

5D Plan Report**Kinder Morgan****Field Name:** *Kinder Morgan Montezuma Co., CO (NAD 83 COS)***Site Name:** *Cow Canyon NE-4***Well Name:** *CNE-4***Plan:** *P1:V1*

09 December 2013



Cow Canyon NE-4 (CNE-4)
Montezuma Co, CO

Plan Data for CNE-4

Site: Cow Canyon NE-4
Unit: USFeet TVD Reference:
Company Name: Kinder Morgan
Position: Northing: 1350694.13USft Latitude: 37°34'50.7"
Easting: 2016868.04USft Longitude: -108°53'36.2"
North Reference: True Grid Convergence: -2.08°
Elevation Above VRD: 6845.40USft

Plan Data for CNE-4

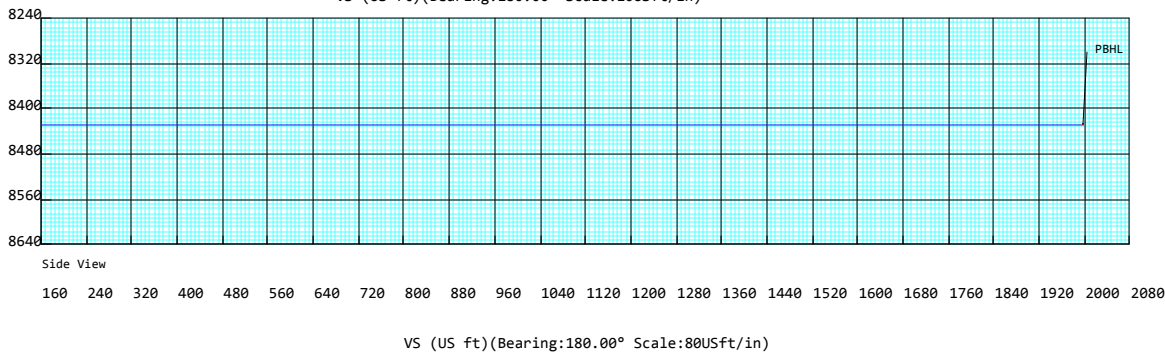
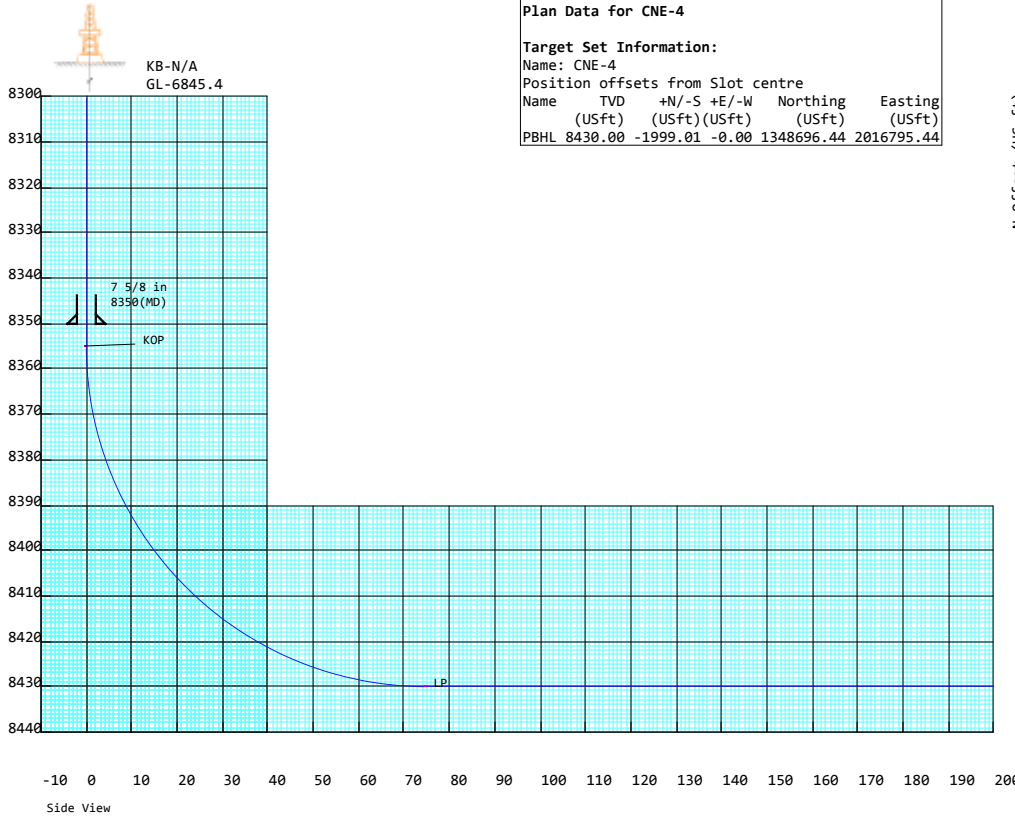
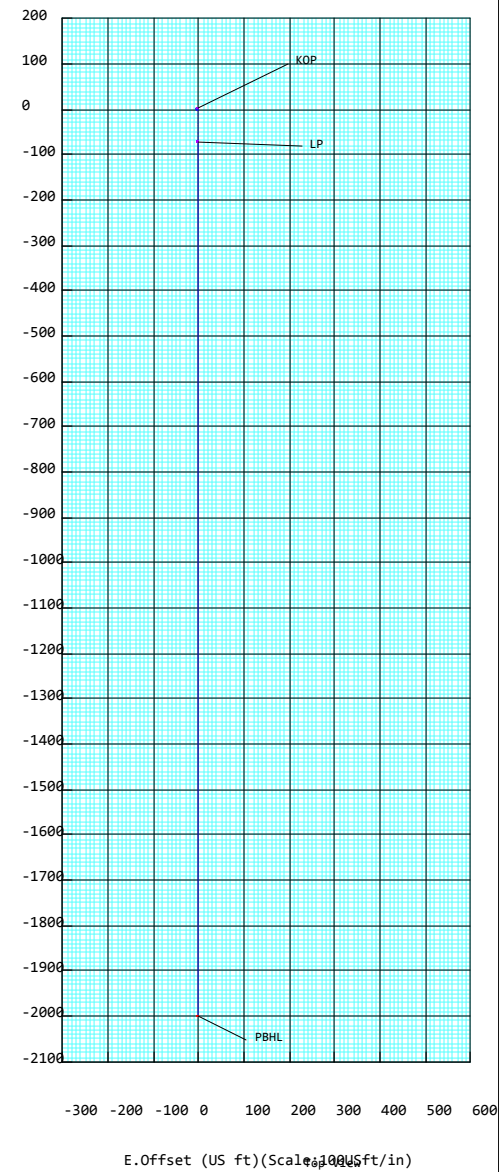
Plan Point Information:

Dogleg Severity Unit: °/100.00ft		Position offsets from Slot centre							
MD	Inc	Az	TVD	+N/-S	+E/-W	Northing	Easting	VSec	DLS
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(USft)	(USft)	(DLSU)
0.00	0.00	0.00	0.00	0.00	0.00	1350694.13	2016868.04	0.00	0.00
8355.00	0.00	0.00	8355.00	0.00	0.00	1350694.13	2016868.04	0.00	0.00
8472.80	90.00	180.00	8430.00	-75.00	0.00	1350619.19	2016865.32	75.00	76.40
10396.82	90.00	180.00	8430.00	-1999.01	0.00	1348696.44	2016795.44	1999.01	0.00

Plan Data for CNE-4

Target Set Information:

Name: CNE-4
Position offsets from Slot centre
Name TVD +N/-S +E/-W Northing Easting
(USft) (USft) (USft) (USft) (USft)
PBHL 8430.00 -1999.01 -0.00 1348696.44 2016795.44



Sign Off: Patrick Rudolph



CNE-4

Field Name Kinder Morgan Montezuma Co., CO (NAD 83 COS)	Map Units : US ft		Company Name : Kinder Morgan	
	Vertical Reference Datum (VRD) : Mean Sea Level			
	Projected Coordinate System : NAD83 / Colorado South (ftUS)			
	Comment :			
Site Name Cow Canyon NE- 4	Units : US ft	North Reference : True		Convergence Angle : -2.08
	Position	Northing : 1350694.13 US ft		Latitude : 37° 34' 50.70"
		Easting : 2016868.04 US ft		Longitude : -108° 53' 36.20"
	Elevation above Mean Sea Level:6845.40 US ft			
Comment :				
Slot Name CNE-4	Position (Offsets relative to Site Centre)			
	+N / -S : 0.00 US ft	Northing :1350694.13 US ft		Latitude : 37°34'50.70"
	+E / -W : 0.00 US ft	Easting :2016868.04 US ft		Longitude : -108°53'36.20"
	Slot TVD Reference : Ground Elevation			
	Elevation above Mean Sea Level : 6845.40 US ft			
	Comment :			
Well Name CNE-4	Type : Main well		UWI :	Plan : P1:V1
	Rig Height <i>Drill Floor</i> : 0.00 US ft		Comment :	
	Relative to Mean Sea Level: 6845.40 US ft			
	Closure Distance : 1999.01 US ft		Closure Azimuth : 180°	
	Vertical Section (Position of Origin Relative to Slot)			
	+N / -S : 0.00 US ft		+E / -W : 0.00 US ft	Az :180.00°
	Magnetic Parameters			
	Model : BGGM	Field Strength : 50786.9nT	Dec : 10.22°	Dip : 63.92°

Target Set

Name : CNE-4 **Number of Targets** : 1

Comment :

Target Name:	Position (Relative to Slot centre)			
	+N / -S : -1999.01US ft	Northing : 1348696.44 US ft	Latitude : 37°34'30.94"	
PBHL	+E / -W : -0.00 US ft	Easting : 2016795.44US ft	Longitude : -108°53'36.20"	
Shape:	TVD (Drill Floor) : 8430.00 US ft			
Cuboid	Orientation		Azimuth : 0.00°	Inclination : 0.00°
	Dimensions	Length : 0.00 US ft	Breadth : 0.00 US ft	Height : 0.00 US ft

5D Plan Report

Casing Points (Relative to Slot centre, TVD relative to Drill Floor)		
Name	MD (US ft)	TVD (US ft)
7 5/8 in	8350.00	8350.00

Well path created using minimum curvature

Salient Points (Relative to Slot centre, TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100 US ft)	VS (US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
8355.00	0.00	0.00	8355.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	KOP
8472.80	90.00	180.00	8430.00	-75.00	0.00	1350619.19	2016865.32	76.40	75.00	LP
10396.82	90.00	180.00	8430.00	-1999.01	0.00	1348696.44	2016795.44	0.00	1999.01	PBHL

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100 US ft)	VS (US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
100.00	0.00	0.00	100.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
200.00	0.00	0.00	200.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
300.00	0.00	0.00	300.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
400.00	0.00	0.00	400.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
500.00	0.00	0.00	500.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
600.00	0.00	0.00	600.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
700.00	0.00	0.00	700.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
800.00	0.00	0.00	800.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
900.00	0.00	0.00	900.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
1100.00	0.00	0.00	1100.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
1200.00	0.00	0.00	1200.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
1300.00	0.00	0.00	1300.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
1400.00	0.00	0.00	1400.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
1500.00	0.00	0.00	1500.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
1600.00	0.00	0.00	1600.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
1700.00	0.00	0.00	1700.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
1900.00	0.00	0.00	1900.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
2000.00	0.00	0.00	2000.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
2100.00	0.00	0.00	2100.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
2200.00	0.00	0.00	2200.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
2300.00	0.00	0.00	2300.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
2400.00	0.00	0.00	2400.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
2600.00	0.00	0.00	2600.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
2700.00	0.00	0.00	2700.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
2800.00	0.00	0.00	2800.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
2900.00	0.00	0.00	2900.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
3000.00	0.00	0.00	3000.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
3100.00	0.00	0.00	3100.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
3200.00	0.00	0.00	3200.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
3300.00	0.00	0.00	3300.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
3400.00	0.00	0.00	3400.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
3500.00	0.00	0.00	3500.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
3600.00	0.00	0.00	3600.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
3700.00	0.00	0.00	3700.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
3800.00	0.00	0.00	3800.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
3900.00	0.00	0.00	3900.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
4000.00	0.00	0.00	4000.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
4100.00	0.00	0.00	4100.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
4200.00	0.00	0.00	4200.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
4300.00	0.00	0.00	4300.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
4400.00	0.00	0.00	4400.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100 US ft)	VS (US ft)	Comment
4500.00	0.00	0.00	4500.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
4600.00	0.00	0.00	4600.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
4700.00	0.00	0.00	4700.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
4800.00	0.00	0.00	4800.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
4900.00	0.00	0.00	4900.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
5000.00	0.00	0.00	5000.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
5100.00	0.00	0.00	5100.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
5200.00	0.00	0.00	5200.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
5300.00	0.00	0.00	5300.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
5400.00	0.00	0.00	5400.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
5500.00	0.00	0.00	5500.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
5600.00	0.00	0.00	5600.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
5700.00	0.00	0.00	5700.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
5800.00	0.00	0.00	5800.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
5900.00	0.00	0.00	5900.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
6000.00	0.00	0.00	6000.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
6100.00	0.00	0.00	6100.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
6200.00	0.00	0.00	6200.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
6300.00	0.00	0.00	6300.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
6400.00	0.00	0.00	6400.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
6500.00	0.00	0.00	6500.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
6600.00	0.00	0.00	6600.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
6700.00	0.00	0.00	6700.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
6800.00	0.00	0.00	6800.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
6900.00	0.00	0.00	6900.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
7000.00	0.00	0.00	7000.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
7100.00	0.00	0.00	7100.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
7200.00	0.00	0.00	7200.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
7300.00	0.00	0.00	7300.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
7400.00	0.00	0.00	7400.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
7500.00	0.00	0.00	7500.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
7600.00	0.00	0.00	7600.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
7700.00	0.00	0.00	7700.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
7800.00	0.00	0.00	7800.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
7900.00	0.00	0.00	7900.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
8000.00	0.00	0.00	8000.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
8100.00	0.00	0.00	8100.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
8200.00	0.00	0.00	8200.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
8300.00	0.00	0.00	8300.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	
8350.00	0.00	0.00	8350.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	7 5/8 in
8355.00	0.00	0.00	8355.00	0.00	0.00	1350694.13	2016868.04	0.00	-0.00	KOP
8400.00	34.38	180.00	8397.35	-13.10	0.00	1350681.04	2016867.57	76.40	13.10	
8472.80	90.00	180.00	8430.00	-75.00	0.00	1350619.19	2016865.32	76.40	75.00	LP
8500.00	90.00	180.00	8430.00	-102.19	0.00	1350592.01	2016864.33	0.00	102.19	
8600.00	90.00	180.00	8430.00	-202.19	0.00	1350492.07	2016860.70	0.00	202.19	
8700.00	90.00	180.00	8430.00	-302.19	0.00	1350392.14	2016857.07	0.00	302.19	
8800.00	90.00	180.00	8430.00	-402.19	0.00	1350292.21	2016853.43	0.00	402.19	
8900.00	90.00	180.00	8430.00	-502.19	0.00	1350192.27	2016849.80	0.00	502.19	
9000.00	90.00	180.00	8430.00	-602.19	0.00	1350092.34	2016846.17	0.00	602.19	
9100.00	90.00	180.00	8430.00	-702.19	0.00	1349992.40	2016842.54	0.00	702.19	
9200.00	90.00	180.00	8430.00	-802.19	0.00	1349892.47	2016838.91	0.00	802.19	
9300.00	90.00	180.00	8430.00	-902.19	0.00	1349792.54	2016835.28	0.00	902.19	
9400.00	90.00	180.00	8430.00	-1002.19	0.00	1349692.60	2016831.64	0.00	1002.19	
9500.00	90.00	180.00	8430.00	-1102.19	0.00	1349592.67	2016828.01	0.00	1102.19	
9600.00	90.00	180.00	8430.00	-1202.19	0.00	1349492.73	2016824.38	0.00	1202.19	
9700.00	90.00	180.00	8430.00	-1302.19	0.00	1349392.80	2016820.75	0.00	1302.19	
9800.00	90.00	180.00	8430.00	-1402.19	0.00	1349292.87	2016817.12	0.00	1402.19	
9900.00	90.00	180.00	8430.00	-1502.19	0.00	1349192.93	2016813.48	0.00	1502.19	
10000.00	90.00	180.00	8430.00	-1602.19	0.00	1349093.00	2016809.85	0.00	1602.19	

5D Plan Report

Interpolated Points (Relative to Slot centre, TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100 US ft)	VS (US ft)	Comment
10100.00	90.00	180.00	8430.00	-1702.19	0.00	1348993.06	2016806.22	0.00	1702.19	
10200.00	90.00	180.00	8430.00	-1802.19	0.00	1348893.13	2016802.59	0.00	1802.19	
10300.00	90.00	180.00	8430.00	-1902.19	0.00	1348793.20	2016798.96	0.00	1902.19	
10396.82	90.00	180.00	8430.00	-1999.01	0.00	1348696.44	2016795.44	0.00	1999.01	PBHL

**Weatherford®****Weatherford Drilling Services**

GeoDec v5.03

Report Date: November 15, 2013
 Job Number: _____
 Customer: Kinder Morgan
 Well Name: Cow Canyon NE-4 (CNE-4)
 API Number: _____
 Rig Name: _____
 Location: Montezuma Co., CO
 Block: _____
 Engineer: Patrick Rudolph

Geodetic Latitude / Longitude	Geodetic Latitude / Longitude
System: Latitude / Longitude	System: Latitude / Longitude
Projection: Geodetic Latitude and Longitude	Projection: Geodetic Latitude and Longitude
Datum: North American Datum 1983	Datum: North American Datum 1983
Ellipsoid: GRS 1980	Ellipsoid: GRS 1980
Latitude 37.5807500 DEG	Latitude 37 34 50.700000 DMS
Longitude -108.8933900 DEG	Longitude -108 53 36.204000 DMS

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude = 37.58075° N	37° 34 min 50.700 sec	
Longitude = 108.89339° W	108° 53 min 36.204 sec	

Magnetic Declination =	10.22°	[True North Offset]	
Local Gravity =	.9993 g	Checksum =	7448
Local Field Strength =	50787 nT	Magnetic Vector X =	21974 nT
Magnetic Dip =	63.92°	Magnetic Vector Y =	3961 nT
Magnetic Model =	bggm2013	Magnetic Vector Z =	45616 nT
Spud Date =	Jan 01, 2014	Magnetic Vector H =	22328 nT

Signed: _____

Date: _____