

INDUSTRIAL HYGIENE REVIEW - 1981

AGENDA

1. 1981 ACCOMPLISHMENTS
 - A. LHC I
 - B. LHC II
 - C. LHC III
2. SUMMARY OF I. H. MONITORING DATA
 - A. LHC I
 - B. LHC II
 - C. LHC III
3. MEDICAL DATA REVIEW
4. GOALS AND PLANS FOR 1982

DO 097966
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ACCOMPLISHMENTS LHC III 1981

1. Every three months CBC and urinary phenols were run on all the OT's and S.O.T.'s. O.S.'s were included at six months intervals.
2. Every personnel were monitored for potential exposure to benzene while working in clean up of pyrolysis gasoline spills. Urinary samples were collected at the beginning of the day and at the end of the day to check for any increase in phenol levels. Everyone did wear a half face respirator while working at the spill.
3. A noise survey was run in November. Signs were posted indicating the highest noise area. (Above 90 decibels)
4. Sixty nine boxes to hold six half face respirators were mounted in various sections of the plant. This eliminated the need to carry around a respirator. Once a month the boxes are checked to see that they contain the required number of respirators.
5. We had a 99% participation in the respirator fit test program for the operators, and 84% participation in the program from the technical personnel.

SUMMARY OF INDUSTRIAL HYGIENE
MONITORING DATA

1. JANUARY 16, 1981 - CLEAN UP OF RAIN WATER PIT
2. JANUARY 21, 1981 - CLEAN UP DITCH BY LHC II
3. MARCH 1, 1981 - CLEAN UP OF RAIN WATER PIT
4. JUNE 10, 1981 - ROUTINE PERSONNEL EXPOSURE SURVEY
5. DECEMBER 13, 1981 - CLEAN UP OF OIL WHEN SEAL ON PUMP 10B BLEW
6. DECEMBER 19,20,21 - TANK 1601B RAN OVER INTO THE DIKE AREA AROUND
THE TANK

DO 097968
CONFIDENTIAL

January 10, 17, 10 & 19 1981

EMPLOYEE EXPOSURE SUMMARY

QUARTER 1st YEAR 1981FILLED IN BY W. Herrick

DR#

IHG 10 ppm

MINIMAL DETECTABLE

PLANT LHC III BLOCK 68 STRESS Benzene LIMIT AND UNIT 0.5 ppm

		PERSONNEL							EXCURSION					AREA				
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT																	
02	OT		3	8 hrs	20	1.56	5.40											
03	SOT		3	8 hrs	12	1.61	4.22											
04	OS		3	8 hrs	2	1.16	1.38											
05	SS		3	8 hrs	1	0.40	0.40											
06	EDO																	
07	LAB																	
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT MAINT																	
16	MATL CONT																	
19	MGRS/NON- OP																	
20	AREA SAMP (NO JC)																	
24	MFG. MGR.																	
26	MFG TECH																	
28	CHEMIST SET		3	8 hrs	1	0.22	0.22											
29	SUPV. SHIP																	
30	COORD.																	

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

**COMMENT (Use reverse side)

CLEAN UP OF RAIN WATER PIT - EMULSION DEVELOPED IN C-20

DO 097969
CONFIDENTIAL

January 20, 21, 22, 23, 24, 1981

EMPLOYEE EXPOSURE SUMMARY

FILLED IN BY W. Herrick

DR#

QUARTER 1st YEAR 1981

MINIMAL DETECTABLE

IHG 100 ppm

PLANT LHC III BLOCK 68 STRESS Toluene LIMIT AND UNIT 0.5 ppm

		PERSONNEL							EXCURSION					AREA				
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT																	
02	OT		3	8 hrs	20	2.93	9.9											
03	SOT		3	8 hrs	12	3.30	9.17											
04	OS		3	8 hrs	2	1.93	3.20											
05	SS		3	8 hrs	1	0.86	0.86											
06	EDO																	
07	LAB																	
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT MAINT																	
16	MATL CONT																	
19	MGRS/NON- OP																	
20	AREA SAMP (NO JC)																	
24	MFG. MGR.																	
26	MFG TECH																	
28	CHEMIST		3	8 hrs	1	0.41	0.41											
29	SET SUPV.																	
30	SHIP COORD.																	

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

**COMMENT (Use reverse side)

CLEAN UP OF RAIN WATER PIT - EMULSION DEVELOPED IN C-20

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CLEAN UP RAIN WATER PIT

(FIRST SPILL)

NAME	S. S. #	8-HOUR - *TWA	
		PPM BENZENE	PPM TOLUENE
JAN. 16, 1981			
C. K. Eagles	437-02-2267	5.4	9.9
S. C. New	250-04-6709	0.22	0.41
D. L. D'Armond	437-66-4769	2.82	4.31
H. Alford	434-88-2220	1.12	1.86
M. F. Browning	437-07-7067	4.22	9.17
D. L. Waits	319-42-1580	0.40	0.86
A. D. Abbott	439-90-9820	5.35	9.85
R. K. Brown	437-02-1933	0.67	1.13
P. J. Musgrow	439-88-8998	0.56	1.20
K. J. Thibodeaux	437-02-1029	2.05	2.40
JAN. 17, 1981			
J. R. Brou	439-84-4057	2.10	3.32
R. J. Aucoin	437-70-9944	1.98	3.61
R. V. Peairs	435-90-6213	0.88	1.80
A. Heinzen	436-21-2065	2.24	3.38
M. L. Percle	436-04-2818	3.03	6.05
S. J. Colletti	435-86-4490	1.92	3.83
J. P. Palmer	439-98-1498	1.38	3.20
C. J. Davenport	437-88-6092	0.72	1.38
R. K. Brown	437-02-1933	2.08	1.28
R. B. McClelland	436-84-7380	0.93	0.65
JAN. 18, 1981			
C. H. Juge	434-98-9830	1.75	4.36
J. P. Templet	438-96-5485	1.06	2.66
W. Reed	434-98-9908	0.04	0.05
C. K. Eagles	437-02-2267	0.02	0.03
M. L. Williams	435-17-5602	1.08	2.50
R. Johnson	433-82-2754	1.86	3.93
F. L. Jamison	435-82-8244	1.54	4.98
K. C. Joseph	438-08-2135	2.70	5.67
K. R. Leatherman	439-84-6647	0.43	1.00
T. B. Pitre	435-96-9940	0.70	1.52
J. L. Davis	436-68-7843	0.04	0.26
S. Neal	351-48-8393	0.05	0.31
S. P. Rawls	433-70-9119	0.25	1.21
JAN. 19, 1981			
J. R. Brou	439-84-4057	0.75	2.03
R. V. Peairs	435-90-6213	0.74	2.05
A. D. Abbott	439-90-9820	0.42	1.06
C. J. Davenport	437-88-6092		

*TWA TIME WEIGHTED AVERAGE

DO 097971
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January 20, 21, 22, 23,
24 & 25, 1981

EMPLOYEE EXPOSURE SUMMARY

QUARTER 1st YEAR 1981
IHG 10 ppm

FILLED IN BY W. Herrick

DR#
MINIMAL DETECTABLE

PLANT	LHC III	BLOCK	68	STRESS	Benzene	LIMIT AND UNIT	0.5 ppm
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[illegible]

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

##COMMENT (Use reverse side)

CLEAN UP OF PY. GAS IN DITCH AT LHC II - PY GAS FROM S-31 RAN OVER

DO 097972
CONFIDENTIAL

EMPLOYEE EXPOSURE SUMMARY

FILLED IN BY W. Herrick

DR#

QUARTER 1st YEAR 1981

IHG 100 ppm

MINIMAL DETECTABLE

PLANT LHC III BLOCK 68 STRESS Toluene LIMIT AND UNIT 0.5 ppm

		PERSONNEL							EXCURSION					AREA				
NO.	JOB CLASS	AREA/TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT																	
02	OT		3	8 hrs	8	0.34	.61											
03	SOT		3	8 hrs	16	2.08	22.0											
04	OS		3	8 hrs	7	1.94	9.95											
05	SS		3	8 hrs	1	0.16	0.16											
06	EDO																	
07	LAB																	
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT																	
16	MAINT																	
19	MATL																	
20	CONT																	
24	MGRS/NON-OP																	
26	AREA SAMP (NO JC)																	
28	MFG.																	
29	MGR.																	
30	MFG																	
	TECH																	
	CHEMIST																	
	SET																	
	SUPV.																	
	SHIP																	
	COORD.																	

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

**COMMENT (Use reverse side)

CLEAN UP OF PY GAS IN DITCH AT LHC II - PY GAS FROM S-31 RAN OVER

DO 097973
CONFIDENTIAL

SECOND CLEAN UP OPERATION

(DITCH BY LHC II)

NAME	S. S. #	TWA BENZENE	POTENTIAL TWA TOLUENE
<u>1-20-81</u>			
S. Neal	351-48-8393	1.00	.50
J. L. Gill	433-04-9730	36.3	22.0
M. P. Cedatol	437-88-3476	1.90	1.60
N. P. Hidalgo	433-74-1115	1.21	0.49
C. B. McCoy	264-21-2151	1.76	0.83
E. Amy	433-70-7302	1.76	1.89
C. N. Efferson	433-17-8497	3.15	1.37
T. F. Russell	435-76-3285	0.28	0.16
J. E. Huff	435-17-2757	0.45	0.28
T. B. Pitre	435-96-9940	0.57	0.41
J. P. Templet	438-96-5485	0.57	0.41
D. M. Wallace	377-52-7188	0.34	0.38
C. K. Eagles	437-02-2267	0.59	0.47
M. L. Williams	435-17-5602	0.35	0.27
R. Johnson		0.20	0.27
R. J. Aucoin	437-70-9944	0.72	0.61
<u>1-21-81</u>			
E. P. Hymel	436-92-5795	.01	.01
C. R. Williams	433-90-6009	.08	0.11
P. C. Atkinson	437-68-1893	0.05	0.06
C. M. Carlin	434-88-0500	8.16	6.38
R. L. Fredricks	437-82-5468	9.41	9.95
<u>1-22-81</u>			
J. M. Decuir	438-15-5301	.09	0.09
S. J. Colletti	435-86-4490	.09	0.08
R. Johnson	433-82-2754	.07	0.07
J. P. Templet	438-96-5485	0.41	0.38
<u>1-23-81</u>			
R. G. Gay	434-98-2985	.05	0.04
M. L. Percle	436-04-2818	.25	0.22
<u>1-24-81</u>			
R. K. Brown	437-02-1933	.03	0.03
C. L. Ginn	433-82-0263	.02	0.03
L. A. Russell	309-62-0846	.02	0.03

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NAME	S S #	TWA BENZENE	POTENTIAL TWA TOLUENE
<u>1-25-81</u>			
C. W. Efferson	433-17-8497	-	-
J. C. Huff	435-17-2757	-	-
C. H. Juge	434-98-9803	.15	0.17
W. Read	434-98-9908	.06	0.09
M. L. Williams	435-17-5602	-	-

CLEAN UP OF RAINWATER PIT

MARCH 1981

NAME	S.S.NO.	JOB CLASS	PARTS PER MILLION	
			BENZENE	TOLUENE
W. READ	434-98-9908	O.T.	0.12	0.01
K. R. LEATHERMAN	439-84-6647	O.T.	0.14	1.0
C. H. JUGE	434-98-9830	O.T.	0.34	0.87
T. M. DEAN	437-78-8668	S.O.T.	0.24	0.39
J. J. HIEMENZ	381-52-3616	TECH.	0.18	0.25
C. L. DESHOTEL	436-60-4704	O.S.	0.04	0.06
C. L. RAYMOND	546-88-9998	O.T.	0.40	0.67
T. M. DEAN	437-78-8668	S.O.T.	0.09	0.14
J. J. HIEMENZ	381-52-3616	TECH.	0.08	0.14
D. W. HOOVER	436-92-6660	O.T.	0.05	0.14
M. L. WILLIAMS	435-17-5602	O.T.	0.04	0.13
J. M. DECUIR	438-15-5301	S.O.T.	0.24	0.82
S. J. COLLETTI	435-86-4490	S.O.T.	0.11	0.08
R. JOHNSON	433-82-2754	S.O.T.	0.06	0.10
C. L. BOLEN	436-56-5812	O.S.	0.05	0.16
M. P. CEDATOL	437-88-3476	S.O.T.	2.5	3.2
R. G. GAY	434-98-2985	S.O.T.	0.08	0.24
C.R. WILLIAMS	433-90-6009	S.O.T.	0.24	0.06
M. L. PERCLE	436-04-2818	O.T.	0.08	0.38
C. L. RAYMOND	546-88-9988	O.T.	0.08	0.10
R. BLACKWELL	439-94-2663	O.S.	8.2	6.9
C. M. CARLIN	434-88-0508	S.O.T.	4.7	4.5
C. B. Mc COY	264-21-2151	O.S.	2.1	3.2
WILLIAM M. HERRICK				

DO 097976
CONFIDENTIAL

MARCH, 1981

EMPLOYEE EXPOSURE SUMMARY

QUARTER 1st YEAR 1981

FILLED IN BY W. Herrick

DR#

IHG 10 ppm

MINIMAL DETECTABLE

PLANT LHC III BLOCK 68 STRESS Benzene LIMIT AND UNIT 0.5 ppm

		PERSONNEL							EXCURSION					AREA				
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT																	
02	OT		3	8 hrs	8	0.15	0.40											
03	SOT		3	8 hrs	9	0.92	4.7											
04	OS		3	8 hrs	4	2.59	8.2											
05	SS																	
06	EDO																	
07	LAB																	
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT MAINT																	
16	MATL CONT																	
19	MGRS/NON- OP																	
20	AREA SAMP (NO JC)																	
24	MFG. MGR.																	
26	MFG TECH																	
28	CHEMIST SET	↗	3	8 hrs	2	.13	.18											
29	SUPV. SHIP																	
30	COORD.																	

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

**COMMENT (Use reverse side)

CLEAN UP OF RAIN WATER PIT

DO 097977
CONFIDENTIAL

EMPLOYEE EXPOSURE SUMMARY

QUARTER 1st YEAR 1981

FILLED IN BY W. Herrick

DR#

IHG 100ppm

MINIMAL DETECTABLE

PLANT W. Herrick BLOCK 68

STRESS Toluene

LIMIT AND UNIT ppm

		PERSONNEL							EXCURSION					AREA				
NO.	JOB CLASS	AREA/TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT																	
02	OT		3	8 hrs	8	0.41	1.0											
03	SOT		3	8 hrs	9	1.06	4.5											
04	OS		3	8 hrs	4	2.57	6.9											
05	SS																	
06	EDO																	
07	LAB																	
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT																	
16	MAINT																	
16	MATL																	
16	CONT																	
19	MGRS/NON-OP																	
20	AREA SAMP (NO JC)																	
24	MFG.																	
24	MGR.																	
26	MFG																	
26	TECH																	
28	CHEMIST	↗	3	8 hrs	2	0.10	0.14											
29	SET																	
29	SUPV.																	
30	SHIP																	
30	COORD.																	

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

**COMMENT (Use reverse side)

CLEAN UP OF RAIN WATER PIT

DO 097978
CONFIDENTIAL



DOW CHEMICAL U.S.A.

June 22, 1981

LOUISIANA DIVISION
P. O. BOX 150
PLAQUEMINE, LOUISIANA 70764
804 388-8000

J. D. Weldon
W. Chew
J. T. Holloway
B. Ledford

cc: Shift Supervisors

Sample Date - June 10, 1981

Operations - Day Shift

O. T. PPM - TWA - Hrs.
Benzene Toluene

C. Raymond	0.16	0.30
D. Landry	0.05	0.20
P. Stone	0.15	0.22
C. Davenport	0.19	0.20
M. Patin	0.05	0.29

S.O.T.

Randy Gay	0.05	0.20
S. J. Colletti	0.84	0.45
J. Decuir	0.34	0.10
M. Percle	0.58	0.10
C. Williams	*13.64	0.17

O.S.

Rodney Blackwell	0.02	0.25
Mike Dean	0.06	0.23
C. Deshotel	0.03	0.20
P. Atkinson	0.01	0.46
P. Hymel	0.03	0.82

S.S.

M. Jenkins	0.02	0.31
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LAB SUPERVISOR

W. Herrick	0.02	----
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*Sampled Benzene Barge - Wore half face respirator

Maintenance (EDO)

O. T.

PPM - 8 Hr. TWA
Benzene Toluene

R. Brou	0.04	----
A. Heinzen	0.37	0.21
J. Gilmore	0.06	----
D. Hoover	*1.77	0.80
W. Reed	*8.74	2.32
K. Leatherman	0.09	----

O. T. T.

L. Viator	*1.41	----
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S. O. T.

M. Cox	0.06	----
R. Peairs	0.04	----

O. S.

C. Arceneaux	0.11	----
J. Sibley	0.10	----
B. Gremillion	0.06	----

S. S.

J. T. Whitman	0.15	----
E. Supple	0.07	----

**Sampled Drums

*Trained in Benzene and Lab

William Herrick
Laboratory LHC III

WH/ss

DO 097980
CONFIDENTIAL

FILLED IN BY W. HERRICK

EMPLOYEE EXPOSURE SUMMARY

QUARTER 2 YEAR 1981PLANT LHC IIBLOCK 68STRESS BE/120/1.8MINIMAL DETECTABLE
LIMIT AND UNIT.01 ppm

0002-8058

NO.	JOB CLASS	AREA/ TASK	PERSONNEL					AREA				EXCURSION			
			*PT. EQ.	TWA BASIS	NO. SAMPLES	AVG.	HIGH	SAMPLE DURATION	NO. SAMPLES	AVG.	HIGH	EXCUR. DURATION	NO. SAMPLES	AVG.	HIGH
01	OTT	LHC I 9		8HR	1	1.4	1.4								
02	OT			8HR	5	.12	.19								
03	SOT			8HR	4	.45	0.84								
04	OS			8HR	5	0.03	0.06								
05	SS			8HR	1	0.02	0.02								
06	EDO			8HR	13	0.90	2.7								
26	Mfg. Tech LHC SOTV	9		8HR	1	0.02	0.02								
08	TECH														
09	CLER.														
10	INSTR														
11	LABORER														
12	SUMMER														
13	CONT MAINT														
14	NON-OS SPEC.														
15	SECUR.														
16	MATL CONT														
17	LOADING														
18	T/C CLNG														
19	MGRS/NON- OP														
20	AREA SAMP (NO JC)														

* PROTECTIVE EQUIPMENT: (1) Mouthbit (2) Full Face (3) Half or Dust Face (4) Air Supply (5) Hearing Protection

DO 097981
CONFIDENTIAL

June 10, 1981

EMPLOYEE EXPOSURE SUMMARY

QUARTER 2nd YEAR 1981FILLED IN BY W. Herrick

DR#

IHG 10 ppm

MINIMAL DETECTABLE

PLANT LHC III BLOCK 68 STRESS Benzene LIMIT AND UNIT 0.5 ppm

		PERSONNEL							EXCURSION					AREA				
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT																	
02	OT			8 hrs	5	0.12	0.19											
03	SOT			8 hrs	4	0.45	0.84		sampled Bz barge	1	13.64	13.64						
04	OS			8 hrs	5	0.03	0.06											
05	SS			8 hrs	1	0.02	0.02											
06	EDO																	
07	LAB			8 hrs	1	0.02	0.02											
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT MAINT																	
16	MATL CONT																	
19	MGRS/NON- OP																	
20	AREA SAMP (NO JC)																	
24	MFG. MGR.																	
26	MFG TECH																	
28	CHEMIST SET																	
29	SUPV. SHIP																	
30	COORD.																	

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

**COMMENT (Use reverse side)

*WORE HALF FACE RESPIRATOR

REGULAR PERSONNEL EXPOSURE SURVEY

DO 097982
CONFIDENTIAL

June 10, 1981

EMPLOYEE EXPOSURE SUMMARY

QUARTER 2nd YEAR 1981

FILLED IN BY W. Herrick

DR#

IHG 100

MINIMAL DETECTABLE

PLANT LHC III BLOCK 68 STRESS Toluene LIMIT AND UNIT 0.5 ppm

		PERSONNEL							EXCURSION					AREA				
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT																	
02	OT			8 hrs	5	0.24	0.30											
03	SOT			8 hrs	5	0.20	0.45											
04	OS			8 hrs	5	0.39	0.82											
05	SS			8 hrs	1	0.02	0.31											
06	EDO																	
07	LAB			8 hrs	1	< .01	< .01											
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT MAINT																	
16	MATL CONT																	
19	MGRS/NON- OP																	
20	AREA SAMP (NO JC)																	
24	MFG. MGR.																	
26	MFG TECH																	
28	CHEMIST SET																	
29	SUPV. SHIP																	
30	COORD.																	

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

**COMMENT (Use reverse side)

REGULAR PERSONNEL EXPOSURE SURVEY

DO 097983
CONFIDENTIAL



DOW CHEMICAL U.S.A.

November 6, 1981

LOUISIANA DIVISION
P. O. BOX 180
PLAQUEMINE, LOUISIANA 70764
804 389-8000

To: W. Chew
K. Zezulka
B. Ledford
Dr. Flanagan

Results of air samples taken around the reactor area during turnaround in the benzene plant in October, 1981:

<u>DATE</u>	10/20/81		
AREA of	<u>E-511 A</u>	<u>E-522 B</u>	<u>R-520</u>
PPM (WT.) BENZENE	0.07	0.03	0.03
PPM (WT.) TOLUENE	0.14	0.03	0.01
VOLUME AIR SAMPLED	25.4 L.	16.1 L.	20.4 L
WORK GOING ON	Unloading Catalyst		

<u>DATE</u>	10/28/81		
AREA OF	<u>E-522A</u>	<u>E-522 B</u>	<u>R-520</u>
PPM (WT.%) BENZENE	0.02	0.07	0.04
PPM (WT.%) TOLUENE	0.24	2.2	0.87
VOLUME AIR SAMPLE	24.0 L	20.2 L.	24.8 L
WORK GOING ON	Dumping Liquid from		
FILE DATA BOOK	0040		

William Herrick
William Herrick
Lab - LHC III

SS

DO 097984
CONFIDENTIAL



DOW CHEMICAL U.S.A.

December 16, 1981

LOUISIANA DIVISION
P. O. BOX 150
PLAQUEMINE, LOUISIANA 70764
804 389-8000

To: J. D. Weldon
J. T. Holloway
Dr. Flanagan

W. Chew
B. Ledford

cc: Shift Supervisors

Vapor monitoring for Benzene and Toluene using 3M charcoal badges during clean up of Quench Oil-Pyrolysis Gasoline spill after seal on Pump P10B had blown.

<u>MAN NO.</u>	<u>DATE</u>	<u>8 HR-TWA</u> <u>PPM BENZENE</u>	<u>8 HR-TWA</u> <u>PPM TOLUENE</u>
433300	12/13/81	0.08	0.09
433832	"	0.08	0.27
433842	"	0.19	0.40
434175	"	0.13	0.15
432277	"	0.07	0.16
433808	"	0.08	0.26
434158	"	0.05	0.04
433828	"	0.12	0.38
431211	"	0.11	0.13
433781	"	0.04	0.10
70745	"	0.14	0.08

William M. Herrick

William M. Herrick
Lab - LHC III

SS

DO 097985
CONFIDENTIAL

EMPLOYEE EXPOSURE SUMMARY

QUARTER 4th YEAR 1981

FILLED IN BY W. Herrick

DR# _____
MINIMAL DETECTABLE

IHG 10 ppm

PLANT LHC III BLOCK 68 STRESS Benzene LIMIT AND UNIT .5 ppm

		PERSONNEL							EXCURSION					AREA				
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT																	
02	OT		3	8 hrs	5	0.10	0.19											
03	SOT		3	8 hrs	2	0.10	0.12											
04	OS		3	8 hrs	3	0.10	0.14											
05	SS		3	8 hrs	1	0.11	0.11											
06	EDO																	
07	LAB																	
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT MAINT																	
16	MATL CONT																	
19	MGRS/NON- OP																	
20	AREA SAMP (NO JC)																	
24	MFG. MGR.																	
26	MFG TECH																	
28	CHEMIST SET																	
29	SUPV. SHIP																	
30	COORD.																	

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

CLEAN UP OF PYROLYSIS GAS - QUENCH OIL - SEAL BLOW ON P-10B

DO 097986
CONFIDENTIAL

12-15-81

EMPLOYEE EXPOSURE SUMMARY

QUARTER 4th YEAR 1981

FILLED IN BY W. Herrick

DR#

IHG 100 ppm

MINIMAL DETECTABLE

PLANT LHC III BLOCK 68 STRESS Toluene LIMIT AND UNIT 0.5 ppm

		PERSONNEL							EXCURSION					AREA				
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT																	
02	OT		3	8 hrs	5	0.19	0.40											
03	SOT		3	8 hrs	2	0.33	0.38											
04	OS		3	8 hrs	3	0.11	0.16											
05	SS		3	8 hrs	1	0.13	0.13											
06	EDO																	
07	LAB																	
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT MAINT																	
16	MATL CONT																	
19	MGRS/NON- OP																	
20	AREA SAMP (NO JC)																	
24	MFG. MGR.																	
26	MFG TECH																	
28	CHEMIST SET																	
29	SUPV. SHIP																	
30	COORD.																	

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

**COMMENT (Use reverse side)

CLEAN UP OF PYROLYSSI GAS & QUENCH OIL - SEAL BLOW ON P-108

DO 097987
CONFIDENTIAL



DOW CHEMICAL U.S.A.

January 6, 1982

LOUISIANA DIVISION
P. O. BOX 150
PLAQUEMINE, LOUISIANA 70764
804 389-8000

To: J. D. Weldon
J. T. Holloway
W. Chew

B. Ledford
Dr. Flannigan

cc: Shift Supervisors

Vapor monitoring for Benzene and Toluene using 3M charcoal badges during clean up of Pyrolysis Gasoline - Fuel Oil spill after overfilling Tank 1601B on December 19, 1981. Every one wore a respirator when working on the clean-up.

Name	Date	8-hour TWA PPM Benzene	PPM Toluene
D. Wallace	12/19/81	1.32	0.62
C. Juge	"	0.33	0.71
T. Bradley	"	0.16	0.40
T. Morrison	"	0.21	0.45
A. Hebert	12/20/81	0.02	0.03
J. Palmer	"	0.03	0.06
S. Dotson	"	0.02	0.08
C. Langlois	"	0.03	0.05
J. Gill	"	0.08	0.09
D. D'Armond	"	0.09	0.12
C. Efferson	"	0.06	0.04
D. Landry	"	0.22	0.14
R. Gay	"	0.03	0.13
T. Pitre	"	0.19	0.17
C. Davenport	"	0.04	0.07
J. Hill	12/21/81	0.03	0.13
B. Perry	12/22/81	0.13	0.18
K. Dixon	"	0.10	0.15
A. Bourgeois	"	0.08	0.16
K. Dixon	12/23/81	0.04	0.02
B. Perry	"	0.13	0.10
C. Langlois	"	0.12	0.01
S. Rawls	"	0.01	0.02
S. Rawls	12/24/81	0.04	0.01
D. Fontane	"	0.05	0.02
K. Dixon	"	0.08	0.04
B. Perry	"	0.07	0.03

DO 097988
CONFIDENTIAL

Name	Date	8-Hour TWA PPM Benzene	PPM Toluene
C. Eagles	12/28/81	0.09	0.15
A. Heinzen	"	0.08	0.11
J. Gilmore	"	0.06	0.05

William m. Herrick

Bill Herrick

ss

Lab - LHC III

24, & 28 - 1981

EMPLOYEE EXPOSURE SUMMARY

QUARTER 4th YEAR 1981

FILLED IN BY W. Herrick

DR#

IHG 10 ppm

MINIMAL DETECTABLE

PLANT LHC III BLOCK 58 STRESS Benzene LIMIT AND UNIT 0.5 ppm

PERSONNEL								EXCURSION					AREA					
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT																	
02	OT		3	8 hrs	15	0.10	0.22											
03	SOT		3	8 hrs	10	0.08	0.33											
04	OS		3	8 hrs	3	0.48	1.32											
05	SS																	
06	EDO																	
07	LAB																	
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT																	
	MAINT																	
16	MATL																	
	CONT																	
19	MGRS/NON- OP																	
20	AREA SAMP (NO JC)																	
	MFG.																	
24	MGR.																	
	MFG																	
26	TECH																	
28	CHEMIST		3	8 hrs	2	0.19	0.21											
	SET																	
29	SUPV.																	
	SHIP																	
30	COORD.																	

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

**COMMENT (Use reverse side)

Clean up of Spill after overfilling T-1601B (Mixture of Pyrolysis Gas & Fuel Oil)

DO 097990
CONFIDENTIAL

22, 24 & 26 - 1981

EMPLOYEE EXPOSURE SUMMARY

QUARTER 4th YEAR 1981

FILLED IN BY Bill Herrick

DR#

IHG 100 ppm

MINIMAL DETECTABLE

PLANT LHC III BLOCK 68 STRESS Toluene LIMIT AND UNIT 0.5 ppm

		PERSONNEL							EXCURSION					AREA				
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT																	
02	OT		3	8 hrs	15	0.10	0.18											
03	SOT		3	8 hrs	10	0.12	0.71											
04	OS		3	8 hrs	3	0.28	0.62											
05	SS																	
06	EDO																	
07	LAB																	
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT																	
	MAINT																	
16	MATL																	
	CONT																	
19	MGRS/NON-																	
	OP																	
20	AREA SAMP																	
	(NO JC)																	
24	MFG.																	
	MGR.																	
	MFG																	
26	TECH																	
28	CHEMIST		3	8 hrs	2	0.43	0.45											
	SET																	
29	SUPV.																	
	SHIP																	
30	COORD.																	

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

**COMMENT (Use reverse side)

Clean up of Spill after overfilling T-1601 B (Pyrolysis Gas - Fuel Oil)

DO 097991
CONFIDENTIAL



DOW CHEMICAL U.S.A.

November 24, 1981

LOUISIANA DIVISION
P. O. BOX 150
PLAQUEMINE, LOUISIANA 70764
804 389-8000

To: W. Chew
J. Holloway
J. D. Weldon

NOISE SURVEY - BLOCK 68 1981

DATE	* 5-13-80	**10-17-80	* 11-23
Laboratory	70	68	71
Plant road - 683, by Lab.	81	73	77
N.E. Corner Control House	83	78	87
Pumps - 1205 (within 3')	92	90	93
On road - 683 - opposite P-1205	--	86	93
On road - 683 - opposite K-71	83	75	93
On road - 683 - opposite S.G. Bldg.	--	75	87
On road - opposite E-1230	--	--	92
N. Boundry on road 683	73	62	71
N. side cooling tower	--	72	78
W. side C.T. - opposite P-1000E	--	84	88
S.E. corner cooling tower	--	80	77
Underneath fans opposite C.B. 590	--	84	89
By compressor house K-551	--	86	89-
Between C-540 and clay beds	--	84	87-
Between H ₂ F-520 and RX Feed	--	80	83
By Quench oil pumps P-10	--	80	87
By E-9's South Side	80	--	87
South Side K-71	83	73	101
Opposite K-120 Center of walkway	94	84	94-
Opposite D-121 Center of walkway	95	77	95
Opposite D-131 Center of walkway	90	70	91
Opposite C- 51 Center of walkway	83	66	87
Opposite C- 52	87	69	87
Opposite A - House - 10	80	67	83
N.W. corner Block 68	--	--	72
Opposite C-151 Center of walkway	--	--	82
Opposite C- 54 Center of walkway	--	--	86-
Opposite C- 57 Center of walkway	--	--	84

DO 097992
CONFIDENTIAL

NOISE SURVEY

DATE	* 5-13-80	**10-17-80	*11-23.
W. of LPSH - 1A on road	83	72	86.
West side K-130	93	64	91
North west corner D-121	97	--	94
West side K-120	--	--	93-9
West of D-122	100-104	--	95
West of Reactor 2B on road	--	64	77.
Between R-1B-R1A	--	--	81
Opposite Pump 1215 A	92	80	94.
Opposite 1 E B	90	86	89.
Opposite C-20	89	88	93
Between HPSH 1A and 1B	89	80	92
Between 1F-1 and 1F-7	--	82	93
Between waste heat boiler B 1A and B1B	--	76	88
South side Boiler B-3	--	90	96
West side B-3 on first step	--	94	102
South end warehouse (on road)	--	68	72
East side warehouse (on road)	--	70	75
East side D-1400	--	--	81
East side D-1400 (Blowing Down)	--	--	105

* Ethylene and Benzene Plants both running

** Benzene Plant running. Ethylene down.

William M. Herrick

William Herrick
DAB - LHC III

SS

GOALS AND PLANS FOR 1982

1. CONTINUE TO INFORM ALL PLANT PERSONNEL ON BENZENE TOXICITY DATA.
2. TAKE EXCURSION DATA IN AREA WHERE PERSONNEL MAY BE EXPOSED TO BENZENE WHILE CHANGING FILTERS, OR PUMP SEALS AND ETC.
3. DEVELOP METHOD FOR RUNNING AIR SAMPLES FOR DICYCLOPENTADIENE, METHYL CYCLOPENTADIENES AND BIPHENYL.
4. TAKE EXCURSION DATA IN VARIOUS AREAS OF THE PLANT TO DETERMINE EXPOSURE TO DICYCLOPENTADIENE, BIPHENYL AND METHYL CYCLOPENTADIENE.
5. START A PROGRAM TO DETERMINE HOW MUCH EXPOSURE THERE IS TO WELDING FUMES IN THE WAREHOUSE.
6. COLLECT AIR SAMPLES TO CHECK FOR METALS WHEN CATALYST IS BEING DUMPED.
7. CONTINUE TO MONITOR PERSONNEL FOR EXPOSURE TO BENZENE WHEN CLEANING UP SPILLS. THIS INCLUDES TAKING URINE SAMPLES BEFORE AND AFTER THE WORK PERIOD.
8. RUN YEARLY NOISE SURVEY.

BH/ss
3/22/82

DO 097994
CONFIDENTIAL

1981 ACCOMPLISHMENTS

LHC I

1. Completed annual 8 hour exposure monitoring for benzene and toluene. All job classifications were monitored in the survey.
2. Completed annual area noise survey. Caution signs are located in areas where noise levels exceed 85 dB.
3. All employees were informed of the benzene, toluene, and noise exposure results. Consequences of overexposure were also covered for benzene, 1-3 butadiene, TBC, caustic, MMC, slop oil, styrene, toluene, xylene, and noise.
4. Twenty-seven boxes containing six half-face (Comfo-II) respirators were mounted throughout Blocks 38 and 39. This eliminated the need to carry a respirator in these areas. The boxes are checked monthly to make sure each box contains six unused respirators.
5. We had 100% participation in the respirator fit test program, including operators, technical personnel, and permanent block contract maintenance.

3-22-82

DO 097995
CONFIDENTIAL

1981 ACCOMPLISHMENTS

LHC II

1. Fit-tested 100% of permanent block personnel for the "Comfo II" respirators.
2. Established 18 respirator "station" throughout the block. Each "station" consists of a bright yellow box, containing 6, "Comfo II" respirators, mounted in a highly visual location. These boxes are maintained by the block Safety Chairman.
3. Continued our program of checking C₃ pumps, when being disassembled for maintenance, for radiation. So far, we have not found any significant radiation.
4. Checked all pumps in the block that pump propane or propylene material, for gamma radiation and discovered only insignificant amounts.

3-22-82

DO 097996
CONFIDENTIAL

LHC I BENZENE EXPOSURE DATA

	1979	1980	1981
8 HR. TLV	10 ppm	10 ppm	10 ppm
Highest ppm	2.4	1.6	0.33
Average ppm	0.4	0.2	0.09
# Samples	14	37	7
O.T.			
Max ppm	2.4	0.32	---
Avg ppm	0.8	0.27	---
Sampled	4	4	---
S.O.T.			
Max ppm	0.6	0.3	0.33
Avg ppm	0.2	0.28	0.33
Sampled	3	5	1
O.S.			
Max ppm	0.9	0.27	0.09
Avg ppm	0.16	0.20	0.08
Sampled	6	6	2
SHIFT SUPV.			
Max ppm	0.03	0.21	0.06
Avg ppm	0.03	0.20	0.06
Sampled	1	2	1
TECHNICAL			
Max ppm	---	0.41	0.04
Avg ppm	---	0.23	0.03
Sampled	---	3	3
CONTRACT MAINTENANCE			
Max ppm	---	1.61	---
Avg ppm	---	0.27	---
Sampled	---	13	---

DO 097997
CONFIDENTIAL

3-22-82

LHC I TOLUENE EXPOSURE DATA

	1979	1980	1981
8 HR. TLV	100 ppm	100 ppm	100 ppm
Highest ppm	1.00	0.29	0.05
Average ppm	0.14	0.15	0.10
# Samples	14	32	7
O.T.			
Max ppm	0.60	0.26	---
Avg ppm	0.20	0.16	---
Sampled	4	4	---
S.O.T.			
Max ppm	0.05	0.27	.05
Avg ppm	0.01	0.15	.05
Sampled	3	5	1
O.S.			
Max ppm	0.04	0.28	.01
Avg ppm	0.01	0.13	.10
Sampled	6	5	2
SHIFT SUPV.			
Max ppm	1.00	0.14	.01
Avg ppm	1.00	0.13	.01
Sampled	1	2	1
TECHNICAL			
Max ppm	---	0.27	.01
Avg ppm	---	0.21	.10
Sampled	---	3	3
CONTRACT MAINTENANCE			
Max ppm	---	0.29	---
Avg ppm	---	0.15	---
Sampled	---	13	---

DO 097998
CONFIDENTIAL

LHC I SHORT TERM EXPOSURE

BENZENE STEL = 25 ppm (15 MIN. EXCURSION)

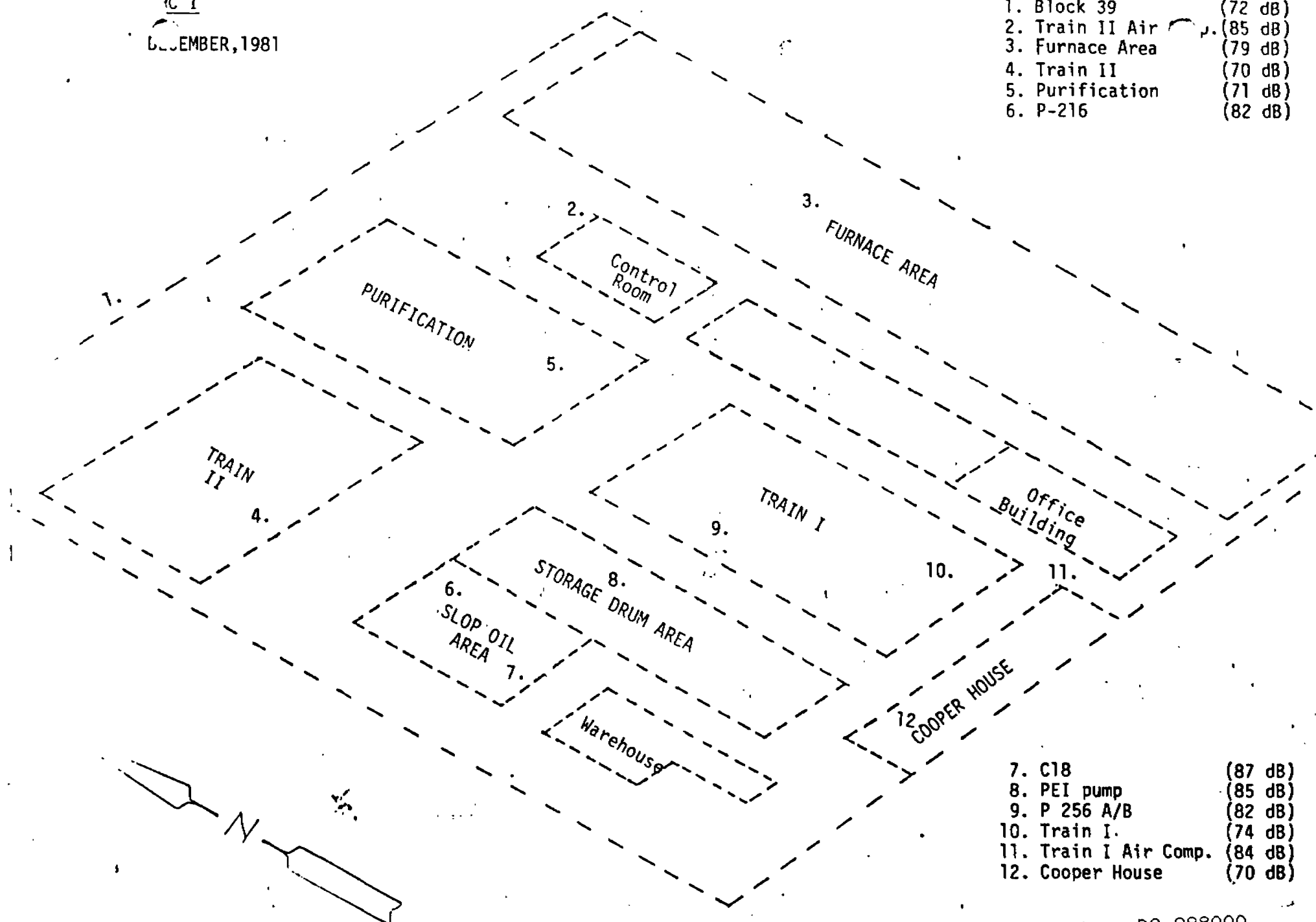
	<u>MAX PPM</u>	<u>AVG PPM</u>	<u>#SAMPLES</u>	
OLD PIT CLEANING	8.8	5.9	3	(1979)
API'S	0.7	0.7	1	(1977)
P 256'S	0.4	0.3	2	(1977)
E 455 CLEANING	1.61	1.61	1	(1980)

DO 097999
CONFIDENTIAL

MC I

DECEMBER, 1981

- | | |
|-----------------|---------|
| 1. Block 39 | (72 dB) |
| 2. Train II Air | (85 dB) |
| 3. Furnace Area | (79 dB) |
| 4. Train II | (70 dB) |
| 5. Purification | (71 dB) |
| 6. P-216 | (82 dB) |



- | | |
|-----------------------|---------|
| 7. C18 | (87 dB) |
| 8. PEI pump | (85 dB) |
| 9. P 256 A/B | (82 dB) |
| 10. Train I. | (74 dB) |
| 11. Train I Air Comp. | (84 dB) |
| 12. Cooper House | (70 dB) |

DO 098000
CONFIDENTIAL

GOALS AND PLANS FOR 1982: LHC I AND LHC II

1. Increase short term excursion sampling for exposure to hazardous chemicals. Concentrate on specific areas of the plant and specific duties which may expose plant personnel to high levels of benzene. Monitor each vessel entry, on an individual basis, for toxic agents.
2. Clean waste oil area to reduce contact with waste oil.
3. Improve documentation of Industrial Hygiene information. Include consequences of overexposure of hazardous chemicals, handling procedures for hazardous materials, and results of exposure surveys in a single volume made accessible to all block personnel. Use this volume to increase employee awareness of Industrial Hygiene procedures and precautions.
4. Collect noise and benzene exposure data during plant shutdowns, startups, and upsets.
5. Repair mufflers on furnace burners and put lead shields on lines and valves which are excessively noisy.
6. Continue annual 8 hour TWA benzene/toluene exposure surveys.
7. Continue area noise exposure surveys and collect personnel noise exposure data.
8. Continue to inform employees of survey results and consequences of overexposure of hazardous chemicals in the block.
9. Test for B radiation from scale on C₃ pumps before beginning maintenance work.
10. Investigate possible overexposure to Kaswool in furnaces.



DOW CHEMICAL U.S.A.

December 11, 1981

LOUISIANA DIVISION
P. O. BOX 150
PLAQUEMINE, LOUISIANA 70754
804 389-8000

To: J. D. Weldon
Cy Barrios
Ron Usie
Bill Ledford

LHC I Vapor Monitoring For Benzene - 12-8-81

<u>Classification</u>	8 Hour TWA <u>PPM Benzene</u>	<u>PPM Toluene</u>
Lab (O.T.)	0.03	0.01
Material Controller	0.04	0.01
Operation Specialist	0.09	0.01
Sr. Operator Tech.	0.33	0.05
✓ Janitor	0.01	0.01
S. Supervisor	0.06	0.01
Operation Spec.	0.07	0.01

William Herrick
William Herrick
Lab - LHC III

ss

DO 098002
CONFIDENTIAL

EMPLOYEE EXPOSURE SUMMARY

FILLED IN BY W.C. Loford

DR# 0002-5058

QUARTER 4th YEAR 81

PLANT LHC I ⁰³⁸¹ BLOCK 38

STRESS Benzene MINIMAL DETECTABLE LIMIT AND UNIT 0.01 ppm

IHG 10 ppm C

✓

		PERSONNEL							EXCURSION					AREA				
NO.	JOB CLASS	AREA/TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT																	
02	OT	9		8h	1	0.03	0.03											
03	SOT			8h	1	0.33	0.33											
04	OS			8h	2	0.08	0.09											
05	SS			8h	1	0.06	0.06											
06	EDO																	
07	LAB																	
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT MAINT			8h	1	0.01	0.01											
16	MATL CONT			8h	1	0.04	0.04											
19	MGRS/NON-OP																	
20	AREA SAMP (NO JC)																	
24	MFG. MGR.																	
26	MFG TECH																	
28	CHEMIST SET																	
29	SUPV. SHIP																	
30	COORD.																	

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

**COMMENTS (Use reverse side)

DO 098003
CONFIDENTIAL

FILLED IN BY Ron Haie

EMPLOYEE EXPOSURE SUMMARY

QUARTER 4 YEAR 81PLANT LHC I BLOCK 38 STRESS BENZENE MINIMAL DETECTABLE LIMIT AND UNIT 0.03

NO.	JOB CLASS	AREA/TASK	PERSONNEL					AREA				EXCURSION			
			*PT. EQ.	TWA BASIS	NO. SAMPLES	AVG.	HIGH	SAMPLE DURATION	NO. SAMPLES	AVG.	HIGH	EXCUR. DURATION	NO. SAMPLES	AVG.	HIGH
01	OTT														
02	OT														
03	SOT			8hr	1	0.33	0.33								
04	OS			8hr	2	0.08	0.09								
05	SS			8hr	1	0.06	0.06								
06	EDO														
07	LAB			8hr	1	0.03	0.03								
08	TECH														
09	CLER.														
10	INSTR														
11	LABORER			8hr	1	0.01	0.01								
12	SUMMER														
13	CONT MAINT														
14	NON-OS SPEC!														
15	SECUR.														
16	MATL CONT			8hr	1	0.04	0.04								
17	LOADING														
18	T/C CLNG														
19	MGRS/NON-OP														
20	AREA SAMP (NO JC)														

* PROTECTIVE EQUIPMENT: (1) Mouthbit (2) Full Face (3) Half or Dust Face (4) Air Supply (5) Hearing Protection

DO 098004
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EMPLOYEE EXPOSURE SUMMARY

FILLED IN BY W.C. LedfordDR# 0002-5070QUARTER 4th YEAR 81IHG 100 ppmPLANT LHC IBLOCK 38STRESS Toluene

MINIMAL DETECTABLE

LIMIT AND UNIT 0.01 ppm

PERSONNEL								EXCURSION					AREA					
NO.	JOB CLASS	AREA/ TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT																	
02	OT	9		8h	1	0.01	0.01											
03	SOT			8h	1	0.05	0.05											
04	OS			8h	2	0.01	0.01											
05	SS			8h	1	0.01	0.01											
06	EDO																	
07	LAB																	
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT MAINT			8h	1	0.01	0.01											
16	MATL CONT			8h	1	0.01	0.01											
19	MGRS/NON- OP																	
20	AREA SAMP (NO JC)																	
24	MFG. MGR.																	
26	MFG TECH																	
28	CHEMIST SET																	
29	SUPV. SHIP																	
30	COORD.																	

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

**COMMENTS (Use reverse side)

DO 098005
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FILLED IN BY W. HERRICK

EMPLOYEE EXPOSURE SUMMARY

DR# 0002-5070QUARTER 4th YEAR 1981PLANT LHC I BLOCK 38STRESS TOLUENE

MINIMAL DETECTABLE

LIMIT AND UNIT

0.1 ppmIHG 100 ppm

PERSONNEL

EXCURSION

AREA

NO.	JOB CLASS	AREA/TASK	*PT EQ.	TWA BASIS	NO. SAMP.	AVG.	HIGH	** C	EXCUR. DURATION	NO. SAMP.	AVG.	HIGH	** C	SAMPLE DURATION	NO. SAMP.	AVG.	HIGH	** C
01	OTT																	
02	OT																	
03	SOT			8	1	0.05	0.05											
04	OS			8	2	0.01	0.01											
05	SS			8	1	0.01	0.01											
06	EDO																	
07	LAB			8	1	0.01	0.01											
09	CLER.																	
10	INSTR																	
11	LABORER																	
13	CONT MAINT			8	1	0.01	0.01											
16	MATL CONT			8	1	0.01	0.01											
19	MGRS/NON- OP																	
20	AREA SAMP (NO JC)																	
24	MFG.																	
26	MGR.																	
26	MFG TECH																	
28	CHEMIST																	
29	SET SUPV.																	
30	SHIP COORD.																	

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

**COMMENTS (Use reverse side)

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DOW CHEMICAL U.S.A.

LOUISIANA DIVISION

P. O. BOX 150

PLAQUEMINE, LOUISIANA 70764

504 389-8000

February 9, 1981

To: W. W. Chew
J. T. Holloway
J. N. Wilkes
J. D. Weldon

cc: ~~Bill~~ Ledford
Shift Supervisors

In January 1981, LHC III had two different pyrolysis gasoline spills. The first spill was contained in the rain water pit, and the second in the ditch beside LHC II. The pyrolysis gasoline was pumped off the top of the water, transferred to a small bullet tank and then transferred back into the process. All personnel (47) working on the clean up wore protective clothing and respirator protection. The respirators used were Comfo II manufactured by Mine Safety Appliances Co. with the MSA GMC type chemical cartridge for acid gases and/or organic vapors.

Potential exposure to the benzene and toluene vapors was monitored by collecting urine samples for phenol analysis from each person before and after the exposure. The urine samples were sent to an independent laboratory for analysis. In addition to the urinary phenol analysis, the employees were sent to Medical for a red and white blood cell count.

The level of potential exposure was measured by having each person wear a 3M 3500 organic vapor monitor. The monitors contained activated carbon which absorbed the contaminate in the atmosphere at a known sampling rate. The volume of the sampling is a product of the sampling rate and the length of the sampling period. The weight of the contaminant (benzene-toluene) collected by the monitor was determined by desorbing the contaminant in carbon bisulfide, then with gas chromatographic techniques, the weight of contaminant in the solvent (CS₂) was determined. The time weighted average (TWA) concentration of the contaminant (benzene-toluene) was determined by measuring the weight of contaminant in a known volume.

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Conclusion:

Report from Medical on the blood counts and the urinary phenols clearly indicates that no one was exposed to the high level of benzene found by the 3M monitors, which leads one to believe the double cartridge respirators are the right ones to use for the clean up of pyrolysis gasoline spills.

The 3M monitors are simple to use and they have proven to be reliable indicators of benzene exposure at low levels, however, from samples 2, 6, 8, 2-2, and 2-6 one might conclude that the adsorption takes place in the first couple of hours at a faster rate than when the monitors are worn all day.

The 3M literature recommends exposure limits of 3000 ppm, or less. This indicates that, at the level of benzene and toluene we found, the monitors should have been effective for the full 12 hours. Next time I will run the same controls and change the monitors more frequently.

It is suspected that samples 20 and 21 on Jan. 21, 1981 were contaminated by the liquid pyrolysis gasoline.

William Herrick

William Herrick
Laboratory LHC III

rb

FIRST CLEAN UP RAIN WATER PIT

	HOURS	PPM BENZENE	PPM TOLUENE
<u>1-16-81</u>			
1. L. JOHNSON	1.5	LOST	LOST
2. C. K. EAGLES	1.5	114.1	123.6
3. S. NEW	10	5.8	4.6
4. D. L. D'ARMOND	9	64.3	75.5
5. H. ALFORD	6	23.9	26.1
6. M. BROWNING	1.25	101.1	130.8
7. D. WAITS	6	10.6	11.8
8. D. ABBOTT	2	119.1	159.6
9. R. BROWN	6	15.5	17.2
10. P. MUSGROW	6	13.3	17.7
11. K. THIBODEAUX	6	49.6	24.1
<u>1-17-81</u>			
12. R. McCELLAND	?	?	?
13. R. BROU	3.5	48.2	48.5
14. R. AUCOIN	7	49.5	80.7
15. R. PEAIRS	4	2.4	3.9
16. A. HEINZEN	1	60.3	56
17. M. PERCLE	9.5	67.3	100.2
18. S. J. COLLETTI	11.5	45.2	68.9
19. J. PALMER	8	30.7	54.6
20. C. DAVENPORT	12	16.4	25.4
21. R. BROWN	11	20.4	9.6
22. R. McCELLAND	10	20.7	10.2
<u>1-18-81</u>			
23. C. JUGE	4.75	42.9	80.0
24. J. TEMPLET	5.25	20.4	36.8
25. W. READ	12	1.0	0.7
26. C. K. EAGLES	9.25	1.6	0.7
27. M. WILLIAMS	4	26.1	42.1
28. R. JOHNSON	8	38.7	60.4
29. F. JAMISON	8.5	37.0	50.2
30. K. JOSEPH	8.5	63.9	98.4
31. K. LEATHERMAN	8.5	11.1	31.6
32. T. PITRE	12	14.1	19.5
33. J. DAVIS	12	15.1	18.4
34. S. NEAL	12	25.3	25.1
35. S. RAWLS	11	4.1	5.6
<u>1-19-81</u>			
36. R. BROU	8	14	19.9
37. R. PEAIRS	12.5	14.2	18.9
38. D. ABBOTT	11.25	8.2	10.6

WH/rb

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SECOND CLEAN UP OPERATION
(DITCH BY LHC II)

		POTENTIAL	
	HOURS	TWA BENZENE	TWA TOLUENE
<u>1-20-81</u>			
1. S. NEAL	7.75	48.0	26.3
2. J. GILL	1.5	341.0	224.6
3. M. CEDATOL	4	47.7	43.6
4. N. HIDALGO	7.75	58.8	26.1
5. B. McCOY	7.75	85.5	43.8
6. E. AMY	2.	145.6	99.9
7. C. EFFERSON	7.75	25.5	18.7
8. T. RUSSELL	8.5	14.8	8.5
9. J. HUFF	6.5	18.2	12.4
10. T. PITRE	6.5	23.4	18.2
11. J. TEMPLET	5	8.2	10.0
12. D. WALLACE	5	10.7	12.9
13. C. EAGLES	5	18.6	15.9
14. M. WILLIAMS	5	11.1	9.1
15. R. JOHNSON	5	6.3	9.1
16. R. AUCOIN	5	22.4	20.7
<u>1-21-81</u>			
17. P. HYMET	11	0.85	0.6
18. C. WILLIAMS	11	5.4	8.4
19. P. ATKINSON	10	3.2	3.8
20. C. CARLIN	11	562.3	477.2
21. R. FREDRICKS	11	648.5	744.6
<u>1-22-81</u>			
22. J. DECUIR	11	6.3	6.4
23. S. J. COLLETTI	11	5.9	6.3
24. R. JOHNSON	11	4.8	5.4
25. J. TEMPLET	11	28.4	28.5
<u>1-23-81</u>			
26. R. GAY	10	3.2	2.8
27. M. PERCLE	10	15.6	15.3
<u>1-24-81</u>			
28. R. BROWN	11	2.2	2.0
29. C. GINN	12	1.8	2.2
30. L. RUSSELL	12	-	-
<u>1-25-81</u>			
31. C. EFFERSON	12	-	-
32. J. HUFF	-	-	-
33. C. JUGE	11	10.4	12.8
34. W. READ	12	4.2	7.4
35. M. WILLIAMS	-	-	-

WH/rb

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