Bob Alexander 6/12

03.01-06/05/87-00318

(804) 445-1814

6280
1142CPF

5 JUN 1987

North Carolina Division of Environmental
Management
Attn: R. Paul Wilms
Director
P.O. Box 27687
Raleigh, NC 27611-7687

Re: Remedial Investigation/Feasibility Study (RI/FS) at the Marine Corps Base, Camp Lejeune, North Caroline

Gentlemen:

We are conducting a RI/FS (formerly Confirmation Study) under the Installation Restoration program at several sites on the Marine Corps Base, Camp Lejeune. The study commenced in April 1984 and was accelerated for the Hadnot Point area when trichloroethene (TCE) was detected in several potable wells. You were informed of our preliminary findings in an April 25, 1986 letter and in meetings in July 1986 and January 1987. At the present time, our contractor is concluding his investigation in the Hadnot Point area and commencing an evaluation of feasible alternatives for remediation.

Under CERCLA Section 121, our remedial action is required to attain legally applicable or relevant and appropriate standards, requirements, criteria, or limitations (ARARs). We understand that these ARARs can be contaminant-specific, location-specific, or action-specific and that, for non-NPL sites, remedial actions must conform to state laws. We are hereby requesting your input on what ARARs are applicable to this particular site, so we can ensure our recommended alternative will achieve the level of cleanup desired.

To facilitate your evaluation, we have enclosed a brief description of the site and the results of our investigation to date. The contaminants of concern are TCE, 1,2-dichloroethane, 1,1-dichloroethene, trans-1,2-dichloroethene, tetrachloroethene, vinyl chloride, and benzene.

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Our feasibility study is currently scheduled for completion in August 1987. We would like your response by July 15, 1987 to enable inclusion of your ARARs in the report. If you cannot meet the date, we will complete the study using those ARARs our consultant deems will satisfy the requirements of CERCLA. You will have the opportunity to comment on the draft feasibility study; we plan to give an informational briefing at Camp Lejeune in the August/September timeframe. The final version of the feasibility study will also be made available for public comment.

We will be happy to answer any additional questions you may have. Our point of contact is Cherryl Barnett, (804) 445-1814.

Sincerely,

J. R. BAILEY, P.E.
Head, Environmental Quality Branch
Utilities, Energy and Environmental
Division
By direction of the Commander

Encl:
(1) Site History Report

Copy to:
MARCORB Camp Lejeune
NAVFACENGCOM (112)
CMC (Code LFL)

Environmental Science and
Engineering
P.O. Box ESE
Gainesville, FL 32602

Division of Health Services
Attn: Dr. Ronald Levine
Director
P.O. Box 2091
Raleigh, NC 27602-2091

SITE HISTORY

During the first phase of the Installation Restoration (formerly NACIP) program, eight potentially-contaminated sites were identified in the Hadnot Point industrial area, an area bounded by Holcomb Boulevard, Sneads Ferry Road, and the New River (see Attachment A). Based on the available evidence, five of these sites were recommended for further study to confirm the existence of contamination. The Phase II effort commenced in April 1984 with the installation of 17 shallow monitoring wells in the Hadnot Point area and sampling of groundwater, surface water, soils and sediment. A preliminary report dated December 1984 showed benzene in Potable Well 602 at 380 ppb.

Additional sampling by base and Department of Human Resources personnel confirmed the benzene and detected T-1,2-dichloroethene and trichloroethene (TCE) in Well 602. TCE was also detected in Wells 601, 608, 634, 637, 651, 652, and 653, all of which were shut down.

Low concentrations of volatile organic compounds (VOC) were detected in some of the shallow monitoring wells during the 1984 sampling. With the exception of the benzene from Site 22, however, it did not appear that any identified sites could be the source of the VOC contamination. Subsequently, we conducted a site survey to locate other potential sources and investigated these further during a soil gas survey.

The soil gas survey identified several areas where TCE was detected and three buildings where concentrations in the vicinity exceeded 10 ppm: Buildings 1202, 1601, and 1709. A network of shallow wells was installed to confirm the soil gas findings, including one at each contaminated potable well to determine if the well construction had contributed to the spread of contamination. These wells (shown in Attachment B) are being sampled three times for VOCs. Only the first set of data is available at this time; it is forwarded as Attachment C.

Concurrent with the site survey/soil gas effort, each contaminated potable well was sampled. From the data tabulated in Attachment D, we can surmise that degradation of the TCE to lesser chlorinated compounds is occurring and that, from two years of pumping inactivity, significant contamination appears to be limited to Wells 602, 608, and 651. Although Wells 651, 652, and 653 are located outside the Hadnot Point industrial area, they were included in the site and soil gas surveys. The only potential source identified in these areas was Lot 203, which is being investigated under the IR program as Site 6.

From the shallow groundwater data (Attachment C), we have identified zones of contamination in the water table aquifer at two of the three buildings targeted by the soil gas survey. Although the potable aquifer is described as semi-confined, neither USGS nor our contractor have been able to locate a continuous confining layer separating it from the water table aquifer in the Hadnot Point area. The distribution of TCE in the water table aquifer is not areally extensive because it may be sinking up to several hundred feet and being picked up by the potable wells.

To test this hypothesis, we are planning to install one 75-foot and one 150-foot well to form a cluster at each of the three buildings identified above. This work should commence within the next month. At the conclusion of this effort, we anticipate having enough data to complete the RI/FS for groundwater contamination in the Hadnot Point area. Current projections are for a draft RI for the remaining sites on Camp Lejeune to be completed by mid-1988.

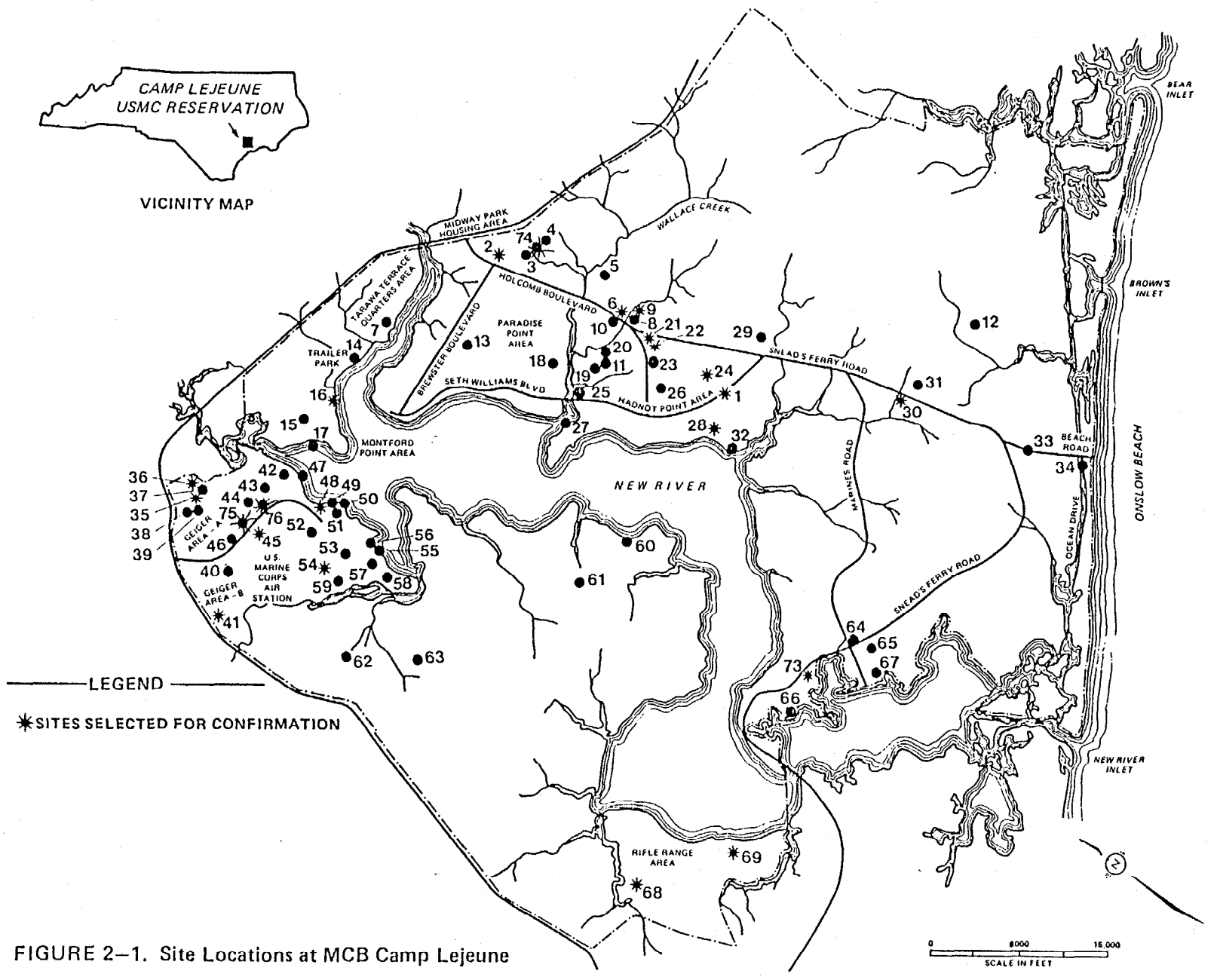


FIGURE 2–1. Site Locations at MCB Camp Lejeune

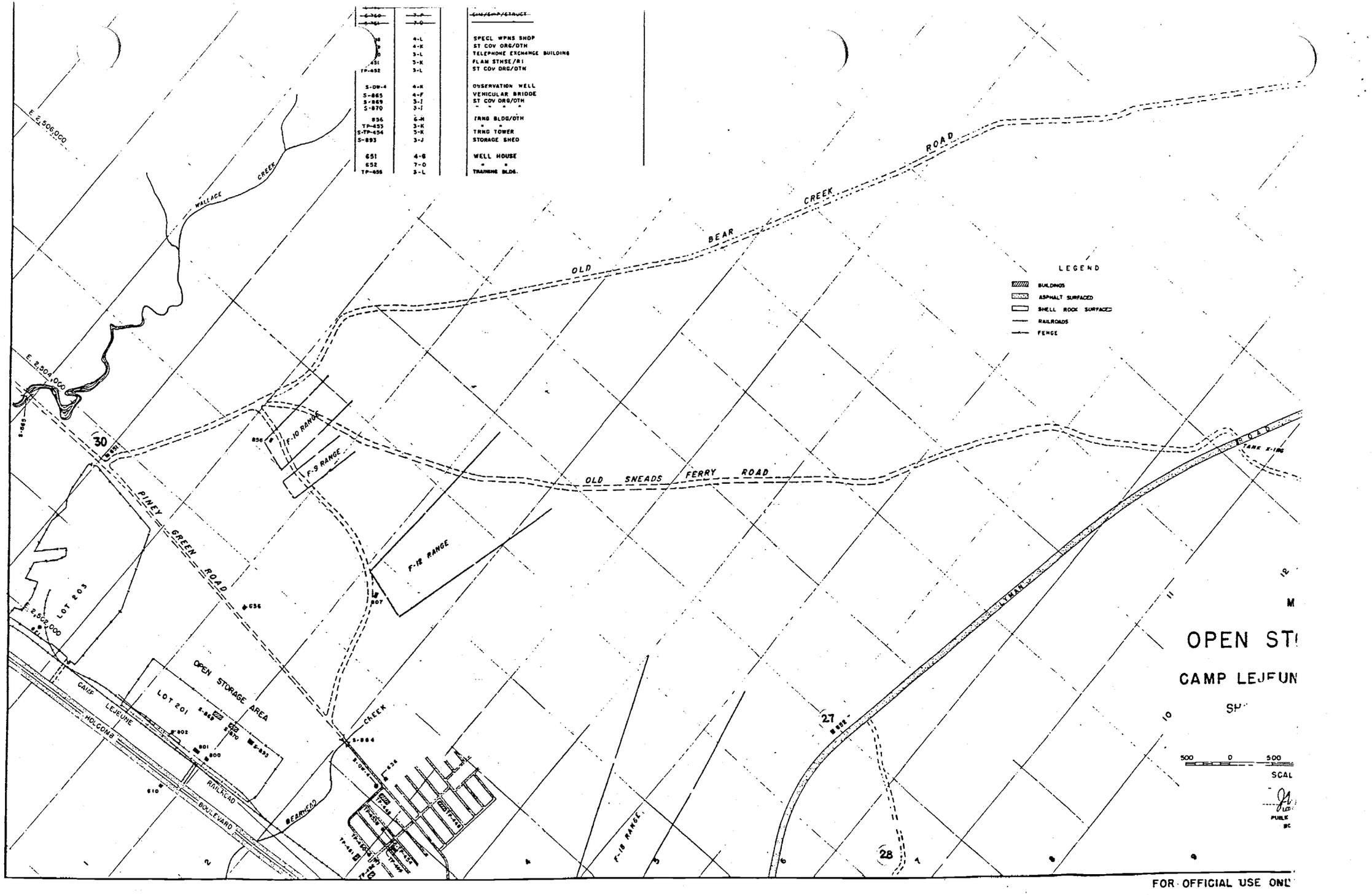
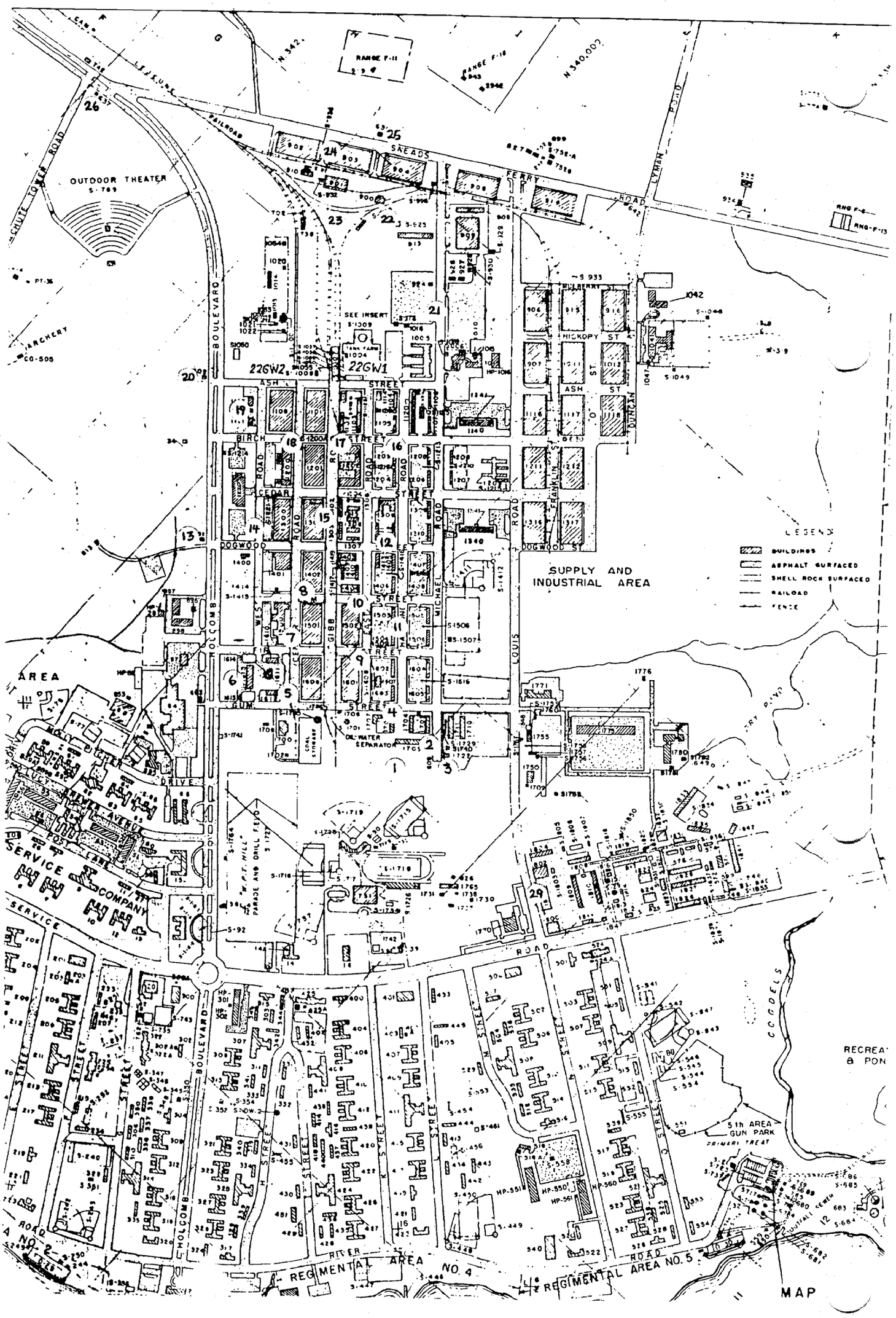


Figure 2. Additional Monitor Wells -- Soil Gas Investigation

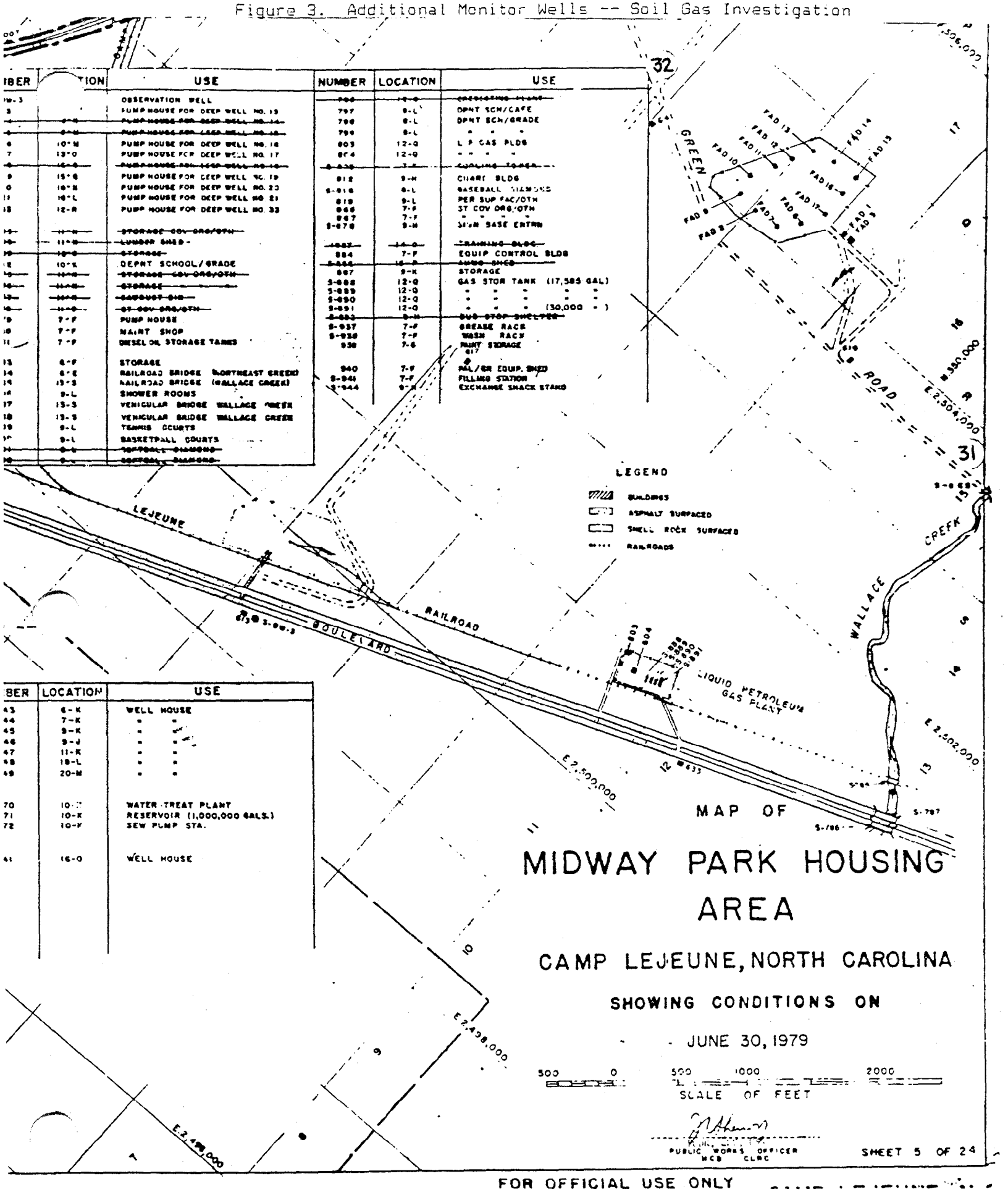
Figure 1. Location of Monitor Wells at Hadnot Point Industrial Area Installed After Soil Gas Investigation.

(All well numbers will be coded as HPGWxx)



Attachment B

Figure 3. Additional Monitor Wells -- Soil Gas Investigation



NUMBER	LOCATION	USE
[illegible]		OBSERVATION WELL
3		PUMP HOUSE FOR DEEP WELL NO. 13
[illegible]		PUMP HOUSE FOR DEEP WELL NO. 14
[illegible]		PUMP HOUSE FOR DEEP WELL NO. 15
6	10-M	PUMP HOUSE FOR DEEP WELL NO. 16
7	13-O	PUMP HOUSE FOR DEEP WELL NO. 17
[illegible]		PUMP HOUSE FOR DEEP WELL NO. 18
9	15-B	PUMP HOUSE FOR DEEP WELL NO. 19
10	18-N	PUMP HOUSE FOR DEEP WELL NO. 23
11	18-L	PUMP HOUSE FOR DEEP WELL NO. 21
13	12-A	PUMP HOUSE FOR DEEP WELL NO. 33
[illegible]		STORAGE COV ORG/OTH
[illegible]		LUMBER SHED
[illegible]		STORAGE
[illegible]	10-L	DEPNT SCHOOL/GRADE
[illegible]		STORAGE COV ORG/OTH
[illegible]		STORAGE
[illegible]		GARAGE
[illegible]		ST COV ORG/OTH
79	7-F	PUMP HOUSE
80	7-F	MAINT SHOP
81	7-F	DIESEL OIL STORAGE TANKS
83	6-F	STORAGE
84	6-E	RAILROAD BRIDGE (NORTHEAST CREEK)
85	13-S	RAILROAD BRIDGE (WALLACE CREEK)
86	9-L	SHOWER ROOMS
87	13-S	VENICULAR BRIDGE WALLACE CREEK
88	13-S	VENICULAR BRIDGE WALLACE CREEK
89	9-L	TENNIS COURTS
90	9-L	BASKETBALL COURTS
[illegible]		SOFTBALL DIAMOND
[illegible]		SOFTBALL DIAMOND

NUMBER	LOCATION	USE
[illegible]		CHLORINATING HOUSE
797	9-L	DPNT SCH/CAFE
798	9-L	DPNT SCH/GRADE
799	9-L	" " "
803	12-Q	L P GAS PLDG
804	12-Q	" " " "
[illegible]		COOLING TOWER
812	9-N	CHART BLDG
S-813	6-L	BASEBALL DIAMOND
815	9-L	PER SUP FAC/OTH
866	7-F	ST COV ORG/OTH
867	7-F	" " " "
S-870	9-M	SEWAGE BASE ENTRN
[illegible]		TRAINING BLDG
884	7-F	EQUIP CONTROL BLDG
[illegible]		AUTO SHED
887	9-K	STORAGE
S-888	12-Q	GAS STOR TANK (17,585 GAL)
S-889	12-Q	" " " " "
S-890	12-Q	" " " " "
S-891	12-Q	" " " (30,000 ")
[illegible]		BUS STOP SHELTER
S-937	7-F	GREASE RACK
S-938	7-F	WASH RACK
939	7-G	PAINT STORAGE 617
940	7-F	POL/SR EQUIP. SHED
S-941	7-F	FILLING STATION
S-944	9-M	EXCHANGE SNACK STAND

NUMBER	LOCATION	USE
43	6-K	WELL HOUSE
44	7-K	" "
45	9-K	" "
46	9-J	" "
47	11-K	" "
48	19-L	" "
49	20-M	" "
70	10-[illegible]	WATER TREAT PLANT
71	10-K	RESERVOIR (1,000,000 GALS.)
72	10-K	SEW PUMP STA.
41	16-O	WELL HOUSE

ENVIRONMENTAL SCIENCE & ENGINEERING 02/ /87 STATUS: PRELIMINARY PAGE# 1

PROJECT NUMBER 86447 0400 PROJECT NAME NAVY - LEJEUNE
FIELD GROUP LJHP-1 PROJECT MANAGER J.D. SHAMIS
LAB COORDINATOR JEFF SHAMIS

PARAMETERS	STORET #	SAMPLE ID/# 22GW1 LJHP-1 1	22GW2 LJHP-1 2	HPGW1 LJHP-1 3	HPGW2 LJHP-1 4	HPGW3 LJHP-1 5	HPGW4 LJHP-1 6	HPGW5 LJHP-1 7	HPGW6 LJHP-1 8	HPGW7 LJHP-1 9	HPGW8 LJHP-1 10	HPGW9 LJHP-1 11	HPGW10 LJHP-1 12	HPGW11 LJHP-1 13	HPGW12 LJHP-1 14	HPGW13 LJHP-1 15
UNITS	METHOD															
DATE		01/09/87	01/09/87	01/09/87	01/09/87	01/09/87	01/12/87	01/12/87	01/12/87	01/12/87	01/13/87	01/14/87	01/14/87	01/14/87	01/14/87	01/14/87
TIME		11:02	10:05	12:05	13:20	14:25	10:00	12:05	14:08	16:40	14:55	10:25	11:45	12:55	13:59	15:55
LEAD,TOTAL	1051															
UG/L	ICAP															
OIL&GR,IR	560	7	0.8	0.7	0.7	0.8	0.3	0.9	0.2	3	0.1	32	0.4	0.3	0.2	0.2
MG/L	1															
BENZENE	34030	12000	<1.0	43	12	1.4	25	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<1.0	<1.0	<1.0
UG/L	GMS															
BROMODICHLOROMETHANE	32101	<22	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<220	<2.2	<2.2	<2.2	<2.2
UG/L	GMS															
BROMOFORM	32104	<47	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<470	<4.7	<4.7	<4.7	<4.7
UG/L	GMS															
BROMOMETHANE	34413	<58	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<580	<5.8	<5.8	<5.8	<5.8
UG/L	GMS															
CARBON TETRACHLORIDE	32102	<28	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<280	<2.8	<2.8	<2.8	<2.8
UG/L	GMS															
CHLOROBENZENE	34301	<60	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<600	<6.0	<6.0	<6.0	<6.0
UG/L	GMS															
CHLOROETHANE	34311	<82	<8.2	<8.2	<8.2	<8.2	<8.2	<8.2	<8.2	<8.2	<8.2	<820	<8.2	<8.2	<8.2	<8.2
UG/L	GMS															
2-CHLOROETHYLVINYLET	34576	<150	<26	<15	<15	<15	<15	<15	<15	<15	<15	<1500	<15	<15	<15	<15
HER UG/L	GMS															
CHLOROFORM	32106	<16	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<160	<1.6	3.2	<1.6	<1.6
UG/L	GMS															
CHLOROMETHANE	34418	<43	<4.3	<4.3	5.0	<4.3	<4.3	<4.3	<4.3	<4.3	7.2	<430	<4.3	<4.3	<4.3	<4.3
UG/L	GMS															
DIBROMOCHLOROMETHANE	32105	<31	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<310	<3.1	<3.1	<3.1	<3.1
UG/L	GMS															
1,1-DICHLOROETHANE	34496	<47	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<470	<4.7	<4.7	<4.7	<4.7
UG/L	GMS															
1,2-DICHLOROETHANE	34531	<28	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<280	<2.8	<2.8	<2.8	<2.8
UG/L	GMS															
1,1-DICHLOROETHYLENE	34501	<28	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<280	<2.8	<2.8	<2.8	<2.8
UG/L	GMS															
T-1,2-DICHLOROETHENE	34546	<16	<1.6	<1.6	<1.6	<1.6	1.9	<1.6	<1.6	<1.6	<1.6	740	<1.6	13	<1.6	<1.6
UG/L	GMS															
1,2-DICHLOROPROPANE	34541	<60	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<600	<6.0	<6.0	<6.0	<6.0
UG/L	GMS															
CIS-1,3-DICH'PROPENE	34704	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<5.0	<5.0	<5.0	<5.0
UG/L	GMS															
T-1,3-DICHL'PROPENE	34699	<64	<6.4	<6.4	<6.4	<6.4	<6.4	<6.4	<6.4	<6.4	<6.4	<640	<6.4	<6.4	<6.4	<6.4
UG/L	GMS															

Attachment

PROJECT NUMBER 86447 0400 PROJECT NAME NAVY - LEJEUNE
FIELD GROUP LJHP-1 PROJECT MANAGER J.D. SHAMIS
LAB COORDINATOR JEFF SHAMIS

PARAMETERS	STORET #	SAMPLE ID/# 22GW1 LJHP-1 1	22GW2 LJHP-1 2	HPGW1 LJHP-1 3	HPGW2 LJHP-1 4	HPGW3 LJHP-1 5	HPGW4 LJHP-1 6	HPGW5 LJHP-1 7	HPGW6 LJHP-1 8	HPGW7 LJHP-1 9	HPGW8 LJHP-1 10	HPGW9 LJHP-1 11	HPGW10 LJHP-1 12	HPGW11 LJHP-1 13	HPGW12 LJHP-1 14	HPGW13 LJHP-1 15
UNITS	METHOD															
DATE		01/09/87	01/09/87	01/09/87	01/09/87	01/09/87	01/12/87	01/12/87	01/12/87	01/12/87	01/13/87	01/14/87	01/14/87	01/14/87	01/14/87	01/14/87
TIME		11:02	10:05	12:05	13:20	14:25	10:00	12:05	14:08	16:40	14:55	10:25	11:45	12:55	13:59	15:55
ETHYLBENZENE	34371	1800	<7.2	12	<7.2	8.2	<7.2	<7.2	<7.2	<7.2	<7.2	1100	<7.2	<7.2	<7.2	<7.2
UG/L	GMS															
METHYLENE CHLORIDE	34423	<28	7.3	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	20	<280	<2.8	<2.8	<2.8	<2.8
UG/L	GMS															
1,1,2,2-TE'CH'ETHANE	34516	<41	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<410	<4.1	<4.1	<4.1	<4.1
UG/L	GMS															
TETRACHLOROETHENE	34475	<30	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<300	<3.0	<3.0	<3.0	<3.0
UG/L	GMS															
TOLUENE	34010	15000	<6.0	100	38	<6.0	35	<6.0	<6.0	<6.0	<6.0	<600	<6.0	<6.0	<6.0	<6.0
UG/L	GMS															
1,1,1-TRICHL'ETHANE	34506	<38	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<380	<3.8	<3.8	<3.8	<3.8
UG/L	GMS															
1,1,2-TRICHLOROETHAN	34511	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<500	<5.0	<5.0	<5.0	<5.0
E UG/L	GMS															
TRICHLOROETHENE	39180	<30	<1.0	<3.0	<3.0	<3.0	3.4	<3.0	<3.0	<3.0	<3.0	5000	7.4	49	<3.0	<3.0
UG/L	GMS															
TRICHLOROFLUOROMETHA	34488	<32	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	14	<320	<3.2	<3.2	<3.2	<3.2
NE UG/L	GMS															
VINYL CHLORIDE	39175	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<100	<1.0	<1.0	<1.0	<1.0
UG/L	GMS															
ACROLEIN	34210	<1000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<10000	<100	<100	<100	<100
UG/L	GMS															
ACRYLONITRILE	34215	<1000	<100	<100	<100	<100	<100	<100	<100	<100	<100	<10000	<100	<100	<100	<100
UG/L	GMS															
DICHLORODIFLUOROMETH	34668	<100	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1000	<10	<10	<10	<10
ANE UG/L	GMS															
M-XYLENE	98553	4400	<12	30	14	<12	<12	<12	<12	<12	<12	2400	<12	<12	<12	<12
UG/L	GMS															
O-AND/OR-P XYLENE	98554	4600	<12	32	14	<12	<12	<12	<12	<12	<12	2100	<12	<12	<12	<12
UG/L	GMS															
METHYL ETHYL KETONE	81595	<480	<48	<48	<48	<48	<48	<48	<48	<48	<48	<4800	<48	<48	<48	<48
UG/L	GMS															
METHYL ISOBUT'KETONE	81596	<120	<12	<12	<12	<12	<12	<12	<12	<12	<12	<1200	<12	<12	<12	<12
UG/L	GMS															

PROJECT NUMBER 86447 0400 PROJECT NAME NAVY - LEJEUNE
FIELD GROUP LJHP-1 PROJECT MANAGER J.D. SHAMIS
LAB COORDINATOR JEFF SHAMIS

PARAMETERS	STORET #	SAMPLE ID/# HPGW14 LJHP-1 16	HPGW15 LJHP-1 17	HPGW16 LJHP-1 18	HPGW17 LJHP-1 19	HPGW18 LJHP-1 20	HPGW19 LJHP-1 21	HPGW20 LJHP-1 22	HPGW21 LJHP-1 23	HPGW22 LJHP-1 24	HPGW23 LJHP-1 25	HPGW24 LJHP-1 26	HPGW25 LJHP-1 27	HPGW26 LJHP-1 28	HPGW27 LJHP-1 29	HPGW28 LJHP-1 30
UNITS	METHOD															
DATE		01/14/87	01/15/87	01/15/87	01/15/87	01/15/87	01/16/87	01/16/87	01/16/87	01/19/87	01/19/87	01/19/87	01/19/87	01/19/87	01/20/87	01/20/87
TIME		17:37	10:46	12:27	13:56	17:25	10:12	11:50	14:35	10:20	11:30	14:00	14:50	16:30	09:35	10:20
LEAD,TOTAL	1051														NRQ	NRQ
UG/L	ICAP															
OIL&GR,IR	560	0.2	<0.1	0.2	<0.1	<0.1	0.2	<0.1	0.2	1	0.6	0.1	0.2	0.2	NRQ	NRQ
MG/L	I															
BENZENE	34030	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	2.0	<1.0	<1.0	<1.0	<1.0
UG/L	GMS															
BROMODICHLOROMETHANE	32101	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<22	<220	<2.2	<2.2	<2.2	<2.2
UG/L	GMS															
BROMOFORM	32104	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<47	<470	<4.7	<4.7	<4.7	<4.7
UG/L	GMS															
BROMOMETHANE	34413	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<58	<580	<5.8	<5.8	<5.8	<5.8
UG/L	GMS															
CARBON TETRACHLORIDE	32102	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<28	<280	<2.8	<2.8	<2.8	<2.8
UG/L	GMS															
CHLOROBENZENE	34301	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<60	<600	<6.0	<6.0	<6.0	<6.0
UG/L	GMS															
CHLOROETHANE	34311	<8.2	<8.2	<8.2	<8.2	<8.2	<8.2	<8.2	<8.2	<8.2	<82	<820	<8.2	<8.2	<8.2	<8.2
UG/L	GMS															
2-CHLOROETHYLVINYLET	34576	<15	<15	<15	<15	<26	<15	<15	<15	<15	<150	<1500	<15	<15	<15	<15
HER UG/L	GMS															
CHLOROFORM	32106	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<16	<160	<1.6	<1.6	<1.6	<1.6
UG/L	GMS															
CHLOROMETHANE	34418	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<43	<430	<4.3	<4.3	<4.3	<4.3
UG/L	GMS															
DIBROMOCHLOROMETHANE	32105	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<31	<310	<3.1	<3.1	<3.1	<3.1
UG/L	GMS															
1,1-DICHLOROETHANE	34496	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<47	12	<4.7	<4.7	<4.7	<4.7
UG/L	GMS															
1,2-DICHLOROETHANE	34531	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<28	<280	<2.8	<2.8	<2.8	<2.8
UG/L	GMS															
1,1-DICHLOROETHYLENE	34501	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<28	<280	<2.8	<2.8	<2.8	<2.8
UG/L	GMS															
T-1,2-DICHLOROETHENE	34546	<1.6	<1.6	<1.6	<1.6	<1.6	2.5	<1.6	<1.6	<1.6	830	6400	<1.6	<1.6	<1.6	<1.6
UG/L	GMS															
1,2-DICHLOROPROPANE	34541	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<60	<600	<6.0	<6.0	<6.0	<6.0
UG/L	GMS															
CIS-1,3-DICH'PROPENE	34704	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<500	<5.0	<5.0	<5.0	<5.0
UG/L	GMS															
T-1,3-DICHL'PROPENE	34699	<6.4	<6.4	<6.4	<6.4	<6.4	<6.4	<6.4	<6.4	<6.4	<64	<640	<6.4	<6.4	<6.4	<6.4
UG/L	GMS															

PROJECT NUMBER 86447 0400 PROJECT NAME NAVY - LEJEUNE
FIELD GROUP LJHP-1 PROJECT MANAGER J.D. SHAMIS
LAB COORDINATOR JEFF SHAMIS

PARAMETERS	STORET #	SAMPLE ID/# HPGW14 LJHP-1 16	HPGW15 LJHP-1 17	HPGW16 LJHP-1 18	HPGW17 LJHP-1 19	HPGW18 LJHP-1 20	HPGW19 LJHP-1 21	HPGW20 LJHP-1 22	HPGW21 LJHP-1 23	HPGW22 LJHP-1 24	HPGW23 LJHP-1 25	HPGW24 LJHP-1 26	HPGW25 LJHP-1 27	HPGW26 LJHP-1 28	HPGW27 LJHP-1 29	HPGW28 LJHP-1 30
UNITS	METHOD															
DATE		01/14/87	01/15/87	01/15/87	01/15/87	01/15/87	01/16/87	01/16/87	01/16/87	01/19/87	01/19/87	01/19/87	01/19/87	01/19/87	01/20/87	01/20/87
TIME		17:37	10:46	12:27	13:56	17:25	10:12	11:50	14:35	10:20	11:30	14:00	14:50	16:30	09:35	10:20
ETHYLBENZENE	34371	<7.2	<7.2	<7.2	<7.2	<7.2	<7.2	<7.2	<7.2	<7.2	<72	<720	<7.2	<7.2	<7.2	<7.2
UG/L	GMS															
METHYLENE CHLORIDE	34423	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<28	<280	<2.8	<2.8	<2.8	<2.8
UG/L	GMS															
1,1,2,2-TE'CH'ETHANE	34516	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<41	<410	<4.1	<4.1	<4.1	<4.1
UG/L	GMS															
TETRACHLOROETHENE	34475	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<30	<300	<3.0	<3.0	<3.0	<3.0
UG/L	GMS															
TOLUENE	34010	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<60	<600	<6.0	<6.0	<6.0	<6.0
UG/L	GMS															
1,1,1-TRICHL'ETHANE	34506	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<38	<380	<3.8	<3.8	<3.8	<3.8
UG/L	GMS															
1,1,2-TRICHLOROETHAN	34511	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<500	<5.0	<5.0	<5.0	<5.0
E UG/L	GMS															
TRICHLOROETHENE	39180	<3.0	<3.0	<3.0	<3.0	<1.0	6.0	<3.0	<3.0	<3.0	830	57	<3.0	<3.0	<3.0	<3.0
UG/L	GMS															
TRICHLOROFLUOROMETHA	34488	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<32	<320	<3.2	<3.2	<3.2	<3.2
NE UG/L	GMS															
VINYL CHLORIDE	39175	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	190	<1.0	<1.0	<1.0	<1.0
UG/L	GMS															
ACROLEIN	34210	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1000	<10000	<100	<100	<100	<100
UG/L	GMS															
ACRYLONITRILE	34215	<100	<100	<100	<100	<100	<100	<100	<100	<100	<1000	<10000	<100	<100	<100	<100
UG/L	GMS															
DICHLORODIFLUOROMETH	34668	<10	<10	<10	<10	<10	<10	<10	<10	<10	<100	<1000	<10	<10	<10	<10
ANE UG/L	GMS															
M-XYLENE	98553	<12	<12	<12	<12	<12	<12	<12	<12	<12	<120	<1200	<12	<12	<12	<12
UG/L	GMS															
O-AND/OR-P XYLENE	98554	<12	<12	<12	<12	<12	<12	<12	<12	<12	<120	<1200	<12	<12	<12	<12
UG/L	GMS															
METHYL ETHYL KETONE	81595	<48	<48	<48	<48	<48	<48	<48	<48	<48	<480	<4800	<48	<48	<48	<48
UG/L	GMS															
METHYL ISOBUT'KETONE	81596	<12	<12	<12	<12	<12	<12	<12	<12	<12	<120	<1200	<12	<12	<12	<12
UG/L	GMS															

PROJECT NUMBER 86447 0400 PROJECT NAME NAVY - LEJEUNE
FIELD GROUP LJHP-1 PROJECT MANAGER J.D. SHAMIS
LAB COORDINATOR JEFF SHAMIS

SAMPLE ID/#

PARAMETERS	UNITS	STORET #	METHOD	HPGW29 LJHP-1 31	HPGW30 LJHP-1 32	HPGW31 LJHP-1 33	HPGW32 LJHP-1 34
DATE				01/20/87	01/20/87	01/20/87	01/20/87
TIME				11:20	15:25	16:04	16:55
LEAD,TOTAL	UG/L	1051	ICAP		NRQ	NRQ	NRQ
OIL&GR,IR	MG/L	560	I	0.2	NRQ	NRQ	NRQ
BENZENE	UG/L	34030	GMS	<1.0	<1.0	<1.0	<1.0
BROMODICHLOROMETHANE	UG/L	32101	GMS	<2.2	<2.2	<2.2	<2.2
BROMOFORM	UG/L	32104	GMS	<4.7	<4.7	<4.7	<4.7
BROMOMETHANE	UG/L	34413	GMS	<5.8	<5.8	<5.8	<5.8
CARBON TETRACHLORIDE	UG/L	32102	GMS	<2.8	<2.8	<2.8	<2.8
CHLOROBENZENE	UG/L	34301	GMS	<6.0	<6.0	<6.0	<6.0
CHLOROETHANE	UG/L	34311	GMS	<8.2	<8.2	<8.2	<8.2
2-CHLOROETHYLVINYLETHER	UG/L	34576	GMS	<15	<15	<15	<15
CHLOROFORM	UG/L	32106	GMS	<1.6	<1.6	7.0	<1.6
CHLOROMETHANE	UG/L	34418	GMS	<4.3	<4.3	<4.3	<4.3
DIBROMOCHLOROMETHANE	UG/L	32105	GMS	<3.1	<3.1	<3.1	<3.1
1,1-DICHLOROETHANE	UG/L	34496	GMS	<4.7	<4.7	<4.7	<4.7
1,2-DICHLOROETHANE	UG/L	34531	GMS	<2.8	<2.8	<2.8	<2.8
1,1-DICHLOROETHYLENE	UG/L	34501	GMS	<2.8	<2.8	<2.8	<2.8
T-1,2-DICHLOROETHENE	UG/L	34546	GMS	<1.6	<1.6	<1.6	<1.6
1,2-DICHLOROPROPANE	UG/L	34541	GMS	<6.0	<6.0	<6.0	<6.0
CIS-1,3-DICH'PROPENE	UG/L	34704	GMS	<5.0	<5.0	<5.0	<5.0
T-1,3-DICHL'PROPENE	UG/L	34699	GMS	<6.4	<6.4	<6.4	<6.4

PROJECT NUMBER 86447 0400 PROJECT NAME NAVY - LEJEUNE
FIELD GROUP LJHP-1 PROJECT MANAGER J.D. SHAMIS
LAB COORDINATOR JEFF SHAMIS

SAMPLE ID/#

PARAMETERS	STORET #	HPGW29 LJHP-1	HPGW30 LJHP-1	HPGW31 LJHP-1	HPGW32 LJHP-1
UNITS	METHOD	31	32	33	34
DATE		01/20/87	01/20/87	01/20/87	01/20/87
TIME		11:20	15:25	16:04	16:55
ETHYLBENZENE	34371	<7.2	<7.2	<7.2	<7.2
UG/L	GMS				
METHYLENE CHLORIDE	34423	<2.8	<2.8	<2.8	<2.8
UG/L	GMS				
1,1,2,2-TE'CH'ETHANE	34516	<4.1	<4.1	<4.1	<4.1
UG/L	GMS				
TETRACHLOROETHENE	34475	<3.0	<3.0	<3.0	<3.0
UG/L	GMS				
TOLUENE	34010	<6.0	<6.0	<6.0	<6.0
UG/L	GMS				
1,1,1-TRICHL'ETHANE	34506	<3.8	<3.8	<3.8	<3.8
UG/L	GMS				
1,1,2-TRICHLOROETHAN	34511	<5.0	<5.0	<5.0	<5.0
E UG/L	GMS				
TRICHLOROETHENE	39180	<3.0	<3.0	<3.0	<3.0
UG/L	GMS				
TRICHLOROFLUOROMETHA	34488	<3.2	<3.2	<3.2	<3.2
NE UG/L	GMS				
VINYL CHLORIDE	39175	<1.0	<1.0	<1.0	<1.0
UG/L	GMS				
ACROLEIN	34210	<100	<100	<100	<100
UG/L	GMS				
ACRYLONITRILE	34215	<100	<100	<100	<100
UG/L	GMS				
DICHLORODIFLUOROMETH	34668	<10	<10	<10	<10
ANE UG/L	GMS				
M-XYLENE	98553	<12	<12	<12	<12
UG/L	GMS				
O-AND/OR-P XYLENE	98554	<12	<12	<12	<12
UG/L	GMS				
METHYL ETHYL KETONE	81595	<48	<48	<48	<48
UG/L	GMS				
METHYL ISOBUT'KETONE	81596	<12	<12	<12	<12
UG/L	GMS				

PROJECT NUMBER 86447 0400 PROJECT NAME NAVY - LEJEUNE
FIELD GROUP LJPWIC PROJECT MANAGER J.D. SHAMIS
LAB COORDINATOR JEFF SHAMIS

PARAMETERS	STORET #	601 LJPWIC 11	602 LJPWIC 12	608 LJPWIC 13	634 LJPWIC 14	651 LJPWIC 16	652 LJPWIC 17	653 LJPWIC 18
UNITS	METHOD							
		SAMPLE ID/#						
DATE		11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86
TIME		13:56	13:37	14:41	12:57	12:23	00:00	12:01
ENDRIN	39390	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.010
UG/L	EC							
ENDRIN ALDEHYDE	34366	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.025
UG/L	EC							
HEPTACHLOR	39410	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.010
UG/L	EC							
HEPTACHLOR EPOXIDE	39420	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	<0.010
UG/L	EC							
TOXAPHENE	39400	<0.738	<0.738	<0.738	<0.738	<0.738	<0.738	<1.18
UG/L	EC							
PCBS, WATER	39516	<0.313	<0.313	<0.313	<0.313	<0.313	<0.313	<0.500
UG/L	EC							
BENZENE	34030	<4.4	50	<4.4	<4.4	<4.4	<1.0	<4.4
UG/L	GMS							
BROMODICHLOROMETHANE	32101	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2
UG/L	GMS							
BROMOFORM	32104	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7
UG/L	GMS							
BROMOMETHANE	34413	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8
UG/L	GMS							
CARBON TETRACHLORIDE	32102	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8
UG/L	GMS							
CHLOROBENZENE	34301	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0
UG/L	GMS							
CHLOROETHANE	34311	<8.2	<8.2	<8.2	<8.2	<8.2	<8.2	<8.2
UG/L	GMS							
2-CHLOROETHYLVINYLET	34576	<15	<15	<15	<15	<15	<15	<15
HER UG/L	GMS							
CHLOROFORM	32106	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
UG/L	GMS							
CHLOROMETHANE	34418	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3	<4.3
UG/L	GMS							
DIBROMOCHLOROMETHANE	32105	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1	<3.1
UG/L	GMS							
1,1-DICHLOROETHANE	34496	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7	<4.7
UG/L	GMS							
1,2-DICHLOROETHANE	34531	<2.8	9.2	<2.8	<2.8	<2.8	<2.8	<2.8
UG/L	GMS							
1,1-DICHLOROETHYLENE	34501	<2.8	<2.8	<2.8	<2.8	7.0	<2.8	<2.8
UG/L	GMS							

Attachment D

PROJECT NUMBER 86447 0400 PROJECT NAME NAVY - LEJEUNE
FIELD GROUP LJPWIC PROJECT MANAGER J.D. SHAMIS
LAB COORDINATOR JEFF SHAMIS

PARAMETERS	UNITS	STORET # METHOD	SAMPLE ID/# 601 LJPWIC 11	602 LJPWIC 12	608 LJPWIC 13	634 LJPWIC 14	651 LJPWIC 16	652 LJPWIC 17	653 LJPWIC 18
DATE			11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86	11/12/86
TIME			13:56	13:37	14:41	12:57	12:23	00:00	12:01
T-1,2-DICHLOROETHENE	UG/L	34546 GMS	<1.6	14	8.5	2.9	140	<1.6	<1.6
1,2-DICHLOROPROPANE	UG/L	34541 GMS	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0
CIS-1,3-DICH'PROPENE	UG/L	34704 GMS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
T-1,3-DICHL'PROPENE	UG/L	34699 GMS	<6.4	<6.4	<6.4	<6.4	<6.4	<6.4	<6.4
ETHYLBENZENE	UG/L	34371 GMS	<7.2	<7.2	<7.2	<7.2	<7.2	<7.2	<7.2
METHYLENE CHLORIDE	UG/L	34423 GMS	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8
1,1,2,2-TE'CH'ETHANE	UG/L	34516 GMS	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1
TETRACHLOROETHENE	UG/L	34475 GMS	<4.1	<4.1	<4.1	<4.1	45	<3.0	<4.1
TOLUENE	UG/L	34010 GMS	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0
1,1,1-TRICHL'ETHANE	UG/L	34506 GMS	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8	<3.8
1,1,2-TRICHLOROETHANE	UG/L	34511 GMS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
TRICHLOROETHENE	UG/L	39180 GMS	<1.9	2.2	66	<1.9	32	<3.0	2.6
TRICHLOROFLUOROMETHANE	UG/L	34488 GMS	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2	<3.2
VINYL CHLORIDE	UG/L	39175 GMS	<4.9	<4.9	<4.9	<4.9	140	<1.0	<4.9
ACROLEIN	UG/L	34210 GMS	<100	<100	<100	<100	<100	<100	<100
ACRYLONITRILE	UG/L	34215 GMS	<100	<100	<100	<100	<100	<100	<100
DICHLORODIFLUOROMETHANE	UG/L	34668 GMS	<10	<10	<10	<10	<10	<10	<10
M-XYLENE	UG/L	98553 GMS	<12	<12	<12	<12	<12	<12	<12
O-AND/OR-P XYLENE	UG/L	98554 GMS	<12	<12	<12	<12	<12	<12	<12
METHYL ETHYL KETONE	UG/L	81595 GMS	<48	<48	<48	<48	<48	<48	<48