Interoffice Communication

To R. H. Gerlach

From P. L. Fetzer

Date July 17, 1974

Subject Ambient Air Analysis -- Nils Hendrik Abel Loading 7-14,15-74

The short loading time of the Nils Hendrik Abel only permitted a curtailed sampling program. Personnel dosimeters and "Century" total hydrocarbon readings were obtained on most of the loading operations. The vent recovery unit, the hydroquinone addition step and area grid analyses were not obtained.

A summary of the loading operation with all pertinent data is attached.

The dockmen pointed out some problems that need our attention and these are listed below.

1. A bleed line from the sight glass to the vent exhaust line to eliminate the vinyl vapors whenever the sight glass is blown down to read the level in the recovery tank.

2. The block valve on the suction line to the compressor leaks badly and should be examined before the next ship loading.

3. The hydroquinone addition did not work properly as a positive pressure existed on the top ball valve when the nitrogen eductor was operating. This caused any hydroquinone trapped in the ball valve to be blown to the atmosphere when opening the valve for a second charge.

Improvement in the cargo sampling was obtained by using the new sampling cylinders. Only fifteen minutes were required to sample both tanks and the vinyl emissions were generally below 50 ppm as evidenced by the charcoal dosimeter results, 7.75 ppm.

Conflicting data was obtained on the flange removal operation when the "Century" readings were below 20 ppm total hydrocarbons while the personnel dosimeter result showed the VCM exposure to be 192 ppm. This operation will be monitored closely on the next ship, Hoegh Shield, which is scheduled for July 21.

P. L. Fetzer

bc

VVC 000019554

TABLE I
PERSONNEL EXPOSURE
NILS HENDRIK ABEL LOADING 7-14,15-74

JOB	POSITION	TIME INTERVAL	TWA - PPM VCM FROM DOSIMETERS
Vent Hose Connection	Dockman	.75	.33*
Unblinding Hose	Dockman	.167	192.1 *
Heel Sample	Shift Foreman	.25	7.75*
Ship Loading	Dockman	2.25	7.49
Hose Flange Blinding	Dockman	1.33	2.55

* Protected with fresh air mask.

SUMMARY OF RESULTS
Nils Hendrik Abel Loading 7-14,15-74

CONNECTING VENT LINES	Century readings were not obtained but the personnel dosimeter result was low, 0.33 ppm VCM.
FLANGE REMOVAL	Century readings remained below 20 ppm throughout this operation. However, contradictory data was obtained from the personnel dosimeter which showed 192 ppm VCM. This step will be monitored closely on the next ship loading.
HEEL SAMPLES	A few leaks still remain on the sampling apparatus. The new bomb valves worked fine keeping the VCM concentration during sampling below 50 ppm. Trouble was experienced during disconnecting the sampling apparatus as the eductor would back pressure resulting in vinyl emissions. High total hydrocarbon readings, 1.0%, were obtained on the Century analyzer when this occurred. Closing the vent line from each tank permitted the unit to work satisfactorily. Significant improvement was noted for this operation as it required only fifteen minutes to sample both tanks and the charcoal dosimeter data showed only 7.8 ppm.
SHIP LOADINGS	No Century analyzer readings were taken. Charcoal dosimeter data showed 7.5 ppm VCM.
FINISHED CARGO SAMPLING	Century readings were low, less than 50 ppm. The new sample cylinders and valves improved the sampling time as it required only 15 minutes for both samples.
LOADING HOSE DISCONNECTION and FLANGE INSERTION	The eductor system worked properly as was evidenced by low Century total hydrocarbon valves, less than 20 ppm during entire operation. Personnel dosimeter data obtained showed 2.6 ppm. VCM during this operation.