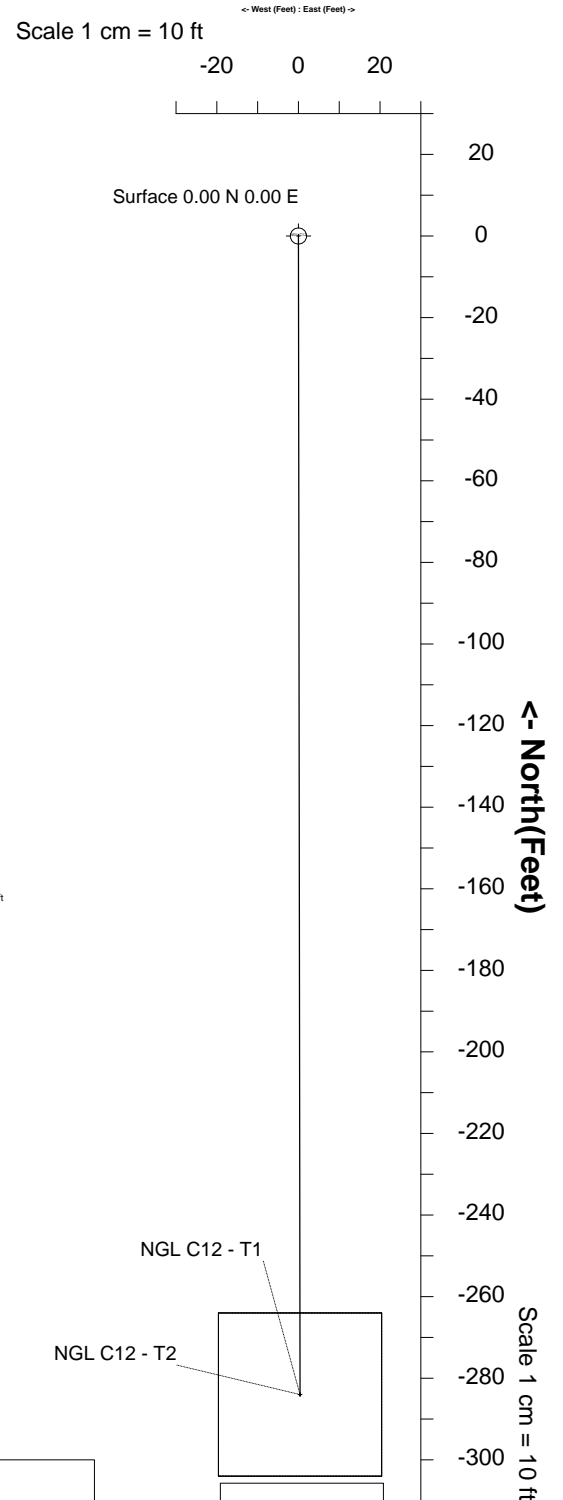
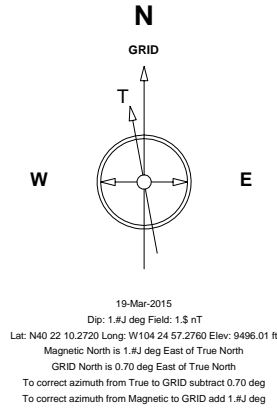
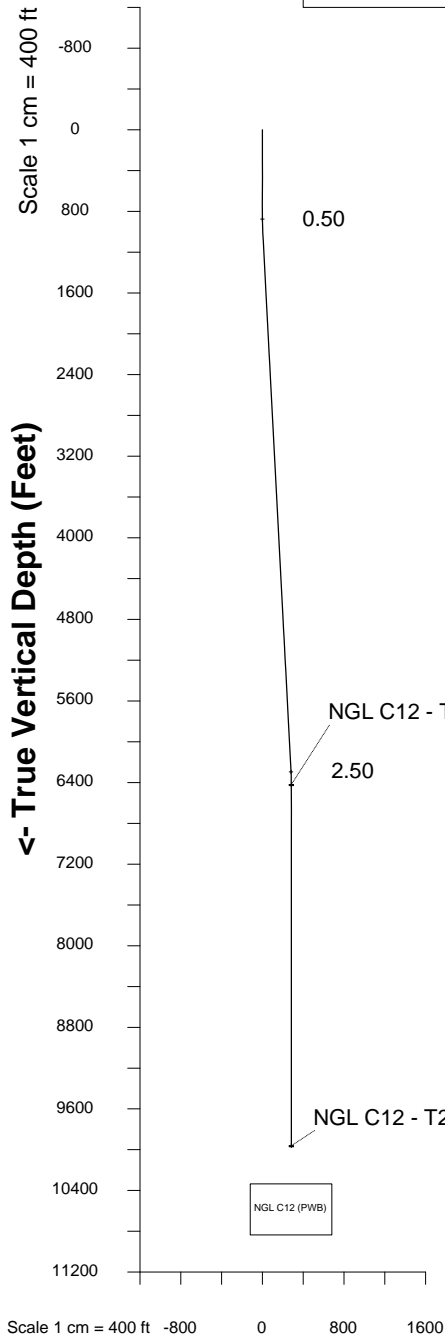


NGL WATER SOLUTIONS DJ

Location DJ Basin
Field Wattenberg
Installation NGL C12

Slot NGL C12
Well NGL C12
Wellbore NGL C12 (PWB)



WELL PROFILE DATA

Point	MD	Inc	Azi	TVD	North	East	deg/100ft	V. Sect
KOP	825.00	0.00	179.92	825.00	0.00	0.00	0.00	0.00
End of Build	974.97	3.00	179.92	974.90	-3.92	0.01	2.00	3.92
End of Hold	6252.40	3.00	179.92	6245.10	-280.06	0.37	0.00	280.06
Target NGL C12 - T1	6402.37	0.00	179.92	6395.00	-283.99	0.38	2.00	283.99
T.D. & Target NGL C12 -	9943.37	0.00	0.00	9936.00	-283.99	0.38	0.00	283.99

Created by admin
Date plotted 23-Mar-2015
Plot reference is NGL C12 (PWB).
Ref wellpath is NGL C12 (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: 4620.00 ft.
Plot North is aligned to GRID North.



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: NGL C12 (PWB)



Wellhead Details

Name	Northing	Easting	Latitude	Longitude	North	East	Elevation Above Inst.
NGL C12	1379303.0816	3302058.5157	40.36952000	-104.41591000	0.00N	0.00E	-0.00

Declination

Date	Source	Time
19-Mar-2015		11:45

Site Details

Name	Northing	Easting	Coord System Name	North Alignment
NGL C12	1379303.0816	3302058.5157	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	1379303.08	3302058.52
9968.37	0.00	0.000	9961.00	283.99S	0.38E	==>	283.99	1379019.10	3302058.89

Interpolated Wellpath

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
0.00	0.00	0.000	0.00	0.00N	0.00E		0.00	1379303.08	3302058.52
25.00	0.00	0.000	25.00	0.00N	0.00E	==>	0.00	1379303.08	3302058.52
100.00	0.00	0.000	100.00	0.00N	0.00E	==>	0.00	1379303.08	3302058.52
200.00	0.00	0.000	200.00	0.00N	0.00E	==>	0.00	1379303.08	3302058.52
300.00	0.00	0.000	300.00	0.00N	0.00E	==>	0.00	1379303.08	3302058.52
400.00	0.00	0.000	400.00	0.00N	0.00E	==>	0.00	1379303.08	3302058.52
500.00	0.00	0.000	500.00	0.00N	0.00E	==>	0.00	1379303.08	3302058.52
600.00	0.00	0.000	600.00	0.00N	0.00E	==>	0.00	1379303.08	3302058.52
700.00	0.00	0.000	700.00	0.00N	0.00E	==>	0.00	1379303.08	3302058.52
800.00	0.00	0.000	800.00	0.00N	0.00E	==>	0.00	1379303.08	3302058.52
900.00	1.00	179.920	900.00	0.44S	0.00E	2.00	0.44	1379302.65	3302058.52
1000.00	3.00	179.920	999.93	3.93S	0.01E	==>	3.93	1379299.16	3302058.52
1100.00	3.00	179.920	1099.79	9.16S	0.01E	==>	9.16	1379293.92	3302058.53
1200.00	3.00	179.920	1199.66	14.39S	0.02E	==>	14.39	1379288.69	3302058.53
1300.00	3.00	179.920	1299.52	19.62S	0.03E	==>	19.62	1379283.46	3302058.54
1400.00	3.00	179.920	1399.38	24.86S	0.03E	==>	24.86	1379278.23	3302058.55
1500.00	3.00	179.920	1499.25	30.09S	0.04E	==>	30.09	1379272.99	3302058.56
1600.00	3.00	179.920	1599.11	35.32S	0.05E	==>	35.32	1379267.76	3302058.56
1700.00	3.00	179.920	1698.97	40.55S	0.05E	==>	40.55	1379262.53	3302058.57
1800.00	3.00	179.920	1798.84	45.79S	0.06E	==>	45.79	1379257.30	3302058.58
1900.00	3.00	179.920	1898.70	51.02S	0.07E	==>	51.02	1379252.07	3302058.58
2000.00	3.00	179.920	1998.56	56.25S	0.08E	==>	56.25	1379246.83	3302058.59
2100.00	3.00	179.920	2098.42	61.48S	0.08E	==>	61.48	1379241.60	3302058.60
2200.00	3.00	179.920	2198.29	66.72S	0.09E	==>	66.72	1379236.37	3302058.60
2300.00	3.00	179.920	2298.15	71.95S	0.10E	==>	71.95	1379231.14	3302058.61
2400.00	3.00	179.920	2398.01	77.18S	0.10E	==>	77.18	1379225.90	3302058.62
2500.00	3.00	179.920	2497.88	82.41S	0.11E	==>	82.41	1379220.67	3302058.63
2600.00	3.00	179.920	2597.74	87.65S	0.12E	==>	87.65	1379215.44	3302058.63
2700.00	3.00	179.920	2697.60	92.88S	0.12E	==>	92.88	1379210.21	3302058.64
2800.00	3.00	179.920	2797.47	98.11S	0.13E	==>	98.11	1379204.98	3302058.65
2900.00	3.00	179.920	2897.33	103.34S	0.14E	==>	103.34	1379199.74	3302058.65
3000.00	3.00	179.920	2997.19	108.58S	0.14E	==>	108.58	1379194.51	3302058.66
3100.00	3.00	179.920	3097.05	113.81S	0.15E	==>	113.81	1379189.28	3302058.67
3200.00	3.00	179.920	3196.92	119.04S	0.16E	==>	119.04	1379184.05	3302058.67
3300.00	3.00	179.920	3296.78	124.27S	0.17E	==>	124.27	1379178.81	3302058.68
3400.00	3.00	179.920	3396.64	129.51S	0.17E	==>	129.51	1379173.58	3302058.69
3500.00	3.00	179.920	3496.51	134.74S	0.18E	==>	134.74	1379168.35	3302058.70
3600.00	3.00	179.920	3596.37	139.97S	0.19E	==>	139.97	1379163.12	3302058.70
3700.00	3.00	179.920	3696.23	145.20S	0.19E	==>	145.20	1379157.88	3302058.71
3800.00	3.00	179.920	3796.10	150.44S	0.20E	==>	150.44	1379152.65	3302058.72
3900.00	3.00	179.920	3895.96	155.67S	0.21E	==>	155.67	1379147.42	3302058.72

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig (Planned Datum #1 4620.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 179.920 degrees
Bottom hole distance is 283.99 Feet on azimuth 179.92 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 23-Mar-2015



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: NGL C12 (PWB)



Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
4000.00	3.00	179.920	3995.82	160.90S	0.21E	==>	160.90	1379142.19	3302058.73
4100.00	3.00	179.920	4095.68	166.13S	0.22E	==>	166.13	1379136.96	3302058.74
4200.00	3.00	179.920	4195.55	171.37S	0.23E	==>	171.37	1379131.72	3302058.74
4300.00	3.00	179.920	4295.41	176.60S	0.24E	==>	176.60	1379126.49	3302058.75
4400.00	3.00	179.920	4395.27	181.83S	0.24E	==>	181.83	1379121.26	3302058.76
4500.00	3.00	179.920	4495.14	187.06S	0.25E	==>	187.06	1379116.03	3302058.77
4600.00	3.00	179.920	4595.00	192.30S	0.26E	==>	192.30	1379110.79	3302058.77
4700.00	3.00	179.920	4694.86	197.53S	0.26E	==>	197.53	1379105.56	3302058.78
4800.00	3.00	179.920	4794.73	202.76S	0.27E	==>	202.76	1379100.33	3302058.79
4900.00	3.00	179.920	4894.59	207.99S	0.28E	==>	207.99	1379095.10	3302058.79
5000.00	3.00	179.920	4994.45	213.23S	0.28E	==>	213.23	1379089.87	3302058.80
5100.00	3.00	179.920	5094.31	218.46S	0.29E	==>	218.46	1379084.63	3302058.81
5200.00	3.00	179.920	5194.18	223.69S	0.30E	==>	223.69	1379079.40	3302058.81
5300.00	3.00	179.920	5294.04	228.92S	0.31E	==>	228.92	1379074.17	3302058.82
5400.00	3.00	179.920	5393.90	234.16S	0.31E	==>	234.16	1379068.94	3302058.83
5500.00	3.00	179.920	5493.77	239.39S	0.32E	==>	239.39	1379063.70	3302058.83
5600.00	3.00	179.920	5593.63	244.62S	0.33E	==>	244.62	1379058.47	3302058.84
5700.00	3.00	179.920	5693.49	249.85S	0.33E	==>	249.85	1379053.24	3302058.85
5800.00	3.00	179.920	5793.36	255.08S	0.34E	==>	255.09	1379048.01	3302058.86
5900.00	3.00	179.920	5893.22	260.32S	0.35E	==>	260.32	1379042.78	3302058.86
6000.00	3.00	179.920	5993.08	265.55S	0.35E	==>	265.55	1379037.54	3302058.87
6100.00	3.00	179.920	6092.95	270.78S	0.36E	==>	270.78	1379032.31	3302058.88
6200.00	3.00	179.920	6192.81	276.01S	0.37E	==>	276.02	1379027.08	3302058.88
6300.00	2.55	179.920	6292.68	281.16S	0.38E	2.00	281.16	1379021.94	3302058.89
6400.00	0.55	179.920	6392.63	283.86S	0.38E	2.00	283.86	1379019.24	3302058.89
6500.00	0.00	179.920	6492.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
6600.00	0.00	179.920	6592.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
6700.00	0.00	179.920	6692.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
6800.00	0.00	179.920	6792.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
6900.00	0.00	179.920	6892.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
7000.00	0.00	179.920	6992.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
7100.00	0.00	179.920	7092.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
7200.00	0.00	179.920	7192.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
7300.00	0.00	179.920	7292.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
7400.00	0.00	179.920	7392.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
7500.00	0.00	179.920	7492.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
7600.00	0.00	179.920	7592.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
7700.00	0.00	179.920	7692.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
7800.00	0.00	179.920	7792.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
7900.00	0.00	179.920	7892.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
8000.00	0.00	179.920	7992.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
8100.00	0.00	179.920	8092.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
8200.00	0.00	179.920	8192.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
8300.00	0.00	179.920	8292.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
8400.00	0.00	179.920	8392.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
8500.00	0.00	179.920	8492.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
8600.00	0.00	179.920	8592.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
8700.00	0.00	179.920	8692.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
8800.00	0.00	179.920	8792.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
8900.00	0.00	179.920	8892.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
9000.00	0.00	179.920	8992.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
9100.00	0.00	179.920	9092.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
9200.00	0.00	179.920	9192.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
9300.00	0.00	179.920	9292.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
9400.00	0.00	179.920	9392.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
9500.00	0.00	179.920	9492.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
9600.00	0.00	179.920	9592.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
9700.00	0.00	179.920	9692.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
9800.00	0.00	179.920	9792.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89
9900.00	0.00	179.920	9892.63	283.99S	0.38E	==>	283.99	1379019.10	3302058.89

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 4620.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 179.920 degrees
Bottom hole distance is 283.99 Feet on azimuth 179.92 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 23-Mar-2015



INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: NGL C12 (PWB)



Interpolated Wellpath									
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	Northing	Easting
9968.37	0.00	0.000	9961.00	283.99S	0.38E	==>	283.99	1379019.10	3302058.89

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 4620.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 179.920 degrees
Bottom hole distance is 283.99 Feet on azimuth 179.92 degrees from Wellhead
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INTEGRATED PETROLEUM TECHNOLOGIES, INC
SYSDRILL
Well Design Combined Report
Wellbore: NGL C12 (PWB)



Targets

Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting	Last Revised
NGL C12 - T1	283.99S	0.38E	6420.00	40.36874052	-104.41592110	1379019.10	3302058.89	2-Jun-2014
NGL C12 - T2	283.99S	0.38E	9961.00	40.36874052	-104.41592110	1379019.10	3302058.89	2-Jun-2014

Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
363224	Planned	9968.37	9961.00	WdW Gyro	Poor Gyro

Notes

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 4620.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 179.920 degrees
Bottom hole distance is 283.99 Feet on azimuth 179.92 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Integrated Petroleum Technologies, Inc.
Date Printed: 23-Mar-2015



SYSDRILL
Closest Approach + Clearance Factor Summary Report
Wellbore: NGL C12 (PWB)



Ellipse separations are reported ONLY if BOTH wells have uncertainty data
Only Depth and Magnetic Reference Field error terms are correlated across tie points
Scan limit is calculated on CENTRE to CENTRE distance

Summary data uses Closest Approach clearance calculation for all minima
Hole size/Casings ARE included
Hole size/Casings are NOT subtracted from Centre-Centre distance
Confidence limit of 95.00% / 2.80 SD.

Wellbore		
Name	Created	Last Revised
NGL C12 (PWB)	19-Mar-2015	23-Mar-2015

Well		
Name	Government ID	Last Revised
NGL C12		19-Mar-2015

Slot						
Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
NGL C12	1379303.0816	3302058.5157	40.36952000	-104.41591000	0.00N	0.00E

Installation				
Name	Easting	Northing	Coord System Name	North Alignment
NGL C12	3302058.5157	1379303.0816	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Field				
Name	Easting	Northing	Coord System Name	North Alignment
Wattenberg	3224065.1116	1343637.7116	CO83-NF on NORTH AMERICAN DATUM 1983 datum	Grid

Clearance Summary								
Offset Wellbore	Offset Structure	Separation [ft]	MD[ft]	Diverging From[ft]	Ellipse Separation [ft]	Ellipse MD[ft]	Clearance Factor	Clearance MD[ft]
70 Ranch 5-63-27-33H (AWB)	NGL C12 Offsets	175.04	6481.67	6481.67	110.23	6481.67	2.70	6481.67
Helton #5-63-27-3340C DH (AWB)	NGL C12 Offsets	371.63	6556.38	6556.38	219.96	6556.38	2.45	6556.38
70 Ranch #5-63-27-48H (AWB)	NGL C12 Offsets	426.55	6146.67	6146.67	365.35	6146.67	6.96	6176.57