

To R.J.M.: A.D.C.

Date October 6, 1967

From P.S.

Ref. PS/mw

Subject Arsenic Suppression - Interim Report

HCD Residue Treatment Mill Trial

Set #3

Date	Lbs. As. in #5 Agt. Feed	Lb. Lime Used	pH of Discharge	lb. As. in Discharge
Sept. 20	90.2	1800	11.6	4.0
21	64.6	1350	11.6	5.0
22	65.4	1200	12.1	1.1

Set #4

Date	Lbs. As. in #5 Agt. Feed	Lb. Lime Used	pH of Discharge	lb. As. in Discharge
Sept. 26	56.6	1100	11.8	7.1
27 1st	63.2	1350	11.6	5.6
2nd	62.6	1100	11.7	5.5
28	78.5	1800	11.9	1.4
29	47.8	1025	12.2	.9

These results appear encouraging.

A good reduction in water soluble arsenic is also noted.

	Total As%	DTR		Total As. %	#5 Agt. Discharge Water Sol. As%
		Water Sol. As%			
Sept. 26					
Sept. 26	4.72	2.18		4.88	.66
27 1st	5.08	2.64		5.08	.56
2nd	5.08	2.64		5.03	.86
28	4.47	2.29		4.47	.46
29	3.96	1.82		4.01	.79

		# 5 Agt. Feed			# 5 Agt. Discharge		
		In Sol.	Sol. As.	Total	In Sol.	Sol. As	Total
Sept. 26		57	471	527	7	143	150
27 1st		63	554	617	6	118	124
2nd		63	591	654	8	193	199
28		79	714	783	1	144	145
29		48	335	483	1	145	146

This indicates that the lime is of greater benefit than just rendering the soluble arsenic insoluble. It also explains why very high arsenic assays require very much more lime to raise and maintain the pH in #5 Agitator.

*P. Slattery*