

# KP KAUFFMAN

Well Name: **NELSON-STROMQUIST 11-21-13H**

Surface Location: NELSON-STROMQUUIST 11-21-13H PAD 21-2N-68W  
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4897.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1287744.93	3136933.47	40.122215	-105.010340	

RKB ENSIHN 7 13' RKB @ 4910.0ft (RKB ENSIHN 7 13')

## WELLBORE TARGET DETAILS

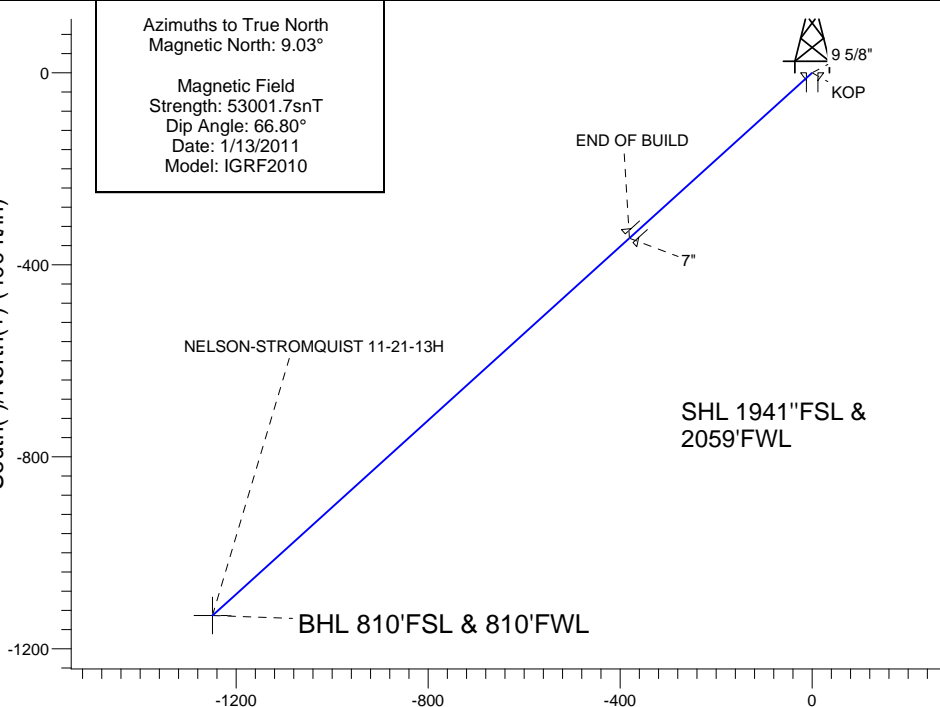
Name	TVD	+N/-S	+E/-W	Shape
BHL 810'FSL & 810'FWL	4411.0	-1131.0	-1249.0	Point

NELSON-STROMQUUIST 11-21-13H PAD 21-2N-68W  
NELSON-STROMQUIST 11-21-13H  
PLAN 1 (JAN 13,2011)  
9:16, January 13 2011

Azimuths to True North  
Magnetic North: 9.03°

Magnetic Field  
Strength: 53001.7snT  
Dip Angle: 66.80°  
Date: 1/13/2011  
Model: IGRF2010

South(-)/North(+) (400 ft/in)

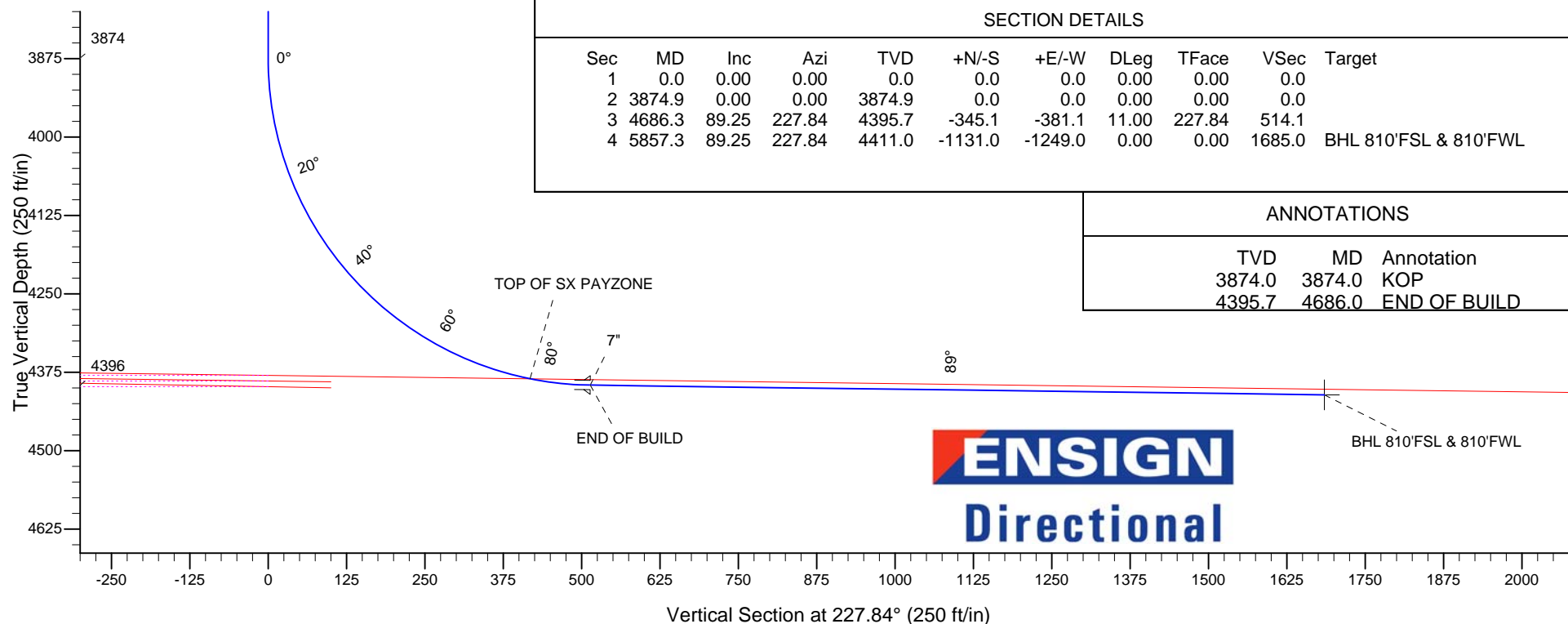


## SECTION DETAILS

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	3874.9	0.00	0.00	3874.9	0.0	0.0	0.00	0.00	0.0	
3	4686.3	89.25	227.84	4395.7	-345.1	-381.1	11.00	227.84	514.1	
4	5857.3	89.25	227.84	4411.0	-1131.0	-1249.0	0.00	0.00	1685.0	BHL 810'FSL & 810'FWL

## ANNOTATIONS

TVD	MD	Annotation
3874.0	3874.0	KOP
4395.7	4686.0	END OF BUILD



**ENSIGN**  
Directional



## **Directional**

### **KP KAUFFMAN**

**SEC.21-T2N-R68W**

**NELSON-STROMQUUIST 11-21-13H PAD 21-2N-68W**

**NELSON-STROMQUUIST 11-21-13H**

**Wellbore #1**

**Plan: PLAN 1 (JAN 13,2011)**

## **Standard Planning Report**

**13 January, 2011**

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well NELSON-STROMQUIST 11-21-13H
<b>Company:</b>	KP KAUFFMAN	<b>TVD Reference:</b>	RKB @ 4910.0ft (RKB ENSIHN 7 13')
<b>Project:</b>	SEC.21-T2N-R68W	<b>MD Reference:</b>	RKB @ 4910.0ft (RKB ENSIHN 7 13')
<b>Site:</b>	NELSON-STROMQUIST 11-21-13H PAD 21-2N-68W	<b>North Reference:</b>	True
<b>Well:</b>	NELSON-STROMQUIST 11-21-13H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PLAN 1 (JAN 13,2011)		

<b>Project</b>	SEC.21-T2N-R68W		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site						NELSON-STROMQUUIST 11-21-13H PAD 21-2N-68W											
Site Position:						Northing:			1,287,744.93 ft			Latitude:			40.122215		
From:			Lat/Long			Easting:			3,136,933.47 ft			Longitude:			-105.010340		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.32 °		

Well	NELSON-STROMQUIST 11-21-13H					
Well Position	+N/-S	0.0 ft	Northing:	1,287,744.93 ft	Latitude:	40.122215
	+E/-W	0.0 ft	Easting:	3,136,933.47 ft	Longitude:	-105.010340
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,897.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	1/13/2011	9.03	66.80	53,002

<b>Design</b>	PLAN 1 (JAN 13,2011)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	227.84

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,874.9	0.00	0.00	3,874.9	0.0	0.0	0.00	0.00	0.00	0.00	
4,686.3	89.25	227.84	4,395.7	-345.1	-381.1	11.00	11.00	0.00	227.84	
5,857.3	89.25	227.84	4,411.0	-1,131.0	-1,249.0	0.00	0.00	0.00	0.00	BHL 810'FSL & 810'

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well NELSON-STROMQUIST 11-21-13H
<b>Company:</b>	KP KAUFFMAN	<b>TVD Reference:</b>	RKB @ 4910.0ft (RKB ENSIHN 7 13')
<b>Project:</b>	SEC.21-T2N-R68W	<b>MD Reference:</b>	RKB @ 4910.0ft (RKB ENSIHN 7 13')
<b>Site:</b>	NELSON-STROMQUIST 11-21-13H PAD 21-2N-68W	<b>North Reference:</b>	True
<b>Well:</b>	NELSON-STROMQUIST 11-21-13H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	PLAN 1 (JAN 13,2011)		

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)
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,550.0	0.00	0.00	3,550.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,650.0	0.00	0.00	3,650.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,750.0	0.00	0.00	3,750.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,850.0	0.00	0.00	3,850.0	0.0	0.0	0.0	0.00	0.00	0.00
3,874.0	0.00	0.00	3,874.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>KOP</b>									
3,874.9	0.00	0.00	3,874.9	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	2.76	227.84	3,900.0	-0.4	-0.4	0.6	11.00	11.00	0.00
3,950.0	8.26	227.84	3,949.7	-3.6	-4.0	5.4	11.00	11.00	0.00
4,000.0	13.76	227.84	3,998.8	-10.0	-11.1	15.0	11.00	11.00	0.00
4,050.0	19.26	227.84	4,046.7	-19.6	-21.6	29.2	11.00	11.00	0.00
4,100.0	24.76	227.84	4,093.1	-32.1	-35.5	47.9	11.00	11.00	0.00
4,150.0	30.26	227.84	4,137.4	-47.6	-52.6	71.0	11.00	11.00	0.00
4,200.0	35.76	227.84	4,179.3	-65.9	-72.8	98.2	11.00	11.00	0.00
4,250.0	41.26	227.84	4,218.4	-86.8	-95.9	129.3	11.00	11.00	0.00
4,300.0	46.76	227.84	4,254.4	-110.1	-121.6	164.1	11.00	11.00	0.00
4,350.0	52.26	227.84	4,286.8	-135.6	-149.8	202.1	11.00	11.00	0.00
4,400.0	57.76	227.84	4,315.5	-163.1	-180.1	243.0	11.00	11.00	0.00
4,450.0	63.26	227.84	4,340.1	-192.3	-212.4	286.5	11.00	11.00	0.00
4,500.0	68.76	227.84	4,360.4	-223.0	-246.2	332.2	11.00	11.00	0.00
4,550.0	74.26	227.84	4,376.2	-254.8	-281.4	379.6	11.00	11.00	0.00
4,589.4	78.59	227.84	4,385.5	-280.5	-309.7	417.9	11.00	11.00	0.00
<b>TOP OF SX PAYZONE</b>									
4,600.0	79.76	227.84	4,387.5	-287.5	-317.5	428.3	11.00	11.00	0.00
4,650.0	85.26	227.84	4,394.0	-320.7	-354.2	477.9	11.00	11.00	0.00
4,686.0	89.22	227.84	4,395.7	-344.9	-380.9	513.8	11.00	11.00	0.00
<b>END OF BUILD - 7"</b>									
4,686.3	89.25	227.84	4,395.7	-345.1	-381.1	514.1	11.00	11.00	0.00
4,700.0	89.25	227.84	4,395.9	-354.3	-391.2	527.8	0.00	0.00	0.00
4,750.0	89.25	227.84	4,396.5	-387.8	-428.3	577.8	0.00	0.00	0.00
4,800.0	89.25	227.84	4,397.2	-421.4	-465.4	627.8	0.00	0.00	0.00
4,850.0	89.25	227.84	4,397.9	-454.9	-502.4	677.8	0.00	0.00	0.00
4,900.0	89.25	227.84	4,398.5	-488.5	-539.5	727.8	0.00	0.00	0.00
4,950.0	89.25	227.84	4,399.2	-522.1	-576.5	777.8	0.00	0.00	0.00
5,000.0	89.25	227.84	4,399.8	-555.6	-613.6	827.8	0.00	0.00	0.00
5,050.0	89.25	227.84	4,400.5	-589.2	-650.7	877.8	0.00	0.00	0.00
5,100.0	89.25	227.84	4,401.1	-622.7	-687.7	927.8	0.00	0.00	0.00
5,150.0	89.25	227.84	4,401.8	-656.3	-724.8	977.8	0.00	0.00	0.00
5,200.0	89.25	227.84	4,402.4	-689.9	-761.8	1,027.8	0.00	0.00	0.00
5,250.0	89.25	227.84	4,403.1	-723.4	-798.9	1,077.8	0.00	0.00	0.00
5,300.0	89.25	227.84	4,403.7	-757.0	-836.0	1,127.8	0.00	0.00	0.00
5,350.0	89.25	227.84	4,404.4	-790.5	-873.0	1,177.7	0.00	0.00	0.00
5,400.0	89.25	227.84	4,405.0	-824.1	-910.1	1,227.7	0.00	0.00	0.00
5,450.0	89.25	227.84	4,405.7	-857.6	-947.1	1,277.7	0.00	0.00	0.00
5,500.0	89.25	227.84	4,406.3	-891.2	-984.2	1,327.7	0.00	0.00	0.00
5,550.0	89.25	227.84	4,407.0	-924.8	-1,021.2	1,377.7	0.00	0.00	0.00
5,600.0	89.25	227.84	4,407.6	-958.3	-1,058.3	1,427.7	0.00	0.00	0.00
5,650.0	89.25	227.84	4,408.3	-991.9	-1,095.4	1,477.7	0.00	0.00	0.00
5,700.0	89.25	227.84	4,408.9	-1,025.4	-1,132.4	1,527.7	0.00	0.00	0.00

Plan Annotations					
	Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
			+N/-S (ft)	+E/-W (ft)	
	3,874.0	3,874.0	0.0	0.0	KOP
	4,686.0	4,395.7	-344.9	-380.9	END OF BUILD