

SWR

Corporation

The SWR Field Trial Report regarding Chicago Steel Facility is enclosed and self explanatory.

As a result of cleaning there are now seven Fractionation Tanks (Frac Tanks) on premises to hold the contents of the cleaning. Frac Tank #1 contained the most heavily concentrated byproduct of the cleaning (oil, grease, PCB's, metals, etc.). In order to treat the byproduct 110 gallons of SWR were added to the 20,000 gallon tank and mixed with a quarter horsepower circulation pump. No filters, oil/water separators, decanters, etc., were used at this time.

We then circulated the tank for six hours, let the tank stand for another six hours, and at the end of 12 hours SWR separated the oils, greases, and PCBs to the top of the Frac Tank. We then vacuumed out approximately 1,000 gallons of contaminated oils, greases, and PCBs; which meant we only had 1,000 gallons to dispose of rather than 20,000 gallons.

The analytical on page two, Frac Tank #1, lot # 1248, shows the original PCB contamination at 1,100 PPB (Before any treatment, standard-control sample).

Page three of the Young Environmental Report shows a carbon filter was used without SWR on lot # 1248 which shows reduction of PCB levels to 533 PPB and 609 PPB.

Page four of the Young Environmental Report shows Frac Tank #1 unfiltered, with SWR, on lot # 1248 at 270 PPB.

Page five of the Young Environmental Report shows Frac Tank # 1 filtered with SWR added, on lot # 1248 at 140 PPB. The acceptable level of PCB contamination for disposal in this particular municipality is 500 PPB. Treating the tank with SWR brought the contamination levels down to a totally acceptable level for disposal.

SO FAR, BY TREATING THREE TANKS WITH SWR AND BRINGING THE PCB CONTENT UNDER 500 PPB, THE COMPANY HAS BEEN ALLOWED TO DISPOSE OF THE LEFT OVER WATER (19,000 gallons) IN THE LOCAL WASTE WATER SYSTEM. IN RELATION TO TANK #1 and #2, WE HAVE SAVED THIS COMPANY APPROXIMATELY \$104,500.00 IN DISPOSAL COSTS, IF ONE WERE TO FIGURE APPROXIMATELY \$2.75/GALLON FOR DISPOSAL OF PCB CONTAMINATED WATER.

Order # 16-03-070
03/12/96 10:12

Thermo Analytical, Inc.
TEST RESULTS BY SAMPLE

Page 1

Sample Description: FRAC TANK #1
Test Description: PCB's In Solid

LAD NO: 01A
METHOD:

Test Code: PCB_3

Filtered
CALC %

PARAMETER	RESULT
Arochlor 1016	<91
Arochlor 1231	<91
Arochlor 1232	<91
Arochlor 1242	<91
Arochlor 1248	533
Arochlor 1254	<91
Arochlor 1260	<91

Notes and Definitions for this Report:

EXTRACTED 03/12/96
DATE RUN 03/12/96
ANALYST CP
UNITS ug/Kg

FRAC TANK #1

Sample Description: Frac Tank
Test Description: PCB's In Solid

LAD NO: 02A
METHOD:

Test Code: PCB_3

Filtered

PARAMETER	RESULT
Arochlor 1016	<95
Arochlor 1231	<95
Arochlor 1232	<95
Arochlor 1242	<95
Arochlor 1248	609
Arochlor 1254	<109
Arochlor 1260	<109

Notes and Definitions for this Report:

EXTRACTED 03/13/96
DATE RUN 03/13/96
ANALYST CP
UNITS ug/Kg

TMA
Thermo Analytical

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Client: Metcalf & Eddy
 IEA Job#: L72960391
 Project #: 018778-0007-001

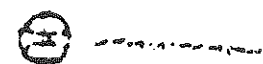
RCR/VTCCL
 PCB's
 ug/L

Matrix: Water
 Method: 8080

Dilution Factor (DF)	20	1				Lower Limits of Detection (LLD) with no Dilution*	
Method Blank	PW0326	PW0326					
Client ID	Frac Tank #1 -SWR	Method Blank					
Lab ID	L72960391-005	PW0326					
Analyte							
Aroclor - 1016	UD	U				1.0	
Aroclor - 1221	UD	U				2.0	
Aroclor - 1232	UD	U				1.0	
Aroclor - 1242	UD	U				1.0	
Aroclor - 1248	UD	U				1.0	
Aroclor - 1254	UD	U				1.0	
Aroclor - 1260	UD	U				1.0	
Date Extracted	3/26/96	3/26/96					
Date Analyzed	3/29/96	3/29/96					

*MDL (Minimum Detection Limit) = LLD x DF

Not Full Peak



Client: Metcalf & Eddy
 IEA Job#: L72960391
 Project #: 018778-0007-001

RCRATCL
 PCB's
 ug/L - PPB

Matrix: Water
 Method: 3080

Dilution Factor (DF)	1					Lower Limits of Detection (LLD) with no Dilution*
	Method Blank	PW0326	PW0326	PW0326	PW0326	
Client ID	Control	Control	Frac	Frac	Frac	
	MFI-Composite	MFI-Grab	Tank #3 (0800)	Tank #3 (0805)	Tank #1 -SWR	
Lab ID	L72960391-001	L72960391-002	L72960391-003	L72960391-004	L72960391-005	
Analyte						
Aroclor - 1016	U	U	U	U	U	1.0
Aroclor - 1221	U	U	U	U	U	1.0
Aroclor - 1232	U	U	U	U	U	1.0
Aroclor - 1242	U	U	U	U	U	1.0
Aroclor - 1248	U	U	U	U	U	1.0
Aroclor - 1254	U	U	U	U	140 E	1.0
Aroclor - 1260	U	U	U	U	U	1.0
						1.0
Date Extracted	3/25/96	3/26/96	3/26/96	3/25/96	3/25/96	
Date Analyzed	3/29/96	3/29/96	3/29/96	3/29/96	3/29/96	

*MDL (Minimum Detection Limit) = LLD x DF

FILTERED



ADVANTAGES OF USING SWR IN ENCLOSED WASH TANKS

1. SWR will clean for a fraction of the cost of most products.
2. SWR is a liquid, which means no hazardous powders to handle.
3. SWR is non-toxic, non-hazardous, contains no volatile organic compounds (VOC's) or strong vapors and has no flash point.
4. SWR is an excellent cleaner and degreaser.
5. SWR is biodegradable, environmentally safe, and safe for your workers.
6. SWR is easily disposed of (no toxic hauling).
7. SWR keeps repair costs down by keeping pumps and hoses free of build-up.
8. With SWR there is no need to dump the water mixture from the washer. Skim the oil from the top and add more SWR approximately every 30 days to keep the strength up.

SWR is a new cleaner/degreaser, which has no flash point. SWR performs well in pressure situations under intense heat. There are no volatile organic compounds (VOC's) to escape into the air. SWR is approved by the Environmental Protection Agency (EPA) under Aqueous New Solutions as a safe cleaner/degreaser for both the environment and your worker; simply add our product to your tank. We recommend a 40:1 dilution rate. Turn on your machine and let the product do the rest. At the end of each day turn on your oil skimmer to remove oils and greases that have collected on the top. It may be necessary to clean your solids trap at regular intervals to keep from plugging up the system.

SWR will not however, clean caked on solid dirt build-up. We recommend using a wire brush and hot water to remove the heavy chunks before putting the part into the machine. This will also help keep build-up in the bottom of the tank.

SWR will help remove calcium deposits and lime build-up from previously used products. SWR will help make the inside of your machine look good again. Also, you will notice that the solids on the bottom of the tank will be in a "slurry" making them easy to remove instead of hard and caked on.