



FILE

Interoffice Communication

To G. G. Draper
From W. F. Revelt
Date February 5, 1975
Subject Check of Operation of the Existing VCM Sampling Systems

Attached is a table summarizing a check of all the VCM sampling systems except rail-car and ship sampling systems. These systems were checked with a vacuum gauge to see how much suction the nitrogen ejectors were developing.

It was found that all but three of the sampling systems developed suctions greater than 16 inches of mercury. These three were the:

1. VCM to storage system
2. Vinyl tower reflux system
3. Light ends tank and dryer system

The VCM to storage system produced a 5 psig pressure instead of a vacuum. This occurred because the outlet from the ejector was restricted by a section of $\frac{1}{2}$ in. tubing. A work order was issued to replace this section of tubing. This system now develops a vacuum of 18 in. of mercury.

The vinyl tower reflux system only develops a vacuum of approximately 8 in. of mercury. The operators indicate that this low vacuum is currently acceptable since they don't have a liquid problem when they break the connections. When the new vertical sample bomb holders are installed and the quick connects are removed, this suction may not be enough. Therefore, a work order to replace the $\frac{3}{4}$ in. ejector outlet tubing with $\frac{3}{4}$ in carbon steel pipe is being issued. This will allow this sampling system to develop a much higher suction.

The light ends tank and dryer system would not pull a vacuum. A design (Design No. 19-400-175-WFR) has been issued to correct this problem.

The instrument department should check the suction developed at all VCM sampling systems once a month. Any system which does not develop a suction of at least 15 in. of mercury should be reported to the process engineering group.

This letter is being issued as final. Comments should be made to J. S. Robinson or myself.

William F. Revelt

William F. Revelt

Approved By: *Jim Robinson*

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CC:

JAD-JHM-CEG-GGD(5)-JRH(4)

VVC 000001863

TABLE I

Suction of Vinyl Chloride Sampling Systems

<u>Process Area Sampling Systems</u>	<u>Phase of Sample</u>	<u>Suction Developed (Inches of Mercury)</u>
Light Ends Col. Reflux	Liquid	26
VCM to Storage	Liquid	-5 psig (1)
Vinyl Tar Still Overhead	Liquid	20
Vinyl Tower Reflux	Liquid	8(3)
<u>Waste Farm Sampling Systems</u>		
Check Spheres	Liquid	19
At VCM Loading Pumps	Liquid	18
Light Ends Tank and Dryer	Liquid	0(2)
Vent Recovery System	Liquid	19
Head Gas in T-401A	Vapor	18
Head Gas in T-401B & C	Vapor	17
Head Gas in T-411A	Vapor	19
Head Gas in T-411B	Vapor	17
Head Gas in T-411C	Vapor	18
Head Gas in T-411D	Vapor	17

- S:
- (1) The ejector outlet has been enlarged so that a vacuum of 18-in. of mercury is now being produced.
 - (2) A design for revisions to this system (Design No. 19-400-175-WFR) has been issued. These revisions will allow this system to develop a good vacuum.
 - (3) This suction should be greater than 15 in. of mercury after the 3/4 in. ejector outlet tubing is replaced with 3/4" carbon steel pipe as mentioned in this letter.

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