

LAKEHAVEN UTILITY DISTRICT INORGANIC CHEMICAL (IOC) ANALYSIS 2007 REPORT - RAW (Before Treatment) GROUND WATER (INCLUDING TACOMA GREEN RIVER/SSP)

LUD / DEPARTMENT OF HEALTH (DOH) WELL SOURCE NUMBER

EPA REGULATED PRIMARY INORGANIC CHEMICALS

	MCL mg/L	LUD / DEPARTMENT OF HEALTH (DOH) WELL SOURCE NUMBER																								TACOMA	FLOW WEIGHTED AVERAGE	
		Well 7 S04	Well 9 S07	Well 10 S09	Well 10A S10	Well 10C S30	Well 15 S12	Well 15A S13	Well 16 S14	Well 17 S15	Well 17A S16	Well 17B S31	Well 18 S17	Well 19 S25	Well 19A S26	Well 20 S18	Well 20A S19	Well 21 S20	Well 22 S21	Well 22A S22	Well 22B S34	Well 23 S23	Well 23A S24	Well 25 S29	Well 29 S35			S33
ARSENIC	0.01	0.003	0.008	<.002	0.004	<.01	<.002	<.002	0.003	0.005	0.005	0.005	0.002	0.005	0.005	<0.002	<.002	0.009	<.01	0.004	0.003	<.002	0.004	<.002	<.01	<.01	<.01	0.00
BARIUM (Phase II)	2.0	<.10	<.01	<.10	<.10	<.10	<.10	<.01	<.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	<.10	0.0
CADMIUM (Phase II)	0.005	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	0.0
CHROMIUM (Phase II)	0.1	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	0.0
MERCURY (Phase II)	0.002	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	<.0005	0.0
SELENIUM (Phase II)	0.05	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	<.005	0.0
BERYLLIUM (Phase V)	0.004	<.003	<.002	<.003	<.003	<.002	<.002	<.002	<.002	<.002	<.0003	<.002	<.0003	<.0003	<.003	<.002	<.002	<.002	<.002	<.002	<.003	<.003	<.003	<.003	<.003	<.002	<.003	0.0
NICKEL (Phase V)	0.1	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	<.04	0.0
ANTIMONY (Phase V)	0.006	<.005	<.002	<.005	<.005	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	0.0
THALLIUM (Phase V)	0.002	<.002	<.001	<.002	<.002	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	0.0
CYANIDE (Phase V)	0.2	<.05	<.05	<.05	<.05	<.10	<.05	<.05	<.05	<.05	<.05	<.10	<.05	<.05	<.10	<.05	<.05	<.10	<.05	<.05	<.05	<.05	<.05	<.05	<.10	<.05	<.10	0.0
FLUORIDE	4.0	<.2	<.2	<.2	0.2	<.2	<.2	<.2	<.2	<.2	<.2	0.2	<.2	0.3	<.2	0.2	<.2	0.2	<.2	0.2	0.2	0.2	0.2	0.2	<.2	0.2	1.11	0.1
NITRITE as N (Phase II)	1.0	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.5	0.0
NITRATE as N (Phase II)	10.0	<.2	<.2	<.2	<.2	0.7	0.7	2	<.2	<.2	0.4	0.3	0.3	0.8	0.8	<.2	<.2	<.2	<.2	<.2	0.2	0.2	1.7	2.3	4.5	0.6	1.7	
TOTAL NITRATE & NITRITE	10.0	0	0	0	0	0.7	0.7	2	0	0	0.4	0.3	0.3	0.8	0.8	0	0	0	0	0.2	0.2	1.7	2.3	4.46	0.6	1.6	0.6	

EPA REGULATED SECONDARY INORGANIC CHEMICALS

	MCL mg/L	LUD / DEPARTMENT OF HEALTH (DOH) WELL SOURCE NUMBER																								TACOMA	FLOW WEIGHTED AVERAGE	
		Well 7 S04	Well 9 S07	Well 10 S09	Well 10A S10	Well 10C S30	Well 15 S12	Well 15A S13	Well 16 S14	Well 17 S15	Well 17A S16	Well 17B S31	Well 18 S17	Well 19 S25	Well 19A S26	Well 20 S18	Well 20A S19	Well 21 S20	Well 22 S21	Well 22A S22	Well 22B S34	Well 23 S23	Well 23A S24	Well 25 S29	Well 29 S35			S33
IRON	0.3	<.1	0.14	<.1	<.1	<.03	<.03	<.03	0.06	0.05	<.03	<.1	<.03	<.1	1.1	<.1	<.03	0.06	0.21	<.03	0.11	<.1	<.1	<.1	0.15	0.31	0.08	0.13
MANGANESE	0.05	0.02	0.41	<.01	0.050	0.08	0.03	<.01	<.01	0.181	0.177	0.07	0.05	0.13	<.01	0.392	0.160	0.087	0.19	0.09	0.18	0.21	<.01	0.10	0.03	0.11	0.11	
SILVER	0.1	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	<.01	0.00
CHLORIDE	250	6	3	5	4	2	4	4	7	4	4	4	3	5	5	9	3	2	3	2	6	10	6	3	<20	4.3	3.4	
SULFATE	250	18	11	11	10	10	11	7	13	13	5	12	1	15	15	33	10	2	5	3	16	36	18	7	<10	11.8	9.1	
ZINC	5.0	<.2	<.05	<.2	<.2	<.05	<.05	<.05	<.05	<.05	<.2	<.05	<.2	<.2	<.02	<.05	<.05	<.05	<.05	<.02	<.02	<.02	<.02	<.02	<.02	<.02	0.00	0.00

STATE REGULATED INORGANIC CHEMICALS

	MCL mg/L	LUD / DEPARTMENT OF HEALTH (DOH) WELL SOURCE NUMBER																								TACOMA	FLOW WEIGHTED AVERAGE	
		Well 7 S04	Well 9 S07	Well 10 S09	Well 10A S10	Well 10C S30	Well 15 S12	Well 15A S13	Well 16 S14	Well 17 S15	Well 17A S16	Well 17B S31	Well 18 S17	Well 19 S25	Well 19A S26	Well 20 S18	Well 20A S19	Well 21 S20	Well 22 S21	Well 22A S22	Well 22B S34	Well 23 S23	Well 23A S24	Well 25 S29	Well 29 S35			S33
SODIUM	20	8	6	7	7	6	7	7	8	7	8	8	9	19	7	7	9	7	6	6	6	7	8	7	6	<5.0	7	6
HARDNESS (mg/l as CaCO3)	"NONE"	143	45	114	110	71	91	98	92	108	116	84	91	88	91	111	139	75	57	63	83	128	185	123	70	17	96	76
CONDUCTIVITY umhos/cm	700	296	101	217	215	154	195	209	217	209	210	155	207	230	186	225	310	181	142	142	163	235	345	277	152	46	201	162
TURBIDITY 1 NTU	(2)	0.6	0.2	<.1	<.1	0.5	0.3	0.3	0.3	<.1	0.1	0.1	0.4	<.1	3.9	0.7	0.5	0.5	0.5	0.3	0.4	0.4	0.3	0.5	1.24	0.52	0.97	
COLOR 15 CU	(3)	<5	<5	<5	<5	<5	<5.0	<5.0	<5	<5	<5	<5	<5.0	10	12.5	<5	<5	<5	5.0	<5	<5	<5	<5	<5	<5	5.0	1.3	4.1
TOTAL DISSOLVED SOLIDS (TDS)	500	178	61	130	129	92	117	125	130	125	126	137	124	138	112	135	186	109	85	85	98	141	207	166	91	28	122	100

STATE UNREGULATED INORGANIC CHEMICALS

	MCL mg/L	LUD / DEPARTMENT OF HEALTH (DOH) WELL SOURCE NUMBER																								TACOMA	FLOW WEIGHTED AVERAGE	
		Well 7 S04	Well 9 S07	Well 10 S09	Well 10A S10	Well 10C S30	Well 15 S12	Well 15A S13	Well 16 S14	Well 17 S15	Well 17A S16	Well 17B S31	Well 18 S17	Well 19 S25	Well 19A S26	Well 20 S18	Well 20A S19	Well 21 S20	Well 22 S21	Well 22A S22	Well 22B S34	Well 23 S23	Well 23A S24	Well 25 S29	Well 29 S35			S33
LEAD	0.015	<.002	<.002	0.004	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	0.004	<.002	<.002	<.002	<.002	<.002	<.002	<.002	<.002	0.000
COPPER	1.3	<.02	<.002	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	0.00

OTHER PHYSICAL & CHEMICAL PARAMETERS

	MCL mg/L	LUD / DEPARTMENT OF HEALTH (DOH) WELL SOURCE NUMBER																								TACOMA	FLOW WEIGHTED AVERAGE	
		Well 7 S04	Well 9 S07	Well 10 S09	Well 10A S10	Well 10C S30	Well 15 S12	Well 15A S13	Well 16 S14	Well 17 S15	Well 17A S16	Well 17B S31	Well 18 S17	Well 19 S25	Well 19A S26	Well 20 S18	Well 20A S19	Well 21 S20	Well 22 S21	Well 22A S22	Well 22B S34	Well 23 S23	Well 23A S24	Well 25 S29	Well 29 S35			S33
SILICA	"NONE"	27	34	30	31						35		37	32	24						47	24	34	29		14	31	22
ALKALINITY (mg/l as CaCO3)	"NONE"	124	71	92	96	78	73	80	85	135	62	85	108	138	85	93	110	71	65	64	66	90	128	110	72	20	88	73
pH	6.5-8.5	7.33	7.88	7.02	7.09	8.5	6.64	7.02	6.9	7.5	7.5	7.70	6.8	8.3	6.4	7.1	6.9	8.0	8.0	7.8	7.3	7.5	7.4	7.2	7.9	7.3	7.4	
TEMPERATURE (Celsius)	"NONE"	10.8	14.4	11.7	11.8		11.5	10.9	11.3	10.3	11.2	12.0	12.2	11.1	11.1	12.0	10.6	10.8	11.3	11.5	12.5	9.1	10.1	12.4	11.6	16.8	11.6	13.2
CALCIUM	"NONE"	115	15	65	67	19	32	34	24	26	25	18	21	58	50	56	32	28	15	15	49	89	180	66	48	5.5	46.1	38.7
TOTAL ORGANIC CARBON	2.0	1.2	0.3	0.7	0.8		0.6	0.5		0.4	0.5		0.7	0.5	0.9	0.6	<1.0	0.6	0.6	0.2	1.3	0.4	<1.0	0.7	0	0.5	0.3	
MAGNESIUM	"NONE"	6.8	2	12	10	6	3	3	8	20	10	9	7	10	13	14	1	5	6	8.3	9	1	14		0.9	7.8	6.8	
CORROSIVITY (LSI)	NC	-0.7	-1.1	-1.3	-1.2	-0.																						