

Unit Petroleum

Reno County, Kansas [NAD 83]

Section 33 T25S-R10W

Rock Chalk Farms 33 #2H

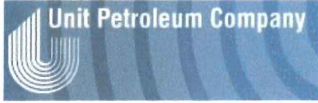
OH

Design: OH

Standard Survey Report

16 June, 2014



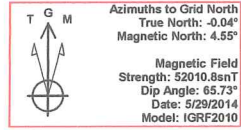


Unit Petroleum
 Project: Reno County, Kansas [NAD 83]
 Site: Section 33 T25S-R10W
 Well: Rock Chalk Farms 33 #2H
 Wellbore: OH
 Design: Design #1
 Lat: 37° 50' 18.344 N
 Long: 98° 25' 37.624 W
 Pad GL: 1757.00
 KB: 20' KB @ 1777.00usft (UDI 303)



SECTION DETAILS										
MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect		
3338.29	0.00	0.00	3338.29	0.00	0.00	0.00	0.00	0.00		
3888.29	55.00	179.77	3807.63	-244.32	0.98	10.00	179.77	244.32		
4038.29	55.00	179.77	3893.67	-367.19	1.47	0.00	0.00	367.20		
4325.66	89.48	179.77	3980.00	-636.75	2.56	12.00	0.00	636.76		
5325.65	89.48	179.77	3989.00	-1636.70	6.57	0.00	0.00	1636.71		
5333.33	89.71	179.77	3989.05	-1644.38	6.61	3.00	0.06	1644.39		
6325.65	89.71	179.77	3994.00	-2636.68	10.59	0.00	0.00	2636.70		
7325.65	89.71	179.77	3998.98	-3636.66	14.60	0.00	0.00	3636.69		
8325.65	89.71	179.77	4003.97	-4636.64	18.62	0.00	0.00	4636.68		
8442.36	87.31	179.85	4007.00	-4753.30	19.00	2.06	179.03	4753.34		

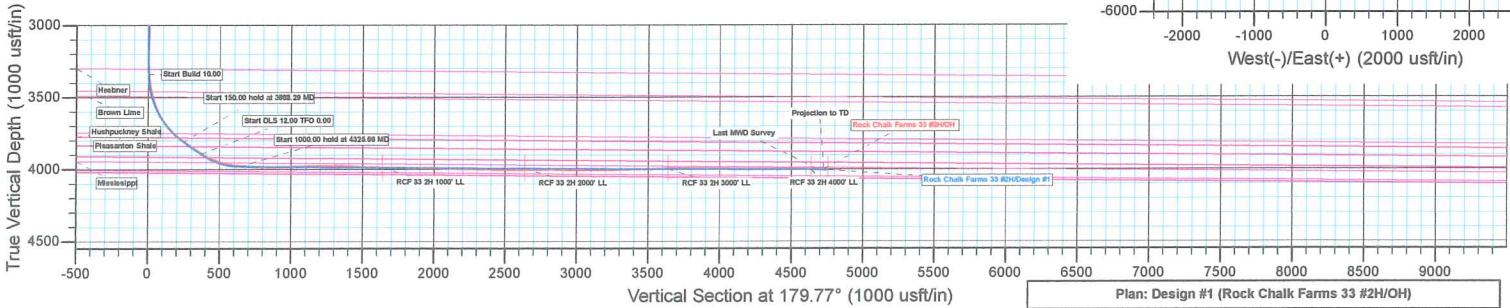
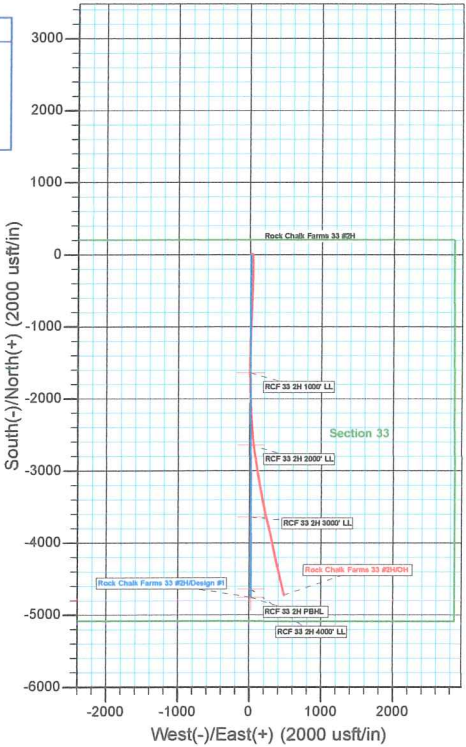
PROJECT DETAILS: Reno County, Kansas [NAD 83]
 Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: Kansas Southern Zone
 System Datum: Mean Sea Level



WELL DETAILS: Rock Chalk Farms 33 #2H						
+N-S	+E-W	Northing	Ground Level: Easting	1757.00 Latitude	Longitude	Slot
0.00	0.00	1739006.00	1333380.00	37° 50' 18.344 N	98° 25' 37.624 W	

WELLBORE TARGET DETAILS (LAT/LONG)						
Name	TVD	+N-S	+E/W	Latitude	Longitude	Shape Point
RCF 33 2H 1000' LL	3989.00	-1636.70	6.57	37° 50' 2.164 N	98° 25' 37.558 W	Point
RCF 33 2H 2000' LL	3994.00	-2636.68	10.59	37° 49' 52.278 N	98° 25' 37.518 W	Point
RCF 33 2H 3000' LL	3998.98	-3636.66	14.60	37° 49' 42.392 N	98° 25' 37.477 W	Point
RCF 33 2H 4000' LL	4003.97	-4636.64	18.62	37° 49' 32.506 N	98° 25' 37.437 W	Point
RCF 33 2H PBHL	4007.00	-4753.30	19.00	37° 49' 31.353 N	98° 25' 37.434 W	Point

NOTE: All Lease lines and Hard lines are estimates only and are subject to the customers' approval.



Plan: Design #1 (Rock Chalk Farms 33 #2H/OH)
 Created By: Derek Stephens Date: 11:16, June 16 2014

Company:	Unit Petroleum	Local Co-ordinate Reference:	Well Rock Chalk Farms 33 #2H
Project:	Reno County, Kansas [NAD 83]	TVD Reference:	20' KB @ 1777.00usft (UDI 303)
Site:	Section 33 T25S-R10W	MD Reference:	20' KB @ 1777.00usft (UDI 303)
Well:	Rock Chalk Farms 33 #2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Reno County, Kansas [NAD 83]		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Kansas Southern Zone	Using geodetic scale factor	

Site	Section 33 T25S-R10W				
Site Position:		Northing:	1,739,037.00 usft	Latitude:	37° 50' 18.664 N
From:	Map	Easting:	1,331,615.00 usft	Longitude:	98° 25' 59.627 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.04 °

Well	Rock Chalk Farms 33 #2H					
Well Position	+N-S	0.00 usft	Northing:	1,739,006.00 usft	Latitude:	37° 50' 18.344 N
	+E-W	0.00 usft	Easting:	1,333,380.00 usft	Longitude:	98° 25' 37.624 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	1,757.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/29/2014	4.59	65.73	52,011

Design	OH				
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	179.77	

Survey Program	Date	6/16/2014			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
81.16	3,269.00	Gyro (OH)	CB-GYRO-MS	Camera based gyro multishot	
3,326.00	8,455.00	MWD (OH)	MWD	MWD - Standard	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
81.16	0.53	78.22	81.16	0.08	0.37	-0.08	0.65	0.65	0.00	
174.92	1.12	55.08	174.91	0.69	1.54	-0.68	0.71	0.63	-24.68	
268.68	1.43	77.94	268.65	1.46	3.44	-1.44	0.63	0.33	24.38	
362.44	1.53	79.91	362.37	1.92	5.82	-1.90	0.12	0.11	2.10	
456.20	1.08	66.96	456.11	2.49	7.86	-2.46	0.57	-0.48	-13.81	
549.96	1.25	86.66	549.85	2.89	9.69	-2.85	0.46	0.18	21.01	
643.72	0.96	93.38	643.59	2.91	11.50	-2.86	0.34	-0.31	7.17	
737.48	0.88	95.78	737.34	2.79	13.00	-2.74	0.09	-0.09	2.56	
831.24	1.22	90.23	831.09	2.71	14.71	-2.65	0.38	0.36	-5.92	

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Site:	Section 33 T25S-R10W	MD Reference:	20' KB @ 1777.00usft (UDI 303)
Well:	Rock Chalk Farms 33 #2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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)
925.00	1.00	91.20	924.83	2.69	16.53	-2.62	0.24	-0.23	1.03
1,018.76	1.33	73.22	1,018.57	2.99	18.39	-2.91	0.52	0.35	-19.18
1,112.52	1.31	82.62	1,112.30	3.44	20.50	-3.36	0.23	-0.02	10.03
1,206.28	0.97	92.84	1,206.05	3.54	22.35	-3.45	0.42	-0.36	10.90
1,300.04	0.94	101.85	1,299.79	3.34	23.90	-3.24	0.16	-0.03	9.61
1,393.80	1.05	69.83	1,393.54	3.48	25.46	-3.38	0.60	0.12	-34.15
1,487.56	1.06	68.03	1,487.28	4.10	27.07	-3.99	0.04	0.01	-1.92
1,581.32	0.82	86.57	1,581.03	4.46	28.54	-4.35	0.41	-0.26	19.77
1,675.08	0.82	124.63	1,674.78	4.12	29.76	-4.00	0.57	0.00	40.59
1,768.84	1.19	148.13	1,768.53	2.91	30.83	-2.79	0.58	0.39	25.06
1,862.60	1.32	147.30	1,862.27	1.18	31.93	-1.05	0.14	0.14	-0.89
1,956.36	1.38	153.56	1,956.00	-0.74	33.01	0.87	0.17	0.06	6.68
2,050.12	1.19	178.84	2,049.74	-2.73	33.53	2.86	0.63	-0.20	26.96
2,143.88	1.00	225.24	2,143.48	-4.28	32.97	4.41	0.94	-0.20	49.49
2,237.64	0.61	180.01	2,237.23	-5.35	32.39	5.48	0.76	-0.42	-48.24
2,331.40	0.54	135.50	2,330.99	-6.16	32.70	6.30	0.47	-0.07	-47.47
2,425.16	0.58	26.29	2,424.75	-6.05	33.22	6.19	0.97	0.04	-116.48
2,518.92	0.48	59.15	2,518.50	-5.43	33.77	5.56	0.34	-0.11	35.05
2,612.68	0.44	322.06	2,612.26	-4.94	33.88	5.08	0.74	-0.04	-103.55
2,706.44	0.55	300.39	2,706.02	-4.43	33.27	4.56	0.23	0.12	-23.11
2,800.20	0.39	343.41	2,799.77	-3.90	32.80	4.03	0.40	-0.17	45.88
2,893.96	0.28	345.02	2,893.53	-3.37	32.65	3.50	0.12	-0.12	1.72
2,987.72	0.33	0.96	2,987.29	-2.88	32.59	3.01	0.10	0.05	17.00
3,081.48	0.58	58.62	3,081.05	-2.36	33.00	2.49	0.52	0.27	61.50
3,175.24	0.47	27.54	3,174.80	-1.77	33.58	1.91	0.32	-0.12	-33.15
3,269.00	0.38	58.57	3,268.56	-1.27	34.03	1.41	0.26	-0.10	33.10
3,326.00	2.20	173.40	3,325.55	-2.26	34.31	2.40	4.18	3.19	201.46
3,358.00	4.70	178.10	3,357.49	-4.18	34.43	4.32	7.86	7.81	14.69
3,389.00	7.20	178.20	3,388.32	-7.39	34.53	7.53	8.06	8.06	0.32
3,421.00	9.10	177.40	3,419.99	-11.92	34.71	12.06	5.95	5.94	-2.50
3,453.00	11.40	177.60	3,451.48	-17.61	34.96	17.75	7.19	7.19	0.63
3,484.00	13.80	178.10	3,481.73	-24.37	35.21	24.51	7.75	7.74	1.61
3,516.00	16.40	179.20	3,512.63	-32.70	35.40	32.84	8.17	8.13	3.44
3,547.00	19.50	180.90	3,542.11	-42.25	35.38	42.40	10.14	10.00	5.48
3,578.00	22.70	182.10	3,571.03	-53.41	35.08	53.55	10.42	10.32	3.87
3,610.00	26.00	182.40	3,600.18	-66.59	34.56	66.73	10.32	10.31	0.94
3,642.00	29.50	182.40	3,628.50	-81.47	33.93	81.61	10.94	10.94	0.00
3,673.00	32.70	182.00	3,655.04	-97.47	33.32	97.61	10.34	10.32	-1.29
3,705.00	36.00	181.90	3,681.45	-115.52	32.71	115.65	10.31	10.31	-0.31
3,736.00	39.30	181.10	3,705.99	-134.44	32.22	134.57	10.76	10.65	-2.58
3,768.00	43.00	180.60	3,730.08	-155.49	31.91	155.62	11.61	11.56	-1.56
3,797.00	46.40	180.20	3,750.69	-175.89	31.77	176.01	11.76	11.72	-1.38
3,829.00	50.20	180.20	3,771.98	-199.78	31.68	199.90	11.88	11.88	0.00

Company:	Unit Petroleum	Local Co-ordinate Reference:	Well Rock Chalk Farms 33 #2H
Project:	Reno County, Kansas [NAD 83]	TVD Reference:	20' KB @ 1777.00usft (UDI 303)
Site:	Section 33 T25S-R10W	MD Reference:	20' KB @ 1777.00usft (UDI 303)
Well:	Rock Chalk Farms 33 #2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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)	
3,861.00	53.80	180.40	3,791.68	-224.99	31.55	225.11	11.26	11.25	0.63	
3,890.00	55.20	180.60	3,808.52	-248.60	31.34	248.72	4.86	4.83	0.69	
3,922.00	55.60	180.70	3,826.69	-274.93	31.04	275.06	1.28	1.25	0.31	
3,954.00	55.80	180.40	3,844.72	-301.37	30.79	301.49	1.00	0.63	-0.94	
3,985.00	55.90	180.40	3,862.12	-327.02	30.61	327.14	0.32	0.32	0.00	
4,016.00	56.00	180.20	3,879.48	-352.71	30.48	352.83	0.62	0.32	-0.65	
4,048.00	58.00	180.70	3,896.91	-379.54	30.26	379.66	6.39	6.25	1.56	
4,080.00	61.40	180.80	3,913.05	-407.16	29.90	407.28	10.63	10.63	0.31	
4,111.00	64.60	181.40	3,927.12	-434.78	29.37	434.89	10.47	10.32	1.94	
4,143.00	68.20	181.50	3,939.93	-464.09	28.63	464.20	11.25	11.25	0.31	
4,175.00	71.70	181.60	3,950.90	-494.13	27.82	494.24	10.94	10.94	0.31	
4,206.00	75.50	181.10	3,959.65	-523.86	27.12	523.96	12.36	12.26	-1.61	
4,237.00	79.40	180.90	3,966.39	-554.10	26.59	554.21	12.60	12.58	-0.65	
4,267.00	82.40	181.60	3,971.13	-583.72	25.94	583.82	10.26	10.00	2.33	
4,441.00	89.70	182.70	3,983.11	-757.06	19.43	757.13	4.24	4.20	0.63	
4,536.00	90.20	182.70	3,983.19	-851.95	14.95	852.01	0.53	0.53	0.00	
4,632.00	90.50	182.50	3,982.61	-947.85	10.60	947.89	0.38	0.31	-0.21	
4,727.00	90.90	182.30	3,981.44	-1,042.76	6.62	1,042.78	0.47	0.42	-0.21	
4,823.00	91.50	182.40	3,979.43	-1,138.66	2.68	1,138.66	0.63	0.63	0.10	
4,919.00	90.10	181.40	3,978.09	-1,234.60	-0.50	1,234.58	1.79	-1.46	-1.04	
5,014.00	88.50	180.10	3,979.25	-1,329.57	-1.74	1,329.56	2.17	-1.68	-1.37	
5,110.00	87.80	179.40	3,982.35	-1,425.52	-1.32	1,425.51	1.03	-0.73	-0.73	
5,205.00	88.30	179.70	3,985.59	-1,520.46	-0.58	1,520.45	0.61	0.53	0.32	
5,296.00	88.70	179.60	3,987.97	-1,611.43	-0.02	1,611.42	0.45	0.44	-0.11	
5,321.34	88.67	179.54	3,988.55	-1,636.77	0.17	1,636.75	0.24	-0.11	-0.22	
RCF 33 2H 1000' LL										
5,388.00	88.60	179.40	3,990.14	-1,703.40	0.78	1,703.39	0.24	-0.11	-0.22	
5,481.00	90.10	179.40	3,991.19	-1,796.39	1.75	1,796.38	1.61	1.61	0.00	
5,573.00	90.60	178.60	3,990.63	-1,888.37	3.36	1,888.37	1.03	0.54	-0.87	
5,665.00	89.00	177.80	3,990.95	-1,980.32	6.25	1,980.33	1.94	-1.74	-0.87	
5,755.00	88.70	177.90	3,992.76	-2,070.24	9.62	2,070.26	0.35	-0.33	0.11	
5,848.00	88.80	177.50	3,994.78	-2,163.14	13.36	2,163.18	0.44	0.11	-0.43	
5,940.00	87.70	177.10	3,997.59	-2,255.00	17.69	2,255.05	1.27	-1.20	-0.43	
6,032.00	89.00	175.30	4,000.24	-2,346.75	23.78	2,346.83	2.41	1.41	-1.96	
6,126.00	90.30	175.50	4,000.82	-2,440.44	31.32	2,440.55	1.40	1.38	0.21	
6,217.00	89.60	174.40	4,000.90	-2,531.09	39.33	2,531.23	1.43	-0.77	-1.21	
6,309.00	89.90	173.10	4,001.30	-2,622.54	49.35	2,622.72	1.45	0.33	-1.41	
6,318.26	89.90	173.07	4,001.31	-2,631.74	50.46	2,631.92	0.32	0.00	-0.32	
RCF 33 2H 2000' LL										
6,402.00	89.90	172.80	4,001.46	-2,714.84	60.76	2,715.06	0.32	0.00	-0.32	
6,494.00	90.40	171.40	4,001.22	-2,805.96	73.40	2,806.23	1.62	0.54	-1.52	
6,586.00	88.60	171.20	4,002.02	-2,896.89	87.32	2,897.22	1.97	-1.96	-0.22	
6,679.00	89.30	170.90	4,003.73	-2,988.75	101.79	2,989.13	0.82	0.75	-0.32	
6,771.00	89.80	170.10	4,004.45	-3,079.48	116.97	3,079.92	1.03	0.54	-0.87	



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Well:	Rock Chalk Farms 33 #2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

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)	
6,863.00	90.90	170.20	4,003.89	-3,170.12	132.71	3,170.63	1.20	1.20	0.11	
6,956.00	91.00	169.60	4,002.35	-3,261.67	149.01	3,262.24	0.65	0.11	-0.65	
7,048.00	91.10	169.10	4,000.66	-3,352.07	166.01	3,352.71	0.55	0.11	-0.54	
7,140.00	90.70	168.10	3,999.21	-3,442.24	184.20	3,442.95	1.17	-0.43	-1.09	
7,236.00	90.70	167.50	3,998.04	-3,536.06	204.48	3,536.86	0.62	0.00	-0.63	
7,292.01	90.70	167.15	3,997.36	-3,590.71	216.77	3,591.55	0.62	0.00	-0.63	
RCF 33 2H 3000' LL										
7,332.00	90.70	166.90	3,996.87	-3,629.67	225.75	3,630.55	0.62	0.00	-0.63	
7,428.00	90.20	166.10	3,996.11	-3,723.01	248.16	3,723.98	0.98	-0.52	-0.83	
7,524.00	90.60	166.20	3,995.44	-3,816.22	271.14	3,817.28	0.43	0.42	0.10	
7,619.00	89.40	168.40	3,995.44	-3,908.89	292.02	3,910.03	2.64	-1.26	2.32	
7,715.00	88.80	167.80	3,996.95	-4,002.81	311.81	4,004.03	0.88	-0.63	-0.63	
7,811.00	89.30	168.20	3,998.54	-4,096.70	331.77	4,098.00	0.67	0.52	0.42	
7,907.00	90.30	167.20	3,998.88	-4,190.50	352.22	4,191.88	1.47	1.04	-1.04	
8,002.00	90.60	167.30	3,998.13	-4,283.15	373.19	4,284.61	0.33	0.32	0.11	
8,098.00	89.20	166.80	3,998.30	-4,376.71	394.70	4,378.25	1.55	-1.46	-0.52	
8,194.00	89.10	166.40	3,999.73	-4,470.08	416.95	4,471.72	0.43	-0.10	-0.42	
8,262.64	89.46	166.47	4,000.59	-4,536.80	433.04	4,538.50	0.53	0.52	0.10	
RCF 33 2H 4000' LL										
8,290.00	89.60	166.50	4,000.81	-4,563.40	439.44	4,565.13	0.53	0.52	0.10	
8,373.70	90.82	165.89	4,000.51	-4,644.68	459.41	4,646.49	1.63	1.46	-0.73	
RCF 33 2H PBHL										
8,386.00	91.00	165.80	4,000.31	-4,656.61	462.42	4,658.43	1.63	1.46	-0.73	
8,409.00	90.90	165.60	3,999.93	-4,678.89	468.10	4,680.73	0.97	-0.43	-0.87	
Last MWD Survey										
8,455.00	90.90	165.60	3,999.21	-4,723.44	479.53	4,725.33	0.00	0.00	0.00	
Projection to TD										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
8,409.00	3,999.93	-4,678.89	468.10	Last MWD Survey	
8,455.00	3,999.21	-4,723.44	479.53	Projection to TD	

Checked By: _____ Approved By: _____ Date: _____