

**Torrence, Rufus**

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**From:** Torrence, Rufus  
**Sent:** Wednesday, August 04, 2010 8:33 AM  
**To:** Jeff Wages (jwages@syrgis.com)  
**Subject:** AFIN 54-00092 ARP001013 Syrgis' Limits for Lead and Zinc

**ADEQ**

A R K A N S A S  
Department of Environmental Quality

August 6, 2010

Mr. Jeff Wages  
Syrgis Performance Initiators, Inc.  
334 Phillips 311 Road  
Helena, AR 72342-9033

Re: Syrgis 2010 August Semi-Annual Pretreatment Report  
(Tracking Number: ARP001013 AFIN: 54-00429 City of Helena NPDES No.: AR0043389)

Dear Mr. Wages:

The Department has reviewed Syrgis' August 2010 semi-annual report. The report is complete. This report contained both categorical and additional sampling data required by the Department's letter dated September 4, 2009. A copy of this letter is attached for Syrgis' convenience.

In the September 4, 2009 letter the Department decided not to adjust Syrgis' limits for dilution because the August 2009 report showed no regulated organic parameters were detected in the effluent. However, the March (February) 2009 and 2010 semi-annual reports indicated benzene in the effluent. The August 2010 report listed benzene non-detect at <1.00 µg/l.

In reference to the telephone conversation (Torrence and Wages) on February 22, 2010, Syrgis appears to have no processes which contribute zinc to the wastewater. In reference to the Department's letter dated September 4, 2009, find this option for the 40 CFR 403.15 credit:

Option 1: Syrgis may discontinue all testing of the drinking water after May 2010. Syrgis metal concentrations in the effluent must not exceed by 20% the highest previous reported metal potable concentration. If Syrgis reports a concentration higher than this value or an ADEQ lab report shows a value higher than this value, the Department will deem that Syrgis has violated the 40CFR414 categorical pretreatment standard for zinc or lead.

Syrgis reported the following concentrations of lead and zinc in the intake water:

Date	Lead	Zinc
08-10-2009	< 40 µg/l	89 µg/l
11-02-2009	48 µg/l	23000 µg/l
01-14-2010	2.25 µg/l	66.6 µg/l
07-07-2010	4.20 µg/l	112 µg/l

Find attached Appendix V – Domestic Pollutant Loadings from EPA Local Limits Development Guidance Appendices (EPA 833-R-04-002B). EPA sampled 638 residential/commercial trunklines (sewer lines) throughout the USA. Even though the drinking water had been contaminated by residential/commercial plumbing and various waste, the maximum reported concentration was only 1280 µg/l. Therefore, the Department has concluded that the 23000 µg/l of zinc is an “outlier” caused by lab error or inadvertent contamination. Note also that the average value reported by EPA was 231 µg/l. The EPA average is comparable to the 112 µg/l of zinc reported by Syrgis.

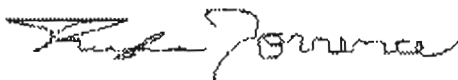
In accordance with Option 1 above, Syrgis limits for Lead and Zinc are:

$$\begin{aligned} \text{Lead} &\Rightarrow 48 + 48 \times 0.2 = 48 + 9.6 = 57.6 \text{ } \mu\text{g/l} \\ \text{Zinc} &\Rightarrow 112 + 112 \times 0.2 = 112 + 22.4 = 134.4 \text{ } \mu\text{g/l} \end{aligned}$$

The Department appreciates Syrgis’ assistance with determining these limits.

If Syrgis has concerns or requires more details, please contact Rufus Torrence at (501) 682-0626 or [torrence@adeq.state.ar.us](mailto:torrence@adeq.state.ar.us).

Sincerely,



Rufus Torrence,  
ADEQ Water Division Engineer

Attachments: ADEQ Letter dated September 4, 2009  
Appendix V / EPA Local Limits Development Guidance Appendices



ARKANSAS  
Department of Environmental Quality

September 4, 2009

Mr. Jeff Wages  
Syrgis Performance Initiators, Inc.  
334 Phillips 311 Road  
Helena, AR 72342-9033

Re: Syrgis (Tracking Number: ARP001013 AFIN: 54-00429) Pretreatment Inspection

Dear Mr. Wages:

On July 15, 2009 the Department pretreatment staff conducted a sampling inspection of the Syrgis Helena facility. The Department appreciates Syrgis' efforts and time in assisting with the inspection. Please find enclosed the pretreatment inspection report. Please review the report and let the Department know if Syrgis finds any errors. Also enclosed is the Department lab analysis from the collected sample. The Department's lab analysis shows zinc at 0.615 mg/l and lead at 0.025 mg/l in the effluent entering the Helena POTW. In the past Syrgis has not tested for lead. Please note that Syrgis must test the effluent for ALL regulated parameters including lead.

In previous correspondence, the Department considered adjusting Syrgis' limits to allow for dilution (Syrgis combines sanitary wastewater with regulated wastewater). Syrgis declared that the Helena facility does not contain a metal bearing stream listed in Appendix A in 40 CFR 414. Since the only parameters detected in the effluent are metals, 40 CFR 403.6(e) is not applicable and Syrgis must demonstrate that these metals enter the facility in the intake potable water.

At this time Syrgis appears to have no processes which contribute zinc to the wastewater. The zinc in the effluent may be entering with the intake water and may be simply passing through the plant unaltered. Before the Department makes a final determination, please sample the intake water on a calendar quarterly basis for a period of one year. The attached analysis may serve as the required analysis for the July- Sep 2009 quarter. Syrgis must sample (only zinc and lead) the intake water for three additional quarters (Oct- Dec 2009, Jan- Mar 2010 & April - May 2010). If these sampling results confirm that the zinc and lead are in the intake water, Syrgis will not be required to sample the intake water in the future.

In accordance with 40 CFR 403.15, Syrgis can take credit for the metals in the intake water. For the February 2010 report, Syrgis' effluent must not exceed by 20% the highest previous potable metal concentrations. The contract lab must use **EPA Method 200.8** instead of Method 200.7.

September 4, 2009

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Syrgis has two options for future reports:

Option 1: Syrgis may discontinue all testing of the drinking water after May 2010. Syrgis metal concentrations in the effluent must not exceed by 20% the highest previous reported metal potable concentration. If Syrgis reports a concentration higher than this value or an ADEQ lab report shows a value higher than this value, the Department will deem that Syrgis has violated the 40CFR414 categorical pretreatment standard for zinc or lead.

Option 2: If the metal concentration in the effluent remains consistently higher than the metal concentration in the intake water, Syrgis may actually have a process which contributes metals to the wastewater. According to 40 CFR 414.85 (b), "the Control Authority [the Department] on a case-by-case basis" can identify "additional process wastewater streams...as metal or cyanide bearing" streams. Syrgis may petition the Department to have a particular metal bearing stream(s) designated as a 40 CFR 414 metal bearing stream. If the petition is successful, the 40 CFR 414 zinc limits (1.05 & 2.61 mg/l) and lead limits (0.32 & 0.69 mg/l) would be applicable to Syrgis' effluent.

Please note that under Option 1, Syrgis currently has violations for 40 CFR 414 pretreatment standards for lead and zinc. These violations may be mitigated by future intake water analyses.

Please note that before the Department considers Option 2, Syrgis must demonstrate that a BMP (Best Management Practices) will not significantly impact "non-process" sources of zinc and lead.

If Syrgis has concerns or requires more details, please contact Rufus Torrence at (501) 682-0626 or [torrence@adeq.state.ar.us](mailto:torrence@adeq.state.ar.us).

Sincerely,

Rufus J. Torrence, Water Division Engineer

Encl: Pretreatment Inspection Report dated July 15, 2009

ADEQ Lab Report 2009-1761

Syrgis (Rineco 9094) Lab Report

EPA Local Limits Development Guidance Appendices; Appendix V Domestic Pollutant Loading

APPENDIX V -  
DOMESTIC POLLUTANT LOADINGS

Residential/Commercial Trunkline Monitoring Data

Pollutant	Number of Detections	Number of Samples	Minimum Concentration (mg/L)	Maximum Concentration (mg/L)	Average Concentration (mg/L)
INORGANICS					
Arsenic	140	205	0.0004	0.088	0.007
Barium	3	3	0.04	0.216	0.115
Boron	4	4	0.1	0.42	0.3
Cadmium	361	538	0.00076	0.11	0.008
Chromium (III)	1	2	< 0.005	0.007	0.006
Chromium (T)	311	522	< 0.001	1.2	0.034
Copper	603	607	0.005	0.74	0.14
Cyanide	7	7	0.01	0.37	0.082
Fluoride	2	2	0.24	0.27	0.255
Iron	18	18	0.0002	3.4	0.589
Lead	433	540	0.001	2.04	0.055
Lithium	2	2	0.03	0.031	0.031
Manganese	3	3	0.04	0.161	0.087
Mercury	218	235	< 0.0001	0.054	0.002
Nickel	313	540	< 0.001	1.6	0.047
Phosphate	2	2	27.4	30.2	28.8
Total Phosphorous	1	1	0.7	0.7	0.7
Silver	181	224	0.0007	1.052	0.019
Zinc	638	638	0.01	1.28	0.231
ORGANICS					
Chloroform	21	30	<0.002	0.099	0.009
1,1-Dichloroethene	2	29	0.005	0.008	0.007
1,1-Dichloroethane	1	28	0.026	0.026	0.026
Trans-1,2-Dichloroethene	1	28	0.013	0.013	0.013
Fluoranthene	2	5	0.00001	<0.001	0.001
Methylene Chloride	7	30	0.00008	0.055	0.027
Phenols	2	2	0.00002	0.00003	0.000025
Bis (2-ethylhexyl) Phthalate	5	5	0.00002	0.022	0.006
Pyrene	2	3	0.00001	<0.005	0.0002
Tetrachloroethene	5	29	0.00001	0.037	0.014
1,2,4-Trichlorobenzene	1	3	<0.002	0.035	0.013
PESTICIDES					
Total BHC	3	3	0.001	0.001	0.001
4,4-DDD	3	3	0.00028	0.0004	0.0003
Total Endosulfan	3	3	0.002	0.002	0.002