



## Report Series F- Groundwater & Surface Water Quality

### Organic Constituents

The surface water sampling programs at Pebble have included a limited number of samples analyzed in order to screen for any pre-existing organic contaminants. Organic analysis, however, are not included as part of the larger routine sampling effort conducted to characterize naturally occurring background inorganic constituents. The groundwater sampling programs have not included organic analysis.

The QAPP for each year contains a listing of the organic constituents planned for analysis, the analytical methods used and the required detection limits. A summary of samples and analysis for each program follows:

- The resource deposit area included stream locations NK100, NK100C, SK100A, SK100G, UT100A and UT100D - each sampled on three occasions in August 2004, October 2004 and July of 2007 for a broad suite of PCBs, Pesticides, Volatile and Semi-Volatile organic constituents. These same sites were also sampled once in June of 2007 for three petroleum hydrocarbon analyses; Gasoline Range Organics(GRO), Diesel Range Organics (DRO) and Residual Range Organics (RRO). None of the primary samples analyzed from this sampling effort had any of the organic contaminate parameters reported at or above their applicable reporting limits.
- The transportation corridor locations GS7A, GS17A and GS20 were each sampled a single time in October 2004 for a broad suite of PCBs, Pesticides, Volatile and Semi-Volatile organic constituents. None of the primary samples analyzed from this sampling effort had any of the organic contaminate parameters reported at or above their applicable reporting limits.
- Iliamna Lake water was sampled for a broad suite of PCBs, Pesticides, Volatile and Semi-Volatile organic constituents. Surface, middle and bottom depths from Knutson Bay, Pile Bay, Northeast Bay, Roadhouse Bay and Upper Talarik locations were each sampled in June and September of 2005 and 2007 for a total of sixty samples for each analysis. Additionally, both of the 2007 samplings for all of these locations also included analysis for GRO, DRO and RRO. A total of 9161 primary sample individual parameter organic analysis results were produced by these analysis. None of the results reported contained organic parameters above their respective MRLs. Fifteen of these results contained estimated (J Flagged) quantities of organic parameters below the PQL but above the MDL. The organic constituents detected suggest sporadic low levels of solvents and fuel derived hydrocarbons. A summary table of detected organic constituents from the Iliamna Lake study follows:



**2005-2007 Iliamna Lake Study  
Summary of Detected Organic Constituents**

Sample Location	Sample Date	Analytical Method	Parameter	Result	Units	Method Reporting Limit (MRL)	Method Detection Limit(MDL)
NE1A	9/28/2005	SW8260B	2-Butanone	7.29 (J)	UG/L	10	3.1
NE1A	9/28/2005	SW8260B	Carbon disulfide	1.6 (J)	UG/L	2	0.62
NE1A	6/12/2007	SW8260B	Naphthalene	0.71(J)	UG/L	2	0.62
NE1A	9/28/2005	SW8260B	Toluene	0.55(J)	UG/L	1	0.31
NE1A	9/21/2007	SW8260B	Toluene	0.34(J)	UG/L	1	0.31
NE1C	9/21/2007	SW8270C	4-Nitroaniline	3.5(J)	UG/L	11	3.3
PB1A	6/14/2005	SW8260B	2-Butanone	5.67(J)	UG/L	10	3.1
PB1A	9/29/2005	SW8260B	Benzene	0.31(J)	UG/L	0.4	0.12
PB1A	9/29/2005	SW8260B	Toluene	0.9(J)	UG/L	1	0.31
PB1B	6/14/2005	SW8260B	2-Butanone	3.33(J)	UG/L	10	3.1
UT1A	10/13/2005	SW8260B	Toluene	0.59(J)	UG/L	1	0.31
UT1A	6/15/2005	SW8260B	Trichloroethene	0.95(J)	UG/L	1	0.31
UT1B	10/13/2005	SW8260B	Toluene	0.62(J)	UG/L	1	0.31
UT1B	10/9/2007	SW8270C	4-Nitroaniline	5.9(J)	UG/L	11	3.4
UT1C	10/13/2005	SW8260B	Toluene	0.41(J)	UG/L	1	0.31

***\*Please see 'Surface Water & Groundwater Quality' maps for station locations***