CONOCO

~~DEB~~ RWC JAM

# Interoffice Communication

To J. D. Burns

From J. D. Minott

Date October 6, 1971

Subject Environmental Health Report
Continental VCM Plant

A. Status of Active Budget Items

1. Primary Treatment System Revisions

It has been decided to build an arched acid brick roof in the T-252 pit to repair it. The material has been ordered and forming work is underway on the required concrete changes. Completion of repairs should be during November 1971 and the system will be started up immediately upon completion. The top of the steam stripper tower was inspected during the month and no damage or corrosion was noted. Piping for the stripper bottoms cooler has been ordered and the cooler has been set. It will be operational when the steam stripper system is started up in November.

2730 gallons of slop EDC were hauled from the plant this month.

2. Secondary Waste Treatment System

Excavation and underground piping are still about 85% complete due to extensive rain this month. The clarifier floor and walls have been poured and also the instrument shed floor. Electrical work is about 15% complete and the main power feed has been brought into the site area. The in-plant neutralization system is 60% complete with only electrical and instrument work remaining. Completion of this project still appears to be in late December.

3. C-500 Venturi Scrubber

The system was put in operation on August 27 and on August 30 the spray nozzle of the scrubber failed and blew into the C-500 tower. The system is still operating (at part efficiency) since some scrubbing occurs even with a solid water jet instead of a cone spray. The nozzle vendor is redesigning the spray nozzle so that a new unit can be installed during the next plant shutdown. The pH of the T-2 pit water has dropped to 1.3 compared to about a 2.5 pH seen before the scrubber was installed. This would calculate out to 242 lbs/hr. of HCl removed from the C-500 vent stream (about 49%). A single test for organic removal showed 12% of the EDC and 2.3% of the ethyl chloride in C-500 were also scrubbed out. All of these efficiencies should improve when the new spray nozzle is installed early in 1972.

4. Copper Removal System

The copper removal system (used during catalyst turnarounds only) trenches and mixing basin are complete. New double size filter bags have been ordered for the filter system. The only remaining work is some minor piping work which should be done during October. This system is essentially operable now if required. Some process engineering work is continuing on methods of improving the $Cu(OH)_2$ sludge filterability, such as filter aids or polyelectrolytes.

B. Current Developments

1. Analytical Work

The last of the special tests on the plant effluent and well waters have been completed by Ponca City R & D. The data showed less than 1 ppb mercury, under 1 ppm cyanide, 1.0 ppm lead, and about 3 ppm oil and grease. Plant analysis has shown that all of the sulfide, magnesium, aluminum, manganese, and most of the iron and copper in the plant effluent come from the well water feed. Cobalt, nickel, zinc, chromium, calcium, sodium and cadmium are being added by plant operation. Additional well water COD tests have confirmed a COD of around 5 ppm for the well water system. Phenol levels are higher than originally expected, (about 1.0 ppm) and apparently come from the plant operations.

Daily effluent samples were taken during September for 25 out of 30 days and checked for organics. The EDC content averaged 1673 ppm with a range from 831 to 3373 ppm. At an estimated 200 gpm flow rate, this would be about 4000 lbs/day of EDC in the effluent water.

2. 1899 Refuse Act - Part B

The completed supplemental form was mailed to Dr. Sharrah on September 10 and was received by the Corps of Engineers on September 23, 1971. On September 6, 1971 another form was received from the EPA requesting special data on capital costs, labor requirements, and operating costs on all pollution equipment from 1966 thru 1976. Work on this new form (reply to this form is voluntary) should be completed by the end of October 1971.

John D. Minott
Senior Process Engineer

jb
CC: LNV-DOP-RDG-RHG-PLF-GDJ

## C-500 VENT STACK ANALYSIS
September 1971

| Date | IN PPM BY VOLUME | | | | | | | IN VOLUME % | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EDC | VCM | Et Cl | Other Organics | $Cl_2$ | HCl | Oxidants | $CO_2$ | CO | $O_2$ | $CH_4$ | $C_2H_4$ | $C_2H_6$ | Flow in scfh |
| 9/1/71 | 4017 | 362 | 3685 | - | 6 | 3704 | 2765 | 1.7 | 1.0 | 2.0 | Nil | 0.6 | Nil | 624,800 |
| 9/3/71 | 12,200 | 420 | 3500 | 12,800 | 3 | 217 | Nil | 1.06 | 0.20 | 8.04 | 0.50 | 6.17 | Nil | - |
| 9/4/71 | 5687 | 750 | 3365 | 5584 | 17 | 5728 | 2790 | 1.82 | 0.12 | 2.20 | 0.12 | 0.74 | Nil | - |
| 9/5/71 | 4957 | 719 | 3426 | 4503 | 20 | 15,012 | 11,111 | 1.65 | Nil | 1.80 | 0.13 | 0.73 | Nil | - |
| 9/6/71 | 2568 | 2600 | 3800 | 6100 | - | 5061 | 1432 | 2.00 | 0.10 | 2.23 | 0.10 | 1.40 | Nil | - |
| 9/7/71 | 3708 | 800 | 3500 | 9400 | - | 12,666 | 2049 | 2.50 | 1.80 | 2.80 | 0.32 | 1.20 | 0.03 | - |
| 9/8/71 | 4620 | 1500 | 3500 | 12,500 | 15 | 1234 | 1975 | 2.20 | 1.50 | 2.70 | 0.36 | 1.20 | Nil | - |
| 9/15/71 | 2435 | 332 | 2890 | 8691 | - | 5673 | 4444 | 1.32 | 0.25 | 1.60 | 0.13 | 0.81 | Nil | - |
| 9/29/71 | 3528 | 540 | 5520 | 515 | 30 | 4765 | 5925 | 1.19 | 0.26 | 1.92 | 0.11 | 0.21 | Nil | - |

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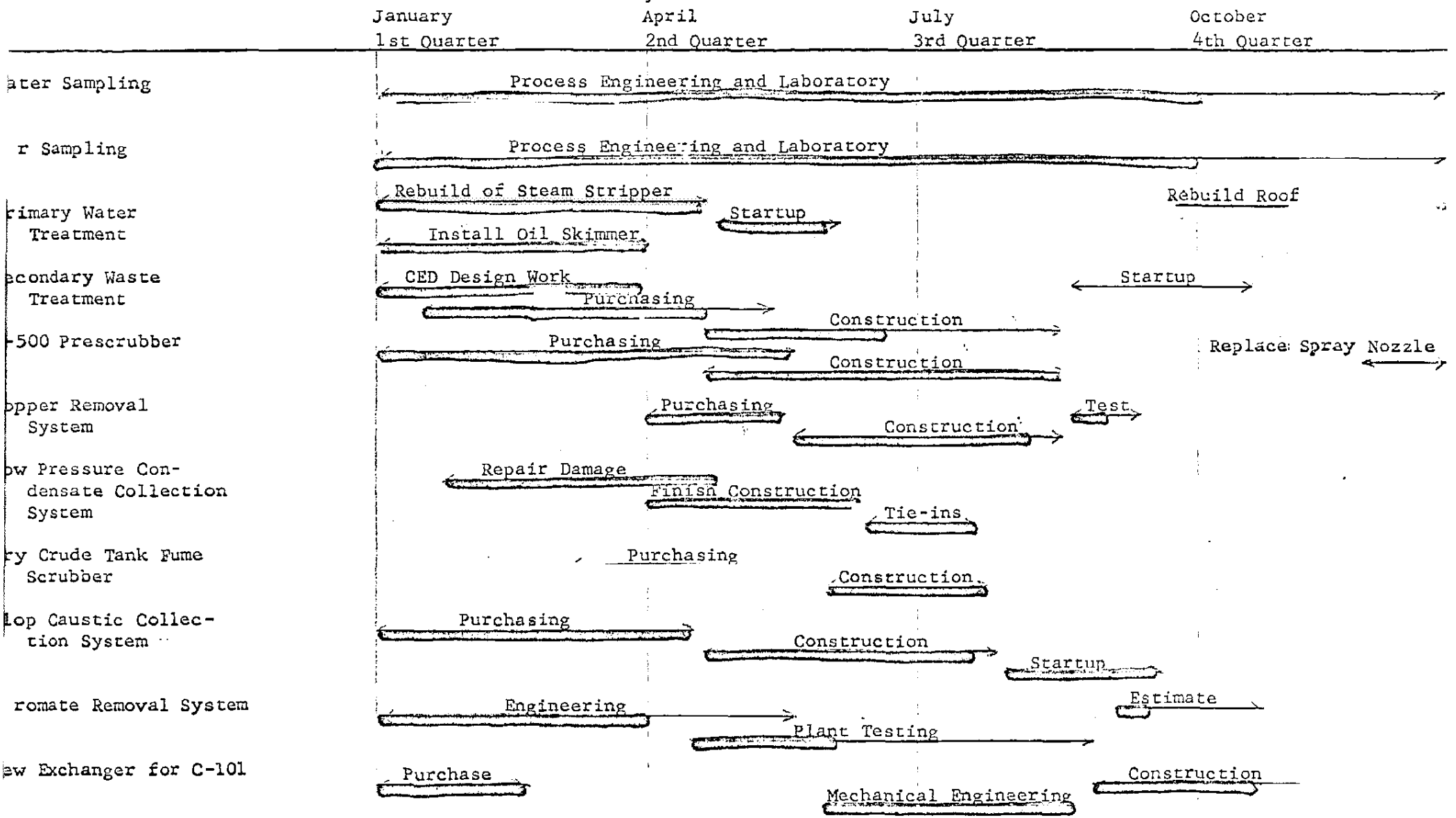
# ENVIRONMENTAL HEALTH PROJECTS - VCM PLANT

January to December 1971

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