2.6	164.50	-76.5	47.3	116.6	111.4	5.16	22.606	
1,300.0	1,297.5	1,294.5	1,294.5	2.9	2.8	165.87	-77.5	48.6	133.2	127.6	5.57	23.911	
1,400.0	1,395.6	1,387.6	1,387.5	3.2	3.0	166.65	-80.3	52.1	156.0	150.1	5.97	26.135	
1,500.0	1,493.1	1,478.5	1,478.1	3.6	3.1	166.97	-84.9	57.9	185.0	178.6	6.38	29.012	
1,600.0	1,589.6	1,572.0	1,571.0	4.0	3.3	167.13	-90.8	65.3	218.8	212.0	6.79	32.231	
1,700.0	1,685.6	1,665.3	1,663.9	4.5	3.5	167.46	-96.7	72.7	254.7	247.5	7.23	35.240	
1,800.0	1,781.6	1,758.6	1,756.7	4.9	3.8	167.73	-102.5	80.1	290.6	282.9	7.68	37.830	
1,900.0	1,877.6	1,851.9	1,849.6	5.4	4.0	167.94	-108.4	87.4	326.5	318.4	8.15	40.087	
2,000.0	1,973.6	1,945.3	1,942.4	6.0	4.2	168.10	-114.3	94.8	362.5	353.8	8.62	42.064	
2,100.0	2,069.6	2,038.6	2,035.3	6.5	4.5	168.24	-120.2	102.2	398.4	389.3	9.10	43.801	
2,200.0	2,165.6	2,131.9	2,128.1	7.0	4.7	168.36	-126.0	109.6	434.3	424.7	9.58	45.339	
2,300.0	2,261.6	2,225.2	2,220.9	7.6	4.9	168.45	-131.9	117.0	470.3	460.2	10.07	46.709	
2,400.0	2,357.6	2,318.5	2,313.8	8.1	5.2	168.54	-137.8	124.3	506.2	495.6	10.56	47.933	
2,500.0	2,453.5	2,411.8	2,406.6	8.6	5.4	168.61	-143.7	131.7	542.1	531.1	11.06	49.032	
2,600.0	2,549.5	2,505.2	2,499.5	9.2	5.7	168.67	-149.5	139.1	578.1	566.5	11.56	50.023	
2,700.0	2,645.5	2,598.5	2,592.3	9.7	6.0	168.73	-155.4	146.5	614.0	601.9	12.06	50.920	
2,800.0	2,741.5	2,691.8	2,685.2	10.3	6.2	168.78	-161.3	153.9	649.9	637.4	12.56	51.735	
2,900.0	2,837.5	2,785.1	2,778.0	10.9	6.5	168.82	-167.1	161.2	685.9	672.8	13.07	52.478	
3,000.0	2,933.5	2,878.4	2,870.8	11.4	6.7	168.86	-173.0	168.6	721.8	708.2	13.58	53.158	
3,100.0	3,029.5	2,971.8	2,963.7	12.0	7.0	168.90	-178.9	176.0	757.7	743.6	14.09	53.782	
3,200.0	3,125.4	3,065.1	3,056.5	12.5	7.3	168.93	-184.8	183.4	793.7	779.1	14.60	54.357	
3,300.0	3,221.4	3,158.4	3,149.4	13.1	7.5	168.96	-190.6	190.8	829.6	814.5	15.11	54.888	
3,400.0	3,317.4	3,251.7	3,242.2	13.7	7.8	168.99	-196.5	198.1	865.5	849.9	15.63	55.379	
3,500.0	3,413.4	3,345.0	3,335.0	14.2	8.1	169.01	-202.4	205.5	901.5	885.3	16.15	55.834	
3,600.0	3,509.4	3,438.4	3,427.9	14.8	8.3	169.04	-208.3	212.9	937.4	920.8	16.66	56.258	
3,700.0	3,605.4	3,531.7	3,520.7	15.3	8.6	169.06	-214.1	220.3	973.4	956.2	17.18	56.653	

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 ft
Survey Program: 0-MWD													Offset Well Error:	0.0 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.0	0.0	1.0	1.0	0.0	0.0	155.11	-102.0	47.3	112.5	112.5	0.00	N/A		
100.0	100.0	101.0	101.0	0.1	0.1	155.11	-102.0	47.3	112.5	112.2	0.23	495.379		
200.0	200.0	201.0	201.0	0.3	0.3	155.11	-102.0	47.3	112.5	111.8	0.68	166.224		
300.0	300.0	301.0	301.0	0.6	0.6	155.11	-102.0	47.3	112.5	111.3	1.13	99.867		
400.0	400.0	401.0	401.0	0.8	0.8	155.11	-102.0	47.3	112.5	110.9	1.58	71.374		
500.0	500.0	501.0	501.0	1.0	1.0	155.11	-102.0	47.3	112.5	110.4	2.03	55.531		
600.0	600.0	601.0	601.0	1.2	1.2	155.11	-102.0	47.3	112.5	110.0	2.47	45.444		
700.0	700.0	701.0	701.0	1.5	1.5	155.11	-102.0	47.3	112.5	109.5	2.92	38.458		
800.0	800.0	801.0	801.0	1.7	1.7	155.11	-102.0	47.3	112.5	109.1	3.37	33.333 CC, ES		
900.0	900.0	901.0	901.0	1.9	1.9	166.97	-102.0	47.3	114.2	110.3	3.82	29.860		
1,000.0	999.8	1,000.0	1,000.0	2.1	2.1	167.51	-102.0	47.3	119.3	115.0	4.27	27.940		
1,100.0	1,099.5	1,096.1	1,096.1	2.4	2.3	168.29	-103.5	48.0	129.5	124.8	4.68	27.647 SF		
1,200.0	1,198.7	1,190.1	1,190.0	2.6	2.5	169.15	-107.8	49.8	146.4	141.3	5.08	28.810		
1,300.0	1,297.5	1,282.2	1,281.8	2.9	2.7	169.97	-114.8	52.8	169.9	164.4	5.48	30.984		
1,400.0	1,395.6	1,371.8	1,370.8	3.2	2.9	170.67	-124.1	56.9	199.7	193.9	5.88	33.946		
1,500.0	1,493.1	1,460.0	1,458.1	3.6	3.1	171.24	-135.8	61.9	235.7	229.4	6.29	37.474		
1,600.0	1,589.6	1,551.6	1,548.6	4.0	3.3	171.76	-148.7	67.4	275.8	269.1	6.69	41.239		
1,700.0	1,685.6	1,642.3	1,638.2	4.5	3.6	172.28	-161.4	72.9	317.9	310.8	7.11	44.693		
1,800.0	1,781.6	1,732.9	1,727.8	4.9	3.8	172.69	-174.1	78.4	360.1	352.5	7.55	47.674		
1,900.0	1,877.6	1,823.6	1,817.4	5.4	4.1	173.02	-186.9	83.9	402.2	394.2	8.00	50.288		
2,000.0	1,973.6	1,914.3	1,906.9	6.0	4.4	173.28	-199.6	89.3	444.4	435.9	8.46	52.550		
2,100.0	2,069.6	2,004.9	1,996.5	6.5	4.7	173.50	-212.3	94.8	486.6	477.6	8.92	54.567		
2,200.0	2,165.6	2,095.6	2,086.1	7.0	5.0	173.69	-225.1	100.3	528.7	519.3	9.38	56.352		
2,300.0	2,261.6	2,186.2	2,175.7	7.6	5.3	173.85	-237.8	105.8	570.9	561.1	9.85	57.941		
2,400.0	2,357.6	2,276.9	2,265.3	8.1	5.6	173.98	-250.5	111.3	613.1	602.8	10.33	59.364		
2,500.0	2,453.5	2,367.5	2,354.9	8.6	5.9	174.10	-263.3	116.8	655.3	644.5	10.81	60.644		
2,600.0	2,549.5	2,458.2	2,444.5	9.2	6.2	174.20	-276.0	122.2	697.5	686.2	11.29	61.801		
2,700.0	2,645.5	2,548.9	2,534.1	9.7	6.6	174.29	-288.7	127.7	739.7	727.9	11.77	62.848		
2,800.0	2,741.5	2,639.5	2,623.7	10.3	6.9	174.38	-301.5	133.2	781.9	769.6	12.25	63.802		
2,900.0	2,837.5	2,730.2	2,713.3	10.9	7.2	174.45	-314.2	138.7	824.1	811.3	12.74	64.673		
3,000.0	2,933.5	2,820.8	2,802.9	11.4	7.5	174.52	-326.9	144.2	866.2	853.0	13.23	65.470		
3,100.0	3,029.5	2,911.5	2,892.5	12.0	7.8	174.58	-339.7	149.7	908.4	894.7	13.72	66.202		
3,200.0	3,125.4	3,002.1	2,982.0	12.5	8.2	174.63	-352.4	155.1	950.6	936.4	14.21	66.877		
3,300.0	3,221.4	3,092.8	3,071.6	13.1	8.5	174.68	-365.1	160.6	992.8	978.1	14.71	67.500		

Company:	KP KAUFFMAN	Local Co-ordinate Reference:	Well Genesis 9-1
Project:	SEC.1-T5N-R67W	TVD Reference:	WELL @ 4891.0ft (RKB - 15')
Reference Site:	Greeley-Rothe Pad Sec.1-T5N-R67W	MD Reference:	WELL @ 4891.0ft (RKB - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	Genesis 9-1	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	Landmark
Reference Design:	Plan #2 (5-2-14)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 4891.0ft (RKB - 15')

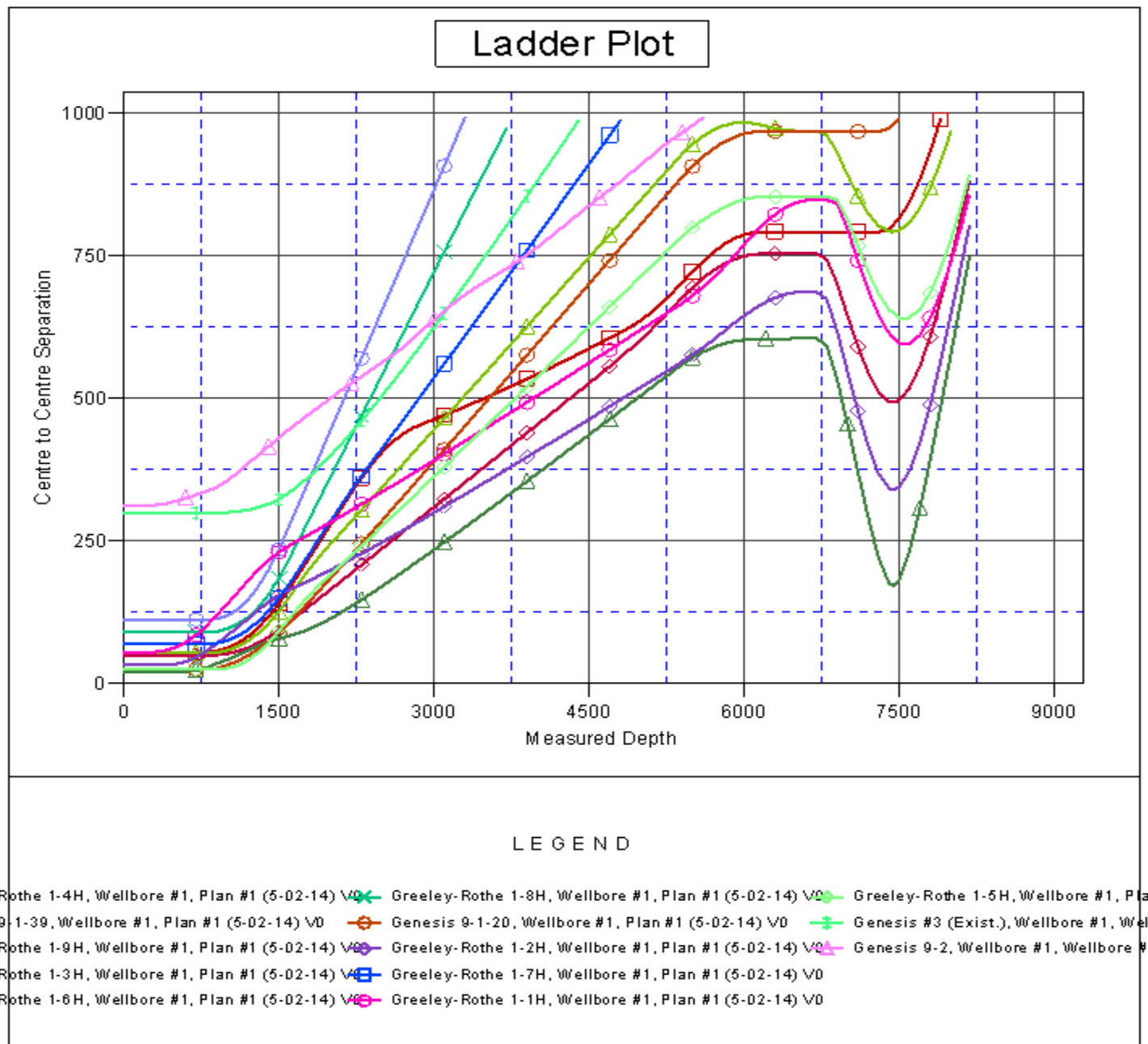
Offset Depths are relative to Offset Datum

Central Meridian is -105.500000 °

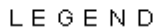
Coordinates are relative to: Genesis 9-1











Coordinate System is US State Plane 1983, Colorado Northern Zone

Grid Convergence at Surface is: 0.43°



Reference Depths are relative to WELL @ 4891.0ft (RKB - 15')	Coordinates are relative to: Genesis 9-1
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1983, Colorado Northern Zone
Central Meridian is -105.500000 °	Grid Convergence at Surface is: 0.43°



- Rothe 1-4H, Wellbore #1, Plan #1 (5-02-14) V0		Greeley-Rothe 1-8H, Wellbore #1, Plan #1 (5-02-14) V0		Greeley-Rothe 1-5H, Wellbore #1, Plan #1 (5-02-14) V0
- 9-1-39, Wellbore #1, Plan #1 (5-02-14) V0		Genesis 9-1-20, Wellbore #1, Plan #1 (5-02-14) V0		Genesis #3 (Exist.), Wellbore #1, Plan #1 (5-02-14) V0
- Rothe 1-9H, Wellbore #1, Plan #1 (5-02-14) V0		Greeley-Rothe 1-2H, Wellbore #1, Plan #1 (5-02-14) V0		Genesis 9-2, Wellbore #1, Plan #1 (5-02-14) V0
- Rothe 1-3H, Wellbore #1, Plan #1 (5-02-14) V0		Greeley-Rothe 1-7H, Wellbore #1, Plan #1 (5-02-14) V0		Genesis 9-3, Wellbore #1, Plan #1 (5-02-14) V0
- Rothe 1-6H, Wellbore #1, Plan #1 (5-02-14) V0		Greeley-Rothe 1-1H, Wellbore #1, Plan #1 (5-02-14) V0		Genesis 9-4, Wellbore #1, Plan #1 (5-02-14) V0