From:	Chris Schaefer
To:	Jeff Pearl
Cc:	Jack Lawmaster
Subject:	Wilcox Refinery Superfund Site and ODOT Project 29217(04) EW-815 aka 8th St. over Sand Creek, Creek Co.,
Date:	Tuesday, January 05, 2016 1:10:26 PM
Attachments:	image001.png 160105 RLs and Screening Levels.pdf

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Hi Jeff,

Please find attached a table comparing laboratory reporting levels to RSLs for resident soil.

The only constituents that the lab cannot report down to the resident soil RSL is arsenic, assuming no interference. If need be, arsenic can be run using method 6020 which can achieve these levels but will be at an additional cost.

The reporting level for Quinoline exceeds the residential RSL. However, the lab can report this as an estimate "J" flag value since the Method Detection Limit (MDL) is below the RSL.

Chris

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Chemicals of Concern	Method	USEPA Risk-Based Screening Levels Resident Soil (mg/kg)**	RL (mg/kg)	MDL (mg/kg)
Inorganics				
Antimony	6010C	31	10.0	1.00
Arsenic	6010C	0.68	2.00	1.20
Barium	6010C	15,000	2.00	1.00
Beryllium	6010C	160	1.00	0.200
Cadmium (Diet)	6010C	71	1.00	0.100
Chromium (III), insoluble salts	6010C	120,000	1.00	0.900
Cobalt	6010C	23	2.00	1.00
Cyanide	9012B	2.7	2.00	1.00
Lead	6010C	400	1.00	0.500
Mercury	7471B	11	0.100	0.0300
Nickel, refinery dust	6010C	820	2.00	0.600
Selenium	6010C	390	2.00	1.10
Silver	6010C	390	1.00	0.400
Vanadium	6010C	390	10.0	2.00
Zinc	6010C	23,000	10.0	5.00
Volatile Organic Compounds (VOCs)				
Benzene	8260B	1.2	0.00200	0.000670
Carbon disulfide	8260B	770	0.00500	0.00360
Chlorobenzene	8260B	280	0.00200	0.000670
Chloroform	8260B	0.32	0.00200	0.000670
1,2-Dichloroethane	8260B	0.46	0.00200	0.000670
1,1-Dichloroethane	8260B	3.6	0.00200	0.000670
1,4-Dioxane	8260B	5.3	0.200	0.0760
Ethylbenzene	8260B	5.8	0.00200	0.000670
Ethylene dibromide (EDB or 1,2-dibromoethane)	8260B	0.036	0.00200	0.00100
Methyl ethyl ketone (MEK)	8260B	27,000	0.0500	0.00510
Methyl tertiary butyl ether (MTBE)	8260B	47	0.00200	0.000960
Styrene	8260B	6,000	0.00200	0.00110
Toluene	8260B	4,900	0.00200	0.000740
1,1,1-Trichloroethane	8260B	8,100	0.00200	0.000920
Trichloroethene	8260B	0.94	0.00200	0.000960
Tetrachloroethylene	8260B	24	0.00200	0.000730
Xylenes (total)	8260B	580	0.00600	0.00123

Chemicals of Concern	Method	USEPA Risk-Based Screening Levels Resident Soil (mg/kg)**	RL (mg/kg)	MDL (mg/kg)
Semivolatile Organic Compounds (SVOCs)				
Acenaphthene	8270D	3,600	0.0670	0.0100
Anthracene	8270D	18,000	0.0670	0.00900
Benzo(a)anthracene	8270D SIM	0.16	0.00333	0.00120
Benzo(b)fluroranthene	8270D SIM	0.16	0.00333	0.00150
Benzo(k)fluoranthene	8270D SIM	1.6	0.00333	0.00100
Benzo(a)pyrene	8270D SIM	0.016	0.00333	0.00180
Bis(2-ethylhexyl) phthalate	8270D	39	0.333	0.0130
Chrysene	8270D SIM	16	0.00333	0.00180
o-Cresol	8270D	3,200	0.333	0.0930
m & p-Cresol	8270D	6,300	0.333	0.0200
Dibenz(a,h)anthracene	8270D SIM	0.016	0.00333	0.00190
Di-n-butyl phthalate	8270D	6,300	0.333	0.0130
1,2-Dichlorobenzene*	8270D	1,800	0.333	0.0100
1,3-Dichlorobenzene*	8270D	---	0.333	0.0140
1,4-Dichlorobenzene*	8270D	2.6	0.333	0.00700
Diethyl phthalate	8270D	51,000	0.333	0.0140
2,4-Dimethylphenol	8270D	1,300	0.333	0.192
Dimethyl phthalate	8270D	---	0.333	0.00800
2,4-Dinitrophenol	8270D	130	0.333	0.110
Fluoranthene	8270D	2,400	0.0670	0.00900
Fluorene	8270D	2,400	0.0670	0.0120
Indeno(1,2,3-cd)pyrene	8270D SIM	0.16	0.00333	0.00180
Naphthalene	8270D	3.8	0.0670	0.00900
4-Nitrophenol	8270D	---	0.333	0.0150
Phenanthrene	8270D	---	0.0670	0.00900
Phenol	8270D	19,000	0.333	0.0140
Pyrene	8270D	1,800	0.0670	0.0120
Pyridine	8270D	78	0.667	0.0140
Quinoline	8270D	0.18	0.333	0.0190

Notes:

* These compounds are listed with SVOCs on the Skinner list and are also reported with the VOCs method (SW-846 8260C).

** Values obtained from the EPA Risk-Based Regional Screening Level Table (TR=1E-06, THQ=1.0), revised November 2015.