

PROJECT DETAILS: North Park Basin

Geodetic System: US State Plane 1983

Datum: North American Datum 1983

Ellipsoid: GRS 1980

Zone: Colorado Northern Zone

System Datum: Mean Sea Level

G

T

M

Azimuths to Grid North

True North: 0.59°

Magnetic North: 10.49°

Magnetic Field

Strength: 53195.3snT

Dip Angle: 66.98°

Date: 12/31/2009

Model: IGRF200510

FORMATION TOP DETAILS

TVDPath

MDPath

Formation

DipAngle

DipDir

6275.0

6294.0

Niobrara

0.00

CASING DETAILS

TVD

MD

Name

Size

6627.8

6789.6

LP

5-1/2

DESIGN DETAILS: Design #1

0' Vertical Section coordinates

Type

Target

Azimuth

Origin

Type

N/S

E/W

From

TVD

User

360.00

Slot

0.0

0.0

0.0

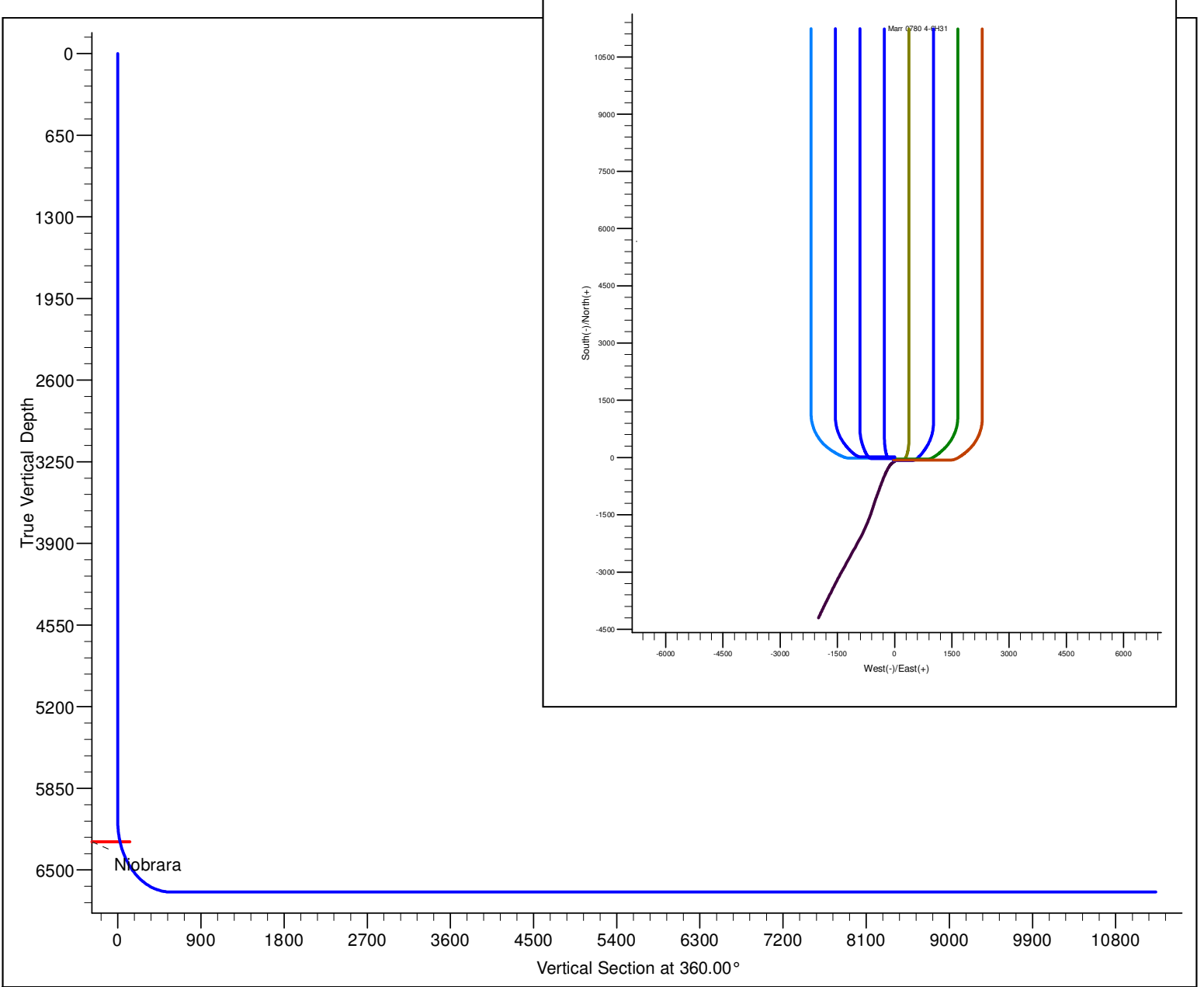
Project: North Park Basin

Site: T7N-R80W-S7

Well: Marr 0780 4-6H31

Wellbore: Wellbore #1

Design: Design #1



SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0		
2	5000.0	0.00	0.00	5000.0	0.0	0.0	0.00	0.00	0.0		
3	5542.3	10.85	270.00	5539.1	0.0	-51.2	2.00	270.00	0.0		
4	6126.0	10.85	270.00	6112.3	0.0	-161.0	0.00	0.00	0.0		
5	7026.0	90.00	360.00	6675.0	573.0	-268.8	10.00	90.00	573.0	Marr 4-6H31 BHL	
6	17687.2	90.00	360.00	6675.0	11234.2	-269.3	0.00	0.00	11234.2	Marr 4-6H31 BHL	

SandRidge Energy

North Park Basin

T7N-R80W-S7

Marr 0780 4-6H31

Wellbore #1

Plan: Design #1

Standard Survey Report

10 July, 2017

SandRidge Energy, Inc.

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 4-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 4-6H31	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDMProd

Project	North Park Basin		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	T7N-R80W-S7		
Site Position:		Northing:	1,462,096.65 usft
From:	Map	Easting:	2,745,719.49 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	40° 35' 53.698 N
		Longitude:	106° 24' 56.506 W
		Grid Convergence:	-0.59 °

Well	Marr 0780 4-6H31		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	40° 35' 54.510 N
		Longitude:	106° 24' 56.031 W
		Ground Level:	8,129.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF200510	12/31/2009	9.90
			Dip Angle
			(°)
			66.98
			Field Strength
			(nT)
			53,195

Design	Design #1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			360.00

Survey Tool Program	Date	7/7/2017		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
0.0	17,687.2	Design #1 (Wellbore #1)	Sperry MWD	Fixed:v2:standard declination

Planned Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)
0.0	0.00	0.00	0.0	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
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	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00

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Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 4-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 4-6H31	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDMProd

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.0	0.00	0.00	1,000.0	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
1,200.0	0.00	0.00	1,200.0	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
1,400.0	0.00	0.00	1,400.0	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
1,600.0	0.00	0.00	1,600.0	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
1,800.0	0.00	0.00	1,800.0	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
2,000.0	0.00	0.00	2,000.0	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
2,200.0	0.00	0.00	2,200.0	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
2,400.0	0.00	0.00	2,400.0	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
2,600.0	0.00	0.00	2,600.0	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
2,800.0	0.00	0.00	2,800.0	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
3,000.0	0.00	0.00	3,000.0	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
3,200.0	0.00	0.00	3,200.0	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
3,400.0	0.00	0.00	3,400.0	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
3,600.0	0.00	0.00	3,600.0	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
3,800.0	0.00	0.00	3,800.0	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
4,000.0	0.00	0.00	4,000.0	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
4,200.0	0.00	0.00	4,200.0	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
4,400.0	0.00	0.00	4,400.0	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
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	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
4,900.0	0.00	0.00	4,900.0	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
Start Build 2.00									
5,100.0	2.00	270.00	5,100.0	0.0	-1.7	0.0	2.00	2.00	0.00
5,200.0	4.00	270.00	5,199.8	0.0	-7.0	0.0	2.00	2.00	0.00

SandRidge Energy, Inc.

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 4-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 4-6H31	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDMPProd

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.0	6.00	270.00	5,299.5	0.0	-15.7	0.0	2.00	2.00	0.00
5,400.0	8.00	270.00	5,398.7	0.0	-27.9	0.0	2.00	2.00	0.00
5,500.0	10.00	270.00	5,497.5	0.0	-43.5	0.0	2.00	2.00	0.00
5,542.3	10.85	270.00	5,539.1	0.0	-51.2	0.0	2.00	2.00	0.00
Start 583.7 hold at 5542.3 MD									
5,600.0	10.85	270.00	5,595.7	0.0	-62.0	0.0	0.00	0.00	0.00
5,700.0	10.85	270.00	5,693.9	0.0	-80.8	0.0	0.00	0.00	0.00
5,800.0	10.85	270.00	5,792.2	0.0	-99.7	0.0	0.00	0.00	0.00
5,900.0	10.85	270.00	5,890.4	0.0	-118.5	0.0	0.00	0.00	0.00
6,000.0	10.85	270.00	5,988.6	0.0	-137.3	0.0	0.00	0.00	0.00
6,100.0	10.85	270.00	6,086.8	0.0	-156.1	0.0	0.00	0.00	0.00
6,126.0	10.85	270.00	6,112.3	0.0	-161.0	0.0	0.00	0.00	0.00
Start DLS 10.00 TFO 90.00									
6,150.0	11.11	282.58	6,135.9	0.5	-165.5	0.5	10.00	1.08	52.32
6,200.0	13.11	304.63	6,184.8	4.8	-174.9	4.8	10.00	4.00	44.10
6,250.0	16.42	319.45	6,233.2	13.4	-184.2	13.4	10.00	6.63	29.64
6,294.0	19.92	328.08	6,275.0	24.5	-192.2	24.5	10.00	7.94	19.59
Niobrara									
6,300.0	20.42	329.02	6,280.6	26.2	-193.2	26.2	10.00	8.38	15.83
6,350.0	24.77	335.46	6,326.8	43.2	-202.1	43.2	10.00	8.70	12.88
6,400.0	29.32	340.05	6,371.3	64.3	-210.6	64.3	10.00	9.10	9.17
6,450.0	33.98	343.49	6,413.9	89.2	-218.8	89.2	10.00	9.33	6.87
6,500.0	38.72	346.17	6,454.1	117.8	-226.5	117.8	10.00	9.48	5.38
6,550.0	43.51	348.36	6,491.8	149.9	-233.7	149.9	10.00	9.58	4.36
6,600.0	48.34	350.18	6,526.5	185.2	-240.4	185.2	10.00	9.65	3.65
6,650.0	53.19	351.75	6,558.2	223.4	-246.4	223.4	10.00	9.70	3.14
6,700.0	58.06	353.14	6,586.4	264.3	-251.8	264.3	10.00	9.74	2.77
6,750.0	62.94	354.38	6,611.0	307.5	-256.6	307.5	10.00	9.76	2.49
6,800.0	67.83	355.52	6,631.8	352.8	-260.5	352.8	10.00	9.78	2.28
6,850.0	72.73	356.58	6,648.7	399.8	-263.8	399.8	10.00	9.80	2.13
6,900.0	77.63	357.59	6,661.5	448.0	-266.2	448.0	10.00	9.81	2.01
6,950.0	82.54	358.56	6,670.1	497.2	-267.9	497.2	10.00	9.82	1.94
7,000.0	87.45	359.51	6,674.4	547.0	-268.7	547.0	10.00	9.82	1.90
7,026.0	90.00	360.00	6,675.0	573.0	-268.8	573.0	10.00	9.82	1.88
Start 10661.3 hold at 7026.0 MD									
7,100.0	90.00	360.00	6,675.0	647.0	-268.8	647.0	0.00	0.00	0.00
7,200.0	90.00	360.00	6,675.0	747.0	-268.8	747.0	0.00	0.00	0.00
7,300.0	90.00	360.00	6,675.0	847.0	-268.8	847.0	0.00	0.00	0.00
7,400.0	90.00	360.00	6,675.0	947.0	-268.8	947.0	0.00	0.00	0.00
7,500.0	90.00	360.00	6,675.0	1,047.0	-268.9	1,047.0	0.00	0.00	0.00
7,600.0	90.00	360.00	6,675.0	1,147.0	-268.9	1,147.0	0.00	0.00	0.00
7,700.0	90.00	360.00	6,675.0	1,247.0	-268.9	1,247.0	0.00	0.00	0.00
7,800.0	90.00	360.00	6,675.0	1,347.0	-268.9	1,347.0	0.00	0.00	0.00
7,900.0	90.00	360.00	6,675.0	1,447.0	-268.9	1,447.0	0.00	0.00	0.00

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Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 4-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 4-6H31	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDMPProd

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,000.0	90.00	360.00	6,675.0	1,547.0	-268.9	1,547.0	0.00	0.00	0.00
8,100.0	90.00	360.00	6,675.0	1,647.0	-268.9	1,647.0	0.00	0.00	0.00
8,200.0	90.00	360.00	6,675.0	1,747.0	-268.9	1,747.0	0.00	0.00	0.00
8,300.0	90.00	360.00	6,675.0	1,847.0	-268.9	1,847.0	0.00	0.00	0.00
8,400.0	90.00	360.00	6,675.0	1,947.0	-268.9	1,947.0	0.00	0.00	0.00
8,500.0	90.00	360.00	6,675.0	2,047.0	-268.9	2,047.0	0.00	0.00	0.00
8,600.0	90.00	360.00	6,675.0	2,147.0	-268.9	2,147.0	0.00	0.00	0.00
8,700.0	90.00	360.00	6,675.0	2,247.0	-268.9	2,247.0	0.00	0.00	0.00
8,800.0	90.00	360.00	6,675.0	2,347.0	-268.9	2,347.0	0.00	0.00	0.00
8,900.0	90.00	360.00	6,675.0	2,447.0	-268.9	2,447.0	0.00	0.00	0.00
9,000.0	90.00	360.00	6,675.0	2,547.0	-268.9	2,547.0	0.00	0.00	0.00
9,100.0	90.00	360.00	6,675.0	2,647.0	-268.9	2,647.0	0.00	0.00	0.00
9,200.0	90.00	360.00	6,675.0	2,747.0	-268.9	2,747.0	0.00	0.00	0.00
9,300.0	90.00	360.00	6,675.0	2,847.0	-268.9	2,847.0	0.00	0.00	0.00
9,400.0	90.00	360.00	6,675.0	2,947.0	-268.9	2,947.0	0.00	0.00	0.00
9,500.0	90.00	360.00	6,675.0	3,047.0	-268.9	3,047.0	0.00	0.00	0.00
9,600.0	90.00	360.00	6,675.0	3,147.0	-268.9	3,147.0	0.00	0.00	0.00
9,700.0	90.00	360.00	6,675.0	3,247.0	-268.9	3,247.0	0.00	0.00	0.00
9,800.0	90.00	360.00	6,675.0	3,347.0	-268.9	3,347.0	0.00	0.00	0.00
9,900.0	90.00	360.00	6,675.0	3,447.0	-268.9	3,447.0	0.00	0.00	0.00
10,000.0	90.00	360.00	6,675.0	3,547.0	-269.0	3,547.0	0.00	0.00	0.00
10,100.0	90.00	360.00	6,675.0	3,647.0	-269.0	3,647.0	0.00	0.00	0.00
10,200.0	90.00	360.00	6,675.0	3,747.0	-269.0	3,747.0	0.00	0.00	0.00
10,300.0	90.00	360.00	6,675.0	3,847.0	-269.0	3,847.0	0.00	0.00	0.00
10,400.0	90.00	360.00	6,675.0	3,947.0	-269.0	3,947.0	0.00	0.00	0.00
10,500.0	90.00	360.00	6,675.0	4,047.0	-269.0	4,047.0	0.00	0.00	0.00
10,600.0	90.00	360.00	6,675.0	4,147.0	-269.0	4,147.0	0.00	0.00	0.00
10,700.0	90.00	360.00	6,675.0	4,247.0	-269.0	4,247.0	0.00	0.00	0.00
10,800.0	90.00	360.00	6,675.0	4,347.0	-269.0	4,347.0	0.00	0.00	0.00
10,900.0	90.00	360.00	6,675.0	4,447.0	-269.0	4,447.0	0.00	0.00	0.00
11,000.0	90.00	360.00	6,675.0	4,547.0	-269.0	4,547.0	0.00	0.00	0.00
11,100.0	90.00	360.00	6,675.0	4,647.0	-269.0	4,647.0	0.00	0.00	0.00
11,200.0	90.00	360.00	6,675.0	4,747.0	-269.0	4,747.0	0.00	0.00	0.00
11,300.0	90.00	360.00	6,675.0	4,847.0	-269.0	4,847.0	0.00	0.00	0.00
11,400.0	90.00	360.00	6,675.0	4,947.0	-269.0	4,947.0	0.00	0.00	0.00
11,500.0	90.00	360.00	6,675.0	5,047.0	-269.0	5,047.0	0.00	0.00	0.00
11,600.0	90.00	360.00	6,675.0	5,147.0	-269.0	5,147.0	0.00	0.00	0.00
11,700.0	90.00	360.00	6,675.0	5,247.0	-269.0	5,247.0	0.00	0.00	0.00
11,800.0	90.00	360.00	6,675.0	5,347.0	-269.0	5,347.0	0.00	0.00	0.00
11,900.0	90.00	360.00	6,675.0	5,447.0	-269.0	5,447.0	0.00	0.00	0.00
12,000.0	90.00	360.00	6,675.0	5,547.0	-269.0	5,547.0	0.00	0.00	0.00
12,100.0	90.00	360.00	6,675.0	5,647.0	-269.0	5,647.0	0.00	0.00	0.00
12,200.0	90.00	360.00	6,675.0	5,747.0	-269.0	5,747.0	0.00	0.00	0.00

SandRidge Energy, Inc.

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 4-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 4-6H31	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDMProd

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,300.0	90.00	360.00	6,675.0	5,847.0	-269.0	5,847.0	0.00	0.00	0.00
12,400.0	90.00	360.00	6,675.0	5,947.0	-269.0	5,947.0	0.00	0.00	0.00
12,500.0	90.00	360.00	6,675.0	6,047.0	-269.1	6,047.0	0.00	0.00	0.00
12,600.0	90.00	360.00	6,675.0	6,147.0	-269.1	6,147.0	0.00	0.00	0.00
12,700.0	90.00	360.00	6,675.0	6,247.0	-269.1	6,247.0	0.00	0.00	0.00
12,800.0	90.00	360.00	6,675.0	6,347.0	-269.1	6,347.0	0.00	0.00	0.00
12,900.0	90.00	360.00	6,675.0	6,447.0	-269.1	6,447.0	0.00	0.00	0.00
13,000.0	90.00	360.00	6,675.0	6,547.0	-269.1	6,547.0	0.00	0.00	0.00
13,100.0	90.00	360.00	6,675.0	6,647.0	-269.1	6,647.0	0.00	0.00	0.00
13,200.0	90.00	360.00	6,675.0	6,747.0	-269.1	6,747.0	0.00	0.00	0.00
13,300.0	90.00	360.00	6,675.0	6,847.0	-269.1	6,847.0	0.00	0.00	0.00
13,400.0	90.00	360.00	6,675.0	6,947.0	-269.1	6,947.0	0.00	0.00	0.00
13,500.0	90.00	360.00	6,675.0	7,047.0	-269.1	7,047.0	0.00	0.00	0.00
13,600.0	90.00	360.00	6,675.0	7,147.0	-269.1	7,147.0	0.00	0.00	0.00
13,700.0	90.00	360.00	6,675.0	7,247.0	-269.1	7,247.0	0.00	0.00	0.00
13,800.0	90.00	360.00	6,675.0	7,347.0	-269.1	7,347.0	0.00	0.00	0.00
13,900.0	90.00	360.00	6,675.0	7,447.0	-269.1	7,447.0	0.00	0.00	0.00
14,000.0	90.00	360.00	6,675.0	7,547.0	-269.1	7,547.0	0.00	0.00	0.00
14,100.0	90.00	360.00	6,675.0	7,647.0	-269.1	7,647.0	0.00	0.00	0.00
14,200.0	90.00	360.00	6,675.0	7,747.0	-269.1	7,747.0	0.00	0.00	0.00
14,300.0	90.00	360.00	6,675.0	7,847.0	-269.1	7,847.0	0.00	0.00	0.00
14,400.0	90.00	360.00	6,675.0	7,947.0	-269.1	7,947.0	0.00	0.00	0.00
14,500.0	90.00	360.00	6,675.0	8,047.0	-269.1	8,047.0	0.00	0.00	0.00
14,600.0	90.00	360.00	6,675.0	8,147.0	-269.1	8,147.0	0.00	0.00	0.00
14,700.0	90.00	360.00	6,675.0	8,247.0	-269.1	8,247.0	0.00	0.00	0.00
14,800.0	90.00	360.00	6,675.0	8,347.0	-269.1	8,347.0	0.00	0.00	0.00
14,900.0	90.00	360.00	6,675.0	8,447.0	-269.1	8,447.0	0.00	0.00	0.00
15,000.0	90.00	360.00	6,675.0	8,547.0	-269.2	8,547.0	0.00	0.00	0.00
15,100.0	90.00	360.00	6,675.0	8,647.0	-269.2	8,647.0	0.00	0.00	0.00
15,200.0	90.00	360.00	6,675.0	8,747.0	-269.2	8,747.0	0.00	0.00	0.00
15,300.0	90.00	360.00	6,675.0	8,847.0	-269.2	8,847.0	0.00	0.00	0.00
15,400.0	90.00	360.00	6,675.0	8,947.0	-269.2	8,947.0	0.00	0.00	0.00
15,500.0	90.00	360.00	6,675.0	9,047.0	-269.2	9,047.0	0.00	0.00	0.00
15,600.0	90.00	360.00	6,675.0	9,147.0	-269.2	9,147.0	0.00	0.00	0.00
15,700.0	90.00	360.00	6,675.0	9,247.0	-269.2	9,247.0	0.00	0.00	0.00
15,800.0	90.00	360.00	6,675.0	9,347.0	-269.2	9,347.0	0.00	0.00	0.00
15,900.0	90.00	360.00	6,675.0	9,447.0	-269.2	9,447.0	0.00	0.00	0.00
16,000.0	90.00	360.00	6,675.0	9,547.0	-269.2	9,547.0	0.00	0.00	0.00
16,100.0	90.00	360.00	6,675.0	9,647.0	-269.2	9,647.0	0.00	0.00	0.00
16,200.0	90.00	360.00	6,675.0	9,747.0	-269.2	9,747.0	0.00	0.00	0.00
16,300.0	90.00	360.00	6,675.0	9,847.0	-269.2	9,847.0	0.00	0.00	0.00
16,400.0	90.00	360.00	6,675.0	9,947.0	-269.2	9,947.0	0.00	0.00	0.00
16,500.0	90.00	360.00	6,675.0	10,047.0	-269.2	10,047.0	0.00	0.00	0.00
16,600.0	90.00	360.00	6,675.0	10,147.0	-269.2	10,147.0	0.00	0.00	0.00

SandRidge Energy, Inc.

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 4-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Well:	Marr 0780 4-6H31	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Design #1	Database:	EDMProd

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,700.0	90.00	360.00	6,675.0	10,247.0	-269.2	10,247.0	0.00	0.00	0.00
16,800.0	90.00	360.00	6,675.0	10,347.0	-269.2	10,347.0	0.00	0.00	0.00
16,900.0	90.00	360.00	6,675.0	10,447.0	-269.2	10,447.0	0.00	0.00	0.00
17,000.0	90.00	360.00	6,675.0	10,547.0	-269.2	10,547.0	0.00	0.00	0.00
17,100.0	90.00	360.00	6,675.0	10,647.0	-269.2	10,647.0	0.00	0.00	0.00
17,200.0	90.00	360.00	6,675.0	10,747.0	-269.2	10,747.0	0.00	0.00	0.00
17,300.0	90.00	360.00	6,675.0	10,847.0	-269.2	10,847.0	0.00	0.00	0.00
17,400.0	90.00	360.00	6,675.0	10,947.0	-269.2	10,947.0	0.00	0.00	0.00
17,500.0	90.00	360.00	6,675.0	11,047.0	-269.3	11,047.0	0.00	0.00	0.00
17,600.0	90.00	360.00	6,675.0	11,147.0	-269.3	11,147.0	0.00	0.00	0.00
17,687.2	90.00	360.00	6,675.0	11,234.2	-269.3	11,234.2	0.00	0.00	0.00
TD at 17687.2									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
Marr 4-6H31 BHL	0.00	360.00	6,675.0	11,234.2	-269.3	1,473,412.69	2,745,487.71	40° 37' 45.488 N	106° 25' 1.027 W
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,294.0	6,275.0	Niobrara		0.00	

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5000	5000	0	0	Start Build 2.00
5542	5539	0	-51	Start 583.7 hold at 5542.3 MD
6126	6112	0	-161	Start DLS 10.00 TFO 90.00
7026	6675	573	-269	Start 10661.3 hold at 7026.0 MD
17,687	6675	11,234	-269	TD at 17687.2

Checked By: _____ Approved By: _____ Date: _____

SandRidge Energy

North Park Basin

T7N-R80W-S7

Marr 0780 4-6H31

Wellbore #1

Design #1

Anticollision Summary Report

10 July, 2017

SandRidge Energy, Inc.
Anticollision Summary Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 4-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Reference Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Marr 0780 4-6H31	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMProd
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference	Design #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		WARNING: There is hidden tight data in this project
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 usft		Error Surface: Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	7/7/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	17,687.2	Design #1 (Wellbore #1)	Sperry MWD	Fixed:v2:standard declination

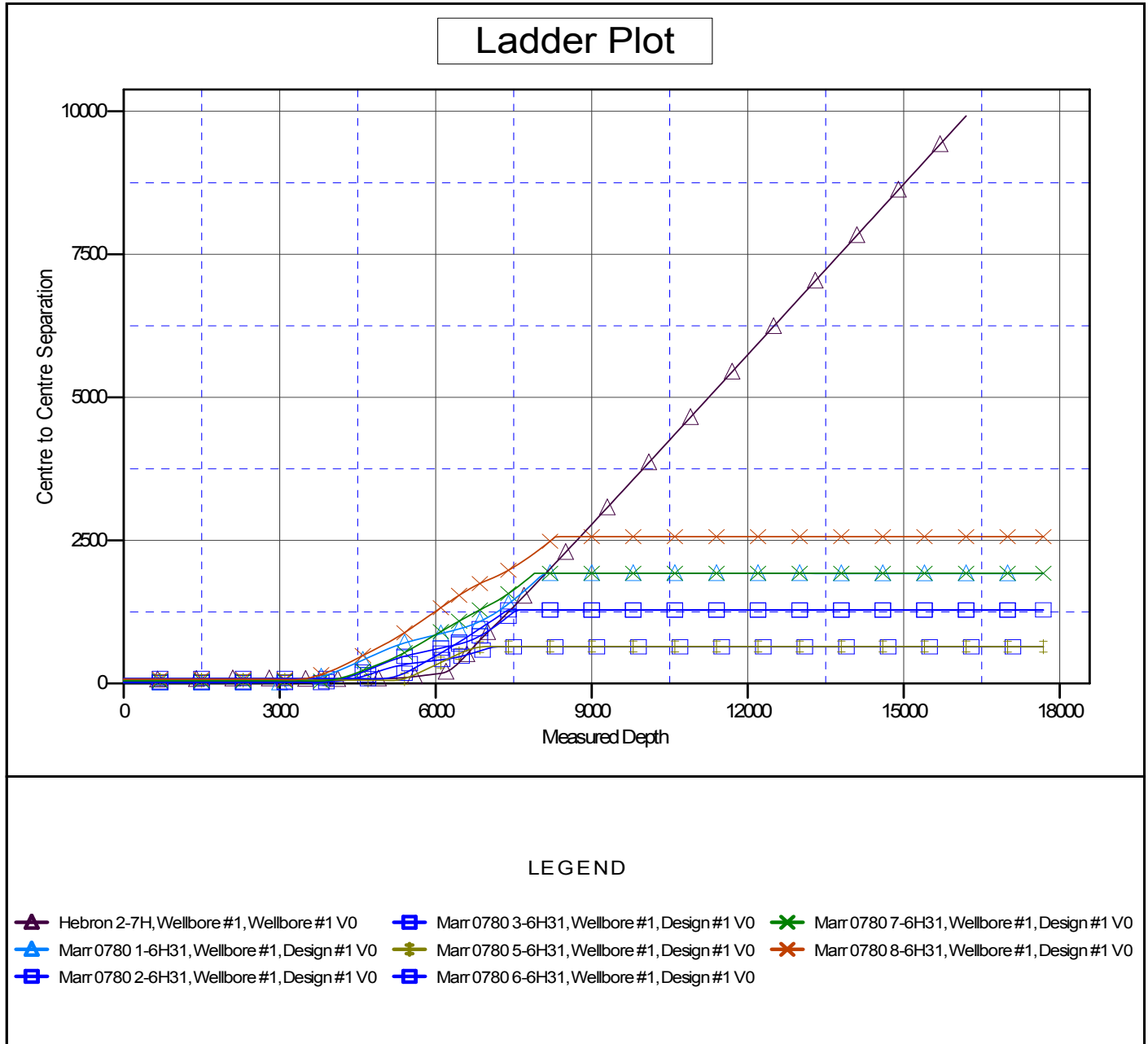
Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
T7N-R80W-S7						
Hebron 2-7H - Wellbore #1 - Wellbore #1	651.6	652.8	66.7	64.2	26.327	CC
Hebron 2-7H - Wellbore #1 - Wellbore #1	3,728.1	3,730.5	71.1	55.3	4.491	ES
Hebron 2-7H - Wellbore #1 - Wellbore #1	5,000.0	5,002.0	83.4	62.1	3.907	SF
Marr 0780 1-6H31 - Wellbore #1 - Design #1	2,966.3	2,967.4	15.0	1.9	1.146	Level 2, CC
Marr 0780 1-6H31 - Wellbore #1 - Design #1	3,000.0	3,001.1	15.0	1.8	1.133	Level 2, ES, SF
Marr 0780 2-6H31 - Wellbore #1 - Design #1	3,688.7	3,688.8	13.7	-2.6	0.839	Level 1, CC
Marr 0780 2-6H31 - Wellbore #1 - Design #1	3,700.0	3,700.1	13.7	-2.6	0.838	Level 1, ES, SF
Marr 0780 3-6H31 - Wellbore #1 - Design #1	3,800.0	3,800.0	29.9	13.1	1.779	Level 4, CC, ES
Marr 0780 3-6H31 - Wellbore #1 - Design #1	17,687.2	17,846.5	640.8	205.7	1.473	Level 3, SF
Marr 0780 5-6H31 - Wellbore #1 - Design #1	5,146.2	5,148.2	53.9	31.1	2.366	CC, ES
Marr 0780 5-6H31 - Wellbore #1 - Design #1	17,687.2	17,765.2	645.0	210.5	1.484	Level 3, SF
Marr 0780 6-6H31 - Wellbore #1 - Design #1	4,862.0	4,864.0	81.6	60.2	3.800	CC, ES
Marr 0780 6-6H31 - Wellbore #1 - Design #1	17,687.2	18,029.3	1,285.7	730.3	2.315	SF
Marr 0780 7-6H31 - Wellbore #1 - Design #1	3,727.0	3,728.7	40.9	24.4	2.489	CC, ES, SF
Marr 0780 8-6H31 - Wellbore #1 - Design #1	3,221.3	3,223.9	68.2	54.0	4.824	CC, ES
Marr 0780 8-6H31 - Wellbore #1 - Design #1	3,300.0	3,301.4	69.3	54.9	4.791	SF

SandRidge Energy, Inc.
Anticollision Summary Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 4-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Reference Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Marr 0780 4-6H31	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMProd
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 8145.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Marr 0780 4-6H31
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: -0.59°



SandRidge Energy, Inc.
Anticollision Summary Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Marr 0780 4-6H31
Project:	North Park Basin	TVD Reference:	KB @ 8145.0usft
Reference Site:	T7N-R80W-S7	MD Reference:	KB @ 8145.0usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	Marr 0780 4-6H31	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDMProd
Reference Design:	Design #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB @ 8145.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Marr 0780 4-6H31
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: -0.59°

