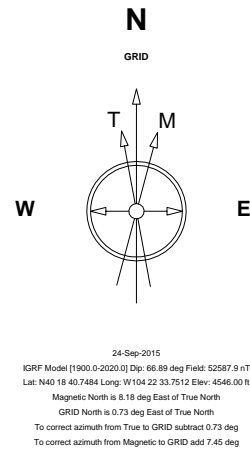
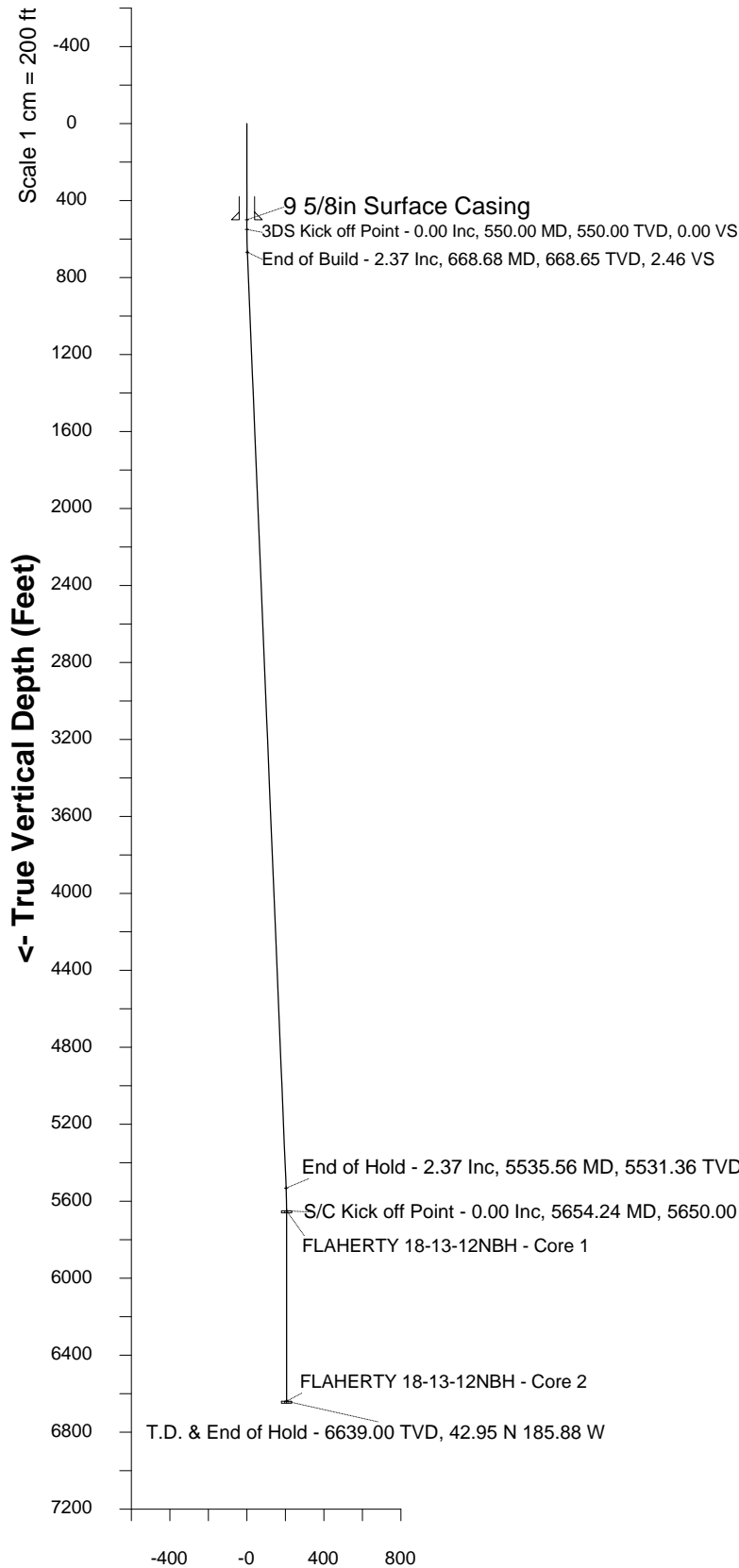
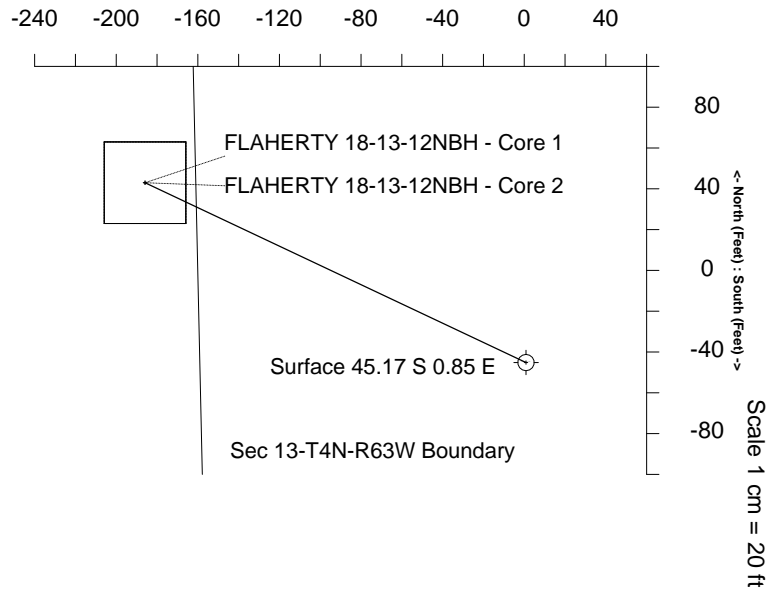


Edge Energy LLC

Location	DJ Basin	Slot	FLAHERTY 18-13-12NBH
Field	Wattenberg	Well	FLAHERTY 18-13-12NBH
Installation	Flaherty 18-I	Wellbore	FLAHERTY 18-13-12NBH (PWB)



Scale 1 cm = 20 ft **East (Feet) ->**



Created by	admin
Date plotted	28-Sep-2015
Plot reference is FLAHERTY 18-13-12NBH (PWB).	
Ref wellpath is FLAHERTY 18-13-12NBH (PWP#1).	
Coordinates are in Feet reference Installation Centre.	
True Vertical Depths are reference Rig Datum.	
Measured Depths are reference Rig Datum.	
Rig Datum: Planned Datum #1	
Rig Datum to Mean Sea Level: 4571.00 ft.	
Plot North is aligned to GRID North.	

Vertical Section (Feet) -> Scale 1 cm = 200 ft

Azimuth 295.26 with reference 45.17 S, 0.85 E from Installation Centre



SYSDRILL
Well Design Combined Report
Wellbore: FLAHERTY 18-13-12NBH (PWB)

Wellhead Details							
Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
FLAHERTY 18-13-12NBH	40.31119500	-104.37604100	1358195.7427	3313435.8806	45.17S	0.85E	0.00

Declination		
Date	Source	Time
24-Sep-2015	IGRF Model [1900.0-2020.0]	15:38

Installation Details						
Name	Installation Position (Latitude)	Installation Position (Longitude)	Northing	Easting	Coord System Name	North Alignment
Flaherty 18-I	40.31131900	-104.37604200	1358240.9076	3313435.0292	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Summary Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
25.00	0.00	0.000	25.00	0.00N	0.00E		0.00	1358195.74	3313435.88
6643.24	0.00	269.270	6639.00	88.12N	186.73W	==>	206.48	1358283.86	3313249.16

Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
0.00	0.00	0.000	0.00	0.00N	0.00E		0.00	Rig Datum Slot Datum
25.00	0.00	0.000	25.00	0.00N	0.00E	==>	0.00	
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	9 5/8in Surface Casing
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	
600.00	1.00	295.260	600.00	0.19N	0.39W	2.00	0.44	
700.00	2.37	295.260	699.94	1.60N	3.40W	==>	3.76	
800.00	2.37	295.260	799.85	3.37N	7.14W	==>	7.90	
900.00	2.37	295.260	899.77	5.14N	10.89W	==>	12.04	
1000.00	2.37	295.260	999.68	6.91N	14.63W	==>	16.18	
1100.00	2.37	295.260	1099.60	8.67N	18.38W	==>	20.32	
1200.00	2.37	295.260	1199.51	10.44N	22.12W	==>	24.46	
1300.00	2.37	295.260	1299.42	12.21N	25.87W	==>	28.60	
1400.00	2.37	295.260	1399.34	13.98N	29.61W	==>	32.75	
1500.00	2.37	295.260	1499.25	15.74N	33.36W	==>	36.89	
1600.00	2.37	295.260	1599.17	17.51N	37.11W	==>	41.03	
1700.00	2.37	295.260	1699.08	19.28N	40.85W	==>	45.17	
1800.00	2.37	295.260	1799.00	21.05N	44.60W	==>	49.31	
1900.00	2.37	295.260	1898.91	22.81N	48.34W	==>	53.45	
2000.00	2.37	295.260	1998.82	24.58N	52.09W	==>	57.60	
2100.00	2.37	295.260	2098.74	26.35N	55.83W	==>	61.74	
2200.00	2.37	295.260	2198.65	28.12N	59.58W	==>	65.88	
2300.00	2.37	295.260	2298.57	29.88N	63.32W	==>	70.02	
2400.00	2.37	295.260	2398.48	31.65N	67.07W	==>	74.16	
2500.00	2.37	295.260	2498.39	33.42N	70.81W	==>	78.30	
2600.00	2.37	295.260	2598.31	35.19N	74.56W	==>	82.44	
2700.00	2.37	295.260	2698.22	36.95N	78.31W	==>	86.59	
2800.00	2.37	295.260	2798.14	38.72N	82.05W	==>	90.73	
2900.00	2.37	295.260	2898.05	40.49N	85.80W	==>	94.87	
3000.00	2.37	295.260	2997.97	42.26N	89.54W	==>	99.01	
3100.00	2.37	295.260	3097.88	44.02N	93.29W	==>	103.15	
3200.00	2.37	295.260	3197.79	45.79N	97.03W	==>	107.29	
3300.00	2.37	295.260	3297.71	47.56N	100.78W	==>	111.44	
3400.00	2.37	295.260	3397.62	49.33N	104.52W	==>	115.58	
3500.00	2.37	295.260	3497.54	51.09N	108.27W	==>	119.72	
3600.00	2.37	295.260	3597.45	52.86N	112.01W	==>	123.86	
3700.00	2.37	295.260	3697.37	54.63N	115.76W	==>	128.00	

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Planned Datum #1 4571.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 295.260 degrees
Bottom hole distance is 206.48 Feet on azimuth 295.26 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 6-Oct-2015



SYSDRILL
Well Design Combined Report
Wellbore: FLAHERTY 18-13-12NBH (PWB)

Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
3800.00	2.37	295.260	3797.28	56.40N	119.51W	==>	132.14	
3900.00	2.37	295.260	3897.19	58.16N	123.25W	==>	136.28	
4000.00	2.37	295.260	3997.11	59.93N	127.00W	==>	140.43	
4100.00	2.37	295.260	4097.02	61.70N	130.74W	==>	144.57	
4200.00	2.37	295.260	4196.94	63.47N	134.49W	==>	148.71	
4300.00	2.37	295.260	4296.85	65.23N	138.23W	==>	152.85	
4400.00	2.37	295.260	4396.76	67.00N	141.98W	==>	156.99	
4500.00	2.37	295.260	4496.68	68.77N	145.72W	==>	161.13	
4600.00	2.37	295.260	4596.59	70.54N	149.47W	==>	165.28	
4700.00	2.37	295.260	4696.51	72.30N	153.21W	==>	169.42	
4800.00	2.37	295.260	4796.42	74.07N	156.96W	==>	173.56	
4900.00	2.37	295.260	4896.34	75.84N	160.71W	==>	177.70	
5000.00	2.37	295.260	4996.25	77.61N	164.45W	==>	181.84	
5100.00	2.37	295.260	5096.16	79.37N	168.20W	==>	185.98	
5200.00	2.37	295.260	5196.08	81.14N	171.94W	==>	190.13	
5300.00	2.37	295.260	5295.99	82.91N	175.69W	==>	194.27	
5400.00	2.37	295.260	5395.91	84.68N	179.43W	==>	198.41	
5500.00	2.37	295.260	5495.82	86.44N	183.18W	==>	202.55	
5600.00	1.08	295.260	5595.76	87.90N	186.27W	2.00	205.97	
5700.00	0.00	269.270	5695.76	88.12N	186.73W	==>	206.48	
5800.00	0.00	269.270	5795.76	88.12N	186.73W	==>	206.48	
5900.00	0.00	269.270	5895.76	88.12N	186.73W	==>	206.48	
6000.00	0.00	269.270	5995.76	88.12N	186.73W	==>	206.48	
6100.00	0.00	269.270	6095.76	88.12N	186.73W	==>	206.48	
6200.00	0.00	269.270	6195.76	88.12N	186.73W	==>	206.48	
6300.00	0.00	269.270	6295.76	88.12N	186.73W	==>	206.48	
6400.00	0.00	269.270	6395.76	88.12N	186.73W	==>	206.48	
6500.00	0.00	269.270	6495.76	88.12N	186.73W	==>	206.48	
6600.00	0.00	269.270	6595.76	88.12N	186.73W	==>	206.48	
6643.24	0.00	269.270	6639.00	88.12N	186.73W	==>	206.48	

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Hole Sections								
Diameter [in]	Start MD[ft]	Start TVD[ft]	Start North[ft]	Start East[ft]	End MD[ft]	End TVD[ft]	End North[ft]	End East[ft]
12 1/4	25.00	25.00	0.00N	0.00E	500.00	500.00	0.00N	0.00E
8 3/4	500.00	500.00	0.00N	0.00E	6643.24	6639.00	88.12N	186.73W

Casings								
Name	Top MD[ft]	Top TVD[ft]	Top North[ft]	Top East[ft]	Shoe MD[ft]	Shoe TVD[ft]	Shoe North[ft]	Shoe East[ft]
9 5/8in Surface Casing	25.00	25.00	0.00N	0.00E	500.00	500.00	0.00N	0.00E

Targets							
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
FLAHERTY 18-13-12NBH - Core 1	88.12N	186.73W	5650.00	40.31144336	-104.37670651	1358283.86	3313249.16
FLAHERTY 18-13-12NBH - Core 2	88.12N	186.73W	6639.00	40.31144336	-104.37670651	1358283.86	3313249.16

Survey Tool Program					
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
415671	Planned	6643.24	6639.00	WdW Rate Gyro	Standard

Notes