Appendix C:_Fuel and Filter Samples Index

Sample name	Sample location	Type of test(s) run	Problem to be addressed	Results
FS-1	Fuel from dispensing rack #1	TAN/KF/CP/BF	This fuel is from a facility that is not experiencing problems.	Test results show fuel falls within expected parameters.
FS-3	Fuel drained from vehicle fuel tank. ULSD B20 in a Ford F450	TAN/KF/CP/BF	Kings County Bellevue reports few problems.	While Test results show fuel falls within expected parameters, the TAN of 0.14 KOH/g is the highest of all samples tested. This indicates higher glycerols and free fatty acids than other samples.
FS-4	Fuel drained from vehicle fuel tank. ULSD B20, unknown vehicle. Sample provided by transit manager at City of Seattle Kenmore base.	TAN/KF/CP/BF	Fuel from vehicle taken as control sample	Test results show fuel falls within expected parameters.
FS-5	Yellow liquid found in fuel drained from vehicle filter. ULSD B20, unknown vehicle	UA (FT-IR and GC-MS)	Unusual material that could cause filter-plugging.	Analysis revealed glycerol and related compounds. GC-MS detected material that was primarily biodiesel (FAMEs).
FS-7	Vaseline 'goo' scraped from fuel filter. ULSD B20 in a 2001 International chassis All fuel run through 10 micron filter at delivery.	UA (FT-IR and GC-MS)	Unusual material in fuel filter could impair vehicle operation.	Testing revealed a variety of long chain hydrocarbons, including some waxy compounds (Methyl linoleate, methyl stearate, decyclstearate)
FS-8	Fuel from dispenser. ULSD B20	TAN/KF/CP/BF	This sample was taken from Intercity Transit in Olympia as a quality control sample	Test results show fuel falls within expected parameters, although water level was the highest of any sample tested.
FS-12	Fuel drained from dispenser filter. ULSD B5	TAN/KF/CP/BF	Fuel sample taken at the dispenser and had black particles in it.	Test results show fuel falls within expected parameters.. Black particles are probably scale or contaminants in plumbing system.
FS-13	Dark sludge scraped from dispenser filter canister. ULSD B5	MIB	Microbial growth; Possible contamination in storage There was a large amount of black precipitate in this samples	No microbial growth could be detected due to the coloration of the sample and presence of sediment in the sample.
FS-15	Paper dispenser filter, ULSD B5	UA (FT-IR and GC-MS)	A semi-solid material was retrieved from a fuel dispenser filter at the Ryerson base. The transit manager supplied this filter and the date it was used is unknown.	Material is primarily glycerol monostearate (a waxy substance). Additional material physically removed from the same filter was FAMEs.
FS-16	Fuel filter from coach with about 6,000 miles use. ULSD B5	UA (FT-IR and GC-MS)		Extraction from this filter revealed a mix of diesel-fuel type hydrocarbons and FAMEs.
FS-19	Separated fuel sample – black viscous liquid below diesel fuel. Material obtained from fuel filter. ULSD B20	UA (FT-IR and GC-MS)	Suspected filter plugging.	The black viscous layer revealed glycerol and other compounds with relatively high melting points (over 130 F).
FS-22	Fuel collected from the fuel tank of vehicle # 3434 at King County Ryerson base. ULSD blended as B20.	UA (FT-IR and GC-MS)	A heavy black viscous layer had separated from the fuel sample and settled to the bottom of the collection vessel.	The black material contains primarily glycerol with some fatty acid methyl esters, and a relatively large amount of a free fatty acid. Could be the result of residual material that entered the fuel tanks from a single delivery of off-specification fuel and is persisting in the fuel system
FS-24	Vehicle filter at King County Ryerson Base.	UA (FT-IR and GC-MS)	Random checks for current fuel problems.	Extraction from this filter revealed a mix of diesel-fuel type hydrocarbons and biodiesel (FAMEs).