

REPORT # 7
LABORATORY ANALYSIS ON
NAVAL SAMPLES
(A/E Contract N6270-84-B-6932
JTC REPORT # 84-128

PREPARED FOR:
DEPARTMENT OF NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VA 23511

PREPARED BY:
JTC ENVIRONMENTAL CONSULTANTS, INC.
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DECEMBER 18, 1984

Ann E. Rosecrance
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Laboratory Director

CLW
0000005644

JTC Environmental Consultants, Inc.

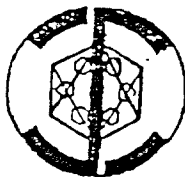
Date 12/18/84 Report No. 7 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 84-128 Table 1 Date of Sample Receipt 12-12-84

NAVY SAMPLE ID	JTC SAMPLE ID	VOA	ANALYSIS PARAMETER						
HP 601	12-0217	See attached data sheet							
HP 602	12-0218	See attached data sheet							
HP 603	12-0219	See attached data sheet							
HP 608	12-0220	See attached data sheet							
HP 634	12-0221	See attached data sheet							
HP 637	12-0222	See attached data sheet							
HP 642	12-0223	See attached data sheet							
HP Treated	12-0224	See attached data sheet							

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Navy Sample HP601 R. ewe & 12/12/84



JTC ENVIRONMENTAL CONSULTANTS, INC.
PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

LAB SAMPLE LOG NO. VOASPL288 PROJECT NO. NF-12

SAMPLE DESIGNATION & DATE 12-0217 HP601 12/12/84

METHOD NO. 624 DETECTION LIMIT 10 ug/lit

ANALYSIS DATE 12/13/84

PARAMETER	RESULT ug/lit	PARAMETER	RESULT ug/lit
2V acrolein	N.D.	32V 1,2-dichloropropane	N.D.
3V acrylonitrile	N.D.	33V 1,3-dichloro- pylene	N.D.
4V benzene	N.D.	38V ethylbenzene	N.D.
6V carbon tetrachloride	N.D.	44V methylene chloride	10 N.D.
7V chlorobenzene	N.D.	45V methyl chloride	N.D.
10V 1,2-dichloroethane	N.D.	46V methyl bromide	N.D.
11V 1,1,1-trichloro- ethane	N.D.	47V bromoform	N.D.
13V 1,1-dichloroethane	N.D.	48V dichlorobromo- methane	N.D.
14V 1,1,2-trichloro- ethane	N.D.	49V trichlorofluoro- methane	N.D.
15V 1,1,2,2-tetra- chloroethane	N.D.	50V dichlorodifluoro- methane	N.D.
16V chloroethane	N.D.	51V chlorodibromomethane	N.D.
19V 2-chloroethylvinyl ether	N.D.	85V tetrachloroethylene	4.4 * N.D.
23V chloroform	N.D.	86V toluene	N.D.
29V 1,1-dichloroethylene	N.D.	87V trichloroethylene	230 N.D.
30V 1,2-trans-dichloro- ethylene	99 N.D.	88V vinyl chloride	N.D.

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N.D. = NOT DETECTED

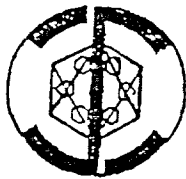
N.A. = NOT APPLICABLE/ANALYZED

* Relative method detection limit

Navy Sample # 602 Received 12/12/84

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JTC ENVIRONMENTAL CONSULTANTS, INC.
PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

LAB SAMPLE LOG NO. VOASPL293 PROJECT NO. NF-12
SAMPLE DESIGNATION & DATE 12-02-88 HP602 1:50 dilution 12/12/88
METHOD NO. 624 DETECTION LIMIT 500 ug/lit
ANALYSIS DATE 12/13/84

PARAMETER	RESULT ug/lit	PARAMETER	RESULT ug/lit
2V acrolein	N.D.	32V 1,2-dichloropropane	N.D.
3V acrylonitrile	N.D.	33V 1,3-dichloro- pylene	N.D.
4V benzene	720 N.D.	38V ethylbenzene	N.D.
6V carbon tetrachloride	N.D.	44V methylene chloride	N.D.
7V chlorobenzene	N.D.	45V methyl chloride	N.D.
10V 1,2-dichloroethane	N.D.	46V methyl bromide	N.D.
11V 1,1,1-trichloro- ethane	N.D.	47V bromoform	N.D.
13V 1,1-dichloroethane	N.D.	48V dichlorobromo- methane	N.D.
14V 1,1,2-trichloro- ethane	N.D.	49V trichlorofluoro- methane	N.D.
15V 1,1,2,2-tetra- chloroethane	N.D.	50V dichlorodifluoro- methane	N.D.
16V chloroethane	N.D.	51V chlorodibromomethane	N.D.
19V 2-chloroethylvinyl ether	N.D.	85V tetrachloroethylene	N.D.
23V chloroform	N.D.	86V toluene	N.D.
29V 1,1-dichloroethylene	N.D.	87V trichloroethylene	540 N.D.
30V 1,2-trans-dichloro- ethylene	380* N.D.	88V vinyl chloride	N.D.

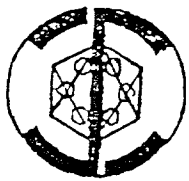
N.D. = NOT DETECTED
N.A. = NOT APPLICABLE/ANALYZED

* below method detection limit

Navy su. ple HP603 received 1, 12/84

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JTC ENVIRONMENTAL CONSULTANTS, INC.
PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

LAB SAMPLE LOG NO. VOASPL292 PROJECT NO. NF-12
SAMPLE DESIGNATION & DATE 12-0219 HP603 12/12/84
METHOD NO. 624 DETECTION LIMIT 10 ug/lit
ANALYSIS DATE 12/13/84

PARAMETER	RESULT ug/lit	PARAMETER	RESULT ug/lit
2V acrolein	N.D.	32V 1,2-dichloropropane	N.D.
3V acrylonitrile	N.D.	33V 1,3-dichloro- pylene	N.D.
4V benzene	N.D.	38V ethylbenzene	N.D.
6V carbon tetrachloride	N.D.	44V methylene chloride	7.0* N.D.
7V chlorobenzene	N.D.	45V methyl chloride	N.D.
10V 1,2-dichloroethane	N.D.	46V methyl bromide	N.D.
11V 1,1,1-trichloro- ethane	N.D.	47V bromoform	N.D.
13V 1,1-dichloroethane	N.D.	48V dichlorobromo- methane	N.D.
14V 1,1,2-trichloro- ethane	N.D.	49V trichlorofluoro- methane	N.D.
15V 1,1,2,2-tetra- chloroethane	N.D.	50V dichlorodifluoro- methane	N.D.
16V chloroethane	N.D.	51V chlorodibromomethane	N.D.
19V 2-chloroethylvinyl ether	N.D.	85V tetrachloroethylene	N.D.
23V chloroform	N.D.	86V toluene	N.D.
29V 1,1-dichloroethylene	N.D.	87V trichloroethylene	N.D.
30V 1,2-trans-dichloro- ethylene	N.D.	88V vinyl chloride	N.D.

N.D. = NOT DETECTED
N.A. = NOT APPLICABLE/ANALYZED

* below method detection limit

Navy Sample HP608 received 12/1/84

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JTC ENVIRONMENTAL CONSULTANTS, INC.
PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

LAB SAMPLE LOG NO. VOASPL295 PROJECT NO. NF-12
 SAMPLE DESIGNATION & DATE 12-0220 HP608 12/12/84
 METHOD NO. 624 DETECTION LIMIT 10 ug/lit
 ANALYSIS DATE 12/14/84

PARAMETER	RESULT ug/lit	PARAMETER	RESULT ug/lit
2V acrolein	N.D.	32V 1,2-dichloropropane	N.D.
3V acrylonitrile	N.D.	33V 1,3-dichloro- pylene	N.D.
4V benzene	4.0* N.D.	38V ethylbenzene	N.D.
6V carbon tetrachloride	N.D.	44V methylene chloride	14 N.D.
7V chlorobenzene	N.D.	45V methyl chloride	N.D.
10V 1,2-dichloroethane	N.D.	46V methyl bromide	N.D.
11V 1,1,1-trichloro- ethane	N.D.	47V bromoform	N.D.
13V 1,1-dichloroethane	N.D.	48V dichlorobromo- methane	N.D.
14V 1,1,2-trichloro- ethane	N.D.	49V trichlorofluoro- methane	N.D.
15V 1,1,2,2-tetra- chloroethane	N.D.	50V dichlorodifluoro- methane	N.D.
16V chloroethane	N.D.	51V chlorodibromomethane	N.D.
19V 2-chloroethylvinyl ether	N.D.	85V tetrachloroethylene	N.D.
23V chloroform	N.D.	86V toluene	N.D.
29V 1,1-dichloroethylene	N.D.	87V trichloroethylene	13 N.D.
30V 1,2-trans-dichloro- ethylene	2.4* N.D.	88V vinyl chloride	N.D.

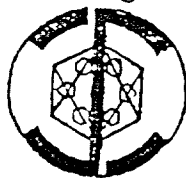
N.D. = NOT DETECTED
 N.A. = NOT APPLICABLE/ANALYZED

* below method detection limit

Navy samp - HP634 received 12/1/84

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JTC ENVIRONMENTAL CONSULTANTS, INC.
PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

LAB SAMPLE LOG NO. VOASPL 296 PROJECT NO. NF-12

SAMPLE DESIGNATION & DATE 02-0221 HP634 12/12/84

METHOD NO. 624 DETECTION LIMIT 10 ug/lit

ANALYSIS DATE 12/14/84

PARAMETER	RESULT ug/lit	PARAMETER	RESULT ug/lit
2V acrolein	N.D.	32V 1,2-dichloropropane	N.D.
3V acrylonitrile	N.D.	33V 1,3-dichloro- pylene	N.D.
4V benzene	N.D.	38V ethylbenzene	N.D.
6V carbon tetrachloride	N.D.	44V methylene chloride	130 N.D.
7V chlorobenzene	N.D.	45V methyl chloride	N.D.
10V 1,2-dichloroethane	N.D.	46V methyl bromide	N.D.
11V 1,1,1-trichloro- ethane	N.D.	47V bromoform	N.D.
13V 1,1-dichloroethane	N.D.	48V dichlorobromo- methane	N.D.
14V 1,1,2-trichloro- ethane	N.D.	49V trichlorofluoro- methane	N.D.
15V 1,1,2,2-tetra- chloroethane	N.D.	50V dichlorodifluoro- methane	N.D.
16V chloroethane	N.D.	51V chlorodibromomethane	N.D.
19V 2-chloroethylvinyl ether	N.D.	85V tetrachloroethylene	N.D.
23V chloroform	N.D.	86V toluene	N.D.
29V 1,1-dichloroethylene	N.D.	87V trichloroethylene	N.D.
30V 1,2-trans-dichloro- ethylene	2.3* N.D.	88V vinyl chloride	N.D.

N.D. = NOT DETECTED
N.A. = NOT APPLICABLE/ANALYZED

* below method detection limit

Navy sample HP637 received 12/1/84

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JTC ENVIRONMENTAL CONSULTANTS, INC. 0000005651
PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

LAB SAMPLE LOG NO. VOASPL 297 PROJECT NO. NF-12

SAMPLE DESIGNATION & DATE 12-0222 HP637 12/12/84

METHOD NO. 624 DETECTION LIMIT 10 ug/lit

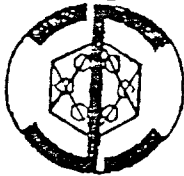
ANALYSIS DATE 12/14/84

PARAMETER	RESULT ug/lit	PARAMETER	RESULT ug/lit
2V acrolein	N.D.	32V 1,2-dichloropropane	N.D.
3V acrylonitrile	N.D.	33V 1,3-dichloropro- pylene	N.D.
4V benzene	N.D.	38V ethylbenzene	N.D.
6V carbon tetrachloride	N.D.	44V methylene chloride	²⁷⁰ N.D.
7V chlorobenzene	N.D.	45V methyl chloride	N.D.
10V 1,2-dichloroethane	N.D.	46V methyl bromide	N.D.
11V 1,1,1-trichloro- ethane	N.D.	47V bromoform	N.D.
13V 1,1-dichloroethane	N.D.	48V dichlorobromo- methane	N.D.
14V 1,1,2-trichloro- ethane	N.D.	49V trichlorofluoro- methane	N.D.
15V 1,1,2,2-tetra- chloroethane	N.D.	50V dichlorodifluoro- methane	N.D.
16V chloroethane	N.D.	51V chlorodibromomethane	N.D.
19V 2-chloroethylvinyl ether	N.D.	85V tetrachloroethylene	N.D.
23V chloroform	N.D.	86V toluene	N.D.
29V 1,1-dichloroethylene	N.D.	87V trichloroethylene	N.D.
30V 1,2-trans-dichloro- ethylene	N.D.	88V vinyl chloride	N.D.

N.D. = NOT DETECTED

N.A. = NOT APPLICABLE/ANALYZED

Navy samp HP642 received 12/84



JTC ENVIRONMENTAL CONSULTANTS, INC.
PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

LAB SAMPLE LOG NO. VOASPL298 PROJECT NO. NF-12

SAMPLE DESIGNATION & DATE 12-0223 HP642 12/12/84

METHOD NO. 624 DETECTION LIMIT 10 ug/lit

ANALYSIS DATE 12/14/84

PARAMETER	RESULT ug/lit	PARAMETER	RESULT ug/lit
2V acrolein	N.D.	32V 1,2-dichloropropane	N.D.
3V acrylonitrile	N.D.	33V 1,3-dichloro- pylene	N.D.
4V benzene	N.D.	38V ethylbenzene	N.D.
6V carbon tetrachloride	N.D.	44V methylene chloride	³⁸ N.D.
7V chlorobenzene	N.D.	45V methyl chloride	N.D.
10V 1,2-dichloroethane	N.D.	46V methyl bromide	N.D.
11V 1,1,1-trichloro- ethane	N.D.	47V bromoform	N.D.
13V 1,1-dichloroethane	N.D.	48V dichlorobromo- methane	N.D.
14V 1,1,2-trichloro- ethane	N.D.	49V trichlorofluoro- methane	N.D.
15V 1,1,2,2-tetra- chloroethane	N.D.	50V dichlorodifluoro- methane	N.D.
16V chloroethane	N.D.	51V chlorodibromomethane	N.D.
19V 2-chloroethylvinyl ether	N.D.	85V tetrachloroethylene	N.D.
23V chloroform	N.D.	86V toluene	N.D.
29V 1,1-dichloroethylene	N.D.	87V trichloroethylene	N.D.
30V 1,2-trans-dichloro- ethylene	N.D.	88V vinyl chloride	N.D.

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N.D. = NOT DETECTED

N.A. = NOT APPLICABLE/ANALYZED

Navy sample HP Treated received 12/84

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JTC ENVIRONMENTAL CONSULTANTS, INC. 0000005653
PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

LAB SAMPLE LOG NO. VOASPL299 PROJECT NO. NF-12

SAMPLE DESIGNATION & DATE 12-0224 HP Treated 12/12/84

METHOD NO. 624 DETECTION LIMIT 10 ug/lit

ANALYSIS DATE 12/14/84

PARAMETER	RESULT	PARAMETER	RESULT
	ug/lit		ug/lit
2V acrolein	N.D.	32V 1,2-dichloropropane	N.D.
3V acrylonitrile	N.D.	33V 1,3-dichloro- pylene	N.D.
4V benzene	N.D.	38V ethylbenzene	N.D.
6V carbon tetrachloride	N.D.	44V methylene chloride	N.D.
7V chlorobenzene	N.D.	45V methyl chloride	N.D.
10V 1,2-dichloroethane	N.D.	46V methyl bromide	N.D.
11V 1,1,1-trichloro- ethane	N.D.	47V bromoform	N.D.
13V 1,1-dichloroethane	N.D.	48V dichlorobromo- methane	N.D.
14V 1,1,2-trichloro- ethane	N.D.	49V trichlorofluoro- methane	N.D.
15V 1,1,2,2-tetra- chloroethane	N.D.	50V dichlorodifluoro- methane	N.D.
16V chloroethane	N.D.	51V chlorodibromomethane ^{1.8*}	N.D.
19V 2-chloroethylvinyl ether	N.D.	85V tetrachloroethylene	N.D.
23V chloroform	30 N.D.	86V toluene	N.D.
29V 1,1-dichloroethylene	N.D.	87V trichloroethylene ^{2.3*}	N.D.
30V 1,2-trans-dichloro- ethylene	2.3* N.D.	88V vinyl chloride	N.D.

N.D. = NOT DETECTED
N.A. = NOT APPLICABLE/ANALYZED

* below method detection limit

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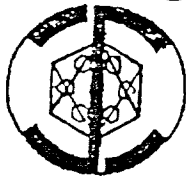
JTC Data Report No. 84-129 Table 1 Date of Sample Receipt 12/14/84

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER
HP602 12/13/84	12-0225	VOAs
Bldg 20 12/13/84	12-0226	see attached data sheets

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Navy sample HP602 received 12/1/84

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JTC ENVIRONMENTAL CONSULTANTS, INC.
PRIORITY POLLUTANT ANALYSIS DATA SHEET

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VOLATILE FRACTION

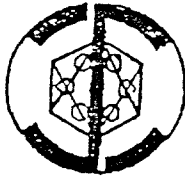
LAB SAMPLE LOG NO. VOASPL302 PROJECT NO. NF-12
SAMPLE DESIGNATION & DATE 12-0225 HP602 12/14/84 1:5 dilution
METHOD NO. 624 DETECTION LIMIT 50 ug/lit
ANALYSIS DATE 12/14/84

PARAMETER	RESULT ug/lit	PARAMETER	RESULT ug/lit
2V acrolein	N.D.	32V 1,2-dichloropropane	N.D.
3V acrylonitrile	N.D.	33V 1,3-dichloro- pylene	N.D.
4V benzene	230 N.D.	38V ethylbenzene	N.D.
6V carbon tetrachloride	N.D.	44V methylene chloride	N.D.
7V chlorobenzene	N.D.	45V methyl chloride	N.D.
10V 1,2-dichloroethane	N.D.	46V methyl bromide	N.D.
11V 1,1,1-trichloro- ethane	N.D.	47V bromoform	N.D.
13V 1,1-dichloroethane	N.D.	48V dichlorobromo- methane	N.D.
14V 1,1,2-trichloro- ethane	N.D.	49V trichlorofluoro- methane	N.D.
15V 1,1,2,2-tetra- chloroethane	N.D.	50V dichlorodifluoro- methane	N.D.
16V chloroethane	N.D.	51V chlorodibromomethane	N.D.
19V 2-chloroethylvinyl ether	N.D.	85V tetrachloroethylene	N.D.
23V chloroform	N.D.	86V toluene	12* N.D.
29V 1,1-dichloroethylene	N.D.	87V trichloroethylene	340 N.D.
30V 1,2-trans-dichloro- ethylene	230 N.D.	88V vinyl chloride	N.D.

N.D. = NOT DETECTED
N.A. = NOT APPLICABLE/ANALYZED

* below method detection limit

Navy samp - Bldg 20 untreated rec ved 12/14/84



JTC ENVIRONMENTAL CONSULTANTS, INC.
PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

LAB SAMPLE LOG NO. VOASPL 300 PROJECT NO. NF-12
SAMPLE DESIGNATION & DATE 12-0226 Bldg 20 untreated 12/14/84
METHOD NO. 624 DETECTION LIMIT 10 ug/lit
ANALYSIS DATE 12/14/84

PARAMETER	RESULT ug/lit	PARAMETER	RESULT ug/lit
2V acrolein	N.D.	32V 1,2-dichloropropane	N.D.
3V acrylonitrile	N.D.	33V 1,3-dichloro- pylene	N.D.
4V benzene	N.D.	38V ethylbenzene	N.D.
6V carbon tetrachloride	N.D.	44V methylene chloride <u>54</u>	N.D.
7V chlorobenzene	N.D.	45V methyl chloride	N.D.
10V 1,2-dichloroethane	N.D.	46V methyl bromide	N.D.
11V 1,1,1-trichloro- ethane	N.D.	47V bromoform	N.D.
13V 1,1-dichloroethane	N.D.	48V dichlorobromo- methane	N.D.
14V 1,1,2-trichloro- ethane	N.D.	49V trichlorofluoro- methane	N.D.
15V 1,1,2,2-tetra- chloroethane	N.D.	50V dichlorodifluoro- methane	N.D.
16V chloroethane	N.D.	51V chlorodibromomethane	N.D.
19V 2-chloroethylvinyl ether	N.D.	85V tetrachloroethylene	N.D.
23V chloroform	<u>10</u> N.D.	86V toluene	N.D.
29V 1,1-dichloroethylene	N.D.	87V trichloroethylene	N.D.
30V 1,2-trans-dichloro- ethylene	N.D.	88V vinyl chloride	N.D.

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N.D. = NOT DETECTED
N.A. = NOT APPLICABLE/ANALYZED