

August 7, 1985

Bill Leadford
Industrial Hygiene

cc. Bob Norman
Max Williams
Sylvia Bray

Re: Benzene monitoring of RE-54 Cleaning

The depropanizer and debutanizer columns at LHC #3 have a fouling problem due to polymer formation. The polymer tends to collect in the column reboilers and cause plugging problems. It is necessary to clean a reboiler about every two months. The job involves isolating the reboiler, decontamination, line opening, and hydroblasting the system. The personnel exposure to benzene had been shown to be below the current TLV of 10 PPM, but with the proposed 1 PPM TLV it was felt that the job should be re-examined. Personnel were monitored for benzene exposure using 3M organic vapor monitors.

Both Dow and contract personnel were monitored for benzene and toluene exposure. The average time-weighted benzene exposure was 0.87 PPM with a high of 2.93 PPM and a low of 0.22. The average time weighted toluene exposure was 0.24 PPM. Respirators were worn during the line openings. Respirators were not worn by the people doing the hydroblasting. Face shields do not cover a worker's face very well if the person is wearing a standard respirator and the face shield took priority over the respirators. Special full face respirators have been ordered for use by hydroblasting personnel. The monitoring does point out a potential problem area. The procedures for working on the depropanizer and debutanizer will be reviewed with the intent of minimizing personnel exposures.

Jerry E. Steward
LHC #3

DO 081485
CONFIDENTIAL

INDUSTRIAL HYGIENE MONITORING OF THE PREPARATION AND HYDROBLASTING
OF RE-54 DURING NORMAL OPERATIONS.

PERSONNEL WERE WEARING RESPIRATORS DURING LINE OPENINGS BUT
NOT DURING HYDROBLASTING.

DOW PERSONNEL-DAYS 7/17/85

	NAME	ID #	TIME	MONITOR	PPM-TWA BENZENE	PPM-TWA TOLUENE
1	A.R. LEE	433197	360 MIN	PR9248	0.81	0.14
2	H. THERIOT	220015	360 MIN	AU9357	1.01	0.31
3	R. McCELLAND	432829	360 MIN	AU9386	0.86	0.26
4	R.V. PEAIRS	432906	360 MIN	AU9368	0.65	0.01
				Average	0.83	0.18

CONTRACT PERSONNEL-DAYS 7/23/85

5	L. MATHEINS		600 MIN	AU0513	0.33	0.15
6	O. TAYLOR		600 MIN	AU0537	1.06	0.43
7	A. HERANDEZ		600 MIN	AU0410	2.93	0.90
8	D. ALLEN		600 MIN	AU0401	0.33	0.20
				Average	1.16	0.42

DOW PERSONNEL-DAYS 7/24/85

9	A.R. LEE	433197	150 MIN	AU9428	0.50	0.01
10	R.V. PEAIRS	432906	165 MIN	AU9431	0.22	0.01
				Average	0.36	0.01

TLV - Benzene - 10 PPM
Toluene - 100 PPM

EMPLOYEE EXPOSURE SUMMARY

FILLED IN BY D. L. D'ARMOND DR# _____ QUARTER 3 YEAR 85
PLANT LHC 3 BLOCK 68 CHEMICAL BENZENE IHG 10 PPM
MINIMAL DETECTABLE LIMIT AND UNIT .01 PPM

MINIMAL DETECTABLE LIMIT AND UNIT 0.01 PPM

[illegible]

LH:sb IH-2 (12/86) FORM 1

DO 081487
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EMPLOYEE EXPOSURE SUMMARY

FILLED IN BY D.L. D'ARMOND DR# _____ QUARTER 3 YEAR 85
PLANT LHC 2 BLOCK 28 CHEMICAL TOLUENE IHG 100 PPM
MINIMAL DETECTABLE LIMIT AND UNIT .01 PPM

MINIMAL DETECTABLE LIMIT AND UNIT 0.1 PPM

[illegible]

DO 081488
CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION

**COMMENTS (use reverse side)

LH:sb IH-2 (12/86) FORM 1

EMPLOYEE EXPOSURE SUMMARY

FILLED IN BY D. L. D'ARNO DR# _____ QUARTER 3 YEAR 85
PLANT L.H.S. BLOCK 18 CHEMICAL BENZENE IHG 10 PPM
MINIMAL DETECTABLE LIMIT AND UNIT .01 PPM

QUARTER 3 YEAR 85

ING 10 PPM

MINIMAL DETECTABLE LIMIT AND UNIT .01 PPM

[illegible]

DO 081489
CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION

##COMMENTS (use reverse side)

LH:sb IH-2 (12/86) FORM 1

EMPLOYEE EXPOSURE SUMMARY

FILLED IN BY D. L. D'ARMOUD DR# _____

PLANT LHC 3 BLOCK 68 CHEMICAL TOLUENE

QUARTER 3 YEAR 95

IHG 100 PPM

MINIMAL DETECTABLE LIMIT AND UNIT .01 PPM

DR #

QUARTER 3 YEAR 85:

ING 100 PPM

PLANT LHC 3

BLOCK 48

CHEMICAL

TOLUENE

MINIMAL DETECTABLE LIMIT AND UNIT .01 PPM

[illegible]

DO 081490
CONFIDENTIAL

*PROTECTIVE EQUIPMENT: (1) MOUTHBIT (2) FULL FACE (3) HALF FACE OR DUST (4) AIR SUPPLY (5) HEARING PROTECTION
**COMMENTS (use reverse side) LH:sb IH-2 (12/86) FORM1

LH:sb IH-2 (12/86) FORM 1

EMPLOYEE EXPOSURE SUMMARY

FILLED IN BY D. L. D'ARMOIS

PLANT LHC 3 BLOCK 68 CHEMICAL BENZENE

QUARTER 3 YEAR 85
ING 10 PPM
LIMIT AND UNIT 01 PPM

FILLED IN BY *D. L. D'ARMONIS*

DR #

QUARTER 3 YEAR 85.

ING 10 FEB 1971

PLANT *LHC 3*

BLOCK 68

CHEMICAL

BEUZENE

MINIMAL DETECTABLE LIMIT AND UNIT .01 PPM

DO 081491
CONFIDENTIAL

##COMMENTS (use reverse side)

LH:sb IH-2 (12/86) FORM 1

EMPLOYEE EXPOSURE SUMMARY

FILLED IN BY D. L. D'ARMON DR# _____

PLANT LHC 3 BLOCK 68 CHEMICAL TOLUENE

QUARTER 3 YEAR 85

IHG 100 PPM

MINIMAL DETECTABLE LIMIT AND UNIT 10 PPM

DR#

QUARTER 3 YEAR 85.

ING 100 PPM

PLANT LAR 3

BLOCK 68

CHEMICAL

TOLUENE

MINIMAL DETECTABLE LIMIT AND UNIT 121 RPM

DO 081492
CONFIDENTIAL

##COMMENTS (use reverse side)

LH:sb IH-2 (12/86) FORM 1