CHEMICALS LDC INDUSTRIES INTEROFFICE / LAKE CHARLES

TO P. S. Trew DATE July 21, 1982

FROM M. G. Carver SUBJECT Vent Sampling

MC.

The Organics Classifier Scrubber Vent has been recharacterized for chlorinated hydrocarbon emissions.

The vent was characterized in May, 1982 and was found to be a continuous emission source with a flow rate of ≈46 ft^3/min emitting 650-1200 lb/day chlorinated hydrocarbons. The nitrogen pad pressure was 2.5 in. H_2O and the water seal pressure was 3.0 in. H_2O. The vapor pressure due to the light chlorinated hydrocarbons in combination with the nitrogen pad pressure was enough to overcome the water seal resulting in a continuous flow through the vent. The ΔP was increased to 1.5 in. H_2O by increasing the water seal to 4 in. H_2O.

The procedure of recharacterization was to sample the vent while tar buggies and vacuum trucks were dumping into the classifier, and during periods where no "dumping" was taking place. In order to sample during all operating conditions, the vent was sampled as the sludge built up to capacity which normally takes three to four weeks.

The minor changes made on the system have significantly reduced chlorinated hydrocarbon emissions.

Attached is a series of analyses and a graph of velocity data gathered during dumping operations.

It is strongly recommended that tar buggy operators and labor personnel wear respiratory protection in the area.

ce

Attachments

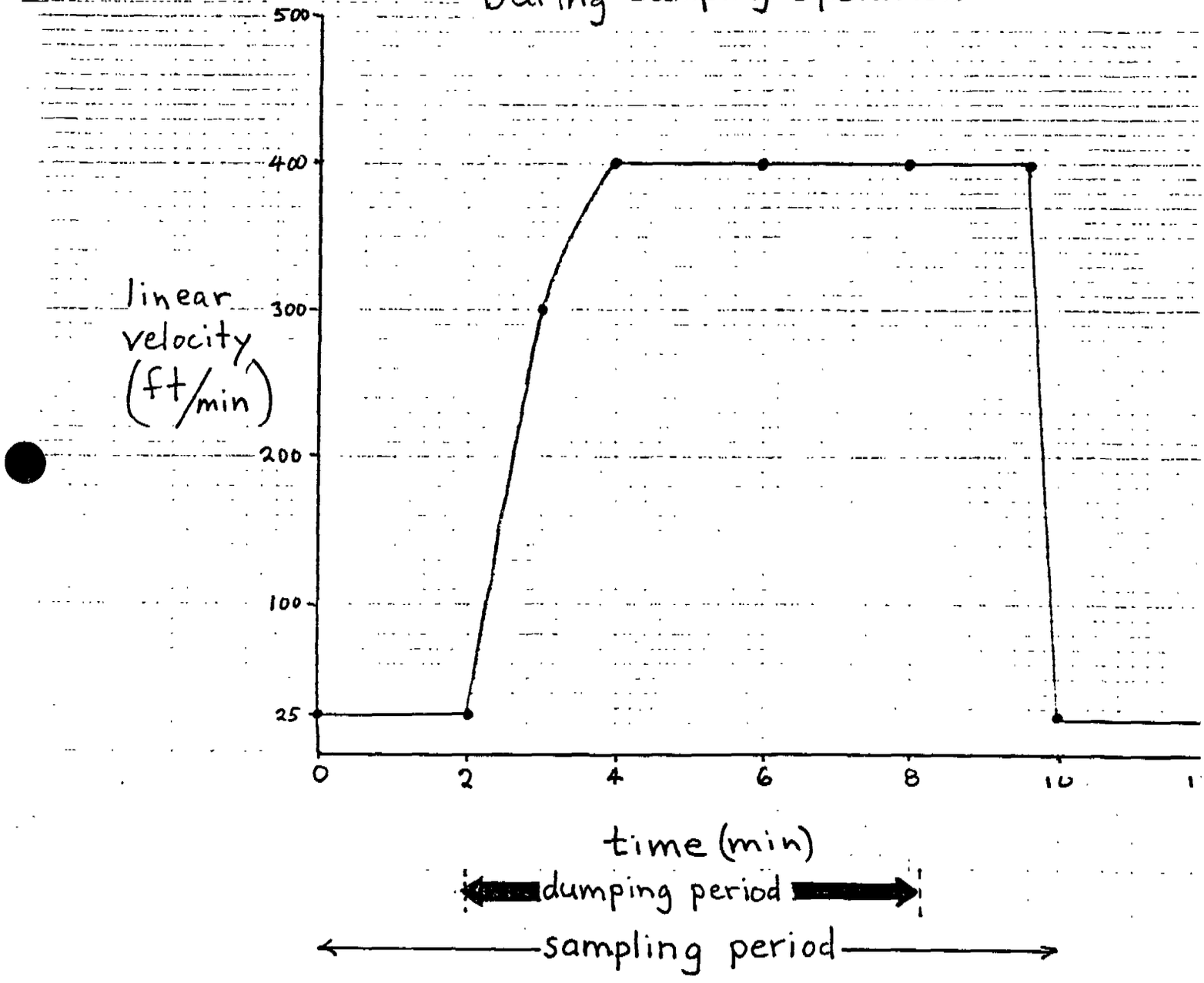
cc: H. J. Hoenes, Jr.
M. W. Wood
C. P. LeBlanc
B. Salter/M. Huber
W. Oglesby/M. Kamal
Environmental Control File (Wyche)

Sample Time/Date	Dumping Operation	Flow Rate (ft^3/min)	Total ClHC	
			V%	PMR*(lb/day)
9:00 a.m./6-30	EC tar buggy	<0.5	<0.1	<1
10:30 a.m./6-30	None	<0.5	<0.1	<1
2:00 p.m./6-30	EDC tar buggy	<0.5	<0.1	<1
2:30 p.m./6-30	None	<0.5	<0.1	<1
9:00 a.m./7-1	None	<0.5	<0.1	<1
9:30 a.m./7-1	DCE tar buggy	<0.5	<0.1	<1
9:45 a.m./7-6	None	2.7	7.0	78**
9:00 a.m./7-9	None	4.4	5.6	88**
9:10 a.m./7-9	Vacuum truck	71.0	6.1	1499**
1:20 p.m./7-13	None	<0.5	<0.1	<1
1:30 p.m./7-13	DCE tar buggy	61.0	7.9	1411**
9:30 a.m./7-19	None	<0.5	<0.1	<1

* Pollutant Mass Rate at continuous emission.

** See attached analysis.

Typical Data Gathered at 9:10 am, 7-9-8:
During Dumping Operation



SL 044027

Analysis of the Organics Classifier Vent

(Sampled 9:45am, 7-6-82)

No dumping operations

Linear flow rate - 15 ft/min

Component		% V/V	PMR lb/Day
Chloroethene	(VC)	0.02	0.1
Chloroethane	(EC)	0.46	2.9
Methylene Chloride	($MeCl_2$)	<0.01	—
1,1-Dichloroethene	(VDC)	<0.01	—
1,1-Dichloroethane	(DCE)	1.28	12.3
1,2-Dichloroethene	(Cis/Trans)	<0.01	—
Trichloromethane	($CHCl_3$)	0.11	1.3
1,2-Dichloroethane	(EDC)	2.56	24.6
1,1,1-Trichloroethane	(MC)	<0.01	—
Tetrachloromethane	(CCl_4)	0.05	0.7
Trichloroethene	(Trichlor)	0.07	0.9
1,1,2-Trichloroethane	(TCE)	0.22	2.8
Tetrachloroethene	(Perchlor)	1.11	17.9
Tetrachloroethane		0.61	9.9
Pentachloroethane		0.09	1.8
Methylchloride		0.47	2.3
Total ClHC		7.05	78
Tons/Year			14.2

SL 044028

Analysis of the Organics Classifier Vent

(Sampled 9:00am, 7-9-82)

No Dumping Operations

Linear flow rate - 25 ft/min

Component		% V/V	PMR lb/Day
Chloroethene	(VC)	0.01	0.1
Chloroethane	(EC)	1.92	20.2
Methylene Chloride	($MeCl_2$)	0.08	1.2
1,1-Dichloroethene	(VDC)	<0.01	—
1,1-Dichloroethane	(DCE)	0.46	7.2
1,2-Dichloroethene	(Cis/Trans)	<0.01	—
Trichloromethane	($CHCl_3$)	0.24	4.3
1,2-Dichloroethane	(EDC)	1.15	18.7
1,1,1-Trichloroethane	(MC)	<0.01	—
Tetrachloromethane	(CCl_4)	0.21	4.3
Trichloroethene	(Trichlor)	0.25	5.8
1,1,2-Trichloroethane	(TCE)	0.86	18.7
Tetrachloroethene	(Perchlor)	0.16	4.3
Methylchloride	(MeCl)	0.36	2.9
Total ClHC		5.64	88
Tons/Year			16

SL 044029

Analysis of the Organics Classifier Vent
(Sampled 9:10am, 7-9-82)
During Dumping Operations
Linear flow rate - 400 ft/min
Note: The linear flow rate of 400 ft/min lasted for ≈7 minutes during dumping operations.

Component		% V/V	PMR lb/Day
Chloroethene	(VC)	0.02	3.2
Chloroethane	(EC)	1.90	318.3
Methylene Chloride	($MeCl_2$)	0.08	17.6
1,1-Dichloroethene	(VDC)	<0.01	—
1,1-Dichloroethane	(DCE)	0.50	128.5
1,2-Dichloroethene	(Cis/Trans)	<0.01	—
Trichloromethane	($CHCl_3$)	0.25	77.5
1,2-Dichloroethane	(EDC)	1.20	308.4
1,1,1-Trichloroethane	(MC)	<0.01	—
Tetrachloromethane	(CCl_4)	0.20	79.9
Trichloroethene	(Trichlor)	0.40	136.5
1,1,2-Trichloroethane	(TCE)	0.80	277.2
Tetrachloroethene	(Perchlor)	0.20	86.1
Methylchloride	(MeCl)	0.5	65.6
Total ClHC		6.05	1499

SL 044030

Analysis of the Organics Classifier Vent
(Sampled 1:30pm, 7-13-82)
During Dumping Operation
Linear flow rate - 350 ft/min
Note: the linear flow rate of 350ft/min lasted for 6 minutes during and after dumping operat

Component		% V/V	PMR lb/Day
Chloroethene	(VC)	0.04	5.7
Chloroethane	(EC)	5.06	748.8
Methylene Chloride	($MeCl_2$)	<0.01	—
1,1-Dichloroethene	(VDC)	<0.01	—
1,1-Dichloroethane	(DCE)	0.38	86.4
1,2-Dichloroethene	(Cis/Trans)	0.04	8.6
Trichloromethane	($CHCl_3$)	0.16	43.2
1,2-Dichloroethane	(EDC)	1.10	244.8
1,1,1-Trichloroethane	(MC)	<0.01	—
Tetrachloromethane	(CCl_4)	0.12	43.2
Trichloroethene	(Trichlor)	0.32	100.8
1,1,2-Trichloroethane	(TCE)	0.08	28.8
Tetrachloroethene	(Perchlor)	0.13	43.2
Methylchloride	(MeCl)	0.51	57.6
Total ClHC		7.9	1411