N00204.AR.001829
NAS PENSACOLA
5090.3a
32501.038
03.07.38.0004

REMEDIAL INVESTIGATION REPORT ADDENDUM

SITE 3s
NAS PENSACOLA
PENSACOLA, FLORIDA

SOUTHNAVFACENGCOM
CONTRACT NO.: N62467-89-D0318
CTO-059

Prepared for:

Department of the Navy
Southern Division
Naval Facilities Engineering Command
North Charleston, South Carolina

Prepared by:

EnSafe Inc.
5724 Summer Trees Drive
Memphis, Tennessee 38134
(901) 372-7962

The Contractor, EnSafe Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0318 are complete, accurate, and complies with all requirements of the contract.

Date: September 23, 1999
Signature: Allison Harris
Name: Allison Harris
Title: Task Order Manager

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1.0 INTRODUCTION

This addendum presents the results of three separate sampling events conducted in the Building 71 (Site 38 area), The objective of the initial sampling program was to delineate the extent of lead contamination in groundwater. Geochemical analysis was also added to one of the events to assess the potential for natural attenuation. In addition, a petroleum odor was noted in one of the Building 72 area monitoring wells during sampling indicating another potential source of contamination. This resulted in sampling to confirm the type of contaminants present, and a determination of which program under which the area should be investigated.

This report is an addendum to the Site 38 Remedial Investigation (RI) Report, and dues not contain information previously described in the Site 38 RI report. For more information regarding site history, sampling methodology, sample identification and labeling schemes, and contaminant nature and extent, the reader is referred to the following documents, prepared by EnSafe Inc.:

Site 38 Final Sampling and Analysis Plan (May 11, 1993)

Site 38 Final Remedial Investigation Report (September 5, 1997) with Baseline Risk Assessment Errata (September 30, 1998)

Site 38 Draft Remedial Investigation Report Addendum (May 10, 1999)

Site 38 Draft Technical Memorandum - Evaluation of Monitored Natural Attenuation (July 20, 1999)

2.0 SAMPLING RATIONALE

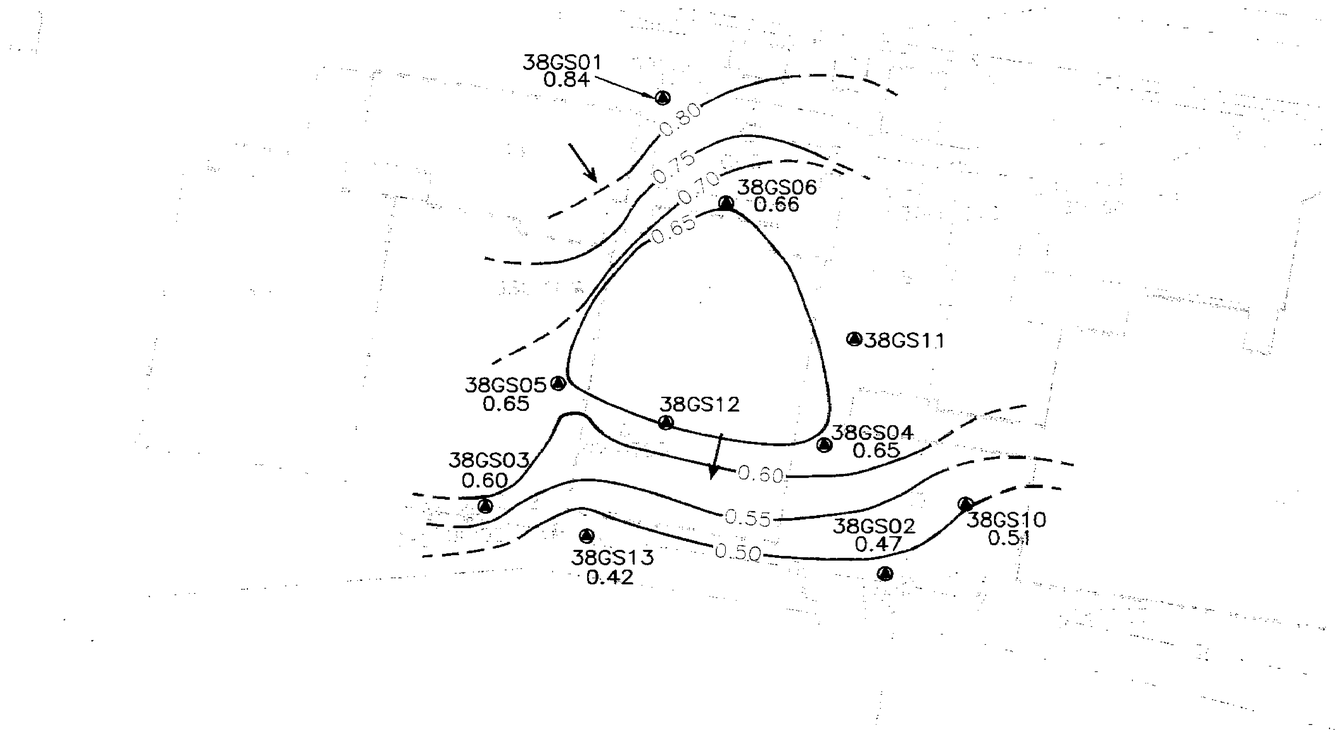
As agreed by the NAS Pensacola Partnering Team, select monitoring wells at Building 71 (Site 38) were resampled to assess previously identified lead contamination in groundwater. Two shallow temporary monitoring wells were installed to assess the extent and the possibility of a separate source for the lead contamination. One well (38GR33) was installed north of Building 71. A second well (38GR34) was installed west of Building 71, in the center of Building 72's foundation. In addition to the groundwater sampling, water levels were measured at select wells to assess the influence of rain and tidal changes on the shallow groundwater flow regime. Geochemical sampling was perfumed during the event to assess the potential for natural attenuation at the site. Volatile organic compounds (VOCs), other inorganic analysis, and the geochemical analysis presented in Attachment A are discussed in Site 38 *Draft Technical* Memorandum – *Evaluation of Monitored Natural* Attenuation, July 20, 1999, completed by EnSafe Inc. Therefore, those results will not be detailed in this addendum. The sampling strategy is detailed in the August and October 1998 Partnering Meeting minutes; the well installation and groundwater sampling occurred in December 1998.

Based on the findings of the December 1998 event, additional sampling was proposed and conducted adjacent to Building 72 to assess the nature and extent of lead contamination in the shallow groundwater of that area. On July 6, 1999, four additional monitoring wells were installed on the north, west, and south sides of Building 72. These monitoring wells were placed in apparent upgradient, sidegradient, and downgradient locations and serve as contingency points in delineating lead contamination at the site. On July 7, 1999, groundwater samples were collected from each of the four temporary wells and existing well 38GR34 and submitted for lead analysis. A fuel odor was noticed during sampling of 38GR35. Consequently, the Partnering Team agreed that the well should be resampled and analyzed for full scan analysis to assess the contaminants present (Attachment A). It was also agreed that the Building 72 area would be a separate site and the full scan analysis would be used to determine if it should be investigated

under the petroleum or Installation Restoration (IR) program. The decisions are described in the July 1999 Partnering Meeting Minutes.

3.0 HYDROGEOLOGY

Water-level data collected during December 1998 and January 1999 are presented in Figures 1 through 4; monitoring locations 38GR35, 38GR36, 38GR37, and 38GR38 did not exist at the time the data were collected. Figures 1 through 4 depict the shallow potentiometric surface for groundwater at Building 71, at low and high tides, after a rain event and during an extended dry period. As shown in the figures, the overall flow is toward Pensacola Bay regardless of tidal stage or recent rain events. However, groundwater flow measured during the high tide after the rain event is landward and appears to flow toward a low under Building 71. Sewer lines under the building that are normally above the water table at other times may be acting as a draining conduit.



LEGEND

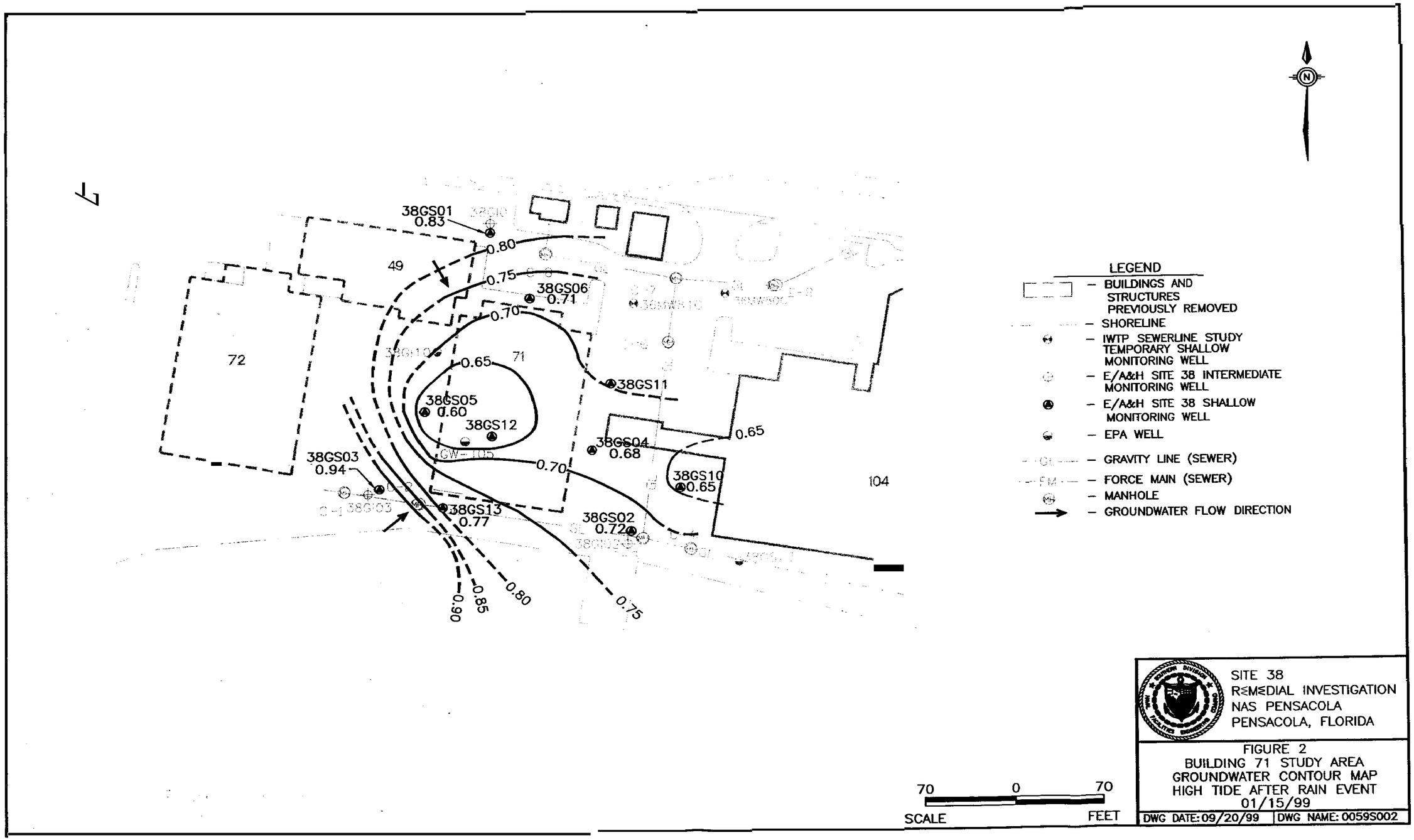
- BUILDINGS AND STRUCTURES PREVIOUSLY REMOVED
- SHORELINE
- IWTP SEWERLINE STUDY TEMPORARY SHALLOW MONITORING WELL
- E/A&H SITE 38 INTERMEDIATE MONITORING WELL
- E/A&H SITE 38 SHALLOW MONITORING WELL
- EPA WELL
- GRAVITY LINE (SEWER)
- FORCE MAIN (SEWER)
- MANHOLE
- GROUNDWATER FLOW DIRECTION

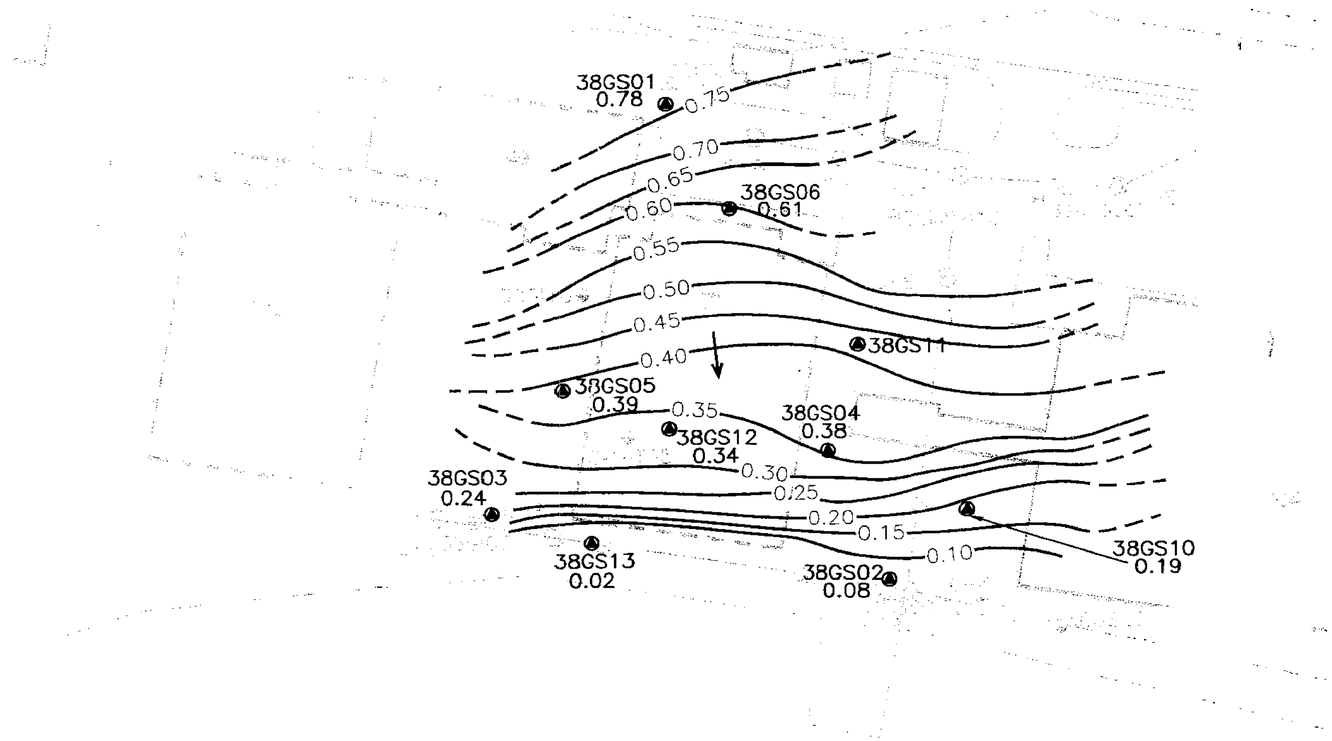
70 0 70
SCALE FEET

SITE 38
REMEDIAL INVESTIGATION
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 1
BUILDING 71 STUDY AREA
GROUNDWATER CONTOUR MAP
LOW TIDE AFTER RAIN EVENT
01/15/99

DWG DATE: 09/20/99 | DWG NAME: 0059S001


38GS01
0.83
0.80
49
0.75
38GS06
0.71
0.70
72
71
0.65
38GS11
38GS05
0.60
38GS12
0.65
38GS04
0.68
38GS03
0.94
0.70
38GS10
0.65
104
38GS13
0.77
38GS02
0.72
0.90
0.85
0.80
0.75
LEGEND
– BUILDINGS AND STRUCTURES PREVIOUSLY REMOVED
– SHORELINE
– IWTP SEWERLINE STUDY TEMPORARY SHALLOW MONITORING WELL
– E/A&H SITE 38 INTERMEDIATE MONITORING WELL
– E/A&H SITE 38 SHALLOW MONITORING WELL
– EPA WELL
– GRAVITY LINE (SEWER)
– FORCE MAIN (SEWER)
– MANHOLE
– GROUNDWATER FLOW DIRECTION
70 0 70
SCALE FEET
SITE 38
REMEDIAL INVESTIGATION
NAS PENSACOLA
PENSACOLA, FLORIDA
FIGURE 2
BUILDING 71 STUDY AREA
GROUNDWATER CONTOUR MAP
HIGH TIDE AFTER RAIN EVENT
01/15/99
DWG DATE: 09/20/99
DWG NAME: 0059S002



LEG ND

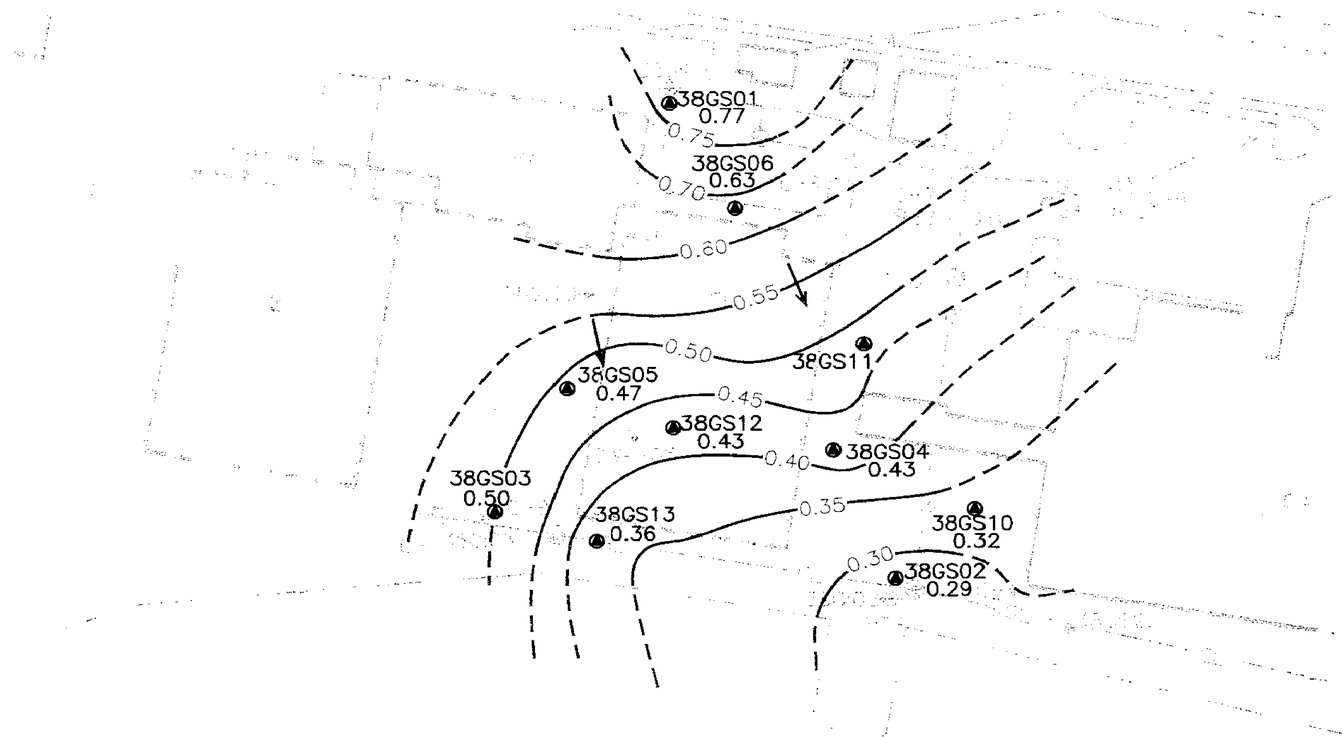
- BUILDINGS AND STRUCTURES PREVIOUSLY REMOVED
- SHORELINE
- IWTP SEWERLINE STUDY TEMPORARY SHALLOW MONITORING WELL
- E/A&H SITE 38 INTERMEDIATE MONITORING WELL
- E/A&H SITE 38 SHALLOW MONITORING WELL
- EPA WELL
- GRAVITY LINE (SEWER)
- FORCE MAIN (SEWER)
- MANHOLE
- GROUNDWATER FLOW DIRECTION

70 0 70
SCALE FEET

SITE 38
REMEDIAL INVESTIGATION
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 3
BUILDING 71 STUDY AREA
GROUNDWATER CONTOUR MAP
LOW TIDE DURING DRY PERIOD
12/16/98

DWG DATE: 09/20/99 | DWG NAME: 0059S003



LEGEND

- BUILDINGS AND STRUCTURES PREVIOUSLY REMOVED
- SHORELINE
- IWTP SEWERLINE STUDY TEMPORARY SHALLOW MONITORING WELL
- E/A&H SITE 38 INTERMEDIATE MONITORING WELL
- E/A&H SITE 38 SHALLOW MONITORING WELL
- EPA WELL
- GRAVITY LINE (SEWER)
- FORCE MAIN (SEWER)
- MANHOLE
- GROUNDWATER FLOW DIRECTION

70 0 70
SCALE FEET

SITE 38
MNA EVALUATION
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 4
BUILDING 71 STUDY AREA
GROUNDWATER CONTOUR MAP
HIGH TIDE DURING DRY PERIOD
12/16/98

DWG DATE: 09/20/99 | DWG NAME: 0059S004

4.0 NATURE AND EXTENT OF CONTAMINATION

Seven monitoring wells were sampled during the December 1998 sampling event to delineate the extent of lead contamination in shallow groundwater: 38GS01, 38GS02, 38GS03, 38GS10, 38GS12, 38GR33, and 38GR34. Of these seven wells sampled, two groundwater samples from the newly-installed wells 38GR33 and 38GR34, and two from temporary monitoring wells 38GS01 and 38GS12, contained lead concentrations ranging from 58 to 128 μg/L. Lead was not detected above laboratory detection limits in the remaining three wells.

Table 1 shows a comparison of the 1994 and 1998 sampling results. During the January 1994 sampling effort, groundwater samples from the five existing monitoring wells detected lead from 54 to 362 μg/L. The December 1998 sampling of these same wells revealed three non-detects for lead, and two detections of 117 and 128 μg/L. The detections at 38GS01 and 38GS12 indicate a 50% reduction in contaminant concentrations since 1994. The results are compared in Table 1. The two additional monitoring wells installed west and north of Building 71 and sampled during the December 1998 event (38GR33 and 38GR34) contained groundwater with lead detections of 58 μg/L and 81 μg/L, respectively.

The four monitoring wells installed in July 1999 as additional delineation monitoring wells include 38GR35, 38GR36, 38GR37, and 38GR38. Laboratory analyses of groundwater samples collected from these wells and well 38GR34 showed lead detections in groundwater ranging from 31.8 μg/L to 321 μg/L. The results for lead analysis of groundwater at Building 72 are shown in Table 2 and include monitoring location 38GR34 in addition to the four wells listed above. Comparison of groundwater data in well 38GR34 show a 27% increase in the concentration of lead in groundwater between December 1998 and July 1999. Analytical data for the July 1999 event are provided in Appendix A.

Table 1
Lead in Groundwater at Building 71

Monitoring Well	January 1994 Results (μg/L)	December 1998 Results (μg/L)	Jan '94-Dec '98 Percent Change
38GS01	276	117	-58%
38GS02	362	ND	-100%
38GS03	88.5	ND	-100%
38GS10	54	ND	-100%
38GS12	280	128	-54%
38GR33*	—	58	—
38GR34*	—	81	—

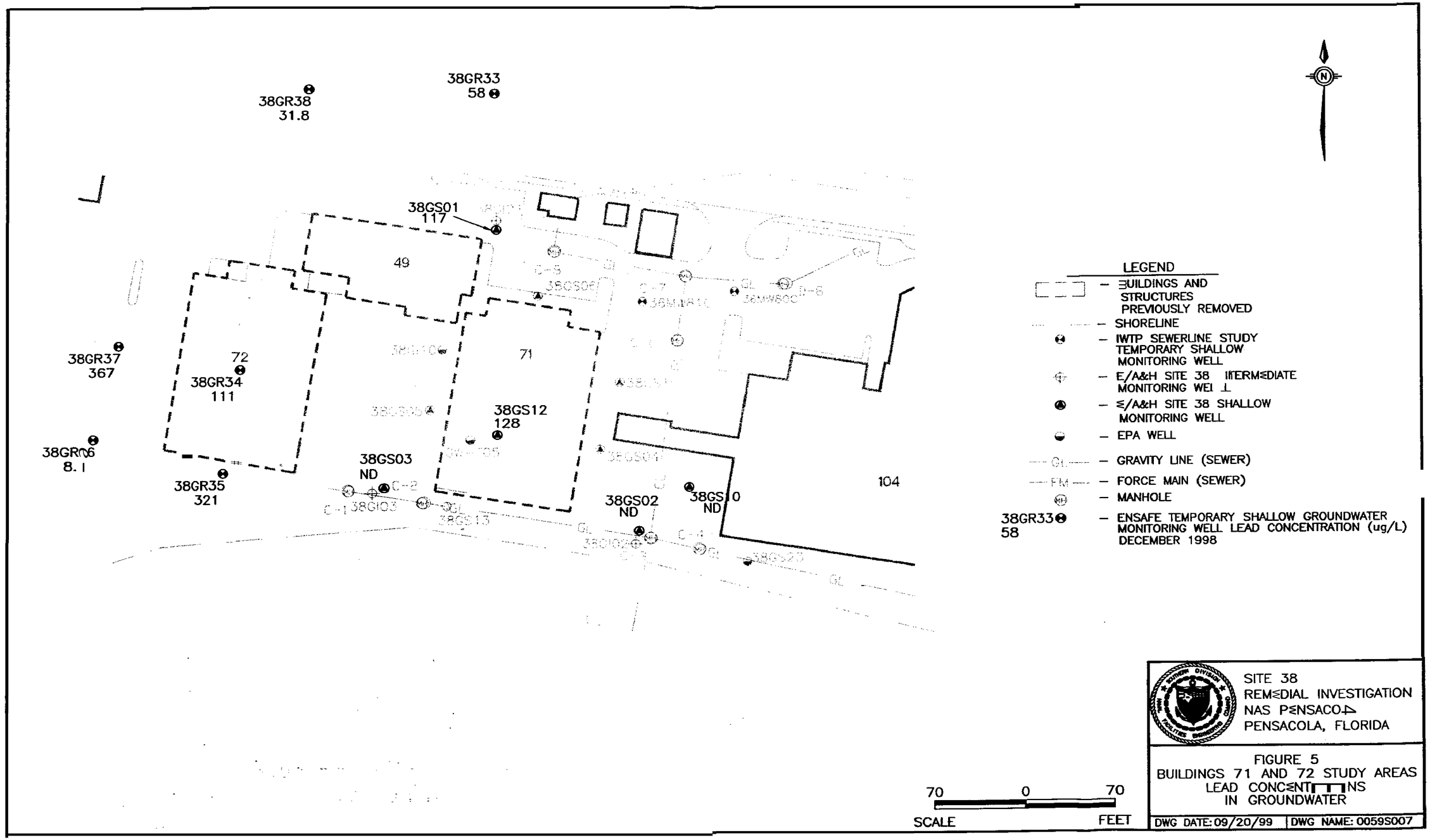
Notes:
μg/L = micrograms per liter or parts per billion (ppb)
ND = not detected at or above the detection limit
* = Monitoring wells 38GR33 and 38GR34 were installed and sampled after completion of the January 1994 event.

Table 2
Lead in Groundwater at Building 72

Monitoring Well	December 1998 Results (μg/L)	July 1999 Results (μg/L)	Dec '98-July '99 Percent Change
38GR34	81	111	27%
38GR35*	—	321	—
38GR36*	—	—	—
38GR37*	—	—	—
38GR38*	—	31.8	—

Notes:
μg/L = micrograms per liter or parts per billion (ppb)
* = Monitoring wells 38GR35, 38GR36, 38GR37, and 38GR38 were installed and sampled after completion of the December 1998 event.

Figure 5 shows analytical data from the December 1998 and July 1999 sampling events to illustrate lead concentrations in shallow groundwater at Buildings 71 and 72.


38GR33
58
38GR38
31.8
38GS01
117
49
38GR37
367
72
38GR34
111
71
38GS12
128
38GR06
8.1
38GR35
321
38GS03
ND
38GS02
ND
38GS10
ND
104
LEGEND
– BUILDINGS AND STRUCTURES PREVIOUSLY REMOVED
– SHORELINE
– IWTP SEWERLINE STUDY TEMPORARY SHALLOW MONITORING WELL
– E/A&H SITE 38 INTERMEDIATE MONITORING WELL
– E/A&H SITE 38 SHALLOW MONITORING WELL
– EPA WELL
– GRAVITY LINE (SEWER)
– FORCE MAIN (SEWER)
– MANHOLE
38GR33 58 – ENSAFE TEMPORARY SHALLOW GROUNDWATER MONITORING WELL LEAD CONCENTRATION (ug/L) DECEMBER 1998
70 0 70
SCALE FEET
SITE 38
REMEDIAL INVESTIGATION
NAS PENSACOLA
PENSACOLA, FLORIDA
FIGURE 5
BUILDINGS 71 AND 72 STUDY AREAS
LEAD CONCENTRATIONS
IN GROUNDWATER
DWG DATE: 09/20/99
DWG NAME: 0059S007

On August 3, 1999 additional groundwater sampling was performed on well 38GR35 to further assess the source of the contamination. A fuel odor was noted during the previous sampling event. Groundwater samples collected were submitted for laboratory analyses of VOCs, semivolatile organic compounds (SVOCs), metals, and pesticides/PCBs.

The analysis showed the groundwater sample from 38GR35 had detections of the following VOCS:

methylene chloride (5.4 μg/L)
cis-1,2-dichloroethene (5.2 μg/L)
trichloroethene (10 μg/L)
toluene (16 μg/L)
total xylene (7.5 μg/L)

The following SVOCs were detected in 38GR35:

1,2-dichlorobenzene (5.4 μg/L)
3-methylphenol/4-methylphenol (4.8 μg/L)
napthalene (290 μg/L)
2-methylnapthalene (13 μg/L)

The following metals were detected in 38GR35:

barium (13 μg/L)
calcium (13,000 μg/L)
iron (2,700 μg/L)
lead (30 μg/L)
magnesium (13,000 μg/L)
manganese (37 μg/L)
potassium(9,800 μg/L)
sodium (120,000 μg/L)
zinc (22 μg/L)

Detections of pesticides/PCBs in 38GR35 included:

alpha-BHC (0.0039 μg/L)
gamma-BHC [Lindane] (0.017 μg/L)
Dieldrin (0.0052 μg/L)
4,4'-DDE (0.0091 μg/L)
Endrin aldehyde (0.0064 μg/L)
Endosulfan II (0.0029 μg/L)
Endrin ketone at (0.0018 μg/L)
methoxychlor (0.066 μg/L)

Based on these analytical data (provided in **Appendix A), exceedances** of **preliminary** remediation **goals (PRGs)** were identified for select parameters and **are** presented in Table 3. PRGs are the lower of the U.S. Environmental Protection Agency maximum contaminant levels or secondary maximum contaminant levels, Florida Department of Environmental Protection primary and secondary drinking water standards, or Florida Groundwater Guidance Concentrations. In addition, metals concentrations in groundwater are also compared to site-specific reference concentrations. The detected aluminum concentration (150 μg/L) is below its reference concentration of **3,882.8** μg/L. The iron **(2,700** μg/L) and **lead** (30 μg/L) concentrations **exceed** their **respective** reference concentrations (1,707.8 μg/L and 1.6 μg/L).

Table 3
Parameters Exceeding Preliminary Remediation Goals (PRGs)

Parameter	Sample Result (μg/L)	PRG (μg/L)
VOCs		
Methylene Chloride	5.4 J	5[a]
Trichloroethene	10	5[a]
SVOCs		
Naphthalene	290	0.2[b]

Table 3
Parameters Exceeding Preliminary Remediation Goals (PRGs)

Parameter	Sample Result (μg/L)	PRG (μg/L)
Metals		
Aluminum	150	50[c]
Iron	2,700	300[d]
Lead	30	15[a]

Notes:

μg/L	=	micrograms per liter or parts per billion (ppb)
*	=	Detections of pesticides/PCBs did not exceed respective PRGs.
a	=	Florida Primary Drinking Water Standard
b	=	Florida Groundwater Guidance Concentration
c	=	EPA Secondary Maximum Contaminant Level
d	=	Florida Secondary Drinking Water Standard
J	=	estimated value

5.0 CONCLUSIONS

Based on the parameters detected at 38GR35 and the other lead detections around Building 72, the Building 72 area will be investigated as a separate site under the IR program. The Site 38 area is considered delineated for the purposes of the RI report.

6.0 FLORIDA PROFESSIONAL GEOLOGIST SEAL

I have read and approve of this Remedial Investigation Report Addendum, NAS Pensacola Site 38, and seal it in accordance with Chapter 492 of the Florida Statutes. In sealing this document, I certify the geological information contained in it is true to the best of my knowledge and the geological methods and procedures included herein are consistent with currently accepted geological practices.

Name:	Brian Caldwell
License Number:	#1330
State:	Florida
Expiration Date:	July 31, 2000

B Caldwell

Brian Caldwell

9/22/99

Date

Attachment A

Analytical Results

December 1998, July 1999, and August 1999 Sampling Events at Buildings 71 and 72

December 1998 Sampling Event

Analytical Results

L,AW ENVIRONMENTAL NATIONAL LABORATORIES
TEST DATA REPORT

:2/15/98

Mr. Jerry Dees

NPWC ENV. LAB CODE 440

--- Project Information ---

Page 1

Project Name: NPWC11

Item# 162-163-164-165

--- Sample Information ---

Station ID: 84396 ENSAFE

Lab ID: AB63207

Collector: P.B.HARDY

Date Sampled: 12/03/98

Time Sampled:

Log In Date: 12/07/98

Log In Time: 12:10

--- Test Information ---

Parameter	Units	Method	Rpt Lim	Result	Analysis Date	Tech
10621-300.0 Anions Water mg/L	mg/L	EPA 300.0			12/07/98	MG
Chloride	mg/L	EPA 300.0	20.0	74.2	12/07/98	MG
Nitrate-N	mg/L	EPA 300.0	0.100	0.136	12/07/98	MG
Sulfate	mg/L	EPA 300.0	0.200	11.8	12/07/98	MG
10621-9060 Total Organic Carbon	mg/L	SW9060	1.00	7.10	12/11/98	RG

Remarks:

Signed: CBCausey

Carl B. Causey
Technical Services Director

LAW ENVIRONMENTAL NATIONAL LABORATORIES
TEST DATA REPORT

12/18/98

--- Project Information ---

Mr. Jerry Dees

Page 1

NPWC ENV. LAB CODE 440

Project Name: NPWC11

Job Order #6630000

Item No. 160

--- Sample Information ---

Date Sampled: 12/01/98

Station ID: 84369 038GGS3202

Time Sampled: 15:20

Lab ID: AB63014

Log In Date: 12/03/98

Collector: P.B. HARDY

Log In Time: 13:13

--- Test Information ---

Parameter	Units	Method	Rpt Lim	Result	Analysis Date	Analysis Tech
10621-300.0 Anions Water mg/L	mg/L	EPA 300.0			12/03/98	MG
Chloride	mg/L	EPA 300.0	10.0	38.3	12/03/98	MG
Nitrate-N	mg/L	EPA 300.0	0.100	Not Det	12/03/98	MG
Sulfate	mg/L	EPA 300.0	0.200	8.77	12/03/98	MG
10621-9060 Total Organic Carbon	mg/L	SW9060	1.00	3.37	12/06/98	RG

Remarks:

Signed:

Carl B. Causey

Technical Services Director

LAW ENVIRONMENTAL NATIONAL LABORATORIES

TEST DATA REPORT

12/18/98

--- Project Information ---

Mr. Jerry Dees

Page 1

NPWC ENV. LAB CODE 440

Project Name: NPWC11

Job Order #6630000

Item #160

--- Sample Information ---

Date Sampled: 12/01/98

Station ID: 84370 038GGS1902

Time Sampled: 10:25

Lab ID: AB63015

Log In Date: 12/03/98

Collector: P.B. HARDY

Log In Time: 13:13

--- Test Information ---

Parameter	Units	Method	Rpt Lim	Result	Analysis Date	Tech
10621-300.0 Anions Water mg/L	mg/L	EPA 300.0			12/03/98	MG
Chloride	mg/L	EPA 300.0	10.0	33.4	12/03/98	MG
Nitrate-N	mg/L	EPA 300.0	0.100	1-86	12/03/98	MG
Sulfate	mg/L	EPA 300.0	10.0	23.8	12/03/98	MG
10621-9060 Total Organic Carbon	mg/L	SW9060	1-00	2.44	12/06/98	RG

Remarks:

Signed:

Carl B. Causey

Technical Services Director

LAW ENVIRONMENTAL NATIONAL LABORATORIES

TEST DATA REPORT

'2/15/98

--- Project Information ---

.ir. Jerry Dees

NPWC ENV. LAB CODE 440

Page 1

Project Name: NPWC11

Item# 162-163-164-165

--- Sample Information ---

Station ID: 84409 ENSAFE

Lab ID: AB63212

Collector: P.B. HARDY

Date Sampled: 12/04/98

Time Sampled: 14:15

Log In Date: 12/07/98

Log In Time: 12:10

--- Test Information ---

Parameter	Units	Method,.	Rpt Lim	Result	Analysis Date	Tech
10621-300.0 Anions Water mg/L	mg/L	EPA 300.0			12/07/98	MG
Chloride	mg/L	EPA 300.0	20.0	35.6	12/07/98	MG
Nitrate-N	mg/L	EPA 300.0	0.100	0.500	12/07/98	MG
Sulfate	mg/L	EPA 300.0	1.00	20.1	12/07/98	MG
10621-9060 Total Organic Carbon	mg/L	SW9060	1.00	2.87	12/11/98	RG

Remarks:

Signed: C B Causey

Car1 B. Causey
Technical Services Director

LAW ENVIRONMENTAL NATIONAL LABORATORIES
TEST DATA REPORT

12/15/98

. Jerry Dces

NPWC ENV. LAB CODE 440

--- Project Information ---

Page 1

Project Name: NPWC11

Item# 162-163-164-165

--- Sample Information ---

Station ID: 84407 ENSAFE

Lab ID: AB63210

Collector: P.B. HARDY

Date Sampled: 12/04/98

Time Sampled: 11:30

Log In Date: 12/07/98

Log In Time: 12:10

--- Test Information ---

Parameter	Units	Method	Rpt Lim	Result	Analysis Date	Tech
10621-300.0 Anions Water mg/L	mg/L	EPA 300.0			12/07/98	MG
chloride	mg/L	EPA 300.0	20.0	71.1	12/07/98	MG
Nitrate-N	mg/L	€PA 300.0	0.100	Not Det	12/07/98	MG
Sulfate	mg/L	EPA 300.0	1.00	18.2	12/07/98	MG
10621-9060 Total Organic Carbon	mg/L	SW9060	1.00	12.4	12/11/98	RG

Remarks:

Signed: C B Causey

Carl B. Causey
Technical Services Director

LAW ENVIRONMENTAL NATIONAL LABORATORIES
TEST DATA REPORT

12/15/98

Mr. Jerry Dees

NPWC ENV. LAB CODE 440

--- Project Information ---

Page 1

Project Name: NPWC11

Item# 162-163-164-165

--- Sample Information ---

Station ID: 84408 ENSAFE

Lab ID: AB63211

Collector: P.B. HARDY

Date Sampled: 12/04/98

Time Sampled: 13:45

Log In Date: 12/07/98

Log In Time: 12:10

--- Test Information ---

Parameter	Units	Method	Rpt Lim	Result	Analysis Date	Analysis Tech
10621-300.0 Anions Water mg/L	mg/L	EPA 300.0			12/07/98	MG
Chloride	mg/L	EPA 300.0	20.0	41.3	12/07/98	MG
Nitrate-N	mg/L	EPA 300.0	0.100	Not Det	12/07/98	MG
Sulfate	mg/L	EPA 300.0	1.00	16.2	12/07/98	MG
10621-9060 Total Organic Carbon	mg/L	SW9060	1.00	4.56	12/11/98	RG

Remarks:

Signed: C B Causey

Carl B. Causey
Technical Services Director

LAW ENVIRONMENTAL NATIONAL LABORATORIES

TEST DATA REPORT

12/15/98

--- Project Information ---

Mr. Jerry Dees

NPWC ENV. LAB CODE 440

Project Name: NPWC11

Item# 162-163-164-165

--- Sample Information ---

Date Sampled: 12/04/98

Station ID: 84409 ENSAFE

Time Sampled: 14:15

Lab ID: AB63212

Log In Date: 12/07/98

Collector: P.B. HARDY

Log In Time: 12:10

--- Test Information ---

Parameter	Units	Method	Rpt Lim	Result	Analysis Date	Tech
10621-300.0 Anions Water mg/L	mg/L	EPA 300.0			12/07/98	MG
Chloride	mg/L	EPA 300.0	20.0	35.6	12/07/98	MG
Nitrate-N	mg/L	EPA 300.0	0.100	0.500	12/07/98	MG
Sulfate	mg/L	EPA 300.0	1.00	20.1	12/07/98	MG
10621-9060 Total Organic Carbon	mg/L	SW9060	1.00	2.87	12/11/98	RG

Remarks:

Signed: C B Causey

Carl B. Causey
Technical Services Director

LAW ENVIRONMENTAL NATIONAL LABORATORIES

'PEST DATA REPORT

12/15/98

--- Project Information ---

Mr. Jerry Dees

NPWC ENV. LAB CODE 440

Page 1

Project Name: NPWC11

Item# 162-163-164-165

--- Sample Information ---

Station ID: 84398 ENSAFE

Lab ID: AB63209

Collector: P.B. HARDY

Date Sampled: 12/03/98

Time Sampled: 12:30

Log In Date: 12/07/98

Log In Time: 12:10

--- Test Information ---

Parameter.	Units	Method	Rpt Lim	Result	Analysis Date	Tech
10621-300.0 Anions Water mg/L	mg/L	EPA 300.0			12/07/98	MG
Chloride	mg/L	EPA 300.0	20.0	36.5	12/07/98	MG
Nitrate-N	mg/L	EPA 300.0	0.100	0.733	12/07/98	MG
Sulfate	mg/L	EPA 300.0	1.00	18.0	12/07/98	MG
10621-9060 Total Organic Carbon	mg/L	SW9060	1.00	2-94	12/11/98	RG

Remarks:

Signed: C B Causey

Carl B. Causey
Technical Services Director

LAW ENVIRONMENTAL NATIONAL LABORATORIES

TEST DATA REPORT

12/15/98

--- Project Information ---

Mr. ferry Dees

Page 1

NPWC ENV. LAB CODE 440

Project Name: NPWC11

Item# 162-163-164-165

--- Sample Information ---

Station ID: 84397 ENSAFE

Lab ID: AB63208

Collector: P.B. HARDY

Date Sampled: 12/03/98

Time Sampled: 12:00

Log In Date: 12/07/98

Log In Time: 12:10

--- Test Information ---

Parameter	Units	Method	Rpt Lim	Result	Analysis Date	Tech
10621-300.0 Anions Water mg/L	mg/L	EPA 300.0			12/07/98	MG
chloride	mg/L	EPA 300.0	20.0	30.6	12/07/98	MG
Nitrate-N	mg/L	EPA 300.0	0.100	0,878	12/07/98	MG
sulfate	mg/L	EPA 300.0	1.00	18.5	12/07/98	MG
10621-9060 Total Organic Carbon	mg/L	SW9060	1.00	4.15	12/11/98	RG

Remarks:

Signed: CBCausey

Carl B. Causey
Technical Services Director

LAW ENVIRONMENTAL NATIONAL LABORATORIES

TEST DATA REPORT

12/18/98

--- Project Information ---

Mr. Jerry Dees

Page 1

NPWC ENV. LAB CODE 440

Project Name: NPWC11

Job Order #6630000

Item #160

--- Sample Information ---

Station ID: 84370 038GGS1902

Lab ID: AB63015

Collector: P.B.HARDY

Date Sampled: 12.01.98

Time Sampled: 10:25

Log In Date: 12.03.98

Log In Time: 13:13

--- Test Information ---

Parameter	Units	Method	Rpt Lim	Result	Analysis Date	Tech
10621-300.0 Anion9 Water mg/L	mg/L	€PA 300.0			12/03/98	MG
Chloride	mg/L	EPA 300.0	10.0	33.4	12/03/98	MG
Nitrate-N	mg/L	EPA 300.0	0.100	1.86	12/03/98	MG
sulfate	mg/L	EPA 300.0	10.0	23.8	12/03/98	MG
10621-9060 Total Organic Carbon	mg/L	SW9060	1.00	2.44	12/06/98	RG

Remarks:

Signed:

Carl B. Causey

Technical Services Director

LAW ENVIRONMENTAL NATIONAL LABORATORIES

TEST DATA REPORT

12/18/98

--- Project Information ---

Mr. Jerry Dees

Page 1

NPWC ENV. LAB CODE 440

Project Name: NPWC11

Job Order #6630000

Item No. 160

--- Sample Information ---

Station ID: 84369 038GGS3202

Lab ID: AB63014

Collector: P.B. HARDY

Date Sampled: 12.01.98

Time Sampled: 15:20

Log In Date: 12/03/98

Log In Time: 13:13

--- Test Information ---

Parameter	Units	Method	Rpt Lim	Result	Analysis Date	Analysis Tech
10621-300.0 Anions Water mg/L	mg/L	EPA 300.0			12/03/98	MG
Chloride	mg/L	EPA 300.0	10.0	38.3	12/03/98	MG
Nitrate-N	mg/L	EPA 300.0	0.100	Not Det	12/03/98	MG
Sulfate	mg/L	EPA 300.0	0.200	8.77	12/03/98	MG
10621-9060 Total Organic Carbon	mg/L	SW9060	1.00	3.37	12/06/98	RG

Remarks:

Signed:

Carl B. Causey

Technical Services Director

LAW ENVIRONMENTAL NATIONAL LABORATORIES
TEST DATA REPORT

'15/98

--- Project Information ---

Mr. Jerry Dees

IPWC ENV. LAB CODE 440

Page 1

Project Name: NPWC11

Item# 162-163-164-165

--- Sample Information ---

Station ID: 84398 ENSAFE

Lab ID: AB63209

Collector: P.B. HARDY

Date Sampled: 12/03/98

Time Sampled: 12:30

Log In Date: 12/07/98

Log In Time: 12:10

--- Test Information ---

Parameter	Units	Method	Rpt Lim	Result	Analysis Date	Tech
10621-300.0 Anions Water mg/L	mg/L	EPA 300.0			12/07/98	MG
Chloride	mg/L	EPA 300.0	20.0	36.5	12/07/98	MG
Nitrate-N	mg/L	EPA 300.0	0.100	0.737	12/07/98	MG
Sulfate	mg/L	EPA 300.0	1.00	18.0	12/07/98	MG
10621-9060 Total Organic Carbon	mg/L	SW9060	1.00	2.94	12/11/98	RG

Remarks:

Signed: C H Causey

Carl H. Causey
Technical Services Director

LAW ENVIRONMENTAL NATIONAL LABORATORIES
TEST DATA REPORT

?/15/98

Mr. Jerry Dees

NPWC ENV. LAB CODE 440

--- Project Information ---

Page 1

Project Name: NPWC11

Item# 162-163-164-165

--- Sample Information ---

Station ID: 84397 ENSAFE

Lab ID: AB63208

Collector: P.B. HARDY

Date Sampled: 12/03/98

Time Sampled: 12:00

Log In Date: 12/07/98

Log In Time: 12:10

--- Test Information ---

Parameter	Units	Method	Rpt Lim	Result	Analysis Date	Tech
10621-300.0 Anions Water mg/L	mg/L	EPA 300.0			12/07/98	MG
Chloride	mg/L	EPA 300.0	20.0	30.6	12/07/98	MG
Nitrate-N	mg/L	EPA 300.0	0.100	0,878	12/07/98	MG
Sulfate	mg/L	EPA 300.0	1.00	18.5	12/07/98	MG
10621-9060 Total Organic Carbon	mg/L	SW9060	1.00	4.15	12/11/98	RG

Remarks:

Signed: CBCausey

Carl B. Causey
Technical Services Director

LAW ENVIRONMENTAL, NATIONAL LABORATORIES

TEST DATA REPORT

2/15/98

--- Project Information ---

Mr. Jerry Dees

NPWC ENV. LAB CODE 440

Page 1

Project Name: NPWC11

Item# 162-163-164-165

--- Sample Information ---

Station ID: 84396 ENSAFE

Lab ID: AB63207

Collector: P.B.HARDY

Date Sampled: 12/03/98

Time Sampled:

Log In Date: 12/07/98

Log In Time: 12:10

--- Test Information ---

Parameter	Units	Method	Rpt Lim	Result	Analysis Date	Tech
10621-300.0 Anions Water mg/L	mg/L	EPA 300.0			12/07/98	MG
Chloride	mg/L	EPA 300.0	20.0	74.2	12/07/98	MG
Nitrate-N	mg/L	EPA 300.0	0.100	0.136	12/07/98	MG
Sulfate	mg/L	EPA 300.0	0.200	11.8	12/07/98	MG
10621-9060 Total Organic Carbon	mg/L	SW9060	1.00	7.10	12/11/98	RG

Remarks:

Signed: CBCausey

Carl B. Causey
Technical Services Director

ENSAFE

800-588-7962
MEMPHIS, TENNESSEE
CHARLESTON, SC; CINCINNATI, OH; DALLAS, TX; JACKSON, TN; KNOXVILLE, TN; LANCASTER, PA; NASHVILLE, TN; NORFOLK, VA; PADUCAH, KY; PENSACOLA, FL; RALEIGH, NC; COLOGNE, GERMANY

CHAIN OF CUSTODY RECORD

PAGE _____ OF _____
PROJECT/JOB NO: 0059001.03000
COC NO:
PO NO:
REL NO:
LAB NAME

CLIENT: NASP
LOCATION: Site 38
SAMPLERS: (SIGNATURE) PB Hardy

PROJECT MANAGER: Allison Harris
TELE/FAX NO. (901) 372-7962 / (901) 372-2459

ANALYSIS REQUIRED

FIELD SAMPLE NUMBER	DATE	TIME	SAMPLE TYPE	TYPE/SIZE OF CONTAINER	PRESERVATION TEMP.	PRESERVATION CHEMICAL	NO. OF CONTAINERS	Lead	Metals	sulfate, chloride, nitrate	VOCs	TOC						REMARKS
038GGS1002	12/3/98	1700	H_2O	500ml poly	4°C	HNO_3	1	X										Lab ID 84403
038GGS0202		1615					1	X										" 84404
038GGR3401		1650					1	X										" 84405
038GGR3301		1730					1	X										" 84406
038GGS1202	12/4/98	1130		1l amber		H_2SO_4	1					X						" 84407
				40ml VOA		—	4				X							"
				500ml poly		—	1			X								"
				500ml poly		HNO_3	1		X									"
038GGS0302		1345		1l amber		H_2SO_4	1					X						" 84408
				40ml VOA		—	4				X							"
				500ml poly		—	1			X								"
				500ml poly		HNO_3	1		X									"
038GGS0102		1415		1l amber		H_2SO_4	1					X						" 84409
				40ml VOA		—	4				X							"
				500ml poly		—	1			X								"
				500ml poly		HNO_3	1		X									"

RELINQUISHER:	DATE	RECEIVER:	DATE	RELINQUISHER:	DATE	RECEIVER:	DATE
PB Hardy	4 Dec 98	Kathy Revels	12/4/98				
PRINTED: PB Hardy	TIME 1530	PRINTED: KATHY REVELS	TIME 1540	PRINTED:	TIME	PRINTED:	TIME
COMPANY: EnSafe		COMPANY:		COMPANY:		COMPANY:	

METHOD OF SHIPMENT:
SHIPMENT NO.
SEND RESULTS TO:

COMMENTS:

VALIDATION DATA RECEIVED BY (INITIALS/DATE)

ENSCOC2

ENSAFE

800-588-7962
MEMPHIS, TENNESSEE
CHARLESTON, SC; CINCINNATI, OH; DALLAS, TX; JACKSON, TN; KNOXVILLE, TN; LANCASTER, PA; NASHVILLE, TN; NORFOLK, VA; PADUCAH, KY; PENSACOLA, FL; RALEIGH, NC; COLOGNE, GERMANY

CHAIN OF CUSTODY RECORD

PAGE ____ OF ____
PROJECT/JOB NO: 005900 102400
COC NO:
PO NO:
REL NO:
LAB NAME:

CLIENT: NAS Pensacola
LOCATION: Site 38
SAMPLERS: (SIGNATURE) PB Hardy

PROJECT MANAGER: Allison Harris
TELE/FAX NO. (901) 372-7962 / (901) 372-2459

ANALYSIS REQUIRED

FIELD SAMPLE NUMBER	DATE	TIME	SAMPLE TYPE	TYPE/SIZE OF CONTAINER	PRESERVATION TEMP.	PRESERVATION CHEMICAL	NO. OF CONTAINERS	VOC	Metals	Nitrate/Sulfate/Chloride	TOC	REMARKS
0386G51902	12/1/98	1025	H2O	1 l amber	—	H2SO4	1				X	LAB ID 84370
				500 ml poly	—	—	1			X		
				500 ml poly	—	HNO3	1		X			
				40 ml VOA	—	—	4	X				
0386G53202		1520		1 l amber	—	H2SO4	1				X	LAB ID 84369
				500 ml poly	—	—	1			X		
				500 ml poly	—	HNO3	1		X			
				40 ml VOA	—	—	4	X				

RELINQUISHER:	DATE	RECEIVER:	DATE	RELINQUISHER:	DATE	RECEIVER:	DATE
PB Hardy	12/1/98	Kathy Revels	12/1/98				
PRINTED: PB Hardy	TIME 1545	PRINTED: KATHY REVELS	TIME 1615	PRINTED:	TIME	PRINTED:	TIME
COMPANY: EnSafe		COMPANY:		COMPANY:		COMPANY:	

METHOD OF SHIPMENT: —
SHIPMENT NO. —
SEND RESULTS TO: EnSafe

COMMENTS: JOB ORDER #

ANALYTICAL DATA RECEIVED BY (INITIALS/DATE)

ENSCOC2
REV. 05/98

ENSAFE

800-588-7962
MEMPHIS, TENNESSEE
CHARLESTON, SC; CINCINNATI, OH; DALLAS, TX; JACKSON, TN; KNOXVILLE, TN; LANCASTER, PA; NASHVILLE, TN; NORFOLK, VA; PADUCAH, KY; PENSACOLA, FL; RALEIGH, NC; COLOGNE, GERMANY

CHAIN OF CUSTODY RECORD

PAGE ____ OF ____
PROJECT/JOB NO: 005900 003000
COC NO:
PO NO:
REL NO:
LAB NAME: Alabama

CLIENT: NAS Pensacola
LOCATION: Site 38
SAMPLERS: (SIGNATURE) PB Hardy

PROJECT MANAGER: Allison Harris
TELE/FAX NO.: 901-372-7962 or 901-372-2459

ANALYSIS REQUIRED

FIELD SAMPLE NUMBER	DATE	TIME	SAMPLE TYPE	TYPE/SIZE OF CONTAINER	PRESERVATION TEMP.	PRESERVATION CHEMICAL	NO. OF CONTAINERS	VOC	metals TAL/TCL	nitrate	TOC	sulfate	chloride							REMARKS
038G-GS2802	3 Dec 98		H_2O	1 L amber		H_2SO_4	1				X									84396
				≈500 ml Poly		—	1			X										
				≈500 ml Poly		HNO_3	1		X											
				40 ml VOA		—	4	X												84397
038G-GS0802	3 Dec 98	1200	H_2O	1 L amber		H_2SO_4	1				X									
				≈500 ml Poly		—	1			X										
				≈500 ml Poly		HNO_3	1		X											
				40 ml VOA		—	4	X												84398
038H-GS0802	3 Dec 98	1230	H_2O	1 L amber		H_2SO_4	1				X									
				≈500 ml Poly		—	1			X										
				≈500 ml Poly		HNO_3	1		X											
				40 ml VOA			4	X												

RELINQUISHED: PB Hardy	DATE 12-3-98	RECEIVED: Kathy Revels	DATE 12/3/98	RELINQUISHED:	DATE	RECEIVED:	DATE
PRINTED: PB HARDY	TIME 1400	PRINTED: KATHY REVELS	TIME 1405	PRINTED:	TIME	PRINTED:	TIME
COMPANY: ENSAFE		COMPANY:		COMPANY:		COMPANY:	

METHOD OF SHIPMENT: —
SHIPMENT NO.
SEND RESULTS TO: ENSAFE

COMMENTS: DD order #

ANALYTICAL DATA RECEIVED BY (INITIALS/DATE)

ENSCOC2
REV. 05/98

Navy Public Works Center

Environmental Laboratory

Bldg. 3887, Code 690
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-318013642
FAX (850) 452-2799/2387

Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 452-4611
Contact: Ron Joyner

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 84396
Sample Date: 3 Dec 98
Received Date: 3 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

LAB Sample ID#	1- 84396
sample Name I Location	Site 38 038GGS2802
Collector's Name	P.B. Hardy
Date & Time Collected	3 Dec 98 @ NS
Sample Type (composite or grab)	Grab
Analyst	M. Chambers
Date of Extraction / Initials	4 Dec 98 MC
Date of Analysis	4 Dec 98
Sample Matrix	Groundwater
Dilution	X 1

Compound Name	1- 84396	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromobenzene	BDL	ug/L	1	
Bromochloromethane	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
n-Butylbenzene	BDL	ug/L	1	
sec-Butylbenzene	BDL	ug/L	1	
tert-Butylbenzene	BDL	ug/L	2	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
2-Chlorotoluene *	BDL	ug/L	1	
4-Chlorotoluene *	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dibromo-3-chloropropane *	BDL	ug/L	5	
1,2-Dibromoethane	BDL	ug/L	1	
Dibromomethane	BDL	ug/L	3	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
cis-1,2-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
1,3-Dichloropropane	BDL	ug/L	1	
2,2-Dichloropropane	BDL	ug/L	1	
1,1-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Ethyl ether *	BDL	ug/L	2	
Hexachlorobutadiene	BDL	ug/L	3	
2-Hexanone *	BDL	ug/L	1	
Isopropylbenzene	BDL	ug/L	1	
p-Isopropyltoluene	BDL	ug/L	5	

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 690
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 452-4611
Contact: Ron Joyner

Analytical Report
Total Volatiles by Method 8260

Lab Report Number: 84396
Sample Date: 3 Dec 98
Received Date: 3 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

Compound Name	1- 84396	units	Det. Limit	Flags
Methylene Chloride	BDL	ug/L	5	
Methyl ethyl ketone (MEK) *	BDL	ug/L	5	
Methyl isobutyl ketone (MIBK) *	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE)	BDL	ug/L	5	
Naphthalene	BDL	ug/L	5	
n-Propylbenzene	BDL	ug/L	1	
Styrene	BDL	ug/L	1	
1,1,1,2-Tetrachloroethane	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,2,3-Trichlorobenzene	BDL	ug/L	1	
1,2,4-Trichlorobenzene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane *	BDL	ug/L	2	
1,2,3-Trichloropropane	BDL	ug/L	1	
1,2,4-Trimethylbenzene	BDL	ug/L	1	
1,3,5-Trimethylbenzene	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
m,p-Xylene	BDL	ug/L	1	
o-Xylene	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	93
Toluene-d8	86-119	102
Bromoflourobenzene	85-116	102

Explanation of Flags:

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 2/3/99
Report Generated

End of Report

Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 690
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Laboratory Report

Total TAL/TCL Metals

Requester:	**NAS Environmental**	**Report Number:**	9902003
Address:	Bldg. 1754	**Sample Date:**	3 Dec 98
	NAS Pensacola, FL 32508	**Received Date:**	3 Dec 98
Phone #:	452-4611	**Sample Site:**	Site 38
Contact:	Ron Joyner	**Job Order #:**	130 4149

Sample ID#	Lab	1- 84396	2-	3-	4-	**Analyst(s):**
Sample Name	Requester	038GGS2802				ICP - R. C. Thomas
Collector Name		P.B. Hardy				GFAA - R. C. Thomas
Date/Time	Comp start					Hg - R. C. Thomas
Collected	Camp stop					**Date(s) of analysis:**
(Military)	Grab	3 Dec 98 @ NS				ICP - Various
Sample Type	Comp/Grab	Grab				GFAA - Various
Sample Matrix		Groundwater				Hg - 16 Dec 98

PARAMETER		ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.	
Metals:	**METHOD #**	1- 84396	units	Limit	2-	units	Limit	3-	units	Limit	4-	units	Limit	**Preservative(s)**
Silver(Ag)	EPA 200.7	X	BDL mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Aluminum(Al)	EPA 200.7	X	0.09 mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Arsenic(As)	EPA 206.2	X	BDL mg/l	*0,005*		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Barium(Ba)	EPA 200.7	X	0.10 mg/l	0.07		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Beryllium(Be)	EPA 200.7	X	BDL mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Calcium(Ca)	EPA 200.7	X	27.5 mg/l	0.1		mg/l	0.1		mg/l	0.1		mg/l	0.1	None
Cadmium(Cd)	EPA 200.7	X	BDL mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Chromium(Cr)	EPA 200.7	X	BDL mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Cobalt(Co)	EPA 200.7	X	0.02 mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Copper(Cu)	EPA 200.7	X	0.03 mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Iron(Fe)	EPA 200.7	X	0.38 mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Mercury(Hg)	EPA 245.1	X	BDL mg/l	0.0002		mg/l	0.0002		mg/l	0.0002		mg/l	0.0002	None
Potassium(K)	EPA 200.7	X	1.41 mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Magnesium(Mg)	EPA 200.7	X	2.25 mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Manganese(Mn)	EPA 200.7	X	BDL mg/l	0.03		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Sodium(Na)	EPA 200.7	X	13.8 mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Nickel(Ni)	EPA 200.7	X	0.03 mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Lead(Pb)	EPA 239.2	X	0.004 mg/l	0.003		mg/l	0.003		mg/l	0.003		mg/l	0.003	None
Antimony(Sb)	EPA 200.7	X	BDL mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Selenium(Se)	EPA 270.2	X	BDL mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Thallium(Tl)	EPA 279.2	X	BDL mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Vanadium(V)	EPA 200.7	X	BDL mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Zinc(Zn)	EPA 200.7	X	0.19 mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None

Comments: **mg/kg=milligrams per kilogram. mg/l=milligrams per liter.**

Approved by: Jerry Dees, Laboratory Director

Date/Time: 03-Feb-99 13:13

End of Report

PWC 5000/14

Navy Public works Center

Environmental Laboratory

Bldg. 3887, Code 690
NAS Pensacola, FL 32608
Phone (850) 452-318013642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 452-4611
Contact: Ron Joyner

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 84397
Sample Date: 3 Dec 98
Received Date: 3 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

LAB Sample ID#	1- 84397
Sample Name / Location	Site 38 038GGS0802
Collector's Name	P.B. Hardy
Date & Time Collected	3 Dec 98 @ 1200
Sample Type (composite or grab)	Grab
Analyst	M. Chambers
Date of Extraction / Initials	4 Dec 98 MC
Date of Analysis	4 Dec 98
Sample Matrix	Groundwater
Dilution	X 1

Compound Name	1- 84397	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromobenzene	BDL	ug/L	1	
Bromochloromethane	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
n-Butylbenzene	BDL	ug/L	1	
sec-Butylbenzene	BDL	ug/L	1	
tert-Butylbenzene	BDL	ug/L	2	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1 - 1	
2-Chlorotoluene *	BDL	ug/L	1	
4 4hlorotoluene	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dibromo-3-chloropropane *	BDL	ug/L	5	
1,2-Dibromoethane	BDL	ug/L	1	
Dibromomethane	BDL	ug/L	3	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
cis-1,2-Dichloroethene	25	ug/L	1	
trans-1,2-Dichloroethene	4	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
1,3-Dichloropropane	BDL	ug/L	1	
2,2-Dichloropropane	BDL	ug/L	1	
1,1-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Ethyl ether *	BDL	ug/L	2	
Hexachlorobutadiene	BDL	ug/L	3	
2-Hexanone *	BDL	ug/L	1	
Isopropylbenzene	BDL	ug/L	1	
p-Isopropyltoluene	BDL	ug/L	5	

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FAX (850) 452-2799/2387

Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 452-4611
Contact: Ron Joyner

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 84397
Sample Date: 3 Dec 98
Received Date: 3 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4349

Compound Name	1- 84397	units	Det. Limit	Flags
Methylene Chloride	BDL	ug/L	5	
Methyl ethyl ketone (MEK) *	BDL	ug/L	5	
Methyl isobutyl ketone (MIBK)	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE)	BDL	ug/L	5	
Naphthalene	BDL	ug/L	5	
n-Propylbenzene	BDL	ug/L	1	
Styrene	BDL	ug/L	1	
1,1,1,2-Tetrachloroethane	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	8	ug/L	1	
Toluene	BDL	ug/L	1	
1,2,3-Trichlorobenzene	BDL	ug/L	1	
1,2,4-Trichlorobenzene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	24	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane *	BDL	ug/L	2	
1,2,3-Trichloropropane	BDL	ug/L	1	
1,2,4-Trimethylbenzene	BDL	ug/L	1	
1,3,5-Trimethylbenzene	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
m,p-Xylene	BDL	ug/L	1	
o-Xylene	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	94
Toluene-d8	86-119	102
Bromoflourobenzene	85-116	103

Explanation of Flags:

COMMENTS :

BDL = Below Detection Limit, ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 2/3/99
Report Generated

End of Report

Navy Public Works Center
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Laboratory Report

Total TAL/TCL Metals

Requester:	**NAS Environmental**	**Report Number:**	9902004
Address:	Bldg. 1754	**Sample Date:**	3 Dec 98
	NAS Pensacola, FL 32508	**Received Date:**	3 Dec 98
Phone #:	452-4611	**Sample Site:**	Site 38
Contact:	Ron Joyner	**Job Order #:**	130 4149

Sample ID#	Lab	1- **84397**	2-	3-	4-
Sample Name	Requester	038GGS0802			
Collector Name		P.B. Hardy			
Date/Time	Comp start				
Collected	Comp stop				
(Military)	Grab	3 Dec 98 @ 1200			
Sample Typo	Comp/Grab	Grab			
Sample Matrix		Groundwater			

Analyst(s):
ICP – R. C. Thomas
GFAA – R. C. Thomas
Hg – R. C. Thomas

Date(s) of analysis:
ICP – Various
GFAA – Various
Hg – 16 Dec 98

PARAMETER **Metals:**	**METHOD #**	ID# 1- **84397**	units	Det. Limit	ID# 2-	units	Det. Limit	ID# 3-	units	Det. Limit	ID# 4-	units	Det. Limit	**Preservative(s)**
Silver(Ag)	EPA 200.7	X	BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Aluminum(Al)	EPA 200.7	X	0.25	mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Arsenic(As)	EPA 206.2	X	BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Barium(Ba)	EPA 200.7	X	0.32	mg/l	0.07		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Beryllium(Be)	EPA 200.7	X	BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Calcium(Ca)	EPA 200.7	X	74.4	mg/l	0.1		mg/l	0.1		mg/l	0.1		mg/l	0.1	None
Cadmium(Cd)	EPA 200.7	X	0.05	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Chromium(Cr)	EPA 200.7	X	0.10	mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Cobalt(Co)	EPA 200.7	X	0.02	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Copper(Cu)	EPA 200.7	X	0.25	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Iron(Fe)	EPA 200.7	X	0.12	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Mercury(Hg)	EPA 245.1	X	0.0002	mg/l	0.0002		mg/l	0.0002		mg/l	0.0002		mg/l	0.0002	None
Potassium(K)	EPA 200.7	X	3.02	mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Magnesium(Mg)	EPA 200.7	X	5.02	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Manganese(Mn)	EPA 200.7	X	1.99	mg/l	0.03		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Sodium(Na)	EPA200.7	X	28.4	mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Nickel(Ni)	EPA 200.7	X	0.03	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Lead(Pb)	EPA 239.2	X	0.116	mg/l	0.003		mg/l	0.003		mg/l	0.003		mg/l	0.003	None
Antimony(Sb)	EPA 200.7	X	0.21	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Selenium(Se)	EPA 270.2	X	BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Thallium	EPA279.2	X	BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Vanadium(V)	EPA200.7	X	BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Zinc(Zn)	EPA 200.7	X	0.65	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None

Comments: **mg/kg=milligrams per kilogram. mg/l=milligrams per liter.**

Approved by: Jerry Dees, Laboratory Director

Date/Time: 03-Feb-99 13:16

End of Report

PWC 5000/11

Navy Public Works Center

Environmental Laboratory

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DSN 922-318013642
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Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 4524611
Contact: Ron Joyner

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: *84370*
Sample Date: 1 Dec 98
Received Date: 1 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

LAB Sample ID#	1- 84370
Sample Name ILocation	Site 38
Collector's Name	
Date & Time Collected	1 Dec 98 @ 1025
Sample Type (composite or gnb)	
Analyst	M. Chambers
Date of Extraction / Initials	4 Dec 98 MC
Date of Analysis	4 Dec 98
Sample Matrix	Groundwater
Dilution	X 1

Compound Name	1- 84370	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromobenzene	BDL	ug/L	1	
Bromochloromethane	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
n-Butylbenzene	BDL	ug/L	1	
sec-Butylbenzene	BDL	ug/L	1	
tert-Butylbenzene	BDL	ug/L	2	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
2-Chlorotoluene *	BDL	ug/L	1	
4-Chlorotoluene *	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dibromo-3-chloropropane *	BDL	ug/L	5	
1,2-Dibromoethane	BDL	ug/L	1	
Dibromomethane	BDL	ug/L	3	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
cis-1,2-Dichloroethene	27	ug/L	1	
trans-1,2-Dichloroethene	5	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
1,3-Dichloropropane	BDL	ug/L	1	
2,2-Dichloropropane	BDL	ug/L	1	
1,1-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Ethyl ether *	BDL	ug/L	2	
Hexachlorobutadiene	BDL	ug/L	3	
2-Hexanone *	BDL	ug/L	1	
Isopropylbenzene	BDL	ug/L	1	
p-Isopropyltoluene	BDL	ug/L	5	

Navy Public Works Center
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Ctient: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 452-4611
Contact: Ron Joyner

Analytical Report
Total Volatiles by Method 8260

Lab Report Number: 84370
Sample Date: 1 Dec 98
Recetved Date: 1 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

Compound Name	1- 84370		Det. Limit	Flags
Methylene Chloride	BDL	ug/L	5	
Methyl ethyl ketone (MEK) *	BDL	ug/L	5	
Methyl isobutyl ketone (MIBK) *	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE)	BDL	ug/L	5	
Naphthalene	BDL	ug/L	5	
n-Propylbenzene	BDL	ug/L	1	
Styrene	BDL	ug/L	1	
1,1,1,2-Tetrachloroethane	22	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	22	ug/L	1	
Toluene	BDL	ug/L	1	
1,2,3-Trichlorobenzene	BDL	ug/L	1	
1,2,4-Trichlorobenzene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	22	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane *	BDL	ug/L	2	
1,2,3-Trichloropropane	BDL	ug/L	1	
1,2,4-Trimethylbenzene	BDL	ug/L	1	
1.3,5-Trimethylbenzene	BDL	ug/L	1	
Vinyl Chloride	3	ug/L	1	
m,p-Xylene	60L	ug/L	1	
a-Xylene	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	92
Toluene-d8	86-119	103
Bromoflourobenzene	85-116	101

Explanation of Flags:

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 2/3/99
Report Generated

End of Report

Navy Public Works Center
Environmental Laboratory

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NAS Pensacola, FL 32508
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Laboratory Report

Total TAL/TCL Metals

Requester:	NAS Environmental	Report Number:	9902002
Address:	Bldg. 1754	Sample Date:	1 Dec 98
	NAS Pensacola, FL 32508	Received Date:	1 Dec 98
Phone #:	452-4611	Sample Site:	Site 38
Contact:	Ron Joyner	Job Order #:	130 4149

Sample ID#	Lab	1- 84370	2-	3-	4-	Analyst(s):
Sample Name	Requester	038GGS1902				ICP - R. C. Thomas
Collector Name		P.B. Hardy				GFAA - R. C. Thomas
Date/Time	Comp start					Hg - R. C. Thomas
Collected	Comp stop					Date(s) of analysis:
(Military)	Grab	1 Dec 98 @ 1025				ICP - Various
Sample Type	Comp/Grab	Grab				GFAA - Various
Sample Matrix		Groundwater				Hg - 16 Dec 98

PARAMETER Metals:	METHOD #	ID# 1- 84370	units	Det. Limit	ID# 2-	units	Det. Limit	ID# 3-	units	Det. Limit	ID# 4-	units	Det. Limit	Preservative(s)
Silver(Ag)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Aluminum(Al)	EPA 200.7	X BDL	mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Arsenic(As)	EPA 206.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Barium(Ba)	EPA 200.7	X 0.20	mg/l	0.07		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Beryllium(Be)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Calcium(Ca)	EPA 200.7	X 46.5	mg/l	0.1		mg/l	0.1		mg/l	0.1		mg/l	0.1	None
Cadmium(Cd)	EPA 200.7	X 0.25	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Chromium(Cr)	EPA 200.7	X 0.02	mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Cobalt(Co)	EPA 200.7	X 0.02	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Copper(Cu)	EPA 200.7	X 0.09	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Iron(Fe)	EPA 200.7	X 0.53	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Mercury(Hg)	EPA 245.1	X 0.0003	mg/l	0.0002		mg/l	0.0002		mg/l	0.0002		mg/l	0.0002	None
Potassium(K)	EPA 200.7	X 5.2	mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Magnesium(Mg)	EPA 200.7	X 4.73	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Manganese(Mn)	EPA 200.7	X 0.95	mg/l	0.03		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Sodium(Na)	EPA 200.7	X 20	mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Nickel(Ni)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Lead(Pb)	EPA 239.2	X 0.058	mg/l	0.003		mg/l	0.003		mg/l	0.003		mg/l	0.003	None
Antimony(Sb)	EPA 200.7	X 0.06	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Selenium(Se)	EPA 270.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Thallium(Tl)	EPA 279.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Vanadium(V)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Zinc(Zn)	EPA 200.7	X 0.20	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None

Comments: mg/kg=milligrams per kilogram. mg/l=milligrams per liter.

Approved by: Jerry Dees, Laboratory Director

Date/Time: 03-Feb-99 13:10

End of Report

PWC 9001/11

Navy Public Works Center

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Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 4524617
Contact: Ron Joyner

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 84369
Sample Date: 1 Dec 98
Received Date: 1 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

LAB Sample ID#	1- 84369
Sample Name / Location	Site 38 038GGS3202
Collector's Name	P.B. Hardy
Date & Time Collected	1 Dec 98 @ 1520
Sample Type (composite or grab)	Grab
Analyst	M. Chambers
Date of Extraction / Initials	4 Dec 98 MC
Date of Analysis	4 Dec 98
Sample Matrix	Groundwater
Dilution	X 1

Compound Name	1- 84369	units	Det Limit	Flags
Benzene	BDL	ug/L	1	
Bromobenzene	BDL	ug/L	1	
Bromochloromethane	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
n-Butylbenzene	BDL	ug/L	1	
sec-Butylbenzene	BDL	ug/L	1	
tert-Butylbenzene	BDL	ug/L	2	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
2-Chlorotoluene *	BDL	ug/L	1	
4-Chlorotoluene *	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dibromo-3-chloropropane *	BDL	ug/L	5	
1,2-Dibromoethane	BDL	ug/L	1	
Dibromomethane	BDL	ug/L	3	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
cis-1,2-Dichloroethene	25	ug/L	1	
trans-1,2-Dichloroethene	11	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
1,3-Dichloropropane	BDL	ug/L	1	
2,2-Dichloropropane	BDL	ug/L	1	
1,1-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Ethyl ether *	BDL	ug/L	2	
Hexachlorobutadiene	BDL	ug/L	3	
2-Hexanone *	BDL	ug/L	1	
Isopropylbenzene	BDL	ug/L	1	
p-Isopropyltoluene	BDL	ug/L	5	

Navy Public Works Center
Environmental Laboratory

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NAS Pensacola, FL 32508
Phone (850) 4521318013642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 452-4611
Contact: Ron Joyner

Analytical Report
Total Volatiles by Method 8260

Lab Report Number: 84369
Sample Date: 1 Dec 98
Received Date: 1 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 1304149

Compound Name	1- 84369	units	Det. Limit	Flags
Methylene Chloride	BDL	ug/L	5	
Methyl ethyl ketone (MEK) *	BDL	ug/L	5	
Methyl isobutyl ketone (MIBK) *	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE)	BDL	ug/L	5	
Naphthalene	BDL	ug/L	5	
n-Propylbenzene	BDL	ug/L	1	
Styrene	BDL	ug/L	1	
1,1,1,2-Tetrachloroethane	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	6	ug/L	1	
Toluene	BOL	ug/L	1	
1,2,3-Trichlorobenzene	BDL	ug/L	1	
1,2,4-Trichlorobenzene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	6	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane *	BDL	ug/L	2	
1,2,3-Trichloropropane	BDL	ug/L	1	
1,2,4-Trimethylbenzene	BDL	ug/L	1	
1,3,5-Trimethylbenzene	BDL	ug/L	1	
Vinyl Chloride	14	ug/L	1	
m,p-Xylene	OOL	ug/L	1	
o-Xylene	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	92
Toluene-d8	86-119	101
Bromoflourobenzene	85-116	101

Explanation of Flags:

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 2/3/99
Report Generated

End of Report

Navy Public Works Center
Environmental Laboratory

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Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Laboratory Report

Total TAL/TCL Metals

Requester:	NAS Environmental	**Report Number:**	9902001
Address:	Bldg. 1754	**Sample Date:**	1 Dec 98
	NAS Pensacola, FL 32508	**Received Date:**	1 Dec 98
Phone #:	452-4611	**Sample Site:**	Site 38
Contact:	Ron Joyner	**Job Order #:**	130 4149

Sample ID#	Lab	1- **84369**	2-	3-	4-	**Analyst(s):**
Sample Name	Requester	038GGS3202				ICP - R. C. Thomas
Collector Name		P.B. Hardy				GFAA - R. C. Thomas
Date/Time	Comp start					Hg - R. C. Thomas
Collected	Comp stop					**Date(s) of analysis:**
(Military)	Grab	1 Dec 98 @ 1520				ICP - Various
Sample Type	Comp/Grab	Grab				GFAA - Various
Sample Matrix		Groundwater				Hg - 16 Dec 98

PARAMETER **Metals:**	**METHOD #**	ID# 1- **84369**	units	Det. Limit	ID# 2-	units	Det. Limit	ID# 3-	units	Det. Limit	ID# 4-	(units	Det. Limit	**Preservative(s)**
Silver(Ag)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Aluminum(Al)	EPA 200.7	X BDL	mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Arsenic(As)	EPA 206.2	X 0.005	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Barium(Ba)	EPA 200.7	X 0.144	mg/l	0.07		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Beryllium(Be)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Calcium(Ca)	EPA 200.7	X 49.9	mg/l	0.1		mg/l	0.1		mg/l	0.1		mg/l	0.1	None
Cadmium(Cd)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Chromium(Cr)	EPA 200.7	X BDL	mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Cobalt(Co)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Copper(Cu)	EPA 200.7	X 0.02	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Iron(Fe)	EPA 200.7	X 1.10	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Mercury(Hg)	EPA 245.1	X BDL	mg/l	0.0002		mg/l	0.0002		mg/l	0.0002		mg/l	0.0002	None
Potassium(K)	EPA 200.7	X 3.93	mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Magnesium(Mg)	EPA 200.7	X 3.45	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Manganese(Mn)	EPA 200.7	X BDL	mg/l	0.03		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Sodium(Na)	EPA 200.7	X 24.7	mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Nickel(Ni)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Lead(Pb)	EPA 239.2	X 0.024	mg/l	0.003		mg/l	0.003		mg/l	0.003		mg/l	0.003	None
Antimony(Sb)	EPA 200.7	X 0.19	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Selenium(Se)	EPA 270.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Thallium(Tl)	EPA 279.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Vanadium(V)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Zinc(Zn)	EPA 200.7	X 0.15	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None

Comments: **mg/kg=milligrams per kilogram. mg/l=milligrams per liter.**

Approved by: Jerry Dees, Laboratory Director

Date/Time: 03-Feb-99 15:06

End of Report

PWC 5090/14

Navy Public Works Center

Environmental Laboratory

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NAS Pensacola, FL 32508
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DSN 922-3180/3642
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Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 452-4611
Contact: Ron Joyner

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 84398
Sample Date: 3 Dec 98
Received Date: 3 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

LAB Sample ID#	1- 84398			
Sample Name / Location	Site 38 038HGS0802			
Collector's Name	P.B. Hardy			
Date & Time Collected	3 Dec 98 @ 1230			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	4 Dec 98 MC			
Date of Analysis	4 Dec 98			
Sample Matrix	Groundwater			
Dilution	X 1			
Compound Name	1- 84398	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromobenzene	BDL	ug/L	1	
Bromochloromethane	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
n-Butylbenzene	BDL	ug/L	1	
sec-Butylbenzene	BDL	ug/L	1	
tert-Butylbenzene	BDL	ug/L	2	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
2-Chlorotoluene *	BDL	ug/L	1	
4-Chlorotoluene *	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dibromo-3-chloropropane *	BDL	ug/L	5	
1,2-Dibromoethane	BDL	ug/L	1	
Dibromomethane	BDL	ug/L	3	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
cis-1,2-Dichloroethene	25	ug/L	1	
trans-1,2-Dichloroethene	4	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
1,3-Dichloropropane	BDL	ug/L	1	
2,2-Dichloropropane	BDL	ug/L	1	
1,1-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Ethyl ether *	BDL	ug/L	2	
Hexachlorobutadiene	BDL	ug/L	3	
2-Hexanone *	BDL	ug/L	1	
Isopropylbenzene	BDL	ug/L	1	
p-Isopropyltoluene	BDL	ug/L	5	

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FAX (850) 4521279912387

Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 4524611
Contact: Ron Joyner

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 84398
Sample Date: 3 Dec 98
Received Date: 3 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

Compound Name	1- 84398	units	Det. Limit	Flags
Methylene Chloride	BDL	ug/L	5	
Methyl ethyl ketone (MEK) *	BDL	ug/L	5	
Methyl isobutyl ketone (MIBK) *	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE)	BDL	ug/L	5	
Naphthalene	BDL	ug/L	5	
n-Propylbenzene	BDL	ug/L	1	
Styrene	BDL	ug/L	1	
1,1,1,2-Tetrachloroethane	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	9	ug/L	1	
Toluene	BDL	ug/L	1	
1,2,3-Trichlorobenzene	BDL	ug/L	1	
1,2,4-Trichlorobenzene	BDL	ug/L	1	
1,1,1-Trichloroethane	1	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	24	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane *	BDL	ug/L	2	
1,2,3-Trichloropropane	BDL	ug/L	1	
1,2,4-Trimethylbenzene	BDL	ug/L	1	
1,3,5-Trimethylbenzene	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
m,p-Xylene	BDL	ug/L	1	
o-Xylene	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	94
Toluene-d8	86419	102
Bromoflourobenzene	85-116	102

Explanation of Flags:

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 213199
Report Generated

End of Report

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Laboratory Report

Total TAL/TCL Metals

Requester:	NAS Environmental	Report Number:	9902005
Address:	Bldg. 1754	Sample Date:	3 Dec 98
	NAS Pensacola, FL 32508	Received Date:	3 Dec 98
Phone #:	452-4611	Sample Site:	Site 38
Contact:	Ron Joyner	Job Order #:	130 4149

Sample ID#	Lab	1- 84398	2-	3-	4-	Analyst(s):
Sample Name	Requester	038HGS0802				ICP - R. C. Thomas
Collector Name		P.B. Hardy				GFAA - R. C. Thomas
Date/Time	Comp start					Hg - R. C. Thomas
Collected	Comp stop					Date(s) of analysis:
(Military)	Grab	3 Dec 98 @ 1230				ICP - Various
Sample Type	Comp/Grab	Grab				GFAA - Various
Sample Matrix		Groundwater				Hg - 16 Dec 98

PARAMETER Metals:	METHOD #	ID# 1- 84398	units	Det. Limit	ID# 2-	units	Det. Limit	ID# 3-	units	Det. Limit	ID# 4-	units	Det. Limit	Preservative(s)
Silver(Ag)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Aluminum(Al)	EPA 200.7	X 0.22	mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Arsenic(As)	EPA 206.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Barium(Ba)	EPA 200.7	X 0.32	mg/l	0.07		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Beryllium(Be)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Calcium(Ca)	EPA 200.7	X 71.4	mg/l	0.1		mg/l	0.1		mg/l	0.1		mg/l	0.1	None
Cadmium(Cd)	EPA 200.7	X 0.04	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Chromium(Cr)	EPA 200.7	X 0.09	mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Cobalt(Co)	EPA 200.7	X 0.03	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Copper(Cu)	EPA 200.7	X 0.25	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Iron(Fe)	EPA 200.7	X 0.12	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Mercury(Hg)	EPA 245.1	X BDL	mg/l	0.0002		mg/l	0.0002		mg/l	0.0002		mg/l	0.0002	None
Potassium(K)	EPA 200.7	X 3.01	mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Magnesium(Mg)	EPA 200.7	X 4.79	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Manganese(Mn)	EPA 200.7	X 2.20	mg/l	0.03		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Sodium(Na)	EPA 200.7	X 27.0	mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Nickel(Ni)	EPA 200.7	X 0.03	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Lead(Pb)	EPA 239.2	X 0.118	mg/l	0.003		mg/l	0.003		mg/l	0.003		mg/l	0.003	None
Antimony(Sb)	EPA 200.7	X 0.15	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Selenium(Se)	EPA 270.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Thallium(Tl)	EPA 279.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Vanadium(V)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Zinc(Zn)	EPA 200.7	X 0.29	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None

Comments: mg/kg=milligrams per kilogram. mg/l=milligrams per liter.

Approved by: Jerry Dees, Laboratory Director

Date/Time: 03-Feb-99 13 19

End of Report

PWC 5000 13

Navy Public Works Center

Environmental Laboratory

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NAS Pensacola, FL 32508
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DSN 922-3180/3642
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Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 452-4611
Contact: Ron Joyner

Analytical Report

Total Lead by Method 239.2

Lab Report Number: 84403
Sample Date: 3 Dec 98
Received Date: 3 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 1304149

LAB Sample ID#	1- 84403
Sample Name / Location	Site 38 038GGS1002
Collector's Name	P.B. Hardy
Date & Time Collected	3 Dec 98 @ 1700
Sample Type (composite or grab)	Grab
Analyst	R.C. Thomas
Date of Analysis	25 Jan 99
Sample Matrix	Water

Element	Method #	Result	units	Detection Limit
Lead (Pb)	EPA 239.2	BDL	mg/L	0,003

COMMENTS :

BDL = Below Detection Limit. mg/L = Millgram per liter. mg/Kg = Milligram per kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 2/3/99

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Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 452-4611
Contact: Ron Joyner

Analytical Report

Total Lead by Method 239.2

Lab Report Number: 84404
Sample Date: 3 Dec 98
Received Date: 3 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

LAB Sample ID#	1- **84404**
Sample Name / Location	Site 38 038GGS0202
Collector's Name	P.B. Hardy
Date & Time Collected	3 Dec 98 @ 1615
Sample Type (composite or grab)	Grab
Analyst	R.C. Thomas
Date of Analysis	25 Jan 99
Sample Matrix	Water

Element	Method #	Result	units	Detection Limit
Lead (Pb)	EPA 239.2	BDL	mg/L	0.003

COMMENTS :

BDL = Below Detection Limit. mg/L = Millgram per liter. mg/Kg = Milligram per kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 2/3/99

Navy Public Works Center

Environmental Laboratory

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Phone (850) 452-3180/3642
DSN 922-318013642
FAX (850) 452-2799/2387

Analytical Report

Total Lead by Method 239.2

Client:	NAS Environmental	Lab Report Number:	84405
Address:	Bldg. 1754	Sample Date:	3 Dec 98
	NAS Pensacola, FL 32508	Received Date:	3 Dec 98
Phone #::	452-4611	Sample Site:	NAS Pensacola
Contact:	Ron Jayner	Job Order No.:	130 4149

LAB Sample ID#	1- 84405
Sample Name / Location	Site 38 038GGR3401
Collector's Name	P.B. Hardy
Date & Time Collected	3 Dec 98 @ 1650
Sample Type (composite or grab)	Grab
Analyst	R.C. Thomas
Date of Analysis	25 Jan 99
Sample Matrix	Water

Element	Method #	Result	units	Detection Limit
Lead (Pb)	EPA 239.2	0.081	mg/L	0.003

COMMENTS :

BDL = Below Detection Limit. mg/L = Milligram per liter. mg/Kg = Milligram per kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 2/3/99

Navy Public Works Center

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FAX (850) 452-279912387

Analytical Report

Total Lead by Method 239.2

Client:	NAS Environmental
Address:	Bldg. 1754
	NAS Pensamla, FL 32508
Phone #:	4524611
Contact:	Ron Joyner

tab Report Number:	84406
Sample Date:	3 Dec 98
Received Date:	3 Dec 98
Sample Site:	NAS Pensacola
Job Order No.:	130 4149

LAB Sample ID#	1- 84406
Sample Name / Location	Site 38 038GGR3301
Collector's Name	P.B. Hardy
Date & Time Collected	3 Dec 98 @ 1730
Sample Type (composite or grab)	Grab
Analyst	R.C. Thomas
Date of Analysis	25 Jan 99
Sample Matrix	Water

Element	Method #	Result	units	Detection Limit
Lead (Pb)	EPA 239.2	0.058	mg/L	0.003

COMMENTS :

BDL = Below Detection Limit. mg/L = Milligram per liter, mg/Kg = Milligram per kilogram.

Approved by : Jerry Dees, Laboratory Director

Date: 2/3/99

Navy Public Works Center

Environmental Laboratory

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NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 452-4611
Contact: Ron Joyner

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 84407
Sample Date: 4 Dec 98
Received Date: 4 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

LAB Sample ID#	1- 84407
Sample Name / Location	Site 38 038GGS1202
Collector's Name	P.B. Hardy
Date & Time Collected	4 Dec 98 @ 1130
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	7 Dec 98 JM
Date of Analysis	7 Dec 98
Sample Matrix	Groundwater
Dilution	X 1

Compound Name	1- 84407	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromobenzene	BDL	ug/L	1	
Bromochloromethane	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
n-Butylbenzene	5	ug/L	1	
sec-Butylbenzene	4	ug/L	1	
tert-Butylbenzene	BDL	ug/L	2	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
Chloroform	2	ug/L	1	
Chloromethane	BDL	ug/L	1	
2-Chlorotoluene *	BDL	ug/L	1	
4-Chlorotoluene *	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dibromo-3-chloropropane *	BDL	ug/L	5	
1,2-Dibromoethane	BDL	ug/L	1	
Dibromomethane	BDL	ug/L	3	
1,2-Dichlorobenzene	4	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	2	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	13	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
cis-1,2-Dichloroethene	27	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
1,3-Dichloropropane	BDL	ug/L	1	
2,2-Dichloropropane	BDL	ug/L	1	
1,1-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Ethyl ether *	BDL	ug/L	2	
Hexachlorobutadiene	BDL	ug/L	3	
2-Hexanone *	BDL	ug/L	1	
Isopropylbenzene	BDL	ug/L	1	
p-Isopropyltoluene	BDL	ug/L	5	

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Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 4524611
Contact: Ron Joyner

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 84407
Sample Date: 4 Dec 98
Received Date: 4 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

Compound Name	84407	units	Det. Limit	Flags
Methylene Chloride	BDL	ug/L	5	
Methyl ethyl ketone (MEK) *	BDL	ug/L	5	
Methyl isobutyl ketone (MIBK) *	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE)	BDL	ug/L	5	
Naphthalene	12	ug/L	5	
n-Propylbenzene	1	ug/L	1	
Styrene	BDL	ug/L	1	
1,1,1,2-Tetrachloroethane	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	100	ug/L	1	
Tetrachloroethene	102	ug/L	1	
Toluene	BDL	ug/L	1	
1,2,3-Trichlorobenzene	BDL	ug/L	1	
1,2,4-Trichlorobenzene	BDL	ug/L	1	
1,1,1-Trichloroethane	3	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	25	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane *	BDL	ug/L	2	
1,2,3-Trichloropropane	BDL	ug/L	1	
1,2,4-Trimethylbenzene	23	ug/L	1	
1,3,5-Trimethylbenzene	12	ug/L	1	
Vinyl Chloride	15	ug/L	1	
m,p-Xylene	BDL	ug/L	1	
o-Xylene	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	91
Toluene-d8	86-119	103
Bromoflourobenzene	85-116	104

Explanation of Flags:

COMMENTS :

BDL = Below Detection Limit. ug/L = Micrograms per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 2/3/99
Report Generated

End of Report

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Laboratory Report

Total TAL/TCL Metals

Requester:	**NAS Environmental**	**Report Number:**	9902006
Address:	Bldg. 1754	**Sample Date:**	4 Dec 98
	NAS Pensacola, FL 32508	**Received Date:**	4 Dec 98
Phone #:	452-4611	**Sample Site:**	Site 38
Contact:	Ron Joyner	**Job Order #:**	130 4149

Sample ID#	Lab	1- 84407	2-	3-	4-	**Analyst(s):**
Sample Name	Requester	038GGS1202				ICP - R. C. Thomas
Collector Name		P.B. Hardy				GFAA - R. C. Thomas
Date/Time	Comp start					Hg - R. C. Thomas
Collected	Comp stop					**Date(s) of analysis:**
(Military)	Grab	4 Dec 98 @ 1130				ICP - Various
Sample Type	Comp/Grab	Grab				GFAA - Various
Sample Matrix		Groundwater				Hg - 16 Dec 98

PARAMETER		ID#		Det.	ID#		Det.	ID#		Det.	ID#		Det.	
Metals:	**METHOD #**	1- 84407	units	Limit	2-	units	Limit	3-	units	Limit	4-	units	Limit	**Preservative(s)**
Silver(Ag)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Aluminum(Al)	EPA 200.7	X BDL	mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Arsenic(As)	EPA 206.2	X 0.006	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Barium(Ba)	EPA 200.7	X 0.1	mg/l	0.07		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Beryllium(Be)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Calcium(Ca)	EPA 200.7	X 42.9	mg/l	0.1		mg/l	0.1		mg/l	0.1		mg/l	0.1	None
Cadmium(Cd)	EPA 200.7	X 0.05	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Chromium(Cr)	EPA 200.7	X BDL	mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Cobalt(Co)	EPA 200.7	X 0.02	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Copper(Cu)	EPA 200.7	X 0.91	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Iron(Fe)	EPA 200.7	X 1.15	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Mercury(Hg)	EPA 245.1	X BDL	mg/l	0.0002		mg/l	0.0002		mg/l	0.0002		mg/l	0.0002	None
Potassium(K)	EPA 200.7	X 8.21	mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Magnesium(Mg)	EPA 200.7	X 15.3	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Manganese(Mn)	EPA 200.7	X 0.04	mg/l	0.03		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Sodium(Na)	EPA 200.7	X 83.7	mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Nickel(Ni)	EPA 200.7	X 0.03	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Lead(Pb)	EPA 239.2	X 0.128	mg/l	0.003		mg/l	0.003		mg/l	0.003		mg/l	0.003	None
Antimony(Sb)	EPA 200.7	X 0.18	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Selenium(Se)	EPA 270.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Thallium(Tl)	EPA 279.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Vanadium(V)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Zinc(Zn)	EPA 200.7	X 0.95	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None

Comments: mg/kg=milligrams per kilogram. mg/l=milligrams per liter.

Approved by: Jerry Dees, Laboratory Director

Date/Time: 03-Feb-99 13:24

End of Report

Navy Public Works Center

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Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 452-4611
Contact: Ron Joyner

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 84408
Sample Date: 4 Dec 98
Received Date: 4 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

LAB Sample ID#	1- 84408
Sample Name / Location	Site 38 038GGS0302
Collector's Name	P.B. Hardy
Date & Time Collected	4 Dec 98 @ 1345
Sample Type (composite or grab)	Grab
Analyst	M. Chambers
Date of Extraction / Initials	7 Dec 98 JM
Date of Analysis	7 Dec 98
Sample Matrix	Groundwater
Dilution	X 1

Compound Name	1- 84408	units	Det. Limit	Flags
Benzene	2	ug/L	1	
Bromobenzene	BDL	ug/L	1	
Bromochloromethane	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
n-Butylbenzene	BDL	ug/L	1	
sec-Butylbenzene	BDL	ug/L	1	
tert-Butylbenzene	BDL	ug/L	2	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
2-Chlorotoluene *	BDL	ug/L	1	
4-Chlorotoluene *	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dibromo-3-chloropropane *	BDL	ug/L	5	
1,2-Dibromoethane	BDL	ug/L	1	
Dibromomethane	BDL	ug/L	5	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	3	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
cis-1,2-Dichloroethene	5	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
1,3-Dichloropropane	BDL	ug/L	1	
2,2-Dichloropropane	BDL	ug/L	1	
1,1-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Ethyl ether *	BDL	ug/L	2	
Hexachlorobutadiene	BDL	ug/L	3	
2-Hexanone *	BDL	ug/L	1	
Isopropylbenzene	BDL	ug/L	1	
p-Isopropyltoluene	BDL	ug/L	5	

Navy Public Works Center
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Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 452-4611
Contact: Ron Joyner

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 84408
Sample Date: 4 Dec 98
Received Date: 4 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

Compound Name	1- 84408	units	Det. Limit	Flags
Methylene Chloride	BDL	ug/L	5	
Methyl ethyl ketone (MEK) *	BDL	ug/L	5	
Methyl isobutyl ketone (MIBK) *	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE)	16	ug/L	5	
Naphthalene	BDL	ug/L	5	
n-Propylbenzene	BDL	ug/L	1	
Styrene	BDL	ug/L	1	
1,1,1,2-Tetrachloroethane	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,2,3-Trichlorobenzene	BDL	ug/L	1	
1,2,4-Trichlorobenzene	8Dt	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	4	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane *	BDL	ug/L	2	
1,2,3-Trichloropropane	BDL	ug/L	1	
1,2,4-Trimethylbenzene	BDL	ug/L	1	
1,3,5-Trimethylbenzene	BDL	ug/L	1	
Vinyl Chloride	3	ug/L	1	
m,p-Xylene	BDL	ug/L	1	
0-Xylene	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	92
Toluene-d8	86-119	101
Bromoflourobenzene	85-116	101

Explanation of flags:

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending,

Approved by : Jerry Dees, Laboratory Director

Date: 2/4/99
Report Generated

End of Report

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Laboratory Report

Total TAL/TCL Metals

Requester:	NAS Environmental	**Report Number:**	9902007
Address:	Bldg. 1754	**Sample Date:**	4 Dec 98
	NAS Pensacola, FL 32508	**Received Date:**	4 Dec 98
Phone #:	452-4611	**Sample Site:**	Site 38
Contact:	Ron Joyner	**Job Order #:**	130 4149

Sample ID#	Lab	1- 84408	2-	3-	4-	**Analyst(s):**
Sample Name	Requester	038GGS0302				ICP - R.C. Thomas
Collector Name		P.B.Hardy				GFAA - R. C. Thomas
Date/Time	Comp start					Hg - R.C. Thomas
Collected	Comp stop					**Date(s) of analysis:**
(Military)	Grab	4 Dec 98 @ 1345				ICP - Various
Sample Type	~~Comp/Grab~~	Grab				GFAA - Various
Sample Matrix		Groundwater				Hg - 16 Dec 98

PARAMETER Metals:	METHOD #	ID# 1- 84408	units	Det. Limit	ID# 2-	units	Det. Limit	ID# 3-	units	Det. Limit	ID# 4-	units	Det. Limit	Preservative(s)
Silver(Ag)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Aluminum(Al)	EPA 200.7	X BDL	mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Arsenic(As)	EPA 206.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Barium(Ba)	EPA 200.7	X 0.14	mg/l	0.07		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Beryllium(Be)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Calcium(Ca)	EPA 200.7	X 54.1	mg/l	0.1		mg/l	0.1		mg/l	0.1		mg/l	0.1	None
Cadmium(Cd)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Chromium(Cr)	EPA 200.7	X BDL	mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Cobalt(Co)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Copper(Cu)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Iron(Fe)	EPA 200.7	X 0.16	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Mercury(Hg)	EPA 245.1	X ODL	mg/l	0.0002		mg/l	0.0002		mg/l	0.0002		mg/l	0.0002	None
Potassium(K)	EPA 200.7	X 6.82	mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Magnesium(Mg)	EPA 200.7	X 13.7	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Manganese(Mn)	EPA 200.7	X 0.05	mg/l	0.03		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Sodium(Na)	EPA 200.7	X 90.8	mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Nickel(Ni)	EPA 200.7	X 0.02	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Lead(Pb)	EPA 239.2	X BDL	mg/l	0.003		mg/l	0.003		mg/l	0.003		mg/l	0.003	None
Antimony(Sb)	EPA 200.7	X 0.07	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Selenium(Se)	EPA 270.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Thallium(Tl)	EPA279.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Vanadium(V)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Zinc(Zn)	EPA 200.7	X 0.53	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None

Comments: mg/kg=milligrams per kilogram. mg/l=milligrams per liter.

Approved by: Jerry Dees, Laboratory Director

Date/Time: 03-Feb-99 13:27

End of Report

PWC 5000.14

Navy Public Works Center

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Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 4524611
Contact: Ron Joyner

Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 84409
Sample Date: 4 Dec 90
Received Date: 4 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

LAB Sample ID#	1- 84409
Sample Name / Location	Site 38 _038GGS0102
Collector's Name	P.B. Hardy
Date & Time Collected	4 Dec 98 @ 1415
Sample Type (composite or grab)	Grab
Analyst	J. Moore
Date of Extraction / Initials	7 Dec 98 JM
Date of Analysis	7 Dec 98
Sample Matrix	Groundwater
Dilution	X 1

Compound Name	1- 844091	units	Det. limit	Flags
Benzene	BDL	ug/L	1	
Bromobenzene	BDL	ug/L	1	
Bromochloromethane	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
n-Butylbenzene	BDL	ug/L	1	
sec-Butylbenzene	BDL	ug/L	1	
tert-Butylbenzene	BDL	ug/L	2	
Carbon Tetrachloride	BDL	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
2-Chlorotoluene *	BDL	ug/L	1	
4-Chlorotoluene *	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dibromo-3-chloropropane *	BDL	ug/L	5	
1,2-Dibromoethane	BDL	ug/L	t	
Dibromomethane	BDL	ug/L	3	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodiflouromethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	BDL	ug/L	1	
cis-1,2-Dichloroethene	BDL	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
1,3-Dichloropropane	BDL	ug/L	1	
2,2-Dichloropropane	BDL	ug/L	1	
1,1-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	BDL	ug/L	1	
Ethyl ether *	BDL	ug/L	2	
Hexachlorobutadiene	BDL	ug/L	3	
2-Hexanone *	80L	ug/L	1	
Isopropylbenzene	BDL	ug/L	1	
p-Isopropyltoluene	60L	ug/L	5	

Navy Public Works Center
Environmental Laboratory

Bldg. 3887, Code 690
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-318013642
FAX (850) 4521279912387

Client: NAS Environmental
Address: Bldg. 1754
NAS Pensacola, FL 32508
Phone #: 452-4611
Contact: Ron Joyner

Analytical Report
Total Volatiles by Method 8260

Lab Report Number: 84409
Sample Date: 4 Dec 98
Received Date: 4 Dec 98
Sample Site: NAS Pensacola
Job Order No.: 130 4149

Compound Name	1- 84409	units	Det. Limit	Flags
Methylene Chloride	BDL	ug/L	5	
Methyl ethyl ketone (MEK) *	BDL	ug/L	5	
Methyl isobutyl ketone (MIBK) *	BDL	ug/L	5	
Methyl-tert-butyl ether (MTBE)	BDL	ug/L	5	
Naphthalene	BDL	ug/L	5	
n-Propylbenzene	BDL	ug/L	1	
Styrene	BDL	ug/L	1	
1,1,1,2-Tetrachloroethane	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,2,3-Trichlorobenzene	BDL	ug/L	1	
1,2,4-Trichlorobenzene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethene	BDL	ug/L	1	
Trichloroflouromethane	BDL	ug/L	1	
1,1,2-Trichloro-1,2,2-Trifluoroethane *	BDL	ug/L	2	
1,2,3-Trichloropropane	BDL	ug/L	1	
1,2,4-Trimethylbenzene	BDL	ug/L	1	
1,3,5-Trimethylbenzene	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
m,p-Xylene	BDL	ug/L	1	
o-Xylene	BDL	ug/L	1	

SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	91
Toluene-d8	86-119	101
Bromoflourobenzene	85-116	101

Explanation of Flags:

COMMENTS :

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. * = FL HRS certification pending.

Approved by : Jerry Dees, Laboratory Director

Date: 213199
Report Generated
End of Report

Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 690
NAS Pensacola, FL 32508
Phone (850) 452-3180/3642
DSN 922-3180/3642
FAX (850) 452-2799/2387

Laboratory Report

Total TAL/TCL Metals

Requester:	NAS Environmental	Report Number:	9902008
Address:	Bldg. 1754	Sample Date:	4 Dec 98
	NAS Pensacola, FL 32508	Received Date:	4 Dec 98
Phone #:	452-4611	Sample Site:	Site 38
Contact:	Ron Joyner	Job Order #:	130 4149

Sample ID#	Lab	1- 84409	2-	3-	4-	Analyst(s):
Sample Name	Requester	038GGS0102				ICP - R. C. Thomas
Collector Name		P.B. Hardy				GFAA - R. C. Thomas
Date/Time	Comp start					Hg - R. C. Thomas
Collected	Comp stop					Date(s) of analysis:
(Military)	Grab	4 Dec 98 @ 1415				ICP - Various
Sample Type	Comp/Grab	Grab				GFAA - Various
Sample Matrix		Groundwater				Hg - 16 Dec 98

PARAMETER Metals:	METHOD #	ID# 1- 84409	units	Det. Limit	ID# 2-	units	Det. Limit	ID# 3-	units	Det. Limit	ID# 4-	units	Det. Limit	Preservative(s)
Silver(Ag)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Aluminum(Al)	EPA 200.7	X 0.73	mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Arsenic(As)	EPA 206.2	X 0.017	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Barium(Ba)	EPA 200.7	X 0.22	mg/l	0.07		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Beryllium(Be)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Calcium(Ca)	EPA 200.7	X 49.4	mg/l	0.1		mg/l	0.1		mg/l	0.1		mg/l	0.1	None
Cadmium(Cd)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Chromium(Cr)	EPA 200.7	X BDL	mg/l	0.01		mg/l	0.01		mg/l	0.01		mg/l	0.01	None
Cobalt(Co)	EPA 200.7	X 0.02	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Copper(Cu)	EPA 200.7	X 0.03	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Iron(Fe)	EPA 200.7	X 1.24	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Mercury(Hg)	EPA 245.1	X BDL	mg/l	0.0002		mg/l	0.0002		mg/l	0.0002		mg/l	0.0002	None
Potassium(K)	EPA 200.7	X 4.02	mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Magnesium(Mg)	EPA 200.7	X 7.48	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Manganese(Mn)	EPA 200.7	X 1.75	mg/l	0.03		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Sodium(Na)	EPA 200.7	X 31.2	mg/l	1		mg/l	1		mg/l	1		mg/l	1	None
Nickel(Ni)	EPA 200.7	X 0.02	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Lead(Pb)	EPA 239.2	X 0.117	mg/l	0.003		mg/l	0.003		mg/l	0.003		mg/l	0.003	None
Antimony(Sb)	EPA 200.7	X 0.16	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Selenium(Se)	EPA 270.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Thallium(Tl)	EPA 279.2	X BDL	mg/l	0.005		mg/l	0.005		mg/l	0.005		mg/l	0.005	None
Vanadium(V)	EPA 200.7	X BDL	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None
Zinc(Zn)	EPA 200.7	X 0.57	mg/l	0.02		mg/l	0.02		mg/l	0.02		mg/l	0.02	None

Comments: mg/kg=milligrams per kilogram. mg/l=milligrams per liter.

Approved by: Jerry Dees, Laboratory Director

Date/Time: 03-Feb-99 13:29

End of Report

July 1999

Analytical Results

PENSACOLA, SITE 38
PENSACOLA, SITE 38, BLDG 72 AREA

NASP04 LEAD							
	SAMPLE ID ------->	038-G-GR34-02	038-G-GR35-01	038-G-GR36-01	038-G-GR37-01	038-G-GR38-01	BLK-0-SP04-01
	ORIGINAL ID ----->	038GGR3402	038GGR3501	038GGR3601	038GGR3701	038GGR3801	MBLANK1
	LAB SAMPLE ID --->	S914479*1	S914479*2	S914479*3	S914479*4	S914479*5	S914479*6
	SAMPLE DATE ----->	07/07/99	07/07/99	07/07/99	07/07/99	07/07/99	
	DATE EXTRACTED -->	07/13/99	07/13/99	07/13/99	07/13/99	07/13/99	07/13/99
	DATE ANALYZED --->	07/14/99	07/14/99	07/14/99	07/14/99	07/14/99	07/14/99
	MATRIX ---------->	Water	Water	Water	Water	Water	Water
	UNITS ---------->	UG/L A	UG/L A	UG/L A	UG/L A	UG/L A	UG/L D
CAS #	Parameter						
7439-92-1	Lead	111.	321.	8.1	367.	31.8	1.8 U

August 1999

Analytical Results

PENSACOLA, SITE 38
PENSACOLA, SITE 38, BLDG 72 AREA
TEMPORARY MONITORING WELL 38GR35

SW846-PCB

SAMPLE ID -------->	038-G-GR35-02
ORIGINAL ID ----->	038GGR3502
LAB SAMPLE ID --->	S915139*1
ID FROM REPORT -->	038GGR3502
SAMPLE DATE ----->	08/03/99
DATE EXTRACTED -->	08/10/99
DATE ANALYZED --->	08/18/99
MATRIX ---------->	Water
UNITS ---------->	UG/L

CAS #	Parameter	NASP05	NV
12674-11-2	Aroclor-1016	1.	U
11104-28-2	Aroclor-1221	2.	U
11141-16-5	Aroclor-1232	1.	U
53469-21-9	Aroclor-1242	1.	U
12672-29-6	Aroclor-1248	1.	U
11097-69-1	Aroclor-1254	1.	U
11096-82-5	Aroclor-1260	1.	U

PENSACOLA, SITE 38
PENSACOLA, SITE 38, BLDG 72 AREA
TEMPORARY MONITORING WELL 38GR35

SW846-TTT

SAMPLE ID ------->	038-G-GR35-02
ORIGINAL ID ----->	038GGR3502
LAB SAMPLE ID --->	S915139*1
ID FROM REPORT -->	038GGR3502
SAMPLE DATE ----->	08/03/99
DATE EXTRACTED -->	08/10/99
DATE ANALYZED --->	08/18/99
MATRIX ---------->	Water
UNITS ----------->	UG/L

CAS #	Parameter	NASP05	VAL
319-84-6	alpha-BHC	0.0039	J
319-85-7	beta-BHC	0.05	UJ
319-86-8	delta-BHC	0.05	UJ
58-89-9	gamma-BHC (Lindane)	0.017	J
76-44-8	Heptachlor	0.05	UJ
309-00-2	Aldrin	0.05	UJ
1024-57-3	Heptachlor epoxide	0.05	UJ
959-98-8	Endosulfan I	0.05	UJ
60-57-1	Dieldrin	0.0052	J
72-55-9	4,4'-DDE	0.0091	J
72-20-8	Endrin	0.1	UJ
7421-93-4	Endrin aldehyde	0.0064	J
33213-65-9	Endosulfan II	0.0029	J
72-54-8	4,4'-DDD	0.1	UJ
1031-07-8	Endosulfan sulfate	0.1	UJ
50-29-3	4,4'-DDT	0.1	UJ
53494-70-5	Endrin ketone	0.0018	J
72-43-5	Methoxychlor	0.066	J
5103-71-9	alpha-Chlordane	0.05	UJ
5103-74-2	gamma-Chlordane	0.05	UJ
8001-35-2	Toxaphene	5.	UJ

*** Validation Complete ***

PENSACOLA, SITE 38
PENSACOLA, SITE 38, BLDG 72 AREA
TEMPORARY MONITORING WELL 38GR35

SW846-SVOA

SAMPLE ID -------->	038-G-GR35-02
ORIGINAL ID ----->	038GGR3502
LAB SAMPLE ID --->	S915139*1
ID FROM REPORT -->	038GGR3502
SAMPLE DATE ----->	08/03/99
DATE EXTRACTED -->	08/05/99
DATE ANALYZED --->	08/06/99
MATRIX ---------->	Water
UNITS ---------->	UG/L

CAS #	Parameter	NASP05	VAL
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
95-50-1	1,2-Dichlorobenzene	5.4	J
95-48-7	2-Methylphenol (o-Cresol)	10.	U
108-60-1	2,2'-oxybis(1-Chloropropane)	10.	U
9999900-32-2	3-Methylphenol/4-Methylphenol	4.8	J
621-64-7	N-Nitroso-di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	290.	
106-47-8	4-Chloroaniline	20.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	13.	
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	10.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
99-09-2	3-Nitroaniline	50.	U
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U

*** Validation Complete ***

PENSACOLA, SITE 38
PENSACOLA, SITE 38, BLDG 72 AREA
TEMPORARY MONITORING WELL 38GR35

SW846-SVOA

SAMPLE ID ------->	038-G-GR35-02
ORIGINAL ID ----->	038GGR3502
LAB SAMPLE ID --->	S915139*1
ID FROM REPORT -->	038GGR3502
SAMPLE DATE ----->	08/03/99
DATE EXTRACTED -->	08/05/99
DATE ANALYZED --->	08/06/99
MATRIX ---------->	Water
UNITS ----------->	UG/L

CAS #	Parameter	NASP05	VAL
606-20-2	2,6-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenylphenyl ether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	2-Methyl-4,6-Dinitrophenol	50.	U
122-39-4	Diphenylamine	10.	U
301-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-butylphthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)anthracene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate (BEHP)	10.	U
218-01-9	Chrysene	10.	U
117-84-0	Di-n-octylphthalate	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U
50-32-8	Benzo(a)pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U
53-70-3	Dibenz(a,h)anthracene	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U
86-74-8	Carbazole	10.	U

*** Validation Complete ***

PENSACOLA, SITE 38
PENSACOLA, SITE 38, BLDG 72 AREA
TEMPORARY MONITORING WELL 38GR35

SAMPLE ID ------->	038-G-GR35-02
ORIGINAL ID ----->	038GGR3502
LAB SAMPLE ID --->	S915139*1
ID FROM REPORT -->	038GGR3502
SAMPLE DATE ----->	08/03/99
DATE ANALYZED --->	08/12/99
MATRIX ---------->	Water
UNITS ---------->	UG/L

CAS #	Parameter	NASP05	VAL
74-87-3	Chloromethane	5.	U
74-83-9	Bromomethane	5.	U
75-01-4	Vinyl chloride	5.	U
75-00-3	Chloroethane	5.	U
75-09-2	Methylene chloride	5.4	J
67-64-1	Acetone	120.	U
75-15-0	Carbon disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
156-59-2	cis-1,2-Dichloroethene	5.2	
156-60-5	trans-1,2-Dichloroethene	5.	U
67-66-3	Chloroform	5.	U
10f-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone (MEK)	50.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon tetrachloride	5.	U
75-27-4	Bromodichloromethane	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	4.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	10.	
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
591-78-6	2-Hexanone	50.	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	50.	U
127-18-4	Tetrachloroethene	5.	U
108-88-3	Toluene	16.	
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (Total)	1.5	J

*** Validation Complete ***

PENSACOLA, SITE 38
PENSACOLA, SITE 38, BLDG 72 AREA
TEMPORARY MONITORING WELL 38GR35

SW846METAL

SAMPLE ID ------->	038-G-GR35-02
ORIGINAL ID ----->	038GGR3502
LAB SAMPLE ID --->	S915139*1
ID FROM REPORT -->	038GGR3502
SAMPLE DATE ----->	08/03/99
DATE EXTRACTED -->	08/05/99
DATE ANALYZED --->	08/06/99
MATRIX ---------->	Water
UNITS ---------->	UG/L

CAS #	Parameter	NASP05	VAL
7429-90-5	Aluminum	150.	B
7440-36-0	Antimony	2.7	U
7440-38-2	Arsenic	7.5	B
7440-39-3	Barium	13.	
7440-41-7	Beryllium	0.1	U
7440-43-9	Cadmium	0.5	U
7440-70-2	Calcium	13000.	
7440-47-3	Chromium	8.	B
7440-48-4	Cobalt	0.87	B
7440-50-8	Copper	20.	B
7439-89-6	Iron	2700.	
7439-92-1	Lead	30.	
7439-95-4	Magnesium	13000.	
7439-96-5	Manganese	37.	
7439-97-6	Mercury	0.12	B
7440-02-0	Nickel	1.4	B
7440-09-7	Potassium	9800.	
7782-49-2	Selenium	2.2	U
7440-22-4	Silver	0.6	U
7440-23-5	Sodium	120000.	
7440-28-0	Thallium	3.3	U
7440-62-2	Vanadium	7.7	B
7440-66-6	Zinc	22.	

+++ Validation Complete +++