

02-xxx-1HS(012)



**Shell Oil Company**  
Interoffice Memorandum

PLAINTIFF'S EXHIBIT

SH-1441

MAY 16, 1989

FROM: C. F. PHILLIPS, MANAGER INDUSTRIAL HYGIENE SERVICES, HS&E-S&IH  
TO: DISTRIBUTION LIST  
SUBJECT: 1988 IH MONITORING SUMMARY

Attached is a summary of the 1988 industrial hygiene monitoring data for your location that has been entered in the HSS. The tables list the number of area, peak, task and TWA samples taken. Information is also provided as to the activity sampled for the peak and task samples, and for type of operation (normal or other) for TWA samples. Noise samples are also included.

We have noted that for at least one location, not all of the 1988 data has been entered as of this date. We would appreciate confirmation from your location of the current status of all 1988 exposure data entry into the HSS.

Please let us know if you have any questions.

*C. F. Phillips*  
CFP:lfw

Attachment

cc: (w/attachment)  
R. E. Green  
J. D. Ransdell  
P. J. Snyder  
HS&E-AS (2) ✓

(w/o attachment)  
J. P. Chadwick

*note to file:  
Products  
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*5 PLC copies sent  
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under separate cover  
letter.*

MAY 18 3 09 PM '89

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MANAGER, SAFETY AND INDUSTRIAL HYGIENE

LAM 024035

BELPRE CHEMICAL PLANT  
SUMMARY OF 1988 INDUSTRIAL HYGIENE MONITORING

PAGE 4

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DLT

| JEP CODE           | JOB TITLE         | OPCODE | AREA  |                     | PEAK  |   | TASK  |   | TWA   |  |
|--------------------|-------------------|--------|-------|---------------------|-------|---|-------|---|-------|--|
|                    |                   |        | COUNT |                     | COUNT |   | COUNT |   | COUNT |  |
| -----ASBESTOS----- |                   |        |       |                     |       |   |       |   |       |  |
| EX0088000          | GENL CONTRACTORS  | 06     |       | MAINTENANCE         | 0     | 0 | 0     | 0 | 5     |  |
|                    |                   | 21     |       | REMOVING INSULATION | 0     | 4 | 0     | 0 | 0     |  |
| 910097             | FIN (MG-1 & PK-1) | 21     |       | REMOVING INSULATION | 9     | 0 | 0     | 0 | 0     |  |
| 910099             | MG-1              | 21     |       | REMOVING INSULATION | 1     | 0 | 0     | 0 | 0     |  |
| *TOTAL             | ASBESTOS          |        | 10    |                     | 4     | 4 | 0     | 0 | 5     |  |

LAM 024036

ABS-007218

DEER PARK MANUFACTURING COMPLEX  
SUMMARY OF 1988 INDUSTRIAL HYGIENE MONITORING

PAGE 10

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DLT

| JEP CODE | JOB TITLE | OPCODE | AREA  |       | PEAK  |       | TASK  |       | TMA   |       |
|----------|-----------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
|          |           |        | COUNT | COUNT | COUNT | COUNT | COUNT | COUNT | COUNT | COUNT |

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ASBESTOS

EN0005533 LRDF SHIP & RECEIVING OPER-DIST-RES 01 NORMAL 0 0 0 2

LAM 024037

ABS-007219

DEER PARK MANUFACTURING COMPLEX  
SUMMARY OF 1988 INDUSTRIAL HYGIENE MONITORING

APRIL 14, 1989  
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| JEP CODE           | JOB TITLE                           | OPCODE | AREA  |  | PEAK  |  | TASK  |  | TWA   |  |
|--------------------|-------------------------------------|--------|-------|--|-------|--|-------|--|-------|--|
|                    |                                     |        | COUNT |  | COUNT |  | COUNT |  | COUNT |  |
| -----ASBESTOS----- |                                     |        |       |  |       |  |       |  |       |  |
| EH0005533          | LRDF SHIP & RECEIVING OPER-DIST-RES | 36     | 0     |  | 0     |  | 1     |  | 0     |  |
| EH0099614          | INSUL-BROWN & ROOT-BA/SR-CHEM OPRNS | 21     | 0     |  | 21    |  | 4     |  | 0     |  |
| EH0099632          | INSUL-BROWN & ROOT-A DEPT-CHEM OPRN | 21     | 0     |  | 4     |  | 0     |  | 0     |  |
| 910405             | BUTADIENE 3-OLEFINS-OPRNS M.        | 01     | 8     |  | 0     |  | 0     |  | 0     |  |
| 910425             | AREA-CAT XING & GAS-FUELS OPRNS     | 01     | 5     |  | 0     |  | 0     |  | 0     |  |
| *TOTAL ASBESTOS    |                                     |        | 13    |  | 25    |  | 5     |  | 2     |  |

LAM 024038

ABS-007220

GEISHAR CHEMICAL PLANT  
SUMMARY OF 1988 INDUSTRIAL HYGIENE MONITORING

APRIL 14, 1989  
DLT

| JEP CODE  | JOB TITLE                        | OPCODE | AREA  | PEAK  | TASK  | THA   |
|-----------|----------------------------------|--------|-------|-------|-------|-------|
|           |                                  |        | COUNT | COUNT | COUNT | COUNT |
| ASBESTOS  |                                  |        |       |       |       |       |
| EG0061518 | MTC TECH-MULTI-SKILL K-1, M, EGE | 35     | 0     | 8     | 0     | 0     |
| 910136    | AREA-PLT                         | 01     | 3     | 0     | 0     | 0     |
| 910137    | AREA-Z, A-K                      | 06     | 2     | 0     | 0     | 0     |
| 910144    | AREA-LOGISTICS                   | 01     | 3     | 0     | 0     | 0     |
| *TOTAL    | ASBESTOS                         |        | 8     | 8     | 0     | 0     |

LAM 024039

MARTINEZ MANUFACTURING COMPLEX  
SUMMARY OF 1988 INDUSTRIAL HYGIENE MONITORING

APRIL 14, 1989  
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| JEP CODE  | JOB TITLE                        | OPCODE | AREA<br>COUNT | PEAK<br>COUNT | TASK<br>COUNT | TNA<br>COUNT |
|-----------|----------------------------------|--------|---------------|---------------|---------------|--------------|
| ASBESTOS  |                                  |        |               |               |               |              |
| EM0022500 | CEMENTMEN-SOFT CRAFTS-ENG FIELD  | 21     | 0             | 0             | 16            | 0            |
|           |                                  | 35     | 0             | 0             | 2             | 0            |
|           |                                  | 36     | 0             | 0             | 1             | 0            |
| EM0024505 | P/F-OPCEN-HARDCRAFTS-ENG FIELD   | 35     | 0             | 0             | 1             | 0            |
| EM0025500 | MOTOR MECH-SOFT CRAFTS-ENG FIELD | 35     | 0             | 0             | 1             | 0            |
| 910003    | AREA-QUAD B HHC                  | 36     | 4             | 0             | 0             | 0            |
| *TOTAL    | ASBESTOS                         |        | 4             | 0             | 21            | 0            |

LAM 024040

ABS-007222

METAIRIE PLANT  
SUMMARY OF 1988 INDUSTRIAL HYGIENE MONITORING

APRIL 14, 1989  
DLT

| JEP CODE       | JOB TITLE | OPCODE | AREA                |   | PEAK  |   | TASK  |   | TWA   |  |
|----------------|-----------|--------|---------------------|---|-------|---|-------|---|-------|--|
|                |           |        | COUNT               |   | COUNT |   | COUNT |   | COUNT |  |
| -----          |           |        |                     |   |       |   |       |   |       |  |
| ASBESTOS       |           |        |                     |   |       |   |       |   |       |  |
| -----          |           |        |                     |   |       |   |       |   |       |  |
| EB0095000      | CONTR-PLT | 21     | REMOVING INSULATION | 0 | 6     | 0 | 0     | 0 | 0     |  |
| -----          |           |        |                     |   |       |   |       |   |       |  |
| TOTAL ASBESTOS |           |        |                     | 0 | 6     | 0 | 0     | 0 | 0     |  |

LAM 024041

NORCO MANUFACTURING COMPLEX  
SUMMARY OF 1988 INDUSTRIAL HYGIENE MONITORING

APRIL 14, 1989  
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| JEP CODE | JOB TITLE | OPCODE | AREA  | PEAK  | TASK  | TWA   |
|----------|-----------|--------|-------|-------|-------|-------|
|          |           |        | COUNT | COUNT | COUNT | COUNT |

ASBESTOS

|           |                         |    |                       |   |   |   |   |    |
|-----------|-------------------------|----|-----------------------|---|---|---|---|----|
| EN0000050 | GENL ADMINISTRATIVE STF | 35 | OTHER MECHANICAL WORK | 0 | 0 | 2 | 0 | 0  |
|           |                         | 36 | OTHER OPERATING TASKS | 0 | 0 | 4 | 0 | 0  |
| EN0000109 | CONTR INSUL             | 21 | REMOVING INSULATION   | 0 | 4 | 0 | 0 | 0  |
| EN0000121 | CONTR LBR/GENL HELPER   | 08 | OTHER                 | 0 | 0 | 0 | 0 | 1  |
|           |                         | 21 | REMOVING INSULATION   | 0 | 0 | 5 | 0 | 0  |
| EN0000127 | CONTR GUARD             | 05 | SHUTDOWN/TURNAROUND   | 0 | 0 | 0 | 0 | 7  |
|           |                         | 35 | OTHER MECHANICAL WORK | 0 | 0 | 2 | 0 | 0  |
| EN0002505 | OPER-TRTR-CAT XING UNIT | 05 | SHUTDOWN/TURNAROUND   | 0 | 0 | 0 | 0 | 12 |

LAM 024042

NORCO MANUFACTURING COMPLEX  
SUMMARY OF 1988 INDUSTRIAL HYGIENE MONITORING

APRIL 14, 1989  
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34-0002104

| JEP CODE        | JOB TITLE                  | OPCODE | AREA<br>COUNT         | PEAK<br>COUNT | TASK<br>COUNT | TWA<br>COUNT |
|-----------------|----------------------------|--------|-----------------------|---------------|---------------|--------------|
| ASBESTOS        |                            |        |                       |               |               |              |
| EN0002600       | OPER-V & I CAT XING UNIT   | 05     | SHUTDOWN/TURNAROUND   | 0             | 0             | 11           |
|                 |                            | 36     | OTHER OPERATING TASKS | 0             | 1             | 0            |
|                 |                            | 37     | CLEANING EQUIPMENT    | 0             | 1             | 0            |
| EN0011604       | INSTR MECH-MTC E.-CAT XING | 23     | BREAKING INTO A LINE  | 0             | 1             | 0            |
|                 |                            | 36     | OTHER OPERATING TASKS | 0             | 1             | 0            |
| EN0011630       | P/F-MTC E.-CAT XING        | 23     | BREAKING INTO A LINE  | 0             | 1             | 0            |
|                 |                            | 36     | OTHER OPERATING TASKS | 0             | 3             | 0            |
| EN0011656       | MACH-MTC E.-CAT XING       | 36     | OTHER OPERATING TASKS | 0             | 1             | 0            |
| EN0011721       | WELDERS-MTC-E. SITE-SHOP   | 35     | OTHER MECHANICAL WORK | 0             | 1             | 0            |
| 910570          | AREA-E. SITE               | 01     | NORMAL                | 0             | 0             | 0            |
| 910573          | AREA-CAT XING UNIT         | 05     | SHUTDOWN/TURNAROUND   | 80            | 0             | 0            |
| *TOTAL ASBESTOS |                            |        | 88                    | 4             | 23            | 31           |

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ABS-007225

WILMINGTON MANUFACTURING COMPLEX  
SUMMARY OF 1988 INDUSTRIAL HYGIENE MONITORING

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ABS-007226

JEP CODE JOB TITLE

OPCODE

AREA

PEAK

TASK

TMA

COUNT

COUNT

COUNT

COUNT

ANTHRACENE

|           |                                     |    |        |   |   |   |   |   |
|-----------|-------------------------------------|----|--------|---|---|---|---|---|
| EK0021502 | OPER A-STRUCTURE/COKER-MILM E./OPRN | 01 | NORMAL | 0 | 0 | 0 | 0 | 1 |
| EK0021503 | OPER B-ASST STRUCTURE/COKER-MILM E. | 01 | NORMAL | 0 | 0 | 0 | 0 | 1 |
| EK0021511 | OPER B-UTIL-MILM E./OPRNS           | 01 | NORMAL | 0 | 0 | 0 | 0 | 2 |
| EK0033700 | CONTR-SUPPLEMENTAL LBR-DOMINGUEZ MT | 01 | NORMAL | 0 | 0 | 0 | 0 | 2 |
| *TOTAL    | ANTHRACENE                          |    |        | 0 | 0 | 0 | 0 | 6 |

ASBESTOS

|           |                     |    |                       |   |   |   |   |   |
|-----------|---------------------|----|-----------------------|---|---|---|---|---|
| EK0035531 | MECH-GARAGE-CEN MTC | 35 | OTHER MECHANICAL WORK | 0 | 3 | 0 | 0 | 0 |
| 910289    | AREA-COKER          | 08 | OTHER                 | 2 | 0 | 0 | 0 | 0 |
| *TOTAL    | ASBESTOS            |    |                       | 2 | 3 | 0 | 0 | 0 |

HOOD RIVER MANUFACTURING COMPLEX  
SUMMARY OF 1988 INDUSTRIAL HYGIENE MONITORING

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| JEP CODE | JOB TITLE | OPCODE | AREA  | PEAK  | TASK  | TMA   |
|----------|-----------|--------|-------|-------|-------|-------|
|          |           |        | COUNT | COUNT | COUNT | COUNT |

ASBESTOS

|           |                            |    |                       |   |   |    |   |
|-----------|----------------------------|----|-----------------------|---|---|----|---|
| EH0072635 | CARP-HYDROPROC-MTC         | 35 | OTHER MECHANICAL WORK | 0 | 0 | 1  | 0 |
| EH0072646 | ELECT-LT OIL PROC-MTC      | 35 | OTHER MECHANICAL WORK | 0 | 1 | 0  | 0 |
| EH0072675 | INSUL-GENL REF.-MTC        | 21 | REMOVING INSULATION   | 0 | 0 | 2  | 0 |
|           |                            | 35 | OTHER MECHANICAL WORK | 0 | 1 | 0  | 0 |
| EH0072676 | INSUL-LT OIL PROC-MTC      | 21 | REMOVING INSULATION   | 0 | 0 | 2  | 0 |
| EH0072677 | INSUL-DISP-MTC             | 21 | REMOVING INSULATION   | 0 | 0 | 2  | 0 |
| EH0072678 | INSUL-UTLS-MTC             | 21 | REMOVING INSULATION   | 0 | 0 | 1  | 0 |
| EH0072679 | INSUL-S/D-MTC              | 21 | REMOVING INSULATION   | 0 | 0 | 3  | 0 |
| EH0072680 | INSUL-HYDROPROC-MTC        | 21 | REMOVING INSULATION   | 0 | 1 | 9  | 0 |
| EH0072685 | INSUL-SHOPS-MTC            | 21 | REMOVING INSULATION   | 0 | 0 | 14 | 0 |
| EH0072690 | LBR-STORES-MTC             | 06 | MAINTENANCE           | 0 | 0 | 0  | 1 |
| EH0072751 | P/F/WELDER-LT OIL PROC-MTC | 21 | REMOVING INSULATION   | 0 | 1 | 0  | 0 |
|           |                            | 35 | OTHER MECHANICAL WORK | 0 | 4 | 0  | 0 |
| EH0072771 | TINNER-MTC                 | 06 | MAINTENANCE           | 0 | 0 | 0  | 1 |
|           |                            | 35 | OTHER MECHANICAL WORK | 0 | 0 | 1  | 0 |

LAM 024045

MOOD RIVER MANUFACTURING COMPLEX  
SUMMARY OF 1988 INDUSTRIAL HYGIENE MONITORING

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| JEP CODE  | JOB TITLE                           | OPCODE | AREA<br>COUNT | PEAK<br>COUNT | TASK<br>COUNT | TWA<br>COUNT |
|-----------|-------------------------------------|--------|---------------|---------------|---------------|--------------|
| ASBESTOS  |                                     |        |               |               |               |              |
| EH0072776 | GARAGE MACHANIC-MTC                 | 35     | 0             | 0             | 1             | 0            |
| EH0072777 | TRUCK DRIVER-MTC                    | 35     | 0             | 1             | 0             | 0            |
| 910180    | AREA-REF.                           | 01     | 6             | 0             | 0             | 0            |
|           |                                     | 06     | 4             | 0             | 0             | 0            |
| 910185    | AREA-BENZEN EXTRACTION              | 21     | 2             | 0             | 0             | 0            |
| 910187    | AREA-AROM M.                        | 21     | 2             | 0             | 0             | 0            |
| 910188    | AREA-SATS GAS/CAT REFORM 1          | 01     | 3             | 0             | 0             | 0            |
| 910189    | AREA-HYDRO-X                        | 21     | 1             | 0             | 0             | 0            |
| 910195    | AREA-H DESULFUR 2/CAT REFORM 3/DIST | 06     | 1             | 0             | 0             | 0            |
| 910200    | AREA-DISTL 2                        | 01     | 7             | 0             | 0             | 0            |
|           |                                     | 35     | 1             | 0             | 0             | 0            |
| 910203    | AREA-GAS                            | 08     | 1             | 0             | 0             | 0            |
| 910206    | AREA-STABILIZERS/VOLATILE TRTR      | 01     | 2             | 0             | 0             | 0            |
|           |                                     | 08     | 2             | 0             | 0             | 0            |
| 910211    | AREA-DISP                           | 21     | 2             | 0             | 0             | 0            |
| 910228    | AREA-MACHN                          | 21     | 4             | 0             | 0             | 0            |
| 910232    | AREA-PIPE                           | 01     | 3             | 0             | 0             | 0            |
|           |                                     | 06     | 1             | 0             | 0             | 0            |
| 910236    | AREA-SHOP 3-BOILER/TIN              | 06     | 4             | 0             | 0             | 0            |
| 910237    | AREA-AUTO-GARAGE                    | 01     | 6             | 0             | 0             | 0            |
| 910239    | AREA-ANALY LAB                      | 21     | 6             | 0             | 0             | 0            |
| 910245    | AREA-POWER HOUSE                    | 01     | 4             | 0             | 0             | 0            |
| 910246    | AREA-STORES WAREHOUSES              | 01     | 4             | 0             | 0             | 0            |
| *TOTAL    | ASBESTOS                            |        | 66            | 9             | 36            | 2            |

LAM 024046

ABS-007228

PRODUCTS DISTRIBUTION  
SUMMARY OF 1988 INDUSTRIAL HYGIENE MONITORING

PAGE 1

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| JEP CODE        | JOB TITLE | OPCODE | AREA<br>COUNT | PEAK<br>COUNT | TASK<br>COUNT | TMA<br>COUNT |
|-----------------|-----------|--------|---------------|---------------|---------------|--------------|
| ASBESTOS        |           |        |               |               |               |              |
| 910670          | AREA-PLT  | 01     | 2             | 0             | 0             | 0            |
| *TOTAL ASBESTOS |           |        | 2             | 0             | 0             | 0            |

LAM 024047

ABS-007229

SHELL PIPE LINE CORPORATION  
SUMMARY OF 1988 INDUSTRIAL HYGIENE MONITORING

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|                    |           | AREA   | PEAK              | TASK  | TMA   |
|--------------------|-----------|--------|-------------------|-------|-------|
| JEP CODE           | JOB TITLE | OPCODE | COUNT             | COUNT | COUNT |
| -----ALDICARB----- |           |        |                   |       |       |
| P50202530          | OPER      | 17     | COLLECTING SAMPLE | 0     | 1     |
| *TOTAL ALDICARB    |           |        | 0                 | 1     | 0     |

ASBESTOS

LAM 024048

ABS-007230