

Interoffice Communication

To J. H. McCulley, Jr.
 From P. L. Fetzer
 Date November 11, 1974
 Subject Ambient Air Analysis - Irene Loading 10-17,18,19-74

The loading of the Irene was monitored using the Century total hydrocarbon analyzer and personnel dosimeters. Two area grid surveys were taken while the vent recovery unit was operating and venting through the new 148 foot vent stack. The analytical data (Century total hydrocarbon reading) obtained from the area grid surveys does indicate a slight reduction in the general background concentration throughout the area in comparison to earlier data (4-10 ppm with new stack and 10-20 ppm with the old short stack). Additional area grid surveys on future loadings should be taken to establish a definitive hydrocarbon level throughout dock area.

A glass bomb sample taken at the guard shack showed 11.5 ppm vinyl chloride. However a personnel dosimeter placed outside the shack for two hours showed the vinyl concentration to be 0.62 ppm.

Overall the individual loading operation procedures went smoothly and resulted in low vinyl exposure; personnel dosimeter data are shown in Table II.

Equipment aboard the ship represents the most troublesome emission sources. Valve packing on several tank sampling valves leaked as did the liquid loading line block valve and packing.

A brief summary of the loading operation is attached.

P. L. Fetzer
 P. L. Fetzer

bc

CC: JAD, CEG

VVC 000019518

SUMMARY OF RESULTS
IRENE LOADING 11,17,18,19-74

HOSE CONNECTION AND
BLIND REMOVAL

The Century hydrocarbon readings remained below 10 ppm while connecting the hoses aboard ship. However the readings exceed 1.0% when the blind was removed from the vapor line at dockside connection. Vinyl chloride had apparently been trapped between the valve on the hose and the blind. Century reading ranged between 6 and 50 ppm for the removal of the blind in the liquid line. Personnel dosimeter result from removing these blinds was 2.27 ppm.

HEEL SAMPLING

Century hydrocarbon readings ranged from 60 to 1200 ppm due to leaking valve packings on ship tanks sample points. Personnel dosimeter result during the sampling was 24.8 ppm.

HYDROQUINONE ADDITION

The procedure went quite smoothly as the Century hydrocarbon reading remained below 10 in the breathing zone. Personnel dosimeter result was 2.88 ppm. Leaks were detected at the valve stem on the large valves whenever they were being opened or closed during the procedure.

LOADING

Two area grid surveys were taken while the vent recovery unit was operating and venting through the new 148 foot vent stack. The data (Table II) indicates a slightly lower hydrocarbon concentration throughout the dock area in comparison to guide surveys conduct while venting through the short vent stack (4-10 from new stack compared to 10-20 from old stack). Personnel dosimeter data are shown in Table II.

FINISHED CARGO
SAMPLING

Century hydrocarbon readings were high again due to leaking valve packings. Personnel dosimeter result was 33.01 ppm.

HOSE DISCONNECT AND
BLIND INSERTION

Century hydrocarbon readings were high while disconnecting the lines aboard ship. The vent line reached 500 ppm and the liquid line exceeded 1100. The ship's liquid line valve and valve packing leaked causing the high readings. Blinding on dockside went smoothly but the hydrocarbon reading momentarily reached 100 ppm while blinding the vent line and 50 ppm while blinding the vent line and 50 ppm while blinding the liquid line.

VVC 000019519

TABLE I

PERSONNEL EXPOSURE

IRENE LOADING 10-17,18,19-74

<u>JOB</u>	<u>POSITION</u>	<u>TIME INTERVAL</u> <u>HR.</u>	<u>TWA PPM VCM</u> <u>FROM DOSIMETERS</u>
Hose Connection	Dockman	0.52	.09 *
Blind Removal	Dockman	0.10	2.27 *
Heel Sampling	Shift Foreman	1.77	24.78 *
Hydroquinone Addition	Dockman	1.83	2.88 *
Loading	Dockman (A)	2.00	Nil *
	Dockman (A)	2.00	0.40 *
	Dockman (A)	3.58	0.04 *
Finish Cargo Sampling	Shift Foreman	1.08	33.01 *
Hose Disconnection and Blind Insertion	Dockman	0.95	27.62 *

* protected with fresh air equipment

(A) Dock Shack

VVC 000019520

TABLE II

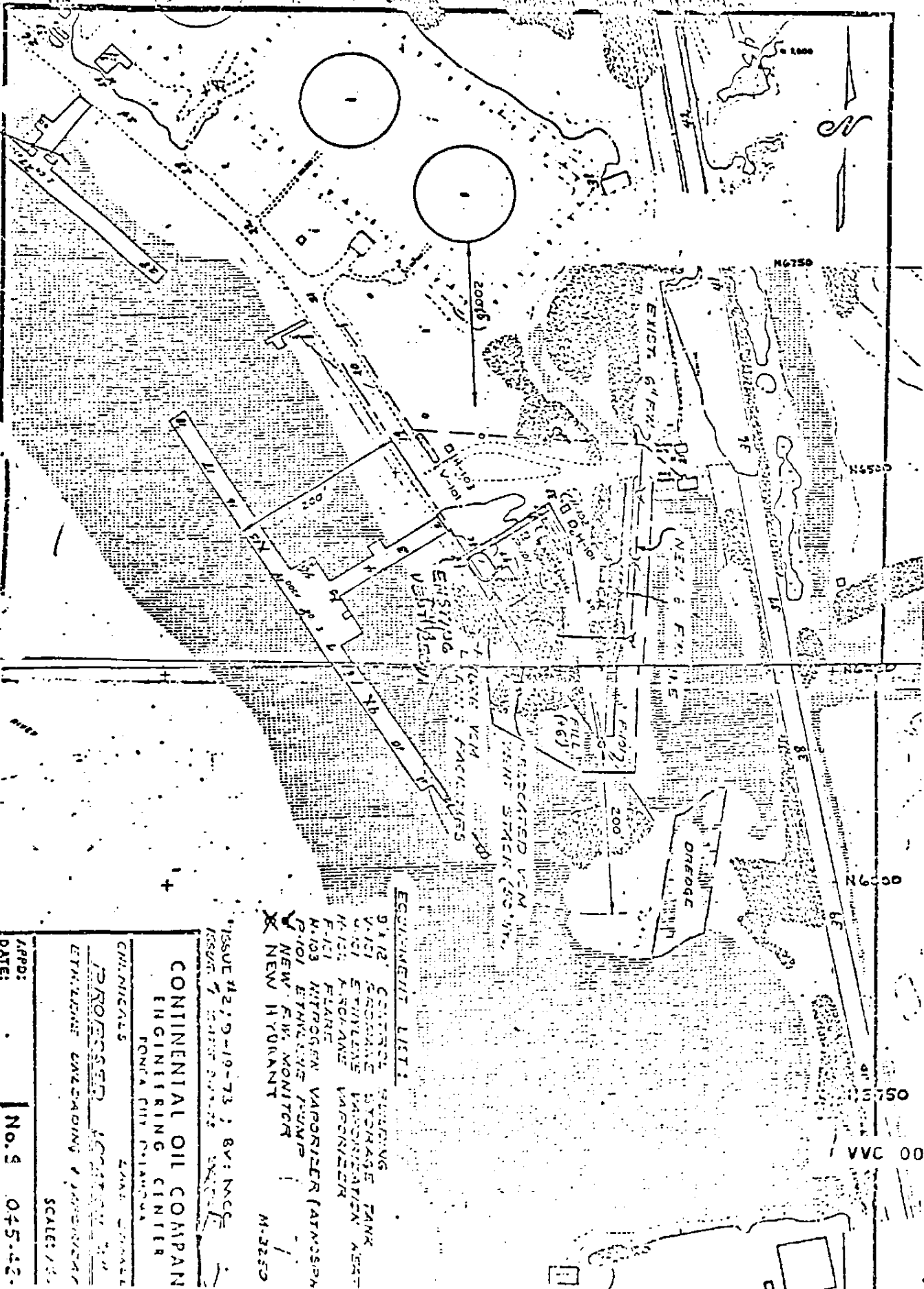
GRID RESULTS

(SEE ATTACHED PLOT FOR GRID POINT LOCATIONS)

GRID POINT	<u>SET I</u> 10-18-74		<u>SET II</u> 10-19-74	
	Century Total Hydrocarbon	Glass Bomb Tr	Century Total Hydrocarbon	Glass Bomb
1	6		10	0.41
2	6		9	
3	7		11	
4	6		6	
5	6		6	0.8
6	6		6	
7	6		6	
8	6		6	
9	6		6	
10	6		7	
11	6		9	
12	6		7	
13	6		6	
14	8		6	
15	8	0.21	5	
16	8		6	
17	8		6	
18	7		6	
19	5		7	
20	5		7	
21	5		7	
22	5		6	
23	5		6	
24	6		7	
25	6		7	
26	6		7	
27	6		6	
28	5		5	
29	5		7	
30	-		-	
31	-		-	
32	5		6	
33	3		7	
34	5		6	
35	3	11.5	7	1.6 9.7 (inside)
36	3		7	
37	3		6	
38	3		7	
39	2		8	
40	3		8	
41	3		5	
42	3		6	
43	3		5	
44	-		-	
45	-		-	
46	3	Tr	5	Tr
47	3		10	4.2
Wind Direction	Variable		Variable	
Wind Speed	Calm		Calm	
Cloud Cover	Clear		Clear	
Temperature	75 OF		75 OF	

VVC 000019521

AREA GRID SURVEY PLOT PLAN



EQUIPMENT LIST:

- GR-2 CONTROL BUILDING
- V-101 STORAGE TANK
- V-102 STORAGE TANK
- V-103 STORAGE TANK
- V-104 STORAGE TANK
- V-105 STORAGE TANK
- V-106 STORAGE TANK
- V-107 STORAGE TANK
- V-108 STORAGE TANK
- V-109 STORAGE TANK
- V-110 STORAGE TANK
- V-111 STORAGE TANK
- V-112 STORAGE TANK
- V-113 STORAGE TANK
- V-114 STORAGE TANK
- V-115 STORAGE TANK
- V-116 STORAGE TANK
- V-117 STORAGE TANK
- V-118 STORAGE TANK
- V-119 STORAGE TANK
- V-120 STORAGE TANK
- V-121 STORAGE TANK
- V-122 STORAGE TANK
- V-123 STORAGE TANK
- V-124 STORAGE TANK
- V-125 STORAGE TANK
- V-126 STORAGE TANK
- V-127 STORAGE TANK
- V-128 STORAGE TANK
- V-129 STORAGE TANK
- V-130 STORAGE TANK
- V-131 STORAGE TANK
- V-132 STORAGE TANK
- V-133 STORAGE TANK
- V-134 STORAGE TANK
- V-135 STORAGE TANK
- V-136 STORAGE TANK
- V-137 STORAGE TANK
- V-138 STORAGE TANK
- V-139 STORAGE TANK
- V-140 STORAGE TANK
- V-141 STORAGE TANK
- V-142 STORAGE TANK
- V-143 STORAGE TANK
- V-144 STORAGE TANK
- V-145 STORAGE TANK
- V-146 STORAGE TANK
- V-147 STORAGE TANK
- V-148 STORAGE TANK
- V-149 STORAGE TANK
- V-150 STORAGE TANK
- V-151 STORAGE TANK
- V-152 STORAGE TANK
- V-153 STORAGE TANK
- V-154 STORAGE TANK
- V-155 STORAGE TANK
- V-156 STORAGE TANK
- V-157 STORAGE TANK
- V-158 STORAGE TANK
- V-159 STORAGE TANK
- V-160 STORAGE TANK
- V-161 STORAGE TANK
- V-162 STORAGE TANK
- V-163 STORAGE TANK
- V-164 STORAGE TANK
- V-165 STORAGE TANK
- V-166 STORAGE TANK
- V-167 STORAGE TANK
- V-168 STORAGE TANK
- V-169 STORAGE TANK
- V-170 STORAGE TANK
- V-171 STORAGE TANK
- V-172 STORAGE TANK
- V-173 STORAGE TANK
- V-174 STORAGE TANK
- V-175 STORAGE TANK
- V-176 STORAGE TANK
- V-177 STORAGE TANK
- V-178 STORAGE TANK
- V-179 STORAGE TANK
- V-180 STORAGE TANK
- V-181 STORAGE TANK
- V-182 STORAGE TANK
- V-183 STORAGE TANK
- V-184 STORAGE TANK
- V-185 STORAGE TANK
- V-186 STORAGE TANK
- V-187 STORAGE TANK
- V-188 STORAGE TANK
- V-189 STORAGE TANK
- V-190 STORAGE TANK
- V-191 STORAGE TANK
- V-192 STORAGE TANK
- V-193 STORAGE TANK
- V-194 STORAGE TANK
- V-195 STORAGE TANK
- V-196 STORAGE TANK
- V-197 STORAGE TANK
- V-198 STORAGE TANK
- V-199 STORAGE TANK
- V-200 STORAGE TANK

ISSUE #2, 10-19-73, BY: MCG
ISSUE #1, 10-19-73, BY: MCG

CONTINENTAL OIL COMPANY
ENGINEERING CENTER
PONTIAC CITY, MICHIGAN

PROPOSED WORK
ETHYLENE CATALYST REGENERATION

SCALE: 1/8"

APPD: No. 5 045-42
DATE:

VVC 000019522