STICKLER CONSULTING SERVICES, LLC

Andy Stickler – Managing Member

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May 5th, 2009

Mr. Allen Gilliam, Engineer II
Arkansas Department of Environmental Quality – Water Division
5301 Northshore Drive
North Little Rock, AR. 72118

Re: L. A. Darling Company – Corning, AR facility. Project to evaluate elimination of the on-site wastewater treatment system.

Dear Allen:

Based on our exchange of emails a couple of weeks ago, I wanted to follow-up and provide a more detailed explanation of a project I am currently working on with the L. A. Darling Company, Corning, Arkansas facility.

As I mentioned in my initial email, this facility currently discharges wastewater to the City of Corning municipal treatment system, and triggers applicability under the "Metal Finishing Effluent Guidelines and Standards (specifically, 40 CFR 433.15 – Pretreatment Standards for Existing Sources (PSES). The only regulated "core process" (as defined in 433) in this facility, is iron phosphate conversion coating which is applied as part of the surface preparation process, prior to the application of powder paint on three (3) separate powder coating lines. Wastewater generated by this facility is limited primarily to routine overflow rinse-water from the powder coating surface preparation processes.

Given the above background information, it is also important to note, that this facility has retained a large, on-site, metals precipitation wastewater treatment system for the primary purpose of treating the routine process rinse water from the powder coating lines. This treatment system was initially installed many years ago, to manage routine rinse water from a Nickel / Chromium electroplating operation, the operation of which was terminated back in the mid-1980's. The plating operation was completely dismantled and removed during the mid-1980's, and the only reason that the large treatment system has remained, was because it was already in place, and the facility felt that it would serve as a safeguard in the treatment of process rinse water from the powder coating lines (although, it is doubtful that the system has provided much in the way of actual contaminate removal other than phosphate, which isn't regulated under 433 effluent guidelines).

With all the above said, and given the significant cost associated with the continued operation of the large on-site treatment system (which again, appears to be providing little actual benefit in the way of pollutant removal), the L. A. Darling Corning facility initiated a project earlier this year, to define steps necessary to eliminate the on-site treatment system. Obviously, given the fact that many (if not most) powder coating operations do not perform extensive on-site treatment, the continued operation of this system represents a competitive disadvantage for the L. A. Darling Corning facility.

I currently do a considerable amount of environmental and safety consulting work for L. A. Darling Company, and have been providing guidance and support in their effort to eliminate the large treatment system. In this regard, my first concern was whether or not the process rinse water could meet compliance with the Pretreatment Standards (PSES) at 40 CRF 433.15, as well as the General Pretreatment Prohibitions, without on-site treatment. To this end, I collected samples from each rinse tank on March 26th, at a point when the tanks had several days of run time (and had not been dumped in a couple of weeks), as a worse case scenario. These samples were submitted to American Interplex (in Little Rock), for analyses to confirm the above concerns. Because Zinc appears to be the most predominate "regulated metal of concern" for powder coating operations, I selected this metal as representative of the Part 433 regulated metals. In addition, we checked pH on all the rinse tanks on-site, and also requested Oil & Grease analyses for each rinse tank sample.

Results from this preliminary round of sampling were encouraging, although I did see a potential concern with Zinc (3.6 mg/l). Oil and grease levels were all well below 100 mg/l, with the highest result being 31 mg/l, and the pH results ran between 6.5 and 7.9. **Again, please note that these results were process checks at the rinse tanks, and NOT the wastewater treatment effluent.** After seeing the Zinc result, I immediately started evaluating possible sources, and quickly found out that, indeed, the line I collected the sample from was processing some galvanized steel at the time (which they normally don't do, and had not informed me of prior to the sampling). It is important to note, that the large on-site metals precipitation treatment system is doing it's job in removing Zinc to levels which comply with the Part 433 PSES limitations (although this is normally not an issue, because Darling typically does not process any galvanized steel).

As follow-up to the initial round of sampling, I again collected samples from all rinse tanks on April 8th, and this time submitted to American Interplex for Zinc analysis on all three lines. In addition, we analyzed for other 433 regulated metals (Cadmium, Chromium, Copper, Lead and Nickel) from the line where I had observed the initial high reading for Zinc. The second round results again confirmed that galvanized steel was the source of the Zinc problem as suspected. In addition, this round of sampling also confirmed that the other two (2) lines had very low levels of Zinc (0.0069 mg/l and 0.0024 mg/l) respectively, and also, that the rinse water which had high levels of Zinc, had very low levels of the other Part 433 regulated metals (all within compliance with the PSES effluent guidelines at Part 433 without treatment). *** I am enclosing copies of the analytical reports for both rounds of sampling, for your review.**

Given all the above, I advised L. A. Darling Corning to eliminate the purchase of all galvanized steel as soon as practicable, which they have done, and to notify me when all the inventory is depleted. Once Darling is certain that all galvanized steel is out of the system, we are going to dump the rinse tanks, run normal production for a couple of weeks, and re-sample all rinse tanks for Zinc (and likely for the other Part 433 metals again). **Provided these samples show favorable results, it is my belief that the Darling Corning facility will be in a position to initiate steps to eliminate the on-site treatment process.** Obviously, Darling will share these test results, and any other possible confirmation testing that ADEQ might require, with you. It is my hope that you and your staff can provide guidance as Darling moves forward with this project. Again, Darling would be agreeable to any confirmation testing ADEQ might deem appropriate, in an effort to eliminate the large on-site metals precipitation treatment system.

One important issue to note, will be the **management of spent concentrated cleaners**. While it is likely that this waste stream could meet compliance with Part 433 PSES limitations, as well as the General Prohibitions, with minimal on-site treatment, it is Darling's intent to contract with a commercial disposal facility for **transportation, and off-site treatment** of this waste once the on-site treatment system is eliminated. These cleaners are only dumped once to twice per year, and the cost for off-site disposal is minimal when compared to the cost of maintaining the large on-site treatment system.

I apologize for the lengthy document, but I wanted to provide a fairly detailed account of the work Darling has done so far, and the rational behind the effort to eliminate the large on-site (metals precipitation) system. Again, this treatment system serves no real useful purpose for the powder coating process rinse water (other than the removal of Zinc which can be avoided by eliminating galvanized steel), and the cost of continued operation represents a competitive disadvantage for Darling when compared to similar powder coating operations that do not perform extensive on-site treatment.

Based on the analytical results from the two (2) lines that are not processing galvanized steel (Re: April 8th analytical results), it is obvious that typical rinse water from the Darling Corning powder coating operation should meet compliance with all discharge limitations without on-site treatment. It is important to note, that Darling Corning does incorporate counter-flow rinsing in all process rinse tanks, in an effort to reclaim some of the chemical drag-out from the cleaner tanks. In addition, Darling will continue to optimize rinse overflows to maintain the quality of rinse water necessary to meet paint adhesion and quality specifications. Membrane filtration technology has also been considered as a possible long-term option for water conservation, once the large treatment system has been eliminated.

As always, please don't hesitate to contact me directly should you have questions or concerns regarding this project. Your consideration of the facts, and support is greatly appreciated.

Sincerely,

Andy Stickler
Stickler Consulting Services

AMERICAN INTERPLEX CORPORATION
LABORATORIES

Corning, AR facility

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

PAGE OF

Client: L.A. Darling Co.
Project Reference: Rinse Water Analyses
Project Manager: Andy Stickler
Sampled By: Andy Stickler

PO No.

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	SAMPLE MATRIX: WATER	SOIL	NO OF BOTTLES: Process Rinse Water	ANALYSES REQUESTED: Oil & Grease	Total Zinc
Line A1	A1	CRW-1	3/26/09 1400	✓			✓ 1	✓	
Line A2	A2	CRW-2	3/26/09 1410	✓			✓ 1	✓	
Line B	B	CRW-3	3/26/09 1420	✓			✓ 1	✓	
Line A2	A2	CRW-4	3/26/09 1430	✓			✓ 1		✓
Line B(2)	B(2)	CRW-3	3/26/09 1440	✓			✓ 1	✓	
		Container Type						G	P
		Preservative						S	N

AIC CONTROL NO:
AIC PROPOSAL NO:
Carrier:
Received Temperature C
Remarks
Field pH calibration on _____ @ _____
Buffer:

G = Glass P = Plastic V = VOA vials H = HCl to pH2 T = Sodium Thiosulfate
NO = none S = Sulfuric acid pH2 N = Nitric acid pH2 B = NaOH to pH12 Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions: Andy Stickler
Phone: 870-236-0832 Fax: 870-239-9724
Report Attention to: Andy Stickler (via email, astick@grnco-net)
Report Address to: Andy Stickler
200 Rosewood Drive
Paragould, AR. 72450

Relinquished By:	Date/Time	Received By:	Date/Time
Andy Stickler	3/26/09 1800		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time

Comments: Please Bill: L.A. Darling Company
Wooten Lane
Corning, AR 72422
Attn: Robert Jean

5/01 WS 5981 8/02 FORM 0060

AMERICAN INTERPLEX CORPORATION
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L. A. Darling Company
Post Office Box 970
Paragould, AR 72451-0970

ANALYTICAL RESULTS

[redacted] March 26th Results

AIC No. 127896-1
Sample Identification: CRW-1 3/26/09 1400 Line A-1 (Rinse)

Analyte	Method	Result	RL	Units	Batch	Qualifier
Oil and Grease	EPA 1664A	31	5	mg/l	B5637	

AIC No. 127896-2
Sample Identification: CRW-2 3/26/09 1410 Line A-2 (Rinse)

Analyte	Method	Result	RL	Units	Batch	Qualifier
Oil and Grease	EPA 1664A	22	5	mg/l	B5637	

AIC No. 127896-3
Sample Identification: CRW-3 3/26/09 1420 Line B (Rinse)

Analyte	Method	Result	RL	Units	Batch	Qualifier
Oil and Grease	EPA 1664A	< 5	5	mg/l	B5637	

AIC No. 127896-4
Sample Identification: CRW-4 3/26/09 1430 Line A-2 (Rinse)

Analyte	Method	Result	RL	Units	Batch	Qualifier
Zinc	EPA 200.7	3.6	0.002	mg/l	S25208	

AIC No. 127896-5
Sample Identification: CWW-3 3/26/09 1440 Line B (Tank #2)

Analyte	Method	Result	RL	Units	Batch	Qualifier
Oil and Grease	EPA 1664A	15	5	mg/l	B5637	

AMERICAN INTERPLEX CORPORATION
LABORATORIES

Corning, AR

Please Run these Analyses on Sample CRW-2 ONLY // Thanks!

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

PAGE 1 OF 1

Client: L.A. Darling Company
Project Reference: Rinsewater Evaluation
Project Manager: Andy Stickler
Sampled By: Andy Stickler

PO No.

AIC No.	Sample Identification	Date/Time Collected	GRAB	COMP	SAMPLE MATRIX: WATER	SOIL	Rinsewater	NO OF BOTTLES	TOTAL ZINC	TOTAL NICKEL	TOTAL CADMIUM	TOTAL LEAD	TOTAL COPPER	TOTAL CHROME
Line A1	CRW-1	4/8/09	✓				✓	1	✓					
Line A2	CRW-2	4/8/09	✓				✓	1	✓	✓	✓	✓	✓	✓
Line B	CRW-3	4/8/09	✓				✓	1	✓					
outside city limits	CWS-1	4/8/09	✓				✓	1	✓					
		Container Type							P	P	P	P	P	P
		Preservative							N	N	N	N	N	N

ANALYSES REQUESTED

AIC CONTROL NO:
AIC PROPOSAL NO:
Carrier:
Received Temperature C
Remarks
Field pH calibration on _____ @ _____
Buffer:

G = Glass, NO = none; P = Plastic, S = Sulfuric acid pH2; V = VOA vials, N = Nitric acid pH2; H = HCl to pH2, B = NaOH to pH12; T = Sodium Thiosulfate, Z = Zinc acetate

Turnaround Time Requested: (Please circle)
NORMAL or EXPEDITED IN ____ DAYS
Expedited results requested by: _____
Who should AIC contact with questions: Andy Stickler
Phone: 870-236-0832 Fax: 870-239-9724
Report Attention to: Andy Stickler - via email
Report Address to: 200 Rosewood Dr. Paragould, AR 72450

Relinquished By:	Date/Time	Received By:	Date/Time
Andy Stickler	4/8/09 1830		
Relinquished By:	Date/Time	Received in Lab By:	Date/Time

Comments: Please Bill to: L.A. Darling Company
1000 TEN Lane
Corning, AR 72422
Attn: Robert Jean

5/01 WS 5981 8/02 FORM 0060

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L. A. Darling Company
Post Office Box 970
Paragould, AR 72451-0970

April 8th Results

ANALYTICAL RESULTS

AIC No. 128211-1
Sample Identification: CRW-1 4/8/09 1330 LINE A-1 (Rinse)

Analyte	Method	Result	RL	Units	Batch	Qualifier
Zinc	EPA 200.8	0.0069	0.002	mg/l	S25297	

AIC No. 128211-2
Sample Identification: CRW-2 4/8/09 1350 LINE A-2 (Rinse)

Analyte	Method	Result	RL	Units	Batch	Qualifier
Zinc	EPA 200.7	8.6	0.002	mg/l	S25297	
Cadmium	EPA 200.8	< 0.004	0.004	mg/l	S25297	
Chromium	EPA 200.8	< 0.007	0.007	mg/l	S25297	
Copper	EPA 200.8	0.020	0.006	mg/l	S25297	
Lead	EPA 200.8	< 0.04	0.04	mg/l	S25297	
Nickel	EPA 200.8	0.14	0.01	mg/l	S25297	

AIC No. 128211-3
Sample Identification: CRW-3 4/8/09 1340 LINE B (Rinse)

Analyte	Method	Result	RL	Units	Batch	Qualifier
Zinc	EPA 200.8	0.0024	0.002	mg/l	S25297	

AIC No. 128211-4
Sample Identification: CWS-1 4/8/09 1600 Outside City WATER Source

Analyte	Method	Result	RL	Units	Batch	Qualifier
Zinc	EPA 200.7	< 0.002	0.002	mg/l	S25297	