



DOW CHEMICAL U.S.A.

APRIL 28, 1983

LOUISIANA DIVISION
P. O. BOX 150
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DR. M. F. CURRIER - MEDICAL
TONY EKKER - MARINE
AL KIRBY - MARINE
CHARLIE HALPHEN - INDUSTRIAL HYGIENE
DANNIE KENNEDY - INDUSTRIAL HYGIENE

ATTACHED IS A BENZENE PERSONNEL MONITORING SURVEY OF BARGE LOADING EXPOSURES SHOWING RESULTS OF BOTH PERSONNEL PPM AND URINARY PHENOLS FOR COMPARISON.

THE DIFFERENCE (DELTA PHENOL) BETWEEN PHENOL A.M. AND P.M. LEVELS DETERMINES EXPOSURE, AS THERE IS NORMALLY SOME PHENOL IN THE BODY FROM FOODS AND THEIR METABOLIC PRODUCTS.

75 MG PHENOL CORRESPONDS TO AN AIR LEVEL OF 10 PPM BENZENE, THE OSHA STANDARD.

J. L. Moreau, Jr.

J. L. MOREAU, JR.
INDUSTRIAL HYGIENE
RAILROAD/MARINE

LRJ

<u>WIND</u>	<u>BARGE</u>	<u>DATE</u>	<u>NAME</u>	<u>S.S. NO.</u>	<u>PERSONNEL SAMPLE PPM</u>	<u>MG PHENOL AM-PM</u>	<u>DELTA PHENOL</u>
NNE	DC-306	2-3-83	ALFRED WILSON	437-13-2018	26.48	3-18	+15
2 MPH	DC-306	2-3-83	CARL WOODS	438-11-9731	35.06	1-1	0
	DC-306	2-3-83	NORRIS WASHINGTON	434-64-8694	0.04	5-3	-2
NNE	DC-349	2-13-83	FRANCIS BARLOW	437-58-8467	0.57	1-1	0
4-7	DC-349	2-13-83	PHILIP DOIRON	439-23-5347	171.98	7-4	-3
MPH	DC-349	2-13-83	FREDERICK JACKSON	437-90-8525	14.28	3-7	+4
E	DC-309	2-18-83	RUEL SENECA	439-98-2201	103.62	5-28	+23
6 MPH	DC-309	2-18-83	BRET FERGUSON	438-13-3680	31.34	2-12	+10
	DC-309	2-18-83	JOHN LEFEBVRE	435-17-5371	0.12	7-6	-1
NW	DC-310	2-24-83	RICHARD BEARD	437-60-4707	4.2	1-2	+1
6 MPH	DC-310	2-24-83	ANTHONY SENSAT	433-23-3875	14.6	6-29	+23
	DC-374	3-8-83	RICHARD BEARD	437-60-4707	0.09	1-1	0
N	DC-374	3-8-83	BRET FERGUSON	438-13-3680	1.19	4-4	0
3 MPH	DC-374	3-8-83	JOHN LEFEBVRE	435-17-5371	0.07	5-10	+5
	DC-374	3-8-83	ANTHONY SENSAT	433-23-3875	0.64	5-7	+2
WSW	DC-310	3-10-83	DALE HAMMONDS	436-04-4137	9.29	2-2	0
E-7	DC-310	3-10-83	STEVEN PREJEAN	437-04-4550	0.95	5-4	-1
MPH	DC-310	3-10-83	ANTHONY SENSAT	433-23-3875	0.43	8-24	+16
NNE	DC-306	3-29-83	ANTHONY SENSAT	433-23-3875	0.22	45-43	-2
0-5	DC-306	3-29-83	STEVE PREJEAN	437-04-4550	13.19	NO SPECIMENS	--
MPH	DC-306	3-29-83	DALE HAMMONDS	436-04-4137	28.81	14-15	+1
SW	DC-306	4-11-83	NORRIS WASHINGTON	434-64-8694	0.09	97-77	-20
4 MPH	DC-306	4-11-83	ALFRED WILSON	437-13-2018	20.29	15-23	+8
	DC-306	4-11-83	CARL WOODS	438-11-9731	3.24	4-4	0
	DC-306	4-11-83	REGINALD WATTS	439-19-5274	30.42	22-34	+12

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BENZENE MONITORING SURVEY MARINE DOCK #2
SAMPLE CATCHING ONLY WITH NEW HAND-CRANKED SIPHON SAMPLE PUMP

TLV - 10 PPM (CEILING)

<u>WIND</u>	<u>BARGE</u>	<u>DATE</u>	<u>NAME</u>	PERSONNEL PPM <u>HEEL SAMPLE</u>	PERSONNEL PPM <u>FINAL SAMPLE</u>	<u>DURATION</u>
WSW 6 MPH	DC-310	4-24	AL WILSON		0.45	0'20"
	"	4-24	GARY BENSON		0.16	0'20"
NE-SE 5-10 MPH	DC-306	4-26	KEN BARTHEL	<0.02		0'20"
	"	"	MIKE WETSEL		1.04	1'40"
SE 6 MPH	DC-349	4-27	KEN BARTHEL	0.04		0'20"
	"	"	" "		0.01	0'30"
SE 5 MPH	DC-305	5-6	MARK HUTSON		0.06	1'45"
	DC-373	5-11	KEN BARTHEL	3.67		0'10"
SW 5 MPH	"	"	KEN BARTHEL		5.41	0'30"
	DC-309	5-12	ERNEST WILLIAMS		1.08	0'20"
SE 3 MPH	DC-372	5-15	MIKE WETSEL	5.77		0'10"

J. L. Moreau
5-23-84

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BENZENE (IN FUEL OIL) MONITORING SURVEY MARINE DOCK #2
LOADING FUEL OIL BARGES - OPEN DOME LOADING

TLV - 10 PPM (CEILING)

<u>WIND</u>	<u>BARGE</u>	<u>DATE</u>	<u>NAME</u>	<u>PERSONNEL PPM-BENZENE</u>	<u>DURATION</u>
SSE 2 MPH	NMS-1802	5-4	O'NEAL BOSLEY	0.27	5'40"
	"	"	AL WILSON	1.02	5'40"
	"	"	DENNIS DUPUY MIKE WETSEL	0.36	7'15"
SW 10 MPH	NMS-3101	5-5	O'NEAL BOSLEY CARL WOODS	0.06	7'30"
	"	"	MIKE WETSEL MARK HUTSON	0.09	7'30"
	"	"	AL WILSON FREDDIE JACKSON	0.08	7'30"
SW 10 MPH	NMS-3100	5-5	CARL WOODS	<0.07	4'45"
	"	"	FREDDIE JACKSON	<0.12	4'45"
	"	"	MARK HUTSON	<0.09	4'45"

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BENZENE (IN FUEL OIL) MONITORING SURVEY MARINE DOCK #2
LOADING FUEL OIL BARGES

TLV - 10 PPM

<u>BARGE</u>	<u>DATE</u>	<u>NAME</u>	<u>PERSONNEL PPM-BENZENE</u>	<u>DURATION HRS.-MINS.</u>
H-1802	11-10	ALTAZAN/PREJEAN	0.18	20-40
"	"	FRANKLIN/HAMMONDS	0.27	20-45
"	"	BOSLEY/CAVALIERE	< 0.13	20-40
H-2001	11-11	ALTAZAN	0.31	15-50
"	"	BENSON	< 0.24	15-50
"	"	FRANKLIN	6.90	16-0

J. L. Moreau
12/11/84

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BENZENE MONITORING SURVEY MARINE DOCK #2
BARGE LOADING
TLV 10 PPM (CEILING)

<u>BARGE</u>	<u>DATE</u>	<u>PERSONNEL</u>	<u>AREA CONTROL ROOM</u>	<u>AREA TOP DECK NEXT TO BARGE</u>	<u>AREA CENTER OF BARGE</u>	<u>AREA FAN BLOWER</u>	<u>WIND</u>	<u>SAMPLING TIME</u>
DC-306	6-27-84	1.85					S-0-5 MPH	4-05
"	"	29.98					"	4-05
"	"		0.20				"	3-35
"	"					2.95(N)	"	3-15
"	"			1.60			"	3-15
"	"				33.65		"	3-15
DC-371	7-2-84	12.35					SSW 3-5 MPH	4-55
"	"	6.61					"	4-55
"	"		0.0				"	4-40
"	"					4.15(N)	"	4-25
"	"			23.20			"	4-25
"	"				20.43		"	4-25

NOTE:

DC-306 - Several valves on barge reported leaking at valve stems.

J.L. MOREAU, JR
7-17-84

BENZENE (IN FUEL OIL) MONITORING SURVEY MARINE DOCK #2
LOADING FUEL OIL BARGES - OPEN DOME LOADING

TLV - 10 PPM (CEILING)

<u>BARGE</u>	<u>DATE</u>	<u>NAME</u>	<u>PERSONNEL PPM-BENZENE</u>	<u>DURATION</u>
NMS-1802	5-4	O'NEAL BOSLEY	0.27	5'40"
"	"	AL WILSON	1.02	5'40"
"	"	DENNIS DUPUY	0.36	7'15"
		MIKE WETSEL		
NMS-3101	5-5	O'NEAL BOSLEY	0.06	7'30"
		CARL WOODS		
"	"	MIKE WETSEL	0.09	7'30"
		MARK HUTSON		
"	"	AL WILSON	0.08	7'30"
		FREDDIE JACKSON		
NMS-3100	5-5	CARL WOODS	< 0.07	4'45"
"	"	FREDDIE JACKSON	< 0.12	4'45"
"	"	MARK HUTSON	< 0.09	4'45"

J. L. MOREAU
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BENZENE MONITORING SURVEY MARINE DOCK #2
SAMPLE CATCHING ONLY WITH NEW HAND-CRANKED SIPHON SAMPLE PUMP

TLV - 10 PPM (CEILING)

<u>BARGE</u>	<u>DATE</u>	<u>NAME</u>	PERSONNEL PPM <u>HEEL SAMPLE</u>	PERSONNEL PPM <u>FINAL SAMPLE</u>	<u>DURATION</u>
DC-310	4-24	AL WILSON		0.45	0'20"
"	4-24	GARY BENSON		0.16	0'20"
DC-306	4-26	KEN BARTHEL	<0.02		0'20"
"	"	MIKE WETSEL		1.04	1'40"
DC-349	4-27	KEN BARTHEL	0.04		0'20"
"	"	" "		0.01	0'30"
DC-305	5-6	MARK HUTSON		0.06	1'45"
DC-373	5-11	KEN BARTHEL	3.67		0'10"
"	"	KEN BARTHEL		5.41	0'30"
DC-309	5-12	ERNEST WILLIAMS		1.08	0'20"
DC-372	5-15	MIKE WETSEL	5.77		0'10"

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