

Great Western

Well Name: **TURECEK STATE 16-1H**

Surface Location: TURECEK STATE PAD 16-1N-64W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 5083.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1265067.14	3261749.81	40.057210	-104.564890	

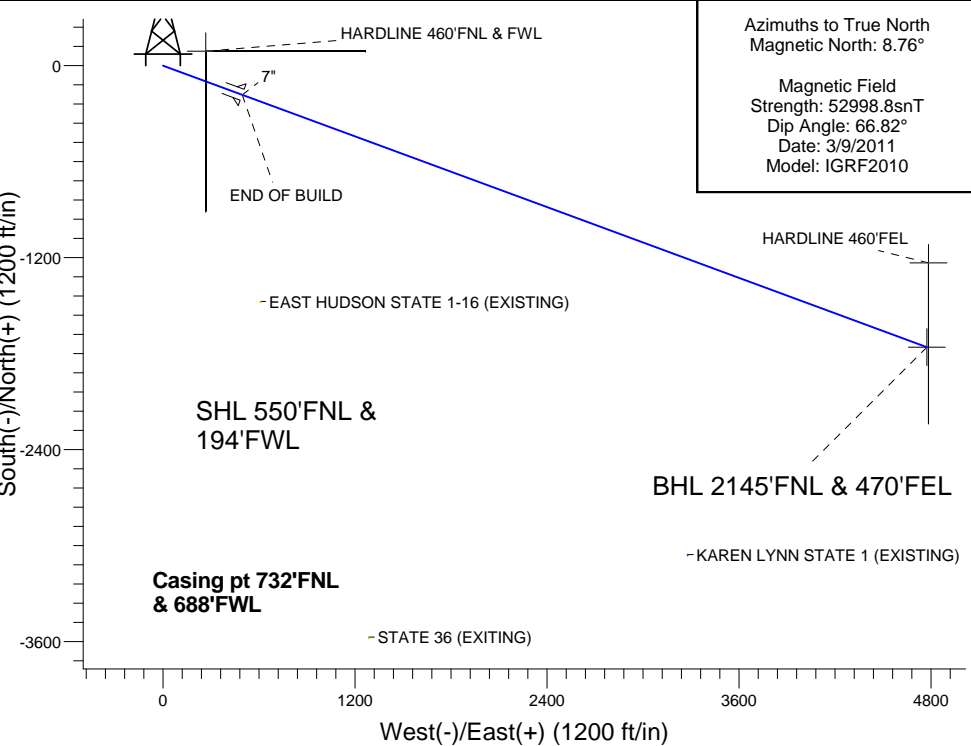
RBK ENSIGN 14 - 15' RKB @ 5115.0ft (RBK ENSIGN 14 - 15')

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Shape
HARDLINE 460'FEL	1.0	-1232.9	4783.0	Polygon
HARDLINE 460'FNL & FWL	1.0	90.0	266.0	Polygon
BHL 2145'FNL & 470'FEL	7112.0	-1759.1	4773.1	Point

TURECEK STATE PAD 16-1N-64W
TURECEK STATE 16-1H
PLAN 3 (MAR 17,2011)
14:18, March 17 2011

South(-)/North(+) (1200 ft/in)

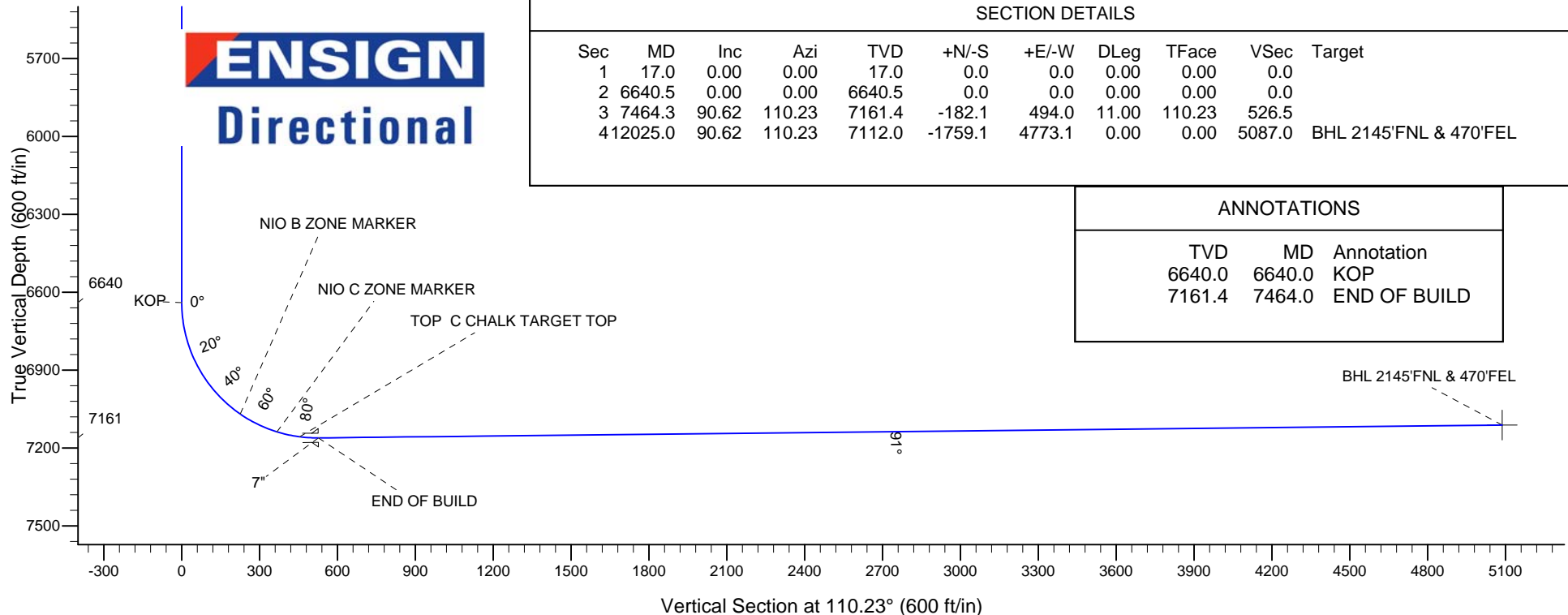


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	17.0	0.00	0.00	17.0	0.0	0.0	0.00	0.00	0.0	
2	6640.5	0.00	0.00	6640.5	0.0	0.0	0.00	0.00	0.0	
3	7464.3	90.62	110.23	7161.4	-182.1	494.0	11.00	110.23	526.5	
4	12025.0	90.62	110.23	7112.0	-1759.1	4773.1	0.00	0.00	5087.0	BHL 2145'FNL & 470'FEL

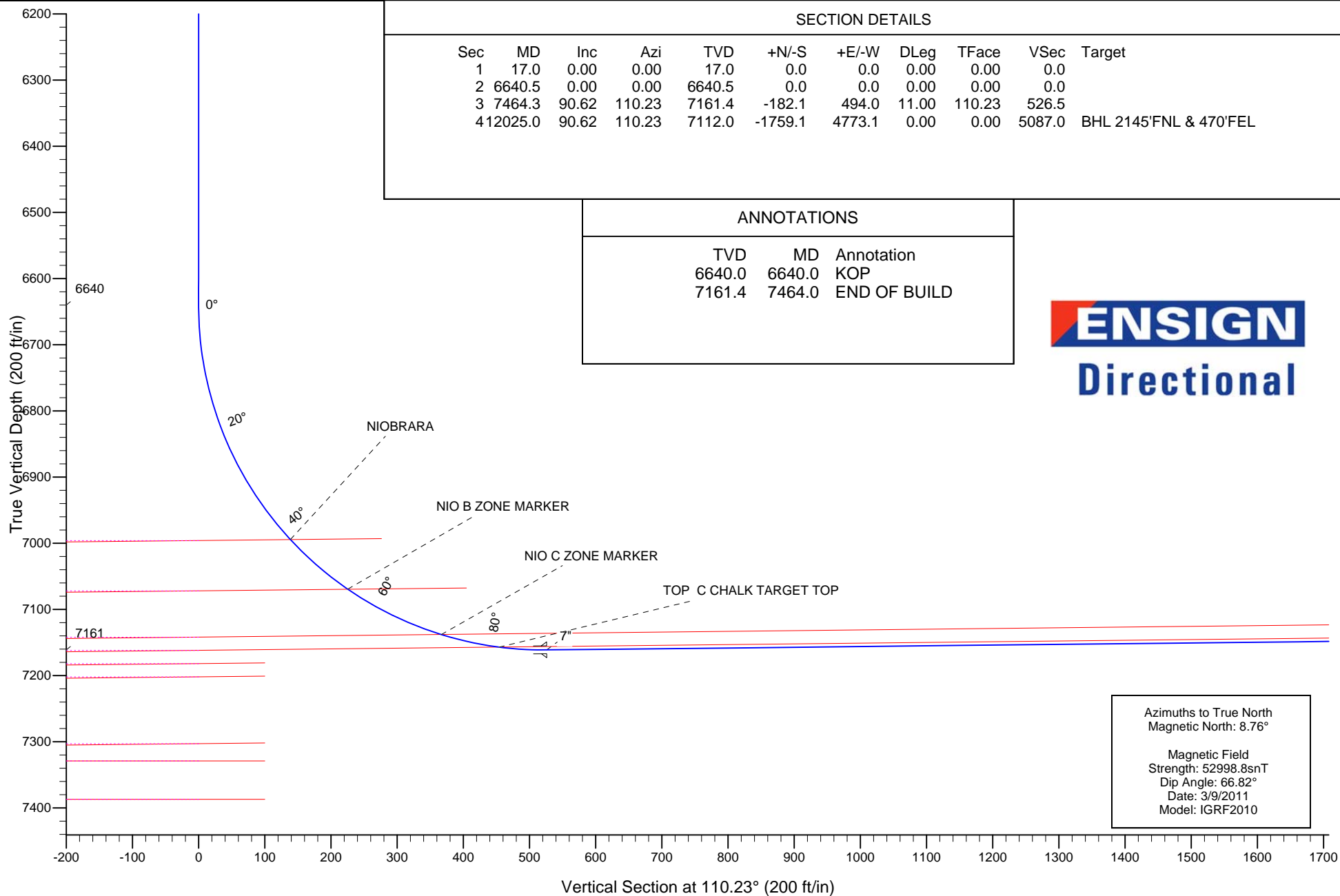
ANNOTATIONS

TVD	MD	Annotation
6640.0	6640.0	KOP
7161.4	7464.0	END OF BUILD



Great Western

TURECEK STATE PAD 16-1N-64W
TURECEK STATE 16-1H
PLAN 3 (MAR 17,2011)
14:24, March 17 2011





Directional

Great Western

SEC.16-T1N-R64W

TURECEK STATE PAD 16-1N-64W

TURECEK STATE 16-1H

Wellbore #1

Plan: PLAN 3 (MAR 17,2011)

Standard Planning Report

17 March, 2011

Database:	Landmark	Local Co-ordinate Reference:	Well TURECEK STATE 16-1H
Company:	Great Western	TVD Reference:	RKB @ 5115.0ft (RBK ENSIGN 14 - 15')
Project:	SEC.16-T1N-R64W	MD Reference:	RKB @ 5115.0ft (RBK ENSIGN 14 - 15')
Site:	TURECEK STATE PAD 16-1N-64W	North Reference:	True
Well:	TURECEK STATE 16-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN 3 (MAR 17,2011)		

Project	SEC.16-T1N-R64W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site						TURECEK STATE PAD 16-1N-64W							
Site Position: From: Position Uncertainty:			Lat/Long 0.0 ft			Northing:		1,265,067.14 ft		Latitude:		40.057210	
						Easting:		3,261,749.81 ft		Longitude:		-104.564890	
						Slot Radius:		"		Grid Convergence:		0.60 °	

Well	TURECEK STATE 16-1H					
Well Position	+N/-S	0.0 ft	Northing:	1,265,067.14 ft	Latitude:	40.057210
	+E/-W	0.0 ft	Easting:	3,261,749.81 ft	Longitude:	-104.564890
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	5,083.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/9/2011	8.76	66.82	52,999

Design	PLAN 3 (MAR 17,2011)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	17.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	17.0	0.0	0.0	110.23

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
17.0	0.00	0.00	17.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,640.5	0.00	0.00	6,640.5	0.0	0.0	0.00	0.00	0.00	0.00	
7,464.3	90.62	110.23	7,161.4	-182.1	494.0	11.00	11.00	0.00	110.23	
12,025.0	90.62	110.23	7,112.0	-1,759.1	4,773.1	0.00	0.00	0.00	0.00	BHL 2145'FNL & 47

Database:	Landmark	Local Co-ordinate Reference:	Well TURECEK STATE 16-1H
Company:	Great Western	TVD Reference:	RKB @ 5115.0ft (RKB ENSIGN 14 - 15')
Project:	SEC.16-T1N-R64W	MD Reference:	RKB @ 5115.0ft (RKB ENSIGN 14 - 15')
Site:	TURECEK STATE PAD 16-1N-64W	North Reference:	True
Well:	TURECEK STATE 16-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN 3 (MAR 17,2011)		

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)
17.0	0.00	0.00	17.0	0.0	0.0	0.0	0.00	0.00	0.00
50.0	0.00	0.00	50.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
150.0	0.00	0.00	150.0	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
250.0	0.00	0.00	250.0	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
350.0	0.00	0.00	350.0	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
450.0	0.00	0.00	450.0	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
550.0	0.00	0.00	550.0	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
650.0	0.00	0.00	650.0	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
750.0	0.00	0.00	750.0	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
850.0	0.00	0.00	850.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
950.0	0.00	0.00	950.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,050.0	0.00	0.00	1,050.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,150.0	0.00	0.00	1,150.0	0.0	0.0	0.0	0.00	0.00	0.00
1,182.0	0.00	0.00	1,182.0	0.0	0.0	0.0	0.00	0.00	0.00
PIERRE									
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,250.0	0.00	0.00	1,250.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,350.0	0.00	0.00	1,350.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,450.0	0.00	0.00	1,450.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,550.0	0.00	0.00	1,550.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,650.0	0.00	0.00	1,650.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,750.0	0.00	0.00	1,750.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,850.0	0.00	0.00	1,850.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,950.0	0.00	0.00	1,950.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,050.0	0.00	0.00	2,050.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,150.0	0.00	0.00	2,150.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,250.0	0.00	0.00	2,250.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,350.0	0.00	0.00	2,350.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,450.0	0.00	0.00	2,450.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,550.0	0.00	0.00	2,550.0	0.0	0.0	0.0	0.00	0.00	0.00

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Wellbore:	Wellbore #1		
Design:	PLAN 3 (MAR 17,2011)		

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)
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,650.0	0.00	0.00	2,650.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,750.0	0.00	0.00	2,750.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,850.0	0.00	0.00	2,850.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,950.0	0.00	0.00	2,950.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,050.0	0.00	0.00	3,050.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,150.0	0.00	0.00	3,150.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,250.0	0.00	0.00	3,250.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,350.0	0.00	0.00	3,350.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,450.0	0.00	0.00	3,450.0	0.0	0.0	0.0	0.00	0.00	0.00
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
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,950.0	0.00	0.00	3,950.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,050.0	0.00	0.00	4,050.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,150.0	0.00	0.00	4,150.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,250.0	0.00	0.00	4,250.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,350.0	0.00	0.00	4,350.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,450.0	0.00	0.00	4,450.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,550.0	0.00	0.00	4,550.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,650.0	0.00	0.00	4,650.0	0.0	0.0	0.0	0.00	0.00	0.00
4,691.0	0.00	0.00	4,691.0	0.0	0.0	0.0	0.00	0.00	0.00
SUSSEX									
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,750.0	0.00	0.00	4,750.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,850.0	0.00	0.00	4,850.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,950.0	0.00	0.00	4,950.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,050.0	0.00	0.00	5,050.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00

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)
5,150.0	0.00	0.00	5,150.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,250.0	0.00	0.00	5,250.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,350.0	0.00	0.00	5,350.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,450.0	0.00	0.00	5,450.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,550.0	0.00	0.00	5,550.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,650.0	0.00	0.00	5,650.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,750.0	0.00	0.00	5,750.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,850.0	0.00	0.00	5,850.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,950.0	0.00	0.00	5,950.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,050.0	0.00	0.00	6,050.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,150.0	0.00	0.00	6,150.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,250.0	0.00	0.00	6,250.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,350.0	0.00	0.00	6,350.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,450.0	0.00	0.00	6,450.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,550.0	0.00	0.00	6,550.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,640.0	0.00	0.00	6,640.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP									
6,640.5	0.00	0.00	6,640.5	0.0	0.0	0.0	0.00	0.00	0.00
6,650.0	1.04	110.23	6,650.0	0.0	0.1	0.1	11.00	11.00	0.00
6,700.0	6.54	110.23	6,699.9	-1.2	3.2	3.4	11.00	11.00	0.00
6,750.0	12.04	110.23	6,749.2	-4.0	10.8	11.5	11.00	11.00	0.00
6,800.0	17.54	110.23	6,797.5	-8.4	22.7	24.2	11.00	11.00	0.00
6,850.0	23.04	110.23	6,844.4	-14.4	39.0	41.6	11.00	11.00	0.00
6,900.0	28.54	110.23	6,889.4	-21.9	59.4	63.3	11.00	11.00	0.00
6,950.0	34.04	110.23	6,932.1	-30.9	83.8	89.3	11.00	11.00	0.00
7,000.0	39.54	110.23	6,972.1	-41.2	111.9	119.2	11.00	11.00	0.00
7,029.7	42.81	110.23	6,994.5	-48.0	130.2	138.8	11.00	11.00	0.00
NIOBRARA									
7,050.0	45.04	110.23	7,009.1	-52.9	143.4	152.8	11.00	11.00	0.00
7,100.0	50.54	110.23	7,042.7	-65.7	178.2	189.9	11.00	11.00	0.00
7,144.7	55.46	110.23	7,069.6	-78.0	211.6	225.5	11.00	11.00	0.00
NIO B ZONE MARKER									
7,150.0	56.04	110.23	7,072.6	-79.5	215.7	229.9	11.00	11.00	0.00
7,200.0	61.54	110.23	7,098.5	-94.3	255.9	272.7	11.00	11.00	0.00
7,250.0	67.04	110.23	7,120.1	-109.9	298.1	317.7	11.00	11.00	0.00
7,300.0	72.54	110.23	7,137.4	-126.1	342.1	364.6	11.00	11.00	0.00
7,302.1	72.78	110.23	7,138.0	-126.8	344.0	366.7	11.00	11.00	0.00
NIO C ZONE MARKER									
7,350.0	78.04	110.23	7,150.1	-142.8	387.5	413.0	11.00	11.00	0.00

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)	
7,391.8	82.64	110.23	7,157.1	-157.0	426.1	454.1	11.00	11.00	0.00	
TOP C CHALK TARGET TOP										
7,400.0	83.54	110.23	7,158.1	-159.9	433.8	462.3	11.00	11.00	0.00	
7,450.0	89.04	110.23	7,161.3	-177.1	480.6	512.2	11.00	11.00	0.00	
7,464.0	90.58	110.23	7,161.4	-182.0	493.7	526.2	11.00	11.00	0.00	
END OF BUILD - 7"										
7,464.3	90.62	110.23	7,161.4	-182.1	494.0	526.5	11.00	11.00	0.00	
7,500.0	90.62	110.23	7,161.0	-194.4	527.5	562.2	0.00	0.00	0.00	
7,550.0	90.62	110.23	7,160.4	-211.7	574.4	612.2	0.00	0.00	0.00	
7,600.0	90.62	110.23	7,159.9	-229.0	621.3	662.2	0.00	0.00	0.00	
7,650.0	90.62	110.23	7,159.3	-246.3	668.2	712.2	0.00	0.00	0.00	
7,700.0	90.62	110.23	7,158.8	-263.6	715.1	762.2	0.00	0.00	0.00	
7,750.0	90.62	110.23	7,158.3	-280.8	762.1	812.2	0.00	0.00	0.00	
7,800.0	90.62	110.23	7,157.7	-298.1	809.0	862.2	0.00	0.00	0.00	
7,850.0	90.62	110.23	7,157.2	-315.4	855.9	912.2	0.00	0.00	0.00	
7,900.0	90.62	110.23	7,156.6	-332.7	902.8	962.2	0.00	0.00	0.00	
7,950.0	90.62	110.23	7,156.1	-350.0	949.7	1,012.2	0.00	0.00	0.00	
8,000.0	90.62	110.23	7,155.6	-367.3	996.6	1,062.1	0.00	0.00	0.00	
8,050.0	90.62	110.23	7,155.0	-384.6	1,043.5	1,112.1	0.00	0.00	0.00	
8,100.0	90.62	110.23	7,154.5	-401.9	1,090.4	1,162.1	0.00	0.00	0.00	
8,150.0	90.62	110.23	7,153.9	-419.2	1,137.4	1,212.1	0.00	0.00	0.00	
8,200.0	90.62	110.23	7,153.4	-436.4	1,184.3	1,262.1	0.00	0.00	0.00	
8,250.0	90.62	110.23	7,152.8	-453.7	1,231.2	1,312.1	0.00	0.00	0.00	
8,300.0	90.62	110.23	7,152.3	-471.0	1,278.1	1,362.1	0.00	0.00	0.00	
8,350.0	90.62	110.23	7,151.8	-488.3	1,325.0	1,412.1	0.00	0.00	0.00	
8,400.0	90.62	110.23	7,151.2	-505.6	1,371.9	1,462.1	0.00	0.00	0.00	
8,450.0	90.62	110.23	7,150.7	-522.9	1,418.8	1,512.1	0.00	0.00	0.00	
8,500.0	90.62	110.23	7,150.1	-540.2	1,465.7	1,562.1	0.00	0.00	0.00	
8,550.0	90.62	110.23	7,149.6	-557.5	1,512.7	1,612.1	0.00	0.00	0.00	
8,600.0	90.62	110.23	7,149.1	-574.8	1,559.6	1,662.1	0.00	0.00	0.00	
8,650.0	90.62	110.23	7,148.5	-592.0	1,606.5	1,712.1	0.00	0.00	0.00	
8,700.0	90.62	110.23	7,148.0	-609.3	1,653.4	1,762.1	0.00	0.00	0.00	
8,750.0	90.62	110.23	7,147.4	-626.6	1,700.3	1,812.1	0.00	0.00	0.00	
8,800.0	90.62	110.23	7,146.9	-643.9	1,747.2	1,862.1	0.00	0.00	0.00	
8,850.0	90.62	110.23	7,146.4	-661.2	1,794.1	1,912.1	0.00	0.00	0.00	
8,900.0	90.62	110.23	7,145.8	-678.5	1,841.1	1,962.1	0.00	0.00	0.00	
8,950.0	90.62	110.23	7,145.3	-695.8	1,888.0	2,012.1	0.00	0.00	0.00	
9,000.0	90.62	110.23	7,144.7	-713.1	1,934.9	2,062.1	0.00	0.00	0.00	
9,050.0	90.62	110.23	7,144.2	-730.4	1,981.8	2,112.1	0.00	0.00	0.00	
9,100.0	90.62	110.23	7,143.7	-747.6	2,028.7	2,162.1	0.00	0.00	0.00	
9,150.0	90.62	110.23	7,143.1	-764.9	2,075.6	2,212.1	0.00	0.00	0.00	
9,200.0	90.62	110.23	7,142.6	-782.2	2,122.5	2,262.1	0.00	0.00	0.00	
9,250.0	90.62	110.23	7,142.0	-799.5	2,169.4	2,312.1	0.00	0.00	0.00	
9,300.0	90.62	110.23	7,141.5	-816.8	2,216.4	2,362.1	0.00	0.00	0.00	
9,350.0	90.62	110.23	7,140.9	-834.1	2,263.3	2,412.1	0.00	0.00	0.00	
9,400.0	90.62	110.23	7,140.4	-851.4	2,310.2	2,462.1	0.00	0.00	0.00	
9,450.0	90.62	110.23	7,139.9	-868.7	2,357.1	2,512.1	0.00	0.00	0.00	
9,500.0	90.62	110.23	7,139.3	-886.0	2,404.0	2,562.1	0.00	0.00	0.00	
9,550.0	90.62	110.23	7,138.8	-903.2	2,450.9	2,612.1	0.00	0.00	0.00	
9,600.0	90.62	110.23	7,138.2	-920.5	2,497.8	2,662.1	0.00	0.00	0.00	
9,650.0	90.62	110.23	7,137.7	-937.8	2,544.7	2,712.1	0.00	0.00	0.00	
9,700.0	90.62	110.23	7,137.2	-955.1	2,591.7	2,762.0	0.00	0.00	0.00	
9,750.0	90.62	110.23	7,136.6	-972.4	2,638.6	2,812.0	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well TURECEK STATE 16-1H
Company:	Great Western	TVD Reference:	RKB @ 5115.0ft (RBK ENSIGN 14 - 15')
Project:	SEC.16-T1N-R64W	MD Reference:	RKB @ 5115.0ft (RBK ENSIGN 14 - 15')
Site:	TURECEK STATE PAD 16-1N-64W	North Reference:	True
Well:	TURECEK STATE 16-1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PLAN 3 (MAR 17,2011)		

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)
9,800.0	90.62	110.23	7,136.1	-989.7	2,685.5	2,862.0	0.00	0.00	0.00
9,850.0	90.62	110.23	7,135.5	-1,007.0	2,732.4	2,912.0	0.00	0.00	0.00
9,900.0	90.62	110.23	7,135.0	-1,024.3	2,779.3	2,962.0	0.00	0.00	0.00
9,950.0	90.62	110.23	7,134.5	-1,041.6	2,826.2	3,012.0	0.00	0.00	0.00
10,000.0	90.62	110.23	7,133.9	-1,058.8	2,873.1	3,062.0	0.00	0.00	0.00
10,050.0	90.62	110.23	7,133.4	-1,076.1	2,920.0	3,112.0	0.00	0.00	0.00
10,100.0	90.62	110.23	7,132.8	-1,093.4	2,967.0	3,162.0	0.00	0.00	0.00
10,150.0	90.62	110.23	7,132.3	-1,110.7	3,013.9	3,212.0	0.00	0.00	0.00
10,200.0	90.62	110.23	7,131.7	-1,128.0	3,060.8	3,262.0	0.00	0.00	0.00
10,250.0	90.62	110.23	7,131.2	-1,145.3	3,107.7	3,312.0	0.00	0.00	0.00
10,300.0	90.62	110.23	7,130.7	-1,162.6	3,154.6	3,362.0	0.00	0.00	0.00
10,350.0	90.62	110.23	7,130.1	-1,179.9	3,201.5	3,412.0	0.00	0.00	0.00
10,400.0	90.62	110.23	7,129.6	-1,197.2	3,248.4	3,462.0	0.00	0.00	0.00
10,450.0	90.62	110.23	7,129.0	-1,214.4	3,295.3	3,512.0	0.00	0.00	0.00
10,500.0	90.62	110.23	7,128.5	-1,231.7	3,342.3	3,562.0	0.00	0.00	0.00
10,550.0	90.62	110.23	7,128.0	-1,249.0	3,389.2	3,612.0	0.00	0.00	0.00
10,600.0	90.62	110.23	7,127.4	-1,266.3	3,436.1	3,662.0	0.00	0.00	0.00
10,650.0	90.62	110.23	7,126.9	-1,283.6	3,483.0	3,712.0	0.00	0.00	0.00
10,700.0	90.62	110.23	7,126.3	-1,300.9	3,529.9	3,762.0	0.00	0.00	0.00
10,750.0	90.62	110.23	7,125.8	-1,318.2	3,576.8	3,812.0	0.00	0.00	0.00
10,800.0	90.62	110.23	7,125.3	-1,335.5	3,623.7	3,862.0	0.00	0.00	0.00
10,850.0	90.62	110.23	7,124.7	-1,352.8	3,670.6	3,912.0	0.00	0.00	0.00
10,900.0	90.62	110.23	7,124.2	-1,370.0	3,717.6	3,962.0	0.00	0.00	0.00
10,950.0	90.62	110.23	7,123.6	-1,387.3	3,764.5	4,012.0	0.00	0.00	0.00
11,000.0	90.62	110.23	7,123.1	-1,404.6	3,811.4	4,062.0	0.00	0.00	0.00
11,050.0	90.62	110.23	7,122.6	-1,421.9	3,858.3	4,112.0	0.00	0.00	0.00
11,100.0	90.62	110.23	7,122.0	-1,439.2	3,905.2	4,162.0	0.00	0.00	0.00
11,150.0	90.62	110.23	7,121.5	-1,456.5	3,952.1	4,212.0	0.00	0.00	0.00
11,200.0	90.62	110.23	7,120.9	-1,473.8	3,999.0	4,262.0	0.00	0.00	0.00
11,250.0	90.62	110.23	7,120.4	-1,491.1	4,045.9	4,312.0	0.00	0.00	0.00
11,300.0	90.62	110.23	7,119.8	-1,508.4	4,092.9	4,362.0	0.00	0.00	0.00
11,350.0	90.62	110.23	7,119.3	-1,525.6	4,139.8	4,412.0	0.00	0.00	0.00
11,400.0	90.62	110.23	7,118.8	-1,542.9	4,186.7	4,461.9	0.00	0.00	0.00
11,450.0	90.62	110.23	7,118.2	-1,560.2	4,233.6	4,511.9	0.00	0.00	0.00
11,500.0	90.62	110.23	7,117.7	-1,577.5	4,280.5	4,561.9	0.00	0.00	0.00
11,550.0	90.62	110.23	7,117.1	-1,594.8	4,327.4	4,611.9	0.00	0.00	0.00
11,600.0	90.62	110.23	7,116.6	-1,612.1	4,374.3	4,661.9	0.00	0.00	0.00
11,650.0	90.62	110.23	7,116.1	-1,629.4	4,421.2	4,711.9	0.00	0.00	0.00
11,700.0	90.62	110.23	7,115.5	-1,646.7	4,468.2	4,761.9	0.00	0.00	0.00
11,750.0	90.62	110.23	7,115.0	-1,664.0	4,515.1	4,811.9	0.00	0.00	0.00
11,800.0	90.62	110.23	7,114.4	-1,681.2	4,562.0	4,861.9	0.00	0.00	0.00
11,850.0	90.62	110.23	7,113.9	-1,698.5	4,608.9	4,911.9	0.00	0.00	0.00
11,900.0	90.62	110.23	7,113.4	-1,715.8	4,655.8	4,961.9	0.00	0.00	0.00
11,950.0	90.62	110.23	7,112.8	-1,733.1	4,702.7	5,011.9	0.00	0.00	0.00
12,000.0	90.62	110.23	7,112.3	-1,750.4	4,749.6	5,061.9	0.00	0.00	0.00
12,025.0	90.62	110.23	7,112.0	-1,759.1	4,773.1	5,087.0	0.00	0.00	0.00

Plan Annotations					
	Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
			+N/-S (ft)	+E/-W (ft)	
	6,640.0	6,640.0	0.0	0.0	KOP
	7,464.0	7,161.4	-182.0	493.7	END OF BUILD



Directional

Great Western

SEC.16-T1N-R64W

TURECEK STATE PAD 16-1N-64W

TURECEK STATE 16-1H

Wellbore #1

PLAN 3 (MAR 17,2011)

Anticollision Summary Report

17 March, 2011

Company:	Great Western	Local Co-ordinate Reference:	Well TURECEK STATE 16-1H
Project:	SEC.16-T1N-R64W	TVD Reference:	RKB @ 5115.0ft (RBK ENSIGN 14 - 15')
Reference Site:	TURECEK STATE PAD 16-1N-64W	MD Reference:	RKB @ 5115.0ft (RBK ENSIGN 14 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	TURECEK STATE 16-1H	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 3 (MAR 17,2011)	Offset TVD Reference:	Offset Datum

Reference	PLAN 3 (MAR 17,2011)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 50.0ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 2,000.0ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

Survey Tool Program	Date 3/17/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
17.0	12,025.0	PLAN 3 (MAR 17,2011) (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						
EAST HUDSON B STATE 1-16						
EAST HUDSON STATE 1-16 (EXISTING) - Wellbore #1	8,017.3	2,040.4	1,172.2	1,129.4	27.346 CC	
EAST HUDSON STATE 1-16 (EXISTING) - Wellbore #1	8,050.0	2,040.0	1,172.7	1,129.0	26.858 ES	
EAST HUDSON STATE 1-16 (EXISTING) - Wellbore #1	8,900.0	2,030.8	1,467.4	1,401.8	22.376 SF	
KAREN LYNN STATE 1						
KAREN LYNN STATE 1 (EXISTING) - Wellbore #1 - Des	11,070.9	7,120.3	1,733.6	1,603.2	13.287 CC	
KAREN LYNN STATE 1 (EXISTING) - Wellbore #1 - Des	11,100.0	7,120.0	1,733.9	1,602.6	13.207 ES	
KAREN LYNN STATE 1 (EXISTING) - Wellbore #1 - Des	11,700.0	7,113.5	1,844.3	1,696.4	12.472 SF	
STATE 36						
STATE 36 (EXITING) - Wellbore #1 - Design #1						Out of range

Company:	Great Western	Local Co-ordinate Reference:	Well TURECEK STATE 16-1H
Project:	SEC.16-T1N-R64W	TVD Reference:	RKB @ 5115.0ft (RBK ENSIGN 14 - 15')
Reference Site:	TURECEK STATE PAD 16-1N-64W	MD Reference:	RKB @ 5115.0ft (RBK ENSIGN 14 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	TURECEK STATE 16-1H	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 3 (MAR 17,2011)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 5115.0ft (RBK ENSIGN 14 - 1)Coordinates are relative to: TURECEK STATE 16-1H
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: 0.60°



Company:	Great Western	Local Co-ordinate Reference:	Well TURECEK STATE 16-1H
Project:	SEC.16-T1N-R64W	TVD Reference:	RKB @ 5115.0ft (RBK ENSIGN 14 - 15')
Reference Site:	TURECEK STATE PAD 16-1N-64W	MD Reference:	RKB @ 5115.0ft (RBK ENSIGN 14 - 15')
Site Error:	0.0ft	North Reference:	True
Reference Well:	TURECEK STATE 16-1H	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 3 (MAR 17,2011)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 5115.0ft (RBK ENSIGN 14 - 1)Coordinates are relative to: TURECEK STATE 16-1H
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000 °
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.60°

