N00204.AR.002061
NAS PENSACOLA
5090.3a

REMEDIAL INVESTIGATION ADDENDUM
OPERABLE UNIT 2
NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA

SOUTHNAVFACENGCOM
Contract Number: N62467-89-D-0318
CTO-059

VOLUME I OF IV

Prepared for:

Comprehensive Long-Term Environmental Action Navy (CLEAN)
Naval Air Station Pensacola
Pensacola, Florida

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April 2005

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Contract No. N62467-89-D-0318

Contract Task Order 059

Volume I of IV

Prepared for:

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

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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 is complete, accurate, and complies with all requirements of the contract.

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1.0 INTRODUCTION

This Remedial Investigation (RI) Addendum has been prepared to supplement data presented in the original RI (EnSafe, 1995) for Operable Unit (OU) 2 at Naval Air Station Pensacola (NAS Pensacola). This document reports the results of soil and groundwater sampling conducted in March 2003. It also integrates these data, through direct comparison, with data collected in 1993 and 1995 for the original RI. This information is intended to support development of the final Feasibility Study (FS) for the OU.

Figure 1 shows the location of OU 2. OU 2 is in the east-central portion of NAS Pensacola, at the location of former industrial activity where one of the facility's missions was maintenance and repair of rotary wing aircraft. Six individual sites comprise OU 2:

Site 11 — North Chevalier Disposal Field
Site 12 — Scrap Bins
Site 25 — Radium Spill Site
Site 26 — Supply Department Outside Storage
Site 27 — Radium Dial Shop Sewer
Site 30 — Buildings 648, 649, and 755 and the Sewer Line TL-073C Southwest to the End

1.1 Purpose and Scope

Data have not been collected at OU 2 since 1995. At the request of the Tier 1 NAS Partnering Team including Florida Department of Environmental Protection and U.S. Environmental Protection Agency representatives, the existing data were reviewed, and a focused sampling plan was developed to assess the current state of contamination at OU 2. This focused sampling targeted soil at locations where leachability-based Florida Soil Cleanup Target Levels (LB SCTLs) were exceeded, and groundwater at locations where Florida Groundwater Cleanup Target Levels (GCTLs) were exceeded. Analysis was performed at each identified location for all parameters that had exhibited a previous exceedance of the appropriate CTL. New data were then compared to previous analytical data to document changes from 1993/1995, and to support the final FS.

Appendix A contains the SCTLs and the GCTLs that are used as comparators in this addendum.

1.2 Prior Work and 2003 Work

Prior work was conducted in two phases, 1993 and 1995. In 1993, general and comprehensive sampling of soil and groundwater was conducted at Sites 11, 25, 27, and 30 as part of the RI. In 1995, general and comprehensive soil and groundwater sampling was conducted for Sites 12 and 26, and targeted groundwater sampling was conducted for groundwater at Sites 11, 25, 27, and 30. The 1995 groundwater sampling was accomplished using low-flow techniques, resulting in lower turbidity samples than the previous sampling, which had been collected using bailers.

Resampling was conducted in March 2003 according to the aforementioned focused sampling plan. The sampling plan included both soil and groundwater, and was a corroborative effort between the Tier 1 Partnering Team, including Florida Department of Environmental Protection and U.S. Environmental Protection Agency representatives. Soil sampling was targeted to those locations and subsurface depths (greater than 1 ft depth from the surface) that had previously exhibited an exceedance of any LB SCTL for one or more analytical parameters. Groundwater sample locations were also strategically targeted and, in general, were based on one or more of three criteria:

1) a past exceedance of a GCTL in that location
2) the location was in the central portion of a the previously identified plume
3) the location was downgradient of a previously identified plume, and bordered discharge areas Wetlands 5A and B, Wetland 6, and the Wetland 64 complex (see Figure 1)

Analytical parameters were grouped into the following major groups: Metals, Pesticides/PCBs, Semivolatiles (SVOAs); and Volatiles (VOAs). In addition to these, parameters critical to evaluating Monitored Natural Attenuation (MNA) potential were also analyzed. This sampling design was intended to provide information on contaminant trends in critical old plume areas, and to determine the current nature of groundwater immediately prior to discharge to nearby wetlands.

2.0 BACKGROUND INFORMATION

The background information for the sites at OU 2, including their geology, history, and environmental setting, is included in the original RI report (EnSafe, 1995).

Synoptic groundwater levels were collected across OU 2 as part of this resampling. The potentiometric surface for the shallow aquifer system is presented in Figure 2, and for the intermediate system in Figure 3. Table 1 summarizes the groundwater level measurements taken in March 2003.

3.0 FIELD METHODOLOGY

3.1 Soil Sampling

Soil borings were advanced at the identified locations using a direct push technology rig. Using this technique, drill rods were lined with acetate liners, which filled with soil as each drill rod was advanced. Metals, pesticide/PCB, and SVOA fractions were extracted from the acetate liners and combined before sampling, and VOA fractions were collected directly from the acetate liners using EnCore© Samplers. Duplicate volumes were collected for each of the samples so that Synthetic Precipitation Leaching Procedure (SPLP) analysis could also be performed — the volume sent to for totals analysis was designated as the "bulk" sample, and the remaining volume was designated the SPLP sample. Samples were collected from the same locations and depths that exceeded a GCTL (or leachability based SCTL) in the 1993 or 1995 data. A total of 27 boreholes were completed (two boreholes were advanced at locations previously sampled using trenching techniques) and 34 soil samples were collected as part of this effort. Figure 4 shows the locations, depths, and parameter groups for soil sampling conducted during the 2003 event. Borehole completion and soil sample collection information are included in Appendix B.

3.2 Well Installation and Groundwater Sampling

Groundwater samples were collected from 73 strategically targeted locations. Figure 5 shows the locations and the parameter groups for groundwater sampling conducted during the 2003 event. Samples were collected from both shallow (well screens bracket the groundwater table) and intermediate (wells screened within a few feet of the top of the aquitard, located at the base of the surficial aquifer zone) depths.

During a reconnaissance prior to the resampling, it was discovered that the wells at two locations previously scheduled for groundwater resampling had been demolished (locations 25GS04 and 30GS029). As a result, two new monitoring wells were installed to obtain the groundwater samples in those locations. The new monitoring well locations are designated as 25GS10 and 30GS174 in Figure 5. In addition to these, a new well (11GS47) at Site 11 (downgradient of test trench LF-2) and a new well (12GS17) at Site 12 (immediately

upgradient of the southern end of the site) were installed. All of the newly-installed wells were shallow (screens bracket the groundwater table). Borehole completion was executed with the same direct-push drilling rig used for the soil sample collection. All screens and risers were composed of Schedule 40 PVC. Screens were 2-inch diameter, and 10-feet in length. Annular backfill consisted of a clean 20-30 grade sand to approximately two feet above the top of the screen, overlain by a bentonite seal at least two feet in thickness, and lastly, by a grout finish to just below ground surface. Surface completions were either flush-mount, or above-grade, depending on the anticipated ground traffic near the wellhead. Development was completed using a small centrifugal pump, and was conducted until the discharge was clear and field parameters (pH, specific conductivity and temperature) had stabilized. Appendix B contains the drilling and well completion logs for the newly-installed wells.

Well purging for groundwater sampling was executed via the low-flow technique, utilizing Teflon© tubing and peristaltic pumps. In this technique, low withdrawal flowrates are initialized in the well, with the inlet point for the tubing situated at approximately the middle of the screened interval. Monitoring of field parameters (pH, specific conductivity, temperature and turbidity) are monitored as the well purges. Purging continues until these parameters have stabilized (e.g., three consecutive readings, each within 10% of the previous reading) or until the well is purged dry. Samples for metals, SVOAs, and pesticide/PCBs are collected from an in-stream transfer bottle, and for VOAs via removal of the inflow tubing and reversing flow directly into VOA vials. Appendix C contains the groundwater sampling records that document purge volumes and field parameter information for this resampling event.

Upon reaching stabilization of the well to be sampled for MNA parameters, groundwater samples were collected using low-flow techniques with special care not to introduce air bubbles into the collection vessel. Beginning with dissolved oxygen, all groundwater samples were analyzed using a portable spectrophotometer within an hour of collection. Dissolved oxygen was analyzed using the Winkler Method.

A temporary field laboratory was positioned in the proximity of several MNA wells to insure prompt analysis of collected samples. Field analyses included:

- Oxidation-reduction potential
- Nitrate
- Dissolved Oxygen
- Iron II
- Sulfate
- Sulfide
- Chloride
- Alkalinity

4.0 LABORATORY ANALYSIS

All soil and groundwater samples were sent to STL Savannah Laboratories (Savannah, GA) for one or more of the following analyses:

Soil:

Target Compound List (TCL) VOAs (Method 8260)

TCL SVOAs (Method 8270)

Low Level Polynuclear Hydrocarbons (PAHs) (Method 8270)

Target Analyte List (TAL) Metals (6010)

Mercury (Method 7471)

TCL Pesticides (Method 8081)

PCBs (Method 8082)

Groundwater:

TCL VOAs (Method 8260)

TCL SVOAs (Method 8270)

Low Level PAHs (Method 8270)

TAL Metals (6010)

Mercury (Method 7470)

TCL Pesticides (Method 8081)

PCBs (Method 8082)

MNA Parameters:

MNA samples for gases were sent to Microseeps, Inc. (Pittsburgh, PA) for analysis, as many included parameters are not accurately measurable in the field. Such parameters include carbon dioxide, hydrogen, methane, nitrogen, and oxygen.

Appendix D contains the complete set of laboratory analytical results for soil and groundwater. Appendix E contains the data validation reports.

5.0 DATA PRESENTATIONS

The data generated from the 2003 resampling has been reduced (eliminating evaluation of not detected parameters) and compared to previous data from OU 2. Tabular summaries of these comparisons are provided, and figures have been prepared that graphically illustrate the locations of exceedances of SCTLs and GCTLs. Only current exceedances were mapped; if no exceedances of a given parameter group were present, then no figure was prepared. For the chemical species that did exceed applicable CTLs, all detects and not detected results for that species were plotted on the figures. For the data presentations that follow, soil and groundwater are integrated and discussed by parameter group. Presenting data this way will provide the continuity needed to follow the discussion framework from potential sources to eventual receptors through soil to groundwater. For summaries of the contaminant groups, refer to Tables 2 through 17; for spatial occurrences of exceedances, refer to Figures 6 though 11.

Finally, in order to ascertain where OU 2 stands in the investigative and remedial phases, several questions are presented and answered as part of the data presentation. In order for the OU to progress smoothly from the remedial investigation phase and into the remedial phase: a) The nature of all contaminants, and affected media, should be identified; b) The possible transport pathways should be identified and evaluated; c) Contaminated media should be delineated to the extent that remedial alternatives can be evaluated in an unbiased fashion. Therefore, at the end of each contaminant group presentation, questions are posed and answered regarding the temporal trend(s) in soil contamination, the soil to groundwater pathway, the temporal trend(s) in groundwater conditions, and the adequacy of delineation for the purpose of remedial alternatives analysis.

5.1 Metals

Soil:

A total of nine 2003 soil samples (eight subsurface and one surface) were collected and analyzed for metals (see Figure 4). Again, these locations were identified to be re-sampled based on 1993-1995 data that had identified metals exceedances of the applicable 1993-1995

regulatory benchmarks. Table 2 summarizes the historical and current analytical results, and compares these results to LB SCTLs, NAS Pensacola reference values for metals, and (for the surface soil sample) the residential exposure SCTLs. Figure 6 presents the locations and identifies the metals exceedances that were measured in these samples.

Of the eight 2003 subsurface samples collected, only one sample demonstrated an exceedance of a LB SCTL (011S001506, for chromium). The single surface soil sample (011SLF5S01) demonstrated an exceedance of the reference concentrations and residential exposure SCTLs for both arsenic and chromium, and the LB SCTL for chromium.

Soil SPLP:

A total of nine 2003 samples (corresponding to the bulk soil samples described above) were analyzed for metals leachability using the SPLP procedure. Table 3 summarizes these analyses.

As described previously, bulk results for two samples (011S001506 and 011SLF5S01) demonstrated LB SCTL exceedances for chromium. Unaltered (no dilution attenuation factor applied) leachate results for chromium from these samples did not measure an exceedance of the GCTL.

Leachate results from two samples (011SLF1206 and 011SLF5S01) demonstrated GCTL exceedances for cadmium and/or lead (see Table 3), but no SCTL exceedances for these same parameters in the corresponding bulk samples.

Groundwater:

A total of 35 samples were collected and analyzed for metals (see Figure 5). Again, these locations were identified to be re-sampled based on 1993-1995 data that had identified metals exceedances of the applicable 1993-1995 regulatory benchmarks. Table 4 summarizes the historical and current analytical results, and compares these results to 2003 GCTLs, NAS Pensacola reference values for metals, and 2003 fresh water and marine surface water

cleanup target levels (FSWCTL and MSWCTL) for those sample locations closest to adjacent fresh and marine surface water.

Figure 7 illustrates the 2003 exceedances for aluminum, iron, and manganese, three metals which have proven to be ubiquitous at NAS Pensacola at concentrations greater than the GCTL (see Table 4). Figure 8 illustrates the 2003 exceedances for other metals that exceeded the GCTL (barium, cadmium, chromium, and lead).

Of the 35 samples, the following exceedances of the higher of the GCTLs or the NAS Pensacola reference concentrations were present (see Table 4): aluminum (0 samples); iron (16 samples); manganese (13 samples); barium (one sample); cadmium (seven samples); chromium (three samples); and lead (four samples).

Data Analysis:

Soil:

One subsurface sample (011S001506) and one surface sample (011SLF5S01) demonstrated exceedances of the LB SCTL for chromium; this is a conservative determination, however, as it assumes all of the chromium detected was the hexavalent species, which historically has not been detected at NAS Pensacola.

The sole surface sample (011SLF5S01) demonstrated exceedances of the arsenic and chromium residential exposure SCTLs; this is also a conservative determination, as the area is not residential and is not anticipated to be so in the future.

Two locations of soil did demonstrate an ability to leach cadmium and lead to groundwater above the GCTLs even though the soil itself is below the LB SCTLs for these metals; these locations are at Site 11. The first location, 011SLF12, is on the northern end of Site 11 at 6 feet below ground surface (bgs). The second location, 011SLF5S01, is at the land surface (0 to 1 foot bgs) at the southern end of Site 11 near Wetland 6. The data are summarized in Table 3 and the sample locations are shown on Figure 4.

Groundwater:

The barium exceedance was at a single location (011GS13) adjacent to Wetland 6 (Figure 8); it is restricted to the shallow aquifer depth and its origin is unclear. As shown on Figure 8, the cadmium exceedances include two (12GS08 and 12GS09) in the Defense Reutilization and Management Office (DRMO) area (potential relationship to the former site activity), three (30GS28, 27GS10, and 30GS174) in the Building 649 area (potential relationship to former site activities), one (11GS15) on the western side of Site 11 downgradient of 12GS08 and 12GS09, and one (11GS07) on Site 11 on the immediate west side of Wetland 7 (potential relationship to site activity). The three chromium exceedances (30GS27, 30GS28, 27GS10) are in the Building 648/649 areas (potential relationship to former site activities). As shown on Figure 8, the lead exceedances include one (30GS06) near Building 3483 (former petroleum release area), one (11GS07) on the east side of Site 11 (in the shallow interval only, potentially related to DRMO and perhaps exacerbated by high leaching potential), one (30GS103) behind Building 3644 (no clear relationship to site activity), and one (30GS126) south of Building 3220 (potential relationship to former site activities) near Wetland 5B.

Feasibility Study Questions:

Has there been a long-term change in soil contamination?

There has been a downward trend in soil contamination with respect to metals (see Table 2), with the exception of chromium measured at location 011S001506.

Has there been a long-term change in groundwater contamination?

Using exceedances of GCTLs and reference concentrations as a guide, and aside from the metals that tend to occur at relatively high concentrations naturally (aluminum, iron, and manganese): decreases are noted from 1993/1995 to 2003 for locations 11GI02, 11GI04, 27GS02, 27GS10, 30GS22, 30GS27, 30GS103 (except lead), and 30GS126.

Trend analysis Table T-1 provides the following information for metals in groundwater:

For each location that exhibited an exceedance in at least one of the sampling events, Table T-1 denotes whether there has been a trend towards a fewer or higher number of

exceedances from 1993/95 and 2003, the number of exceedances from 1993/95 to 2003, and for those that exhibited an exceedance in 2003, whether the concentrations have gone up or down from 1993/95.

In summary (including aluminum, iron, and manganese), 18 locations exhibited fewer exceedances, 12 exhibited higher, and three exhibited the same. The number of exceedances dropped from 67 to 45, and of the 45 exceedances in the 2003 sampling event, 27 were higher than 1993/95, 17 were lower, and one could not be determined. Trend summaries, with respect to concentrations of cadmium and chromium, are graphically presented in trend summary Figures TS-1 through TS-3 for wells that exhibited exceedances of these metals during at least one of the sampling events.

Are there continuing problems with the soil to groundwater pathway?
Yes; at Site 11 with respect to cadmium and lead.

Are there continuing problems with the groundwater to surface water pathway?
Yes; at Building 649 (cadmium and lead), south of Building 3220 (lead), and on the northern end of Site 11 (cadmium and lead). There are also a number of locations along Wetlands 5A, 5B, 6, and 7 that exhibit exceedances of iron and manganese above the higher of the GCTL or the NAS Pensacola reference.

Is delineation complete for the purposes of the FS?
Yes; although deterministic, impacted volumes are not final, they can be estimated, and the nature of contamination is characterized sufficiently to allow an unbiased evaluation of alternatives. If further delineation is deemed necessary, it can be accomplished as an integral element of remedial design.

5.2 Pesticides/PCBs

Soil:

Three 2003 samples were analyzed for pesticides and PCBs (see Figure 4). Again, these locations were identified to be re-sampled based on 1993-1995 data that had identified

pesticide/PCB exceedances of the applicable 1993-1995 regulatory benchmarks. Tables 5 and 6 summarize the historical and current analytical results, and compare these results to LB SCTLs.

Of the three samples collected and analyzed, only three pesticides and PCB were detected. None of these detections exceeded the applicable LB SCTLs.

Soil SPLP:

Three 2003 samples (corresponding to the bulk soil samples described above) were analyzed for pesticides/PCBs leachability using the SPLP procedure. Tables 7 and 8 provide the summaries of these analyses.

None of the bulk samples demonstrated an exceedance for pesticides or PCBs, nor was there a detection in the corresponding leachate sample.

Groundwater:

Two groundwater samples (30GS123 and 12GS08) were collected and analyzed for pesticides and PCBs (see Figure 5). Again, these locations were identified to be resampled based on 1993-1995 data that had identified exceedances of the applicable 1993-1995 regulatory benchmarks for these parameters. Tables 9 and 10 summarize the historical and current analytical results, and compare these results to current 2003 GCTLs, and 2003 fresh water and marine surface water benchmarks (for comparison to those sample points located closest to adjacent fresh and marine surface water). There were no detections of pesticides or PCBs in the 2003 groundwater samples.

Feasibility Study Questions:

Has there been a long-term change in soil contamination?

Yes; 2003 results indicate a downward trend in contaminant concentrations in soil.

Has there been a long-term change in groundwater contamination?

Yes; 2003 results indicate a downward trend in contaminant concentrations in groundwater.

Are there continuing problems with the soil to groundwater pathway?

No.

Are there continuing problems with the groundwater to surface water pathway?

No.

Is delineation complete for the purposes of the FS?

Yes.

5.3 SVOAs

Soil:

Six 2003 subsurface soil samples were collected and analyzed for SVOAs (see Figure 4). These locations were identified to be re-sampled based on 1993-1995 data that had identified SVOA exceedances of the applicable 1993-1995 regulatory benchmarks. Table 11 summarizes the historical and current analytical results, and compares these results to LB SCTLs. Sample locations are shown on Figure 4.

Of the six 2003 subsurface samples collected (011SLF1206, 025S000514, 025S000814, 027S001706, 030S000608, and 030S001212), none demonstrated an exceedance of an SVOA LB SCTL.

Soil SPLP:

Six 2003 samples (corresponding to bulk soil samples described above) were analyzed for SVOA leachability using the SPLP procedure. Table 12 summarizes these analyses.

Leachate results from two samples demonstrated GCTL exceedances, although the corresponding bulk analytical results were below the applicable SCTL. These GCTL exceedances included 1-methylnaphthalene, 2-methynaphthalene, and naphthalene from 011SLF1206, and 2,4 dinitrotoluene and 2,6-dinitrotoluene from 027S001706.

Groundwater:

A total of 26 samples were collected and analyzed for SVOAs (see Figure 5). These locations were identified to be re-sampled based on 1993-1995 data that had identified SVOA exceedances of the applicable 1993-1995 regulatory benchmarks. Table 13 summarizes the historical and current analytical results, and compares these results to current 2003 GCTLs, and 2003 fresh water and marine surface water benchmarks (for comparison to those sample points located closest to adjacent fresh and marine surface water).

All detections of SVOAs that demonstrated a GCTL exceedance in 2003 at any location, and were present above the method detection limit, are shown on Figure 9. Because of their low concentrations, those compounds estimated to be present above the instrument detection limit but below the method detection limit were not plotted, but can be identified in Table 13.

The following GCTL exceedances (and locations) from the 2003 samples were demonstrated:

- 1-methylnaphthalene (11GS47, 30GS06, 30GS22)
- 2-methylnapthalene (11GS47, 30GS06, 30GS22)
- 3 and 4 — methylphenol (27GS19, 27GS18, 30GS06, 30GS22)
- naphthalene (27GS19, 30GS06, 27GS18, 30GS111)
- 1,4 dichlorobenzene (30GI111)
- 2,4 dichlorophenol (30GI111)
- carbazole (30GS06)
- pentachlorophenol (30GS06)

Data Analysis

Soil:

There are no areas of soil sampled in 2003 demonstrating SCTL exceedances for SVOAs, and therefore no soil that is immediately identified as a continuing source of contamination to groundwater.

Leaching results indicate that there are two areas that have the potential to leach SVOAs to groundwater above the GCTLs even though the soil itself is below the SCTLs as summarized in Table 12: these are at the northern end of Site 11 at 6 feet bgs, and at Site 27, in the center of OU 2 atop the topographic high. Locations are shown on Figure 4.

Groundwater:

The following locations demonstrated an exceedance of the SVOA GCTLs in 2003 as shown in Figure 9:

- 11GS47 (east side of Site 11, adjacent to Wetland 7; associated with former site activities)
- 27GS19 (in the center of Site 27, atop the topographic high, associated with former site activities)
- 30GI111 and 30GS111 (immediately north of Wetland 5B and east of Wetland 6; source unknown)
- 30GS06 (near Building 3483, a former petroleum release area, and immediately upgradient of Wetland 5A; associated with former site activities)
- 30GS22 (in the center of the Building 648/649 complex; associated with former site activities)

- 27GS18 (in the center of Site 27, atop the topographic high; associated with former site activities)

Feasibility Study Questions:

Has there been a long-term change in soil contamination?

Of the six 2003 samples collected, SVOA concentrations decreased from the 1993/1995 sampling event.

Has there been a long-term change in groundwater contamination?

In general, the number of exceedances and the magnitude of detections decreased or remained relatively stable. Exceptions to this include the area near 30GS22, the area near 27GS19, and the area near 30GI111. Table 14 elaborates on the historical trends for those wells demonstrating exceedances in 2003.

Trend analysis Table T-2 provides the following information for SVOAs in groundwater:
For each location that exhibited an exceedance in at least one of the sampling events, Table T-2 denotes 1) whether there has been a trend towards a fewer or higher number of exceedances from 1993/95 and 2003, 2) the number of exceedances from 1993/95 to 2003, and 3) for those that exhibited an exceedance in 2003, whether the concentrations have gone up or down from 1993/95.

In summary, five locations exhibited fewer 2003 exceedances than in the 1993/95 sampling events, three exhibited a higher number of exceedances, and three exhibited an equal number of exceedances. The total number of exceedances for 1993 was 21, and in 2003, 18 exceedances were observed. Comparison of the 18 exceedances in the 2003 sampling event to previous analytical results indicate 11 concentrations increased, five concentrations decreased, and two could not be determined (the parameter was not analyzed in 1993/95). Trend Summary Figures TS-4 through TS-10 graphically present trends for 1,4-dichlorobenzene, 1-methylnaphthalene, 2,4-dichlorophenol, 2-methylnaphthalene, 3,4-methylphenol, and naphthalene in wells that exhibited exceedances of these parameters during at least one of the sampling events.

Are there continuing problems with the soil to groundwater pathway?

Yes. One location at Site 11 and one location at Site 27 demonstrate concentrations below the applicable SCTLs, but have the potential to leach SVOAs at concentrations above the applicable GCTLs as summarized in Table 12. Locations are shown on Figure 4.

Are there continuing problems with the groundwater to surface water pathway?

Yes. Three areas, immediately adjacent to or the closest downgradient well to wells, demonstrated exceedances above the GCTL. These included 11GS47 (adjacent to Wetland 7), 30GI111 (adjacent to Wetlands 5B and 6), and 30GS06 (adjacent to Wetland 5A).

Is delineation complete for the purposes of the FS?

Yes; although deterministic, impacted volumes are not final, they can be estimated on the scale of the OU, and the nature of contamination is characterized sufficiently to allow an unbiased evaluation of alternatives. If further delineation is deemed necessary, it can be accomplished as an integral element of remedial design.

5.4 VOAs

Soil:

A total of 17 subsurface soil samples were collected and analyzed for VOAs (see Figure 4). Again, these locations were identified to be re-sampled based on 1993-1995 data that had identified VOA exceedances of the applicable 1993-1995 regulatory benchmarks. Table 15 summarizes historical and current analytical results, and compares these results to LB SCTLs.

Of the 17 subsurface samples collected, one demonstrated exceedances of LB SCTLs for VOAs (030S0013820 for ethylbenzene, tetrachloroethene (PCE), and xylene; see Table 15). The detected concentration of PCE in sample 011S00606 was equal to the LB SCTL. Figure 10 illustrates the location of these two samples (030S013820 and 011S000606).

Soil SPLP:

A total of 17 samples (corresponding to the bulk soil samples described above) were analyzed for VOA leachability using the SPLP procedure. Table 16 summarizes these analyses.

As noted previously, bulk results for two samples (011S000606 and 030S013820; see Table 16) were either equal to or exceeded the LB SCTL for PCE. One of these bulk samples (030S013820) also demonstrated exceedances for ethylbenzene and xylene. Unaltered (no dilution attenuation factor applied) leachate results for PCE and ethybenzene from these samples did not measure an exceedance of the corresponding GCTL; however the leachate result for xylene in sample 030S013820 was above the GCTL (see Table 16).

Leachate results from one sample demonstrated a GCTL exceedance for 1,2 dichloropropane (030S01718; see Table 16), but the corresponding bulk sample did not demonstrate an SCTL exceedance for this compound.

Groundwater:

A total of 28 samples (from Site 30) and 33 samples (from Sites 11, 12, 25, and 27) were collected and analyzed for VOA (see Figure 5). These locations were identified to be re-sampled based on 1993-1995 data that had identified VOA exceedances of the applicable 1993-1995 regulatory benchmarks. Table 17 summarizes the historical and current analytical results, and compares these results to current 2003 GCTLs, and 2003 fresh water and marine surface water benchmarks (for comparison to those sample points located closest to adjacent fresh and marine surface water).

Of the 61 samples collected in 2003, 22 groundwater samples exceeded at least one GCTL. Figure 11 illustrates the 2003 GCTL exceedances for VOAs. All detections of VOAs that demonstrated an exceedance at any location, and were present above the method detection limit, are shown on this figure. Because of their low concentrations, those compounds estimated to be present above the instrument detection limit but below the method detection limit were not plotted, but can be identified in Table 17 with "J" flags.

The following GCTL exceedances (and locations) from the 2003 samples were demonstrated:

- chlorobenzene (30GI111, 30GS111)
- chloroethane (30GS22, 30GS111, 27GS11)
- cis-1,2- DCE (30GI170, 11GI12, 11GI14, 11GS52, 27GS19)
- 1,1-DCA (30GS22)
- 1,2-DCA (11GI10)
- 1,1-DCE (27GI04, 27GI06)
- PCE (30GS22, 30GS28, 30GS46, 11GI02, 11GI12, 27GS18, 27GS19)
- TCE (30GI170, 11GI02, 11GI12, 11GI14, 11GS52, 25GI01, 27GS19, 27GS04)
- VC (30GI111, 30GI170, 30GS18, 11GI14, 11GS47, 11GS52);
- xylene (30GS06, 11GS47, 27GS18, 27GS19)
- ethylbenzene (30GS06, 11GS47, 27GS19)
- benzene (11GS47, 11GS28, 30GS111, 30GI111, 30GS06, 27GS04)

Data Analysis

Soil:

As shown in Table 16, two locations of soil sampled in 2003 demonstrated VOA concentrations greater than the leachability based SCTL. These include one location (011S06) in the northwest corner of Site 11 at 6 feet bgs, and one location at Site 30 — in the southwest corner of the site adjacent to Building 2690 (030S0138) at 20 feet bgs.

These areas were identified from samples that were collected immediately above the groundwater table; none of the samples denoted a material other than sand encountered during the sampling of these intervals. Due to the very porous nature of the sands at NAS Pensacola, determining the depth of the groundwater table is difficult. These samples (011S000606 and 030S013820) may represent media collected in the capillary zone of the aquifer, in which case the contamination is more accurately evaluated as a smear zone, where contamination at the top of the groundwater table is imparted to the soil via seasonal fluctuation of the groundwater table. Boring logs recorded for these locations do not identify PID readings above zero until the zone immediately above the groundwater table is

encountered groundwater samples (11GS05 and 30GS06) collected from near the sample locations listed above have similar contaminants, but at lower concentrations. Therefore, the most logical treatment of these soil zones from a remediation perspective, especially given their limited thickness and relatively deep occurrence, is to view them conceptually as a part of the aquifer matrix.

Groundwater:

The following locations demonstrated an exceedance of the VOA GCTLs in 2003 (see Figure 11):

- 30GS111 and 30GI111 (southeast corner of site 30, immediately adjacent to Wetland 6; source unknown)
- 30GI170 (south of Building 3220; associated with former site activities)
- 30GS18 (adjacent to Wetland 5A; associated with former site activities)
- 30GS22 (in the center of the Building 648/649 complex; associated with former site activities)
- 30GS46 (immediately north of Building 648; associated with former site activities)
- 30GS28 (east of Building 649; associated with former site activities)
- 30GS06 (near Building 3483; associated with former site activities)
- 11GI02 (upgradient side of southern end of Site 11)
- 11GI10 (southeast corner of Site 11)
- 11GI12 (downgradient side of southern end of Site 11)

- 11GI14 (southern end of Site 11)
- 11GS28 (northwest corner of Site 11)
- 11GS47 (northern end of Site 11)
- 11GS52 (southern end of Site 11)
- 25GI01 (central portion of site, immediately north of Building 225)
- 27GI04 (southern end of site; northeast corner of Building 3607)
- 27GI06 (southwestern corner of site; east of Building 649)
- 27GS04 (center of site; southwest corner of Building 741)
- 27GS11 (southwestern corner of site; east of Building 649)
- 27GS18 (northern central portion of site)
- 27GS19 (northern central portion of site)

Feasibility Study Questions:

Has there been a long-term change in soil contamination?

Ten samples collected in 1993/1995 had an exceedance of current SCTLs; all of these went down in the 2003 sampling. There has been a significant decrease in soil contamination since the 1993/1995 sampling.

Has there been a long-term change in groundwater contamination?

In general, the number of exceedances of the current GCTLs and the magnitude of detections decreased or remained relatively stable when comparing the 2003 data directly with the

1993 data. Thirty-five groundwater samples demonstrated exceedances in the 1993 sampling event; of those, 22 samples demonstrated GCTL exceedances in 2003, and two locations that had 2003 exceedances did not have exceedances in 1993. In comparing the 2003 data directly with the 1995 data, the number of localities with exceedances actually went up: of 21 common samples, 15 demonstrated exceedances in 1995, while 19 demonstrated 2003 exceedances. Table 18 elaborates on these historical trends.

Trend analysis Table T-3 provides the following information for VOAs in groundwater:
For each location that exhibited an exceedance in at least one of the sampling events, Table T-3 denotes 1) whether there has been a trend towards a fewer or higher number of exceedances from 1993/95 and 2003, 2) the number of exceedances from 1993/95 to 2003, and 3) for those that exhibited an exceedance in 2003, whether the concentrations have gone up or down from 1993/95. In summary, 26 locations exhibited a fewer number of exceedances in 2003, seven exhibited a higher number, and 5 exhibited the same. The total number of exceedances dropped from 101 to 46. Of the 46 exceedances from the 2003 sampling event, 25 were lower than 1993/95, 17 were higher, and four could not be determined (due to higher detection limits in 1993/95). Trend summary Figures T-S-11 through TS-35 graphically present trends for benzene, chlorobenzene, chloroethane, 1,1-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, tetrachloroethene, 1,1,1-trichloroethane, trichloroethene, vinyl chloride, and total xylenes in wells that exhibited an exceedance of these compounds in at least one of the sampling events.

Are there continuing problems with the soil to groundwater pathway?
No. This statement is based on the resampling done in 2003 that targeted all of the soil exceedances identified during previous sampling. There are two locations that exhibit VOA concentrations greater than or equal to, the LB SCTLs, all of which are immediately above the groundwater table. It is the conclusion of this RI Addendum, because of seasonal groundwater level fluctuations, and the nature of VOAs, that these exceedances represent contamination imparted to the soil matrix from the groundwater, and that conceptually this soil should be treated as aquifer matrix.

Are there continuing problems with the groundwater to surface water pathway?

Yes. Areas that demonstrated exceedances above the respective GCTLs, and were immediately adjacent to, or were the closest downgradient well to, wetlands, included 30GS111/30GI111 (adjacent to the southern end of Wetland 6), 30GS18 (adjacent to Wetland 5A), 30GS06 (adjacent to Wetland 5A), 30GI170 (adjacent to Wetland 5B), 11GS52 (adjacent to the central portion of Wetland 6), 11GI14 (adjacent to the northern portion of Wetland 6), 11GI12 (adjacent to the northern portion of Wetland 6) , 11GI10 (adjacent to the southern portion of Wetland 7), and 11GS47 and 11GS28 (both adjacent to Wetland 7).

Is delineation complete for the purposes of the FS?

Yes; although deterministic, impacted volumes are not final, they can be estimated on the scale of the OU, and the nature of contamination is characterized sufficiently to allow an unbiased evaluation of alternatives. The exception to this is in the vicinity of the southeast corner of the OU (30GS111 and 30GI111) that may be impacted by groundwater flow from the east.

5.5 MNA Parameters and Evaluation

Natural attenuation (NA) refers to a combination of biological, chemical, and physical processes by which the concentrations of constituents are naturally eliminated *in-situ*. These processes include destructive and non-destructive mechanisms. Physical processes are non-destructive and tend to reduce the concentrations of contaminants by dispersion, dilution with recharge, adsorption, or volatilization, and do not directly reduce the mass of contaminants in groundwater. By contrast, biological processes involve a destructive mechanism, the direct biodegradation of contaminants, thereby reducing their concentrations as well as their overall mass in groundwater.

5.5.1 Contaminants and Biodegradation Pathways

Historic VOA contamination at OU 2 has been primarily that of chlorinated aliphatic hydrocarbons (i.e., chlorinated solvents) with lesser petroleum hydrocarbon (i.e., BTEX) contamination. Both types of compounds are potentially biodegraded via microbially mediated

geochemical reactions that occur under favorable geochemical conditions. The aquifer's geochemistry, particularly its oxidation-reduction state (redox potential), is inherently linked to the potential for natural biodegradation.

Fuel hydrocarbons, primarily the BTEX compounds, are susceptible to biodegradation as long as the electron acceptor supply is not depleted. Given an ample supply, biodegradation typically continues until all the contaminants that are biochemically accessible to microbes are destroyed.

Chlorinated hydrocarbon biodegradation may occur by three different processes: use of the chlorinated hydrocarbon as an electron acceptor, use of the chlorinated hydrocarbon as an electron donor, or by co-metabolism, a fortuitous degradation of the chlorinated hydrocarbon by an enzyme catalyst that is produced by microbes for other purposes such that the degradation provides no benefit to the microbial population. The most common of these processes is that of reductive dechlorination (or reductive dehalogenation), whereby the chlorinated hydrocarbon is used as an electron acceptor, not as a carbon source, and a chlorine atom is removed and replaced with a hydrogen atom. This process is limited by electron donor supply. Typically, electron donors are naturally occurring organic carbon, anthropogenic carbon, or fuel hydrocarbons. As a result, the success of reductive dechlorination is tied to numerous geochemical dynamics, rendering the predictability of reductive dechlorination difficult.

5.5.2 Objectives of Evaluation

During the March 2003 re-sampling event, natural attenuation parameters were collected at 13 well locations at OU 2 to provide an initial evaluation of the biodegradation potential. The wells were chosen on the basis of either historical VOA concentrations or their locations along representative groundwater flowpaths, and were targeted to provide information regarding a) upgradient positions, b) historical source areas, and c) downgradient positions.

For chlorinated solvent compounds, the EPA's *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater [Technical Protocol]* (EPA, 1998) defines three lines of evidence to be used to determine the potential for natural attenuation.

1. Historical groundwater data that demonstrates a decreasing trend in contaminant mass or concentration over time along representative groundwater flowpaths.

2. Geochemical data that indirectly demonstrate the active natural attenuation mechanisms at the site, and that may be used to estimate the rates at which these processes will reduce contaminants to regulatory levels.

3. Data from microcosm studies that directly demonstrate the occurrence of a specific natural attenuation mechanism at the site and its ability to degrade the contaminants of concern.

This assessment focuses on evaluating the first two lines of evidence via the analysis of VOA data and geochemical/natural attenuation parameters. The third line of evidence is rarely utilized because of its relatively high costs and unnecessary level of sophistication required for a preliminary analysis of NA potential.

5.5.3 NA Parameters

Because reductive dechlorination is typically limited by electron donor availability, the geochemical data analysis focuses on the presence and/or absence of potential electron acceptors. Microbes initially utilize dissolved oxygen (DO) as the primary electron acceptor. Once DO is depleted and an ample supply of carbon remains available for donating electrons, anaerobic microbes utilize additional electron acceptors, if available, in a generally preferred order: nitrate, ferric iron (iron III), sulfate, and carbon dioxide. Therefore, an electron acceptor's concentration, or inferentially, that of its corresponding redox couple (e.g., ferrous iron in the case of ferric iron), provides valuable information regarding the potential for reductive dechlorination in the aquifer. Table 19 summarizes the NA parameters collected during the 2003 re-sampling, their methods, and geochemical rationale. Note that all dissolved gases other than DO were collected in the field using a low-flow bubbler apparatus.

Well Locations and Flowpaths

All wells chosen for NA sampling are identified in Figure 5 shown previously. Background geochemistry was obtained from 30GS15. The remaining 12 wells were selected based on either historic VOA contamination or location within a groundwater flowpath along which NA might be occurring. These 12 wells are divided as follows:

- Five locations in the northern portion of Sites 11 and 12. Three of these lie along a single, shallow groundwater flowpath defined by 12GS01 (upgradient and historically with not detected VOAs), 11GS05 (an intermediate flowpath location with a few low but detectable VOAs), and 11GS47 (a downgradient location with historically high VOAs; see Figure 2). Additionally, a neighboring shallow/intermediate well pair, 11GS07 and 11GI08, were monitored due to their general downgradient positioning, although neither had historic VOA detections.

- Seven locations in Site 30 and one location in Site 27.

    1. Four locations, two for intermediate and shallow groundwater, respectively, lie in the western to central portion of Site 30. For intermediate zone groundwater, 30GI32A was selected due to its upgradient location and historic but low VOA detections, and 27GI06 was selected due to its general downgradient positioning (see Figure 3). A shallow groundwater flowpath starting at 30GS22 (upgradient and historic VOA detections and exceedances) and continuing to 30GS27 (downgradient with historic VOA detections and exceedances) was also monitored.

    2. The three remaining Site 30 locations lie in the southern portion of Site 30. The shallow/intermediate well pair, 30GS170/30GI170, was selected as an upgradient location, each well with historic but low VOA concentrations. 30GS123 was selected as a general downgradient monitoring location due to its positioning near the likely surface water discharge point.

Preliminary Screening

The NA parameters and VOA data were used to qualitatively screen the potential for natural attenuation at each well location using the ranking system outlined in the *Technical Protocol*. While the ranking is a valuable tool in determining the overall potential at each well location, it is important to remember that for MNA to be a viable remedial strategy, ample evidence of biodegradation must be seen along a groundwater flowpath (i.e., from contaminated well locations to downgradient clean wells).

The ranking system assigns points to various geochemical lines of evidence that are indicative of reductive dechlorination. For instance, DO concentrations below 0.5 mg/L are indicative of anaerobic conditions, which are highly favorable for reductive dechlorination of parent compounds such as PCE and TCE. Therefore, well locations with DO < 0.5 mg/L are given one point. The *Technical Protocol* details the point system for each geochemical parameter. The sum of all points for a given well are compared to ranges that correspond to an interpretative and qualitative assessment of the potential for reductive dechlorination of chlorinated organic compounds, as follows:

- 0-5 points → Inadequate evidence
- 6-14 points → Limited evidence
- 15-20 points → Adequate evidence
- > 21 points → Strong evidence

The ranking for all 13 wells chosen for NA sampling at OU 2 is provided in Table 20. The number of wells for each category of NA potential was determined to be:

- Strong (3)
- Adequate (2)
- Limited (8)
- Inadequate (0)

Three of the five locations with adequate or strong potential are also locations with VOA GCTL exceedances — 11GS47 (strong), 30GS22 (strong), and 30GI170 (adequate). Groundwater from monitoring wells 11GS05 (strong) and 30GS123 (adequate) had no VOA GCTL exceedances. Table 21 summarizes the basis for the ranking and a geochemical summary at each well location with exceedances. The ranking is only a preliminary evaluation and that conflicting and contradictory findings are often encountered regarding specific reductive dechlorination processes. For example, DO data may indicate apparent aerobic conditions despite the presence of daughter products, a highly reducing ORP value, or the potential for iron reduction based on hydrogen gas data.

The four wells with exceedances (11GS47, 30GS22, 30GI170, and 27GI06) do not lie along a single groundwater flowpath, are relatively isolated from one another, and monitor different aquifer depths. As a result, the evaluation will focus on the potential for NA at each of the above four locations with exceedances and a preliminary assessment of potential along any representative flowpaths that may include any of the above four locations.

Flowpath Analysis

Geochemical Trends

Flowpath #1 — 30GS22-30GS27

The shallow groundwater potentiometric surface (see Figure 2) indicates that groundwater may be expected to flow from 30GS22 toward 30GS27. This flowpath exhibits parent compounds of both the ethane and ethene chains. The highest VOA concentrations and the only GCTL exceedances (PCE, chloroethane, and 1,1-DCA) were detected at the upgradient location, 30GS22. The following summarizes the geochemical findings along the flowpath.

Upgradient (30GS22): Anaerobic, reducing conditions are supported by the following evidence:

- no detectable DO
- reducing ORP (-180 mV)
- limited ferrous iron production

- high sulfide production
- high alkalinity (2X background, indicating high microbial activity)
- hydrogen concentration corresponds to ferric iron reduction range
- co-located daughter products and parent compounds for ethenes and ethanes
- strong evidence of NA potential

Downgradient (30GS27): aerobic and oxidizing conditions are supported by the following evidence:

- elevated DO above 1.5 mg/L
- oxidizing ORP (>150 mV)
- decreasing alkalinity (indicative of decreased biodegradation and microbial activity)
- decreasing ferrous iron production, sulfide production and methane production
- decreased hydrogen concentration (supports the decline in microbial activity)
- limited evidence of NA potential

While declining NA potential at the downgradient end of the flowpath is not ideal, VOA concentrations at 30GS27 are considerably lower and no longer exceed GCTLs. Therefore, attenuation mechanisms other than biodegradation appear to be influential in mitigating VOA impacts at this locale.

Flowpath #2 — 12GS01-11GS05-11GS47

Based on the 2003 sampling data, chlorinated solvent and BTEX concentrations increase in the downgradient direction and are greatest at 11GS47. At this location, BTEX and chlorinated ethenes are present. The following summarizes the geochemical findings along the flowpath:

Upgradient (12GS01): Aerobic, non-reducing conditions are supported by the following evidence:

- High DO (2.6 mg/L)
- No detectable ferrous iron

- High nitrate and sulfate concentrations
- oxidizing ORP (137 mV)
- Limited evidence of NA potential

For the purposes of this pathway, the geochemical results at 12GS01 may be viewed as background.

Midpoint (11GS05): Anaerobic and reducing conditions are indicated at this location based on the following evidence:

- 0 mg/L DO
- reducing ORP (-113 mV)
- decrease in sulfate concentration and corresponding increase in sulfide concentration (38 times greater than upgradient location)
- high ferrous iron concentration
- high methane concentration
- hydrogen concentration indicating iron (III) reduction is dominant electron acceptor process
- presence of TCE daughter product (cis-1,2-DCE)
- strong evidence of NA potential

Downgradient (11GS47): Anaerobic and reducing conditions prevail based on the following lines of evidence:

- < 0.5 mg/L DO
- high ferrous iron concentration (equal to 11GS05)
- low sulfate concentration (although no detectable sulfide)
- high methane concentration (6X greater than 11GS05)
- increased hydrogen concentration corresponding to the sulfate reduction range
- co-located daughter products and parent compounds
- strong evidence of NA potential

Although there are some contradictory geochemical data, such as the steady nitrate concentrations along the flowpath despite clear evidence of advanced aquifer redox states (i.e., ferric iron reduction, sulfate reduction and methanogenesis), the overall weight of evidence implies that NA has been an active process along the downgradient portions of this flowpath. The increase in BTEX concentrations at the downgradient location has provided an additional carbon source to facilitate reductive dechlorination, which is supported by:

- the increase in daughter products, particularly VC, along the flowpath
- the decline in sulfate concentrations
- the indication of methanogenic conditions along the flowpath

Redox conditions have clearly progressed to methanogenesis, although it is important to note that the high methane concentrations may be somewhat biased by co-located decay of other organic substances in this portion of the former Site 11 Landfill. While continued reductive dechlorination is promising, the flowpath data indicate that limited parent compounds remain insitu and further upgradient. VC concentrations are elevated since VC is typically the least susceptible chlorinated ethene compound to be reduced due to its oxidized state. If no additional source of parent compounds persists for continued reductive dechlorination, the co-located BTEX compounds will no longer serve as electron donors for reductive dechlorination and may be assimilated by the aquifer via other geochemical reactions.

Because VOA concentrations increase in the downgradient direction along the flowpath, estimates of first order biodegradation rates are not possible or practical.

Flowpath #3 — 27GI06-30GI170

Based on the potentiometric surface for the intermediate zone (Figure 3), groundwater flow is generally east-southeasterly across Sites 30 and 27. 27GI06 is located generally upgradient of 30GI170, although not directly on a single flowpath. Due to its higher VOA concentrations, 30GI170 may be regarded as the source well, which limits the NA evaluation along this flowpath. The geochemical findings are summarized as follows:

Upgradient (27GI06): borderline anaerobic conditions appear to prevail based upon the following evidence:

- DO at 0.5 mg/L
- Low nitrate
- Low ferrous iron production
- Insignificant sulfide and methane production
- Low alkalinity and hydrogen (suggesting limited microbial activity)
- Low concentrations of parent compounds co-located with daughter compounds (primarily 1,1-DCE)
- Limited evidence for NA potential

Downgradient (30GI170): anaerobic conditions are present based upon the following factors:

- DO less than 0.5 mg/L
- Low nitrate

- Significant ferrous iron production greater than 1 mg/L
- increased sulfide and methane production
- increased alkalinity and hydrogen concentrations (suggesting increased microbial activity)
- high concentrations of parent and daughter compounds
- adequate evidence for NA potential

The high ORP readings at both locations provide contradictory evidence regarding redox conditions. Nonetheless, the increased NA potential at 30GI170 is promising considering the dramatic increases in VOAs. It is worth noting that the pH at this downgradient location is considerably low (5.03) and at the end of the optimal pH range for reductive dechlorination (5-9). Continued attenuation of VOAs at 30GI170 cannot be further evaluated without data from any additional downgradient monitoring wells, and the increases in VOAs at the 30GI170 does not allow for determination of first order biodegradation rates.

Biodegradation Rate Estimation

As an additional line of evidence for the potential of NA, a conservative tracer such as trimethylbenzene or chloride may be used to estimate biodegradation rates along representative groundwater flowpaths. However, this estimation is only valid if the flowpath reveals decreasing VOA trends in the downgradient direction. Therefore, this exercise was limited to the only flowpath that meets this criteria, flowpath #1 (30GS22-30GS27).

The procedure attempts to normalize the influence of any other attenuation mechanisms, such as dispersion and dilution, from the flowpaths so that effects related solely to biodegradation may be assessed. No trimethylbenzene data was available from the 2003 sampling data, so chloride was used as the conservative tracer. Although chloride may not be an ideal tracer in this geologic environment due to the deposition of coastal sediments, its use is justified if the

monitoring locations along the flowpath exhibit chloride concentrations below background (40 mg/L in shallow and intermediate groundwater based on 30GS15 and 30GI32A, respectively). This is the case at 30GS22 and 30GS27.

In order to estimate the amount of a contaminant that would be expected to remain at two points along a flowpath if biodegradation were the only attenuation process that reduces contaminant concentrations, the measured concentrations of a tracer and contaminant are required from a minimum of two points along the flowpath. This estimation is based on the presumption that the tracer and contaminant concentration are equally influenced by non-biodegradation attenuation mechanisms (dilution, sorption, and dispersion) but that the tracer is unaffected by biodegradation, unlike the contaminant. The expected downgradient concentration ($C_{B,COR}$) of a contaminant that is influenced solely by biodegradation along two points (A and B) in a flowpath is:

$$C_{B,COR} = C_B \left(\frac{T_A}{T_B} \right) \qquad (1)$$

where C_B is the contaminant concentration at the endpoint of the flowpath, T_A is the tracer concentration at the upgradient location, and T_B is the tracer concentration at the end of the flowpath. This exercise allows the estimation of theoretical VOA concentrations that result solely from biodegradation at any point along a flowpath by using the measured contaminant concentration at the origin and the dilution of the tracer along the flowpath. The resulting normalized VOA concentrations may then be used for estimation of the first order biodegradation decay rate.

The normalization procedure includes the summation of inorganic chloride detected at each location and organic chlorine associated with the organic solvent compounds. The contribution of organic chlorine is determined by multiplying the concentration of a chlorinated organic compound, such as TCE, by the mass fraction of chlorine in the molecule. Total chlorine is then the sum of all chlorine associated with each chlorinated organic compound plus inorganic chloride.

The total chlorine and chloride determination for 30GS22, the upgradient location, is shown in Table 22.

The contribution to total chloride from organic chloride is nominal at the low concentrations of VOAs detected at OU-2. Because total VOAs at the downgradient location, 30GS27, were less than about 5 ppb, only the inorganic chloride concentration was used (20 mg/L) for equation 1.

The VOAs normalized along the flowpath were PCE, cDCE, TCA, and DCA because they are present at concentrations above 5 ppb at the upgradient and downgradient locations. Table 23 presents the normalized concentrations at the downgradient location, 30GS27, that were computed from equation (1) using the values of 25.19 mg/L for T_A and 20 mg/L for T_B. The 21% decline in Cl at the downgradient point represents the loss of mass due to other, non-destructive attenuation mechanisms.

With the normalized concentrations determined, the theoretical concentration of any contaminant along the flowpath that may result from biodegradation may be estimated. The first order decay rate for biodegradation is estimated by the following expression:

$$C_{B,COR} = C_A e^{-\lambda t} \qquad (2)$$

where C_A is the contaminant concentration at upgradient point A, λ is the first-order biodegradation rate constant (1/T), and t is the contaminant travel time between points A and B. To solve for the unknown, λ,.the equation is rearranged as, where t is determined by the

$$\lambda = -\frac{\ln\left(\frac{C_{B,COR}}{C_A}\right)}{t} \qquad (3)$$

expression (x/v_c) where x is the distance between points A and B and v_c is the retarded contaminant velocity in groundwater, or the seepage velocity (v_x) divided by R, the retardation factor for the contaminant of interest.

Required in this evaluation are several assumptions and intermediate calculations, which are presented in Table 24 and its following notes.

These decay rate estimates are relatively high due to the rapid attenuation of these VOAs over the short flowpath distance of only 180 ft. Because biodegradation is inherently linked to aquifer redox dynamics, these promising results should be verified with additional sampling should MNA be determined to be a part of the overall site remedy.

Biodegradation of Petroleum Hydrocarbons

As with reductive dechlorination of chlorinated hydrocarbons, petroleum hydrocarbon biodegradation requires the presence of one or more terminal electron acceptors (DO, nitrate, ferric iron, sulfate, or carbon dioxide) for microbial respiration. Unlike reductive dechlorination, petroleum hydrocarbon degradation is limited by electron acceptor supply. Assuming that appropriate indigenous microorganisms are present, the order in which they are utilized generally depends upon the relative amount of energy that can be derived from each electron acceptor. Under ideal conditions, the degradation of petroleum constituents utilizes electron acceptors in the following order (keeping in mind that groundwater situations are very rarely ideal and some of these processes are known to occur simultaneously in the same vicinity):

DO > nitrate > ferric iron > sulfate > carbon dioxide

The significance of each of these electron acceptors for petroleum hydrocarbon biodegradation is described below.

Dissolved Oxygen (DO)

DO is the most thermodynamically favored electron acceptor in fuel biodegradation. DO concentrations can be used to estimate the mass of a contaminant that can be degraded. Stoichiometrically, 1.0 mg/L of DO can destroy approximately 0.32 mg/L of BTEX. However, this is a conservative estimate and does not take into account the production of cell mass. Realistically, 1.0 mg/L could degrade 0.97 mg/L of BTEX (AFCEE, 1995). As fuel contaminants

degrade, the DO in contaminated wells is reduced, compared to that in background wells that are free of contamination. This difference between DO in background and contaminated wells provides a tool to estimate the biodegradable (assimilative) capacity of the groundwater via the following equation:

$$BTEX_{(Bio,\ DO)} = 0.97\ (O_B - O_M) \qquad (5)$$

where,

$BTEX_{(Bio,\ DO)}$	=	reduction in BTEX concentration via aerobic respiration
0.97	=	mg/L BTEX degraded per mg/L DO consumed in accordance with stoichiometric relationships
O_B	=	background DO (mg/L)
O_M	=	lowest measured DO (mg/L) at plume well

Nitrate

After DO has been depleted in the microbiological treatment zone, nitrate may be used as an electron acceptor for anaerobic degradation via denitrification. Stoichiometrically, each mg/L of nitrate can reduce 0.21 mg/L of BTEX in groundwater. Similar to computations used for DO, the following equation can be used to estimate the mass of BTEX degraded via denitrification.

$$BTEX_{(Bio,\ N)} = 0.21\ (N_B - N_M) \qquad (6)$$

where,

$BTEX_{(Bio,\ N)}$	=	reduction in BTEX concentration via denitrification
0.21	=	mg/L BTEX degraded per mg/L nitrate consumed in accordance with stoichiometric relationships
N_B	=	background nitrate (mg/L)
N_M	=	lowest measured nitrate (mg/L) at plume well

Iron (II)

Iron (III) can also be used as an electron acceptor during anaerobic degradation of petroleum hydrocarbons. During this process, iron (III) is reduced to iron (II). Iron (II)

concentrations in groundwater can then be used as an indicator of anaerobic degradation of fuel compounds. Also, a comparison of iron (II) in background versus plume wells can be used to estimate the mass of contaminant that could possibly be degraded via iron reduction. The following equation can be used to make the estimate:

$$BTEX_{(Bio,\ Fe)} = 0.05\ (Fe_M - Fe_B) \qquad (7)$$

where,

$BTEX_{(Bio,\ Fe)}$	=	reduction in BTEX concentration via iron reduction
0.05	=	mg/L BTEX degraded per mg/L iron (II) produced in accordance with stoichiometric relationships
Fe_B	=	background Iron (II) (mg/L)
Fe_M	=	highest measured Iron (II) (mg/L) at plume well

Sulfate

Sulfate can be used as an electron acceptor under reducing conditions, resulting in the production of sulfide. Stoichiometrically, each mg/L of sulfate can reduce 0.21 mg/L of BTEX in groundwater. Similar to computations used for DO, the following equation can be used to estimate the mass of BTEX degraded via sulfate reduction.

$$BTEX_{(Bio,\ S)} = 0.21\ (S_B - S_M) \qquad (8)$$

where,

$BTEX_{(Bio,\ S)}$	=	reduction in BTEX concentration via sulfate reduction
0.21	=	mg/L BTEX degraded per mg/L sulfate consumed in accordance with stoichiometric relationships
S_B	=	background sulfate (mg/L)
S_M	=	lowest measured sulfate (mg/L) in plume well

Methane

Methane is an end-product of the anaerobic process known as methanogenesis. Carbon dioxide is used as the electron acceptor in this process. This process flourishes when an aquifer is

highly reducing or anaerobic, but may also occur to some degree concurrently with nitrate-reduction, iron-reduction, or sulfate-reduction. A comparison of background versus plume wells can be used to estimate the mass of a contaminant that could possibly be degraded via methanogenesis. The following equation can be used to make the estimate:

$$BTEX_{(Bio,\ M)} = 1.28\ (M_M - M_B) \qquad (9)$$

where,

$BTEX_{(Bio,\ Me)}$	=	reduction in BTEX concentration via methanogenesis
1.28	=	mg/L BTEX degraded per mg/L methane (mg/L) produced in accordance with stoichiometric relationships
M_B	=	background methane (mg/L)
M_M	=	highest methane (mg/L) in plume well

Assimilative Capacity of BTEX at 11GS47

Using equations 5-9, the aquifer's assimilative capacity to degrade BTEX compounds at 11GS47 may be estimated. This locale has one of the highest BTEX concentrations of those monitored during the 2003 re-sampling effort and has overall low chlorinated solvent compound detections. Background electron acceptor concentrations were taken from upgradient well 12GS01. Table 25 presents the resulting assimilative capacity for the aquifer at the source well 11GS47.

These results indicate that the aquifer's geochemistry at 11GS47 has the capacity to degrade over 11,000 mg/L of BTEX, which exceeds the amount present (approximately 0.25 mg/L). Note that this result is biased by the high methane measured at 11GS47. Methane production is related to the proximity of the Site 11 former landfill and the methanogenic conditions related to organic matter decay. This is fortuitous in that methanogenic conditions may rapidly degrade BTEX and the more highly chlorinated solvent compounds. If methane concentrations are eliminated from this evaluation due to this potential bias, the assimilative capacity is reduced to 17 mg/L, which still greatly exceeds that measured at this location and those upgradient.

6.0 CONCLUSIONS

A resampling of critical locations for soil and groundwater media at OU 2 was conducted in March 2003. The resulting data is used to make determinations with regard to temporal trends in contamination, and to refine the database for pursuing unbiased remedial alternatives analysis.

Metals:

Analysis of nine soil samples demonstrated three exceedances of the SCTLs (at two locations), two for chromium, one for arsenic, and two areas that may indicate a potential leachability problem. Analysis of 35 groundwater samples indicated 15 exceedances of the GCTLs (at 13 locations) for metals other than iron, manganese, and aluminum (three metals that are ubiquitous in NAS Pensacola groundwater above their GCTLs).

Since 1993/1995, there has been a general decrease in soil contamination. In groundwater, in summary (including aluminum, iron, and manganese), 16 locations exhibited a fewer number of exceedances, 12 locations exhibited a greater number of exceedances, and five locations exhibited the same number of exceedances. The number of exceedances dropped from 64 to 45, and of the 45 exceedances in 2003, 29 were higher than in the 1993/95 sampling event, 15 concentrations were lower than 1993/95, and one could not be determined (1993/95 detection limits were higher than the CTL).

The data indicate that there continues to be a soil leachability problem at Site 11. For groundwater, the data indicate that migration to surface water continues to be a problem to Wetlands 5A and 5B, 6 and 7 for a number of metals, including cadmium, chromium, iron, lead and manganese.

Pesticides/PCBs:

Analysis of three soil samples and two groundwater samples did not yield exceedances of any CTLs. Since 1993/1995, there has been a decrease in both soil and groundwater concentrations. The data does not indicate a continuing problem with respect to the soil-to-groundwater pathway nor the groundwater-to-surface water pathway.

SVOAs:

Analysis of six soil samples did not yield exceedances of the LB SCTLs. Analysis of 26 groundwater samples yielded 18 exceedances (at seven locations) of the GCTLs. Since 1993/1995, there has been a decrease in soil contamination.

For groundwater, six locations exhibited fewer exceedances in 2003 than in the 1993/95 sampling events, three locations exhibited a higher number of exceedances, three locations exhibited the same number of exceedances, twelve locations had no exceedances, and two could not be determined. The total number of exceedances remained the same from (18) in 1993 to 2003 (18); there were 13 exceedances in 1995. Of the 18 GCTL exceedances identified in 2003, 10 had increasing concentrations, five had decreasing concentrations, and three could not be determined (that parameter was not analyzed for in 1993/95).

The soil data indicate there may be a continuing problem with the soil-to-groundwater pathway at isolated locations on Sites 11 and 27. The groundwater data indicate that there continues to be a problem with respect to the groundwater-to-surface water pathway at Site 11 (Wetland 6 and 7), the southeast corner of Site 30 (Wetland 5B and 6), and Site 30 near Wetland 5A and 5B.

VOAs:

Analysis of 17 subsurface soil samples yielded three exceedances (ethylbenzene, PCE, and xylene) of the LB SCTLS at one location, 030S013820 and one location (011S000606) demonstrated a concentration equal to the LB SCTL for PCE. Analysis of 61 groundwater samples yielded 48 exceedances (at 22 locations) of the GCTLs.

Since 1993/1995, there has been a significant downward trend in soil contamination. For groundwater, in summary, 26 locations exhibited a fewer number of exceedances in 2003, seven exhibited a higher number, and five exhibited the same. The total number of GCTL exceedances dropped from 87 to 48. Of the 48 exceedances detected in the 2003 sampling event, 25 exceedances were lower in 2003 than in the 1993/95 sampling events,

20 exceedances were higher, and 3 exceedances could not be assessed due to higher detection limits in 1993/95.

The soil data indicate there is not a continuing problem with the soil-to-groundwater pathway. The groundwater data indicate there continues to be a problem with respect to the groundwater-to-surface water pathway on OU 2 on Site 30 [30GS111/30GI111 (adjacent to the southern end of Wetland 6), 30GS18 (adjacent to Wetland 5A), 30GS06 (adjacent to Wetland 5A), 30GI170 (adjacent to Wetland 5B)] and Site 11 [11GS52 (adjacent to the central portion of Wetland 6), 11GI14 (adjacent to the northern portion of Wetland 6), 11GI12 (adjacent to the northern portion of Wetland 6), 11GI10 (adjacent to the southern portion of Wetland 7), and 11GS47 and 11GS28 (both adjacent to Wetland 7)].

A preliminary evaluation on the potential for natural attenuation of contamination focused on thirteen individual wells and three flowpaths. For two of the pathways (12GS01 -> 11GS05 -> 11GS47, and 27GI06 -> 30GI170), VOA concentrations increased in the downgradient direction; although the results indicate a strong potential for NA at the downgradient wells, additional data would need to be collected even farther downgradient to validate NA as a viable alternative. The third flowpath (30GS22 -> 30GS21) indicated very promising results with regard to reduction of chlorinated compounds, but that data would need to be validated with additional sampling as well if NA is determined to be a part of the remedial strategy. Calculation of the system's ability to degrade BTEX compounds at well 11GS47 (the location with the highest BTEX concentrations) also showed promise, and indicated that the degradation capacity was as high as 17 mg/L BTEX at well 11GS47 (the well with the highest BTEX concentrations of all wells sampled for NA parameters). It is important to note that a number of wells at sites 11 and 30 lie immediately adjacent to surface water bodies, and have concentrations above appropriate GCTLs for protection of surface water; this should be considered when developing and evaluating alternatives for OU 2.

The data included in this addendum are recommended for incorporation into a Feasibility Study. It is also recommended that additional attention is warranted in the area of locations

30GS111/30GI111, in the southeastern corner of Site 30, to ascertain the source of groundwater contamination there. As the monitoring well is on the eastern side of a local groundwater divide (as marked by Wetland 6), it is likely that the source is to the east of the OU 2. This area can, for the purpose of the Feasibility Study, be "split" from the rest of the OU, which is located adjacent to Wetland 6.

7.0 FLORIDA PROFESSIONAL GEOLOGIST SEAL

I have read and approve of this Remedial Investigation Report Addendum, Operable Unit 2, Naval Air Station Pensacola, Florida 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, 2004

B Caldwell

Brian Caldwell

7/24/04

Date

Table 1
March 2003 Water Levels

Original Well ID	Alias	TOC elev	Date	DTW	ELEV	Date	DTW	ELEV
11GM15 (11GS15)	GM15	6.95	3/11/2003	4.49	2.460	3/12/2003	4.56	2.39
11GM26 (11GS36)	GM26							
11GM28 (11GS28)	GM28	10.47	3/11/2003	8.02	2.453	3/12/2003	9.89	0.58
11GM36	GM36	7.18						
11GM46 (11GS46)	GM46	9.42						
11GM47 (11GS47)	GM47	7.34	3/11/2003	5.38	1.964	3/13/2003	5.3	2.04
11GM48 (11GS48)	GM48	8.37						
11GM49 (11GS49)	GM49	9.55						
11GM50 (11GS50)	GM50							
11GM51(11GS51)	GM51	4.19	3/11/2003	2.46	1.733			
11GM52 (11GS52)	GM52	5.04	3/11/2003	3.91	1.129			
11GI02		10.31	3/11/2003	8.09	2.224	3/12/2003	9.18	1.13
11GI04		11.45	3/11/2003	8.82	2.628	3/12/2003	8.85	2.60
11GI06		10.46						
11GI08		7.05	3/11/2003	5.68	1.365			
11GI10		5.01	3/11/2003	3.31	1.703	3/16/2003	3.43	1.58
11GI12		6.27	3/11/2003	5.19	1.081	3/14/2003	4.76	1.51
11GI14		5.45	3/11/2003	4.07	1.381			
11GI15		7.48	3/11/2003	6.82	0.658	3/13/2003	5.62	1.86
11GS01		9.89						
11GS03		11.21	3/11/2003	8.67	2.541			
11GS05		10.34	3/11/2003	7.27	3.067	3/13/2003	6.52	3.82
11GS07		6.28	3/11/2003	3.04	3.242			
11GS09		5.01	3/11/2003	3.23	1.782	3/16/2003	3.1	1.91
11GS11		6.28	3/11/2003	4.75	1.530			
11GS13		5.48	3/11/2003	4.13	1.353			
12GS01		17.81				3/13/2003	14.64	3.17
12GS06		18.22				3/12/2003	15.16	3.06
12GS08		18.34				3/12/2003	14.85	3.49
12GS09		16.85				3/12/2003	13.71	3.14
12GS10		17.04				3/12/2003	14.2	2.84
12GS14		16.96				3/12/2003	13.9	3.06
12GS17						3/19/2003	14.24	NC
25GM55 (25GS55)	GM55							
25GM58 (25GS58)	GM58							
25GI01	25S08 (BORING)	19.21				3/17/2003	13.97	5.24
25GI02	25S14 (BORING)	20.76				3/17/2003	14.98	5.78
25GS01	25S01 (BORING)	26.24				3/17/2003	21.39	4.85
25GS02	25S02 (BORING)	24.74						
25GS03	25S04 (BORING)	20.23						
25GS04	25S07 (BORING)							
25GS05	25S10 (BORING)							
25GS06	25S11 (BORING)	20.56						
25GS07	25S05 (BORING)	23.60						
25GS08	25S12 (BORING)	21.01						
25GS09	25S13 (BORING)	19.18						
29GM07	GM07	8.59						
27GD01	GM54	23.43						
27GI01	27S16 (BORING)	22.69						
27GI02	27S18 (BORING)	27.88				3/18/2003	20.03	7.85

Table 1 March 2003 Water Levels								
Original Well ID	**Alias**	**TOC elev**	**Date**	**DTW**	**ELEV**	**Date**	**DTW**	**ELEV**
27GI03	27S19 (BORING)	25.38						
27GI04	27S25 (BORING)	23.75				3/16/2003	18.3	5.45
27GI05	27S27 (BORING)	25.27						
27GI06	27S49 (BORING)	27.21				3/14/2003	19.81	7.40
27GS01	27S01 (BORING)	26.06				3/19/2003	17.25	8.81
27GS02	27S02 (BORING)	27.71				3/18/2003	18.9	8.81
27GS03	27S03 (BORING)	27.22						
27GS04	27S04 (BORING)	22.51				3/17/2003	15.87	6.64
27GS05	27S05 (BORING)	23.90				3/17/2003	17.91	5.99
27GS06	27S06 (BORING)	24.18				3/17/2003	17.71	6.47
27GS07	27S10 (BORING)	25.45						
27GS08	27S20 (BORING)	25.28						
27GS09	26S26 (BORING)	25.07						
27GS10	27S41 (BORING)	25.47				3/17/2003	17.75	7.72
27GS11	27S48 (BORING)	27.16				3/19/2003	18.76	8.40
27GS12	GM02	24.39						
27GS13	ABB MW-1	24.74						
27GS14	ABB MW-5	25.06						
27GS15	ABB MW-6	24.80						
27GS16	ABB MW-4	25.40						
27GS17	ABB MW-2	25.36				3/19/2003	17.42	7.94
27GS18*	ABB MW-8	25.32				3/19/2003	14.36	10.96
27GS19	ABB MW-10	25.40				3/19/2003	17.74	7.66
27GS20	ABB MW-9	25.39				3/19/2003	17.39	8.00
27GS21	ABB MW-11	25.27				3/19/2003	17.58	7.69
30GI07	30WI07	26.68						
30GI09	30WI09	29.22						
30GI19	30WI19	16.13				3/18/2003	9.31	6.82
30GI58	30WI58	30.77						
30GI60		27.16						
30GI111	30WI111	9.47				3/17/2003	7.4	2.07
30GI113	30WI113	9.56				3/14/2003	8.43	1.13
30GI126	30WI126	11.84				3/18/2003	8.23	3.61
30GI164	ABB MW02D 3220E	24.15				3/16/2003	20.1	4.05
30GI170	ABB MW9D 3220S	22.73				3/13/2003	18.21	4.52
30GS05	30WS05 (BORING)	20.32				3/18/2003	15.4	4.92
30GS06	30WS06 (BORING)	26.57				3/18/2003	16.25	10.32
30GS11		27.96				3/18/2003	17.3	10.66
30GS12		29.05						
30GS15		31.50				3/14/2003	21.85	9.65
30GS18		16.65				3/18/2003	9.56	7.09
30GS20		18.88				3/18/2003	12.71	6.17
30GS22	ABB MW9 649N	28.83				3/14/2003	19.39	9.44
30GS24	ABB MW-8 649N	26.37						
30GS26	ABB MW-6 649N	27.23						
30GS27	ABB MW-5 649N	26.88				3/14/2003	18.57	8.31
30GS28	ABB MW7 649N	27.02				3/15/2003	18.65	8.37
30GS29	ABB MW1 649W	26.45						
30GS32	ABB MW4 649W	27.75						
30GS32A		27.92				3/14/2003		

Table 1 March 2003 Water Levels								
Original Well ID	**Alias**	**TOC elev**	**Date**	**DTW**	**ELEV**	**Date**	**DTW**	**ELEV**
30GS33	ABB MW2 649W	27.49				3/18/2003	18.4	9.09
30GS37	ABB MW7 647E	26.41						
30GS39	ABB MW3 647N	30.05						
30GS44	ABB MW-3 648N	28.35						
30GS46	ABB MW-4 648N	27.93				3/18/2003	18.54	9.39
30GS49	ABB MW-6 648N	27.56						
30GS50	ABB MW-7 648N	27.76						
30GS51	ABB MW-8 648N	26.34				3/18/2003	17.35	8.99
30GS52	ABB MW-9 648N	26.37						
30GS56	ABB MW3 649N	26.39						
30GS57		30.77						
30GS59	30WS59	26.88						
30GS61	30WS61	27.81						
30GS62	30WS62	22.87						
30GS101	30WS101	8.28	3/11/2003	6.18	2.104			
30GS103	30WS103	7.52	3/11/2003	5.61	1.909	3/13/2003	5.72	1.80
30GS105	30WS105	7.04	3/11/2003	5.3	1.735	3/14/2003	4.93	2.11
30GS108	30WS108	7.83						
30GS111	30WS111	9.44				3/17/2003	7.32	2.12
30GS113	30WS113	9.20				3/14/2003		
30GS118	30WS118	6.72						
30GS123	30WS123	8.87				3/14/2003	6.96	1.91
30GS126	30WS126	11.94				3/15/2003	8.2	3.74
30GS146		25.42				3/15/2003	22.82	2.60
30GS154	30WS154	22.70						
30GS156		18.34						
30GS157	ABB MW5 3450S	20.19						
30GS160	ABB MW2 3450S	19.93						
30GS161	ABB MW4 3450S	20.67						
30GS162	ABB MW05 3220E	24.93				3/16/2003	20.9	4.03
30GS164	ABB MW01 3220E	24.40						
30GS165	ABB MW03 3220E	24.29						
30GS166	ABB MW07 3220E	25.29						
30GS168	ABB MW03 3220S	23.66						
30GS170	ABB MW02 3220S	23.20				3/13/2003	18.37	4.83
30GS171	ABB MW7 3220S	21.12						
30GS172	ABB MW06 3220S	23.27						
30GS173	ABB MW8 3220S	21.37						

Notes:

DTW = depth to water

All elevations in feet above Mean Sea Level

NC = not calculated

* = Groundwater elevation not used in the potentiometric surface map

Table 2
Soil Metals, OU 2, NAS Pensacola

			Sample ID	011S001506		011SLF1206		011SLF5S01		012S000705		012S000805		012S000905		012S001005	
	SCTLs (ppm)			1993	2003	1993	2003	1993	2003	1993	2003	1993	2003	1993	2003	1993	2003
Parameter	Leachability	Residential Exposure	Reference Concentration	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
Aluminum	*	72000.00	3833.00	5800.0000	2000.0000	486.0000	890.0000	4740 J	3700.0000	3360 J	1500.0000	1700 J	440.0000	748 J	2000.0000	4000 J	6600.0000
Antimony	5	26.00	9.49	6.2000 U	0.6400 U	6.1000 U	0.3900 U	6.6 U	0.4200 U	2.8 U	0.3700 U	0.52 J	0.3900 U	1.8 UJ	0.6900 J	0.39 UJ	0.4400 U
Arsenic	29	0.80	1.56	1.5000 J	0.7500 J	1.1000 J	0.4000 U	3.8 UJ	**2.5000**	0.67 UJ	0.5100 J	0.65 U	0.4000 U	0.65 UJ	0.8200 J	0.65 U	1.7000
Barium	1600	110.00	4.63	8.2000 U	9.7000	13.6000 J	5.1000	134	34.0000	12.1 J	3.5000	6.9 J	2.2000	10.6 J	18.0000	7.4 J	5.7000
Beryllium	63	120.00	0.41	0.2100 U	0.0380 J	0.2000 U	0.0100 U	0.22 U	0.0910 J	0.08 J	0.0097 U	0.04 U	0.0100 U	0.04 U	0.0170 J	0.04 U	0.0460 J
Cadmium	8	75.00	1.00	7.4000	0.2900 J	6.4000	3.6000	**23.3** J	5.4000	**10.4**	0.6400	6.8	1.3000	**13.9** J	6.7000	**66.5**	1.9000
Calcium	NA	NA	912.37	60900.0000	2600.0000	306.0000 J	470.0000	3950	1300.0000	10000	4500.0000	3160 J	46.0000 J	2040	12000.0000	2770 J	1700.0000
Chromium	38 (hex)	210.00	6.13 (non hex species)	12.4000	**48.0000**	3.0000	2.9000	**1610** J	**270.0000**	13.1	3.8000	8.7 J	2.0000	10.8	10.0000	8.4 J	5.8000
Cobalt	*	4700.00	1.87	4.1000 U	0.2300 J	4.1000 U	0.0720 U	4.4 U	0.5000 J	0.51 J	0.1500 J	0.53 J	0.0720 U	0.41 J	0.4100 J	0.46 J	0.2600 J
Copper	*	110.00	5.74	4.2000 J	3.6000	2.0000 UJ	3.1000	50	22.0000	89	5.9000	32.5	0.4100 J	133 J	38.0000	26.8	2.4000
Cyanide	40	30.00	0.52	6.7000	na	1.2000 U	na	1.2 U	na	0.53 U	na	0.51 U	na	0.52 U	na	0.53 U	na
Iron	*	23000.00	2745.00	4480.0000	1200.0000	334.0000 J	490.0000	5980 J	5000.0000	4090	1400.0000	1660 J	380.0000	3040	4900.0000	3540 J	4200.0000
Lead	*	400.00	7.32	16.9000	24.0000	407.0000	200.0000	790 J	160.0000	133	8.8000	63.6 J	0.4600 J	74	96.0000	36 J	4.4000
Magnesium	NA	NA	133.33	514.0000 U	260.0000	34.7000 U	23.0000 J	451 U	220.0000	1080	220.0000	76.8 J	18.0000 J	58.7 U	880.0000	89.7 J	110.0000
Manganese	*	1600.00	21.36	119.0000	10.0000	2.6000 U	10.0000	65.5	41.0000	49.4	11.0000	15.5 J	1.2000	29.5	46.0000	37.6 J	47.0000
Mercury	2.10	3.40	0.10	0.0900 U	0.0130 J	0.1000 J	0.0160 J	0.13	0.0690	0.92	0.0630	0.11	0.0049 J	1.7	0.0990	0.11 U	0.0130 J
Nickel	130.00	110.00	6.38	4.1000 U	0.8800 J	4.1000 U	0.3800 J	6.2 J	2.1000 J	2 J	0.7200 J	1.8 J	0.1700 J	6.5 J	5.1000	3.5 J	0.9200 J
Potassium	NA	NA	460.67	205.0000 U	81.0000 J	203.0000 U	13.0000 J	219 U	68.0000 J	84.7 J	21.0000 J	37.1 J	16.0000 J	26.9 U	47.0000 J	66.2 J	41.0000 J
Selenium	5.00	390.00	0.62	0.4100 U	0.7200 U	0.4400 U	0.4400 U	0.62 J	0.4800 U	0.93 U	0.4200 U	0.9 U	0.4400 U	0.89 U	0.4000 U	0.9 U	0.5000 U
Silver	17.00	390.00	2.07	1.2000 J	0.1700 U	1.0000 U	0.1000 U	5.8	0.6500 J	0.11 U	0.0970 U	0.1 U	0.1000 U	0.12 J	0.3200 J	0.1 U	0.1200 U
Sodium	NA	NA	107.85	489.0000 U	79.0000 J	40.5000 U	34.0000 U	43.9 U	61.0000	326 J	37.0000 J	185 U	30.0000 U	181 U	93.0000	177 U	29.0000 U
Thallium	NA	NA	0.82	0.4100 U	1.1000 U	0.4400 UJ	0.6800 U	0.41 U	0.7400 U	0.95 U	0.6400 U	0.92 U	0.6800 U	0.91 UJ	0.6200 U	0.92 U	0.7600 U
Vanadium	980.00	15.00	5.83	11.0000	4.0000	2.0000 U	1.0000	11.5	12.0000	4.3 J	2.7000	2.4 J	0.4400 J	1 J	2.7000	5.8 J	11.0000
Zinc	6000.00	23000.00	16.87	8.9000 U	8.3000	15.8000 U	7.6000	157 J	68.0000	541 J	17.0000	66	5.3000	136	150.0000	89.7	7.7000

Notes:
All results are in milligrams per kilogram or parts per million (ppm).
* = developed via SPLP
NA = not applicable
na = not analyzed
BOLD indicates an exceedance of the higher of SCTL or NAS Pensacola reference concentration
U = not detected
J = present below the method detection limit but above the instrument detection limit
011SLF5S01 (a surface soil sample) was screened against Residential Exposure SCTLs.

Table 2
Soil Metals, OU 2, NAS Pensacola

			Sample ID	012S001305				012S001610			
	SCTLs (ppm)			1993		2003		1993		2003	
Parameter	Leachability	Residential Exposure	Reference Concentration	Results		Results		Results		Results	
Aluminum	*	72000.00	3833.00	1590	J	870.0000		14800	J	1400.0000	
Antimony	5	26.00	9.49	0.4	UJ	0.4500	U	**11.4**	J	0.4100	U
Arsenic	29	0.80	1.56	0.67	UJ	0.4600	U	4.7		0.4200	U
Barium	1600	110.00	4.63	6.7	J	3.7000		28.7	J	2.2000	
Beryllium	63	120.00	0.41	0.04	U	0.0120	U	0.27	U	0.0110	U
Cadmium	8	75.00	1.00	**11.3**	J	4.0000		**243**		0.0430	U
Calcium	NA	NA	912.37	2830		82.0000		55800	J	140.0000	
Chromium	38 (hex)	210.00	6.13 (non hex species)	8.1		1.7000		**203**	J	1.4000	
Cobalt	*	4700.00	1.87	0.2	J	0.1200	J	3.7	J	0.2300	J
Copper	*	110.00	5.74	6.3	J	1.3000	J	515		0.8000	J
Cyanide	40	30.00	0.52	0.53	U	na		0.52	U	na	
Iron	*	23000.00	2745.00	1320		590.0000		42600	J	1300.0000	
Lead	*	400.00	7.32	7.7		0.6900		883	J	1.1000	
Magnesium	NA	NA	133.33	51.8	U	28.0000	J	811	J	32.0000	J
Manganese	*	1600.00	21.36	22.2		8.3000		375	J	11.0000	
Mercury	2.10	3.40	0.10	0.1	U	0.0053	J	0.1	U	0.0075	J
Nickel	130.00	110.00	6.38	0.81	J	0.6800	J	50.7		0.6600	J
Potassium	NA	NA	460.67	48.9	U	20.0000	J	277	J	25.0000	J
Selenium	5.00	390.00	0.62	0.92	U	0.5100	U	2.6	U	0.4600	U
Silver	17.00	390.00	2.07	0.1	U	0.1200	U	0.1	U	0.1100	U
Sodium	NA	NA	107.85	186	U	29.0000	U	746	J	26.0000	U
Thallium	NA	NA	0.82	0.94	UJ	0.7800	U	0.93	U	0.7100	U
Vanadium	980.00	15.00	5.83	2.4	J	0.8000	J	14.7		1.3000	
Zinc	6000.00	23000.00	16.87	94.6		17.0000		854		1.5000	J

Notes:
All results are in milligrams per kilogram or parts per million (ppm).
* = developed via SPLP
NA = not applicable
na = not analyzed
BOLD indicates an exceedance of the higher of SCTL or NAS Pensacola reference concentration
U = not detected
J = present below the method detection limit but above the instrument detection limit
011SLF5S01 (a surface soil sample) was screened against Residential Exposure SCTLs.

Table 3
Soil Metals SPLP Results, OU 2, NAS Pensacola

Parameter	Leachability-Based SCTLs (ppm)	Florida GCTLs (ppb)	011S001506 Bulk (ppm)		011S001506 Leachate (ppb)		011SLF1206 Bulk (ppm)		011SLF1206 Leachate (ppb)		011SLF5S01 Bulk (ppm)		011SLF5S01 Leachate (ppb)		012S000705 Bulk (ppm)		012S000705 Leachate (ppb)	
Aluminum	*	200.00	*2,000.00*		***450.00***		*890.00*		*150.00*	*J*	*3,700.00*		***4,700.00***		*1,500.00*		***3,000.00***	
Antimony	5.00	6.00	0.64	U	3.80	U	0.39	U	3.80	U	0.42	U	3.80	U	0.37	U	3.80	U
Arsenic	29.00	50.00	0.75	J	3.90	U	0.40	U	3.90	U	2.50		3.90	U	0.51	J	3.90	U
Barium	1,600.00	2,000.00	*9.70*		*2.50*	*J*	*5.10*		*60.00*		*34.00*		*9.40*	*J*	*3.50*		*53.00*	
Beryllium	63.00	4.00	0.04	J	0.10	U	0.01	U	0.10	U	0.09	J	0.10	U	0.01	U	0.10	U
Cadmium	8.00	5.00	0.29	J	0.40	U	*3.60*		***88.00***		5.40		0.40	U	0.64		0.40	U
Calcium	NA	na	2,600.00		19,000.00	JH	470.00		3,000.00	JH	1,300.00		8,600.00	JH	4,500.00		180,000.00	JH
Chromium	38 (hex)	100.00	***48.00***		*2.30*	*J*	*2.90*		*1.90*	*J*	***270.00***		*46.00*		*3.80*		*25.00*	
Cobalt	*	150.00	0.23	J	0.70	U	0.07	U	0.80	J	0.50	J	0.70	U	0.15	J	0.70	U
Copper	*	1,000.00	3.60		0.80	U	3.10		3.60	J	*22.00*		*15.00*	*J*	*5.90*		*6.90*	*J*
Iron	*	300.00	*1,200.00*		*100.00*	*JH*	*490.00*		*120.00*	*JH*	*5,000.00*		***2,500.00***	*JH*	1,400.00		16.00	U
Lead	*	15.00	24.00		3.30	J	*200.00*		***3,200.00***		*160.00*		***50.00***		8.80		1.90	U
Magnesium	NA	na	260.00		1,700.00		23.00		140.00	J	220.00		1,400.00		220.00		75.00	J
Manganese	*	50.00	10.00		5.10	U	*10.00*	*J*	*36.00*	*J*	*41.00*		*13.00*	*J*	11.00		0.50	U
Mercury	2.10	2.00	0.01		0.10	U	0.02		0.10	U	0.07		0.10	U	0.06		0.10	U
Nickel	130.00	100.00	0.88	J	1.20	U	*0.38*	*J*	*2.70*	*J*	2.10		1.20	U	0.72		1.20	U
Potassium	NA	na	81.00	J	130.00	J	13.00	J	88.00	J	68.00	J	1,400.00		21.00	J	330.00	J
Selenium	5.00	50.00	0.72	J	4.30	U	0.44	J	4.30	U	0.48	J	4.30	U	0.42	J	4.30	U
Silver	17.00	100.00	0.17	U	1.00	U	0.10	U	1.00	U	0.65	U	1.00	U	0.10	U	1.00	U
Sodium	NA	na	79.00	U	25,000.00	U	34.00	U	730.00	U	61.00	J	31,000.00	JH	37.00	U	22,000.00	U
Thallium	NA	2.00	1.10	J	6.60	U	0.68	U	6.60	U	0.74		6.60	U	0.64	J	6.60	U
Vanadium	980.00	53.00	4.00	U	7.60	J	1.00	U	2.00	J	12.00	U	5.60	J	2.70	U	1.40	J
Zinc	6,000.00	5,000.00	8.30		6.60	U	*7.60*		*75.00*		*68.00*		*30.00*		17.00		2.60	U

Notes:
Bolding in bulk sample result indicates an exceedance of SCTL.
Bolding in leachate indicates an exceedance of GCTL.
Italics = Soil / Groundwater detection couplet (except for essential nutrients Ca, Mg, K, Na).
* = Developed via SPLP.
U = not detected
J = Detected below the Method Detection Limit and above the Instrument Detection Limit.
H - Bias in sample is likely to be high.

Table 3
Soil Metals SPLP Results, OU 2, NAS Pensacola

		Sample ID	012S000805				012S000905				012S001005				012S001305				012S001610			
Parameter	Leachability-Based SCTLs (ppm)	Florida GCTLs (ppb)	Bulk (ppm)		Leachate (ppb)		Bulk (ppm)		Leachate (ppb)		Bulk (ppm)		Leachate (ppb)		Bulk (ppm)		Leachate (ppb)		Bulk (ppm)		Leachate (ppb)	
Aluminum	*	200.00	*440.00*		*150.00*	*J*	*2,000.00*		***3,800.00***		6,600.00		110.00	U	870.00		69.00	U	*1,400.00*		***1,200.00***	
Antimony	5.00	6.00	0.39	U	3.80	U	0.69	J	3.80	U	0.44	U	3.80	U	0.45	U	3.80	U	0.41	U	3.80	U
Arsenic	29.00	50.00	0.40	U	3.90	U	0.82	J	3.90	U	1.70		3.90	U	0.46	U	3.90	U	0.42	U	3.90	U
Barium	1,600.00	2,000.00	*2.20*		*1.70*	*J*	*18.00*		*12.00*		*5.70*		*1.90*	*J*	*3.70*		*1.60*	*J*	*2.20*		*2.40*	*J*
Beryllium	63.00	4.00	0.01	U	0.10	U	0.02	J	0.10	U	0.05	J	0.10	U	0.01	U	0.10	U	0.01	U	0.10	U
Cadmium	8.00	5.00	1.30		0.40	U	6.70		0.40	U	1.90		0.40	U	4.00		0.40	U	0.04	U	0.40	U
Calcium	NA	na	46.00	J	2,200.00	JH	12,000.00		37,000.00	JH	1,700.00		5,400.00	JH	82.00		2,700.00	JH	140.00		2,700.00	JH
Chromium	38 (hex)	100.00	*2.00*		*2.60*	*J*	*10.00*		*10.00*		*5.80*		*2.40*	*J*	*1.70*		*2.10*	*J*	*1.40*		*2.60*	*J*
Cobalt	*	150.00	0.07	U	0.70	U	0.41	J	0.70	U	0.26	J	0.70	U	0.12	J	0.70	U	0.23	J	0.70	U
Copper	*	1,000.00	0.41	J	1.70	U	*38.00*		*7.70*	*J*	2.40		1.10	U	1.30	J	1.00	U	0.80	J	1.20	U
Iron	*	300.00	380.00		24.00	U	4,900.00		16.00	U	4,200.00		32.00	U	590.00		24.00	U	*1,300.00*		***640.00***	*JH*
Lead	*	15.00	0.46		1.90	U	96.00		1.90	U	4.40		1.90	U	0.69		1.90	U	1.10		1.90	U
Magnesium	NA	na	18.00	J	240.00	J	880.00		150.00	J	110.00		230.00	J	28.00		290.00	J	32.00		300.00	J
Manganese	*	50.00	1.20	J	0.76	U	46.00		0.50	U	47.00		0.62	U	8.30	J	0.58	U	11.00	J	11.00	U
Mercury	2.10	2.00	0.00		0.10	U	0.10		0.10	U	0.01		0.10	U	0.01		0.10	U	0.01		0.10	U
Nickel	130.00	100.00	0.17	J	1.20	U	5.10		1.20	U	0.92	J	1.20	U	0.68	J	1.20	U	0.66	J	1.20	U
Potassium	NA	na	16.00	J	72.00	U	47.00		140.00	J	41.00	J	110.00	U	20.00	J	100.00	U	25.00	J	120.00	U
Selenium	5.00	50.00	0.44	J	4.30	U	0.40	J	4.30	U	0.50	J	4.30	U	0.51	J	4.30	U	0.46	J	4.30	U
Silver	17.00	100.00	0.10	U	1.00	U	0.32	U	1.00	U	0.12	U	1.00	U	0.12	U	1.00	U	0.11	U	1.00	U
Sodium	NA	na	30.00	U	21,000.00	U	93.00	J	22,000.00	U	29.00	U	22,000.00	U	29.00	U	24,000.00	U	26.00	U	23,000.00	U
Thallium	NA	2.00	0.68	U	6.60	U	0.62		6.60	U	0.76	U	6.60	U	0.78	U	6.60	U	0.71	U	6.60	U
Vanadium	980.00	53.00	0.44	U	1.00	U	2.70	U	5.50	J	11.00	U	1.60	J	0.80	U	1.00	J	1.30	U	1.40	J
Zinc	6,000.00	5,000.00	5.30	J	3.10	U	150.00		3.10	U	7.70		2.70	U	17.00	J	3.60	U	1.50		3.50	U

Notes:
Bolding in bulk sample result indicates an exceedance of SCTL.
Bolding in leachate indicates an exceedance of GCTL.
Italics = Soil / Groundwater detection couplet (except for essential nutrients Ca, Mg, K, Na).
* = Developed via SPLP.
U = not detected
J = Detected below the Method Detection Limit and above the Instrument Detection Limit.
H - Bias in sample is likely to be high.

Table 4
Groundwater Metals, OU 2, NAS Pensacola

				Well ID	11GI02			11GI04			11GI08		11GI10		11GI12	
	Florida CTLs (ppb)			NAS Pensacola	1993	1995	2003	1993	1995	2003	1993	2003	1993	2003	1993	2003
PARAMETER	GCTL	FSWCTL	MSWCTL	Reference Concentration	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT
Aluminum	200	13	13	3882.80	**8730.0000**	1110.0000 J	510.0000	**4880.0000**	363.0000	230.0000	824.0000	170.0000 J	745.0000	41.0000 J	1130.0000	570.0000
Antimony	6	4300	4300	30.20	**41.0000** UJ	2.3000 U	3.8000 U	**44.0000** UJ	2.3000 UJ	3.8000 U	21.0000 U	3.8000 U	21.0000 U	3.8000 U	21.0000 U	3.8000 U
Arsenic	50	50	50	2.80	13.0000	12.6000	6.1000 J	6.0000 J	1.5000 UJ	3.9000 U	5.0000 J	7.1000 J	3.0000 J	8.5000 J	6.0000 J	3.9000 U
Barium	2000	na	na	13.20	27.0000 J	4.1000 U	8.3000 J	18.0000 J	5.6000 UJ	6.7000 J	37.0000 J	43.0000	37.0000 J	17.0000	18.0000 J	42.0000
Beryllium	4	0.13	0.13	1.10	1.0000 J	0.0800 UJ	0.1000 U	1.0000 U	0.0800 U	0.1000 U	1.0000 U	0.1000 U	1.0000 U	0.1000 U	1.0000 U	0.1000 U
Cadmium	5	9.3*	9.3	3.40	2.0000 U	0.2200 U	0.4000 U	2.0000 U	0.2200 U	0.4000 U	2.0000 U	0.4000 U	2.0000 U	0.4000 U	2.0000 U	0.4000 U
Calcium	NA	NA	NA	17560.00	2570.0000 J	1190.0000 U	3000.0000	6720.0000	3680.0000	4100.0000	109000.0000	91000.0000	37100.0000	31000.0000	151000.0000	56000.0000
Chromium	100	na	na	35.00	23.0000 J	2.9000 U	1.1000 J	10.0000 J	0.8600 U	0.9000 U	3.0000 U	0.9600 J	3.0000 U	0.9000 U	3.0000 U	1.4000 J
Cobalt	150	na	na	4.10	4.0000 U	0.6700 U	0.7000 U	4.0000 U	0.6700 UJ	1.2000 J	4.0000 U	0.7000 U	4.0000 U	0.8700 J	4.0000 U	0.7000 U
Copper	1000	3.7*	2.9	16.20	24.0000 J	0.9600 U	0.8000 U	10.0000 U	1.6000 U	0.8000 U	3.0000 U	0.8000 U	3.0000 U	0.8000 U	3.0000 U	1.2000 J
Cyanide	200	5.2	1	NA	20.0000 U	na	na	20.0000 U	na	na	20.0000 U	na	20.0000 U	na	20.0000 U	na
Iron	300	1000	300	1707.80	**7310.0000** J	1030.0000	770.0000	**20000.0000** J	579.0000	280.0000	929.0000 J	780.0000	442.0000 J	**2400.0000**	471.0000 J	310.0000
Lead	15	8.5*	8.5	1.60	14.0000 J	0.8100 U	1.9000 U	4.0000 J	1.0000 U	1.9000 U	2.0000 U	1.9000 U	2.0000 U	1.9000 U	2.0000 U	1.9000 U
Magnesium	NA	NA	NA	2872.60	724.0000 R	181.0000 U	750.0000	821.0000 R	542.0000	770.0000	52700.0000 R	44000.0000	14500.0000 R	17000.0000	120000.0000 R	29000.0000
Manganese	50	na	na	22.00	29.0000 J	1.8000 U	11.0000	21.0000 J	24.2000	34.0000	**71.0000**	**140.0000**	32.0000	**120.0000**	**52.0000**	**130.0000**
Mercury	2	0.012	0.025	0.20	0.2000 U	0.0600 U	0.1000 U	0.2000 U	0.0600 U	0.1000 U	0.2000 U	0.1000 U	0.2000 U	0.1000 U	0.2000 U	0.1000 U
Nickel	100	8.3*	8.3	39.90	18.0000 J	1.1000 U	1.2000 U	7.0000 U	1.7000 U	1.2000 U	7.0000 U	2.4000 J	7.0000 U	1.2000 U	7.0000 U	1.2000 U
Potassium	NA	NA	NA	12167.00	1110.0000 U	2860.0000	620.0000 J	1210.0000 J	637.0000 U	470.0000 J	14000.0000	15000.0000	5850.0000	8300.0000	30000.0000	14000.0000
Selenium	50	5	71	3.90	6.0000 J	2.0000 UJ	4.3000 U	2.0000 U	2.0000 UJ	4.3000 U	2.0000 U	4.3000 U	2.0000 U	4.3000 U	2.0000 U	4.3000 U
Silver	100	0.07	0.4	4.00	7.0000 U	1.0000 U	1.0000 U	6.0000 U	1.0000 U	1.0000 U	4.0000 UJ	1.0000 U	4.0000 UJ	1.0000 U	4.0000 UJ	1.0000 U
Sodium	NA	NA	NA	18345.00	19400.0000	20800.0000	16000.0000	13500.0000	12500.0000	14000.0000	595000.0000	410000.0000	178000.0000	180000.0000	1160000.0000	320000.0000
Thallium	2	6.3	6.3	3.60	2.0000 UJ	0.9500 U	6.6000 U	2.0000 UJ	0.9500 U	6.6000 U	10.0000 U	6.6000 U	2.0000 U	6.6000 U	10.0000 U	6.6000 U
Vanadium	53	na	na	9.60	36.0000 J	6.4000 J	1.1000 J	30.0000 J	1.5000 U	1.0000 U	4.0000 U	1.0000 U	4.0000 U	1.0000 U	6.0000 J	2.0000 J
Zinc	5000	86*	86	153.20	26.0000 U	4.3000 U	2.6000 J	10.0000 U	9.7000 U	3.4000 J	8.0000 U	8.4000 J	2.0000 U	5.9000 J	2.0000 U	4.2000 J

Notes:
All results are in micrograms per liter or parts per billion (ppb).
Concentrations in bold indicate an exceedance of a GCTL or NAS Pensacola Reference Concentration.
*In accordance with 62-302, F.A.C.
U = not detected
J = detected below method detection limit and above instrument detection limit
NA = not applicable
na = not analyzed

Table 4
Groundwater Metals, OU 2, NAS Pensacola

				Well ID	11GI14			11GS05						11GS07			11GS09			11GS13		
	Florida CTLs (ppb)			NAS Pensacola	1993		2003	1993		1995		2003		1993		2003	1993		2003	1993		2003
PARAMETER	GCTL	FSWCTL	MSWCTL	Reference Concentration	RESULT		RESULT	RESULT		RESULT		RESULT		RESULT		RESULT	RESULT		RESULT	RESULT		RESULT
Aluminum	200	13	13	3882.80	**4070.0000**		680.0000	409.0000		310.0000		490.0000		30.0000	U	230.0000	29.0000	U	89.0000	J	458.0000		80.0000	J
Antimony	6	4300	4300	30.20	21.0000	U	3.8000	U	30.0000	UJ	2.3000	UJ	3.8000	U	21.0000	U	3.8000	U	21.0000	U	3.8000	U	21.0000	U	3.8000	U
Arsenic	50	50	50	2.80	17.0000		3.9000	U	2.0000	U	1.9000	J	3.9000	U	1.0000	J	3.9000	U	1.0000	U	3.9000	U	4.0000	J	3.9000	U
Barium	2000	na	na	13.20	23.0000	J	14.0000		46.0000	J	43.5000	J	49.0000		716.0000		150.0000		382.0000		410.0000		**3790.0000**		**3900.0000**	
Beryllium	4	0.13	0.13	1.10	1.0000	U	0.1000	U	1.0000	U	0.0800	U	0.1000	U	1.0000	U	0.1000	U	1.0000	U	0.1000	U	1.0000	U	0.1000	U
Cadmium	5	9.3*	9.3	3.40	2.0000	U	0.4000	U	2.0000	U	0.2200	U	0.4000	U	**7.0000**		**33.0000**		2.0000	U	0.4200	J	2.0000	U	0.4000	U
Calcium	NA	NA	NA	17560.00	10400.0000		9000.0000	5630.0000		21300.0000		11000.0000		53000.0000		17000.0000	109000.0000		110000.0000		90400.0000		97000.0000	
Chromium	100	na	na	35.00	9.0000	J	1.5000	J	3.0000	U	2.7000	U	3.5000	J	3.0000	U	26.0000		3.0000	U	2.5000	J	3.0000	U	0.9000	U
Cobalt	150	na	na	4.10	4.0000	U	0.7000	U	4.0000	U	0.7700	J	1.4000	J	4.0000	U	1.7000	J	4.0000	U	0.7000	U	4.0000	U	0.9200	J
Copper	1000	3.7*	2.9	16.20	3.0000	J	1.1000	J	4.0000	U	2.5000	U	2.2000	J	8.0000	U	120.0000		7.0000	U	3.2000	J	4.0000	J	2.7000	J
Cyanide	200	5.2	1	NA	20.0000	U	na		20.0000	U	na		na		10.0000	U	na		20.0000	U	na		20.0000	U	na	
Iron	300	1000	300	1707.80	1200.0000	J	730.0000		**5060.0000**	J	**3490.0000**		1700.0000		**8440.0000**	J	540.0000		1440.0000	UJ	**1900.0000**		**10100.0000**	J	**8300.0000**	
Lead	15	8.5*	8.5	1.60	4.0000	J	1.9000	U	**30.0000**	J	13.0000		9.7000		6.0000		**42.0000**		4.0000	J	7.7000		**17.0000**		1.9000	U
Magnesium	NA	NA	NA	2872.60	1990.0000	R	1300.0000		1040.0000	R	868.0000		1400.0000		9440.0000	R	2400.0000		10500.0000	R	11000.0000		15000.0000	R	21000.0000	
Manganese	50	na	na	22.00	21.0000	U	38.0000		**95.0000**	J	36.2000		45.0000		**365.0000**		40.0000		**212.0000**		**230.0000**		**133.0000**		**140.0000**	
Mercury	2	0.012	0.025	0.20	0.2000	U	0.1000	U	0.2000	U	0.0600	U	0.1000	U	0.2000	U	0.1000	U	0.2000	U	0.1000	U	0.2000	U	0.1000	U
Nickel	100	8.3*	8.3	39.90	7.0000	U	1.2000	U	7.0000	U	1.6000	U	1.5000	J	7.0000	U	13.0000	J	7.0000	U	1.2000	U	7.0000	U	1.4000	J
Potassium	NA	NA	NA	12167.00	1930.0000	J	780.0000	J	1110.0000	U	2050.0000		1100.0000		3970.0000	J	860.0000	J	3530.0000	U	4800.0000		5760.0000		10000.0000	
Selenium	50	5	71	3.90	2.0000	U	4.3000	U	2.0000	U	2.0000	UJ	4.3000	U	2.0000	U	4.3000	U	2.0000	U	4.3000	U	2.0000	U	4.4000	J
Silver	100	0.07	0.4	4.00	4.0000	UJ	1.0000	U	4.0000	U	1.0000	U	1.0000	U	4.0000	U	1.4000	J	4.0000	U	1.0000	U	4.0000	UJ	1.0000	U
Sodium	NA	NA	NA	18345.00	38900.0000		17000.0000		8000.0000		5470.0000		8200.0000		14500.0000	U	6300.0000		7900.0000	U	20000.0000		16900.0000		28000.0000	
Thallium	2	6.3	6.3	3.60	2.0000	U	6.6000	U	2.0000	UJ	0.9500	U	6.6000	U	2.0000	U	6.6000	U	2.0000	U	6.6000	U	2.0000	U	6.6000	U
Vanadium	53	na	na	9.60	30.0000	J	2.6000	J	4.0000	U	2.6000	U	3.2000	J	4.0000	U	1.4000	J	4.0000	U	1.0000	J	4.0000	U	1.4000	J
Zinc	5000	86*	86	153.20	10.0000	U	3.4000	J	36.0000	U	4.7000	U	2.9000	J	560.0000		1600.0000		2.0000	U	14.0000	J	53.0000		23.0000	

Notes:
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*In accordance with 62-302, F.A.C.
U = not detected
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NA = not applicable
na = not analyzed

Table 4
Groundwater Metals, OU 2, NAS Pensacola

PARAMETER	Florida CTLs (ppb) GCTL	FSWCTL	MSWCTL	NAS Pensacola Reference Concentration	Well ID 11GS15 1993 RESULT		11GS15 1995 RESULT		11GS15 2003 RESULT		11GS16 2003 RESULT		11GS28 1993 RESULT		11GS28 2003 RESULT		11GS47 1993 RESULT		11GS47 1995 RESULT		11GS47 2003 RESULT		12GS08 1995 RESULT		12GS08 2003 RESULT	
Aluminum	200	13	13	3882.80	29.0000	U	1090.0000		18.0000	J	170.0000	J	919.0000		62.0000	J	120.0000	U	62.8000	U	44.0000	J	117	J	190.0000	J
Antimony	6	4300	4300	30.20	21.0000	U	2.3000	U	3.8000	U	3.8000	U	29.0000	U	3.8000	U	21.0000	U	2.3000	U	3.8000	U	1.9	U	3.8000	U
Arsenic	50	50	50	2.80	1.0000	U	7.6000	J	3.9000	U	3.9000	U	1.0000	J	3.9000	U	1.0000	U	1.5000	UJ	3.9000	U	3.2	U	3.9000	U
Barium	2000	na	na	13.20	20.0000	J	72.1000		50.0000		28.0000		20.0000	J	16.0000		33.0000	U	34.2000		76.0000		26.6	J	27.0000	
Beryllium	4	0.13	0.13	1.10	1.0000	U	0.2000	U	0.1000	U	0.1000	U	1.0000	U	0.1000	U	1.0000	U	0.0800	U	0.1000	U	0.2	U	0.1000	U
Cadmium	5	9.3*	9.3	3.40	4.0000	J	0.3000	U	**13.0000**		2.6000	J	2.0000	U	0.4000	U	2.0000	U	0.3800	U	0.4000	U	**9.6**		**17.0000**	
Calcium	NA	NA	NA	17560.00	16200.0000		46400.0000	J	44000.0000		27000.0000		14500.0000		20000.0000		12200.0000	U	15500.0000		20000.0000		38200		31000.0000	
Chromium	100	na	na	35.00	3.0000	U	5.4000	U	3.4000	J	4.1000	J	3.0000	U	0.9000	U	3.0000	U	1.0000	U	1.5000	J	0.9	U	0.9000	U
Cobalt	150	na	na	4.10	4.0000	U	0.7400	J	0.7000	U	0.7000	U	4.0000	U	0.7000	U	4.0000	U	0.6700	U	0.7300	U	0.6	U	0.7000	J
Copper	1000	3.7*	2.9	16.20	3.0000	U	4.4000	U	2.1000	J	13.0000	J	3.0000	J	0.8000	U	3.0000	U	2.0000	U	0.8000	U	6.8	J	2.3000	J
Cyanide	200	5.2	1	NA	20.0000	U	na		na		na		20.0000	U	na		10.0000	U	na		na		10	U	na	
Iron	300	1000	300	1707.80	38.0000	U	**3500.0000**		73.0000		1000.0000		**4120.0000**	J	**1800.0000**		**2360.0000**	UJ	**1710.0000**		**2100.0000**		113		**2400.0000**	
Lead	15	8.5*	8.5	1.60	3.0000	J	1.9000	U	1.9000	U	13.0000		2.0000	J	2.8000	J	1.0000	J	0.8100	U	1.9000	U	4		6.4000	
Magnesium	NA	NA	NA	2872.60	1350.0000	R	14200.0000		3600.0000		1200.0000		4190.0000	R	3200.0000		1270.0000	UR	1120.0000		1400.0000		2360	J	1400.0000	
Manganese	50	na	na	22.00	2.0000	U	**106.0000**		0.9600	J	25.0000		**83.0000**		41.0000		35.0000	U	29.6000	U	**240.0000**		4.7	J	1.4000	J
Mercury	2	0.012	0.025	0.20	0.2000	U	0.0600	U	0.1000	U	0.1000	U	0.2000	U	0.1000	U	0.2000	U	0.0700	J	0.1000	U	0.2	U	0.1000	U
Nickel	100	8.3*	8.3	39.90	7.0000	U	4.3000	U	1.2000	U	1.2000	U	11.0000	U	1.2000	U	7.0000	U	1.7000	U	1.2000	U	1.4	U	2.7000	J
Potassium	NA	NA	NA	12167.00	2100.0000		12300.0000		3700.0000		280.0000	J	1110.0000	U	890.0000	J	1110.0000	U	809.0000	J	610.0000	J	1320	J	1200.0000	
Selenium	50	5	71	3.90	2.0000	U	2.0000	U	4.3000	U	4.3000	U	2.0000	U	4.3000	U	2.0000	U	2.0000	U	4.3000	U	4.4	U	4.3000	U
Silver	100	0.07	0.4	4.00	4.0000	UJ	1.0000	UJ	1.0000	U	1.0000	U	4.0000	UJ	1.0000	U	4.0000	U	3.6000	U	1.0000	U	0.5	U	1.0000	U
Sodium	NA	NA	NA	18345.00	4320.0000	J	169000.0000		5100.0000		3000.0000		4870.0000	J	3300.0000		3000.0000	U	1910.0000		2300.0000		6400		13000.0000	
Thallium	2	6.3	6.3	3.60	2.0000	U	0.9500	U	6.6000	U	6.6000	U	2.0000	U	6.6000	U	2.0000	U	0.9500	U	6.6000	U	4.5	U	6.6000	U
Vanadium	53	na	na	9.60	4.0000	U	12.0000		1.0000	U	1.0000	U	8.0000	J	1.0000	U	4.0000	U	1.5000	J	2.0000	J	0.87	J	3.0000	J
Zinc	5000	86*	86	153.20	25.0000	U	9.0000	U	81.0000		88.0000		11.0000	U	1.9000	J	7.0000	U	6.4000	U	4.1000	J	164		540.0000	

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Table 4
Groundwater Metals, OU 2, NAS Pensacola

				Well ID	12GS09				25GS01					27GI02				27GS01					
PARAMETER	Florida CTLs (ppb) GCTL	FSWCTL	MSWCTL	NAS Pensacola Reference Concentration	1995 RESULT		2003 RESULT		1993 RESULT		1995 RESULT		2003 RESULT	1993 RESULT		2003 RESULT		1993 RESULT		1995 RESULT		2003 RESULT	
Aluminum	200	13	13	3882.80	90.5	J	25.0000	J	**15800.0000**		248.0000	J	87.0000	J	**27600.0000**		290.0000	**20400.0000**	J	89.2000	UJ	130.0000	J
Antimony	6	4300	4300	30.20	1.9	U	4.4000	U	35.0000	U	2.3000	U	3.8000	U	35.0000	U	3.8000	U	**61.1000**	J	2.3000	U	3.8000	U
Arsenic	50	50	50	2.80	3.2	U	3.9000	U	4.0000	U	1.5000	U	3.9000	U	23.1000		3.9000	U	4.7000	J	1.5000	U	3.9000	U
Barium	2000	na	na	13.20	35.1	J	80.0000		56.4000		7.4000	U	9.6000	J	45.1000		10.0000		46.7000	J	12.0000	U	7.4000	J
Beryllium	4	0.13	0.13	1.10	0.2	U	0.1000	U	1.0000	U	0.0800	UJ	0.1000	U	1.0000	U	0.1000	U	1.0000	U	0.0800	UJ	0.1000	U
Cadmium	5	9.3*	9.3	3.40	3.8	J	**8.5000**		4.0000		0.2200	U	0.4000	U	3.0000	U	0.4000	U	3.0000	U	0.2200	U	0.4000	U
Calcium	NA	NA	NA	17560.00	40100		50000.0000		24000.0000		29700.0000		41000.0000		11300.0000		11000.0000		17500.0000		23400.0000		21000.0000	
Chromium	100	na	na	35.00	0.9	U	1.8000	J	18.0000		0.6400	U	0.9000	U	47.3000		3.9000	J	15.1000		0.6400	U	0.9000	U
Cobalt	150	na	na	4.10	0.77	J	2.9000	J	9.0000	U	0.6700	U	0.7000	U	9.0000	U	0.7000	U	9.0000	U	1.2000	U	0.7000	U
Copper	1000	3.7*	2.9	16.20	1.5	U	0.8000	U	20.4000		0.6400	U	0.9600	J	9.2000	U	2.0000	J	15.5000		0.6400	U	1.2000	J
Cyanide	200	5.2	1	NA	10	U	na		10.0000	U	na		na		10.0000	U	na		13.9000		na		na	
Iron	300	1000	300	1707.80	16.4	J	**2700.0000**		**10400.0000**	J	211.0000		43.0000	J	**12400.0000**		**1900.0000**		**11700.0000**	J	**4470.0000**		730.0000	
Lead	15	8.5*	8.5	1.60	1.9	U	1.9000	U	6.4000		1.4000	U	1.9000	U	**34.9000**		1.9000	U	4.3000	J	0.8100	U	1.9000	U
Magnesium	NA	NA	NA	2872.60	2180	J	3500.0000		2690.0000		1480.0000		2900.0000		3220.0000		1700.0000		5130.0000		1450.0000		1900.0000	
Manganese	50	na	na	22.00	37		21.0000		**115.0000**		1.8000	U	0.5000	U	**54.9000**		9.1000	J	46.1000		**371.0000**		5.7000	J
Mercury	2	0.012	0.025	0.20	0.2	U	0.1000	U	0.2600		0.0600	U	0.1000	U	0.2000	U	0.1000	U	0.2000	U	0.0600	U	0.1000	U
Nickel	100	8.3*	8.3	39.90	17.5	J	2.3000	J	18.0000	U	0.8800	U	1.2000	U	18.0000	U	1.2000	U	19.6000		0.7600	U	1.2000	U
Potassium	NA	NA	NA	12167.00	1270	J	2000.0000		1730.0000		1140.0000		1300.0000		2000.0000		1700.0000		5160.0000		3000.0000		2500.0000	
Selenium	50	5	71	3.90	4.4	U	4.3000	U	3.0000	UJ	2.0000	UJ	4.3000	U	3.0000	U	4.3000	U	30.0000	UJ	2.0000	UJ	4.3000	U
Silver	100	0.07	0.4	4.00	0.5	U	1.0000	U	4.0000	U	1.0000	U	1.0000	U	4.0000	U	1.0000	U	4.0000	U	1.0000	U	1.0000	U
Sodium	NA	NA	NA	18345.00	4420	J	5300.0000		5170.0000		3700.0000		12000.0000		12000.0000		8300.0000		11100.0000		8130.0000		5400.0000	
Thallium	2	6.3	6.3	3.60	4.5	U	6.6000	U	3.0000	U	0.9500	U	6.6000	U	30.0000	U	6.6000	U	3.0000	UJ	0.9500	U	6.6000	U
Vanadium	53	na	na	9.60	0.59	J	5.2000	J	25.2000		0.8900	J	1.0000	U	**64.1000**		1.0000	U	33.2000		1.2000	J	2.1000	J
Zinc	5000	86*	86	153.20	62.1		560.0000		603.0000		68.0000	J	120.0000		85.3000		6.2000	J	31.5000		8.9000	U	3.7000	J

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Table 4
Groundwater Metals, OU 2, NAS Pensacola

				Well ID	27GS02					27GS10					30GI19				30GI111			
	Florida CTLs (ppb)			NAS Pensacola	1993		1995		2003	1993		1995		2003	1993		2003		1992		2003	
PARAMETER	GCTL	FSWCTL	MSWCTL	Reference Concentration	RESULT		RESULT		RESULT	RESULT		RESULT		RESULT	RESULT		RESULT		RESULT		RESULT	
Aluminum	200	13	13	3882.80	**4070.0000**		14.4000	UJ	570.0000	**43200.0000**	J	21.1000	UJ	120.0000	J	167.0000	U	420.0000		724.0000		270.0000	
Antimony	6	4300	4300	30.20	35.0000	U	2.3000	U	3.8000	U	**61.0000**	J	2.3000	U	3.8000	U	35.0000	U	3.8000	U	35.0000	U	3.8000	U
Arsenic	50	50	50	2.80	4.0000	U	1.5000	U	3.9000	U	12.3000	J	1.5000	U	3.9000	U	2.0000	U	4.3000	J	11.4000		27.0000	
Barium	2000	na	na	13.20	52.9000		4.7000	U	13.0000		68.8000		3.9000	U	4.3000	J	29.9000	U	31.0000		79.8000	U	110.0000	
Beryllium	4	0.13	0.13	1.10	1.0000	U	0.0800	UJ	0.1000	U	1.0000	U	0.0800	UJ	0.1000	U	1.0000	U	0.1000	U	1.0000	U	0.1000	U
Cadmium	5	9.3*	9.3	3.40	3.0000	U	0.2200	U	0.4000	U	**19.6000**		4.7000	U	**8.0000**		3.0000	U	0.4000	U	3.0000	U	0.4000	U
Calcium	NA	NA	NA	17560.00	16900.0000		6630.0000		22000.0000		21400.0000		14800.0000		14000.0000		12300.0000		9400.0000		62900.0000		71000.0000	
Chromium	100	na	na	35.00	8.8000		0.6400	U	1.6000	J	**5810.0000**		**309.0000**		**160.0000**		4.0000	UJ	1.7000	J	5.8000	U	1.1000	J
Cobalt	150	na	na	4.10	9.0000	U	0.6700	U	0.7000	U	9.9000		0.6700	U	1.8000	J	3.0000	U	1.0000	J	3.0000	U	1.4000	J
Copper	1000	3.7*	2.9	16.20	6.6000	U	0.7100	U	1.9000	J	27.3000		2.2000	U	1.1000	J	4.0000	U	2.0000	J	9.1000	U	2.0000	J
Cyanide	200	5.2	1	NA	10.0000	U	na		na		10.0000	U	na		na		10.0000	U	na		10.0000	UJ	na	
Iron	300	1000	300	1707.80	1620.0000		17.9000	U	240.0000		**23300.0000**	J	14.1000	U	**3000.0000**		356.0000		410.0000		**15800.0000**		**30000.0000**	
Lead	15	8.5*	8.5	1.60	**20.4000**		0.8100	U	1.9000	U	**44.8000**	J	0.8100	U	1.9000	U	2.2000	J	1.9000	U	2.0000	U	1.9000	U
Magnesium	NA	NA	NA	2872.60	1600.0000		786.0000		1900.0000		6100.0000		2160.0000		3400.0000		4900.0000	J	4900.0000		36900.0000		53000.0000	
Manganese	50	na	na	22.00	44.5000		34.6000		7.5000	J	**218.0000**		**52.2000**		**190.0000**		**54.8000**		47.0000		**76.8000**		**95.0000**	
Mercury	2	0.012	0.025	0.20	0.2000		0.0600	U	0.1000	U	0.2000	U	0.0600	U	0.1000	U	0.2000	U	0.1000	U	0.2000	U	0.1000	U
Nickel	100	8.3*	8.3	39.90	18.0000	U	0.7400	U	1.2000	U	31.1000		1.4000	U	4.6000	J	15.0000	U	2.8000	J	15.0000	U	1.2000	U
Potassium	NA	NA	NA	12167.00	3250.0000		1110.0000		2900.0000		8780.0000		4020.0000		4900.0000		2410.0000	J	3700.0000		12900.0000		24000.0000	
Selenium	50	5	71	3.90	3.0000	U	2.0000	UJ	4.3000	U	30.0000	UJ	2.0000	UJ	4.3000	U	2.0000	U	4.3000	U	3.4000	U	4.3000	U
Silver	100	0.07	0.4	4.00	4.0000	U	1.0000	U	1.0000	U	4.0000	U	1.0000	U	1.0000	U	4.0000	UJ	1.0000	U	4.0000	U	1.0000	U
Sodium	NA	NA	NA	18345.00	6120.0000		8140.0000		7800.0000		13100.0000		9260.0000		11000.0000		10400.0000		11000.0000		344000.0000		550000.0000	
Thallium	2	6.3	6.3	3.60	3.0000	U	0.9500	U	6.6000	U	3.0000	UJ	0.9500	U	6.6000	U	2.0000	U	6.6000	U	10.0000	U	6.6000	U
Vanadium	53	na	na	9.60	6.0000	U	0.7600	U	1.0000	U	**57.7000**		0.7600	U	1.5000	J	3.0000	U	1.4000	J	3.0000	U	1.4000	J
Zinc	5000	86*	86	153.20	42.6000	U	1.3000	U	5.0000	J	131.0000		5.3000	U	5.1000	J	10.8000	U	5.4000	J	22.8000	U	6.3000	J

Notes:
All results are in micrograms per liter or parts per billion (ppb).
Concentrations in bold indicate an exceedance of a GCTL or NAS Pensacola Reference Concentration.
*In accordance with 62-302, F.A.C.
U = not detected
J = detected below method detection limit and above instrument detection limit
NA = not applicable
na = not analyzed

Table 4
Groundwater Metals, OU 2, NAS Pensacola

				Well ID	30GI126					30GS06					30GS18					30GS22				
	Florida CTLs (ppb)			NAS Pensacola	1993		1995		2003	1993		1995		2003	1993		2003		1993		1995		2003	
PARAMETER	GCTL	FSWCTL	MSWCTL	Reference Concentration	RESULT		RESULT		RESULT	RESULT		RESULT		RESULT	RESULT		RESULT		RESULT		RESULT		RESULT	
Aluminum	200	13	13	3882.80	**5270.0000**	J	53.1000	U	160.0000	J	977.0000		165.0000	U	200.0000	J	2730.0000		660.0000		68.4000	J	52.9000	U	50.0000	J
Antimony	6	4300	4300	30.20	35.0000	U	2.3000	U	3.8000	U	35.0000	U	2.3000	U	3.8000	U	35.0000	U	3.8000	U	35.0000	U	2.3000	U	3.8000	U
Arsenic	50	50	50	2.80	2.0000	U	2.2000	J	3.9000	U	2.0000	U	1.5000	UJ	11.0000		4.6000	J	4.7000	J	2.0000	U	1.5000	UJ	3.9000	U
Barium	2000	na	na	13.20	23.7000	U	18.8000	U	20.0000		16.6000	U	18.7000	U	51.0000		8.9000	U	9.7000	J	6.2000	U	13.4000	U	24.0000	
Beryllium	4	0.13	0.13	1.10	1.0000	U	0.0800	U	0.1000	U	1.0000	U	0.0800	U	0.1000	U	1.0000	U	0.1000	U	1.0000	U	0.0800	U	0.1000	U
Cadmium	5	9.3*	9.3	3.40	3.0000	U	0.2200	U	0.4000	U	3.0000	U	0.3300	U	0.4000	U	3.0000	U	0.4000	U	3.0000	U	0.4000	U	0.4000	U
Calcium	NA	NA	NA	17560.00	10200.0000		10000.0000		10000.0000		14900.0000		9800.0000		42000.0000		9560.0000		18000.0000		5520.0000		13700.0000		40000.0000	
Chromium	100	na	na	35.00	11.8000	U	0.6400	U	0.9000	U	4.0000	U	0.7400	U	4.9000	J	20.9000	J	17.0000		4.0000	U	2.0000	U	13.0000	
Cobalt	150	na	na	4.10	3.0000	U	0.7600	J	0.7000	U	3.0000	U	0.6700	U	1.3000	J	3.0000	U	0.7600	J	3.0000	U	0.6700	U	0.7000	U
Copper	1000	3.7*	2.9	16.20	8.6000	U	3.3000	U	0.8000	U	7.4000	U	1.6000	U	3.1000	J	5.9000	U	2.3000	J	4.2000	U	2.4000	U	0.8000	U
Cyanide	200	5.2	1	NA	10.0000	U	na		na		10.0000	UJ	na		na		10.0000	U	na		10.0000	U	na		na	
Iron	300	1000	300	1707.80	**2070.0000**		674.0000		750.0000		**4230.0000**		234.0000		**6300.0000**		**5260.0000**		**4000.0000**		137.0000	UJ	125.0000		500.0000	
Lead	15	8.5*	8.5	1.60	2.0000	U	0.8100	U	1.9000	U	**34.8000**	J	3.4000		**130.0000**		2.6000	J	1.9000	U	**52.5000**	J	**56.2000**		13.0000	
Magnesium	NA	NA	NA	2872.60	2800.0000	J	2880.0000		3300.0000		1510.0000	J	4390.0000		5400.0000		1970.0000	J	2300.0000		996.0000	J	1190.0000		2300.0000	
Manganese	50	na	na	22.00	23.0000		24.1000	U	26.0000		41.5000		21.5000	U	**65.0000**		**60.9000**		**77.0000**		2.5000	U	5.9000	U	44.0000	
Mercury	2	0.012	0.025	0.20	0.2000	U	0.0600	U	0.1000	U	0.2000	U	0.0600	J	0.1000	U	0.2000	U	0.1000	U	0.2000	U	0.0900	J	0.1000	U
Nickel	100	8.3*	8.3	39.90	15.0000	U	2.5000	U	1.2000	U	15.0000	U	1.4000	U	1.2000	U	25.1000	U	8.5000	J	15.0000	U	1.2000	U	1.2000	U
Potassium	NA	NA	NA	12167.00	1360.0000	J	1250.0000		1700.0000		2950.0000	J	5580.0000		6400.0000		1060.0000	J	940.0000	J	906.0000	J	2600.0000		13000.0000	
Selenium	50	5	71	3.90	2.0000	U	3.7000	U	4.3000	U	2.7000	U	2.0000	U	4.3000	U	2.0000	U	4.3000	U	2.0000	U	2.0000	U	4.3000	U
Silver	100	0.07	0.4	4.00	4.0000	U	1.0000	U	1.0000	U	4.0000	U	1.0000	U	1.0000	U	4.0000	U	1.0000	U	4.0000	U	1.0000	U	1.0000	U
Sodium	NA	NA	NA	18345.00	9620.0000		9700.0000		10000.0000		7790.0000		9710.0000		14000.0000		5640.0000		11000.0000		29100.0000		10300.0000		8700.0000	
Thallium	2	6.3	6.3	3.60	2.0000	U	0.9500	U	6.6000	U	2.0000	U	0.9500	U	6.6000	U	2.0000	U	6.6000	U	2.0000	UJ	0.9500	U	6.6000	U
Vanadium	53	na	na	9.60	14.3000	U	0.7600	UJ	1.0000	U	3.0000	U	0.7600	UJ	2.6000	J	5.2000	U	1.1000	J	3.0000	U	0.7600	UJ	1.1000	J
Zinc	5000	86*	86	153.20	37.0000	U	6.0000	U	4.5000	J	18.8000	U	4.1000	U	5.3000	J	11.9000	U	5.5000	J	5.0000	U	20.4000		4.1000	J

Notes:
All results are in micrograms per liter or parts per billion (ppb).
Concentrations in bold indicate an exceedance of a GCTL or NAS Pensacola Reference Concentration.
*In accordance with 62-302, F.A.C.
U = not detected
J = detected below method detection limit and above instrument detection limit
NA = not applicable
na = not analyzed

Table 4
Groundwater Metals, OU 2, NAS Pensacola

				Well ID	30GS27					30GS28					30GS103					30GS111				
	Florida CTLs (ppb)			NAS Pensacola	1993		1995		2003	1993		1995		2003	1993		1995		2003	1993		1995		2003
PARAMETER	GCTL	FSWCTL	MSWCTL	Reference Concentration	RESULT		RESULT		RESULT	RESULT		RESULT		RESULT	RESULT		RESULT		RESULT	RESULT		RESULT		RESULT
Aluminum	200	13	13	3882.80	235.0000	J	327.0000	J	590.0000	20.0000	UJ	784.0000	J	520.0000	38.6000	U	52.9000	U	96.0000	J	760.0000		339.0000		160.0000	J
Antimony	6	4300	4300	30.20	35.0000	U	2.3000	U	3.8000	U	35.0000	U	2.3000	U	3.8000	U	35.0000	U	7.8000	J	3.8000	U	35.0000	U	2.3000	U	3.8000	U
Arsenic	50	50	50	2.80	2.0000	J	1.5000	U	3.9000	U	2.0000	U	1.5000	U	3.9000	U	3.0000	J	1.5000	J	3.9000	U	2.0000	U	1.5000	UJ	3.9000	U
Barium	2000	na	na	13.20	6.2000	U	8.0000	U	8.5000	J	6.2000	U	6.1000	UJ	4.4000	J	458.0000		328.0000		260.0000		5.2000	U	6.0000	U	20.0000	
Beryllium	4	0.13	0.13	1.10	1.0000	U	0.0800	UJ	0.1000	U	1.0000	U	0.0800	U	0.1000	U	1.0000	U	0.0800	U	0.1000	U	1.0000	U	0.2700	U	0.1000	U
Cadmium	5	9.3*	9.3	3.40	3.4000	J	0.8900	U	0.7400	J	**7.8000**		**108.0000**		**120.0000**		3.0000	U	**5.1000**	J	1.8000	J	3.0000	U	0.5900	J	0.4000	U
Calcium	NA	NA	NA	17560.00	11100.0000		12600.0000		9800.0000		21300.0000		16200.0000		19000.0000		198000.0000		188000.0000	J	170000.0000		9600.0000		9890.0000		46000.0000	
Chromium	100	na	na	35.00	**1380.0000**		69.9000		**180.0000**		**715.0000**		**418.0000**		**250.0000**		4.0000	U	1.5000	U	7.1000	J	5.7000	U	3.0000	U	1.7000	J
Cobalt	150	na	na	4.10	3.0000	U	0.6900	U	0.7000	U	3.0000	U	0.6700	U	1.4000	J	3.0000	U	0.6700	U	0.8000	U	3.0000	U	0.6700	U	0.7000	U
Copper	1000	3.7*	2.9	16.20	7.2000	U	9.4000	U	1.7000	J	12.0000	U	73.0000		11.0000	J	7.2000	U	5.6000	U	9.2000	U	6.6000	U	2.2000	U	1.0000	J
Cyanide	200	5.2	1	NA	10.0000	U	na		na		10.0000	U	na		na		10.0000	UJ	na		na		10.0000	UJ	na		na	
Iron	300	1000	300	1707.80	241.0000	UJ	**2810.0000**		**1900.0000**		22.6000	UJ	**6970.0000**		**2700.0000**		**7900.0000**		**4680.0000**		**2700.0000**		1320.0000		605.0000		1200.0000	
Lead	15	8.5*	8.5	1.60	5.0000	J	4.0000	U	3.1000	J	2.0000	UJ	4.1000	U	1.9000	U	10.2000	J	**37.1000**		**73.0000**		4.7000	J	1.8000	J	1.9000	U
Magnesium	NA	NA	NA	2872.60	2110.0000	J	1010.0000		1200.0000		2620.0000	J	1000.0000		2700.0000		17900.0000		15000.0000		12000.0000		2700.0000	J	1620.0000		4500.0000	
Manganese	50	na	na	22.00	31.2000	U	23.2000		32.0000		**53.0000**		19.6000		**52.0000**		**457.0000**		**204.0000**		**110.0000**		31.0000		15.9000	J	**110.0000**	
Mercury	2	0.012	0.025	0.20	0.2000	U	0.0600	U	0.1000	U	0.2000	U	0.0900	U	0.1000	U	0.2000	U	0.0600	U	0.1000	U	0.2000	U	0.0600	U	0.1000	U
Nickel	100	8.3*	8.3	39.90	15.0000	U	0.9900	U	1.2000	U	15.0000	U	1.5000	U	2.0000	J	15.0000	U	1.5000	U	2.4000	J	15.0000	U	0.7400	U	1.2000	U
Potassium	NA	NA	NA	12167.00	4690.0000	J	2890.0000		3200.0000		6240.0000		1660.0000		4300.0000		8460.0000		7410.0000		7500.0000		10400.0000		6910.0000		7800.0000	
Selenium	50	5	71	3.90	2.0000	U	2.0000	UJ	4.3000	U	2.0000	UJ	2.0000	UJ	4.3000	U	2.6000	U	2.0000	U	4.3000	U	2.0000	U	2.0000	U	4.3000	U
Silver	100	0.07	0.4	4.00	4.0000	U	1.0000	U	1.0000	U	4.0000	U	1.0000	U	1.0000	U	4.0000	U	1.0000	UJ	1.0000	U	4.0000	U	1.0000	U	1.0000	U
Sodium	NA	NA	NA	18345.00	8050.0000		8160.0000		5300.0000		9840.0000		4040.0000		8800.0000		9340.0000		6790.0000		7100.0000		37300.0000		11500.0000		12000.0000	
Thallium	2	6.3	6.3	3.60	2.0000	UJ	0.9500	U	6.6000	U	2.0000	UJ	0.9500	U	6.6000	U	2.0000	U	0.9500	U	6.6000	U	2.0000	U	0.9500	U	6.6000	U
Vanadium	53	na	na	9.60	3.0000	U	1.2000	J	1.6000	J	3.0000	U	8.7000	J	3.1000	J	3.0000	U	0.7900	J	2.2000	J	3.0000	U	2.9000	U	1.4000	J
Zinc	5000	86*	86	153.20	10.7000	U	7.7000	U	3.1000	J	5.0000	U	5.8000	U	4.2000	J	20.5000	U	23.0000	U	16.0000	J	13.8000	U	4.9000	U	4.2000	J

Notes:
All results are in micrograms per liter or parts per billion (ppb).
Concentrations in bold indicate an exceedance of a GCTL or NAS Pensacola Reference Concentration.
*In accordance with 62-302, F.A.C.
U = not detected
J = detected below method detection limit and above instrument detection limit
NA = not applicable
na = not analyzed

Table 4
Groundwater Metals, OU 2, NAS Pensacola

				Well ID	30GS123				30GS126						30GS170				30GS029 (30GS174)		30GS174	
PARAMETER	Florida CTLs (ppb) GCTL	FSWCTL	MSWCTL	NAS Pensacola Reference Concentration	1993 RESULT		2003 RESULT		1993 RESULT		1995 RESULT		2003 RESULT		1993 RESULT		2003 RESULT		1993 RESULT		2003 RESULT	
Aluminum	200	13	13	3882.80	681.0000		120.0000	J	627.0000	J	579.0000		630.0000		948.0000		240.0000		126.0000	UJ	86.0000	J
Antimony	6	4300	4300	30.20	35.0000	U	3.8000	U	35.0000	U	2.3000	U	3.8000	U	35.0000	U	3.8000	U	35.0000	U	3.8000	U
Arsenic	50	50	50	2.80	2.0000	U	3.9000	U	2.0000	U	1.5000	UJ	3.9000	U	2.0000	U	3.9000	U	2.0000	U	3.9000	U
Barium	2000	na	na	13.20	7.3000	U	6.2000	J	6.4000	U	14.8000	U	6.8000	J	10.1000	U	17.0000		14.2000	U	9.1000	J
Beryllium	4	0.13	0.13	1.10	1.0000	U	0.1000	U	1.0000	U	0.0800	U	0.1000	U	1.0000	U	0.1000	U	1.0000	U	0.1000	U
Cadmium	5	9.3*	9.3	3.40	3.0000	U	1.1000	J	3.0000	U	**21.8000**		0.4500	J	3.0000	U	3.2000	J	14.2000	U	**14.0000**	
Calcium	NA	NA	NA	17560.00	9410.0000		14000.0000		17000.0000		13500.0000		5100.0000		23400.0000		32000.0000		12200.0000		18000.0000	
Chromium	100	na	na	35.00	7.4000	U	1.7000	J	11.7000	U	4.9000	U	10.0000		12.2000	U	21.0000		4.3000	U	6.2000	J
Cobalt	150	na	na	4.10	3.0000	U	0.7000	U	3.0000	U	1.0000	J	0.7000	U	3.0000	U	1.5000	J	3.0000	U	0.7000	U
Copper	1000	3.7*	2.9	16.20	6.4000	U	0.8000	U	20.5000	U	1.8000	U	0.8000	U	6.4000	U	1.5000	U	7.1000	U	2.2000	J
Cyanide	200	5.2	1	NA	10.0000	UJ	na		10.0000	U	na		na		10.0000	UJ	na		10.0000	U	na	
Iron	300	1000	300	1707.80	702.0000		350.0000		249.0000		510.0000		**3400.0000**		382.0000		220.0000		1100.0000		41.0000	J
Lead	15	8.5*	8.5	1.60	3.2000	J	1.9000	U	4.2000		**236.0000**		**37.0000**		5.0000	J	1.9000	U	3.6000		1.9000	U
Magnesium	NA	NA	NA	2872.60	2330.0000	J	3400.0000		2320.0000	J	2620.0000		2000.0000		2150.0000	J	1900.0000		2980.0000	J	1500.0000	
Manganese	50	na	na	22.00	24.3000		17.0000		24.4000		35.1000		31.0000		21.4000		**100.0000**		**57.8000**		1.2000	J
Mercury	2	0.012	0.025	0.20	0.2000	U	0.1000	U	0.2000	U	0.0600	J	0.1000	U	0.2000	U	0.1000	U	0.2000	U	0.1000	U
Nickel	100	8.3*	8.3	39.90	15.0000	U	1.2000	U	15.0000	U	17.1000	U	1.2000	U	15.0000	U	1.2000	U	15.0000	U	1.2000	U
Potassium	NA	NA	NA	12167.00	1140.0000	J	2900.0000		1270.0000	J	776.0000	J	1500.0000		1740.0000	J	1900.0000		4020.0000	J	4100.0000	
Selenium	50	5	71	3.90	2.8000	U	4.3000	U	2.0000	U	2.0000	U	4.3000	U	3.6000	U	4.3000	U	2.0000	U	4.3000	U
Silver	100	0.07	0.4	4.00	4.0000	U	1.0000	U	4.9000	U	1.0000	U	1.0000	U	4.0000	U	1.0000	U	4.0000	U	1.0000	U
Sodium	NA	NA	NA	18345.00	7420.0000		12000.0000		6140.0000		9380.0000		11000.0000		8880.0000		12000.0000		8890.0000		7300.0000	
Thallium	2	6.3	6.3	3.60	2.0000	U	6.6000	U	2.0000	U	0.9500	U	6.6000	U	2.0000	U	6.6000	U	2.0000	U	6.6000	U
Vanadium	53	na	na	9.60	3.0000	U	1.0000	U	3.0000	U	0.7600	UJ	4.9000	J	3.0000	U	1.4000	J	3.0000	U	1.0000	U
Zinc	5000	86*	86	153.20	22.3000	U	9.0000	J	43.1000	U	45.8000		2.6000	J	15.4000	U	1.8000	U	16.3000	U	3.7000	J

Notes:
All results are in micrograms per liter or parts per billion (ppb).
Concentrations in bold indicate an exceedance of a GCTL or NAS Pensacola Reference Concentration.
*In accordance with 62-302, F.A.C.
U = not detected
J = detected below method detection limit and above instrument detection limit
NA = not applicable
na = not analyzed

Table 5
Soil Pesticides, OU 2, NAS Pensacola

Parameter	Sample ID / Florida SCTLs (ppb)	012S000315 1993 Results		012S000315 2003 Results		012S000814 1993 Results		012S000814 2003 Results		030S012304 1993 Results		030S012304 2003 Results	
4,4'-DDD	4000	3.5	U	0.3700	U	240	CPE	0.3600	U	3.4000	U	0.3700	U
4,4'-DDE	18000	3.7		0.5700	U	22		8.7000		3.4000	U	0.5700	U
4,4'-DDT	11000	4		0.3300	U	3.4	U	14.0000		3.4000	U	0.3300	U
Aldrin	500	1.8	U	0.1200	U	1.7	U	0.1100	U	1.8000	U	0.1200	U
alpha-BHC	0.30	1.8	U	0.2500	U	1.7	U	0.2500	U	1.8000	U	0.2600	U
alpha-Chlordane	9600	0.71	J	0.1200	U	1.7	U	0.1100	U	1.8000	U	0.1200	U
beta-BHC	1	1.8	U	0.3000	U	1.7	U	0.3000	U	1.8000	U	0.3100	U
delta-BHC	200	1.8	U	0.1300	U	1.7	U	0.1200	U	1.8000	U	0.1300	U
Dieldrin	4	1.6	J	0.3300	U	3.4	U	1.6000	J	**17.0000**		0.3300	P
Endosulfan I	3800	1.8	U	0.1800	U	1.7	U	0.1800	U	1.8000	U	0.1800	U
Endosulfan II	3800	3	J	0.2300	U	3.4	U	0.2300	U	3.4000	U	0.2300	U
Endosulfan sulfate	NA	3.5	U	0.4600	U	3.4	U	0.4600	U	3.4000	U	0.4700	U
Endrin	1000	3.5	U	0.4500	U	3.4	U	0.4500	U	3.4000	U	0.4600	U
Endrin aldehyde	NA	4.6		0.3300	U	3.4	U	0.3200	U	3.4000	U	0.3300	U
Endrin ketone	NA	3.5	U	0.4000	U	3.4	U	0.4000	U	3.4000	U	0.4000	U
gamma-BHC (Lindane)	9	1.8	U	0.1600	U	1.7	U	0.1600	U	1.8000	U	0.1600	U
gamma-Chlordane	9600	0.99	J	0.1400	U	1.7	U	0.1400	U	1.8000	U	0.1400	U
Heptachlor	23000	1.8	U	0.2900	U	1.7	U	0.2900	U	1.8000	U	0.3000	U
Heptachlor epoxide	600	1.8	U	0.1800	U	1.7	U	0.1800	U	1.8000	U	0.1800	U
Methoxychlor	160000	18	U	0.2100	U	17	U	0.2100	U	18.0000	U	0.2100	U
Toxaphene	31000	180	U	35.0000	U	170	U	34.0000	U	180.0000	U	35.0000	U

Notes:

All results are in micrograms per kilogram or parts per billion (ppb).
NA = not applicable
U = not detected
Bold indicates an exceedance of the SCTL.
C = Compound has been qualitatively confirmed by GC/MS
J = Estimated value below detection limit
E = Reported value exceeds the calibration range of the instrument
P = Percent difference between results from two analytical columns is >25%

Table 6
Soil PCBs, OU 2, NAS Pensacola

	Sample ID	012S000315				012S000814				030S012304			
Parameter	FLORIDA SCTLs (ppb)	1993 Result		2003 Result		1993 Result		2003 Result		1993 Result		2003 Result	
Aroclor-1016	17000	35	U	4.1000	U	34	U	4.1000	U	34.0000	U	4.1000	U
Aroclor-1221	17000	35	U	18.0000	U	34	U	18.0000	U	70.0000	U	18.0000	U
Aroclor-1232	17000	35	U	7.0000	U	34	U	7.0000	U	34.0000	U	7.1000	U
Aroclor-1242	17000	35	U	7.0000	U	34	U	7.0000	U	34.0000	U	7.1000	U
Aroclor-1248	17000	35	U	6.8000	U	34	U	6.8000	U	34.0000	U	6.9000	U
Aroclor-1254	17000	71	U	7.0000	U	69	U	7.0000	U	34.0000	U	7.1000	U
Aroclor-1260	17000	120		4.6000	U	260		120.0000		34.0000	U	4.7000	U

Notes:
All results are in micrograms per kilograms or parts per billion (ppb)
U = not detected

Table 7
Soil Pesticide SPLP Results, OU 2, NAS Pensacola

Parameter	Florida SCTL (ppb)	Sample ID Florida GCTL (ppb)	012S000315 Bulk		012S000315 Leachate		012S000814 Bulk		012S000814 Leachate		030S012304 Bulk		030S012304 Leachate	
4,4'-DDD	4000	0.2	0.3700	U	0.0160	U	0.3600	U	0.0160	U	0.3700	U	0.0160	U
4,4'-DDE	18000	0.1	0.5700	U	0.0100	U	8.7000		0.0100	U	0.5700	U	0.0100	U
4,4'-DDT	11000	0.1	0.3300	U	0.0140	U	14.0000		0.0140	U	0.3300	U	0.0140	U
Aldrin	500	0.002	0.1200	U	0.0086	U	0.1100	U	0.0086	U	0.1200	U	0.0086	U
alpha-BHC	0.30	0.01	0.2500	U	0.0035	U	0.2500	U	0.0035	U	0.2600	U	0.0035	U
alpha-Chlordane	9600	2.0	0.1200	U	0.0084	U	0.1100	U	0.0084	U	0.1200	U	0.0084	U
beta-BHC	1	0.02	0.3000	U	0.0035	U	0.3000	U	0.0035	U	0.3100	U	0.0035	U
delta-BHC	200	2.3	0.1300	U	0.0090	U	0.1200	U	0.0090	U	0.1300	U	0.0090	U
Dieldrin	4	0.0020	0.3300	U	0.0060	U	1.6000	J	0.0060	U	0.3300	P	0.0060	U
Endosulfan I	3800	46.0	0.1800	U	0.0099	U	0.1800	U	0.0099	U	0.1800	U	0.0099	U
Endosulfan II	3800	46.0	0.2300	U	0.0084	U	0.2300	U	0.0084	U	0.2300	U	0.0084	U
Endosulfan sulfate	NA	46.0	0.4600	U	0.0085	U	0.4600	U	0.0085	U	0.4700	U	0.0085	U
Endrin	1000	2.0	0.4500	U	0.0097	U	0.4500	U	0.0097	U	0.4600	U	0.0097	U
Endrin aldehyde	NA	0.2	0.3300	U	0.0140	U	0.3200	U	0.0140	U	0.3300	U	0.0140	U
Endrin ketone	NA	0.2	0.4000	U	0.0072	U	0.4000	U	0.0072	U	0.4000	U	0.0072	U
gamma-BHC (Lindane)	9	0.2	0.1600	U	0.0030	U	0.1600	U	0.0030	U	0.1600	U	0.0030	U
gamma-Chlordane	9600	2.0	0.1400	U	0.0070	U	0.1400	U	0.0070	U	0.1400	U	0.0070	U
Heptachlor	23000	0.4	0.2900	U	0.0140	U	0.2900	U	0.0140	U	0.3000	U	0.0140	U
Heptachlor epoxide	600	0.2	0.1800	U	0.0026	U	0.1800	U	0.0026	U	0.1800	U	0.0026	U
Methoxychlor	160000	40.0	0.2100	U	0.0070	U	0.2100	U	0.0070	U	0.2100	U	0.0070	U
Toxaphene	31000	3.0	35.0000	U	0.7700	U	34.0000	U	0.7700	U	35.0000	U	0.7700	U

Notes:
All results are in parts per billion.
NA = Not Applicable
U = not detected
P = Percent difference between two analytical columns is >25%

Table 8
Soil PCB SPLP Results, OU 2, NAS Pensacola

Parameter	Florida SCTLs (ppb)	Sample ID Florida GCTLs (ppb)	012S000315 Bulk		012S000315 Leachate		012S000814 Bulk		012S000814 Leachate		030S012304 Bulk		030S012304 Leachate	
Aroclor-1016	17000	0.5	4.1000	U	0.1100	U	4.1000	U	0.1100	U	4.1000	U	0.1100	U
Aroclor-1221	17000	0.5	18.0000	U	0.5000	U	18.0000	U	0.5000	U	18.0000	U	0.5000	U
Aroclor-1232	17000	0.5	7.0000	U	0.1800	U	7.0000	U	0.1800	U	7.1000	U	0.1800	U
Aroclor-1242	17000	0.5	7.0000	U	0.1400	U	7.0000	U	0.1400	U	7.1000	U	0.1400	U
Aroclor-1248	17000	0.5	6.8000	U	0.1100	U	6.8000	U	0.1100	U	6.9000	U	0.1100	U
Aroclor-1254	17000	0.5	7.0000	U	0.2000	U	7.0000	U	0.2000	U	7.1000	U	0.2000	U
Aroclor-1260	17000	0.5	4.6000	U	0.1100	U	120.0000		0.1100	U	4.7000	U	0.1100	U

Notes:
All results are in parts per billion (ppb).
U = not detected

Table 9
Groundwater Pesticides Results, OU 2 NAS Pensacola

			Well ID	012GS008				030GS123					
				1993		2003		1993		1995		2003	
Parameter	**Florida GCTL**	**FSWCTL**	**MSWCTL**	**Results**		**Results**		**Results**		**Results**		**Results**	
4,4'-DDD	0.2	0.0003	0.0003	0.11		0.0160	U	0.1000	U	0.1000	U	0.0160	U
4,4'-DDE	0.1	0.0002	0.0002	0.0039	J	0.0100	U	0.1000	U	0.1000	U	0.0100	U
4,4'-DDT	0.1	0.00059	0.00059	0.0099	J	0.0140	U	0.1000	U	0.1000	U	0.0140	U
Aldrin	0.002	0.00014	0.00014	0.05	U	0.0086	U	0.0480	U	0.0500	U	0.0086	U
alpha-BHC	0.006	0.005	0.005	na		0.0035	U	0.0480	U	0.0500	U	0.0035	U
alpha-Chlordane	2.0	0.00059	0.00059	0.05	J	0.0084	U	0.0480	U	0.0500	U	0.0084	U
beta-BHC	0.02	0.046	0.046	0.05	U	0.0035	U	0.0480	U	0.0500	U	0.0035	U
delta-BHC	2.3	NA	NA	0.05	U	0.0090	U	0.0480	U	0.0500	U	0.0090	U
Dieldrin	0.0020	0.00014	0.00014	0.1	U	0.0060	U	0.1000	U	0.1000	U	0.0060	U
Endosulfan I	46.0	0.056	0.0087	0.05	U	0.0099	U	0.0480	U	0.0500	U	0.0099	U
Endosulfan II	46.0	0.056	0.0087	0.1	U	0.0084	U	0.1000	U	0.1000	U	0.0084	U
Endosulfan sulfate	46.0	0.056	0.0087	0.1	U	0.0085	U	0.1000	U	0.1000	U	0.0085	U
Endrin	2.0	0.0023	0.0023	0.1	U	0.0097	U	0.1000	U	0.1000	U	0.0097	U
Endrin aldehyde	0.2	NA	NA	0.014	J	0.0140	U	0.1000	U	0.1000	U	0.0140	U
Endrin ketone	0.2	NA	NA	0.1	U	0.0072	U	0.1000	U	0.1000	U	0.0072	U
gamma-BHC (Lindane)	0.2	0.063	0.063	0.05	U	0.0030	U	0.0480	U	0.0500	U	0.0030	U
gamma-Chlordane	2.0	0.00059	0.00059	0.05	U	0.0070	U	0.0480	U	0.0500	U	0.0070	U
Heptachlor	0.4	0.00021	0.00021	0.05	U	0.0014	U	0.0480	U	0.0500	U	0.0014	U
Heptachlor epoxide	0.2	0.00004	0.00004	0.05	U	0.0026	U	0.0480	U	0.0500	U	0.0026	U
Methoxychlor	40.0	0.03	0.03	0.5	U	0.0070	U	0.4800	U	0.0500	U	0.0070	U
Toxaphene	3.0	0.0002	0.0002	5	U	0.7700	U	**4.8000**		3.0000	U	0.7700	U

Notes:
All results are in micrograms per liter parts per billion (ppb).
NA = not applicable
na = not analyzed
U = not detected
J = present below the method detection limit
GCTL = Groundwater Cleanup Target Level
FSWCTL = Fresh Surface Water Cleanup Target Level
MSWCTL = Marine Surface Water Cleanup Target Level

Table 10
Groundwater PCBs, OU 2, NAS Pensacola

			Well ID	012GS008				030GS123			
Parameter	**Florida GCTL**	**FSWCTL**	**MSWCTL**	**1993 Results**		**2003 Results**		**1993 Results**		**2003 Results**	
Aroclor-1016	0.5	0.000045	0.000045	1	U	0.1100	U	0.9600	U	0.1100	U
Aroclor-1221	0.5	0.000045	0.000045	2	U	0.5000	U	1.9600	U	0.5000	U
Aroclor-1232	0.5	0.000045	0.000045	1	U	0.1800	U	0.9600	U	0.1800	U
Aroclor-1242	0.5	0.000045	0.000045	1	U	0.1400	U	0.9600	U	0.1400	U
Aroclor-1248	0.5	0.000045	0.000045	1	U	0.1100	U	0.9600	U	0.1100	U
Aroclor-1254	0.5	0.000045	0.000045	1	U	0.2000	U	0.9600	U	0.2000	U
Aroclor-1260	0.5	0.000045	0.000045	0.42	J	0.1100	U	0.9600	U	0.1100	U

Notes:
All results are in micrograms per liter or parts per billion (ppb).
U = not detected
J = present below the method detection limit

Table 11

Soil SVOAs, OU 2, NAS Pensacola

Parameter	Sample ID Leachability-based SCTLs (ppb)	011SLF1206 1993 Results		2003 Results		025S000514 1993 Results		2003 Results		025S000814 1993 Results		2003 Results		027S001706 1993 Results		2003 Results		030S000608 1993 Results		2003 Results		030S001212 1993 Results		2003 Results	
1,2,4-Trichlorobenzene	5300	54000.0000	U	44.0000	U	340.0000	U	41.0000	U	350.0000	U	40.0000	U	350.0000	U	40.0000	U	350.0000	U	42.0000	U	340.0000	U	40.0000	U
1,2-Dichlorobenzene	17000	54000.0000	U	26.0000	U	340.0000	U	25.0000	U	350.0000	U	24.0000	U	350.0000	U	24.0000	U	350.0000	U	26.0000	U	340.0000	U	24.0000	U
1,3-Dichlorobenzene	300	54000.0000	U	26.0000	U	340.0000	U	25.0000	U	350.0000	U	24.0000	U	350.0000	U	24.0000	U	350.0000	U	26.0000	U	340.0000	U	24.0000	U
1,4-Dichlorobenzene	2200	54000.0000	U	28.0000	U	340.0000	U	26.0000	U	350.0000	U	26.0000	U	350.0000	U	26.0000	U	350.0000	U	27.0000	U	340.0000	U	25.0000	U
1-Methyl naphthalene	2200	na		1700.0000	D	na		0.3800	U	na		0.4200		na		0.3700	U	na		0.4300		na		0.3700	U
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	NA	na		37.0000	U	na		34.0000	U	na		34.0000	U	na		34.0000	U	na		36.0000	U	na		34.0000	U
2,4,5-Trichlorophenol	300	140000.0000	U	36.0000	U	820.0000	U	33.0000	U	840.0000	U	33.0000	U	840.0000	U	33.0000	U	840.0000	U	34.0000	U	840.0000	U	33.0000	U
2,4,6-Trichlorophenol	60	54000.0000	U	37.0000	U	340.0000	U	34.0000	U	350.0000	U	34.0000	U	350.0000	U	34.0000	U	350.0000	U	36.0000	U	340.0000	U	34.0000	U
2,4-Dichlorophenol	5	54000.0000	U	33.0000	U	340.0000	U	31.0000	U	350.0000	U	31.0000	U	350.0000	U	31.0000	U	350.0000	U	32.0000	U	340.0000	U	30.0000	U
2,4-Dimethylphenol	1700	54000.0000	U	32.0000	U	340.0000	U	30.0000	U	350.0000	U	30.0000	U	350.0000	U	30.0000	U	350.0000	U	31.0000	U	340.0000	U	29.0000	U
2,4-Dinitrophenol	60	140000.0000	UJ	390.0000	U	820.0000	U	360.0000	U	840.0000	U	360.0000	U	840.0000	U	360.0000	U	840.0000	U	380.0000	U	840.0000	U	360.0000	U
2,4-Dinitrotoluene	0.80	54000.0000	U	25.0000	U	340.0000	U	24.0000	U	350.0000	U	23.0000	U	350.0000	U	23.0000	U	350.0000	U	24.0000	U	340.0000	U	23.0000	U
2,6-Dinitrotoluene	0.7	54000.0000	U	33.0000	U	340.0000	U	31.0000	U	350.0000	U	31.0000	U	350.0000	U	31.0000	U	350.0000	U	32.0000	U	340.0000	U	30.0000	U
2-Chloronaphthalene	260000	54000.0000	U	42.0000	U	340.0000	U	40.0000	U	350.0000	U	39.0000	U	350.0000	U	39.0000	U	350.0000	U	41.0000	U	340.0000	U	39.0000	U
2-Chlorophenol	700	54000.0000	U	47.0000	U	340.0000	U	44.0000	U	350.0000	U	44.0000	U	350.0000	U	44.0000	U	350.0000	U	46.0000	U	340.0000	U	43.0000	U
2-Methyl-4,6-Dinitrophenol	NA	140000.0000	UJ	36.0000	U	820.0000	U	33.0000	U	840.0000	U	33.0000	U	840.0000	U	33.0000	U	840.0000	U	34.0000	U	840.0000	U	33.0000	U
2-Methylnaphthalene	6100	**24000.0000**	J	2600.0000	D	340.0000	U	0.5700	U	350.0000	U	0.6000		350.0000	U	0.5600	U	350.0000	U	0.5900	U	340.0000	U	0.5600	U
2-Methylphenol (o-Cresol)	300	54000.0000	U	53.0000	U	340.0000	U	49.0000	U	350.0000	U	49.0000	U	350.0000	U	49.0000	U	350.0000	U	51.0000	U	340.0000	U	48.0000	U
2-Nitroaniline	300	140000.0000	U	29.0000	U	820.0000	U	27.0000	U	840.0000	U	26.0000	U	840.0000	U	26.0000	U	840.0000	UJ	28.0000	U	840.0000	U	26.0000	U
2-Nitrophenol	NA	54000.0000	U	30.0000	U	340.0000	U	28.0000	U	350.0000	U	28.0000	U	350.0000	U	28.0000	U	350.0000	U	29.0000	U	340.0000	U	27.0000	U
3,3'-Dichlorobenzidine	400	54000.0000	UJ	30.0000	U	340.0000	U	28.0000	U	350.0000	U	28.0000	U	350.0000	U	28.0000	U	350.0000	UJ	29.0000	U	340.0000	U	27.0000	U
3-Methylphenol/4-Methylphenol	30	na		46.0000	U	na		43.0000	U	na		42.0000	U	na		42.0000	U	na		44.0000	U	na		42.0000	U
3-Nitroaniline	100	140000.0000	U	34.0000	U	820.0000	U	32.0000	U	840.0000	U	32.0000	U	840.0000	U	32.0000	U	840.0000	U	33.0000	U	840.0000	UJ	32.0000	U
4-Bromophenyl-phenylether	NA	54000.0000	U	34.0000	U	340.0000	U	32.0000	U	350.0000	U	32.0000	U	350.0000	U	32.0000	U	350.0000	U	33.0000	U	340.0000	U	32.0000	U
4-Chloro-3-methylphenol	400	54000.0000	U	46.0000	U	340.0000	U	43.0000	U	350.0000	U	42.0000	U	350.0000	U	42.0000	U	350.0000	U	44.0000	U	340.0000	U	42.0000	U
4-Chloroaniline	200	54000.0000	U	33.0000	U	340.0000	U	31.0000	U	350.0000	U	31.0000	U	350.0000	U	31.0000	U	350.0000	U	32.0000	U	340.0000	U	30.0000	U
4-Chlorophenylphenyl ether	NA	54000.0000	U	30.0000	U	340.0000	U	28.0000	U	350.0000	U	28.0000	U	350.0000	U	28.0000	U	350.0000	U	29.0000	U	340.0000	U	27.0000	U
4-Methylphenol (p-cresol)	30	54000.0000	U	na		340.0000	U	na		350.0000	U	na		**130.0000**	J	na		350.0000	U	na		340.0000	U	na	
4-Nitroaniline	100	140000.0000	U	30.0000	U	820.0000	U	28.0000	U	840.0000	U	28.0000	U	840.0000	U	28.0000	U	840.0000	UJ	29.0000	U	840.0000	U	27.0000	U
4-Nitrophenol	300	140000.0000	U	29.0000	U	820.0000	U	27.0000	U	840.0000	U	26.0000	U	840.0000	U	26.0000	U	840.0000	U	28.0000	U	840.0000	U	26.0000	U
Acenaphthene	2100	54000.0000	U	1.1000	U	340.0000	U	0.9700	U	350.0000	U	0.9600	U	350.0000	U	0.9600	U	350.0000	U	1.0000	U	340.0000	U	0.9500	U
Acenaphthylene	27000	54000.0000	U	1.0000	U	340.0000	U	0.9200	U	350.0000	U	0.9100	U	350.0000	U	0.9100	U	350.0000	U	24.0000		340.0000	U	0.9000	U
Anthracene	2500000	54000.0000	U	15.0000		340.0000	U	1.0000	U	350.0000	U	1.0000	U	350.0000	U	1.0000	U	350.0000	U	18.0000		340.0000	U	1.0000	U
Benzo(a)anthracene	3200	54000.0000	U	0.9200	U	340.0000	U	0.8200	U	350.0000	U	0.8100	U	350.0000	U	0.8100	U	350.0000	U	140.0000		340.0000	U	1.0000	
Benzo(a)pyrene	8000	54000.0000	U	1.1000	U	340.0000	U	0.9700	U	350.0000	U	0.9600	U	350.0000	U	0.9600	U	350.0000	U	190.0000		340.0000	U	1.6000	
Benzo(b)fluoranthene	10000	54000.0000	U	1.2000	U	340.0000	U	1.0000	U	350.0000	U	1.0000	U	350.0000	U	1.0000	U	350.0000	U	310.0000		340.0000	U	2.0000	
Benzo(g,h,i)perylene	32000000	54000.0000	U	29.0000		340.0000	U	0.6600	U	350.0000	U	0.6500	U	350.0000	U	0.6500	U	350.0000	U	250.0000		340.0000	U	2.3000	
Benzo(k)fluoranthene	25000	54000.0000	UJ	1.2000	U	340.0000	U	1.0000	U	350.0000	U	1.0000	U	350.0000	U	1.0000	U	350.0000	U	240.0000		340.0000	U	1.6000	
bis(2-Chloroethoxy)methane	NA	54000.0000	U	37.0000	U	340.0000	U	34.0000	U	350.0000	U	34.0000	U	350.0000	U	34.0000	U	350.0000	U	36.0000	U	340.0000	U	34.0000	U
bis(2-Chloroethyl)ether	20	54000.0000	U	42.0000	U	340.0000	U	40.0000	U	350.0000	U	39.0000	U	350.0000	U	39.0000	U	350.0000	U	41.0000	U	340.0000	U	39.0000	U
bis(2-chloroisopropyl)ether	70	54000.0000	U	na		340.0000	U	na		350.0000	U	na		350.0000	U	na		350.0000	UJ	na		340.0000	U	na	
bis(2-Ethylhexyl)phthalate (BEHP)	3600000	54000.0000	UJ	88.0000		340.0000	U	47.0000	U	350.0000	U	47.0000	U	350.0000	U	47.0000	U	350.0000	U	49.0000	U	750.0000	J	46.0000	U
Butylbenzylphthalate	310000	54000.0000	UJ	37.0000	U	340.0000	U	34.0000	U	350.0000	U	34.0000	U	350.0000	U	34.0000	U	350.0000	U	36.0000	U	340.0000	U	34.0000	U
Carbazole	600	54000.0000	UJ	34.0000	U	340.0000	U	32.0000	U	350.0000	U	32.0000	U	350.0000	U	32.0000	U	350.0000	U	100.0000		340.0000	U	32.0000	U
Chrysene	77000	54000.0000	U	1.2000	U	340.0000	U	1.1000	U	350.0000	U	1.1000	U	350.0000	U	1.1000	U	350.0000	U	180.0000		340.0000	U	1.1000	
Dibenz(a,h)anthracene	30000	54000.0000	UJ	1.1000	U	340.0000	U	0.9500	U	350.0000	U	0.9400	U	350.0000	U	0.9400	U	350.0000	U	47.0000		340.0000	U	0.9300	U
Dibenzofuran	15000	54000.0000	U	39.0000	U	340.0000	U	36.0000	U	350.0000	U	36.0000	U	350.0000	U	36.0000	U	350.0000	U	38.0000	U	340.0000	U	36.0000	U
Diethylphthalate	86000	54000.0000	U	40.0000	U	340.0000	U	38.0000	U	350.0000	U	37.0000	U	350.0000	U	37.0000	U	350.0000	U	39.0000	U	340.0000	U	37.0000	U
Dimethylphthalate	380000	54000.0000	U	40.0000	U	340.0000	U	38.0000	U	350.0000	U	37.0000	U	350.0000	U	37.0000	U	350.0000	U	39.0000	U	340.0000	U	37.0000	U
Di-n-butylphthalate	47000	54000.0000	U	45.0000	U	340.0000	U	42.0000	U	350.0000	U	41.0000	U	350.0000	U	41.0000	U	350.0000	U	43.0000	U	340.0000	U	41.0000	U
Di-n-octylphthalate	480000000	54000.0000	UJ	37.0000	U	340.0000	U	34.0000	U	350.0000	U	34.0000	U	350.0000	U	34.0000	U	350.0000	U	36.0000	U	340.0000	U	34.0000	U
Fluoranthene	1200000	54000.0000	U	30.0000		340.0000	U	0.9200	U	350.0000	U	0.9100	U	350.0000	U	0.9100	U	350.0000	U	520.0000		340.0000	U	1.7000	
Fluorene	160000	54000.0000	U	0.9400	U	340.0000	U	0.8400	U	350.0000	U	0.8300	U	350.0000	U	0.8300	U	350.0000	U	1.5000		340.0000	U	0.8200	U
Hexachlorobenzene	2200	54000.0000	U	44.0000	U	340.0000	U	41.0000	U	350.0000	U	40.0000	U	350.0000	U	40.0000	U	350.0000	U	42.0000	U	340.0000	U	40.0000	U
Hexachlorobutadiene	1100	54000.0000	U	31.0000	U	340.0000	U	29.0000	U	350.0000	U	29.0000	U	350.0000	U	29.0000	U	**350.0000**	J	30.0000	U	340.0000	U	28.0000	U
Hexachlorocyclopentadiene	400000	54000.0000	UJ	310.0000	U	340.0000	U	290.0000	U	350.0000	U	290.0000	U	350.0000	U	290.0000	U	350.0000	U	300.0000	U	340.0000	U	280.0000	U
Hexachloroethane	200	54000.0000	U	22.0000	U	340.0000	U	20.0000	U	350.0000	U	20.0000	U	350.0000	U	20.0000	U	350.0000	U	21.0000	U	340.0000	U	20.0000	U
Indeno(1,2,3-cd)pyrene	28000	54000.0000	U	0.7800	U	340.0000	U	0.7000	U	350.0000	U	0.6900	U	350.0000	U	0.6900	U	350.0000	U	97.0000		340.0000	U	0.7500	
Isophorone	200	54000.0000	U	30.0000	U	**340.0000**		28.0000	U	350.0000	U	28.0000	U	350.0000	U	28.0000	U	350.0000	U	29.0000	U	340.0000	U	27.0000	U
Naphthalene	1700	**14000.0000**	J	1300.0000	D	340.0000	U	0.7600	U	350.0000	U	0.7600	U	36.0000	J	0.7600	U	**150.0000**	J	0.7900	U	340.0000	U	0.7500	U
Nitrobenzene	30	54000.0000	U	36.0000	U	340.0000	U	33.0000	U	350.0000	U	33.0000	U	350.0000	U	33.0000	U	350.0000	U	34.0000	U	340.0000	U	33.0000	U
N-Nitroso-di-n-propylamine	40	54000.0000	U	34.0000	U	340.0000	U	32.0000	U	350.0000	U	32.0000	U	350.0000	U	32.0000	U	350.0000	U	33.0000	U	340.0000	U	32.0000	U
N-Nitrosodiphenylamine	400	54000.0000	U	34.0000	U	340.0000	U	32.0000	U	350.0000	U	32.0000	U	350.0000	U	32.0000	U	350.0000	U	33.0000	U	340.0000	U	32.0000	U
Pentachlorophenol	30	140000.0000	U	39.0000	U	820.0000	U	36.0000	U	**47.0000**	J	36.0000	U	840.0000	U	36.0000	U	840.0000	U	38.0000	U	840.0000	U	36.0000	U
Phenanthrene	250000	54000.0000	U	110.0000		340.0000	U	0.8600	U	350.0000	U	0.8500	U	350.0000	U	0.8500	U	350.0000	U	150.0000		340.0000	U	0.8400	U
Phenol	50	54000.0000	U	47.0000	U	340.0000	U	44.0000	U	350.0000	U	44.0000	U	**66.0000**	J	44.0000	U	350.0000	U	46.0000	U	340.0000	U	43.0000	U
Pyrene	880000	54000.0000	U	87.0000		340.0000	U	1.3000	U	350.0000	U	1.3000	U	350.0000	U	1.3000	U	350.0000	U	370.0000		340.0000	U	1.7000	

Notes:

All results are in micrograms per kilogram or parts per billion

NA = not applicable

U = not detected

J = present below method reporting limit but present above instrument detection limit

na = not analyzed

Analytical results in **bold** indicate a SCTL exceedance

Table 12
Soil SVOA SPLP Results, OU 2, NAS Pensacola

Parameter	Florida SCTLs (ppb)	Florida GCTLs (ppb)	011SLF1206 Bulk		011SLF1206 Leachate		025S000514 Bulk		025S000514 Leachate		025S000814 Bulk		025S000814 Leachate		027S001706 Bulk		027S001706 Leachate		030S000608 B ulk		030S000608 Leachate		030S001212 Bulk		030S001212 Leachate	
1,2,4-Trichlorobenzene	5300	70	44.0000	U	0.5100	U	41.0000	U	0.5100	U	40.0000	U	0.5100	U	40.0000	U	0.5100	U	42.0000	U	0.5100	U	40.0000	U	0.5100	U
1,2-Dichlorobenzene	17000	600	26.0000	U	1.0000	U	25.0000	U	1.0000	U	24.0000	U	1.0000	U	24.0000	U	1.0000	U	26.0000	U	1.0000	U	24.0000	U	1.0000	U
1,3-Dichlorobenzene	300	230	26.0000	U	1.0000	U	25.0000	U	1.0000	U	24.0000	U	1.0000	U	24.0000	U	1.0000	U	26.0000	U	1.0000	U	24.0000	U	1.0000	U
1,4-Dichlorobenzene	2200	75	28.0000	U	1.0000	U	26.0000	U	1.0000	U	26.0000	U	1.0000	U	26.0000	U	1.0000	U	27.0000	U	1.0000	U	25.0000	U	1.0000	U
1-Methyl naphthalene	2200	15	*1700.0000*	*D*	***21.0000***	*D*	0.3800	U	0.0280	U	0.4200		0.0280	U	0.3700	U	0.0360		0.4300		0.0280	U	0.3700	U	0.0460	
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	NA	NA	37.0000	U	0.5800	U	34.0000	U	0.5800	U	34.0000	U	0.5800	U	34.0000	U	0.5800	U	36.0000	U	0.5800	U	34.0000	U	0.5800	U
2,4,5-Trichlorophenol	300	1	36.0000	U	1.1000	U	33.0000	U	1.1000	U	33.0000	U	1.1000	U	33.0000	U	1.1000	U	34.0000	U	1.1000	U	33.0000	U	1.1000	U
2,4,6-Trichlorophenol	60	3.5	37.0000	U	1.1000	U	34.0000	U	1.1000	U	34.0000	U	1.1000	U	34.0000	U	1.1000	U	36.0000	U	1.1000	U	34.0000	U	1.1000	U
2,4-Dichlorophenol	5	0.3	33.0000	U	0.7600	U	31.0000	U	0.7600	U	31.0000	U	0.7600	U	31.0000	U	0.7600	U	32.0000	U	0.7600	U	30.0000	U	0.7600	U
2,4-Dimethylphenol	1700	150	32.0000	U	1.1000	U	30.0000	U	1.1000	U	30.0000	U	1.1000	U	30.0000	U	1.1000	U	31.0000	U	1.1000	U	29.0000	U	1.1000	U
2,4-Dinitrophenol	60	15	390.0000	U	10.0000	U	360.0000	U	10.0000	U	360.0000	U	10.0000	U	360.0000	U	10.0000	U	380.0000	U	10.0000	U	360.0000	U	10.0000	U
2,4-Dinitrotoluene	0.80	0.06	25.0000	U	1.1000	U	24.0000	U	1.1000	U	23.0000	U	1.1000	U	23.0000	U	**13.0000**		24.0000	U	1.1000	U	23.0000	U	1.1000	U
2,6-Dinitrotoluene	0.7	0.06	33.0000	U	0.8700	U	31.0000	U	0.8700	U	31.0000	U	0.8700	U	31.0000	U	**19.0000**		32.0000	U	0.8700	U	30.0000	U	0.8700	U
2-Chloronaphthalene	260000	610	42.0000	U	1.0000	U	40.0000	U	1.0000	U	39.0000	U	1.0000	U	39.0000	U	1.0000	U	41.0000	U	1.0000	U	39.0000	U	1.0000	U
2-Chlorophenol	700	38	47.0000	U	0.7900	U	44.0000	U	0.7900	U	44.0000	U	0.7900	U	44.0000	U	0.7900	U	46.0000	U	0.7900	U	43.0000	U	0.7900	U
2-Methyl-4,6-Dinitrophenol	NA	NA	36.0000	U	10.0000	U	33.0000	U	10.0000	U	33.0000	U	10.0000	U	33.0000	U	10.0000	U	34.0000	U	10.0000	U	33.0000	U	10.0000	U
2-Methylnaphthalene	6100	15	*2600.0000*	*D*	***27.0000***	*D*	0.5700	U	0.0250		*0.6000*		*0.0220*		0.5600	U	0.0560		0.5900	U	0.0280		0.5600	U	0.0670	
2-Methylphenol (o-Cresol)	300	38	53.0000	U	0.5900	U	49.0000	U	0.5900	U	49.0000	U	0.5900	U	49.0000	U	0.5900	U	51.0000	U	0.5900	U	48.0000	U	0.5900	U
2-Nitroaniline	300	1.8	29.0000	U	0.7200	U	27.0000	U	0.7200	U	26.0000	U	0.7200	U	26.0000	U	0.7200	U	28.0000	U	0.7200	U	26.0000	U	0.7200	U
2-Nitrophenol	NA		30.0000	U	1.1000	U	28.0000	U	1.1000	U	28.0000	U	1.1000	U	28.0000	U	1.1000	U	29.0000	U	1.1000	U	27.0000	U	1.1000	U
3,3'-Dichlorobenzidine	400	0.08	30.0000	U	1.0000	U	28.0000	U	1.0000	U	28.0000	U	1.0000	U	28.0000	U	1.0000	U	29.0000	U	1.0000	U	27.0000	U	1.0000	U
3-Methylphenol/4-Methylphenol	30	38	46.0000	U	1.0000	U	43.0000	U	1.0000	U	42.0000	U	1.0000	U	42.0000	U	1.0000	U	44.0000	U	1.0000	U	42.0000	U	1.0000	U
3-Nitroaniline	100	23	34.0000	U	0.6400	U	32.0000	U	0.6400	U	32.0000	U	0.6400	U	32.0000	U	0.6400	U	33.0000	U	0.6400	U	32.0000	U	0.6400	U
4-Bromophenyl-phenylether	NA		34.0000	U	1.0000	U	32.0000	U	1.0000	U	32.0000	U	1.0000	U	32.0000	U	3.0000	J	33.0000	U	1.0000	U	32.0000	U	1.0000	U
4-Chloro-3-methylphenol	400	68	46.0000	U	1.0000	U	43.0000	U	1.0000	U	42.0000	U	1.0000	U	42.0000	U	1.0000	U	44.0000	U	1.0000	U	42.0000	U	1.0000	U
4-Chloroaniline	200	30	33.0000	U	1.0000	U	31.0000	U	1.0000	U	31.0000	U	1.0000	U	31.0000	U	1.0000	U	32.0000	U	1.0000	U	30.0000	U	1.0000	U
4-Chlorophenylphenyl ether	NA	NA	30.0000	U	0.7000	U	28.0000	U	0.7000	U	28.0000	U	0.7000	U	28.0000	U	0.7000	U	29.0000	U	0.7000	U	27.0000	U	0.7000	U
4-Nitroaniline	100	1.8	30.0000	U	0.8600	U	28.0000	U	0.8600	U	28.0000	U	0.8600	U	28.0000	U	0.8600	U	29.0000	U	0.8600	U	27.0000	U	0.8600	U
4-Nitrophenol	300	61	29.0000	U	5.0000	U	27.0000	U	5.0000	U	26.0000	U	5.0000	U	26.0000	U	5.0000	U	28.0000	U	5.0000	U	26.0000	U	5.0000	U
Acenaphthene	2100	20	1.1000	U	0.2300		0.9700	U	0.0250	U	0.9600	U	0.0250	U	0.9600	U	0.0460		1.0000	U	0.0250	U	0.9500	U	0.0500	
Acenaphthylene	27000	230	1.0000	U	0.2900		0.9200	U	0.0240	U	0.9100	U	0.0240	U	0.9100	U	0.0240	U	24.0000		0.0240	U	0.9000	U	0.0240	U
Anthracene	2500000	2300	15.0000		0.0310	U	1.0000	U	0.0310	U	1.0000	U	0.0310	U	1.0000	U	0.0310	U	*18.0000*		*0.0470*		1.0000	U	0.0310	U
Benzo(a)anthracene	3200	0.05	0.9200	U	0.0700	U	0.8200	U	0.0700	U	0.8100	U	0.0700	U	0.8100	U	0.0700	U	140.0000		0.0700	U	1.0000		0.0700	U
Benzo(a)pyrene	8000	0.2	1.1000	U	0.0600	U	0.9700	U	0.0600	U	0.9600	U	0.0600	U	0.9600	U	0.0600	U	190.0000		0.0600	U	1.6000		0.0600	U
Benzo(b)fluoranthene	10000	0.05	1.2000	U	0.0740	U	1.0000	U	0.0740	U	1.0000	U	0.0740	U	1.0000	U	0.0740	U	310.0000		0.0740	U	2.0000		0.0740	U
Benzo(g,h,i)perylene	32000000	230	29.0000		0.0960	U	0.6600	U	0.0960	U	0.6500	U	0.0960	U	0.6500	U	0.0960	U	250.0000		0.0960	U	2.3000		0.0960	U
Benzo(k)fluoranthene	25000	0.5	1.2000	U	0.0580	U	1.0000	U	0.0580	U	1.0000	U	0.0580	U	1.0000	U	0.0580	U	240.0000		0.0580	U	1.6000		0.0580	U
bis(2-Chloroethoxy)methane	NA	NA	37.0000	U	1.0000	U	34.0000	U	1.0000	U	34.0000	U	1.0000	U	34.0000	U	1.0000	U	36.0000	U	1.0000	U	34.0000	U	1.0000	U
bis(2-Chloroethyl)ether	20	0.03	42.0000	U	1.0000	U	40.0000	U	1.0000	U	39.0000	U	1.0000	U	39.0000	U	1.0000	U	41.0000	U	1.0000	U	39.0000	U	1.0000	U
bis(2-Ethylhexyl)phthalate (BEHP)	3600000	6	88.0000		2.4000	U	47.0000	U	2.4000	U	47.0000	U	2.4000	U	47.0000	U	2.4000	U	49.0000	U	2.4000	U	46.0000	U	2.4000	U
Butylbenzylphthalate	310000	150	37.0000	U	0.7400	U	34.0000	U	0.7400	U	34.0000	U	0.7400	U	34.0000	U	0.7400	U	36.0000	U	0.7400	U	34.0000	U	0.7400	U
Carbazole	600	1.9	34.0000	U	0.5400	U	32.0000	U	0.5400	U	32.0000	U	0.5400	U	32.0000	U	0.5400	U	*100.0000*		*1.1000*		32.0000	U	0.5400	U
Chrysene	77000	5.2	1.2000	U	0.0880	U	1.1000	U	0.0880	U	1.1000	U	0.0880	U	1.1000	U	0.0880	U	180.0000		0.0880	U	1.1000		0.0880	U
Dibenz(a,h)anthracene	30000	0.005	1.1000	U	0.0650	U	0.9500	U	0.0650	U	0.9400	U	0.0650	U	0.9400	U	0.0650	U	47.0000		0.0650	U	0.9300	U	0.0650	U
Dibenzofuran	15000	30	39.0000	U	1.0000	U	36.0000	U	1.0000	U	36.0000	U	1.0000	U	36.0000	U	1.0000	U	38.0000	U	1.0000	U	36.0000	U	1.0000	U
Diethylphthalate	86000	6100	40.0000	U	1.0000	U	38.0000	U	1.0000	U	37.0000	U	1.0000	U	37.0000	U	1.0000	U	39.0000	U	1.0000	U	37.0000	U	1.0000	U
Dimethylphthalate	380000	76000	40.0000	U	0.5700	U	38.0000	U	0.5700	U	37.0000	U	0.5700	U	37.0000	U	0.5700	U	39.0000	U	0.5700	U	37.0000	U	0.5700	U
Di-n-butylphthalate	47000	NA	45.0000	U	1.0000	U	42.0000	U	1.0000	U	41.0000	U	1.0000	U	41.0000	U	1.0000	U	43.0000	U	1.0000	U	41.0000	U	1.0000	U
Di-n-octylphthalate	480000000	150	37.0000	U	1.2000	U	34.0000	U	1.2000	U	34.0000	U	1.2000	U	34.0000	U	1.2000	U	36.0000	U	1.2000	U	34.0000	U	1.2000	U
Fluoranthene	1200000	300	*30.0000*		*0.0890*		0.9200	U	0.0610	U	0.9100	U	0.0610	U	0.9100	U	0.0830		*520.0000*		*0.2600*		*1.7000*		*0.1100*	
Fluorene	160000	300	0.9400	U	0.5500		0.8400	U	0.0260	U	0.8300	U	0.0260	U	0.8300	U	0.0470		1.5000		0.0260	U	0.8200	U	0.0710	
Hexachlorobenzene	2200	1	44.0000	U	0.6100	U	41.0000	U	0.6100	U	40.0000	U	0.6100	U	40.0000	U	0.6100	U	42.0000	U	0.6100	U	40.0000	U	0.6100	U
Hexachlorobutadiene	1100	0.5	31.0000	U	0.5000	U	29.0000	U	0.5000	U	29.0000	U	0.5000	U	29.0000	U	0.5000	U	30.0000	U	0.5000	U	28.0000	U	0.5000	U
Hexachlorocyclopentadiene	400000	50	310.0000	U	1.1000	U	290.0000	U	1.1000	U	290.0000	U	1.1000	U	290.0000	U	1.1000	U	300.0000	U	1.1000	U	280.0000	U	1.1000	U
Hexachloroethane	200	2.7	22.0000	U	0.7000	U	20.0000	U	0.7000	U	20.0000	U	0.7000	U	20.0000	U	0.7000	U	21.0000	U	0.7000	U	20.0000	U	0.7000	U
Indeno(1,2,3-cd)pyrene	28000	0.05	0.7800	U	0.0800	U	0.7000	U	0.0800	U	0.6900	U	0.0800	U	0.6900	U	0.0800	U	97.0000		0.0800	U	0.7500		0.0800	U
Isophorone	200	40	30.0000	U	1.0000	U	28.0000	U	1.0000	U	28.0000	U	1.0000	U	28.0000	U	1.0000	U	29.0000	U	1.0000	U	27.0000	U	1.0000	U
Naphthalene	1700	15	*1300.0000*	*D*	***56.0000***	*D*	0.7600	U	0.0280	U	0.7600	U	0.0280	U	0.7600	U	0.0540	U	0.7900	U	0.0350	U	0.7500	U	0.0540	U
Nitrobenzene	30	3.8	36.0000	U	1.0000	U	33.0000	U	1.0000	U	33.0000	U	1.0000	U	33.0000	U	1.0000	U	34.0000	U	1.0000	U	33.0000	U	1.0000	U
N-Nitroso-di-n-propylamine	40	0.005	34.0000	U	1.0000	U	32.0000	U	1.0000	U	32.0000	U	1.0000	U	32.0000	U	1.0000	U	33.0000	U	1.0000	U	32.0000	U	1.0000	U
N-Nitrosodiphenylamine	400	7.8	34.0000	U	1.0000	U	32.0000	U	1.0000	U	32.0000	U	1.0000	U	32.0000	U	1.0000	U	33.0000	U	1.0000	U	32.0000	U	1.0000	U
Pentachlorophenol	30	1	39.0000	U	2.0000	U	36.0000	U	2.0000	U	36.0000	U	2.0000	U	36.0000	U	2.0000	U	38.0000	U	2.0000	U	36.0000	U	2.0000	U
Phenanthrene	250000	230	*110.0000*		*0.3700*		0.8600	U	0.0580		0.8500	U	0.0580		0.8500	U	0.1400		*150.0000*		*0.2400*		0.8400	U	0.1900	
Phenol	50	10	47.0000	U	1.0000	U	44.0000	U	1.0000	U	44.0000	U	1.0000	U	44.0000	U	1.0000	U	46.0000	U	1.0000	U	43.0000	U	1.0000	U
Pyrene	880000	230	*87.0000*		*0.0710*		1.3000	U	0.0560		1.3000	U	0.0520		1.3000	U	0.0830		*370.0000*		*0.1600*		*1.7000*		*0.1000*	

Notes:
All results are in parts per billion (ppb).
NA = Not Applicable
Bulk analytical results in bold indicate a SCTL exceedance.
Leachate analytical results in bold indicate a GCTL exceedance.
Soil / Groundwater detection couplets shown in italics.
U =not detected
D = Diluted sample

Table 13
Groundwater SVOA Analytical Results, OU 2, NAS Pensacola

Parameter	GCTL	FSWCTL	MSWCTL	11GI08		11GS07		11GS09		11GS13		11GS16	11GS47		12GS14		27GS06		
			Well ID	1993 Result	2003 Result	1993 Result	2003 Result	1993 Result	2003 Result	1993 Result	2003 Result	2003 Result	1993 Result	2003 Result	1995 Result	2003 Result	1993 Result	1995 Result	2003 Result
1,2,4-Trichlorobenzene	70	23	23	10.0000 U	0.5100 U	10.0000 U	0.5100 U	10.0000 U	0.5100 U	10.0000 U	0.5100 U	0.5100 U	10.0000 U	0.5100 U	5 U	0.5100 U	10.0000 U	10.0000 U	0.5100 U
1,2-Dichlorobenzene	600	99	99	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	na	1.0000 U	10.0000 U	10.0000 U	1.0000 U
1,3-Dichlorobenzene	230	85	85	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	na	1.0000 U	10.0000 U	10.0000 U	1.0000 U
1,4-Dichlorobenzene	75	3.3	3.3	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	na	1.0000 U	10.0000 U	10.0000 U	1.0000 U
1-Methyl naphthalene	15	95	95	na	0.0280 U	na	0.0280 U	na	0.4200	na	0.0280 U	0.0280 U	na	**28.0000**	na	0.0280 U	na	na	0.0280 U
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	NA	NA	NA	na	0.5800 U	na	0.5800 U	na	0.5800 U	na	0.5800 U	0.5800 U	na	0.5800 U	na	0.5800 U	na	na	0.5800 U
2,4,5-Trichlorophenol	1	23	23	25.0000 U	1.1000 U	25.0000 U	1.1000 U	25.0000 U	1.1000 U	25.0000 U	1.1000 U	1.1000 U	25.0000 U	1.1000 U	20 U	1.1000 U	25.0000 U	25.0000 U	1.1000 U
2,4,6-Trichlorophenol	3.5	6.5	6.5	10.0000 U	1.1000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U	1.1000 U	10.0000 U	1.1000 U	5 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U
2,4-Dichlorophenol	0.3	13	13	10.0000 U	0.7600 U	10.0000 U	0.7600 U	10.0000 U	0.7600 U	10.0000 U	0.7600 U	0.7600 U	10.0000 U	0.7600 U	5 U	0.7600 U	10.0000 U	10.0000 U	0.7600 U
2,4-Dimethylphenol	150	160	160	10.0000 U	1.1000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U	1.1000 U	10.0000 U	1.1000 U	5 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U
2,4-Dinitrophenol	15	3	3	25.0000 UJ	10.0000 U	25.0000 U	10.0000 U	25.0000 U	10.0000 U	25.0000 UR	10.0000 U	10.0000 U	25.0000 U	10.0000 U	20 U	10.0000 U	25.0000 U	25.0000 U	10.0000 U
2,4-Dinitrotoluene	0.06	9.1	9.1	10.0000 U	1.1000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U	1.1000 U	10.0000 U	1.1000 U	5 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U
2,6-Dinitrotoluene	0.06	0.8	0.8	10.0000 U	0.8700 U	10.0000 U	0.8700 U	10.0000 U	0.8700 U	10.0000 U	0.8700 U	0.8700 U	10.0000 U	0.8700 U	5 U	0.8700 U	10.0000 U	10.0000 U	0.8700 U
2-Chloronaphthalene	610	1700	1700	10.0000 U	1.0000 U	10.0000 U	1.0000 U	4.0000 J	2.8000 J	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U
2-Chlorophenol	38	130	130	10.0000 U	0.7900 U	10.0000 U	0.7900 U	10.0000 U	0.7900 U	10.0000 U	0.7900 U	0.7900 U	10.0000 U	0.7900 U	5 U	0.7900 U	10.0000 U	10.0000 U	0.7900 U
2-Methyl-4,6-Dinitrophenol	NA	NA	NA	25.0000 U	10.0000 U	25.0000 U	10.0000 U	25.0000 U	10.0000 U	25.0000 UJ	10.0000 U	10.0000 U	25.0000 U	10.0000 U	20 U	10.0000 U	25.0000 U	25.0000 U	10.0000 U
2-Methylnaphthalene	15	30	30	10.0000 U	0.0220 U	10.0000 U	0.0220 U	10.0000 U	0.0500 J	10.0000 U	0.0220 U	0.0220 U	**25.0000**	**39.0000**	5 U	0.0220 U	10.0000 U	10.0000 U	0.0220 U
2-Methylphenol (o-Cresol)	38	250	250	10.0000 U	0.5900 U	10.0000 U	0.5900 U	10.0000 U	0.5900 U	10.0000 U	0.5900 U	0.5900 U	10.0000 U	0.5900 U	5 U	0.5900 U	10.0000 U	10.0000 U	0.5900 U
2-Nitroaniline	23	NA	NA	25.0000 U	0.7200 U	25.0000 U	0.7200 U	25.0000 U	0.7200 U	25.0000 U	0.7200 U	0.7200 U	25.0000 U	0.7200 U	20 U	0.7200 U	25.0000 U	25.0000 U	0.7200 U
2-Nitrophenol	NA	NA	NA	10.0000 U	1.1000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U	1.1000 U	10.0000 U	1.1000 U	5 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U
3,3'-Dichlorobenzidine	0.08	0.03	0.03	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 UJ	1.0000 U	10.0000 U	10.0000 U	1.0000 U
3-Methylphenol/4-Methylphenol 1	3.8	70	70	na	1.0000 U	na	1.0000 U	na	1.0000 U	na	1.0000 U	1.0000 U	na	1.0000 U	na	1.0000 U	na	na	1.0000 U
3-Nitroaniline	1.8	NA	NA	25.0000 U	0.6400 U	25.0000 UJ	0.6400 U	25.0000 U	0.6400 U	25.0000 U	0.6400 U	0.6400 U	25.0000 UJ	0.6400 U	20 U	0.6400 U	25.0000 U	25.0000 U	0.6400 U
4-Bromophenyl-phenylether	NA	NA	NA	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U
4-Chloro-3-methylphenol	68	100	100	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U
4-Chloroaniline	30	2.5	2.5	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U
4-Chlorophenylphenyl ether	NA	NA	NA	10.0000 U	0.7000 U	10.0000 U	0.7000 U	10.0000 U	0.7000 U	10.0000 U	0.7000 U	0.7000 U	10.0000 U	0.7000 U	5 U	0.7000 U	10.0000 U	10.0000 U	0.7000 U
4-Methylphenol (p-Cresol)	3.8	70	70	10.0000 U	na	10.0000 U	na	10.0000 U	na	10.0000 U	na	na	10.0000 U	na	5 U	na	10.0000 U	10.0000 U	na
4-Nitroaniline	1.8	1200	1200	25.0000 U	0.8600 U	25.0000 U	0.8600 U	25.0000 U	0.8600 U	25.0000 U	0.8600 U	0.8600 U	25.0000 U	0.8600 U	20 U	0.8600 U	25.0000 U	25.0000 U	0.8600 U
4-Nitrophenol	61	55	55	25.0000 U	5.0000 U	25.0000 U	5.0000 U	25.0000 U	5.0000 U	25.0000 U	5.0000 U	5.0000 U	25.0000 U	5.0000 U	20 U	5.0000 U	25.0000 U	25.0000 U	5.0000 U
Acenaphthene	20	3	3	10.0000 U	0.0250 U	10.0000 U	0.0250 U	1.0000 J	0.9200	10.0000 U	0.0930	0.0250 U	10.0000 U	0.1200 U	5 U	0.0250 U	10.0000 U	10.0000 U	0.0250 U
Acenaphthylene	230	**	**	10.0000 U	0.0240 U	10.0000 U	0.0240 U	10.0000 U	0.0590 J	10.0000 U	0.0240 U	0.0240 U	10.0000 U	0.1200 U	5 U	0.0240 U	10.0000 U	10.0000 U	0.0240 U
Anthracene	2300	0.3	0.3	10.0000 U	0.0310 U	10.0000 U	0.0310 U	10.0000 U	0.0570 J	10.0000 U	0.0310 U	0.0310 U	10.0000 U	0.1600 U	5 U	0.0310 U	10.0000 U	10.0000 U	0.0310 U
Benzo(a)anthracene	0.05	**	**	10.0000 U	0.0700 U	10.0000 U	0.0700 U	10.0000 U	0.0700 U	10.0000 U	0.0700 U	0.0700 U	10.0000 U	0.3500 U	5 U	0.0700 U	10.0000 U	10.0000 U	0.0700 U
Benzo(a)pyrene	0.2	**	**	10.0000 U	0.0600 U	10.0000 U	0.0600 U	10.0000 U	0.0600 U	10.0000 U	0.0600 U	0.0600 U	10.0000 U	0.3000 U	5 U	0.0600 U	10.0000 U	10.0000 U	0.0600 U
Benzo(b)fluoranthene	0.05	**	**	10.0000 U	0.0740 U	10.0000 U	0.0740 U	10.0000 U	0.0740 U	10.0000 U	0.0740 U	0.0740 U	10.0000 U	0.3700 U	5 U	0.0740 U	10.0000 U	10.0000 U	0.0740 U
Benzo(g,h,i)perylene	230	**	**	10.0000 U	0.0960 U	10.0000 U	0.0960 U	10.0000 U	0.1400 J	10.0000 U	0.0960 U	0.0960 U	10.0000 U	0.4800 U	5 U	0.0960 U	10.0000 U	10.0000 U	0.0960 U
Benzo(k)fluoranthene	0.5	**	**	10.0000 U	0.0580 U	10.0000 U	0.0580 U	10.0000 U	0.0580 U	10.0000 U	0.0580 U	0.0580 U	10.0000 U	0.2900 U	5 U	0.0580 U	10.0000 U	10.0000 U	0.0580 U
bis(2-Chloroethoxy)methane	NA	NA	NA	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U
bis(2-Chloroethyl)ether	0.03	0.6	0.6	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U
Bis(2-Chloroisopropyl)Ether	0.5	25	25	10.0000 U	na	10.0000 U	na	10.0000 U	na	10.0000 U	na	na	10.0000 U	na	5 U	na	10.0000 U	10.0000 U	na
bis(2-Ethylhexyl)phthalate (BEHP)	6	2.4	2.4	10.0000 U	2.4000 U	10.0000 U	2.4000 U	10.0000 U	2.4000 U	1.0000 J	2.4000 U	2.4000 U	2.0000 J	2.4000 U	5 U	2.4000 U	10.0000 U	10.0000 U	2.4000 U
Butylbenzylphthalate	150	26	26	10.0000 U	0.7400 U	10.0000 U	0.7400 U	10.0000 U	0.7400 U	10.0000 U	0.7400 U	0.7400 U	10.0000 U	0.7400 U	5 U	0.7400 U	10.0000 U	10.0000 U	0.7400 U
Carbazole	1.9	47	47	10.0000 U	0.5400 U	10.0000 U	0.5400 U	10.0000 U	0.5400 U	10.0000 U	0.5400 U	0.5400 U	10.0000 U	0.5400 U	na	0.5400 U	10.0000 U	10.0000 U	0.5400 U
Chrysene	5.2	**	**	10.0000 U	0.0880 U	10.0000 U	0.0880 U	10.0000 U	0.0880 U	10.0000 U	0.0880 U	0.0880 U	10.0000 U	0.4400 U	5 U	0.0880 U	10.0000 U	10.0000 U	0.0880 U
Dibenz(a,h)anthracene	0.005	**	**	10.0000 U	0.0650 U	10.0000 U	0.0650 U	10.0000 U	0.0650 U	10.0000 U	0.0650 U	0.0650 U	10.0000 U	0.3200 U	5 U	0.0650 U	10.0000 U	10.0000 U	0.0650 U
Dibenzofuran	30	67	67	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U
Diethylphthalate	6100	380	380	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U
Dimethylphthalate	76000	1400	1400	10.0000 U	0.5700 U	10.0000 U	0.5700 U	10.0000 U	0.5700 U	10.0000 U	0.5700 U	0.5700 U	10.0000 U	0.5700 U	5 U	0.5700 U	10.0000 U	10.0000 U	0.5700 U
Di-n-butylphthalate	NA	NA	NA	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U
Di-n-octylphthalate	150	NA	NA	10.0000 U	1.2000 U	10.0000 U	1.2000 U	10.0000 U	1.2000 U	10.0000 U	1.2000 U	1.2000 U	10.0000 U	1.2000 U	5 U	1.2000 U	10.0000 U	10.0000 U	1.2000 U
Diphenylamine	190	NA	NA	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Fluoranthene	300	0.3	0.3	10.0000 U	0.0610 U	10.0000 U	0.0610 U	10.0000 U	0.1200 J	10.0000 U	0.0610 U	0.0610 U	10.0000 U	0.3000 U	5 U	0.0610 U	10.0000 U	10.0000 U	0.0610 U
Fluorene	300	30	30	10.0000 U	0.0260 U	10.0000 U	0.0260 U	10.0000 U	0.1500 J	10.0000 U	0.0260 U	0.0260 U	10.0000 U	0.6100	5 U	0.0260 U	10.0000 U	10.0000 U	0.0260 U
Hexachlorobenzene	1	0.0003	0.0003	10.0000 U	0.6100 U	10.0000 U	0.6100 U	10.0000 U	0.6100 U	10.0000 U	0.6100 U	0.6100 U	10.0000 U	0.6100 U	5 U	0.6100 U	10.0000 U	10.0000 U	0.6100 U
Hexachlorobutadiene	0.5	49.7	49.7	10.0000 U	0.5000 U	10.0000 U	0.5000 U	10.0000 U	0.5000 U	10.0000 U	0.5000 U	0.5000 U	10.0000 U	0.5000 U	5 U	0.5000 U	10.0000 U	10.0000 U	0.5000 U
Hexachlorocyclopentadiene	50	3	3	10.0000 U	1.1000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U	1.1000 U	10.0000 U	1.1000 U	5 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U
Hexachloroethane	2.7	3.6	3.6	10.0000 U	0.7000 U	10.0000 U	0.7000 U	10.0000 U	0.7000 U	10.0000 U	0.7000 U	0.7000 U	10.0000 U	0.7000 U	5 U	0.7000 U	10.0000 U	10.0000 U	0.7000 U
Indeno(1,2,3-cd)pyrene	0.05	**	**	10.0000 U	0.0800 U	10.0000 U	0.0800 U	10.0000 U	0.0800 U	10.0000 U	0.0800 U	0.0800 U	10.0000 U	0.4000 U	5 U	0.0800 U	10.0000 U	10.0000 U	0.0800 U
Isophorone	40	650	650	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U
Naphthalene	15	26	26	10.0000 U	0.0280 U	10.0000 U	0.0280 U	10.0000 U	0.0930 U	10.0000 U	0.0280 U	0.0280 U	**47.0000**	5.2000	5 U	0.0280 U	10.0000 U	10.0000 U	0.0280 U
Nitrobenzene	3.8	90	90	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U
N-Nitroso-di-n-propylamine	0.005	0.5	0.5	10.0000 U	1.0000 U	10.0000 UJ	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U
N-Nitrosodiphenylamine	7.8	6.5	6.5	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U
Pentachlorophenol	1	8.2	8.2	25.0000 U	2.0000 U	25.0000 U	2.0000 U	25.0000 U	2.0000 U	25.0000 U	2.0000 U	2.0000 U	25.0000 U	2.0000 U	20 U	2.0000 U	25.0000 U	25.0000 U	2.0000 U
Phenanthrene	230	**	**	10.0000 U	0.0250 U	10.0000 U	0.0250 U	10.0000 U	0.0460 J	10.0000 U	0.0250 U	0.0250 U	10.0000 U	0.2300	5 U	0.0250 U	10.0000 U	10.0000 U	0.0250 U
Phenol	10	6.5	6.5	10.0000 U	1.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	14.0000 U	1.0000 U	1.0000 U	10.0000 U	1.0000 U	5 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U
Pyrene	230	0.3	0.3	10.0000 U	0.0420 U	10.0000 U	0.0420 U	10.0000 U	0.1300 J	10.0000 U	0.0420 U	0.0440	10.0000 U	0.2100 U	5 U	0.0420 U	10.0000 U	10.0000 U	0.0420 U

Notes:
All results are in micrograms per liter or parts per billion (ppb)
GCTL exceedances in BOLD
NA = not applicable
** = FSWCTL & MSWCTL for total PAHs = 0.031 ug/L
1 = more conservative 4-methylphenol criteria used over 3-methylphenol
U = not detected
J = estimated concentration below method detection limit
na = not analyzed
D = analytical result from a diluted sample

Table 13
Groundwater SVOA Analytical Results, OU 2, NAS Pensacola

Parameter	GCTL	FSWCTL	MSWCTL	27GS17	27GS18			27GS19			27GS20			30GI111			30GI126	
			Well ID	2003 Result	1993 Result	1995 Result	2003 Result	1993 Result	1995 Result	2003 Result	1993 Result	1995 Result	2003 Result	1993 Result	1995 Result	2003 Result	1993 Result	2003 Result
1,2,4-Trichlorobenzene	70	23	23	0.5100 U	10.0000 U	10.0000 U	0.5100 U	20.0000 U	10.0000 U	0.5100 U	10.0000 U	10.0000 U	0.7700 J	12.0000 U	10.0000 U	0.5100 U	10.0000 U	0.5100 U
1,2-Dichlorobenzene	600	99	99	1.0000 U	10.0000 U	10.0000 U	1.0000 U	20.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	39.0000	42.0000	38.0000	10.0000 U	1.0000 U
1,3-Dichlorobenzene	230	85	85	1.0000 U	10.0000 U	10.0000 U	1.0000 U	20.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	37.0000	37.0000	32.0000	10.0000 U	1.0000 U
1,4-Dichlorobenzene	75	3.3	3.3	1.0000 U	10.0000 U	10.0000 U	1.0000 U	20.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	**180.0000** J	**140.0000** D	**100.0000**	10.0000 U	1.0000 U
1-Methyl naphthalene	15	95	95	0.2100	na	na	5.0000	na	na	8.5000	na	na	0.5400	na	na	0.0280 U	na	0.0280 U
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	NA	NA	NA	0.5800 U	na	na	0.5800 U	na	na	0.5800 U	na	na	0.5800 U	na	na	0.5800 U	na	0.5800 U
2,4,5-Trichlorophenol	1	23	23	1.1000 U	25.0000 U	4.0000 U	1.1000 U	50.0000 U	4.0000 U	1.1000 U	25.0000 U	4.0000 U	1.1000 U	29.0000 U	4.0000 U	1.1000 U	25.0000 U	1.1000 U
2,4,6-Trichlorophenol	3.5	6.5	6.5	1.1000 U	10.0000 U	10.0000 U	1.1000 U	20.0000 U	10.0000 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U	12.0000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U
2,4-Dichlorophenol	0.3	13	13	0.7600 U	10.0000 U	4.0000 U	0.7600 U	20.0000 U	4.0000 U	0.7600 U	10.0000 U	4.0000 U	0.7600 U	**3.0000** J	**3.2000** J	**1.3000** J	10.0000 U	0.7600 U
2,4-Dimethylphenol	150	160	160	1.1000 U	2.0000 J	10.0000 U	1.1000 U	8.0000 J	10.0000 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U	12.0000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U
2,4-Dinitrophenol	15	3	3	10.0000 U	25.0000 U	25.0000 UJ	10.0000 U	50.0000 U	25.0000 UJ	10.0000 U	25.0000 U	25.0000 UJ	10.0000 U	29.0000 U	25.0000 UJ	10.0000 U	25.0000 U	10.0000 U
2,4-Dinitrotoluene	0.06	9.1	9.1	1.1000 U	10.0000 U	10.0000 U	1.1000 U	20.0000 U	10.0000 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U	12.0000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U
2,6-Dinitrotoluene	0.06	0.8	0.8	0.8700 U	10.0000 U	10.0000 U	0.8700 U	20.0000 U	10.0000 U	0.8700 U	10.0000 U	10.0000 U	0.8700 U	12.0000 U	10.0000 U	0.8700 U	10.0000 U	0.8700 U
2-Chloronaphthalene	610	1700	1700	1.0000 U	10.0000 U	10.0000 U	1.0000 U	20.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	12.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
2-Chlorophenol	38	130	130	0.7900 U	10.0000 U	10.0000 U	0.7900 U	20.0000 U	10.0000 U	0.7900 U	10.0000 U	10.0000 U	0.7900 U	6.0000 J	6.5000 J	2.9000 J	10.0000 U	0.7900 U
2-Methyl-4,6-Dinitrophenol	NA	NA	NA	10.0000 U	25.0000 U	25.0000 U	10.0000 U	50.0000 U	25.0000 U	10.0000 U	25.0000 U	25.0000 U	10.0000 U	29.0000 U	25.0000 U	10.0000 U	25.0000 U	10.0000 U
2-Methylnaphthalene	15	30	30	0.4400	7.0000 J	4.5000 J	7.3000	**28.0000**	6.3000 J	12.0000	10.0000 U	10.0000 U	0.1400	12.0000 U	10.0000 U	0.0220 U	10.0000 U	0.0220 U
2-Methylphenol (o-Cresol)	38	250	250	0.5900 U	10.0000 U	10.0000 U	0.5900 U	20.0000 U	10.0000 U	0.5900 U	10.0000 U	10.0000 U	0.5900 U	12.0000 U	10.0000 U	0.5900 U	10.0000 U	0.5900 U
2-Nitroaniline	23	NA	NA	0.7200 U	25.0000 U	7.5000 U	0.7200 U	50.0000 U	7.5000 U	0.7200 U	25.0000 U	7.5000 U	0.7200 U	29.0000 U	7.5000 U	0.7200 U	25.0000 U	0.7200 U
2-Nitrophenol	NA	NA	NA	1.1000 U	10.0000 U	10.0000 U	1.1000 U	20.0000 U	10.0000 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U	12.0000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U
3,3'-Dichlorobenzidine	0.08	0.03	0.03	1.0000 U	10.0000 U	14.0000 U	1.0000 U	20.0000 U	14.0000 U	1.0000 U	10.0000 U	14.0000 U	1.0000 U	12.0000 U	14.0000 U	1.0000 U	10.0000 U	1.0000 U
3-Methylphenol/4-Methylphenol 1	3.8	70	70	1.0000 U	na	10.0000 U	**29.0000**	na	**20.0000**	**110.0000**	na	10.0000 U	1.0000 U	na	10.0000 U	1.0000 U	na	1.0000 U
3-Nitroaniline	1.8	NA	NA	0.6400 U	25.0000 U	25.0000 U	0.6400 U	50.0000 U	25.0000 U	0.6400 U	25.0000 U	25.0000 U	0.6400 U	29.0000 U	25.0000 U	0.6400 U	25.0000 UJ	0.6400 U
4-Bromophenyl-phenylether	NA	NA	NA	1.0000 U	10.0000 U	10.0000 U	1.0000 U	20.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	12.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
4-Chloro-3-methylphenol	68	100	100	1.0000 U	10.0000 U	10.0000 U	1.0000 U	20.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	12.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
4-Chloroaniline	30	2.5	2.5	1.0000 U	10.0000 U	10.0000 U	1.0000 U	20.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	12.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
4-Chlorophenylphenyl ether	NA	NA	NA	0.7000 U	10.0000 U	10.0000 U	0.7000 U	20.0000 U	10.0000 U	0.7000 U	10.0000 U	10.0000 U	0.7000 U	12.0000 U	10.0000 U	0.7000 U	10.0000 U	0.7000 U
4-Methylphenol (p-Cresol)	3.8	70	70	na	**4.0000** J	na	na	**30.0000**	na	na	10.0000 U	na	na	12.0000 U	na	na	10.0000 U	na
4-Nitroaniline	1.8	1200	1200	0.8600 U	25.0000 U	25.0000 U	0.8600 U	50.0000 U	25.0000 U	0.8600 U	25.0000 U	25.0000 U	0.8600 U	29.0000 U	25.0000 U	0.8600 U	25.0000 UJ	0.8600 U
4-Nitrophenol	61	55	55	5.0000 U	25.0000 U	15.0000 U	5.0000 U	50.0000 U	15.0000 UJ	5.0000 U	25.0000 U	15.0000 UJ	5.0000 U	29.0000 UJ	15.0000 UJ	5.0000 U	25.0000 U	5.0000 U
Acenaphthene	20	3	3	0.0280	10.0000 U	10.0000 U	0.0250 U	20.0000 U	10.0000 U	0.0910	10.0000 U	10.0000 U	0.0360	12.0000 U	10.0000 U	0.0250 U	10.0000 U	0.0250 U
Acenaphthylene	230	**	**	0.1300	10.0000 U	10.0000 U	0.0240 U	20.0000 U	10.0000 U	0.2200	10.0000 U	10.0000 U	0.1500	12.0000 U	10.0000 U	0.0240 U	10.0000 U	0.0240 U
Anthracene	2300	0.3	0.3	0.0310 U	10.0000 U	10.0000 U	0.0310 U	20.0000 U	10.0000 U	0.0390 U	10.0000 U	10.0000 U	0.0310 U	12.0000 U	10.0000 U	0.0310 U	10.0000 U	0.0310 U
Benzo(a)anthracene	0.05	**	**	0.0700 U	10.0000 U	4.0000 U	0.0700 U	20.0000 U	4.0000 U	0.0890 U	10.0000 U	4.0000 U	0.0700 U	12.0000 U	4.0000 U	0.0700 U	10.0000 U	0.0700 U
Benzo(a)pyrene	0.2	**	**	0.0600 U	10.0000 U	0.5900 U	0.0600 U	20.0000 U	0.5900 U	0.0760 U	10.0000 U	0.5900 U	0.0600 U	12.0000 U	0.5900 U	0.0600 U	10.0000 U	0.0600 U
Benzo(b)fluoranthene	0.05	**	**	0.0740 U	10.0000 U	4.0000 U	0.0740 U	20.0000 U	4.0000 U	0.0940 U	10.0000 U	4.0000 U	0.0740 U	12.0000 U	4.0000 U	0.0740 U	10.0000 U	0.0740 U
Benzo(g,h,i)perylene	230	**	**	0.0960 U	10.0000 U	10.0000 U	0.0960 U	20.0000 U	10.0000 UJ	0.1200 U	10.0000 U	10.0000 UJ	0.0960 U	12.0000 U	10.0000 UJ	0.0960 U	10.0000 U	0.0960 U
Benzo(k)fluoranthene	0.5	**	**	0.0580 U	10.0000 U	4.0000 U	0.0580 U	20.0000 U	4.0000 U	0.0730 U	10.0000 U	4.0000 U	0.0580 U	12.0000 U	4.0000 U	0.0580 U	10.0000 U	0.0580 U
bis(2-Chloroethoxy)methane	NA	NA	NA	1.0000 U	10.0000 U	10.0000 U	1.0000 U	20.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	12.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
bis(2-Chloroethyl)ether	0.03	0.6	0.6	1.0000 U	10.0000 U	1.5000 U	1.0000 U	20.0000 U	1.5000 U	1.0000 U	10.0000 U	1.5000 U	1.0000 U	12.0000 U	1.5000 U	1.0000 U	10.0000 U	1.0000 U
Bis(2-Chloroisopropyl)Ether	0.5	25	25	na	10.0000 U	7.5000 U	na	20.0000 U	7.5000 U	na	10.0000 U	7.5000 U	na	12.0000 UJ	7.5000 U	na	10.0000 U	na
bis(2-Ethylhexyl)phthalate (BEHP)	6	2.4	2.4	2.4000 U	10.0000 U	2.0000 J	2.4000 U	20.0000 U	**7.7000** J	2.4000 U	10.0000 U	**9.3000** J	2.4000 U	12.0000 U	10.0000 UJ	2.4000 U	10.0000 U	2.4000 U
Butylbenzylphthalate	150	26	26	0.7400 U	10.0000 U	10.0000 U	0.7400 U	20.0000 U	0.9900 J	0.7400 U	10.0000 U	1.0000 J	0.7400 U	12.0000 U	10.0000 UJ	0.7400 U	10.0000 U	0.7400 U
Carbazole	1.9	47	47	0.5400 U	10.0000 U	7.5000 U	0.5400 U	20.0000 U	7.5000 U	0.5400 U	10.0000 U	7.5000 U	0.5400 U	12.0000 U	7.5000 U	0.5400 U	10.0000 UJ	0.5400 U
Chrysene	5.2	**	**	0.0880 U	10.0000 U	5.0000 U	0.0880 U	20.0000 U	5.0000 U	0.1100 U	10.0000 U	5.0000 U	0.0880 U	12.0000 U	5.0000 U	0.0880 U	10.0000 U	0.0880 U
Dibenz(a,h)anthracene	0.005	**	**	0.0650 U	10.0000 U	7.5000 U	0.0650 U	20.0000 U	7.5000 U	0.0820 U	10.0000 U	7.5000 U	0.0650 U	12.0000 U	7.5000 U	0.0650 U	10.0000 U	0.0650 U
Dibenzofuran	30	67	67	1.0000 U	10.0000 U	10.0000 U	1.0000 U	20.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	12.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
Diethylphthalate	6100	380	380	1.0000 U	10.0000 U	10.0000 U	1.0000 U	20.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	12.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
Dimethylphthalate	76000	1400	1400	0.5700 U	10.0000 U	10.0000 U	0.5700 U	20.0000 U	10.0000 U	0.5700 U	10.0000 U	10.0000 U	0.5700 U	12.0000 U	10.0000 U	0.5700 U	10.0000 U	0.5700 U
Di-n-butylphthalate	NA	NA	NA	1.0000 U	10.0000 U	10.0000 U	1.0000 U	20.0000 U	0.4100 J	1.0000 U	10.0000 U	10.0000 UJ	1.0000 U	12.0000 U	10.0000 UJ	1.0000 U	10.0000 U	1.0000 U
Di-n-octylphthalate	150	NA	NA	1.2000 U	10.0000 U	10.0000 U	1.2000 U	20.0000 U	0.2200 J	1.2000 U	10.0000 U	10.0000 UJ	1.2000 U	12.0000 U	10.0000 UJ	1.2000 U	10.0000 U	1.2000 U
Diphenylamine	190	NA	NA	na	na	7.0000 U	na	na	7.0000 U	na	na	7.0000 U	na	na	7.0000 U	na	na	na
Fluoranthene	300	0.3	0.3	0.0610 U	10.0000 U	10.0000 U	0.0610 U	20.0000 U	10.0000 U	0.0770 U	10.0000 U	10.0000 U	0.0610 U	12.0000 U	10.0000 U	0.0610 U	10.0000 U	0.0610 U
Fluorene	300	30	30	0.0260 U	10.0000 U	10.0000 U	0.0260 U	20.0000 U	10.0000 U	0.0330 U	10.0000 U	10.0000 U	0.0260 U	12.0000 U	10.0000 U	0.0260 U	10.0000 U	0.0260 U
Hexachlorobenzene	1	0.0003	0.0003	0.6100 U	10.0000 U	1.0000 U	0.6100 U	20.0000 U	1.0000 U	0.6100 U	10.0000 U	1.0000 U	0.6100 U	12.0000 U	1.0000 U	0.6100 U	10.0000 U	0.6100 U
Hexachlorobutadiene	0.5	49.7	49.7	0.5000 U	10.0000 U	10.0000 U	0.5000 U	20.0000 U	10.0000 U	0.5000 U	10.0000 U	10.0000 U	0.5000 U	12.0000 U	10.0000 U	0.5000 U	10.0000 UJ	0.5000 U
Hexachlorocyclopentadiene	50	3	3	1.1000 U	10.0000 U	10.0000 U	1.1000 U	20.0000 U	10.0000 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U	12.0000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U
Hexachloroethane	2.7	3.6	3.6	0.7000 U	10.0000 U	10.0000 U	0.7000 U	20.0000 U	10.0000 U	0.7000 U	10.0000 U	10.0000 U	0.7000 U	12.0000 U	10.0000 U	0.7000 U	10.0000 U	0.7000 U
Indeno(1,2,3-cd)pyrene	0.05	**	**	0.0800 U	10.0000 U	7.5000 U	0.0800 U	20.0000 U	7.5000 U	0.1000 U	10.0000 U	7.5000 U	0.0800 U	12.0000 U	7.5000 U	0.0800 U	10.0000 UJ	0.0800 U
Isophorone	40	650	650	1.0000 U	10.0000 U	10.0000 U	1.0000 U	20.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	12.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
Naphthalene	15	26	26	0.0950 U	**34.0000**	**49.0000**	**47.0000** D	**110.0000**	**50.0000**	**150.0000** D	8.0000 J	6.8000 U	2.0000	12.0000 U	3.5000 J	1.5000	10.0000 U	0.0280 U
Nitrobenzene	3.8	90	90	1.0000 U	10.0000 U	9.5000 U	1.0000 U	20.0000 U	9.5000 U	1.0000 U	10.0000 U	9.5000 U	1.0000 U	12.0000 U	9.5000 U	1.0000 U	10.0000 U	1.0000 U
N-Nitroso-di-n-propylamine	0.005	0.5	0.5	1.0000 U	10.0000 U	4.0000 U	1.0000 U	20.0000 U	4.0000 U	1.0000 U	10.0000 U	4.0000 U	1.0000 U	12.0000 U	4.0000 U	1.0000 U	10.0000 U	1.0000 U
N-Nitrosodiphenylamine	7.8	6.5	6.5	1.0000 U	10.0000 U	na	1.0000 U	20.0000 U	na	1.0000 U	10.0000 U	na	1.0000 U	12.0000 U	na	1.0000 U	10.0000 U	1.0000 U
Pentachlorophenol	1	8.2	8.2	2.0000 U	25.0000 U	1.0000 U	2.0000 U	50.0000 U	**1.7000** J	2.0000 U	25.0000 U	1.0000 U	2.0000 U	29.0000 U	1.0000 U	2.0000 U	25.0000 U	2.0000 U
Phenanthrene	230	**	**	0.0250 U	10.0000 U	10.0000 U	0.0250 U	20.0000 U	10.0000 U	0.0320 U	10.0000 U	10.0000 U	0.0250 U	12.0000 U	10.0000 U	0.0250 U	10.0000 U	0.0250 U
Phenol	10	6.5	6.5	1.0000 U	10.0000 U	10.0000 U	1.0000 U	20.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	12.0000 U	6.9000 J	1.0000 U	3.0000 J	1.0000 U
Pyrene	230	0.3	0.3	0.0510	10.0000 U	10.0000 U	0.0460	20.0000 U	10.0000 U	0.0530 U	10.0000 U	10.0000 U	0.0420 U	12.0000 U	10.0000 U	0.0420 U	10.0000 U	0.0420 U

Notes:
All results are in micrograms per liter or parts per billion (ppb)
GCTL exceedances in BOLD
NA = not applicable
** = FSWCTL & MSWCTL for total PAHs = 0.031 ug/L
1 = more conservative 4-methylphenol criteria used over 3-methylphenol
U = not detected
J = estimated concentration below method detection limit
na = not analyzed
D = analytical result from a diluted sample

Table 13
Groundwater SVOA Analytical Results, OU 2, NAS Pensacola

Parameter	GCTL	FSWCTL	MSWCTL	30GI164 1993 Result		30GI164 2003 Result		30GMW03 1993 Result		30GMW03 2003 Result		30GS06 1993 Result		30GS06 1995 Result		30GS06 2003 Result		30GS11 1993 Result		30GS11 2003 Result		30GS18 1993 Result		30GS18 2003 Result		30GS22 1993 Result		30GS22 1995 Result		30GS22 2003 Result	
1,2,4-Trichlorobenzene	70	23	23	11.0000	U	0.5400	J	11.0000	U	0.5100	U	11.0000	U	10.0000	U	0.5100	U	10.0000	U	0.5100	U	10.0000	U	0.5100	U	12.0000	U	10.0000	U	0.5100	U
1,2-Dichlorobenzene	600	99	99	11.0000	U	3.6000	J	11.0000	U	1.0000	U	3.0000	J	10.0000	U	19.0000		10.0000	U	1.0000	U	10.0000	U	1.1000	J	12.0000	U	10.0000	U	1.0000	U
1,3-Dichlorobenzene	230	85	85	11.0000	U	1.0000	U	11.0000	U	1.0000	U	1.0000	J	10.0000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	12.0000	U	10.0000	U	1.0000	U
1,4-Dichlorobenzene	75	3.3	3.3	11.0000	U	1.3000	J	11.0000	U	1.0000	U	11.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	12.0000	U	10.0000	U	1.0000	U
1-Methyl naphthalene	15	95	95	na		0.0280	U	na		0.0280	U	na		na		**25.0000**	D	na		0.0960		na		0.0280	U	na		na		**17.0000**	
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	NA	NA	NA	na		0.5800	U	na		0.5800	U	na		na		0.5800	U	na		0.5800	U	na		0.5800	U	na		na		0.5800	U
2,4,5-Trichlorophenol	1	23	23	26.0000	U	1.1000	U	27.0000	U	1.1000	U	28.0000	U	4.0000	U	1.1000	U	26.0000	U	1.1000	U	25.0000	U	1.1000	U	30.0000	U	4.0000	U	1.1000	U
2,4,6-Trichlorophenol	3.5	6.5	6.5	11.0000	U	1.1000	U	11.0000	U	1.1000	U	11.0000	U	10.0000	U	1.1000	U	10.0000	U	1.1000	U	10.0000	U	1.1000	U	12.0000	U	10.0000	U	1.1000	U
2,4-Dichlorophenol	0.3	13	13	11.0000	U	0.7600	U	11.0000	U	0.7600	U	11.0000	U	4.0000	U	0.7600	U	10.0000	U	0.7600	U	10.0000	U	0.7600	U	12.0000	U	4.0000	U	0.7600	U
2,4-Dimethylphenol	150	160	160	11.0000	U	1.1000	U	11.0000	U	1.1000	U	3.0000	J	10.0000	U	1.1000	U	10.0000	U	1.1000	U	10.0000	U	1.1000	U	12.0000	U	10.0000	U	1.1000	U
2,4-Dinitrophenol	15	3	3	26.0000	U	10.0000	U	27.0000	UJ	10.0000	U	28.0000	U	25.0000	UJ	10.0000	U	26.0000	UJ	10.0000	U	25.0000	UJ	10.0000	U	30.0000	UJ	25.0000	UJ	10.0000	U
2,4-Dinitrotoluene	0.06	9.1	9.1	11.0000	U	1.1000	U	11.0000	U	1.1000	U	11.0000	U	10.0000	U	1.1000	U	10.0000	U	1.1000	U	10.0000	U	1.1000	U	12.0000	U	10.0000	U	1.1000	U
2,6-Dinitrotoluene	0.06	0.8	0.8	11.0000	U	0.8700	U	11.0000	U	0.8700	U	11.0000	U	10.0000	U	0.8700	U	10.0000	U	0.8700	U	10.0000	U	0.8700	U	12.0000	U	10.0000	U	0.8700	U
2-Chloronaphthalene	610	1700	1700	11.0000	U	1.0000	U	11.0000	U	1.0000	U	11.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	12.0000	U	10.0000	U	1.0000	U
2-Chlorophenol	38	130	130	11.0000	U	0.7900	U	11.0000	U	0.7900	U	11.0000	U	10.0000	U	0.7900	U	10.0000	U	0.7900	U	10.0000	U	0.7900	U	12.0000	U	10.0000	U	0.7900	U
2-Methyl-4,6-Dinitrophenol	NA	NA	NA	26.0000	U	10.0000	U	27.0000	U	10.0000	U	28.0000	U	25.0000	U	10.0000	U	26.0000	U	10.0000	U	25.0000	U	10.0000	U	30.0000	U	25.0000	U	10.0000	U
2-Methylnaphthalene	15	30	30	11.0000	U	0.0220	U	11.0000	U	0.0220	U	**35.0000**		10.0000	U	**32.0000**	D	10.0000	U	0.1400		10.0000	U	0.0220	U	12.0000		1.3000	J	**19.0000**	
2-Methylphenol (o-Cresol)	38	250	250	11.0000	U	0.5900	U	11.0000	U	0.5900	U	11.0000	U	10.0000	U	0.5900	U	10.0000	U	0.5900	U	10.0000	U	0.5900	U	12.0000	U	10.0000	U	0.5900	U
2-Nitroaniline	23	NA	NA	26.0000	U	0.7200	U	27.0000	U	0.7200	U	28.0000	U	7.5000	U	0.7200	U	26.0000	UJ	0.7200	U	25.0000	U	0.7200	U	30.0000	U	7.5000	U	0.7200	U
2-Nitrophenol	NA	NA	NA	11.0000	U	1.1000	U	11.0000	U	1.1000	U	11.0000	U	10.0000	U	1.1000	U	10.0000	U	1.1000	U	10.0000	U	1.1000	U	12.0000	U	10.0000	U	1.1000	U
3,3'-Dichlorobenzidine	0.08	0.03	0.03	11.0000	UJ	1.0000	U	11.0000	U	1.0000	U	11.0000	UJ	14.0000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	UJ	1.0000	U	12.0000	U	14.0000	U	1.0000	U
3-Methylphenol/4-Methylphenol 1	3.8	70	70	na		1.0000	U	na		1.0000	U	na		10.0000	U	**40.0000**		na		1.0000	U	na		1.0000	U	na		10.0000	U	**63.0000**	
3-Nitroaniline	1.8	NA	NA	26.0000	U	0.6400	U	27.0000	U	0.6400	U	28.0000	U	25.0000	U	0.6400	U	26.0000	U	0.6400	U	25.0000	UJ	0.6400	U	30.0000	U	25.0000	U	0.6400	U
4-Bromophenyl-phenylether	NA	NA	NA	11.0000	U	1.0000	U	11.0000	U	1.0000	U	11.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	12.0000	U	10.0000	U	1.0000	U
4-Chloro-3-methylphenol	68	100	100	11.0000	U	1.0000	U	11.0000	U	1.0000	U	11.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	12.0000	U	10.0000	U	1.0000	U
4-Chloroaniline	30	2.5	2.5	11.0000	U	1.0000	U	11.0000	U	1.0000	U	11.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	12.0000	U	10.0000	U	1.0000	U
4-Chlorophenylphenyl ether	NA	NA	NA	11.0000	U	0.7000	U	11.0000	U	0.7000	U	11.0000	U	10.0000	U	0.7000	U	10.0000	U	0.7000	U	10.0000	U	0.7000	U	12.0000	U	10.0000	U	0.7000	U
4-Methylphenol (p-Cresol)	3.8	70	70	11.0000	U	na		11.0000	U	na		**4.0000**	J	na		na		10.0000	U	na		10.0000	U	na		12.0000	U	na		na	
4-Nitroaniline	1.8	1200	1200	26.0000	UJ	0.8600	U	27.0000	U	0.8600	U	28.0000	UJ	25.0000	U	0.8600	U	26.0000	U	0.8600	U	25.0000	UJ	0.8600	U	30.0000	U	25.0000	U	0.8600	U
4-Nitrophenol	61	55	55	26.0000	U	5.0000	U	27.0000	UJ	5.0000	U	28.0000	U	15.0000	U	5.0000	U	26.0000	U	5.0000	U	25.0000	UJ	5.0000	U	30.0000	UJ	15.0000	UJ	5.0000	U
Acenaphthene	20	3	3	11.0000	U	0.0250	U	11.0000	U	0.0250	U	1.0000	J	10.0000	U	1.4000		10.0000	U	0.0250	U	10.0000	U	0.0250	U	12.0000	U	10.0000	U	0.0250	U
Acenaphthylene	230	**	**	11.0000	U	0.0240	U	11.0000	U	0.0240	U	11.0000	U	10.0000	U	0.1500		10.0000	U	0.0240	U	10.0000	U	0.0240	U	12.0000	U	10.0000	U	0.0240	U
Anthracene	2300	0.3	0.3	11.0000	U	0.0310	U	11.0000	U	0.0310	U	11.0000	U	10.0000	U	0.7100		10.0000	U	0.0310	U	10.0000	U	0.0310	U	12.0000	U	10.0000	U	0.0310	U
Benzo(a)anthracene	0.05	**	**	11.0000	U	0.0700	U	11.0000	U	0.0700	U	11.0000	U	4.0000	U	0.0700	U	10.0000	U	0.0700	U	10.0000	U	0.0700	U	12.0000	U	4.0000	U	0.0700	U
Benzo(a)pyrene	0.2	**	**	11.0000	U	0.0600	U	11.0000	U	0.0600	U	11.0000	U	0.5900	U	0.0600	U	10.0000	U	0.0600	U	10.0000	U	0.0600	U	12.0000	U	0.5900	U	0.0600	U
Benzo(b)fluoranthene	0.05	**	**	11.0000	U	0.0740	U	11.0000	U	0.0740	U	11.0000	U	4.0000	U	0.0740	U	10.0000	U	0.0740	U	10.0000	U	0.0740	U	12.0000	U	4.0000	U	0.0740	U
Benzo(g,h,i)perylene	230	**	**	11.0000	U	0.0960	U	11.0000	U	0.0960	U	11.0000	U	10.0000	U	0.0960	U	10.0000	UJ	0.0960	U	10.0000	U	0.0960	U	12.0000	U	10.0000	UJ	0.0960	U
Benzo(k)fluoranthene	0.5	**	**	11.0000	U	0.0580	U	11.0000	U	0.0580	U	11.0000	U	4.0000	U	0.0580	U	10.0000	U	0.0580	U	10.0000	U	0.0580	U	12.0000	U	4.0000	U	0.0580	U
bis(2-Chloroethoxy)methane	NA	NA	NA	11.0000	U	1.0000	U	11.0000	U	1.0000	U	11.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	12.0000	U	10.0000	U	1.0000	U
bis(2-Chloroethyl)ether	0.03	0.6	0.6	11.0000	U	1.0000	U	11.0000	U	1.0000	U	11.0000	U	1.5000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	12.0000	U	1.5000	U	1.0000	U
Bis(2-Chloroisopropyl)Ether	0.5	25	25	11.0000	U	na		11.0000	UJ	na		11.0000	U	7.5000	U	na		10.0000	U	na		10.0000	U	na		12.0000	UJ	7.5000	U	na	
bis(2-Ethylhexyl)phthalate (BEHP)	6	2.4	2.4	11.0000	U	2.4000	U	11.0000	U	2.4000	U	11.0000	U	10.0000	U	2.4000	U	10.0000	U	2.4000	U	10.0000	U	2.4000	U	12.0000	U	**11.0000**		2.4000	U
Butylbenzylphthalate	150	26	26	11.0000	U	0.7400	U	11.0000	U	0.7400	U	11.0000	U	10.0000	U	0.7400	U	10.0000	U	0.7400	U	10.0000	U	0.7400	U	12.0000	U	1.2000	J	0.7400	U
Carbazole	1.9	47	47	11.0000	U	0.5400	U	11.0000	U	0.5400	U	**14.0000**	J	7.5000	U	**13.0000**		10.0000	U	0.5400	U	10.0000	UJ	0.5400	U	12.0000	U	7.5000	U	0.5400	U
Chrysene	5.2	**	**	11.0000	U	0.0880	U	11.0000	U	0.0880	U	11.0000	U	5.0000	U	0.0880	U	10.0000	U	0.0880	U	10.0000	U	0.0880	U	12.0000	U	5.0000	U	0.0880	U
Dibenz(a,h)anthracene	0.005	**	**	11.0000	U	0.0650	U	11.0000	U	0.0650	U	11.0000	U	7.5000	U	0.0650	U	10.0000	UJ	0.0650	U	10.0000	U	0.0650	U	12.0000	U	7.5000	U	0.0650	U
Dibenzofuran	30	67	67	11.0000	U	1.0000	U	11.0000	U	1.0000	U	1.0000	J	10.0000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	12.0000	U	10.0000	U	1.0000	U
Diethylphthalate	6100	380	380	11.0000	U	1.0000	U	11.0000	U	1.0000	U	11.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	12.0000	U	10.0000	U	1.0000	U
Dimethylphthalate	76000	1400	1400	11.0000	U	0.5700	U	11.0000	U	0.5700	U	11.0000	U	10.0000	U	0.5700	U	10.0000	U	0.5700	U	10.0000	U	0.5700	U	12.0000	U	10.0000	U	0.5700	U
Di-n-butylphthalate	NA	NA	NA	11.0000	U	1.0000	U	11.0000	U	1.0000	U	11.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	12.0000	U	0.4500	J	1.0000	U
Di-n-octylphthalate	150	NA	NA	11.0000	U	1.2000	U	11.0000	U	1.2000	U	11.0000	U	10.0000	U	1.2000	U	10.0000	U	1.2000	U	10.0000	U	1.2000	U	12.0000	U	10.0000	UJ	1.2000	U
Diphenylamine	190	NA	NA	na		na		na		na		na		7.0000	U	na		na		na		na		na		na		7.0000	U	na	
Fluoranthene	300	0.3	0.3	11.0000	U	0.0610	U	11.0000	U	0.0610	U	11.0000	U	10.0000	U	0.7800		10.0000	U	0.0610	U	10.0000	U	0.0610	U	12.0000	U	10.0000	U	0.0610	U
Fluorene	300	30	30	11.0000	U	0.0260	U	11.0000	U	0.0260	U	1.0000	J	10.0000	U	0.9200		10.0000	U	0.0260	U	10.0000	U	0.0260	U	12.0000	U	10.0000	U	0.3100	
Hexachlorobenzene	1	0.0003	0.0003	11.0000	U	0.6100	U	11.0000	U	0.6100	U	11.0000	U	1.0000	U	0.6100	U	10.0000	U	0.6100	U	10.0000	U	0.6100	U	12.0000	U	1.0000	U	0.6100	U
Hexachlorobutadiene	0.5	49.7	49.7	11.0000	U	0.5000	U	11.0000	U	0.5000	U	11.0000	U	10.0000	U	0.5000	U	10.0000	UJ	0.5000	U	10.0000	U	0.5000	U	12.0000	U	10.0000	U	0.5000	U
Hexachlorocyclopentadiene	50	3	3	11.0000	U	1.1000	U	11.0000	UJ	1.1000	U	11.0000	UJ	10.0000	U	1.1000	U	10.0000	UJ	1.1000	U	10.0000	UJ	1.1000	U	12.0000	UJ	10.0000	U	1.1000	U
Hexachloroethane	2.7	3.6	3.6	11.0000	U	0.7000	U	11.0000	U	0.7000	U	11.0000	U	10.0000	U	0.7000	U	10.0000	U	0.7000	U	10.0000	U	0.7000	U	12.0000	U	10.0000	U	0.7000	U
Indeno(1,2,3-cd)pyrene	0.05	**	**	11.0000	U	0.0800	U	11.0000	U	0.0800	U	11.0000	U	7.5000	U	0.0800	U	10.0000	U	0.0800	U	10.0000	U	0.0800	U	12.0000	U	7.5000	U	0.0800	U
Isophorone	40	650	650	11.0000	U	1.0000	U	11.0000	U	1.0000	U	11.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	12.0000	U	10.0000	U	1.0000	U
Naphthalene	15	26	26	2.0000	J	0.0280	U	11.0000	U	0.0280	U	**76.0000**		0.9100	J	**90.0000**	D	2.0000	J	1.5000		10.0000	U	0.0280	U	**23.0000**		14.0000		12.0000	
Nitrobenzene	3.8	90	90	11.0000	U	1.0000	U	11.0000	U	1.0000	U	11.0000	U	9.5000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	12.0000	U	9.5000	U	1.0000	U
N-Nitroso-di-n-propylamine	0.005	0.5	0.5	11.0000	U	1.0000	U	11.0000	U	1.0000	U	11.0000	U	4.0000	U	1.0000	U	10.0000	U	1.0000	U	10.0000	U	1.0000	U	12.0000	U	4.0000	U	1.0000	U
N-Nitrosodiphenylamine	7.8	6.5	6.5	11.0000	U	1.0000	U	11.0000	U	1.0000	U	11.0000	U	na		1.0000	U	10.0000	U	1.0000	U	10.0000	UJ	1.0000	U	12.0000	U	na		1.0000	U
Pentachlorophenol	1	8.2	8.2	26.0000	U	2.0000	U	27.0000	U	2.0000	U	28.0000	U	1.0000	U	**2.2000**	J	26.0000	U	2.0000	U	25.0000	U	2.0000	U	30.0000	U	1.0000	U	2.0000	U
Phenanthrene	230	**	**	11.0000	U	0.0250	U	11.0000	U	0.0250	U	3.0000	J	10.0000	U	3.8000		10.0000	U	0.0250	U	10.0000	U	0.0250	U	12.0000	U	10.0000	U	0.0250	U
Phenol	10	6.5	6.5	11.0000	U	1.0000	U	**24.0000**		1.0000	U	7.0000	J	10.0000	U	1.0000	U	**10.0000**	J	1.0000	U	14.0000	U	1.0000	U	12.0000	U	10.0000	U	1.0000	U
Pyrene	230	0.3	0.3	11.0000	U	0.0420	U	11.0000	U	0.0420	U	11.0000	U	10.0000	U	0.6600		10.0000	U	0.0560		10.0000	U	0.0420	U	12.0000	U	10.0000	U	0.0420	U

Notes:
All results are in micrograms per liter or parts per billion (ppb)
GCTL exceedances in BOLD
NA = not applicable
** = FSWCTL & MSWCTL for total PAHs = 0.031 ug/L
1 = more conservative 4-methylphenol criteria used over 3-methylphenol
U = not detected
J = estimated concentration below method detection limit
na = not analyzed
D = analytical result from a diluted sample

Table 13
Groundwater SVOA Analytical Results, OU 2, NAS Pensacola

Parameter	GCTL	FSWCTL	MSWCTL	30GS46 1993 Result	30GS46 1995 Result	30GS46 2003 Result	30GS51 1993 Result	30GS51 1995 Result	30GS51 2003 Result	30GS103 1993 Result	30GS103 2003 Result	30GS105 1993 Result	30GS105 2003 Result	30GS111 1993 Result	30GS111 1995 Result	30GS111 2003 Result	30GS123 1993 Result	30GS123 2003 Result
1,2,4-Trichlorobenzene	70	23	23	2.0000 J	5.6000 J	2.0000 J	1.0000 J	10.0000 U	0.5100 U	10.0000 U	0.5100 U	11.0000 U	0.5100 U	10.0000 U	10.0000 U	0.5100 U	10.0000 U	0.5100 U
1,2-Dichlorobenzene	600	99	99	10.0000 U	1.6000 J	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	3.0000 J	10.0000 U	1.0000 U	10.0000 U	1.0000 U
1,3-Dichlorobenzene	230	85	85	10.0000 U	4.3000 J	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	6.0000 J	1.5000 J	5.4000 J	10.0000 U	1.0000 U
1,4-Dichlorobenzene	75	3.3	3.3	2.0000 J	6.3000 J	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	41.0000	2.3000 J	7.2000 J	10.0000 U	1.0000 U
1-Methyl naphthalene	15	95	95	na	na	0.4000	na	na	0.0720	na	0.0280 U	na	0.0280 U	na	na	0.0430 J	na	0.0280 U
2,2'-oxybis(1-Chloropropane)/bis(2-chlor	NA	NA	NA	na	na	0.5800 U	na	na	0.5800 U	na	0.5800 U	na	0.5800 U	na	na	0.5800 U	na	0.5800 U
2,4,5-Trichlorophenol	1	23	23	26.0000 UJ	4.0000 U	1.1000 U	25.0000 U	4.0000 U	1.1000 U	24.0000 U	1.1000 U	28.0000 U	1.1000 U	24.0000 U	4.0000 U	1.1000 U	24.0000 U	1.1000 U
2,4,6-Trichlorophenol	3.5	6.5	6.5	10.0000 U	10.0000 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U	11.0000 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U
2,4-Dichlorophenol	0.3	13	13	10.0000 U	4.0000 U	0.7600 U	10.0000 U	4.0000 U	0.7600 U	10.0000 U	0.7600 U	11.0000 U	0.7600 U	10.0000 U	4.0000 U	0.7600 U	10.0000 U	0.7600 U
2,4-Dimethylphenol	150	160	160	10.0000 U	10.0000 U	1.1000 U	1.0000 J	10.0000 U	1.1000 U	10.0000 U	1.1000 U	11.0000 U	1.1000 U	10.0000 U	10.0000 U	2.5000 J	10.0000 U	1.1000 U
2,4-Dinitrophenol	15	3	3	26.0000 U	25.0000 UJ	10.0000 U	25.0000 UJ	25.0000 UJ	10.0000 U	24.0000 UJ	10.0000 U	28.0000 U	10.0000 U	24.0000 UJ	25.0000 UJ	10.0000 U	24.0000 UJ	10.0000 U
2,4-Dinitrotoluene	0.06	9.1	9.1	10.0000 U	10.0000 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U	11.0000 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U
2,6-Dinitrotoluene	0.06	0.8	0.8	10.0000 U	10.0000 U	0.8700 U	10.0000 U	10.0000 U	0.8700 U	10.0000 U	0.8700 U	11.0000 U	0.8700 U	10.0000 U	10.0000 U	0.8700 U	10.0000 U	0.8700 U
2-Chloronaphthalene	610	1700	1700	10.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
2-Chlorophenol	38	130	130	10.0000 U	10.0000 U	0.7900 U	10.0000 U	10.0000 U	0.7900 U	10.0000 U	0.7900 U	11.0000 U	0.7900 U	2.0000 J	10.0000 U	1.4000 J	10.0000 U	0.7900 U
2-Methyl-4,6-Dinitrophenol	NA	NA	NA	26.0000 U	25.0000 U	10.0000 U	25.0000 U	25.0000 U	10.0000 U	24.0000 U	10.0000 U	28.0000 U	10.0000 U	24.0000 U	25.0000 U	10.0000 U	24.0000 U	10.0000 U
2-Methylnaphthalene	15	30	30	2.0000 J	6.7000 J	0.5100	1.0000 J	1.1000 J	0.0220 U	10.0000 U	0.0220 U	11.0000 U	0.0220 U	10.0000 U	10.0000 U	0.0250 J	10.0000 U	0.0220 U
2-Methylphenol (o-Cresol)	38	250	250	10.0000 U	10.0000 U	0.5900 U	10.0000 U	10.0000 U	0.5900 U	10.0000 U	0.5900 U	11.0000 U	0.5900 U	10.0000 U	10.0000 U	0.5900 U	10.0000 U	0.5900 U
2-Nitroaniline	23	NA	NA	26.0000 U	7.5000 U	0.7200 U	25.0000 U	0.1300 J	0.7200 U	24.0000 U	0.7200 U	28.0000 U	0.7200 U	24.0000 U	7.5000 U	0.7200 U	24.0000 U	0.7200 U
2-Nitrophenol	NA	NA	NA	10.0000 U	10.0000 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U	11.0000 U	1.1000 U	10.0000 U	10.0000 U	1.1000 U	10.0000 U	1.1000 U
3,3'-Dichlorobenzidine	0.08	0.03	0.03	10.0000 U	14.0000 U	1.0000 U	10.0000 UJ	14.0000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	10.0000 U	14.0000 U	1.0000 U	10.0000 U	1.0000 U
3-Methylphenol/4-Methylphenol 1	3.8	70	70	na	**9.2000** J	1.7000 J	na	2.8000 J	1.0000 U	na	1.0000 U	na	1.0000 U	na	10.0000 U	1.0000 U	na	1.0000 U
3-Nitroaniline	1.8	NA	NA	26.0000 U	25.0000 U	0.6400 U	25.0000 UJ	25.0000 U	0.6400 U	24.0000 U	0.6400 U	28.0000 U	0.6400 U	24.0000 U	25.0000 U	0.6400 U	24.0000 U	0.6400 U
4-Bromophenyl-phenylether	NA	NA	NA	10.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
4-Chloro-3-methylphenol	68	100	100	10.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
4-Chloroaniline	30	2.5	2.5	10.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
4-Chlorophenylphenyl ether	NA	NA	NA	10.0000 U	10.0000 U	0.7000 U	10.0000 U	10.0000 U	0.7000 U	10.0000 U	0.7000 U	11.0000 U	0.7000 U	10.0000 U	10.0000 U	0.7000 U	10.0000 U	0.7000 U
4-Methylphenol (p-Cresol)	3.8	70	70	**21.0000**	na	na	**15.0000**	na	na	10.0000 U	na	11.0000 U	na	10.0000 U	na	na	10.0000 U	na
4-Nitroaniline	1.8	1200	1200	26.0000 U	25.0000 U	0.8600 U	25.0000 UJ	25.0000 U	0.8600 U	24.0000 UJ	0.8600 U	28.0000 U	0.8600 U	24.0000 UJ	25.0000 U	0.8600 U	24.0000 UJ	0.8600 U
4-Nitrophenol	61	55	55	26.0000 U	15.0000 UJ	5.0000 U	25.0000 UJ	15.0000 UJ	5.0000 U	24.0000 U	5.0000 U	28.0000 UJ	5.0000 U	24.0000 U	15.0000 UJ	5.0000 U	24.0000 U	5.0000 U
Acenaphthene	20	3	3	10.0000 U	10.0000 U	0.0250 U	10.0000 U	10.0000 U	0.0250 U	10.0000 U	0.0500	11.0000 U	0.0250 U	10.0000 U	10.0000 U	0.0320	10.0000 U	0.0250 U
Acenaphthylene	230	**	**	10.0000 U	10.0000 U	0.0240 U	10.0000 U	10.0000 U	0.0240 U	10.0000 U	0.0240 U	11.0000 U	0.0240 U	10.0000 U	10.0000 U	0.0240 U	10.0000 U	0.0240 U
Anthracene	2300	0.3	0.3	10.0000 U	10.0000 U	0.0310 U	10.0000 U	10.0000 U	0.0310 U	10.0000 U	0.0310 U	11.0000 U	0.0310 U	10.0000 U	10.0000 U	0.0310 U	10.0000 U	0.0310 U
Benzo(a)anthracene	0.05	**	**	10.0000 U	4.0000 U	0.0700 U	10.0000 U	4.0000 U	0.0700 U	10.0000 U	0.0700 U	11.0000 U	0.0700 U	10.0000 U	4.0000 U	0.0700 U	10.0000 U	0.0700 U
Benzo(a)pyrene	0.2	**	**	10.0000 U	0.5900 U	0.0600 U	10.0000 U	0.5900 U	0.0600 U	10.0000 U	0.0600 U	11.0000 U	0.0600 U	10.0000 U	0.5900 U	0.0600 U	10.0000 U	0.0600 U
Benzo(b)fluoranthene	0.05	**	**	10.0000 U	4.0000 U	0.0740 U	10.0000 U	4.0000 U	0.0740 U	10.0000 U	0.0740 U	11.0000 U	0.0740 U	10.0000 U	4.0000 U	0.0740 U	10.0000 U	0.0740 U
Benzo(g,h,i)perylene	230	**	**	10.0000 U	10.0000 UJ	0.0960 U	10.0000 U	10.0000 UJ	0.0960 U	10.0000 U	0.0960 U	11.0000 U	0.0960 U	10.0000 U	10.0000 UJ	0.0960 U	10.0000 U	0.0960 U
Benzo(k)fluoranthene	0.5	**	**	10.0000 U	4.0000 U	0.0580 U	10.0000 U	4.0000 U	0.0580 U	10.0000 U	0.0580 U	11.0000 U	0.0580 U	10.0000 U	4.0000 U	0.0580 U	10.0000 U	0.0580 U
bis(2-Chloroethoxy)methane	NA	NA	NA	10.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
bis(2-Chloroethyl)ether	0.03	0.6	0.6	10.0000 U	1.5000 U	1.0000 U	10.0000 U	1.5000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	10.0000 U	1.5000 U	1.0000 U	10.0000 U	1.0000 U
Bis(2-Chloroisopropyl)Ether	0.5	25	25	10.0000 U	7.5000 U	na	10.0000 U	7.5000 U	na	10.0000 U	na	11.0000 UJ	na	10.0000 U	7.5000 U	na	10.0000 U	na
bis(2-Ethylhexyl)phthalate (BEHP)	6	2.4	2.4	10.0000 U	**9.0000** J	2.4000 U	10.0000 U	**13.0000** J	2.4000 U	10.0000 U	2.4000 U	11.0000 U	2.4000 U	10.0000 U	10.0000 UJ	2.4000 U	10.0000 U	2.4000 U
Butylbenzylphthalate	150	26	26	10.0000 U	1.2000 J	0.7400 U	10.0000 U	1.2000 J	0.7400 U	10.0000 U	0.7400 U	11.0000 U	0.7400 U	10.0000 U	10.0000 UJ	0.7400 U	10.0000 U	0.7400 U
Carbazole	1.9	47	47	10.0000 UJ	7.5000 U	0.5400 U	10.0000 UJ	7.5000 U	0.5400 U	10.0000 U	0.5400 U	11.0000 U	0.5400 U	10.0000 U	7.5000 U	0.5400 U	10.0000 U	0.5400 U
Chrysene	5.2	**	**	10.0000 U	5.0000 U	0.0880 U	10.0000 U	5.0000 U	0.0880 U	10.0000 U	0.0880 U	11.0000 U	0.0880 U	10.0000 U	5.0000 U	0.0880 U	10.0000 U	0.0880 U
Dibenz(a,h)anthracene	0.005	**	**	10.0000 U	7.5000 U	0.0650 U	10.0000 U	7.5000 U	0.0650 U	10.0000 U	0.0650 U	11.0000 U	0.0650 U	10.0000 U	7.5000 U	0.0650 U	10.0000 U	0.0650 U
Dibenzofuran	30	67	67	10.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
Diethylphthalate	6100	380	380	10.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
Dimethylphthalate	76000	1400	1400	10.0000 U	10.0000 U	0.5700 U	10.0000 U	10.0000 U	0.5700 U	10.0000 U	0.5700 U	11.0000 U	0.5700 U	10.0000 U	10.0000 U	0.5700 U	10.0000 U	0.5700 U
Di-n-butylphthalate	NA	NA	NA	10.0000 U	0.4800 J	1.0000 U	10.0000 U	10.0000 UJ	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	10.0000 U	10.0000 UJ	1.0000 U	10.0000 U	1.0000 U
Di-n-octylphthalate	150	NA	NA	10.0000 U	10.0000 UJ	1.2000 U	10.0000 U	10.0000 UJ	1.2000 U	10.0000 U	1.2000 U	11.0000 U	1.2000 U	10.0000 U	10.0000 UJ	1.2000 U	10.0000 U	1.2000 U
Diphenylamine	190	NA	NA	na	7.0000 U	na	na	7.0000 U	na	na	na	na	na	na	7.0000 U	na	na	na
Fluoranthene	300	0.3	0.3	10.0000 U	10.0000 U	0.0610 U	10.0000 U	10.0000 U	0.0610 U	10.0000 U	0.0610 U	11.0000 U	0.0610 U	10.0000 U	10.0000 U	0.0610 U	10.0000 U	0.0610 U
Fluorene	300	30	30	10.0000 U	10.0000 U	0.0260 U	10.0000 U	10.0000 U	0.0260 U	10.0000 U	0.0260 U	11.0000 U	0.0260 U	10.0000 U	10.0000 U	0.0260 U	10.0000 U	0.0260 U
Hexachlorobenzene	1	0.0003	0.0003	10.0000 U	1.0000 U	0.6100 U	10.0000 U	1.0000 U	0.6100 U	10.0000 U	0.6100 U	11.0000 U	0.6100 U	10.0000 U	1.0000 U	0.6100 U	10.0000 U	0.6100 U
Hexachlorobutadiene	0.5	49.7	49.7	10.0000 U	10.0000 U	0.5000 U	10.0000 U	10.0000 U	0.5000 U	10.0000 U	0.5000 U	11.0000 U	0.5000 U	10.0000 U	10.0000 U	0.5000 U	10.0000 U	0.5000 U
Hexachlorocyclopentadiene	50	3	3	10.0000 U	10.0000 U	1.1000 U	10.0000 UJ	10.0000 U	1.1000 U	10.0000 UJ	1.1000 U	11.0000 U	1.1000 U	10.0000 UJ	10.0000 U	1.1000 U	10.0000 UJ	1.1000 U
Hexachloroethane	2.7	3.6	3.6	10.0000 U	10.0000 U	0.7000 U	10.0000 U	10.0000 U	0.7000 U	10.0000 U	0.7000 U	11.0000 U	0.7000 U	10.0000 U	10.0000 U	0.7000 U	10.0000 U	0.7000 U
Indeno(1,2,3-cd)pyrene	0.05	**	**	10.0000 U	7.5000 U	0.0800 U	10.0000 U	7.5000 U	0.0800 U	10.0000 U	0.0800 U	11.0000 U	0.0800 U	10.0000 U	7.5000 U	0.0800 U	10.0000 U	0.0800 U
Isophorone	40	650	650	10.0000 U	10.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	10.0000 U	10.0000 U	1.0000 U	10.0000 U	1.0000 U
Naphthalene	15	26	26	7.0000 J	5.6000 J	1.2000	5.0000 J	**15.0000**	0.0920	10.0000 U	0.0280 U	11.0000 U	0.0280 U	10.0000 U	6.8000 U	**17.0000**	10.0000 U	0.0280 U
Nitrobenzene	3.8	90	90	10.0000 U	9.5000 U	1.0000 U	10.0000 U	9.5000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	10.0000 U	9.5000 U	1.0000 U	10.0000 U	1.0000 U
N-Nitroso-di-n-propylamine	0.005	0.5	0.5	10.0000 U	4.0000 U	1.0000 U	10.0000 U	4.0000 U	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	10.0000 U	4.0000 U	1.0000 U	10.0000 U	1.0000 U
N-Nitrosodiphenylamine	7.8	6.5	6.5	10.0000 U	na	1.0000 U	10.0000 UJ	na	1.0000 U	10.0000 U	1.0000 U	11.0000 U	1.0000 U	10.0000 U	na	1.0000 U	10.0000 U	1.0000 U
Pentachlorophenol	1	8.2	8.2	26.0000 UJ	1.0000 U	2.0000 U	25.0000 U	1.0000 U	2.0000 U	24.0000 U	2.0000 U	28.0000 U	2.0000 U	24.0000 U	1.0000 U	2.0000 U	24.0000 U	2.0000 U
Phenanthrene	230	**	**	10.0000 U	10.0000 U	0.0250 U	10.0000 U	10.0000 U	0.0250 U	10.0000 U	0.0250 U	11.0000 U	0.0250 U	10.0000 U	10.0000 U	0.0250 U	10.0000 U	0.0250 U
Phenol	10	6.5	6.5	17.0000 U	10.0000 U	1.0000 U	13.0000 U	10.0000 U	1.0000 U	7.0000 J	1.0000 U	6.0000 J	1.0000 U	4.0000 J	10.0000 U	1.0000 U	5.0000 J	1.0000 U
Pyrene	230	0.3	0.3	10.0000 U	10.0000 U	0.0420 U	10.0000 U	10.0000 U	0.0580	10.0000 U	0.0420 U	11.0000 U	0.0430 U	10.0000 U	10.0000 U	0.0420 U	10.0000 U	0.0420 U

Notes:
All results are in micrograms per liter or parts per billion (ppb)
GCTL exceedances in BOLD
NA = not applicable
** = FSWCTL & MSWCTL for total PAHs = 0.031 ug/L
1 = more conservative 4-methylphenol criteria used over 3-methylphenol
U = not detected
J = estimated concentration below method detection limit
na = not analyzed
D = analytical result from a diluted sample

Table 14 Historical Trends in SVOA Concentrations in Groundwater				
Well	**1993 Exceedances**	**1995 Exceedances**	**2003 Exceedances**	**Comments**
11GS47	2	Not analyzed	2	2-methylnaphthalene up and naphthalene down
27GS18	2	1	2	Stable
27GS19	3	4	2	3&4 methylnaphthalene and naphthalene increase
30GS06	4	0	6	3&4 methylphenol increases
30GS22	1	1	3	2-methylnapthalene increase, naphthalene decrease
30GS111	0	0	1	Naphthalene increases
30GI111	2	2	2	1,4-dichlorobenzene and 2,4-dichlorophenol decrease

Note:
Only monitoring wells with exceedances in 2003 are listed in this table.

Table 15
Soil VOA Analytical Results
OU 2 RI Addendum, NAS Pensacola

	Sample ID	011S000606				030S001220				030S001706				030S001718				030S005302				030S005304				030S005310				030S012006		030S012005	
Parameter	Florida SCTLs (ppb)	1993 Results		2003 Results		1993 Results		2003 Results		1993 Results		2003 Results		1993 Results		2003 Results		1993 Results		2003 Results		1993 Results		2003 Results		1993 Results		2003 Results		1993 Results		2003 Results	
1,1,1-Trichloroethane	1900	10.0000	UJ	0.5900	U	12.0000	U	130.0000	U	11.0000	U	0.6300	U	11.0000	U	0.5000	U	11.0000	U	0.6500	U	10.0000	U	0.6800	U	10.0000	U	0.6200	U	11.0000	U	0.8300	U
1,1,2,2-Tetrachloroethane	10	10.0000	UJ	0.6200	U	12.0000	UR	93.0000	U	11.0000	U	0.6700	U	11.0000	U	0.5300	U	11.0000	U	0.6800	U	10.0000	U	0.7200	U	10.0000	U	0.6500	U	11.0000	U	0.8700	U
1,1,2-Trichloroethane	30	10.0000	UJ	1.1000	U	12.0000	U	48.0000	U	11.0000	U	1.1000	U	11.0000	U	0.9100	U	11.0000	U	1.2000	U	10.0000	U	1.2000	U	10.0000	U	1.1000	U	11.0000	U	1.5000	U
1,1-Dichloroethane	400	10.0000	UJ	0.8800	U	12.0000	U	41.0000	U	11.0000	U	0.9400	U	11.0000	U	0.7500	U	11.0000	U	0.9600	U	10.0000	U	1.0000	U	10.0000	UJ	0.9200	U	11.0000	U	1.2000	U
1,1-Dichloroethene	60	10.0000	UJ	0.6400	U	12.0000	U	96.0000	U	11.0000	U	0.6800	U	11.0000	U	0.5400	U	11.0000	U	0.7000	U	10.0000	U	0.7300	U	10.0000	U	0.6600	U	11.0000	U	0.8900	U
1,2-Dichloroethane	10	2.0000	J	0.7200	U	12.0000	U	120.0000	U	11.0000	U	0.7700	U	11.0000	U	0.6200	U	11.0000	U	0.7900	U	10.0000	U	0.8300	U	10.0000	U	0.7600	U	11.0000	U	1.0000	U
1,2-Dichloroethene (total)	1100	10.0000	UJ	na		12.0000	U	na		11.0000	U	na		11.0000	U	na		11.0000	U	na		10.0000	U	na		10.0000	U	na		11.0000	U	na	
1,2-Dichloropropane	30	10.0000	UJ	0.7100	U	12.0000	U	110.0000	U	11.0000	U	0.7600	U	11.0000	U	0.6100	U	11.0000	U	0.7800	U	10.0000	U	0.8200	U	10.0000	U	0.7400	U	11.0000	U	0.9900	U
2-Butanone (MEK)	17000	10.0000	UJ	3.2000	U	12.0000	U	300.0000	U	1.0000	J	1.6000	U	11.0000	U	1.1000	U	11.0000	U	0.3400	U	10.0000	U	0.3500	U	10.0000	U	0.3200	U	11.0000	U	2.4000	U
2-Hexanone	1400	10.0000	UJ	0.4700	U	12.0000	UR	590.0000	U	11.0000	U	0.5000	U	11.0000	U	0.4000	U	11.0000	U	0.5200	U	10.0000	U	0.5400	U	10.0000	U	0.4900	U	11.0000	UJ	0.6600	U
4-Methyl-2-Pentanone (MIBK)	2600	10.0000	UJ	0.4200	U	12.0000	UR	160.0000	U	11.0000	U	0.4400	U	11.0000	U	0.3600	U	11.0000	U	0.4600	U	10.0000	U	0.4800	U	10.0000	U	0.4400	U	11.0000	UJ	0.5800	U
Acetone	2800	10.0000	UJ	5.5000	U	39.0000	UD	600.0000	U	140.0000	J	5.8000	U	48.0000	U	4.7000	U	400.0000	D	6.0000	U	41.0000	U	6.3000	U	41.0000	U	5.7000	U	61.0000	UJ	7.6000	U
Benzene	7	10.0000	UJ	0.4200	U	12.0000	U	54.0000	U	11.0000	U	0.4400	U	11.0000	U	0.3600	U	11.0000	U	0.4600	U	10.0000	U	0.4800	U	10.0000	U	0.4400	U	3.0000	J	0.5800	U
Bromodichloromethane	4	10.0000	UJ	0.3400	U	12.0000	U	100.0000	U	11.0000	U	0.3600	U	11.0000	U	0.2900	U	11.0000	U	0.3700	U	10.0000	U	0.3900	U	10.0000	U	0.3600	U	11.0000	U	0.4700	U
Bromoform	30	10.0000	UJ	0.7400	U	12.0000	U	53.0000	U	11.0000	U	0.8000	U	11.0000	U	0.6400	U	11.0000	U	0.8200	U	10.0000	U	0.8500	U	10.0000	U	0.7800	U	11.0000	U	1.0000	U
	50	10.0000	UJ	0.6200	U	12.0000	UR	120.0000	U	11.0000	U	0.6700	U	11.0000	U	0.5300	U	11.0000	U	0.6800	U	10.0000	U	0.7200	U	10.0000	UJ	0.6500	U	11.0000	U	0.8700	U
Carbon disulfide	5600	10.0000	UJ	0.4400	U	12.0000	U	130.0000	U	11.0000	U	0.4700	U	11.0000	U	0.3700	U	11.0000	U	0.4800	U	10.0000	U	0.5000	U	10.0000	U	0.4600	U	11.0000	U	0.6100	U
Carbon tetrachloride	40	10.0000	UJ	0.3800	U	12.0000	U	140.0000	U	11.0000	U	0.4100	U	11.0000	U	0.3300	U	11.0000	U	0.4200	U	10.0000	U	0.4400	U	10.0000	U	0.4000	U	11.0000	U	0.5400	U
Chlorobenzene	1300	10.0000	UJ	0.8100	U	12.0000	UR	73.0000	U	11.0000	U	0.8700	U	11.0000	U	0.6900	U	11.0000	U	0.8900	U	10.0000	U	0.9300	U	10.0000	U	0.8500	U	11.0000	U	1.1000	U
Chloroethane	NA	10.0000	UJ	0.6200	U	12.0000	U	120.0000	U	11.0000	U	0.6700	U	11.0000	U	0.5300	U	11.0000	U	0.6800	U	10.0000	U	0.7200	U	10.0000	UJ	0.6500	U	11.0000	U	0.8700	U
Chloroform	30	10.0000	UJ	0.4800	U	12.0000	U	46.0000	U	11.0000	U	0.5200	U	11.0000	U	0.4100	U	11.0000	U	0.5300	U	10.0000	U	0.5500	U	10.0000	U	0.5000	U	11.0000	U	0.6700	U
Chloromethane	10	10.0000	UJ	1.5000	U	12.0000	U	120.0000	U	11.0000	UJ	1.6000	U	11.0000	UJ	1.3000	U	11.0000	UJ	1.7000	U	10.0000	UJ	1.8000	U	10.0000	U	1.6000	U	11.0000	U	2.1000	U
cis-1,2-Dichloroethene	400	na		0.4300	U	na		68.0000	U	na		0.4600	U	na		0.3600	U	na		0.4700	U	na		0.4900	U	na		0.4500	U	na		0.6000	U
cis-1,3-Dichloropropene	1	10.0000	UJ	0.7700	U	12.0000	U	120.0000	U	11.0000	U	0.8200	U	11.0000	U	0.6600	U	11.0000	U	0.8400	U	10.0000	U	0.8800	U	10.0000	U	0.8000	U	11.0000	U	1.1000	U
Dibromochloromethane	3	10.0000	UJ	0.4300	U	12.0000	U	77.0000	U	11.0000	U	0.4600	U	11.0000	U	0.3600	U	11.0000	U	0.4700	U	10.0000	U	0.4900	U	10.0000	U	0.4500	U	11.0000	U	0.6000	U
Ethylbenzene	600	10.0000	UJ	2.9000	J	12.0000	UR	59.0000	U	11.0000	U	0.7500	U	11.0000	U	0.2800	U	11.0000	U	1.4000	U	10.0000	U	0.8600	U	10.0000	U	0.6200	U	2.0000	J	0.4600	U
Methylene chloride	20	24.0000	UJ	1.3000	J	12.0000	U	60.0000	U	11.0000		1.4000	J	**31.0000**		0.9300	J	**31.0000**		1.2000	J	**25.0000**		1.2000	J	**22.0000**		1.3000	J	19.0000	UJ	1.6000	U
Styrene	3600	10.0000	UJ	0.5800	U	12.0000	UR	150.0000	U	11.0000	U	0.6200	U	11.0000	U	0.5000	U	11.0000	U	0.6400	U	10.0000	U	0.6700	U	10.0000	U	0.6100	U	11.0000	U	0.8100	U
Tetrachloroethene	30	**270.0000**	DJ	**30.0000**		12.0000	UR	100.0000	U	11.0000	U	1.3000	J	11.0000	U	0.9200	U	11.0000	U	1.2000	U	10.0000	U	1.2000	U	10.0000	U	1.1000	U	11.0000	U	1.5000	U
Toluene	500	3.0000	DJ	0.7100	U	12.0000	UR	74.0000	U	11.0000	U	0.7600	U	11.0000	U	0.6100	U	11.0000	U	0.7800	U	10.0000	U	0.8200	U	10.0000	U	0.7400	U	12.0000		0.9900	U
trans-1,2-Dichloroethene	700	na		0.8800	U	na		61.0000	U	na		0.9400	U	na		0.7500	U	na		0.9600	U	na		1.0000	U	na		0.9200	U	na		1.2000	U
trans-1,3-Dichloropropene	1	10.0000	UJ	1.1000	U	12.0000	U	69.0000	U	11.0000	U	1.2000	U	11.0000	U	0.9400	U	11.0000	U	1.2000	U	10.0000	U	1.2000	U	10.0000	U	1.1000	U	11.0000	U	1.5000	U
Trichloroethene	30	10.0000	UJ	0.8400	U	12.0000	U	120.0000	U	11.0000	U	0.9000	U	11.0000	U	0.7200	U	11.0000	U	0.9200	U	10.0000	U	0.9700	U	10.0000	U	0.8800	U	11.0000	U	1.2000	U
Vinyl chloride	7	10.0000	UJ	1.6000	U	12.0000	U	120.0000	U	11.0000	U	1.8000	U	11.0000	U	1.4000	U	11.0000	U	1.8000	U	10.0000	U	1.9000	U	10.0000	U	1.7000	U	11.0000	U	2.3000	U
Xylene (Total)	200	10.0000	UJ	15.0000		12.0000	UR	160.0000	U	11.0000	U	1.1000	U	11.0000	U	0.9100	U	11.0000	U	8.0000	J	10.0000	U	4.9000	J	10.0000	U	3.2000	U	11.0000	U	1.5000	U

Notes:
All results are in micrograms per kilogram or parts per billion (ppb).
NA = not applicable
na = not analyzed
U = not detected
J = present below method reporting limit but above instrument detection limit
R = rejected due to variance from quality control criteria
D = detection from a diluted sample
Bold indicates an exceedance of the SCTL.

Table 15
Soil VOA Analytical Results
OU 2 RI Addendum, NAS Pensacola

	030S012403		030S012503		030S012505		030S013706		030S013806		030S013820	030S014206		030S014806		030S015016		
Parameter	**1993 Results**	**2003 Results**	**1993 Results**	**2003 Results**	**1993 Results**	**2003 Results**	**1993 Results**	**2003 Results**	**1993 Results**	**2003 Results**	**2003 Results**	**1993 Results**	**2003 Results**	**1993 Results**	**2003 Results**	**8/9/1993 Results**	**9/29/1993 Results**	**2003 Results**
1,1,1-Trichloroethane	11.0000 U	0.7000 U	10.0000 U	0.7500 U	10.0000 U	0.6400 U	10.0000 U	0.6200 U	11.0000 U	0.6000 U	240.0000 U	8.0000 J	0.7400 U	12.0000 U	0.6000 U	11.0000 U	10.0000 U	0.6200 U
1,1,2,2-Tetrachloroethane	11.0000 U	0.7400 U	10.0000 U	0.7900 U	10.0000 U	0.6800 U	10.0000 U	0.6500 U	11.0000 U	0.6400 U	170.0000 U	10.0000 U	0.7800 U	12.0000 U	0.6400 U	11.0000 U	10.0000 U	0.6600 U
1,1,2-Trichloroethane	11.0000 U	1.2000 U	10.0000 U	1.4000 U	10.0000 U	1.2000 U	10.0000 U	1.1000 U	11.0000 U	1.1000 U	88.0000 U	10.0000 U	1.3000 U	12.0000 U	1.1000 U	11.0000 U	10.0000 U	1.1000 U
1,1-Dichloroethane	11.0000 U	1.0000 U	10.0000 U	1.1000 U	10.0000 U	0.9500 U	10.0000 U	0.9200 U	11.0000 U	0.9000 U	75.0000 U	10.0000 U	1.1000 U	12.0000 U	0.9000 U	11.0000 U	10.0000 U	0.9200 U
1,1-Dichloroethene	11.0000 U	0.7500 U	10.0000 U	0.8100 U	10.0000 U	0.6900 U	10.0000 U	0.6600 U	11.0000 U	0.6500 U	180.0000 U	10.0000 U	0.7900 U	12.0000 U	0.6500 U	11.0000 U	10.0000 U	0.6700 U
1,2-Dichloroethane	**10.0000** J	0.8500 U	8.0000 J	0.9200 U	**11.0000**	0.7800 U	**11.0000**	0.7600 U	**13.0000**	0.7400 U	210.0000 U	8.0000 J	0.9000 U	**20.0000**	0.7400 U	11.0000 U	**10.0000** J	0.7600 U
1,2-Dichloroethene (total)	11.0000 U	na	10.0000 U	na	10.0000 U	na	10.0000 U	na	11.0000 U	na	na	10.0000 U	na	12.0000 U	na	11.0000 U	10.0000 U	na
1,2-Dichloropropane	11.0000 U	0.8400 U	10.0000 U	0.9000 U	10.0000 U	0.7700 U	10.0000 U	0.7400 U	11.0000 U	0.7300 U	200.0000 U	10.0000 U	0.8900 U	12.0000 U	0.7300 U	11.0000 U	10.0000 U	0.7500 U
2-Butanone (MEK)	11.0000 U	0.3600 U	10.0000 U	2.3000 U	10.0000 U	0.3300 U	10.0000 U	0.3200 U	11.0000 U	4.2000 U	360.0000 U	10.0000 U	0.3800 U	12.0000 U	0.3100 U	11.0000 U	10.0000 U	0.3200 U
2-Hexanone	11.0000 U	0.5600 U	10.0000 U	0.6000 U	10.0000 U	0.5100 U	10.0000 U	0.4900 U	11.0000 U	0.4800 U	1100.0000 U	10.0000 U	0.5900 U	12.0000 U	0.4800 U	11.0000 U	10.0000 U	0.5000 U
4-Methyl-2-Pentanone (MIBK)	11.0000 U	0.4900 U	10.0000 U	0.5300 U	10.0000 U	0.4500 U	10.0000 U	0.4400 U	11.0000 U	1.5000 J	300.0000 U	10.0000 U	0.5200 U	12.0000 U	0.4200 U	11.0000 U	10.0000 U	0.4400 U
Acetone	66.0000 U	19.0000 J	10.0000 U	31.0000 J	10.0000 U	6.0000 U	54.0000 U	5.7000 U	94.0000 U	5.6000 U	1100.0000 U	52.0000	6.8000 U	98.0000 U	5.6000 U	99.0000 J	110.0000 U	5.8000 U
Benzene	11.0000 U	0.4900 U	10.0000 U	0.5300 U	10.0000 U	0.4500 U	10.0000 U	0.4400 U	11.0000 U	0.4200 U	99.0000 U	10.0000 U	0.5200 U	12.0000 U	0.4200 U	11.0000 U	10.0000 U	0.4400 U
Bromodichloromethane	11.0000 U	0.4000 U	10.0000 U	0.4300 U	10.0000 U	0.3700 U	10.0000 U	0.3600 U	11.0000 U	0.3500 U	180.0000 U	10.0000 U	0.4200 U	12.0000 U	0.3500 U	11.0000 U	10.0000 U	0.3600 U
Bromoform	11.0000 U	0.8800 U	10.0000 U	0.9500 U	10.0000 U	0.8100 U	10.0000 U	0.7800 U	11.0000 U	0.7600 U	96.0000 U	10.0000 U	0.9300 U	12.0000 U	0.7600 U	11.0000 U	10.0000 U	0.7900 U
	11.0000 U	0.7400 U	10.0000 U	0.7900 U	10.0000 U	0.6800 U	10.0000 U	0.6500 U	11.0000 U	0.6400 U	210.0000 U	10.0000 U	0.7800 U	12.0000 U	0.6400 U	11.0000 U	10.0000 U	0.6600 U
Carbon disulfide	11.0000 U	0.5200 U	10.0000 U	0.5600 U	10.0000 U	0.4800 U	10.0000 U	0.4600 U	11.0000 U	0.4500 U	170.0000 U	10.0000 U	0.5400 U	12.0000 U	0.4500 U	11.0000 U	10.0000 U	0.4600 U
Carbon tetrachloride	11.0000 U	0.4500 U	10.0000 U	0.4900 U	10.0000 U	0.4200 U	10.0000 U	0.4000 U	11.0000 U	0.3900 U	260.0000 U	10.0000 U	0.4800 U	12.0000 U	0.3900 U	11.0000 U	10.0000 U	0.4000 U
Chlorobenzene	11.0000 U	0.9600 U	10.0000 U	1.0000 U	10.0000 U	0.8800 U	10.0000 U	0.8500 U	11.0000 U	0.8300 U	130.0000 U	10.0000 U	1.0000 U	12.0000 U	0.8300 U	11.0000 U	10.0000 U	0.8600 U
Chloroethane	11.0000 U	0.7400 U	10.0000 U	0.7900 U	10.0000 U	0.6800 U	10.0000 U	0.6500 U	11.0000 U	0.6400 U	210.0000 U	10.0000 U	0.7800 U	12.0000 U	0.6400 U	11.0000 U	10.0000 U	0.6600 U
Chloroform	11.0000 U	0.5700 U	10.0000 U	0.6100 U	10.0000 U	0.5200 U	10.0000 U	0.5000 U	11.0000 U	0.4900 U	84.0000 U	10.0000 U	0.6000 U	12.0000 U	0.4900 U	11.0000 U	10.0000 U	0.5100 U
Chloromethane	11.0000 U	1.8000 U	10.0000 U	2.0000 U	10.0000 U	1.7000 U	10.0000 U	1.6000 U	11.0000 U	1.6000 U	210.0000 U	10.0000 U	1.9000 U	12.0000 U	1.6000 U	11.0000 UJ	10.0000 U	1.6000 U
cis-1,2-Dichloroethene	na	0.5000 U	na	0.5400 U	na	0.4600 U	na	0.4500 U	na	0.4400 U	120.0000 U	na	0.5300 U	na	0.4400 U	na	na	0.4500 U
cis-1,3-Dichloropropene	11.0000 U	0.9000 U	10.0000 U	0.9800 U	10.0000 U	0.8300 U	10.0000 U	0.8000 U	11.0000 U	0.7800 U	210.0000 U	10.0000 U	0.9500 U	12.0000 U	0.7800 U	11.0000 U	10.0000 U	0.8100 U
Dibromochloromethane	11.0000 U	0.5000 U	10.0000 U	0.5400 U	10.0000 U	0.4600 U	10.0000 U	0.4500 U	11.0000 U	0.4400 U	140.0000 U	10.0000 U	0.5300 U	12.0000 U	0.4400 U	11.0000 U	10.0000 U	0.4500 U
Ethylbenzene	11.0000 U	0.3900 U	10.0000 U	0.4200 U	10.0000 U	0.3600 U	10.0000 U	13.0000	11.0000 U	0.3400 U	**19000.0000**	10.0000 U	0.4100 U	12.0000 U	0.4300 U	11.0000 U	10.0000 U	0.8100 U
Methylene chloride	11.0000 U	1.3000 U	10.0000 U	1.3000 U	10.0000 U	1.4000 U	10.0000 U	1.0000 J	11.0000 U	1.3000 J	110.0000 U	10.0000 U	1.4000 J	12.0000 U	1.0000 J	23.0000 U	10.0000 U	1.4000 J
Styrene	11.0000 U	0.6800 U	10.0000 U	0.7400 U	10.0000 U	0.6300 U	10.0000 U	0.6100 U	11.0000 U	0.5900 U	280.0000 U	10.0000 U	0.7200 U	12.0000 U	0.5900 U	11.0000 U	10.0000 U	0.6100 U
Tetrachloroethene	11.0000 U	1.3000 U	10.0000 U	1.4000 U	10.0000 U	1.2000 U	10.0000 U	1.1000 U	11.0000 U	1.1000 U	**220.0000** J	3.0000 J	1.3000 U	12.0000 U	1.1000 U	11.0000 U	10.0000 U	1.1000 U
Toluene	11.0000 U	0.8400 U	10.0000 U	0.9000 U	10.0000 U	0.7700 U	3.0000 J	0.7400 U	11.0000 U	0.7300 U	420.0000 J	2.0000 J	0.8900 U	12.0000 U	0.7300 U	11.0000 U	10.0000 U	0.7500 U
trans-1,2-Dichloroethene	na	1.0000 U	na	1.1000 U	na	0.9500 U	na	0.9200 U	na	0.9000 U	110.0000 U	na	1.1000 U	12.0000 U	0.9000 U	na	na	0.9200 U
trans-1,3-Dichloropropene	11.0000 U	1.3000 U	10.0000 U	1.4000 U	10.0000 U	1.2000 U	10.0000 U	1.1000 U	11.0000 U	1.1000 U	130.0000 U	10.0000 U	1.4000 U	12.0000 U	1.1000 U	11.0000 U	10.0000 U	1.2000 U
Trichloroethene	11.0000 U	0.9900 U	10.0000 U	1.1000 U	10.0000 U	0.9200 U	10.0000 U	0.8800 U	11.0000 U	0.8600 U	210.0000 U	10.0000 U	1.0000 U	12.0000 U	0.8600 U	11.0000 U	10.0000 U	0.8900 U
Vinyl chloride	11.0000 U	1.9000 U	10.0000 U	2.1000 U	10.0000 U	1.8000 U	10.0000 U	1.7000 U	11.0000 U	1.7000 U	210.0000 U	10.0000 U	2.0000 U	12.0000 U	1.7000 U	11.0000 U	10.0000 U	1.7000 U
Xylene (Total)	11.0000 U	1.2000 U	10.0000 U	1.4000 U	10.0000 U	1.2000 U	10.0000 U	80.0000	11.0000 U	1.1000 U	**110000.0000**	10.0000 U	3.2000 U	12.0000 U	1.1000 U	11.0000 U	10.0000 U	4.0000 J

Notes:
All results are in micrograms pe
NA = not applicable
na = not analyzed
U = not detected
J = present below method repo
R = rejected due to variance fro
D = detection from a diluted sa
Bold indicates an exceedance of

Table 16
Soil VOA SPLP Results OU 2 RI Addendum, NAS Pensacola

Parameter	Florida SCTL (ppb)	SAMPLE ID Florida GCTL (ppb)	011S000606		030S001220		030S001706		030S001718		030S005302		030S005304	
			Bulk	Leachate	Bulk	Leachate	Bulk	Leachate	Bulk	Leachate	Bulk	Leachate	Bulk	Leachate
1,1,1-Trichloroethane	1900	200	0.5900 U	0.0650 U	130.0000 U	0.0650 U	0.6300 U	0.0650 U	0.5000 U	0.0650 U	0.6500 U	0.0650 U	0.6800 U	0.0650 U
1,1,2,2-Tetrachloroethane	10	1.50	0.6200 U	0.1700 U	93.0000 U	0.1700 U	0.6700 U	0.1700 U	0.5300 U	0.1700 U	0.6800 U	0.1700 U	0.7200 U	0.1700 U
1,1,2-Trichloroethane	30	5.00	1.1000 U	0.1100 U	48.0000 U	0.1100 U	1.1000 U	0.1100 U	0.9100 U	0.1100 U	1.2000 U	0.1100 U	1.2000 U	0.1100 U
1,1-Dichloroethane	400	76.00	0.8800 U	0.1200 U	41.0000 U	0.1200 U	0.9400 U	0.1200 U	0.7500 U	0.1200 U	0.9600 U	0.1200 U	1.0000 U	0.1200 U
1,1-Dichloroethene	60	7.00	0.6400 U	0.3100 U	96.0000 U	0.3100 U	0.6800 U	0.3100 U	0.5400 U	0.3100 U	0.7000 U	0.3100 U	0.7300 U	0.3100 U
1,2-Dichloroethane	10	3.00	0.7200 U	0.1800 U	120.0000 U	0.1800 U	0.7700 U	0.1800 U	0.6200 U	0.1800 U	0.7900 U	0.1800 U	0.8300 U	0.1800 U
1,2-Dichloropropane	30	5.00	0.7100 U	0.1700 U	110.0000 U	0.1700 U	0.7600 U	0.1700 U	0.6100 U	**24.0000**	0.7800 U	0.1700 U	0.8200 U	0.1700 U
2-Butanone (MEK)	17000	4600.00	3.2000 U	0.4800 U	300.0000 U	0.4800 U	1.6000 U	0.4800 U	1.1000 U	0.4800 U	0.3400 U	0.4800 U	0.3500 U	0.4800 U
2-Hexanone	1400	300.00	0.4700 U	0.2900 U	590.0000 U	0.2900 U	0.5000 U	0.2900 U	0.4000 U	0.2900 U	0.5200 U	0.2900 U	0.5400 U	0.2900 U
4-Methyl-2-Pentanone (MIBK)	2600	610.00	0.4200 U	0.2700 U	160.0000 U	0.2700 U	0.4400 U	0.2700 U	0.3600 U	0.2700 U	0.4600 U	0.2700 U	0.4800 U	0.2700 U
Acetone	2800	760.00	5.5000 U	3.6000 U	600.0000 U	2.3000 U	5.8000 U	26.0000 U	4.7000 U	12.0000 U	6.0000 U	2.9000 U	6.3000 U	5.0000 U
Benzene	7	1.00	0.4200 U	0.0960 U	54.0000 U	0.0960 U	0.4400 U	0.0960 U	0.3600 U	0.0960 U	0.4600 U	0.0960 U	0.4800 U	0.0960 U
Bromodichloromethane	4	0.60	0.3400 U	0.1800 U	100.0000 U	0.1800 U	0.3600 U	0.1800 U	0.2900 U	0.1800 U	0.3700 U	0.1800 U	0.3900 U	0.1800 U
Bromoform	30	4.80	0.7400 U	0.1900 U	53.0000 U	0.1900 U	0.8000 U	0.1900 U	0.6400 U	0.1900 U	0.8200 U	0.1900 U	0.8500 U	0.1900 U
Bromomethane	50	11.00	0.6200 U	0.4900 U	120.0000 U	0.4900 U	0.6700 U	0.4900 U	0.5300 U	0.4900 U	0.6800 U	0.4900 U	0.7200 U	0.4900 U
Carbon disulfide	5600	760.00	0.4400 U	0.7200 U	130.0000 U	0.7200 U	0.4700 U	0.7200 U	0.3700 U	0.7200 U	0.4800 U	0.7200 U	0.5000 U	0.7200 U
Carbon tetrachloride	40	3.00	0.3800 U	0.1500 U	140.0000 U	0.1500 U	0.4100 U	0.1500 U	0.3300 U	0.1500 U	0.4200 U	0.1500 U	0.4400 U	0.1500 U
Chlorobenzene	1300	100.00	0.8100 U	0.1000 U	73.0000 U	0.1000 U	0.8700 U	0.1000 U	0.6900 U	0.1000 U	0.8900 U	0.1000 U	0.9300 U	0.1000 U
Chloroethane	NA	13.00	0.6200 U	0.8600 U	120.0000 U	0.8600 U	0.6700 U	0.8600 U	0.5300 U	0.8600 U	0.6800 U	0.8600 U	0.7200 U	0.8600 U
Chloroform	30	76.00	0.4800 U	0.1200 U	46.0000 U	0.1200 U	0.5200 U	0.1200 U	0.4100 U	0.1200 U	0.5300 U	0.1200 U	0.5500 U	0.1200 U
Chloromethane	10	2.90	1.5000 U	0.4000 U	120.0000 U	0.4000 U	1.6000 U	1.8000	1.3000 U	0.4000 U	1.7000 U	0.4000 U	1.8000 U	0.4400 U
cis-1,2-Dichloroethene	400	70.00	0.4300 U	0.1600 U	68.0000 U	0.1600 U	0.4600 U	0.1600 U	0.3600 U	0.1600 U	0.4700 U	0.1600 U	0.4900 U	0.1600 U
cis-1,3-Dichloropropene	1	0.40	0.7700 U	0.1200 U	120.0000 U	0.1200 U	0.8200 U	0.1200 U	0.6600 U	0.1200 U	0.8400 U	0.1200 U	0.8800 U	0.1200 U
Dibromochloromethane	3	0.50	0.4300 U	0.0780 U	77.0000 U	0.0780 U	0.4600 U	0.0780 U	0.3600 U	0.0780 U	0.4700 U	0.0780 U	0.4900 U	0.0780 U
Ethylbenzene	600	30.00	2.9000 J	0.1100 U	59.0000 U	0.3000 J	0.7500 U	0.1100 U	0.2800 U	0.1100 U	1.4000 U	0.1900 U	0.8600 U	0.1100 U
Methylene chloride	20	5.00	1.3000 J	0.6100 U	60.0000 U	0.6100 U	1.4000 J	0.6100 U	0.9300 J	0.6100 U	1.2000 J	0.6100 U	1.2000 J	0.6100 U
Styrene	3600	100.00	0.5800 U	0.0500 U	150.0000 U	0.0500 U	0.6200 U	0.0500 U	0.5000 U	0.0500 U	0.6400 U	0.0500 U	0.6700 U	0.0500 U
Tetrachloroethene	30	3.00	**30.0000**	0.4300 U	100.0000 U	0.4300 U	1.3000 J	0.4300 U	0.9200 U	1.0000	1.2000 U	0.4300 U	1.2000 U	0.4300 U
Toluene	500	40.00	0.7100 U	0.2800 U	74.0000 U	0.0650 U	0.7600 U	0.0650 U	0.6100 U	0.6800 U	0.7800 U	0.2200 U	0.8200 U	0.1900 U
trans-1,2-Dichloroethene	700	100.00	0.8800 U	0.3600 U	61.0000 U	0.3600 U	0.9400 U	0.3600 U	0.7500 U	0.3600 U	0.9600 U	0.3600 U	1.0000 U	0.3600 U
trans-1,3-Dichloropropene	1	0.40	1.1000 U	0.1500 U	69.0000 U	0.1500 U	1.2000 U	0.1500 U	0.9400 U	0.1500 U	1.2000 U	0.1500 U	1.2000 U	0.1500 U
Trichloroethene	30	3.00	0.8400 U	0.1300 U	120.0000 U	0.1300 U	0.9000 U	0.1300 U	0.7200 U	2.6000	0.9200 U	0.1300 U	0.9700 U	0.1300 U
Vinyl chloride	7	1.00	1.6000 U	0.1300 U	120.0000 U	0.1300 U	1.8000 U	0.1300 U	1.4000 U	0.1300 U	1.8000 U	0.1300 U	1.9000 U	0.1300 U
Xylene (Total)	200	20.00	15.0000	1.3000 U	160.0000 U	0.2800 U	1.1000 U	0.2800 U	0.9100 U	0.4500 U	8.0000 J	1.2000 U	4.9000 J	1.0000 U

Notes:
All results are in parts per billion (ppb).
NA = not applicable
U = not detected
J = compound present below method detection limit but above instrument detection limi
Bulk results in bold indicate a SCTL exceedance.
Leachate results in bold indicate a GCTL exceedance.
Soil / Groundwater detection couplets are shown in italics.

Table 16
Soil VOA SPLP Results OU 2 RI Addendum, NAS Pensacola

		SAMPLE ID	030S005310				030S012005				030S012403				030S012503				030S012505				030S013706			
Parameter	Florida SCTL (ppb)	Florida GCTL (ppb)	Bulk		Leachate		Bulk		Leachate		Bulk		Leachate		Bulk		Leachate		Bulk		Leachate		Bulk		Leachate	
1,1,1-Trichloroethane	1900	200	0.6200	U	0.0650	U	0.8300	U	0.0650	U	0.7000	U	0.0650	U	0.7500	U	0.0650	U	0.6400	U	0.0650	U	0.6200	U	0.0650	U
1,1,2,2-Tetrachloroethane	10	1.50	0.6500	U	0.1700	U	0.8700	U	0.1700	U	0.7400	U	0.1700	U	0.7900	U	0.1700	U	0.6800	U	0.1700	U	0.6500	U	0.1700	U
1,1,2-Trichloroethane	30	5.00	1.1000	U	0.1100	U	1.5000	U	0.1100	U	1.2000	U	0.1100	U	1.4000	U	0.1100	U	1.2000	U	0.1100	U	1.1000	U	0.1100	U
1,1-Dichloroethane	400	76.00	0.9200	U	0.1200	U	1.2000	U	0.1200	U	1.0000	U	0.1200	U	1.1000	U	0.1200	U	0.9500	U	0.1200	U	0.9200	U	0.1200	U
1,1-Dichloroethene	60	7.00	0.6600	U	0.3100	U	0.8900	U	0.3100	U	0.7500	U	0.3100	U	0.8100	U	0.3100	U	0.6900	U	0.3100	U	0.6600	U	0.3100	U
1,2-Dichloroethane	10	3.00	0.7600	U	0.1800	U	1.0000	U	0.1800	U	0.8500	U	0.1800	U	0.9200	U	0.1800	U	0.7800	U	0.1800	U	0.7600	U	0.1800	U
1,2-Dichloropropane	30	5.00	0.7400	U	0.1700	U	0.9900	U	0.1700	U	0.8400	U	0.1700	U	0.9000	U	0.1700	U	0.7700	U	0.1700	U	0.7400	U	0.1700	U
2-Butanone (MEK)	17000	4600.00	0.3200	U	0.4800	U	2.4000	U	2.2000	U	0.3600	U	0.4800	U	2.3000	U	0.4800	U	0.3300	U	0.4800	U	0.3200	U	0.4800	U
2-Hexanone	1400	300.00	0.4900	U	0.2900	U	0.6600	U	1.4000	J	0.5600	U	0.2900	U	0.6000	U	0.2900	U	0.5100	U	0.2900	U	0.4900	U	0.2900	U
4-Methyl-2-Pentanone (MIBK)	2600	610.00	0.4400	U	0.2700	U	0.5800	U	1.5000	J	0.4900	U	0.2700	U	0.5300	U	0.2700	U	0.4500	U	0.2700	U	0.4400	U	0.2700	U
Acetone	2800	760.00	5.7000	U	4.2000	U	7.6000	U	2.3000	U	19.0000	J	2.3000	U	31.0000	J	2.3000	U	6.0000	U	2.3000	U	5.7000	U	2.9000	U
Benzene	7	1.00	0.4400	U	0.0960	U	0.5800	U	0.0960	U	0.4900	U	0.0960	U	0.5300	U	0.0960	U	0.4500	U	0.0960	U	0.4400	U	0.0960	U
Bromodichloromethane	4	0.60	0.3600	U	0.1800	U	0.4700	U	0.1800	U	0.4000	U	0.1800	U	0.4300	U	0.1800	U	0.3700	U	0.1800	U	0.3600	U	0.1800	U
Bromoform	30	4.80	0.7800	U	0.1900	U	1.0000	U	0.1900	U	0.8800	U	0.1900	U	0.9500	U	0.1900	U	0.8100	U	0.1900	U	0.7800	U	0.1900	U
Bromomethane	50	11.00	0.6500	U	0.4900	U	0.8700	U	0.4900	U	0.7400	U	0.4900	U	0.7900	U	0.4900	U	0.6800	U	0.4900	U	0.6500	U	0.4900	U
Carbon disulfide	5600	760.00	0.4600	U	0.7200	U	0.6100	U	0.7200	U	0.5200	U	0.7200	U	0.5600	U	0.7200	U	0.4800	U	0.7200	U	0.4600	U	0.7200	U
Carbon tetrachloride	40	3.00	0.4000	U	0.1500	U	0.5400	U	0.1500	U	0.4500	U	0.1500	U	0.4900	U	0.1500	U	0.4200	U	0.1500	U	0.4000	U	0.1500	U
Chlorobenzene	1300	100.00	0.8500	U	0.1000	U	1.1000	U	0.1000	U	0.9600	U	0.1000	U	1.0000	U	0.1000	U	0.8800	U	0.1000	U	0.8500	U	0.1000	U
Chloroethane	NA	13.00	0.6500	U	0.8600	U	0.8700	U	0.8600	U	0.7400	U	0.8600	U	0.7900	U	0.8600	U	0.6800	U	0.8600	U	0.6500	U	0.8600	U
Chloroform	30	76.00	0.5000	U	0.1200	U	0.6700	U	0.1200	U	0.5700	U	0.1200	U	0.6100	U	0.1200	U	0.5200	U	0.1200	U	0.5000	U	0.1200	U
Chloromethane	10	2.90	1.6000	U	0.5100	U	2.1000	U	0.4000	U	1.8000	U	0.4000	U	2.0000	U	0.4000	U	1.7000	U	0.4000	U	1.6000	U	0.4000	U
cis-1,2-Dichloroethene	400	70.00	0.4500	U	0.1600	U	0.6000	U	0.1600	U	0.5000	U	0.1600	U	0.5400	U	0.1600	U	0.4600	U	0.1600	U	0.4500	U	0.1600	U
cis-1,3-Dichloropropene	1	0.40	0.8000	U	0.1200	U	1.1000	U	0.1200	U	0.9000	U	0.1200	U	0.9800	U	0.1200	U	0.8300	U	0.1200	U	0.8000	U	0.1200	U
Dibromochloromethane	3	0.50	0.4500	U	0.0780	U	0.6000	U	0.0780	U	0.5000	U	0.0780	U	0.5400	U	0.0780	U	0.4600	U	0.0780	U	0.4500	U	0.0780	U
Ethylbenzene	600	30.00	0.6200	U	0.1100	U	0.4600	U	0.1100	U	0.3900	U	0.1100	U	0.4200	U	0.1100	U	0.3600	U	0.1100	U	13.0000		0.1100	U
Methylene chloride	20	5.00	1.3000	J	0.6100	U	1.6000	U	0.6100	U	1.3000	U	0.6100	U	1.3000	U	0.6100	U	1.4000	U	0.6100	U	1.0000	J	0.6100	U
Styrene	3600	100.00	0.6100	U	0.0500	U	0.8100	U	0.0500	U	0.6800	U	0.0500	U	0.7400	U	0.0500	U	0.6300	U	0.0500	U	0.6100	U	0.1100	U
Tetrachloroethene	30	3.00	1.1000	U	0.4300	U	1.5000	U	0.4300	U	1.3000	U	0.4300	U	1.4000	U	0.4300	U	1.2000	U	0.4300	U	1.1000	U	0.4300	U
Toluene	500	40.00	0.7400	U	0.3400	U	0.9900	U	0.0650	U	0.8400	U	0.0650	U	0.9000	U	0.8300	U	0.7700	U	0.0650	U	0.7400	U	0.3300	U
trans-1,2-Dichloroethene	700	100.00	0.9200	U	0.3600	U	1.2000	U	0.3600	U	1.0000	U	0.3600	U	1.1000	U	0.3600	U	0.9500	U	0.3600	U	0.9200	U	0.3600	U
trans-1,3-Dichloropropene	1	0.40	1.1000	U	0.1500	U	1.5000	U	0.1500	U	1.3000	U	0.1500	U	1.4000	U	0.1500	U	1.2000	U	0.1500	U	1.1000	U	0.1500	U
Trichloroethene	30	3.00	0.8800	U	0.1300	U	1.2000	U	0.1300	U	0.9900	U	0.1300	U	1.1000	U	0.1300	U	0.9200	U	0.1300	U	0.8800	U	0.2400	J
Vinyl chloride	7	1.00	1.7000	U	0.1300	U	2.3000	U	0.1300	U	1.9000	U	0.1300	U	2.1000	U	0.1300	U	1.8000	U	0.1300	U	1.7000	U	0.1300	U
Xylene (Total)	200	20.00	3.2000	U	2.8000	U	1.5000	U	0.2800	U	1.2000	U	0.2800	U	1.4000	U	0.2800	U	1.2000	U	0.2800	U	80.0000		1.5000	U

Notes:
All results are in parts per billion (ppb).
NA = not applicable
U = not detected
J = compound present below method detection limit but above instrument de
Bulk results in bold indicate a SCTL exceedance.
Leachate results in bold indicate a GCTL exceedance.
Soil / Groundwater detection couplets are shown in italics.

Table 16
Soil VOA SPLP Results OU 2 RI Addendum, NAS Pensacola

Parameter	Florida SCTL (ppb)	SAMPLE ID Florida GCTL (ppb)	030S013806 Bulk		030S013806 Leachate		030S013820 Bulk		030S013820 Leachate		030S014206 Bulk		030S014206 Leachate		030S014806 Bulk		030S014806 Leachate		030S015016 Bulk		030S015016 Leachate	
1,1,1-Trichloroethane	1900	200	0.6000	U	0.0650	U	240.0000	U	0.0650	U	0.7400	U	0.0650	U	0.6000	U	0.0650	U	**2003**		0.0650	U
1,1,2,2-Tetrachloroethane	10	1.50	0.6400	U	0.1700	U	170.0000	U	0.1700	U	0.7800	U	0.1700	U	0.6400	U	0.1700	U	0.6200	U	0.3300	J
1,1,2-Trichloroethane	30	5.00	1.1000	U	0.1100	U	88.0000	U	0.1100	U	1.3000	U	0.1100	U	1.1000	U	0.1100	U	0.6600	U	0.1100	U
1,1-Dichloroethane	400	76.00	0.9000	U	0.1200	U	75.0000	U	0.1200	U	1.1000	U	0.1200	U	0.9000	U	0.1200	U	1.1000	U	0.1200	U
1,1-Dichloroethene	60	7.00	0.6500	U	0.3100	U	180.0000	U	0.3100	U	0.7900	U	0.3100	U	0.6500	U	0.3100	U	0.9200	U	0.3100	U
1,2-Dichloroethane	10	3.00	0.7400	U	0.1800	U	210.0000	U	0.1800	U	0.9000	U	0.1800	U	0.7400	U	0.1800	U	0.6700	U	0.1800	U
1,2-Dichloropropane	30	5.00	0.7300	U	0.1700	U	200.0000	U	0.1700	U	0.8900	U	0.1700	U	0.7300	U	0.1700	U	0.7600	U	0.1700	U
2-Butanone (MEK)	17000	4600.00	4.2000	U	0.4800	U	360.0000	U	0.4800	U	0.3800	U	0.4800	U	0.3100	U	0.4800	U	0.7500	U	0.4800	U
2-Hexanone	1400	300.00	0.4800	U	0.2900	U	1100.0000	U	0.2900	U	0.5900	U	0.2900	U	0.4800	U	0.2900	U	0.3200	U	0.2900	U
4-Methyl-2-Pentanone (MIBK)	2600	610.00	1.5000	J	0.2700	U	300.0000	U	0.2700	U	0.5200	U	0.2700	U	0.4200	U	0.2700	U	0.5000	U	0.2700	U
Acetone	2800	760.00	5.6000	U	2.3000	U	1100.0000	U	2.9000	U	6.8000	U	2.7000	U	5.6000	U	5.8000	U	0.4400	U	4.4000	U
Benzene	7	1.00	0.4200	U	0.0960	U	99.0000	U	0.0960	U	0.5200	U	0.0960	U	0.4200	U	0.0960	U	5.8000	U	0.0960	U
Bromodichloromethane	4	0.60	0.3500	U	0.1800	U	180.0000	U	0.1800	U	0.4200	U	0.1800	U	0.3500	U	0.1800	U	0.4400	U	0.1800	U
Bromoform	30	4.80	0.7600	U	0.1900	U	96.0000	U	0.1900	U	0.9300	U	0.1900	U	0.7600	U	0.1900	U	0.3600	U	0.1900	U
Bromomethane	50	11.00	0.6400	U	0.4900	U	210.0000	U	0.4900	U	0.7800	U	0.4900	U	0.6400	U	0.4900	U	0.7900	U	0.4900	U
Carbon disulfide	5600	760.00	0.4500	U	0.7200	U	170.0000	U	0.7200	U	0.5400	U	0.7200	U	0.4500	U	0.7200	U	0.6600	U	0.7200	U
Carbon tetrachloride	40	3.00	0.3900	U	0.1500	U	260.0000	U	0.1500	U	0.4800	U	0.1500	U	0.3900	U	0.1500	U	0.4600	U	0.1500	U
Chlorobenzene	1300	100.00	0.8300	U	0.1000	U	130.0000	U	0.1000	U	1.0000	U	0.1000	U	0.8300	U	0.1000	U	0.4000	U	0.1000	U
Chloroethane	NA	13.00	0.6400	U	0.8600	U	210.0000	U	0.8600	U	0.7800	U	0.8600	U	0.6400	U	0.8600	U	0.8600	U	0.8600	U
Chloroform	30	76.00	0.4900	U	0.1200	U	84.0000	U	0.1200	U	0.6000	U	0.1200	U	0.4900	U	0.1200	U	0.6600	U	0.1200	U
Chloromethane	10	2.90	1.6000	U	0.4000	U	210.0000	U	0.4000	U	1.9000	U	0.4000	U	1.6000	U	0.4000	U	0.5100	U	0.4000	U
cis-1,2-Dichloroethene	400	70.00	0.4400	U	0.1600	U	120.0000	U	0.1600	U	0.5300	U	0.1600	U	0.4400	U	0.1600	U	1.6000	U	0.1600	U
cis-1,3-Dichloropropene	1	0.40	0.7800	U	0.1200	U	210.0000	U	0.1200	U	0.9500	U	0.1200	U	0.7800	U	0.1200	U	0.4500	U	0.1200	U
Dibromochloromethane	3	0.50	0.4400	U	0.0780	U	140.0000	U	0.0780	U	0.5300	U	0.0780	U	0.4400	U	0.0780	U	0.8100	U	0.0780	U
Ethylbenzene	600	30.00	0.3400	U	0.1100	U	***19000.0000***		*20.0000*		0.4100	U	0.1100	U	0.4300	U	0.1100	U	0.4500	U	0.1900	U
Methylene chloride	20	5.00	1.3000	J	0.6100	U	110.0000	U	0.6100	U	1.4000	J	0.6100	U	1.0000	J	0.6100	U	0.8100	U	0.6100	U
Styrene	3600	100.00	0.5900	U	0.0500	U	280.0000	U	0.0500	U	0.7200	U	0.0500	U	0.5900	U	0.0500	U	1.4000	J	0.0530	U
Tetrachloroethene	30	3.00	1.1000	U	0.4300	U	**220.0000**	J	0.4300	U	1.3000	U	0.4300	U	1.1000	U	0.7100	J	0.6100	U	0.4300	U
Toluene	500	40.00	0.7300	U	0.0650	U	420.0000	J	0.2000	U	0.8900	U	0.7200	U	0.7300	U	0.3000	U	1.1000	U	0.2200	U
trans-1,2-Dichloroethene	700	100.00	0.9000	U	0.3600	U	110.0000	U	0.3600	U	1.1000	U	0.3600	U	0.9000	U	0.3600	U	0.7500	U	0.3600	U
trans-1,3-Dichloropropene	1	0.40	1.1000	U	0.1500	U	130.0000	U	0.1500	U	1.4000	U	0.1500	U	1.1000	U	0.1500	U	0.9200	U	0.1500	U
Trichloroethene	30	3.00	0.8600	U	0.1300	U	210.0000	U	0.1300	U	1.0000	U	0.1300	U	0.8600	U	1.0000		1.2000	U	0.1300	U
Vinyl chloride	7	1.00	1.7000	U	0.1300	U	210.0000	U	0.1300	U	2.0000	U	0.1300	U	1.7000	U	0.1300	U	0.8900	U	0.1300	U
Xylene (Total)	200	20.00	1.1000	U	0.3200	U	***110000.0000***		*150.0000*		3.2000	U	1.2000	U	1.1000	U	0.8700	U	1.7000	U	1.3000	U

Notes:
All results are in parts per billion (ppb).
NA = not applicable
U = not detected
J = compound present below method detection limit but above instrument de
Bulk results in bold indicate a SCTL exceedance.
Leachate results in bold indicate a GCTL exceedance.
Soil / Groundwater detection couplets are shown in italics.

Table 17
Groundwater VOA Analytical Results, OU 2, NAS Pensacola

			Well ID	30GI19				30GI111						30GI113				30GI126				30GI164				30GI170			
	Florida CTLs (ppb)			1993		2003		1993		1995		2003		1993		2003		1993		2003		1993		2003		1993		2003	
Parameter	GCTL	FSWCTL	MSWCTL	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
Acetone	760	1700	1700	10.00	U	5.50	U	5.00	U	1.00	J	5.80	U	10.00	UJ	4.20	U	8.00	J	6.50	U	100.00	U	2.30	U	10.00	U	2.30	U
Benzene	1	71.28	71.28	10.00	U	0.41	U	**7.00**		2.00	J	**2.80**		10.00	U	0.13	U	10.00	U	0.21	U	100.00	U	0.10	U	10.00	U	0.10	U
Bromodichloromethane	0.6	22	22	10.00	U	0.18	U	0.60	U	10.00	U	0.36	U	10.00	U	0.18	U	10.00	U	0.18	U	100.00	U	0.18	U	10.00	U	0.18	U
Bromoform	4.8	360	360	10.00	U	0.19	U	1.00	U	10.00	U	0.38	U	10.00	U	0.19	U	10.00	U	0.19	U	100.00	U	0.19	U	10.00	U	0.19	U
Bromomethane	11	35	35	10.00	U	0.49	U	1.00	U	10.00	U	0.98	U	10.00	U	0.49	U	10.00	U	0.49	U	100.00	U	0.49	U	10.00	U	0.49	U
2-Butanone (MEK)	4600	120000	120000	10.00	U	0.95	U	5.00	UJ	10.00	U	1.10	U	10.00	UJ	1.30	U	10.00	UJ	0.68	U	100.00	U	0.48	U	10.00	U	0.48	U
Carbon disulfide	760	110	110	10.00	U	0.72	U	1.00	U	10.00	U	1.40	U	10.00	U	0.72	U	10.00	U	0.72	U	100.00	U	0.72	U	10.00	U	0.72	U
Carbon tetrachloride	3	4.42	4.42	10.00	U	0.15	U	1.00	U	10.00	U	0.30	U	10.00	U	0.15	U	10.00	U	0.15	U	100.00	U	0.15	U	10.00	U	0.15	U
Chlorobenzene	100	17	17	10.00	U	0.10	U	**830.00**	UD	**620.00**	D	**450.00**	D	10.00	U	0.10	U	1.00	J	0.10	U	100.00	U	0.10	U	10.00	U	0.80	J
Chloroethane	13	NA	NA	10.00	U	0.86	U	1.00	U	5.00	J	1.70	U	10.00	U	0.86	U	10.00	U	0.86	U	100.00	U	0.86	U	10.00	U	0.86	U
Chloroform	76	470.8	470.8	10.00	U	0.12	U	1.00	U	10.00	U	0.24	U	10.00	U	0.12	U	10.00	U	0.12	U	100.00	U	1.90		10.00	U	0.12	U
Chloromethane	2.9	470.8	470.8	10.00	U	0.40	U	1.00	U	10.00	U	0.80	U	10.00	U	0.40	U	10.00	U	0.40	U	na		0.40	U	10.00	U	0.49	U
Dibromochloromethane	0.5	34	34	10.00	U	0.08	U	1.00	U	10.00	U	0.16	U	10.00	U	0.08	U	10.00	U	0.08	U	100.00	U	0.08	U	10.00	U	0.08	U
1,1-Dichloroethane	76	NA	NA	10.00	U	0.12	U	5.00		4.00	J	0.24	U	10.00	U	0.12	U	10.00	U	0.12	U	**320.00**		13.00		1.00	J	0.25	J
1,2-Dichloroethane	3	40	40	10.00	U	0.18	U	1.00	U	10.00	U	0.36	U	10.00	U	0.18	U	10.00	U	0.18	U	100.00	U	0.18	U	10.00	U	0.18	U
1,1-Dichloroethene	7	3.2	3.2	10.00	U	0.31	U	1.00	U	10.00	U	0.62	U	10.00	U	0.31	U	10.00	U	0.31	U	**410.00**		2.80		10.00	U	0.65	J
cis-1,2-Dichloroethene	70	NA	NA	na		0.16	U	1.00	U	na		0.32	U	na		0.16	U	na		0.16	U	100.00	U	12.00		na		**100.00**	
trans-1,2-Dichloroethene	100	11000	11000	na		0.36	U	1.00	U	na		0.72	U	na		0.36	U	na		0.36	U	na		0.36	U	na		3.10	
1,2-Dichloroethene (total)	NA	7000	7000	10.00	U	na		na		10.00	U	na		10.00	U	na		10.00	U	na		100.00	U	na		3.00	J	na	
1,2-Dichloropropane	5	16	16	10.00	U	0.17	U	1.00	U	10.00	U	0.34	U	10.00	U	0.17	U	10.00	U	0.17	U	100.00	U	0.17	U	10.00	U	0.17	U
cis-1,3-Dichloropropene	0.4	12*	12*	10.00	U	0.12	U	1.00	U	10.00	U	0.24	U	10.00	U	0.12	U	10.00	U	0.12	U	100.00	U	0.12	U	10.00	U	0.12	U
trans-1,3-Dichloropropene	0.4	12*	12*	10.00	U	0.15	U	1.00	U	10.00	U	0.30	U	10.00	U	0.15	U	10.00	U	0.15	U	100.00	U	0.15	U	10.00	U	0.15	U
Ethylbenzene	30	610	610	10.00	U	0.74	J	1.00	U	1.00	J	0.22	U	10.00	U	0.11	U	10.00	U	0.11	U	100.00	U	0.11	U	10.00	U	0.11	U
2-Hexanone	300	NA	NA	10.00	U	0.29	U	5.00	U	10.00	U	0.58	U	10.00	UJ	0.29	U	10.00	UJ	0.29	U	100.00	U	0.29	U	10.00	U	0.29	U
Methylene chloride	5	1580	1580	10.00	U	0.61	U	2.00	U	10.00	U	1.20	U	10.00	U	0.61	U	2.00	J	0.61	U	**11.00**	J	0.61	U	10.00	U	0.61	U
4-Methyl-2-Pentanone (MIBK)	610	23000	23000	10.00	U	0.27	U	5.00	U	10.00	U	0.54	U	10.00	UJ	0.27	U	10.00	UJ	0.27	U	100.00	U	0.27	U	10.00	U	0.27	U
Styrene	100	460	460	10.00	U	0.05	U	1.00	U	10.00	U	0.10	U	10.00	U	0.33	U	10.00	U	0.05	U	100.00	U	0.15	U	10.00	U	0.19	U
Tetrachloroethene	3	8.85	8.85	10.00	U	0.43	U	0.40	J	10.00	U	0.86	U	10.00	U	0.43	U	10.00	U	0.43	U	100.00	U	1.40		**3.00**	J	0.98	J
1,1,2,2-Tetrachloroethane	0.2	10.8	NA	10.00	U	0.17	U	0.20	U	10.00	U	0.34	U	10.00	UJ	0.17	U	10.00	UJ	0.17	U	100.00	U	0.17	U	10.00	U	0.17	U
1,1,1-Trichloroethane	200	270	270	10.00	U	0.07	U	1.00	U	10.00	U	0.13	U	10.00	U	0.07	U	10.00	U	0.07	U	**950.00**		0.07	U	2.00	J	0.07	U
1,1,2-Trichloroethane	5	17	17	10.00	U	0.11	U	1.00	U	10.00	U	0.22	U	10.00	U	0.11	U	10.00	U	0.11	U	100.00	U	0.11	U	10.00	U	0.11	U
Trichloroethene	3	80.7	80.7	**22.00**		0.13	U	1.00	U	10.00	U	1.50	J	10.00	U	0.22	U	10.00	U	0.13	U	100.00	U	0.34	J	**34.00**		**310.00**	D
Toluene	40	480	480	10.00	U	0.07	U	1.00		1.00	J	0.42	U	10.00	U	0.16	U	1.00	J	0.07	U	100.00	U	0.07	U	10.00	U	0.10	U
Vinyl chloride	1	2.6	2.6	10.00	U	0.13	U	**15.00**		**20.00**		**7.90**		10.00	U	0.13	U	10.00	U	0.13	U	100.00	U	0.13	U	10.00	U	**3.80**	
Xylene (Total)	20	370	370	10.00	U	0.28	U	1.00	U	6.00	J	0.56	U	10.00	U	0.28	U	3.00	J	0.28	U	100.00	U	0.28	U	10.00	U	0.28	U

Notes:
All results are in parts per billion (ppb).
GCTL = groundwater cleanup target level (June 6, 2003)
FSWCTL = Freshwater surface water criteria (June 6, 2003)
MSWCTL = Marine surface water criteria (June 6, 2003)
* = GCTL, FSWCTL & MSWCTL for 1,3-dichloropropene (total)
GCTL exceedances in BOLD
U = not detected
J = estimated concentration below method detection limit and above instrument detection limit
na = not analyzed
NA = not applicable

Table 17
Groundwater VOA Analytical Results, OU 2, NAS Pensacola

			Well ID	30GI32A						30GS03				30GS05				30GS06						30GS11			
	Florida CTLs (ppb)			1993		1995		2003		1993		2003		1993		2003		1993		1995		2003		1993		2003	
Parameter	GCTL	FSWCTL	MSWCTL	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
Acetone	760	1700	1700	100.00	U	5.00	UR	7.10	U	10.00	UJ	2.70	U	10.00	U	6.30	U	100.00	U	5.00	U	12.00	U	10.00	U	11.00	U
Benzene	1	71.28	71.28	100.00	U	1.00	U	0.15	U	10.00	U	0.10	U	10.00	U	0.10	U	**250.00**		2.00		**2.60**	J	10.00	U	0.22	U
Bromodichloromethane	0.6	22	22	100.00	U	0.60	U	0.18	U	10.00	U	0.18	U	10.00	U	0.18	U	100.00	U	0.60	U	0.90	U	10.00	U	0.18	U
Bromoform	4.8	360	360	100.00	U	1.00	U	0.19	U	10.00	U	0.19	U	10.00	U	0.19	U	100.00	U	1.00	U	0.95	U	10.00	U	0.19	U
Bromomethane	11	35	35	100.00	U	1.00	U	0.49	U	10.00	U	0.49	U	10.00	U	0.49	U	100.00	U	1.00	U	2.40	U	10.00	U	0.49	U
2-Butanone (MEK)	4600	120000	120000	70.00	J	5.00	UR	1.60	U	10.00	U	0.71	U	10.00	U	0.66	U	80.00	J	5.00	UJ	2.40	U	10.00	U	0.48	U
Carbon disulfide	760	110	110	100.00	U	1.00	U	0.72	U	10.00	U	0.72	U	10.00	U	0.72	U	100.00	U	1.00	U	3.60	U	10.00	U	0.72	U
Carbon tetrachloride	3	4.42	4.42	100.00	U	1.00	U	0.15	U	10.00	U	0.15	U	10.00	U	0.15	U	100.00	U	1.00	U	0.75	U	10.00	U	0.15	U
Chlorobenzene	100	17	17	100.00	U	1.00	U	0.10	U	10.00	U	0.10	U	10.00	U	0.10	U	100.00	U	1.00	U	0.50	U	10.00	U	0.10	U
Chloroethane	13	NA	NA	100.00	U	1.00	U	0.86	U	10.00	U	0.86	U	10.00	U	0.86	U	100.00	U	1.00	U	4.30	U	10.00	U	0.86	U
Chloroform	76	470.8	470.8	100.00	U	0.30	J	0.16	U	10.00	U	2.10		10.00	U	0.34	U	100.00	U	1.00	U	0.60	U	10.00	U	0.22	U
Chloromethane	2.9	470.8	470.8	100.00	U	1.00	U	0.40	U	10.00	U	0.40	U	10.00	U	0.40	U	100.00	U	1.00	U	2.00	U	10.00	U	0.40	U
Dibromochloromethane	0.5	34	34	100.00	U	1.00	U	0.08	U	10.00	U	0.08	U	10.00	U	0.08	U	100.00	U	1.00	U	0.39	U	10.00	U	0.08	U
1,1-Dichloroethane	76	NA	NA	60.00	J	9.00	J	0.12	U	2.00	J	1.20		10.00	U	0.12	U	15.00	J	1.00	U	0.60	U	1.00	J	0.12	U
1,2-Dichloroethane	3	40	40	100.00	U	1.00	U	0.18	U	10.00	U	0.18	U	10.00	U	0.18	U	100.00	U	1.00	U	0.90	U	10.00	U	0.18	U
1,1-Dichloroethene	7	3.2	3.2	**14.00**	J	0.80	J	0.35	J	1.00	J	0.31	U	10.00	U	0.31	U	100.00	U	1.00	U	1.60	U	10.00	U	0.31	U
cis-1,2-Dichloroethene	70	NA	NA	na		1.00		0.16	U	na		0.16	U	na		0.38	J	na		2.00	J	0.80	U	na		0.16	U
trans-1,2-Dichloroethene	100	11000	11000	na		1.00	U	0.36	U	na		0.36	U	na		0.36	U	na		1.00	U	1.80	U	na		0.36	U
1,2-Dichloroethene (total)	NA	7000	7000	100.00	U	na		na		10.00	U	na		10.00	U	na		18.00	J	na		na		10.00	U	na	
1,2-Dichloropropane	5	16	16	100.00	U	1.00	U	0.17	U	10.00	U	0.17	U	10.00	U	0.17	U	100.00	U	1.00	U	0.85	U	10.00	U	0.17	U
cis-1,3-Dichloropropene	0.4	12*	12*	100.00	U	1.00	U	0.12	U	10.00	U	0.12	U	10.00	U	0.12	U	100.00	U	1.00	U	0.60	U	10.00	U	0.12	U
trans-1,3-Dichloropropene	0.4	12*	12*	100.00	U	1.00	U	0.15	U	10.00	U	0.15	U	10.00	U	0.15	U	100.00	U	1.00	U	0.75	U	10.00	U	0.15	U
Ethylbenzene	30	610	610	100.00	U	1.00	U	0.11	U	10.00	U	0.11	U	10.00	U	0.17	J	**380.00**		9.00		**810.00**		1.00	J	0.67	J
2-Hexanone	300	NA	NA	100.00	U	5.00	U	0.29	U	10.00	U	0.29	U	10.00	U	0.29	U	100.00	U	5.00	U	1.40	U	10.00	U	0.29	U
Methylene chloride	5	1580	1580	100.00	U	2.00	U	0.61	U	10.00	U	0.61	U	10.00	U	0.61	U	**12.00**	J	2.00	U	3.00	U	10.00	U	0.61	U
4-Methyl-2-Pentanone (MIBK)	610	23000	23000	100.00	U	5.00	U	0.27	U	10.00	U	0.27	U	10.00	U	0.27	U	100.00	U	5.00	U	1.40	U	10.00	U	0.27	U
Styrene	100	460	460	100.00	U	1.00	U	0.16	U	10.00	U	0.05	U	10.00	U	0.05	U	100.00	U	1.00	U	1.80	U	10.00	U	0.05	U
Tetrachloroethene	3	8.85	8.85	100.00	U	1.00	U	0.43	U	**7.00**	J	0.43	U	10.00	U	0.43	U	100.00	U	2.00		2.20	U	10.00	U	0.43	U
1,1,2,2-Tetrachloroethane	0.2	10.8	NA	100.00	U	0.20	U	0.17	U	10.00	U	0.17	U	10.00	U	0.17	U	100.00	U	0.20	U	0.85	U	10.00	U	0.17	U
1,1,1-Trichloroethane	200	270	270	**300.00**		16.00	J	0.07	U	14.00		0.07	U	10.00	U	0.07	U	13.00	J	1.00		0.32	U	10.00	U	0.07	U
1,1,2-Trichloroethane	5	17	17	100.00	U	1.00	U	0.11	U	10.00	U	0.11	U	10.00	U	0.11	U	100.00	U	1.00	U	0.55	U	10.00	U	0.11	U
Trichloroethene	3	80.7	80.7	100.00	U	1.00	U	0.13	U	10.00	U	0.13	U	10.00	U	0.13	U	100.00	U	0.20	J	0.65	U	10.00	U	0.13	U
Toluene	40	480	480	100.00	U	1.00	U	0.15	U	10.00	U	0.07	U	10.00	U	0.07	U	**140.00**		0.60	J	16.00		10.00	U	0.07	U
Vinyl chloride	1	2.6	2.6	100.00	U	1.00	U	0.13	U	10.00	U	0.13	U	10.00	U	0.13	U	100.00	U	1.00	U	0.65	U	10.00	U	0.13	U
Xylene (Total)	20	370	370	100.00	U	1.00	U	0.28	U	10.00	U	0.28	U	10.00	U	0.28	U	**1200.00**		9.00	J	**500.00**		3.00	J	1.10	J

Notes:
All results are in parts per billion (ppb).
GCTL = groundwater cleanup target level (June 6, 2003)
FSWCTL = Freshwater surface water criteria (June 6, 2003)
MSWCTL = Marine surface water criteria (June 6, 2003)
* = GCTL, FSWCTL & MSWCTL for 1,3-dichloropropene (total)
GCTL exceedances in BOLD
U = not detected
J = estimated concentration below method detection limit and above instrument
na = not analyzed
NA = not applicable

Table 17
Groundwater VOA Analytical Results, OU 2, NAS Pensacola

			Well ID	30GS15				30GS18						30GS20						30GS22						30GS27					
	Florida CTLs (ppb)			1993		2003		1993		1995		2003		1993		1995		2003		1993		1995		2003		1993		1995		2003	
Parameter	GCTL	FSWCTL	MSWCTL	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
Acetone	760	1700	1700	10.00	U	6.20	U	10.00	U	5.00	UR	3.60	U	10.00	U	5.00	UR	2.30	U	50.00	U	5.00	U	30.00	U	100.00	U	5.00	U	8.90	U
Benzene	1	71.28	71.28	10.00	U	0.11	U	10.00	U	1.00	U	0.50	J	10.00	U	1.00	U	0.10	U	50.00	U	1.00	U	0.16	U	100.00	U	1.00	U	0.12	U
Bromodichloromethane	0.6	22	22	10.00	U	0.18	U	10.00	U	0.60	U	0.18	U	10.00	U	0.60	U	0.18	U	50.00	U	0.60	U	0.18	U	100.00	U	0.60	U	0.18	U
Bromoform	4.8	360	360	10.00	U	0.19	U	10.00	U	1.00	U	0.19	U	10.00	U	1.00	U	0.19	U	50.00	U	1.00	U	0.19	U	100.00	U	1.00	U	0.19	U
Bromomethane	11	35	35	10.00	U	0.49	U	10.00	U	1.00	U	0.49	U	10.00	U	1.00	U	0.49	U	50.00	U	1.00	U	0.49	U	100.00	U	1.00	UJ	0.49	U
2-Butanone (MEK)	4600	120000	120000	10.00	U	2.00	U	10.00	U	5.00	UR	0.48	U	10.00	U	5.00	UR	0.53	U	50.00	U	5.00	UJ	12.00	U	100.00	U	5.00	U	1.20	U
Carbon disulfide	760	110	110	10.00	U	0.72	U	10.00	U	1.00	U	0.72	U	10.00	U	1.00	U	0.72	U	50.00	UJ	1.00	U	0.72	U	100.00	U	1.00	U	0.72	U
Carbon tetrachloride	3	4.42	4.42	10.00	U	0.15	U	10.00	U	1.00	U	0.15	U	10.00	U	1.00	U	0.15	U	50.00	U	1.00	U	0.15	U	100.00	U	1.00	U	0.15	U
Chlorobenzene	100	17	17	10.00	U	0.10	U	10.00	U	1.00	U	0.10	U	10.00	U	1.00	U	0.10	U	50.00	U	1.00	U	0.10	U	100.00	U	1.00	U	0.10	U
Chloroethane	13	NA	NA	10.00	U	0.86	U	10.00	U	1.00	U	0.86	U	10.00	U	1.00	U	0.86	U	50.00	U	**110.00**	D	**22.00**		100.00	U	**520.00**	D	0.86	U
Chloroform	76	470.8	470.8	10.00	U	0.19	U	10.00	U	1.00	U	0.78	U	3.00	J	1.00	U	0.12	U	50.00	U	5.00		0.29	U	100.00	U	1.00	U	0.26	U
Chloromethane	2.9	470.8	470.8	10.00	U	0.73	U	1.00	J	1.00	U	0.40	U	10.00	U	1.00	U	0.40	U	50.00	UJ	1.00	U	0.40	U	100.00	U	1.00	U	0.40	U
Dibromochloromethane	0.5	34	34	10.00	U	0.08	U	10.00	U	1.00	U	0.08	U	10.00	U	1.00	U	0.08	U	50.00	U	1.00	U	0.08	U	100.00	U	1.00	U	0.08	U
1,1-Dichloroethane	76	NA	NA	10.00	U	0.12	U	10.00	U	1.00	U	0.12	J	10.00	U	1.00	U	0.12	U	**900.00**	D	**1400.00**	D	**180.00**		45.00	J	**4300.00**	D	1.60	
1,2-Dichloroethane	3	40	40	10.00	U	0.18	U	10.00	U	1.00	U	0.18	U	10.00	U	1.00	U	0.18	U	50.00	U	1.00	U	0.29	J	100.00	U	**200.00**	D	0.18	U
1,1-Dichloroethene	7	3.2	3.2	10.00	U	0.31	U	10.00	U	1.00	U	0.31	U	10.00	U	1.00	U	0.31	U	**170.00**		**68.00**	D	2.00		**510.00**		**240.00**	D	1.50	
cis-1,2-Dichloroethene	70	NA	NA	na		0.16	U	na		1.00	U	7.90		na		1.00	U	0.72	J	na		7.00		16.00		na		200.00	UD	1.90	
trans-1,2-Dichloroethene	100	11000	11000	na		0.36	U	na		1.00	U	0.36	U	na		1.00	U	0.36	U	na		1.00	U	0.36	U	na		1.00	U	0.36	U
1,2-Dichloroethene (total)	NA	7000	7000	10.00	U	na		10.00	U	na		na		10.00	U	na		na		50.00	U	na		na		15.00	J	na		na	
1,2-Dichloropropane	5	16	16	10.00	U	0.17	U	10.00	U	1.00	U	0.17	U	10.00	U	1.00	U	0.17	U	50.00	U	1.00	U	0.17	U	100.00	U	1.00	U	0.17	U
cis-1,3-Dichloropropene	0.4	12*	12*	10.00	U	0.12	U	10.00	U	1.00	U	0.12	U	10.00	U	1.00	U	0.12	U	50.00	U	1.00	U	0.12	U	100.00	U	1.00	U	0.12	U
trans-1,3-Dichloropropene	0.4	12*	12*	10.00	U	0.15	U	10.00	U	1.00	U	0.15	U	10.00	U	1.00	U	0.15	U	50.00	U	1.00	U	0.15	U	100.00	U	1.00	U	0.15	U
Ethylbenzene	30	610	610	10.00	U	0.11	U	10.00	U	1.00	U	6.00		10.00	U	1.00	U	0.11	U	50.00	U	1.00	U	0.11	U	100.00	U	1.00	U	0.11	U
2-Hexanone	300	NA	NA	10.00	U	0.29	U	10.00	U	5.00	U	1.60	J	10.00	U	5.00	U	0.29	U	50.00	U	5.00	U	2.20	J	100.00	U	5.00	U	0.29	U
Methylene chloride	5	1580	1580	10.00	U	0.61	U	10.00	U	2.00	U	0.61	U	10.00	U	2.00	U	0.61	U	50.00	U	2.00	U	0.61	U	100.00	U	3.00		0.61	U
4-Methyl-2-Pentanone (MIBK)	610	23000	23000	10.00	U	0.41	U	10.00	U	5.00	U	0.27	U	10.00	U	5.00	U	0.27	U	50.00	U	5.00	U	0.27	U	100.00	U	5.00	U	0.27	U
Styrene	100	460	460	10.00	U	0.05	U	10.00	U	1.00	U	0.05	U	10.00	U	1.00	U	0.05	U	50.00	U	1.00	U	0.05	U	100.00	U	1.00	U	0.13	U
Tetrachloroethene	3	8.85	8.85	10.00	U	0.43	U	10.00	U	1.00	U	0.43	U	10.00	U	1.00	U	0.43	U	**10.00**	J	**13.00**		**4.20**		**11.00**	J	**12.00**		0.73	J
1,1,2,2-Tetrachloroethane	0.2	10.8	NA	10.00	U	0.17	U	10.00	U	0.20	U	0.17	U	10.00	U	0.20	U	0.17	U	50.00	U	0.20	U	0.17	U	100.00	U	0.20	U	0.17	U
1,1,1-Trichloroethane	200	270	270	4.00	J	0.07	U	10.00	U	1.00	U	0.07	U	10.00	U	1.00	U	0.07	U	**1400.00**	D	**2100.00**	D	35.00		**1300.00**		**1700.00**	D	0.63	J
1,1,2-Trichloroethane	5	17	17	10.00	U	0.11	U	10.00	U	1.00	U	0.11	U	10.00	U	1.00	U	0.11	U	50.00	U	1.00	U	0.11	U	100.00	U	1.00	U	0.11	U
Trichloroethene	3	80.7	80.7	10.00	U	0.19	U	10.00	U	1.00	U	0.19	J	10.00	U	1.00	U	0.13	U	50.00	U	**3.00**		0.62	J	100.00	U	**3.00**		0.13	U
Toluene	40	480	480	10.00	U	0.18	U	10.00	U	1.00	U	0.07	U	10.00	U	1.00	U	0.09	U	50.00	U	1.00	U	0.07	U	100.00	U	1.00	U	0.14	U
Vinyl chloride	1	2.6	2.6	10.00	U	0.13	U	10.00	U	1.00	U	**2.30**		10.00	U	1.00	U	0.19	J	50.00	U	1.00	U	0.33	J	100.00	U	0.50	J	0.13	U
Xylene (Total)	20	370	370	10.00	U	0.28	U	10.00	U	1.00	U	1.10	J	10.00	U	1.00	U	0.28	U	50.00	U	8.00		0.28	U	100.00	U	0.80	J	0.28	U

Notes:
All results are in parts per billion (ppb).
GCTL = groundwater cleanup target level (June 6, 2003)
FSWCTL = Freshwater surface water criteria (June 6, 2003)
MSWCTL = Marine surface water criteria (June 6, 2003)
* = GCTL, FSWCTL & MSWCTL for 1,3-dichloropropene (total)
GCTL exceedances in BOLD
U = not detected
J = estimated concentration below method detection limit and above instrument
na = not analyzed
NA = not applicable

Table 17
Groundwater VOA Analytical Results, OU 2, NAS Pensacola

			Well ID	30GS28					30GS33				30GS46						30GS101				30GS111						30GS113			
	Florida CTLs (ppb)			1993		1995		2003	1995		2003		1993		1995		2003		1993		2003		1993		1995		2003		1993		2003	
Parameter	GCTL	FSWCTL	MSWCTL	RESULT		RESULT		RESULT	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
Acetone	760	1700	1700	50.00	U	5.00	U	2.30	U	5.00	U	5.00	U	20.00	U	5.00	U	11.00	U	10.00	U	14.00	U	21.00	J	5.00	U	4.60	U	10.00	UJ	11.00	U
Benzene	1	71.28	71.28	50.00	U	1.00	U	0.10	U	1.00	U	0.10	U	20.00	U	1.00	U	0.15	U	**1.00**	J	0.11	U	100.00	U	1.00	U	**9.80**		10.00	U	0.14	U
Bromodichloromethane	0.6	22	22	50.00	U	0.60	U	0.18	U	0.60	U	0.18	U	20.00	U	0.60	U	0.18	U	10.00	U	0.18	U	100.00	U	0.60	U	0.36	U	10.00	U	0.18	U
Bromoform	4.8	360	360	50.00	U	1.00	U	0.19	U	1.00	U	0.19	U	20.00	U	1.00	U	0.19	U	10.00	U	0.19	U	100.00	U	1.00	U	0.38	U	10.00	U	0.19	U
Bromomethane	11	35	35	50.00	U	1.00	UJ	0.49	U	1.00	U	0.49	U	20.00	U	1.00	U	0.49	U	10.00	U	0.49	U	100.00	U	1.00	U	0.98	U	10.00	U	0.49	U
2-Butanone (MEK)	4600	120000	120000	50.00	U	5.00	U	0.48	U	5.00	U	0.48	U	20.00	U	5.00	UJ	5.10	U	10.00	U	1.20	U	100.00	U	5.00	UJ	0.96	U	10.00	UJ	2.20	U
Carbon disulfide	760	110	110	50.00	UJ	1.00	U	0.72	U	1.00	U	0.72	U	20.00	U	1.00	U	0.72	U	10.00	U	0.72	U	100.00	U	1.00	U	1.40	U	10.00	U	0.72	U
Carbon tetrachloride	3	4.42	4.42	50.00	U	1.00	U	0.15	U	1.00	U	0.15	U	20.00	U	1.00	U	0.15	U	10.00	U	0.15	U	100.00	U	1.00	U	0.30	U	10.00	U	0.15	U
Chlorobenzene	100	17	17	50.00	U	1.00	U	0.57	J	1.00	U	0.10	U	20.00	U	1.00	U	0.10	U	10.00	U	0.10	U	**720.00**		19.00	J	**830.00**	D	3.00	J	0.10	U
Chloroethane	13	NA	NA	50.00	U	**580.00**	D	0.86	U	1.00	U	0.86	U	20.00	U	1.00	U	0.86	U	10.00	U	0.86	U	100.00	U	1.00	U	**32.00**		10.00	U	0.86	U
Chloroform	76	470.8	470.8	50.00	U	1.00	U	0.12	U	0.50	J	0.12	U	20.00	U	1.00	U	0.12	U	10.00	U	0.12	U	100.00	U	1.00	U	0.24	U	10.00	U	0.12	U
Chloromethane	2.9	470.8	470.8	50.00	UJ	1.00	U	0.40	U	1.00	U	0.40	U	20.00	U	1.00	U	0.40	U	10.00	U	0.40	U	100.00	U	1.00	U	0.80	U	10.00	U	0.40	U
Dibromochloromethane	0.5	34	34	50.00	U	1.00	U	0.08	U	1.00	U	0.08	U	20.00	U	1.00	U	0.08	U	10.00	U	0.08	U	100.00	U	1.00	U	0.16	U	10.00	U	0.08	U
1,1-Dichloroethane	76	NA	NA	**380.00**		**2400.00**	D	7.10		2.00		0.12	U	18.00	J	8.00		0.25	J	10.00	U	0.12	U	100.00	U	1.00	U	0.24	U	10.00	U	0.12	U
1,2-Dichloroethane	3	40	40	**6.00**	J	**220.00**	D	0.18	U	2.00		0.18	U	20.00	U	1.00	U	0.18	U	10.00	U	0.18	U	100.00	U	1.00	U	0.36	U	10.00	U	0.18	U
1,1-Dichloroethene	7	3.2	3.2	**220.00**		**130.00**	D	0.31	U	0.30	J	0.31	U	20.00	U	1.00	U	0.31	U	10.00	U	0.31	U	100.00	U	1.00	U	0.62	U	10.00	U	0.31	U
cis-1,2-Dichloroethene	70	NA	NA	na		**120.00**	D	12.00		1.00	U	0.16	U	na		**190.00**	D	39.00		na		0.16	U	na		1.00	U	0.32	U	na		0.16	U
trans-1,2-Dichloroethene	100	11000	11000	na		1.00	U	0.36	U	1.00	U	0.36	U	na		1.00	U	0.36	U	na		0.36	U	na		1.00	U	0.72	U	na		0.36	U
1,2-Dichloroethene (total)	NA	7000	7000	210.00		na		na		na		na		220.00		na		na		10.00	U	na		100.00	U	na		na		10.00	U	na	
1,2-Dichloropropane	5	16	16	50.00	U	1.00	U	0.17	U	1.00	U	0.17	U	20.00	U	1.00	U	0.17	U	10.00	U	0.17	U	100.00	U	1.00	U	0.34	U	10.00	U	0.17	U
cis-1,3-Dichloropropene	0.4	12*	12*	50.00	U	1.00	U	0.12	U	1.00	U	0.12	U	20.00	U	1.00	U	0.12	U	10.00	U	0.12	U	100.00	U	1.00	U	0.24	U	10.00	U	0.12	U
trans-1,3-Dichloropropene	0.4	12*	12*	50.00	U	1.00	U	0.15	U	1.00	U	0.15	U	20.00	U	1.00	U	0.15	U	10.00	U	0.15	U	100.00	U	1.00	U	0.30	U	10.00	U	0.15	U
Ethylbenzene	30	610	610	50.00	U	1.00	U	0.12	J	1.00	U	0.11	U	20.00	U	1.00	U	3.50		5.00	J	0.11	U	100.00	U	1.00	U	0.22	U	1.00	J	0.11	U
2-Hexanone	300	NA	NA	50.00	U	5.00	U	0.29	U	5.00	U	0.29	U	20.00	U	5.00	U	4.60	J	10.00	U	0.29	U	100.00	U	5.00	U	0.58	U	10.00	UJ	0.29	U
Methylene chloride	5	1580	1580	50.00	U	2.00	U	0.61	U	2.00	U	0.61	U	20.00	U	2.00	U	0.61	U	10.00	U	0.61	U	100.00	U	2.00	U	1.20	U	10.00	U	0.61	U
4-Methyl-2-Pentanone (MIBK)	610	23000	23000	50.00	U	5.00	U	0.27	U	5.00	U	0.27	U	20.00	U	5.00	U	2.40	J	10.00	U	0.27	U	100.00	U	5.00	U	0.54	U	10.00	UJ	0.27	U
Styrene	100	460	460	50.00	U	1.00	U	0.05	U	1.00	U	0.05	U	20.00	U	1.00	U	0.05	U	10.00	U	0.19	U	100.00	U	1.00	U	0.10	U	10.00	U	0.05	U
Tetrachloroethene	3	8.85	8.85	**310.00**		**10.00**		**6.40**		1.00		2.60		**200.00**		**1100.00**	D	**35.00**		10.00	U	0.43	U	100.00	U	0.70	J	0.86	U	10.00	U	0.43	U
1,1,2,2-Tetrachloroethane	0.2	10.8	NA	50.00	U	0.20	U	0.17	U	0.20	U	0.17	U	20.00	U	0.20	U	0.17	U	10.00	U	0.17	U	100.00	U	0.20	U	0.34	U	10.00	UJ	0.17	U
1,1,1-Trichloroethane	200	270	270	**1300.00**	D	**2000.00**	D	1.50		14.00		2.10		**220.00**		49.00	DJ	0.28	J	10.00	U	0.07	U	100.00	U	1.00	U	0.13	U	10.00	U	0.07	U
1,1,2-Trichloroethane	5	17	17	50.00	U	1.00	U	0.11	U	1.00	U	0.11	U	20.00	U	1.00	U	0.11	U	10.00	U	0.11	U	100.00	U	1.00	U	0.22	U	10.00	U	0.11	U
Trichloroethene	3	80.7	80.7	**36.00**	J	**5.00**		0.90	J	1.00		0.85	J	**4.00**	J	**58.00**	D	1.40		10.00	U	0.13	U	100.00	U	1.00	U	0.26	U	10.00	U	0.13	U
Toluene	40	480	480	50.00	U	0.20	J	0.07	U	1.00	U	0.07	U	20.00	U	1.00	U	0.27	U	2.00	J	0.11	U	100.00	U	1.00	U	0.73	U	10.00	U	0.12	U
Vinyl chloride	1	2.6	2.6	50.00	U	0.20	J	0.13	U	1.00	U	0.13	U	20.00	U	1.00	U	0.13	U	10.00	U	0.13	U	100.00	U	1.00	U	0.26	U	10.00	U	0.13	U
Xylene (Total)	20	370	370	50.00	U	1.00	U	0.28	U	1.00	U	0.28	U	6.00	J	10.00		2.60		**21.00**		0.28	U	100.00	U	1.00	U	0.56	U	6.00	J	0.28	U

Notes:
All results are in parts per billion (ppb).
GCTL = groundwater cleanup target level (June 6, 2003)
FSWCTL = Freshwater surface water criteria (June 6, 2003)
MSWCTL = Marine surface water criteria (June 6, 2003)
* = GCTL, FSWCTL & MSWCTL for 1,3-dichloropropene (total)
GCTL exceedances in BOLD
U = not detected
J = estimated concentration below method detection limit and above instrument
na = not analyzed
NA = not applicable

Table 17
Groundwater VOA Analytical Results, OU 2, NAS Pensacola

			Well ID	30GS123				30GS126				30GS146				30GS162						30GS170				30GS029 (30GS174)			
	Florida CTLs (ppb)			1993		2003		1993		2003		1993		2003		1993		1995		2003		1993		2003		1993		2003	
Parameter	GCTL	FSWCTL	MSWCTL	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
Acetone	760	1700	1700	10.00	U	26.00	U	10.00	U	3.00	U	10.00	U	2.80	U	50.00	U	5.00	UJ	2.30	U	43.00		5.90	U	**160.00**		2.30	U
Benzene	1	71.28	71.28	10.00	U	0.44	U	10.00	U	0.10	U	10.00	U	0.10	U	50.00	U	1.00	U	0.10	U	**2.00**	J	0.10	U	**3.00**	J	0.10	U
Bromodichloromethane	0.6	22	22	10.00	U	0.18	U	10.00	U	0.18	U	10.00	U	0.18	U	50.00	U	0.60	U	0.18	U	10.00	U	0.18	U	10.00	U	0.18	U
Bromoform	4.8	360	360	10.00	U	0.55	J	10.00	U	0.19	U	10.00	U	0.19	U	50.00	U	1.00	U	0.19	U	10.00	U	0.19	U	10.00	U	0.19	U
Bromomethane	11	35	35	10.00	U	0.49	U	10.00	U	0.49	U	10.00	U	0.49	U	50.00	U	1.00	U	0.49	U	10.00	U	0.49	U	10.00	U	0.49	U
2-Butanone (MEK)	4600	120000	120000	10.00	U	19.00	U	10.00	U	0.61	U	10.00	U	0.76	U	50.00	U	5.00	UJ	0.66	U	10.00	U	0.48	U	10.00	U	0.60	U
Carbon disulfide	760	110	110	10.00	U	0.72	U	10.00	U	0.72	U	10.00	U	0.72	U	50.00	U	1.00	U	0.72	U	10.00	U	0.72	U	10.00	U	0.72	U
Carbon tetrachloride	3	4.42	4.42	10.00	U	0.15	U	10.00	U	0.15	U	10.00	U	0.15	U	50.00	U	1.00	U	0.15	U	10.00	U	0.15	U	10.00	U	0.15	U
Chlorobenzene	100	17	17	25.00		0.10	U	3.00	J	0.10	U	10.00	U	0.10	U	50.00	U	1.00	U	0.10	U	10.00	U	0.10	U	10.00	U	0.10	U
Chloroethane	13	NA	NA	10.00	U	0.86	U	10.00	U	0.86	U	10.00	U	0.86	U	50.00	U	1.00	U	0.86	U	10.00	U	0.86	U	10.00	U	0.86	U
Chloroform	76	470.8	470.8	10.00	U	0.35	U	10.00	U	2.20		2.00	J	1.60		50.00	U	2.00		2.30		1.00	J	9.60		10.00	U	0.12	U
Chloromethane	2.9	470.8	470.8	10.00	U	0.40	U	10.00	U	0.40	U	10.00	U	0.40	U	50.00	U	1.00	U	0.40	U	10.00	U	0.40	U	10.00	U	0.40	U
Dibromochloromethane	0.5	34	34	10.00	U	0.08	U	10.00	U	0.08	U	10.00	U	0.08	U	50.00	U	1.00	U	0.08	U	10.00	U	0.08	U	10.00	U	0.08	U
1,1-Dichloroethane	76	NA	NA	10.00	U	0.34	U	10.00	U	0.12	U	10.00	U	16.00		28.00	J	8.00		1.20		9.00	J	0.13	J	11.00		0.41	J
1,2-Dichloroethane	3	40	40	10.00	U	0.22	J	10.00	U	0.18	U	10.00	U	0.18	U	50.00	U	1.00	U	0.18	U	10.00	U	0.18	U	10.00	U	0.18	U
1,1-Dichloroethene	7	3.2	3.2	10.00	U	0.78	J	10.00	U	0.31	U	10.00	U	0.31	U	**100.00**		0.70	J	0.31	U	**7.00**	J	0.31	U	2.00	J	0.31	U
cis-1,2-Dichloroethene	70	NA	NA	na		0.47	J	na		0.16	U	na		0.98	J	na		1.00	U	0.63	J	na		0.16	U	na		0.16	U
trans-1,2-Dichloroethene	100	11000	11000	na		0.42	J	na		0.36	U	na		0.36	U	na		1.00	U	0.36	U	na		0.36	U	na		0.36	U
1,2-Dichloroethene (total)	NA	7000	7000	10.00	U	na		10.00	U	na		10.00	U	na		50.00	U	na		na		10.00	U	na		10.00	U	na	
1,2-Dichloropropane	5	16	16	10.00	U	0.26	J	10.00	U	0.17	U	10.00	U	0.17	U	50.00	U	1.00	U	0.17	U	10.00	U	0.17	U	10.00	U	0.17	U
cis-1,3-Dichloropropene	0.4	12*	12*	10.00	U	0.24	J	10.00	U	0.12	U	10.00	U	0.12	U	50.00	U	1.00	U	0.12	U	10.00	U	0.12	U	10.00	U	0.12	U
trans-1,3-Dichloropropene	0.4	12*	12*	10.00	U	0.23	J	10.00	U	0.15	U	10.00	U	0.15	U	50.00	U	1.00	U	0.15	U	10.00	U	0.15	U	10.00	U	0.15	U
Ethylbenzene	30	610	610	10.00	U	0.40	U	1.00	J	0.11	U	10.00	U	0.11	U	50.00	U	1.00	U	0.11	U	10.00	U	0.11	U	10.00	U	0.11	U
2-Hexanone	300	NA	NA	10.00	U	9.00	J	10.00	U	0.29	U	10.00	U	0.29	U	50.00	U	5.00	UJ	0.29	U	10.00	U	0.29	U	10.00	U	0.29	U
Methylene chloride	5	1580	1580	10.00	U	0.63	J	10.00	U	0.61	U	10.00	U	0.61	U	50.00	U	1.00	J	0.61	U	10.00	U	0.61	U	10.00	U	0.61	U
4-Methyl-2-Pentanone (MIBK)	610	23000	23000	10.00	U	7.50	J	10.00	U	0.27	U	10.00	U	0.27	U	50.00	U	5.00	UJ	0.27	U	10.00	U	0.27	U	10.00	U	0.27	U
Styrene	100	460	460	10.00	U	0.37	U	10.00	U	0.05	U	10.00	U	0.05	U	50.00	U	1.00	U	0.10	U	10.00	U	0.14	U	10.00	U	0.05	U
Tetrachloroethene	3	8.85	8.85	10.00	U	0.43	U	10.00	U	0.43	U	10.00	U	0.50	J	50.00	U	0.30	J	0.43	U	10.00	U	0.43	U	1.00	J	1.00	
1,1,2,2-Tetrachloroethane	0.2	10.8	NA	10.00	U	0.17	U	10.00	UJ	0.17	U	10.00	UJ	0.17	U	50.00	U	0.20	U	0.17	U	10.00	U	0.17	U	10.00	U	0.17	U
1,1,1-Trichloroethane	200	270	270	10.00	U	0.30	J	10.00	U	0.07	U	2.00	J	0.07	U	**260.00**		3.00		0.07	U	33.00		0.07	U	26.00		1.20	
1,1,2-Trichloroethane	5	17	17	10.00	U	0.36	J	10.00	U	0.11	U	10.00	U	0.11	U	50.00	U	1.00	U	0.11	U	10.00	U	0.11	U	10.00	U	0.11	U
Trichloroethene	3	80.7	80.7	10.00	U	0.85	J	10.00	U	0.13	U	1.00	J	0.15	U	50.00	U	1.00	U	0.13	U	2.00	J	0.20	J	1.00	J	0.27	J
Toluene	40	480	480	10.00	U	0.63	U	10.00	U	0.07	U	10.00	U	0.07	U	50.00	U	1.00	U	0.07	U	10.00	U	0.07	U	10.00	U	0.07	U
Vinyl chloride	1	2.6	2.6	10.00	U	0.13	U	10.00	U	0.13	U	10.00	U	0.13	U	50.00	U	1.00	U	0.13	U	10.00	U	0.13	U	10.00	U	0.13	U
Xylene (Total)	20	370	370	10.00	U	0.42	U	5.00	J	0.28	U	1.00	J	0.28	U	50.00	U	1.00	U	0.28	U	10.00	U	0.28	U	10.00	U	0.28	U

Notes:
All results are in parts per billion (ppb).
GCTL = groundwater cleanup target level (June 6, 2003)
FSWCTL = Freshwater surface water criteria (June 6, 2003)
MSWCTL = Marine surface water criteria (June 6, 2003)
* = GCTL, FSWCTL & MSWCTL for 1,3-dichloropropene (total)
GCTL exceedances in BOLD
U = not detected
J = estimated concentration below method detection limit and above instrument
na = not analyzed
NA = not applicable

Table 17
Groundwater VOAs, OU 2, NAS Pensacola

			Well ID	11GI02					11GI08			11GI10			11GI12					11GI14		
	Florida CTLs (ppb)			1993	1995		2003		1993		2003	1993		2003	1993	1995		2003		1993	1995		2003	
Parameter	GCTL	FSWCTL	MSWCTL	RESULT			RESULT		RESULT		RESULT	RESULT		RESULT	RESULT	RESULT		RESULT		RESULT	RESULT		RESULT	
Acetone	760	1700	1700	10.00	U	5.00	U	17.00	U	10.00	U	13.00	U	10.00	U	2.30	U	10.00	U	7.00	UJ	7.40	U	50.00	U	11.00	UJ	8.80	U
Benzene	1	71.28	71.28	10.00	U	1.00	U	0.10	U	10.00	U	0.12	U	10.00	U	0.10	U	10.00	U	1.00	UJ	0.10	U	50.00	U	1.00	U	0.24	U
Bromodichloromethane	0.6	22	22	10.00	U	0.60	U	0.18	U	10.00	U	0.18	U	10.00	U	0.18	U	10.00	U	0.60	UJ	0.18	U	50.00	U	0.60	U	0.45	U
Bromoform	4.8	360	360	10.00	U	1.00	U	0.19	U	10.00	U	0.19	U	10.00	U	0.19	U	10.00	U	1.00	UJ	0.19	U	50.00	U	1.00	U	0.47	U
Bromomethane	11	35	35	10.00	U	1.00	UJ	0.49	U	10.00	U	0.49	U	10.00	U	0.49	U	10.00	U	1.00	UJ	0.49	U	50.00	U	1.00	UJ	1.20	U
2-Butanone (MEK)	4600	120000	120000	10.00	U	5.00	U	0.85	U	10.00	U	1.80	U	10.00	U	0.51	U	10.00	U	5.00	UJ	0.48	U	50.00	U	5.00	U	1.20	U
Carbon disulfide	760	110	110	10.00	U	1.00	U	0.72	U	10.00	U	0.72	U	10.00	U	0.72	U	10.00	U	1.00	UJ	0.72	U	50.00	U	1.00	U	1.80	U
Carbon tetrachloride	3	4.42	4.42	10.00	U	1.00	U	0.15	U	10.00	U	0.15	U	10.00	U	0.15	U	10.00	U	1.00	UJ	0.15	U	50.00	U	1.00	UJ	0.38	U
Chlorobenzene	100	17	17	10.00	U	1.00	U	0.10	U	10.00	U	0.10	U	10.00	U	0.10	U	10.00	U	1.00	UJ	0.10	U	50.00	U	1.00	U	0.25	U
Chloroethane	13	NA	NA	10.00	U	1.00	U	0.86	U	10.00	U	0.86	U	10.00	U	0.86	U	10.00	U	1.00	UJ	0.86	U	50.00	U	1.00	U	2.20	U
Chloroform	76	470.8	470.8	10.00	U	1.00	U	0.12	U	10.00	U	0.12	U	1.00	J	0.12	U	10.00	U	1.00	UJ	0.12	U	50.00	U	1.00	U	0.30	U
Chloromethane	2.9	470.8	470.8	10.00	U	1.00	U	0.40	U	10.00	U	0.40	U	10.00	U	0.40	U	10.00	U	1.00	UJ	0.40	U	50.00	U	1.00	U	1.00	U
Dibromochloromethane	0.5	34	34	10.00	U	1.00	U	0.08	U	10.00	U	0.08	U	10.00	U	0.08	U	10.00	U	1.00	UJ	0.08	U	50.00	U	1.00	U	0.19	U
1,1-Dichloroethane	76	NA	NA	10.00	U	5.00		5.20		10.00	U	0.12	U	10.00	U	0.12	U	10.00	U	1.00	UJ	8.10		50.00	U	0.10	J	5.40	
1,2-Dichloroethane	3	40	40	10.00	U	1.00	U	0.18	U	10.00	U	0.18	U	**9.00**	J	**8.50**		10.00	U	1.00	UJ	0.18	U	50.00	U	0.20	J	0.45	U
1,1-Dichloroethene	7	3.2	3.2	10.00	U	0.40	J	0.58	J	10.00	U	0.31	U	10.00	U	0.31	U	10.00	U	1.00	UJ	1.10		50.00	U	0.90	J	4.70	
cis-1,2-Dichloroethene	70	NA	NA	na		15.00		38.00		na		0.16	U	na		1.20		na		32.00	J	**88.00**		na		**240.00**	D	**360.00**	
trans-1,2-Dichloroethene	100	11000	11000	na		0.20	J	0.36	U	na		0.36	U	na		0.36	U	na		1.00	UJ	0.65	J	na		1.00		3.20	
1,2-Dichloroethene (total)	NA	7000	7000	16.00		na		na		10.00	U	na		3.00	J	na		110.00		na		na		580.00		na		na	
1,2-Dichloropropane	5	16	16	10.00	U	1.00	U	0.17	U	10.00	U	0.17	U	10.00	U	0.17	U	10.00	U	1.00	UJ	0.17	U	50.00	U	3.00	J	0.42	U
cis-1,3-Dichloropropene	0.4*	12*	12*	10.00	U	1.00	U	0.12	U	10.00	U	0.12	U	10.00	U	0.12	U	10.00	U	1.00	UJ	0.12	U	50.00	U	1.00	U	0.30	U
trans-1,3-Dichloropropene	0.4*	12*	12*	10.00	U	1.00	U	0.15	U	10.00	U	0.15	U	10.00	U	0.15	U	10.00	U	1.00	UJ	0.15	U	50.00	U	1.00	U	0.38	U
Ethylbenzene	30	610	610	10.00	U	1.00	U	0.11	U	10.00	U	0.11	U	10.00	U	0.11	U	10.00	U	1.00	UJ	0.11	U	50.00	U	1.00	U	0.28	U
2-Hexanone	300	NA	NA	10.00	U	5.00	U	0.29	U	10.00	U	0.29	U	10.00	U	0.29	U	10.00	U	5.00	UJ	0.29	U	50.00	U	5.00	U	0.72	U
Methylene chloride	5	1580	1580	10.00	U	2.00	U	0.61	U	10.00	U	0.61	U	10.00	U	0.61	U	10.00	U	2.00	UJ	0.61	U	50.00	U	2.00	U	1.50	U
4-Methyl-2-Pentanone (MIBK)	610	23000	23000	10.00	U	5.00	U	0.27	U	10.00	U	0.27	U	10.00	U	0.27	U	10.00	U	5.00	UJ	0.27	U	50.00	U	5.00	U	0.68	U
Styrene	100	460	460	10.00	U	1.00	U	0.22	U	10.00	U	0.38	U	10.00	U	0.05	U	10.00	U	1.00	UJ	0.18	U	50.00	U	1.00	U	0.12	U
Tetrachloroethene	3	8.85	8.85	10.00	U	0.30	J	**25.00**		10.00	U	0.43	U	10.00	U	0.43	U	10.00	U	1.00	UJ	**3.50**		50.00	U	1.00	U	1.10	U
1,1,2,2-Tetrachloroethane	0.2	10.8	10.8	10.00	U	0.20	U	0.17	U	10.00	U	0.17	U	10.00	U	0.17	U	10.00	U	0.20	UJ	0.17	U	50.00	U	0.20	U	0.42	U
1,1,1-Trichloroethane	200	270	270	10.00	U	1.00	U	0.07	U	10.00	U	0.07	U	10.00	U	0.07	U	10.00	U	1.00	UJ	0.07	U	50.00	U	1.00	U	0.16	U
1,1,2-Trichloroethane	5	17	17	10.00	U	1.00	U	0.11	U	10.00	U	0.11	U	10.00	U	0.11	U	10.00	U	1.00	UJ	0.11	U	50.00	U	1.00	U	0.28	U
Trichloroethene	3	80.7	80.7	**3.00**	J	**3.00**		**22.00**		10.00	U	0.13	U	10.00	U	0.62	J	**14.00**		**11.00**	J	**14.00**		50.00	U	1.00		**7.50**	
Toluene	40	480	480	10.00	U	1.00	U	0.07	U	10.00	U	0.10	U	10.00	U	0.07	U	10.00	U	1.00	UJ	0.12	U	50.00	U	1.00	U	0.16	U
Vinyl chloride	1	2.6	2.6	10.00	U	1.00	U	0.13	U	10.00	U	0.13	U	10.00	U	0.13	U	10.00	U	1.00	UJ	0.13	U	**88.00**		**33.00**		**5.80**	
Xylene (Total)	20	370	370	10.00	U	1.00	U	0.28	U	10.00	U	0.28	U	10.00	U	0.28	U	10.00	U	1.00	UJ	0.28	U	50.00	U	1.00	U	0.70	U

Notes:
All results are in micrograms per liter or parts per billion (ppb).
GCTL = groundwater cleanup target level (June 6, 2003)
FSWCTL = Freshwater surface water criteria (June 6, 2003)
MSWCTL = Marine surface water criteria (June 6, 2003)
* = GCTL, FSWCTL & MSWCTL for 1,3-dichloropropene (total)
GCTL exceedances in BOLD
U = not detected
J = estimated concentration below method detection limit and above instrument detection limit
na = not analyzed
na = not applicable

Table 17
Groundwater VOAs, OU 2, NAS Pensacola

			Well ID	11GI15				11GS05						11GS07				11GS09				11GS13					
	Florida CTLs (ppb)			1993		2003		1993		1995		2003		1993		2003		1993		2003		1993		1995		2003	
Parameter	GCTL	FSWCTL	MSWCTL	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
Acetone	760	1700	1700	140.00		6.70	U	56.00	U	5.00	UJ	7.80	U	10.00	U	14.00	U	11.00	J	3.80	U	10.00	U	5.00	UR	90.00	U
Benzene	1	71.28	71.28	10.00	U	0.10	U	10.00	U	1.00	U	0.12	U	10.00	U	0.10	U	10.00	U	0.10	U	10.00	U	0.40	J	0.17	U
Bromodichloromethane	0.6	22	22	10.00	U	0.18	U	10.00	U	0.60	U	0.18	U	10.00	U	0.18	U	10.00	U	0.18	U	10.00	U	0.60	UJ	0.18	U
Bromoform	4.8	360	360	10.00	U	0.19	U	10.00	U	1.00	U	0.19	U	10.00	U	0.19	U	10.00	U	0.19	U	10.00	U	1.00	UJ	0.19	U
Bromomethane	11	35	35	10.00	U	0.49	U	10.00	U	1.00	U	0.49	U	10.00	U	0.49	U	10.00	U	0.49	U	10.00	U	1.00	UJ	0.49	U
2-Butanone (MEK)	4600	120000	120000	10.00	U	1.60	U	10.00	U	3.00	J	0.48	U	10.00	U	1.20	U	10.00	U	0.48	U	10.00	U	5.00	UJ	2.50	U
Carbon disulfide	760	110	110	1.00	J	0.72	U	10.00	U	1.00	U	0.72	U	10.00	U	0.72	U	10.00	U	0.72	U	10.00	U	1.00	UJ	0.72	U
Carbon tetrachloride	3	4.42	4.42	10.00	U	0.15	U	10.00	U	1.00	U	0.15	U	10.00	U	0.15	U	10.00	U	0.15	U	10.00	U	1.00	UJ	0.15	U
Chlorobenzene	100	17	17	10.00	U	0.10	U	10.00	U	1.00	U	0.10	U	10.00	U	0.10	U	10.00	U	0.10	U	10.00	U	1.00	UJ	0.10	U
Chloroethane	13	NA	NA	10.00	U	0.86	U	10.00	U	1.00	U	0.86	U	10.00	U	0.86	U	10.00	U	0.86	U	10.00	U	1.00	UJ	0.86	U
Chloroform	76	470.8	470.8	10.00	U	0.12	U	10.00	U	1.00	U	0.12	U	10.00	U	0.12	U	10.00	U	0.12	U	10.00	U	1.00	UJ	0.12	U
Chloromethane	2.9	470.8	470.8	10.00	U	0.40	U	10.00	U	1.00	U	0.40	U	10.00	U	0.40	U	10.00	U	0.40	U	10.00	U	1.00	UJ	0.40	U
Dibromochloromethane	0.5	34	34	10.00	U	0.08	U	10.00	U	1.00	U	0.08	U	10.00	U	0.08	U	10.00	U	0.08	U	10.00	U	1.00	UJ	0.08	U
1,1-Dichloroethane	76	NA	NA	10.00	U	0.12	U	10.00	U	1.00	U	0.12	U	10.00	U	0.12	U	10.00	U	0.12	U	10.00	U	22.00	J	0.12	U
1,2-Dichloroethane	3	40	40	10.00	U	0.18	U	10.00	U	1.00	U	0.18	U	10.00	U	0.18	U	10.00	U	0.18	U	10.00	U	1.00	UJ	0.18	U
1,1-Dichloroethene	7	3.2	3.2	10.00	U	0.31	U	10.00	U	1.00	U	0.31	U	10.00	U	0.31	U	10.00	U	0.31	U	10.00	U	2.00	J	0.31	U
cis-1,2-Dichloroethene	70	NA	NA	na		0.16	U	na		17.00		4.50		na		0.16	U	na		0.20	J	na		28.00	J	0.16	U
trans-1,2-Dichloroethene	100	11000	11000	na		0.36	U	na		1.00	U	0.36	U	na		0.36	U	na		0.36	U	na		0.60	J	0.36	U
1,2-Dichloroethene (total)	NA	7000	7000	10.00	U	na		6.00	J	na		na		10.00	U	na		10.00	U	na		4.00	J	na		na	
1,2-Dichloropropane	5	16	16	10.00	U	0.17	U	10.00	U	1.00	U	0.17	U	10.00	U	0.17	U	10.00	U	0.17	U	10.00	U	1.00	UJ	0.17	U
cis-1,3-Dichloropropene	0.4*	12*	12*	10.00	U	0.12	U	10.00	U	1.00	U	0.12	U	10.00	U	0.12	U	10.00	U	0.12	U	10.00	U	1.00	UJ	0.12	U
trans-1,3-Dichloropropene	0.4*	12*	12*	10.00	U	0.15	U	10.00	U	1.00	U	0.15	U	10.00	U	0.15	U	10.00	U	0.15	U	10.00	U	1.00	UJ	0.15	U
Ethylbenzene	30	610	610	10.00	U	0.11	U	10.00	U	2.00		0.59	U	10.00	U	0.11	U	10.00	U	0.11	U	10.00	U	1.00	UJ	0.13	U
2-Hexanone	300	NA	NA	10.00	U	0.29	U	10.00	U	5.00	U	0.29	U	10.00	U	0.29	U	10.00	U	0.29	U	10.00	U	5.00	UJ	0.29	U
Methylene chloride	5	1580	1580	10.00	U	0.61	U	10.00	U	2.00	U	0.61	U	10.00	U	0.61	U	10.00	U	0.61	U	10.00	U	2.00	UJ	0.61	U
4-Methyl-2-Pentanone (MIBK)	610	23000	23000	10.00	U	0.27	U	10.00	U	5.00	U	0.27	U	10.00	U	0.27	U	10.00	U	0.27	U	10.00	U	5.00	UJ	0.27	U
Styrene	100	460	460	10.00	U	0.09	U	10.00	U	1.00	U	0.30	U	10.00	U	0.18	U	10.00	U	0.08	U	10.00	U	1.00	UJ	0.05	U
Tetrachloroethene	3	8.85	8.85	10.00	U	0.43	U	2.00	J	1.00	U	0.43	U	10.00	U	0.43	U	10.00	U	0.43	U	10.00	U	**7.00**	J	0.43	U
1,1,2,2-Tetrachloroethane	0.2	10.8	10.8	10.00	U	0.17	U	10.00	U	0.20	U	0.17	U	10.00	U	0.17	U	10.00	U	0.17	U	10.00	U	1.00	UJ	0.17	U
1,1,1-Trichloroethane	200	270	270	10.00	U	0.07	U	10.00	U	1.00	U	0.07	U	10.00	U	0.07	U	10.00	U	0.07	U	10.00	U	1.00	UJ	0.07	U
1,1,2-Trichloroethane	5	17	17	10.00	U	0.11	U	10.00	U	1.00	U	0.11	U	10.00	U	0.11	U	10.00	U	0.11	U	10.00	U	1.00	UJ	0.11	U
Trichloroethene	3	80.7	80.7	10.00	U	0.16	J	**4.00**	J	0.70	J	0.35	J	10.00	U	0.13	U	10.00	U	0.13	U	10.00	U	**5.00**	J	0.13	U
Toluene	40	480	480	1.00	J	0.09	U	10.00	U	0.70	J	0.76	U	10.00	U	0.08	U	10.00	U	0.07	U	10.00	U	0.20	J	0.26	U
Vinyl chloride	1	2.6	2.6	10.00	U	0.13	U	10.00	U	1.00	U	0.13	U	10.00	U	0.13	U	10.00	U	0.37	J	10.00	U	**3.00**	J	0.81	J
Xylene (Total)	20	370	370	10.00	U	0.28	U	10.00	U	**21.00**		4.80		10.00	U	0.28	U	10.00	U	0.28	U	10.00	U	1.00	UJ	0.34	U

Notes:
All results are in micrograms per liter or parts per billion (ppb).
GCTL = groundwater cleanup target level (June 6, 2003)
FSWCTL = Freshwater surface water criteria (June 6, 2003)
MSWCTL = Marine surface water criteria (June 6, 2003)
* = GCTL, FSWCTL & MSWCTL for 1,3-dichloropropene (total)
GCTL exceedances in BOLD
U = not detected
J = estimated concentration below method detection limit and above ins
na = not analyzed
na = not applicable

Table 17
Groundwater VOAs, OU 2, NAS Pensacola

			Well ID	11GS28				11GS47						11GS52						12GS01				12GS06				12GS08			
	Florida CTLs (ppb)			1993		2003		1993		1995		2003		1993		1995		2003		1995		2003		1995		2003		1995		2003	
Parameter	GCTL	FSWCTL	MSWCTL	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
Acetone	760	1700	1700	10.00	U	25.00	U	10.00	U	70.00	J	8.70	U	50.00	UJ	11.00	UJ	18.00	U	5.00	UR	2.30	U	13.00	U	3.60	U	9.00	U	19.00	U
Benzene	1	71.28	71.28	10.00	U	**3.20**		10.00	U	**3.00**		**11.00**		50.00	U	0.30	J	0.24	U	1.00	U	0.10	U	1.00	U	0.10	U	1.00	U	0.10	U
Bromodichloromethane	0.6	22	22	10.00	U	0.18	U	10.00	U	0.60	U	0.18	U	50.00	U	0.60	U	0.18	U	1.00	U	0.18	U	1.00	U	0.18	U	1.00	U	0.18	U
Bromoform	4.8	360	360	10.00	U	0.19	U	10.00	U	1.00	U	0.19	U	50.00	U	1.00	U	0.19	U	1.00	U	0.19	U	1.00	U	0.19	U	1.00	U	0.19	U
Bromomethane	11	35	35	10.00	U	0.49	U	10.00	U	1.00	UJ	0.49	U	50.00	U	1.00	UJ	0.49	U	1.00	U	0.49	U	1.00	U	0.49	U	1.00	U	0.49	U
2-Butanone (MEK)	4600	120000	120000	10.00	U	2.00	U	10.00	U	5.00	UJ	0.48	U	50.00	U	5.00	U	0.48	U	5.00	UR	0.90	U	5.00	UR	0.48	U	5.00	UR	1.60	U
Carbon disulfide	760	110	110	10.00	U	0.72	U	10.00	U	1.00	U	0.72	U	50.00	U	1.00	U	0.72	U	1.00	U	0.72	U	1.00	U	0.72	U	1.00	U	0.72	U
Carbon tetrachloride	3	4.42	4.42	10.00	U	0.15	U	10.00	U	1.00	U	0.15	U	50.00	U	1.00	U	0.15	U	1.00	U	0.15	U	1.00	UJ	0.15	U	1.00	U	0.15	U
Chlorobenzene	100	17	17	10.00	U	0.10	U	10.00	U	1.00	U	0.10	U	50.00	U	1.00	U	0.10	U	1.00	U	0.10	U	1.00	U	0.10	U	1.00	U	0.10	U
Chloroethane	13	NA	NA	10.00	U	0.86	U	10.00	U	1.00	U	0.86	U	50.00	U	1.00	U	0.86	U	1.00	U	0.86	U	1.00	U	0.86	U	1.00	U	0.86	U
Chloroform	76	470.8	470.8	10.00	U	0.12	U	10.00	U	1.00	U	0.12	U	50.00	U	0.30	J	0.12	U	0.50	J	0.23	U	2.00		0.64	U	1.00	U	0.12	U
Chloromethane	2.9	470.8	470.8	10.00	U	0.40	U	10.00	U	1.00	U	0.40	U	50.00	U	1.00	UJ	0.40	U	1.00	U	0.40	U	1.00	U	0.40	U	1.00	U	0.40	U
Dibromochloromethane	0.5	34	34	10.00	U	0.08	U	10.00	U	1.00	U	0.08	U	50.00	U	1.00	U	0.08	U	1.00	U	0.08	U	1.00	U	0.08	U	1.00	U	0.08	U
1,1-Dichloroethane	76	NA	NA	10.00	U	0.12	U	10.00	U	1.00	U	0.12	U	9.00	J	72.00	D	2.20		1.00	U	0.12	U	1.00	U	0.12	U	1.00	U	0.12	U
1,2-Dichloroethane	3	40	40	10.00	U	0.18	U	10.00	U	1.00	U	0.18	U	50.00	U	1.00		0.18	U	1.00	U	0.18	U	1.00	U	0.18	U	1.00	U	0.18	U
1,1-Dichloroethene	7	3.2	3.2	10.00	U	0.31	U	10.00	U	1.00	U	0.31	U	50.00	U	**10.00**		2.40		1.00	U	0.31	U	1.00	U	0.31	U	1.00	U	0.31	U
cis-1,2-Dichloroethene	70	NA	NA	na		0.50	J	na		1.00	U	2.30		na		**970.00**	D	**150.00**	D	1.00	U	0.16	U	1.00	U	0.16	U	na		0.16	U
trans-1,2-Dichloroethene	100	11000	11000	na		0.36	U	na		1.00	U	0.36	U	na		4.00		1.60		1.00	U	0.36	U	1.00	U	0.36	U	1.00	U	0.36	U
1,2-Dichloroethene (total)	NA	7000	7000	10.00	U	na		9.00	J	na		na		420.00		na		na		na	na	na		na		na		na		na	
1,2-Dichloropropane	5	16	16	10.00	U	0.17	U	10.00	U	1.00	U	0.17	U	50.00	U	1.00	U	0.17	U	1.00	U	0.17	U	1.00	UJ	0.17	U	1.00	U	0.17	U
cis-1,3-Dichloropropene	0.4*	12*	12*	10.00	U	0.12	U	10.00	U	1.00	U	0.12	U	50.00	U	1.00	U	0.12	U	1.00	U	0.12	U	1.00	U	0.12	U	1.00	U	0.12	U
trans-1,3-Dichloropropene	0.4*	12*	12*	10.00	U	0.15	U	10.00	U	1.00	U	0.15	U	50.00	U	1.00	U	0.15	U	1.00	U	0.15	U	1.00	U	0.15	U	1.00	U	0.15	U
Ethylbenzene	30	610	610	10.00	U	0.87	J	**58.00**		**70.00**	D	**59.00**		50.00	U	1.00	U	0.14	U	1.00	U	0.11	U	1.00	U	0.11	U	1.00	U	0.11	U
2-Hexanone	300	NA	NA	10.00	U	0.29	U	10.00	U	5.00	U	0.29	U	50.00	U	5.00	U	0.29	U	5.00	U	0.29	U	5.00	UR	0.29	U	5.00	UR	0.29	U
Methylene chloride	5	1580	1580	10.00	U	0.61	U	10.00	U	2.00	U	0.61	U	50.00	U	2.00	U	0.61	U	2.00	U	0.61	U	2.00	U	0.61	U	2.00	U	0.61	U
4-Methyl-2-Pentanone (MIBK)	610	23000	23000	10.00	U	0.27	U	10.00	U	5.00	U	0.27	U	50.00	U	5.00	U	0.29	U	5.00	U	0.27	U	5.00	UR	0.27	U	5.00	U	0.27	U
Styrene	100	460	460	10.00	U	0.17	U	10.00	U	1.00	U	0.50	U	50.00	U	1.00	U	0.19	U	1.00	U	0.15	U	1.00	U	0.28	U	1.00	U	0.20	U
Tetrachloroethene	3	8.85	8.85	10.00	U	0.43	U	10.00	U	1.00	U	0.43	U	50.00	U	**23.00**		1.60		0.60	J	0.43	U	1.00		0.43	U	1.00	U	0.43	U
1,1,2,2-Tetrachloroethane	0.2	10.8	10.8	**2.00**	J	0.17	U	10.00	U	0.20	U	0.17	U	50.00	U	0.20	U	0.17	U	1.00	U	0.17	U	1.00	U	0.17	U	1.00	U	0.17	U
1,1,1-Trichloroethane	200	270	270	10.00	U	0.07	U	10.00	U	1.00	U	0.07	U	50.00	U	0.30	J	0.07	U	1.00	U	0.07	U	1.00	UJ	0.07	U	1.00	U	0.07	U
1,1,2-Trichloroethane	5	17	17	10.00	U	0.11	U	10.00	U	1.00	U	0.11	U	50.00	U	1.00	U	0.11	U	1.00	U	0.11	U	1.00	U	0.11	U	1.00	U	0.11	U
Trichloroethene	3	80.7	80.7	10.00	U	0.13	U	10.00	U	1.00	U	0.20	J	**20.00**	J	**50.00**		**15.00**		1.00	U	0.14	J	1.00	UJ	0.13	U	1.00	UJ	0.13	U
Toluene	40	480	480	10.00	U	0.37	U	6.00	J	5.00		4.50		50.00	U	1.00	U	0.23	U	1.00	U	0.07	U	1.00	U	0.07	U	1.00	U	0.07	U
Vinyl chloride	1	2.6	2.6	**2.00**	J	0.88	J	**55.00**		**48.00**	D	**12.00**		**230.00**		**74.00**	D	**2.40**		1.00	U	0.13	U	1.00	U	0.13	U	1.00	U	0.13	U
Xylene (Total)	20	370	370	1.00	J	0.67	U	**200.00**		**250.00**	D	**170.00**		50.00	U	1.00	U	0.28	U	1.00	U	0.28	U	1.00	U	0.28	U	1.00	U	0.28	U

Notes:
All results are in micrograms per liter or parts per billion (ppb).
GCTL = groundwater cleanup target level (June 6, 2003)
FSWCTL = Freshwater surface water criteria (June 6, 2003)
MSWCTL = Marine surface water criteria (June 6, 2003)
* = GCTL, FSWCTL & MSWCTL for 1,3-dichloropropene (total)
GCTL exceedances in BOLD
U = not detected
J = estimated concentration below method detection limit and above ins
na = not analyzed
na = not applicable

Table 17
Groundwater VOAs, OU 2, NAS Pensacola

			Well ID	12GS10				12GS17		25GI01						25GI02						25GS04 (25GS10)		25GS10	
	Florida CTLs (ppb)			1995		2003		2003		1993		1995		2003		1993		1995		2003		1993		2003	
Parameter	GCTL	FSWCTL	MSWCTL	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
Acetone	760	1700	1700	5.00	UR	5.00	U	3.60	U	10.00	U	5.00	U	2.30	U	10.00	U	22.00	UR	2.30	U	10.00	U	2.70	U
Benzene	1	71.28	71.28	1.00	U	0.10	U	0.10	U	10.00	U	1.00	U	0.10	U	10.00	U	1.00	U	0.10	U	10.00	U	0.10	U
Bromodichloromethane	0.6	22	22	1.00	U	0.18	U	0.18	U	10.00	U	0.60	U	0.18	U	10.00	U	0.60	U	0.18	U	10.00	U	0.18	U
Bromoform	4.8	360	360	1.00	U	0.19	U	0.19	U	10.00	U	1.00	U	0.19	U	10.00	U	1.00	U	0.19	U	10.00	U	0.19	U
Bromomethane	11	35	35	1.00	U	0.49	U	0.49	U	10.00	U	1.00	U	0.49	U	10.00	U	1.00	UJ	0.49	U	10.00	U	0.49	U
2-Butanone (MEK)	4600	120000	120000	5.00	UR	0.93	U	1.20	U	10.00	U	5.00	U	0.68	U	10.00	U	5.00	U	0.48	U	10.00	U	0.83	U
Carbon disulfide	760	110	110	1.00	U	0.72	U	0.72	U	10.00	U	1.00	U	0.72	U	10.00	U	1.00	U	0.72	U	10.00	U	0.72	U
Carbon tetrachloride	3	4.42	4.42	1.00	UJ	0.15	U	0.15	U	10.00	U	1.00	U	0.15	U	10.00	U	1.00	U	0.15	U	10.00	U	0.15	U
Chlorobenzene	100	17	17	1.00	U	0.10	U	0.10	U	10.00	U	1.00	U	0.10	U	10.00	U	1.00	U	2.10		10.00	U	0.10	U
Chloroethane	13	NA	NA	1.00	U	0.86	U	0.86	U	10.00	U	1.00	U	0.86	U	10.00	U	1.00	U	0.86	U	**44.00**		0.86	U
Chloroform	76	470.8	470.8	1.00	U	0.36	U	0.23	U	10.00	U	1.00	U	0.12	U	1.00	J	1.00	U	0.12	U	10.00	U	0.12	U
Chloromethane	2.9	470.8	470.8	1.00	U	0.40	U	0.40	U	10.00	U	1.00	U	0.40	U	10.00	U	1.00	U	0.40	U	10.00	U	0.40	U
Dibromochloromethane	0.5	34	34	1.00	U	0.08	U	0.08	U	10.00	U	1.00	U	0.08	U	10.00	U	1.00	U	0.08	U	10.00	U	0.08	U
1,1-Dichloroethane	76	NA	NA	12.00		0.20	J	0.22	J	10.00	U	1.00		0.84	J	10.00	U	1.00		6.80		**90.00**		1.30	
1,2-Dichloroethane	3	40	40	1.00	U	0.18	U	0.18	U	10.00	U	1.00	U	0.18	U	10.00	U	1.00	U	0.18	U	10.00	U	0.18	U
1,1-Dichloroethene	7	3.2	3.2	0.80	J	0.31	U	0.31	U	10.00	U	0.40	J	0.31	U	1.00	J	0.60	J	0.51	J	3.00	J	0.31	U
cis-1,2-Dichloroethene	70	NA	NA	3.00		6.70		11.00		na		0.50	J	0.38	J	na		0.20	J	0.16	U	na		3.80	
trans-1,2-Dichloroethene	100	11000	11000	1.00	U	0.36	U	0.36	U	na		1.00	U	0.36	U	na		1.00	U	0.36	U	na		0.36	U
1,2-Dichloroethene (total)	NA	7000	7000	na		na		na		10.00	U	na		na		10.00	U	na		na		10.00	U	na	
1,2-Dichloropropane	5	16	16	1.00	UJ	0.17	U	0.17	U	10.00	U	1.00	U	0.17	U	10.00	U	1.00	U	0.17	U	10.00	U	0.17	U
cis-1,3-Dichloropropene	0.4*	12*	12*	1.00	U	0.12	U	0.12	U	10.00	U	1.00	U	0.12	U	10.00	U	1.00	U	0.12	U	10.00	U	0.12	U
trans-1,3-Dichloropropene	0.4*	12*	12*	1.00	U	0.15	U	0.15	U	10.00	U	1.00	U	0.15	U	10.00	U	1.00	U	0.15	U	10.00	U	0.15	U
Ethylbenzene	30	610	610	1.00	U	0.11	U	5.70		10.00	U	1.00	U	0.11	U	10.00	U	1.00	U	0.11	U	2.00	J	4.80	
2-Hexanone	300	NA	NA	5.00	UR	0.29	U	0.29	U	10.00	U	5.00	U	0.29	U	10.00	U	5.00	U	0.29	U	10.00	U	0.29	U
Methylene chloride	5	1580	1580	2.00	U	0.61	U	0.61	U	12.00	U	2.00	U	0.61	U	10.00	U	2.00	U	0.61	U	10.00	U	0.61	U
4-Methyl-2-Pentanone (MIBK)	610	23000	23000	5.00	UR	0.27	U	0.27	U	10.00	U	5.00	U	0.27	U	10.00	U	5.00	U	0.27	U	10.00	U	0.27	U
Styrene	100	460	460	1.00	U	0.31	U	0.05	U	10.00	U	1.00	U	0.08	U	10.00	U	1.00	U	0.05	U	10.00	U	0.05	U
Tetrachloroethene	3	8.85	8.85	2.00		1.50		2.40		10.00	U	0.90	J	0.43	U	1.00	J	2.00		0.43	U	10.00	U	0.43	U
1,1,2,2-Tetrachloroethane	0.2	10.8	10.8	1.00	U	0.17	U	0.17	U	10.00	U	0.20	U	0.17	U	10.00	U	0.20	U	0.17	U	10.00	U	0.17	U
1,1,1-Trichloroethane	200	270	270	1.00	UJ	0.07	U	0.07	U	10.00	U	1.00	U	0.07	U	2.00	J	0.60	J	0.07	U	10.00		0.07	U
1,1,2-Trichloroethane	5	17	17	1.00	U	0.11	U	0.11	U	10.00	U	1.00	U	0.11	U	10.00	U	1.00	U	0.11	U	10.00	U	0.11	U
Trichloroethene	3	80.7	80.7	0.60	J	0.28	J	0.35	J	**14.00**		**17.00**		**8.20**		**5.00**	J	**10.00**		1.40		10.00	U	0.13	U
Toluene	40	480	480	1.00	U	0.07	U	0.35	U	10.00	U	1.00	U	0.07	U	10.00	U	1.00	U	0.07	U	10.00	U	0.32	U
Vinyl chloride	1	2.6	2.6	1.00	U	0.13	U	0.13	U	10.00	U	1.00	U	0.13	U	10.00	U	1.00	U	0.13	U	**7.00**	J	0.13	U
Xylene (Total)	20	370	370	1.00	U	0.28	U	0.28	U	10.00	U	1.00	U	0.28	U	10.00	U	1.00	U	0.28	U	5.00	J	18.00	

Notes:
All results are in micrograms per liter or parts per billion (ppb).
GCTL = groundwater cleanup target level (June 6, 2003)
FSWCTL = Freshwater surface water criteria (June 6, 2003)
MSWCTL = Marine surface water criteria (June 6, 2003)
* = GCTL, FSWCTL & MSWCTL for 1,3-dichloropropene (total)
GCTL exceedances in BOLD
U = not detected
J = estimated concentration below method detection limit and above ins
na = not analyzed
na = not applicable

Table 17
Groundwater VOAs, OU 2, NAS Pensacola

			Well ID	27GI02						27GI04				27GI06				27GS02						27GS04					
	Florida CTLs (ppb)			1993		1995		2003		1993		2003		1993		2003		1993		1995		2003		1993		1995		2003	
Parameter	GCTL	FSWCTL	MSWCTL	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
Acetone	760	1700	1700	10.00	U	13.00	UR	4.70	U	10.00	U	2.30	U	10.00	U	8.80	U	10.00	U	5.00	UR	12.00	U	10.00	U	5.00	U	19.00	U
Benzene	1	71.28	71.28	**25.00**		1.00	U	0.17	U	10.00	U	0.10	U	10.00	U	0.10	U	10.00	U	1.00	U	0.10	U	10.00	U	1.00	U	**3.10**	
Bromodichloromethane	0.6	22	22	10.00	U	0.60	U	0.18	U	10.00	U	0.18	U	10.00	U	0.18	U	10.00	U	0.60	U	0.18	U	10.00	U	0.60	U	0.18	U
Bromoform	4.8	360	360	10.00	U	1.00	U	0.19	U	10.00	U	0.19	U	10.00	U	0.19	U	10.00	U	1.00	U	0.19	U	10.00	U	1.00	U	0.19	U
Bromomethane	11	35	35	10.00	U	1.00	UJ	0.49	U	10.00	U	0.49	U	10.00	U	0.49	U	10.00	U	1.00	U	0.49	U	10.00	U	1.00	UJ	0.49	U
2-Butanone (MEK)	4600	120000	120000	10.00	U	5.00	U	0.48	U	10.00	U	0.60	U	10.00	U	0.48	U	10.00	U	5.00	UR	0.99	U	10.00	U	5.00	U	0.48	U
Carbon disulfide	760	110	110	10.00	U	1.00	U	0.72	U	10.00	U	0.72	U	10.00	U	0.72	U	10.00	U	1.00	U	0.72	U	10.00	U	1.00	U	0.72	U
Carbon tetrachloride	3	4.42	4.42	10.00	U	1.00	U	0.15	U	10.00	U	0.15	U	10.00	U	0.15	U	10.00	U	1.00	U	0.15	U	10.00	U	1.00	U	0.15	U
Chlorobenzene	100	17	17	95.00		1.00	U	0.10	U	10.00	U	0.10	U	10.00	U	0.10	U	10.00	U	1.00	U	0.10	U	10.00	U	1.00	U	0.10	U
Chloroethane	13	NA	NA	10.00	U	1.00	U	0.86	U	10.00	U	0.86	U	10.00	U	0.86	U	10.00	U	1.00	U	0.86	U	10.00	U	3.00		0.86	U
Chloroform	76	470.8	470.8	10.00	U	1.00	U	0.12	U	1.00	J	0.12	U	10.00	U	0.12	U	10.00	U	1.00	U	0.16	U	10.00	U	1.00	U	0.12	U
Chloromethane	2.9	470.8	470.8	10.00	U	1.00	UJ	0.40	U	10.00	U	0.40	U	10.00	U	0.40	U	10.00	U	1.00	U	0.40	U	10.00	U	1.00	U	0.40	U
Dibromochloromethane	0.5	34	34	10.00	U	1.00	U	0.08	U	10.00	U	0.08	U	10.00	U	0.08	U	10.00	U	1.00	U	0.08	U	10.00	U	1.00	U	0.08	U
1,1-Dichloroethane	76	NA	NA	3.00	J	1.00	U	0.12	U	8.00	J	5.70		10.00	U	4.30		10.00	U	1.00	U	0.12	U	17.00		7.00		0.13	J
1,2-Dichloroethane	3	40	40	10.00	U	1.00	U	0.18	U	10.00	U	0.18	U	10.00	U	0.18	U	10.00	U	1.00	U	0.18	U	10.00	U	1.00	U	0.18	U
1,1-Dichloroethene	7	3.2	3.2	10.00	U	1.00	U	0.31	U	**14.00**		**18.00**		10.00	U	**16.00**		10.00	U	1.00	U	0.31	U	**51.00**		1.00	U	0.31	U
cis-1,2-Dichloroethene	70	NA	NA	na		1.00	U	0.16	U	na		4.10		na		0.16	U	na		1.00	U	0.16	U	na		2.00		4.60	
trans-1,2-Dichloroethene	100	11000	11000	na		1.00	U	0.36	U	na		0.36	U	na		0.36	U	na		1.00	U	0.36	U	na		1.00	U	0.36	U
1,2-Dichloroethene (total)	NA	7000	7000	2.00	J	na		na		10.00	U	na		10.00	U	na		10.00	U	na		na		1.00	J	na		na	
1,2-Dichloropropane	5	16	16	10.00	U	1.00	U	0.17	U	10.00	U	0.17	U	10.00	U	0.17	U	10.00	U	1.00	U	0.17	U	10.00	U	1.00	U	0.17	U
cis-1,3-Dichloropropene	0.4*	12*	12*	10.00	U	1.00	U	0.12	U	10.00	U	0.12	U	10.00	U	0.12	U	10.00	U	1.00	U	0.12	U	10.00	U	1.00	U	0.12	U
trans-1,3-Dichloropropene	0.4*	12*	12*	10.00	U	1.00	U	0.15	U	10.00	U	0.15	U	10.00	U	0.15	U	10.00	U	1.00	U	0.15	U	10.00	U	1.00	U	0.15	U
Ethylbenzene	30	610	610	4.00	J	1.00	U	0.11	U	10.00	U	0.11	U	10.00	U	0.11	U	10.00	U	1.00	U	0.11	U	10.00	U	1.00	U	0.11	U
2-Hexanone	300	NA	NA	10.00	U	5.00	U	0.29	U	10.00	U	0.29	U	10.00	U	0.29	U	10.00	U	5.00	U	0.29	U	10.00	U	5.00	U	0.29	U
Methylene chloride	5	1580	1580	10.00	U	2.00	U	0.61	U	10.00	U	0.61	U	10.00	U	0.61	U	10.00	U	2.00	U	0.61	U	10.00	U	2.00	U	0.61	U
4-Methyl-2-Pentanone (MIBK)	610	23000	23000	10.00	U	5.00	U	0.27	U	10.00	U	0.27	U	10.00	U	0.27	U	10.00	U	5.00	U	0.27	U	10.00	U	5.00	U	0.27	U
Styrene	100	460	460	10.00	U	1.00	U	0.05	U	10.00	U	0.11	U	10.00	U	0.09	U	10.00	U	1.00	U	0.26	U	10.00	U	1.00	U	0.14	U
Tetrachloroethene	3	8.85	8.85	10.00	U	1.00	U	0.43	U	10.00	U	2.00		10.00	U	0.63	J	10.00	U	0.40	J	0.43	U	10.00	U	1.00		1.10	
1,1,2,2-Tetrachloroethane	0.2	10.8	10.8	10.00	U	0.20	U	0.17	U	10.00	U	0.17	U	10.00	U	0.17	U	10.00	U	0.20	U	0.17	U	10.00	U	0.20	U	0.17	U
1,1,1-Trichloroethane	200	270	270	10.00	U	1.00	U	0.10	J	12.00		0.30	J	10.00	U	0.07	U	5.00	J	2.00		0.20	J	55.00		1.00	U	0.07	U
1,1,2-Trichloroethane	5	17	17	10.00	U	1.00	U	0.11	U	10.00	U	0.11	U	10.00	U	0.11	U	10.00	U	1.00	U	0.11	U	10.00	U	1.00	U	0.11	U
Trichloroethene	3	80.7	80.7	10.00	U	1.00	U	0.13	U	10.00	U	1.20		10.00	U	0.73	J	**3.00**	J	**3.00**		1.70		**3.00**	J	**7.00**		**3.30**	
Toluene	40	480	480	10.00	U	1.00	U	0.07	U	10.00	U	0.07	U	10.00	U	0.07	U	10.00	U	1.00	U	0.22	U	10.00	U	0.10	J	0.22	U
Vinyl chloride	1	2.6	2.6	**4.00**	J	1.00	U	0.13	U	10.00	U	0.13	U	10.00	U	0.13	U	10.00	U	1.00	U	0.13	U	10.00	U	1.00	U	0.13	U
Xylene (Total)	20	370	370	**34.00**		1.00	U	0.28	U	10.00	U	0.28	U	10.00	U	0.28	U	10.00	U	1.00	U	0.28	U	10.00	U	1.00	U	0.28	U

Notes:
All results are in micrograms per liter or parts per billion (ppb).
GCTL = groundwater cleanup target level (June 6, 2003)
FSWCTL = Freshwater surface water criteria (June 6, 2003)
MSWCTL = Marine surface water criteria (June 6, 2003)
* = GCTL, FSWCTL & MSWCTL for 1,3-dichloropropene (total)
GCTL exceedances in BOLD
U = not detected
J = estimated concentration below method detection limit and above ins
na = not analyzed
na = not applicable

Table 17
Groundwater VOAs, OU 2, NAS Pensacola

			Well ID	27GS05				27GS10						27GS11						27GS17		27GS18			
	Florida CTLs (ppb)			1993		2003		1993		1995		2003		1993		1995		2003		2003		1993		2003	
Parameter	GCTL	FSWCTL	MSWCTL	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
Acetone	760	1700	1700	10.00	U	2.30	U	10.00	U	5.00	U	2.30	U	17.00	U	5.00	UR	2.30	U	2.30	U	100.00	U	18.00	U
Benzene	1	71.28	71.28	10.00	U	0.10	U	10.00	U	1.00	U	0.10	U	17.00	U	1.00	UR	0.10	U	0.10	U	100.00	U	0.10	U
Bromodichloromethane	0.6	22	22	10.00	U	0.18	U	10.00	U	0.60	U	0.18	U	17.00	U	0.60	UR	0.18	U	0.18	U	100.00	U	0.18	U
Bromoform	4.8	360	360	10.00	U	0.19	U	10.00	U	1.00	U	0.19	U	17.00	U	1.00	UR	0.19	U	0.19	U	100.00	U	0.19	U
Bromomethane	11	35	35	10.00	U	0.49	U	10.00	U	1.00	UJ	0.49	U	17.00	U	1.00	UR	0.49	U	0.49	U	100.00	U	0.49	U
2-Butanone (MEK)	4600	120000	120000	10.00	U	0.58	U	10.00	U	5.00	U	0.86	U	17.00	U	5.00	UR	1.90	U	0.88	U	100.00	U	2.60	U
Carbon disulfide	760	110	110	10.00	U	0.72	U	10.00	U	1.00	U	0.72	U	17.00	U	1.00	UR	0.72	U	0.72	U	100.00	U	0.72	U
Carbon tetrachloride	3	4.42	4.42	10.00	U	0.15	U	10.00	U	1.00	U	0.15	U	17.00	U	1.00	UR	0.15	U	0.15	U	100.00	U	0.15	U
Chlorobenzene	100	17	17	10.00	U	0.10	U	10.00	U	1.00	U	1.00		17.00	U	1.00	UR	0.10	U	0.10	U	100.00	U	0.10	U
Chloroethane	13	NA	NA	10.00	U	0.86	U	10.00	U	**22.00**		0.86	U	**84.00**		7.00	J	**13.00**		0.86	U	**33.00**	J	4.60	
Chloroform	76	470.8	470.8	1.00	U	0.77	J	10.00	U	0.40	J	0.12	U	4.00	J	4.00	J	0.12	U	0.12	U	100.00	U	0.12	U
Chloromethane	2.9	470.8	470.8	10.00	U	0.40	U	10.00	U	1.00	U	0.40	U	17.00	U	1.00	UR	0.40	U	0.40	U	100.00	U	0.40	U
Dibromochloromethane	0.5	34	34	10.00	U	0.08	U	10.00	U	1.00	U	0.08	U	17.00	U	1.00	UR	0.08	U	0.08	U	100.00	U	0.08	U
1,1-Dichloroethane	76	NA	NA	7.00	J	0.55	J	7.00	J	260.00	D	1.90		**300.00**		**120.00**	D	35.00		4.90		20.00	J	4.50	
1,2-Dichloroethane	3	40	40	10.00	U	0.18	U	10.00	U	37.00	D	0.18	U	17.00	U	1.00	UR	0.18	U	0.18	U	100.00	U	0.18	U
1,1-Dichloroethene	7	3.2	3.2	3.00	J	0.31	U	**10.00**		**110.00**	D	2.20		**26.00**		**12.00**	J	1.20		0.31	U	100.00	U	0.31	U
cis-1,2-Dichloroethene	70	NA	NA	na		0.16	U	na		15.00		4.40		na		5.00	J	1.60		0.83	J	na		2.90	
trans-1,2-Dichloroethene	100	11000	11000	na		0.36	U	na		1.00	U	0.36	U	na		1.00	UR	0.36	U	0.36	U	na		0.36	U
1,2-Dichloroethene (total)	NA	7000	7000	10.00	U	na		10.00	U	na		na		17.00	U	na		na		na		24.00	J	na	
1,2-Dichloropropane	5	16	16	10.00	U	0.17	U	10.00	U	1.00	U	0.17	U	17.00	U	1.00	UR	0.17	U	0.17	U	100.00	U	0.17	U
cis-1,3-Dichloropropene	0.4*	12*	12*	10.00	U	0.12	U	10.00	U	1.00	U	0.12	U	17.00	U	1.00	UR	0.12	U	0.12	U	100.00	U	0.12	U
trans-1,3-Dichloropropene	0.4*	12*	12*	10.00	U	0.15	U	10.00	U	1.00	U	0.15	U	17.00	U	1.00	UR	0.15	U	0.15	U	100.00	U	0.15	U
Ethylbenzene	30	610	610	10.00	U	0.11	U	10.00	U	1.00	U	0.11	U	17.00	U	1.00	UR	0.11	U	0.11	U	**42.00**	J	11.00	
2-Hexanone	300	NA	NA	10.00	U	0.29	U	10.00	U	5.00	U	0.29	U	17.00	U	5.00	UR	0.29	U	0.29	U	100.00	U	0.29	U
Methylene chloride	5	1580	1580	10.00	U	0.61	U	17.00	U	2.00	U	0.61	U	17.00	U	2.00	UR	0.61	U	0.61	U	100.00	U	0.61	U
4-Methyl-2-Pentanone (MIBK)	610	23000	23000	10.00	U	0.27	U	10.00	U	5.00	U	0.27	U	17.00	U	5.00	UR	0.27	U	0.27	U	100.00	U	0.27	U
Styrene	100	460	460	10.00	U	0.05	U	10.00	U	1.00	U	0.05	U	17.00	U	1.00	UR	0.08	U	0.05	U	100.00	U	0.05	U
Tetrachloroethene	3	8.85	8.85	10.00	U	0.43	U	10.00	U	**9.00**		0.90	J	**4.00**	J	2.00	J	1.70		0.86	J	**62.00**	J	**10.00**	
1,1,2,2-Tetrachloroethane	0.2	10.8	10.8	10.00	U	0.17	U	10.00	U	0.20	U	0.17	U	17.00	U	0.20	UR	0.17	U	0.17	U	100.00	U	0.17	U
1,1,1-Trichloroethane	200	270	270	8.00	J	0.25	J	160.00		320.00	D	0.07	U	**300.00**		51.00	J	10.00		0.07	U	100.00	U	0.07	U
1,1,2-Trichloroethane	5	17	17	10.00	U	0.11	U	10.00	U	1.00	U	0.11	U	17.00	U	1.00	UR	0.11	U	0.11	U	100.00	U	0.11	U
Trichloroethene	3	80.7	80.7	10.00	U	0.13	U	1.00	J	1.00		0.56	J	17.00	U	1.00	UR	0.20	J	0.13	U	100.00	U	1.10	
Toluene	40	480	480	10.00	U	0.07	U	10.00	U	1.00	U	0.07	U	17.00	U	1.00	UR	0.07	U	0.07	U	100.00	U	0.42	U
Vinyl chloride	1	2.6	2.6	10.00	U	0.13	U	10.00	U	1.00	U	0.13	U	17.00	U	1.00	UR	0.13	U	0.13	U	100.00	U	0.13	U
Xylene (Total)	20	370	370	10.00	U	0.28	U	10.00	U	1.00	U	0.28	U	17.00	U	1.00	UR	0.42	U	0.28	U	**480.00**		**78.00**	

Notes:
All results are in micrograms per liter or parts per billion (ppb).
GCTL = groundwater cleanup target level (June 6, 2003)
FSWCTL = Freshwater surface water criteria (June 6, 2003)
MSWCTL = Marine surface water criteria (June 6, 2003)
* = GCTL, FSWCTL & MSWCTL for 1,3-dichloropropene (total)
GCTL exceedances in BOLD
U = not detected
J = estimated concentration below method detection limit and above ins
na = not analyzed
na = not applicable

Table 17
Groundwater VOAs, OU 2, NAS Pensacola

			Well ID	27GS19						27GS21					
	Florida CTLs (ppb)			1993		1995		2003		1993		1995		2003	
Parameter	GCTL	FSWCTL	MSWCTL	RESULT		RESULT		RESULT		RESULT		RESULT		RESULT	
Acetone	760	1700	1700	100.00	U	4.00	J	2.30	U	10.00	U	5.00	U	2.30	U
Benzene	1	71.28	71.28	100.00	U	1.00	U	0.10	U	10.00	U	1.00	U	0.10	u
Bromodichloromethane	0.6	22	22	100.00	U	0.60	U	0.18	U	10.00	U	0.60	U	0.18	U
Bromoform	4.8	360	360	100.00	U	1.00	U	0.19	U	10.00	U	1.00	U	0.19	U
Bromomethane	11	35	35	100.00	U	1.00	U	0.49	U	10.00	U	1.00	U	0.49	U
2-Butanone (MEK)	4600	120000	120000	100.00	U	5.00	UJ	6.10	U	10.00	U	5.00	U	0.61	U
Carbon disulfide	760	110	110	100.00	U	1.00	U	0.72	U	10.00	U	1.00	U	0.72	U
Carbon tetrachloride	3	4.42	4.42	100.00	U	1.00	U	0.15	U	10.00	U	1.00	U	0.15	U
Chlorobenzene	100	17	17	100.00	U	1.00	U	0.10	U	10.00	U	1.00	U	0.10	U
Chloroethane	13	NA	NA	**96.00**	J	2.00		0.86	U	**190.00**		8.00		0.86	U
Chloroform	76	470.8	470.8	100.00	U	1.00	U	0.16	U	10.00	U	1.00	U	0.12	U
Chloromethane	2.9	470.8	470.8	100.00	U	1.00	U	0.40	U	10.00	U	1.00	U	0.40	U
Dibromochloromethane	0.5	34	34	100.00	U	1.00	U	0.08	U	10.00	U	1.00	U	0.08	U
1,1-Dichloroethane	76	NA	NA	72.00	J	3.00		1.40		45.00		17.00		3.10	
1,2-Dichloroethane	3	40	40	100.00	U	1.00	U	0.18	U	10.00	U	1.00	U	0.18	U
1,1-Dichloroethene	7	3.2	3.2	100.00	U	1.00	U	1.20		**15.00**		1.00	U	0.31	U
cis-1,2-Dichloroethene	70	NA	NA	na		**25.00**	D	**300.00**	D	na		1.00	U	0.36	J
trans-1,2-Dichloroethene	100	11000	11000	na		1.00	U	0.36	U	na		1.00	U	0.36	U
1,2-Dichloroethene (total)	NA	7000	7000	130.00		na		na		10.00	U	na		na	
1,2-Dichloropropane	5	16	16	100.00	U	1.00	U	0.17	U	10.00	U	1.00	U	0.17	U
cis-1,3-Dichloropropene	0.4*	12*	12*	100.00	U	1.00	U	0.12	U	10.00	U	1.00	U	0.12	U
trans-1,3-Dichloropropene	0.4*	12*	12*	100.00	U	1.00	U	0.15	U	10.00	U	1.00	U	0.15	U
Ethylbenzene	30	610	610	**63.00**	J	10.00		**61.00**		3.00	J	1.00	U	0.11	U
2-Hexanone	300	NA	NA	100.00	U	5.00	U	0.29	U	10.00	U	5.00	U	0.29	U
Methylene chloride	5	1580	1580	10.00	U	2.00	U	0.61	U	21.00	U	2.00	U	0.61	U
4-Methyl-2-Pentanone (MIBK)	610	23000	23000	100.00	U	5.00	U	0.27	U	10.00	U	5.00	U	0.27	U
Styrene	100	460	460	100.00	U	1.00	U	0.05	U	10.00	U	1.00	U	0.05	U
Tetrachloroethene	3	8.85	8.85	**61.00**	J	**32.00**	D	**65.00**		**3.00**	J	2.00		0.58	J
1,1,2,2-Tetrachloroethane	0.2	10.8	10.8	100.00	U	0.20	U	0.17	U	10.00	U	0.20	U	0.17	U
1,1,1-Trichloroethane	200	270	270	100.00	U	1.00	U	0.07	U	1.00	J	1.00	U	0.10	J
1,1,2-Trichloroethane	5	17	17	100.00	U	1.00	U	0.11	U	10.00	U	1.00	U	0.11	U
Trichloroethene	3	80.7	80.7	**130.00**		**17.00**		**3.60**		10.00	U	1.00	U	0.13	U
Toluene	40	480	480	**53.00**	J	5.00		2.20		4.00	J	1.00	U	0.07	U
Vinyl chloride	1	2.6	2.6	100.00	U	1.00	U	0.61	J	10.00	U	1.00	U	0.13	U
Xylene (Total)	20	370	370	**640.00**		**79.00**	D	**530.00**		**50.00**		1.00	U	0.28	U

Notes:
All results are in micrograms per liter or parts per billion (ppb).
GCTL = groundwater cleanup target level (June 6, 2003)
FSWCTL = Freshwater surface water criteria (June 6, 2003)
MSWCTL = Marine surface water criteria (June 6, 2003)
* = GCTL, FSWCTL & MSWCTL for 1,3-dichloropropene (total)
GCTL exceedances in BOLD
U = not detected
J = estimated concentration below method detection limit and above ins
na = not analyzed
na = not applicable

Table 18
Historical Trends in VOA Concentrations in Groundwater

Well	1993 Exceedances	1995 Exceedances	2003 Exceedances	Comments
30GS111	1	0	3	Concentrations increasing
30GI111	3	2	3	Concentrations decreasing
30GS06	5	0	3	Ethybenzene increases; benzene, toluene, xylene, and methylene chloride decrease
30GS18	0	0	1	Concentrations stable
30GS22	4	6	3	Concentrations decreasing
30GS28	6	8	1	Significant Concentration decreases
30GS46	3	3	1	Concentrations decreasing
30GI170	2	Not analyzed	3	Concentrations increasing
111GI02	1	1	2	Concentrations increasing
11GI10	1	Not analyzed	1	1,2-dichloroethene decreases
11GI12	1	1	3	Concentrations increasing
11GI14	1	2	3	Concentrations increasing
11GS28	2	Not analyzed	1	Benzene increasing
11GS47	3	4	4	Benzene increases; ethylbenzene is stable; VC and xylene decrease
11GM52	2	5	3	Concentrations decreasing
25GI01	1	1	1	Concentrations decreasing
27GI04	1	0	1	Concentrations decreasing
27GI06	0	Not analyzed	1	Concentrations increasing
27GS04	2	1	2	Concentrations decreasing, benzene increasing
27GS11	5	2	1	Concentrations decreasing
27GS18	4	Not analyzed	2	Concentrations decreasing
27GS19	6	4	5	Cis-1,2-DCE, PCE, and xylene increasing; Ethylbenzene stable; TCE decreasing

Note:
Only monitoring wells with exceedances in 2003 are included in this table. Refer to Table 17 for a complete summary of detections and exceedances.

Table 19
NA Parameters, Analysis Methods, and Rationale

Parameter	Method	Rationale
Oxidation reduction potential (ORP) (millivolts, mV)	Field, direct reading from Horiba U-22	Provides general indicator of aquifer redox; higher positive values indicate oxidizing conditions whereas higher negative values indicate reducing conditions
Nitrate (mg/L)	Field, Hach method NitraVer	Redox couple. Decreasing concentrations indicate denitrification is occurring as nitrate is utilized as an electron acceptor, producing nitrite, ammonia, or N_2.
Dissolved oxygen (mg/L)	Field, Winkler titration	Primary indicator of aquifer redox; concentrations less than 0.5 mg/L indicate anaerobic conditions
Hydrogen (nanomoles/L, nM)	Laboratory	An overall indicator of microbial activity and therefore biodegradation. Concentrations have been shown to correspond to predominant aquifer redox processes as follows: <0.1 nM (denitrification), 0.2-0.8 nM (ferric iron reduction), 1-4 nM (sulfate reduction), and >5 nM (methanogenesis)
Nitrogen	Laboratory	Redox couple. Increasing concentrations indicate denitrification is occurring via reduction of nitrate.
Carbon dioxide	Laboratory	Redox couple. Decreasing concentrations indicate methanogenesis (methane production) is occurring as CO_2 is utilized as an electron acceptor, producing methane.
Methane	Laboratory, Method 8015M	Redox couple. Increasing concentrations indicate methanogenesis is occurring as CO_2 is utilized as an electron acceptor, producing methane.
Iron (II)	Field, Hach Method 8146 (1,10 phenathroline)	Redox couple. Increasing concentrations indicate ferric iron reduction is occurring as Fe^{3+} is utilized as an electron acceptor, producing ferrous iron (Fe II).
Sulfate	Field, Hach method 8051 (SulfaVer)	Redox couple. Decreasing concentrations indicate sulfate reduction is occurring as SO_4 is utilized as an electron acceptor, producing sulfide.
Sulfide	Field, 8131 (methylene blue)	Redox couple. Increasing concentrations indicate sulfate reduction is occurring as SO_4 is utilized as an electron acceptor, producing sulfide.
Chloride	Field, silver nitrate titration	Increasing concentrations indicate reductive dechlorination is occurring as chloride atoms are liberated during biodegradation of chlorinated ethenes/ethanes.
Alkalinity	Field, phenolphthalein method	An overall indicator of microbial activity. Concentrations increase as rock/aquifer material dissolves under the increased production of CO_2 from microbial metabolism.

Table 20
Preliminary Monitored Natural Attenuation Screening Rankings
March 2003, OU 2, NAS Pensacola

			Flowpath #1		Flowpath #2			Flowpath #3						bkgd	bkgd
	Analyte	units	30GS22	30GS27	12GS01	11GS05	11GS47	27GI06	30GI170	30GS170	30GS123	11GS07	11GI08	30GI32A	30GS15
			U	D	U	M	D	U	D						
VOCs	Benzene	ug/L	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND
	Toluene	ug/L	ND	ND	ND	ND	4.5	ND	ND	ND	ND	ND	ND	ND	ND
	Ethylbenzene	ug/L	ND	ND	ND	ND	59	ND	ND	ND	ND	ND	ND	ND	ND
	Xylene	ug/L	ND	ND	ND	4.8	170	ND	ND	ND	ND	ND	ND	ND	ND
	Chlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	0.8	ND	ND	ND	ND	ND	ND
	PCE	ug/L	4.2	0.73	ND	ND	ND	0.63	1	ND	ND	ND	ND	ND	ND
	TCE	ug/L	0.6	ND	0.14	ND	0.2	0.73	310	0.2	0.85	ND	ND	ND	ND
	cis-1,2-DCE	ug/L	16	1.9	ND	4.5	2.3	ND	100	ND	0.47	ND	ND	ND	ND
	trans-1,2-DCE	ug/L	ND	ND	ND	ND		ND	3.1	ND	0.42	ND	ND	ND	ND
	VC	ug/L	0.3	ND	ND	ND	12	ND	3.8	ND	ND	ND	ND	ND	ND
	1,1,1-TCA	ug/L	35	0.63	ND	ND	ND	ND	ND	ND	0.3	ND	ND	ND	ND
	1,1-DCA	ug/L	180	1.6	ND	ND	ND	4.3	0.25	0.13	ND	ND	ND	ND	ND
	CA	ug/L	22	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	1,1-DCE	ug/L	2	1.5	ND	ND	ND	16	2.8	ND	0.78	ND	ND	0.35	ND
Dissolved Gases	Carbon Dioxide	mg/L	130	20	21	74	78	38	31	21	41	15	8	37	30
	Dissolved Oxygen	mg/L	0.00	1.72	2.65	0	0.12	0.5	0.22	1.88	0.10	0.42	0.6	0.78	3.02
	Hydrogen	nmol/L	1.10	0.90	0.48	0.69	2.80	0.67	0.81	0.54	1.1	0.83	0.40	0.91	0.9
	Nitrogen	mg/L	15	16	16	15	7.2	17	14	16	17	17	17	18	15
	Methane	mg/L	64	22	4.7	1400	8700	5	99	2.8	90	11	56	0.04	<0.02
Geochemical Parameters	pH	std units	6.26	6.16	6.80	5.47	5.71	5.85	5.03	6.57	5.87	6.36	6.75	5.65	6.31
	Redox Potential	mV	-180	292	137	-113	--	224	298	173	-112	0	0	277	153
	Alkalinity	mg/L	105	30	90	30	65	10	80	5	30	--	75	10	40
	Chloride	mg/L	25	20	20	30	15	30	35	40	50	--	1520	40	40
	Nitrate as N	mg/L	1.9	2.1	1.8	2.6	2.1	0.7	0.90	1.2	0.7	1	0.3	2.4	1.4
	Iron (II)	mg/L	0.4	0.2	0.0	1.1	1.1	0.46	1.4	0.1	0.2	0.6	0.41	0.02	0.0
	Sulfate	mg/L	22	23	72	44	3	16	22	0	43	28	16	26	--
	Sulfide	mg/L	1.3	0.016	0.002	0.077	ND	0.008	0.081	0.005	0.014	0.029	0.007	0.052	--
	Specific Conductivity	mmho/cm	0.30	0.09	0.20	0.12	0.09	0.14	0.12	0.24	0.18	0.24	3.52	0.15	0.20
	TDS	mg/L	0.20	0.00	0.13	0.08	0.06	--	--	0.15	0.12	0.05	2.34	0.00	0.13
	Temperature	°C	24.0	23.2	24.1	30.2	21.7	24.1	23.3	23.4	20.6	19.8	21.7	24.1	23.4
Preliminary Screening Ranking	*Dissolved Oxygen*	POINTS	3	0	0	3	3	0	3	0	3	3	0	0	0
	Nitrate as N		0	0	0	0	0	2	2	0	2	0	2	0	0
	Iron (II)		0	0	0	3	3	0	3	0	0	0	0	0	0
	Sulfate		0	0	0	0	2	2	0	2	0	0	2	0	0
	Sulfide		3	0	0	0	0	0	0	0	0	0	0	0	0
	Methane		0	0	0	3	3	0	0	0	0	0	0	0	0
	Redox Potential		2	0	0	2	0	0	0	0	2	1	1	0	0
	pH		0	0	0	0	0	0	0	0	0	0	0	0	0
	Temperature		1	1	1	1	1	1	1	1	1	0	1	1	1
	*Carbon Dioxide **		1	0	0	1	1	0	0	0	0	0	0	0	0
	*Alkalinity**		1	0	1	0	0	0	1	0	0	0	0	0	0
	Hydrogen		1	0	0	0	1	0	0	0	1	0	0	0	0
	*Chloride**		0	0	0	0	0	0	0	0	0	0	2	0	0
	BTEX		0	0	0	0	2	0	0	0	0	0	0	0	0
	TCE		2	2	0	2	0	2	2	0	2	2	2	2	2
	DCE		2	2	0	2	2	0	2	0	2	0	0	2	0
	VC		2	2	2	2	2	2	2	2	2	2	2	2	2
	1,1-DCA		2	2	2	2	2	2	2	2	2	2	2	2	2
	CA		2	0	0	0	0	0	0	0	0	0	0	0	0
	Total Points		**22**	**9**	**6**	**21**	**22**	**11**	**18**	**7**	**17**	**10**	**14**	**9**	**7**
	NA evidence		**S**	**L**	**L**	**S**	**S**	**L**	**A**	**L**	**A**	**L**	**L**	**L**	**L**

Notes:
GCTL exceedances
* compared to bkgd conc at
30GS15 (shallow) or 30GI32A (int)
U= upgradient location
M= midgradient location
D=downgradient location
S = Strong Potential
A = Adequate Potential
L = Limited Potential
I = Inadequate Potential
ND = Not detected
--' = no results available

	background values*			
	30GS15	***2X***	30GI32A	***2X***
Cl	40	80	40	80
CO2	30	60	37	74
ALK	40	80	10	20

Table 21 NA Rankings at Locations with GCTL Exceedances				
Overall Ranking	**11GS47** **Strong**	**27GI06** **Limited**	**30GS22** **Strong**	**30GI170** **Adequate**
VOC GCTL exceedances	Benzene Ethylbenzene Xylenes Vinyl chloride	1,1-DCA	PCE 1,1-DCA Chloroethane	TCE cis-1,2-DCE Vinyl chloride
Ethane parent compound	None	None	1,1,1-TCA	None
Ethane daughter compounds	None	1,1-DCA 1,1-DCE	1,1-DCA Chloroethane	None
Ethene parent compound	None	PCE & TCE < 1 ppb each	PCE	TCE
Ethene daughter compounds	cDCE VC	1,1-DCE	cDCE 1,1-DCE VC < 1 ppb	cDCE tDCE VC 1,1-DCE
Additional carbon source	BTEX	None	None	None
Redox (ORP)	Not collected	Aerobic (224)	Anaerobic (-180)	Aerobic (298)
H_2 redox	Sulfate reduction	Fe (III) reduction	Fe (III) reduction	Fe (III) reduction
Electron acceptors:				
DO	<0.5 – Anaerobic	0.5 – anaerobic	0 – anaerobic	<0.5 – anaerobic
NO_3	above background	Below background	above background	below background
Fe (II)	highest conc.	low (low total Fe)	Low	High
SO4	Low	Low	Moderate	Moderate
S-	ND	Low	Highest	2nd highest
CH_4	Highest	Low	Moderate	Moderate
CO_2	> 2X background	< 2X background	> 2X background	< 2X background

Note:

Background refers to background concentrations for either shallow or intermediate groundwater, shown previously in Table 20

Table 22
Total Chloride Determination at 30GS22

	Conc. (mg/L)	Molecular Wt (g)	Chloride Mass (g)	Cl to VOC Mass Ratio (Cl per 1 gm VOC)	Organic Cl (mg/L)
PCE	0.0042	165.83	141.81	0.86	0.003612
TCE	0.0006	131.39	106.36	0.81	0.000486
cDCE	0.016	96.95	70.91	0.73	0.01168
VC	0.0003	62.51	35.453	0.57	0.000171
TCA	0.035	133.41	106.36	0.8	0.028
1,1-DCA	0.18	98.97	70.91	0.72	0.1296
CA	0.022	64.53	35.453	0.55	0.0121
1,1-DCE	0.002	96.95	70.91	0.73	0.00146
Subtotal					0.187109
+ CL (mg/L)					25
TOTAL CL (mg/L)					25.19

Table 23 Normalized VOA Concentrations at Downgradient Well 30GS27			
VOC	**C_B (μg/L)**	**T_A/T_B —**	**$C_{B,COR}$ (μg/L)**
PCE	0.73	1.26	0.92
cDCE	1.9	1.26	2.39
TCA	0.63	1.26	0.79
DCA	1.6	1.26	2.02

Table 24 Estimates of First Order Biodegradation Decay Constants 30GS22-30GS27 Flowpath						
VOC	**K_{oc} (L/kg)**	**K_d (L/kg)**	**R Unitless**	**V_c (ft/d)**	**t (yr)**	**λ (1/yr)**
PCE	209	0.209	2.42	0.37	1.33	1.1
cDCE	49	0.049	1.33	0.68	0.73	2.6
TCA	183	0.183	2.24	0.40	1.23	3.1
DCA	33	0.033	1.22	0.74	0.67	6.7

Notes:

Koc = organic carbon partition coefficient, obtained from Technical Protocol at 25° C (approximate groundwater temperature during sampling)

Kd = distribution coefficient equal to Koc*foc where foc assumed as 0.001 (0.1%) (no data from RI available)

R = retardation factor, equal to 1+(bulk density/K_d)/n, where bulk density assumed as 1.7 g/cm^3 and n assumed as 25%, reasonable values for clean sand

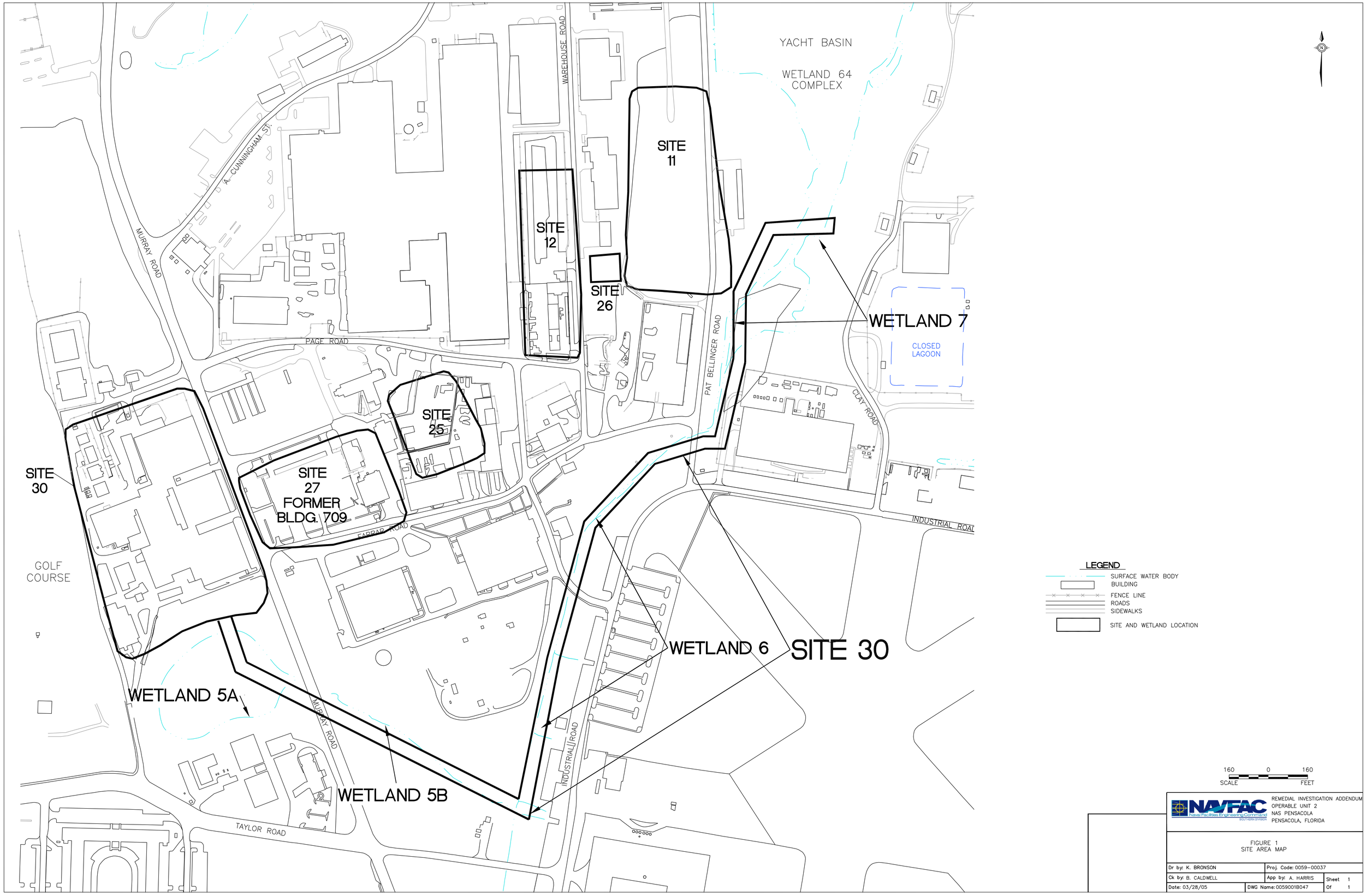
Vc = ontaminant velocity, equal to seepage velocity divided by R; seepage velocity estimates obtained from OU-2 FS (EnSafe, 1999) for northern wave cut terrace (0.9 ft/day)

t = travel time, equal to x/Vc where x is the flowpath distance (180 ft)

λ = first order rate constant determined by equation (3), where C_A is the VOC concentration at the upgradient location, 30GS22.

Table 25
BTEX Assimilative Capacity at 11GS47 (mg/L)

Parameter	12GS01 (bkgd)	11GS47 (plume)	Difference	Multiplier	Capacity
DO	2.65	0.12	2.53	0.97	2.45
NO_3	1.8	2.1	—	0.21	—
Fe II	0	1.1	1.1	0.05	0.055
SO_4	72	3	69	0.21	14.49
CH_4	4.7	8700	8695	1.28	11130
				SUM	*11147*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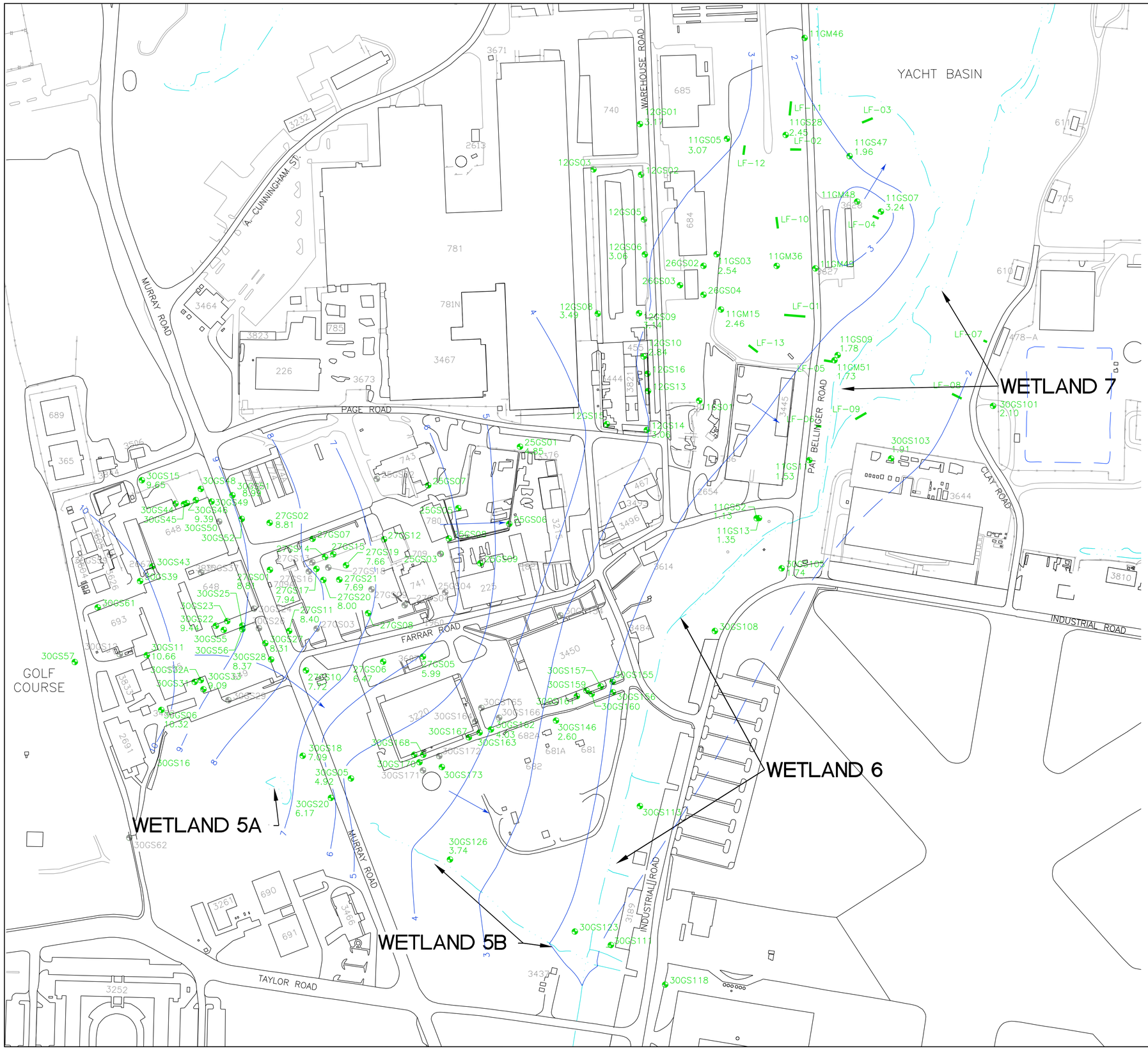
WETLAND 64 COMPLEX
WAREHOUSE ROAD
A. CUNNINGHAM ST.
MURRAY ROAD
SITE 11
SITE 12
SITE 26
WETLAND 7
CLOSED LAGOON
PAGE ROAD
PAT BELLINGER ROAD
CLAY ROAD
SITE 25
SITE 30
SITE 27 FORMER BLDG. 709
INDUSTRIAL ROAD
FARRAR ROAD
GOLF COURSE
WETLAND 6
SITE 30
WETLAND 5A
MURRAY ROAD
INDUSTRIAL ROAD
WETLAND 5B
TAYLOR ROAD
LEGEND
SURFACE WATER BODY
BUILDING
FENCE LINE
ROADS
SIDEWALKS
SITE AND WETLAND LOCATION
160 0 160
SCALE FEET
NAVFAC Naval Facilities Engineering Command
REMEDIAL INVESTIGATION ADDENDUM
OPERABLE UNIT 2
NAS PENSACOLA
PENSACOLA, FLORIDA
FIGURE 1
SITE AREA MAP
Dr by: K. BRONSON
Proj. Code: 0059-00037
Ck by: B. CALDWELL
App by: A. HARRIS
Sheet 1
Date: 03/28/05
DWG Name: 0059001B047
Of 1



LEGEND

- SURFACE WATER BODY
- CLOSED LAGOON
- 743 — BUILDING
- LF-10 — TRENCH LOCATIONS/IDs
- FENCE LINE
- ROADS
- SIDEWALKS
- 11GS47 — SHALLOW GROUNDWATER MONITORING WELL LOCATIONS/IDs AND GROUNDWATER ELEVATION (ABOVE MSL)
- GROUNDWATER FLOW DIRECTION
- 4 — GROUNDWATER CONTOUR

NOTES

160 0 160
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FIGURE 2
SHALLOW PIEZOMETRIC SURFACE
MARCH 2003

Dr by: K. BRONSON	Proj. Code: 0059-00037	
Ck by: JPG	App by: H. BEIRO	Sheet 1
Date: 07/29/04	DWG Name: 0059037R001	Of 1

YACHT BASIN

WETLAND 7

WETLAND 6

WETLAND 5A

WETLAND 5B

GOLF COURSE

A. CUNNINGHAM ST.

MURRAY ROAD

PAGE ROAD

WAREHOUSE ROAD

PAT BELLINGER ROAD

CLAY ROAD

FARRAR ROAD

INDUSTRIAL ROAD

TAYLOR ROAD

LEGEND

- SURFACE WATER BODY
- CLOSED LAGOON
- 743 BUILDING
- LF-10 TRENCH LOCATIONS/IDs
- FENCE LINE
- ROADS
- SIDEWALKS
- 11GS47 SHALLOW GROUNDWATER MONITORING WELL LOCATIONS/IDs
- 30GL126 INTERMEDIATE GROUNDWATER MONITORING WELL LOCATIONS/IDs AND GROUNDWATER ELEVATION (IN FEET ABOUT MSL)
- GROUNDWATER FLOW DIRECTION
- 4 GROUNDWATER CONTOUR

NOTES

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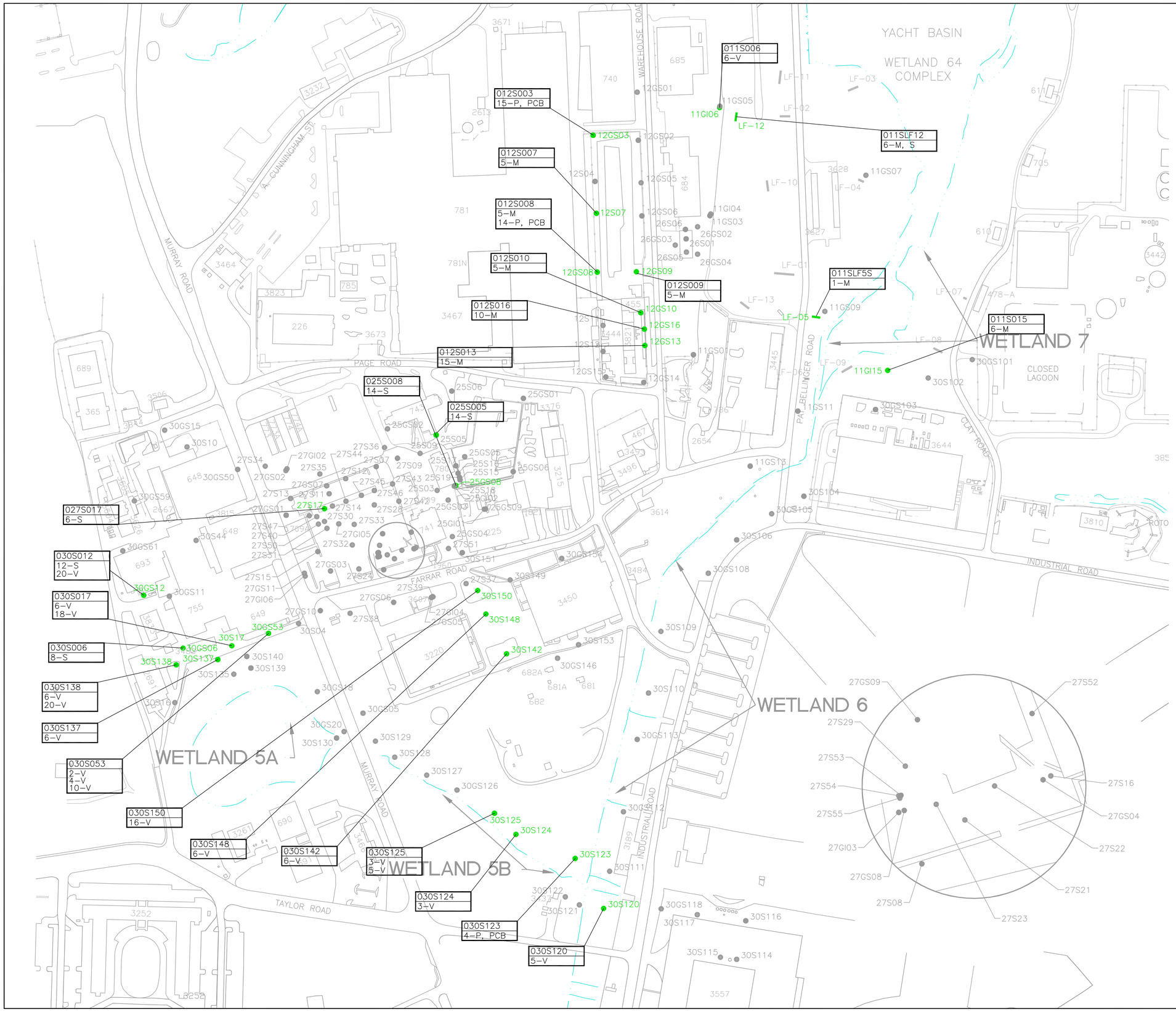
PENSACOLA, FLORIDA

FIGURE 3
INTERMEDIATE PIEZOMETRIC SURFACE
MARCH 2003

Dr by: K. BRONSON	Proj. Code: 0059-00037	
Ck by: JPG	App by: H. BEIRO	Sheet 1
Date: 07/29/04	DWG Name: 0059037R002	Of 1



LEGEND

- SURFACE WATER BODY
- 743 — BUILDING
- LF-12 — TRENCH LOCATIONS/IDs
- FENCE LINE
- ROADS
- SIDEWALKS
- 030S109 10-M — SOIL BORING LOCATIONS WITH SAMPLE DEPTH AND PARAMETER GROUP
- 6-V — SAMPLE COLLECTED FROM 6 FEET BELOW LAND SURFACE, ANALYZED FOR VOLATILE ORGANICS.

PARAMETER GROUP KEY

M = METALS
V = VOLATILE ORGANICS
S = SEMI-VOLATILE ORGANICS
P = PESTICIDES
PCB = POLYCHLORINATED BiPHENYLS

NOTES

SAMPLE LOCATION AND ID LABEL DESCRIPTION:
GS – SHALLOW GROUNDWATER WELL SAMPLE LOCATION WITH POSSIBLE SOIL BORING SAMPLE
GI – INTERMEDIATE GROUNDWATER WELL SAMPLE LOCATION WITH POSSIBLE SOIL BORING SAMPLE.

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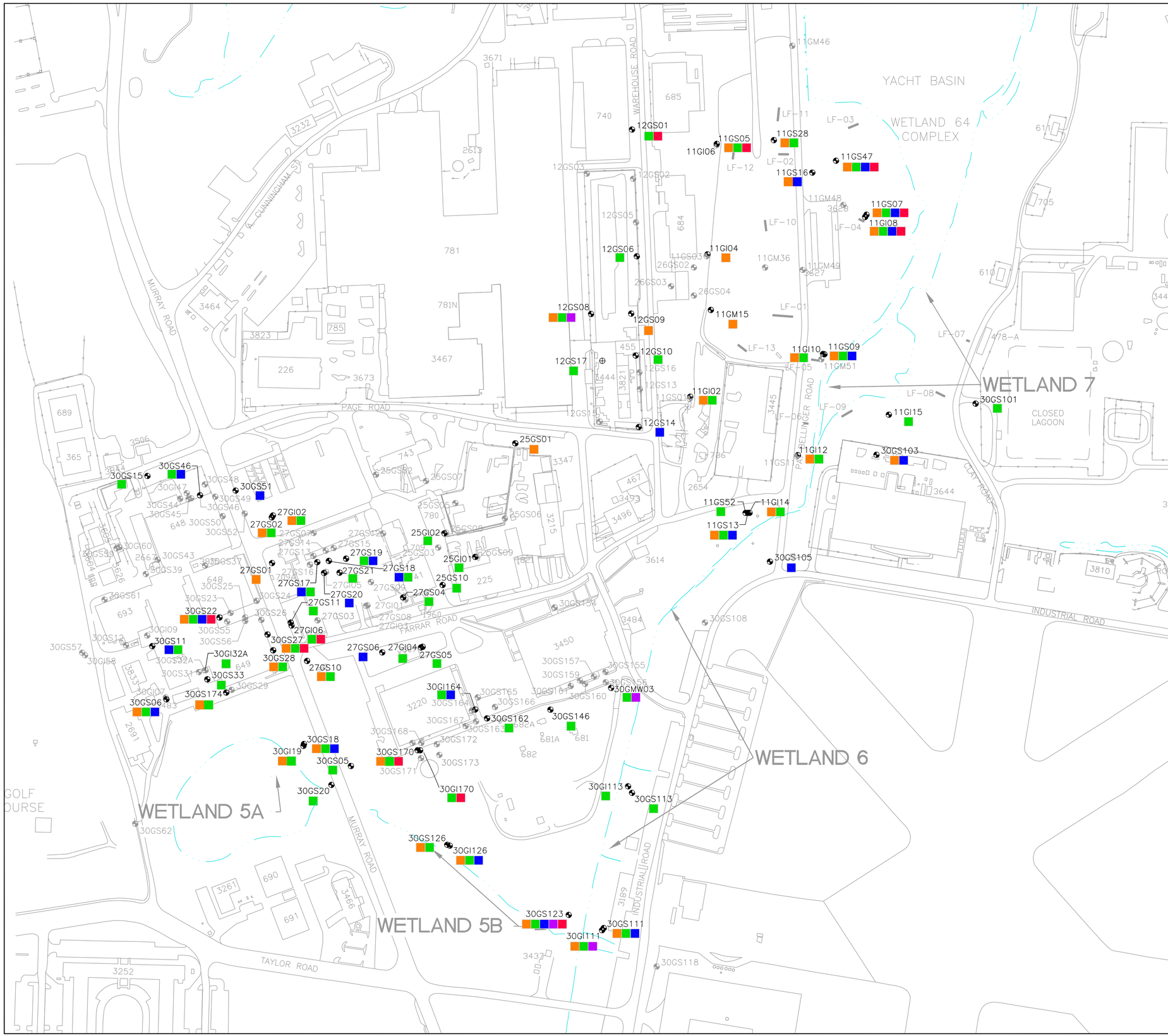
FIGURE 4
SOIL SAMPLE LOCATIONS
MARCH 2003

Dr by: E. ROGERS	Proj. Code: 0059-001	
Ck by: B.CALDWELL	App by: A. HARRIS	Sheet 1
Date: 03/29/05	DWG Name: 0059001R055	Of 1



LEGEND

- SURFACE WATER BODY
- 743 — BUILDING
- LF-10 — TRENCH LOCATIONS/IDs
- FENCE LINE
- ROADS
- SIDEWALKS
- 30GS111 — SHALLOW OR INTERMEDIATE MONITORING WELL LOCATION SAMPLED AND PARAMETER GROUP

RESAMPLING PARAMETERS LEGEND

- Metals
- Volatile Organics
- Semi-Volatile Organics
- Pesticides/PCBs
- MNA

NOTES

SAMPLE LOCATION AND ID LABEL DESCRIPTION:
GS – SHALLOW GROUNDWATER WELL SAMPLE LOCATION WITH POSSIBLE SOIL BORING SAMPLE
GI – INTERMEDIATE GROUNDWATER WELL SAMPLE LOCATION WITH POSSIBLE SOIL BORING SAMPLE.

160 0 160
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FIGURE 5
GROUNDWATER SAMPLING LOCATIONS
MARCH 2003

Dr by: E. ROGERS	Proj. Code: 0059-001	
Ck by: B. CALDWELL	App by: A. HARRIS	Sheet 1
Date: 03/29/05	DWG Name: 0059001R219	Of 1

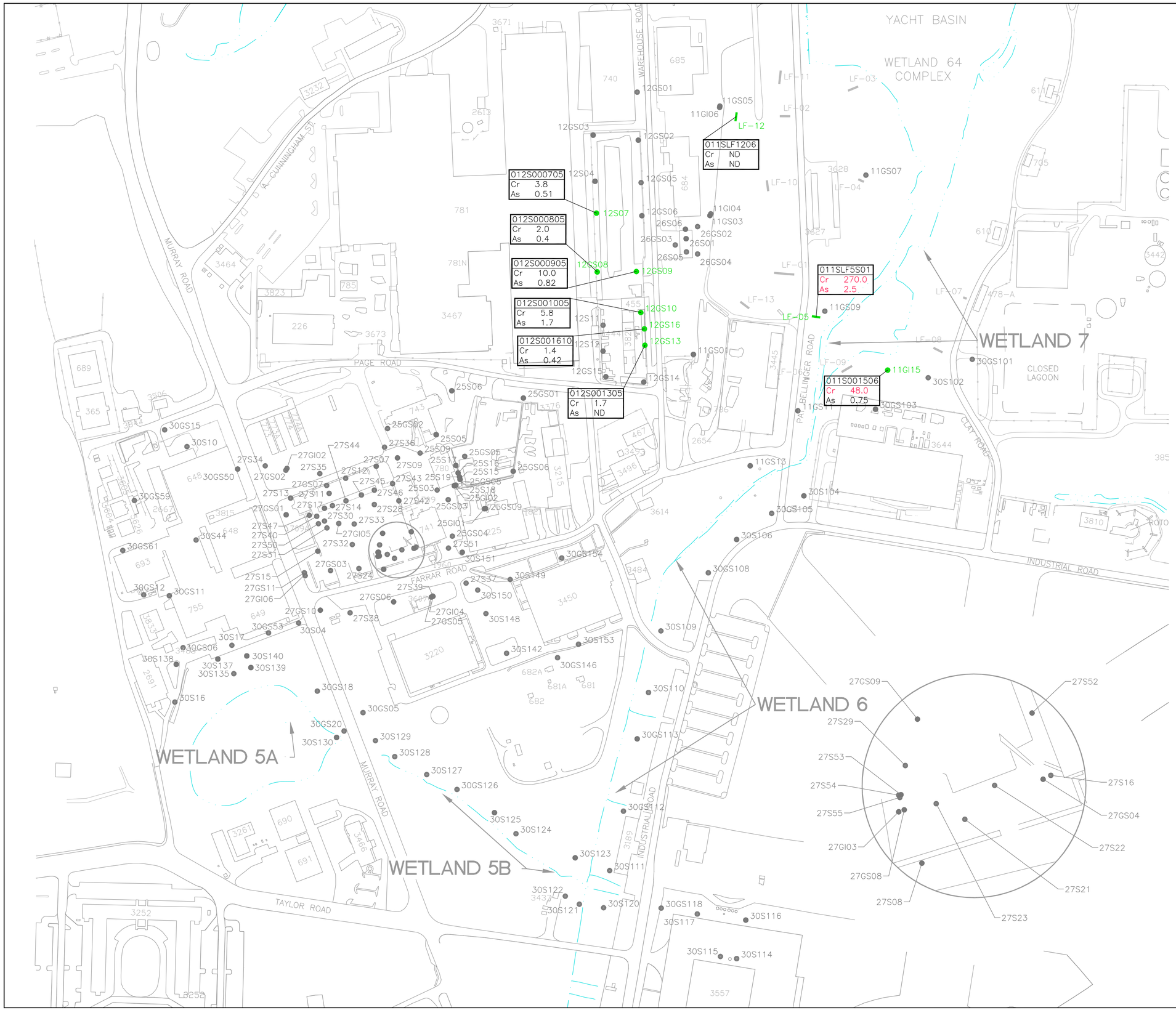
YACHT BASIN
WETLAND 64 COMPLEX
WETLAND 7
CLOSED LAGOON
WETLAND 6
WETLAND 5A
WETLAND 5B
WAREHOUSE ROAD
A. CUNNINGHAM ST.
MURRAY ROAD
PAGE ROAD
PAT BELLINGER ROAD
CLAY ROAD
INDUSTRIAL ROAD
FARRAR ROAD
TAYLOR ROAD
012S000705
Cr 3.8
As 0.51
012S000805
Cr 2.0
As 0.4
012S000905
Cr 10.0
As 0.82
012S001005
Cr 5.8
As 1.7
012S001610
Cr 1.4
As 0.42
012S001305
Cr 1.7
As ND
011SLF1206
Cr ND
As ND
011SLF5S01
Cr 270.0
As 2.5
011S001506
Cr 48.0
As 0.75
LEGEND
ALL CONCENTRATIONS ARE IN ppm.
SURFACE WATER BODY
BUILDING
TRENCH LOCATIONS/IDs
FENCE LINE
ROADS
SIDEWALKS
SOIL BORING LOCATIONS/IDs WITH DETECTED PARAMETERS AND CONCENTRATIONS
PARAMETER KEY
METALS | Leachability SCTL (ppm) | REFERENCE CONCENTRATION
Chromium (Cr) | 38 (hexavalent) | 6.13 (total)
Arsenic (As) | 29 | 1.56
NOTES
PARAMETER IN RED EXCEEDS THE SCTL.
ND = NOT DETECTED
011SLF5S01 ALSO SCREENED AGAINST RESIDENTIAL SCTL
(Cr = 210 ppm, As = 0.80 ppm)
160 0 160
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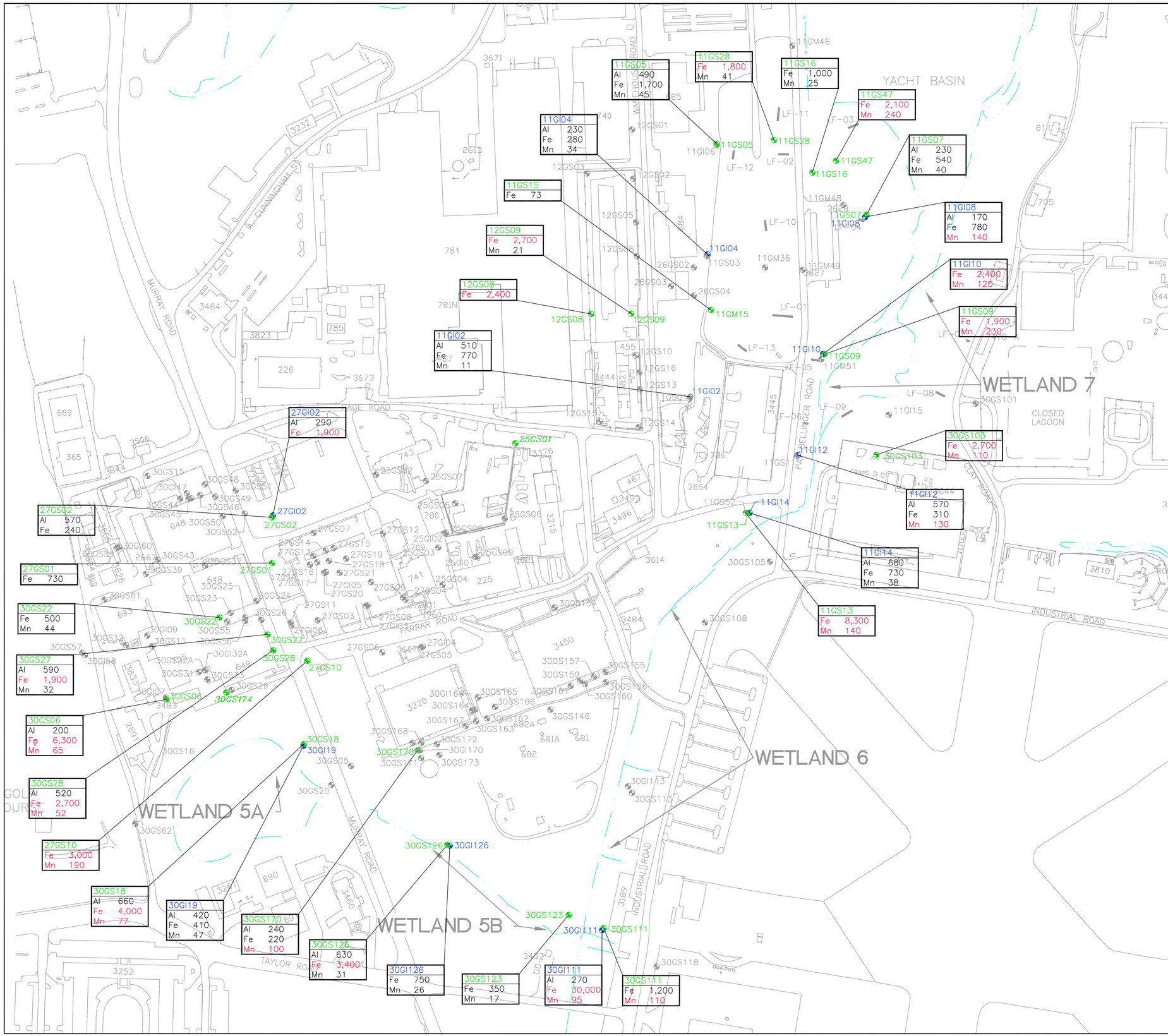
FIGURE 6
METALS LEACHABILITY-BASED SCTL EXCEEDANCES IN SOIL
MARCH 2003
Dr by: E. ROGERS
Proj. Code: 0059-001
Ck by: B. CALDWELL
App by: A. HARRIS
Sheet 1
Of 1
Date: 13JAN05
DWG Name: 0059001R214



LEGEND

ALL CONCENTRATIONS ARE IN ppb.

- SURFACE WATER BODY
- 743 — BUILDING
- LF-10 — TRENCH LOCATIONS/IDs
- FENCE LINE
- ROADS
- SIDEWALKS
- 30GS155 — SHALLOW OR INTERMEDIATE MONITORING WELL NOT SAMPLED
- *30GS174* — ITALICS SIGNIFY RESULTS BELOW METHOD DETECTION LIMIT OR NOT DETECTED
- 30GS111 (Fe 1200, Mn 110) — SHALLOW GROUNDWATER MONITORING WELL LOCATIONS WITH DETECTED PARAMETERS AND CONCENTRATIONS
- 11GI12 (Al 570, Fe 310, Mn 130) — INTERMEDIATE GROUNDWATER MONITORING WELL LOCATIONS WITH DETECTED PARAMETERS AND CONCENTRATIONS

PARAMETER KEY

METALS	FLORIDA GCTL (ppb)	REFERENCE CONCENTRATION
Aluminum (Al)	200	3882.80
Iron (Fe)	300	1707.80
Manganese (Mn)	50	22

NOTES

1. PARAMETER IN RED EXCEEDS THE HIGHER OF GCTL OR REFERENCE CONCENTRATION
2. PARAMETERS IN BLACK ARE ABOVE THE METHOD DETECTION LIMIT (NOT ESTIMATED CONCENTRATIONS)
3. ESTIMATED CONCENTRATIONS (J FLAG DATA) ARE NOT SHOWN UNLESS GCTL IS EXCEEDED.

160 0 160
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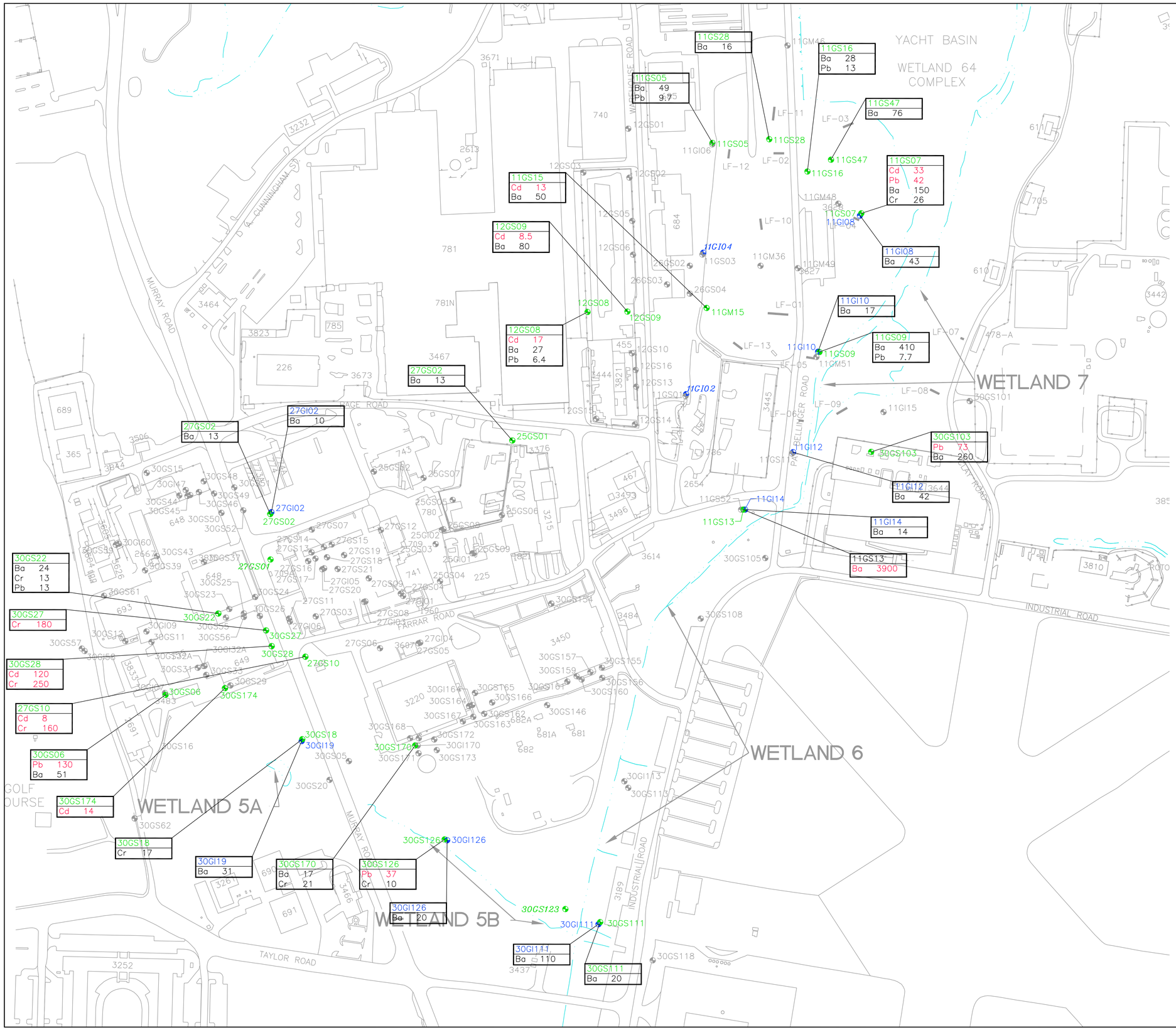
FIGURE 7
ALUMINUM, IRON, AND MANGANESE EXCEEDANCES IN GROUNDWATER
MARCH 2003

Dr by: E. ROGERS	Proj. Code: 0059-001	
Ck by: B. CALDWELL	App by: A. HARRIS	Sheet 1
Date: 03/29/05	DWG Name: 0059001R216	Of 1



LEGEND

ALL CONCENTRATIONS ARE IN ppb.

- SURFACE WATER BODY
- CLOSED LAGOON
- 743 BUILDING
- LF-10 TRENCH LOCATIONS/IDs
- FENCE LINE
- ROADS
- SIDEWALKS
- 30GS155 SHALLOW OR INTERMEDIATE MONITORING WELL NOT SAMPLED
- *30GS174* RESULTS BELOW METHOD DETECTION LIMIT OR NOT DETECTED
- 30GS111 SHALLOW GROUNDWATER MONITORING WELL LOCATIONS/IDs
- 11GI12 INTERMEDIATE GROUNDWATER MONITORING WELL LOCATIONS/IDs

PARAMETER KEY

METALS	FLORIDA GCTL (ppb)
Barium (Ba)	2000
Cadmium (Cd)	5
Chromium (Cr)	100
Lead (Pb)	15

NOTES

1. PARAMETER IN RED EXCEEDS THE GCTL.
2. PARAMETERS IN BLACK ARE ABOVE THE METHOD DETECTION LIMIT (NOT ESTIMATED CONCENTRATIONS)
3. SAMPLES COLLECTED MARCH 2003
4. ALTHOUGH OTHER METALS WERE DETECTED, IF GCTL EXCEEDANCES WERE NOT IDENTIFIED OCCURRED IN ANY OU2 SAMPLES, THEY ARE NOT PLOTTED HERE. REFER TO THE SUMMARY TABLES FOR THESE CONSTITUENTS.
5. ESTIMATED CONCENTRATIONS (J FLAG DATA) ARE NOT SHOWN UNLESS GCTL IS EXCEEDED.

160 0 160
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NAVFAC Naval Facilities Engineering Command SOUTHERN DIVISION

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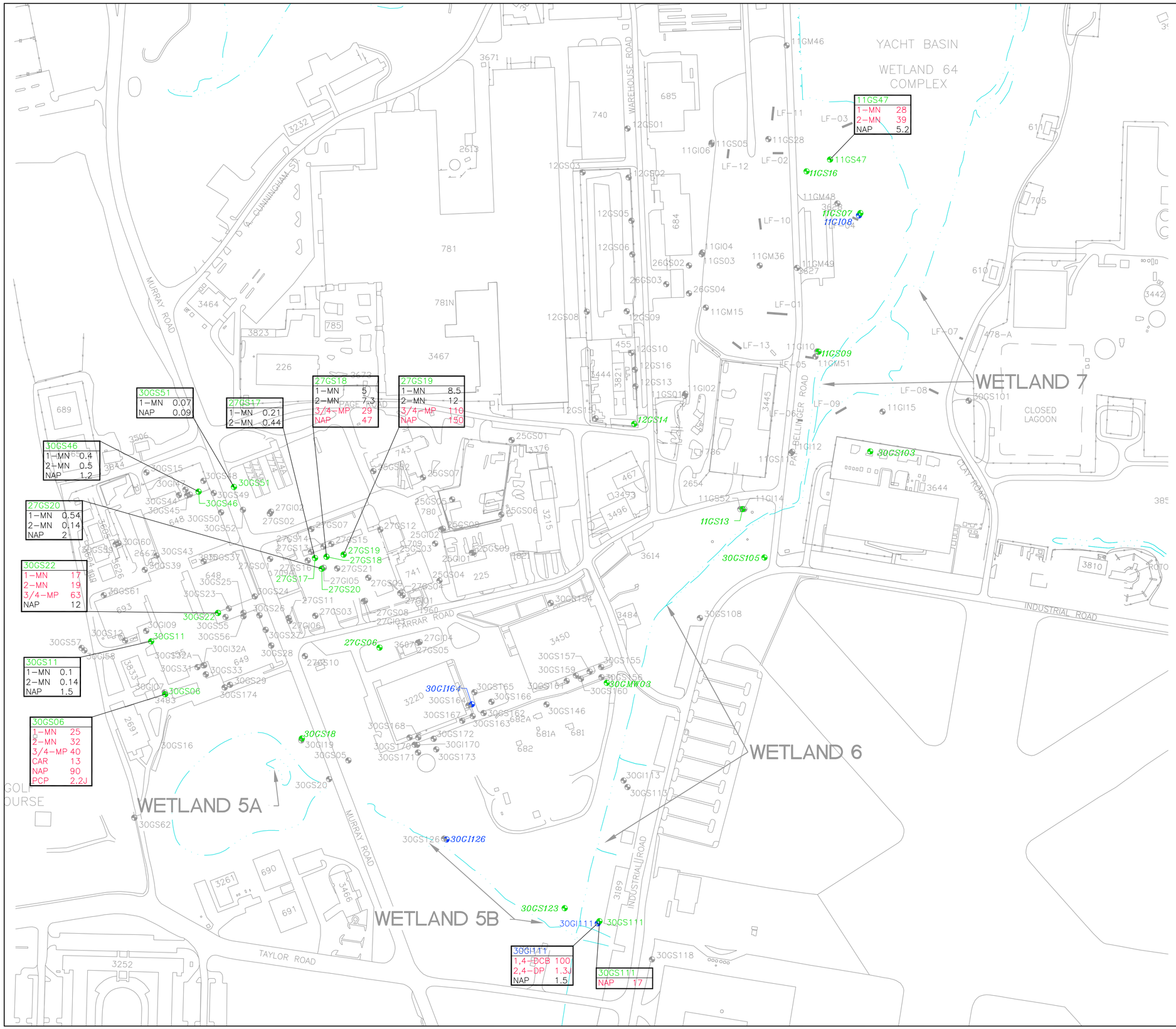
FIGURE 8
2003 OTHER METAL EXCEEDANCES IN GROUNDWATER
MARCH 2003

Dr by: E. ROGERS	Proj. Code: 0059-001	
Ck by: T. KAFKA	App by: A. HARRIS	Sheet 1
Date: 03/29/05	DWG Name: 0059001R218	Of 1



LEGEND

ALL CONCENTRATIONS ARE IN ppb.

- SURFACE WATER BODY
- CLOSED LAGOON
- 743 BUILDING
- LF-10 TRENCH LOCATIONS/IDs
- FENCE LINE
- ROADS
- SIDEWALKS
- 30GS155 SHALLOW OR INTERMEDIATE MONITORING WELL NOT SAMPLED
- *30GS105* ITALICS SIGNIFY RESULTS BELOW METHOD DETECTION LIMIT OR NOT DETECTED
- 30GS111 NAP 17 SHALLOW GROUNDWATER MONITORING WELL LOCATIONS/IDs WITH DETECTED PARAMETERS AND CONCENTRATIONS
- 11GI12 INTERMEDIATE GROUNDWATER MONITORING WELL LOCATIONS/IDs

PARAMETER KEY

SVOA	FLORIDA GCTL (ppb)
1,4-Dichlorobenzene (1,4-DCB)	75
1-Methylnaphthalene (1-MN)	15
2,4-Dichlorophenol (2,4-DP)	0.3
2-Methylnaphthalene (2-MN)	15
3-Methylphenol/4-Methylphenol (3/4-MP)	3.8
Carbazole (CAR)	1.9
Naphthalene (NAP)	15
Pentachlorophenol (PCP)	1

NOTES

1. PARAMETER IN RED EXCEEDS THE GCTL.
2. PARAMETERS IN BLACK ARE ABOVE THE METHOD DETECTION LIMIT (NOT ESTIMATED CONCENTRATIONS)
3. SAMPLES COLLECTED MARCH 2003
4. ALTHOUGH OTHER SVOAs WERE DETECTED, IF GCTL EXCEEDANCES WERE NOT IDENTIFIED IN ANY OU2 SAMPLES, THEY ARE NOT PLOTTED HERE. REFER TO THE SUMMARY TABLES FOR THESE CONSTITUENTS.
5. ESTIMATED CONCENTRATIONS (J FLAG DATA) ARE NOT SHOWN UNLESS GCTL IS EXCEEDED.

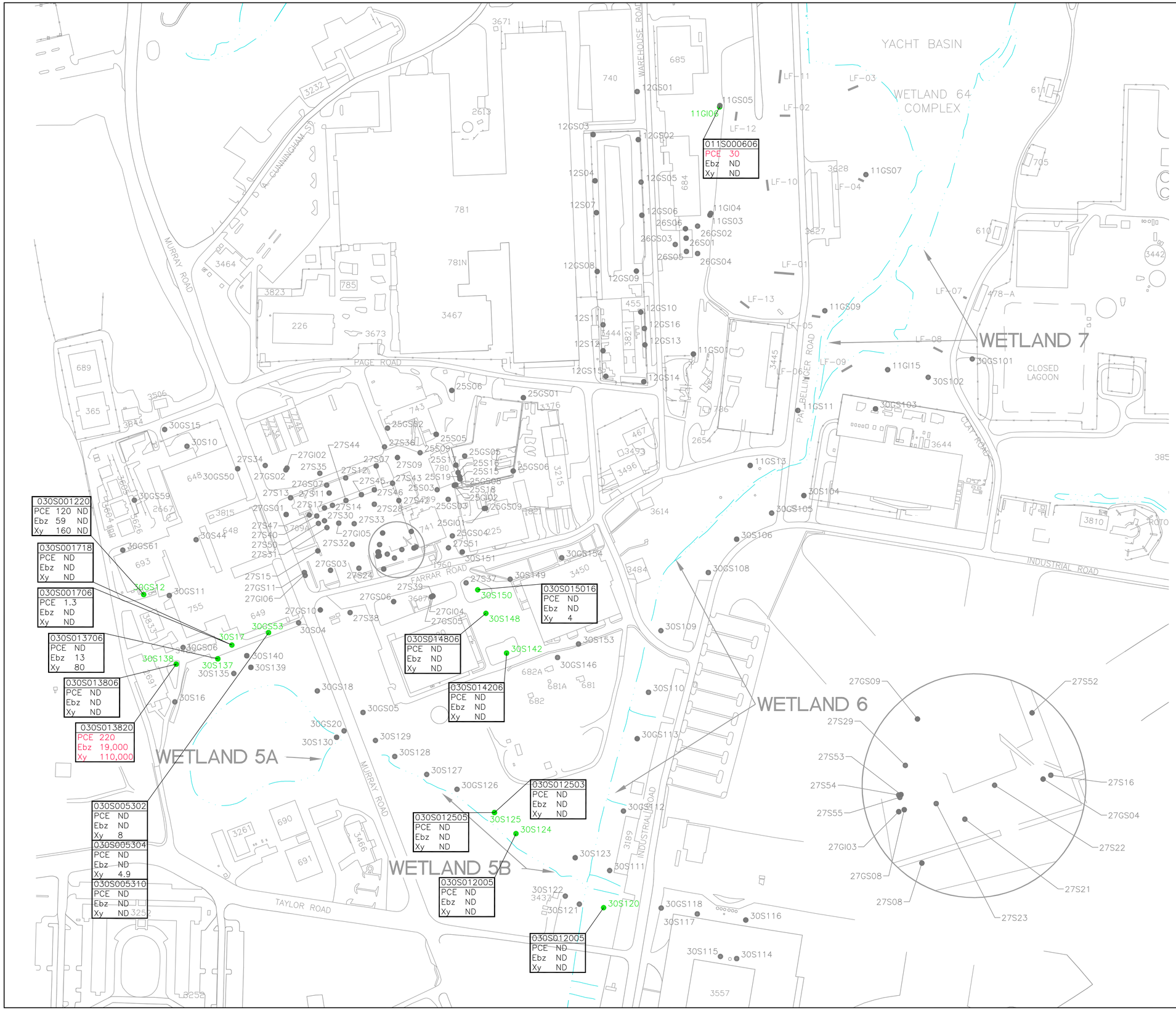
160 0 160
SCALE FEET

NAVFAC Naval Facilities Engineering Command SOUTHERN DIVISION

REMEDIAL INVESTIGATION ADDENDUM
OPERABLE UNIT 2
NAS PENSACOLA
PENSACOLA, FLORIDA

FIGURE 9
SVOA GCTL EXCEEDANCES IN GROUNDWATER
MARCH 2003

Dr by: E. ROGERS	Proj. Code: 0059-001	
Ck by: B. CALDWELL	App by: A. HARRIS	Sheet 1
Date: 03/29/05	DWG Name: 0059001R220	Of 1



LEGEND

ALL CONCENTRATIONS ARE IN ppb.

- SURFACE WATER BODY
- CLOSED LAGOON
- 743 BUILDING
- LF-12 TRENCH LOCATIONS/IDs
- FENCE LINE
- ROADS
- SIDEWALKS
- 11G106 SOIL BORING LOCATIONS/IDs WITH DETECTED PARAMETERS AND CONCENTRATIONS (011S000606 PCE 30 Ebz ND Xy ND)
- 30S109 PREVIOUS SOIL BORING LOCATIONS/IDs

PARAMETER KEY	LEACHABILITY SCTL (ppb)
Tetrachlorethene (PCE)	30
Ethylbenzene (Ebz)	600
Xylenes (Xy)	200

NOTES

PARAMETER IN RED EXCEEDS THE SCTL.
ND = NOT DETECTED

160 0 160
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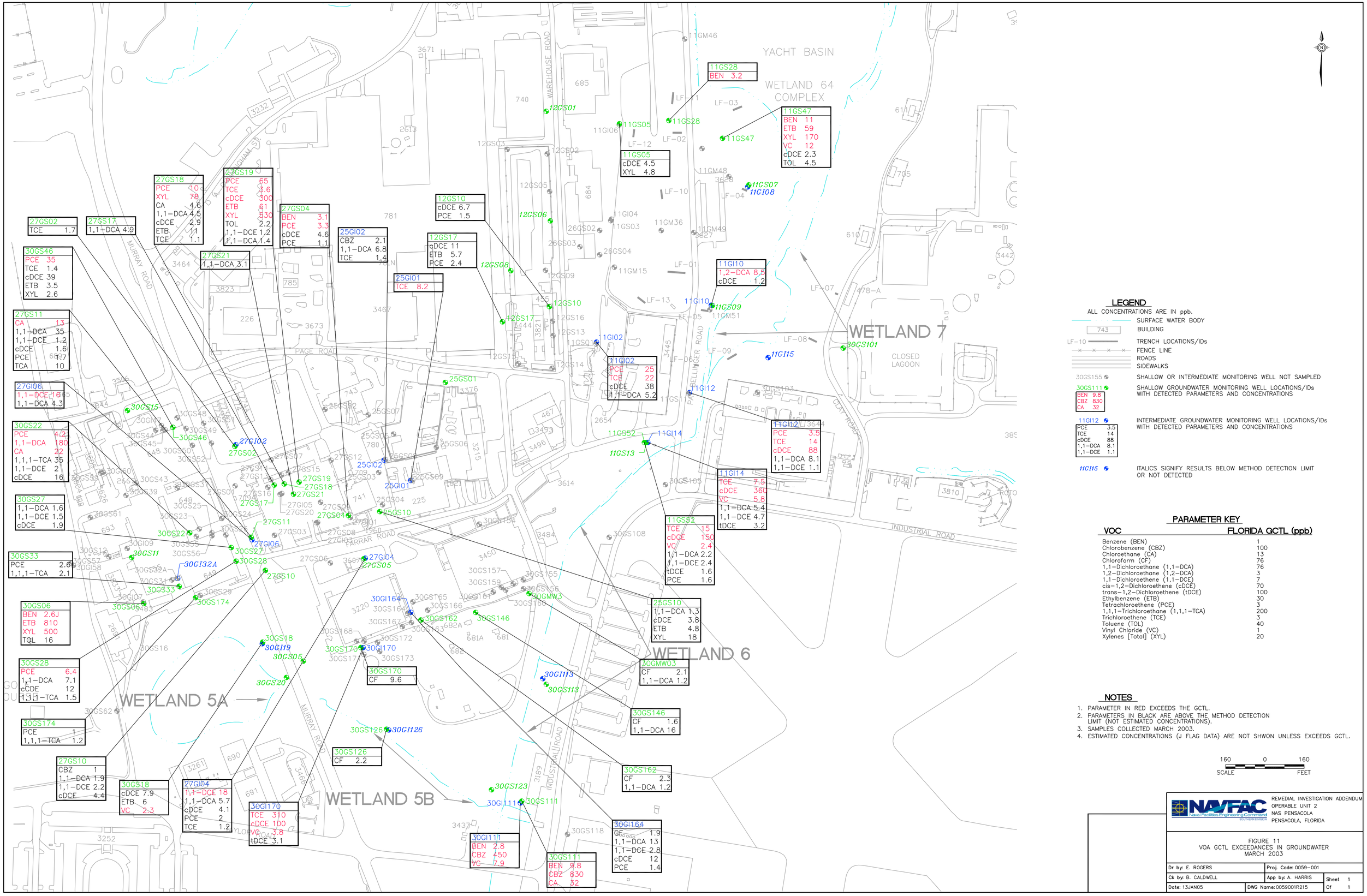
FIGURE 10
VOA LEACHABILITY-BASED SCTL EXCEEDANCES IN SOIL
MARCH 2003

Dr by: E. ROGERS	Proj. Code: 0059-001	
Ck by: B. CALDWELL	App by: A. HARRIS	Sheet 1
Date: 03/29/05	DWG Name: 0059001R213	Of 1



LEGEND

ALL CONCENTRATIONS ARE IN ppb.

- SURFACE WATER BODY
- 743 — BUILDING
- LF-10 — TRENCH LOCATIONS/IDs
- FENCE LINE
- ROADS
- SIDEWALKS
- 30GS155 — SHALLOW OR INTERMEDIATE MONITORING WELL NOT SAMPLED
- 30GS111 — SHALLOW GROUNDWATER MONITORING WELL LOCATIONS/IDs WITH DETECTED PARAMETERS AND CONCENTRATIONS (BEN 9.8, CBZ 830, CA 32)
- 11GI12 — INTERMEDIATE GROUNDWATER MONITORING WELL LOCATIONS/IDs WITH DETECTED PARAMETERS AND CONCENTRATIONS (PCE 3.5, TCE 14, cDCE 88, 1,1-DCA 8.1, 1,1-DCE 1.1)
- *11GI15* — ITALICS SIGNIFY RESULTS BELOW METHOD DETECTION LIMIT OR NOT DETECTED

PARAMETER KEY

VOC	FLORIDA GCTL (ppb)
Benzene (BEN)	1
Chlorobenzene (CBZ)	100
Chloroethane (CA)	13
Chloroform (CF)	76
1,1-Dichloroethane (1,1-DCA)	76
1,2-Dichloroethane (1,2-DCA)	3
1,1-Dichloroethene (1,1-DCE)	7
cis-1,2-Dichloroethene (cDCE)	70
trans-1,2-Dichloroethene (tDCE)	100
Ethylbenzene (ETB)	30
Tetrachloroethene (PCE)	3
1,1,1-Trichloroethane (1,1,1-TCA)	200
Trichloroethene (TCE)	3
Toluene (TOL)	40
Vinyl Chloride (VC)	1
Xylenes [Total] (XYL)	20

NOTES

1. PARAMETER IN RED EXCEEDS THE GCTL.
2. PARAMETERS IN BLACK ARE ABOVE THE METHOD DETECTION LIMIT (NOT ESTIMATED CONCENTRATIONS).
3. SAMPLES COLLECTED MARCH 2003.
4. ESTIMATED CONCENTRATIONS (J FLAG DATA) ARE NOT SHWON UNLESS EXCEEDS GCTL.

160 0 160
SCALE FEET

NAVFAC Naval Facilities Engineering Command SOUTHERN DIVISION

REMEDIAL INVESTIGATION ADDENDUM
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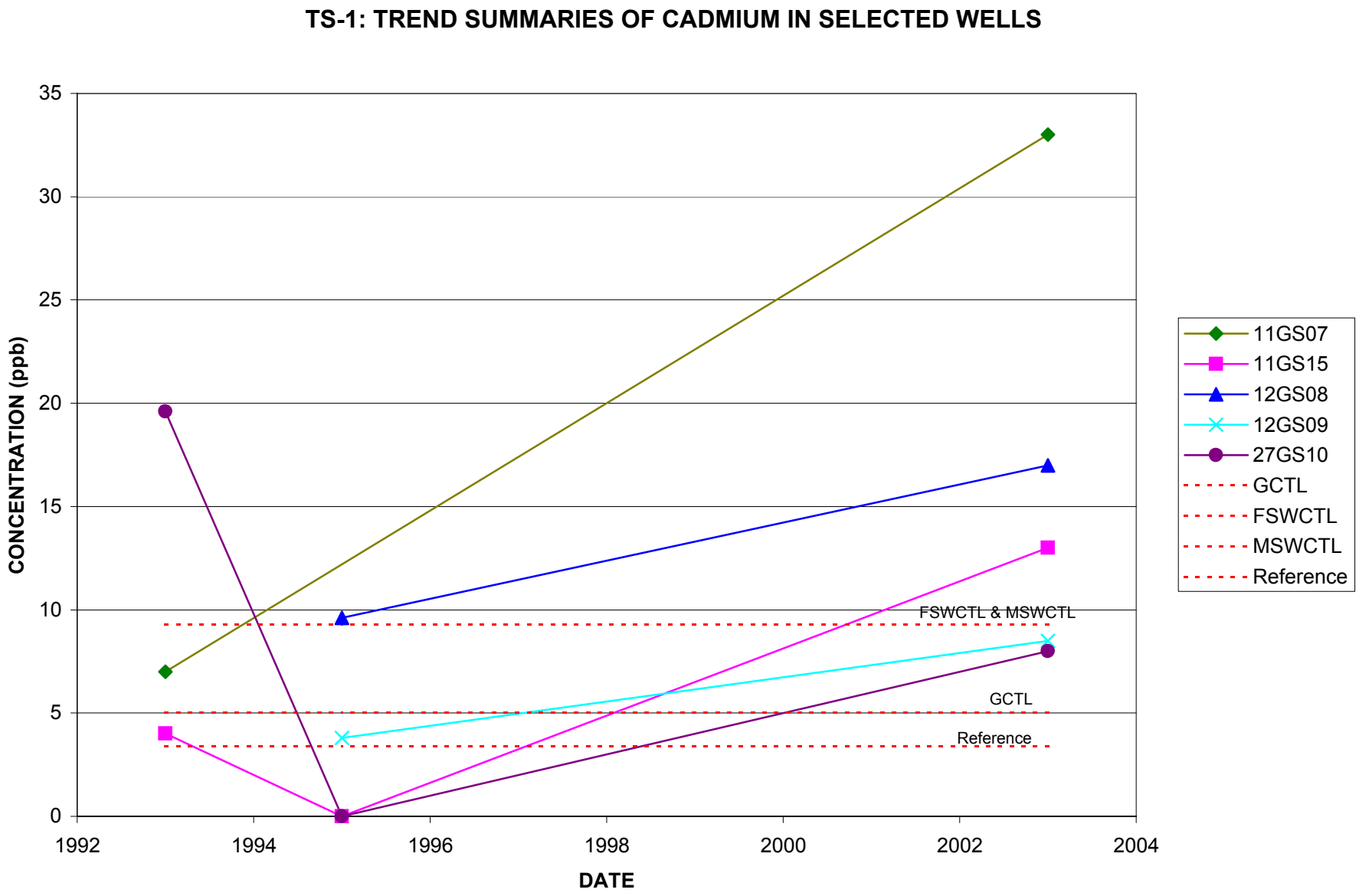
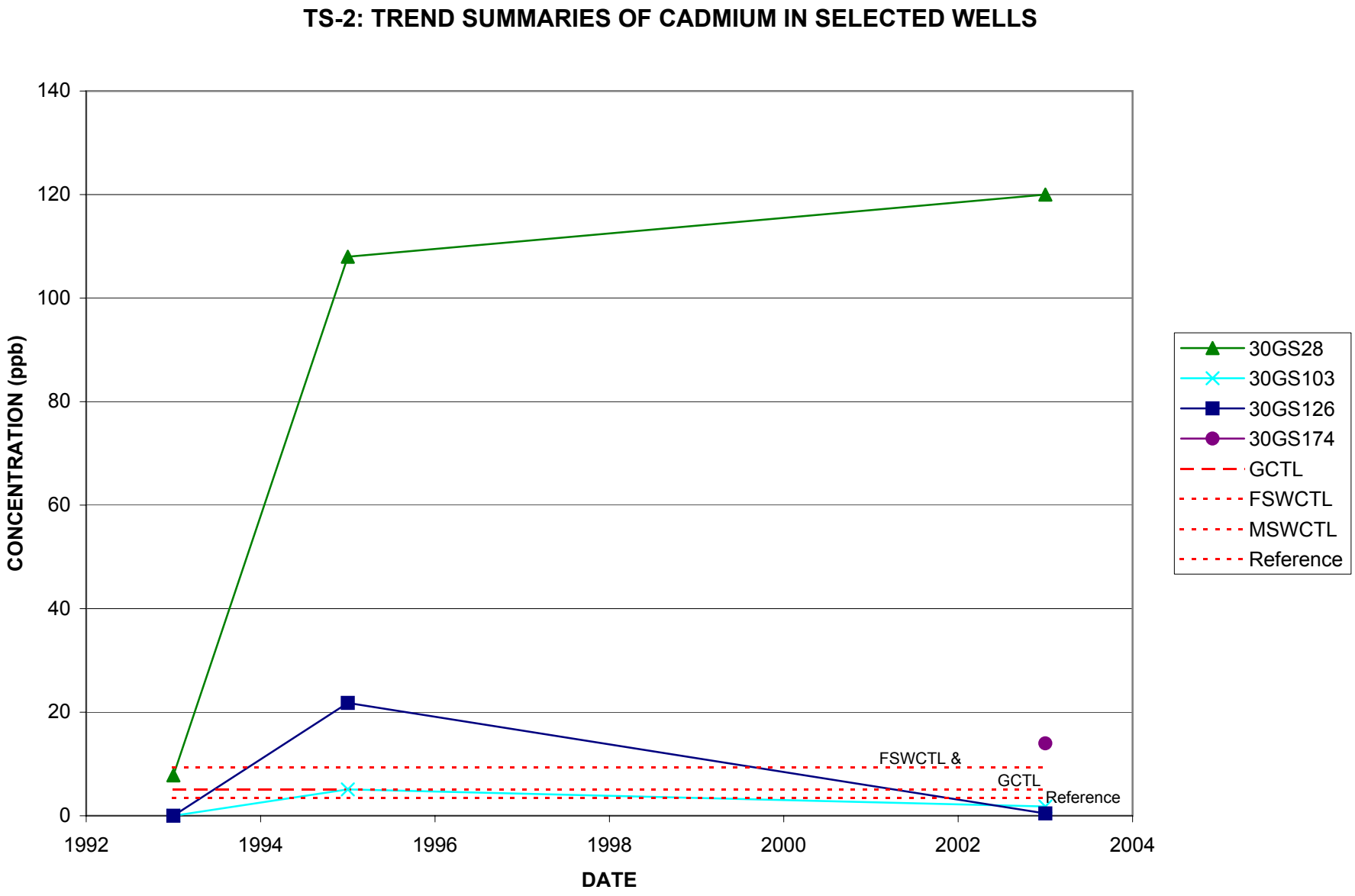
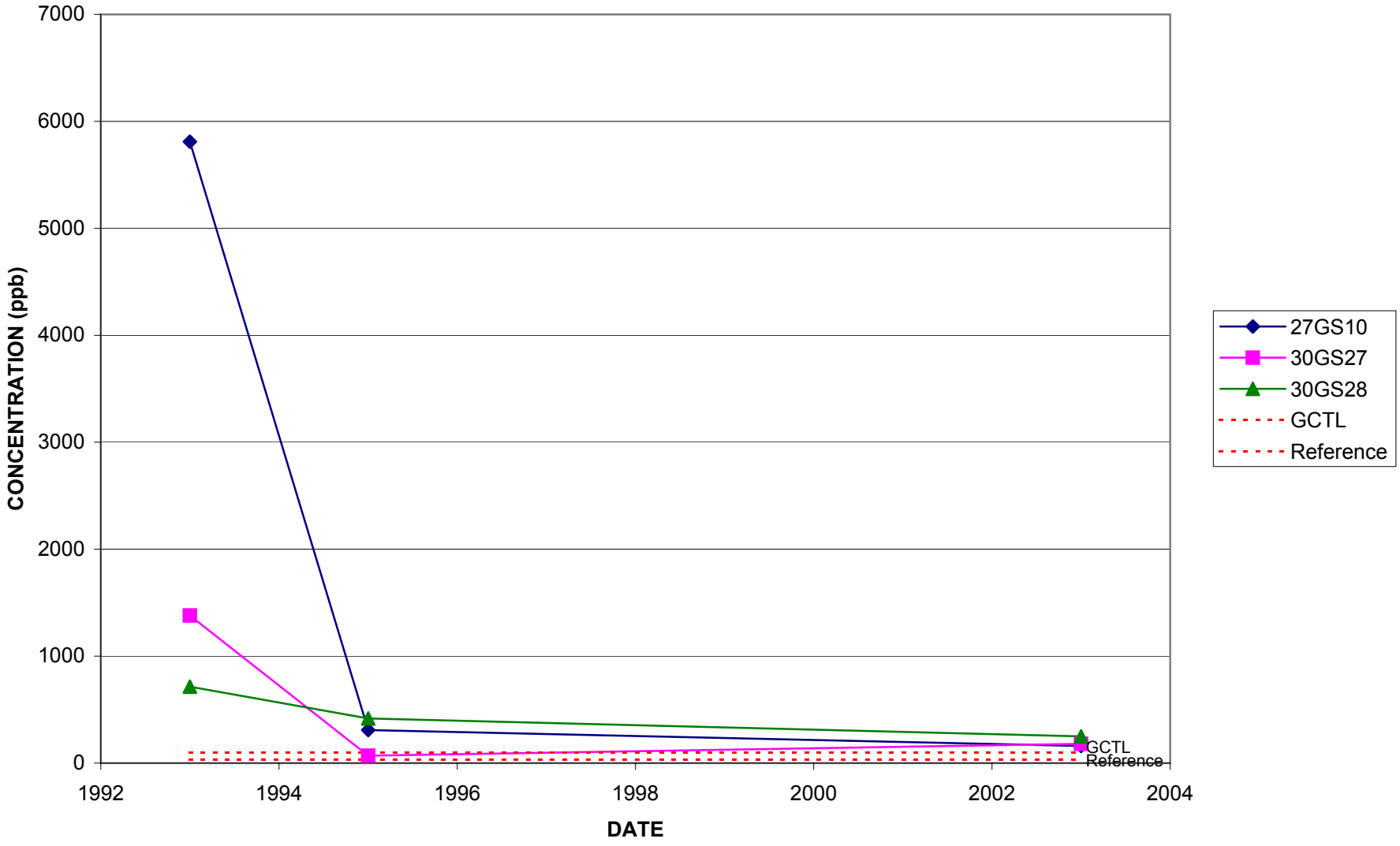
FIGURE 11
VOA GCTL EXCEEDANCES IN GROUNDWATER
MARCH 2003

Dr by: E. ROGERS	Proj. Code: 0059-001	
Ck by: B. CALDWELL	App by: A. HARRIS	Sheet 1
Date: 13JAN05	DWG Name: 0059001R215	Of 1

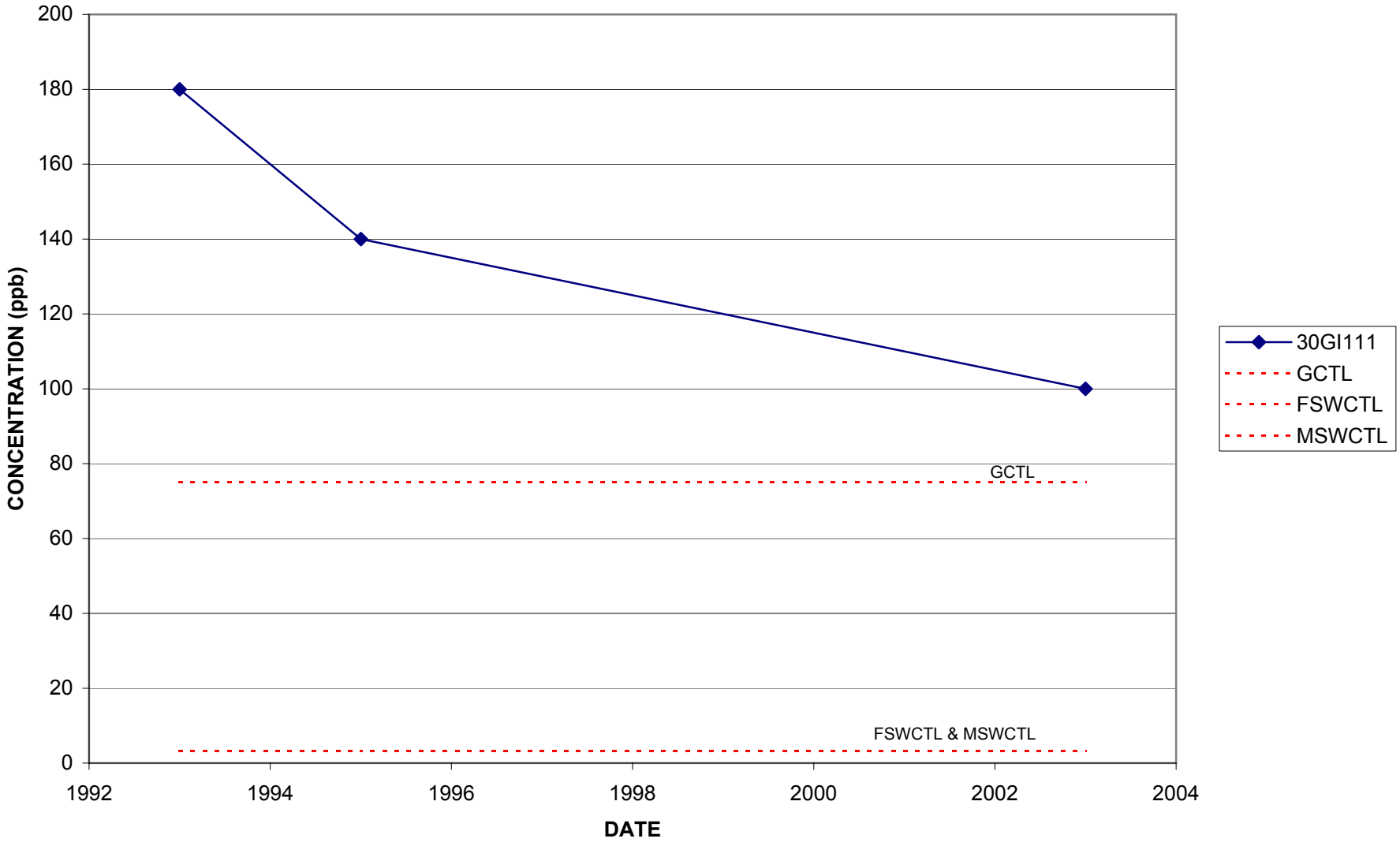

TS-1: TREND SUMMARIES OF CADMIUM IN SELECTED WELLS
CONCENTRATION (ppb)
35
30
25
20
15
10
5
0
1992
1994
1996
1998
2000
2002
2004
DATE
FSWCTL & MSWCTL
GCTL
Reference
11GS07
11GS15
12GS08
12GS09
27GS10
GCTL
FSWCTL
MSWCTL
Reference


TS-2: TREND SUMMARIES OF CADMIUM IN SELECTED WELLS
CONCENTRATION (ppb)
140
120
100
80
60
40
20
0
1992
1994
1996
1998
2000
2002
2004
DATE
FSWCTL &
GCTL
Reference
30GS28
30GS103
30GS126
30GS174
GCTL
FSWCTL
MSWCTL
Reference

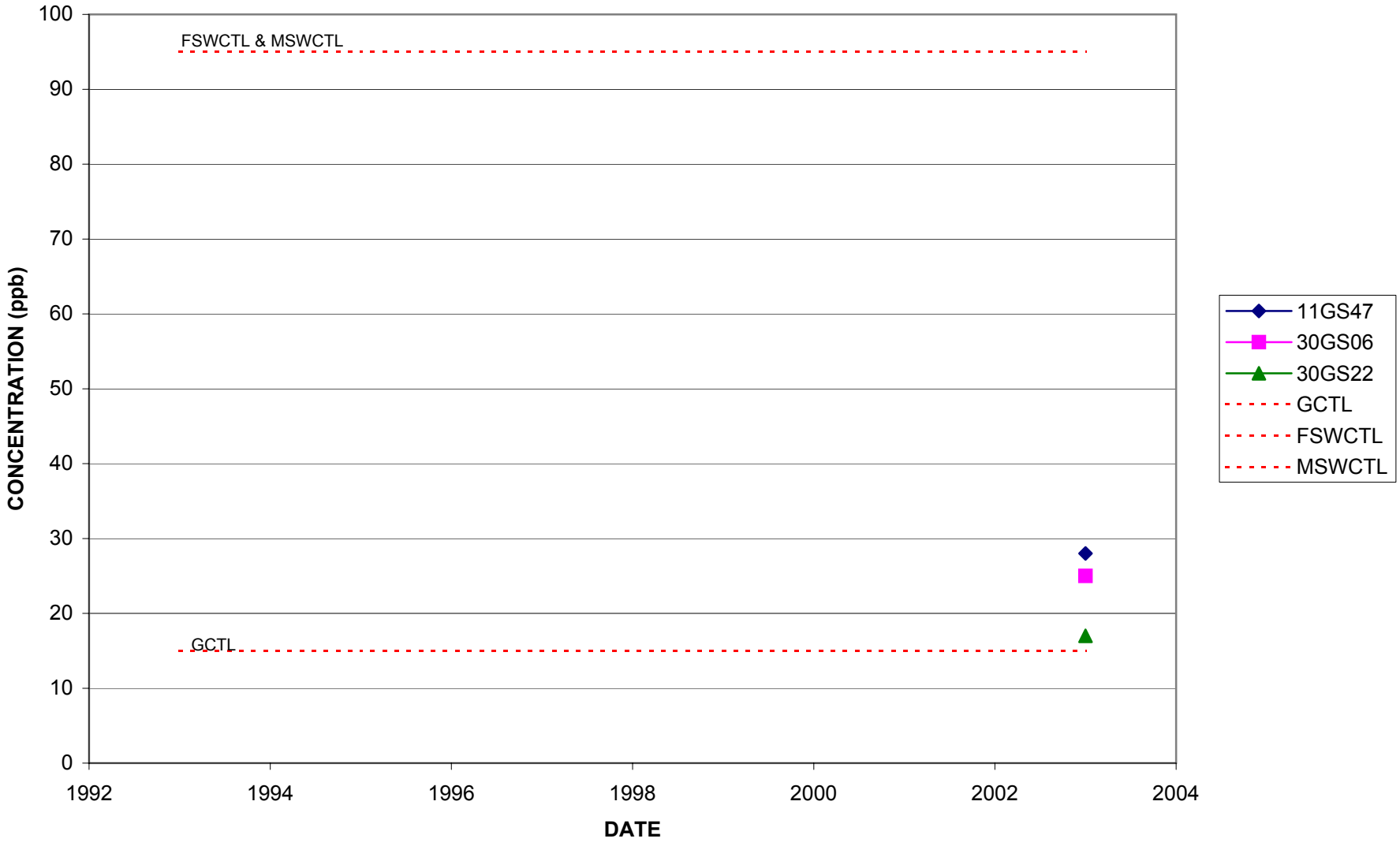
TS-3: TREND SUMMARIES OF CHROMIUM IN SELECTED WELLS



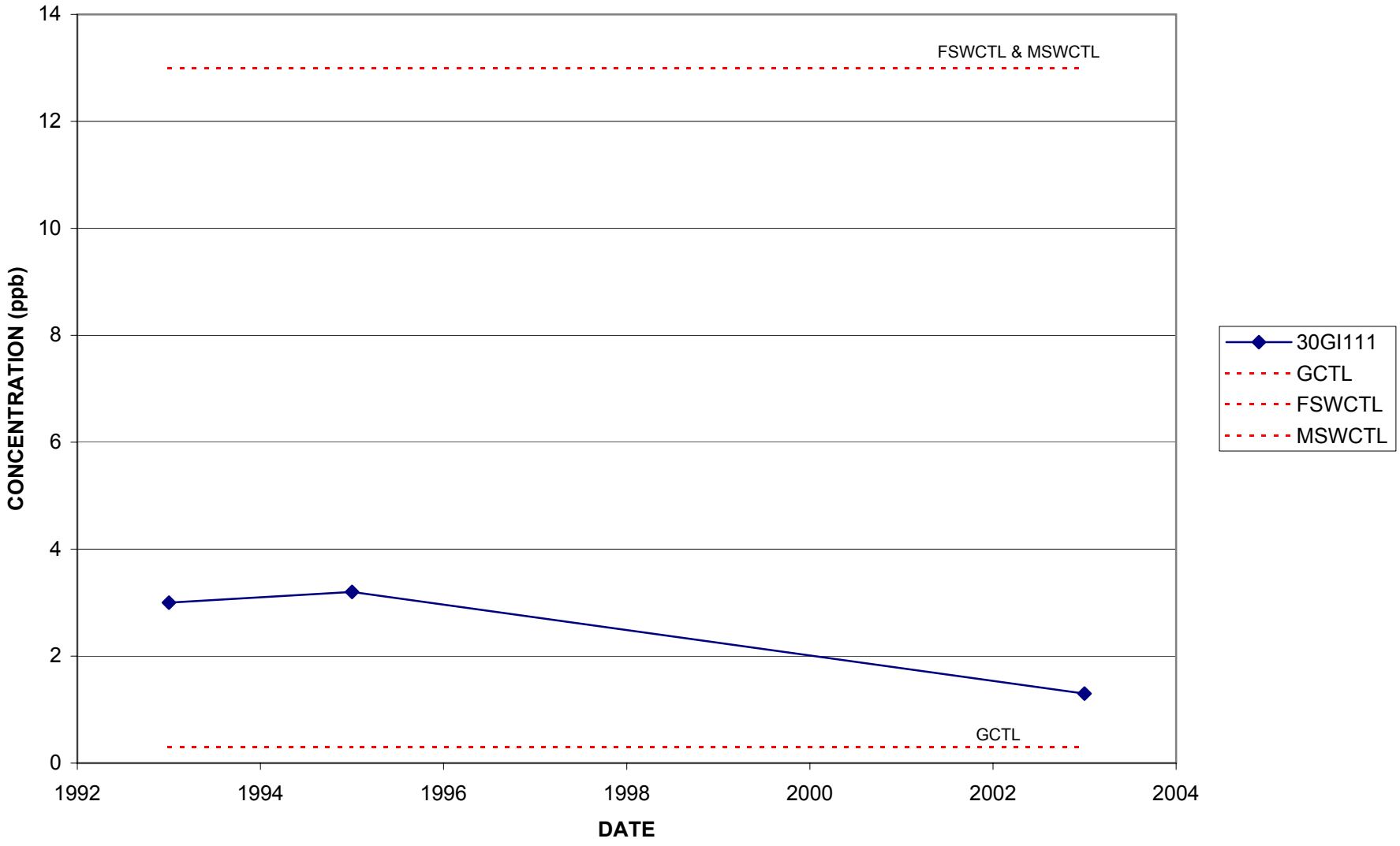
TS-4: TREND SUMMARIES OF 1,4-DICHLOROBENZENE IN SELECTED WELLS



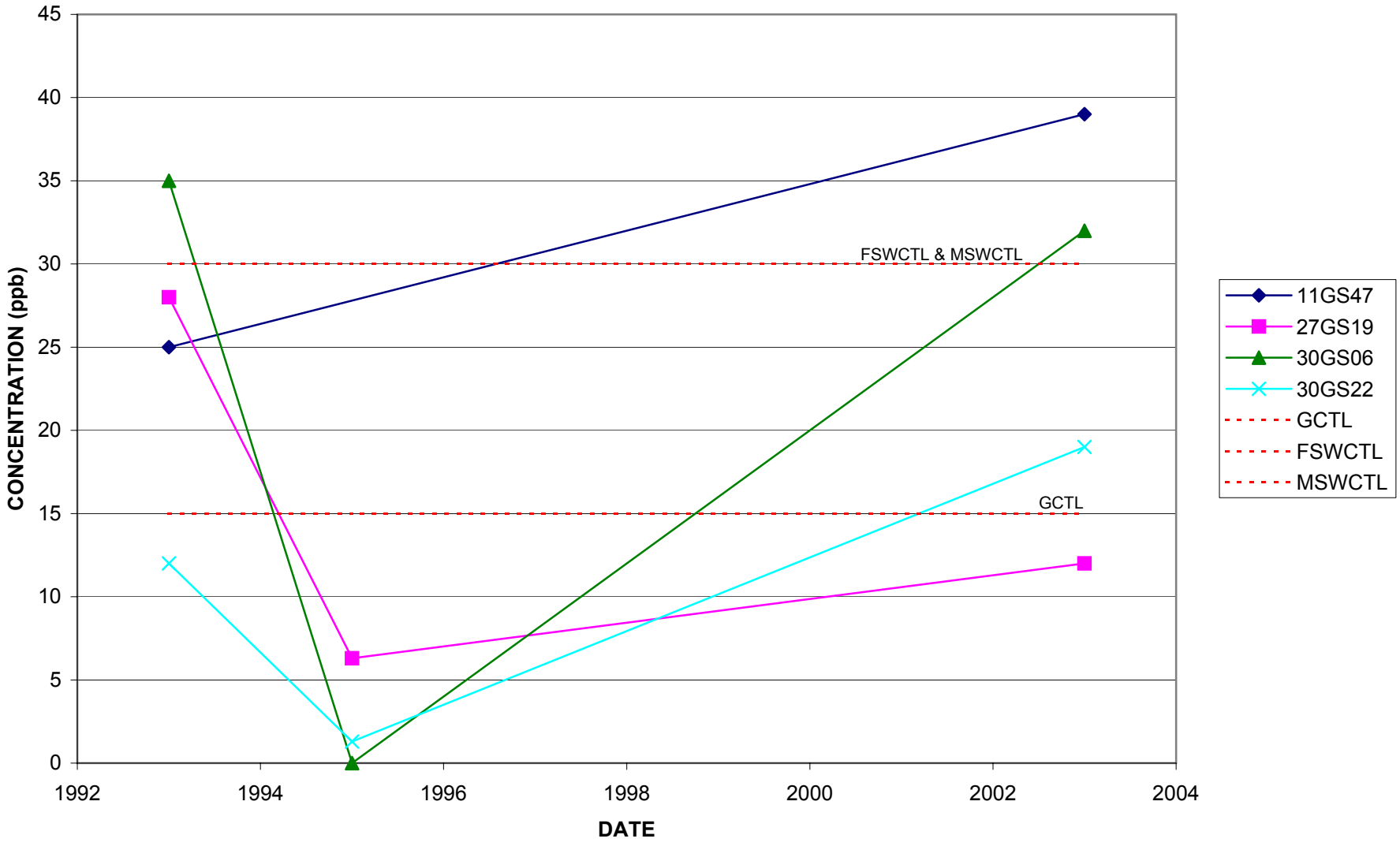
TS-5: TREND SUMMARIES OF 1-METHYLNAPHTHALENE IN SELECTED WELLS



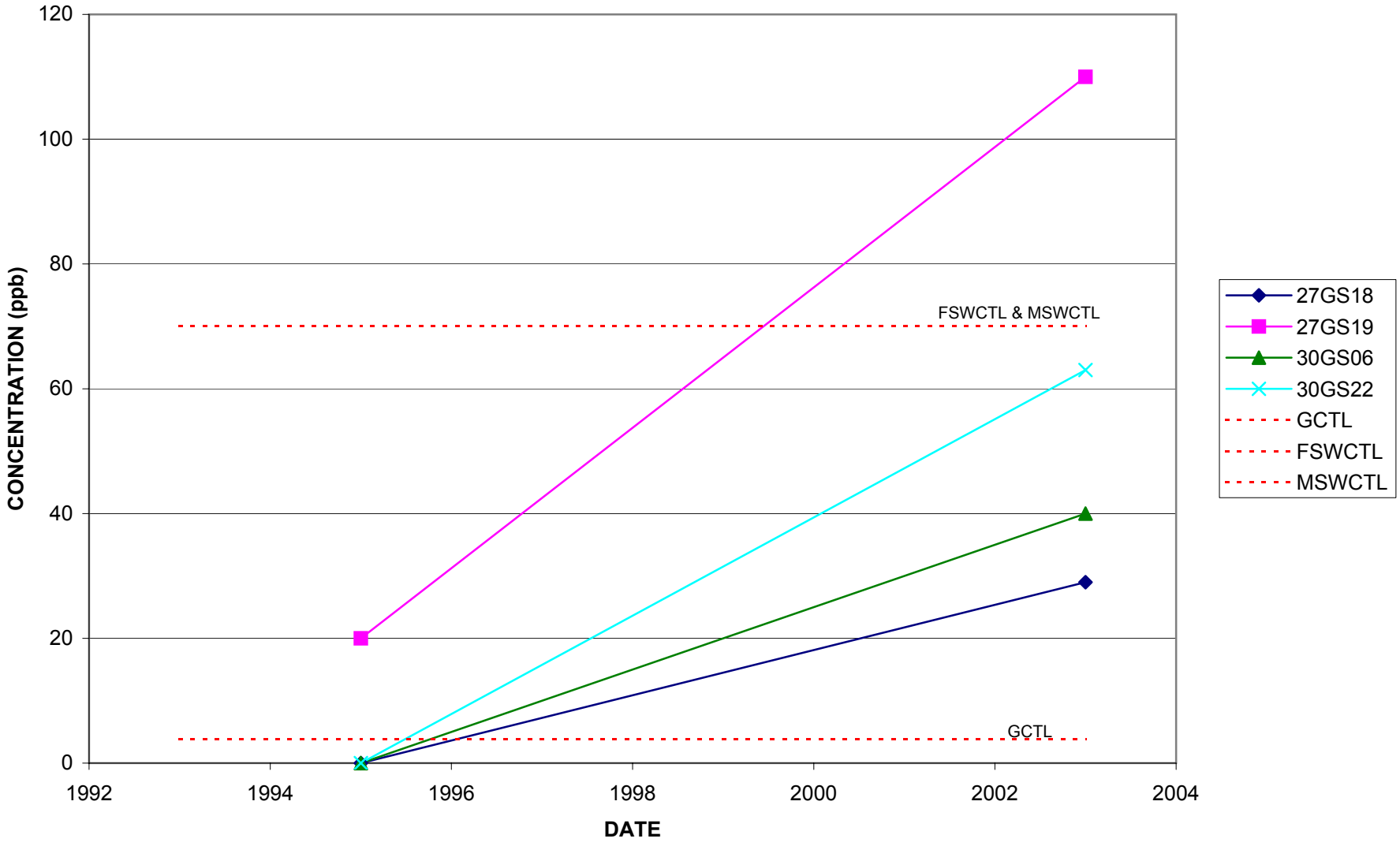
TS-6: TREND SUMMARIES OF 2,4-DICHLOROPHENOL IN SELECTED WELLS



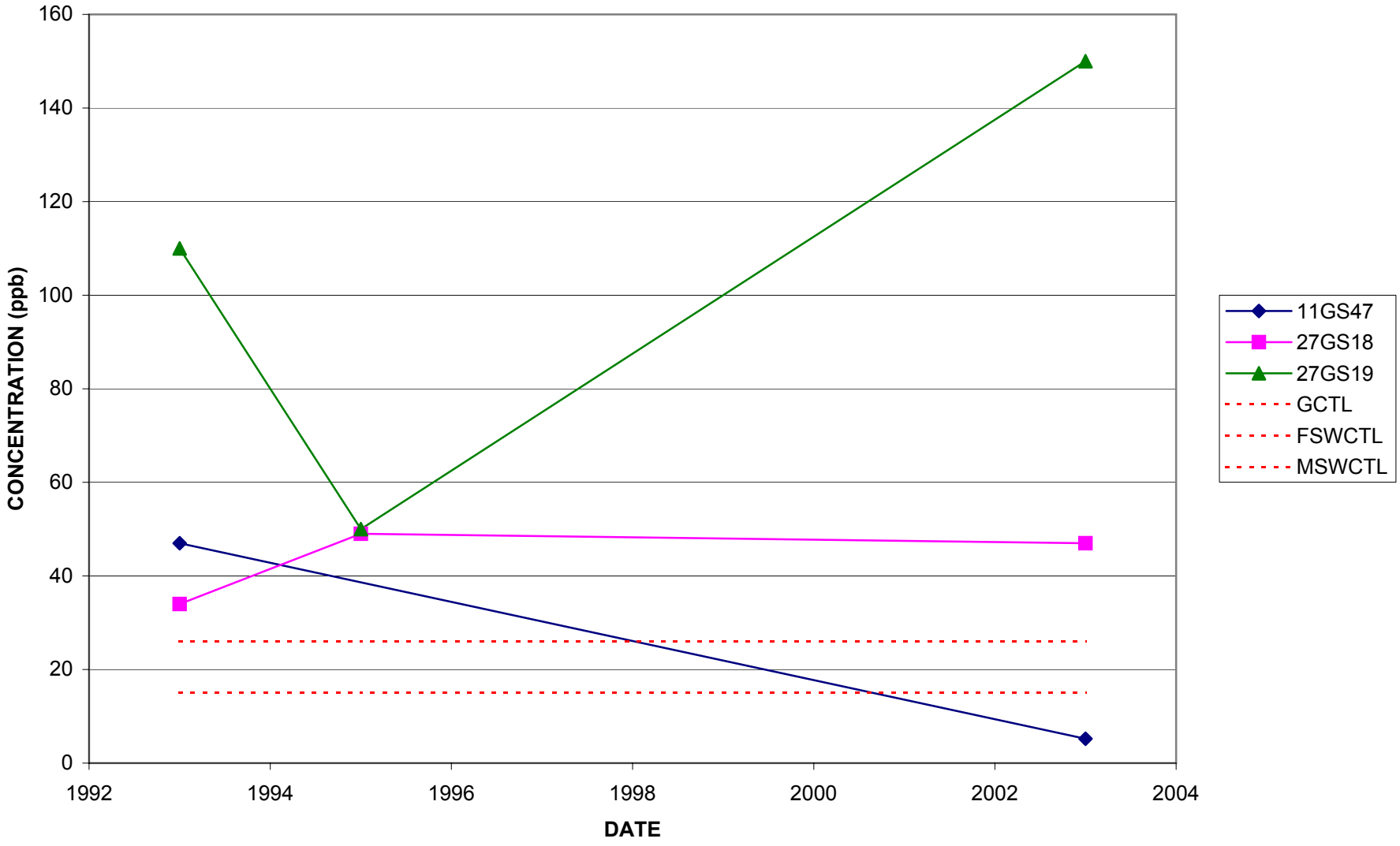
TS-7: TREND SUMMARIES OF 2-METHYLNAPHTHALENE IN SELECTED WELLS



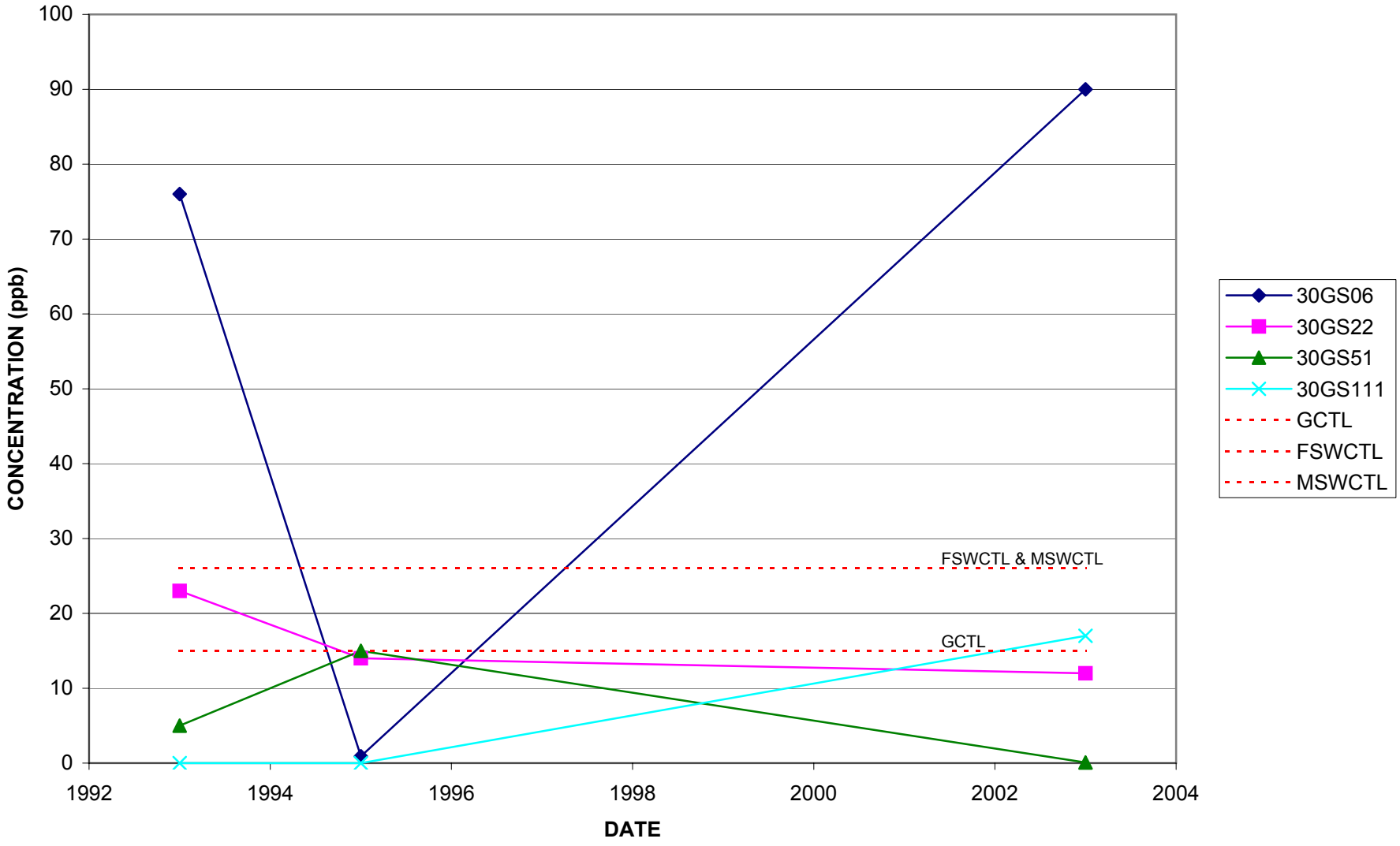
TS-8: TREND SUMMARIES OF 3/4-METHYLPHENOL IN SELECTED WELLS



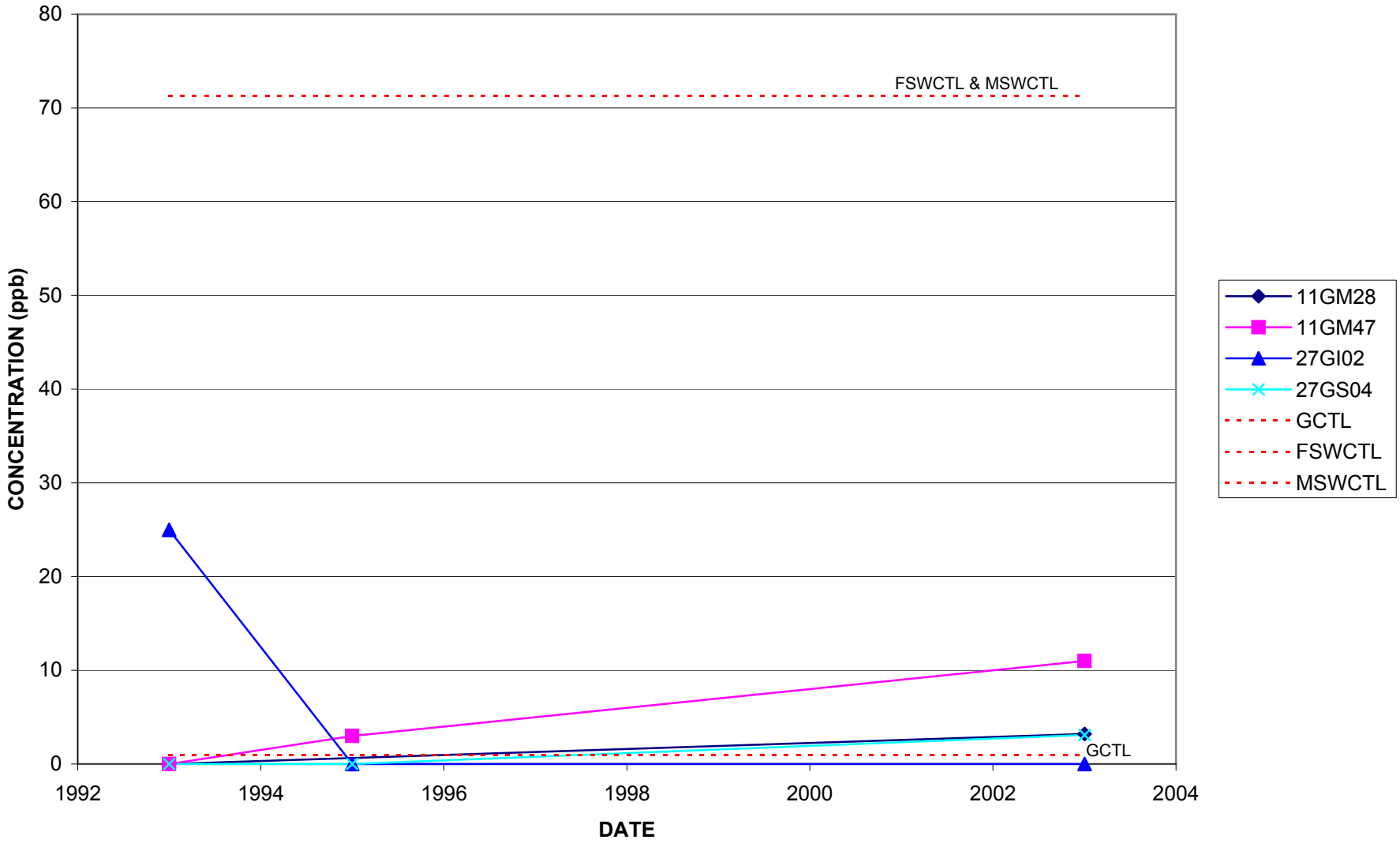
TS-9: TREND SUMMARIES OF NAPHTHALENE IN SELECTED WELLS



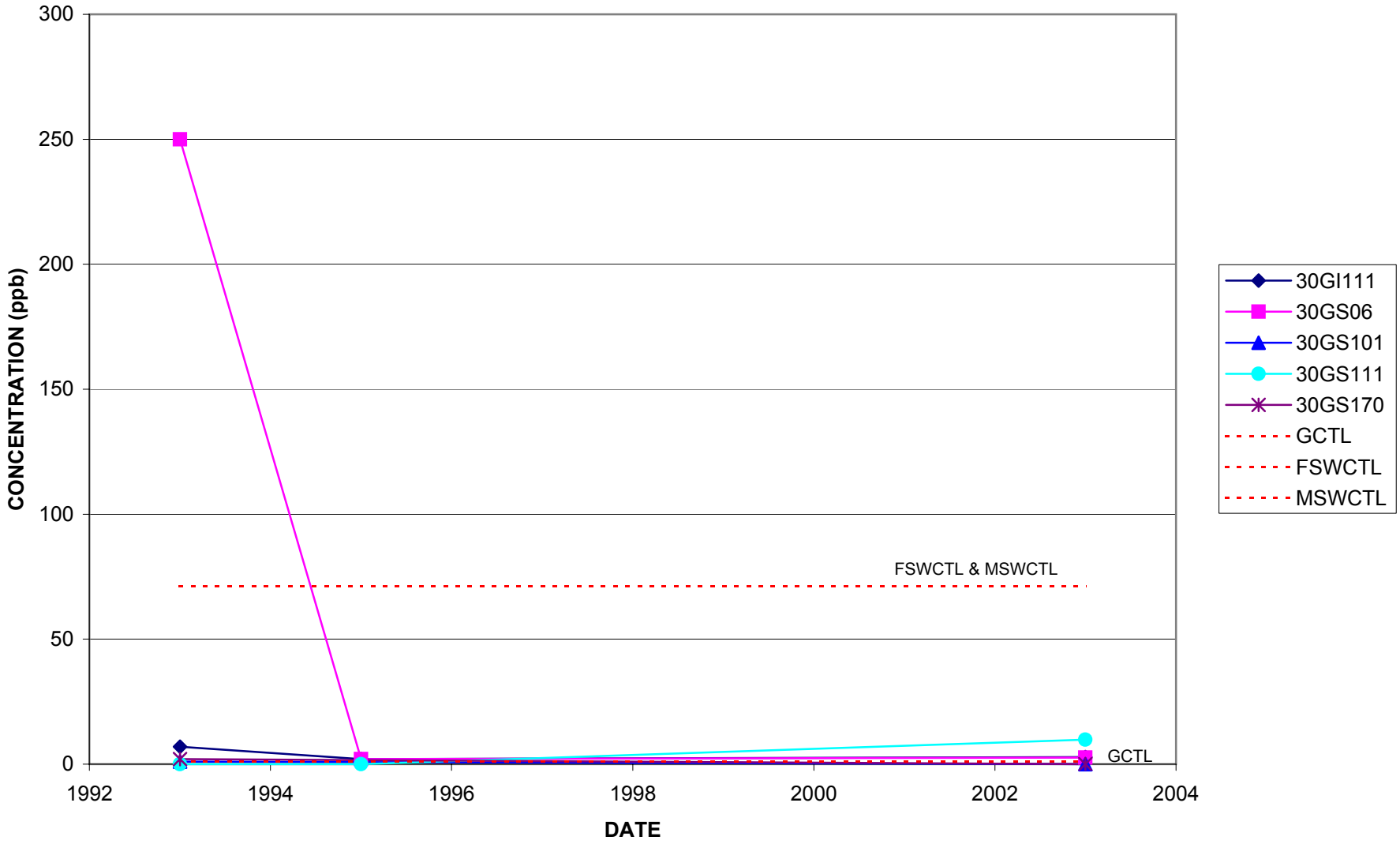
TS-10: TREND SUMMARIES OF NAPTHALENE IN SELECTED WELLS



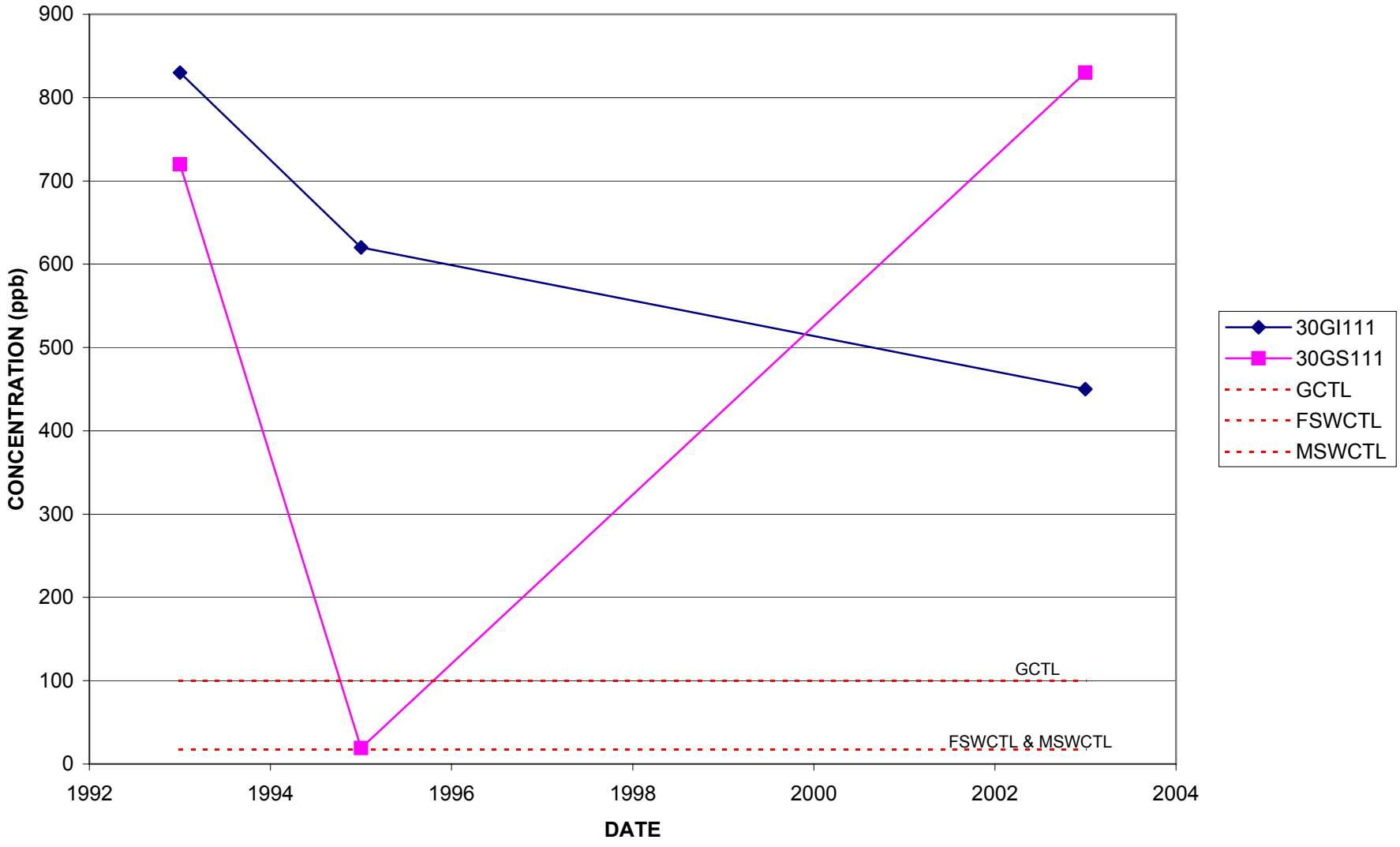
TS-11: TREND SUMMARIES OF BENZENE IN SELECTED WELLS



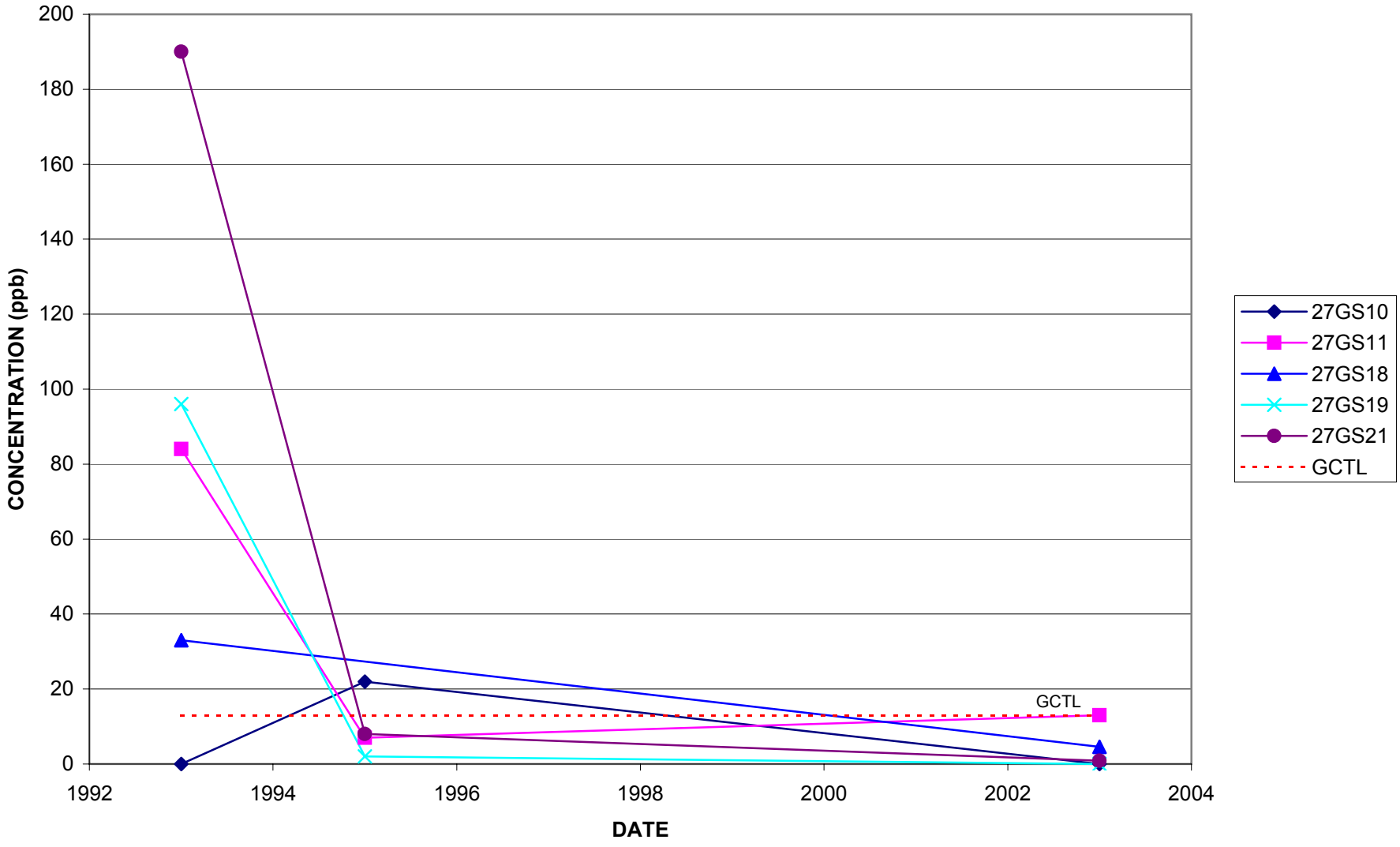
TS-12: TREND SUMMARIES OF BENZENE IN SELECTED WELLS



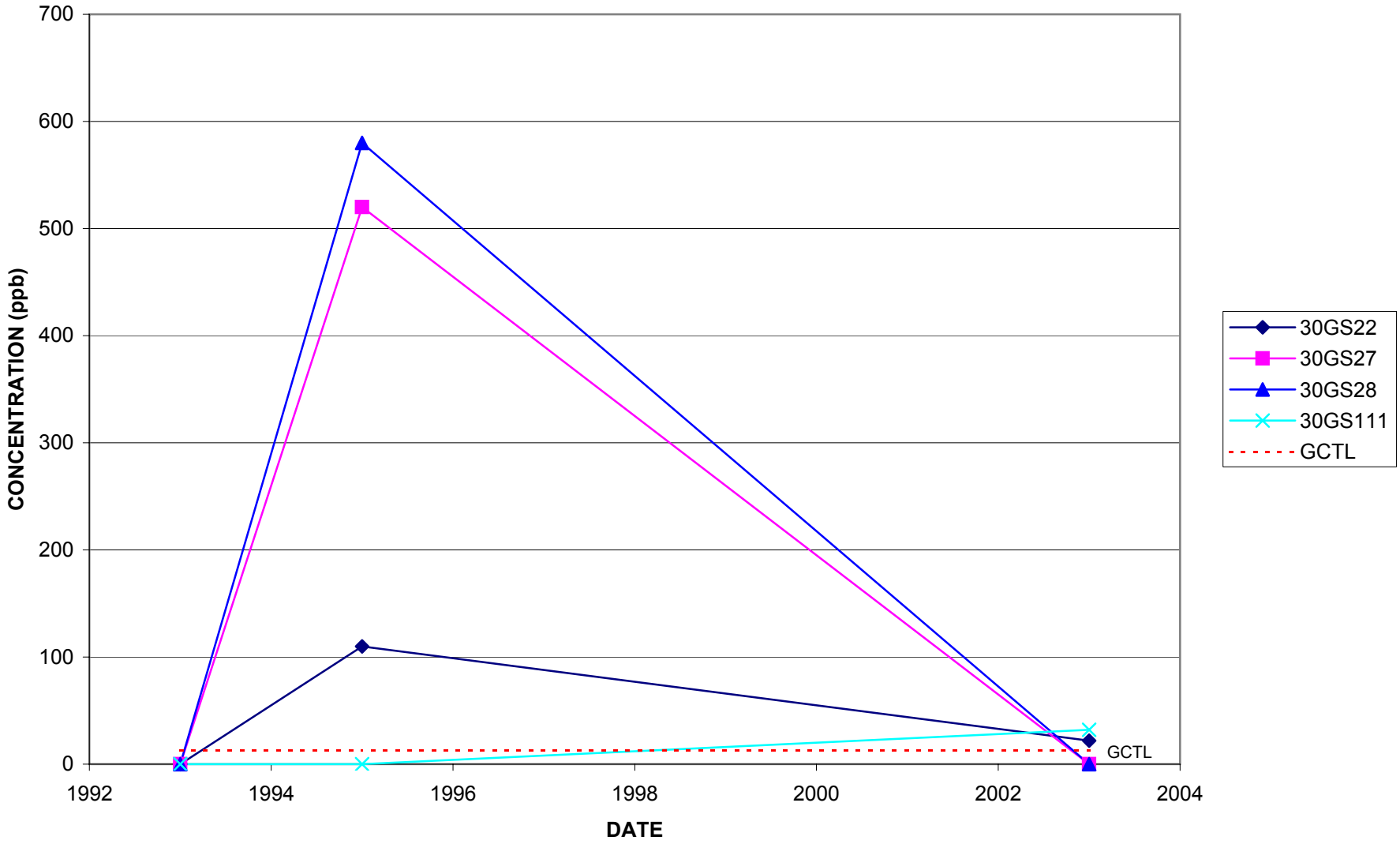
TS-13: TREND SUMMARIES OF CHLOROBENZENE IN SELECTED WELLS



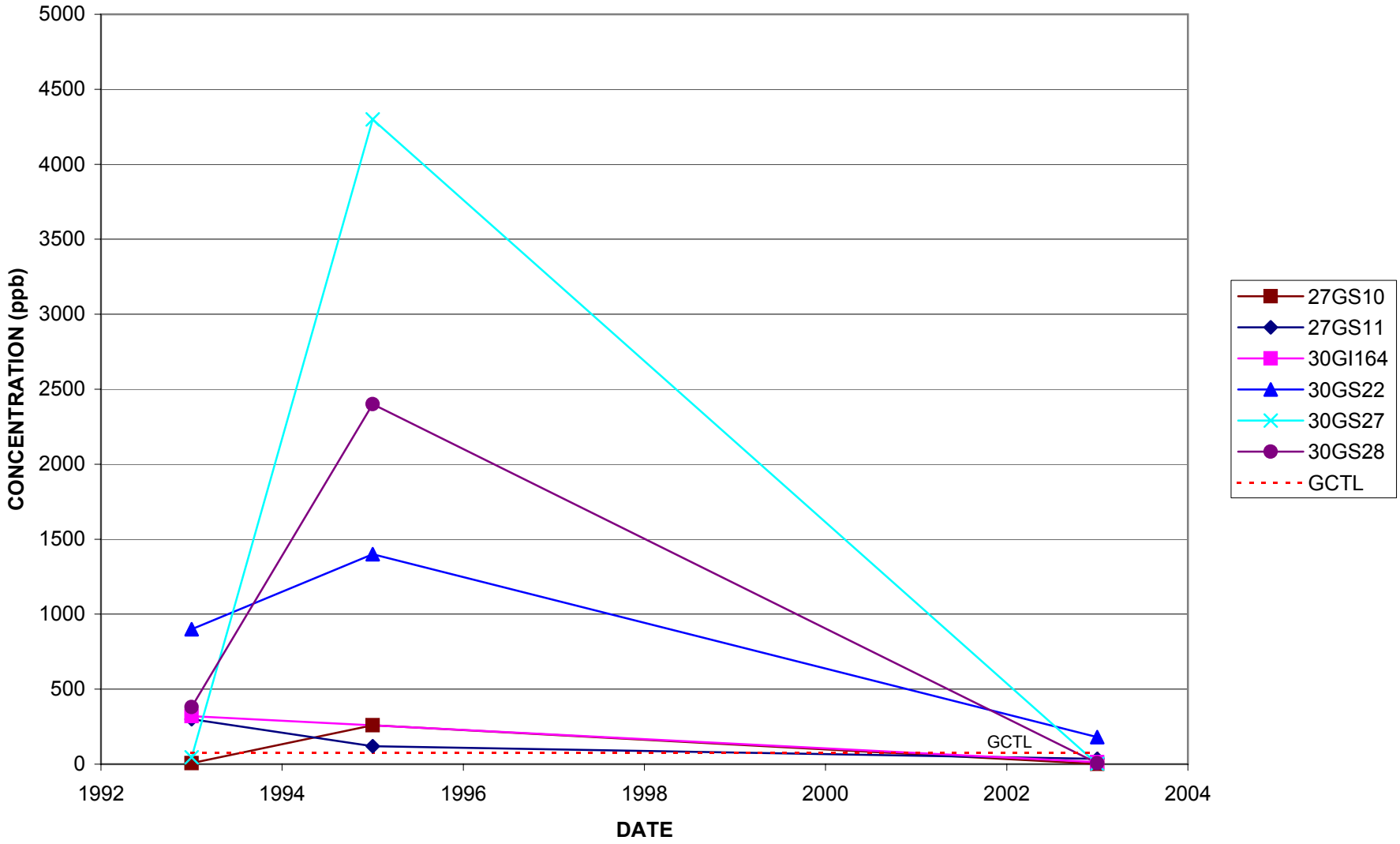
TS-14: TREND SUMMARIES OF CHLOROETHANE IN SELECTED WELLS



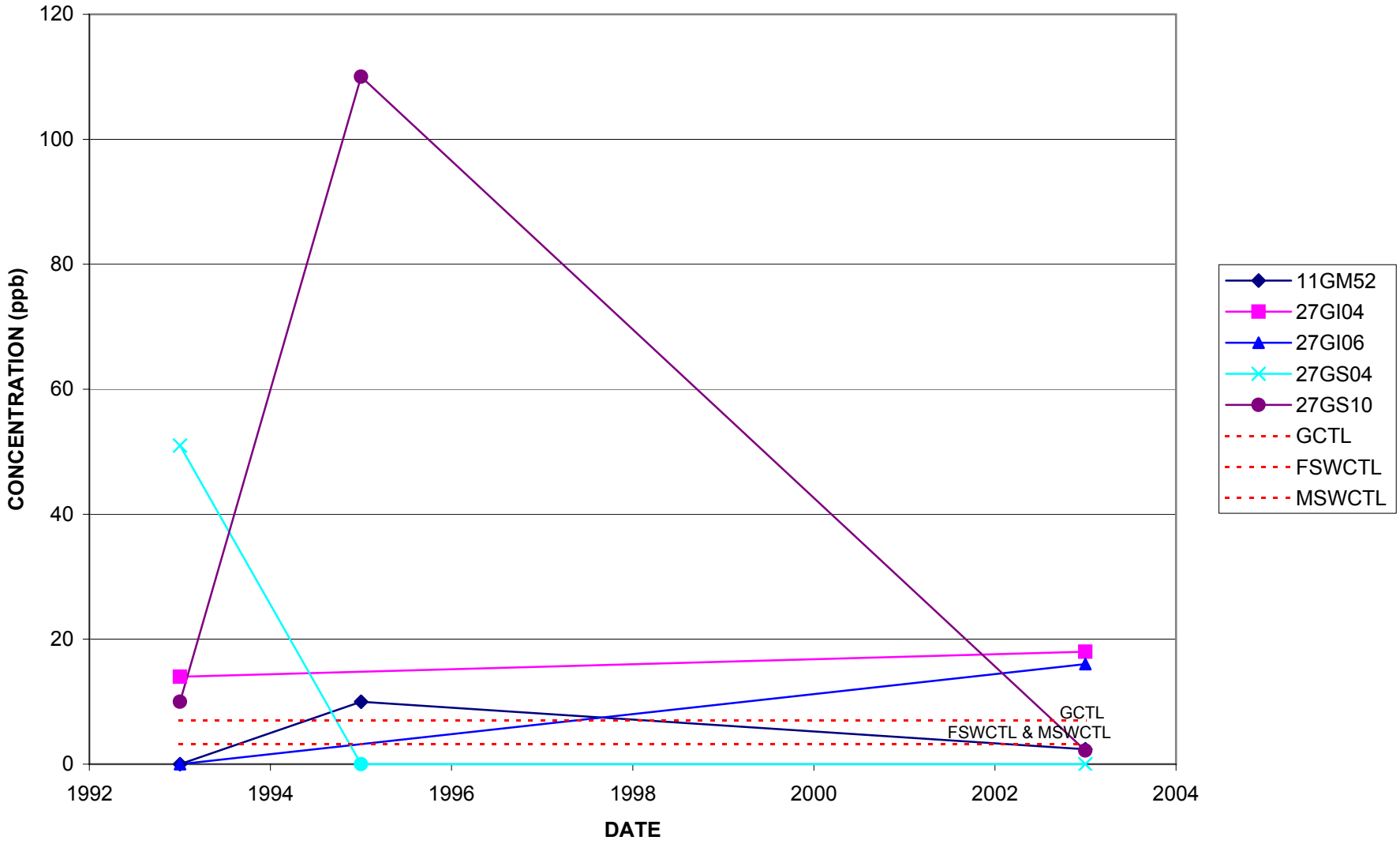
TS-15: TREND SUMMARIES OF CHLOROETHANE IN SELECTED WELLS



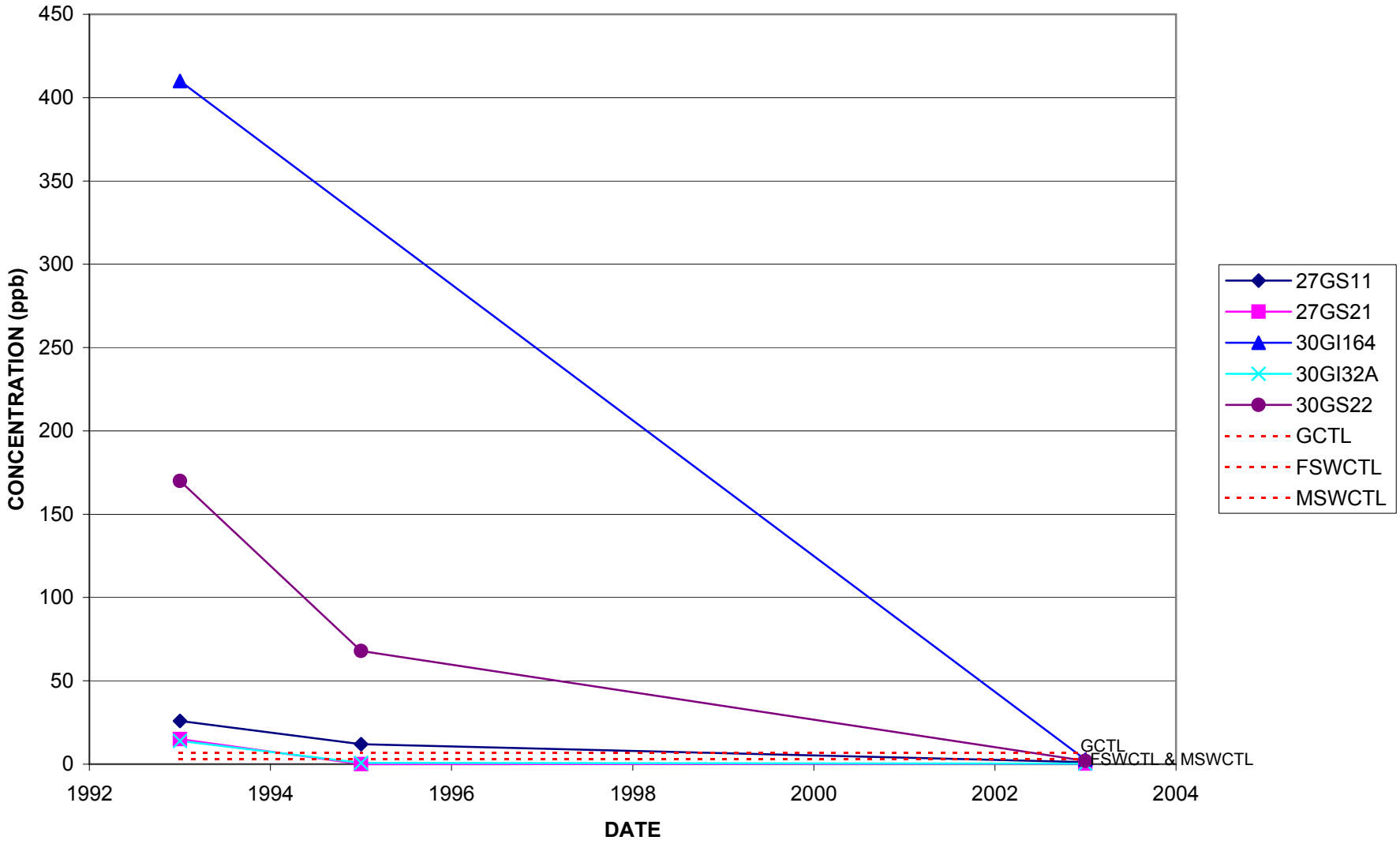
TS-16: TREND SUMMARIES OF 1,1-DICHLOROETHANE IN SELECTED WELLS



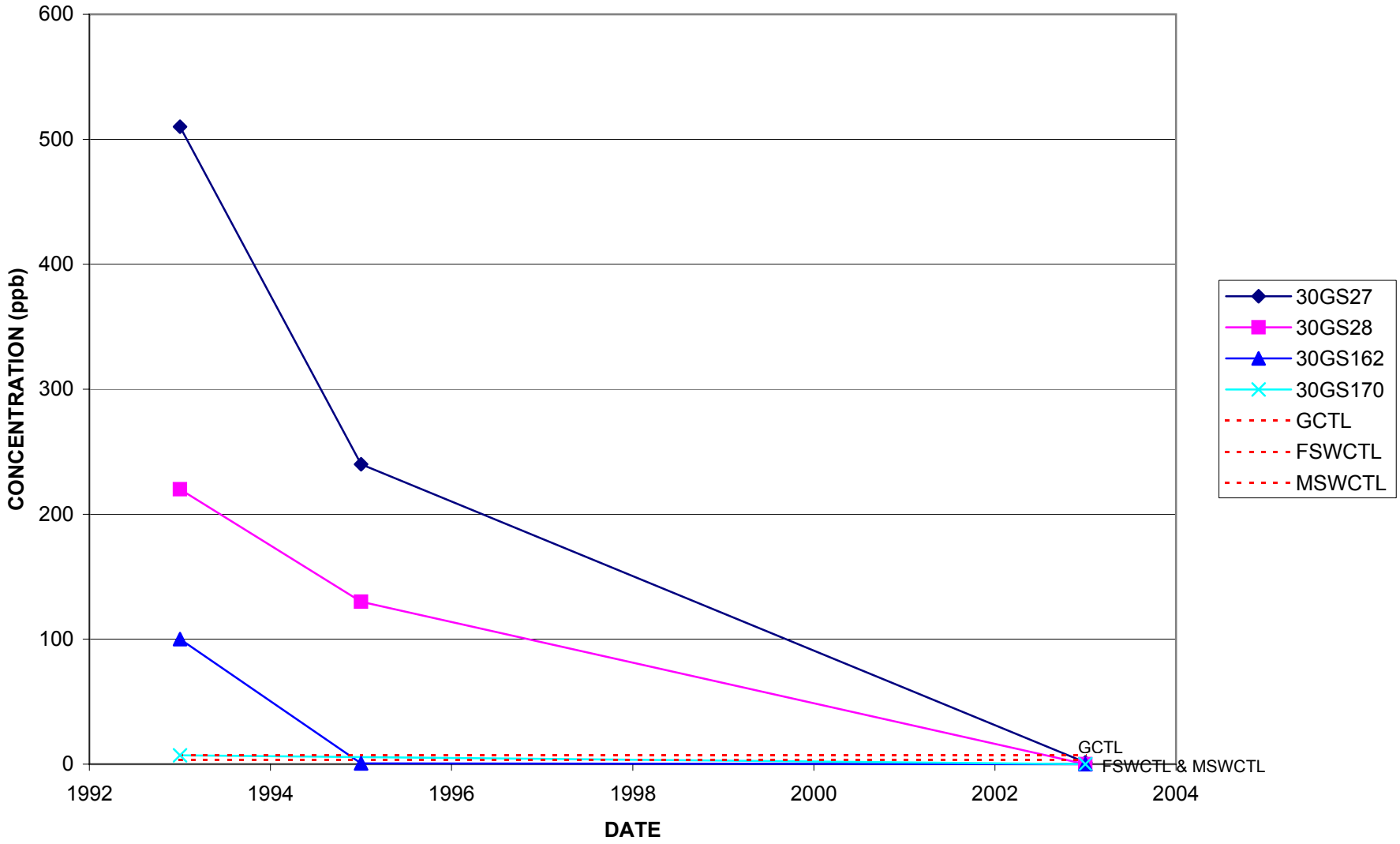
TS-17: TREND SUMMARIES OF 1,1-DICHLOROETHENE IN SELECTED WELLS



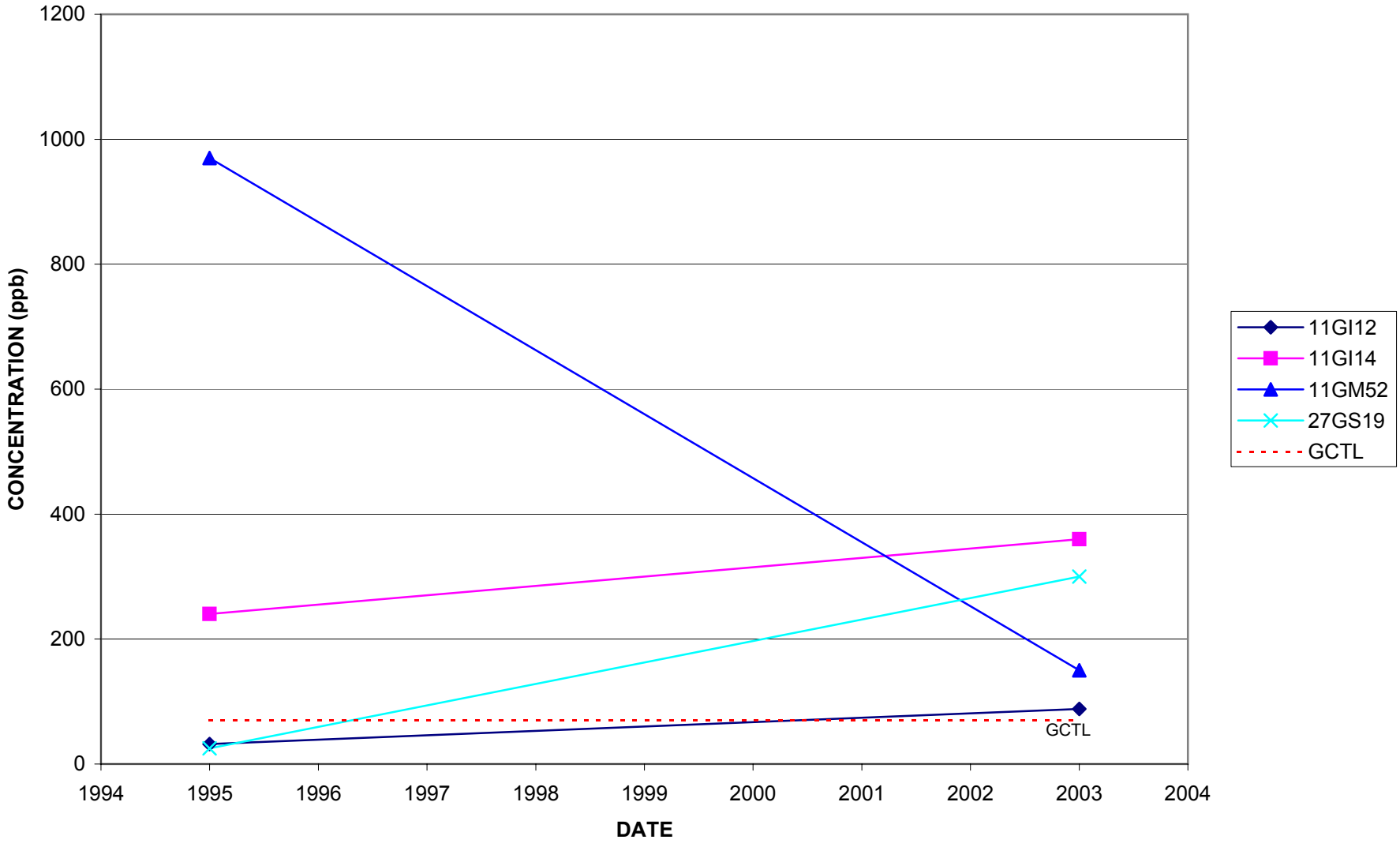
TS-18: TREND SUMMARIES OF 1,1-DICHLOROETHENE IN SELECTED WELLS



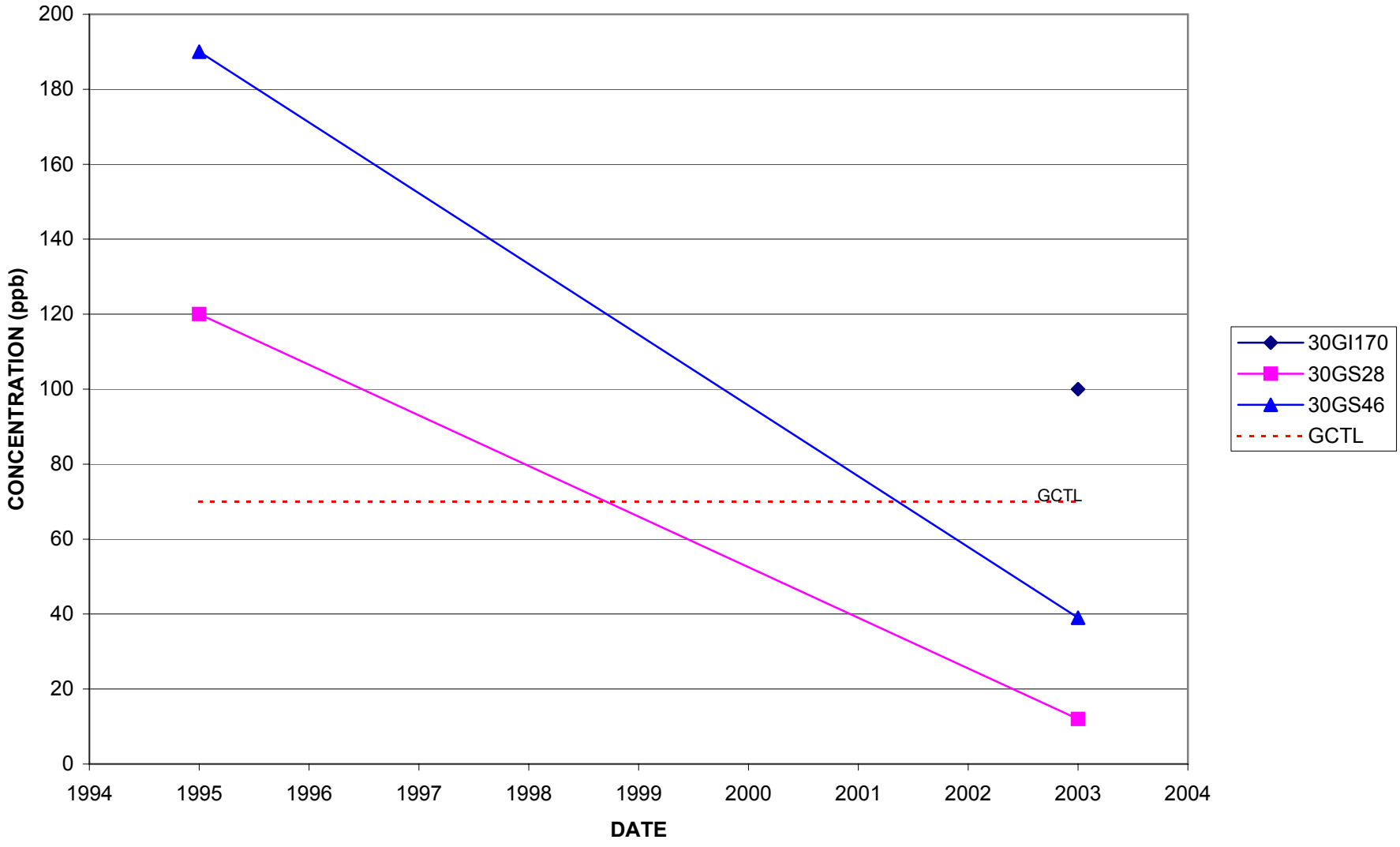
TS-19: TREND SUMMARIES OF 1,1-DICHLOROETHENE IN SELECTED WELLS



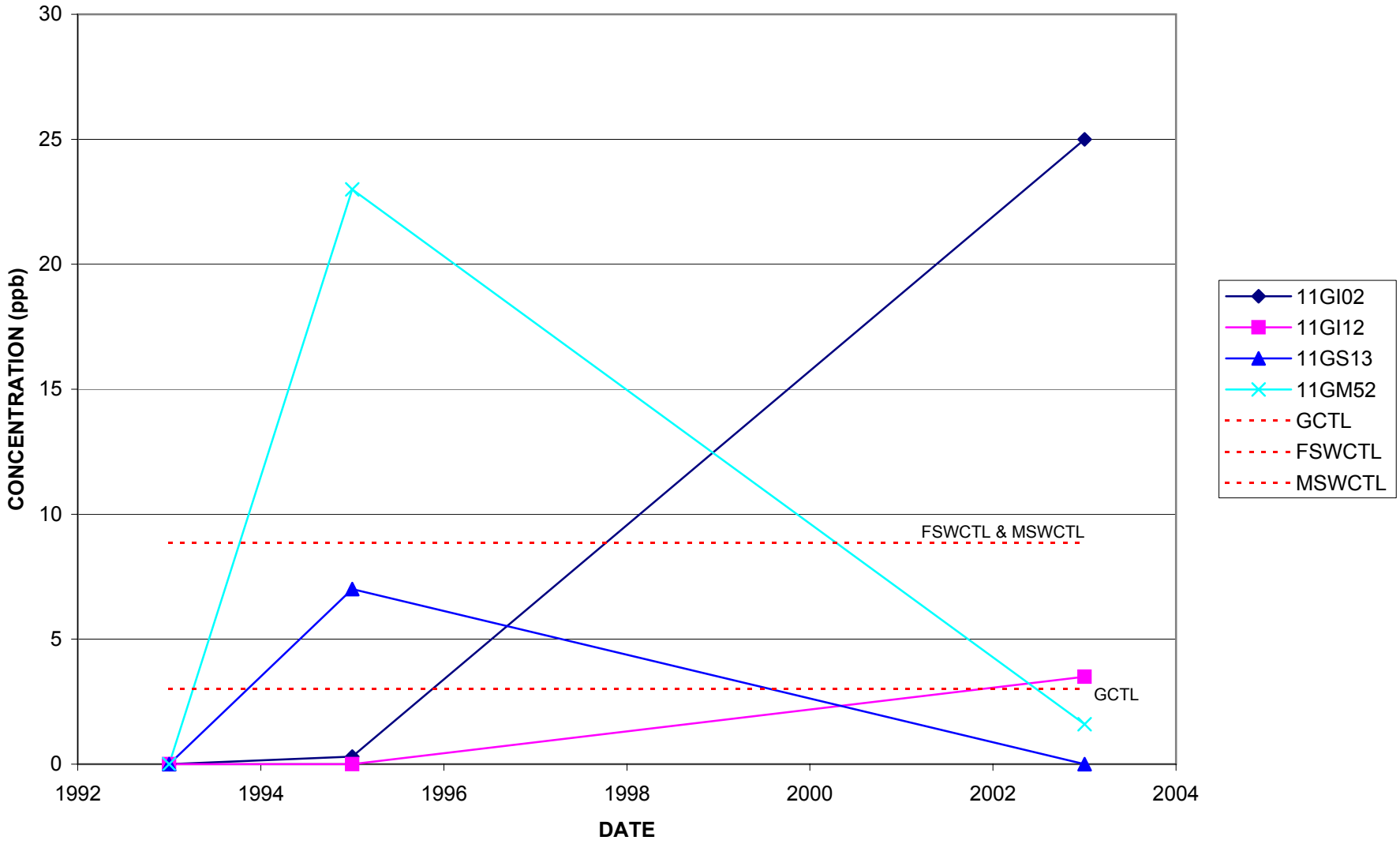
TS-20: TREND SUMMARIES OF CIS-1,2-DICHLOROETHENE IN SELECTED WELLS



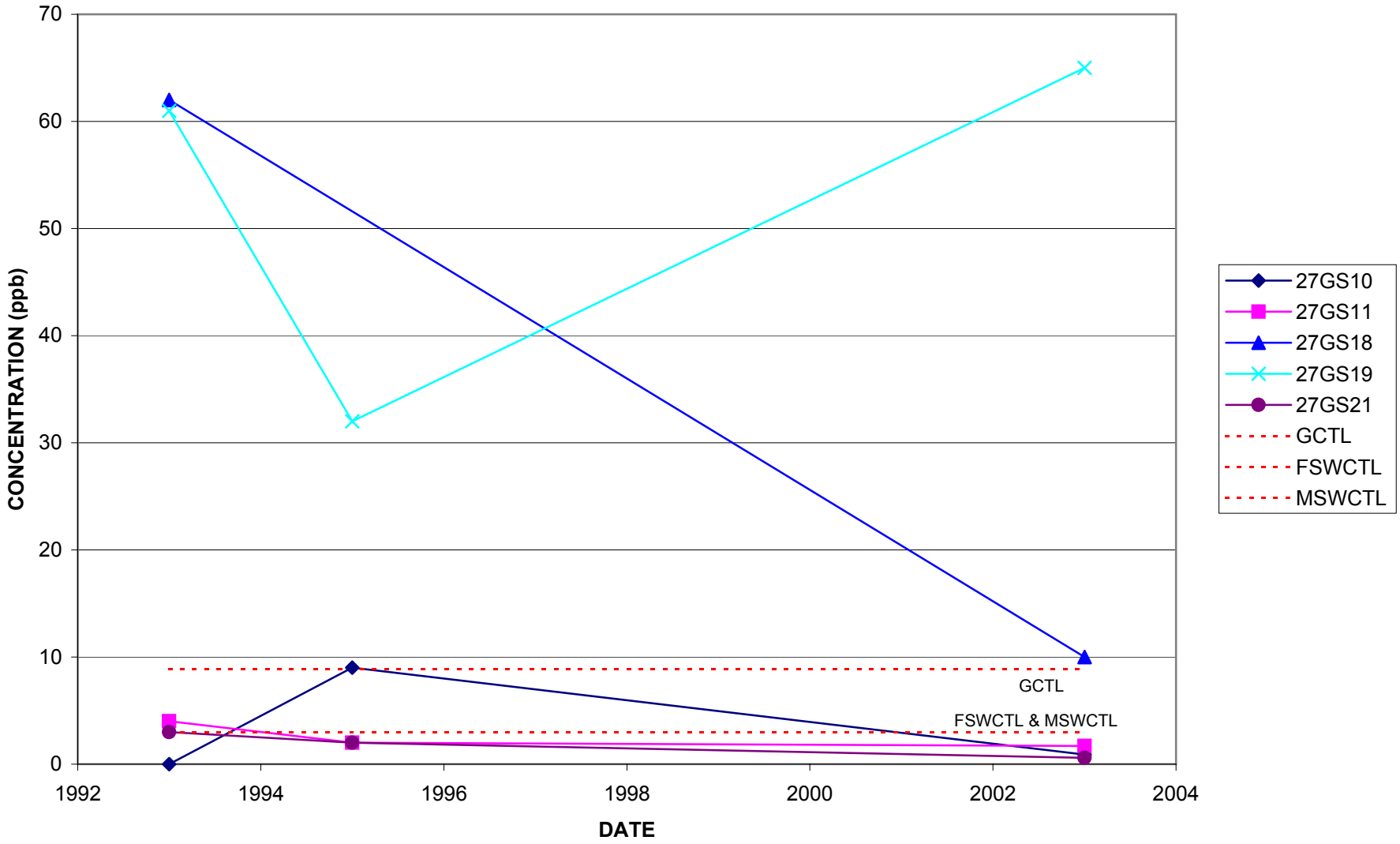
TS-21: TREND SUMMARIES OF CIS-1,2-DICHLOROETHENE IN SELECTED WELLS



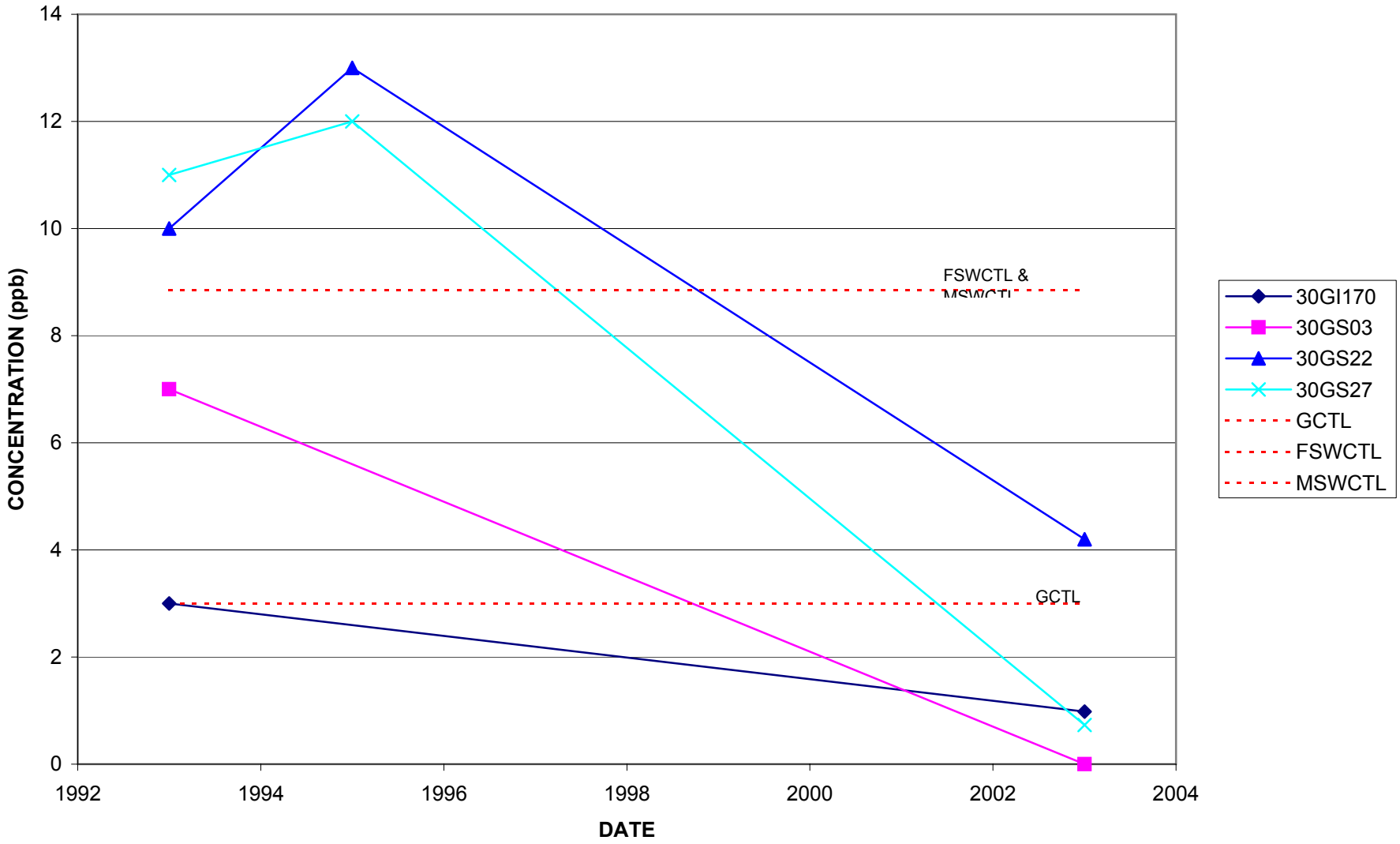
TS-22: TREND SUMMARIES OF TETRACHLOROETHENE IN SELECTED WELLS



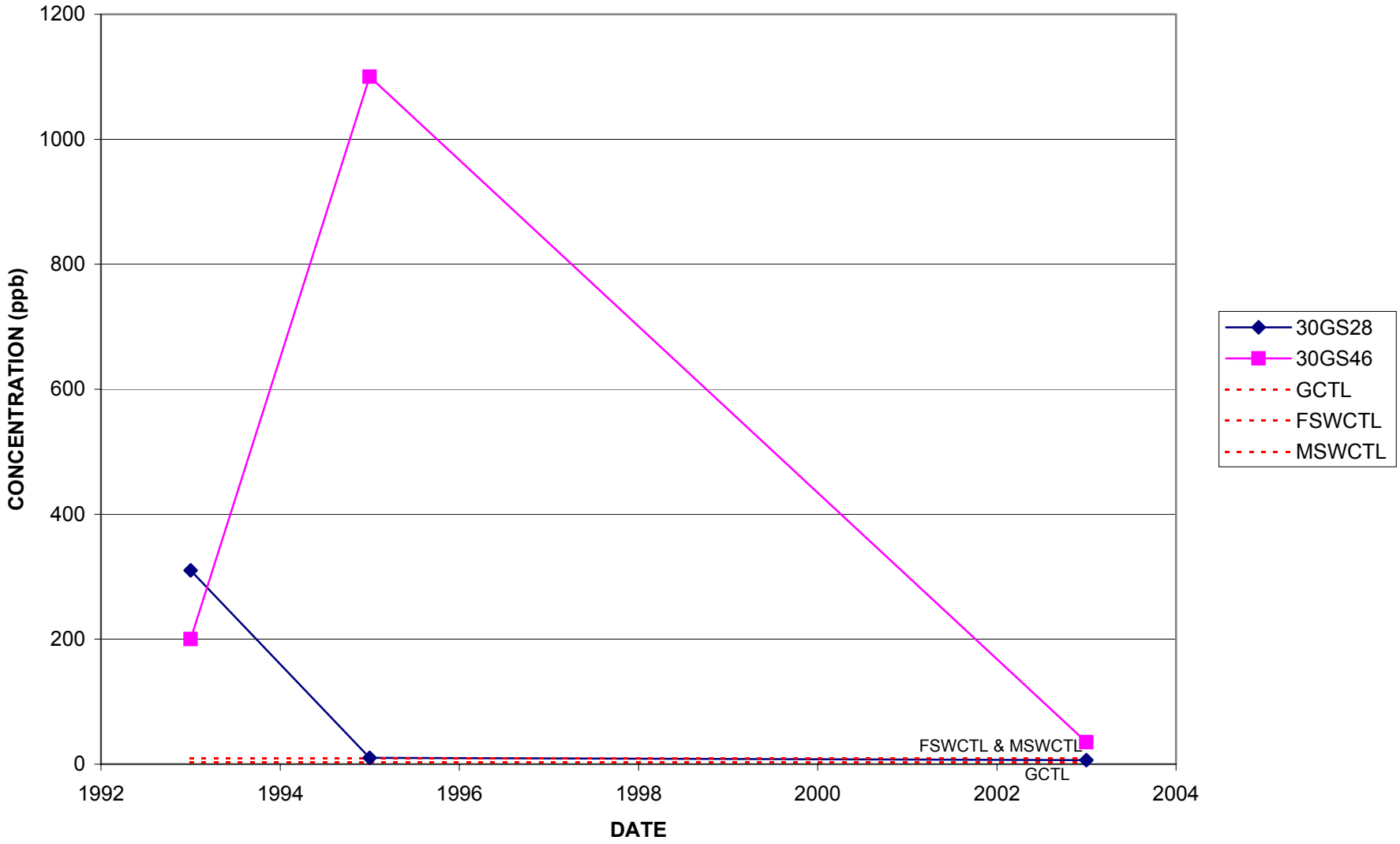
TS-23: TREND SUMMARIES OF TETRACHLOROETHENE FOR SELECTED WELLS



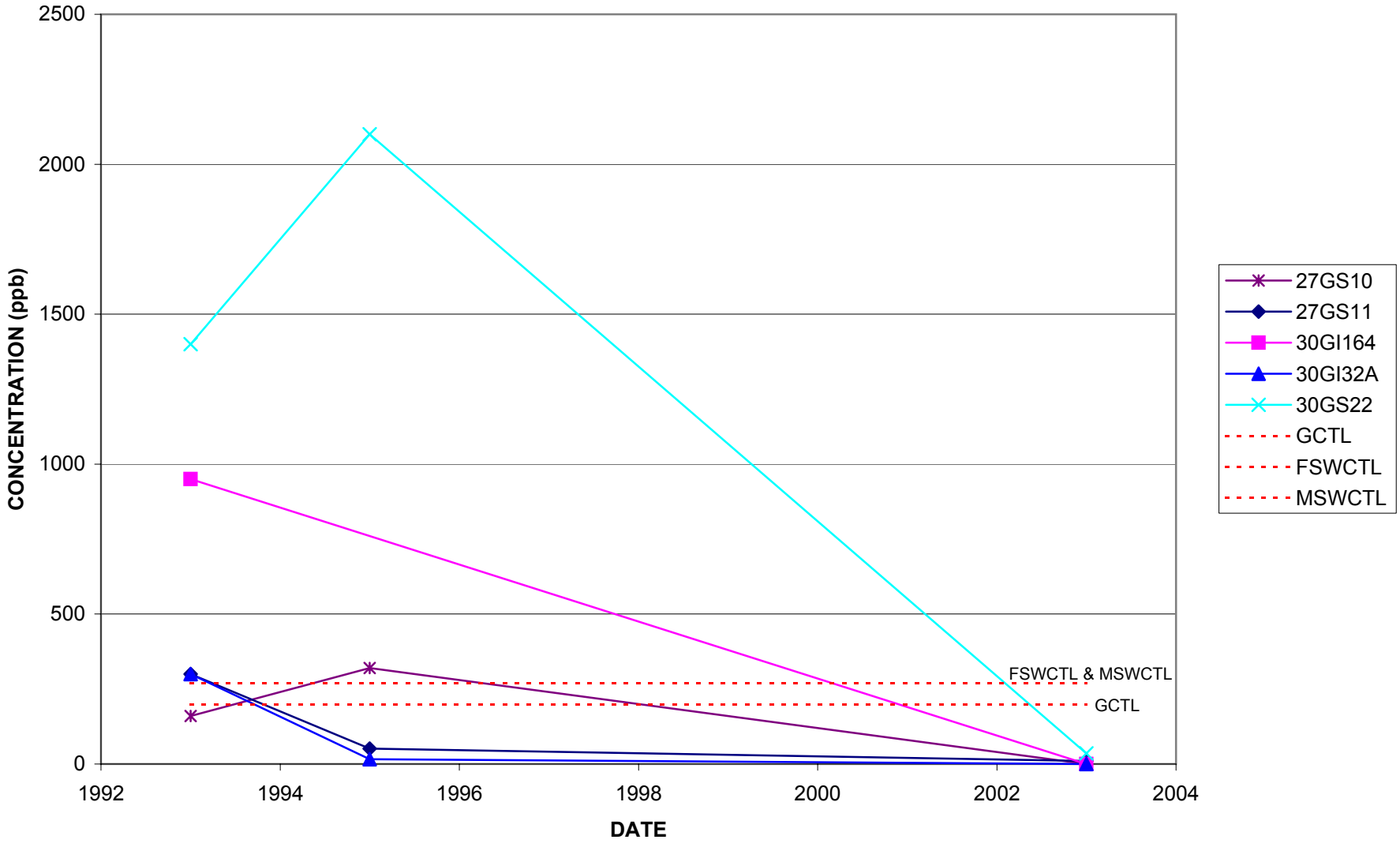
TS-24: TREND SUMMARIES OF TETRACHLOROETHENE IN SELECTED WELLS



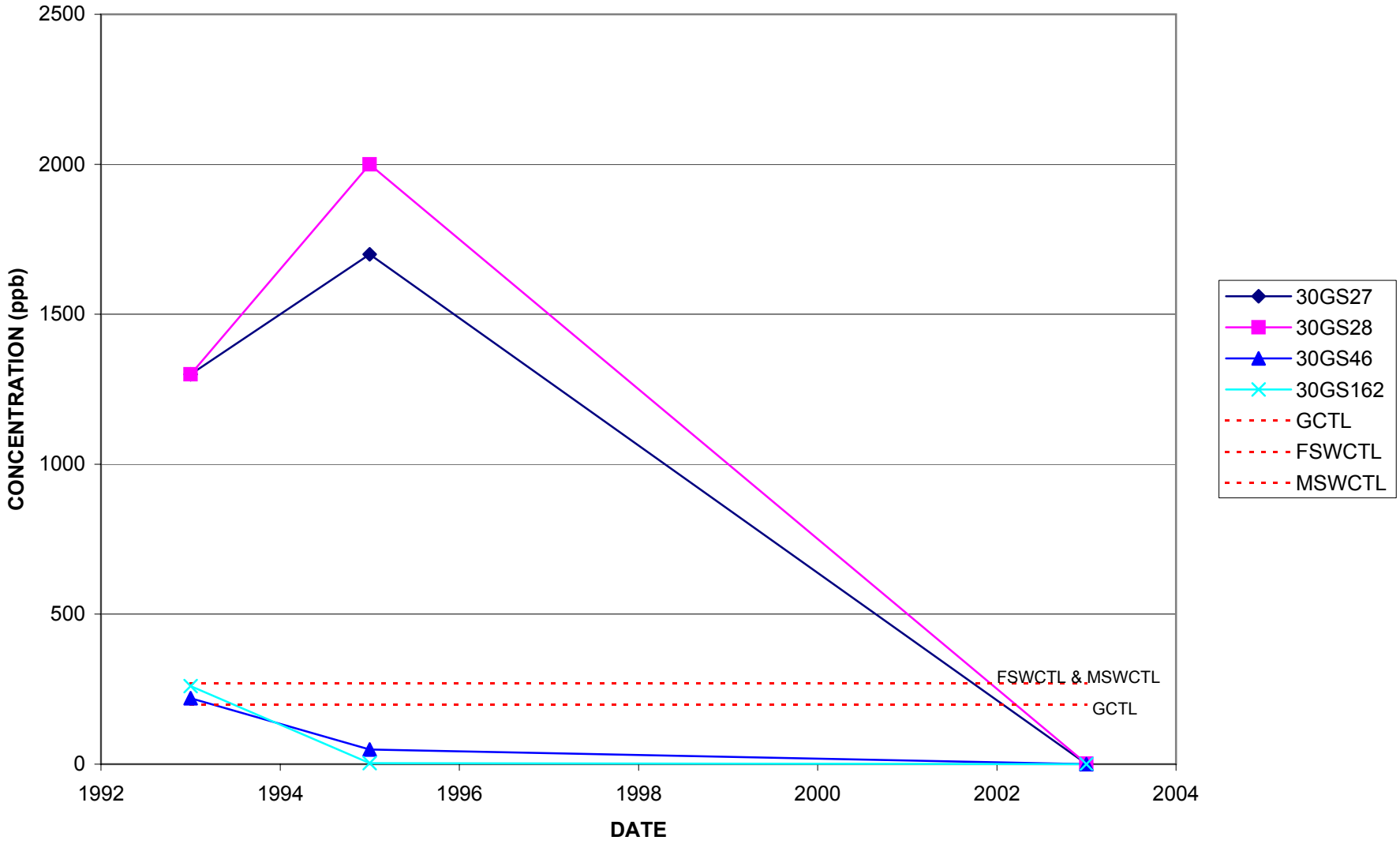
TS-25: TREND SUMMARIES OF TETRACHLOROETHENE IN SELECTED WELLS



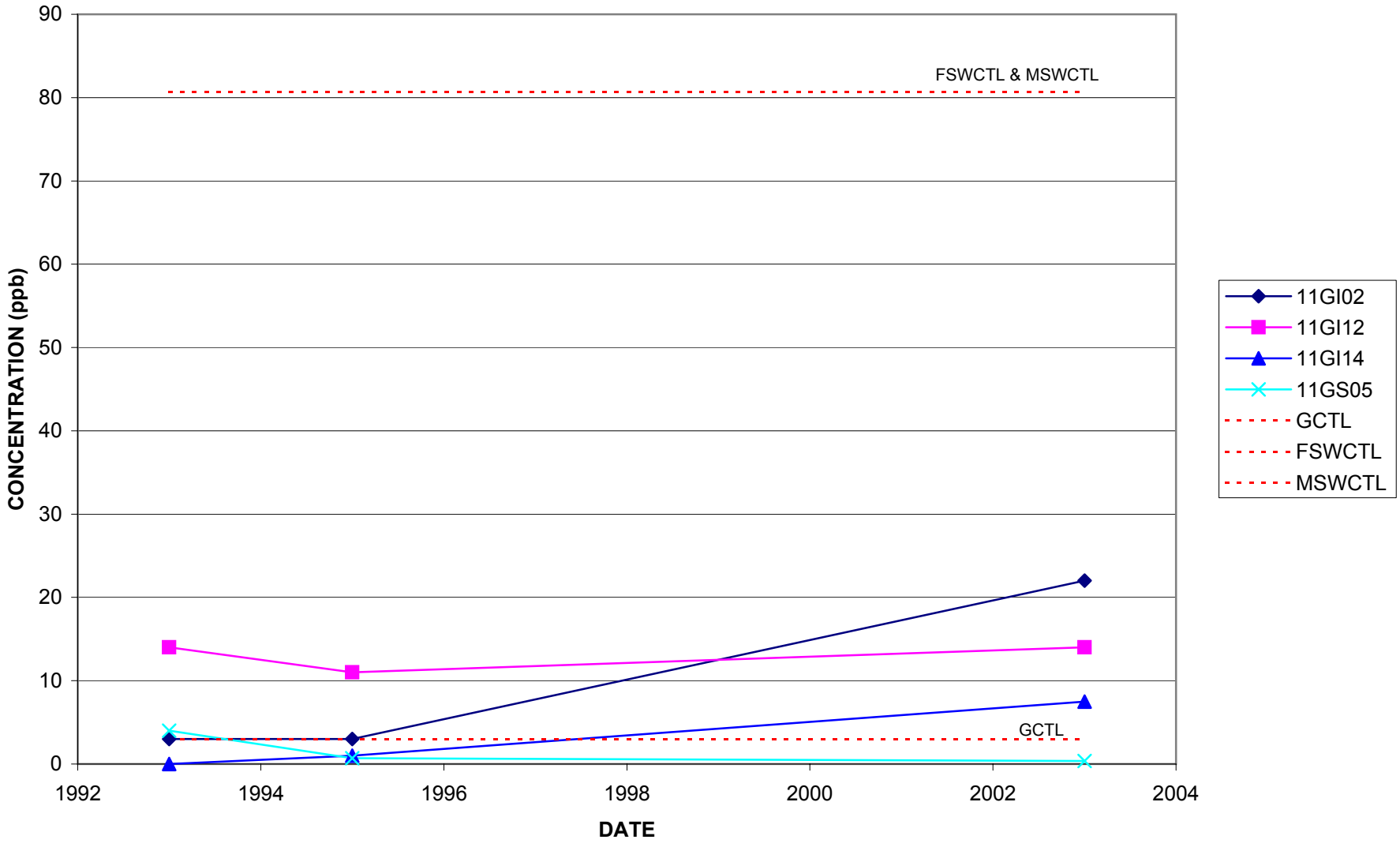
TS-26: TREND SUMMARIES OF 1,1,1-TRICHLOROETHANE IN SELECTED WELLS



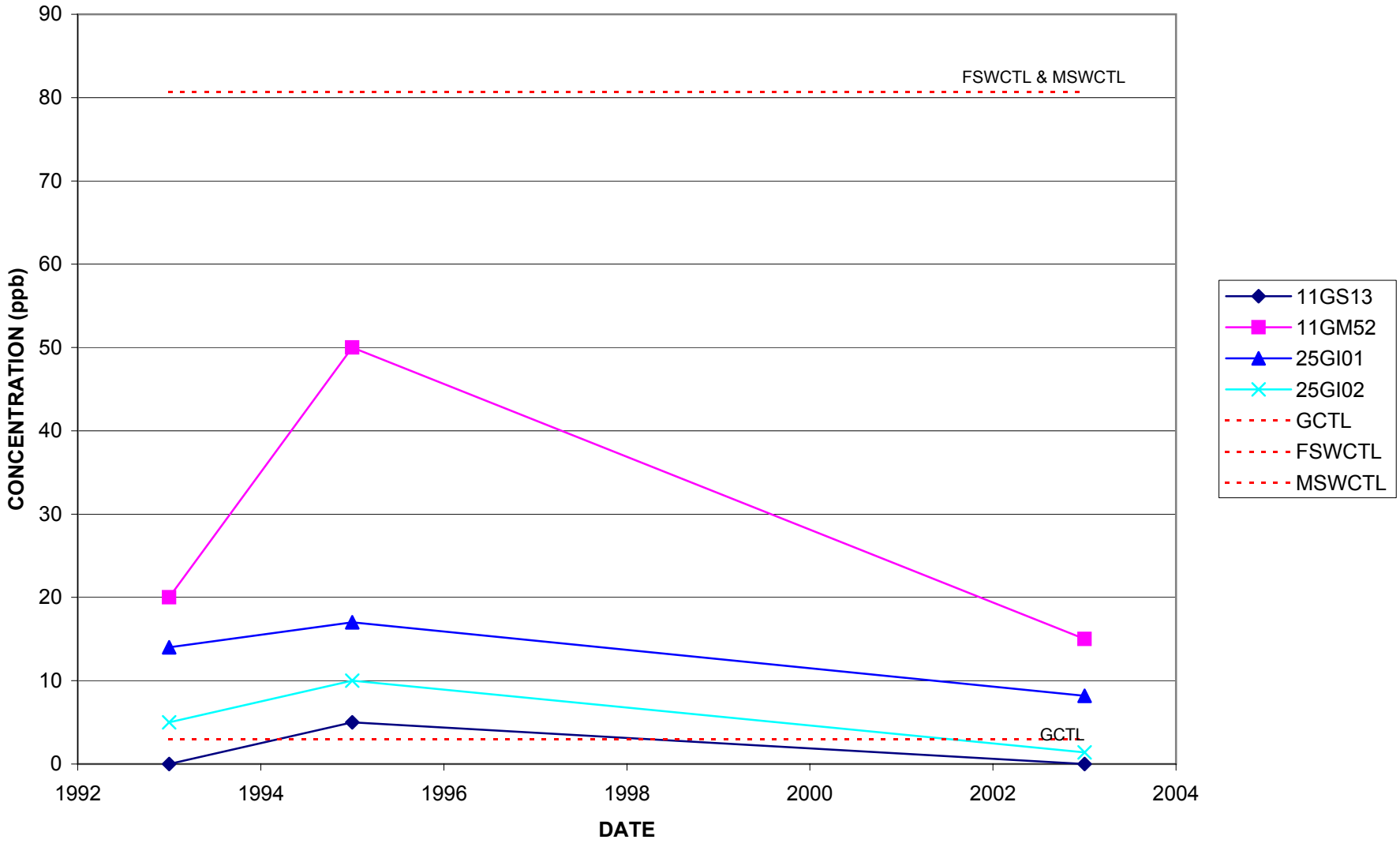
TS-27: TREND SUMMARIES OF 1,1,1-TRICHLOROETHANE IN SELECTED WELLS



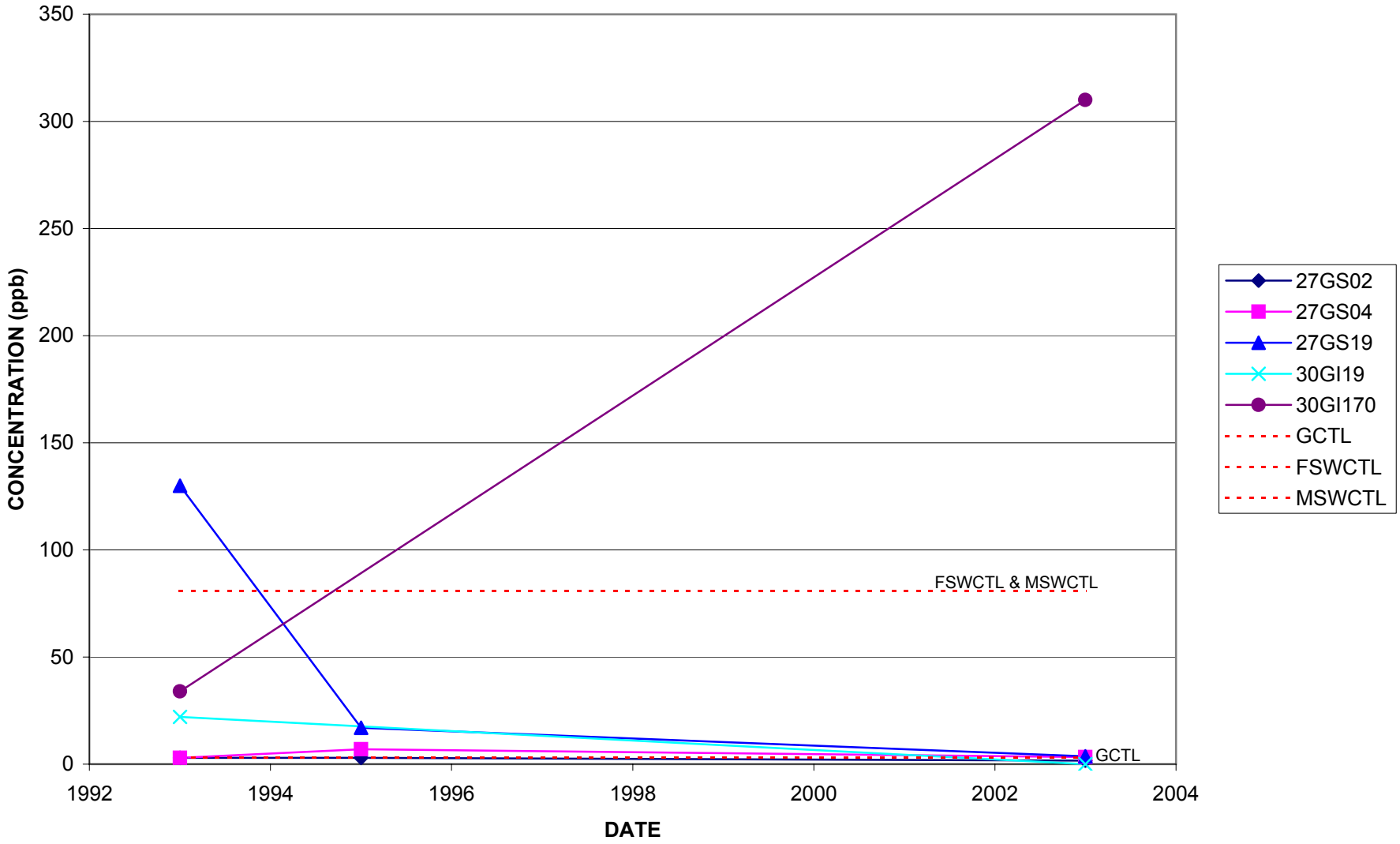
TS-28: TREND SUMMARIES OF TRICHLOROETHENE IN SELECTED WELLS



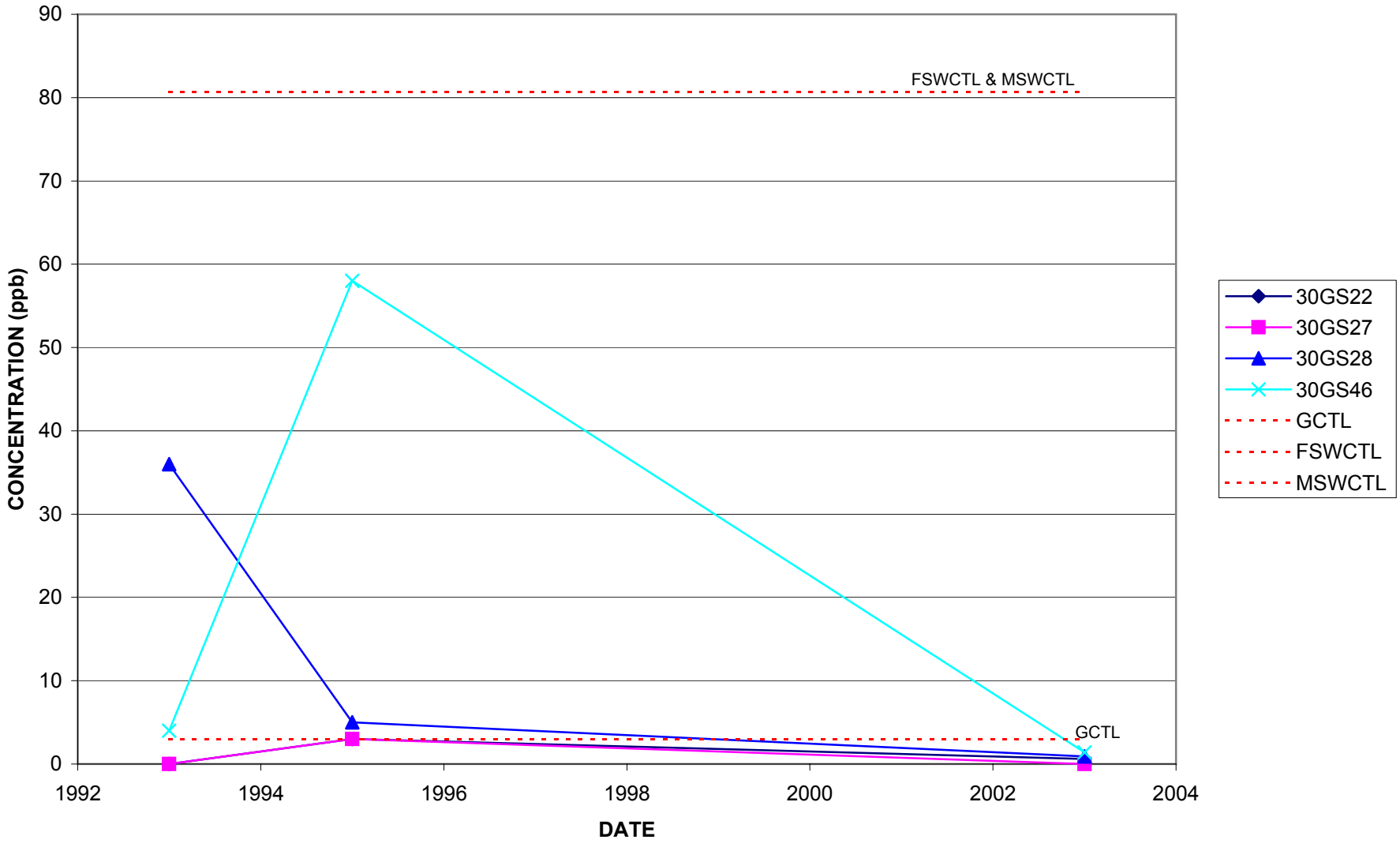
TS-29: TREND SUMMARIES OF TRICHLOROETHENE IN SELECTED WELLS



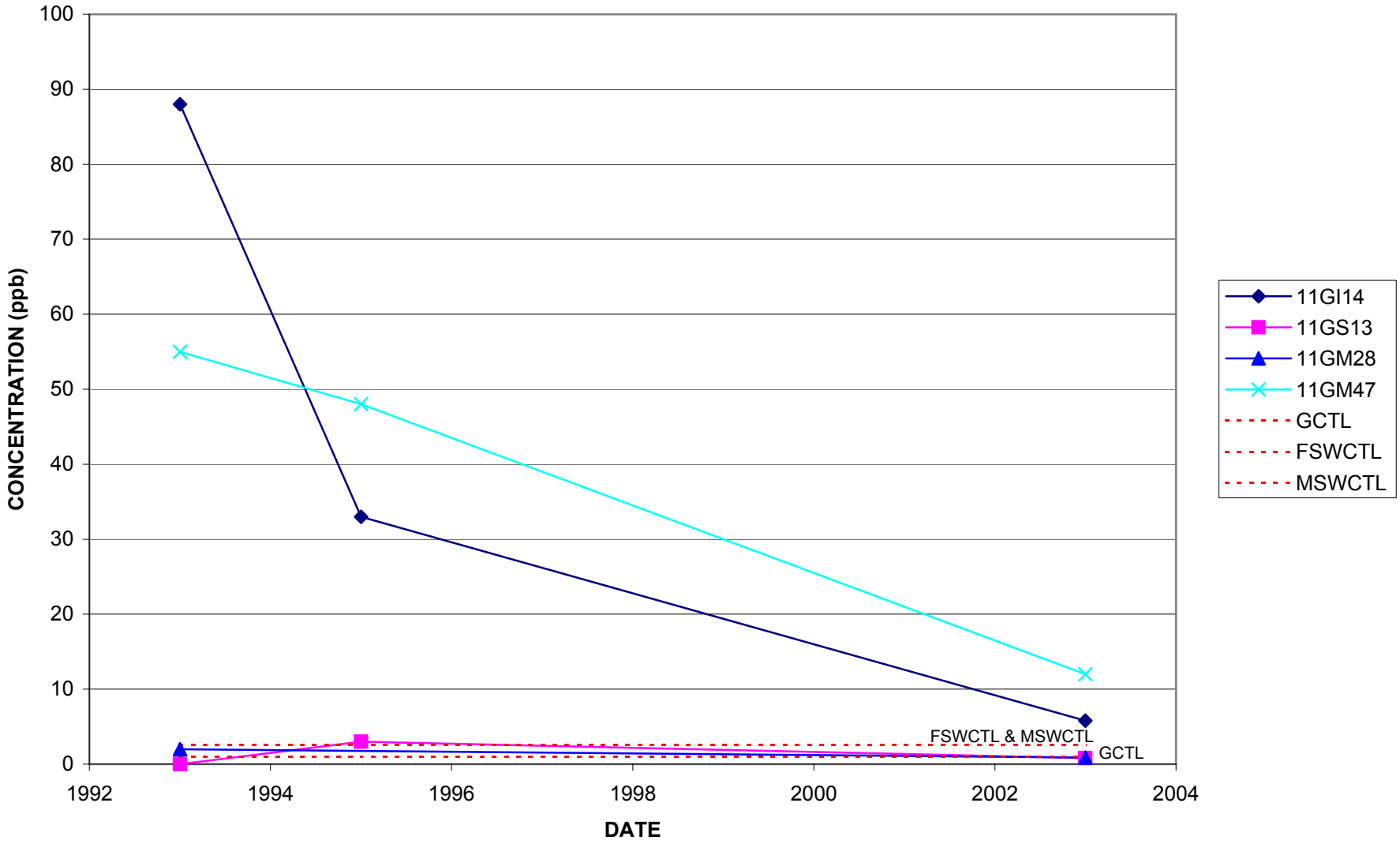
TS-30: TREND SUMMARIES OF TRICHLOROETHENE IN SELECTED WELLS



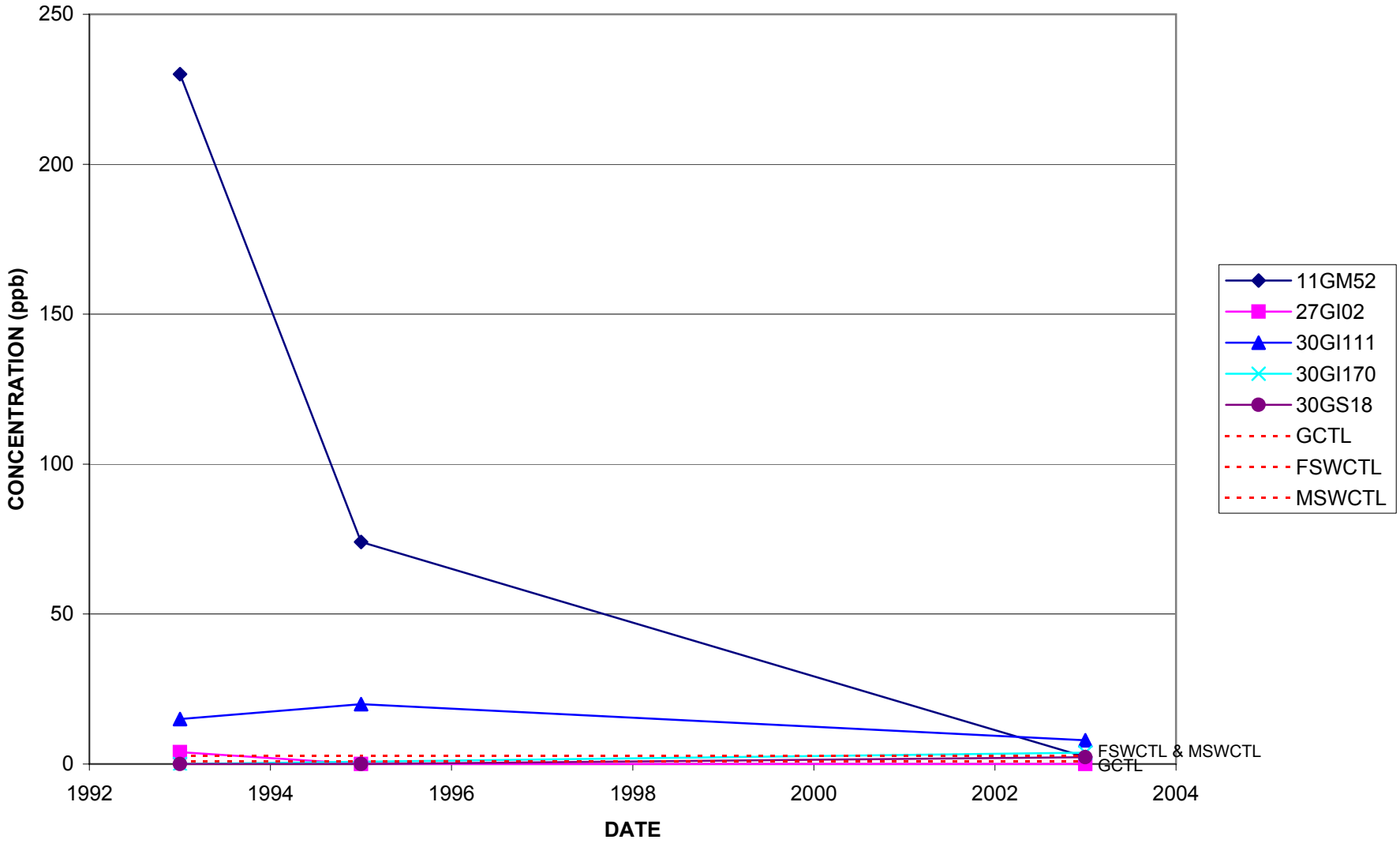
TS-31: TREND SUMMARIES OF TRICHLOROETHENE IN SELECTED WELLS



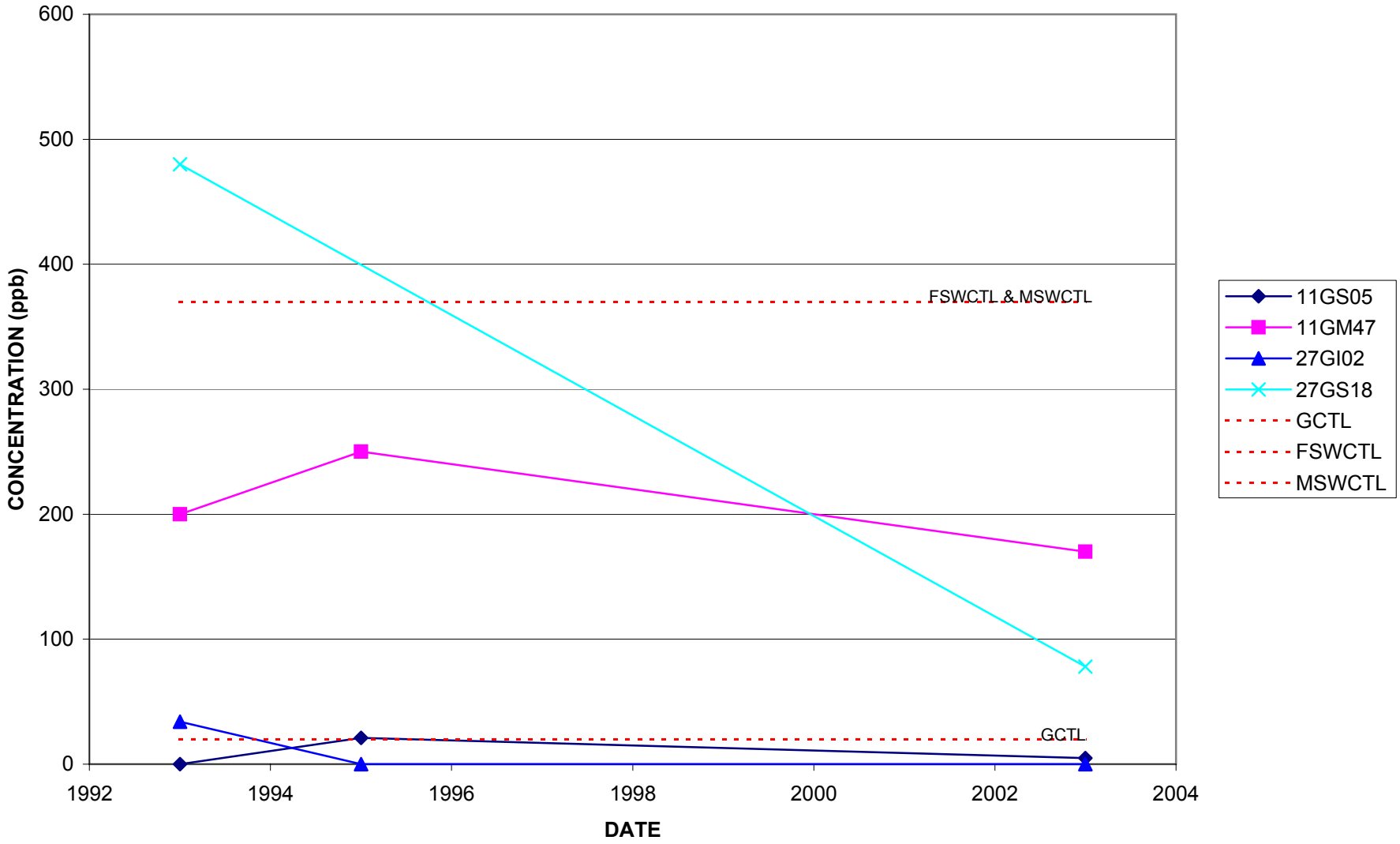
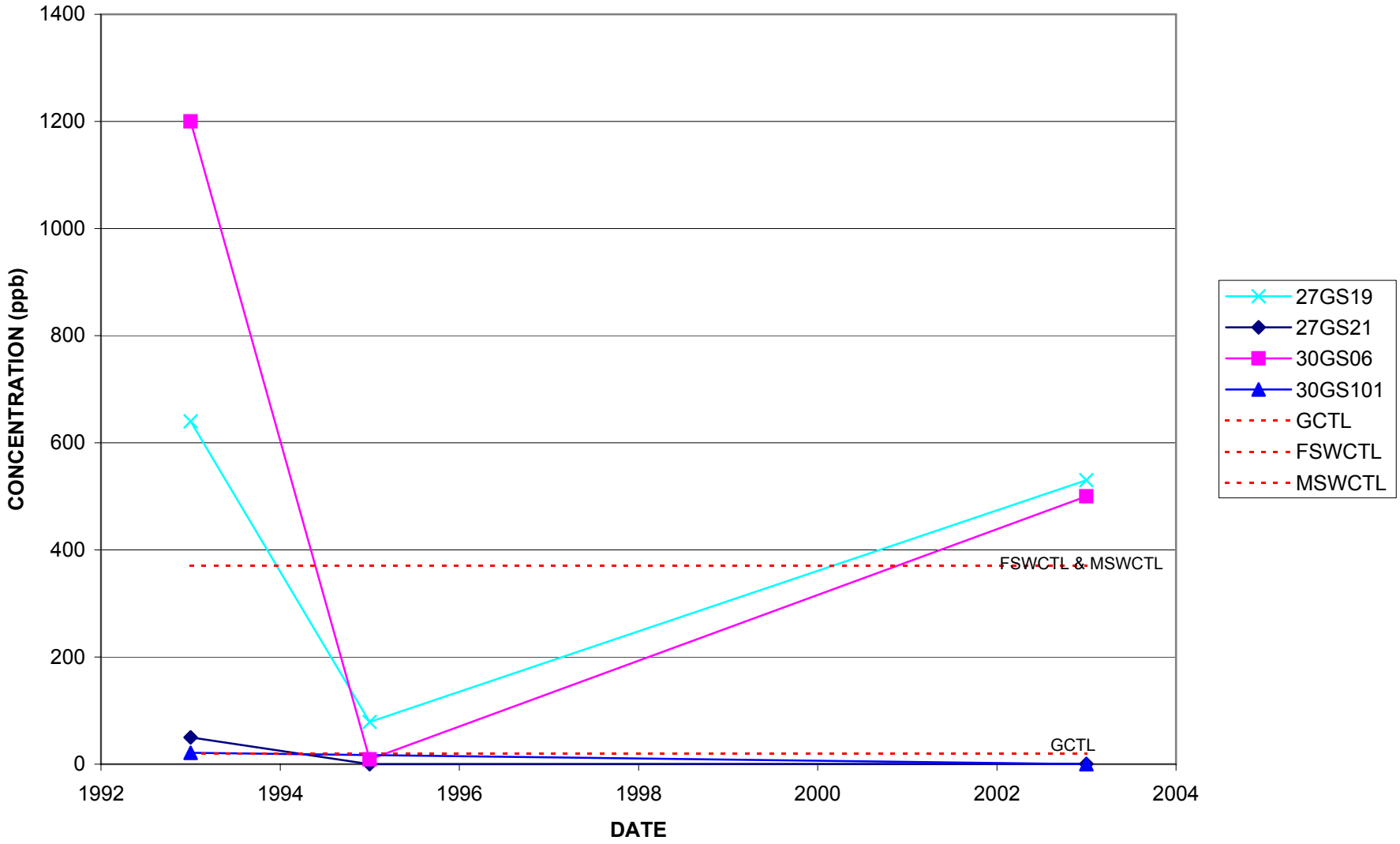
TS-32: TREND SUMMARIES OF VINYL CHLORIDE IN SELECTED WELLS



TS-33: TREND SUMMARIES OF VINYL CHLORIDE IN SELECTED WELLS



TS-34: TREND SUMMARIES OF XYLENES (TOTAL) IN SELECTED WELLS



TS-35: TREND SUMMARIES OF XYLENES (TOTAL) IN SELECTED WELLS