

EXTRACTION OIL & GAS

Weld County

Sec 18-T2N-R68W

RINN VALLEY WEST N18-20-1N

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

03 May, 2018



Project: Weld County
Site: Sec 18-T2N-R68W
Well: RINN VALLEY WEST N18-20-1N
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL 1

PROJECT DETAILS: Weld County

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone

System Datum: Mean Sea Level



Azimuths to True North
Magnetic North: 8.2°

Magnetic Field
Strength: 52149.3snT
Dip Angle: 66.58°
Date: 2/7/2018
Model: IGRF2015

WELL DETAILS: RINN VALLEY WEST N18-20-1N

	+N/-S	+E/-W	Northing	Easting	4940.00	Latitude	Longitude	Slot
	0.00	0.00	1291282.45	3128907.15		40° 7' 55.358 N	105° 2' 20.310 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00	0.00	
3	1942.46	6.85	121.82	1941.65	-10.78	17.37	2.00	121.82	-10.05	
4	6367.75	6.85	121.82	6335.35	-289.01	465.82	0.00	0.00	-269.56	
5	6710.21	0.00	0.00	6677.00	-299.79	483.19	2.00	180.00	-279.61	
6	6740.21	0.00	0.00	6707.00	-299.79	483.19	0.00	0.00	-279.61	
7	7640.29	90.00	0.16	7280.00	273.22	484.84	10.00	0.16	292.98	RVW N18-1N - LP
8	19970.87	90.00	0.16	7280.00	12603.75	520.09	0.00	0.00	12614.48	RVW N18-1N - PBHL

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3477.00	3488.85	PARKMAN
4047.00	4062.95	SUSSEX
4452.00	4470.86	SHANNON
7242.00	7430.43	NIOBRARA
7270.00	7533.07	NIO B TARGET

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.00	Start Build 2.00
1942.46	6.85	121.82	1941.65	-10.78	17.37	-10.05	20.44	Start 4425.29 hold at 1942.46 MD
6367.75	6.85	121.82	6335.35	-289.01	465.82	-269.56	548.19	Start Drop -2.00
6710.21	0.00	0.00	6677.00	-299.79	483.19	-279.61	568.64	Start 30.00 hold at 6710.21 MD
6740.21	0.00	0.00	6707.00	-299.79	483.19	-279.61	568.64	Start DLS 10.00 TFO 0.16
7640.29	90.00	0.16	7280.00	273.22	484.84	292.98	1141.65	Start 12330.58 hold at 7640.29 MD
19970.87	90.00	0.16	7280.00	12603.75	520.09	12614.48	13472.23	TD at 19970.87

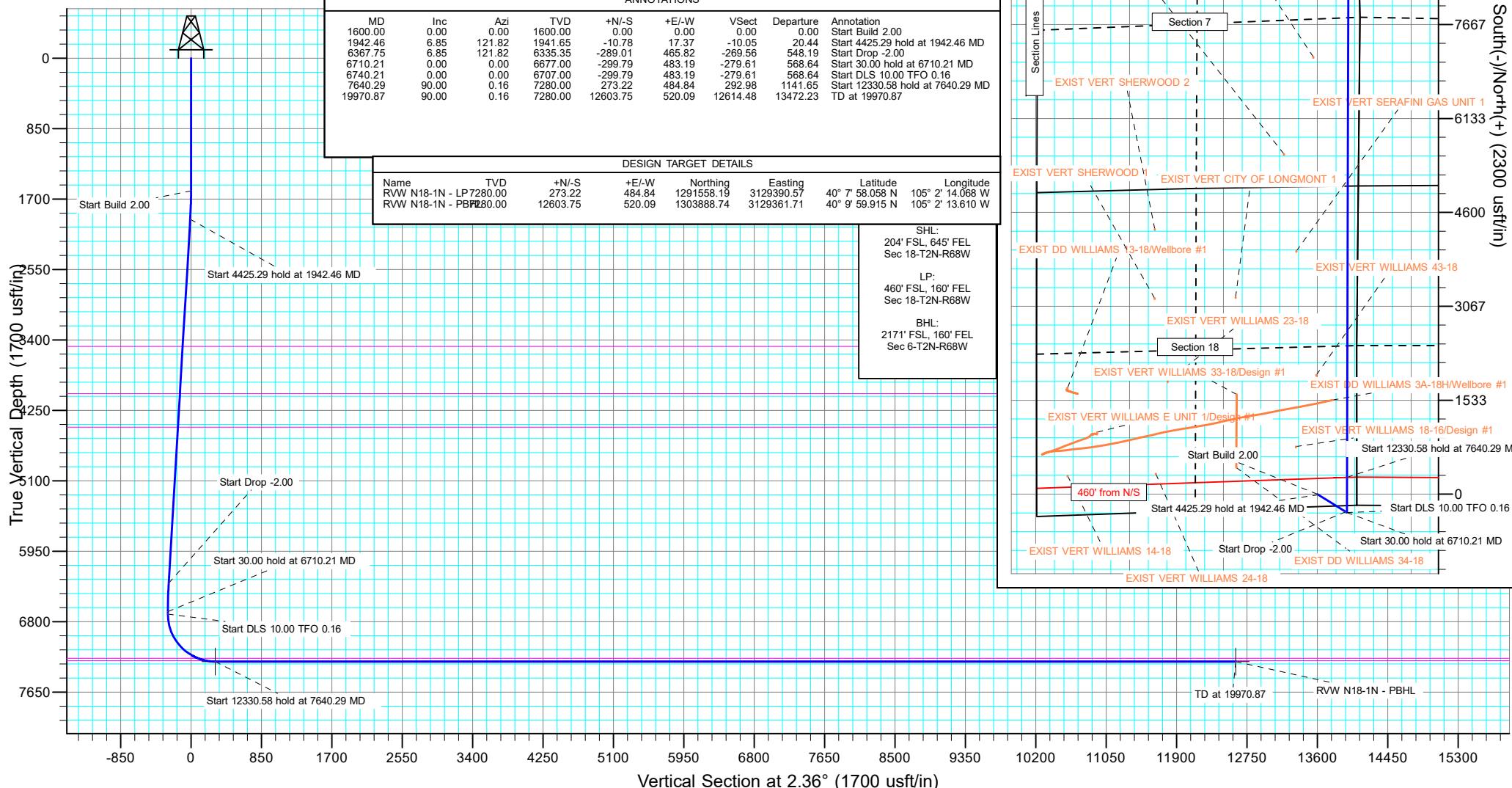
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
RVW N18-1N - LP	7280.00	273.22	484.84	1291558.19	3129390.57	40° 7' 58.058 N	105° 2' 14.068 W
RVW N18-1N - PBHL	7280.00	12603.75	520.09	1303888.74	3129361.71	40° 9' 59.915 N	105° 2' 13.610 W

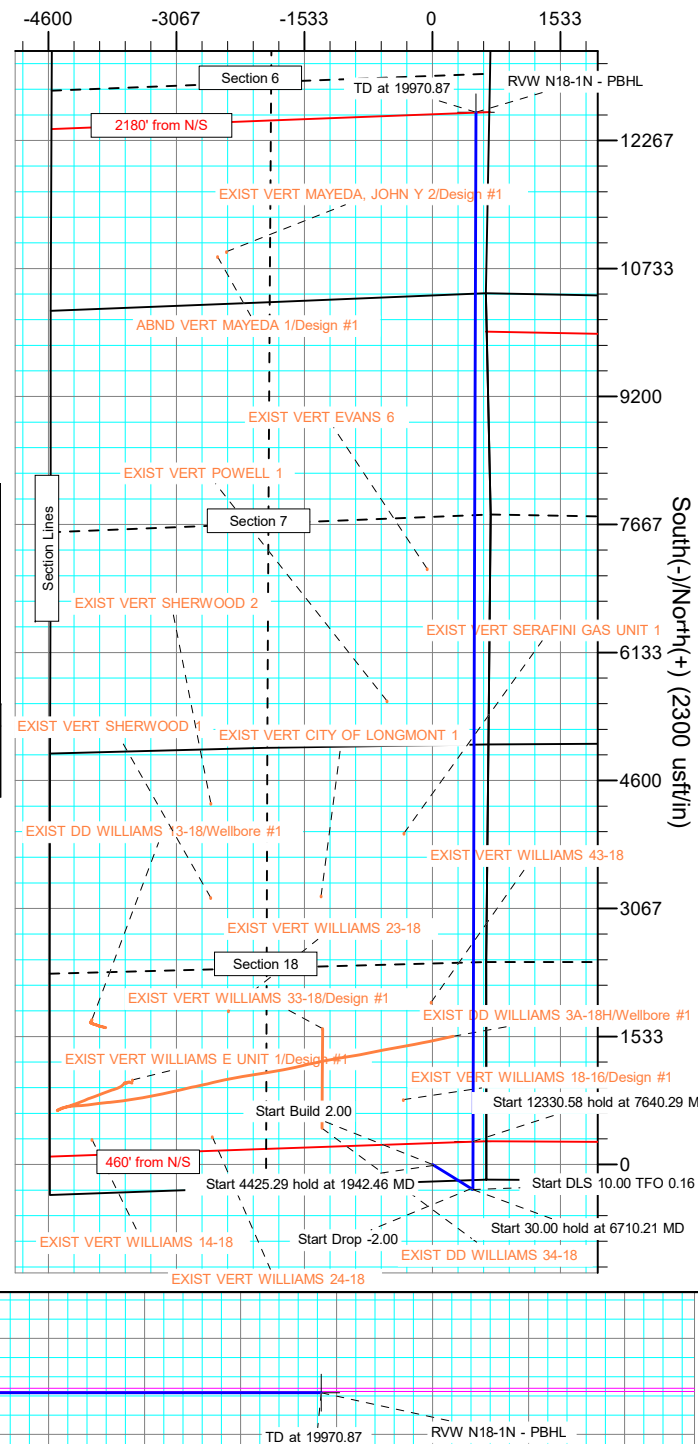
SHL:
204' FSL, 645' FEL
Sec 18-T2N-R68W

LP:
460' FSL, 160' FEL
Sec 18-T2N-R68W

BHL:
2171' FSL, 160' FEL
Sec 6-T2N-R68W



West(-)/East(+) (2300 usft/in)



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY WEST N18-20-1N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4965.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4965.00usft
Site:	Sec 18-T2N-R68W	North Reference:	True
Well:	RINN VALLEY WEST N18-20-1N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Project	Weld County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Sec 18-T2N-R68W			
Site Position:		Northing:	1,291,104.41 usft	Latitude:	40° 7' 53.566 N
From:	Lat/Long	Easting:	3,129,553.43 usft	Longitude:	105° 2' 12.001 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.30 °

Well	RINN VALLEY WEST N18-20-1N					
Well Position	+N/-S	181.41 usft	Northing:	1,291,282.45 usft	Latitude:	40° 7' 55.358 N
	+E/-W	-645.34 usft	Easting:	3,128,907.15 usft	Longitude:	105° 2' 20.310 W
Position Uncertainty	0.00 usft		Wellhead Elevation:	Ground Level: 4,940.00 usft		

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/7/2018	8.26	66.58	52,149.32189005

Design	PROPOSAL 1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	2.36

Plan Survey Tool Program			Date	5/3/2018	
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	19,970.87	PROPOSAL 1 (ORIGINAL WELL	MWD OWSG	
			OWSG MWD - Standard		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,942.46	6.85	121.82	1,941.65	-10.78	17.37	2.00	2.00	0.00	121.82	
6,367.75	6.85	121.82	6,335.35	-289.01	465.82	0.00	0.00	0.00	0.00	
6,710.21	0.00	0.00	6,677.00	-299.79	483.19	2.00	-2.00	0.00	180.00	
6,740.21	0.00	0.00	6,707.00	-299.79	483.19	0.00	0.00	0.00	0.00	
7,640.29	90.00	0.16	7,280.00	273.22	484.84	10.00	10.00	0.02	0.16	RVW N18-1N - LP
19,970.87	90.00	0.16	7,280.00	12,603.75	520.09	0.00	0.00	0.00	0.00	RVW N18-1N - PBHL

Planning Report

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Project:	Weld County	MD Reference:	KB 25' @ 4965.00usft
Site:	Sec 18-T2N-R68W	North Reference:	True
Well:	RINN VALLEY WEST N18-20-1N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Planned 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)
0.00	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	0.00
200.00	0.00	0.00	200.00	0.00	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	0.00
400.00	0.00	0.00	400.00	0.00	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	0.00
600.00	0.00	0.00	600.00	0.00	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	0.00
800.00	0.00	0.00	800.00	0.00	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	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
1,700.00	2.00	121.82	1,699.98	-0.92	1.48	-0.86	2.00	2.00	0.00
1,800.00	4.00	121.82	1,799.84	-3.68	5.93	-3.43	2.00	2.00	0.00
1,900.00	6.00	121.82	1,899.45	-8.27	13.34	-7.72	2.00	2.00	0.00
1,942.46	6.85	121.82	1,941.65	-10.78	17.37	-10.05	2.00	2.00	0.00
Start 4425.29 hold at 1942.46 MD									
2,000.00	6.85	121.82	1,998.77	-14.40	23.20	-13.43	0.00	0.00	0.00
2,100.00	6.85	121.82	2,098.06	-20.68	33.34	-19.29	0.00	0.00	0.00
2,200.00	6.85	121.82	2,197.35	-26.97	43.47	-25.16	0.00	0.00	0.00
2,300.00	6.85	121.82	2,296.63	-33.26	53.60	-31.02	0.00	0.00	0.00
2,400.00	6.85	121.82	2,395.92	-39.55	63.74	-36.88	0.00	0.00	0.00
2,500.00	6.85	121.82	2,495.21	-45.83	73.87	-42.75	0.00	0.00	0.00
2,600.00	6.85	121.82	2,594.49	-52.12	84.01	-48.61	0.00	0.00	0.00
2,700.00	6.85	121.82	2,693.78	-58.41	94.14	-54.48	0.00	0.00	0.00
2,800.00	6.85	121.82	2,793.07	-64.70	104.27	-60.34	0.00	0.00	0.00
2,900.00	6.85	121.82	2,892.35	-70.98	114.41	-66.21	0.00	0.00	0.00
3,000.00	6.85	121.82	2,991.64	-77.27	124.54	-72.07	0.00	0.00	0.00
3,100.00	6.85	121.82	3,090.92	-83.56	134.67	-77.93	0.00	0.00	0.00
3,200.00	6.85	121.82	3,190.21	-89.84	144.81	-83.80	0.00	0.00	0.00
3,300.00	6.85	121.82	3,289.50	-96.13	154.94	-89.66	0.00	0.00	0.00
3,400.00	6.85	121.82	3,388.78	-102.42	165.08	-95.53	0.00	0.00	0.00
3,488.85	6.85	121.82	3,477.00	-108.01	174.08	-100.74	0.00	0.00	0.00
PARKMAN									
3,500.00	6.85	121.82	3,488.07	-108.71	175.21	-101.39	0.00	0.00	0.00
3,600.00	6.85	121.82	3,587.36	-114.99	185.34	-107.25	0.00	0.00	0.00
3,700.00	6.85	121.82	3,686.64	-121.28	195.48	-113.12	0.00	0.00	0.00
3,800.00	6.85	121.82	3,785.93	-127.57	205.61	-118.98	0.00	0.00	0.00
3,900.00	6.85	121.82	3,885.21	-133.86	215.74	-124.85	0.00	0.00	0.00
4,000.00	6.85	121.82	3,984.50	-140.14	225.88	-130.71	0.00	0.00	0.00
4,062.95	6.85	121.82	4,047.00	-144.10	232.26	-134.40	0.00	0.00	0.00
SUSSEX									
4,100.00	6.85	121.82	4,083.79	-146.43	236.01	-136.58	0.00	0.00	0.00
4,200.00	6.85	121.82	4,183.07	-152.72	246.15	-142.44	0.00	0.00	0.00
4,300.00	6.85	121.82	4,282.36	-159.01	256.28	-148.30	0.00	0.00	0.00
4,400.00	6.85	121.82	4,381.65	-165.29	266.41	-154.17	0.00	0.00	0.00
4,470.86	6.85	121.82	4,452.00	-169.75	273.59	-158.32	0.00	0.00	0.00

Planning Report

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4965.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4965.00usft
Site:	Sec 18-T2N-R68W	North Reference:	True
Well:	RINN VALLEY WEST N18-20-1N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Planned 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)
SHANNON									
4,500.00	6.85	121.82	4,480.93	-171.58	276.55	-160.03	0.00	0.00	0.00
4,600.00	6.85	121.82	4,580.22	-177.87	286.68	-165.90	0.00	0.00	0.00
4,700.00	6.85	121.82	4,679.51	-184.16	296.81	-171.76	0.00	0.00	0.00
4,800.00	6.85	121.82	4,778.79	-190.44	306.95	-177.63	0.00	0.00	0.00
4,900.00	6.85	121.82	4,878.08	-196.73	317.08	-183.49	0.00	0.00	0.00
5,000.00	6.85	121.82	4,977.36	-203.02	327.22	-189.35	0.00	0.00	0.00
5,100.00	6.85	121.82	5,076.65	-209.30	337.35	-195.22	0.00	0.00	0.00
5,200.00	6.85	121.82	5,175.94	-215.59	347.48	-201.08	0.00	0.00	0.00
5,300.00	6.85	121.82	5,275.22	-221.88	357.62	-206.95	0.00	0.00	0.00
5,400.00	6.85	121.82	5,374.51	-228.17	367.75	-212.81	0.00	0.00	0.00
5,500.00	6.85	121.82	5,473.80	-234.45	377.88	-218.67	0.00	0.00	0.00
5,600.00	6.85	121.82	5,573.08	-240.74	388.02	-224.54	0.00	0.00	0.00
5,700.00	6.85	121.82	5,672.37	-247.03	398.15	-230.40	0.00	0.00	0.00
5,800.00	6.85	121.82	5,771.66	-253.32	408.29	-236.27	0.00	0.00	0.00
5,900.00	6.85	121.82	5,870.94	-259.60	418.42	-242.13	0.00	0.00	0.00
6,000.00	6.85	121.82	5,970.23	-265.89	428.55	-248.00	0.00	0.00	0.00
6,100.00	6.85	121.82	6,069.51	-272.18	438.69	-253.86	0.00	0.00	0.00
6,200.00	6.85	121.82	6,168.80	-278.47	448.82	-259.72	0.00	0.00	0.00
6,300.00	6.85	121.82	6,268.09	-284.75	458.95	-265.59	0.00	0.00	0.00
6,367.75	6.85	121.82	6,335.35	-289.01	465.82	-269.56	0.00	0.00	0.00
Start Drop -2.00									
6,400.00	6.20	121.82	6,367.39	-290.95	468.93	-271.36	2.00	-2.00	0.00
6,500.00	4.20	121.82	6,466.98	-295.73	476.64	-275.82	2.00	-2.00	0.00
6,600.00	2.20	121.82	6,566.82	-298.67	481.39	-278.57	2.00	-2.00	0.00
6,700.00	0.20	121.82	6,666.79	-299.78	483.18	-279.61	2.00	-2.00	0.00
6,710.21	0.00	0.00	6,677.00	-299.79	483.19	-279.61	2.00	-2.00	0.00
Start 30.00 hold at 6710.21 MD									
6,740.21	0.00	0.00	6,707.00	-299.79	483.19	-279.61	0.00	0.00	0.00
Start DLS 10.00 TFO 0.16									
6,750.00	0.98	0.16	6,716.79	-299.71	483.19	-279.53	10.00	10.00	0.00
6,800.00	5.98	0.16	6,766.68	-296.67	483.20	-276.50	10.00	10.00	0.00
6,850.00	10.98	0.16	6,816.12	-289.31	483.22	-269.14	10.00	10.00	0.00
6,900.00	15.98	0.16	6,864.73	-277.66	483.26	-257.50	10.00	10.00	0.00
6,950.00	20.98	0.16	6,912.13	-261.81	483.30	-241.67	10.00	10.00	0.00
7,000.00	25.98	0.16	6,957.98	-241.90	483.36	-221.77	10.00	10.00	0.00
7,050.00	30.98	0.16	7,001.92	-218.07	483.43	-197.95	10.00	10.00	0.00
7,100.00	35.98	0.16	7,043.61	-190.50	483.51	-170.40	10.00	10.00	0.00
7,150.00	40.98	0.16	7,082.74	-159.40	483.60	-139.33	10.00	10.00	0.00
7,200.00	45.98	0.16	7,119.01	-125.01	483.70	-104.96	10.00	10.00	0.00
7,250.00	50.98	0.16	7,152.15	-87.59	483.80	-67.56	10.00	10.00	0.00
7,300.00	55.97	0.16	7,181.90	-47.42	483.92	-27.43	10.00	10.00	0.00
7,350.00	60.97	0.16	7,208.03	-4.81	484.04	15.15	10.00	10.00	0.00
7,400.00	65.97	0.16	7,230.36	39.91	484.17	59.84	10.00	10.00	0.00
7,430.43	69.02	0.16	7,242.00	68.01	484.25	87.92	10.00	10.00	0.00
NIOBRARA									
7,450.00	70.97	0.16	7,248.70	86.41	484.30	106.30	10.00	10.00	0.00
7,500.00	75.97	0.16	7,262.91	134.33	484.44	154.19	10.00	10.00	0.00
7,533.07	79.28	0.16	7,270.00	166.62	484.53	186.46	10.00	10.00	0.00
NIO B TARGET									
7,550.00	80.97	0.16	7,272.90	183.30	484.58	203.13	10.00	10.00	0.00
7,600.00	85.97	0.16	7,278.59	232.96	484.72	252.75	10.00	10.00	0.00
7,640.29	90.00	0.16	7,280.00	273.22	484.84	292.98	10.00	10.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY WEST N18-20-1N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4965.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4965.00usft
Site:	Sec 18-T2N-R68W	North Reference:	True
Well:	RINN VALLEY WEST N18-20-1N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Planned 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)
Start 12330.58 hold at 7640.29 MD									
7,700.00	90.00	0.16	7,280.00	332.93	485.01	352.64	0.00	0.00	0.00
7,800.00	90.00	0.16	7,280.00	432.93	485.30	452.57	0.00	0.00	0.00
7,900.00	90.00	0.16	7,279.99	532.93	485.59	552.49	0.00	0.00	0.00
8,000.00	90.00	0.16	7,279.99	632.93	485.87	652.42	0.00	0.00	0.00
8,100.00	90.00	0.16	7,279.99	732.93	486.16	752.35	0.00	0.00	0.00
8,200.00	90.00	0.16	7,279.98	832.93	486.45	852.27	0.00	0.00	0.00
8,300.00	90.00	0.16	7,279.98	932.93	486.74	952.20	0.00	0.00	0.00
8,400.00	90.00	0.16	7,279.98	1,032.93	487.03	1,052.13	0.00	0.00	0.00
8,500.00	90.00	0.16	7,279.98	1,132.92	487.31	1,152.05	0.00	0.00	0.00
8,600.00	90.00	0.16	7,279.97	1,232.92	487.60	1,251.98	0.00	0.00	0.00
8,700.00	90.00	0.16	7,279.97	1,332.92	487.89	1,351.91	0.00	0.00	0.00
8,800.00	90.00	0.16	7,279.97	1,432.92	488.18	1,451.83	0.00	0.00	0.00
8,900.00	90.00	0.16	7,279.96	1,532.92	488.46	1,551.76	0.00	0.00	0.00
9,000.00	90.00	0.16	7,279.96	1,632.92	488.75	1,651.69	0.00	0.00	0.00
9,100.00	90.00	0.16	7,279.96	1,732.92	489.04	1,751.61	0.00	0.00	0.00
9,200.00	90.00	0.16	7,279.96	1,832.92	489.33	1,851.54	0.00	0.00	0.00
9,300.00	90.00	0.16	7,279.95	1,932.92	489.61	1,951.46	0.00	0.00	0.00
9,400.00	90.00	0.16	7,279.95	2,032.92	489.90	2,051.39	0.00	0.00	0.00
9,500.00	90.00	0.16	7,279.95	2,132.92	490.19	2,151.32	0.00	0.00	0.00
9,600.00	90.00	0.16	7,279.94	2,232.92	490.48	2,251.24	0.00	0.00	0.00
9,700.00	90.00	0.16	7,279.94	2,332.92	490.76	2,351.17	0.00	0.00	0.00
9,800.00	90.00	0.16	7,279.94	2,432.92	491.05	2,451.10	0.00	0.00	0.00
9,900.00	90.00	0.16	7,279.94	2,532.92	491.34	2,551.02	0.00	0.00	0.00
10,000.00	90.00	0.16	7,279.93	2,632.92	491.63	2,650.95	0.00	0.00	0.00
10,100.00	90.00	0.16	7,279.93	2,732.92	491.91	2,750.88	0.00	0.00	0.00
10,200.00	90.00	0.16	7,279.93	2,832.92	492.20	2,850.80	0.00	0.00	0.00
10,300.00	90.00	0.16	7,279.92	2,932.92	492.49	2,950.73	0.00	0.00	0.00
10,400.00	90.00	0.16	7,279.92	3,032.92	492.78	3,050.66	0.00	0.00	0.00
10,500.00	90.00	0.16	7,279.92	3,132.92	493.06	3,150.58	0.00	0.00	0.00
10,600.00	90.00	0.16	7,279.92	3,232.92	493.35	3,250.51	0.00	0.00	0.00
10,700.00	90.00	0.16	7,279.91	3,332.92	493.64	3,350.43	0.00	0.00	0.00
10,800.00	90.00	0.16	7,279.91	3,432.92	493.93	3,450.36	0.00	0.00	0.00
10,900.00	90.00	0.16	7,279.91	3,532.91	494.21	3,550.29	0.00	0.00	0.00
11,000.00	90.00	0.16	7,279.90	3,632.91	494.50	3,650.21	0.00	0.00	0.00
11,100.00	90.00	0.16	7,279.90	3,732.91	494.79	3,750.14	0.00	0.00	0.00
11,200.00	90.00	0.16	7,279.90	3,832.91	495.08	3,850.07	0.00	0.00	0.00
11,300.00	90.00	0.16	7,279.90	3,932.91	495.36	3,949.99	0.00	0.00	0.00
11,400.00	90.00	0.16	7,279.89	4,032.91	495.65	4,049.92	0.00	0.00	0.00
11,500.00	90.00	0.16	7,279.89	4,132.91	495.94	4,149.85	0.00	0.00	0.00
11,600.00	90.00	0.16	7,279.89	4,232.91	496.23	4,249.77	0.00	0.00	0.00
11,700.00	90.00	0.16	7,279.88	4,332.91	496.52	4,349.70	0.00	0.00	0.00
11,800.00	90.00	0.16	7,279.88	4,432.91	496.80	4,449.62	0.00	0.00	0.00
11,900.00	90.00	0.16	7,279.88	4,532.91	497.09	4,549.55	0.00	0.00	0.00
12,000.00	90.00	0.16	7,279.88	4,632.91	497.38	4,649.48	0.00	0.00	0.00
12,100.00	90.00	0.16	7,279.87	4,732.91	497.67	4,749.40	0.00	0.00	0.00
12,200.00	90.00	0.16	7,279.87	4,832.91	497.95	4,849.33	0.00	0.00	0.00
12,300.00	90.00	0.16	7,279.87	4,932.91	498.24	4,949.26	0.00	0.00	0.00
12,400.00	90.00	0.16	7,279.86	5,032.91	498.53	5,049.18	0.00	0.00	0.00
12,500.00	90.00	0.16	7,279.86	5,132.91	498.82	5,149.11	0.00	0.00	0.00
12,600.00	90.00	0.16	7,279.86	5,232.91	499.10	5,249.04	0.00	0.00	0.00
12,700.00	90.00	0.16	7,279.86	5,332.91	499.39	5,348.96	0.00	0.00	0.00
12,800.00	90.00	0.16	7,279.85	5,432.91	499.68	5,448.89	0.00	0.00	0.00
12,900.00	90.00	0.16	7,279.85	5,532.91	499.97	5,548.82	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY WEST N18-20-1N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4965.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4965.00usft
Site:	Sec 18-T2N-R68W	North Reference:	True
Well:	RINN VALLEY WEST N18-20-1N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Planned 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)
13,000.00	90.00	0.16	7,279.85	5,632.91	500.25	5,648.74	0.00	0.00	0.00
13,100.00	90.00	0.16	7,279.84	5,732.91	500.54	5,748.67	0.00	0.00	0.00
13,200.00	90.00	0.16	7,279.84	5,832.91	500.83	5,848.59	0.00	0.00	0.00
13,300.00	90.00	0.16	7,279.84	5,932.91	501.12	5,948.52	0.00	0.00	0.00
13,400.00	90.00	0.16	7,279.84	6,032.90	501.40	6,048.45	0.00	0.00	0.00
13,500.00	90.00	0.16	7,279.83	6,132.90	501.69	6,148.37	0.00	0.00	0.00
13,600.00	90.00	0.16	7,279.83	6,232.90	501.98	6,248.30	0.00	0.00	0.00
13,700.00	90.00	0.16	7,279.83	6,332.90	502.27	6,348.23	0.00	0.00	0.00
13,800.00	90.00	0.16	7,279.82	6,432.90	502.55	6,448.15	0.00	0.00	0.00
13,900.00	90.00	0.16	7,279.82	6,532.90	502.84	6,548.08	0.00	0.00	0.00
14,000.00	90.00	0.16	7,279.82	6,632.90	503.13	6,648.01	0.00	0.00	0.00
14,100.00	90.00	0.16	7,279.82	6,732.90	503.42	6,747.93	0.00	0.00	0.00
14,200.00	90.00	0.16	7,279.81	6,832.90	503.70	6,847.86	0.00	0.00	0.00
14,300.00	90.00	0.16	7,279.81	6,932.90	503.99	6,947.79	0.00	0.00	0.00
14,400.00	90.00	0.16	7,279.81	7,032.90	504.28	7,047.71	0.00	0.00	0.00
14,500.00	90.00	0.16	7,279.80	7,132.90	504.57	7,147.64	0.00	0.00	0.00
14,600.00	90.00	0.16	7,279.80	7,232.90	504.85	7,247.56	0.00	0.00	0.00
14,700.00	90.00	0.16	7,279.80	7,332.90	505.14	7,347.49	0.00	0.00	0.00
14,800.00	90.00	0.16	7,279.80	7,432.90	505.43	7,447.42	0.00	0.00	0.00
14,900.00	90.00	0.16	7,279.79	7,532.90	505.72	7,547.34	0.00	0.00	0.00
15,000.00	90.00	0.16	7,279.79	7,632.90	506.01	7,647.27	0.00	0.00	0.00
15,100.00	90.00	0.16	7,279.79	7,732.90	506.29	7,747.20	0.00	0.00	0.00
15,200.00	90.00	0.16	7,279.78	7,832.90	506.58	7,847.12	0.00	0.00	0.00
15,300.00	90.00	0.16	7,279.78	7,932.90	506.87	7,947.05	0.00	0.00	0.00
15,400.00	90.00	0.16	7,279.78	8,032.90	507.16	8,046.98	0.00	0.00	0.00
15,500.00	90.00	0.16	7,279.78	8,132.90	507.44	8,146.90	0.00	0.00	0.00
15,600.00	90.00	0.16	7,279.77	8,232.90	507.73	8,246.83	0.00	0.00	0.00
15,700.00	90.00	0.16	7,279.77	8,332.90	508.02	8,346.76	0.00	0.00	0.00
15,800.00	90.00	0.16	7,279.77	8,432.89	508.31	8,446.68	0.00	0.00	0.00
15,900.00	90.00	0.16	7,279.76	8,532.89	508.59	8,546.61	0.00	0.00	0.00
16,000.00	90.00	0.16	7,279.76	8,632.89	508.88	8,646.53	0.00	0.00	0.00
16,100.00	90.00	0.16	7,279.76	8,732.89	509.17	8,746.46	0.00	0.00	0.00
16,200.00	90.00	0.16	7,279.76	8,832.89	509.46	8,846.39	0.00	0.00	0.00
16,300.00	90.00	0.16	7,279.75	8,932.89	509.74	8,946.31	0.00	0.00	0.00
16,400.00	90.00	0.16	7,279.75	9,032.89	510.03	9,046.24	0.00	0.00	0.00
16,500.00	90.00	0.16	7,279.75	9,132.89	510.32	9,146.17	0.00	0.00	0.00
16,600.00	90.00	0.16	7,279.74	9,232.89	510.61	9,246.09	0.00	0.00	0.00
16,700.00	90.00	0.16	7,279.74	9,332.89	510.89	9,346.02	0.00	0.00	0.00
16,800.00	90.00	0.16	7,279.74	9,432.89	511.18	9,445.95	0.00	0.00	0.00
16,900.00	90.00	0.16	7,279.74	9,532.89	511.47	9,545.87	0.00	0.00	0.00
17,000.00	90.00	0.16	7,279.73	9,632.89	511.76	9,645.80	0.00	0.00	0.00
17,100.00	90.00	0.16	7,279.73	9,732.89	512.04	9,745.72	0.00	0.00	0.00
17,200.00	90.00	0.16	7,279.73	9,832.89	512.33	9,845.65	0.00	0.00	0.00
17,300.00	90.00	0.16	7,279.72	9,932.89	512.62	9,945.58	0.00	0.00	0.00
17,400.00	90.00	0.16	7,279.72	10,032.89	512.91	10,045.50	0.00	0.00	0.00
17,500.00	90.00	0.16	7,279.72	10,132.89	513.19	10,145.43	0.00	0.00	0.00
17,600.00	90.00	0.16	7,279.72	10,232.89	513.48	10,245.36	0.00	0.00	0.00
17,700.00	90.00	0.16	7,279.71	10,332.89	513.77	10,345.28	0.00	0.00	0.00
17,800.00	90.00	0.16	7,279.71	10,432.89	514.06	10,445.21	0.00	0.00	0.00
17,900.00	90.00	0.16	7,279.71	10,532.89	514.34	10,545.14	0.00	0.00	0.00
18,000.00	90.00	0.16	7,279.70	10,632.89	514.63	10,645.06	0.00	0.00	0.00
18,100.00	90.00	0.16	7,279.70	10,732.89	514.92	10,744.99	0.00	0.00	0.00
18,200.00	90.00	0.16	7,279.70	10,832.88	515.21	10,844.92	0.00	0.00	0.00
18,300.00	90.00	0.16	7,279.70	10,932.88	515.50	10,944.84	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY WEST N18-20-1N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4965.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4965.00usft
Site:	Sec 18-T2N-R68W	North Reference:	True
Well:	RINN VALLEY WEST N18-20-1N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Planned 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)	
18,400.00	90.00	0.16	7,279.69	11,032.88	515.78	11,044.77	0.00	0.00	0.00	
18,500.00	90.00	0.16	7,279.69	11,132.88	516.07	11,144.69	0.00	0.00	0.00	
18,600.00	90.00	0.16	7,279.69	11,232.88	516.36	11,244.62	0.00	0.00	0.00	
18,700.00	90.00	0.16	7,279.68	11,332.88	516.65	11,344.55	0.00	0.00	0.00	
18,800.00	90.00	0.16	7,279.68	11,432.88	516.93	11,444.47	0.00	0.00	0.00	
18,900.00	90.00	0.16	7,279.68	11,532.88	517.22	11,544.40	0.00	0.00	0.00	
19,000.00	90.00	0.16	7,279.68	11,632.88	517.51	11,644.33	0.00	0.00	0.00	
19,100.00	90.00	0.16	7,279.67	11,732.88	517.80	11,744.25	0.00	0.00	0.00	
19,200.00	90.00	0.16	7,279.67	11,832.88	518.08	11,844.18	0.00	0.00	0.00	
19,300.00	90.00	0.16	7,279.67	11,932.88	518.37	11,944.11	0.00	0.00	0.00	
19,400.00	90.00	0.16	7,279.66	12,032.88	518.66	12,044.03	0.00	0.00	0.00	
19,500.00	90.00	0.16	7,279.66	12,132.88	518.95	12,143.96	0.00	0.00	0.00	
19,600.00	90.00	0.16	7,279.66	12,232.88	519.23	12,243.89	0.00	0.00	0.00	
19,700.00	90.00	0.16	7,279.66	12,332.88	519.52	12,343.81	0.00	0.00	0.00	
19,800.00	90.00	0.16	7,279.65	12,432.88	519.81	12,443.74	0.00	0.00	0.00	
19,900.00	90.00	0.16	7,279.65	12,532.88	520.10	12,543.66	0.00	0.00	0.00	
19,970.87	90.00	0.16	7,280.00	12,603.75	520.09	12,614.48	0.00	0.00	0.00	
TD at 19970.87										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
RVW N18-1N - LP	0.00	0.00	7,280.00	273.22	484.84	1,291,558.19	3,129,390.57	40° 7' 58.058 N	105° 2' 14.068 W	
- plan hits target center										
- Point										
RVW N18-1N - PBHL	0.00	0.00	7,280.00	12,603.75	520.09	1,303,888.73	3,129,361.71	40° 9' 59.915 N	105° 2' 13.610 W	
- plan hits target center										
- Point										

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,488.85	3,477.00	PARKMAN				
4,062.95	4,047.00	SUSSEX				
4,470.86	4,452.00	SHANNON				
7,430.43	7,242.00	NIOBRARA				
7,533.07	7,270.00	NIO B TARGET				

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY WEST N18-20-1N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4965.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4965.00usft
Site:	Sec 18-T2N-R68W	North Reference:	True
Well:	RINN VALLEY WEST N18-20-1N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,600.00	1,600.00	0.00	0.00	Start Build 2.00
1,942.46	1,941.65	-10.78	17.37	Start 4425.29 hold at 1942.46 MD
6,367.75	6,335.35	-289.01	465.82	Start Drop -2.00
6,710.21	6,677.00	-299.79	483.19	Start 30.00 hold at 6710.21 MD
6,740.21	6,707.00	-299.79	483.19	Start DLS 10.00 TFO 0.16
7,640.29	7,280.00	273.22	484.84	Start 12330.58 hold at 7640.29 MD
19,970.87	7,280.00	12,603.75	520.09	TD at 19970.87