

# MEMORANDUM

To H.E.P., R.J.T.

Date APRIL 12, 1976

From C.O.O.

Ref.

Subject ARSENIC SUPPRESSION

Abstract to determine if optimum levels can be obtained by using #13 thickener as a control when adding chemical reagents.

Procedure since #13 thickener varies very irradically throughout the day, 4 samples were collected at different times. These four samples were then combined in their respected ratio's to thickeners #6, and #11 and were subjected to  $\text{FeCl}_3$  and  $\text{NH}_4\text{OH}$ .

## Data

A)

SD	pH	ppm Fe	ppm As	THEO As (ppm)
#6 thickener	6.5	7.5	30	
#11 thickener	5.1	132	133	
#13 thickener (1)	6.8	.18	1140	
#13 thickener (2)	6.8	.18	742	
#13 thickener (3)	6.9	.64	720	
#13 thickener (4)	6.1	3.98	180	
Combined (1)	6.4	4.15	210	236
Combined (2)	--	--	--	173
Combined (3)	6.3	14.0	135	169
Combined (4)	6.1	29.0	73.5	83

NB: Sample #4 - very little solids

Sample #3 - solids are about  $\frac{1}{2}$  the amount in #1 and #2

Data

B)

Combined Samples	Amount $\text{FeCl}_3$ (g)	Amount $\text{NH}_4\text{OH}$ (ml)	pH	ppm Fe	ppm As
1	3.0	0	5.8	7.75	42.5
2	3.0	0	5.2	25.0	45.2
3	2.5	0	3.1	6.0	93.0
4	2.5	0	2.6	24.5	73.5
1	3.0	5	8.5	ND	15.5
2	3.0	5	8.6	ND	4
3	2.5	5	8.9	.3	3.5
4	2.5	5	8.9	2.0	less than 3

Conclusions  $\text{FeCl}_3$  and  $\text{NH}_4\text{OH}$  still work, but for optimum levels more data will have to be obtained, to see if there is some sort of pattern for chemical addition.