

From: [Gilliam, Allen](#)
To: [Burrow, Kealey](#)
Subject: AR0021750_Fort Smiths Massard and P Street AR0033278 TBLL evaluation and ADEQ concurrence_20150922
Date: Wednesday, September 23, 2015 8:39:31 AM
Attachments: [Massard TBLL eval.xls](#)
[P Street TBLL eval.xls](#)

From: Gilliam, Allen
Sent: Tuesday, September 22, 2015 1:19 PM
To: 'Mcavoy, Lance'
Cc: Burrow, Kealey
Subject: AR0021750_Fort Smiths Massard and P Street AR0033278 TBLL evaluation and ADEQ concurrence_20150922

Lance,

This office reviewed Massard's TBLL spreadsheets and found nothing questionable.

The Zn influent excursion can be brushed off because of your inhibition bench scale study showing the MAHC should be more the 5 times that number, or was that at P Street?

And Mo's "exceedance" of WQ criteria is moot because AR has no WQ criteria for the element.

It appears you've used all the correct PPS (tab) "knowns" so your WQ numbers should be equivalent to any calculated within ADEQ's Water Division.

Excellent data set for site specific rem %s!

Don't know why you included land application sludge criteria since you currently landfill, but further satisfies the objectives of 40 CFR 403.5(c)(1).

I see most of your MAHLs are based on inhibition criteria with only two driven by WQ and one by sludge criteria (which for now, you aren't worried about).

I also reviewed P Street's spreadsheets and it appears your "knowns" on the PPS tab are correct=>the WQ criteria. Again, great rem % data, but don't recognize your last few dates' schema on your domestic background tab. Can those unidentifiable numbers be corrected?

Was the RAS stream re-routed below the inf sampling pt. at P street prior to the exceedances of Ni and Zn's MAHC? I remember our conversations about this issue (wasn't this the case for both w.w. treatment plants?) just getting resolved after yrs of this office requesting your predecessor to fix the problem.

Can the Zn "excursion" of its MAHC be settled with the same argument as above? Ni's MAHC "excursion" is moot at this point because its driving criteria is based on land application of sludge. Mo's WQ "excursion" can be waved off with the same argument as above.

This office would consider this fairly detailed review and concurrence from this office notice that

your TBLL evaluation is valid and correct arriving at each POTW's Max. Allowable Industrial Loadings from which to allocate local limits if ever necessary.

If there are further questions or comments please feel free to contact this office.

Sincerely,

Allen Gilliam
ADEQ State Pretreatment Coordinator
501.682.0625

E/NPDES/NPDES/Pretreatment/Reports

Fort Smith Massar Maximum Allowable Headworks Loading

Pollutant	% Rem***	Water Quality mg/l	Water Quality* lbs/day	Sludge mg/kg	Sludge+ lbs/day	Inhibition** mg/l	Inhibition++ lbs/day	MAHL lbs/day	MAHC mg/l	Domestic lbs/day	Allocation for %SF lbs/day^	MAIL lbs/day	Max Inf Exceedec MAHC	Max Effluent vs WQS(mg/l)
Cadmium Total	90	0.0804	61.0099	85	7.461	1.00	75.89	7.4611	0.09831	0.02	5.60	5.578	No	No
Copper Total	85	0.4644	234.9577	4300	399.647	1.00	75.89	75.8940	1.00000	0.81	56.92	56.106	No	No
Lead Total	87	0.3048	177.9576	840	76.276	1.00	75.89	75.8940	1.00000	0.04	56.92	56.876	No	No
Mercury Total	94	0.00020	0.2576	57	4.790	0.10	7.59	0.2576	0.00339	0.0073	0.1932	0.186	No	No
Nickel Total	39	7.8179	972.6794	420	85.077	1.00	75.89	75.8940	1.00000	0.19	56.92	56.735	No	No
Selenium Total	12	0.0849	7.3182	100	65.833	0.20	15.18	7.318	0.09643	0.18	5.49	5.306	No	No
Silver Total	82	0.1211	51.0702	0	0.000	0.25	18.974	18.9735	0.25000	0.02	14.23	14.208	No	No
Zinc Total	89	3.7238	2569.2251	7500	665.730	0.300	22.77	22.7682	0.30000	5.69	17.08	11.383	1.3590	No
Chromium Total	81	18.1276	7240.9247	3000	292.593	1.00	75.89	75.8940	1.00000	0.37	56.92	56.554	No	No
Cyanide Total	69	0.0882	21.6053	0	0.000	0.10	7.589	7.5894	0.10000	0.37	5.69	5.326	No	No
Arsenic	24	5.1726	516.5373	75	24.688	0.10	7.59	7.5894	0.10000	0.04	5.69	5.649	No	No
Molybdenum	16	0.0000	0.0000	75	37.031	0.20	15.18	15.1788	0.20000	0.29	11.38	11.091	No	0.0131
Beryllium	50	0.089947	13.6529	0	0.000	0.10	7.5894	7.5894	0.10000	0.02	5.69	5.674	No	No

Dry tons/day of sludge**** 39.50 Safety Factor 0.25

* lbs/day = mg/l * 8.34 * average flow / (1-%Rem)

** Page 3-44 of EPA 833B87202 Be est @ 0.10 mg/l and Appendix G of EPA 833R04002B

+ lbs/day = (dry tons/day * 0.002 * critria(mg/kg))/ % Rem

++ lbs/day = mg/l * Flow * 8.34

^ lbs/day = (1 - SF) * MAHL

MAIL = Maximum allowable industrial loading = Allocation for % SF - Domestic

*** EPA Default Removal Eff from Page 3-56 EPA 833B87202; except Be & Mo est @ 50

****Dry tons/day of sludge for 2014

Fort Smith "P" Stre Maximum Allowable Headworks Loading

Pollutant	% Rem***	Water Quality mg/l	Water Quality* lbs/day	Sludge mg/kg	Sludge+ lbs/day	Inhibition** mg/l	Inhibition++ lbs/day	MAHL lbs/day	MAHC mg/l	Domestic lbs/day	Allocation for %SF lbs/day^	MAIL lbs/day	Max Inf Exceedec MAHC	Max Effluent vs WQS(mg/l)
Cadmium Total	85	0.0716	38.5966	85	8.680	1.00	80.90	8.6800	0.10730	0.02	6.51	6.492	No	No
Copper Total	85	0.2441	131.6700	4300	439.106	1.00	80.90	80.8980	1.00000	0.81	60.67	59.859	No	No
Lead Total	84	0.3048	154.1240	840	86.800	1.00	80.90	80.8980	1.00000	0.04	60.67	60.629	No	No
Mercury Total	93	0.00020	0.2354	57	5.320	0.10	8.09	0.2354	0.00291	0.0073	0.1765	0.169	No	No
Nickel Total	61	7.8179	1621.6804	420	59.764	1.00	80.90	59.7639	0.73876	0.19	44.82	44.637	0.8500	No
Selenium Total	17	0.0779	7.5946	100	51.059	0.20	16.18	7.595	0.09388	0.18	5.70	5.513	No	No
Silver Total	96	0.0637	128.7885	0	0.000	0.25	20.225	20.2245	0.25000	0.02	15.17	15.146	No	No
Zinc Total	67	1.9577	479.9303	7500	971.642	0.300	24.27	24.2694	0.30000	5.69	18.20	12.509	1.2930	No
Chromium Total	82	12.8286	5765.5901	3000	317.561	1.00	80.90	80.8980	1.00000	0.37	60.67	60.307	No	No
Cyanide Total	69	0.0871	22.7334	0	0.000	0.10	8.090	8.0898	0.10000	0.37	6.07	5.701	No	No
Arsenic	22	2.7194	282.0447	75	29.591	0.10	8.09	8.0898	0.10000	0.04	6.07	6.024	No	No
Molybdenum	10	0.0000	0.0000	75	65.100	0.20	16.18	16.1796	0.20000	0.29	12.13	11.842	No	0.0288
Beryllium	37	0.089947	11.5501	0	0.000	0.10	8.0898	8.0898	0.10000	0.02	6.07	6.049	No	No

Dry tons/day of sludge**** 43.40 Safety Factor 0.25

* lbs/day = mg/l * 8.34 * average flow / (1-%Rem)

** Page 3-44 of EPA 833B87202 Be est @ 0.10 mg/l and Appendix G of EPA 833R04002B

+ lbs/day = (dry tons/day * 0.002 * critria(mg/kg)) / % Rem

++ lbs/day = mg/l * Flow * 8.34

^ lbs/day = (1 - SF) * MAHL

MAIL = Maximum allowable industrial loading = Allocation for % SF - Domestic

*** EPA Default Removal Eff from Page 3-56 EPA 833B87202; except Be & Mo est @ 50

****Dry tons/day of sludge from ????