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Explosives Department
Wilmington 98, Delaware.

DPW-55-4-16

SR/H - 867

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April 21, 1955.

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This document consists of 3 pages
No. 1 of 9 reports, Series A.

200 AREA WEEKLY REPORT

SOLVENT EXTRACTION PLANTS

200-F Area - Operations Status

221 Building - The first cycle operated 97.5% of the time at an average first cycle feed rate of 4.5 batches per day. The instantaneous first cycle feed rate has now been increased to 4.8 batches per day.

Charging of dissolvers with buckets containing 320 slugs each continues to be trouble-free.

Every third batch of warm solvent is now being processed directly to cold feed without washing. This is an increase in the proportion of unwashed solvent from the one in four ratio previously in effect.

High activity waste has shown a foaming tendency considerably above that experienced last week and more anti-foam is being added to control. Steam sparging during evaporator start-up has been found to be beneficial.

The last metal from reactor charge L-1 has been processed and dissolving of R-3 has started.

Since the start of the LDU water scrub, acid analysis of SG product has dropped from 1.5N to about 0.25N. The most recent finished product iron analyses show 65 and 45 ppm on the last two completed batches.

Evidence of denitrator pot sagging has led to a detailed study of pot temperature cycles. During one complete cycle bottom surface temperatures stayed in the range of 85C - 900°C. Operation of the furnaces with the middle burner shut down is being considered.

The activity level of 2BP has been high recently and ion exchange column radiation levels are 6 - 13 R/hr. under the shielding. This may be due to high activity in the canyon hot solvent system.

Name	Title	Date
<i>[Signature]</i>	APP	4/21/55
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Reviewing Official: *[Signature]*
C. J. Banick, AED Class Officer
Date: 4/21/55

200-H Area - Start-up Status

Acid has been brought into 221 Building to start and flushing as scheduled.

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MASTER



221-F&H - Caustic Scrubber

The caustic scrubber test carried out in 221-H Building showed that the packed scrubber tower loaded at 175 gpm caustic recirculation. This flow was decreased to 150 gpm by decreasing the size of the pump discharge jumper to the distributor from 3 inches to 2 inches. Engineering was advised to further decrease the caustic recirculation to 125 - 135 gpm range which should give sufficient safety factor to allow for unknowns in the pressure drop through the column.

221-F&H - Additional Freight Elevator at the North End of the Building

The "P" Work Orders have been approved. The design alteration to allow for level unloading at the first level is being completed.

221-H Building - Continuous Solvent Washing

Design of the core assemblies for the continuous solvent washers is essentially complete and the 5 horsepower, 100 rpm drives are scheduled for shipment to the plant by May 6. The prototype organic rate jet has been tested successfully at TNX over the range of 7 to 14 gallons per minute. Tests are still in progress on the design of the organic control orifice but fabrication of the main components is independent of this detail.

221-F "A" Line - Increased Capacity

Construction, design and procurement schedules were the subject of an Engineering Department discussion early this week. Attempts are being made to adjust each of these schedules to be compatible with a predicted July 1 start-up for the new facilities.

From the standpoint of procurement the off gas separator, exhauster and hydrate surge tank are the only pieces of equipment whose estimated long delivery could affect start-up. Every effort is being made to improve delivery on these items. It will be possible to start-up without the off gas separator and exhauster.

Some of the design work, namely process and electrical, is currently scheduled for completion beyond the July 1 date. Every attempt will be made to improve this schedule.

Construction is scheduling their work to meet the required start-up date but obviously will be held up by the above mentioned items if not improved. The basement and footings excavation is scheduled for completion the week of April 25. Forming and pouring of concrete will be in progress throughout the month of May.

241-H - Waste Storage Facilities

In an attempt to better define the maintenance problems involved in performing diversion box jumper changes, a demonstration of this type of maintenance will be made April 27 at the 241-H diversion box. Difficulties encountered will help in deciding just how extensive the maintenance facility being provided for the new waste pumping facility should be.

The present design concept for maintenance of the new pump pit includes a remotely operated overhead crane and utilizes television or periscopes for viewing. A shielded crane cab with a direct viewing window is also being considered. However, the cost of this installation is high and a review of the maintenance requirements is being undertaken to establish the minimum requirements.

The second and concluding television demonstration is tentatively scheduled for May 3 and 4. This demonstration will take place in the 221-H hot canyon.

221-H "B" Line - Additional Tankage

The work to be done to provide additional coupling column feed and elution facilities has been reviewed by interested groups, and all major questions have been resolved. Construction is beginning work on this job this week, with completion scheduled for July 1, 1955, to coincide with "hot" start-up of "H" Area. In order to meet this schedule design is to be released as it is completed, in the form of sketches, marked drawings and, if necessary, direct liaison with Construction in the field.

Some of the equipment needed is already on hand, including tanks for the product run and recycle hold tanks, and two of the elution pumps. The two new 36-inch by 13.5-foot column feed tanks will be fabricated by Construction.

221-H - Cold Feed Laboratory

The original scope of work for the cold feed laboratory provided for the receipt of samples by truck from the sample loading dock in the north end of 221 Building. The decision has been made to carry samples by hand directly to the laboratory from the warm canyon sample aisle and from Building 211. Samples will reach the laboratory quicker and at lower cost. Facilities deleted from the scope consist of a sample elevator (dumbwaiter), unloading dock and access road to the dock.

Storage and Maintenance Facilities - 600 Area

Engineering has been requested to prepare a "P" Work Order on Project S8-1015 to cover the cost of providing maintenance and storage facilities in the north end of Building 677-G. The following items are to be included in the work order:

1. Relocation of the full height partition from column line 4 to column line 8, thereby providing an area 40 feet by 28 feet for storage of materials.
2. Installation of a change room and toilet in the area bounded by column lines C, D and 2, 4. This change room is to have lockers for 32 maintenance men.
3. Installation of the services required for operation of shop equipment to be placed (not by this project) in the shop area.
4. Provision of lighting, heating and ventilation, drinking fountain, and sewer lines for the shop and storage area.

It has been decided to defer installation of a second floor in the north end of Building 677-G until the need for additional space is clearly demonstrated.

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