Nogales IWTP

Pre-Treatment Analysis

June 21, 2017

Table 1

AHL Based on Average Influent Flow of 14.74 MGD (645 lps)

Bolded shows limiting

Bolded italicized shows limiting with 25% safety factor

		MAHL KG/DAY				MAHL KG/MOS				
Pollutant	MAHL - Safety (lb/day)	AHL_{eff} (kg/day)	AHL_{inh} (kg/day)	AHL_{solids} (kg/day)	MAHL - Safety (kg/day)	AHL_{eff} (kg/30 days)	AHL_{inh} (kg/30 days)	AHL_{solids} (kg/30 days)	MAHL - Safety (kg/30 day)	Exceedance first impacts:
Arsenic	2.3	5.07	5.57	**1.39**	***1.04***	152	167	**42**	***31.3***	*solids*
Cadmium	0.41	0.82	289.95	**0.25**	***0.19***	25	8699	**7**	***5.58***	*solids*
Chromium	1.69	45.23	60.22	**1.02**	***0.77***	1357	1807	**31**	***23.0***	*solids*
Copper	12.64	**7.65**	15.05	41.82	***5.73***	**229**	452	1254	***172***	*effluent*
Cyanide	5.03	**3.04**	23.42	-	***2.28***	**91**	703		***68.4***	*effluent*
Lead	1.47	**0.89**	27.88	1.37	***0.67***	**27**	836	41	***20.0***	*effluent*
Mercury	0.08	**0.050**	30.67	0.054	***0.04***	**1.5**	920	1.6	***1.09***	*effluent*
Nickel	13.83	9.62	21.19	**8.36**	***6.27***	288	636	**251**	***188***	*solids*
Selenium	0.55	0.37	-	**0.34**	***0.25***	11	-	**10**	***7.48***	*solids*
Silver	1.84	1.47	-	**1.12**	***0.83***	44	-	**33**	***25.0***	*solids*
Zinc	26.74	-	**16.17**	79.40	***12.1***	-	**485**	2382	***364***	*inhibition*
1,4-Dichlorobenzene	8.87	**5.36**	278.80	5.70	***4.02***	**161**	8364	171	***121***	*effluent*

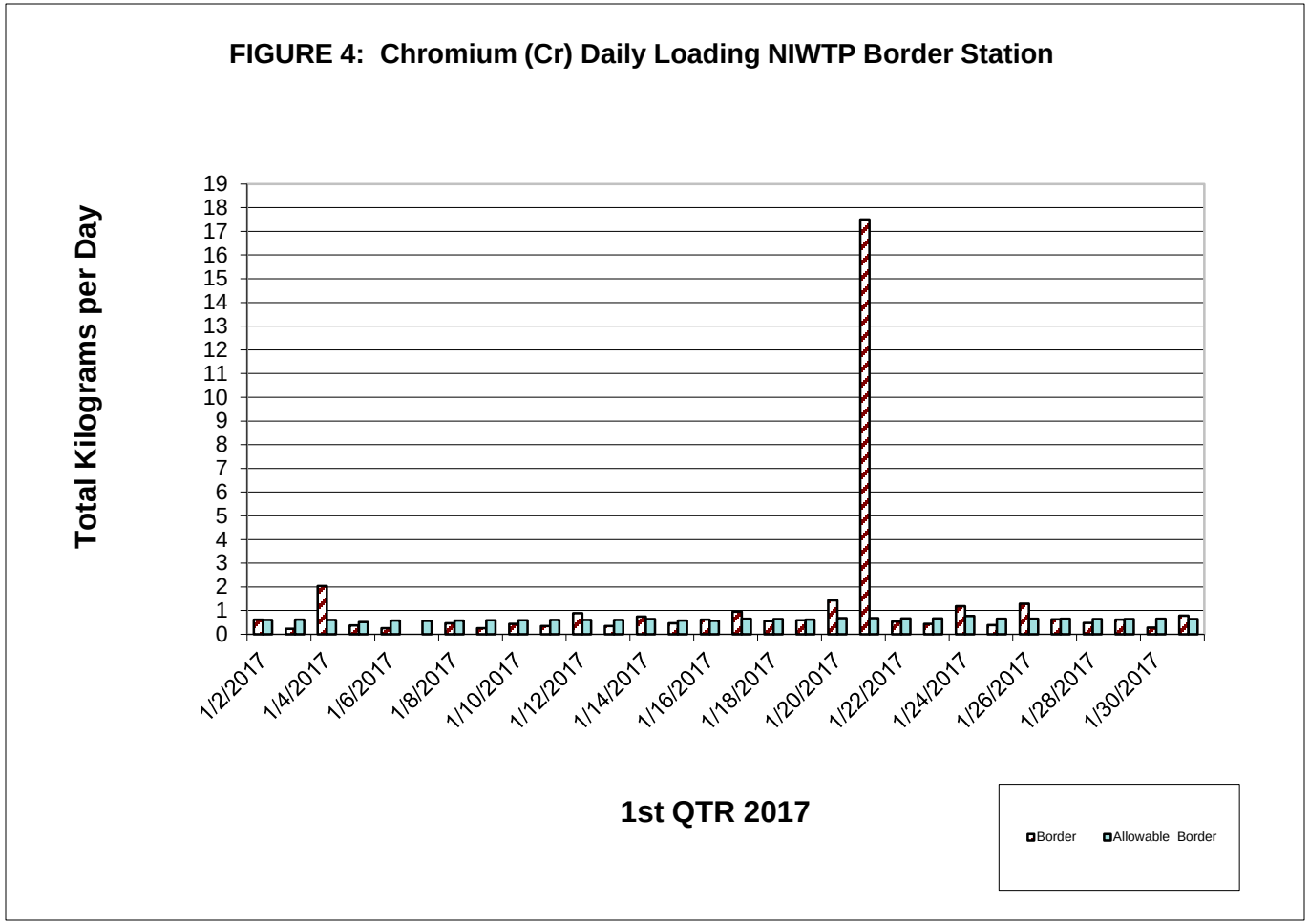
FIGURE 4: Chromium (Cr) Daily Loading NIWTP Border Station
Total Kilograms per Day
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
1/2/2017
1/4/2017
1/6/2017
1/8/2017
1/10/2017
1/12/2017
1/14/2017
1/16/2017
1/18/2017
1/20/2017
1/22/2017
1/24/2017
1/26/2017
1/28/2017
1/30/2017
1st QTR 2017
Border
Allowable Border

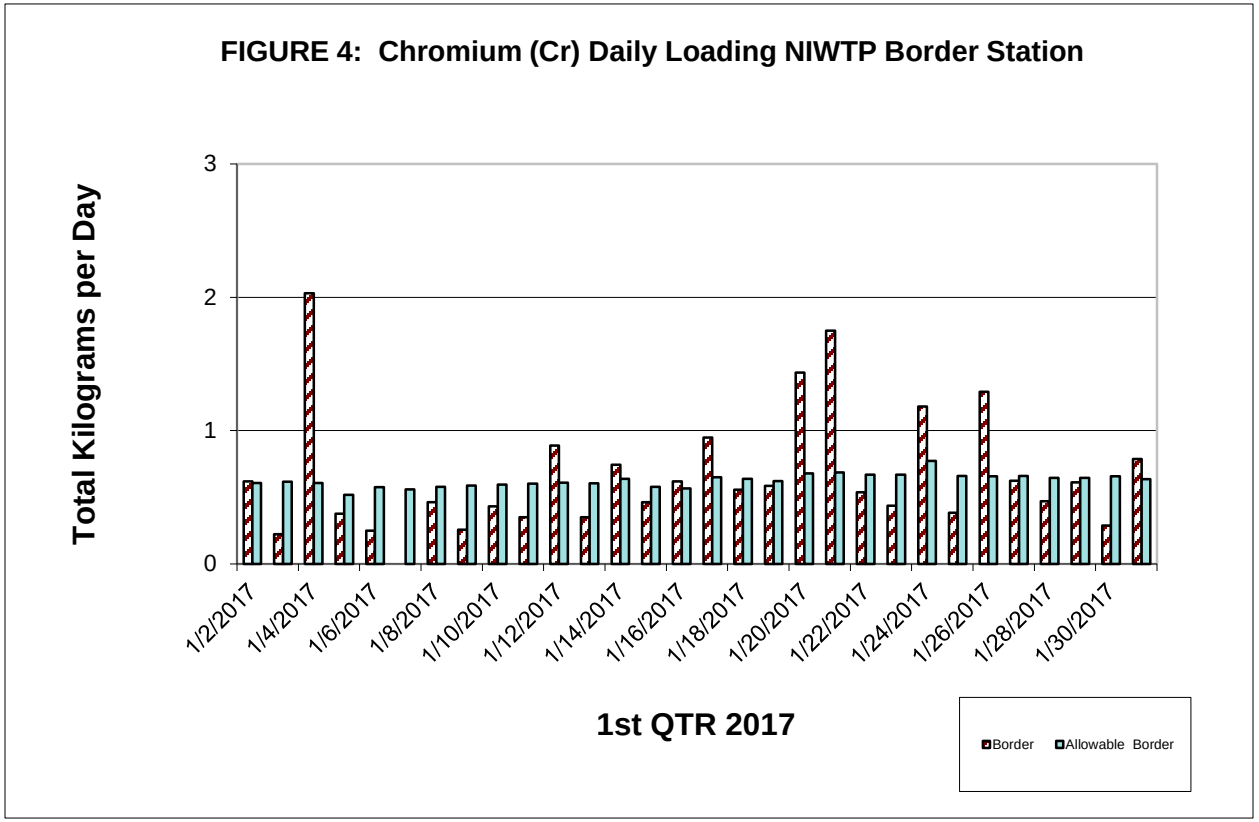
FIGURE 4: Chromium (Cr) Daily Loading NIWTP Border Station
Total Kilograms per Day
3
2
1
0
1/2/2017
1/4/2017
1/6/2017
1/8/2017
1/10/2017
1/12/2017
1/14/2017
1/16/2017
1/18/2017
1/20/2017
1/22/2017
1/24/2017
1/26/2017
1/28/2017
1/30/2017
1st QTR 2017
Border
Allowable Border

Table 3: 1st quarter of 2017

AHL based on recorded flows

Reflects monthlhy average in which pretreatment monitoring took place

Highlight/bold contaminants and loadings where exceedances are taking place

Loadings Summary and Processes Impacted Based on Monthly Totals

Pollutant	MAHL Arizona (kg/mo)	MAHL Sonora (kg/mo)	MAHL TOTAL (kg/mo)	Actual Loadings Arizona (kg/mo)	Actual Loadings Sonora (kg/mo)	Actual Loadings Sonora Exc (kg)	Actual Loadings Sonora Exc (%)	Actual Loadings Total (kg/mo)	Processes Impacted by Total Loadings*
Arsenic	3.05	26.43	29.48	0.41	5.26			5.80	
Cadmium	0.54	4.71	5.26	0.02	0.20			0.22	
Chromium	2.24	19.42	21.66	-1.64	19.96	**0.54**	**3%**	17.68	Solids
Copper	16.78	145.23	162.02	-12.49	104.66			86.80	
Cyanide	6.68	57.79	64.47	0.00	2.37			0.00	
Lead	1.95	16.89	18.84	-0.16	7.29			7.07	
Mercury	0.11	0.92	1.03	0.07	0.26			0.35	
Nickel	18.36	158.90	177.27	-4.02	181.36	**22.46**	**14%**	173.92	Solids
Selenium	0.73	6.32	7.05	0.21	0.40			0.68	
Silver	2.44	21.14	23.58	0.00	1.89			3.72	
Zinc	35.51	307.24	342.75	10.46	220.44			233.54	
1,4-Dichlorobenzene	11.78	101.92	113.69	0.00	0.00			0.00	

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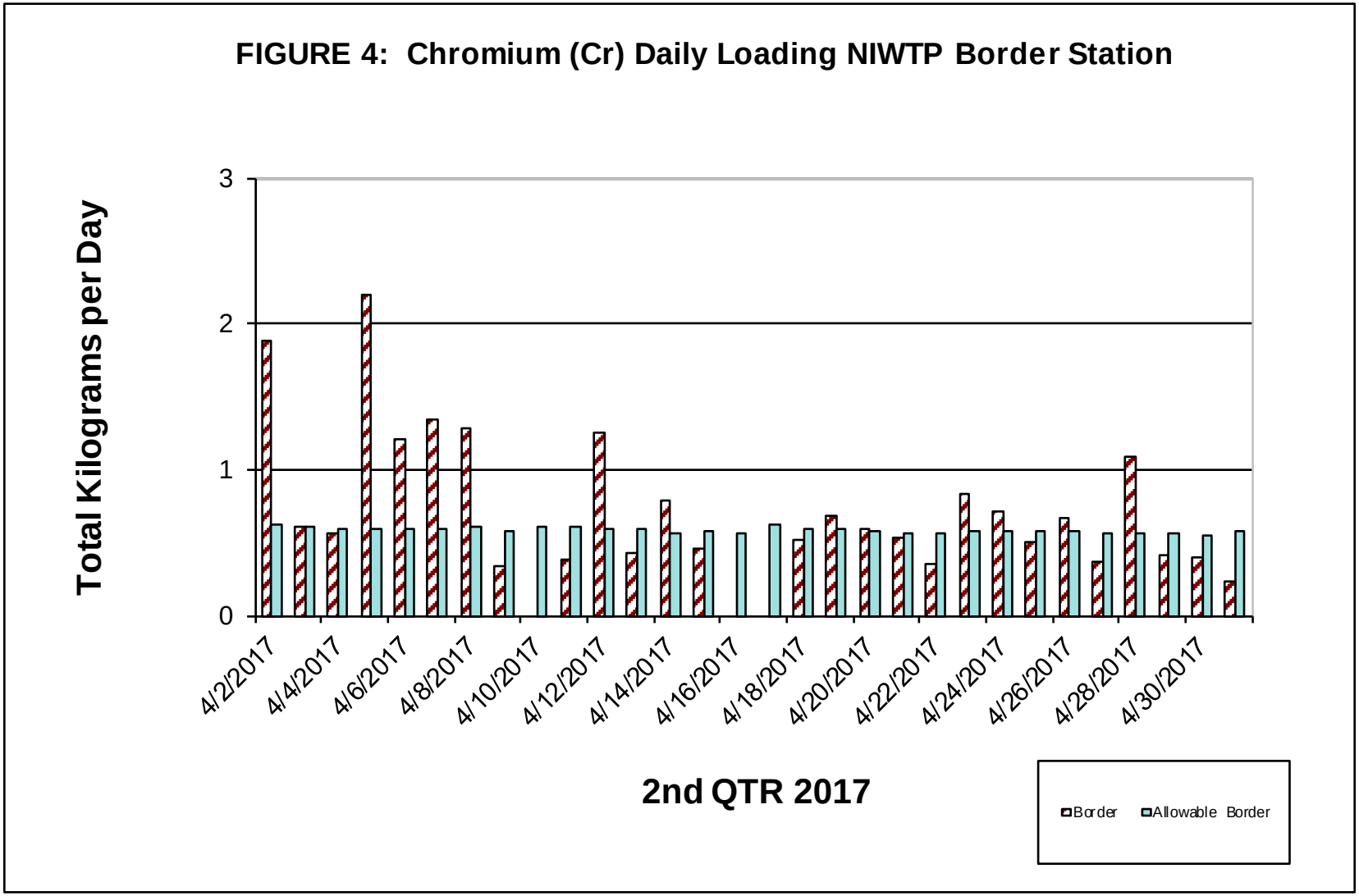
Arsenic	1.79	24.60	26.39	0.39	4.64			5.21	
Cadmium	0.32	4.38	4.70	0.00	0.25			0.19	
Chromium	1.31	18.07	19.39	0.00	20.64	**2.56**	**14%**	15.77	Solids
Copper	9.82	135.18	145.00	0.00	129.01			105.68	
Cyanide	3.91	53.79	57.70	0.00	0.00			0.00	
Lead	1.14	15.72	16.86	0.00	6.46			6.14	
Mercury	0.06	0.86	0.92	0.00	0.33			0.28	
Nickel	10.75	147.91	158.66	0.00	61.49			46.20	
Selenium	0.43	5.88	6.31	0.00	1.33			1.36	
Silver	1.43	19.68	21.11	0.00	1.26			0.62	
Zinc	20.78	285.97	306.76	0.00	241.91			211.15	
1,4-Dichlorobenzene	6.89	94.86	101.76	0.00	0.00			0.00	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3
2
1
0
4/2/2017
4/4/2017
4/6/2017
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4/12/2017
4/14/2017
4/16/2017
4/18/2017
4/20/2017
4/22/2017
4/24/2017
4/26/2017
4/28/2017
4/30/2017
2nd QTR 2017
Border
Allowable Border

Questions?