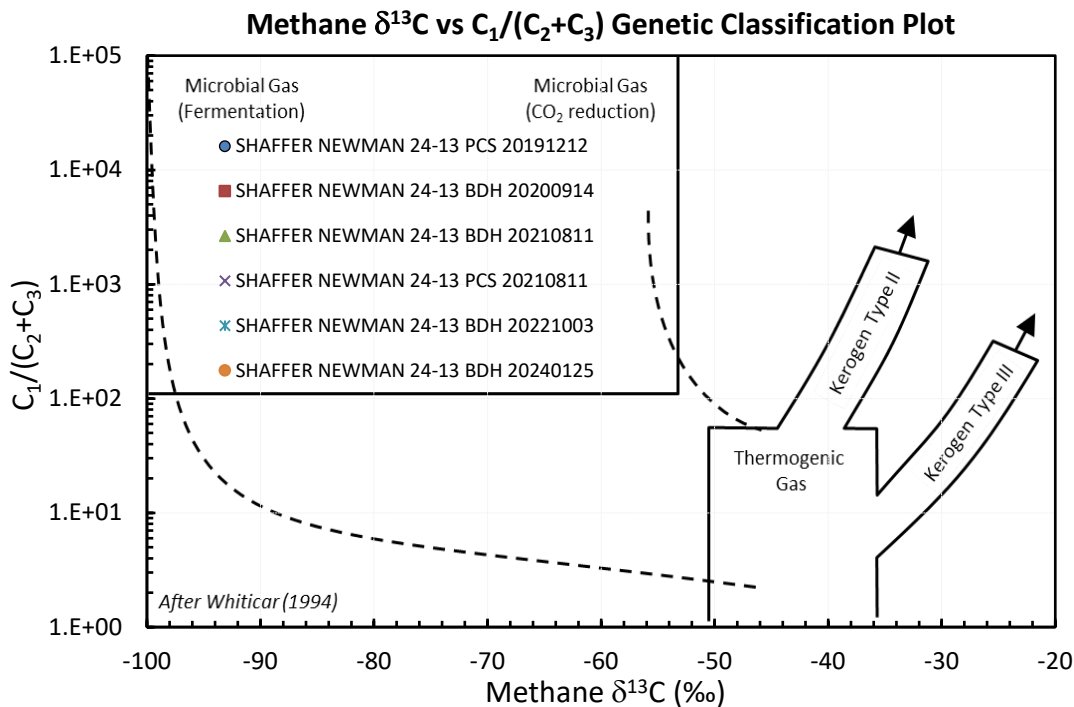
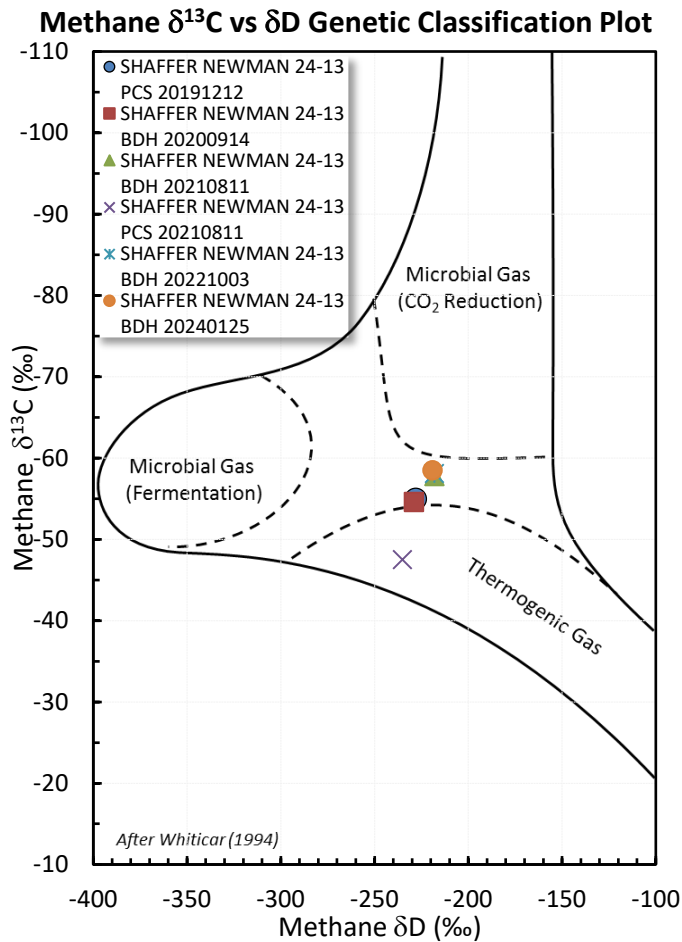
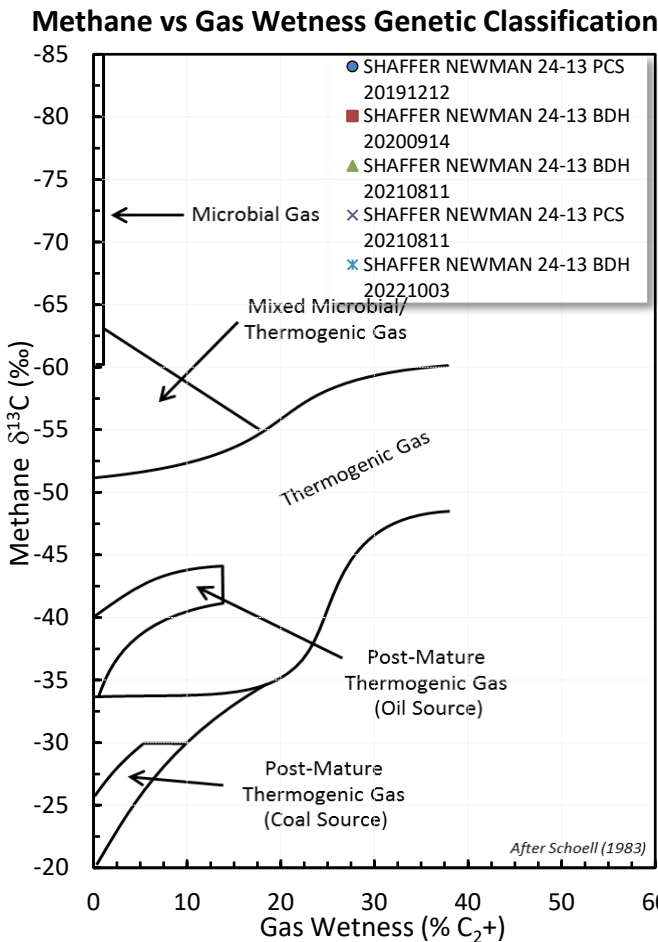
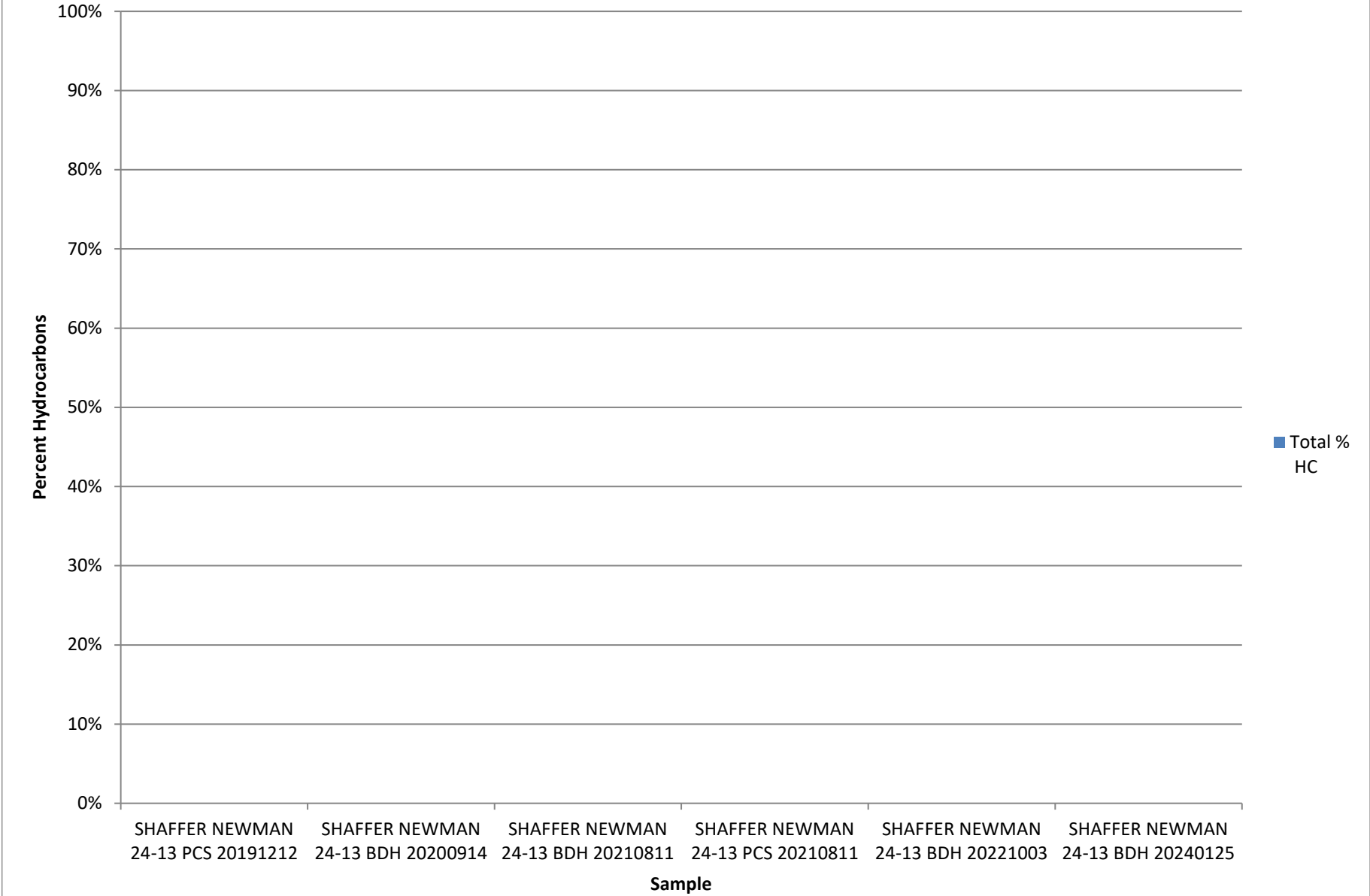


Stable Isotope Interpretive Plots



Total Percent Hydrocarbons



GAS COMPOSITION

GAS COMPOSITION (MOL %)

Parameter

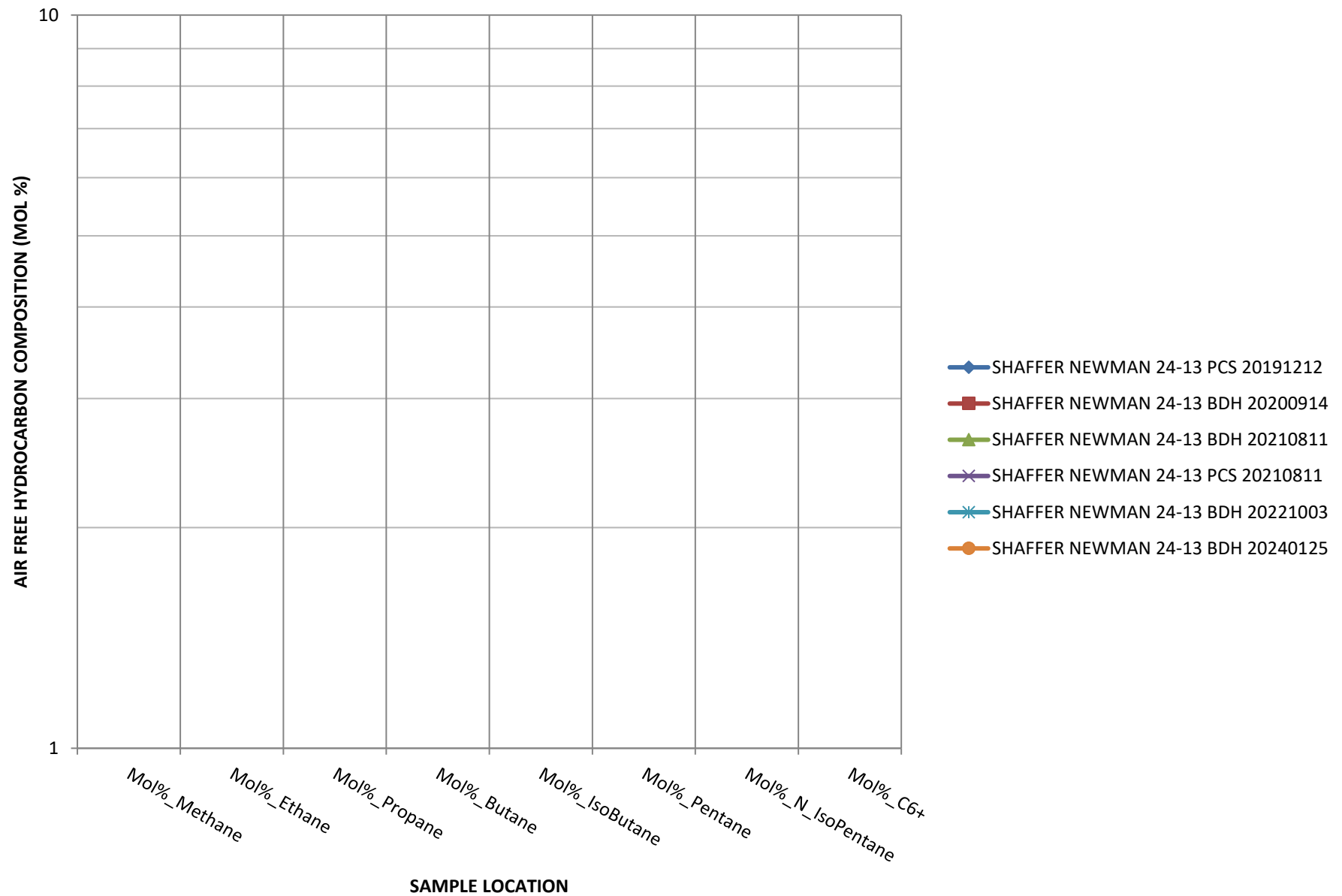
Legend:

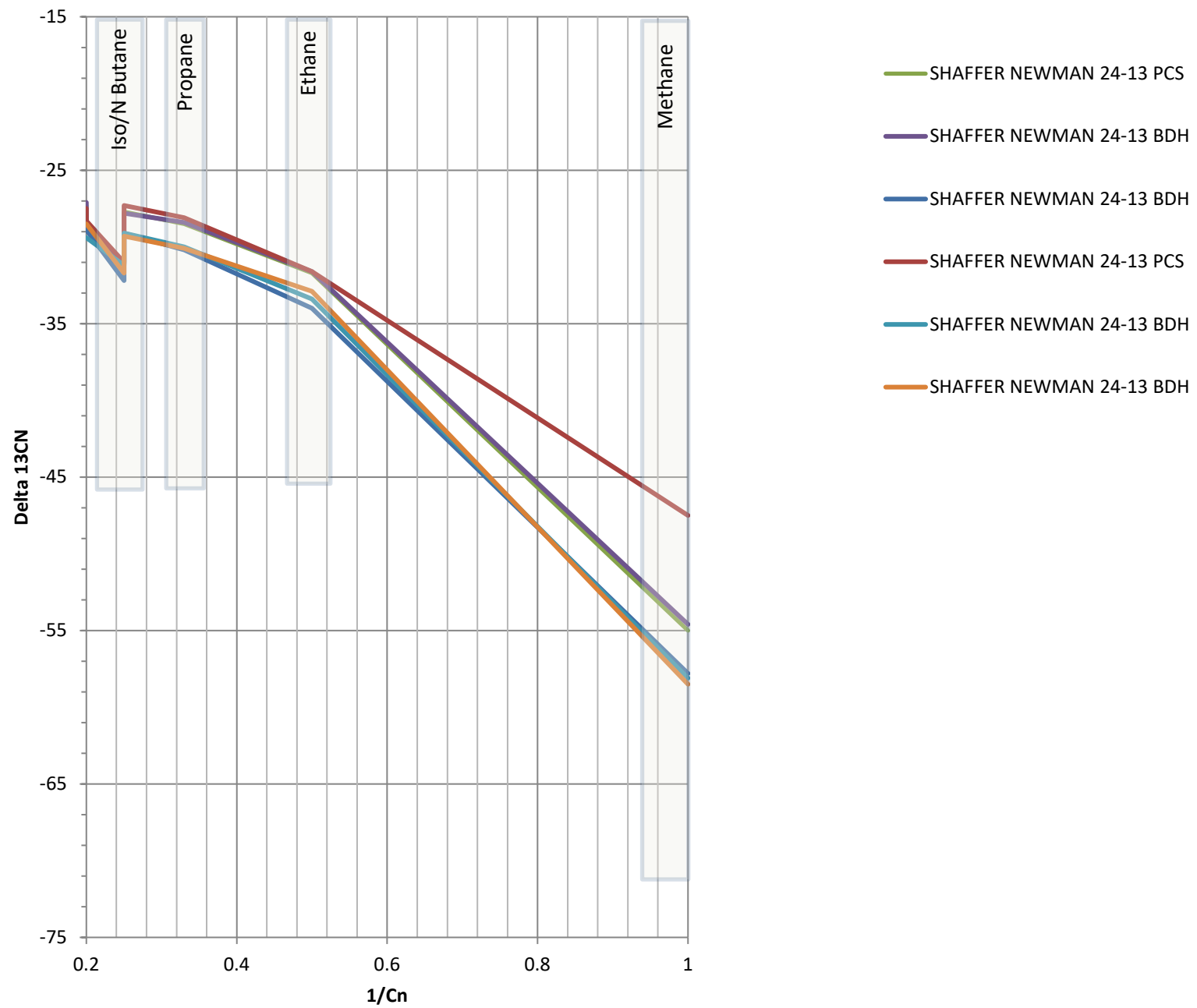
- SHAFFER NEWMAN 24-13 PCS 20191212
- SHAFFER NEWMAN 24-13 BDH 20200914
- SHAFFER NEWMAN 24-13 BDH 20210811
- SHAFFER NEWMAN 24-13 PCS 20210811
- SHAFFER NEWMAN 24-13 BDH 20221003
- SHAFFER NEWMAN 24-13 BDH 20221003

Parameter	SHAFFER NEWMAN 24-13 PCS 20191212	SHAFFER NEWMAN 24-13 BDH 20200914	SHAFFER NEWMAN 24-13 BDH 20210811	SHAFFER NEWMAN 24-13 PCS 20210811	SHAFFER NEWMAN 24-13 BDH 20221003	SHAFFER NEWMAN 24-13 BDH 20221003
Mol%_Nitrogen	3.0	2.0	4.5	0.7	4.0	4.5
Mol%_Oxygen	0.2	0.15	0.45	0.25	0.15	0.15
Mol%_Argon	0.02	0.015	0.035	0.01	0.01	0.01
Mol%_O2+AR	0.5	1.0	0.01	1.8	0.01	0.01
Mol%_CarbonDiOxide	0.05	0.045	0.08	0.09	0.09	0.1
Mol%_CarbonMonoxide	0.2	0.05	0.05	0.05	0.05	0.05
Mol%_hydrogen	80	75	85	70	90	95
Mol%_Methane	6.0	8.0	2.0	13	2.0	1.8
Mol%_Ethane	3.0	4.5	1.0	6.0	1.0	0.7
Mol%_Propane	1.3	2.2	0.2	2.0	0.25	0.15
Mol%_Butane	0.65	0.9	0.25	0.9	0.25	0.18
Mol%_IsoButane	0.4	1.0	0.04	0.45	0.05	0.03
Mol%_N_Pentane	0.4	0.85	0.06	0.45	0.07	0.05
Mol%_C6+	0.2	0.4	0.025	0.065	0.08	0.02

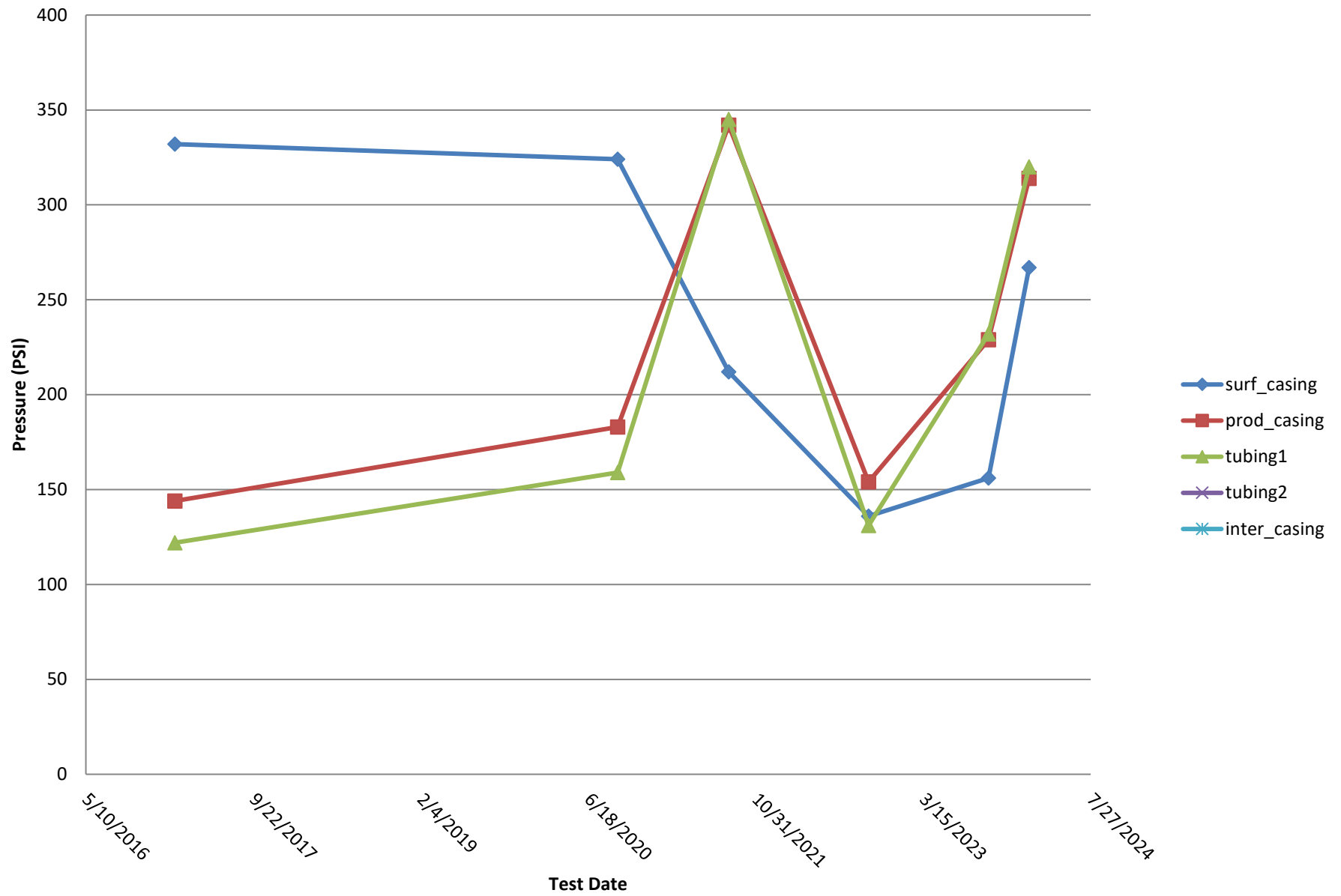
- SHAFFER NEWMAN 24-13 PCS
20191212
- SHAFFER NEWMAN 24-13
BDH 20200914
- SHAFFER NEWMAN 24-13
BDH 20210811
- SHAFFER NEWMAN 24-13 PCS
20210811
- SHAFFER NEWMAN 24-13
BDH 20221003

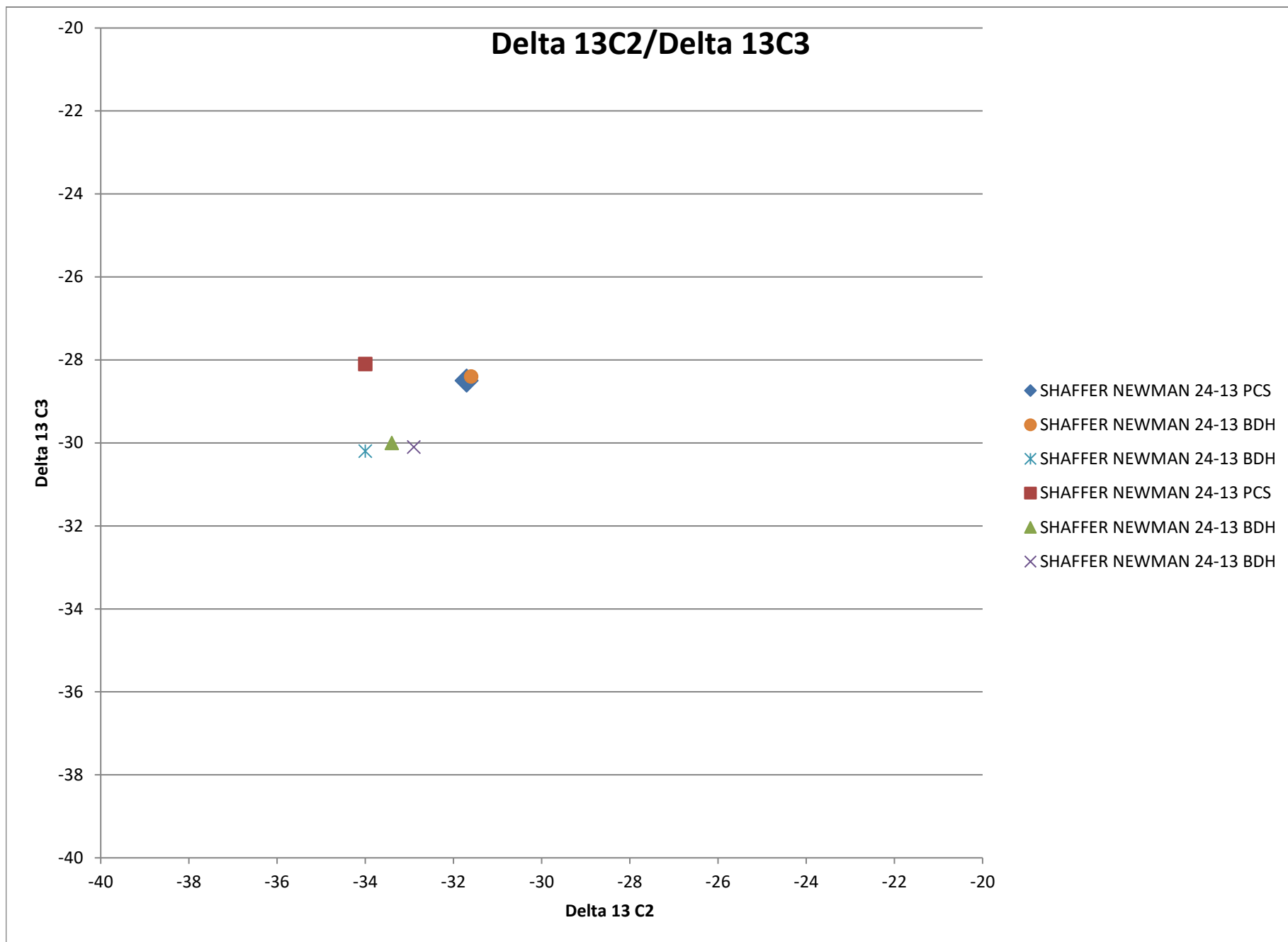
HYDROCARBON COMPOSITION



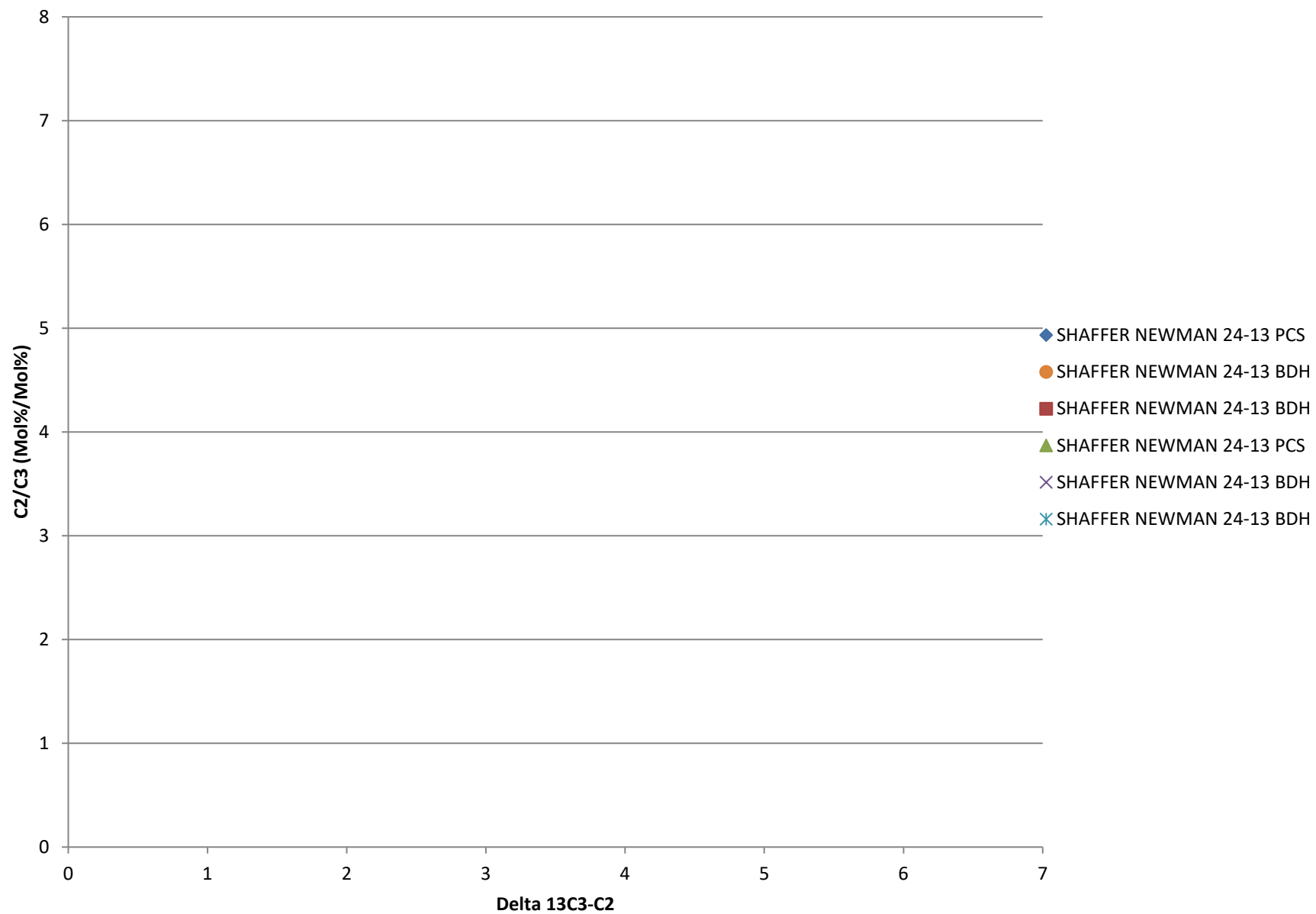


Bradenhead Test Summary





Delta13 C2/C3 vs. Delta 13C3-C2



Delta 13 IC4/ Delta NC4

