

**5D Plan Report****BONANZA CREEK**

**Field Name:** *COLORADO\_NORTH\_ZONE\_NAD83*  
**Site Name:** *PRONGHORN K-12 PAD*  
**Well Name:** *PRONGHORN K-O-12HNC*  
**Plan:** *PLAN 1*





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#### Plan Point Information:

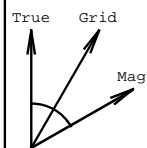
DogLeg Severity Unit: °/100.00ft				Position offsets from Slot centre							
MD	Inc	Az	TVD	+N/-S	+E/-W	VSec	DLS	Toolface	Build	Turn	
(USft)	(°)	(°)	(USft)	(USft)	(USft)	(USft)	(DLSU)	(°)	(DLSU)	(DLSU)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	
1582.94	11.66	359.54	1578.92	59.10	-0.47	9.98	2.00	359.5	2.00	0.00	
1932.30	11.66	359.54	1921.08	129.70	-1.03	21.91	0.00	0.0	0.00	0.00	
2515.24	0.00	0.00	2500.00	188.80	-1.50	31.89	2.00	180.0	-2.00	0.00	
5651.87	0.00	0.00	5636.63	188.80	-1.50	31.89	0.00	0.0	0.00	0.00	
6470.05	90.00	180.54	6157.50	-332.04	-6.44	-65.02	11.00	180.5	11.00	0.00	
10786.64	90.00	180.54	6157.50	-4648.44	-47.34	-868.16	0.00	0.0	0.00	0.00	

#### Target Set Information:

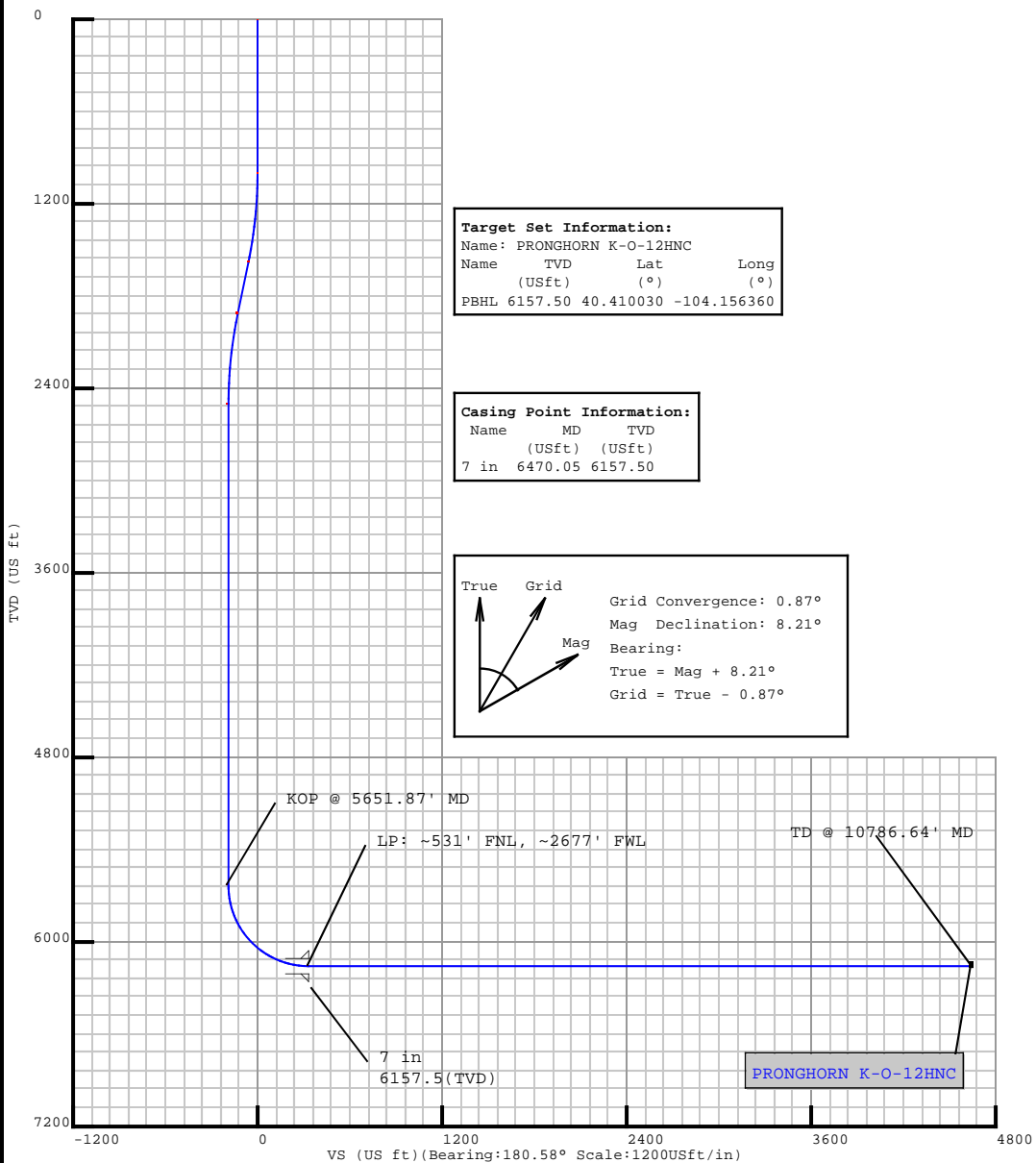
Name: PRONGHORN K-O-12HNC			
Name	TVD	Lat	Long
(USft)	(USft)	(°)	(°)
PBHL	6157.50	40.410030	-104.156360

#### Casing Point Information:

Name	MD	TVD
(USft)	(USft)	(USft)
7 in	6470.05	6157.50



Grid Convergence: 0.87°  
Mag Declination: 8.21°  
Bearing:  
True = Mag + 8.21°  
Grid = True - 0.87°



#### Field: COLORADO NORTH\_ZONE\_NAD83

Map Unit: USFT Vertical Reference Datum (VRD): Mean Sea Level  
Projected Coordinate System: NAD83 / Colorado North (ftUS)

#### Site: PRONGHORN K-12 PAD

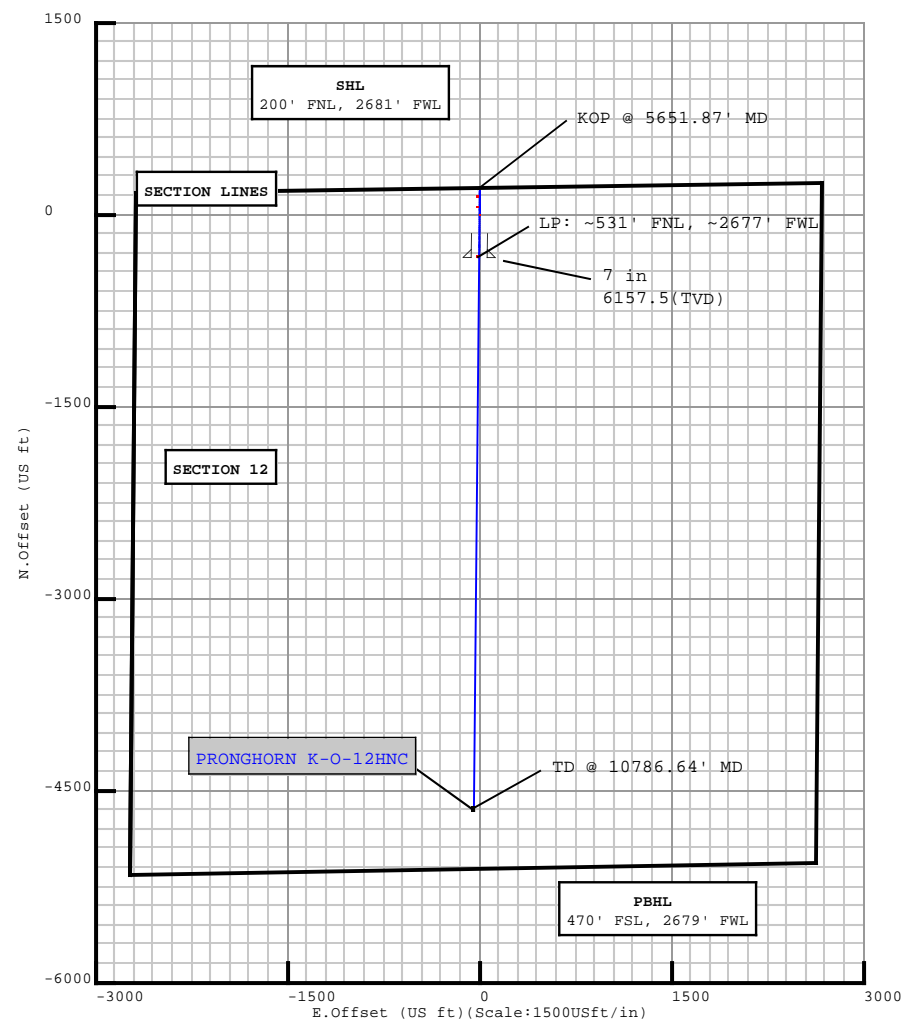
Unit: USFeet TVD Reference:  
Company Name: BONANZA CREEK  
Position: Northing: 1399697.60USft Latitude: 40.422790°  
Easting: 3374124.87USft Longitude: -104.156190°  
North Reference: True Grid Convergence: 0.87°  
Elevation Above VRD: 0.00USft

#### Slot: PRONGHORN K-O-12HNC

Position:  
Offset is from Site centre  
+N/-S: -0.00USft Northing: 1399697.60USft Latitude: 40.422790°  
+E/-W: -0.00USft Easting: 3374124.87USft Longitude: -104.156190°  
Elevation Above VRD: 4641.00USft

#### Well: PRONGHORN K-O-12HNC

Type: Main-Well  
File Number:  
Vertical Section: Position offset of origin from Slot centre:  
+N/-S: 0.00USft Azimuth: 79.82°  
+E/-W: 0.00USft  
Magnetic Parameters:  
Model: Field Strength: Declination: Dip: Date:  
BGGM 52878(nT) 8.21° 67.06° 2014-02-27



## Plan Surveys for the PRONGHORN K-O-12HNC

Site Name  PRONGHORN K-12 PAD	Units : US ft	North Reference : True	Convergence Angle : 0.87	
	Position	Northing : 1399697.60 US ft	Latitude : 40.422790	
		Easting : 3374124.87 US ft	Longitude : -104.156190	
	Elevation above:4641.00 US ft			
Comment :				
Slot Name  PRONGHORN K-O-12HNC	Position (Offsets relative to Site Centre)			
	+N / -S : -0.00 US ft	Northing :1399697.60 US ft	Latitude : 40.422790	
	+E / -W : -0.00 US ft	Easting :3374124.87 US ft	Longitude : -104.156190	
	Slot TVD Reference : Ground Elevation			
	Elevation above : 4641.00 US ft			
	Comment :			
Well Name  PRONGHORN K-O-12HNC	Type : Main well		UWI :	Plan : PLAN 1
	Rig Height <i>Drill Floor</i> : 16.50 US ft		Comment :	
	Relative to : 4657.50 US ft			
	Closure Distance : 4648.68 US ft		Closure Azimuth : 180.583°	
	Vertical Section (Position of Origin Relative to Slot )			
	+N / -S : 0.00 US ft		+E / -W : 0.00 US ft	Az :180.58°
	Magnetic Parameters			
	Model : BGGM	Field Strength : 52878.0nT	Dec : 8.21°	Dip : 67.06°

## Target Set

Name : PRONGHORN K-O-12HNC

Number of Targets : 1

## Comment :

TargetName:	Position (Relative to centre)			
PBHL	+N / -S : -4648.44US ft		Northing : 1395048.98 US ft	Latitude : 40°24'36.108000"
Shape:	+E / -W : -47.34 US ft		Easting : 3374147.98US ft	Longitude : -104°9'22.896000"
Cuboid	TVD (Drill Floor) : 6157.50 US ft			
	Orientation	Azimuth : 0.00°	Inclination : 0.00°	
	Dimensions	Length : 20.00 US ft	Breadth : 20.00 US ft	Height : 20.00 US ft

## Casing Points (Relative to centre, TVD relative to Drill Floor )

Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)
7 in	6470.05	90.00	180.54	6157.50	-332.04	-6.44	40.421879	-104.156213

## Well path created using minimum curvature

## Salient Points (Relative to centre, TVD relative to Drill Floor )

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Latitude (°)	Longitude (°)	DLS (°/100 US ft)	T.Face (°)	VS (US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	40.422790	-104.156190	0.00	0.00	-0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	40.422790	-104.156190	0.00	0.00	-0.00	
1582.94	11.66	359.54	1578.92	59.10	-0.47	40.422952	-104.156192	2.00	359.54	-59.10	
1932.30	11.66	359.54	1921.08	129.70	-1.03	40.423146	-104.156194	0.00	0.00	-129.68	
2515.24	0.00	0.00	2500.00	188.80	-1.50	40.423308	-104.156195	2.00	180.00	-188.78	
5651.87	0.00	0.00	5636.63	188.80	-1.50	40.423308	-104.156195	0.00	0.00	-188.78	KOP @ 5651.87' MD
6470.05	90.00	180.54	6157.50	-332.04	-6.44	40.421879	-104.156213	11.00	180.54	332.09	LP: ~531' FNL, ~2677' FWL; 7 in
10786.64	90.00	180.54	6157.50	-4648.44	-47.34	40.410030	-104.156360	0.00	0.00	4648.68	TD @ 10786.64' MD

## Interpolated Points (Relative to centre, TVD relative to Drill Floor )

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100 US ft)	T.Face (°)	VS (US ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	-0.00	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	-0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	-0.00	

## 5D Plan Report

Interpolated Points (Relative to centre, TVD relative to Drill Floor )									
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100 US ft)	T.Face (°)	VS (US ft)	Comment
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	-0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	-0.00	
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	-0.00	
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	-0.00	
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	-0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	-0.00	
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	-0.00	
1100.00	2.00	359.54	1099.98	1.75	-0.01	2.00	359.54	-1.74	
1200.00	4.00	359.54	1199.84	6.98	-0.06	2.00	0.00	-6.98	
1300.00	6.00	359.54	1299.45	15.69	-0.12	2.00	0.00	-15.69	
1400.00	8.00	359.54	1398.70	27.88	-0.22	2.00	0.00	-27.88	
1500.00	10.00	359.54	1497.47	43.52	-0.35	2.00	0.00	-43.52	
1582.94	11.66	359.54	1578.92	59.10	-0.47	2.00	0.00	-59.10	
1600.00	11.66	359.54	1595.63	62.55	-0.50	0.00	0.00	-62.54	
1700.00	11.66	359.54	1693.57	82.76	-0.66	0.00	0.00	-82.75	
1800.00	11.66	359.54	1791.51	102.97	-0.82	0.00	0.00	-102.95	
1900.00	11.66	359.54	1889.44	123.17	-0.98	0.00	0.00	-123.16	
1932.30	11.66	359.54	1921.08	129.70	-1.03	0.00	0.00	-129.68	
2000.00	10.30	359.54	1987.54	142.60	-1.13	2.00	180.00	-142.58	
2100.00	8.30	359.54	2086.22	158.76	-1.26	2.00	180.00	-158.74	
2200.00	6.30	359.54	2185.40	171.48	-1.36	2.00	180.00	-171.45	
2300.00	4.30	359.54	2284.97	180.72	-1.44	2.00	180.00	-180.70	
2400.00	2.30	359.54	2384.79	186.49	-1.48	2.00	180.00	-186.46	
2500.00	0.30	359.54	2484.76	188.76	-1.50	2.00	180.00	-188.74	
2515.24	0.00	0.00	2500.00	188.80	-1.50	2.00	180.00	-188.78	
2600.00	0.00	0.00	2584.76	188.80	-1.50	0.00	0.00	-188.78	
2700.00	0.00	0.00	2684.76	188.80	-1.50	0.00	0.00	-188.78	
2800.00	0.00	0.00	2784.76	188.80	-1.50	0.00	0.00	-188.78	
2900.00	0.00	0.00	2884.76	188.80	-1.50	0.00	0.00	-188.78	
3000.00	0.00	0.00	2984.76	188.80	-1.50	0.00	0.00	-188.78	
3100.00	0.00	0.00	3084.76	188.80	-1.50	0.00	0.00	-188.78	
3200.00	0.00	0.00	3184.76	188.80	-1.50	0.00	0.00	-188.78	
3300.00	0.00	0.00	3284.76	188.80	-1.50	0.00	0.00	-188.78	
3400.00	0.00	0.00	3384.76	188.80	-1.50	0.00	0.00	-188.78	
3500.00	0.00	0.00	3484.76	188.80	-1.50	0.00	0.00	-188.78	
3600.00	0.00	0.00	3584.76	188.80	-1.50	0.00	0.00	-188.78	
3700.00	0.00	0.00	3684.76	188.80	-1.50	0.00	0.00	-188.78	
3800.00	0.00	0.00	3784.76	188.80	-1.50	0.00	0.00	-188.78	
3900.00	0.00	0.00	3884.76	188.80	-1.50	0.00	0.00	-188.78	
4000.00	0.00	0.00	3984.76	188.80	-1.50	0.00	0.00	-188.78	
4100.00	0.00	0.00	4084.76	188.80	-1.50	0.00	0.00	-188.78	

## 5D Plan Report

Interpolated Points (Relative to centre, TVD relative to Drill Floor )									
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100 US ft)	T.Face (°)	VS (US ft)	Comment
4200.00	0.00	0.00	4184.76	188.80	-1.50	0.00	0.00	-188.78	
4300.00	0.00	0.00	4284.76	188.80	-1.50	0.00	0.00	-188.78	
4400.00	0.00	0.00	4384.76	188.80	-1.50	0.00	0.00	-188.78	
4500.00	0.00	0.00	4484.76	188.80	-1.50	0.00	0.00	-188.78	
4600.00	0.00	0.00	4584.76	188.80	-1.50	0.00	0.00	-188.78	
4700.00	0.00	0.00	4684.76	188.80	-1.50	0.00	0.00	-188.78	
4800.00	0.00	0.00	4784.76	188.80	-1.50	0.00	0.00	-188.78	
4900.00	0.00	0.00	4884.76	188.80	-1.50	0.00	0.00	-188.78	
5000.00	0.00	0.00	4984.76	188.80	-1.50	0.00	0.00	-188.78	
5100.00	0.00	0.00	5084.76	188.80	-1.50	0.00	0.00	-188.78	
5200.00	0.00	0.00	5184.76	188.80	-1.50	0.00	0.00	-188.78	
5300.00	0.00	0.00	5284.76	188.80	-1.50	0.00	0.00	-188.78	
5400.00	0.00	0.00	5384.76	188.80	-1.50	0.00	0.00	-188.78	
5500.00	0.00	0.00	5484.76	188.80	-1.50	0.00	0.00	-188.78	
5600.00	0.00	0.00	5584.76	188.80	-1.50	0.00	0.00	-188.78	
5651.87	0.00	0.00	5636.63	188.80	-1.50	0.00	0.00	-188.78	KOP @ 5651.87' MD
5700.00	5.29	180.54	5684.69	186.58	-1.52	11.00	180.54	-186.56	
5800.00	16.29	180.54	5782.77	167.88	-1.70	11.00	0.00	-167.86	
5900.00	27.29	180.54	5875.48	130.81	-2.05	11.00	0.00	-130.79	
6000.00	38.29	180.54	5959.42	76.74	-2.56	11.00	0.00	-76.71	
6100.00	49.29	180.54	6031.49	7.64	-3.22	11.00	0.00	-7.60	
6200.00	60.29	180.54	6089.05	-73.94	-3.99	11.00	0.00	73.98	
6300.00	71.29	180.54	6129.99	-165.01	-4.85	11.00	0.00	165.05	
6400.00	82.29	180.54	6152.80	-262.21	-5.77	11.00	0.00	262.25	
6470.05	90.00	180.54	6157.50	-332.04	-6.44	11.00	0.00	332.09	LP: ~531' FNL, ~2677' FWL; 7 in
6500.00	90.00	180.54	6157.50	-361.99	-6.72	0.00	0.00	362.04	
6600.00	90.00	180.54	6157.50	-461.99	-7.67	0.00	0.00	462.04	
6700.00	90.00	180.54	6157.50	-561.99	-8.61	0.00	0.00	562.04	
6800.00	90.00	180.54	6157.50	-661.98	-9.56	0.00	0.00	662.04	
6900.00	90.00	180.54	6157.50	-761.98	-10.51	0.00	0.00	762.04	
7000.00	90.00	180.54	6157.50	-861.97	-11.46	0.00	0.00	862.04	
7100.00	90.00	180.54	6157.50	-961.97	-12.40	0.00	0.00	962.04	
7200.00	90.00	180.54	6157.50	-1061.96	-13.35	0.00	0.00	1062.04	
7300.00	90.00	180.54	6157.50	-1161.96	-14.30	0.00	0.00	1162.04	
7400.00	90.00	180.54	6157.50	-1261.95	-15.25	0.00	0.00	1262.04	
7500.00	90.00	180.54	6157.50	-1361.95	-16.20	0.00	0.00	1362.04	
7600.00	90.00	180.54	6157.50	-1461.94	-17.14	0.00	0.00	1462.04	
7700.00	90.00	180.54	6157.50	-1561.94	-18.09	0.00	0.00	1562.04	
7800.00	90.00	180.54	6157.50	-1661.94	-19.04	0.00	0.00	1662.04	
7900.00	90.00	180.54	6157.50	-1761.93	-19.99	0.00	0.00	1762.04	

## 5D Plan Report

Interpolated Points (Relative to centre, TVD relative to Drill Floor )									
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	DLS (°/100 US ft)	T.Face (°)	VS (US ft)	Comment
8000.00	90.00	180.54	6157.50	-1861.93	-20.93	0.00	0.00	1862.04	
8100.00	90.00	180.54	6157.50	-1961.92	-21.88	0.00	0.00	1962.04	
8200.00	90.00	180.54	6157.50	-2061.92	-22.83	0.00	0.00	2062.04	
8300.00	90.00	180.54	6157.50	-2161.91	-23.78	0.00	0.00	2162.04	
8400.00	90.00	180.54	6157.50	-2261.91	-24.72	0.00	0.00	2262.04	
8500.00	90.00	180.54	6157.50	-2361.90	-25.67	0.00	0.00	2362.04	
8600.00	90.00	180.54	6157.50	-2461.90	-26.62	0.00	0.00	2462.04	
8700.00	90.00	180.54	6157.50	-2561.90	-27.57	0.00	0.00	2562.04	
8800.00	90.00	180.54	6157.50	-2661.89	-28.51	0.00	0.00	2662.04	
8900.00	90.00	180.54	6157.50	-2761.89	-29.46	0.00	0.00	2762.04	
9000.00	90.00	180.54	6157.50	-2861.88	-30.41	0.00	0.00	2862.04	
9100.00	90.00	180.54	6157.50	-2961.88	-31.36	0.00	0.00	2962.04	
9200.00	90.00	180.54	6157.50	-3061.87	-32.30	0.00	0.00	3062.04	
9300.00	90.00	180.54	6157.50	-3161.87	-33.25	0.00	0.00	3162.04	
9400.00	90.00	180.54	6157.50	-3261.86	-34.20	0.00	0.00	3262.04	
9500.00	90.00	180.54	6157.50	-3361.86	-35.15	0.00	0.00	3362.04	
9600.00	90.00	180.54	6157.50	-3461.85	-36.09	0.00	0.00	3462.04	
9700.00	90.00	180.54	6157.50	-3561.85	-37.04	0.00	0.00	3562.04	
9800.00	90.00	180.54	6157.50	-3661.85	-37.99	0.00	0.00	3662.04	
9900.00	90.00	180.54	6157.50	-3761.84	-38.94	0.00	0.00	3762.04	
10000.00	90.00	180.54	6157.50	-3861.84	-39.88	0.00	0.00	3862.04	
10100.00	90.00	180.54	6157.50	-3961.83	-40.83	0.00	0.00	3962.04	
10200.00	90.00	180.54	6157.50	-4061.83	-41.78	0.00	0.00	4062.04	
10300.00	90.00	180.54	6157.50	-4161.82	-42.73	0.00	0.00	4162.04	
10400.00	90.00	180.54	6157.50	-4261.82	-43.68	0.00	0.00	4262.04	
10500.00	90.00	180.54	6157.50	-4361.81	-44.62	0.00	0.00	4362.04	
10600.00	90.00	180.54	6157.50	-4461.81	-45.57	0.00	0.00	4462.04	
10700.00	90.00	180.54	6157.50	-4561.81	-46.52	0.00	0.00	4562.04	
10786.64	90.00	180.54	6157.50	-4648.44	-47.34	0.00	0.00	4648.68	TD @ 10786.64' MD