

# Magpie Operating

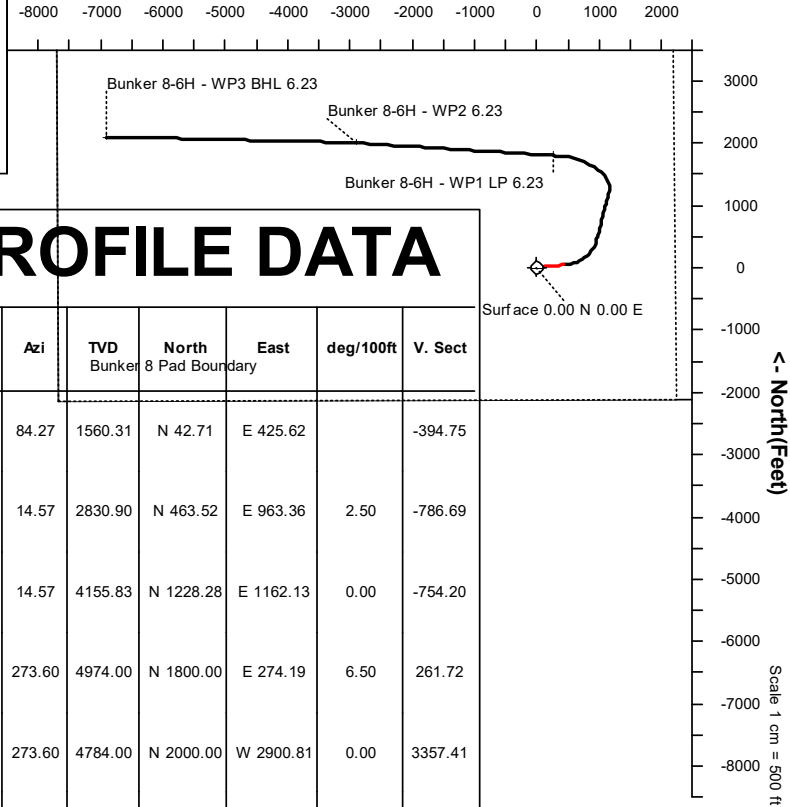
Location	DJ Basin	Slot	Bunker 8-6H
Field	Loveland Field	Well	Bunker 8-6H
Installation	Bunker 8 Pad	Wellbore	Bunker 8-6H (PWB) - 8.11.23_Permitted AWB Tie-In Surface w/ Update BHL/FTP_v2

Created by johnny.musso  
Date plotted 15AUG2023

Pitc reference is Bunker 8-6H (PWB) - 8.11.23\_Permitted AWB Tie-In Surface w/ Update BHL/FTP\_v2  
Ref wellpath is Bunker 8-6H (PWP#1)  
Coordinates are in Feet reference Bunker 8-6H.  
True Vertical Depths are reference Rig Datum.  
Measured Depths are reference Rig Datum.  
Rig Datum Planned Datum at  
Rig Datum to Mean Sea Level: 5014.00 ft.  
Pitc North is aligned to GRID North.

Scale 1 cm = 500 ft

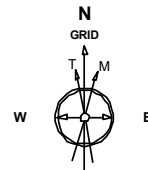
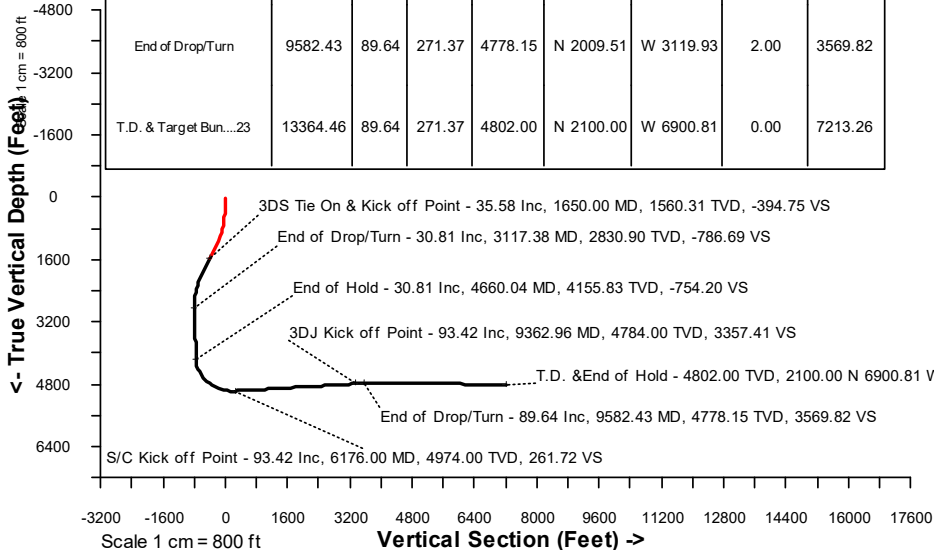
East (Feet) ->



## WELL PROFILE DATA

Point	MD	Inc	Azi	TVD Bunker 8 Pad Boundary	North	East	deg/100ft	V. Sect
KOP	1650.00	35.58	84.27	1560.31	N 42.71	E 425.62		-394.75
End of Drop/Turn	3117.38	30.81	14.57	2830.90	N 463.52	E 963.36	2.50	-786.69
End of Hold	4660.04	30.81	14.57	4155.83	N 1228.28	E 1162.13	0.00	-754.20
Target Bunker...P 6.23	6176.00	93.42	273.60	4974.00	N 1800.00	E 274.19	6.50	261.72
Target Bunker...2 6.23	9362.96	93.42	273.60	4784.00	N 2000.00	W 2900.81	0.00	3357.41
End of Drop/Turn	9582.43	89.64	271.37	4778.15	N 2009.51	W 3119.93	2.00	3569.82
T.D. & Target Bun....23	13364.46	89.64	271.37	4802.00	N 2100.00	W 6900.81	0.00	7213.26

True Vertical Depth (Feet) 1 cm = 800 ft



Jan-27-2021  
EIM-2017 Dip: 66.55 deg Field: 51905.5 nT  
Lat: N40 22 9.2280 Long: W105 1 55.2360 Elev: 4997.00 ft  
Magnetic North is 8.19 deg East of True North  
GRID North is 0.30 deg East of True North  
To correct azimuth from True to GRID subtract 0.30 deg  
To correct azimuth from Magnetic to GRID add 7.89 deg

Scale 1 cm = 800 ft  
Azimuth 286.93 with reference 0.00 N, 0.00 E from Bunker 8-6H

SYSDRILL  
Well Design Combined Report  
Wellbore: Bunker 8-6H (PWB) - 8.11.23 Permitted AWB Tie-In Surface w/ Update  
BHL/FTP v2

Wellhead Details							
Name	Latitude	Longitude	Northing	Easting	North	East	Slot Elevation Above Ground
Bunker 8-6H	40.36964999	-105.03200710	1377848.1124	3130398.6150	153.01N	0.00E	0.00

Declination			
Date	Source	Time	
Nov-23-2021	EMM-2017	14:06	
Nov-23-2021	EMM-2017	14:10	
Aug-11-2023	IGRF-13	07:40	
Aug-11-2023	IGRF-13	07:56	
Aug-11-2023	IGRF-13	10:05	
Aug-16-2023	IGRF-13	13:29	
Aug-16-2023	IGRF-13	12:51	
Jan-27-2021	EMM-2017	11:46	
Aug-16-2023	IGRF-13	13:37	

Installation Details						
Name	Installation Position (Latitude)	Installation Position (Longitude)	Northing	Easting	Coord System Name	North Alignment
Bunker 8 Pad	40.36923000	-105.03201000	1377695.1087	3130398.6150	NAD83 Colorado State Planes, North Zone, US Foot	Grid

Summary Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	Vertical Depth SS	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]
1650.00	35.57	84.27	1560.31	-3453.69	42.71N	425.62E		-394.75
3117.38	30.81	14.57	2830.90	-2183.10	463.52N	963.36E	2.50	-786.69
4660.04	30.81	14.57	4155.83	-858.17	1228.28N	1162.13E	==>	-754.20
6176.00	93.42	273.60	4974.00	-40.00	1800.00N	274.19E	6.50	261.72
9362.96	93.42	273.60	4784.00	-230.00	2000.00N	2900.81W	==>	3357.41
9582.43	89.64	271.37	4778.15	-235.85	2009.51N	3119.93W	2.00	3569.82
13364.46	89.64	271.37	4802.00	-212.00	2100.00N	6900.81W	==>	7213.26

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	0.00	0.00	0.00N	0.00E		0.00	
27.00	0.00	0.00	27.00	0.00N	0.00E	==>	0.00	Slot Datum
227.00	0.00	0.00	227.00	0.00N	0.00E	==>	0.00	
327.00	2.50	84.27	326.97	0.22N	2.17E	2.50	-2.01	
427.00	5.00	84.27	426.75	0.87N	8.68E	2.50	-8.05	
527.00	7.50	84.27	526.14	1.96N	19.51E	2.50	-18.09	
627.00	10.00	84.27	624.97	3.48N	34.64E	2.50	-32.13	
727.00	12.50	84.27	723.04	5.42N	54.05E	2.50	-50.13	
827.00	15.00	84.27	820.17	7.80N	77.70E	2.50	-72.07	
927.00	17.50	84.27	916.17	10.59N	105.54E	2.50	-97.89	
1027.00	20.00	84.27	1010.85	13.80N	137.52E	2.50	-127.55	
1127.00	22.50	84.27	1104.05	17.42N	173.58E	2.50	-160.99	
1227.00	25.00	84.27	1195.57	21.44N	213.65E	2.50	-198.16	
1327.00	27.50	84.27	1285.25	25.85N	257.66E	2.50	-238.97	
1427.00	30.00	84.27	1372.92	30.66N	305.51E	2.50	-283.35	
1527.00	32.50	84.27	1458.40	35.83N	357.13E	2.50	-331.22	
1627.00	35.00	84.27	1541.54	41.38N	412.40E	2.50	-382.49	
1650.00	35.57	84.27	1560.31	42.71N	425.62E	==>	-394.75	Sidetrack Tie
1750.00	34.14	80.69	1642.38	50.15N	482.27E	2.50	-446.77	
1850.00	32.82	76.84	1725.79	60.87N	536.35E	2.50	-495.40	
1950.00	31.62	72.72	1810.41	74.82N	587.78E	2.50	-540.53	
2050.00	30.57	68.33	1896.05	92.00N	636.45E	2.50	-582.09	
2150.00	29.67	63.68	1982.56	112.36N	682.27E	2.50	-620.00	
2250.00	28.94	58.79	2069.78	135.88N	725.15E	2.50	-654.18	
2350.00	28.39	53.71	2157.53	162.49N	765.01E	2.50	-684.57	
2450.00	28.04	48.47	2245.66	192.15N	801.78E	2.50	-711.10	
2550.00	27.90	43.15	2333.99	224.81N	835.38E	2.50	-733.74	
2650.00	27.96	37.81	2422.36	260.41N	865.75E	2.50	-752.44	

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 5014.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 286.93 degrees  
Bottom hole distance is 7213.26 Feet on azimuth 286.93 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by  
Date Printed: 18-Aug-2023

SYSDRILL  
Well Design Combined Report  
Wellbore: Bunker 8-6H (PWB) - 8.11.23\_Permitted AWB Tie-In Surface w/ Update  
BHL/FTP v2

Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
2750.00	28.22	32.53	2510.60	298.87N	892.84E	2.50	-767.15	
2850.00	28.68	27.37	2598.54	340.12N	916.58E	2.50	-777.86	
2950.00	29.33	22.39	2686.00	384.09N	936.95E	2.50	-784.54	
3050.00	30.16	17.63	2772.84	430.68N	953.89E	2.50	-787.19	
3150.00	30.81	14.57	2858.92	479.69N	967.56E	==>	-786.00	
3250.00	30.81	14.57	2944.81	529.26N	980.45E	==>	-783.89	
3350.00	30.81	14.57	3030.69	578.84N	993.33E	==>	-781.79	
3450.00	30.81	14.57	3116.58	628.41N	1006.22E	==>	-779.68	
3550.00	30.81	14.57	3202.47	677.99N	1019.10E	==>	-777.58	
3650.00	30.81	14.57	3288.35	727.56N	1031.99E	==>	-775.47	
3750.00	30.81	14.57	3374.24	777.13N	1044.87E	==>	-773.36	
3850.00	30.81	14.57	3460.12	826.71N	1057.76E	==>	-771.26	
3950.00	30.81	14.57	3546.01	876.28N	1070.64E	==>	-769.15	
4050.00	30.81	14.57	3631.90	925.86N	1083.53E	==>	-767.05	
4150.00	30.81	14.57	3717.78	975.43N	1096.41E	==>	-764.94	
4250.00	30.81	14.57	3803.67	1025.00N	1109.30E	==>	-762.84	
4350.00	30.81	14.57	3889.55	1074.58N	1122.18E	==>	-760.73	
4450.00	30.81	14.57	3975.44	1124.15N	1135.07E	==>	-758.62	
4550.00	30.81	14.57	4061.32	1173.73N	1147.95E	==>	-756.52	
4650.00	30.81	14.57	4147.21	1223.30N	1160.84E	==>	-754.41	
4750.00	30.53	3.11	4233.28	1273.43N	1169.17E	6.50	-747.79	
4850.00	31.39	350.56	4319.12	1324.53N	1166.27E	6.50	-730.14	
4950.00	33.39	338.99	4403.65	1375.96N	1152.12E	6.50	-701.63	
5050.00	36.34	328.84	4485.76	1427.05N	1126.90E	6.50	-662.63	
5150.00	40.02	320.17	4564.41	1477.15N	1090.94E	6.50	-613.64	
5250.00	44.26	312.81	4638.59	1525.61N	1044.70E	6.50	-555.29	
5350.00	48.90	306.54	4707.34	1571.82N	988.77E	6.50	-488.33	
5450.00	53.84	301.12	4769.78	1615.16N	923.87E	6.50	-413.63	
5550.00	58.99	296.36	4825.10	1655.10N	850.83E	6.50	-332.13	
5650.00	64.30	292.09	4872.59	1691.11N	770.60E	6.50	-244.89	
5750.00	69.72	288.19	4911.65	1722.73N	684.21E	6.50	-153.03	
5850.00	75.22	284.56	4941.77	1749.56N	592.77E	6.50	-57.74	
5950.00	80.78	281.11	4962.56	1771.25N	497.44E	6.50	39.77	
6050.00	86.36	277.77	4973.76	1787.53N	399.47E	6.50	138.24	
6150.00	91.96	274.46	4975.22	1798.17N	300.10E	6.50	236.40	
6176.00	93.42	273.60	4974.00	1800.00N	274.19E	6.50	261.72	Bunker 8-6H - WP1 LP 6.23
6250.00	93.42	273.60	4969.59	1804.64N	200.47E	==>	333.60	
6350.00	93.42	273.60	4963.63	1810.92N	100.85E	==>	430.73	
6450.00	93.42	273.60	4957.66	1817.19N	1.22E	==>	527.87	
6550.00	93.42	273.60	4951.70	1823.47N	98.40W	==>	625.01	
6650.00	93.42	273.60	4945.74	1829.74N	198.03W	==>	722.14	
6750.00	93.42	273.60	4939.78	1836.02N	297.65W	==>	819.28	
6850.00	93.42	273.60	4933.82	1842.30N	397.28W	==>	916.41	
6950.00	93.42	273.60	4927.86	1848.57N	496.90W	==>	1013.55	
7050.00	93.42	273.60	4921.89	1854.85N	596.52W	==>	1110.69	
7150.00	93.42	273.60	4915.93	1861.12N	696.15W	==>	1207.82	
7250.00	93.42	273.60	4909.97	1867.40N	795.77W	==>	1304.96	
7350.00	93.42	273.60	4904.01	1873.67N	895.40W	==>	1402.10	
7450.00	93.42	273.60	4898.05	1879.95N	995.02W	==>	1499.23	
7550.00	93.42	273.60	4892.09	1886.22N	1094.65W	==>	1596.37	
7650.00	93.42	273.60	4886.12	1892.50N	1194.27W	==>	1693.50	
7750.00	93.42	273.60	4880.16	1898.78N	1293.90W	==>	1790.64	
7850.00	93.42	273.60	4874.20	1905.05N	1393.52W	==>	1887.78	
7950.00	93.42	273.60	4868.24	1911.33N	1493.15W	==>	1984.91	
8050.00	93.42	273.60	4862.28	1917.60N	1592.77W	==>	2082.05	
8150.00	93.42	273.60	4856.31	1923.88N	1692.40W	==>	2179.19	
8250.00	93.42	273.60	4850.35	1930.15N	1792.02W	==>	2276.32	
8350.00	93.42	273.60	4844.39	1936.43N	1891.65W	==>	2373.46	
8450.00	93.42	273.60	4838.43	1942.70N	1991.27W	==>	2470.60	
8550.00	93.42	273.60	4832.47	1948.98N	2090.89W	==>	2567.73	

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 5014.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 286.93 degrees  
Bottom hole distance is 7213.26 Feet on azimuth 286.93 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by  
Date Printed: 18-Aug-2023

SYSDRILL  
Well Design Combined Report  
Wellbore: Bunker 8-6H (PWB) - 8.11.23\_Permitted AWB Tie-In Surface w/ Update  
BHL/FTP\_v2

Interpolated Wellpath								
MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]	All Station Comments
8650.00	93.42	273.60	4826.51	1955.26N	2190.52W	==>	2664.87	
8750.00	93.42	273.60	4820.54	1961.53N	2290.14W	==>	2762.00	
8850.00	93.42	273.60	4814.58	1967.81N	2389.77W	==>	2859.14	
8950.00	93.42	273.60	4808.62	1974.08N	2489.39W	==>	2956.28	
9050.00	93.42	273.60	4802.66	1980.36N	2589.02W	==>	3053.41	
9150.00	93.42	273.60	4796.70	1986.63N	2688.64W	==>	3150.55	
9250.00	93.42	273.60	4790.73	1992.91N	2788.27W	==>	3247.69	
9350.00	93.42	273.60	4784.77	1999.18N	2887.89W	==>	3344.82	
9362.96	93.42	273.60	4784.00	2000.00N	2900.81W	==>	3357.41	Bunker 8-6H - WP2 6.23
9450.00	91.92	272.72	4779.95	2004.79N	2987.61W	2.00	3441.86	
9550.00	90.20	271.70	4778.10	2008.65N	3087.52W	2.00	3538.55	
9650.00	89.64	271.37	4778.57	2011.13N	3187.48W	==>	3634.91	
9750.00	89.64	271.37	4779.20	2013.52N	3287.45W	==>	3731.25	
9850.00	89.64	271.37	4779.83	2015.92N	3387.42W	==>	3827.59	
9950.00	89.64	271.37	4780.47	2018.31N	3487.39W	==>	3923.92	
10050.00	89.64	271.37	4781.10	2020.70N	3587.36W	==>	4020.26	
10150.00	89.64	271.37	4781.73	2023.09N	3687.33W	==>	4116.59	
10250.00	89.64	271.37	4782.36	2025.49N	3787.30W	==>	4212.93	
10350.00	89.64	271.37	4782.99	2027.88N	3887.27W	==>	4309.26	
10450.00	89.64	271.37	4783.62	2030.27N	3987.24W	==>	4405.60	
10550.00	89.64	271.37	4784.25	2032.66N	4087.21W	==>	4501.93	
10650.00	89.64	271.37	4784.88	2035.06N	4187.18W	==>	4598.27	
10750.00	89.64	271.37	4785.51	2037.45N	4287.15W	==>	4694.61	
10850.00	89.64	271.37	4786.14	2039.84N	4387.12W	==>	4790.94	
10950.00	89.64	271.37	4786.77	2042.23N	4487.09W	==>	4887.28	
11050.00	89.64	271.37	4787.40	2044.63N	4587.06W	==>	4983.61	
11150.00	89.64	271.37	4788.03	2047.02N	4687.03W	==>	5079.95	
11250.00	89.64	271.37	4788.66	2049.41N	4786.99W	==>	5176.28	
11350.00	89.64	271.37	4789.30	2051.80N	4886.96W	==>	5272.62	
11450.00	89.64	271.37	4789.93	2054.20N	4986.93W	==>	5368.96	
11550.00	89.64	271.37	4790.56	2056.59N	5086.90W	==>	5465.29	
11650.00	89.64	271.37	4791.19	2058.98N	5186.87W	==>	5561.63	
11750.00	89.64	271.37	4791.82	2061.37N	5286.84W	==>	5657.96	
11850.00	89.64	271.37	4792.45	2063.76N	5386.81W	==>	5754.30	
11950.00	89.64	271.37	4793.08	2066.16N	5486.78W	==>	5850.63	
12050.00	89.64	271.37	4793.71	2068.55N	5586.75W	==>	5946.97	
12150.00	89.64	271.37	4794.34	2070.94N	5686.72W	==>	6043.30	
12250.00	89.64	271.37	4794.97	2073.33N	5786.69W	==>	6139.64	
12350.00	89.64	271.37	4795.60	2075.73N	5886.66W	==>	6235.98	
12450.00	89.64	271.37	4796.23	2078.12N	5986.63W	==>	6332.31	
12550.00	89.64	271.37	4796.86	2080.51N	6086.60W	==>	6428.65	
12650.00	89.64	271.37	4797.49	2082.90N	6186.57W	==>	6524.98	
12750.00	89.64	271.37	4798.12	2085.30N	6286.54W	==>	6621.32	
12850.00	89.64	271.37	4798.76	2087.69N	6386.51W	==>	6717.65	
12950.00	89.64	271.37	4799.39	2090.08N	6486.47W	==>	6813.99	
13050.00	89.64	271.37	4800.02	2092.47N	6586.44W	==>	6910.32	
13150.00	89.64	271.37	4800.65	2094.87N	6686.41W	==>	7006.66	
13250.00	89.64	271.37	4801.28	2097.26N	6786.38W	==>	7103.00	
13350.00	89.64	271.37	4801.91	2099.65N	6886.35W	==>	7199.33	
13364.46	89.64	271.37	4802.00	2100.00N	6900.81W	==>	7213.26	Bunker 8-6H - WP3 BHL 6.23

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Coordinates are from Slot MD's are from Rig and TVD's are from Rig ( Planned Datum #1 5014.0ft above Mean Sea Level )  
Vertical Section is from 0.00N 0.00E on azimuth 286.93 degrees  
Bottom hole distance is 7213.26 Feet on azimuth 286.93 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by  
Date Printed: 18-Aug-2023

SYSDRILL  
 Well Design Combined Report  
 Wellbore: Bunker 8-6H (PWB) - 8.11.23\_Permitted AWB Tie-In Surface w/ Update  
 BHL/FTP\_v2

Targets							
Name	North[ft]	East[ft]	TVD[ft]	Latitude	Longitude	Northing	Easting
Bunker 8-6H - WP1 LP 6.23	1800.00N	274.19E	4974.00	40.37458678	-105.03098894	1379648.03	3130672.80
Bunker 8-6H - WP2 6.23	2000.00N	2900.81W	4784.00	40.37518129	-105.04238025	1379848.02	3127497.93
Bunker 8-6H - WP3 BHL 6.23	2100.00N	6900.81W	4802.00	40.37551156	-105.05673453	1379948.02	3123498.10

Survey Tool Program						
Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model	
1157741	Bunker 8-6H_Aproved Permitted_Ensign	1650.00	1560.31	ISCWSA MWD	Rev 4 + AX + SAG + FLT	
1157795	Planned	13364.46	4802.00	ISCWSA MWD	Rev 4	

Notes