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Phenol Removal Credits Dated: 1993 Date: May 10, 1993

J. A. DiMauro

From:

D. A. Davis

Subject:

Phenol Removal Credits, Sludge Regs, Status

Reference:

S. D. Bennett J. Garzella V D. J. Holmberg B.W.H.Marsden R. J. Walters

E. P. Weber Jr.

On May 3, 1993 Acme, LTV and Ross and Hardies met with the MWRDGC to discuss the phenol removal credit issue and to plan a course of action. Those in attendance:

Acme:

E. P. Weber Jr., D. J. Holmberg, F. G. Krikau

LTV:

John Etchison

R & H:

J. Harrington, C. Wesselhoft

MWRDGC: Cecil Lue-Hing, PhD - Director of R and D

Richard Lanyon - Assistant Director of R and D Bernard Sawyer - Coordinator of Tech. Services

The meeting was friendly; the District offered any reasonable assistance it could provide. The parties agreed that the following tasks would be carried out.

- · Ross & Hardies is to draft a letter, in which, Acme and LTV will formally request that the District grant removal credits for phenol. The District has stated that upon receipt of the request, they will notify USEPA of their intent to grant the removal credits for phenol.
- Anticipating a USEPA interpretation that the intent of the regulation is to require that the District not grant phenol removal credits, R&H will coordinate the preparation and submittal of comments to USEPA, providing justification for removal credits, by May 20.
- R&H will prepare, by July 3, 1993, the documentation required to formally appeal the denial of removal credit issuance for phenol, if it occurs.

The following documents are attached: "Information To Be Obtained From the Acme and LTV", "Information To Be Obtained From the MWRDGC", Phenol data provided by the MWRDGC (4 pgs), Acme's User Charge account history.

D. A. Davis

INFORMATION TO BE OBTAINED FROM ACME AND LTV

Proper company name

II.	Facility address
III.	Product line(s)
IV.	Process description
V.	Expected life of applicable pretreatment
VI.	Number of employees
VII.	History of MWRDGC settlements
VIII.	Description of current waste water treatment for coke plant including time and cost
IX.	Required revisions to the facility's WWTP if removal credits are not granted.
X.	Estimated cost of required revisions
XI.	Time required to complete required revisions
XII.	Company profits last year
XIII.	Data on quality of discharge
	A. Phenol (4AAP)
	1. Constituents (no pentachlorophenol)
	2. loading
	concentrations
	Reliance on USEPA settlement on pretreatment
XV.	user charges paid to MWRDGC
	A. currently
	B. in future if phenols removed
XVI.	(for LTV) Lawsuit against USEPA

INFORMATION TO BE OBTAINED FROM THE MWRDGC

- I. Calumet Treatment Plant ("CTP") size
- II. CTP process
- III. Phenol (4AAP) loading to CTP
 - A. total in
 - B. total in from iron & steel sources
- IV. Phenol (4AAP) removal at the CTP
- V. Phenol (4AAP) concentrations in the sludge from the CTP
- VI. Phenol (4AAP) half-life in the sludge leaving the CTP and at final use.
- VII. Current final uses of sludges from CTP
- VIII. Effect on the CTP if the phenol (4AAP) loading to the CTP is reduced to 40 CFR 420 levels (and below) by iron and steel sources
 - A. BOD loss
 - B. Revenue loss
- IX. Pentachlorophenol removal at the CTP
- X. Pentachlorophenol concentrations in the sludge from the CTP
- XI. Removal of various nitro phenols at the CTP
- XII. Concentrations of various nitro phenols in the sludge from the CTP

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

Table 1

GC/MS Analysis of Calumet WRP Samples for Phenolic Compounds

Sample Date - February 18, 1992

Parameter	Influent (µg/L)	Effluent (µg/L)	Digested Sludge (µg/L)
2-Chlorophenol	ND*	ND	ND
2,4-Dichlorophenol	ND	ND	ND
2,4-Dimethylphenol	10.5	ND	ND
2,4-Dinitrophenol	ND	ND	ND
2-Nitrophenol	ND	ND	ND
4-Nitrophenol	ND	ND	ND
Pentachlorophenol	ND	ND	ND
Phenol	85.4	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND
p-Chloro-m-cresol	ND	ND	ND
4,6-Dinitro-o-cresol	ND	ND	ND
Total Listed Phenolics by GC/MS	95.9	ND	ND
4AAP Phenol Results	651	5	NS**

^{*}Not detected.

^{**}Not sampled.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO Table 2

4AAP Method Analysis of Calumet WRP Samples for Phenol

(1992 Monthly Averages)

Month	Influent* (µg/L)	Effluent* (µg/L)	Digested Sludge** (mg/kg)
January	759	5	112
February	897	4	145
March	902	4	989
April	878	6	241
May	924	6 6 5	48
June	948	5	32
July	772	14	11
August	567	5	17
September	408	3	9
October	726	3 5	
November	429	4	6
December	567	6	28
1992 Average	723	6	137

^{*}Sampled daily.

**Sampled twice/month.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

Table 3

GC/MS Analysis of Calumet WRP Samples for Phenolic Compounds

Sample Date - January 26, 1993

Parameter	Influent (µg/L)	Effluent (µg/L)	Digester Sludge (µg/L)
2-Chlorophenol	ND*	ND	ND
2,4-Dichlorophenol	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND
2-Nitrophenol	ND	ND	ND
4-Nitrophenol	ND	ND	ND
Pentachlorophenol	ND	ND	ND
Phenol	23.9	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND
p-Chloro-m-cresol	ND	ND	ND
4,6-Dinitro-o-cresol	ND	ND	ND
Total Listed Phenolics by GC/MS	23.9	ND	ND
4AAP Phenol Results	169	6	NS**

^{*}Not detected.

^{**}Not sampled.

METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

Table 4

4AAP Method Analysis of Calumet WRP Samples for Phenol

(1993 Monthly Averages)

Month	Influent* (µg/L)	Effluent* (µg/L)	Digested Sludge** (mg/kg)
January	362	18	20
February	705	8	161
March	565	6	241

^{*}Sampled daily.
**Sampled twice/month.

USER CHARGE ACCOUNT HISTORY

FACILITY NAME AND ADDRESS

MAILING NAME AND ADDRESS

12255

FID:36-2691236-04
ACME STEEL - COKE PLANT
11236 S TORRENCE AVE CHICAGO, IL 60617

CONTACT: DWAYNE A. DAVIS ACHE STEEL - COKE PLANT 11236 S TORRENCE AVE CHICAGO, IL 60617

CLASS: CM SIC CODE: 3312
IMPUT: 2 OUTFALL: 1 SP_CHAM: MH 18* REC
COMMENTS:

USER CHARGE FILE CLEARING INFORMATION

YEAR	CATEGORY	STATUS	yolume gallons	BOD lbs.	ss lbs.	TAX PAID	NUC S	COMMENTS
1984	CH	CRE	243,037,440	1,118,867	170,262	61.281	114,215	
1985	CH	CRB	112,500,300	732,775	36,404	42,659	64,142	
1986	CH	CRB .	112,599,510	773,426	29,487	30,445	72,481	
1987	CH	CRR	116,664,429	258,813	76,866	27,699	30,384	
1988	CH	CRB	91,966,968	183,314	16,874	22,563	13,714	3863-Y
1989	CH	CFB	123,412,705	293,340	76,165	23,286	32,936	
1990	CH	CRB	126,356,110	516,367	38,991	17.782	84,688	
1991	CH	CRB	100,124,975	543,811	74,841	23,067	100,465	
1992	CM	CFR	108,773,736	506,203	48,080	21,899	99,095	
1993	CH		0	0	0		0	

SAMPLING REQUEST INFORMATION

UC	SAMP			SAMP
YEAR	TYPE	PREQUENCY		NOTES
84		2		
85		2		
86		2		
87	I/S-WKE	2		
88	I/S-WKE	2		
89	1/3	2		
90				
91	IS	1	7	DAYS
92	IS	1	7	DAYS
93	IS	1	7	

USER CHARGE SAMPLING INFORMATION

SAMP TYPE	SAMPLING PERIOD	OUTLET NO	AVERAGE FLOW - gpd	AVERAGE BOD - mg/l	AVERAGE SS - mg/l
IS	6/3/91-6/10/91	1A	342,000	1,055	18
IS	7/29/91-8/20/91	1A	257,368	902	61
IS	2/21/90-3/1/90	. 1A	390,800	212	16
IS	6/20/90-7/16/90	1A	324,688	522	30
н	9/7/90-9/28/90	1.8	306,333	408	82
IS	9/23/89-10/2/89	1A	258,111	422	27
IS	6/13/89-6/26/89	1A	302,357	215	17
SIS	10/16/89-10/26/89	124	319,182	264	24
IS	2/26/92-3/3/92	1A	389,857	507	23
IS	2/22/93-2/28/93	1A	549,000	380	23