INTERNAL CORRESPONDENCE

FROM Frederick M. Toca AT Health Sciences Lab DATE April 18, 1974

TO Dr. R. T. Cheng AT San Diego REFERENCE 100D1-10-1

SUBJECT RESULTS OF ANALYSIS FOR SAMPLES COLLECTED IN TAIWAN

Attached are the results of analysis for the samples collected during your trip to Taiwan.

The maximum amount of vinyl chloride found in any of the hydrocarbon samples was 4 parts per million. The major constituent in most of these samples was ethylene dichloride. There were several peaks appearing in some of the samples that we were unable to identify. However, each of these unidentified peaks was estimated to contain less than 20 parts per million (ppm) of material (based on the ratio of their peak areas to those of the materials which were identified).

The samples designated for solvent vapor analysis contained methyl ethyl ketone, methyl isobutyl ketone, toluene and some isomers of xylene. While none of the solvent vapor samples contained amounts of any of these constituents in excess of their TLVs, consideration should be given to the possible synergistic effects of this mixture at the concentration detected. For example, the TLV of this mixture for sample number HSL-002-86MM is 153 ppm.

All of the dust samples collected were overloaded with material. This overloading probably caused some of this material to be lost by adhesion to the filter cassette. The total dust concentration on most of these samples was in excess of 10 mgs per cubic meter (mg/m^3), the recommended TLV for nuisance dust. The analysis for cadmium on these samples showed it not to be present in detectable quantities

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(detection limit 0.01 ppm in the sample). The analysis for lead in these samples showed the concentrations present to be below the recommended TLV of 0.15 mg/m^3.

Fred.

Frederick M. Toca

Attachments

FMT:jks

cc w/atts: RLG
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RESULTS OF ANALYSIS FOR METALS
TAIWAN
(MARCH, 1974)

HSL Sample No.	Field Sample No.	Date Collected	*Concentration in mg/m^3 Lead	Cadmium	Total Dust
HSL-002-86A	HSL-002-28E	3-8-74	0.0091	NC	11.58
86B	28F	3-8-74	NC	0	24.11
86C	28H	3-8-74	0.0024	0	NWC
86D	28K	3-8-74	0	0	151.45
86E	28L	3-8-74	0	0	6.09
86F	28Q	3-8-74	0.0009	NC	29.86
86G	28R	3-8-74	0.0011	0	31.72
86H	28X	3-8-74	0.0020	0	83.03

* Most of these samples were overloaded, therefore materials may have been lost from the filters before analysis.

NC = Not enough to measure.

NWC = No weight change.

RESULTS OF ANALYSIS FOR HYDROCARBONS
TAIWAN
(MARCH, 1974)

HSL Sample No.	Field Sample No.	Sampler No.	Date Collected	Concentration of Hydrocarbons ppm* Vinyl Chloride	Ethylene Dichloride
HSL-002-86I	VC-1	1054	3-5-74	T	2
86J	VC-2	1037	3-5-74	T	4
86K	VC-3	1042	3-5-74	T	8
86L	VC-4	1036	3-5-74	T	6
86M	VC-5	1035	3-5-74	-	4
86N	VC-6	1041	3-5-74	T	T
86Ø	VC-7	1038	3-5-74	-	3
86P	VC-8	1043	3-5-74	1	T
86Q	VC-9	1048	3-5-74	-	2
86R	VC-10	1054	3-5-74	-	T
86S	VC-11	1041	3-5-74	-	T
86T	VC-12	1048	3-5-74	1	T
86U	VC-13	1042	3-5-74	2	T
86V	VC-14	1038	3-5-74	T	T
86W	VC-15	1036	3-5-74	1	T
86X	VC-16	1035	3-5-74	-	-
86Y	VC-17	1036	3-7-74	T	-
86Z	VC-18	1037	3-7-74	T	T

* These values represent the total concentrations of hydrocarbons in both layer 1 and 2.

Trace, Not enough to be measured.

RESULTS OF ANALYSIS FOR HYDROCARBONS
TAIWAN
(MARCH, 1974)

HSL Sample No.	Field Sample No.	Sampler No.	Date Collected	Concentration of Hydrocarbons ppm* Vinyl Chloride	Ethylene Dichloride
HSL-002-86AA	VC-19	1041	3-7-74	T	T
86BB	VC-Blank	-	-	**	**
86CC	VMC-1	1048	3-14-74	T	3
86DD	VMC-2	1043	3-14-74	2	16
86EE	VMC-3	1048	3-14-74	4	10
86FF	VMC-4	1043	3-14-74	-	13
86GG	VMC-Blank	-	-	-	-

* These values represent the total concentrations of hydrocarbons contained in both layer 1 and 2.

** This sample was labeled as a blank but contained numerous HC peaks on its chromatogram; however the estimated amounts of VC and EDC were low.

T = Trace, Not enough to be measured.

RESULTS OF ANALYSIS FOR SOLVENT VAPORS
TAIWAN
(MARCH, 1974)

HSL Sample No.	Field Sample No.	Sampler No.	Date Collected	Concentration of Solvent Vapors ppm* MEK	MIBK	Toluene	Xylene
HSL-002-86HH	S-1	1048	3-6-74	16	27	49	13
86II	S-2	1043	3-6-74	14	16	36	3
86JJ	S-3	1054	3-6-74	19	26	47	7
86KK	S-4	1035	3-6-74	51	9	31	2
86LL	S-5	1041	3-6-74	60	1	19	1
86MM	S-6	1036	3-6-74	170	24	48	3
86NN	S-7	1043	3-7-74	59	9	66	1
86ØØ	S-8	1035	3-7-74	43	7	39	T
86PP	S-9	1038	3-7-74	40	5	44	T
86QQ	S-10	1054	3-7-74	80	10	84	1
86RR	S-11	1042	3-7-74	52	6	43	T
86SS	S-Blank	-	-	-	-	-	-

These values represent the total concentrations of solvent vapors contained in both layer 1 and 2.

= Trace, Not enough to be measured.

Gulf Oil Corporation

MEDICAL DEPARTMENT

INDUSTRIAL HYGIENE LABORATORY
DUST ANALYSIS REPORT

TO BE COMPLETED BY USER						* FOR LABORATORY USE ONLY				
SAMPLE NO. HSL-001-28	DATE SAMPLE TAKEN	SAMPLE DURATION (MINUTES)	SAMPLE RATE 1/MIN.	QUARTZ ANALYSIS YES	QUARTZ ANALYSIS NO	Log No. HSL-002-86	TARE WT. MG.	FINAL WT. MG.	DUST CONC. MG./M^3	% FREE SiO_2
28E	3-8-74					86A			11.58	
28F	3-8-74					86B			24.11	
28H	3-8-74					86C			Blank	
28K	3-8-74					86D			151.45	
28L	3-8-74					86E			6.09	
28Q	3-8-74					86F			29.86	
28R	3-8-74					86G			31.72	
28X	3-8-74					86H			83.03	

RETURN RESULTS TO:

NAME Dr. R. T. Cheng

ADDRESS San Diego, CA

RETURN COMPLETED FORM AND SAMPLES TO:

HEALTH SCIENCES LABORATORY

Gulf Oil Corporation
P. O. Box 3240
Pittsburgh, PA 15230

NO. GGA 716

*Most of these samples were overloaded.