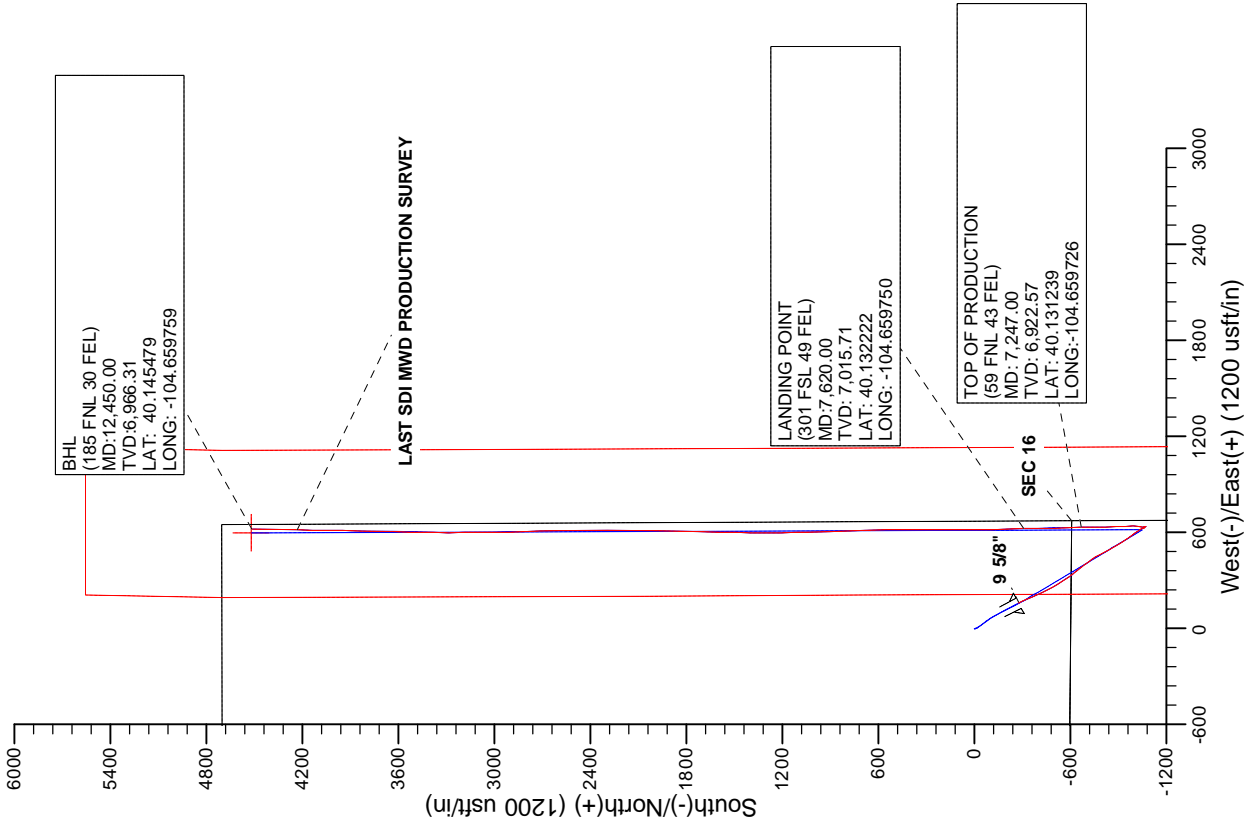
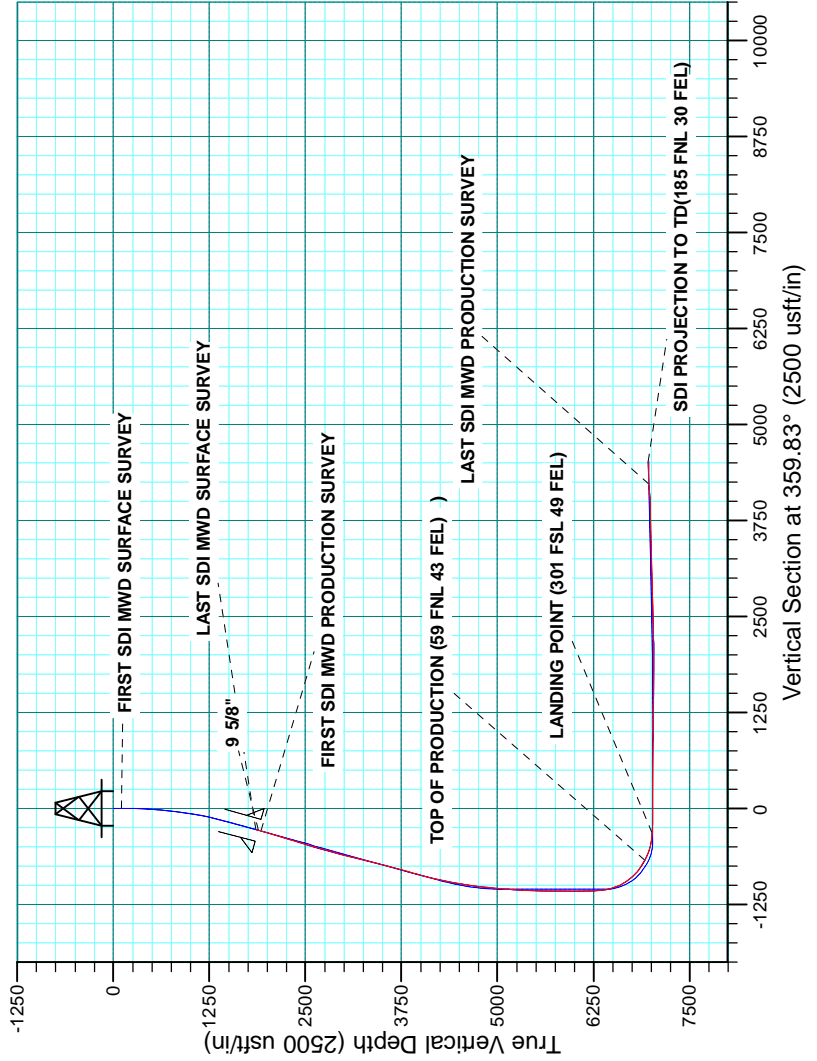




Project: WELD-NAD83-UTMFT13N
Site: 2N-65W-16 Cook 16-16HZ
Well: COOK 26G-16HZ
Wellbore: Plan A
Design: Plan A

WELL DETAILS: COOK 26G-16HZ			
GL 4878 & KB 25 @ 4903.00usft (HP 307)			
+N/S	0.00	Northing	14576370.71
+E/W	0.00	Easting	1734893.27
		Latitude	40.133072
		Longitude	-104.661988

PROJECT DETAILS: WELD-NAD83-UTMFT13N	
Geodetic System:	Universal Transverse Mercator (US Survey Feet)
Datum:	North American Datum 1983
Ellipsoid:	GRS 1980
Zone:	Zone 13N (108 W to 102 W)
Location:	
System Datum:	Mean Sea Level



Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well COOK 26G-16HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	GL 4878 & KB 25 @ 4903.00usft (HP 307)
Site:	2N-65W-16 Cook 16-16HZ	MD Reference:	GL 4878 & KB 25 @ 4903.00usft (HP 307)
Well:	COOK 26G-16HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Plan A	Database:	Denver Sales

Project	WELD-NAD83-UTMFT13N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 13N (108 W to 102 W)		

Site	2N-65W-16 Cook 16-16HZ				
Site Position:		Northing:	14,575,370.71 usft	Latitude:	40.133073
From:	Lat/Long	Easting:	1,734,893.26 usft	Longitude:	-104.661989
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.22 °

Well	COOK 26G-16HZ					
Well Position	+N/-S	0.00 usft	Northing:	14,575,370.71 usft	Latitude:	40.133073
	+E/-W	0.00 usft	Easting:	1,734,893.26 usft	Longitude:	-104.661989
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,878.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	10/18/2015	8.38	66.67	52,487

Design	Plan A				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	359.83	

Survey Program	Date	3/31/2016			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
18.00	1,896.00	Survey #1 SDI MWD SURFACE (Plan A)	APC_ISCWSA REV 2 MWD	Fixed:v2:standard declination	
1,962.00	12,450.00	Survey #2 SDI MWD PRODUCTION (Plan A)	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination	

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)	
1,896.00	17.89	152.41	1,858.00	-271.28	156.30	-271.74	0.00	0.00	0.00	
1,927.00	17.05	152.56	1,887.57	-279.53	160.60	-280.00	2.72	-2.71	0.47	
9 5/8"										
1,962.00	16.10	152.74	1,921.11	-288.40	165.19	-288.89	2.72	-2.71	0.52	
FIRST SDI MWD PRODUCTION SURVEY										
2,057.00	18.67	155.26	2,011.77	-313.92	177.59	-314.45	2.82	2.71	2.65	
2,151.00	19.43	156.51	2,100.62	-341.93	190.12	-342.49	0.92	0.81	1.33	
2,246.00	18.71	155.84	2,190.40	-370.32	202.65	-370.92	0.79	-0.76	-0.71	
2,340.00	18.19	156.77	2,279.57	-397.56	214.61	-398.19	0.64	-0.55	0.99	

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well COOK 26G-16HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	GL 4878 & KB 25 @ 4903.00usft (HP 307)
Site:	2N-65W-16 Cook 16-16HZ	MD Reference:	GL 4878 & KB 25 @ 4903.00usft (HP 307)
Well:	COOK 26G-16HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Plan A	Database:	Denver Sales

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)	
2,435.00	17.68	155.23	2,369.95	-424.28	226.50	-424.95	0.73	-0.54	-1.62	
2,529.00	19.18	152.07	2,459.13	-450.89	239.72	-451.60	1.92	1.60	-3.36	
2,623.00	18.91	150.84	2,547.99	-477.83	254.37	-478.59	0.51	-0.29	-1.31	
2,718.00	17.59	151.85	2,638.21	-503.93	268.64	-504.73	1.43	-1.39	1.06	
2,812.00	17.99	148.68	2,727.72	-528.86	282.89	-529.70	1.11	0.43	-3.37	
2,907.00	17.55	147.67	2,818.18	-553.49	298.18	-554.38	0.57	-0.46	-1.06	
3,001.00	18.79	145.71	2,907.49	-577.98	314.29	-578.91	1.47	1.32	-2.09	
3,096.00	18.36	143.28	2,997.55	-602.61	331.85	-603.59	0.93	-0.45	-2.56	
3,190.00	16.74	143.23	3,087.17	-625.32	348.81	-626.36	1.72	-1.72	-0.05	
3,285.00	17.89	141.44	3,177.86	-647.70	366.09	-648.78	1.33	1.21	-1.88	
3,379.00	17.13	139.15	3,267.51	-669.46	384.15	-670.59	1.09	-0.81	-2.44	
3,568.00	18.56	145.38	3,447.43	-715.27	419.45	-716.51	1.26	0.76	3.30	
3,663.00	16.74	144.95	3,537.95	-738.92	435.90	-740.21	1.92	-1.92	-0.45	
3,757.00	17.03	152.42	3,627.91	-762.20	450.04	-763.53	2.33	0.31	7.95	
3,946.00	16.82	152.54	3,808.72	-811.00	475.47	-812.40	0.11	-0.11	0.06	
4,041.00	18.09	148.81	3,899.35	-835.81	489.45	-837.26	1.78	1.34	-3.93	
4,136.00	16.99	149.51	3,989.93	-860.39	504.13	-861.88	1.18	-1.16	0.74	
4,230.00	16.57	148.41	4,079.93	-883.64	518.12	-885.18	0.56	-0.45	-1.17	
4,514.00	13.48	148.30	4,354.19	-946.32	556.73	-947.96	1.09	-1.09	-0.04	
4,608.00	12.11	148.10	4,445.85	-964.01	567.70	-965.69	1.46	-1.46	-0.21	
4,703.00	10.81	144.92	4,538.95	-979.76	578.09	-981.47	1.52	-1.37	-3.35	
4,892.00	9.58	141.98	4,724.97	-1,006.66	597.96	-1,008.43	0.71	-0.65	-1.56	
4,986.00	8.34	146.27	4,817.82	-1,018.49	606.57	-1,020.28	1.50	-1.32	4.56	
5,080.00	7.07	139.84	4,910.97	-1,028.58	614.08	-1,030.40	1.63	-1.35	-6.84	
5,175.00	6.48	153.67	5,005.31	-1,037.85	620.23	-1,039.69	1.82	-0.62	14.56	
5,269.00	5.31	154.99	5,098.82	-1,046.55	624.42	-1,048.40	1.25	-1.24	1.40	
5,364.00	4.10	159.70	5,193.49	-1,053.72	627.46	-1,055.58	1.34	-1.27	4.96	
5,458.00	3.61	158.58	5,287.28	-1,059.63	629.71	-1,061.49	0.53	-0.52	-1.19	
5,553.00	1.78	145.00	5,382.17	-1,063.62	631.64	-1,065.49	2.03	-1.93	-14.29	
5,647.00	1.56	136.33	5,476.13	-1,065.74	633.37	-1,067.61	0.36	-0.23	-9.22	
5,741.00	0.64	147.89	5,570.11	-1,067.11	634.53	-1,068.99	1.00	-0.98	12.30	
5,836.00	0.57	124.29	5,665.11	-1,067.83	635.20	-1,069.71	0.27	-0.07	-24.84	
5,930.00	0.45	157.44	5,759.11	-1,068.43	635.73	-1,070.31	0.33	-0.13	35.27	
6,025.00	1.04	159.71	5,854.10	-1,069.58	636.17	-1,071.47	0.62	0.62	2.39	
6,119.00	0.84	145.84	5,948.09	-1,070.95	636.85	-1,072.84	0.32	-0.21	-14.76	
6,213.00	1.11	127.91	6,042.07	-1,072.08	637.96	-1,073.97	0.43	0.29	-19.07	
6,308.00	1.56	352.07	6,137.06	-1,071.37	638.51	-1,073.26	2.61	0.47	-142.99	
6,402.00	2.49	355.12	6,231.00	-1,068.07	638.16	-1,069.95	1.00	0.99	3.24	
6,497.00	3.74	332.61	6,325.86	-1,063.26	636.56	-1,065.14	1.82	1.32	-23.69	
6,591.00	10.79	4.64	6,419.08	-1,051.75	635.86	-1,053.63	8.37	7.50	34.07	
6,685.00	19.32	6.22	6,509.77	-1,027.48	638.26	-1,029.36	9.08	9.07	1.68	
6,780.00	25.68	4.50	6,597.49	-991.29	641.58	-993.19	6.73	6.69	-1.81	
6,874.00	33.78	353.82	6,679.11	-944.90	640.36	-946.80	10.27	8.62	-11.36	

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well COOK 26G-16HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	GL 4878 & KB 25 @ 4903.00usft (HP 307)
Site:	2N-65W-16 Cook 16-16HZ	MD Reference:	GL 4878 & KB 25 @ 4903.00usft (HP 307)
Well:	COOK 26G-16HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Plan A	Database:	Denver Sales

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)	
6,968.00	41.53	358.26	6,753.48	-887.67	636.59	-889.56	8.73	8.24	4.72	
7,063.00	49.78	358.13	6,819.83	-819.83	634.45	-821.71	8.68	8.68	-0.14	
7,157.00	55.62	359.31	6,876.77	-745.11	632.81	-746.98	6.29	6.21	1.26	
7,247.00	63.15	0.18	6,922.57	-667.71	632.49	-669.58	8.41	8.37	0.97	
TOP OF PRODUCTION (59 FNL 43 FEL))										
7,251.00	63.49	0.22	6,924.36	-664.13	632.50	-666.01	8.41	8.38	0.90	
7,345.00	69.14	358.49	6,962.11	-578.10	631.51	-579.97	6.24	6.01	-1.84	
7,440.00	75.65	358.67	6,990.83	-487.62	629.27	-489.49	6.86	6.85	0.19	
7,534.00	82.69	359.00	7,008.48	-395.37	627.39	-397.23	7.50	7.49	0.35	
7,620.00	87.66	358.54	7,015.71	-309.73	625.56	-311.58	5.80	5.78	-0.53	
LANDING POINT (301 FSL 49 FEL)										
7,628.00	88.12	358.50	7,016.01	-301.73	625.35	-303.59	5.80	5.78	-0.53	
7,723.00	88.99	357.55	7,018.40	-206.82	622.08	-208.67	1.36	0.92	-1.00	
7,817.00	89.40	358.81	7,019.72	-112.88	619.09	-114.72	1.41	0.44	1.34	
7,911.00	88.89	0.18	7,021.13	-18.90	618.26	-20.73	1.56	-0.54	1.46	
8,005.00	89.66	359.51	7,022.32	75.09	618.01	73.26	1.09	0.82	-0.71	
8,100.00	90.17	0.79	7,022.46	170.09	618.26	168.26	1.45	0.54	1.35	
8,194.00	89.93	0.39	7,022.38	264.09	619.23	262.25	0.50	-0.26	-0.43	
8,288.00	88.65	0.57	7,023.54	358.07	620.01	356.23	1.38	-1.36	0.19	
8,383.00	89.23	359.19	7,025.30	453.05	619.81	451.21	1.58	0.61	-1.45	
8,477.00	90.13	359.03	7,025.82	547.04	618.35	545.20	0.97	0.96	-0.17	
8,572.00	90.40	357.89	7,025.38	642.00	615.80	640.17	1.23	0.28	-1.20	
8,761.00	89.23	358.04	7,025.99	830.88	609.09	829.07	0.62	-0.62	0.08	
8,855.00	88.79	357.78	7,027.62	924.80	605.66	923.00	0.54	-0.47	-0.28	
8,950.00	90.10	358.52	7,028.54	1,019.75	602.60	1,017.95	1.58	1.38	0.78	
9,045.00	89.40	358.96	7,028.95	1,114.72	600.51	1,112.93	0.87	-0.74	0.46	
9,139.00	89.80	358.81	7,029.61	1,208.70	598.68	1,206.92	0.45	0.43	-0.16	
9,233.00	88.72	0.72	7,030.82	1,302.69	598.29	1,300.91	2.33	-1.15	2.03	
9,328.00	88.93	1.00	7,032.77	1,397.66	599.72	1,395.87	0.37	0.22	0.29	
9,422.00	90.24	1.42	7,033.45	1,491.63	601.70	1,489.84	1.46	1.39	0.45	
9,517.00	89.63	1.32	7,033.56	1,586.60	603.97	1,584.80	0.65	-0.64	-0.11	
9,611.00	88.93	1.34	7,034.74	1,680.57	606.16	1,678.76	0.74	-0.74	0.02	
9,705.00	89.06	1.05	7,036.39	1,774.53	608.12	1,772.72	0.34	0.14	-0.31	
9,800.00	88.86	0.69	7,038.11	1,869.51	609.56	1,867.69	0.43	-0.21	-0.38	
9,894.00	89.93	1.61	7,039.11	1,963.48	611.44	1,961.66	1.50	1.14	0.98	
9,989.00	90.91	0.38	7,038.41	2,058.46	613.09	2,056.63	1.66	1.03	-1.29	
10,083.00	91.24	0.22	7,036.65	2,152.44	613.59	2,150.61	0.39	0.35	-0.17	
10,178.00	92.02	359.92	7,033.94	2,247.40	613.70	2,245.57	0.88	0.82	-0.32	
10,272.00	91.92	359.71	7,030.71	2,341.35	613.40	2,339.52	0.25	-0.11	-0.22	
10,367.00	90.07	359.79	7,029.06	2,436.33	612.98	2,434.50	1.95	-1.95	0.08	
10,461.00	91.31	359.03	7,027.93	2,530.31	612.02	2,528.49	1.55	1.32	-0.81	
10,556.00	91.51	359.16	7,025.59	2,625.27	610.52	2,623.45	0.25	0.21	0.14	
10,650.00	91.14	359.35	7,023.42	2,719.24	609.29	2,717.42	0.44	-0.39	0.20	
10,745.00	92.08	358.88	7,020.75	2,814.19	607.83	2,812.37	1.11	0.99	-0.49	

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well COOK 26G-16HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	GL 4878 & KB 25 @ 4903.00usft (HP 307)
Site:	2N-65W-16 Cook 16-16HZ	MD Reference:	GL 4878 & KB 25 @ 4903.00usft (HP 307)
Well:	COOK 26G-16HZ	North Reference:	True
Wellbore:	Plan A	Survey Calculation Method:	Minimum Curvature
Design:	Plan A	Database:	Denver Sales

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)
10,839.00	92.14	358.46	7,017.29	2,908.10	605.65	2,906.29	0.45	0.06	-0.45
10,934.00	91.71	359.21	7,014.10	3,003.03	603.72	3,001.22	0.91	-0.45	0.79
11,028.00	92.18	358.72	7,010.91	3,096.96	602.02	3,095.16	0.72	0.50	-0.52
11,123.00	92.21	359.01	7,007.27	3,191.87	600.14	3,190.07	0.31	0.03	0.31
11,217.00	92.12	0.62	7,003.72	3,285.80	599.84	3,284.00	1.71	-0.10	1.71
11,406.00	91.11	2.11	6,998.39	3,474.66	604.34	3,472.85	0.95	-0.53	0.79
11,501.00	91.78	1.09	6,996.00	3,569.59	606.99	3,567.77	1.28	0.71	-1.07
11,595.00	90.77	0.59	6,993.90	3,663.56	608.37	3,661.74	1.20	-1.07	-0.53
11,689.00	90.17	0.88	6,993.13	3,757.55	609.57	3,755.72	0.71	-0.64	0.31
11,784.00	91.35	0.75	6,991.87	3,852.53	610.92	3,850.70	1.25	1.24	-0.14
11,878.00	92.25	0.80	6,988.92	3,946.47	612.19	3,944.64	0.96	0.96	0.05
11,973.00	91.71	1.18	6,985.64	4,041.40	613.84	4,039.56	0.69	-0.57	0.40
12,067.00	92.99	1.27	6,981.78	4,135.30	615.84	4,133.45	1.37	1.36	0.10
12,162.00	92.22	1.03	6,977.47	4,230.18	617.75	4,228.33	0.85	-0.81	-0.25
LAST SDI MWD PRODUCTION SURVEY									
12,450.00	92.22	1.03	6,966.31	4,517.92	622.92	4,516.05	0.00	0.00	0.00
SDI PROJECTION TO TD(185 FNL 30 FEL)									

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)
1,927.00	1,887.57	9 5/8"	9.625	13.500

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
1,962.00	1,921.11	-288.40	165.19	FIRST SDI MWD PRODUCTION SURVEY
7,247.00	6,922.57	-667.71	632.49	TOP OF PRODUCTION (59 FNL 43 FEL))
7,620.00	7,015.71	-309.73	625.56	LANDING POINT (301 FSL 49 FEL)
12,162.00	6,977.47	4,230.18	617.75	LAST SDI MWD PRODUCTION SURVEY
12,450.00	6,966.31	4,517.92	622.92	SDI PROJECTION TO TD(185 FNL 30 FEL)

Checked By: _____ Approved By: _____ Date: _____