

30-015-37179

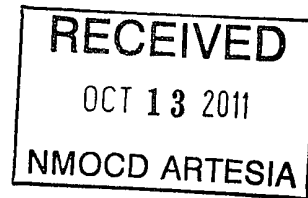
Cimarex Energy Co.

Eddy County (NM83E)

Sec 36-T24S-R25E

Park State 36 Com #2

Wellbore #1



Survey: MWD Survey

Standard Survey Report

19 October, 2009

Cimarex Energy Co.

Project: Eddy County (NM83E)
Site: Sec 36-T24S-R25E
Well: Park State 36 Com #2
Wellbore: Wellbore #1
Design: Plan #2

WELL DETAILS: Park State 36 Com #2

N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	428944.10	534218.30	32° 10' 45.275 N	104° 21' 22.839 W
SHL: 660' FNL / 500' FWL					
BHL: 330' FSL / 500' FWL					

WELLBORE TARGET DETAILS

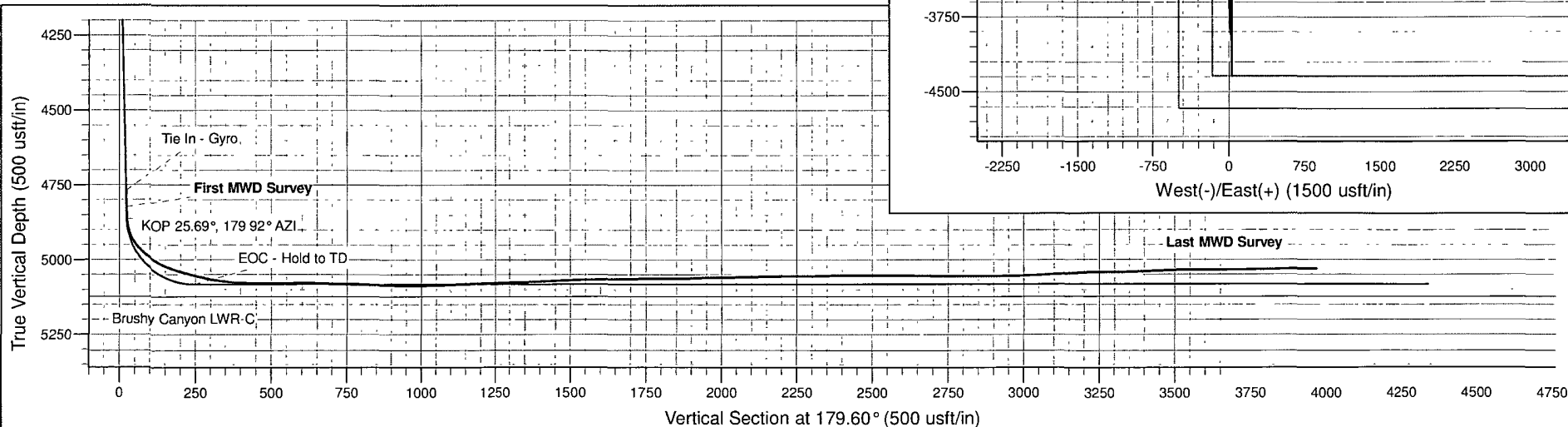
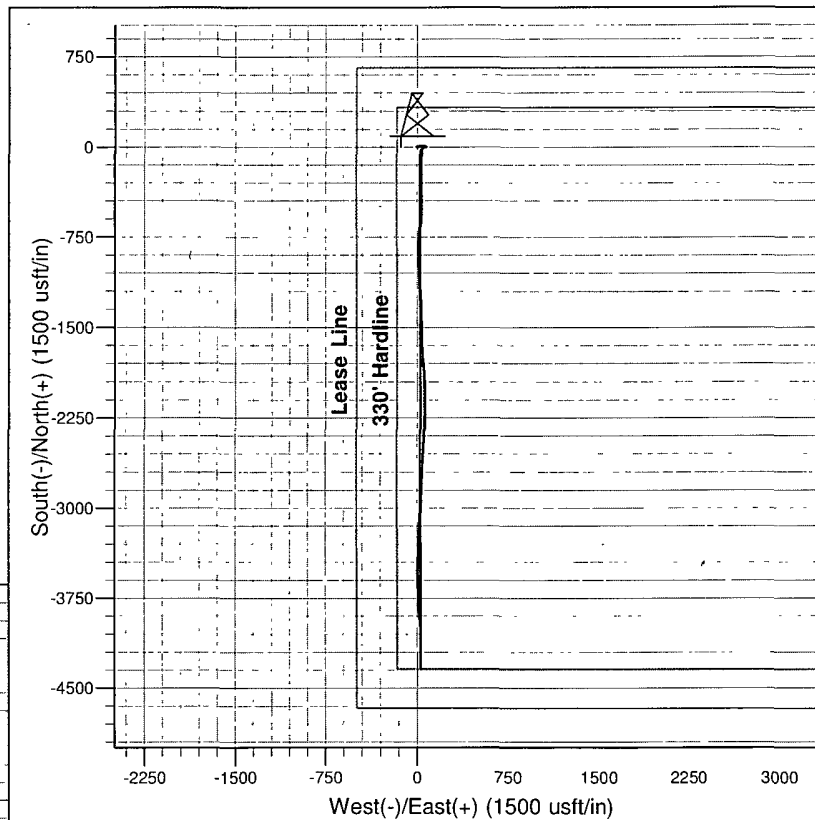
Name	TVD	+N/-S	+E/-W	Northing	Easting
Park State 36 Com 2 PBHL	5082.0	-4339.9	5 8	424604 21	534224 13

PLAN DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
4772.0	1.74	233.61	4769 0	-21.8	32 1	0.00	0 00	22.1	
4866.0	1.74	233.61	4863 0	-23 5	29.8	0.00	0 00	23 7	
5212.4	90.00	179.92	5082.0	-246.6	24.7	25.69	-53 70	246 7	
9305.5	90.00	179.92	5082.0	-4339.7	30.4	0.00	0 00	4339.8	Park State 36 Com 2 PBHL

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Departure	Annotation
4769.0	4772.0	1.74	233.61	-21.8	32 1	22 1	0.0	Tie In - Gyro
4863 0	4866.0	1.74	233.61	-23 5	29.8	23.7	2.9	KOP 25.69°, 179.92° AZI
5082.0	5212.4	90.00	179.92	-246.6	24.7	246.7	226.2	EOC - Hold to TD
5082.0	9305.5	90.00	179.92	-4339.7	30.4	4339.8	4319.3	TD at 9305.5' MD



Great White Directional Services

Survey Report

Company:	Cimarex Energy Co.	Local Co-ordinate Reference:	Well Park State 36 Com #2
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 36-T24S-R25E	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Park State 36 Com #2	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM:5000.1 Single User Db

Project	Eddy County (NM83E)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Sec 36-T24S-R25E			
Site Position:		Northing:	428,944.10 usft	Latitude:	32° 10' 45.275 N
From:	Map	Easting:	534,218.30 usft	Longitude:	104° 21' 22.839 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.01 °

Well		Park State 36 Com #2				
Well Position	+N/-S	0.0 usft	Northing:	428,944.10 usft	Latitude:	32° 10' 45.275 N
	+E/-W	0.0 usft	Easting:	534,218.30 usft	Longitude:	104° 21' 22.839 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF200510	2009/06/30	8.16	60.07	48,750

Design	Wellbore #1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	179.60

Survey Program	Date: 2009/10/19			
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
100.0	4,772.0	Gyro (Wellbore #1)	MWD	MWD - Standard
4,827.0	8,910.0	MWD Survey (Wellbore #1)	MWD	MWD - Standard

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate	
(usft)			(usft)			(usft)	(°/100ft)	(°/100ft)	(°/100ft)	
4,772.0	1.74	233.61	4,769.0	-21.8	32.1	22.0	0.00	0.00	0.00	
Tie In - Gyro										
4,827.0	1.50	226.60	4,824.0	-22.8	30.9	23.0	0.57	-0.44	-12.75	
First MWD Survey										
4,858.0	2.00	191.60	4,855.0	-23.6	30.5	23.8	3.73	1.61	-112.90	
4,868.0	3.40	184.60	4,865.0	-24.1	30.4	24.3	14.36	14.00	-70.00	
4,878.0	5.90	178.90	4,875.0	-24.9	30.4	25.1	25.39	25.00	-57.00	
4,900.0	14.10	174.30	4,896.6	-28.7	30.7	28.9	37.42	37.27	-20.91	
4,922.0	23.00	174.20	4,917.5	-35.7	31.4	35.9	40.45	40.45	-0.45	

Great White Directional Services

Survey Report

Company:	Cimarex Energy Co.	Local Co-ordinate Reference:	Well Park State 36 Com #2
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 36-T24S-R25E	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Park State 36 Com #2	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,932.0	27.20	175.90	4,926.5	-39.9	31.7	40.1	42.61	42.00	17.00
4,942.0	30.80	177.00	4,935.3	-44.7	32.0	44.9	36.39	36.00	11.00
4,954.0	35.10	177.90	4,945.3	-51.2	32.3	51.5	36.06	35.83	7.50
4,985.0	45.90	178.80	4,968.9	-71.3	32.9	71.6	34.89	34.84	2.90
4,995.0	48.50	178.40	4,975.6	-78.7	33.1	78.9	26.17	26.00	-4.00
5,005.0	50.40	178.40	4,982.2	-86.3	33.3	86.5	19.00	19.00	0.00
5,017.0	52.70	178.80	4,989.6	-95.7	33.5	95.9	19.34	19.17	3.33
5,032.0	55.90	179.20	4,998.4	-107.8	33.7	108.1	21.44	21.33	2.67
5,049.0	59.30	179.00	5,007.5	-122.2	33.9	122.4	20.02	20.00	-1.18
5,064.0	62.60	178.90	5,014.8	-135.3	34.2	135.5	22.01	22.00	-0.67
5,081.0	66.20	179.00	5,022.1	-150.6	34.5	150.9	21.18	21.18	0.59
5,112.0	71.00	180.20	5,033.4	-179.5	34.7	179.7	15.90	15.48	3.87
5,144.0	73.40	180.10	5,043.2	-209.9	34.6	210.2	7.51	7.50	-0.31
5,176.0	75.10	179.40	5,051.9	-240.7	34.7	241.0	5.71	5.31	-2.19
5,207.0	76.70	179.10	5,059.4	-270.8	35.1	271.0	5.25	5.16	-0.97
5,239.0	79.00	179.60	5,066.2	-302.1	35.5	302.3	7.35	7.19	1.56
5,271.0	82.20	180.10	5,071.4	-333.6	35.6	333.9	10.12	10.00	1.56
5,302.0	84.60	180.20	5,074.9	-364.4	35.5	364.7	7.75	7.74	0.32
5,334.0	86.40	179.80	5,077.5	-396.3	35.5	396.6	5.76	5.63	-1.25
5,366.0	87.70	179.90	5,079.1	-428.3	35.6	428.5	4.07	4.06	0.31
5,397.0	89.10	180.50	5,080.0	-459.3	35.4	459.5	4.91	4.52	1.94
5,429.0	90.10	181.10	5,080.2	-491.3	35.0	491.5	3.64	3.13	1.88
5,461.0	90.40	180.60	5,080.1	-523.3	34.5	523.5	1.82	0.94	-1.56
5,492.0	91.90	183.70	5,079.4	-554.2	33.4	554.5	11.11	4.84	10.00
5,524.0	91.90	185.90	5,078.4	-586.1	30.7	586.3	6.87	0.00	6.88
5,556.0	89.10	185.40	5,078.1	-618.0	27.5	618.1	8.89	-8.75	-1.56
5,588.0	87.60	184.10	5,079.0	-649.8	24.9	650.0	6.20	-4.69	-4.06
5,620.0	88.00	183.80	5,080.2	-681.7	22.7	681.9	1.56	1.25	-0.94
5,651.0	89.90	183.50	5,080.8	-712.7	20.7	712.8	6.20	6.13	-0.97
5,683.0	89.00	183.90	5,081.1	-744.6	18.6	744.7	3.08	-2.81	1.25
5,715.0	88.80	183.90	5,081.7	-776.5	16.5	776.6	0.63	-0.63	0.00
5,745.0	88.60	181.50	5,082.4	-806.5	15.1	806.5	8.03	-0.67	-8.00
5,778.0	88.40	181.30	5,083.3	-839.4	14.3	839.5	0.86	-0.61	-0.61
5,809.0	88.20	179.50	5,084.2	-870.4	14.0	870.5	5.84	-0.65	-5.81
5,841.0	87.90	178.60	5,085.3	-902.4	14.6	902.5	2.96	-0.94	-2.81
5,873.0	88.70	178.20	5,086.2	-934.4	15.5	934.5	2.79	2.50	-1.25
5,905.0	89.20	178.60	5,086.8	-966.4	16.4	966.5	2.00	1.56	1.25
5,936.0	91.60	177.40	5,086.6	-997.3	17.4	997.4	8.66	7.74	-3.87
5,969.0	91.50	177.40	5,085.7	-1,030.3	18.9	1,030.4	0.30	-0.30	0.00
6,000.0	91.40	177.90	5,084.9	-1,061.3	20.2	1,061.4	1.64	-0.32	1.61
6,031.0	92.20	178.60	5,084.0	-1,092.2	21.1	1,092.3	3.43	2.58	2.26
6,063.0	92.30	178.20	5,082.7	-1,124.2	22.0	1,124.3	1.29	0.31	-1.25
6,095.0	92.10	178.10	5,081.5	-1,156.1	23.1	1,156.3	0.70	-0.63	-0.31

Great White Directional Services

Survey Report

Company:	Cimarex Energy Co.	Local Co-ordinate Reference:	Well Park State 36 Com #2
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 36-T24S-R25E	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Park State 36 Com #2	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
6,126.0	92.10	178.50	5,080.3	-1,187.1	24.0	1,187.3	1.29	0.00	1.29	
6,158.0	92.10	178.50	5,079.2	-1,219.1	24.8	1,219.2	0.00	0.00	0.00	
6,190.0	92.00	178.00	5,078.0	-1,251.0	25.8	1,251.2	1.59	-0.31	-1.56	
6,222.0	92.00	177.80	5,076.9	-1,283.0	27.0	1,283.2	0.62	0.00	-0.63	
6,253.0	91.60	177.80	5,075.9	-1,314.0	28.2	1,314.1	1.29	-1.29	0.00	
6,317.0	92.50	178.20	5,073.6	-1,377.9	30.4	1,378.1	1.54	1.41	0.63	
6,380.0	93.10	178.60	5,070.6	-1,440.8	32.2	1,441.0	1.14	0.95	0.63	
6,484.0	91.30	179.00	5,066.6	-1,544.7	34.3	1,544.9	1.77	-1.73	0.38	
6,506.0	90.90	178.60	5,066.1	-1,566.7	34.8	1,566.9	2.57	-1.82	-1.82	
6,570.0	90.70	175.60	5,065.3	-1,630.6	38.0	1,630.8	4.70	-0.31	-4.69	
6,633.0	91.40	178.30	5,064.1	-1,693.5	41.4	1,693.7	4.43	1.11	4.29	
6,714.0	90.40	175.40	5,062.8	-1,774.3	45.8	1,774.6	3.79	-1.23	-3.58	
6,778.0	89.60	173.60	5,062.8	-1,838.0	52.0	1,838.3	3.08	-1.25	-2.81	
6,841.0	92.60	176.70	5,061.6	-1,900.8	57.3	1,901.1	6.85	4.76	4.92	
6,904.0	90.30	177.00	5,060.0	-1,963.7	60.8	1,964.0	3.68	-3.65	0.48	
6,968.0	91.00	179.40	5,059.3	-2,027.6	62.8	2,028.0	3.91	1.09	3.75	
7,031.0	91.90	180.40	5,057.7	-2,090.6	62.9	2,091.0	2.14	1.43	1.59	
7,094.0	90.90	180.40	5,056.2	-2,153.6	62.4	2,154.0	1.59	-1.59	0.00	
7,155.0	90.80	180.20	5,055.3	-2,214.6	62.1	2,214.9	0.37	-0.16	-0.33	
7,221.0	90.30	181.50	5,054.6	-2,280.6	61.1	2,280.9	2.11	-0.76	1.97	
7,284.0	91.10	181.50	5,053.9	-2,343.5	59.5	2,343.9	1.27	1.27	0.00	
7,348.0	90.10	182.70	5,053.2	-2,407.5	57.1	2,407.8	2.44	-1.56	1.88	
7,411.0	89.70	183.00	5,053.3	-2,470.4	54.0	2,470.7	0.79	-0.63	0.48	
7,474.0	90.50	183.70	5,053.2	-2,533.3	50.3	2,533.6	1.69	1.27	1.11	
7,538.0	89.10	183.00	5,053.4	-2,597.2	46.6	2,597.4	2.45	-2.19	-1.09	
7,601.0	89.80	183.00	5,054.0	-2,660.1	43.3	2,660.3	1.11	1.11	0.00	
7,666.0	89.00	182.00	5,054.7	-2,725.0	40.5	2,725.2	1.97	-1.23	-1.54	
7,729.0	90.10	182.20	5,055.2	-2,788.0	38.1	2,788.2	1.77	1.75	0.32	
7,793.0	90.20	182.60	5,055.0	-2,851.9	35.5	2,852.1	0.64	0.16	0.63	
7,855.0	90.20	182.00	5,054.8	-2,913.9	33.0	2,914.0	0.97	0.00	-0.97	
7,951.0	92.30	183.00	5,052.7	-3,009.8	28.8	3,009.9	2.42	2.19	1.04	
8,015.0	92.70	183.80	5,049.9	-3,073.6	25.0	3,073.7	1.40	0.63	1.25	
8,079.0	93.00	184.20	5,046.7	-3,137.3	20.5	3,137.4	0.78	0.47	0.63	
8,141.0	93.00	182.30	5,043.5	-3,199.2	17.0	3,199.2	3.06	0.00	-3.06	
8,205.0	89.90	182.00	5,041.9	-3,263.1	14.6	3,263.1	4.87	-4.84	-0.47	
8,268.0	90.90	181.90	5,041.4	-3,326.0	12.5	3,326.0	1.60	1.59	-0.16	
8,331.0	92.10	182.20	5,039.8	-3,389.0	10.2	3,389.0	1.96	1.90	0.48	
8,394.0	92.70	182.10	5,037.1	-3,451.9	7.9	3,451.9	0.97	0.95	-0.16	
8,457.0	90.90	180.50	5,035.2	-3,514.8	6.4	3,514.8	3.82	-2.86	-2.54	
8,520.0	90.40	178.80	5,034.4	-3,577.8	6.8	3,577.8	2.81	-0.79	-2.70	
8,583.0	90.70	178.40	5,033.8	-3,640.8	8.4	3,640.8	0.79	0.48	-0.63	
8,646.0	90.80	177.90	5,033.0	-3,703.8	10.4	3,703.7	0.81	0.16	-0.79	
8,710.0	91.00	177.40	5,032.0	-3,767.7	13.0	3,767.7	0.84	0.31	-0.78	
8,773.0	90.80	176.10	5,031.0	-3,830.6	16.6	3,830.6	2.09	-0.32	-2.06	

Great White Directional Services

Survey Report

Company:	Cimarex Energy Co.	Local Co-ordinate Reference:	Well Park State 36 Com #2
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Sec 36-T24S-R25E	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Park State 36 Com #2	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	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 (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,836.0	91.10	176.00	5,030.0	-3,893.4	20.9	3,893.5	0.50	0.48	-0.16
8,868.0	89.40	176.50	5,029.8	-3,925.4	23.0	3,925.4	5.54	-5.31	1.56
Last MWD Survey									
8,910.0	89.40	176.50	5,030.3	-3,967.3	25.6	3,967.4	0.00	0.00	0.00
Projection to Bit - Park State 36 Com 2 PBHL									

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,772.0	4,769.0	-21.8	32.1	Tie In - Gyro
4,827.0	4,824.0	-22.8	30.9	First MWD Survey
8,868.0	5,029.8	-3,925.4	23.0	Last MWD Survey
8,910.0	5,030.3	-3,967.3	25.6	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____