

Gage, Hannah

From: Gilliam, Allen
Sent: Monday, May 02, 2016 12:59 PM
To: 'Jones Chuck'
Cc: Gage, Hannah; Arkadelphia - Brenda Gills; Leamons, Bryan
Subject: AR0020605_Danfoss ARP001040 late March 2016 periodic pretreatment report_20160502
Attachments: 20160426114124376.pdf

Chuck,

Danfoss' March 2016 semi-annual report was electronically received late, reviewed, deemed complete and compliant with the reporting requirements in 40 CFR 403.12(e) and more specifically in compliance with the Metal Finishing pretreatment standards in 40 CFR 433.17.

Please note this office has Danfoss' periodic reports due during the months of March, June, September and December of each year. Danfoss has shown a history of submitting late reports. Please take under advisement you should take your compliance samples the 1st day of the [Month] Danfoss' periodic reports are due. This should help in submitting timely pretreatment reports. A report received forty five (45) days late meets the significant non-compliance (SNC) criteria in 40 CFR 403.8(f)(2)(viii)(F). Formal enforcement action may ensue if this occurs.

As mentioned in your last (Dec. '15) periodic report, "Danfoss' toxic organic management plan [TOMP] was received from Harbor Environmental in July 2015 and approved by ADEQ on July 21, 2015. You should have this on file and Danfoss' toxic organic management practices should be following daily.

Under 40 CFR 433.12(a), "In lieu of requiring monitoring for TTO [total toxic organics], [ADEQ] may allow dischargers to make the following certification statement (which you have within the attached report): "Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation [or pretreatment standard] for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the toxic organic management plan [TOMP] submitted to [ADEQ]."

In short, Danfoss is not required to sample/analyze/report for the long list of toxic organics, just the metals (and cyanide) listed in 40 CFR 433.17 unless there's a chemistry change in Danfoss' processes that alters the toxic organics in use. In that case, a new TOMP would have to be submitted.

Sincerely,

Allen Gilliam
ADEQ State Pretreatment Coordinator
501.682.0625

cc: Brenda Gills, City of Arkadelphia Utilities Manager

E/NPDES/NPDES/Pretreatment/Reports

-----Original Message-----

From: Jones Chuck [<mailto:Chuck.Jones@danfoss.com>]

Sent: Tuesday, April 26, 2016 12:50 PM

To: Gilliam, Allen

Subject: FW:

Quarterly report sir

Chuck Jones, NREMT-P

Environmental, Health and Safety Manager Commercial Compressors North America Danfoss LLC One Scroll Drive

Arkadelphia, AR 71923 chuck.jones@danfoss.com

Tel.: 870-246-0714

Mobile: 501-617-3459

Fax: 870-245-0150

<http://www.danfoss.com>

C. Number of Regular Employees at this Facility 195

D. [Reserved]

(4) FLOW MEASUREMENT

INDIVIDUAL & TOTAL PROCESS FLOWS DISCHARGED TO POTW IN GALLONS PER DAY

Process	Average	Maximum	Type of Discharge*
Regulated (Core & Cyanide)	18142	62100	Continuous
' 403.6(e) Unregulated*	0	0	N/A
' 403.6(e) Dilute	0	0	Batch
Cooling Water	0	0	Continuous
Sanitary	5800	10150	Continuous
Total Flow to POTW	23942	72250	*****

*If batch discharged please list the period of time of each batch discharge (300 gallons/day; 500 gallons/week, 2,000 gallons/3 months, etc). Do not normalize over that period for the average flow.

"Unregulated" has a precise legal meaning; see 40CFR403.6(e).

(5) MEASUREMENT OF POLLUTANTS

A. TYPE OF TREATMENT SYSTEM

CHECK EACH APPLICABLE BLOCK

Neutralization

Chemical Precipitation and Sedimentation

Chromium Reduction

Cyanide Destruction

Other _____

None

B. COMMENTS ON TREATMENT SYSTEM

C. THE INDUSTRIAL USER MUST PERFORM SAMPLING AND ANALYSIS OF THE EFFLUENT FROM ALL REGULATED PROCESSES-- CORE & ANCILLARY--(AFTER TREATMENT, IF APPLICABLE). ATTACH THE LAB ANALYSIS WHICH SHOWS A MAXIMUM; TABULATE ALL THE ANALYTICAL DATA COLLECTED DURING THE REPORT PERIOD IN THE SPACE PROVIDED BELOW. ZERO CONCENTRATIONS ARE NOT ACCEPTABLE; LIST THE DETECTION LIMIT IF CONCENTRATION WAS BELOW DETECTION LIMIT.

40 CFR 433.17 Pollutant(mg/l) limits	Cd	Cr	Cu	Pb	Ni	Ag	Zn	CN	TTO*
Max for 1 day	0.11	2.77	3.38	0.69	3.98	0.43	2.61	1.20	2.13
Monthly Avg	0.07	1.71	2.07	0.43	2.38	0.24	1.48	0.65	--
Max Measured	.00052	.0104	.0156	.0104	.0104	.0208	.00520	.010	*
Avg Measured**	.00052	.0104	.0156	.0104	.0104	.0208	.00520	.010	*

Sample Location After Pre-Treatment

Sample Type (Grab* or Composite) Composite

*If Grab, list # of grabs over what period of time

Number of Samples and Frequency Collected 1

40CFR136 Preservation and Analytical Methods Use: Yes No (include complete Chain of Custody)

*If a TOMP has been submitted and approved by ADEQ place N/A.

**A value here is the average of all samples taken during one (1) calendar month regardless of number of samples taken. If only one (1) sample is taken it must meet the monthly average limitation.

(6) CERTIFICATION (ONLY IF A TOMP HAS BEEN SUBMITTED/APPROVED BY ADEQ)

B. CHECK ONE: G '433.11(e) TOXIC ORGANIC ANALYSIS ATTACHED G '433.12(a) TTO CERTIFICATION

Based on my inquiry of the person or persons directly responsible for managing compliance with the pretreatment standard for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last semi-annual compliance report. I further certify that this facility is implementing the toxic organic management plan submitted to Arkansas Department of Environmental Quality.

(Typed/Printed Name)

(Corporate Officer or authorized representative signature)

Date of Signature

(7) POLLUTION PREVENTION ACT OF 1990 [42 U.S.C. 13101 et seq.]

6602 [42 U.S.C. 13101] Findings and Policy para (b) Policy.--The Congress hereby declares it to be the national policy of the United States that pollution should be prevented or reduced at the source whenever feasible; pollution that cannot be prevented should be recycled in an environmentally safe manner, whenever feasible; pollution that cannot be prevented or recycled should be treated in an environmentally safe manner whenever feasible; and disposal or other release into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner.

The User may list any new or ongoing Pollution Prevention practices including Best or Environmental Management Practices, Source Reduction, Waste Minimization, Lean Manufacturing, Water and/or Energy Conservaton:

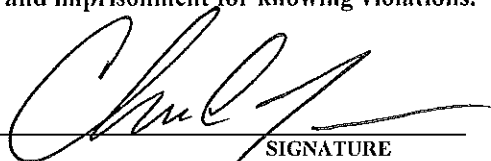
- 1. We continue to use mechanical separation of oil and grease prior to pre-treatment.
2.
3.
4.
5.

(8) GENERAL COMMENTS

(9) SEMI-ANNUAL/PERIODIC REPORT CERTIFICATION STATEMENT REQUIRED UNDER 40 CFR 403.12(l)

I certify under penalty of law that I have personally examined and am familiar with the information in this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Chuck Jones
NAME OF CORPORATE OFFICER OR AUTHORIZED REPRESENTATIVE


SIGNATURE

EHS Manager
OFFICIAL TITLE

4/25/16
DATE/SIGNED

22 April 2016

Chuck Jones

Danfoss - Scroll Technologies

1 Scroll Drive

Arkadelphia, AR 71923-8813

Project: Industrial Wastewater Effluent Sample

Project Number: April 2016

Date Received: 14-Apr-16 10:07



CASE NARRATIVE

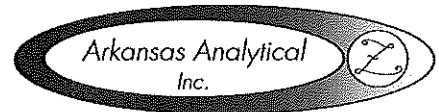
Sample Delivery Group – 1604229

One OR more of the qualifiers described below may appear in this report.

QUALITY CONTROL QUALIFIERS:

<u>Qualifier</u>	<u>Description</u>
E20	Sample used as "parent" for the associated analytical batch.
%D3/S-01 / E1	Surrogate failed to recover within acceptance criteria (%D3/S-01). Results associated with this surrogate were qualified as "estimated" (E1).
B	Present in the Associated Blank
B1	Present in Blank, but Not In the Sample.
%D2 / E5	Laboratory Control Spike (LCS) and/or Laboratory Control Spike Duplicate (LCSD) failed to recover with acceptance criteria (%D2). Associated results were qualified as "estimated" (E5).
%D1	Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) failed acceptance criteria.
MBA	Failed criteria due the high concentration of analyte in the parent sample.
MBI	Failed criteria due an interference in the parent sample.
%D3	Quality Control Surrogate failed acceptance criteria.
NREC	Quality Control Surrogate failed.

22 April 2016



Chuck Jones
Danfoss - Scroll Technologies
1 Scroll Drive
Arkadelphia, AR 71923-8813
Project: Industrial Wastewater Effluent Sample
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Date Received: 14-Apr-16 10:07

ANALYTICAL RESULTS

Lab Number: 1604229-01
Sample Name: Effluent Grab
Date/Time Collected: 4/13/16 14:00
Sample Matrix: Water

Table with 7 columns: Acid Compounds, Units, Result, Qualifier(s), Date/Time Analyzed, Batch, Method. Lists various phenols and their concentrations.

Table with 7 columns: Base/Neutral Compounds, Units, Result, Qualifier(s), Date/Time Analyzed, Batch, Method. Lists various chlorinated and nitrated benzene derivatives and their concentrations.

22 April 2016

Chuck Jones

Danfoss - Scroll Technologies

1 Scroll Drive

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Project Number: April 2016

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ANALYTICAL RESULTS

Lab Number: 1604229-01
 Sample Name: Effluent Grab
 Date/Time Collected: 4/13/16 14:00
 Sample Matrix: Water

<u>Base/Neutral Compounds</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Chrysene	ug/L	< 5.00		4/18/16 18:29	B604231	625 (mod.)
Dibenz[a,h]anthracene	ug/L	< 5.00		4/18/16 18:29	B604231	625 (mod.)
Diethylphthalate	ug/L	< 10.0		4/18/16 18:29	B604231	625 (mod.)
Dimethylphthalate	ug/L	< 10.0		4/18/16 18:29	B604231	625 (mod.)
Di-n-butylphthalate	ug/L	< 10.0		4/18/16 18:29	B604231	625 (mod.)
Di-n-octylphthalate	ug/L	< 10.0		4/18/16 18:29	B604231	625 (mod.)
Fluorene	ug/L	< 10.0		4/18/16 18:29	B604231	625 (mod.)
Hexachlorobenzene	ug/L	< 5.00		4/18/16 18:29	B604231	625 (mod.)
Hexachlorobutadiene	ug/L	< 10.0		4/18/16 18:29	B604231	625 (mod.)
Hexachlorocyclopentadiene	ug/L	< 10.0		4/18/16 18:29	B604231	625 (mod.)
Hexachloroethane	ug/L	< 20.0		4/18/16 18:29	B604231	625 (mod.)
Indeno[1,2,3-cd]pyrene	ug/L	< 5.00		4/18/16 18:29	B604231	625 (mod.)
Isophorone	ug/L	< 10.0		4/18/16 18:29	B604231	625 (mod.)
Naphthalene	ug/L	< 10.0		4/18/16 18:29	B604231	625 (mod.)
Nitrobenzene	ug/L	< 10.0		4/18/16 18:29	B604231	625 (mod.)
N-Nitrosodimethylamine	ug/L	< 50.0		4/18/16 18:29	B604231	625 (mod.)
N-Nitroso-di-n-propylamine	ug/L	< 20.0		4/18/16 18:29	B604231	625 (mod.)
N-Nitrosodiphenylamine/diphenylamine	ug/L	< 20.0		4/18/16 18:29	B604231	625 (mod.)
Phenanthrene	ug/L	< 10.0		4/18/16 18:29	B604231	625 (mod.)
Pyrene	ug/L	< 10.0		4/18/16 18:29	B604231	625 (mod.)
2-Fluorobiphenyl [surr]	%	68.1		4/18/16 18:29	B604231	625 (mod.)
Nitrobenzene-d5 [surr]	%	72.5		4/18/16 18:29	B604231	625 (mod.)
Terphenyl-d14 [surr]	%	83.5		4/18/16 18:29	B604231	625 (mod.)

<u>Pesticides/PCBs</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Aldrin	ug/L	< 0.010		4/21/16 12:03	B604301	608
alpha-BHC	ug/L	< 0.050		4/21/16 12:03	B604301	608
beta-BHC	ug/L	< 0.050		4/21/16 12:03	B604301	608
gamma-BHC (Lindane)	ug/L	< 0.050		4/21/16 12:03	B604301	608
delta-BHC	ug/L	< 0.050		4/21/16 12:03	B604301	608
Chlordane	ug/L	< 0.200		4/21/16 12:03	B604301	608
4,4'-DDT	ug/L	< 0.020		4/21/16 12:03	B604301	608
4,4'-DDE	ug/L	< 0.100		4/21/16 12:03	B604301	608
4,4'-DDD	ug/L	< 0.100		4/21/16 12:03	B604301	608
Dieldrin	ug/L	< 0.020		4/21/16 12:03	B604301	608
Endosulfan I	ug/L	< 0.010		4/21/16 12:03	B604301	608
Endosulfan II	ug/L	< 0.020		4/21/16 12:03	B604301	608
Endosulfan sulfate	ug/L	< 0.100		4/21/16 12:03	B604301	608
Endrin	ug/L	< 0.020		4/21/16 12:03	B604301	608
Endrin aldehyde	ug/L	< 0.100		4/21/16 12:03	B604301	608
Heptachlor	ug/L	< 0.010		4/21/16 12:03	B604301	608
Heptachlor epoxide	ug/L	< 0.010		4/21/16 12:03	B604301	608
Chlorpyrifos	ug/L	< 0.070		4/21/16 12:03	B604301	608
Aroclor-1242	ug/L	< 0.200		4/21/16 12:03	B604301	608

22 April 2016

Chuck Jones

Danfoss - Scroll Technologies

1 Scroll Drive

Arkadelphia, AR 71923-8813

Project: Industrial Wastewater Effluent Sample

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Date Received: 14-Apr-16 10:07



ANALYTICAL RESULTS

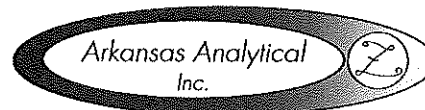
Lab Number: 1604229-01
Sample Name: Effluent Grab
Date/Time Collected: 4/13/16 14:00
Sample Matrix: Water

<u>Pesticides/PCBs</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Aroclor-1254	ug/L	< 0.200		4/21/16 12:03	B604301	608
Aroclor-1221	ug/L	< 0.200		4/21/16 12:03	B604301	608
Aroclor-1232	ug/L	< 0.200		4/21/16 12:03	B604301	608
Aroclor-1248	ug/L	< 0.200		4/21/16 12:03	B604301	608
Aroclor-1260	ug/L	< 0.200		4/21/16 12:03	B604301	608
Aroclor-1016	ug/L	< 0.200		4/21/16 12:03	B604301	608
Toxaphene	ug/L	< 0.300		4/21/16 12:03	B604301	608
TCMX [surr]	%	97.8		4/21/16 12:03	B604301	608
DCBP [surr]	%	96.5		4/21/16 12:03	B604301	608

<u>Total Metals</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
Arsenic	mg/L	< 0.0104		4/21/16 17:10	B604303	200.7, Rev 4.4 (1994)
Cadmium	mg/L	< 0.000520		4/21/16 17:10	B604303	200.7, Rev 4.4 (1994)
Chromium	mg/L	< 0.0104		4/21/16 17:10	B604303	200.7, Rev 4.4 (1994)
Copper	mg/L	0.00823		4/21/16 17:10	B604303	200.7, Rev 4.4 (1994)
Lead	mg/L	< 0.0156		4/21/16 17:10	B604303	200.7, Rev 4.4 (1994)
Manganese	mg/L	1.48		4/21/16 17:10	B604303	200.7, Rev 4.4 (1994)
Nickel	mg/L	0.0781		4/21/16 17:10	B604303	200.7, Rev 4.4 (1994)
Silver	mg/L	< 0.0208		4/21/16 17:10	B604303	200.7, Rev 4.4 (1994)
Zinc	mg/L	0.0334		4/21/16 17:10	B604303	200.7, Rev 4.4 (1994)

<u>Volatiles</u>	<u>Units</u>	<u>Result</u>	<u>Qualifier(s)</u>	<u>Date/Time Analyzed</u>	<u>Batch</u>	<u>Method</u>
1,1,1-Trichloroethane	ug/L	< 10.0		4/15/16 11:12	B604207	624
1,1,2,2-Tetrachloroethane	ug/L	< 10.0		4/15/16 11:12	B604207	624
1,1,2-Trichloroethane	ug/L	< 10.0		4/15/16 11:12	B604207	624
1,1-Dichloroethane	ug/L	< 10.0		4/15/16 11:12	B604207	624
1,1-Dichloroethene	ug/L	< 10.0		4/15/16 11:12	B604207	624
1,2-Dichloroethane	ug/L	< 10.0		4/15/16 11:12	B604207	624
1,2-Dichloropropane	ug/L	< 10.0		4/15/16 11:12	B604207	624
2-Chloroethyl vinyl ether	ug/L	< 10.0		4/15/16 11:12	B604207	624
Acrolein	ug/L	< 50.0		4/15/16 11:12	B604207	624
Acrylonitrile	ug/L	< 20.0		4/15/16 11:12	B604207	624
Benzene	ug/L	< 10.0		4/15/16 11:12	B604207	624
Bromodichloromethane	ug/L	< 10.0		4/15/16 11:12	B604207	624
Bromoform	ug/L	< 10.0		4/15/16 11:12	B604207	624
Bromomethane	ug/L	< 50.0		4/15/16 11:12	B604207	624
Carbon tetrachloride	ug/L	< 2.00		4/15/16 11:12	B604207	624
Chlorobenzene	ug/L	< 10.0		4/15/16 11:12	B604207	624
Chlorodibromomethane	ug/L	< 10.0		4/15/16 11:12	B604207	624
Chloroethane	ug/L	< 50.0		4/15/16 11:12	B604207	624
Chloroform	ug/L	< 10.0		4/15/16 11:12	B604207	624
Chloromethane	ug/L	< 50.0		4/15/16 11:12	B604207	624
cis-1,3-Dichloropropene	ug/L	< 10.0		4/15/16 11:12	B604207	624
Ethylbenzene	ug/L	< 10.0		4/15/16 11:12	B604207	624

22 April 2016



Chuck Jones
Danfoss - Scroll Technologies
1 Scroll Drive
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Project Number: April 2016
Date Received: 14-Apr-16 10:07

ANALYTICAL RESULTS

Lab Number: 1604229-01
Sample Name: Effluent Grab
Date/Time Collected: 4/13/16 14:00
Sample Matrix: Water

Table with 7 columns: Volatiles, Units, Result, Qualifier(s), Date/Time Analyzed, Batch, Method. Rows include Methylene chloride, Tetrachloroethene, Toluene, trans-1,2-Dichloroethene, Trichloroethene, Vinyl chloride, trans-1,3-Dichloropropene, 4-Bromofluorobenzene [surr], 1,2-Dichloroethane-d4 [surr], and Toluene-d8 [surr].

Table with 7 columns: Wet Chemistry, Units, Result, Qualifier(s), Date/Time Analyzed, Batch, Method. Rows include BOD-5, Cyanide (total), Oil and Grease, and TSS.

22 April 2016

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 1 Scroll Drive
 Arkadelphia, AR 71923-8813
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QUALITY CONTROL RESULTS

Wet Chemistry -- Batch: B604198 (Water)

Prepared: 14-Apr-16 12:03 By: CAS -- Analyzed: 15-Apr-16 10:41 By: CAS

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
Oil and Grease	<3.50 mg/L	89.0% / 90.1%	84.7% / NA		1.26%	

Volatiles -- Batch: B604207 (Water)

Prepared: 15-Apr-16 08:23 By: CT -- Analyzed: 15-Apr-16 13:32 By: ct

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
1,1,1-Trichloroethane	<10.0 ug/L	114% / NA	114% / 116%		1.37%	
1,1,2,2-Tetrachloroethane	<10.0 ug/L	109% / NA	122% / 122%		0.427%	
1,1,2-Trichloroethane	<10.0 ug/L	92.5% / NA	102% / 98.2%		3.35%	
1,1-Dichloroethane	<10.0 ug/L	113% / NA	117% / 113%		3.28%	
1,1-Dichloroethene	<10.0 ug/L	105% / NA	110% / 111%		0.879%	
1,2-Dichloroethane	<10.0 ug/L	99.8% / NA	104% / 104%		0.230%	
1,2-Dichloropropane	<10.0 ug/L	102% / NA	104% / 109%		4.78%	
2-Chloroethyl vinyl ether	<10.0 ug/L	97.3% / NA	110% / 121%		9.47%	
Acrolein	<50.0 ug/L	70.1% / NA	35.0% / 6.53%		137%	D
Acrylonitrile	<20.0 ug/L	114% / NA	109% / 114%		4.28%	
Benzene	<10.0 ug/L	105% / NA	112% / 113%		1.63%	
Bromodichloromethane	<10.0 ug/L	95.2% / NA	102% / 108%		5.66%	
Bromofom	<10.0 ug/L	115% / NA	120% / 110%		8.85%	
Bromomethane	<50.0 ug/L	96.0% / NA	93.4% / 86.8%		7.36%	
Carbon tetrachloride	<2.00 ug/L	104% / NA	108% / 109%		1.04%	
Chlorobenzene	<10.0 ug/L	97.1% / NA	101% / 93.7%		7.96%	
Chlorodibromomethane	<10.0 ug/L	103% / NA	102% / 94.6%		7.50%	
Chloroethane	<50.0 ug/L	85.2% / NA	93.4% / 101%		7.60%	
Chloroform	<10.0 ug/L	107% / NA	103% / 108%		4.16%	
Chloromethane	<50.0 ug/L	89.8% / NA	96.6% / 110%		13.1%	
cis-1,3-Dichloropropene	<10.0 ug/L	102% / NA	108% / 110%		2.18%	
Ethylbenzene	<10.0 ug/L	104% / NA	111% / 104%		6.28%	
Methylene chloride	<20.0 ug/L	107% / NA	106% / 109%		2.68%	
Tetrachloroethene	<10.0 ug/L	98.8% / NA	114% / 105%		8.84%	
Toluene	<10.0 ug/L	104% / NA	101% / 101%		0.124%	
trans-1,2-Dichloroethene	<10.0 ug/L	105% / NA	111% / 112%		0.391%	
trans-1,3-Dichloropropene	<10.0 ug/L	105% / NA	107% / 105%		1.41%	
Trichloroethene	<10.0 ug/L	102% / NA	91.1% / 97.1%		6.47%	
Vinyl chloride	<10.0 ug/L	110% / NA	115% / 119%		3.93%	
1,2-Dichloroethane-d4 [surr]	104 %	104% / NA	96.4% / 101%		NA	
4-Bromofluorobenzene [surr]	105 %	108% / NA	107% / 107%		NA	
Toluene-d8 [surr]	93.4 %	102% / NA	99.8% / 96.4%		NA	

Wet Chemistry -- Batch: B604210 (Water)

Prepared: 15-Apr-16 12:40 By: TA -- Analyzed: 15-Apr-16 12:40 By: TA

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
TSS	<1.00 mg/L	85.0% / 95.0%	NA / NA		11.1%	

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QUALITY CONTROL RESULTS

Wet Chemistry -- Batch: B604211 (Water)

Prepared: 15-Apr-16 09:00 By: TA -- Analyzed: 15-Apr-16 09:00 By: TA

<u>Analyte</u>	<u>BLK</u>	<u>LCS / LCSD</u>	<u>MS / MSD</u>	<u>Dup</u>	<u>RPD</u>	<u>Qualifiers</u>
BOD-5	<2.00 mg/L	113% / 109%	NA / NA		3.41%	

Wet Chemistry -- Batch: B604213 (Water)

Prepared: 15-Apr-16 10:04 By: CAS -- Analyzed: 15-Apr-16 16:38 By: CAS

<u>Analyte</u>	<u>BLK</u>	<u>LCS / LCSD</u>	<u>MS / MSD</u>	<u>Dup</u>	<u>RPD</u>	<u>Qualifiers</u>
Cyanide (total)	<0.010 mg/L	85.0% / 84.0%	98.0% / NA		1.18%	

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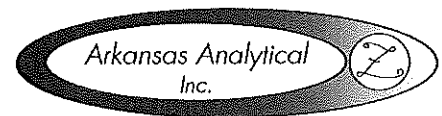
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Project: Industrial Wastewater Effluent Sample

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QUALITY CONTROL RESULTS

Base/Neutral Compounds -- Batch: B604231 (Water)

Prepared: 18-Apr-16 10:55 By: KR -- Analyzed: 18-Apr-16 18:08 By: KR

Analyte	BLK	LCS / LCSD	MS / MSD	Dup	RPD	Qualifiers
1,2,4-Trichlorobenzene	<10.0 ug/L	56.7% / NA	68.6% / 54.2%		23.5%	
1,2-Dichlorobenzene	<10.0 ug/L	62.4% / NA	75.1% / 61.8%		19.5%	
1,2-Diphenyl Hydrazine	<20.0 ug/L	82.9% / NA	85.1% / 77.7%		9.01%	
1,3-Dichlorobenzene	<10.0 ug/L	59.1% / NA	47.9% / 25.5%		61.0%	%D1, D
1,4-Dichlorobenzene	<10.0 ug/L	62.3% / NA	50.8% / 42.1%		18.3%	
2,3,7,8-TCDD Screen	<10.0 ug/L	NA / NA	NA / NA		NA	
2,4,6-Trichlorophenol	<10.0 ug/L	72.3% / NA	75.7% / 68.6%		9.79%	
2,4-Dichlorophenol	<10.0 ug/L	80.6% / NA	92.2% / 75.8%		19.5%	
2,4-Dimethylphenol	<10.0 ug/L	82.4% / NA	93.6% / 76.9%		19.5%	
2,4-Dinitrophenol	<50.0 ug/L	95.9% / NA	125% / 112%		11.4%	
2,4-Dinitrotoluene	<10.0 ug/L	94.9% / NA	86.5% / 75.9%		13.0%	
2,6-Dinitrotoluene	<10.0 ug/L	94.9% / NA	90.6% / 79.5%		12.6%	
2-Chloronaphthalene	<10.0 ug/L	75.6% / NA	81.9% / 66.8%		20.3%	
2-Chlorophenol	<10.0 ug/L	85.6% / NA	49.8% / 47.2%		5.38%	
2-Nitrophenol	<20.0 ug/L	75.2% / NA	80.2% / 69.0%		14.8%	
3,3'-Dichlorobenzidine	<5.00 ug/L	133% / NA	163% / 135%		18.5%	
4,6-Dinitro-2-methylphenol	<10.0 ug/L	86.8% / NA	90.3% / 86.0%		4.85%	
4,6-Dinitro-o-cresol	<50.0 ug/L	86.8% / NA	90.3% / 86.0%		4.85%	
4-Bromophenyl-phenylether	<10.0 ug/L	87.1% / NA	85.7% / 73.0%		16.0%	
4-Chloro-3-methylphenol	<10.0 ug/L	85.8% / NA	105% / 90.0%		15.4%	
4-Chlorophenyl-phenylether	<10.0 ug/L	81.5% / NA	71.4% / 64.6%		9.72%	
4-Nitrophenol	<50.0 ug/L	58.1% / NA	52.9% / 42.0%		22.7%	
Acenaphthene	<10.0 ug/L	82.0% / NA	89.5% / 71.3%		22.7%	
Acenaphthylene	<10.0 ug/L	82.8% / NA	89.1% / 74.1%		18.4%	
Anthracene	<10.0 ug/L	89.4% / NA	74.7% / 72.1%		3.59%	
Benzidine	<50.0 ug/L	87.0% / NA	73.0% / 66.6%		9.21%	
Benzo (a) anthracene	<5.00 ug/L	92.5% / NA	91.1% / 85.8%		5.95%	
Benzo[a]pyrene	<5.00 ug/L	88.8% / NA	100% / 85.8%		15.0%	
Benzo[b]fluoranthene	<10.0 ug/L	88.6% / NA	94.9% / 83.3%		13.0%	
Benzo[g,h,i]perylene	<20.0 ug/L	92.8% / NA	128% / 111%		14.1%	
Benzo[k]fluoranthene	<5.00 ug/L	84.1% / NA	99.3% / 89.0%		10.9%	
Bis(2-chloroethoxy)methane	<10.0 ug/L	79.4% / NA	80.9% / 67.2%		18.4%	
Bis(2-chloroethyl)ether	<10.0 ug/L	84.7% / NA	97.1% / 83.4%		15.2%	
Bis(2-chloroisopropyl)ether	<10.0 ug/L	67.6% / NA	78.8% / 71.5%		9.68%	
Bis(2-ethylhexyl)phthalate	<10.0 ug/L	95.2% / NA	84.8% / 80.2%		5.25%	
Butylbenzylphthalate	<10.0 ug/L	86.4% / NA	82.4% / 69.5%		16.5%	
Chrysene	<5.00 ug/L	103% / NA	103% / 90.0%		13.6%	
Dibenz[a,h]anthracene	<5.00 ug/L	90.1% / NA	107% / 94.7%		12.2%	
Diethylphthalate	<10.0 ug/L	93.8% / NA	81.4% / 77.3%		5.24%	
Dimethylphthalate	<10.0 ug/L	93.3% / NA	92.1% / 80.1%		13.9%	
Di-n-butylphthalate	<10.0 ug/L	91.9% / NA	85.6% / 71.7%		17.7%	
Di-n-octylphthalate	<10.0 ug/L	95.7% / NA	105% / 87.9%		18.2%	
Fluorene	<10.0 ug/L	94.8% / NA	92.0% / 81.7%		11.9%	
Hexachlorobenzene	<5.00 ug/L	83.0% / NA	83.0% / 73.1%		12.6%	
Hexachlorobutadiene	<10.0 ug/L	57.2% / NA	65.3% / 52.4%		22.0%	
Hexachlorocyclopentadiene	<10.0 ug/L	55.4% / NA	59.6% / 52.9%		11.9%	
Hexachloroethane	<20.0 ug/L	54.5% / NA	64.8% / 54.3%		17.6%	
Indeno[1,2,3-cd]pyrene	<5.00 ug/L	89.9% / NA	118% / 101%		16.3%	

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QUALITY CONTROL RESULTS

Base/Neutral Compounds -- Batch: B604231 (Water)

Prepared: 18-Apr-16 10:55 By: KR -- Analyzed: 18-Apr-16 18:08 By: KR

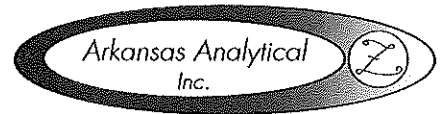
<u>Analyte</u>	<u>BLK</u>	<u>LCS / LCSD</u>	<u>MS / MSD</u>	<u>Dup</u>	<u>RPD</u>	<u>Qualifiers</u>
Isophorone	<10.0 ug/L	76.5% / NA	82.4% / 66.1%		22.0%	
Naphthalene	<10.0 ug/L	61.6% / NA	70.4% / 57.6%		20.0%	
Nitrobenzene	<10.0 ug/L	75.6% / NA	77.8% / 65.0%		17.9%	
N-Nitrosodimethylamine	<50.0 ug/L	58.8% / NA	68.3% / 60.4%		12.3%	
N-Nitroso-di-n-propylamine	<20.0 ug/L	80.5% / NA	86.6% / 73.8%		16.0%	
N-Nitrosodiphenylamine/diphenylamine	<20.0 ug/L	89.4% / NA	93.9% / 83.4%		11.9%	
p-Chloro-m-cresol	<10.0 ug/L	86.8% / NA	90.3% / 86.0%		4.85%	
Pentachlorophenol	<5.00 ug/L	73.1% / NA	77.1% / 73.5%		4.77%	
Phenanthrene	<10.0 ug/L	86.3% / NA	94.1% / 83.3%		12.1%	
Phenol	<10.0 ug/L	49.2% / NA	56.0% / 48.6%		14.0%	
Pyrene	<10.0 ug/L	98.2% / NA	93.2% / 82.9%		11.5%	
2,4,6-Tribromophenol [surr]	67.9 %	91.6% / NA	88.0% / 79.1%		NA	
2-Fluorobiphenyl [surr]	74.8 %	89.5% / NA	85.0% / 71.9%		NA	
2-Fluorophenol [surr]	58.4 %	56.9% / NA	65.2% / 57.4%		NA	
Nitrobenzene-d5 [surr]	81.3 %	75.1% / NA	79.1% / 65.0%		NA	
Phenol-d5 [surr]	47.5 %	43.7% / NA	52.0% / 45.6%		NA	
Terphenyl-d14 [surr]	81.9 %	89.6% / NA	86.7% / 80.3%		NA	

Pesticides/PCBs -- Batch: B604301 (Water)

Prepared: 19-Apr-16 11:00 By: MB -- Analyzed: 21-Apr-16 13:17 By: mb

<u>Analyte</u>	<u>BLK</u>	<u>LCS / LCSD</u>	<u>MS / MSD</u>	<u>Dup</u>	<u>RPD</u>	<u>Qualifiers</u>
4,4'-DDD	<0.100 ug/L	85.5% / 76.5%	101% / NA		11.1%	
4,4'-DDE	<0.100 ug/L	82.8% / 74.5%	96.2% / NA		10.5%	
4,4'-DDT	<0.020 ug/L	101% / 90.4%	118% / NA		10.6%	
Aldrin	<0.010 ug/L	71.2% / 67.3%	82.0% / NA		5.57%	
alpha-BHC	<0.050 ug/L	80.5% / 76.2%	92.2% / NA		5.48%	
beta-BHC	<0.050 ug/L	123% / 114%	104% / NA		7.89%	
delta-BHC	<0.050 ug/L	74.1% / 66.9%	83.9% / NA		10.1%	
Dieldrin	<0.020 ug/L	76.5% / 69.4%	87.9% / NA		9.78%	
Endosulfan I	<0.010 ug/L	78.3% / 71.7%	90.3% / NA		8.70%	
Endosulfan II	<0.020 ug/L	90.8% / 82.2%	107% / NA		9.92%	
Endosulfan sulfate	<0.100 ug/L	91.7% / 82.5%	109% / NA		10.6%	
Endrin	<0.020 ug/L	93.6% / 85.0%	110% / NA		9.62%	
Endrin aldehyde	<0.100 ug/L	84.0% / 76.4%	99.8% / NA		9.41%	
gamma-BHC (Lindane)	<0.050 ug/L	74.8% / 70.0%	84.2% / NA		6.51%	
Heptachlor	<0.010 ug/L	79.6% / 74.8%	90.4% / NA		6.18%	
Heptachlor epoxide	<0.010 ug/L	75.4% / 74.6%	87.8% / NA		1.13%	
DCBP [surr]	135 %	109% / 104%	131% / NA		NA	
TCMX [surr]	107 %	115% / 108%	120% / NA		NA	%D3

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QUALITY CONTROL RESULTS

Total Metals -- Batch: B604303 (Water)
Prepared: 21-Apr-16 15:30 By: HF -- Analyzed: 21-Apr-16 17:02 By: HF

Table with 7 columns: Analyte, BLK, LCS / LCSD, MS / MSD, Dup, RPD, Qualifiers. Rows include Arsenic, Cadmium, Chromium, Copper, Lead, Manganese, Nickel, Silver, and Zinc.

QUALIFIER(S)

- *%D1: Matrix Spike and/or Matrix Spike Duplicate Percent Recovery Does Not Meet Laboratory Acceptance Criteria
*%D3: Surrogate Percent Recovery Does Not Meet Laboratory Acceptance Criteria
*D: RPD Value Does Not Meet Laboratory Acceptance Criteria

All Analysis performed according to EPA approved methodology when available:
SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods.
Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by: [Signature]
Norma James and/or Teresa Coins
Technical Director and/or QA Officer

