

MEMORANDUM

To H.E. Pawson; R.J. Tucker;

Date July 28/75

From C.Q. Olesen;

Ref.

Subject Carbon Plant Waste Treatment (Part II) a continuation of the report written by Mr. R.J. Tucker on May 26/75

On 14th of May the DTB was treated with 30% CaO/ton and on the 23rd of May a sample taken. On that day also fresh DTB from the 20 gallon carbouy was taken and treated with 30% CaO/ton, then this was added to the precipitate of the 14th of May.

	pH	ppm As
14th of May DTB (on 14th of May)	11.5	9.5
14th of May DTB (on 23rd of May)	11.4	7.2
DTB (23rd of May)	7.5	1424.
DTB + 30% CaO/ton	11.4	7.3
ppte from 14th of May	11.3	9.4

During this series of tests #6 agitator discharge plus untreated #5 agitator (20:1) plus the 2% CaO/ton was kept for further analyses.

From first report on 26th of May:

	pH	ppm As	As Removal
#6 agitator	11.7	17.5	-
DTB	8.1	1532.	-
Combined 1/20	11.5	27.0	70.0%
+2% CaO/ton	11.6	10.5	83.4%
3 days later	11.6	5.5	94.0%
18 days later (Report II)	11.5	.4	99.5%

From the collected Carbon Plant Residue (CPR) from April 23rd to May 23rd a representative sample was obtained and a set of dilutions carried out. Also the lime ppte from the May 23rd DTB treated sample was run through the same dilutions. (note: sample agitated)

	Dilution	pH	ppm As
Mud	4-1	7.2	200
	8-1	7.5	200
	16-1	7.4	200
ppte	4-1	11.7	3.3
	8-1	11.6	Destroyed
	16-1	11.6	3.3

The final step in this series of tests was to take the ppte from the 23rd of May DTB treated sample and add it to a treated DTB sample

	pH	ppm As
treated DTB from 23rd of May	11.6	13.1
DTB	7.7	1320
DTB + 30% CaO/ton	11.7	10.7
+ppte	11.7	12.2
7 days later	11.7	11.0

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TEST RESULTS:

- 30#/ton of CaO reduces the arsenic level by over 80% if the pH remains high, as illustrated by the dilution of the lime ppte
- also the treated CPR supernate (DTR) when lime is added will yield a very easily separated solution, which is easy to handle.