



DOW CHEMICAL U.S.A.

REV
(6)

MARCH 5, 1982

LOUISIANA DIVISION
P. O. BOX 150
PLAQUEMINE, LOUISIANA 70764-0150
504 389-8000

P. J. PREJEAN - RAILROAD
J. M. CRONAN - TANK CAR CLEANING
CHARLIE HALPHEN - INDUSTRIAL HYGIENE
DANNIE KENNEDY - INDUSTRIAL HYGIENE
JOHN MCBRIDE - SAFETY

ATTACHED IS A NOISE SURVEY OF THE COMPRESSOR AND PUMP AREA, UNDER ROOF AND OPEN ON 3 SIDES, ON WEST END OF BLDG, 4101. THIS IS ADJACENT TO A WORK AREA AND IS DESIGNATED AS AN AREA OF EXCESSIVE NOISE, WITH HEARING PROTECTION REQUIRED.

IN ADDITION TO THE SURVEY USING A SOUND LEVEL METER TO MEASURE INTENSITY, AN OCTAVE BAND ANALYZER WAS USED TO SEPARATE AND IDENTIFY THE COMPRESSOR PROBLEM FREQUENCIES. MAINLY, THE PROBLEM WAS FOUND TO BE IN THE LOWER FREQUENCIES, WHICH SHOULD BE RECTIFIED BY THE PROPOSED BARRIER.

IT IS RECOMMENDED THAT A THREE SIDED BARRIER (LEAVING SOUTH SIDE OPEN) MADE OF CONCRETE BLOCK, WITH ONE DOOR, BE CONSTRUCTED. THIS SHOULD PROVIDE A PERMANENT SOLUTION TO THIS NOISE PROBLEM.

ALL SURVEY RESULTS ARE IN DECIBELS (DBA).

A COST ESTIMATE FROM ENGINEERING IS INCLUDED.

J. L. Moreau, Jr.

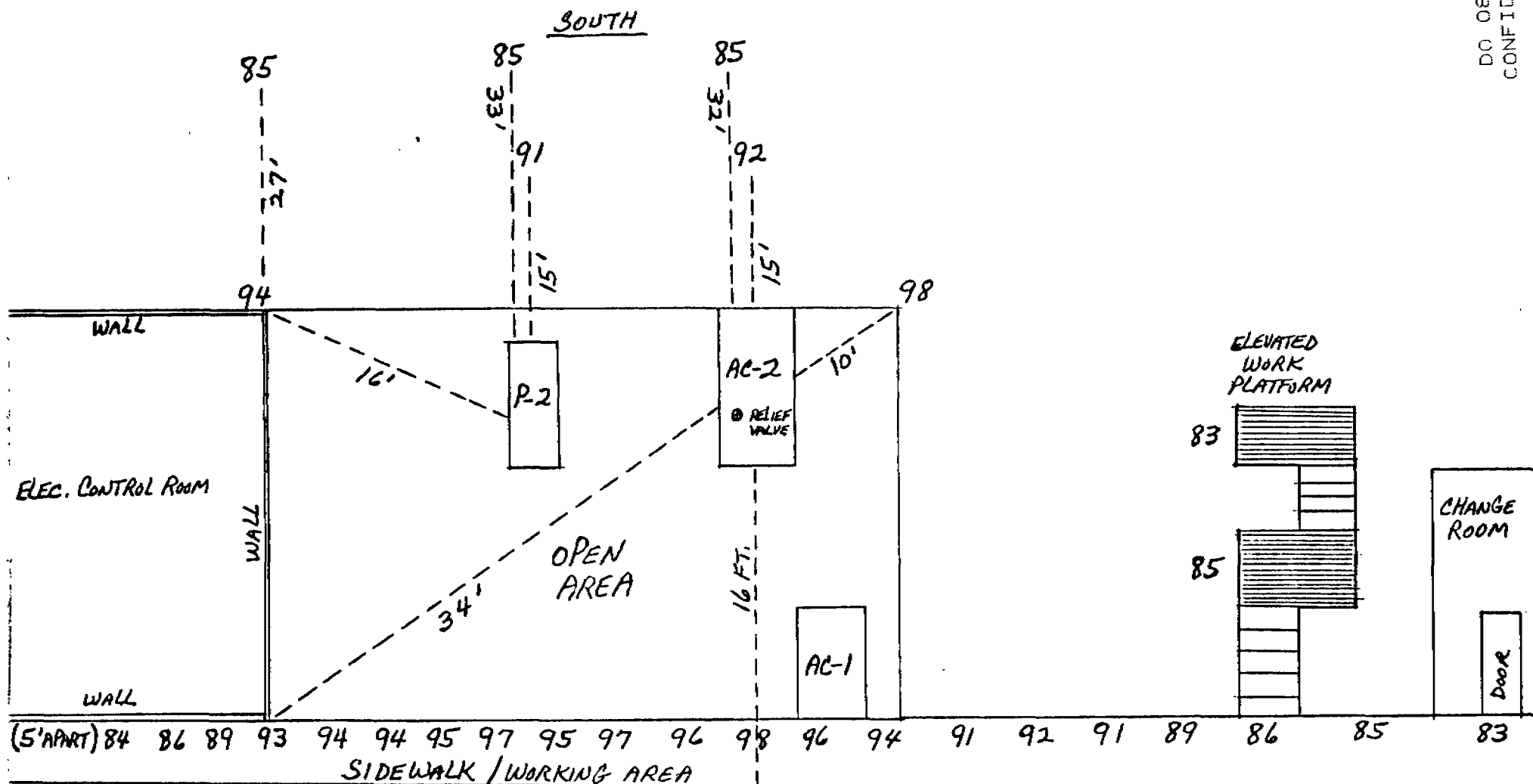
J. L. MOREAU, JR.
INDUSTRIAL HYGIENE - RAILROAD/MARINE

SG

2-23-02 WEST END DREDG. 1101

AC-2 AND PUMP P-2 RUNNING (AC-2 PANELS OFF)

DO 080817
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← TRACK 414 - POLY HOPPER CARS SPOTTED →

READINGS ON SIDEWALK / WORKING AREA TAKEN 5 FT. APART NEXT TO CARS

NORTH

NOISE SURVEY AIR COMPRESSORS & PUMPS
WEST END OF BLDG. 4101

2-19-82 WIND ESE - 9 MPH
AC-1 (OLD) AIR COMPRESSOR - RUNNING ALONE

<u>DISTANCE</u>	<u>NORTH</u>	<u>SOUTH</u>	<u>EAST</u>	<u>WEST</u>
1'	92	94	92	92
3'	90	91	90	90
5'	88	90	89	88
10'		88	85	
17'		85		

2-23-82 WIND CALM
AC-2 (NEW) AIR COMPRESSOR WITH PANELS OFF - RUNNING ALONE

<u>DISTANCE</u>	<u>NORTH</u>	<u>SOUTH</u>	<u>EAST</u>	<u>WEST</u>
1'	105	101	107	102
3'	103	99	104	101
5'	100	97	102	100
10'	97	95	99	97
15'	96	93	96	95

AC-2 RELIEF VALVE NOISE AT 31 SECOND INTERVALS (13 ON - 18 OFF)

<u>DISTANCE</u>	<u>NORTH</u>	<u>ALONG SIDEWALK/WORK AREA</u>
5'	106	CORNER - EAST END - 96 CORNER - WEST END - 97
10'	102	WORK PLATFORM - 94
17'	100 (MIDDLE OF SIDEWALK)	CHANGE ROOM DOOR - 88

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3-5-82

AIR COMPRESSOR AC-2, CHECKED WITH OCTAVE BAND ANALYZER.

ALL READINGS MEASURED 5 FT. FROM SOURCE IN ALL 4 DIRECTIONS.

<u>OCTAVE BAND FREQUENCY Hz</u>	<u>WEST</u>	<u>NORTH</u>	<u>EAST</u>	<u>SOUTH</u>
31.5	91	92	92	93
63	81	85	85	87
125	95	92	94	96
250	92	91	90	94
500	94	96	92	95
1000	91	89	89	88
2000	85	84	85	81
4000	80	80	79	77

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PLANT-
CONTACT-
PROBLEM

NOISE OVERVIEW

RECOMMENDATIONS

ink Car Cleaning
ally Motor
cessive noise
work area

See attached noise
survey
▽

Three sided ba
block with door is
next to electrical
leakage will occur
above work
should exceed 15-1
minimum sound
500, 1000 & 4000.

$$TL_{500} = 21 \log 2$$

$$TL_{1000} = 20 \log 2$$

$$TL_{4000} = 20 \log 2$$

$$\text{average } TL = 20 \log 2$$

The N.R. desired in
wall is open & the
is readily released.

$$TL_{avg} =$$

$$TL_{avg} =$$

The average TL
is readily achieved

NOISE SURVEY AIR COMPRESSORS + PUMPS
WEST END OF BLDG 4101

2-19-82 WIND ESE-9 MPH

AC-1 (OLD) AIR COMPRESSOR - RUNNING ALONE

<u>DISTANCE</u>	<u>NORTH</u>	<u>SOUTH</u>	<u>EAST</u>	<u>WEST</u>
1'	92	94	92	92
3'	90	91	90	90
5'	88	90	89	88
10'		88	85	
17'		85		

2-23-82 WIND CALM

AC-2 (NEW) AIR COMPRESSOR WITH PANELS OFF - RUNNING ALONE

<u>DISTANCE</u>	<u>NORTH</u>	<u>SOUTH</u>	<u>EAST</u>	<u>WEST</u>
1'	105	101	107	102
3'	103	99	104	101
5'	100	97	102	100
10'	97	95	99	97
15'	96	93	96	95

AC-2 RELIEF VALVE NOISE AT 31 SECOND INTERVALS (13 ON-18 OFF)

<u>DISTANCE</u>	<u>NORTH</u>	<u>ALONG SIDEWALK / WORK AREA</u>
5'	106	CORNER-EAST END - 96
10'	102	CORNER-WEST END - 97
17'	100 (MIDDLE OF SIDEWALK)	WORK PLATFORM - 94 CHANGE ROOM DOOR - 88

	<u>WEST</u>	<u>NORTH</u>	<u>EAST</u>	<u>SOUTH</u>
35	91	92	92	93
43				
43	81	85	85	87
125	95	92	94	96
250	92 92	91	90	94
500	94	96	92	95
1000	91	89	89	88
2000	85	84	85	81
4000	70	80	79	77
8000				

COMPRESSOR

WEST END BLDG. 4101

ALL READINGS TAKEN 5 FT. FROM SOURCE

3-5-82

1/3 octave band analyzer

NOISE SURVEY AIR COMPRESSORS + PUMPS
WEST END OF BLDG 4101

~~2-19-82~~ WIND ESE - 9 MPH

~~3-30-82~~ AC-1 (OLD) AIR COMPRESSOR - RUNNING ALONE

<u>DISTANCE</u>	<u>NORTH</u>	<u>SOUTH</u>	<u>EAST</u>	<u>WEST</u>
1'	92	94	92	92
3'	90	91	90	90
5'	88	90	89	88
10'		88	85	
17'		85		

3-30-82

~~2-23-82~~ WIND CALM

AC-2 (NEW) AIR COMPRESSOR WITH PANELS OFF - RUNNING ALONE

<u>DISTANCE</u>	<u>NORTH</u>	<u>SOUTH</u>	<u>EAST</u>	<u>WEST</u>
1'	105 108	101 104	107	102
3'	103 108	99 102	104	101
5'	100 104	97 100	102	100
10'	97 102	95 97	99	97
15'	96 99	93 98	96	95

AC-2 RELIEF VALVE NOISE AT 31 SECOND INTERVALS (13 ON - 18 OFF)

<u>DISTANCE</u>	<u>NORTH</u>	<u>ALONG SIDEWALK / DARK AREA</u>
5'	106	CORNER EAST END - 96
10'	102	CORNER WEST END - 97
17'	100 (MIDDLE OF SIDEWALK)	WORK PLATFORM - 94 CHANGE ROOM DOOR - 88

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