

FIGURE 2

Lynn Lane Local Limits page from TBLL Study

Figure 8 - Local Limits

Pollutant	MAHL, lb/d lbs/d	BKG, mg/l mg/l	BKG, lbs/d lbs/d	MAIL, lbs/d lbs/d	LOCAL LIMITS, mg/l
Arsenic	5.42	0.005	0.269	4.3390	9.72
Cadmium	6.00	0.001	0.054	5.0438	11.29
Chromium	54.21	0.010	0.538	45.5409	101.98
Copper	19.57	0.042	0.505	16.1255	36.11
Cyanide	5.42	0.015	0.815	3.7924	8.49
Lead	5.42	0.0050	0.269	4.3390	9.72
Mercury	0.229	0.00042	0.003	0.1915	0.4288
Nickel	54.21	0.010	0.538	45.5409	101.98
Silver	13.55	0.002	0.108	11.4121	25.55
Zinc	16.26	0.096	1.807	12.0166	26.91

MAIL = Maximum Allowable Industrial Loadings

MAIL = (1-SF)*MAHL - BKG

Local Limits = MAIL/(8.34*Q_c)

MAIL = Maximum Allowable Industrial Loadings

SF = Safety Factor, decimal = 0.15

MAHL = Maximum Allowable Headworks Loadings, see Figure 7

BKG, lbs/d = Background Loadings = BKG conc. * Q_b * 8.34'Q_b = Background flow, MGD = 6.45Q_c = Total Industrial Flow, MGD = 0.05**G. Recommendation:**

Local limit for **mercury**, at **0.43 mg/l**, is recommended to be incorporated in the local sewer use ordinance. With industrial loadings (Table 13) for each of the pollutants of concern less than 1% of the calculated MAIL (figure 8), federal limitations for categorical users are sufficient to control industrial discharges. However, the calculated maximum allowable headworks loadings (MAHL) should be observed and tracked on a regular basis and the maximum allowable industrial loadings (MAIL) should be considered in the permitting process when issuing or renewing industrial permits.

It is also recommended that the upper pH of 12.5 be incorporated in the sewer use ordinance. pH of 12.5 is indicative of hazardous waste discharge.

FIGURE 2

Haikey Creek Local Limits Page from TBLL Study

Figure 7 - Local Limits for Uniform Concentration

Pollutant	MAHL lbs/d	BKG (*) mg/l	BKG lbs/d	MAIL lbs/d	LOCAL LIMITS mg/l
Arsenic	8.18	0.005	0.4076	6.1343	23.51
Cadmium	5.67	0.001	0.0815	4.4574	17.08
Chromium	81.77	0.010	0.8151	64.6038	247.55
Copper	45.64	0.033	2.6940	33.8205	129.59
Cyanide	8.18	0.010	0.8423	5.6996	21.840
Lead	25.17	0.005	0.4076	19.7311	75.61
Mercury	0.9331	0.00012	0.0095	0.7370	2.8239
Molybdenum	12.0433	0.010	0.8151	8.8195	33.7944
Nickel	32.87	0.010	0.8151	25.4830	97.65
Selenium	6.29	0.016	1.2634	3.7710	14.45
Silver	14.50	0.004	0.3258	11.2760	43.21
Zinc	24.53	0.024	1.9672	17.6585	67.66

$$\text{MAIL} = ((1-\text{SF}) * \text{MAHL}) - \text{BKG, lbs/d}$$

$$\text{LOCAL LIMITS} = \text{MAIL} / (8.34 * \text{Qc})$$

MAIL = Maximum Allowable Industrial Loadings

SF = Safety Factor, decimal =

0.20

MAHL = Maximum Allowable Headworks Loadings, see Fig. 6

BKG, lbs/d = Background Loadings = BKG conc.*Qb*8.34

Qb = Background flow, MGD =

9.77

MAIL = Maximum Allowable Industrial Loadings

Qc = Total Industrial Flow, MGD =

0.03

Example:

$$\text{MAIL, arsenic} = ((1 - 0.15) * 8.18) - 0.4076$$

$$\text{MAIL, arsenic} = 6.55 \text{ lbs/d (difference due to rounding)}$$

$$\text{Local limit, arsenic} = 6.1343 / (8.34 * 0.03)$$

$$\text{Local limit, arsenic} = 24.52 \text{ mg/l}$$

G. Recommendation

It is recommended that no local limitations for the pollutants in this study be published in the sewer use ordinance. Industrial loadings (Table 10) for each of the pollutants of concern are less than 1% of the calculated MAIL (Figure 7), therefore federal limitations for categorical users are sufficient to control industrial discharges. However, the calculated maximum allowable headworks loadings (MAHL) should be observed and tracked on a regular basis and the maximum allowable industrial loadings (MAIL) should be considered in the permitting process when issuing or renewing industrial permits.