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PROPOSED DISPOSAL WELL OPERATION

CABOT CORPORATION
TUSCOLA, ILLINOIS

May, 1968

RECEIVED
DIVISION OF SANITARY ENGINEERING
ILLINOIS DEPT. OF PUBLIC HEALTH

EPA Region 5 Records Ctr.
298933

minimum flow of 25 gpm would be continually injected into the annulus at all times. This is the same manner in which the U. S. Steel Company waste well is operated at Gary, Indiana.

We would, of course, continue to inject all acid waste into the injection tube. Our treatment plant study would also consider the acid effluent from our present ponds, and hopefully we will also be able to treat and dispose of this into the injection pipe of the well.

We have been disposing of some filtrate liquor upon occasion for the A. E. Staley Company of Decatur through our injection tube, and we would continue to handle this or other compatible acidic materials through the injection tube. Non-acidic compatible material could be handled by injection through the annulus.

GEF/jj

5/24/68

PROPOSED DISPOSAL WELL OPERATION

The Cabot Corporation is evaluating the possibility of building a plant on its Tuscola, Illinois site for the production of organically treated bentonite. This type of product is commercially known as "bentone." Such a plant would be a logical addition to our present product line manufactured at Tuscola, and would potentially be a large asset to the Central Illinois area.

However, the bentone process uses considerable water, and consequently has a large volume of waste effluent to be disposed of in a satisfactory manner. We visualize the initial plant would have a capacity of 12 million pounds of product annually, and will produce 200 gpm of waste effluent. Within several years, the plant will double in capacity, so the eventual volume of effluent would be approximately 400 gpm. The effluent will consist of approximately 690 parts per million sodium chloride in water, with small amounts of residual bentonite, bentone, and possibly a small amount of organic amine.

We propose to process the effluent to remove all material except the sodium chloride, and to dispose of this final effluent in our deep disposal well.

However, because of the volume of effluent involved, it does not appear possible to inject through the present injection tube used for hydrochloric acid disposal. We would plan on injecting the bentone plant effluent into the annulus between the injection tube and the casing. A

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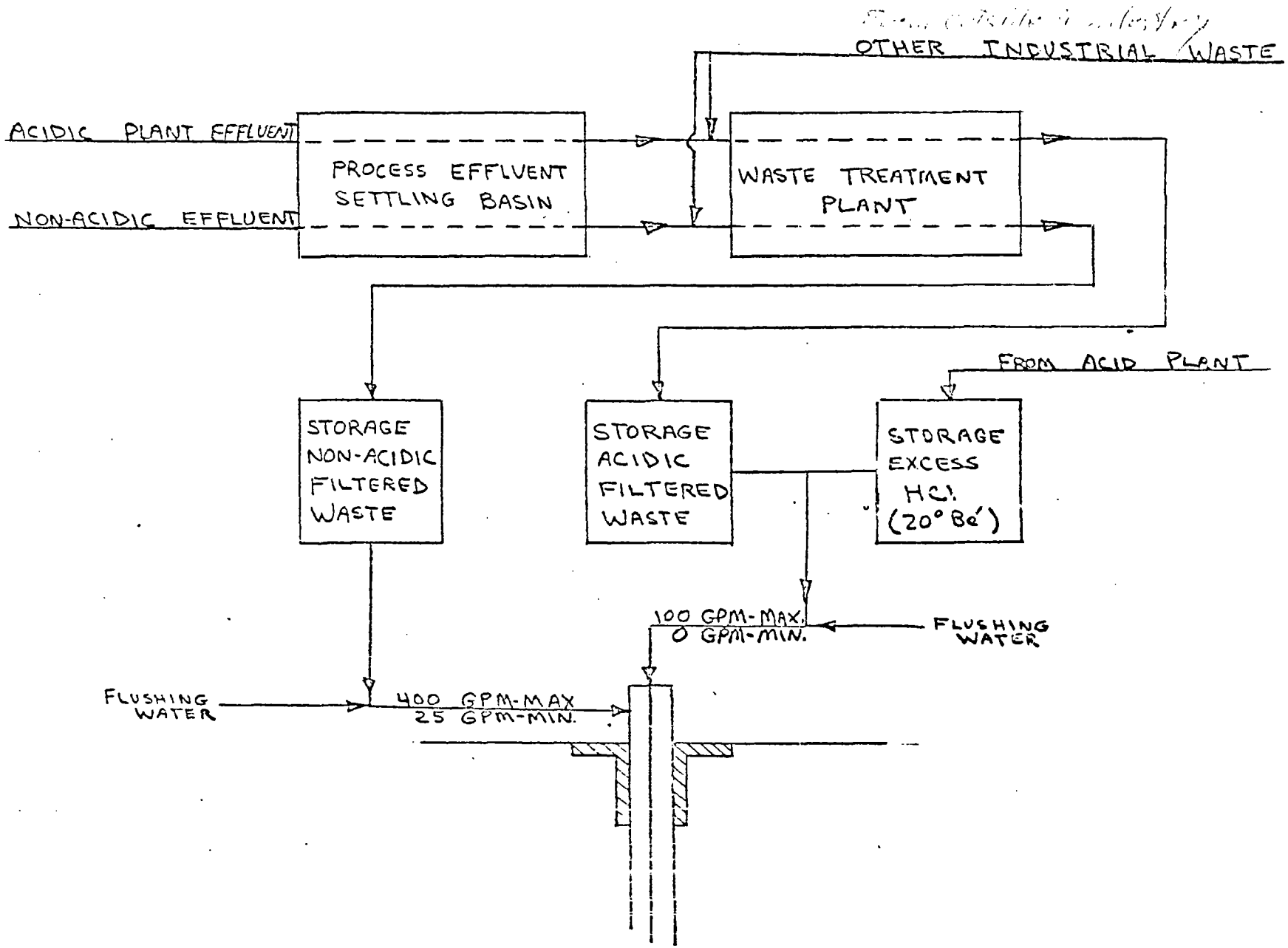
CABOT CORPORATION DISPOSAL WELL
TUSCOLA, ILL.



Copied for WWE

CABOT CORPORATION

INTER-OFFICE CORRESPONDENCE

BOX 1101

PAMPA, TEXAS

August 25, 1966

To: F. Scott Carpenter

From: W. M. Sargent, Jr.

Subject: Cab-O-Sil Waste Disposal Well

I wish to outline the results of the recent injectivity test on the disposal well.

Injection was begun at 2:35 p.m. August 1 at a rate of 54 GPM. This rate was continued for a period of 12 hours and resulted in an increase of bottomhole pressure of less than 1 psig. The second rate was at 75 GPM for a period of 12 hours with an increase of 1 psig in bottomhole pressure. Third rate at 120 GPM for 9-1/2 hours resulted in an increase in bottomhole pressure of 2 psig. Fourth rate at 171 GPM for a period of 11 hours resulted in an increase in bottomhole pressure of 5 psig. In order to achieve this flow rate the pumps were started. The fourth rate with pumps running averaged approximately 280 GPM for a period of 8-1/2 hours and resulted in an increase in bottomhole pressure of 11 psig. The well was shut in at 7:30 p.m. August 3 with bottomhole pressure bomb still in well to record pressure fall-off information. The pressure returned to prestatic conditions in less than 6 minutes. The measured bottomhole pressure at 4861' was 2035 psig. This is the approximate depth the tubing is set. This test indicates the ultimate capacity of this well at 0 psig surface pressure to be approximately 1500 GPM. The rapid return of bottomhole pressure to normal at the end of the injection period indicates excellent permeability within the area affected by this injection test. Because the pressure fall-off was so rapid I was unable to analyze the pressure volume relationships from a quantitative standpoint. However, I must conclude that we have an excellent disposal well which should serve our needs for many years to come.

I am forwarding under separate cover the well history booklet which will contain all pertinent information relating to the well. In addition, I am forwarding a rough draft of operating instructions which are modeled upon those of Frontier Chemical Company. I realize these instructions will have to be modified to meet our particular mechanical installation and operating conditions. However, I feel you are in much better position to do this inasmuch as I do not have final well hookup prints. I strongly suggest that the tubing string be thoroughly flushed with fresh water after each injection period. As of now, I believe this well to be fully operational.

If any questions concerning operation of this well arise, please feel free to call upon us for assistance. Best regards.

Bill

W. M. Sargent, Jr.

WMSJr:mm

RECEIVED
AUG 29 1966
Tuscola Plant

cc: Walt Ellison
W. F. Blank

DISPOSAL WELL TEST

May 25, 1968		ANNULUS PRESSURE	INJECTION PRESSURE	FLOW GPM*
START PUMP	1215	50 PSIG	0	213
	1255	30	0	213
	1325	30	0	213
	1700	33	0	213
	1825	33	0	213
	1900	33	0	213
	2100	33	0	213
	2300	33	0	213
May 26, 1968				
	0100	33	0	213
	0300	33	0	213
	0500	33	0	213
	0700	33	0	213
	0900	38	0	210
	1100	38	0	210
	1300	35	0	208.5
	1500	38	0	207.6
	1700	35	0	207.6
	1900	35	0	207.6
	2100	35	0	207.6
	2300	35	0	207.6
May 27, 1968				
	0100	35	0	207.0
	0300	35	0	207.0
	0500	35	0	207.0
	0700	35	0	204.0

When pump was shut-off annulus went to vacuum - fire hose collapsed.

Pump test ran 43 hours - total inflow 500,000 + gals.

*Decrease in flow due to lowering of head in reservoir tank.

JTL/jj