ENVIRONMENTAL RESTORATION PROGRAM

CUMULATIVE GROUNDWATER MONITORING DATA REPORT THROUGH FOURTH QUARTER, FY92

VOLUME I

MOUND PLANT
MIAMISBURG, OHIO

May 1993

DEPARTMENT OF ENERGY
ALBUQUERQUE FIELD OFFICE

ENVIRONMENTAL RESTORATION PROGRAM
EG&G MOUND APPLIED TECHNOLOGIES

DRAFT
(REVISION 0)

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ACRONYMS

BS/BSD	blank spike/blank spike duplicate
CLP	Contract Laboratory Program
DART	Data Analysis and Retrieval Tool
DCE	1,2-*trans*-dichloroethene
EPA	U.S. Environmental Protection Agency
GFAA	graphite furnace atomic absorption
ICS	interference check sample
MCL	maximum contaminant level
MS/MSD	matrix spike/matrix spike duplicate
PCE	tetrachloroethene
RSD	relative standard deviation
TAL	Target Analyte List
TCA	1,1,1-trichloroethane
TCE	trichloroethene
VC	chloroethene (vinyl chloride)

ACKNOWLEDGMENTS

The data contained in this report were collected by field personnel representing Roy F. Weston, Inc. (WESTON) and the Terran Corporation. The field teams were led by Eric Larsen of WESTON. EG&G provided access to onsite wells. Offsite access and right-of-ways were provided by land owners, including the Miami Conservancy District and the City of Miamisburg. The data were compiled and evaluated by Tommy Tharp and Eric Larsen of WESTON. The figures were produced by WESTON's Graphics Department staff members James MacCornack, Darcel Sandland, and Mary Reed. Data validation was performed by C.C. Johnson and Malhotra under subcontract to WESTON. Howard Seeley of WESTON reviewed and summarized the data validation reports. Data management and processing were provided by Tina Sanchez, Richard Wheat, and Joanne Smith. Editing, word processing, and production were provided by WESTON's Publications Department, including Nancy Blackburn, Koren Walston, Gary Yuhas, Roberta Trujillo, and Terry Whalen. William Little served as project manager on this project.

1. INTRODUCTION

Water samples were collected quarterly from a series of monitoring wells, seeps, and test pits at the Mound Plant from October/November 1990 through September 1992 (Figures 1, 8, 15, 22, 29, 36, 43, and 50). The Standard Operating Procedures applicable to groundwater sampling are included in Appendix A. The samples were analyzed for organic, inorganic, and radioactive constituents. Tables 1 through 8 list the sampled wells, seeps, and test pits, the parameters analyzed for, and the associated analytical method for each of the eight individual sampling events. The volatiles, semivolatiles, pesticides, polychlorinated biphenyls (PCBs), and metals data were validated. The radiological data were not validated. Appendix B includes all laboratory and validated data collected for October/November 1990, January/February 1991, April/May 1991, July/August 1991, December 1991, March 1992, June 1992, and September 1992. Appendix C is a 3.5-inch diskette with the water quality data in Lotus™ 123 and ASCII formats. Six constituents, which may be considered contaminants, have been found historically to occur more often and in relatively higher concentrations than other potential contaminants. These are 1,1,1-trichloroethane (TCA), trichloroethene (TCE), tetrachloroethene (PCE), 1,2-*trans*-dichloroethene (DCE), chloroethene (VC), and tritium. The purpose of this report is to document the groundwater, seep, and test pit water quality analytical data for these six constituents in tabular and graphical form and to provide an initial interpretation of these data for the eight sampling events described above. Interpretations and concentration maps are presented for the six constituents for each sampling event. Each sampling event is described individually and general trends are examined in a summary section.

All data were extracted from the Data Analysis and Retrieval Tool (DART) database system in the WESTON Albuquerque office. An electronic copy of all available groundwater, test pit, and seep water quality laboratory and validated data is available upon request. The sampling record forms also are available upon request.

2. RESULTS

OCTOBER/NOVEMBER 1990

Water samples were collected from October 29 through November 8, 1990. Data for the six constituents are summarized in Table 9. The table includes the number of wells sampled, the number of analyses, the number of detections, the number of non-detects (U values), the number of compounds with estimated concentrations (J values), the number of samples with an estimated quantitation limit (UJ values), and the maximum measured concentration. These values were determined for all the samples (samples from known or suspected source areas, samples collected

away from suspected source areas, samples from wells completed in unconsolidated materials, and samples from wells completed in bedrock). Seep samples were combined with wells completed in bedrock because seep water may emanate from bedrock. Sample duplicates are included in the evaluation, causing the number of analyses to be greater than the number of wells sampled. Of the 329 analyses, approximately 14% were detections, 66% were non-detects, 16% were compounds with estimated concentrations, and 4% had an uncertain quantitation limit. The results for the source area, unconsolidated, and bedrock sample subsets were within a few points of these percentages. The samples collected from wells in non-source areas had a lower percentage of detections (10%) and a higher percentage of non-detects (83%) than the other three subsets.

Most of the samples (64%) were collected near known or suspected source areas. Also, most of the samples were from wells completed in unconsolidated materials (78%).

For all constituents, the maximum detected concentrations were found near an identified source area. The highest source area concentrations ranged from 9000 to 275% greater than the highest non-source area concentration. DCE and VC were not detected in any source area or non-source area wells.

The maximum concentration for all volatile constituents (except TCA) was found in samples from wells completed in unconsolidated materials. For all volatile constituents (except TCA), the maximum unconsolidated concentrations ranged from 281 to 280% greater than the respective bedrock concentrations. The maximum bedrock sample concentration of TCA was 220% greater than the respective maximum unconsolidated sample concentration. DCE and VC were not detected in any wells or seeps completed in bedrock or unconsolidated materials. The maximum tritium concentration in bedrock was 649% greater than the maximum tritium concentration in unconsolidated materials.

The validated (except for tritium) detections for the six key constituents are listed in Tables 10 through 15, and are ordered from highest to lowest concentration.

Out of the 55 analyses for TCA, there were no nonqualified detections(Table 10). There were nine J-qualified detections with a maximum concentration of 1.1J μg/L at seep 0602, which is located on the Main Hill. J-qualified concentrations ranged from 1.1J to 0.4J μg/L. Seven of the J-qualified detections were either on the Main Hill (seeps 0601, 0602, 0605, and 0607) or in the vicinity of Area B (wells 0307, 0155, and 0313). The other two J-qualified detections were offsite in the main portion of the Buried Valley aquifer (wells 0129 and 0118).

TCE data reported two nonqualified detections out of 55 analyses (Table 11). The maximum concentration was 42 μg/L at well 0063 located in Area B. Well 0160, located offsite and southwest of Area B, reported a concentration of 3.9 μg/L. Twenty-four J-qualified values were reported, with concentrations ranging from 28J to .3J μg/L. The maximum J-qualified concentration was 28J μg/L at well 0305, which is south of Area B. Most of the reported concentrations (qualified and nonqualified) were near Area B or on the Main Hill.

PCE did not have a nonqualified detection out of 55 samples (Table 12). There were 18 J-qualified detections with a maximum of 27J μg/L at well 0063, which is in Area B. J-qualified concentrations ranged from 27J to 0.3J μg/L. Most J-qualified detections were in the vicinity of Area B (0063, 0305, 0313, 0307, 0153, 0306, 0046, 0152, 0076, 0271, 0154, 0155, and 0071).

Of the 54 analyses for DCE, there were no nonqualified or qualified detections (Table 13). VC was not detected in the 55 analyses performed (Table 14).

Tritium was detected in 44 out of 55 sample analyses (Table 15). The maximum concentration was 86.900 nCi/L at seep 0601, located on the Main Hill. Detectable concentrations ranged from 86.900 to 0.629 nCi/L. The highest concentrations were on the Main Hill (seeps 0601, 0605, 0608, and 0607; wells 0120 and 0115). Offsite concentrations ranged from 9.280 to <0.500 nCi/L. The maximum offsite concentration was 9.280 nCi/L at well 0126.

The laboratory analytical results for the six constituents are shown graphically. The well identifiers and the concentrations of these constituents are displayed on maps of Mound Plant and the surrounding area. The concentration data are not contoured because most of the detections are along a line of wells. Contouring data that are generally linear would give an exaggerated impression of the likely extent of contamination.

Figure 1 shows the well and seep locations sampled during the October/November 1990 groundwater sampling event. Most locations were on Mound Plant property; however, a few wells were offsite in the main portion of the Buried Valley aquifer.

Figure 2 shows that the only reported TCA concentrations were J-qualified. These concentrations were found in seeps on the Main Hill (0602, 0607, 0601, and 0605), in wells in the vicinity of Area B (0307, 0155, and 0313), and at two offsite locations (0118 and 0129).

Figure 3 shows that most of the highest nonqualified and qualified TCE concentrations occur in the vicinity of Area B (0063, 0305, 0153, 0306, 0307, 0152, 0313, 0154, 0155, 0071, 0271, 0076,

and 0046). Three offsite locations (0160, 0123, and 0159) reported concentrations of 3.9, 1.8J, and 0.3J μg/L, respectively. Main Hill seeps (0602, 0605, 0601, and 0607) and well 0115 also had J-qualified concentrations.

Figure 4 shows that most of the highest PCE concentrations (all J-qualified) were in the vicinity of Area B (0063, 0305, 0313, 0307, 0153, 0306, 0046, 0152, 0076, 0271, 0154, 0155, and 0071). Offsite well 0126 had a J-qualified concentration of 0.3J μg/L.

Figure 5 shows that no nonqualified or qualified detections of DCE were reported for the October/November 1990 groundwater sampling event.

Figure 6 shows that no nonqualified or qualified detections of VC were reported for the October/November 1990 groundwater sampling event.

Figure 7 shows the distribution of tritium concentrations. The highest concentrations are on the Main Hill at seeps 0601, 0605, 0608, and 0607 and at wells 0120, 0117 and 0115. Well 0312, located near Buildings 19 and 72, also had a relatively high concentration of tritium. Wells near Area B (0307, 0153, 0152, and 0306) had tritium concentrations exceeding 9.500 nCi/L.

In summary, the concentration maps show the following general trends and conditions:

- TCA—Had only J-qualified concentrations. Most reported concentrations were on the Main Hill or in the vicinity of Area B.
- TCE—Most of the highest concentrations were in the vicinity of Area B. Offsite well 0160 reported a concentration of 3.9 μg/L. Well 0312, located near Buildings 19 and 72, also had a high (J-qualified) concentration of TCE (20J μg/L). Three offsite locations had detectable (J-qualified) concentrations of TCE (wells 0159, 0123, and 0160).
- PCE—Had only J-qualified concentrations. Most reported concentrations were in the vicinity of Area B. No offsite wells had a detectable concentration of PCE.
- DCE—No nonqualified or qualified detections were reported for the October/November 1990 groundwater sampling effort.
- VC—No nonqualified or qualified detections were reported for the October/November 1990 groundwater sampling effort.
- Tritium—The Main Hill had the highest concentrations, followed by the wells in the vicinity of Area B. Offsite concentrations ranged from 9.280 to <0.500 nCi/L.

JANUARY/FEBRUARY 1991

Water samples were collected from January 28 through February 6, 1991. Data for the six constituents are summarized in Table 16. The table includes the number of wells sampled, the number of analyses, the number of detections, the number of non-detects (U values), the number of compounds with estimated concentrations (J values), the number of samples with an estimated quantitation limit (UJ values), and the maximum measured concentration. These values were determined for all the samples (samples from known or suspected source areas, samples collected away from suspected source areas, samples from wells completed in unconsolidated materials, and samples from wells completed in bedrock). Sample duplicates are included in the evaluation, causing the number of analyses to be greater than the number of wells sampled. Of the 138 analyses, 33% were detections, 41% non-detects, 12% were compounds with estimated concentrations, and 14% had an uncertain quantitation limit. The results for the unconsolidated sample subset were within a few points of these percentages. The source area subset had a larger percentage of detections (41%) and a lower number of non-detects (33%). The non-source area subset had a lower percentage of detections (8%) and a higher percentage of non-detects (64%). The bedrock samples had higher percentages of both detects and non-detects (50% each).

Most of the samples (74%) were collected in locations near known or suspected source areas. Also, most of the samples were collected from wells completed in unconsolidated materials (96%).

For all constituents, the maximum concentrations were found near an identified source area. The highest source area concentrations ranged from infinite (a non-detectable concentration compared to a detectable concentration) to 304% greater than the highest non-source area concentration.

The maximum concentration for all constituents was found in samples collected from wells completed in unconsolidated materials. For all constituents, the maximum unconsolidated concentrations ranged from infinite (non-detect compared to detectable concentration) to 218% greater than the respective maximum bedrock concentrations.

The validated (except for tritium) detections for the six key constituents are listed in Tables 17 through 22, and are ordered from highest to lowest concentration.

Of the 23 analyses for TCA there were no nonqualified and three J-qualified detections (Table 17). Well 0305 and a duplicate sample from 0305 had concentrations of 0.6J μg/L. Well 0154 had a concentration of 0.3J μg/L. Both wells are in the vicinity of Area B.

TCE data showed 12 nonqualified detections out of 23 analyses (Table 18). The maximum concentration was 35 μg/L at well 0305. Well 0305 is just outside the southern margin of Area B. All 12 nonqualified detections were in known or suspected source areas. Nonqualified concentrations ranged from 35 to 1.2 μg/L. TCE data showed four J-qualified detections. The maximum J-qualified detection was 49J μg/L at well 0063, which is in Area B. J-qualified concentrations ranged from 49J to 3.8J μg/L. Most detections (qualified and nonqualified) were in wells located in the vicinity of Area B.

PCE data reported 10 nonqualified detections out of 23 analyses (Table 19). The maximum concentration was 25 μg/L at well 0305. Well 0305 is just outside the southern margin of Area B. All 10 nonqualified detections were from locations in known or suspected source areas. Nonqualified concentrations ranged from 25 μg/L to 0.3 μg/L. PCE data showed seven J-qualified detections. The maximum J-qualified detection was 24J μg/L at well 0063 located in Area B. J-qualified detections ranged from 24J to 0.4J μg/L. Most detections (qualified and nonqualified) were in wells located in the vicinity of Area B.

Out of 23 analyses, there were three nonqualified detections of DCE (Table 20). An initial sample and duplicate sample from well 0305 comprised two of the three detections. The average maximum concentration from these two samples was 1.6 μg/L. Well 0305 is just outside the southern margin of Area B. The other detection was reported at well 0312 at a concentration of 1.1 μg/L. Well 0312 is near Buildings 19 and 72. All three detections were near known or suspected sources.

VC data reported no nonqualified detections (Table 21). An initial sample and duplicate sample from well 0305 were the only two J-qualified detections. The concentrations for the initial and duplicate sample were 3.4J and 3.2J μg/L, respectively. Well 0305 is just outside the southern margin of Area B. Area B is a known source area of volatile contamination.

Tritium was detected in 20 out of 23 sample analyses (Table 22). The maximum concentration was 24 nCi/L at well 0305. Well 0305 is just outside the southern margin of Area B. Tritium concentrations ranged from 24 to <1 nCi/L. The higher tritium concentrations were located in the vicinity of Area B. The maximum offsite tritium concentration was 7.9 nCi/L at well 0126.

The laboratory analytical results for the six constituents are shown graphically. The well identifiers and the concentrations for these constituents are displayed on maps of Mound Plant and the surrounding area. The concentration data are not contoured because most of the detections are along a line of wells. Contouring data that are generally linear would give an exaggerated impression of the likely extent of contamination.

Figure 8 shows the well locations sampled during the January/February 1991 groundwater sampling event. Most of the wells were on Mound Plant property; however, a few wells were located offsite in the main portion of the Buried Valley aquifer.

Figure 9 shows that no nonqualified detections of TCA were reported for the January/February 1991 groundwater sampling event. Two locations had J-qualified concentrations, wells 0305 and 0154. Both wells are in the vicinity of Area B.

Figure 10 shows that most of the highest nonqualified TCE concentrations were in the vicinity of Area B (wells 0305, 0307, 0313, 0154, 0071, 0315, 0155, 0271, and 0076). Well 0312 also had a relatively high concentration of TCE. Well 0312 is near Buildings 19 and 72. J-qualified values were also concentrated in the vicinity of Area B (wells 0063, 0306, 0152, and 0046).

Figure 11 shows that most of the highest nonqualified PCE concentrations were in the vicinity of Area B (wells 0305, 0313, 0307, 0154, 0271, 0155, and 0076). J-qualified values were also concentrated in the vicinity of Area B (wells 0063, 0306, 0152, 0046, and 0071).

Figure 12 shows only three nonqualified DCE hits at two locations (sample and sample duplicate for well 0305) were reported for the January/February 1991 groundwater sampling effort. The locations included well 0305, just outside the southern margin of Area B, and well 0312, near Buildings 19 and 72.

Figure 13 shows two J-qualified VC detections at well 0305 (sample and sample duplicate). Well 0305 is just outside the southern margin of Area B.

Figure 14 shows the distribution of tritium concentrations. The highest concentrations are in the vicinity of Area B (wells 0305, 0152, 0307, 0271, 0063, 0046, 0306, and 0313) and at well 0312. Offsite wells had relatively low tritium concentrations ranging from 7.9 nCi/L to sample results below the minimum detectable activity (<1.0 nCi/L).

In summary, the concentration maps show the following general trends and conditions:

- TCA—Wells 305 and 0154 had only detections and the concentrations were J-qualified.
- TCE—Most of the highest concentrations were in the vicinity of Area B. Well 0312, located near Buildings 19 and 72, also had a high concentration of TCE. Offsite wells did not have detectable concentrations of TCE.

- PCE—Most of the highest concentrations were in the vicinity of Area B. The only offsite well with a detected concentration was well 0126 with a concentration of 0.4J μg/L.

- DCE—Three detected concentrations were reported, two at well 0305 (sample and sample duplicate) and one at well 0312.

- VC—Well 0305 had the only detected concentrations. Both values were J-qualified.

- Tritium—Most of the highest concentrations were found in the immediate vicinity of Area B. Offsite wells had relatively low to non-detectable concentrations of tritium.

APRIL/MAY 1991

Water samples were collected from April 29 through May 10, 1991. Data for the six constituents are summarized in Table 23. The table includes the number of wells sampled, the number of analyses, the number of detections, the number of non-detects (U values), the number of compounds with estimated concentrations (J values), the number of samples with an estimated quantitation limit (UJ values), and the maximum measured concentration. These values were determined for all the samples (samples from known or suspected source areas, samples collected away from suspected source areas, samples from wells completed in unconsolidated materials, and samples from wells completed in bedrock). Seep samples were combined with wells completed in bedrock because seep water may emanate from bedrock. Sample duplicates are included in the evaluation, causing the number of analyses to be greater than the number of wells sampled. Of the 359 analyses, 20% were detections, 63% were non-detects, 10% were compounds with estimated concentrations, and 7% had an uncertain quantitation limit. The source area, unconsolidated, and bedrock sample subsets were within a few points of these percentages. The non-source area subset had a lower percentage of detections (12%) and a larger percentage of non-detects (78%) than the other three subsets.

Most of the samples (68%) were collected near known or suspected source areas. Also, most of the samples were collected from wells completed in unconsolidated materials (70%).

For all constituents, the maximum concentrations were found by an identified source area. The highest source area concentrations ranged from infinite (non-detect compared to detectable concentration) to 114% greater that the highest non-source area concentration.

The maximum concentrations for TCA, TCE, and tritium were found in wells completed in bedrock. The maximum bedrock concentrations for these three constituents were 892 to 150% greater than the highest unconsolidated sample concentration. The maximum concentration for PCE was found in a well completed in the unconsolidated deposits. The maximum unconsolidated concentration for PCE

was 213% greater than the highest bedrock sample concentration. The bedrock tritium's maximum concentration was 892% greater than the highest unconsolidated sample concentration.

The validated (except for tritium) detections for the six key constituents are listed in Tables 24 through 29, and are ordered from highest to lowest concentration.

Out of the 60 analyses for TCA, there was only one nonqualified detection at well 0306 at a concentration of 0.8 µg/L (Table 24). Well 0306 is located west of Area B. Twelve J-qualified concentrations were reported. The maximum J-qualified value was at seep 0607 at a concentration of 1.2J µg/L. Seep 0607 is located on the north side of the Main Hill. The J-qualified values ranged in concentration from 1.2J to 0.3J µg/L. Most of the qualified and nonqualified detections were in the vicinity of Area B. The maximum offsite detection was 0.7J µg/L at well 0129.

TCE data reported 11 nonqualified detections out of 60 analyses (Table 25). The maximum concentration was 45 µg/L at seep 0602, which is located on the south side of the Main Hill. Nonqualified concentrations ranged from 45 to 1.6 µg/L. TCE data showed 13 J-qualified detections. The maximum J-qualified detection was 50J µg/L at well 0305, which is located south of Area B. J-qualified concentrations ranged from 50J to 1.4J µg/L. Most of the qualified and nonqualified detections were in the vicinity of Area B or on the Main Hill. No offsite detections were reported.

PCE data reported eight nonqualified detections out of 60 analyses (Table 26). The maximum concentration was 20 µg/L at well 0063, which is located in Area B. Nonqualified detections ranged from 20 to 0.5 µg/L. PCE data showed 12 J-qualified detections. The maximum J-qualified detection was 23J µg/L at well 0305, which is located south of Area B. J-qualified concentrations ranged from 23J to 0.3J µg/L. Most of the qualified and nonqualified detections were in the vicinity of Area B. The only offsite detections were reported from well 0126 (0.5J µg/L for the sample and 0.4J µg/L for the sample duplicate).

Of the 60 analyses for DCE, there were no nonqualified or qualified detections for the April/May 1991 groundwater sampling event (Table 27).

Of the 60 analyses for VC, there were no nonqualified or qualified detections for the April/May 1991 groundwater sampling event (Table 28).

Tritium was detected in 52 out of 59 sample analyses (Table 29). The maximum concentration was 136.388 nCi/L at seep 601, which is located on the Main Hill. Tritium concentrations ranged from 136.388 to 0.514 nCi/L. The highest tritium concentrations were reported on the Main Hill

(seeps 0601, 0605, 0607, 0608, 0623, and 0621; wells 0120, 0115, and 0117) and in the vicinity of Area B (wells 0310, 0152, 0307, 0153, 0305, and 0063). Offsite wells 0124 and 0126 also had tritium concentrations above 10 nCi/L (Table 29).

The laboratory analytical results for the six constituents are shown graphically. The well identifiers and the concentrations for these constituents are displayed on maps of Mound Plant and the surrounding area. The concentration data are not contoured because most of the detections are along a line of wells. Contouring data that are generally linear would give an exaggerated impression of the likely extent of contamination.

Figure 15 shows the well and seep locations sampled during the April/May 1991 groundwater sampling event. Most sampling locations were on Mound Plant property; however, a few wells were located offsite in the main portion of the Buried Valley aquifer.

Figure 16 shows that only one nonqualified TCA concentration was reported for the April/May sampling event at well 0306. Well 0306 is located west of Area B. Twelve J-qualified values were reported. The locations of the J-qualified values were primarily in the vicinity of Area B. Two offsite locations (wells 0129 and 0126) reported concentrations of 0.7J and 0.5J μg/L, respectively.

Figure 17 shows that most of the highest TCE concentrations were on the Main Hill (seeps 0602, 0605, 0601, 0607, and 0623) or in the vicinity of Area B (wells 0306, 0307, 0313, 0071, 0046, 0305, 0063, 0153, 0154, 0152, 0155, 0271, and 0076). Well 0312 also had a relatively high TCE concentration. Well 0312 is located near Buildings 19 and 72. No offsite detections were reported.

Figure 18 shows that most of the highest PCE concentrations were in the vicinity of Area B (wells 0063, 0307, 0306, 0046, 0071, 0305, 0313, 0153, 0152, 0154, 0271, 0155, and 0076). The only offsite detection occurred at well 0126.

Figure 19 shows that no nonqualified or qualified detections of DCE were reported for the April/May 1991 groundwater sampling event.

Figure 20 shows that no nonqualified or qualified detections of VC were reported for the April/May 1991 groundwater sampling event.

Figure 21 shows the distribution of tritium concentrations. The highest concentrations are in the wells and seeps on the Main Hill (0601, 0605, 0120, 0607, 0608, and 0623). The second highest concentrations are primarily in the vicinity of Area B (0310, 0152, 0307, 0153, 0305, 0063, 0306,

0153, and 0313). Two offsite wells (0124 and 0126) reported tritium concentrations exceeding 10 nCi/L.

In summary, the concentration maps show the following general trends and conditions:

- TCA—One nonqualified detection at well 0306, which is near Area B. J-qualified detections were also concentrated near Area B.
- TCE—The highest concentrations (qualified and nonqualified) were near Area B and on the Main Hill.
- PCE—The highest concentrations (qualified and nonqualified) were near Area B and on the Main Hill.
- DCE—No detections were reported for the April/May 1991 groundwater sampling event.
- VC—No detections were reported for the April/May 1991 groundwater sampling event.
- Tritium—Concentrations were widely distributed with the highest concentrations reported on the Main Hill. Area B wells generally had the next highest concentrations. Two offsite wells reported concentrations exceeding 10 nCi/L.

JULY/AUGUST 1991

Water samples were collected from July 29 through August 7, 1991. Data for the six constituents are summarized in Table 30. The table includes the number of wells sampled, the number of analyses, the number of detections, the number of non-detects (U values), the number of compounds with estimated concentrations (J values), the number of samples with an estimated quantitation limit (UJ values), and the maximum measured concentration. These values were determined for all the samples (samples from known or suspected source areas, samples collected away from suspected source areas, samples from wells completed in unconsolidated materials, and samples from wells completed in bedrock). Seep samples were combined with wells completed in bedrock because seep water may emanate from bedrock. Sample duplicates are included in the evaluation, causing the number of analyses to be greater than the number of wells sampled. Of the 168 analyses, 15% were detections, 40% were non-detects, 30% were compounds with estimated concentrations, and 15% had an uncertain quantitation limit. All of the subsets were within a few points of these percentages.

Most of the samples (75%) were collected near known or suspected source areas. Also, most of the samples were from wells completed in unconsolidated materials (82%).

For all constituents, the maximum concentrations were found by a known or suspected source area. The highest source area concentrations ranged from infinite (non-detect compared to detectable concentration) to 175% greater than the highest non-source area concentration.

The maximum concentration for all volatile constituents (except TCA) was found in samples completed in unconsolidated materials. For all the volatile constituents (except TCA), the maximum unconsolidated concentrations ranged from 712% to 293% greater than the respective maximum bedrock concentrations. The maximum bedrock concentration for TCA was 156% greater than the highest unconsolidated sample concentration. DCE and VC were not detected in any sample during the July/August 1991 groundwater sampling event. The maximum bedrock tritium sample concentration was 1,270% greater than the maximum unconsolidated sample concentration.

The validated (except for tritium) detections for the six key constituents are listed in Tables 31 through 36 and are ordered from the highest to lowest concentration.

Out of the 28 analyses for TCA, there were no nonqualified detections and 16 J-qualified values (Table 31). The maximum J-qualified value was 1.4J μg/L at seep 0602, which is located on the Main Hill. J-qualified values ranged in concentration from 1.4J to 0.3J μg/L. Well 0129 reported the maximum offsite concentration of 0.8 μg/L.

TCE data reported no nonqualified detections and 18 J-qualified values out of 28 analyses (Table 32). The maximum J-qualified value was 37J μg/L at well 0305. Well 0305 is located south of Area B. J-qualified values ranged in concentration from 37J to 1.7J μg/L. No offsite detections were reported.

PCE data reported no nonqualified detections and 16 J-qualified values out of 28 analyses (Table 33). The maximum J-qualified value was 27J μg/L at well 0122. Well 0122 is located east of Building 72. J-qualified values ranged in concentration from 27J to 0.4J μg/L. The maximum offsite concentration was 0.4J μg/L at well 0126.

There were no nonqualified or qualified detections for DCE reported for the July/August 1991 groundwater sampling effort (Table 34).

There were no nonqualified or qualified detections for VC reported for the July/August 1991 groundwater sampling effort (Table 35).

Tritium was detected in 26 out of 28 sample analyses (Table 36). The maximum concentration was 122.000 nCi/L at seep 0601. Seep 0601 is located on the Main Hill. The concentrations of tritium

ranged from 120.000 to 0.702 nCi/L. The maximum offsite concentration was 7.360 nCi/L at well 0126.

The laboratory analytical results for the six constituents are shown graphically. The well identifiers and the concentrations for these constituents are displayed on maps of Mound Plant and the surrounding area. The concentration data are not contoured because most of the detections are along a line of wells. Contouring data that are generally linear would give an exaggerated impression of the likely extent of contamination.

Figure 22 shows the well and seep locations sampled during the July/August 1991 groundwater sampling event. Most of the sampling locations were on Mound Plant property; however a few wells were located offsite in the main portion of the Buried Valley aquifer.

Figure 23 shows that no nonqualified TCA data were reported for the July/August 1991 groundwater sampling event. The J-qualified values are primarily on the Main Hill (seep 0602 and well 0115), in the vicinity of Area B (wells 0305, 0063, 0152, 0154, 0306, 0307, and 0313), and offsite (wells 0129, 0159, 0138, 0118, and 0126).

Figure 24 shows that no nonqualified TCE data were reported for the July/August 1991 groundwater sampling event. The J-qualified values are primarily in the vicinity of Area B (wells 0305, 0063, 0152, 0307, 0306, 0154, 0313, 0155, 0271, 0071, and 0046). No offsite detections were reported.

Figure 25 shows that no nonqualified PCE data were reported for the July/August 1991 groundwater sampling event. The J-qualified values are primarily in the vicinity of Area B (wells 0305, 0063, 0313, 0307, 0306, 0152, 0154, 0046, 0271, 0155, and 0071). Well 0122, located near Building 72, had a qualified value of 27J μg/L. Seep 0601, located on the Main Hill, had J-qualified values of 9.2J and 9.0J μg/L (sample and sample duplicate). Well 0126 was the only offsite location with a J-qualified detection.

Figure 26 shows that there were no nonqualified or qualified DCE detections for the July/August 1991 groundwater sampling event.

Figure 27 shows that there were no nonqualified or qualified VC detections for the July/August 1991 groundwater sampling event.

Figure 28 shows the distribution of tritium concentrations. The highest concentrations are on the Main Hill (seeps 0601 and 0602, and well 0115). Well 0312, located near Buildings 19 and 72, also had

a relatively high concentration of tritium. Tritium concentrations in the vicinity of Area B ranged from 9.290 to 2.340 nCi/L. The maximum offsite concentration was located at well 0126.

In summary, the concentration maps show the following general trends and conditions:

- TCA—J-qualified values are concentrated on the Main Hill, in the vicinity of Area B, and offsite.
- TCE—J-qualified values are concentrated in the vicinity of Area B. No offsite detections were reported.
- PCE—J-qualified values are concentrated in the vicinity of Area B, near building 72, and on the Main Hill. Well 0126 was the only location with a detection.
- DCE—Did not have any nonqualified or qualified detections for the July/August 1991 groundwater sampling event.
- VC—Did not have any nonqualified or qualified detections for the July/August 1991 groundwater sampling event.
- Tritium—Three areas showed high concentrations of tritium: wells and seeps on the Main Hill, wells in the vicinity of Area B, and wells near Buildings 19 and 72. The maximum offsite concentration was at well 0126.

DECEMBER 1991

Water samples were collected from December 9 through December 19, 1991. Data for the six constituents are summarized in Table 37. The table includes the number of wells sampled, the number of analyses, the number of detections, the number of non-detects (U values), the number of compounds with estimated concentrations (J values), the number of samples with an estimated quantitation limit (UJ values), and the maximum measured concentration. These values were determined for all the samples (samples from known or suspected source areas, samples collected away from suspected source areas, samples from wells completed in unconsolidated materials, and samples from wells completed in bedrock). Seep samples were combined with wells completed in bedrock because seep water may emanate from bedrock. Sample duplicates are included in the evaluation, causing the number of analyses to be greater than the number of wells sampled. Of the 330 analyses, 28% were detections, 39% were non-detects, 2% were compounds with estimated concentrations, and 31% had an uncertain quantitation limit. The results for the source area, unconsolidated samples, and bedrock samples subsets were within a few points of these percentages. The samples collected from wells completed in non-source areas had a lower percentage of detections (9%) and higher percentages of non-detects (49%) than the other three subsets.

Most of the samples (67%) were collected in near known or suspected source areas. Also, most of the samples were from wells completed in unconsolidated materials (80%).

For all constituents, the maximum concentrations were found by a known or suspected source area. The highest source area concentrations ranged from infinite (non-detect compared to detectable concentration) to 1,036% greater than the highest non-source area concentration.

The maximum concentration for all volatile constituents was found in samples from wells completed in unconsolidated materials. For all volatile constituents, the maximum unconsolidated concentrations ranged from 480 to 327% greater that the respective maximum bedrock concentrations. TCA and VC were not detected in any of the bedrock or unconsolidated samples. The tritium bedrock maximum was 792% greater than the maximum tritium concentration in unconsolidated materials.

The validated (except for tritium) detections for the six key constituents are listed in Tables 38 through 43, and are ordered from highest to lowest concentration.

Out of the 55 analyses for TCA, no qualified or nonqualified detections were reported for the December 1991 groundwater sampling effort (Table 38).

TCE data reported 20 nonqualified detections out of 55 analyses (Table 39). The maximum concentration was 24 µg/L at well 0305. Well 0305 is located south of Area B. The nonqualified concentrations ranged from 24 to 1.2 µg/L. TCE data also showed two J-qualified detections. The qualified concentrations were 19J µg/L (well 0312) and 4.3J µg/L (well 0137). Well 0312 is located near Buildings 19 and 72, and well 0137 is located south of Building 94. Most of the nonqualified and qualified detections were in the vicinity of Area B. No offsite detections were reported.

PCE data showed 11 nonqualified detections out of 55 analyses (Table 40). The maximum concentration was 28 µg/L at well 0305. Well 0305 is located south of Area B. The nonqualified concentrations ranged from 28 to 1.0 µg/L. PCE had two J-qualified detections. The qualified concentrations were 26J µg/L (well 0063) and 4.5J µg/L (well 0046). Well 0063 is located in Area B, and well 0046 is located near the northeast corner of Area B. Most of the nonqualified and qualified detections were in the vicinity of Area B. No offsite detections were reported.

DCE data showed 15 nonqualified detections out of 55 analyses (Table 41). The maximum concentration was 8.5 µg/L at well 0305. Well 0305 is located south of Area B. The nonqualified concentrations ranged from 8.5 to 1.1 µg/L. DCE had two J-qualified detections. The qualified concentrations were 10J µg/L (well 0312) and 1.6J µg/L (well 0115). Well 0312 is near Buildings 19

and 72, and well 0115 is located on the Main Hill. Most of the nonqualified and qualified detections were in the vicinity of Area B. No offsite detections were reported.

Out of 55 analyses, no qualified or nonqualified detections were reported for VC for the December 1991 groundwater sampling effort (Table 42).

Tritium was detected in 46 out of 55 sample analyses (Table 43). The maximum concentration was 94.300 nCi/L at seep 0601. Seep 0601 is located on the Main Hill. Detectable tritium concentrations ranged from 94.300 to 0.518 nCi/L. The maximum offsite concentration was 5.740 nCi/L at well 0126.

The laboratory analytical results for the six constituents are shown graphically. The well identifiers and the concentrations for these constituents are displayed on maps of Mound Plant and the surrounding area. The concentration data are not contoured because most of the detections are along a line of wells. Contouring data that are generally linear would give an exaggerated impression of the likely extent of contamination.

Figure 29 shows the well and seep locations sampled during the December 1991 groundwater sampling event. Most locations are on Mound Plant property; however, a few wells were located offsite in the main portion of the Buried Valley aquifer.

Figure 30 shows that TCA was not detected in December 1991.

Figure 31 shows that most of the detected TCE concentrations were in the vicinity of Area B (wells 0305, 0063, 0307, 0152, 0153, 0313, 0306, 0155, 0154, 0046, 0271, and 0071). No offsite wells had detectable concentrations of TCE.

Figure 32 shows that most of the detected PCE concentrations were in the vicinity of Area B (wells 0305, 0307, 0313, 0152, 0306, 0153, 0154, 0155, 0063, and 0046). No offsite wells had detectable concentrations of TCE.

Figure 33 shows that most of the detected DCE concentrations were in the vicinity of Area B (wells 0305, 0155, 0154, 0063, 0071, 0046, 0271, 0076, and 0309). No offsite wells had detectable concentrations of TCE.

Figure 34 shows that VC was not detected in December 1991.

Figure 35 shows the distribution of tritium concentrations. The highest concentrations were on the Main Hill (seeps 0601, 0608, and 0607; wells 0120, 0115, and 0117). The next highest concentrations were generally in the vicinity of Area B (0310, 0153, 0306, and 0152). Offsite concentrations ranged from 5.740 nCi/L (well 0126) to <0.500 nCi/L (wells 0118, 0123, 0127, 0156, 0159, 0160, 0301, 0309, and 0311).

In summary, the concentration maps show the following general trends and conditions:

- TCA—No nonqualified or qualified detections were reported in December 1991.
- TCE—Most of the highest concentrations were in the vicinity of Area B. No offsite detections were reported.
- PCE—Most of the highest concentrations were in the vicinity of Area B. No offsite detections were reported.
- DCE—Most of the highest concentrations were in the vicinity of Area B. No offsite detections were reported.
- VC—No nonqualified or qualified detections were reported in December 1991.
- Tritium—Concentrations were highest on the Main Hill. The next highest values were in the vicinity of Area B. The highest offsite concentration was 5.740 nCi/L at well 0126.

MARCH 1992

Water samples were collected from March 16 through March 24, 1992. Data for the six constituents are summarized in Table 44. The table includes the number of wells sampled, the number of analyses, the number of detections, the number of non-detects (U values), the number of compounds with estimated concentrations (J values), the number of samples with an estimated quantitation limit (UJ values), and the maximum measured concentration. These values were determined for all the samples (samples from known or suspected source areas, samples collected away from the suspected source areas, samples from wells completed in unconsolidated materials, and samples from wells completed in bedrock). Sample duplicates are included in the evaluation, causing the number of analyses to be greater than the number of wells sampled. Of the 150 analyses, 32% were detections, 40% non-detects, 6% compounds with estimated concentrations, and 22% had an uncertain quantitation limit. The results for the source area and unconsolidated sample subsets were within a few points of these percentages. The samples collected from wells completed in non-source areas and bedrock had a lower percentage of detections (19% and 25%, respectively) and higher percentages of non-detects (61% and 58%, respectively) than the other two subsets.

Most of the samples (72%) were collected near known or suspected source areas. Also, most of the samples were from wells completed in unconsolidated materials (92%).

For all constituents except TCA, the maximum concentrations were found near an identified source area. The highest source area concentrations ranged from infinite (non-detect compared to detectable concentration) to 387% greater than the highest non-source area concentration. TCA is the exception; the highest non-source area concentration was from monitoring well 0129 (1.7 μg/L), while the source area well samples did not report a detection.

The maximum concentration for all constituents was found in samples from wells completed in unconsolidated materials. For all constituents, the maximum unconsolidated concentrations ranged from infinite (non-detect compared to detectable concentration) to 115% greater than the respective maximum bedrock concentrations.

The validated (except for tritium) detections for the six key constituents are listed in Tables 45 through 50, and are ordered from highest to lowest concentration.

Out of the 25 analyses for TCA, there was only one nonqualified detection at well 0129, with a concentration of 1.7 μg/L (Table 45). Well 0129 is located offsite, near the mouth of the tributary valley.

TCE data reported nine nonqualified detections out of 25 analyses (Table 46). The maximum concentration was 27 μg/L at well 0312. Well 0312 is near Buildings 19 and 72. Nonqualified detections ranged from 27 to 2.8 μg/L. All nine detections were near suspected or known source areas (Table 44). Eight of the nine detections were in wells completed in the unconsolidated materials. One detection was found in a well completed in bedrock (well 0115). TCE data showed seven J-qualified detections. The maximum J-qualified detection was 21J μg/L at well 0063. J-qualified detections ranged in concentration from 21J to 1.4J μg/L. No offsite detections were reported.

PCE data reported 14 nonqualified detections out of 25 analyses (Table 47). The maximum concentration was 23 μg/L at well 0305, located south of Area B. Thirteen of the fourteen detections were near suspected or known source areas (Table 44). Well 0126, located offsite, reported a concentration of 0.4 μg/L. All 14 detections were found in wells completed in unconsolidated materials. The nonqualified detections ranged in concentration from 23 to 0.3 μg/L. PCE data showed one J-qualified detection. The J-qualified concentration occurred at well 0076 (0.29J μg/L). Well 0126 was the only offsite location with a nonqualified detection (0.4 μg/L).

Of the 25 analyses for DCE, there were no nonqualified detections and one J-qualified concentration (Table 48). A sample extracted from well 0312 reported a concentration of 0.85J µg/L. Well 0312 is near Buildings 19 and 72.

VC was not detected in any of the 25 analyses (Table 49).

Tritium was detected in 24 out of 25 sample analyses (Table 50). The maximum concentration was 11.600 nCi/L at well 0152. Well 0152 is west of Area B. The only non-detect was at well 0160, located west of the Mound Plant near the Great Miami River. Tritium values ranged from 11.600 to 0.100 nCi/L. The maximum offsite concentration was 3.000 nCi/L at well 0126.

The laboratory analytical results for the six constituents are shown graphically. The well identifiers and the concentrations for these constituents are displayed on maps of Mound Plant and the surrounding area. The concentration data are not contoured because most of the detections are along a line of wells. Contouring data that are generally linear would give an exaggerated impression of the likely extent of contamination.

Figure 36 shows the well locations sampled during the March 1992 groundwater sampling event. Most wells were located on Mound Plant property; however, a few wells were located offsite in the main portion of the Buried Valley aquifer.

Figure 37 shows that the only detected TCA concentration was found at well 0129. Well 0129 is located offsite, near the mouth of the tributary valley.

Figure 38 shows that most of the highest TCE concentrations were in the vicinity of Area B (wells 0063, 0305, 0313, and 0307). Well 0312 had the highest concentration of TCE (27 µg/L). Well 0312 is near Buildings 19 and 72. Offsite wells (0138, 0118, 0126, 0129, 0159, and 0160) did not have detectable concentrations of TCE.

Figure 39 shows that most of the highest PCE concentrations were in the vicinity of Area B (wells 0063, 0305, 0313, and 0307). One of six offsite wells had a detection. A sample extracted from offsite well 0126 had a concentration of 0.4 µg/L.

Figure 40 shows that no nonqualified detections of DCE were reported for the March 1992 groundwater sampling event. A concentration of 0.85J µg/L was found in well 0312, which is near Buildings 19 and 72. No offsite detections were reported.

As shown in Figure 41, no wells had a reported concentration for VC during the March 1992 sampling event.

Figure 42 shows the distribution of tritium concentrations. The highest concentrations occur west of Area B at well 0152, on the Main Hill at well 0115, and at well 0312, which is located near Buildings 19 and 72. Wells closest to Area B have higher concentrations than wells further away from Area B. Offsite wells have low concentrations of tritium ranging from 3.000 to 0 nCi/L.

In summary, the concentration maps show the following general trends and conditions:

- TCA—One detection located at offsite well 0129.
- TCE—Most of the highest concentrations were in the vicinity of Area B. Well 0312, located near Buildings 19 and 72, had the highest concentration of TCE. Offsite wells did not have detectable concentrations of TCE.
- PCE—Most of the highest concentrations were located in the vicinity of Area B. One offsite location (well 0126) had a low, but detectable concentration of PCE.
- DCE—No nonqualified detections were reported for the March 1992 sampling event. A sample from 0312 had a J-qualified concentration. No offsite detections were reported.
- VC—No detections were reported for the March 1992 groundwater sampling event. All data were associated with the UJ qualifier.
- Tritium—Three areas showed high concentrations of tritium: well 0115 on the Main Hill; well 0312, located near Buildings 19 and 72; and well 0152, located west of Area B. The maximum offsite concentration was 3.000 nCi/L at well 0126.

JUNE 1992

Water samples were collected from June 16 through June 24, 1992. Data for these six constituents are summarized in Table 51. The table includes validated and nonvalidated data categorized by the number of sample locations, the number of analyses, the number of detections, the number of non-detects (U values), the number of tentatively identified concentrations (J values), the number of samples with an estimated quantitation limit (UJ values), the number of samples that were rejected (R), and the maximum measured concentration.

These values were categorized as validated or nonvalidated data and were determined for all the samples (samples collected in known or suspected source areas, samples collected away from the suspected source areas, samples taken from wells completed in unconsolidated materials, samples collected from wells completed in bedrock, and samples collected from bedrock seeps and test-pits).

Sample duplicates are included in the evaluation, causing the number of analyses to be greater than the number of wells sampled. Of the 336 analyses, 27% were detections, 39% were non-detects, 9% were compounds with estimated concentrations, 23% had an uncertain estimated quantitation limit, and 2% were rejected during data validation. The results for the source area subset were within a few points of these percentages. The non-source area, unconsolidated sample and bedrock sample subsets had higher percentages of UJs (51%, 31%, and 33%, respectively) and lower percentages of detections (20%, 23%, and 17%, respectively). The bedrock seep samples and the bedrock test-pit samples were not validated so UJs and Rs did not pertain to these subsets. No Js were recorded for either of those subsets.

Most of the samples (71%) were collected in locations near known or suspected source areas. Also, most of the samples were from wells completed in unconsolidated materials (68%).

For all constituents, the maximum concentrations were found near an identified known or suspected source area. The highest source area concentrations ranged from infinite (non-detect compared to detectable concentration) to 107% greater than the highest non-source area concentration.

The maximum concentration for all volatile constituents (except PCE) was found in samples collected from test-pits completed in bedrock. The maximum PCE concentration was found in a sample collected from a bedrock seep. For all volatile constituents, except PCE, the maximum test-pit concentrations ranged from 682% to 107% greater than the respective, maximum unconsolidated concentrations. For PCE, the maximum seep concentration was 145% greater than the respective, maximum unconsolidated concentration. VC was not detected in any of the 56 analyses. The tritium bedrock maximum (from test pit 727) was approximately 2990% greater than the maximum tritium concentration in unconsolidated materials.

The validated and nonvalidated detections for the six key constituents are listed in Tables 52 through 57, and are ordered from highest to lowest concentration.

Of the 56 analyses for TCA, 10 nonqualified and one J-qualified detection were reported (Table 52). Three of the 10 detections were not validated. The maximum concentration was 3.2 μg/L reported at test pit 726. This analysis was not validated. The maximum validated concentration was 3.0 μg/L at well 0129. Nonqualified detections ranged in concentration from 3.2 to 0.57 μg/L. A sample extracted from well 0071 had a reported concentration of 1.8J μg/L. Seven of the 10 detections were in wells completed in the unconsolidated deposits. Three offsite detections were reported (wells 0129, 0126, and 0124). The maximum offsite concentration was 3.0 μg/L at well 0129.

TCE data showed 12 nonqualified detections and 19 J-qualified detections out of 56 analyses (Table 53). Ten of the 12 nonqualified detections were not validated. The maximum concentration was 60 μg/L at test pit 726. This analysis was not validated. The maximum validated concentration was 8.8 μg/L at well 0307. Nonqualified detections ranged in concentration from 60 to 3.4 μg/L. The maximum J-qualified concentration was 47J μg/L at well 0063. J-qualified concentrations ranged from 47J to 0.79J μg/L. Two of the 12 detections were reported in wells completed in the unconsolidated deposits. Two offsite locations reported J-qualified concentrations (wells 0124 and 0304). The maximum offsite concentration was 2.4J μg/L at well 0124.

PCE had 11 nonqualified detections and 11 J-qualified detections out of 56 analyses (Table 54). Six of the 11 nonqualified detections were not validated. The maximum concentration was 16 μg/L at seep 0601. This analysis was not validated. The maximum validated concentration was 11 μg/L at wells 0313 and 0307. Nonqualified detections ranged in concentration from 16 to 0.35 μg/L. The maximum J-qualified concentration was 23J μg/L at well 0063. J-qualified concentrations ranged from 23J to 0.33J μg/L. No offsite detections were reported.

Of the 56 analyses for DCE, there were two nonqualified detections and no qualified detections (Table 55). One of the two detections was not validated. The maximum concentration was 5.8 μg/L at Main Hill test pit 0726. This analysis was not validated. The maximum validated concentration was 1.8 μg/L at well 0312. One of the two detections was reported in a well completed in the unconsolidated deposits.

VC was not detected in any of the 56 analyses (Table 56).

Tritium was detected in all 56 analyses (Table 57). The maximum value was 329.800 nCi/L at test pit 0727. Concentrations of tritium ranged from 329.800 to 0.050 nCi/L. The maximum offsite concentration was 3.400 nCi/L reported at well 0138.

The laboratory analytical results for the six constituents are shown graphically. The well identifiers and the concentrations for these constituents are displayed on maps of Mound Plant and the surrounding area. The concentration data are not contoured because most of the detections are along a line of wells. Contouring data that are generally linear would give an exaggerated impression of the likely extent of contamination.

Figure 43 shows the well locations sampled during the June 1992 groundwater sampling event. Most locations were on Mound Plant property, with a few wells located offsite in the main portion of the Buried Valley aquifer.

Figure 44 shows that the TCA values are concentrated on the Main Hill (0726, 0607, and 0602), in the main portion of the Buried Valley aquifer (0129, 0126, and 0124), and in the vicinity of Area B (0271, 0153, and 0154). The highest concentration was reported at test pit 0726 on the Main Hill. Three offsite detections were reported (wells 0129, 0126, and 0124).

Figure 45 shows that the highest TCE concentrations were in the test pits and seeps on the Main Hill and in monitoring wells in the vicinity of Area B. The highest concentration was reported at test pit 0726 on the Main Hill. Two offsite wells reported J-qualified concentrations (wells 0124 and 0304).

Figure 46 shows that the highest PCE concentrations were in the test pits and seeps on the Main Hill and in monitoring wells in the vicinity of Area B. The maximum concentration was reported at seep 0601 on the Main Hill. No offsite detections were reported.

Figure 47 shows only two DCE detections. The maximum concentration was reported in test pit 0726 on the Main Hill. The other detection was found at well 0312, which is near Buildings 19 and 72.

VC was not detected in any of the sampled wells, seeps, or test pits (Figure 48).

Figure 49 shows tritium concentrations on the Mound Plant facility and in the main portion of the Buried Valley aquifer. The highest tritium concentrations are found in the test pits and seeps on the Main Hill. The next highest concentrations are seen in the vicinity of Area B. The maximum offsite concentration was found at well 0138.

In summary, the concentration maps show the following general trends and conditions:

- TCA—A few detections at the test pits and seep on the Main Hill. Three offsite detections were reported.
- TCE—The highest concentrations were found at the test pits and seeps on the Main Hill and in the vicinity of Area B. Two offsite wells reported J-qualified concentrations.
- PCE—The highest concentrations were found at the test pits and seeps on the Main Hill and in the vicinity of Area B. No offsite detections were reported.
- DCE—Only two detections were reported: one in a Main Hill test pit, and the other at well 0312, which is near Buildings 19 and 72.
- VC—No detections were reported.
- Tritium—Generally the seeps and test pits have the highest concentrations, followed by the wells on the Main Hill, followed by wells in the vicinity of Area B. The maximum offsite concentration was found at well 0138.

SEPTEMBER 1992

Water samples were collected from September 13 through September 18, 1992. Data for the six constituents are summarized in Table 58. The table includes the number of wells sampled, the number of analyses, the number of detections, the number of non-detects (U values), the number of compounds with estimated concentrations (J values), the number of samples with an estimated quantitation limit (UJ values), and the maximum measured concentration. These values were determined for all the samples (samples from known or suspected source areas, samples collected away from suspected source areas, samples from wells completed in unconsolidated materials, and samples from wells completed in bedrock). Sample duplicates are included in the evaluation, causing the number of analyses to be greater than the number of wells sampled. Of the 150 analyses, 28% were detections, 47% were non-detects, 2% were compounds with estimated concentrations, and 23% had an uncertain quantitation limit. The results for the source area and unconsolidated sample subsets were within a few points of these percentages. The samples collected from wells completed in non-source areas and bedrock had a lower percentage of detections (17% and 17%, respectively) and a higher percentage of non-detects (50% and 58%, respectively) than the other two subsets.

Most of the samples (72%) were collected in locations near known or suspected source areas. Also, most of the samples were from wells completed in unconsolidated materials (92%).

For all constituents except TCA, the maximum concentrations were found by an identified source area. The highest source area concentrations ranged from infinite (non-detect compared to detectable concentration) to 789% greater than the highest non-source area concentration. TCA is the exception; the highest non-source area concentration was from monitoring well 0129 (1.7 μg/L), while the source area well samples did not report a detection.

The maximum concentration for all volatile constituents was found in samples from wells completed in unconsolidated materials. For all volatile constituents, the maximum unconsolidated concentrations ranged from infinite (non-detect compared to detectable concentration) to 706% greater than the respective maximum bedrock concentrations. DCE was not detected in any of the bedrock or unconsolidated samples. The tritium bedrock maximum was 217% greater than the maximum tritium concentration in unconsolidated materials.

The validated (except for tritium) detections for the six key constituents are listed in Tables 59 through 64, and are ordered from highest to lowest concentration.

Out of 25 analyses for TCA, there were two nonqualified detections (Table 59). The detections occurred at offsite wells 0129 and 0126 at concentrations of 1.7 and 0.36 μg/L, respectively.

TCE reported eight nonqualified detections out of 25 analyses (Table 60). The maximum concentration was 20 μg/L at well 0312. Well 0312 is near Buildings 19 and 72. Nonqualified data ranged in concentration from 20 to 3.5 μg/L. TCE data showed one J-qualified concentration of 2.8J μg/L at well 0115, located on the Main Hill. No offsite detections were reported.

PCE data showed eight nonqualified detections out of 25 analyses (Table 61). The maximum concentration was 12 μg/L at well 0313. Well 0313 is in Area B. The nonqualified detections ranged in concentration from 12 to 0.44 μg/L. No offsite detections were reported.

Out of the 25 analyses for DCE, there were no nonqualified or qualified detections (Table 62).

VC data reported two nonqualified detections out of 25 analyses (Table 63). The maximum concentration was 2.6 at well 0154. The other nonqualified detection occurred at well 0155 at a concentration of 2.0 μg/L. Wells 0154 and 0155 are located in a cluster southwest of Area B. VC data showed two J-qualified detections at Mound Plant production well 0071 at 2.0J μg/L each (sample and sample duplicate). Well 0071 is located southwest of Area B near wells 0154 and 0155. No offsite detections were reported.

Tritium was detected in 22 out of 25 sample analyses (Table 64). The maximum concentration was 25.400 nCi/L at well 0115. Tritium concentrations ranged from 25.400 to 0.772 nCi/L. The maximum offsite concentration was 3.020 at well 0126.

The laboratory analytical results for the six constituents are shown graphically. The well identifiers and the concentrations for these constituents are displayed on maps of Mound Plant and the surrounding area. The concentration data are not contoured because most of the detections are along a line of wells. Contouring data that are generally linear would give an exaggerated impression of the likely extent of contamination.

Figure 50 shows the wells sampled during the September 1992 groundwater sampling event. Most wells were on Mound Plant property; however, a few wells were offsite in the main portion of the Buried Valley aquifer.

Figure 51 shows offsite wells 0126 and 0129 had the only nonqualified detections. There were no qualified detections.

Figure 52 shows that most of the highest TCE concentrations are near Area B (wells 0306, 0152, 0307, 0313, 0154, and 0155). The highest concentration was reported at well 0312, which is located near Buildings 19 and 72. There were no offsite detections.

Figure 53 shows that most of the highest PCE concentrations are near Area B (wells 0313, 0307, 0306, 0152, 0154, and 0155). There were no offsite detections.

Figure 54 shows that there were no nonqualified or qualified detections for DCE.

Figure 55 shows that VC concentrations were concentrated in the area of Mound production well 0071. Wells 0154 and 0155 had nonqualified detections and well 0071 had two J-qualified detections (sample and sample duplicate).

Figure 56 shows the distribution of tritium concentrations. The highest concentration is in well 0115 on the Main Hill. The second highest concentration was in well 0312 near Buildings 19 and 72. The wells in the vicinity of Area B generally had the third highest tritium concentrations.

In summary, the concentration maps show the following general trends and conditions:

- TCA—Two nonqualified detections were reported in offsite wells 0129 and 0126.
- TCE—Most of the highest concentrations were in the vicinity of Area B. No offsite detections were reported.
- PCE—Most of the highest concentrations were in the vicinity of Area B. No offsite detections were reported.
- DCE—No detections were reported.
- VC—Concentrations were grouped in the area around Mound Plant production well 0071. Wells 0154 and 0155 had nonqualified detections and well 0071 had two J-qualified detections (sample and sample duplicate).
- Tritium—The highest concentration was at well 0115 on the Main Hill. The next highest concentration was at well 0312 near Buildings 19 and 72. The wells near Area B generally had the next highest tritium concentrations.

3. SUMMARY

Six constituents, which may be considered contaminants, have been found historically to occur more often and in relatively higher concentrations than other potential contaminants. These are TCA, TCE, PCE, DCE, VC, and tritium. This section summarizes the concentrations and distributions of these six constituents from October 1990 to September 1992.

Table 65 summarizes the collected data for the six constituents from the October/November 1990, January/February 1991, April/May 1991, July/August 1991, December 1991, March 1992, June 1992, and September 1992 groundwater sampling events. The table includes the number of wells sampled, the number of analyses, the number of detections, the number of non-detects (U values), the number of compounds with estimated concentrations (J values), the number of samples with an estimated quantitation limit (UJ values), the number of samples that were rejected (R values), and the maximum measured concentration. These values were determined for all the samples (samples from known or suspected source areas, samples collected away from the suspected source areas, samples from wells completed in unconsolidated materials, and samples from wells completed in bedrock). Seep samples were combined with wells completed in bedrock because seep water may emanate from bedrock. Sample duplicates are included in the evaluation, causing the number of analyses to be greater than the number of wells sampled. Of the 1,960 analyses, approximately 24% were detections, 49% were non-detects, 10% were compounds with estimated concentrations, and 17% had an uncertain quantitation limit. The number of sample values rejected were less than 1/2 of 1%. The results for the source area, unconsolidated samples, and bedrock samples subsets were within a few points of these percentages. The samples collected from non-source areas had a lower percentage of detections (13%) and a higher percentage of non-detects (60%).

Most of the samples (69%) were collected in locations near known or suspected source areas. Also, most of the samples were from wells completed in unconsolidated materials (79%).

For all constituents, the maximum concentrations were found by an identified known or suspected source area. The highest source area concentrations ranged from infinite (non-detect compared to detectable concentration) to 107% greater than the highest non-source area concentration.

The maximum concentrations for all volatile constituents except TCA and TCE were found in samples from wells completed in unconsolidated materials. For PCE, DCE, and VC, the maximum unconsolidated concentrations ranged from infinite (non-detect compared to detectable concentration) to 175% greater than the highest bedrock concentration. For TCA and TCE, the maximum bedrock concentrations were 107% greater than the highest unconsolidated sample concentrations. The maximum bedrock tritium concentration was 1374% greater than the highest unconsolidated tritium concentration.

The validated (except for tritium) detections for the six constituents are presented in tables in the previous section, and are ordered from highest to lowest concentration.

Out of the 327 analyses for TCA, 14 nonqualified and 41 J-qualified detections have been reported. The maximum nonqualified TCA concentration reported was 3.2 μg/L. The drinking water maximum contaminant level (MCL) for TCA is 200 μg/L. Therefore, TCA is not currently a drinking water health concern. TCA has the most offsite hits of any of the volatile constituents. The hits are generally sporadic and at low concentrations. The offsite wells with the most consistent hits are wells 0126 and 0129, located near the mouth of the tributary valley. TCA has been found in low concentrations in the seeps and wells on the Main Hill and in wells near Area B.

Out of 327 analyses for TCE, there were 74 nonqualified and 88 J-qualified detections. The maximum nonqualified concentration was 60 μg/L at Main Hill test pit 0726 during the June 1992 groundwater sampling event. The MCL for TCE is 5 μg/L. Nonqualified data results show the MCL has been met or exceeded 43 times. If J-qualified values equal to or greater than 5 μg/L are included, the MCL has been met or exceeded 95 times. Concentrations are consistently above the MCL in wells near Area B (wells 0063, 0305, 0153, 0154, 0313, 0307, 0155, 0306, and 0152), a well near Buildings 19 and 72 (well 0312), a well south of Building 94 (well 0315), and locations on the Main Hill (seeps 0602 and 0605). Few offsite detections have been reported (one nonqualified and four J-qualified). The offsite detections have not shown any consistent trends.

Out of 327 analyses for PCE, there were 62 nonqualified and 67 J-qualified detections. The maximum nonqualified concentration was 28 μg/L at well 0305 during the December 1991 groundwater sampling effort. Well 0305 is located south of Area B. The MCL for PCE is 5 μg/L. Nonqualified data results show the MCL has been met or exceeded 33 times. If J-qualified values equal to or greater than 5 μg/L are included, the MCL has been met or exceeded 62 times. Concentrations are consistently above the MCL in wells near Area B (wells 0063, 0313, 0307, 0305, 0306, 0153, and 0152) and at Main Hill seep 0601. Few offsite detections have been reported (one nonqualified and four J-qualified). All offsite detections have been reported at well 0126. Well 0126 is located near the mouth of the tributary valley.

Out of 326 analyses for DCE, there were 20 nonqualified and three J-qualified detections. The maximum nonqualified concentration was 8.5 μg/L at well 0305 during the December 1991 groundwater sampling event. Well 0305 is located south of Area B. The MCL for DCE is 100 μg/L. Nonqualified data results show the MCL has never been met or exceeded. If J-qualified values equal to or greater than 5 μg/L are included, the MCL has never been met or exceeded. No offsite detections have been reported.

Out of the 327 analyses for VC, there were two nonqualified and four J-qualified detections. The maximum nonqualified concentration was 2.6 μg/L at well 0154 during the September 1992

groundwater sampling event. Well 0154 is located southwest of Area B. The MCL for VC is 2 μg/L. Nonqualified data results show the MCL has been met or exceeded twice. If J-qualified values equal to or greater than 2 μg/L are included, the MCL has been met or exceeded six times. Well 0305, located south of Area B, reported two J-qualified concentrations (sample and sample duplicate) over the MCL in January/February 1991 (3.2J and 3.4J μg/L). Wells 0154 and 0155 reported nonqualified concentrations equal to or greater than the MCL (2.6 and 2.0 μg/L, respectively) in September 1992. Well 0071 reported two J-qualified concentrations at 2.0 μg/L (sample and sample duplicate), equal to the MCL, also in September 1992. Wells 0154, 0155 and 0071 are located close to one another, southwest of Area B. No offsite detections have been reported.

Out of the 326 analyses for tritium, there have been 290 detections. The maximum concentration was 329.8 nCi/L at Main Hill test pit 0727 during the June 1992 groundwater sampling effort. The MCL for tritium is 20 nCi/L. Data results show the MCL has been met or exceeded 29 times. Concentrations are consistently above the MCL at Main Hill locations (seeps 0601, 0605, 0608, and 0607; wells 0120 and 0115). Main Hill test pits were only sampled during the June 1992 effort but locations 0727, 0714, 0721, and 0722 had high tritium concentrations ranging from 329.800 to 21.700 nCi/L. No offsite location had a tritium concentration above the MCL.

4. DATA VALIDATION

Chemical laboratory analyses were conducted for groundwater samples collected during the following periods: November 1990, January/February 1991, April/May 1991, July/August 1991, December 1991, March 1992, June 1992, and September 1992. The analyses subjected to formal data validation procedures are presented in Table 66. Summaries of the qualified data for these analyses are presented in Tables 67 through 70. Data validation is used to verify the accuracy of the laboratory data and to identify potential technical deficiencies in the data. Data validation did not determine the quantitative impact of any bias associated with the data. An assessment of the usefulness of qualified data has not been performed. The data validation reports, summarized in this section, present the general quality of the data and where potential bias may be found. These reports are available upon request. The laboratory and validation results are presented in Appendix B.

Data validation procedures include a review of:

- completeness of the data package;
- sample extraction/analysis holding times;
- instrument calibration results;

- quality control checks including blanks, matrix spike/matrix spike duplicates (MS/MSDs), field and laboratory duplicates, and system performance; and
- the raw data, including calculations and verifying positive identification of the analytes.

Results of laboratory analyses for the Operable Unit 1 groundwater samples were validated using the U.S. Environmental Protection Agency's (EPA) functional guidelines (EPA 1988a and 1988b) for Contract Laboratory Program (CLP) analyses. Results from non-CLP analyses (volatiles by 8010/8020, pesticide/PCBs by 8080, and anions) were validated in a similar manner to the EPA guidelines. The same topics were reviewed against the method requirements. The validation process results in the qualification of data that do not meet specified quality control parameters. The following qualifiers were applied:

- J—Associated value is an estimated quantity.
- U—Analyte not detected above the associated value.
- R—Value is unusable; analyte may or may not be present (appears as NA in Appendix B).
- UJ—Analyte not detected above the associated value; quantitation limit is an estimate.

The value associated with the qualifier is usually that reported by the laboratory and is either the actual value, in the case of a positive hit, or the quantitation limit. The quantitation limit is the lowest level at which the method produces a reliable result.

The laboratory routinely flags its results with a 'U' qualifier if the analyte was not detected. The laboratory value reported is the sample quantitation limit. The laboratory usually reports positive results without qualification. The validated data are presented with the additional qualifiers, if necessary, as defined above.

In preparing the data report presented as Appendix B, nonessential data for MS/MSD (organics) results were omitted. Spiking solutions for organic MS/MSD analyses contain selected target compounds. All results expressed as a percent recovery have been reported. However, any positive results in the MS/MSD for non-spiked compounds are not presented in Appendix B, as the actual results can be found in the unspiked sample data. This convention applies to volatile, semivolatile, and pesticide/PCB analyses.

The percent difference for replicate analysis of the Target Analyte List (TAL) metals (sample type C001) is determined by comparing the initial and replicate values. If both of these values are positive,

then a percent difference can be calculated and reported. If one or both of the results is non-detect (U), then a percent difference cannot be calculated and is shown in Appendix B as NC with a percent difference value of zero.

The following subsections discuss the findings during data validation and the qualification assigned to the data. The qualifications presented were applied to selected samples and selected compounds.

4.1. VOLATILES

All analyses were performed by method SW8010/8020, except one sample in batch REA 36395 and 9112L836 for well 0137 where styrene was reported. These analyses were performed by CLP SOW 2/88.

The method used by the laboratories, 8010/8020, specifies a minimum five-point calibration. If fewer than five points were used, including single-point calibration, quantitation limits were estimated. Method 8010/8020 also requires that each target analyte be included in the continuing calibration standard and that the standard be analyzed every 12 hours or within 12 hours of sample analysis. Where these conditions were not met, data for affected compounds have been qualified as rejected.

Method 8010/8020 requires analyte confirmation by GC/MS or the use of a second chromatographic column whenever a positive result is determined. If the laboratories did not perform these confirmations, positive results reported for the TCL analytes were qualified as estimated. The compounds reported as present are not unexpected, based on historical results.

Initial and continuing calibration criteria were not met for various analytical batches. Bias in associated samples was due to:

- initial calibration factors not within 20% relative standard deviation (RSD);
- correlation coefficients below 0.995; and
- the difference between continuing calibration factors and the initial average calibration factors greater than 15%.

These and additional qualifications noted in the analytical batches are summarized in Table 67. A detailed summary can be found in the corresponding data validation reports.

4.2. SEMIVOLATILES

All semivolatile analyses were performed by CLP SOW 2/88 or OLM01.8 and most results were accepted without qualification. The following describes qualifications that were necessary during data validation.

Initial and continuing calibration criteria were not met for certain analytes in the analytical batches. Bias in the sample results was due to:

- initial calibration factors not within +/- 30% RSD; and
- difference between continuing calibration factors and initial average calibration factors greater than +/- 25%.

Surrogate compounds that were not within validation guidelines resulted in estimated qualifications (J). Samples analyzed outside of holding times also resulted in estimated qualifications.

Data for 4-nitroaniline in batches REA 36375, 36389, and 36408 were rejected as unusable because the compound could not be verified as present in the standard solutions.

Qualifications, per USEPA functional guidelines, are not based on MS/MSD or blank spike/blank spike duplicate (BS/BSD) analyses. Therefore, MS/MSD and BS/BSD results have not been considered.

Qualifications for specific analytical batches are summarized in Table 68.

4.3. PESTICIDE/PCBs

No positive results were reported for pesticide/PCB analyses. Most data were accepted without qualification. Analysis method performed is specified in Table 69 with the laboratory batch number.

4.4. METALS

Analyses for TAL metals were consistently qualified for the same general reasons. Most qualifications were noted with selenium, thallium, arsenic, and lead. These four metals are analyzed by graphite furnace atomic absorption (GFAA). Potassium is analyzed by flame atomic absorption, and all other metals are analyzed by inductively coupled plasma atomic emission spectroscopy.

Initial calibration ensures that the instrument is producing acceptable quantitative data. The continuing calibration verification documents that the initial calibration is still valid.

Blanks, including preparation and calibration blanks, determine the existence and magnitude of contamination problems.

The matrix duplicate analysis is an indicator of precision based on each sample matrix. Matrix spike analyses provide information about the effect of each sample matrix on the methodology. The GFAA analytical (post-digestion) spikes provide additional information on the matrix effects.

The Interference Check Sample (ICS) verifies the interelement and background correction factors.

All analyses were performed by CLP SOW; the base version used is specified with the batch number in Table 70.

4.5. ANIONS

All data were accepted without qualification, with the exception of batch REA 37221. The re-extraction of nitrate-nitrite for two samples was outside of holding time criteria, and the values were qualified as estimated.

5. REFERENCES

EPA. 1988a. "Laboratory Data Validation Functional Guidelines for Evaluating Organics Analysis." U.S. Environmental Protection Agency. February 1988.

EPA 1988b. "Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analysis." U.S. Environmental Protection Agency. July 1988.

TABLES 1 THROUGH 70

1-8 Wells monitored, analytical parameters and methods (October/November 1990 through September 1992)

9-65 Selected parameter summaries and concentrations (October/November 1990 through September 1992)

66 Sample Analyses subjected to data validation

67-70 Summaries of qualified data

Table 1. Wells monitored during the October/November 1990 groundwater sampling effort, with associated analytical parameters and methods.

Well Id	Volatiles	Semi-volatiles	Pesticides	PCBs	Metals	Cations	Anions	Radionuclides	Tritium
0046	X					X	X		X
0063	X	X	X	X	X	X	X	X	X
0071	X	X	X	X	X	X	X	X	X
0076	X	X	X	X	X	X	X	X	X
0111	X					X	X	X	X
0112	X					X	X		X
0115	X					X	X		X
0117	X					X	X	X	X
0118	X	X	X	X	X	X	X	X	X
0120	X					X	X	X	X
0122	X					X	X	X	X
0123	X					X	X	X	X
0124	X					X	X	X	X
0126	X	X	X	X	X	X	X	X	X
0127	X					X	X		X
0129	X	X	X	X	X	X	X	X	X
0137	X					X	X	X	X
0151	X					X	X		X
0152	X					X	X		X
0153	X					X	X		X
0154	X					X	X		X
0155	X					X	X		X
0156	X					X	X	X	X
0158	X					X	X		X
0159	X					X	X		X
0160	X					X	X		X
0271	X	X	X	X	X	X	X	X	X
0301	X	X			X	X	X		X
0302	X	X				X	X		X
0303	X	X				X	X		X
0304	X	X				X	X		X
0305	X	X	X	X	X	X	X	X	X
0306	X	X				X	X		X
0307	X	X	X	X	X	X	X	X	X
0309	X	X				X	X		X
0310	X	X				X	X	X	X
0311	X				X	X	X		X
0312	X					X	X		X
0313	X	X	X	X	X	X	X	X	X
0314	X	X				X	X		X
0315	X	X				X	X		X
0317	X	X				X	X		X
0318	X	X				X	X		X
0319	X	X				X	X		X
0320	X	X				X	X		X
0601	X					X	X		X
0602	X					X	X		X
0605	X					X	X		X
0607	X					X	X		X
0608	X								X

Table 1. (page 2 of 6)

Parameters	Analytical Methods
1. Volatile Organic Compounds (VOCs)	
1.1. Purgeable Halocarbons	SW5030/SW8010[a]
Vinyl chloride	
Trichlorofluoromethane	
1,1-dichloroethene	
Methylene chloride (dichloromethane)	
1,1-dichloroethane	
Trichloromethane (chloroform)	
1,1,1-trichloroethane	
Carbon tetrachloride	
1,2-dichloroethane	
1,2-*trans*-Dichloroethene	
1,2-*cis*-Dichloroethene	
Trichloroethene	
1,2-dichloropropane	
Bromodichloromethane	
Dibromomethane	
2-chloroethyl vinyl ether	
1,3-*cis*-Dichloropropene	
1,3-*trans*-Dichloropropene	
1,1,2-trichloroethane	
Tetrachloroethene	
Dibromochloromethane	
1-chlorohexane	
Chlorobenzene	
1,1,1,2-tetrachloroethane	
Bromoform	
1,1,2,2-tetrachloroethane	
1,2,3-trichloropropane	
Phenyl bromide (bromobenzene)	
Chlorotoluene	
1,3-dichlorobenzene	
1,4-dichlorobenzene	
1,2-dichlorobenzene	
Bis(2-chloroisopropyl)ether	
1.2. Purgeable Aromatic Compounds, Groundwater	SW5030/SW8020[a]
Benzene	
Chlorobenzene	
1,2-Dichlorobenzene	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
Ethylbenzene	
Toluene	
Xylenes (total)	

Table 1. (page 3 of 6)

Parameters	Analytical Methods
2. Semivolatile Organic Compounds	CLP SOW[b]
Phenol	
Bis(2-chloroethyl) ether	
2-Chlorophenol	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
1,2-Dichlorobenzene	
2-Methylphenol	
Bis(2-chloroisopropyl) ether	
4-Methylphenol	
N-nitroso-di-n-dipropylamine	
Hexachloroethane	
Nitrobenzene	
Isophorone	
2-Nitrophenol	
2,4-Dimethylphenol	
Bis(2-chloroethoxy) methane	
2,4-Dichlorophenol	
1,2,4-Trichlorobenzene	
Naphthalene	
4-Chloroaniline	
Hexachlorobutadiene	
4-chloro-3-methylphenol (para-chloro-meta-cresol)	
2-Methylnaphthalene	
Hexachlorocyclopentadiene	
2,4,6-Trichlorophenol	
2,4,5-Trichlorophenol	
2-Chloronaphthalene	
2-Nitroaniline	
Dimethylphthalate	
Acenaphthylene	
2,6-Dinitrotoluene	
3-Nitroaniline	
Acenaphthene	
2,4-Dinitrophenol	
4-Nitrophenol	
Dibenzofuran	
2,4-Dinitrotoluene	
Diethylphthalate	
4-Chlorophenyl-phenyl ether	
Fluorene	
4-Nitroaniline	
4,6-Dinitro-2-methylphenol	
N-nitrosodiphenylamine	

Table 1. (page 4 of 6)

Parameters	Analytical Methods
4-bromophenyl-phenylether	
Hexachlorobenzene	
Pentachlorophenol	
Phenanthrene	
Anthracene	
Carbazole	
Di-n-butylphthalate	
Fluoranthene	
Pyrene	
Butylbenzylphthalate	
3,3'-Dichlorobenzidine	
Benzo(a)anthracene	
Chrysene	
Bis(2-Ethylhexyl)phthalate	
Di-n-octylphthalate	
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Benzo(a)pyrene	
Indeno(1,2,3-cd)pyrene	
Dibenz(a,h)anthracene	
Benzo(g,h,i)perylene	
3. Pesticide/PCB	CLP SOW[b]
Alpha-BHC	
Beta-BHC	
Delta-BHC	
Gamma-BHC (Lindane)	
Heptachlor	
Aldrin	
Heptachlor epoxide	
Endosulfan I	
Dieldrin	
4,4'-DDE	
Endrin	
Endosulfan II	
4,4'-DDD	
Endosulfan sulfate	
4,4'-DDT	
Methoxychlor	
Endrin ketone	
Endrin aldehyde	
Alpha-Chlordane	
Gamma-Chlordane	
Toxaphene	
Aroclor-1016	

Table 1. (page 5 of 6)

Parameters	Analytical Methods
Aroclor-1221	
Aroclor-1232	
Aroclor-1242	
Aroclor-1248	
Aroclor-1254	
Aroclor-1260	
4. TAL Metals	CLP SOW[c]
Aluminum	
Antimony	
Arsenic	
Barium	
Beryllium	
Cadmium	
Calcium	
Chromium	
Cobalt	
Copper	
Iron	
Lead	
Magnesium	
Manganese	
Mercury	
Nickel	
Potassium	
Selenium	
Silver	
Sodium	
Thallium	
Vanadium	
Zinc	
5. Common Cations	CLP SOW[c]
Calcium	
Iron	
Magnesium	
Manganese	
Potassium	
Sodium	
6. Common Anions	
Nitrate-Nitrite	E353.2[d]
Chloride	E325.1[d]/SW9250[a]
Sulfate	SW9036[a]
7. Radionuclides	
Gamma Spectrometry	Laboratory SOP[e]
Cobalt-60	

Table 1. (page 6 of 6)

Parameters	Analytical Methods
Cesium-137	
Bismuth-210 metastable	
Bismuth-207	
Potassium-40	
Plutonium Isotopes	
Thorium Isotopes	
Radium-226	
Uranium Isotopes	
Strontium-90/yttrium-90	
Americium-241	
Tritium	R906.0[f]

[a]"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, 3rd edition, U.S. EPA, November 1986.

[b]"U.S. EPA Contract Laboratory Program, Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration." February 1988. Quantitation limits are contract-required quantitation limits (CRQLs).

[c]"U.S. EPA Contract Laboratory Program, Statement of Work for Inorganics Analysis, Multi-Media, Multi-Concentration." July 1988. Quantitation limits are CRDLs.

[d]"Methods for Chemical Analysis of Water and Wastes," U.S. EPA, EPA-600/4-79-020 revised March 1983.

[e]Laboratory-developed SOP based on either U.S. EPA methods ("Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version) or U.S. DOE EML Procedures Manual, 27th Edition..

[f]"Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version.

Table 2. Wells monitored during the January/February 1991 groundwater sampling effort, with associated analytical parameters and methods

Well Id	Volatiles	Semi–volatiles	Pesticides	PCBs	Metals	Cations	Anions	Radionuclides	Tritium
0046	X					X	X		X
0063	X	X	X	X	X	X	X	X	X
0071	X	X	X	X	X	X	X	X	X
0076	X	X	X	X	X	X	X	X	X
0115	X					X	X		X
0118	X	X	X	X	X	X	X	X	X
0122	X					X	X	X	X
0126	X	X	X	X	X	X	X	X	X
0129	X	X	X	X	X	X	X	X	X
0152	X					X	X		X
0154	X					X	X		X
0155	X					X	X		X
0159	X					X	X		X
0160	X					X	X		X
0271	X	X	X	X	X	X	X	X	X
0305	X	X	X	X	X	X	X	X	X
0306	X					X	X		X
0307	X	X	X	X	X	X	X	X	X
0312	X					X	X		X
0313	X	X	X	X	X	X	X	X	X
0315	X					X	X		X

Table 2. (page 2 of 6)

Parameters	Analytical Methods
1. Volatile Organic Compounds (VOCs)	
1.1. Purgeable Halocarbons	SW5030/SW8010[a]
Vinyl chloride	
Trichlorofluoromethane	
1,1-dichloroethene	
Methylene chloride (dichloromethane)	
1,1-dichloroethane	
Trichloromethane (chloroform)	
1,1,1-trichloroethane	
Carbon tetrachloride	
1,2-dichloroethane	
1,2-*trans*-Dichloroethene	
1,2-*cis*-Dichloroethene	
Trichloroethene	
1,2-dichloropropane	
Bromodichloromethane	
Dibromomethane	
2-chloroethyl vinyl ether	
1,3-*cis*-Dichloropropene	
1,3-*trans*-Dichloropropene	
1,1,2-trichloroethane	
Tetrachloroethene	
Dibromochloromethane	
1-chlorohexane	
Chlorobenzene	
1,1,1,2-tetrachloroethane	
Bromoform	
1,1,2,2-tetrachloroethane	
1,2,3-trichloropropane	
Phenyl bromide (bromobenzene)	
Chlorotoluene	
1,3-dichlorobenzene	
1,4-dichlorobenzene	
1,2-dichlorobenzene	
Bis(2-chloroisopropyl)ether	
1.2. Purgeable Aromatic Compounds, Groundwater	SW5030/SW8020[a]
Benzene	
Chlorobenzene	
1,2-Dichlorobenzene	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
Ethylbenzene	
Toluene	
Xylenes (total)	

Table 2. (page 3 of 6)

Parameters	Analytical Methods
2. Semivolatile Organic Compounds	CLP SOW[b]
Phenol	
Bis(2-chloroethyl) ether	
2-Chlorophenol	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
1,2-Dichlorobenzene	
2-Methylphenol	
Bis(2-chloroisopropyl) ether	
4-Methylphenol	
N-nitroso-di-n-dipropylamine	
Hexachloroethane	
Nitrobenzene	
Isophorone	
2-Nitrophenol	
2,4-Dimethylphenol	
Bis(2-chloroethoxy) methane	
2,4-Dichlorophenol	
1,2,4-Trichlorobenzene	
Naphthalene	
4-Chloroaniline	
Hexachlorobutadiene	
4-chloro-3-methylphenol (para-chloro-meta-cresol)	
2-Methylnaphthalene	
Hexachlorocyclopentadiene	
2,4,6-Trichlorophenol	
2,4,5-Trichlorophenol	
2-Chloronaphthalene	
2-Nitroaniline	
Dimethylphthalate	
Acenaphthylene	
2,6-Dinitrotoluene	
3-Nitroaniline	
Acenaphthene	
2,4-Dinitrophenol	
4-Nitrophenol	
Dibenzofuran	
2,4-Dinitrotoluene	
Diethylphthalate	
4-Chlorophenyl-phenyl ether	
Fluorene	
4-Nitroaniline	
4,6-Dinitro-2-methylphenol	
N-nitrosodiphenylamine	

Table 2. (page 4 of 6)

Parameters	Analytical Methods
4-bromophenyl-phenylether	
Hexachlorobenzene	
Pentachlorophenol	
Phenanthrene	
Anthracene	
Carbazole	
Di-n-butylphthalate	
Fluoranthene	
Pyrene	
Butylbenzylphthalate	
3,3'-Dichlorobenzidine	
Benzo(a)anthracene	
Chrysene	
Bis(2-Ethylhexyl)phthalate	
Di-n-octylphthalate	
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Benzo(a)pyrene	
Indeno(1,2,3-cd)pyrene	
Dibenz(a,h)anthracene	
Benzo(g,h,i)perylene	
3. Pesticide/PCB	CLP SOW[b]
Alpha-BHC	
Beta-BHC	
Delta-BHC	
Gamma-BHC (Lindane)	
Heptachlor	
Aldrin	
Heptachlor epoxide	
Endosulfan I	
Dieldrin	
4,4'-DDE	
Endrin	
Endosulfan II	
4,4'-DDD	
Endosulfan sulfate	
4,4'-DDT	
Methoxychlor	
Endrin ketone	
Endrin aldehyde	
Alpha-Chlordane	
Gamma-Chlordane	
Toxaphene	
Aroclor-1016	

Table 2. (page 5 of 6)

Parameters	Analytical Methods
Aroclor-1221	
Aroclor-1232	
Aroclor-1242	
Aroclor-1248	
Aroclor-1254	
Aroclor-1260	
4. TAL Metals	CLP SOW[c]
Aluminum	
Antimony	
Arsenic	
Barium	
Beryllium	
Cadmium	
Calcium	
Chromium	
Cobalt	
Copper	
Iron	
Lead	
Magnesium	
Manganese	
Mercury	
Nickel	
Potassium	
Selenium	
Silver	
Sodium	
Thallium	
Vanadium	
Zinc	
5. Common Cations	CLP SOW[c]
Calcium	
Iron	
Magnesium	
Manganese	
Potassium	
Sodium	
6. Common Anions	
Nitrate-Nitrite	E353.2[d]
Chloride	E325.1[d]/SW9250[a]
Sulfate	SW9036[a]
7. Radionuclides	
Gamma Spectrometry	Laboratory SOP[e]
Cobalt-60	

Table 2. (page 6 of 6)

Parameters	Analytical Methods
Cesium-137	
Bismuth-210 metastable	
Bismuth-207	
Potassium-40	
Plutonium Isotopes	
Thorium Isotopes	
Radium-226	
Uranium Isotopes	
Strontium-90/yttrium-90	
Americium-241	
Tritium	R906.0[f]

[a]"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, 3rd edition, U.S. EPA, November 1986.

[b]"U.S. EPA Contract Laboratory Program, Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration." February 1988. Quantitation limits are contract-required quantitation limits (CRQLs).

[c]"U.S. EPA Contract Laboratory Program, Statement of Work for Inorganics Analysis, Multi-Media, Multi-Concentration." July 1988. Quantitation limits are CRDLs.

[d]"Methods for Chemical Analysis of Water and Wastes," U.S. EPA, EPA-600/4-79-020 revised March 1983.

[e]Laboratory-developed SOP based on either U.S. EPA methods ("Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version) or U.S. DOE EML Procedures Manual, 27th Edition..

[f]"Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version.

Table 3. Wells monitored during the April/May 1991 groundwater sampling effort, with associated analytical parameters and methods.

Well Id	Volatiles	Semi-volatiles	Pesticides	PCBs	Metals	Cations	Anions	Radionuclides	Tritium	Floride, Bromide, Iodine
0046	X					X	X		X	
0063	X	X	X	X	X	X	X	X	X	
0071	X	X	X	X	X	X	X	X	X	
0076	X	X	X	X	X	X	X	X	X	
0111	X					X	X	X	X	
0112	X					X	X		X	
0115	X					X	X		X	
0117	X					X	X	X	X	
0118	X	X	X	X	X	X	X	X	X	
0120	X					X	X	X	X	
0122	X					X	X	X	X	
0123	X					X	X	X	X	
0124	X					X	X	X	X	
0126	X	X	X	X	X	X	X	X	X	
0127	X					X	X		X	
0129	X	X	X	X	X	X	X	X	X	
0137	X					X	X	X	X	
0138	X	X	X	X	X	X	X	X	X	
0151	X					X	X		X	
0152	X					X	X		X	
0153	X					X	X		X	
0154	X					X	X		X	
0155	X					X	X		X	
0156	X					X	X	X	X	
0158	X					X	X		X	
0159	X					X	X		X	
0160	X					X	X		X	
0301	X				X	X	X		X	
0302	X					X	X		X	
0303	X					X	X		X	
0304	X					X	X		X	
0305	X	X	X	X	X	X	X	X	X	
0306	X					X	X		X	
0307	X	X	X	X	X	X	X	X	X	
0309	X					X	X		X	
0310	X				X	X	X	X	X	
0311	X					X	X		X	
0312	X					X	X		X	
0313	X	X	X	X	X	X	X	X	X	
0314	X					X	X		X	
0315	X					X	X		X	
0317	X					X	X		X	
0318	X					X	X		X	
0319	X					X	X		X	
0320	X					X	X		X	
0601	X	X	X	X	X	X	X	X	X	X
0602	X	X	X	X	X	X	X	X	X	X
0605	X				X	X	X		X	X
0607	X	X	X	X	X	X	X	X	X	X
0608	X				X	X	X	X	X	X
0620	X	X	X	X	X	X	X	X	X	X
0621	X				X	X	X	X	X	X
0622	X				X	X	X	X	X	X
0623	X						X		X	X
0624	X									

Table 3. (page 2 of 6)

Parameters	Analytical Methods
1. Volatile Organic Compounds (VOCs)	
1.1. Purgeable Halocarbons	SW5030/SW8010[a]
Dichlorodifluoromethane	
Chloromethane	
Bromomethane	
Chloroethane	
Vinyl chloride	
Trichlorofluoromethane	
1,1-dichloroethene	
Methylene chloride (dichloromethane)	
1,1-dichloroethane	
Trichloromethane (chloroform)	
1,1,1-trichloroethane	
Carbon tetrachloride	
1,2-dichloroethane	
1,2-*trans*-Dichloroethene	
1,2-*cis*-Dichloroethene	
Trichloroethene	
1,2-dichloropropane	
Bromodichloromethane	
Dibromomethane	
2-chloroethyl vinyl ether	
1,3-*cis*-Dichloropropene	
1,3-*trans*-Dichloropropene	
1,1,2-trichloroethane	
Tetrachloroethene	
Dibromochloromethane	
1-chlorohexane	
Chlorobenzene	
1,1,1,2-tetrachloroethane	
Bromoform	
1,1,2,2-tetrachloroethane	
1,2,3-trichloropropane	
Phenyl bromide (bromobenzene)	
Chlorotoluene	
1,3-dichlorobenzene	
1,4-dichlorobenzene	
1,2-dichlorobenzene	
Bis(2-chloroisopropyl)ether	
1.2. Purgeable Aromatic Compounds, Groundwater	SW5030/SW8020[a]
Benzene	

Table 3. (page 3 of 6)

Parameters	Analytical Methods
1,2-Dichlorobenzene	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
Ethylbenzene	
Toluene	
Xylenes (total)	
2. Semivolatile Organic Compounds	CLP SOW[b]
Phenol	
Bis(2-chloroethyl) ether	
2-Chlorophenol	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
Benzyl alcohol	
1,2-Dichlorobenzene	
2-Methylphenol	
Bis(2-chloroisopropyl) ether	
4-Methylphenol	
N-nitroso-di-n-dipropylamine	
Hexachloroethane	
Nitrobenzene	
Isophorone	
2-Nitrophenol	
2,4-Dimethylphenol	
Benzoic acid	
Bis(2-chloroethoxy) methane	
2,4-Dichlorophenol	
1,2,4-Trichlorobenzene	
Naphthalene	
4-Chloroaniline	
Hexachlorobutadiene	
4-chloro-3-methylphenol (para-chloro-meta-cresol)	
2-Methylnaphthalene	
Hexachlorocyclopentadiene	
2,4,6-Trichlorophenol	
2,4,5-Trichlorophenol	
2-Chloronaphthalene	
2-Nitroaniline	
Dimethylphthalate	
Acenaphthylene	
2,6-Dinitrotoluene	
3-Nitroaniline	

Table 3. (page 4 of 6)

Parameters	Analytical Methods
Acenaphthene	
2,4-Dinitrophenol	
4-Nitrophenol	
Dibenzofuran	
2,4-Dinitrotoluene	
Diethylphthalate	
4-Chlorophenyl-phenyl ether	
Fluorene	
4-Nitroaniline	
4,6-Dinitro-2-methylphenol	
N-nitrosodiphenylamine	
4-bromophenyl-phenylether	
Hexachlorobenzene	
Pentachlorophenol	
Phenanthrene	
Anthracene	
Di-n-butylphthalate	
Fluoranthene	
Pyrene	
Butylbenzylphthalate	
3,3'-Dichlorobenzidine	
Benzo(a)anthracene	
Chrysene	
Bis(2-Ethylhexyl)phthalate	
Di-n-octylphthalate	
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Benzo(a)pyrene	
Indeno(1,2,3-cd)pyrene	
Dibenz(a,h)anthracene	
Benzo(g,h,i)perylene	
3. Pesticides/PCB	CLP SOW[b]
Alpha-BHC	
Beta-BHC	
Delta-BHC	
Gamma-BHC (Lindane)	
Heptachlor	
Aldrin	
Heptachlor epoxide	
Endosulfan I	
Dieldrin	

Table 3. (page 5 of 6)

Parameters	Analytical Methods
4,4'-DDE	
Endrin	
Endosulfan II	
4,4'-DDD	
Endosulfan sulfate	
4,4'-DDT	
Methoxychlor	
Endrin ketone	
Endrin aldehyde	
Alpha-Chlordane	
Gamma-Chlordane	
Toxaphene	
Aroclor-1016	
Aroclor-1221	
Aroclor-1232	
Aroclor-1242	
Aroclor-1248	
Aroclor-1254	
Aroclor-1260	
4. TAL Metals	CLP SOW[c]
Aluminum	
Antimony	
Arsenic	
Barium	
Beryllium	
Cadmium	
Calcium	
Chromium	
Cobalt	
Copper	
Iron	
Lead	
Magnesium	
Manganese	
Mercury	
Nickel	
Potassium	
Selenium	
Silver	
Sodium	
Thallium	

Table 3. (page 6 of 6)

Parameters	Analytical Methods
Vanadium	
Zinc	
5. Common Cations	CLP SOW[c]
Calcium	
Iron	
Magnesium	
Manganese	
Potassium	
Sodium	
6. Common Anions	
Nitrate-Nitrite	E353.2[d]
Chloride	E325.1[d]/SW9250[a]
Sulfate	375.2[d]
7. Radionuclides	
Gamma Spectrometry	Laboratory SOP[e]
Cobalt-60	
Cesium-137	
Bismuth-210 metastable	
Bismuth-207	
Potassium-40	
Plutonium Isotopes	
Thorium Isotopes	
Radium-226	
Uranium Isotopes	
Strontium-90/yttrium-90	
Americium-241	
Tritium	R906.0[f]

[a]"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, 3rd edition, U.S. EPA, November 1986.
[b]"U.S. EPA Contract Laboratory Program, Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration." February 1988. Quantitation limits are contract-required quantitation limits (CRQLs).
[c]"U.S. EPA Contract Laboratory Program, Statement of Work for Inorganics Analysis, Multi-Media, Multi-Concentration." July 1988. Quantitation limits are CRDLs.
[d]"Methods for Chemical Analysis of Water and Wastes," U.S. EPA, EPA-600/4-79-020 revised March 1983.
[e]Laboratory-developed SOP based on either U.S. EPA methods ("Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version) or U.S. DOE EML Procedures Manual, 27th Edition.
[f]"Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version.

Table 4. Wells monitored during the July/August 1991 groundwater sampling effort, with associated analytical parameters and methods

Well Id	Volatiles	Semi-volatiles	Pesticides	PCBs	Metals	Cations	Anions	Radionuclides	Tritium
0046	X					X	X		X
0063	X	X	X	X	X	X	X	X	X
0071	X	X	X	X	X	X	X	X	X
0115	X					X	X		X
0118	X	X	X	X	X	X	X	X	X
0122	X					X	X	X	X
0126	X	X	X	X	X	X	X	X	X
0129	X	X	X	X	X	X	X	X	X
0138	X	X	X	X	X	X	X	X	X
0152	X					X	X		X
0154	X					X	X		X
0155	X					X	X		X
0159	X					X	X		X
0160	X					X	X		X
0271	X	X	X	X	X	X	X	X	X
0305	X	X	X	X	X	X	X	X	X
0306	X					X	X		X
0307	X	X	X	X	X	X	X	X	X
0312	X					X	X		X
0313	X	X	X	X	X	X	X	X	X
0315	X					X	X		X
0601	X					X	X	O	X
0602	X					X	X	O	X
0620	X					X	X	O	X

O – Sample parameters included Actinium–227 and Radium–226 only.

Table 4. (page 2 of 6)

Parameters	Analytical Methods
1. Volatile Organic Compounds (VOCs)	
1.1. Purgeable Halocarbons	SW5030/SW8010[b]
Dichlorodifluoromethane	
Chloromethane	
Bromomethane	
Chloroethane	
Vinyl chloride	
Trichlorofluoromethane	
1,1-dichloroethene	
Methylene chloride (dichloromethane)	
1,1-dichloroethane	
Trichloromethane (chloroform)	
1,1,1-trichloroethane	
Carbon tetrachloride	
1,2-dichloroethane	
1,2-*trans*-Dichloroethene	
1,2-*cis*-Dichloroethene	
Trichloroethene	
1,2-dichloropropane	
Bromodichloromethane	
Dibromomethane	
2-chloroethyl vinyl ether	
1,3-*cis*-Dichloropropene	
1,3-*trans*-Dichloropropene	
1,1,2-trichloroethane	
Tetrachloroethene	
Dibromochloromethane	
1-chlorohexane	
Chlorobenzene	
1,1,1,2-tetrachloroethane	
Bromoform	
1,1,2,2-tetrachloroethane	
1,2,3-trichloropropane	
Phenyl bromide (bromobenzene)	
Chlorotoluene	
1,3-dichlorobenzene	
1,4-dichlorobenzene	
1,2-dichlorobenzene	
Bis(2-chloroisopropyl)ether	
1.2. Purgeable Aromatic Compounds, Groundwater	SW5030/SW8020[a]
Benzene	

Table 4. (page 3 of 6)

Parameters	Analytical Methods
1,2-Dichlorobenzene	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
Ethylbenzene	
Toluene	
Xylenes (total)	
2. Semivolatile Organic Compounds	CLP SOW[b]
Phenol	
Bis(2-chloroethyl) ether	
2-Chlorophenol	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
Benzyl alcohol	
1,2-Dichlorobenzene	
2-Methylphenol	
Bis(2-chloroisopropyl) ether	
4-Methylphenol	
N-nitroso-di-n-dipropylamine	
Hexachloroethane	
Nitrobenzene	
Isophorone	
2-Nitrophenol	
2,4-Dimethylphenol	
Benzoic acid	
Bis(2-chloroethoxy) methane	
2,4-Dichlorophenol	
1,2,4-Trichlorobenzene	
Naphthalene	
4-Chloroaniline	
Hexachlorobutadiene	
4-chloro-3-methylphenol (para-chloro-meta-cresol)	
2-Methylnaphthalene	
Hexachlorocyclopentadiene	
2,4,6-Trichlorophenol	
2,4,5-Trichlorophenol	
2-Chloronaphthalene	
2-Nitroaniline	
Dimethylphthalate	
Acenaphthylene	
2,6-Dinitrotoluene	
3-Nitroaniline	

Table 4. (page 4 of 6)

Parameters	Analytical Methods
Acenaphthene	
2,4-Dinitrophenol	
4-Nitrophenol	
Dibenzofuran	
2,4-Dinitrotoluene	
Diethylphthalate	
4-Chlorophenyl-phenyl ether	
Fluorene	
4-Nitroaniline	
4,6-Dinitro-2-methylphenol	
N-nitrosodiphenylamine	
4-bromophenyl-phenylether	
Hexachlorobenzene	
Pentachlorophenol	
Phenanthrene	
Anthracene	
Di-n-butylphthalate	
Fluoranthene	
Pyrene	
Butylbenzylphthalate	
3,3'-Dichlorobenzidine	
Benzo(a)anthracene	
Chrysene	
Bis(2-Ethylhexyl)phthalate	
Di-n-octylphthalate	
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Benzo(a)pyrene	
Indeno(1,2,3-cd)pyrene	
Dibenz(a,h)anthracene	
Benzo(g,h,i)perylene	
3. Pesticide/PCB	SW8080[a]
Alpha-BHC	
Beta-BHC	
Delta-BHC	
Gamma-BHC (Lindane)	
Heptachlor	
Aldrin	
Heptachlor epoxide	
Endosulfan I	
Dieldrin	

Table 4. (page 5 of 6)

Parameters	Analytical Methods
4,4'-DDE	
Endrin	
Endosulfan II	
4,4'-DDD	
Endosulfan sulfate	
4,4'-DDT	
Methoxychlor	
Endrin ketone	
Endrin aldehyde	
Alpha-Chlordane	
Gamma-Chlordane	
Toxaphene	
Aroclor-1016	
Aroclor-1221	
Aroclor-1232	
Aroclor-1242	
Aroclor-1248	
Aroclor-1254	
Aroclor-1260	
4. TAL Metals	CLP SOW[c]
Aluminum	
Antimony	
Arsenic	
Barium	
Beryllium	
Cadmium	
Calcium	
Chromium	
Cobalt	
Copper	
Iron	
Lead	
Magnesium	
Manganese	
Mercury	
Nickel	
Potassium	
Selenium	
Silver	
Sodium	
Thallium	

Table 4. (page 6 of 6)

Parameters	Analytical Methods
Vanadium	
Zinc	
5. Common Cations	CLP SOW[c]
Calcium	
Iron	
Magnesium	
Manganese	
Potassium	
Sodium	
6. Common Anions	
Nitrate-Nitrite	E353.2[d]
Chloride	E325.1[d]/SW9250[e]
Sulfate	375.2[d]
7. Radionuclides	
Gamma Spectrometry	Laboratory SOP[e]
Cobalt-60	
Cesium-137	
Bismuth-210 metastable	
Bismuth-207	
Potassium-40	
Plutonium Isotopes	
Thorium Isotopes	
Radium-226	
Uranium Isotopes	
Strontium-90/yttrium-90	
Americium-241	
Tritium	R906.0[f]

[a]"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, 3rd edition, U.S. EPA, November 1986.
[b]"U.S. EPA Contract Laboratory Program, Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration." February 1988. Quantitation limits are contract-required quantitation limits (CRQLs).
[c]"U.S. EPA Contract Laboratory Program, Statement of Work for Inorganics Analysis, Multi-Media, Multi-Concentration." Document No. ILM01.0. Quantitation limits are CRDLs.
[d]"Methods for Chemical Analysis of Water and Wastes," U.S. EPA, EPA-600/4-79-020 revised March 1983.
[e]Laboratory-developed SOP based on either U.S. EPA methods ("Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version) or U.S. DOE EML Procedures Manual, 27th Edition.
[f]"Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version.

Table 5. Wells monitored during the December 1991 groundwater sampling effort, with associated analytical parameters and methods.

Well Id	Volatiles	Semi-volatiles	Pesticides	PCBs	Metals	Cations	Anions	Radionuclides	Tritium
0046	X								X
0063	X	X	X	X	X		X	X	X
0071	X	X	X	X	X		X	X	X
0076	X	X	X	X	X		X	X	X
0111	X							X	X
0112	X								X
0115	X								X
0117	X							X	X
0118	X	X	X	X	X			X	X
0120	X							X	X
0122	X							X	X
0123	X							X	X
0124	X							X	X
0126	X	X	X	X	X			X	X
0127	X								X
0129	X							X	X
0137	X							X	X
0138	X								X
0151	X								X
0152	X								X
0153	X								X
0154	X								X
0155	X								X
0156	X							X	X
0158	X								X
0159	X								X
0160	X								X
0271	X	X	X	X	X		X	X	X
0301	X								X
0302	X								X
0303	X								X
0304	X								X
0305	X	X	X	X	X			X	X
0306	X						X		X
0307	X	X	X	X	X			X	X
0309	X						X		X
0310	X				X		X	X	X
0311	X								X
0312	X								X
0313	X	X	X	X	X			X	X
0314	X								X
0315	X								X
0317	X								X
0318	X								X
0319	X								X
0320	X								X
0601	X						X		X
0602	X						X		X
0607	X						X		X
0608	X								X

Table 5. (page 2 of 6)

Parameters	Analytical Methods
1. Volatile Organic Compounds (VOCs)	
1.1. Purgeable Halocarbons	SW5030/SW8010[b]
Dichlorodifluoromethane	
Chloromethane	
Bromomethane	
Chloroethane	
Vinyl chloride	
Trichlorofluoromethane	
1,1-dichloroethene	
Methylene chloride (dichloromethane)	
1,1-dichloroethane	
Trichloromethane (chloroform)	
1,1,1-trichloroethane	
Carbon tetrachloride	
1,2-dichloroethane	
1,2-*trans*-Dichloroethene	
1,2-*cis*-Dichloroethene	
Trichloroethene	
1,2-dichloropropane	
Bromodichloromethane	
Dibromomethane	
2-chloroethyl vinyl ether	
1,3-*cis*-Dichloropropene	
1,3-*trans*-Dichloropropene	
1,1,2-trichloroethane	
Tetrachloroethene	
Dibromochloromethane	
1-chlorohexane	
Chlorobenzene	
1,1,1,2-tetrachloroethane	
Bromoform	
1,1,2,2-tetrachloroethane	
1,2,3-trichloropropane	
Phenyl bromide (bromobenzene)	
Chlorotoluene	
1,3-dichlorobenzene	
1,4-dichlorobenzene	
1,2-dichlorobenzene	
Bis(2-chloroisopropyl)ether	
1.2. Purgeable Aromatic Compounds, Groundwater	SW5030/SW8020[a]
Benzene	

Table 5. (page 3 of 6)

Parameters	Analytical Methods
Chlorobenzene	
1,2-Dichlorobenzene	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
Ethylbenzene	
Toluene	
Xylenes (total)	
2. Semivolatile Organic Compounds	CLP SOW[b]
Phenol	
Bis(2-chloroethyl) ether	
2-Chlorophenol	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
Benzyl alcohol	
1,2-Dichlorobenzene	
2-Methylphenol	
Bis(2-chloroisopropyl) ether	
4-Methylphenol	
N-nitroso-di-n-dipropylamine	
Hexachloroethane	
Nitrobenzene	
Isophorone	
2-Nitrophenol	
2,4-Dimethylphenol	
Benzoic acid	
Bis(2-chloroethoxy) methane	
2,4-Dichlorophenol	
1,2,4-Trichlorobenzene	
Naphthalene	
4-Chloroaniline	
Hexachlorobutadiene	
4-chloro-3-methylphenol (para-chloro-meta-cresol)	
2-Methylnaphthalene	
Hexachlorocyclopentadiene	
2,4,6-Trichlorophenol	
2,4,5-Trichlorophenol	
2-Chloronaphthalene	
2-Nitroaniline	
Dimethylphthalate	
Acenaphthylene	
2,6-Dinitrotoluene	

Table 5. (page 4 of 6)

Parameters	Analytical Methods
3-Nitroaniline	
Acenaphthene	
2,4-Dinitrophenol	
4-Nitrophenol	
Dibenzofuran	
2,4-Dinitrotoluene	
Diethylphthalate	
4-Chlorophenyl-phenyl ether	
Fluorene	
4-Nitroaniline	
4,6-Dinitro-2-methylphenol	
N-nitrosodiphenylamine	
4-bromophenyl-phenylether	
Hexachlorobenzene	
Pentachlorophenol	
Phenanthrene	
Anthracene	
Di-n-butylphthalate	
Fluoranthene	
Pyrene	
Butylbenzylphthalate	
3,3'-Dichlorobenzidine	
Benzo(a)anthracene	
Chrysene	
Bis(2-Ethylhexyl)phthalate	
Di-n-octylphthalate	
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Benzo(a)pyrene	
Indeno(1,2,3-cd)pyrene	
Dibenz(a,h)anthracene	
Benzo(g,h,i)perylene	
3. Pesticide/PCB	CLP SOW[b]/SW8080[a]
Alpha-BHC	
Beta-BHC	
Delta-BHC	
Gamma-BHC (Lindane)	
Heptachlor	
Aldrin	
Heptachlor epoxide	
Endosulfan I	

Table 5. (page 5 of 6)

Parameters	Analytical Methods
Dieldrin	
4,4'-DDE	
Endrin	
Endosulfan II	
4,4'-DDD	
Endosulfan sulfate	
4,4'-DDT	
Methoxychlor	
Endrin ketone	
Endrin aldehyde	
Alpha-Chlordane	
Gamma-Chlordane	
Toxaphene	
Aroclor-1016	
Aroclor-1221	
Aroclor-1232	
Aroclor-1242	
Aroclor-1248	
Aroclor-1254	
Aroclor-1260	
4. TAL Metals	CLP SOW[c]
Aluminum	
Antimony	
Arsenic	
Barium	
Beryllium	
Cadmium	
Calcium	
Chromium	
Cobalt	
Copper	
Iron	
Lead	
Magnesium	
Manganese	
Mercury	
Nickel	
Potassium	
Selenium	
Silver	
Sodium	

Table 5. (page 6 of 6)

Parameters	Analytical Methods
Thallium	
Vanadium	
Zinc	
5. Common Anions	
Nitrate-Nitrite	E353.2[d]
Chloride	E325.1[d]/SW9250[e]
Sulfate	375.2[d]
6. Radionuclides	
Gamma Spectrometry	Laboratory SOP[e]
Cobalt-60	
Cesium-137	
Bismuth-210 metastable	
Bismuth-207	
Potassium-40	
Plutonium Isotopes	
Thorium Isotopes	
Radium-226	
Uranium Isotopes	
Strontium-90/yttrium-90	
Americium-241	
Tritium	R906.0[f]

[a]"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, 3rd edition, U.S. EPA, November 1986.
[b]"U.S. EPA Contract Laboratory Program, Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration." February 1988. Quantitation limits are contract-required quantitation limits (CRQLs).
[c]"U.S. EPA Contract Laboratory Program, Statement of Work for Inorganics Analysis, Multi-Media, Multi-Concentration." Document No. ILM01.0. Quantitation limits are CRDLs.
[d]"Methods for Chemical Analysis of Water and Wastes," U.S. EPA, EPA-600/4-79-020 revised March 1983.
[e]Laboratory-developed SOP based on either U.S. EPA methods ("Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version) or U.S. DOE EML Procedures Manual, 27th Edition..
[f]"Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version.

Table 6. Wells monitored during the March 1992 groundwater sampling effort, with associated analytical parameters and methods

Well Id	Volatiles	Semi-volatiles	Pesticides	PCBs	Metals	Cations	Anions	Radionuclides	Tritium
0046	X					X	X		X
0063	X	X	X	X	X	X	X	X	X
0071	X	X	X	X	X	X	X	X	X
0076	X	X	X	X	X	X	X	X	X
0115	X					X	X		X
0118	X	X	X	X	X	X	X	X	X
0122	X					X	X	X	X
0126	X	X	X	X	X	X	X	X	X
0129	X					X	X	X	X
0138	X					X	X		X
0152	X					X	X		X
0154	X					X	X		X
0155	X					X	X		X
0159	X					X	X		X
0160	X					X	X		X
0305	X	X	X	X	X	X	X	X	X
0306	X					X	X		X
0307	X	X	X	X	X	X	X	X	X
0309	X					X	X		X
0312	X					X	X		X
0313	X	X	X	X	X	X	X	X	X
0315	X					X	X		X

Table 6. (page 2 of 6)

Parameters	Analytical Methods
1. Volatile Organic Compounds (VOCs)	
1.1. Purgeable Halocarbons	SW5030/SW8010[a]
Vinyl chloride	
Trichlorofluoromethane	
1,1-dichloroethene	
Methylene chloride (dichloromethane)	
1,1-dichloroethane	
Trichloromethane (chloroform)	
1,1,1-trichloroethane	
Carbon tetrachloride	
1,2-dichloroethane	
1,2-*trans*-Dichloroethene	
1,2-*cis*-Dichloroethene	
Trichloroethene	
1,2-dichloropropane	
Bromodichloromethane	
Dibromomethane	
2-chloroethyl vinyl ether	
1,3-*cis*-Dichloropropene	
1,3-*trans*-Dichloropropene	
1,1,2-trichloroethane	
Tetrachloroethene	
Dibromochloromethane	
1-chlorohexane	
Chlorobenzene	
1,1,1,2-tetrachloroethane	
Bromoform	
1,1,2,2-tetrachloroethane	
1,2,3-trichloropropane	
Phenyl bromide (bromobenzene)	
Chlorotoluene	
1,3-dichlorobenzene	
1,4-dichlorobenzene	
1,2-dichlorobenzene	
Bis(2-chloroisopropyl)ether	
1.2. Purgeable Aromatic Compounds, Groundwater	SW5030/SW8020[a]
Benzene	
Chlorobenzene	
1,2-Dichlorobenzene	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	

Table 6. (page 3 of 6)

Parameters	Analytical Methods
Ethylbenzene	
Toluene	
Xylenes (total)	
2. Semivolatile Organic Compounds	CLP SOW[b]
Phenol	
Bis(2-chloroethyl) ether	
2-Chlorophenol	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
1,2-Dichlorobenzene	
2-Methylphenol	
Bis(2-chloroisopropyl) ether	
4-Methylphenol	
N-nitroso-di-n-dipropylamine	
Hexachloroethane	
Nitrobenzene	
Isophorone	
2-Nitrophenol	
2,4-Dimethylphenol	
Bis(2-chloroethoxy) methane	
2,4-Dichlorophenol	
1,2,4-Trichlorobenzene	
Naphthalene	
4-Chloroaniline	
Hexachlorobutadiene	
4-chloro-3-methylphenol (para-chloro-meta-cresol)	
2-Methylnaphthalene	
Hexachlorocyclopentadiene	
2,4,6-Trichlorophenol	
2,4,5-Trichlorophenol	
2-Chloronaphthalene	
2-Nitroaniline	
Dimethylphthalate	
Acenaphthylene	
2,6-Dinitrotoluene	
3-Nitroaniline	
Acenaphthene	
2,4-Dinitrophenol	
4-Nitrophenol	
Dibenzofuran	
2,4-Dinitrotoluene	

Table 6. (page 4 of 6)

Parameters	Analytical Methods
Diethylphthalate	
4-Chlorophenyl-phenyl ether	
Fluorene	
4-Nitroaniline	
4,6-Dinitro-2-methylphenol	
N-nitrosodiphenylamine	
4-bromophenyl-phenylether	
Hexachlorobenzene	
Pentachlorophenol	
Phenanthrene	
Anthracene	
Carbazole	
Di-n-butylphthalate	
Fluoranthene	
Pyrene	
Butylbenzylphthalate	
3,3'-Dichlorobenzidine	
Benzo(a)anthracene	
Chrysene	
Bis(2-Ethylhexyl)phthalate	
Di-n-octylphthalate	
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Benzo(a)pyrene	
Indeno(1,2,3-cd)pyrene	
Dibenz(a,h)anthracene	
Benzo(g,h,i)perylene	
3. Pesticide/PCB	CLP SOW[b]
Alpha-BHC	
Beta-BHC	
Delta-BHC	
Gamma-BHC (Lindane)	
Heptachlor	
Aldrin	
Heptachlor epoxide	
Endosulfan I	
Dieldrin	
4,4'-DDE	
Endrin	
Endosulfan II	
4,4'-DDD	

Table 6. (page 5 of 6)

Parameters	Analytical Methods
Endosulfan sulfate	
4,4'-DDT	
Methoxychlor	
Endrin ketone	
Endrin aldehyde	
Alpha-Chlordane	
Gamma-Chlordane	
Toxaphene	
Aroclor-1016	
Aroclor-1221	
Aroclor-1232	
Aroclor-1242	
Aroclor-1248	
Aroclor-1254	
Aroclor-1260	
4. TAL Metals	CLP SOW[c]
Aluminum	
Antimony	
Arsenic	
Barium	
Beryllium	
Cadmium	
Calcium	
Chromium	
Cobalt	
Copper	
Iron	
Lead	
Magnesium	
Manganese	
Mercury	
Nickel	
Potassium	
Selenium	
Silver	
Sodium	
Thallium	
Vanadium	
Zinc	
5. Common Cations	CLP SOW[c]
Calcium	

Table 6. (page 6 of 6)

Parameters	Analytical Methods
Iron	
Magnesium	
Manganese	
Potassium	
Sodium	
6 Common Anions	
Nitrate-Nitrite	E353.2[d]
Chloride	E325.1[d]/SW9250[e]
Sulfate	375.2[d]
7. Radionuclides	
Gamma Spectrometry	R901.1[f]
Cobalt-60	
Cesium-137	
Bismuth-210 metastable	
Bismuth-207	
Potassium-40	
Plutonium Isotopes	R907[f]/ERF 584006[g]
Thorium Isotopes	AECRMO-3008[h]
Radium-226	SM705[i]
Uranium Isotopes	R908[f]
Strontium-90/yttrium-90	R905[f]
Tritium	R906.0[f]

[a]"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, 3rd edition, U.S. EPA, November 1986.
[b]"U.S. EPA Contract Laboratory Program, Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration." Document No. OLM01.8. Quantitation limits are contract-required quantitation limits (CRQLs).
[c]"U.S. EPA Contract Laboratory Program, Statement of Work for Inorganics Analysis, Multi-Media, Multi-Concentration." Document No. ILM01.0. Quantitation limits are CRDLs.
[d]"Methods for Chemical Analysis of Water and Wastes," U.S. EPA, EPA-600/4-79-020 revised March 1983.
[e]Laboratory-developed SOP based on either U.S. EPA methods ("Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version) or U.S. DOE EML Procedures Manual, 27th Edition.
[f]"Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version.
[g]USEPA Eastern Environmental Regional Facility Radiochemistry Procedures Manual
[h]Atomic Energy Commission
[i]Standard Methods for the Analysis of Water and Wastewater.

Table 7. Wells monitored during the June 1992 groundwater sampling effort, with associated analytical parameters and methods.

Well Id	Volatiles	Semi-volatiles	Pesticides	PCBs	Metals	Cations	Anions	Radionuclides	Tritium
0046	X					X	X		X
0063	X	X	X	X	X	X	X	X	X
0071	X	X	X	X	X	X	X	X	X
0076	X	X	X	X	X	X	X	X	X
0115	X					X	X		X
0118	X	X	X	X	X	X	X	X	X
0119	X					X	X		X
0123	X					X	X	X	X
0124	X					X	X	X	X
0125	X					X	X		X
0126	X	X	X	X	X	X	X	X	X
0129	X	X	X	X	X	X	X	X	X
0138	X					X	X		X
0152	X					X	X		X
0153	X					X	X		X
0154	X					X	X		X
0155	X					X	X		X
0156	X					X	X	X	X
0158	X					X	X		X
0159	X					X	X		X
0160	X					X	X		X
0303	X					X	X		X
0304	X					X	X		X
0305	X	X	X	X	X	X	X	X	X
0306	X					X	X		X
0307	X	X	X	X	X	X	X	X	X
0309	X					X	X		X
0310	X				X	X	X		X
0311	X					X	X		X
0312	X					X	X		X
0313	X	X	X	X	X	X	X	X	X
0314	X					X	X		X
0315	X					X	X		X
0317	X					X	X		X
0319	X					X	X		X
0320	X					X	X		X
0601	X					X	X		X
0602	X					X	X		X
0605	X					X	X		X
0607	X					X	X		X
0712	X								X
0714	X								X
0721	X								X
0722	X								X
0723	X								X
0724	X								X
0725	X								X
0726	X								X
0727	X								X

Table 7. Wells monitored during the June 1992 groundwater sampling effort, with associated analytical parameters and methods.

Well Id	Volatiles	Semi-volatiles	Pesticides	PCBs	Metals	Cations	Anions	Radionuclides	Tritium
0046	X					X	X		X
0063	X	X	X	X	X	X	X	X	X
0071	X	X	X	X	X	X	X	X	X
0076	X	X	X	X	X	X	X	X	X
0115	X					X	X		X
0118	X	X	X	X	X	X	X	X	X
0119	X					X	X		X
0123	X					X	X	X	X
0124	X					X	X	X	X
0125	X					X	X		X
0126	X	X	X	X	X	X	X	X	X
0129	X	X	X	X	X	X	X	X	X
0138	X					X	X		X
0152	X					X	X		X
0153	X					X	X		X
0154	X					X	X		X
0155	X					X	X		X
0156	X					X	X	X	X
0158	X					X	X		X
0159	X					X	X		X
0160	X					X	X		X
0303	X					X	X		X
0304	X					X	X		X
0305	X	X	X	X	X	X	X	X	X
0306	X					X	X		X
0307	X	X	X	X	X	X	X	X	X
0309	X					X	X		X
0310	X				X	X	X		X
0311	X					X	X		X
0312	X					X	X		X
0313	X	X	X	X	X	X	X	X	X
0314	X					X	X		X
0315	X					X	X		X
0317	X					X	X		X
0319	X					X	X		X
0320	X					X	X		X
0601	X					X	X		X
0602	X					X	X		X
0605	X					X	X		X
0607	X					X	X		X
0712	X								X
0714	X								X
0721	X								X
0722	X								X
0723	X								X
0724	X								X
0725	X								X
0726	X								X
0727	X								X

Table 7. (page 2 of 6)

Parameters	Analytical Methods
1. Volatile Organic Compounds (VOCs)	
1.1. Purgeable Halocarbons	SW5030/SW8010[a]
Vinyl chloride	
Trichlorofluoromethane	
1,1-dichloroethene	
Methylene chloride (dichloromethane)	
1,1-dichloroethane	
Trichloromethane (chloroform)	
1,1,1-trichloroethane	
Carbon tetrachloride	
1,2-dichloroethane	
1,2-*trans*-Dichloroethene	
1,2-*cis*-Dichloroethene	
Trichloroethene	
1,2-dichloropropane	
Bromodichloromethane	
Dibromomethane	
2-chloroethyl vinyl ether	
1,3-*cis*-Dichloropropene	
1,3-*trans*-Dichloropropene	
1,1,2-trichloroethane	
Tetrachloroethene	
Dibromochloromethane	
1-chlorohexane	
Chlorobenzene	
1,1,1,2-tetrachloroethane	
Bromoform	
1,1,2,2-tetrachloroethane	
1,2,3-trichloropropane	
Phenyl bromide (bromobenzene)	
Chlorotoluene	
1,3-dichlorobenzene	
1,4-dichlorobenzene	
1,2-dichlorobenzene	
Bis(2-chloroisopropyl)ether	
1.2. Purgeable Aromatic Compounds, Groundwater	SW5030/SW8020[a]
Benzene	
Chlorobenzene	
1,2-Dichlorobenzene	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	

Table 7. (page 3 of 6)

Parameters	Analytical Methods
Ethylbenzene	
Toluene	
Xylenes (total)	
2. Semivolatile Organic Compounds	CLP SOW[b]
Phenol	
Bis(2-chloroethyl) ether	
2-Chlorophenol	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
1,2-Dichlorobenzene	
2-Methylphenol	
Bis(2-chloroisopropyl) ether	
4-Methylphenol	
N-nitroso-di-n-dipropylamine	
Hexachloroethane	
Nitrobenzene	
Isophorone	
2-Nitrophenol	
2,4-Dimethylphenol	
Bis(2-chloroethoxy) methane	
2,4-Dichlorophenol	
1,2,4-Trichlorobenzene	
Naphthalene	
4-Chloroaniline	
Hexachlorobutadiene	
4-chloro-3-methylphenol (para-chloro-meta-cresol)	
2-Methylnaphthalene	
Hexachlorocyclopentadiene	
2,4,6-Trichlorophenol	
2,4,5-Trichlorophenol	
2-Chloronaphthalene	
2-Nitroaniline	
Dimethylphthalate	
Acenaphthylene	
2,6-Dinitrotoluene	
3-Nitroaniline	
Acenaphthene	
2,4-Dinitrophenol	
4-Nitrophenol	
Dibenzofuran	
2,4-Dinitrotoluene	

Table 7. (page 4 of 6)

Parameters	Analytical Methods
Diethylphthalate	
4-Chlorophenyl-phenyl ether	
Fluorene	
4-Nitroaniline	
4,6-Dinitro-2-methylphenol	
N-nitrosodiphenylamine	
4-bromophenyl-phenylether	
Hexachlorobenzene	
Pentachlorophenol	
Phenanthrene	
Anthracene	
Carbazole	
Di-n-butylphthalate	
Fluoranthene	
Pyrene	
Butylbenzylphthalate	
3,3'-Dichlorobenzidine	
Benzo(a)anthracene	
Chrysene	
Bis(2-Ethylhexyl)phthalate	
Di-n-octylphthalate	
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Benzo(a)pyrene	
Indeno(1,2,3-cd)pyrene	
Dibenz(a,h)anthracene	
Benzo(g,h,i)perylene	
3. Pesticide/PCB	CLP SOW[b]
Alpha-BHC	
Beta-BHC	
Delta-BHC	
Gamma-BHC (Lindane)	
Heptachlor	
Aldrin	
Heptachlor epoxide	
Endosulfan I	
Dieldrin	
4,4'-DDE	
Endrin	
Endosulfan II	
4,4'-DDD	

Table 7. (page 5 of 6)

Parameters	Analytical Methods
Endosulfan sulfate	
4,4'-DDT	
Methoxychlor	
Endrin ketone	
Endrin aldehyde	
Alpha-Chlordane	
Gamma-Chlordane	
Toxaphene	
Aroclor-1016	
Aroclor-1221	
Aroclor-1232	
Aroclor-1242	
Aroclor-1248	
Aroclor-1254	
Aroclor-1260	
4. TAL Metals	CLP SOW[c]
Aluminum	
Antimony	
Arsenic	
Barium	
Beryllium	
Cadmium	
Calcium	
Chromium	
Cobalt	
Copper	
Iron	
Lead	
Magnesium	
Manganese	
Mercury	
Nickel	
Potassium	
Selenium	
Silver	
Sodium	
Thallium	
Vanadium	
Zinc	
5. Common Cations	CLP SOW[c]
Calcium	

Table 7. (page 6 of 6)

Parameters	Analytical Methods
Iron	
Magnesium	
Manganese	
Potassium	
Sodium	
6 Common Anions	
Nitrate-Nitrite	E353.2[d]
Chloride	E325.1[d]/SW9250[e]
Sulfate	375.2[d]
7. Radionuclides	
Gamma Spectrometry	R901.1[f]
Cobalt-60	
Cesium-137	
Bismuth-210 metastable	
Bismuth-207	
Potassium-40	
Plutonium Isotopes	R907[f]/ERF 584006[g]
Thorium Isotopes	AECRMO-3008[h]
Radium-226	SM705[i]
Uranium Isotopes	R908[f]
Strontium-90/yttrium-90	R905[f]
Tritium	R906.0[f]

[a]"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, 3rd edition, U.S. EPA, November 1986.
[b]"U.S. EPA Contract Laboratory Program, Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration." Document No. OLM01.8. Quantitation limits are contract-required quantitation limits (CRQLs).
[c]"U.S. EPA Contract Laboratory Program, Statement of Work for Inorganics Analysis, Multi-Media, Multi-Concentration." Document No. ILM01.0. Quantitation limits are CRDLs.
[d]"Methods for Chemical Analysis of Water and Wastes," U.S. EPA, EPA-600/4-79-020 revised March 1983.
[e]Laboratory-developed SOP based on either U.S. EPA methods ("Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version) or U.S. DOE EML Procedures Manual, 27th Edition..
[f]"Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version.
[g]USEPA Eastern Environmental Regional Facility Radiochemistry Procedures Manual
[h]Atomic Energy Commission
[i]Standard Methods for the Analysis of Water and Wastewater.

Table 8. Wells monitored during the September 1992 groundwater sampling effort, with associated analytical parameters and methods.

Well Id	Volatiles	Semi-volatiles	Pesticides	PCBs	Metals	Cations	Anions	Radionuclides	Tritium
0046	X					X	X		X
0063	X	X	X	X	X	X	X	X	X
0071	X	X	X	X	X	X	X	X	X
0076	X	X	X	X	X	X	X	X	X
0115	X					X	X		X
0118	X	X	X	X	X	X	X	X	X
0126	X	X	X	X	X	X	X	X	X
0129	X	X	X	X	X	X	X	X	X
0138	X					X	X		X
0152	X					X	X		X
0154	X					X	X		X
0155	X					X	X		X
0159	X					X	X		X
0160	X					X	X		X
0271	X	X	X	X	X	X	X	X	X
0305	X	X	X	X	X	X	X	X	X
0306	X					X	X		X
0307	X	X	X	X	X	X	X	X	X
0309	X					X	X		X
0312	X					X	X		X
0313	X	X	X	X	X	X	X	X	X
0315	X					X	X		X

Table 8. (page 2 of 6)

Parameters	Analytical Methods
1. Volatile Organic Compounds (VOCs)	
1.1. Purgeable Halocarbons	SW5030/SW8010[a]
Vinyl chloride	
Trichlorofluoromethane	
1,1-dichloroethene	
Methylene chloride (dichloromethane)	
1,1-dichloroethane	
Trichloromethane (chloroform)	
1,1,1-trichloroethane	
Carbon tetrachloride	
1,2-dichloroethane	
1,2-*trans*-Dichloroethene	
1,2-*cis*-Dichloroethene	
Trichloroethene	
1,2-dichloropropane	
Bromodichloromethane	
Dibromomethane	
2-chloroethyl vinyl ether	
1,3-*cis*-Dichloropropene	
1,3-*trans*-Dichloropropene	
1,1,2-trichloroethane	
Tetrachloroethene	
Dibromochloromethane	
1-chlorohexane	
Chlorobenzene	
1,1,1,2-tetrachloroethane	
Bromoform	
1,1,2,2-tetrachloroethane	
1,2,3-trichloropropane	
Phenyl bromide (bromobenzene)	
2-Chlorotoluene	
1,3-dichlorobenzene	
1,4-dichlorobenzene	
1,2-dichlorobenzene	
Bis(2-chloroisopropyl)ether	
1.2. Purgeable Aromatic Compounds, Groundwater	SW5030/SW8020[a]
Benzene	
Chlorobenzene	
1,2-Dichlorobenzene	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	

Table 8. (page 3 of 6)

Parameters	Analytical Methods
Ethylbenzene	
Toluene	
Xylenes (total)	
2. Semivolatile Organic Compounds	CLP SOW[b]
Phenol	
Bis(2-chloroethyl) ether	
2-Chlorophenol	
1,3-Dichlorobenzene	
1,4-Dichlorobenzene	
1,2-Dichlorobenzene	
2-Methylphenol	
Bis(2-chloroisopropyl) ether	
4-Methylphenol	
N-nitroso-di-n-dipropylamine	
Hexachloroethane	
Nitrobenzene	
Isophorone	
2-Nitrophenol	
2,4-Dimethylphenol	
Bis(2-chloroethoxy) methane	
2,4-Dichlorophenol	
1,2,4-Trichlorobenzene	
Naphthalene	
4-Chloroaniline	
Hexachlorobutadiene	
4-chloro-3-methylphenol (para-chloro-meta-cresol)	
2-Methylnaphthalene	
Hexachlorocyclopentadiene	
2,4,6-Trichlorophenol	
2,4,5-Trichlorophenol	
2-Chloronaphthalene	
2-Nitroaniline	
Dimethylphthalate	
Acenaphthylene	
2,6-Dinitrotoluene	
3-Nitroaniline	
Acenaphthene	
2,4-Dinitrophenol	
4-Nitrophenol	
Dibenzofuran	
2,4-Dinitrotoluene	

Table 8. (page 4 of 6)

Parameters	Analytical Methods
Diethylphthalate	
4-Chlorophenyl-phenyl ether	
Fluorene	
4-Nitroaniline	
4,6-Dinitro-2-methylphenol	
N-nitrosodiphenylamine	
4-bromophenyl-phenylether	
Hexachlorobenzene	
Pentachlorophenol	
Phenanthrene	
Anthracene	
Carbazole	
Di-n-butylphthalate	
Fluoranthene	
Pyrene	
Butylbenzylphthalate	
3,3'-Dichlorobenzidine	
Benzo(a)anthracene	
Chrysene	
Bis(2-Ethylhexyl)phthalate	
Di-n-octylphthalate	
Benzo(b)fluoranthene	
Benzo(k)fluoranthene	
Benzo(a)pyrene	
Indeno(1,2,3-cd)pyrene	
Dibenz(a,h)anthracene	
Benzo(g,h,i)perylene	
3. Pesticide/PCB Compounds	CLP SOW[b]
Alpha-BHC	
Beta-BHC	
Delta-BHC	
Gamma-BHC (Lindane)	
Heptachlor	
Aldrin	
Heptachlor epoxide	
Endosulfan I	
Dieldrin	
4,4'-DDE	
Endrin	
Endosulfan II	
4,4'-DDD	

Table 8. (page 5 of 6)

Parameters	Analytical Methods
Endosulfan sulfate	
4,4'-DDT	
Methoxychlor	
Endrin ketone	
Endrin aldehyde	
Alpha-Chlordane	
Gamma-Chlordane	
Toxaphene	
Aroclor-1016	
Aroclor-1221	
Aroclor-1232	
Aroclor-1242	
Aroclor-1248	
Aroclor-1254	
Aroclor-1260	
4. TAL Metals	CLP SOW[c]
Aluminum	
Antimony	
Arsenic	
Barium	
Beryllium	
Cadmium	
Calcium	
Chromium	
Cobalt	
Copper	
Iron	
Lead	
Magnesium	
Manganese	
Mercury	
Nickel	
Potassium	
Selenium	
Silver	
Sodium	
Thallium	
Vanadium	
Zinc	
5. Common Cations	CLP SOW[c]
Calcium	

Table 8. (page 6 of 6)

Parameters	Analytical Methods
Iron	
Magnesium	
Manganese	
Potassium	
Sodium	
6. Common Anions	
Nitrate-Nitrite	E353.2[d]
Chloride	E325.1[d]/SW9250[a]
Sulfate	375.2[d]
7. Radionuclides	
Gamma Spectrometry	Laboratory SOP[e]
Cobalt-60	
Cesium-137	
Bismuth-210 metastable	
Bismuth-207	
Potassium-40	
Plutonium Isotopes	
Thorium Isotopes	
Radium-226	
Uranium Isotopes	
Strontium-90/yttrium-90	
Americium-241	
Tritium	R906.0[f]

[a]"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, 3rd edition, U.S. EPA, November 1986.

[b]"U.S. EPA Contract Laboratory Program, Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration." Document No. OLM01.8. Quantitation limits are contract-required quantitation limits (CRQLs).

[c]"U.S. EPA Contract Laboratory Program, Statement of Work for Inorganics Analysis, Multi-Media, Multi-Concentration." Document No. ILM01.0. Quantitation limits are CRDLs.

[d]"Methods for Chemical Analysis of Water and Wastes," U.S. EPA, EPA-600/4-79-020 revised March 1983.

[e]Laboratory-developed SOP based on either U.S. EPA methods ("Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version) or U.S. DOE EML Procedures Manual, 27th Edition..

[f]"Prescribed Procedures for Measurement of Radioactivity in Drinking Water," U.S. EPA, EPA-600/4-80-032, latest version.

Table 9. Summary of selected groundwater quality data, October/November 1990

		Validated Data					Non-validated Data
		Analyte					
Sample Subset	Criterion	TCA	TCE	PCE	DCE	VC	H3
All Oct./Nov. 1992 samples	Number of Sample Locations	50	50	50	49	50	50
	Number of Analyses	55	55	55	54	55	55
	Number of Detections	0	2	0	0	0	44
	Number of U's	35	28	37	53	54	11
	Number of J's	9	24	18	0	0	0
	Number of UJ's	11	1	0	1	1	0
	Maximum Concentration	1.1J	42	27J	–	–	86.9
Source-area samples	Number of Sample Locations	33	33	33	32	33	33
	Number of Analyses	35	35	35	34	35	35
	Number of Detections	0	1	0	0	0	33
	Number of U's	18	12	18	34	35	2
	Number of J's	7	22	17	0	0	0
	Number of UJ's	10	0	0	0	0	0
	Maximum Concentration	1.1J	42	27J	–	–	86.9
Non-source-area samples	Number of Sample Locations	17	17	17	17	17	17
	Number of Analyses	20	20	20	20	20	20
	Number of Detections	0	1	0	0	0	11
	Number of U's	17	16	19	19	19	9
	Number of J's	2	2	1	0	0	0
	Number of UJ's	1	1	0	1	1	0
	Maximum Concentration	0.4J	3.9	0.3J	–	–	9.28
Unconsolidated samples	Number of Sample Locations	38	38	38	37	38	38
	Number of Analyses	43	43	43	42	43	43
	Number of Detections	0	2	0	0	0	33
	Number of U's	27	21	27	41	42	10
	Number of J's	5	19	16	0	0	0
	Number of UJ's	11	1	0	1	1	0
	Maximum Concentration	0.5J	42	27J	–	–	13.4
Bedrock Samples	Number of Sample Locations	12	12	12	12	12	12
	Number of Analyses	12	12	12	12	12	12
	Number of Detections	0	0	0	0	0	11
	Number of U's	8	7	10	12	12	1
	Number of J's	4	5	2	0	0	0
	Number of UJ's	0	0	0	0	0	0
	Maximum Concentration	1.1J	15J	9.6J	–	–	86.9

- Source-area samples were collected by known or suspected contaminant sources.
- Non-source-area samples were collected away from known or suspected contaminant sources.
- Unconsolidated samples were collected from wells completed in unconsolidated materials, or across the unconsolidated/bedrock interface.
- Bedrock samples were collected from wells, seeps, or test-pits completed in bedrock.
- U's mean the parameter was analyzed for, but was not detected.
- J's mean that the associated value is an estimated quantity.
- UJ's mean The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
- All maximum concentrations in ug/L except for tritium concentrations, which is nCi/L.
- TCA is 1,1,1-trichloroethane.
- TCE is trichloroethene.
- PCE is tetrachloroethene.
- DCE is 1,2 - trans- dichloroethene.
- VC is vinyl chloride.
- H3 is tritium.

Table 10. 1,1,1–Trichloroethane validated concentrations for the October/November 1990 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0602	11/07/90	J	1.1	F	NA
0607	11/07/90	J	.9	F	NA
0307	10/31/90	J	.5	F	GW/SH
0118	11/07/90	J	.4	F	SM/SP
0129	11/05/90	J	.4	F	SM/SP
0155	10/31/90	J	.4	F	SP
0313	10/31/90	J	.4	F	GW
0601	11/05/90	J	.4	F	NA
0605	11/07/90	J	.4	F	NA
0137	11/02/90	U	5.	F	GW
0111	11/02/90	U	.3	F	SM/SP/SW
0112	11/02/90	U	.3	F	LS/SH
0115	11/03/90	U	.3	F	LS/SH
0117	11/04/90	U	.3	F	LS/SH
0120	11/05/90	U	.3	F	LS/SH
0122	11/01/90	U	.3	F	ML/GM
0123	11/03/90	U	.3	F	GW
0124	11/03/90	U	.3	F	SP/GP
0124	11/03/90	U	.3	D	SP/GP
0127	11/02/90	U	.3	F	SP/GP
0151	11/04/90	U	.3	F	SP/CL
0154	11/02/90	U	.3	D	GP
0156	11/04/90	U	.3	F	GM/SP
0156	11/04/90	U	.3	D	GM/SP
0158	11/03/90	U	.3	F	SP/SM
0159	11/03/90	U	.3	F	SP/GP
0160	11/03/90	U	.3	F	GP
0271	11/06/90	U	.3	F	GW
0301	11/05/90	U	.3	F	CL
0302	11/05/90	U	.3	F	SP
0303	11/07/90	U	.3	F	TI/CL/SP
0303	11/07/90	U	.3	D	TI/CL/SP
0304	11/07/90	U	.3	F	GC/GM
0305	11/01/90	U	.3	F	GM/GC/CL
0309	11/02/90	U	.3	F	SH
0310	10/30/90	U	.3	F	LS
0311	11/05/90	U	.3	F	GC
0314	11/07/90	U	.3	F	CL/SH
0315	10/31/90	U	.3	F	ML/GM/GP
0317	11/06/90	U	.3	F	GM/SM
0318	11/04/90	U	.3	F	SH
0319	11/04/90	U	.3	F	SM/SP
0320	11/01/90	U	.3	F	CL/SW
0608	11/06/90	U	.3	F	NA
0046	11/06/90	UJ	.5	F	GC/GP
0063	11/01/90	UJ	.5	F	GC/GP
0126	11/06/90	UJ	.5	F	SM/GM
0152	10/30/90	UJ	.5	F	CL/GC/SH
0071	11/06/90	UJ	.4	D	GW
0153	10/30/90	UJ	.4	F	CL/GW/SH
0154	11/02/90	UJ	.4	F	GP
0306	10/30/90	UJ	.4	F	GC
0071	11/06/90	UJ	.3	F	GW

Table 10. 1,1,1–Trichloroethane validated concentrations for the October/November 1990 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0076	11/06/90	UJ	.3	F	GW
0312	11/06/90	UJ	.3	F	GC/SH

J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 11. Trichloroethene validated concentrations for the October/November 1990 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0063	11/01/90		42.	F	GC/GP
0160	11/03/90		3.9	F	GP
0305	11/01/90	J	28.	F	GM/GC/CL
0312	11/06/90	J	20.	F	GC/SH
0602	11/07/90	J	15.	F	NA
0153	10/30/90	J	12.	F	CL/GW/SH
0306	10/30/90	J	11.	F	GC
0307	10/31/90	J	9.8	F	GW/SH
0152	10/30/90	J	8.9	F	CL/GC/SH
0605	11/07/90	J	8.9	F	NA
0313	10/31/90	J	7.8	F	GW
0154	11/02/90	J	6.8	F	GP
0155	10/31/90	J	6.3	F	SP
0154	11/02/90	J	6.2	D	GP
0601	11/05/90	J	4.5	F	NA
0071	11/06/90	J	4.	D	GW
0137	11/02/90	J	4.	F	GW
0271	11/06/90	J	3.9	F	GW
0315	10/31/90	J	3.9	F	ML/GM/GP
0076	11/06/90	J	3.8	F	GW
0046	11/06/90	J	3.7	F	GC/GP
0071	11/06/90	J	3.4	F	GW
0607	11/07/90	J	2.2	F	NA
0123	11/03/90	J	1.8	F	GW
0115	11/03/90	J	1.5	F	LS/SH
0159	11/03/90	J	.3	F	SP/GP
0111	11/02/90	U	1.2	F	SM/SP/SW
0112	11/02/90	U	1.2	F	LS/SH
0117	11/04/90	U	1.2	F	LS/SH
0118	11/07/90	U	1.2	F	SM/SP
0120	11/05/90	U	1.2	F	LS/SH
0122	11/01/90	U	1.2	F	ML/GM
0124	11/03/90	U	1.2	F	SP/GP
0124	11/03/90	U	1.2	D	SP/GP
0127	11/02/90	U	1.2	F	SP/GP
0129	11/05/90	U	1.2	F	SM/SP
0151	11/04/90	U	1.2	F	SP/CL
0156	11/04/90	U	1.2	F	GM/SP
0156	11/04/90	U	1.2	D	GM/SP
0158	11/03/90	U	1.2	F	SP/SM
0301	11/05/90	U	1.2	F	CL
0302	11/05/90	U	1.2	F	SP
0303	11/07/90	U	1.2	F	TI/CL/SP
0303	11/07/90	U	1.2	D	TI/CL/SP
0304	11/07/90	U	1.2	F	GC/GM
0309	11/02/90	U	1.2	F	SH
0310	10/30/90	U	1.2	F	LS
0311	11/05/90	U	1.2	F	GC
0314	11/07/90	U	1.2	F	CL/SH
0317	11/06/90	U	1.2	F	GM/SM
0318	11/04/90	U	1.2	F	SH
0319	11/04/90	U	1.2	F	SM/SP
0320	11/01/90	U	1.2	F	CL/SW

Table 11. Trichloroethene validated concentrations for the October/November 1990 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0608	11/06/90	U	1.2	F	NA
0126	11/06/90	UJ	1.2	F	SM/GM

J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 12. Tetrachloroethene validated concentrations for the October/November 1990 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0063	11/01/90	J	27.	F	GC/GP
0305	11/01/90	J	24.	F	GM/GC/CL
0313	10/31/90	J	13.	F	GW
0307	10/31/90	J	12.	F	GW/SH
0601	11/05/90	J	9.6	F	NA
0153	10/30/90	J	6.6	F	CL/GW/SH
0306	10/30/90	J	6.2	F	GC
0046	11/06/90	J	5.7	F	GC/GP
0152	10/30/90	J	4.8	F	CL/GC/SH
0076	11/06/90	J	1.2	F	GW
0271	11/06/90	J	1.2	F	GW
0154	11/02/90	J	1.	F	GP
0154	11/02/90	J	.9	D	GP
0155	10/31/90	J	.8	F	SP
0071	11/06/90	J	.5	F	GW
0071	11/06/90	J	.5	D	GW
0115	11/03/90	J	.4	F	LS/SH
0126	11/06/90	J	.3	F	SM/GM
0137	11/02/90	U	5.	F	GW
0111	11/02/90	U	.3	F	SM/SP/SW
0112	11/02/90	U	.3	F	LS/SH
0117	11/04/90	U	.3	F	LS/SH
0118	11/07/90	U	.3	F	SM/SP
0120	11/05/90	U	.3	F	LS/SH
0122	11/01/90	U	.3	F	ML/GM
0123	11/03/90	U	.3	F	GW
0124	11/03/90	U	.3	F	SP/GP
0124	11/03/90	U	.3	D	SP/GP
0127	11/02/90	U	.3	F	SP/GP
0129	11/05/90	U	.3	F	SM/SP
0151	11/04/90	U	.3	F	SP/CL
0156	11/04/90	U	.3	F	GM/SP
0156	11/04/90	U	.3	D	GM/SP
0158	11/03/90	U	.3	F	SP/SM
0159	11/03/90	U	.3	F	SP/GP
0160	11/03/90	U	.3	F	GP
0301	11/05/90	U	.3	F	CL
0302	11/05/90	U	.3	F	SP
0303	11/07/90	U	.3	F	TI/CL/SP
0303	11/07/90	U	.3	D	TI/CL/SP
0304	11/07/90	U	.3	F	GC/GM
0309	11/02/90	U	.3	F	SH
0310	10/30/90	U	.3	F	LS
0311	11/05/90	U	.3	F	GC
0312	11/06/90	U	.3	F	GC/SH
0314	11/07/90	U	.3	F	CL/SH
0315	10/31/90	U	.3	F	ML/GM/GP
0317	11/06/90	U	.3	F	GM/SM
0318	11/04/90	U	.3	F	SH
0319	11/04/90	U	.3	F	SM/SP
0320	11/01/90	U	.3	F	CL/SW
0602	11/07/90	U	.3	F	NA
0605	11/07/90	U	.3	F	NA

Table 12. Tetrachloroethene validated concentrations for the October/November 1990 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0607	11/07/90	U	.3	F	NA
0608	11/06/90	U	.3	F	NA

J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 13. 1,2–trans–Dichloroethene validated concentrations for the October/November 1990 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0046	11/06/90	U	1.	F	GC/GP
0063	11/01/90	U	1.	F	GC/GP
0071	11/06/90	U	1.	F	GW
0071	11/06/90	U	1.	D	GW
0076	11/06/90	U	1.	F	GW
0111	11/02/90	U	1.	F	SM\SP\SW
0112	11/02/90	U	1.	F	LS/SH
0115	11/03/90	U	1.	F	LS/SH
0117	11/04/90	U	1.	F	LS/SH
0118	11/07/90	U	1.	F	SM/SP
0120	11/05/90	U	1.	F	LS/SH
0122	11/01/90	U	1.	F	ML/GM
0123	11/03/90	U	1.	F	GW
0124	11/03/90	U	1.	F	SP/GP
0124	11/03/90	U	1.	D	SP/GP
0127	11/02/90	U	1.	F	SP/GP
0129	11/05/90	U	1.	F	SM/SP
0151	11/04/90	U	1.	F	SP/CL
0152	10/30/90	U	1.	F	CL/GC/SH
0153	10/30/90	U	1.	F	CL/GW/SH
0154	11/02/90	U	1.	F	GP
0154	11/02/90	U	1.	D	GP
0155	10/31/90	U	1.	F	SP
0156	11/04/90	U	1.	F	GM/SP
0156	11/04/90	U	1.	D	GM/SP
0158	11/03/90	U	1.	F	SP/SM
0159	11/03/90	U	1.	F	SP/GP
0160	11/03/90	U	1.	F	GP
0271	11/06/90	U	1.	F	GW
0301	11/05/90	U	1.	F	CL
0302	11/05/90	U	1.	F	SP
0303	11/07/90	U	1.	F	TI/CL/SP
0303	11/07/90	U	1.	D	TI/CL/SP
0304	11/07/90	U	1.	F	GC/GM
0305	11/01/90	U	1.	F	GM/GC/CL
0306	10/30/90	U	1.	F	GC
0307	10/31/90	U	1.	F	GW/SH
0309	11/02/90	U	1.	F	SH
0310	10/30/90	U	1.	F	LS
0311	11/05/90	U	1.	F	GC
0312	11/06/90	U	1.	F	GC/SH
0313	10/31/90	U	1.	F	GW
0314	11/07/90	U	1.	F	CL/SH
0315	10/31/90	U	1.	F	ML/GM/GP
0317	11/06/90	U	1.	F	GM/SM
0318	11/04/90	U	1.	F	SH
0319	11/04/90	U	1.	F	SM/SP
0320	11/01/90	U	1.	F	CL/SW
0601	11/05/90	U	1.	F	NA
0602	11/07/90	U	1.	F	NA
0605	11/07/90	U	1.	F	NA
0607	11/07/90	U	1.	F	NA
0608	11/06/90	U	1.	F	NA

Table 13. 1,2–trans–Dichloroethene validated concentrations for the October/November 1990 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0126	11/06/90	UJ	1.	F	SM/GM

U — The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ — The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

F — Field sample
D — Duplicate field sample

FOC — Formation of completion

CL — Lean clays, sandy clays, or gravelly clays
GC — Clayey gravel or clayey sandy gravel
GM — Silty gravel or silty gravelly sand
GP — Gravel or sandy gravel, poorly graded
GW — Gravel or sandy gravel, well graded
LS — Limestone
ML — Silts, sandy or gravelly silts, diatomaceous soils
NA — Not applicable
SH — Shale
SM — Silty sand or silty gravelly sand
SP — Sand or gravelly sand, poorly graded
SW — Sand or gravelly sand, well graded
TI — Till

Table 14. Chloroethene validated concentrations for the October/November 1990 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0137	11/02/90	U	10.	F	GW
0046	11/06/90	U	1.8	F	GC/GP
0063	11/01/90	U	1.8	F	GC/GP
0071	11/06/90	U	1.8	F	GW
0071	11/06/90	U	1.8	D	GW
0076	11/06/90	U	1.8	F	GW
0111	11/02/90	U	1.8	F	SM/SP/SW
0112	11/02/90	U	1.8	F	LS/SH
0115	11/03/90	U	1.8	F	LS/SH
0117	11/04/90	U	1.8	F	LS/SH
0118	11/07/90	U	1.8	F	SM/SP
0120	11/05/90	U	1.8	F	LS/SH
0122	11/01/90	U	1.8	F	ML/GM
0123	11/03/90	U	1.8	F	GW
0124	11/03/90	U	1.8	F	SP/GP
0124	11/03/90	U	1.8	D	SP/GP
0127	11/02/90	U	1.8	F	SP/GP
0129	11/05/90	U	1.8	F	SM/SP
0151	11/04/90	U	1.8	F	SP/CL
0152	10/30/90	U	1.8	F	CL/GC/SH
0153	10/30/90	U	1.8	F	CL/GW/SH
0154	11/02/90	U	1.8	F	GP
0154	11/02/90	U	1.8	D	GP
0155	10/31/90	U	1.8	F	SP
0156	11/04/90	U	1.8	F	GM/SP
0156	11/04/90	U	1.8	D	GM/SP
0158	11/03/90	U	1.8	F	SP/SM
0159	11/03/90	U	1.8	F	SP/GP
0160	11/03/90	U	1.8	F	GP
0271	11/06/90	U	1.8	F	GW
0301	11/05/90	U	1.8	F	CL
0302	11/05/90	U	1.8	F	SP
0303	11/07/90	U	1.8	F	TI/CL/SP
0303	11/07/90	U	1.8	D	TI/CL/SP
0304	11/07/90	U	1.8	F	GC/GM
0305	11/01/90	U	1.8	F	GM/GC/CL
0306	10/30/90	U	1.8	F	GC
0307	10/31/90	U	1.8	F	GW/SH
0309	11/02/90	U	1.8	F	SH
0310	10/30/90	U	1.8	F	LS
0311	11/05/90	U	1.8	F	GC
0312	11/06/90	U	1.8	F	GC/SH
0313	10/31/90	U	1.8	F	GW
0314	11/07/90	U	1.8	F	CL/SH
0315	10/31/90	U	1.8	F	ML/GM/GP
0317	11/06/90	U	1.8	F	GM/SM
0318	11/04/90	U	1.8	F	SH
0319	11/04/90	U	1.8	F	SM/SP
0320	11/01/90	U	1.8	F	CL/SW
0601	11/05/90	U	1.8	F	NA
0602	11/07/90	U	1.8	F	NA
0605	11/07/90	U	1.8	F	NA
0607	11/07/90	U	1.8	F	NA

Table 14. Chloroethene validated concentrations for the October/November 1990 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0608	11/06/90	U	1.8	F	NA
0126	11/06/90	UJ	1.8	F	SM/GM

U — The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ — The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

F — Field sample
D — Duplicate field sample

FOC — Formation of completion

CL — Lean clays, sandy clays, or gravelly clays
GC — Clayey gravel or clayey sandy gravel
GM — Silty gravel or silty gravelly sand
GP — Gravel or sandy gravel, poorly graded
GW — Gravel or sandy gravel, well graded
LS — Limestone
ML — Silts, sandy or gravelly silts, diatomaceous soils
NA — Not applicable
SH — Shale
SM — Silty sand or silty gravelly sand
SP — Sand or gravelly sand, poorly graded
SW — Sand or gravelly sand, well graded
TI — Till

Table 15. Tritium nonvalidated concentrations for the October/November 1990 groundwater sampling event

Well Id	Date	Value (nCi/L)	Uncertainty Value	Sample Type	FOC
0601	11/05/90	86.900	8.800	F	NA
0605	11/07/90	56.600	5.700	F	NA
0608	11/06/90	27.600	2.800	F	NA
0120	11/05/90	23.400	2.400	F	LS/SH
0607	11/07/90	22.600	2.300	F	NA
0115	11/03/90	16.600	1.700	F	LS/SH
0310	10/30/90	13.800	1.500	F	LS
0312	11/06/90	13.400	1.400	F	GC/SH
0117	11/04/90	11.400	1.200	F	LS/SH
0307	10/31/90	9.930	1.070	F	GW/SH
0153	10/30/90	9.890	1.070	F	CL/GW/SH
0152	10/30/90	9.630	1.040	F	CL/GC/SH
0306	10/30/90	9.540	1.030	F	GC
0126	11/06/90	9.280	0.990	F	SM/GM
0303	11/07/90	8.870	0.950	D	TI/CL/SP
0046	11/06/90	8.830	0.940	F	GC/GP
0315	10/31/90	8.430	0.920	F	ML/GM/GP
0303	11/07/90	8.310	0.890	F	TI/CL/SP
0313	10/31/90	8.230	0.900	F	GW
0305	11/01/90	8.060	0.880	F	GM/GC/CL
0063	11/01/90	7.930	0.870	F	GC/GP
0302	11/05/90	5.950	0.680	F	SP
0124	11/03/90	5.380	0.600	F	SP/GP
0124	11/03/90	5.460	0.610	D	SP/GP
0314	11/07/90	5.020	0.570	F	CL/SH
0602	11/07/90	5.010	0.570	F	NA
0154	11/02/90	4.500	0.520	F	GP
0112	11/02/90	4.370	0.510	F	LS/SH
0122	11/01/90	4.340	0.530	F	ML/GM
0154	11/02/90	4.080	0.480	D	GP
0071	11/06/90	4.060	0.480	F	GW
0071	11/06/90	4.080	0.480	D	GW
0137	11/02/90	4.010	0.470	F	GW
0155	10/31/90	3.700	0.460	F	SP
0318	11/04/90	3.620	0.440	F	SH
0317	11/06/90	3.200	0.400	F	GM/SM
0271	11/06/90	3.110	0.390	F	GW
0076	11/06/90	2.970	0.380	F	GW
0129	11/05/90	2.860	0.380	F	SM/SP
0111	11/02/90	2.830	0.360	F	SM/SP/SW
0319	11/04/90	1.080	0.220	F	SM/SP
0118	11/07/90	1.030	0.220	F	SM/SP
0304	11/07/90	1.020	0.220	F	GC/GM
0158	11/03/90	0.629	0.193	F	SP/SM
0123	11/03/90	< 0.500	*	F	GW
0127	11/02/90	< 0.500	*	F	SP/GP
0151	11/04/90	< 0.500	*	F	SP/CL
0156	11/04/90	< 0.500	*	F	GM/SP
0156	11/04/90	< 0.500	*	D	GM/SP
0159	11/03/90	< 0.500	*	F	SP/GP
0160	11/03/90	< 0.500	*	F	GP
0301	11/05/90	< 0.500	*	F	CL
0309	11/02/90	< 0.500	*	F	SH

Table 15. Tritium nonvalidated concentrations for the October/November 1990 groundwater sampling event (concluded)

Well Id	Date	Value (nCi/L)	Uncertainty Value	Sample Type	FOC
0311	11/05/90	< 0.500	*	F	GC
0320	11/01/90	< 0.500	*	F	CL/SW

*	Uncertainty not applicable; sample result below minimum detectable activity (MDA)
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 16. Summary of selected groundwater quality data, January 1991

		Validated Data					Non-validated Data
		Analyte					
Sample Subset	Criterion	TCA	TCE	PCE	DCE	VC	H3
All January 1991 samples	Number of Sample Locations	21	21	21	21	21	21
	Number of Analyses	23	23	23	23	23	23
	Number of Detections	0	12	10	3	0	20
	Number of U's	10	7	6	14	17	3
	Number of J's	3	4	7	0	2	0
	Number of UJ's	10	0	0	6	4	0
	Maximum Concentration	0.6J	35	25	1.6	3.4J	24
Source-area samples	Number of Sample Locations	16	16	16	16	16	16
	Number of Analyses	17	17	17	17	17	17
	Number of Detections	0	12	10	3	0	17
	Number of U's	9	1	2	11	11	0
	Number of J's	3	4	5	0	2	0
	Number of UJ's	5	0	0	3	4	0
	Maximum Concentration	0.6J	35	25	1.6	3.4J	24
Non-source-area samples	Number of Sample Locations	5	5	5	5	5	5
	Number of Analyses	6	6	6	6	6	6
	Number of Detections	0	0	0	0	0	3
	Number of U's	1	6	4	3	6	3
	Number of J's	0	0	2	0	0	0
	Number of UJ's	5	0	0	3	0	0
	Maximum Concentration	–	–	0.4J	–	–	7.9
Unconsolidated samples	Number of Sample Locations	20	20	20	20	20	20
	Number of Analyses	22	22	22	22	22	22
	Number of Detections	0	11	9	3	0	19
	Number of U's	9	7	6	13	16	3
	Number of J's	3	4	7	0	2	0
	Number of UJ's	10	0	0	6	4	0
	Maximum Concentration	0.6J	35	25	1.6	3.4J	24
Bedrock Samples	Number of Sample Locations	1	1	1	1	1	1
	Number of Analyses	1	1	1	1	1	1
	Number of Detections	0	1	1	0	0	1
	Number of U's	1	0	0	1	1	0
	Number of J's	0	0	0	0	0	0
	Number of UJ's	0	0	0	0	0	0
	Maximum Concentration	–	1.8	0.7	–	–	11

- Source-area samples were collected by known or suspected contaminant sources.
- Non-source-area samples were collected away from known or suspected contaminant sources.
- Unconsolidated samples were collected from wells completed in unconsolidated materials, or across the unconsolidated/bedrock interface.
- Bedrock samples were collected from wells, seeps, or test-pits completed in bedrock.
- U's mean the parameter was analyzed for, but was not detected.
- J's mean that the associated value is an estimated quantity.
- UJ's mean The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
- All maximum concentrations in ug/L except for tritium concentrations, which is nCi/L.
- TCA is 1,1,1-trichloroethane.
- TCE is trichloroethene.
- PCE is tetrachloroethene.
- DCE is 1,2 – trans- dichloroethene.
- VC is vinyl chloride.
- H3 is tritium.

Table 17. 1,1,1–Trichloroethane validated concentrations for the January/February 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0305	01/31/91	J	.6	F	GM/GC/CL
0305	01/31/91	J	.6	D	GM/GC/CL
0154	01/30/91	J	.3	F	GP
0071	02/01/91	U	.3	F	GW
0076	02/01/91	U	.3	F	GW
0115	02/03/91	U	.3	F	LS/SH
0122	02/03/91	U	.3	F	ML/GM
0152	01/30/91	U	.3	F	CL/GC/SH
0155	01/29/91	U	.3	F	SP
0159	02/02/91	U	.3	F	SP/GP
0307	02/03/91	U	.3	F	GW/SH
0313	02/03/91	U	.3	F	GW
0315	01/31/91	U	.3	F	ML/GM/GP
0063	02/05/91	UJ	.7	F	GC/GP
0046	02/05/91	UJ	.6	F	GC/GP
0126	02/05/91	UJ	.6	F	SM/GM
0118	02/04/91	UJ	.5	F	SM/SP
0129	02/04/91	UJ	.5	F	SM/SP
0306	02/06/91	UJ	.5	F	GC
0126	02/05/91	UJ	.4	D	SM/GM
0160	02/05/91	UJ	.4	F	GP
0312	02/04/91	UJ	.4	F	GC/SH
0271	02/01/91	UJ	.3	F	GW

J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded

Table 18. Trichloroethene validated concentrations for the January/February 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0305	01/31/91		35.	D	GM/GC/CL
0305	01/31/91		29.	F	GM/GC/CL
0312	02/04/91		28.	F	GC/SH
0307	02/03/91		9.6	F	GW/SH
0313	02/03/91		8.4	F	GW
0154	01/30/91		5.4	F	GP
0071	02/01/91		4.	F	GW
0315	01/31/91		3.6	F	ML/GM/GP
0155	01/29/91		3.5	F	SP
0271	02/01/91		2.1	F	GW
0115	02/03/91		1.8	F	LS/SH
0076	02/01/91		1.2	F	GW
0063	02/05/91	J	49.	F	GC/GP
0306	02/06/91	J	16.	F	GC
0152	01/30/91	J	9.2	F	CL/GC/SH
0046	02/05/91	J	3.8	F	GC/GP
0118	02/04/91	U	1.2	F	SM/SP
0122	02/03/91	U	1.2	F	ML/GM
0126	02/05/91	U	1.2	F	SM/GM
0126	02/05/91	U	1.2	D	SM/GM
0129	02/04/91	U	1.2	F	SM/SP
0159	02/02/91	U	1.2	F	SP/GP
0160	02/05/91	U	1.2	F	GP

J — The associated value is an estimated quantity.
U — The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.

F — Field sample
D — Duplicate field sample

FOC — Formation of completion

CL — Lean clays, sandy clays, or gravelly clays
GC — Clayey gravel or clayey sandy gravel
GM — Silty gravel or silty gravelly sand
GP — Gravel or sandy gravel, poorly graded
GW — Gravel or sandy gravel, well graded
LS — Limestone
ML — Silts, sandy or gravelly silts, diatomaceous soils
SH — Shale
SM — Silty sand or silty gravelly sand
SP — Sand or gravelly sand, poorly graded

Table 19. Tetrachloroethene validated concentrations for the January/February 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0305	02/01/91		25.	D	GM/GC/CL
0305	01/31/91		23.	F	GM/GC/CL
0313	02/03/91		15.	F	GW
0307	02/03/91		13.	F	GW/SH
0154	01/30/91		1.1	F	GP
0115	02/03/91		.7	F	LS/SH
0271	02/01/91		.7	F	GW
0155	01/29/91		.4	F	SP
0315	01/31/91		.4	F	ML/GM/GP
0076	02/01/91		.3	F	GW
0063	02/05/91	J	24.	F	GC/GP
0306	02/06/91	J	6.7	F	GC
0152	01/30/91	J	5.5	F	CL/GC/SH
0046	02/05/91	J	5.1	F	GC/GP
0071	02/01/91	J	.6	F	GW
0126	02/05/91	J	.4	F	SM/GM
0126	02/05/91	J	.4	D	SM/GM
0118	02/04/91	U	.3	F	SM/SP
0122	02/03/91	U	.3	F	ML/GM
0129	02/04/91	U	.3	F	SM/SP
0159	02/02/91	U	.3	F	SP/GP
0160	02/05/91	U	.3	F	GP
0312	02/04/91	U	.3	F	GC/SH

J — The associated value is an estimated quantity.
U — The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.

F — Field sample
D — Duplicate field sample

FOC — Formation of completion

CL — Lean clays, sandy clays, or gravelly clays
GC — Clayey gravel or clayey sandy gravel
GM — Silty gravel or silty gravelly sand
GP — Gravel or sandy gravel, poorly graded
GW — Gravel or sandy gravel, well graded
LS — Limestone
ML — Silts, sandy or gravelly silts, diatomaceous soils
SH — Shale
SM — Silty sand or silty gravelly sand
SP — Sand or gravelly sand, poorly graded

Table 20. 1,2–trans–Dichloroethene validated concentrations for the January/February 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0305	01/31/91		1.6	F	GM/GC/CL
0305	01/31/91		1.6	D	GM/GC/CL
0312	02/04/91		1.1	F	GC/SH
0071	02/01/91	U	1.	F	GW
0076	02/01/91	U	1.	F	GW
0115	02/03/91	U	1.	F	LS/SH
0118	02/04/91	U	1.	F	SM/SP
0122	02/03/91	U	1.	F	ML/GM
0129	02/04/91	U	1.	F	SM/SP
0152	01/30/91	U	1.	F	CL/GC/SH
0154	01/30/91	U	1.	F	GP
0155	01/29/91	U	1.	F	SP
0159	02/02/91	U	1.	F	SP/GP
0271	02/01/91	U	1.	F	GW
0307	02/03/91	U	1.	F	GW/SH
0313	02/03/91	U	1.	F	GW
0315	01/31/91	U	1.	F	ML/GM/GP
0046	02/05/91	UJ	1.	F	GC/GP
0063	02/05/91	UJ	1.	F	GC/GP
0126	02/05/91	UJ	1.	F	SM/GM
0126	02/05/91	UJ	1.	D	SM/GM
0160	02/05/91	UJ	1.	F	GP
0306	02/06/91	UJ	1.	F	GC

U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded

Table 21. Chloroethene validated concentrations for the January/February 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0305	01/31/91	J	3.4	D	GM/GC/CL
0305	01/31/91	J	3.2	F	GM/GC/CL
0046	02/05/91	U	1.8	F	GC/GP
0063	02/05/91	U	1.8	F	GC/GP
0115	02/03/91	U	1.8	F	LS/SH
0118	02/04/91	U	1.8	F	SM/SP
0122	02/03/91	U	1.8	F	ML/GM
0126	02/05/91	U	1.8	F	SM/GM
0126	02/05/91	U	1.8	D	SM/GM
0129	02/04/91	U	1.8	F	SM/SP
0152	01/30/91	U	1.8	F	CL/GC/SH
0154	01/30/91	U	1.8	F	GP
0155	01/29/91	U	1.8	F	SP
0159	02/02/91	U	1.8	F	SP/GP
0160	02/05/91	U	1.8	F	GP
0306	02/06/91	U	1.8	F	GC
0307	02/03/91	U	1.8	F	GW/SH
0312	02/04/91	U	1.8	F	GC/SH
0313	02/03/91	U	1.8	F	GW
0071	02/01/91	UJ	1.8	F	GW
0076	02/01/91	UJ	1.8	F	GW
0271	02/01/91	UJ	1.8	F	GW
0315	01/31/91	UJ	1.8	F	ML/GM/GP

J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded

Table 22. Tritium nonvalidated concentrations for the January/February 1991 groundwater sampling event

Well Id	Date	Value (nCi/L)	Uncertainty Value	Sample Type	FOC
0305	01/31/91	24.	3.	F	GM/GC/CL
0115	02/03/91	11.	2.	F	LS/SH
0312	02/04/91	9.9	1.	F	GC/SH
0152	01/30/91	9.	.9	F	CL/GC/SH
0307	02/03/91	8.4	.9	F	GW/SH
0126	02/05/91	7.9	.8	D	SM/GM
0305	01/31/91	7.4	.8	D	GM/GC/CL
0271	02/01/91	7.2	.8	F	GW
0063	02/05/91	7.	.7	F	GC/GP
0315	01/31/91	6.7	.7	F	ML/GM/GP
0046	02/05/91	6.6	7.	F	GC/GP
0306	02/06/91	6.6	.7	F	GC
0313	02/03/91	6.5	.7	F	GW
0122	02/03/91	4.9	.5	F	ML/GM
0154	01/30/91	4.6	.5	F	GP
0071	02/01/91	4.1	.5	F	GW
0129	02/04/91	2.3	.3	F	SM/SP
0155	01/29/91	2.2	.3	F	SP
0126	02/05/91	1.9	.2	F	SM/GM
0076	02/01/91	1.7	.2	F	GW
0118	02/04/91	< 1.	*	F	SM/SP
0159	02/02/91	< 1.	*	F	SP/GP
0160	02/05/91	< 1.	*	F	GP

* Uncertainty not applicable; sample result below minimum detectable activity (MDA)

F Field sample
D Duplicate field sample

FOC Formation of completion

CL Lean clays, sandy clays, or gravelly clays
GC Clayey gravel or clayey sandy gravel
GM Silty gravel or silty gravelly sand
GP Gravel or sandy gravel, poorly graded
GW Gravel or sandy gravel, well graded
LS Limestone
ML Silts, sandy or gravelly silts, diatomaceous soils
SH Shale
SM Silty sand or silty gravelly sand
SP Sand or gravelly sand, poorly graded

Table 23. Summary of selected groundwater quality data, April/May 1991

		Validated Data					Non-validated Data
		Analyte					
Sample Subset	Criterion	TCA	TCE	PCE	DCE	VC	H3
All Apr/May 1991 samples	Number of Sample Locations	55	55	55	55	55	55
	Number of Analyses	60	60	60	60	60	59
	Number of Detections	1	11	8	0	0	52
	Number of U's	33	33	37	57	57	7
	Number of J's	12	13	12	0	0	0
	Number of UJ's	14	3	3	3	3	0
	Maximum Concentration	0.8	45	20	–	–	136.4
Source-area samples	Number of Sample Locations	37	37	37	37	37	36
	Number of Analyses	41	41	41	41	41	39
	Number of Detections	1	11	8	0	0	38
	Number of U's	19	15	21	39	39	1
	Number of J's	8	13	10	0	0	0
	Number of UJ's	13	2	2	2	2	0
	Maximum Concentration	0.8	45	20	–	–	136.4
Non-source-area samples	Number of Sample Locations	18	18	18	18	18	19
	Number of Analyses	19	19	19	19	19	20
	Number of Detections	0	0	0	0	0	14
	Number of U's	14	18	16	18	18	6
	Number of J's	4	0	2	0	0	0
	Number of UJ's	1	1	1	1	1	0
	Maximum Concentration	0.7J	–	0.5J	–	–	15.3
Unconsolidated samples	Number of Sample Locations	38	38	38	38	38	39
	Number of Analyses	42	42	42	42	42	42
	Number of Detections	1	7	7	0	0	36
	Number of U's	20	23	23	41	41	6
	Number of J's	10	11	11	0	0	0
	Number of UJ's	11	1	1	1	1	0
	Maximum Concentration	0.8	17	20	–	–	15.3
Bedrock Samples	Number of Sample Locations	17	17	17	17	17	16
	Number of Analyses	18	18	18	18	18	17
	Number of Detections	0	4	1	0	0	16
	Number of U's	13	10	14	16	16	1
	Number of J's	2	2	1	0	0	0
	Number of UJ's	3	2	2	2	2	0
	Maximum Concentration	1.2J	45	9.4	–	–	136.4

- Source-area samples were collected by known or suspected contaminant sources.
- Non-source-area samples were collected away from known or suspected contaminant sources.
- Unconsolidated samples were collected from wells completed in unconsolidated materials, or across the unconsolidated/bedrock interface.
- Bedrock samples were collected from wells, seeps, or test-pits completed in bedrock.
- U's mean the parameter was analyzed for, but was not detected.
- J's mean that the associated value is an estimated quantity.
- UJ's mean The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
- All maximum concentrations in ug/L except for tritium concentrations, which is nCi/L.
- TCA is 1,1,1-trichloroethane.
- TCE is trichloroethene.
- PCE is tetrachloroethene.
- DCE is 1,2 - trans- dichloroethene.
- VC is vinyl chloride.
- H3 is tritium.

Table 24. 1,1,1–Trichloroethane validated concentrations for the April/May 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0306	05/04/91		.8	F	GC
0607	05/08/91	J	1.2	F	NA
0155	05/04/91	J	1.	F	SP
0271	05/06/91	J	.9	F	GW
0305	05/05/91	J	.9	F	GM/GC/CL
0153	05/03/91	J	.8	D	CL/GW/SH
0129	05/08/91	J	.7	F	SM/SP
0318	05/05/91	J	.7	D	SH
0138	05/02/91	J	.6	F	SP
0311	05/02/91	J	.6	F	GC
0126	05/01/91	J	.5	D	SM/GM
0153	05/03/91	J	.3	F	CL/GW/SH
0154	05/04/91	J	.3	F	GP
0137 *	05/03/91	U	5.	F	GW
0115	05/02/91	U	.3	F	LS/SH
0117	05/02/91	U	.3	F	LS/SH
0118	05/08/91	U	.3	F	SM/SP
0120	05/02/91	U	.3	F	LS/SH
0122	05/04/91	U	.3	F	ML/GM
0123	05/01/91	U	.3	F	GW
0124	05/02/91	U	.3	F	SP/GP
0126	05/01/91	U	.3	F	SM/GM
0127	05/02/91	U	.3	F	SP/GP
0152	05/03/91	U	.3	F	CL/GC/SH
0156	05/01/91	U	.3	F	GM/SP
0158	05/07/91	U	.3	F	SP/SM
0159	05/02/91	U	.3	F	SP/GP
0160	05/03/91	U	.3	F	GP
0301	05/08/91	U	.3	F	CL
0302	05/08/91	U	.3	F	SP
0303	05/02/91	U	.3	F	TI/CL/SP
0304	05/01/91	U	.3	F	GC/GM
0307	05/07/91	U	.3	F	GW/SH
0309	05/06/91	U	.3	F	SH
0310	05/04/91	U	.3	F	LS
0314	05/04/91	U	.3	F	CL/SH
0315	05/05/91	U	.3	F	ML/GM/GP
0317	05/08/91	U	.3	F	GM/SM
0318	05/05/91	U	.3	F	SH
0320	05/07/91	U	.3	F	CL/SW
0601	05/09/91	U	.3	F	NA
0605	05/08/91	U	.3	F	NA
0608	05/08/91	U	.3	F	NA
0621	05/09/91	U	.3	F	NA
0622	05/09/91	U	.3	F	NA
0623	05/09/91	U	.3	F	NA
0624	05/09/91	U	.3	F	NA
0602	05/09/91	UJ	2.5	F	NA
0046	05/06/91	UJ	.3	F	GC/GP
0063	05/06/91	UJ	.3	F	GC/GP
0063	05/06/91	UJ	.3	D	GC/GP
0071	05/06/91	UJ	.3	F	GW
0076	05/06/91	UJ	.3	F	GW

Table 24. 1,1,1–Trichloroethane validated concentrations for the April/May 1991 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0111	05/07/91	UJ	.3	F	SM/SP/SW
0112	05/03/91	UJ	.3	F	LS/SH
0151	05/06/91	UJ	.3	F	SP/CL
0307	05/07/91	UJ	.3	D	GW/SH
0312	05/06/91	UJ	.3	F	GC/SH
0313	05/07/91	UJ	.3	F	GW
0319	05/07/91	UJ	.3	F	SM/SP
0620	05/09/91	UJ	.3	F	NA

*	Not validated
J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 25. Trichloroethene validated concentrations for the April/May 1991 groundwater sample event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0602	05/09/91		45.	F	NA
0306	05/04/91		17.	F	GC
0312	05/06/91		15.	F	GC/SH
0307	05/07/91		9.6	F	GW/SH
0307	05/07/91		9.5	D	GW/SH
0313	05/07/91		7.7	F	GW
0605	05/08/91		5.9	F	NA
0601	05/09/91		4.7	F	NA
0071	05/06/91		4.1	F	GW
0607	05/08/91		3.	F	NA
0046	05/06/91		1.6	F	GC/GP
0305	05/05/91	J	50.	F	GM/GC/CL
0063	05/06/91	J	43.	F	GC/GP
0063	05/06/91	J	34.	D	GC/GP
0153	05/03/91	J	18.	D	CL/GW/SH
0153	05/03/91	J	17.	F	CL/GW/SH
0154	05/04/91	J	10.	F	GP
0152	05/03/91	J	8.9	F	CL/GC/SH
0155	05/04/91	J	7.2	F	SP
0623	05/09/91	J	6.9	F	NA
0315	05/05/91	J	5.	F	ML/GM/GP
0137 *	05/03/91	J	4.	F	GW
0271	05/06/91	J	3.8	F	GW
0076	05/06/91	J	1.7	F	GW
0115	05/02/91	J	1.4	F	LS/SH
0111	05/07/91	U	1.2	F	SM/SP/SW
0117	05/02/91	U	1.2	F	LS/SH
0118	05/08/91	U	1.2	F	SM/SP
0120	05/02/91	U	1.2	F	LS/SH
0122	05/04/91	U	1.2	F	ML/GM
0123	05/01/91	U	1.2	F	GW
0124	05/02/91	U	1.2	F	SP/GP
0126	05/01/91	U	1.2	F	SM/GM
0126	05/01/91	U	1.2	D	SM/GM
0127	05/02/91	U	1.2	F	SP/GP
0129	05/08/91	U	1.2	F	SP/GP
0138	05/02/91	U	1.2	F	SP
0151	05/06/91	U	1.2	F	SP/CL
0156	05/01/91	U	1.2	F	GM/SP
0158	05/07/91	U	1.2	F	SP/SM
0159	05/02/91	U	1.2	F	SP/GP
0160	05/03/91	U	1.2	F	GP
0301	05/08/91	U	1.2	F	CL
0302	05/08/91	U	1.2	F	SP
0303	05/02/91	U	1.2	F	TI/CL/SP
0304	05/01/91	U	1.2	F	GC/GM
0309	05/06/91	U	1.2	F	SH
0310	05/04/91	U	1.2	F	LS
0311	05/02/91	U	1.2	F	GC
0314	05/04/91	U	1.2	F	CL/SH
0317	05/08/91	U	1.2	F	GM/SM
0318	05/05/91	U	1.2	F	SH
0318	05/05/91	U	1.2	D	SH

Table 25. Trichloroethene validated concentrations for the April/May 1991 groundwater sample event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0320	05/07/91	U	1.2	F	CL/SW
0608	05/08/91	U	1.2	F	NA
0621	05/09/91	U	1.2	F	NA
0622	05/09/91	U	1.2	F	NA
0624	05/09/91	U	1.2	F	NA
0112	05/03/91	UJ	1.2	F	LS/SH
0319	05/07/91	UJ	1.2	F	SM/SP
0620	05/09/91	UJ	1.2	F	NA

*	Not validated
J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 26. Tetrachloroethene validated concentrations for the April/May 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0063	05/06/91		20.	F	GC/GP
0063	05/06/91		19.	D	GC/GP
0307	05/07/91		11.	F	GW/SH
0307	05/07/91		11.	D	GW/SH
0601	05/09/91		9.4	F	NA
0306	05/04/91		7.5	F	GC
0046	05/06/91		1.9	F	GC/GP
0071	05/06/91		.5	F	GW
0305	05/05/91	J	23.	F	GM/GC/CL
0313	05/07/91	J	11.	F	GW
0153	05/03/91	J	7.6	F	CL/GW/SH
0153	05/03/91	J	7.4	D	CL/GW/SH
0152	05/03/91	J	4.	F	CL/GC/SH
0154	05/04/91	J	1.3	F	GP
0271	05/06/91	J	.8	F	GW
0155	05/04/91	J	.7	F	SP
0126	05/01/91	J	.5	F	SM/GM
0076	05/06/91	J	.4	F	GW
0126	05/01/91	J	.4	D	SM/GM
0115	05/02/91	J	.3	F	LS/SH
0137 *	05/03/91	U	5.	F	GW
0111	05/07/91	U	.3	F	SM/SP/SW
0117	05/02/91	U	.3	F	LS/SH
0118	05/08/91	U	.3	F	SM/SP
0120	05/02/91	U	.3	F	LS/SH
0122	05/04/91	U	.3	F	ML/GM
0123	05/01/91	U	.3	F	GW
0124	05/02/91	U	.3	F	SP/GP
0127	05/02/91	U	.3	F	SP/GP
0129	05/08/91	U	.3	F	SM/SP
0138	05/02/91	U	.3	F	SP
0151	05/06/91	U	.3	F	SP/CL
0156	05/01/91	U	.3	F	GM/SP
0158	05/07/91	U	.3	F	SP/SM
0159	05/02/91	U	.3	F	SP/GP
0160	05/03/91	U	.3	F	GP
0301	05/08/91	U	.3	F	CL
0302	05/08/91	U	.3	F	SP
0303	05/02/91	U	.3	F	TI/CL/SP
0304	05/01/91	U	.3	F	GC/GM
0309	05/06/91	U	.3	F	SH
0310	05/04/91	U	.3	F	LS
0311	05/02/91	U	.3	F	GC
0312	05/06/91	U	.3	F	GC/SH
0314	05/04/91	U	.3	F	CL/SH
0315	05/05/91	U	.3	F	ML/GM/GP
0317	05/08/91	U	.3	F	GM/SM
0318	05/05/91	U	.3	F	SH
0318	05/05/91	U	.3	D	SH
0320	05/07/91	U	.3	F	CL/SW
0602	05/09/91	U	.3	F	NA
0605	05/08/91	U	.3	F	NA
0607	05/08/91	U	.3	F	NA

Table 26. Tetrachloroethene validated concentrations for the April/May 1991 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0608	05/08/91	U	.3	F	NA
0621	05/09/91	U	.3	F	NA
0622	05/09/91	U	.3	F	NA
0623	05/09/91	U	.3	F	NA
0624	05/09/91	U	.3	F	NA
0112	05/03/91	UJ	.3	F	LS/SH
0319	05/07/91	UJ	.3	F	SM/SP
0620	05/09/91	UJ	.3	F	NA

*	Not validated
J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 27. 1,2–trans–Dichloroethene validated concentrations for the April/May 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0046	05/06/91	U	1.	F	GC/GP
0063	05/06/91	U	1.	F	GC/GP
0063	05/06/91	U	1.	D	GC/GP
0071	05/06/91	U	1.	F	GW
0076	05/06/91	U	1.	F	GW
0111	05/07/91	U	1.	F	SM/SP/SW
0115	05/02/91	U	1.	F	LS/SH
0117	05/02/91	U	1.	F	LS/SH
0118	05/08/91	U	1.	F	SM/SP
0120	05/02/91	U	1.	F	LS/SH
0122	05/04/91	U	1.	F	ML/GM
0123	05/01/91	U	1.	F	GW
0124	05/02/91	U	1.	F	SP/GP
0126	05/01/91	U	1.	F	SM/GM
0126	05/01/91	U	1.	D	SM/GM
0127	05/02/91	U	1.	F	SP/GP
0129	05/08/91	U	1.	F	SM/SP
0138	05/02/91	U	1.	F	SP
0151	05/06/91	U	1.	F	SP/CL
0152	05/03/91	U	1.	F	CL/GC/SH
0153	05/03/91	U	1.	F	CL/GW/SH
0153	05/03/91	U	1.	D	CL/GW/SH
0154	05/04/91	U	1.	F	GP
0155	05/04/91	U	1.	F	SP
0156	05/01/91	U	1.	F	GM/SP
0158	05/07/91	U	1.	F	SP/SM
0159	05/02/91	U	1.	F	SP/GP
0160	05/03/91	U	1.	F	GP
0271	05/06/91	U	1.	F	GW
0301	05/08/91	U	1.	F	CL
0302	05/08/91	U	1.	F	SP
0303	05/02/91	U	1.	F	TI/CL/SP
0304	05/01/91	U	1.	F	GC/GM
0305	05/05/91	U	1.	F	GM/GC/CL
0306	05/04/91	U	1.	F	GC
0307	05/07/91	U	1.	F	GW/SH
0307	05/07/91	U	1.	D	GW/SH
0309	05/06/91	U	1.	F	SH
0310	05/04/91	U	1.	F	LS
0311	05/02/91	U	1.	F	GC
0312	05/06/91	U	1.	F	GC/SH
0313	05/07/91	U	1.	F	GW
0314	05/04/91	U	1.	F	CL/SH
0315	05/05/91	U	1.	F	ML/GM/GP
0317	05/08/91	U	1.	F	GM/SM
0318	05/05/91	U	1.	F	SH
0318	05/05/91	U	1.	D	SH
0320	05/07/91	U	1.	F	CL/SW
0601	05/09/91	U	1.	F	NA
0602	05/09/91	U	1.	F	NA
0605	05/08/91	U	1.	F	NA
0607	05/08/91	U	1.	F	NA
0608	05/08/91	U	1.	F	NA

Table 27. 1,2–trans–Dichloroethene validated concentrations for the April/May 1991 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0621	05/09/91	U	1.	F	NA
0622	05/09/91	U	1.	F	NA
0623	05/09/91	U	1.	F	NA
0624	05/09/91	U	1.	F	NA
0112	05/03/91	UJ	1.	F	LS/SH
0319	05/07/91	UJ	1.	F	SM/SP
0620	05/09/91	UJ	1.	F	NA

*	Not validated
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 28. Chloroethene validated concentrations for the April/May 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0137 *	05/03/91	U	10.	F	GW
0046	05/06/91	U	1.8	F	GC/GP
0063	05/06/91	U	1.8	F	GC/GP
0063	05/06/91	U	1.8	D	GC/GP
0071	05/06/91	U	1.8	F	GW
0076	05/06/91	U	1.8	F	GW
0111	05/07/91	U	1.8	F	SM/SP/SW
0115	05/02/91	U	1.8	F	LS/SH
0117	05/02/91	U	1.8	F	LS/SH
0118	05/08/91	U	1.8	F	SM/SP
0120	05/02/91	U	1.8	F	LS/SH
0122	05/04/91	U	1.8	F	ML/GM
0123	05/01/91	U	1.8	F	GW
0124	05/02/91	U	1.8	F	SP/GP
0126	05/01/91	U	1.8	F	SM/GM
0126	05/01/91	U	1.8	D	SM/GM
0127	05/02/91	U	1.8	F	SP/GP
0129	05/08/91	U	1.8	F	SM/SP
0138	05/02/91	U	1.8	F	SP
0151	05/06/91	U	1.8	F	SP/CL
0152	05/03/91	U	1.8	F	CL/GC/SH
0153	05/03/91	U	1.8	F	CL/GW/SH
0153	05/03/91	U	1.8	D	CL/GW/SH
0154	05/04/91	U	1.8	F	GP
0155	05/04/91	U	1.8	F	SP
0156	05/01/91	U	1.8	F	GM/SP
0158	05/07/91	U	1.8	F	SP/SM
0159	05/02/91	U	1.8	F	SP/GP
0160	05/03/91	U	1.8	F	GP
0271	05/06/91	U	1.8	F	GW
0301	05/08/91	U	1.8	F	CL
0302	05/08/91	U	1.8	F	SP
0303	05/02/91	U	1.8	F	TI/CL/SP
0304	05/01/91	U	1.8	F	GC/GM
0305	05/05/91	U	1.8	F	GM/GC/CL
0306	05/04/91	U	1.8	F	GC
0307	05/07/91	U	1.8	F	GW/SH
0307	05/07/91	U	1.8	D	GW/SH
0309	05/06/91	U	1.8	F	SH
0310	05/04/91	U	1.8	F	LS
0311	05/02/91	U	1.8	F	GC
0312	05/06/91	U	1.8	F	GC/SH
0313	05/07/91	U	1.8	F	GW
0314	05/04/91	U	1.8	F	CL/SH
0315	05/05/91	U	1.8	F	ML/GM/GP
0317	05/08/91	U	1.8	F	GM/SM
0318	05/05/91	U	1.8	F	SH
0318	05/05/91	U	1.8	D	SH
0320	05/07/91	U	1.8	F	CL/SW
0601	05/09/91	U	1.8	F	NA
0602	05/09/91	U	1.8	F	NA
0605	05/08/91	U	1.8	F	NA
0607	05/08/91	U	1.8	F	NA

Table 28. Chloroethene validated concentrations for the April/May 1991 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0608	05/08/91	U	1.8	F	NA
0621	05/09/91	U	1.8	F	NA
0622	05/09/91	U	1.8	F	NA
0623	05/09/91	U	1.8	F	NA
0624	05/09/91	U	1.8	F	NA
0112	05/03/91	UJ	1.8	F	LS/SH
0319	05/07/91	UJ	1.8	F	SM/SP
0620	05/09/91	UJ	1.8	F	NA

*	Not validated
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 29. Tritium nonvalidated concentrations for the April/May 1991 groundwater sampling event

Well Id	Date	Value (nCi/L)	Uncertainty Value	Sample Type	FOC
0601	05/09/91	136.388	0.170	F	NA
0605	05/08/91	42.188	0.660	F	NA
0120	05/02/91	33.138	0.580	F	LS/SH
0607	05/08/91	23.152	0.489	F	NA
0608	05/08/91	22.342	0.480	F	NA
0623	05/09/91	16.443	0.412	F	NA
0124	05/02/91	15.319	0.395	F	SP/GP
0621	05/09/91	14.266	0.384	F	NA
0310	05/04/91	14.179	0.380	F	LS
0126	05/01/91	13.529	0.371	F	SM/GM
0115	05/02/91	13.499	0.271	F	LS/SH
0117	05/02/91	13.191	0.366	F	LS/SH
0312	05/06/91	12.774	0.363	F	GC/SH
0152	05/03/91	10.342	0.325	F	CL/GC/SH
0307	05/07/91	9.678	0.314	D	GW/SH
0307	05/07/91	9.400	0.310	F	GW/SH
0153	05/03/91	8.166	0.288	F	CL/GW/SH
0305	05/05/91	7.907	0.283	F	GM/GC/CL
0063	05/06/91	7.859	0.287	F	GC/GP
0306	05/04/91	7.633	0.279	F	GC
0153	05/03/91	7.601	0.279	D	CL/GW/SH
0313	05/07/91	7.568	0.278	F	GW
0063	05/06/91	7.542	0.279	D	GC/GP
0602	05/09/91	6.363	0.256	F	NA
0046	05/06/91	6.170	0.252	F	GC/GP
0302	04/30/91	5.868	0.245	F	SP
0122	05/04/91	5.654	0.240	F	ML/GM
0138	05/02/91	5.466	0.236	F	SP
0315	05/05/91	5.462	0.236	F	ML/GM/GP
0620	05/09/91	5.013	0.228	F	NA
0071	05/06/91	4.892	0.225	F	GW
0317	05/08/91	4.856	0.224	F	GM/SM
0303	05/02/91	4.816	0.221	F	TI/CL/SP
0154	05/04/91	4.732	0.219	F	GP
0314	05/04/91	4.423	0.212	F	CL/SH
0137	05/03/91	4.179	0.206	F	GW
0271	05/06/91	3.772	0.197	F	GW
0112	05/03/91	3.553	0.190	F	LS/SH
0318	05/05/91	3.540	0.190	D	SH
0129	05/08/91	3.202	0.182	F	SM/SP
0155	05/04/91	2.718	0.166	F	SP
0318	05/05/91	2.629	0.164	F	SH
0622	05/09/91	2.085	0.170	F	NA
0320	05/07/91	2.016	0.144	F	CL/SW
0111	05/07/91	1.779	0.135	F	SM/SP/SW
0118	05/08/91	1.631	0.130	F	SM/SP
0319	05/07/91	1.253	0.113	F	SM/SP
0076	05/06/91	1.184	0.111	F	GW
0311	05/02/91	1.176	0.109	F	GC
0158	05/07/91	0.682	0.083	F	SP/SM
0127	05/02/91	0.574	0.076	F	SP/GP
0151	05/06/91	0.514	0.073	F	SP/CL
0123	05/01/91	0.500	*	F	GW

Table 29. Tritium nonvalidated concentrations for the April/May 1991 groundwater sampling event (concluded)

Well Id	Date	Value (nCi/L)	Uncertainty Value	Sample Type	FOC
0156	05/01/91	0.500	*	F	GM/SP
0159	05/02/91	0.500	*	F	SP/GP
0160	05/03/91	0.500	*	F	GP
0301	04/30/91	0.500	*	F	CL
0304	05/01/91	0.500	*	F	GC/GM
0309	05/06/91	0.500	*	F	SH

*	Uncertainty not applicable; sample result below minimum detectable activity (MDA)
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 30. Summary of selected groundwater quality data, July/August 1991

		Validated Data					Non-validated Data
		Analyte					
Sample Subset	Criterion	TCA	TCE	PCE	DCE	VC	H3
All Jul/Aug 1991 samples	Number of Sample Locations	24	24	24	24	24	24
	Number of Analyses	28	28	28	28	28	28
	Number of Detections	0	0	0	0	0	26
	Number of U's	8	10	12	18	17	2
	Number of J's	16	18	16	0	0	0
	Number of UJ's	4	0	0	10	11	0
	Maximum Concentration	1.4J	37J	27J	–	–	122
Source-area samples	Number of Sample Locations	18	18	18	18	18	18
	Number of Analyses	21	21	21	21	21	21
	Number of Detections	0	0	0	0	0	21
	Number of U's	7	3	6	13	17	0
	Number of J's	10	18	15	0	0	0
	Number of UJ's	4	0	0	8	4	0
	Maximum Concentration	1.4J	37J	27J	–	–	122
Non-source-area samples	Number of Sample Locations	6	6	6	6	6	6
	Number of Analyses	7	7	7	7	7	7
	Number of Detections	0	0	0	0	0	5
	Number of U's	1	7	6	5	0	2
	Number of J's	6	0	1	0	0	0
	Number of UJ's	0	0	0	2	7	0
	Maximum Concentration	0.8J	–	0.4J	–	–	7.4
Unconsolidated samples	Number of Sample Locations	20	20	20	20	20	20
	Number of Analyses	23	23	23	23	23	23
	Number of Detections	0	0	0	0	0	21
	Number of U's	5	8	9	14	13	2
	Number of J's	14	15	14	0	0	0
	Number of UJ's	4	0	0	9	10	0
	Maximum Concentration	0.9J	37J	27J	–	–	9.6
Bedrock Samples	Number of Sample Locations	4	4	4	4	4	4
	Number of Analyses	5	5	5	5	5	5
	Number of Detections	0	0	0	0	0	5
	Number of U's	3	2	3	4	4	0
	Number of J's	2	3	2	0	0	0
	Number of UJ's	0	0	0	1	1	0
	Maximum Concentration	1.4J	5.2J	9.2J	–	–	122

- Source-area samples were collected by known or suspected contaminant sources.
- Non-source-area samples were collected away from known or suspected contaminant sources.
- Unconsolidated samples were collected from wells completed in unconsolidated materials, or across the unconsolidated/bedrock interface.
- Bedrock samples were collected from wells, seeps, or test-pits completed in bedrock.
- U's mean the parameter was analyzed for, but was not detected.
- J's mean that the associated value is an estimated quantity.
- UJ's mean The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
- All maximum concentrations in ug/L except for tritium concentrations, which is nCi/L.
- TCA is 1,1,1-trichloroethane.
- TCE is trichloroethene.
- PCE is tetrachloroethene.
- DCE is 1,2 - trans- dichloroethene.
- VC is vinyl chloride.
- H3 is tritium.

Table 31. 1,1,1–Trichloroethane validated concentrations for the July/August 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0602	08/05/91	J	1.4	F	NA
0122	08/02/91	J	.9	D	ML/GM
0305	08/02/91	J	.9	F	GM/GC/CL
0129	07/30/91	J	.8	F	SM/SP
0159	08/01/91	J	.7	F	SP/GP
0115	08/01/91	J	.6	F	LS/SH
0138	07/30/91	J	.5	F	SP
0138	07/30/91	J	.5	D	SP
0063	08/05/91	J	.4	F	GC/GP
0118	07/30/91	J	.4	F	SM/SP
0126	07/31/91	J	.4	F	SM/GM
0152	08/03/91	J	.4	F	CL/GC/SH
0154	08/02/91	J	.4	F	GP
0306	08/03/91	J	.3	F	GC
0307	08/04/91	J	.3	F	GW/SH
0313	08/04/91	J	.3	F	GW
0071	08/05/91	U	.3	D	GW
0122	08/01/91	U	.3	F	ML/GM
0155	08/02/91	U	.3	F	SP
0160	07/31/91	U	.3	F	GP
0312	08/05/91	U	.3	F	GC/SH
0601	08/05/91	U	.3	F	NA
0601	08/05/91	U	.3	D	NA
0620	08/06/91	U	.3	F	NA
0046	08/05/91	UJ	.3	F	GC/GP
0071	08/05/91	UJ	.3	F	GW
0271	08/05/91	UJ	.3	F	GW
0315	08/03/91	UJ	.3	F	ML/GM/GP

J — The associated value is an estimated quantity.
U — The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ — The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

F — Field sample
D — Duplicate field sample

FOC — Formation of completion

CL — Lean clays, sandy clays, or gravelly clays
GC — Clayey gravel or clayey sandy gravel
GM — Silty gravel or silty gravelly sand
GP — Gravel or sandy gravel, poorly graded
GW — Gravel or sandy gravel, well graded
LS — Limestone
ML — Silts, sandy or gravelly silts, diatomaceous soils
NA — Not applicable
SH — Shale
SM — Silty sand or silty gravelly sand
SP — Sand or gravelly sand, poorly graded

Table 32. Trichloroethene validated concentrations for the July/August 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0305	08/02/91	J	37.	F	GM/GC/CL
0122	08/02/91	J	34.	D	ML/GM
0063	08/05/91	J	23.	F	GC/GP
0152	08/03/91	J	9.3	F	CL/GC/SH
0312	08/05/91	J	9.1	F	GC/SH
0307	08/04/91	J	8.7	F	GW/SH
0306	08/03/91	J	8.5	F	GC
0154	08/02/91	J	7.8	F	GP
0313	08/04/91	J	7.3	F	GW
0315	08/03/91	J	5.7	F	ML/GM/GP
0155	08/02/91	J	5.5	F	SP
0602	08/05/91	J	5.2	F	NA
0271	08/05/91	J	4.6	F	GW
0071	08/05/91	J	3.8	F	GW
0601	08/05/91	J	3.8	F	NA
0071	08/05/91	J	3.7	D	GW
0601	08/05/91	J	3.7	D	NA
0046	08/05/91	J	1.7	F	GC/GP
0115	08/01/91	U	1.2	F	LS/SH
0118	07/30/91	U	1.2	F	SM/SP
0122	08/01/91	U	1.2	F	ML/GM
0126	07/31/91	U	1.2	F	SM/GM
0129	07/30/91	U	1.2	F	SM/SP
0138	07/30/91	U	1.2	F	SP
0138	07/30/91	U	1.2	D	SP
0159	08/01/91	U	1.2	F	SP/GP
0160	07/31/91	U	1.2	F	GP
0620	08/06/91	U	1.2	F	NA

J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded

Table 33. Tetrachloroethene validated concentrations for the July/August 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0122	08/02/91	J	27.	D	ML/GM
0305	08/02/91	J	24.	F	GM/GC/CL
0063	08/05/91	J	21.	F	GC/GP
0313	08/04/91	J	13.	F	GW
0307	08/04/91	J	11.	F	GW/SH
0601	08/05/91	J	9.2	F	NA
0601	08/05/91	J	9.	D	NA
0306	08/03/91	J	5.6	F	GC
0152	08/03/91	J	4.3	F	CL/GC/SH
0154	08/02/91	J	1.4	F	GP
0046	08/05/91	J	1.3	F	GC/GP
0271	08/05/91	J	1.2	F	GW
0155	08/02/91	J	.7	F	SP
0071	08/05/91	J	.6	D	GW
0071	08/05/91	J	.5	F	GW
0126	07/31/91	J	.4	F	SM/GM
0115	08/01/91	U	.3	F	LS/SH
0118	07/30/91	U	.3	F	SM/SP
0122	08/01/91	U	.3	F	ML/GM
0129	07/30/91	U	.3	F	SM/SP
0138	07/30/91	U	.3	F	SP
0138	07/30/91	U	.3	D	SP
0159	08/01/91	U	.3	F	SP/GP
0160	07/31/91	U	.3	F	GP
0312	08/05/91	U	.3	F	GC/SH
0315	08/03/91	U	.3	F	ML/GM/GP
0602	08/05/91	U	.3	F	NA
0620	08/06/91	U	.3	F	NA

J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded

Table 34. 1,2–trans–Dichloroethene validated concentrations for the July/August 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0071	08/05/91	U	1.	D	GW
0118	07/30/91	U	1.	F	SM/SP
0122	08/01/91	U	1.	F	ML/GM
0126	07/31/91	U	1.	F	SM/GM
0129	07/30/91	U	1.	F	SM/SP
0138	07/30/91	U	1.	F	SP
0138	07/30/91	U	1.	D	SP
0152	08/03/91	U	1.	F	CL/GC/SH
0154	08/02/91	U	1.	F	GP
0155	08/02/91	U	1.	F	SP
0306	08/03/91	U	1.	F	GC
0307	08/04/91	U	1.	F	GW/SH
0312	08/05/91	U	1.	F	GC/SH
0313	08/04/91	U	1.	F	GW
0601	08/05/91	U	1.	F	NA
0601	08/05/91	U	1.	D	NA
0602	08/05/91	U	1.	F	NA
0620	08/06/91	U	1.	F	NA
0046	08/05/91	UJ	1.	F	GC/GP
0063	08/05/91	UJ	1.	F	GC/GP
0071	08/05/91	UJ	1.	F	GW
0115	08/01/91	UJ	1.	F	LS/SH
0122	08/02/91	UJ	1.	D	ML/GM
0159	08/01/91	UJ	1.	F	SP/GP
0160	07/31/91	UJ	1.	F	GP
0271	08/05/91	UJ	1.	F	GW
0305	08/02/91	UJ	1.	F	GM/GC/CL
0315	08/03/91	UJ	1.	F	ML/GM/GP

U — The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.

UJ — The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

F — Field sample

D — Duplicate field sample

FOC — Formation of completion

CL — Lean clays, sandy clays, or gravelly clays

GC — Clayey gravel or clayey sandy gravel

GM — Silty gravel or silty gravelly sand

GP — Gravel or sandy gravel, poorly graded

GW — Gravel or sandy gravel, well graded

LS — Limestone

ML — Silts, sandy or gravelly silts, diatomaceous soils

NA — Not applicable

SH — Shale

SM — Silty sand or silty gravelly sand

SP — Sand or gravelly sand, poorly graded

Table 35. Chloroethene validated concentrations for the July/August 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0046	08/05/91	U	1.8	F	GC/GP
0063	08/05/91	U	1.8	F	GC/GP
0071	08/05/91	U	1.8	F	GW
0071	08/05/91	U	1.8	D	GW
0152	08/03/91	U	1.8	F	CL/GC/SH
0154	08/02/91	U	1.8	F	GP
0155	08/02/91	U	1.8	F	SP
0271	08/05/91	U	1.8	F	GW
0306	08/03/91	U	1.8	F	GC
0307	08/04/91	U	1.8	F	GW/SH
0312	08/05/91	U	1.8	F	GC/SH
0313	08/04/91	U	1.8	F	GW
0315	08/03/91	U	1.8	F	ML/GM/GP
0601	08/05/91	U	1.8	F	NA
0601	08/05/91	U	1.8	D	NA
0602	08/05/91	U	1.8	F	NA
0620	08/06/91	U	1.8	F	NA
0115	08/01/91	UJ	1.8	F	LS/SH
0118	07/30/91	UJ	1.8	F	SM/SP
0122	08/01/91	UJ	1.8	F	ML/GM
0122	08/02/91	UJ	1.8	D	ML/GM
0126	07/31/91	UJ	1.8	F	SM/GM
0129	07/30/91	UJ	1.8	F	SM/SP
0138	07/30/91	UJ	1.8	F	SP
0138	07/30/91	UJ	1.8	D	SP
0159	08/01/91	UJ	1.8	F	SP/GP
0160	07/31/91	UJ	1.8	F	GP
0305	08/02/91	UJ	1.8	F	GM/GC/CL

U — The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.

UJ — The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

F — Field sample

D — Duplicate field sample

FOC — Formation of completion

CL — Lean clays, sandy clays, or gravelly clays
GC — Clayey gravel or clayey sandy gravel
GM — Silty gravel or silty gravelly sand
GP — Gravel or sandy gravel, poorly graded
GW — Gravel or sandy gravel, well graded
LS — Limestone
ML — Silts, sandy or gravelly silts, diatomaceous soils
NA — Not applicable
SH — Shale
SM — Silty sand or silty gravelly sand
SP — Sand or gravelly sand, poorly graded

Table 36. Tritium nonvalidated concentrations for the July/August 1991 groundwater sampling event

Well Id	Date	Value (nCi/L)	Uncertainty Value	Sample Type	FOC
0601	08/05/91	122.000	12.000	D	NA
0601	08/05/91	120.000	12.000	F	NA
0115	08/01/91	14.600	1.500	F	LS/SH
0602	08/05/91	12.400	1.300	F	NA
0312	08/06/91	9.570	1.000	F	GC/SH
0306	08/03/91	9.290	0.980	F	GC
0307	08/04/91	9.230	0.980	F	GW/SH
0152	08/03/91	8.520	0.900	F	CL/GC/SH
0126	07/31/91	7.360	0.790	F	SM/GM
0305	08/02/91	7.140	0.760	F	GM/GC/CL
0122	08/02/91	6.930	0.740	D	ML/GM
0313	08/04/91	6.880	0.740	F	GW
0063	08/05/91	6.410	0.690	F	GC/GP
0046	08/05/91	6.210	0.670	F	GC/GP
0138	07/30/91	4.990	0.550	D	SP
0138	07/30/91	4.840	0.540	F	SP
0315	08/03/91	4.840	0.540	F	ML/GM/GP
0122	08/02/91	4.740	0.530	F	ML/GM
0154	08/02/91	3.920	0.450	F	GP
0620	08/05/91	3.890	0.440	F	NA
0071	08/05/91	3.230	0.380	F	GW
0071	08/05/91	3.040	0.360	D	GW
0155	08/02/91	2.480	0.320	F	SP
0271	08/05/91	2.340	0.300	F	GW
0129	07/30/91	2.090	0.270	F	SM/SP
0118	07/30/91	0.702	0.016	F	SM/SP
0159	08/01/91	< 0.500	*	F	SP/GP
0160	07/31/91	< 0.500	*	F	GP

* Uncertainty not applicable; sample result below minimum detectable activity (MDA)

F Field sample
D Duplicate field sample

FOC Formation of completion

CL Lean clays, sandy clays, or gravelly clays
GC Clayey gravel or clayey sandy gravel
GM Silty gravel or silty gravelly sand
GP Gravel or sandy gravel, poorly graded
GW Gravel or sandy gravel, well graded
LS Limestone
ML Silts, sandy or gravelly silts, diatomaceous soils
NA Not applicable
SH Shale
SM Silty sand or silty gravelly sand
SP Sand or gravelly sand, poorly graded

Table 37. Summary of selected groundwater quality data, December 1991

		Validated Data					Non–validated Data
		Analyte					
Sample Subset	Criterion	TCA	TCE	PCE	DCE	VC	H3
All December 1991 samples	Number of Sample Locations	50	50	50	50	50	50
	Number of Analyses	55	55	55	55	55	55
	Number of Detections	0	20	11	15	0	46
	Number of U's	34	25	34	19	8	9
	Number of J's	0	2	2	2	0	0
	Number of UJ's	21	8	8	19	47	0
	Maximum Concentration	–	24	28	8.5	–	94.3
Source–area samples	Number of Sample Locations	32	32	32	32	32	32
	Number of Analyses	37	37	37	37	37	37
	Number of Detections	0	20	11	15	0	36
	Number of U's	27	10	18	13	7	1
	Number of J's	0	2	2	2	0	0
	Number of UJ's	10	5	6	7	30	0
	Maximum Concentration	–	24	28	8.5	–	94.3
Non–source–area samples	Number of Sample Locations	18	18	18	18	18	18
	Number of Analyses	18	18	18	18	18	18
	Number of Detections	0	0	0	0	0	10
	Number of U's	7	15	16	6	1	8
	Number of J's	0	0	0	0	0	0
	Number of UJ's	11	3	2	12	17	0
	Maximum Concentration	–	–	–	–	–	9.1
Unconsolidated samples	Number of Sample Locations	39	39	39	39	39	39
	Number of Analyses	44	44	44	44	44	44
	Number of Detections	0	16	10	12	0	36
	Number of U's	23	19	25	14	8	8
	Number of J's	0	2	2	1	0	0
	Number of UJ's	21	7	7	17	36	0
	Maximum Concentration	–	24	28	8.5	–	11.9
Bedrock Samples	Number of Sample Locations	11	11	11	11	11	11
	Number of Analyses	11	11	11	11	11	11
	Number of Detections	0	4	1	3	0	10
	Number of U's	10	6	9	5	0	1
	Number of J's	0	0	0	1	0	0
	Number of UJ's	1	1	1	2	11	0
	Maximum Concentration	–	5	16	2.6	–	94.3

– Source–area samples were collected by known or suspected contaminant sources.
– Non–source–area samples were collected away from known or suspected contaminant sources.
– Unconsolidated samples were collected from wells completed in unconsolidated materials, or across the unconsolidated/bedrock interface.
– Bedrock samples were collected from wells, seeps, or test–pits completed in bedrock.
– U's mean the parameter was analyzed for, but was not detected.
– J's mean that the associated value is an estimated quantity.
– UJ's mean The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
– R's mean that the parameter was analyzed for, but parameter value was rejected during data validation.
– All maximum concentrations in ug/L except for tritium concentrations, which is nCi/L.
– TCA is 1,1,1–trichloroethane.
– TCE is trichloroethene.
– PCE is tetrachloroethene.
– DCE is 1,2 – trans– dichloroethene.
– VC is vinyl chloride.
– H3 is tritium.

NOTE: Data for one duplicate VOC sample was NOT validated.

Table 38. 1,1,1–Trichloroethane validated concentrations for the December 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0071 *	12/16/91	U	1.0	D	GW
0112	12/13/91	U	1.0	F	LS/SH
0115	12/12/91	U	1.0	F	LS/SH
0120	12/17/91	U	1.0	F	LS/SH
0122	12/13/91	U	1.0	F	ML/GM
0122	12/13/91	U	1.0	D	ML/GM
0124	12/12/91	U	1.0	F	SP/GP
0126	12/12/91	U	1.0	F	SM/GM
0129	12/17/91	U	1.0	F	SM/SP
0137	12/19/91	U	1.0	F	GW
0152	12/14/91	U	1.0	F	CL/GC/SH
0153	12/14/91	U	1.0	F	CL/GW/SH
0154	12/14/91	U	1.0	F	GP
0155	12/13/91	U	1.0	F	SP
0155	12/13/91	U	1.0	D	SP
0158	12/19/91	U	1.0	F	SP/SM
0159	12/12/91	U	1.0	F	SP/GP
0160	12/12/91	U	1.0	F	GP
0271	12/16/91	U	1.0	F	GW
0305	12/17/91	U	1.0	F	GM/GC/CL
0305	12/17/91	U	1.0	D	GM/GC/CL
0306	12/15/91	U	1.0	F	GC
0307	12/15/91	U	1.0	F	GW/SH
0309	12/14/91	U	1.0	F	SH
0310	12/14/91	U	1.0	F	LS
0311	12/13/91	U	1.0	F	GC
0313	12/17/91	U	1.0	F	GW
0314	12/15/91	U	1.0	F	CL/SH
0315	12/17/91	U	1.0	F	ML/GM/GP
0318	12/15/91	U	1.0	F	SH
0601	12/14/91	U	1.0	F	NA
0602	12/14/91	U	1.0	F	NA
0607	12/15/91	U	1.0	F	NA
0608	12/14/91	U	1.0	F	NA
0046	12/16/91	UJ	1.0	F	GC/GP
0063	12/16/91	UJ	1.0	F	GC/GP
0071	12/16/91	UJ	1.0	F	GW
0076	12/16/91	UJ	1.0	F	GW
0111	12/16/91	UJ	1.0	F	SM/SP/SW
0117	12/19/91	UJ	1.0	F	LS/SH
0118	12/10/91	UJ	1.0	F	SM/SP
0123	12/11/91	UJ	1.0	F	GW
0127	12/11/91	UJ	1.0	F	SP/GP
0138	12/11/91	UJ	1.0	F	SP
0151	12/18/91	UJ	1.0	F	SP/CL
0156	12/11/91	UJ	1.0	F	GM/SP
0301	12/10/91	UJ	1.0	F	CL
0302	12/10/91	UJ	1.0	F	SP
0303	12/10/91	UJ	1.0	F	TI/CL/SP
0304	12/11/91	UJ	1.0	F	GC/GM
0312	12/16/91	UJ	1.0	F	GC/SH
0317	12/16/91	UJ	1.0	F	GM/SM
0317	12/16/91	UJ	1.0	D	GM/SM

Table 38. 1,1,1–Trichloroethane validated concentrations for the December 1991 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0319	12/18/91	UJ	1.0	F	SM/SP
0320	12/18/91	UJ	1.0	F	CL/SW

*	Not validated
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 39. Trichloroethene validated concentrations for the December 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0305	12/17/91		24.	F	GM/GC/CL
0305	12/17/91		23.	D	GM/GC/CL
0063	12/16/91		22.	F	GC/GP
0307	12/15/91		10.	F	GW/SH
0152	12/14/91		9.6	F	CL/GC/SH
0153	12/14/91		7.9	F	CL/GW/SH
0313	12/17/91		7.7	F	GW
0315	12/17/91		7.2	F	ML/GM/GP
0306	12/15/91		6.8	F	GC
0155	12/13/91		5.0	D	SP
0602	12/14/91		5.0	F	NA
0155	12/13/91		4.8	F	SP
0601	12/14/91		3.6	F	NA
0154	12/14/91		3.5	F	GP
0607	12/15/91		2.9	F	NA
0115	12/12/91		2.7	F	LS/SH
0046	12/16/91		2.6	F	GC/GP
0271	12/16/91		2.4	F	GW
0071	12/16/91		1.3	F	GW
0071 *	12/16/91		1.2	D	GW
0312	12/16/91	J	19.	F	GC/SH
0137	12/19/91	J	4.3	F	GW
0076	12/16/91	U	1.0	F	GW
0112	12/13/91	U	1.0	F	LS/SH
0118	12/10/91	U	1.0	F	SM/SP
0120	12/17/91	U	1.0	F	LS/SH
0122	12/13/91	U	1.0	F	ML/GM
0122	12/13/91	U	1.0	D	ML/GM
0123	12/11/91	U	1.0	F	GW
0124	12/12/91	U	1.0	F	SP/GP
0126	12/12/91	U	1.0	F	SM/GM
0127	12/11/91	U	1.0	F	SP/GP
0129	12/17/91	U	1.0	F	SM/SP
0138	12/11/91	U	1.0	F	SP
0156	12/11/91	U	1.0	F	GM/SP
0159	12/12/91	U	1.0	F	SP/GP
0160	12/12/91	U	1.0	F	GP
0301	12/10/91	U	1.0	F	CL
0302	12/10/91	U	1.0	F	SP
0303	12/10/91	U	1.0	F	TI/CL/SP
0304	12/11/91	U	1.0	F	GC/GM
0309	12/14/91	U	1.0	F	SH
0310	12/14/91	U	1.0	F	LS
0311	12/13/91	U	1.0	F	GC
0314	12/15/91	U	1.0	F	CL/SH
0318	12/15/91	U	1.0	F	SH
0608	12/14/91	U	1.0	F	NA
0111	12/16/91	UJ	1.0	F	SM/SP/SW
0117	12/19/91	UJ	1.0	F	LS/SH
0151	12/18/91	UJ	1.0	F	SP/CL
0158	12/19/91	UJ	1.0	F	SP/SM
0317	12/16/91	UJ	1.0	F	GM/SM
0317	12/16/91	UJ	1.0	D	GM/SM

Table 39. Trichloroethene validated concentrations for the December 1991 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0319	12/18/91	UJ	1.0	F	SM/SP
0320	12/18/91	UJ	1.0	F	CL/SW

*	Not validated
J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 40. Tetrachloroethene validated concentrations for the December 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0305	12/17/91		28.	F	GM/GC/CL
0305	12/17/91		26.	D	GM/GC/CL
0601	12/14/91		16.	F	NA
0307	12/15/91		15.	F	GW/SH
0313	12/17/91		15.	F	GW
0152	12/14/91		6.2	F	CL/GC/SH
0306	12/15/91		5.9	F	GC
0153	12/14/91		5.8	F	CL/GW/SH
0154	12/14/91		1.1	F	GP
0155	12/13/91		1.1	F	SP
0155	12/13/91		1.0	D	SP
0063	12/16/91	J	26.	F	GC/GP
0046	12/16/91	J	4.5	F	GC/GP
0071	12/16/91	U	1.0	F	GW
0071 *	12/16/91	U	1.0	D	GW
0076	12/16/91	U	1.0	F	GW
0112	12/13/91	U	1.0	F	LS/SH
0115	12/12/91	U	1.0	F	LS/SH
0118	12/10/91	U	1.0	F	SM/SP
0120	12/17/91	U	1.0	F	LS/SH
0122	12/13/91	U	1.0	F	ML/GM
0122	12/13/91	U	1.0	D	ML/GM
0123	12/11/91	U	1.0	F	GW
0124	12/12/91	U	1.0	F	SP/GP
0126	12/12/91	U	1.0	F	SM/GM
0127	12/11/91	U	1.0	F	SP/GP
0129	12/17/91	U	1.0	F	SM/SP
0137	12/19/91	U	1.0	F	GW
0138	12/11/91	U	1.0	F	SP
0156	12/11/91	U	1.0	F	GM/SP
0158	12/19/91	U	1.0	F	SP/SM
0159	12/12/91	U	1.0	F	SP/GP
0160	12/12/91	U	1.0	F	GP
0271	12/16/91	U	1.0	F	GW
0301	12/10/91	U	1.0	F	CL
0302	12/10/91	U	1.0	F	SP
0303	12/10/91	U	1.0	F	TI/CL/SP
0304	12/11/91	U	1.0	F	GC/GM
0309	12/14/91	U	1.0	F	SH
0310	12/14/91	U	1.0	F	LS
0311	12/13/91	U	1.0	F	GC
0314	12/15/91	U	1.0	F	CL/SH
0315	12/17/91	U	1.0	F	ML/GM/GP
0318	12/15/91	U	1.0	F	SH
0602	12/14/91	U	1.0	F	NA
0607	12/15/91	U	1.0	F	NA
0608	12/14/91	U	1.0	F	NA
0111	12/16/91	UJ	1.0	F	SM/SP/SW
0117	12/19/91	UJ	1.0	F	LS/SH
0151	12/18/91	UJ	1.0	F	SP/CL
0312	12/16/91	UJ	1.0	F	GC/SH
0317	12/16/91	UJ	1.0	F	GM/SM

Table 40. Tetrachloroethene validated concentrations for the December 1991 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0317	12/16/91	UJ	1.0	D	GM/SM
0319	12/18/91	UJ	1.0	F	SM/SP
0320	12/18/91	UJ	1.0	F	CL/SW

*	Not validated
J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 41. 1,2–trans–Dichloroethene validated concentrations for the December 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0305	12/17/91		8.5	F	GM/GC/CL
0305	12/17/91		8.3	D	GM/GC/CL
0155	12/13/91		6.5	F	SP
0155	12/13/91		6.5	D	SP
0154	12/14/91		4.8	F	GP
0063	12/16/91		4.7	F	GC/GP
0607	12/15/91		2.6	F	NA
0602	12/14/91		2.3	F	NA
0071	12/16/91		2.2	F	GW
0071 *	12/16/91		2.2	D	GW
0046	12/16/91		2.1	F	GC/GP
0271	12/16/91		2.1	F	GW
0076	12/16/91		1.8	F	GW
0315	12/17/91		1.7	F	ML/GM/GP
0309	12/14/91		1.1	F	SH
0312	12/16/91	J	10.	F	GC/SH
0115	12/12/91	J	1.6	F	LS/SH
0112	12/13/91	U	1.0	F	LS/SH
0120	12/17/91	U	1.0	F	LS/SH
0122	12/13/91	U	1.0	F	ML/GM
0122	12/13/91	U	1.0	D	ML/GM
0124	12/12/91	U	1.0	F	SP/GP
0126	12/12/91	U	1.0	F	SM/GM
0129	12/17/91	U	1.0	F	SM/SP
0152	12/14/91	U	1.0	F	CL/GC/SH
0153	12/14/91	U	1.0	F	CL/GW/SH
0159	12/12/91	U	1.0	F	SP/GP
0160	12/12/91	U	1.0	F	GP
0306	12/15/91	U	1.0	F	GC
0307	12/15/91	U	1.0	F	GW/SH
0311	12/13/91	U	1.0	F	GC
0313	12/17/91	U	1.0	F	GW
0314	12/15/91	U	1.0	F	CL/SH
0318	12/15/91	U	1.0	F	SH
0601	12/14/91	U	1.0	F	NA
0608	12/14/91	U	1.0	F	NA
0111	12/16/91	UJ	1.0	F	SM/SP/SW
0117	12/19/91	UJ	1.0	F	LS/SH
0118	12/10/91	UJ	1.0	F	SM/SP
0123	12/11/91	UJ	1.0	F	GW
0127	12/11/91	UJ	1.0	F	SP/GP
0137	12/19/91	UJ	1.0	F	GW
0138	12/11/91	UJ	1.0	F	SP
0151	12/18/91	UJ	1.0	F	SP/CL
0156	12/11/91	UJ	1.0	F	GM/SP
0158	12/19/91	UJ	1.0	F	SP/SM
0301	12/10/91	UJ	1.0	F	CL
0302	12/10/91	UJ	1.0	F	SP
0303	12/10/91	UJ	1.0	F	TI/CL/SP
0304	12/11/91	UJ	1.0	F	GC/GM
0310	12/14/91	UJ	1.0	F	LS
0317	12/16/91	UJ	1.0	F	GM/SM
0317	12/16/91	UJ	1.0	D	GM/SM

Table 41. 1,2–trans–Dichloroethene validated concentrations for the December 1991 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0319	12/18/91	UJ	1.0	F	SM/SP
0320	12/18/91	UJ	1.0	F	CL/SW

*	Not validated
J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 42. Chloroethene validated concentrations for the December 1991 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0046	12/16/91	U	2.0	F	GC/GP
0063	12/16/91	U	2.0	F	GC/GP
0071	12/16/91	U	2.0	F	GW
0071 *	12/16/91	U	2.0	D	GW
0076	12/16/91	U	2.0	F	GW
0137	12/19/91	U	2.0	F	GW
0158	12/19/91	U	2.0	F	SP/SM
0271	12/16/91	U	2.0	F	GW
0111	12/16/91	UJ	2.0	F	SM/SP/SW
0112	12/13/91	UJ	2.0	F	LS/SH
0115	12/12/91	UJ	2.0	F	LS/SH
0117	12/19/91	UJ	2.0	F	LS/SH
0118	12/10/91	UJ	2.0	F	SM/SP
0120	12/17/91	UJ	2.0	F	LS/SH
0122	12/13/91	UJ	2.0	F	ML/GM
0122	12/13/91	UJ	2.0	D	ML/GM
0123	12/11/91	UJ	2.0	F	GW
0124	12/12/91	UJ	2.0	F	SP/GP
0126	12/12/91	UJ	2.0	F	SM/GM
0127	12/11/91	UJ	2.0	F	SP/GP
0129	12/17/91	UJ	2.0	F	SM/SP
0138	12/11/91	UJ	2.0	F	SP
0151	12/18/91	UJ	2.0	F	SP/CL
0152	12/14/91	UJ	2.0	F	CL/GC/SH
0153	12/14/91	UJ	2.0	F	CL/GW/SH
0154	12/14/91	UJ	2.0	F	GP
0155	12/13/91	UJ	2.0	F	SP
0155	12/13/91	UJ	2.0	D	SP
0156	12/11/91	UJ	2.0	F	GM/SP
0159	12/12/91	UJ	2.0	F	SP/GP
0160	12/12/91	UJ	2.0	F	GP
0301	12/10/91	UJ	2.0	F	CL
0302	12/10/91	UJ	2.0	F	SP
0303	12/10/91	UJ	2.0	F	TI/CL/SP
0304	12/11/91	UJ	2.0	F	GC/GM
0305	12/17/91	UJ	2.0	F	GM/GC/CL
0305	12/17/91	UJ	2.0	D	GM/GC/CL
0306	12/15/91	UJ	2.0	F	GC
0307	12/15/91	UJ	2.0	F	GW/SH
0309	12/14/91	UJ	2.0	F	SH
0310	12/14/91	UJ	2.0	F	LS
0311	12/13/91	UJ	2.0	F	GC
0312	12/16/91	UJ	2.0	F	GC/SH
0313	12/17/91	UJ	2.0	F	GW
0314	12/15/91	UJ	2.0	F	CL/SH
0315	12/17/91	UJ	2.0	F	ML/GM/GP
0317	12/16/91	UJ	2.0	F	GM/SM
0317	12/16/91	UJ	2.0	D	GM/SM
0318	12/15/91	UJ	2.0	F	SH
0319	12/18/91	UJ	2.0	F	SM/SP
0320	12/18/91	UJ	2.0	F	CL/SW
0601	12/14/91	UJ	2.0	F	NA
0602	12/14/91	UJ	2.0	F	NA

Table 42. Chloroethene validated concentrations for the December 1991 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0607	12/15/91	UJ	2.0	F	NA
0608	12/14/91	UJ	2.0	F	NA

*	Not validated
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 43. Tritium nonvalidated concentrations for the December 1991 groundwater sampling event

Well Id	Date	Value (nCi/L)	Uncertainty Value	Sample Type	FOC
0601	12/14/91	94.300	9.500	F	NA
0120	12/17/91	32.900	3.300	F	LS/SH
0608	12/14/91	24.700	2.500	F	NA
0607	12/15/91	23.000	2.400	F	NA
0115	12/12/91	21.500	2.200	F	LS/SH
0310	12/14/91	12.800	1.300	F	LS
0153	12/14/91	11.900	1.200	F	CL/GW/SH
0306	12/15/91	11.300	1.200	F	GC
0117	12/19/91	11.000	1.100	F	LS/SH
0152	12/14/91	10.900	1.100	F	CL/GC/SH
0312	12/16/91	10.100	1.100	F	GC/SH
0303	12/10/91	9.100	0.960	F	TI/CL/SP
0046	12/16/91	8.380	0.890	F	GC/GP
0307	12/15/91	7.480	0.800	F	GW/SH
0313	12/17/91	7.310	0.780	F	GW
0305	12/17/91	6.300	0.680	D	GM/GC/CL
0305	12/17/91	6.050	0.650	F	GM/GC/CL
0126	12/12/91	5.740	0.630	F	SM/GM
0302	12/10/91	5.510	0.600	F	SP
0063	12/16/91	5.390	0.590	F	GC/GP
0122	12/13/91	5.170	0.570	D	ML/GM
0122	12/13/91	5.140	0.570	F	ML/GM
0124	12/12/91	4.790	0.530	F	SP/GP
0315	12/17/91	4.540	0.510	F	ML/GM/GP
0314	12/15/91	4.220	0.480	F	CL/SH
0137	12/19/91	3.360	0.390	F	GW
0112	12/13/91	3.320	0.390	F	LS/SH
0318	12/15/91	3.070	0.370	F	SH
0317	12/16/91	3.050	0.360	F	GM/SM
0317	12/16/91	2.780	0.340	D	GM/SM
0071	12/16/91	2.650	0.320	F	GW
0071	12/16/91	2.570	0.320	D	GW
0271	12/16/91	2.530	0.320	F	GW
0154	12/14/91	2.520	0.320	F	GP
0111	12/16/91	2.270	0.290	F	SM/SP/SW
0602	12/14/91	2.270	0.290	F	NA
0155	12/13/91	2.220	0.290	F	SP
0138	12/11/91	2.200	0.280	F	SP
0155	12/13/91	2.190	0.290	D	SP
0304	12/11/91	2.090	0.270	F	GC/GM
0129	12/17/91	1.250	0.200	F	SM/SP
0320	12/18/91	1.240	0.200	F	CL/SW
0319	12/18/91	0.897	0.167	F	SM/SP
0158	12/19/91	0.557	0.161	F	SP/SM
0076	12/16/91	0.527	0.138	F	GW
0151	12/18/91	0.518	0.138	F	SP/CL
0118	12/10/91	< 0.500	*	F	SM/SP
0123	12/11/91	< 0.500	*	F	GW
0127	12/11/91	< 0.500	*	F	SP/GP
0156	12/11/91	< 0.500	*	F	GM/SP
0159	12/12/91	< 0.500	*	F	SP/GP
0160	12/12/91	< 0.500	*	F	GP
0301	12/10/91	< 0.500	*	F	CL

Table 43. Tritium nonvalidated concentrations for the December 1991 groundwater sampling event (concluded)

Well Id	Date	Value (nCi/L)	Uncertainty Value	Sample Type	FOC
0309	12/13/91	< 0.500	*	F	SH
0311	12/13/91	< 0.500	*	F	GC

*	Uncertainty not applicable; sample result below minimum detectable activity (MDA)
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 44. Summary of selected groundwater quality data, March 1992

		Validated Data					Non-validated Data
		Analyte					
Sample Subset	Criterion	TCA	TCE	PCE	DCE	VC	H3
All March 1992 samples	Number of Wells Sampled	22	22	22	22	22	22
	Number of Analysis	25	25	25	25	25	25
	Number of Detections	1	9	14	0	0	24
	Number of U's	24	8	10	17	0	1
	Number of J's	0	7	1	1	0	0
	Number of UJ's	0	1	0	7	25	0
	Maximum Concentration	1.7	27	23	0.85J	–	11.6
Source-area samples	Number of Wells Sampled	16	16	16	16	16	16
	Number of Analysis	18	18	18	18	18	18
	Number of Detections	0	9	13	0	0	18
	Number of U's	18	2	4	10	0	0
	Number of J's	0	7	1	1	0	0
	Number of UJ's	0	0	0	7	18	0
	Maximum Concentration	–	27	23	0.85J	–	11.6
Non-source-area samples	Number of Wells Sampled	6	6	6	6	6	6
	Number of Analysis	7	7	7	7	7	7
	Number of Detections	1	0	1	0	0	6
	Number of U's	6	6	6	7	0	1
	Number of J's	0	0	0	0	0	0
	Number of UJ's	0	1	0	0	7	0
	Maximum Concentration	1.7	–	0.4	–	–	3
Unconsolidated samples	Number of Wells Sampled	20	20	20	20	20	20
	Number of Analysis	23	23	23	23	23	23
	Number of Detections	1	8	14	0	0	22
	Number of U's	22	7	8	15	0	1
	Number of J's	0	7	1	1	0	0
	Number of UJ's	0	1	0	7	23	0
	Maximum Concentration	1.7	27	23	0.85J	–	11.6
Bedrock samples	Number of Wells Sampled	2	2	2	2	2	2
	Number of Analysis	2	2	2	2	2	2
	Number of Detections	0	1	0	0	0	2
	Number of U's	2	1	2	2	0	0
	Number of J's	0	0	0	0	0	0
	Number of UJ's	0	0	0	0	2	0
	Maximum Concentration	–	4	–	–	–	10.1

- Source-area samples were collected by known or suspected contaminant sources.
- Non-source-area samples were collected away from known or suspected contaminant sources.
- Unconsolidated samples were collected from wells completed in unconsolidated materials, or across the unconsolidated/bedrock interface.
- Bedrock samples were collected from wells, seeps, or test-pits completed in bedrock.
- U's mean the parameter was analyzed for, but was not detected.
- J's mean that the associated value is an estimated quantity.
- UJ's mean The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
- R's mean that the parameter was analyzed for, but parameter value was rejected during data validation.
- All maximum concentrations in ug/L except for tritium concentrations, which is nCi/L.
- TCA is 1,1,1-trichloroethane.
- TCE is trichloroethene.
- PCE is tetrachloroethene.
- DCE is 1,2 - trans- dichloroethene.
- VC is vinyl chloride.
- H3 is tritium.

Table 45. 1,1,1–Trichloroethane validated concentrations for the March 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0129	03/17/92		1.7	F	SM/SP
0046	03/23/92	U	0.30	F	GC/GP
0063	03/23/92	U	0.30	F	GC/GP
0063	03/23/92	U	0.30	D	GC/GP
0071	03/23/92	U	0.30	F	GW
0071	03/23/92	U	0.30	D	GW
0076	03/23/92	U	0.30	F	GW
0115	03/19/92	U	0.30	F	LS/SH
0118	03/17/92	U	0.30	F	SM/SP
0118	03/17/92	U	0.30	D	SM/SP
0122	03/20/92	U	0.30	F	ML/GM
0126	03/18/92	U	0.30	F	SM/GM
0138	03/17/92	U	0.30	F	SP
0152	03/20/92	U	0.30	F	CL/GC/SH
0154	03/21/92	U	0.30	F	GP
0155	03/21/92	U	0.30	F	SP
0159	03/18/92	U	0.30	F	SP/GP
0160	03/24/92	U	0.30	F	GP
0305	03/19/92	U	0.30	F	GM/GC/CL
0306	03/21/92	U	0.30	F	GC
0307	03/23/92	U	0.30	F	GW/SH
0309	03/22/92	U	0.30	F	SH
0312	03/21/92	U	0.30	F	GC/SH
0313	03/22/92	U	0.30	F	GW
0315	03/20/92	U	0.30	F	ML/GM/GP

U — The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.

F — Field sample
D — Duplicate field sample

FOC — Formation of completion

CL — Lean clays, sandy clays, or gravelly clays
GC — Clayey gravel or clayey sandy gravel
GM — Silty gravel or silty gravelly sand
GP — Gravel or sandy gravel, poorly graded
GW — Gravel or sandy gravel, well graded
LS — Limestone
ML — Silts, sandy or gravelly silts, diatomaceous soils
SH — Shale
SM — Silty sand or silty gravelly sand
SP — Sand or gravelly sand, poorly graded

Table 46. Trichloroethene validated concentrations for the March 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0312	03/21/92		27.	F	GC/SH
0305	03/19/92		23.	F	GM/GC/CL
0313	03/22/92		8.7	F	GW
0152	03/20/92		7.2	F	CL/GC/SH
0315	03/20/92		5.3	F	ML/GM/GP
0155	03/21/92		4.6	F	SP
0306	03/21/92		4.6	F	GC
0115	03/19/92		4.0	F	LS/SH
0154	03/21/92		2.8	F	GP
0063	03/23/92	J	21.	F	GC/GP
0063	03/23/92	J	21.	D	GC/GP
0307	03/23/92	J	8.2	F	GW/SH
0046	03/23/92	J	3.3	F	GC/GP
0071	03/23/92	J	2.2	D	GW
0071	03/23/92	J	2.1	F	GW
0076	03/23/92	J	1.4	F	GW
0118	03/17/92	U	1.2	F	SM/SP
0118	03/17/92	U	1.2	D	SM/SP
0122	03/20/92	U	1.2	F	ML/GM
0126	03/18/92	U	1.2	F	SM/GM
0129	03/17/92	U	1.2	F	SM/SP
0138	03/17/92	U	1.2	F	SP
0159	03/18/92	U	1.2	F	SP/GP
0309	03/22/92	U	1.2	F	SH
0160	03/24/92	UJ	1.2	F	GP

J — The associated value is an estimated quantity.
U — The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ — The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

F — Field sample
D — Duplicate field sample

FOC — Formation of completion

CL — Lean clays, sandy clays, or gravelly clays
GC — Clayey gravel or clayey sandy gravel
GM — Silty gravel or silty gravelly sand
GP — Gravel or sandy gravel, poorly graded
GW — Gravel or sandy gravel, well graded
LS — Limestone
ML — Silts, sandy or gravelly silts, diatomaceous soils
SH — Shale
SM — Silty sand or silty gravelly sand
SP — Sand or gravelly sand, poorly graded

Table 47. Tetrachloroethene validated concentrations for the March 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0305	03/19/92		23.	F	GM/GC/CL
0063	03/23/92		20.	F	GC/GP
0063	03/23/92		20.	D	GC/GP
0313	03/22/92		15.	F	GW
0307	03/23/92		10.	F	GW/SH
0152	03/20/92		4.0	F	CL/GC/SH
0046	03/23/92		4.0	F	GC/GP
0306	03/21/92		3.4	F	GC
0155	03/21/92		0.91	F	SP
0154	03/21/92		0.68	F	GP
0071	03/23/92		0.48	D	GW
0126	03/18/92		0.40	F	SM/GM
0071	03/23/92		0.37	F	GW
0315	03/20/92		0.30	F	ML/GM/GP
0076	03/23/92	J	0.29	F	GW
0115	03/19/92	U	0.30	F	LS/SH
0118	03/17/92	U	0.30	F	SM/SP
0118	03/17/92	U	0.30	D	SM/SP
0122	03/20/92	U	0.30	F	ML/GM
0129	03/17/92	U	0.30	F	SM/SP
0138	03/17/92	U	0.30	F	SP
0159	03/18/92	U	0.30	F	SP/GP
0160	03/24/92	U	0.30	F	GP
0309	03/22/92	U	0.30	F	SH
0312	03/21/92	U	0.30	F	GC/SH

J The associated value is an estimated quantity.
U The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.

F Field sample
D Duplicate field sample

FOC Formation of completion

CL Lean clays, sandy clays, or gravelly clays
GC Clayey gravel or clayey sandy gravel
GM Silty gravel or silty gravelly sand
GP Gravel or sandy gravel, poorly graded
GW Gravel or sandy gravel, well graded
LS Limestone
ML Silts, sandy or gravelly silts, diatomaceous soils
SH Shale
SM Silty sand or silty gravelly sand
SP Sand or gravelly sand, poorly graded

Table 48. 1,2–trans–Dichloroethene validated concentrations for the March 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0312	03/21/92	J	0.85	F	GC/SH
0115	03/19/92	U	1.0	F	LS/SH
0118	03/17/92	U	1.0	F	SM/SP
0118	03/17/92	U	1.0	D	SM/SP
0122	03/20/92	U	1.0	F	ML/GM
0126	03/18/92	U	1.0	F	SM/GM
0129	03/17/92	U	1.0	F	SM/SP
0138	03/17/92	U	1.0	F	SP
0152	03/20/92	U	1.0	F	CL/GC/SH
0154	03/21/92	U	1.0	F	GP
0155	03/21/92	U	1.0	F	SP
0159	03/18/92	U	1.0	F	SP/GP
0160	03/24/92	U	1.0	F	GP
0305	03/19/92	U	1.0	F	GM/GC/CL
0306	03/21/92	U	1.0	F	GC
0309	03/22/92	U	1.0	F	SH
0313	03/22/92	U	1.0	F	GW
0315	03/20/92	U	1.0	F	ML/GM/GP
0046	03/23/92	UJ	1.0	F	GC/GP
0063	03/23/92	UJ	1.0	F	GC/GP
0063	03/23/92	UJ	1.0	D	GC/GP
0071	03/23/92	UJ	1.0	F	GW
0071	03/23/92	UJ	1.0	D	GW
0076	03/23/92	UJ	1.0	F	GW
0307	03/23/92	UJ	1.0	F	GW/SH

J — The associated value is an estimated quantity.
U — The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ — The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

F — Field sample
D — Duplicate field sample

FOC — Formation of completion

CL — Lean clays, sandy clays, or gravelly clays
GC — Clayey gravel or clayey sandy gravel
GM — Silty gravel or silty gravelly sand
GP — Gravel or sandy gravel, poorly graded
GW — Gravel or sandy gravel, well graded
LS — Limestone
ML — Silts, sandy or gravelly silts, diatomaceous soils
SH — Shale
SM — Silty sand or silty gravelly sand
SP — Sand or gravelly sand, poorly graded

Table 49. Chloroethene validated concentrations for the March 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0046	03/23/92	UJ	1.8	F	GC/GP
0063	03/23/92	UJ	1.8	F	GC/GP
0063	03/23/92	UJ	1.8	D	GC/GP
0071	03/23/92	UJ	1.8	F	GW
0071	03/23/92	UJ	1.8	D	GW
0076	03/23/92	UJ	1.8	F	GW
0115	03/19/92	UJ	1.8	F	LS/SH
0118	03/17/92	UJ	1.8	F	SM/SP
0118	03/17/92	UJ	1.8	D	SM/SP
0122	03/20/92	UJ	1.8	F	ML/GM
0126	03/18/92	UJ	1.8	F	SM/GM
0129	03/17/92	UJ	1.8	F	SM/SP
0138	03/17/92	UJ	1.8	F	SP
0152	03/20/92	UJ	1.8	F	CL/GC/SH
0154	03/21/92	UJ	1.8	F	GP
0155	03/21/92	UJ	1.8	F	SP
0159	03/18/92	UJ	1.8	F	SP/GP
0160	03/24/92	UJ	1.8	F	GP
0305	03/19/92	UJ	1.8	F	GM/GC/CL
0306	03/21/92	UJ	1.8	F	GC
0307	03/23/92	UJ	1.8	F	GW/SH
0309	03/22/92	UJ	1.8	F	SH
0312	03/21/92	UJ	1.8	F	GC/SH
0313	03/22/92	UJ	1.8	F	GW
0315	03/20/92	UJ	1.8	F	ML/GM/GP

UJ — The parameter was analyzed for, but was not detected. The the sample quantitation limit is an estimated quantity.

F — Field sample
D — Duplicate field sample

FOC — Formation of completion

CL — Lean clays, sandy clays, or gravelly clays
GC — Clayey gravel or clayey sandy gravel
GM — Silty gravel or silty gravelly sand
GP — Gravel or sandy gravel, poorly graded
GW — Gravel or sandy gravel, well graded
LS — Limestone
ML — Silts, sandy or gravelly silts, diatomaceous soils
SH — Shale
SM — Silty sand or silty gravelly sand
SP — Sand or gravelly sand, poorly graded

Table 50. Tritium nonvalidated concentrations for the March 1992 groundwater sampling event

Well Id	Date	Value (nCi/L)	Uncertainty Value	Sample Type	FOC
0152	03/20/92	11.600	0.600	F	CL/GC/SH
0312	03/21/92	11.100	0.500	F	GC/SH
0115	03/19/92	10.100	0.500	F	LS/SH
0046	03/23/92	8.700	0.500	F	GC/GP
0307	03/23/92	7.900	0.500	F	GW/SH
0313	03/22/92	7.300	0.500	F	GW
0063	03/23/92	6.900	0.500	F	GC/GP
0063	03/23/92	6.700	0.500	D	GC/GP
0305	03/19/92	6.600	1.200	F	GM/GC/CL
0306	03/21/92	6.600	0.500	F	GC
0122	03/20/92	5.000	0.400	F	ML/GM
0315	03/20/92	4.500	0.400	F	ML/GM/GP
0126	03/18/92	3.000	0.400	F	SM/GM
0155	03/21/92	2.300	0.400	F	SP
0154	03/21/92	2.100	0.400	F	GP
0071	03/23/92	1.900	0.400	F	GW
0138	03/17/92	1.800	0.400	F	SP
0071	03/23/92	1.700	0.400	D	GW
0129	03/17/92	1.300	0.300	F	SM/SP
0076	03/23/92	1.200	0.300	F	GW
0118	03/17/92	0.430	0.310	F	SM/SP
0118	03/17/92	0.300	0.310	D	SM/SP
0309	03/22/92	0.250	0.300	F	SH
0159	03/18/92	0.100	0.300	F	SP/GP
0160	03/24/92	0.	0.290	F	GP

F Field sample
D Duplicate field sample

FOC Formation of completion

CL Lean clays, sandy clays, or gravelly clays
GC Clayey gravel or clayey sandy gravel
GM Silty gravel or silty gravelly sand
GP Gravel or sandy gravel, poorly graded
GW Gravel or sandy gravel, well graded
LS Limestone
ML Silts, sandy or gravelly silts, diatomaceous soils
SH Shale
SM Silty sand or silty gravelly sand
SP Sand or gravelly sand, poorly graded

Table 51. Summary of selected groundwater quality data, June 1992

		Validated Data					Non-validated Data
		Analyte					
Sample Subset	Criterion	TCA	TCE	PCE	DCE	VC	H3
All June 1992 samples	Number of Sample Locations	50	50	50	50	50	50
	Number of Analyses	56	56	56	56	56	56
	Number of Detections	10	12	11	2	0	56
	Number of U's	39	11	9	48	24	0
	Number of J's	1	19	11	0	0	0
	Number of UJ's	6	14	19	6	32	0
	Number of R's	0	0	6	0	0	0
	Maximum Concentration	3.2	60	16	5.8	–	329.8
Source-area samples	Number of Sample Locations	35	35	35	35	35	35
	Number of Analyses	40	40	40	40	40	40
	Number of Detections	7	12	11	2	0	40
	Number of U's	31	8	9	37	21	0
	Number of J's	1	17	11	0	0	0
	Number of UJ's	1	3	4	1	19	0
	Number of R's	0	0	5	0	0	0
	Maximum Concentration	3.2	60	16	5.8	–	329.8
Non-source-area samples	Number of Sample Locations	15	15	15	15	15	15
	Number of Analyses	16	16	16	16	16	16
	Number of Detections	3	0	0	0	0	16
	Number of U's	8	3	0	11	3	0
	Number of J's	0	2	0	0	0	0
	Number of UJ's	5	11	15	5	13	0
	Number of R's	0	0	1	0	0	0
	Maximum Concentration	3.0	2.4J	–	–	–	9.1
Unconsolidated samples	Number of Sample Locations	34	34	34	34	34	34
	Number of Analyses	38	38	38	38	38	38
	Number of Detections	7	2	5	1	0	38
	Number of U's	25	5	0	32	8	0
	Number of J's	1	18	10	0	0	0
	Number of UJ's	5	13	18	5	30	0
	Number of R's	0	0	5	0	0	0
	Maximum Concentration	3.0	8.8	11	1.8	–	11
Bedrock Well Samples	Number of Sample Locations	3	3	3	3	3	3
	Number of Analyses	3	3	3	3	3	3
	Number of Detections	0	0	0	0	0	3
	Number of U's	2	1	0	2	1	0
	Number of J's	0	1	1	0	0	0
	Number of UJ's	1	1	1	1	2	0
	Number of R's	0	0	1	0	0	0
	Maximum Concentration	–	3.9J	1.9J	–	–	30.7

Table 51. Summary of selected groundwater quality data, June 1992 (concluded)

		Non–validated Data					
		Analyte					
		TCA	TCE	PCE	DCE	VC	H3
Bedrock Seep Samples	Number of Sample Locations	4	4	4	4	4	4
	Number of Analyses	5	5	5	5	5	5
	Number of Detections	2	5	3	0	0	5
	Number of U's	3	0	2	5	5	0
	Number of J's	0	0	0	0	0	0
	Number of UJ's	0	0	0	0	0	0
	Number of R's	0	0	0	0	0	0
	Maximum Concentration	0.74	8.3	16	–	–	99
Bedrock Test–Pit Samples	Number of Sample Locations	9	9	9	9	9	9
	Number of Analyses	10	10	10	10	10	10
	Number of Detections	1	5	3	1	0	10
	Number of U's	9	5	7	9	10	0
	Number of J's	0	0	0	0	0	0
	Number of UJ's	0	0	0	0	0	0
	Number of R's	0	0	0	0	0	0
	Maximum Concentration	3.2	60	2.7	5.8	–	329.8

– Source–area samples were collected by known or suspected contaminant sources.
– Non–source–area samples were collected away from known or suspected contaminant sources.
– Unconsolidated samples were collected from wells completed in unconsolidated materials, or across the unconsolidated/bedrock interface.
– Bedrock samples were collected from wells, seeps, or test–pits completed in bedrock.
– U's mean the parameter was analyzed for, but was not detected.
– J's mean that the associated value is an estimated quantity.
– UJ's mean The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
– R's mean that the parameter was analyzed for, but parameter value was rejected during data validation.
– All maximum concentrations in ug/L except for tritium concentrations, which is nCi/L.
– TCA is 1,1,1–trichloroethane.
– TCE is trichloroethene.
– PCE is tetrachloroethene.
– DCE is 1,2 – trans– dichloroethene.
– VC is vinyl chloride.
– H3 is tritium.

Table 52. 1,1,1-Trichloroethane validated concentrations for the June 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0726 *	06/23/92		3.2	F	SH/LS
0129	06/16/92		3.0	F	SM/SP
0271	06/22/92		1.8	F	GW
0126	06/16/92		1.7	F	SM/GM
0153	06/18/92		1.4	F	CL/GW/SH
0124	06/16/92		0.78	F	SP/GP
0154	06/18/92		0.74	D	GP
0607 *	06/22/92		0.74	F	NA
0154	06/18/92		0.69	F	GP
0602 *	06/22/92		0.57	F	NA
0071	06/23/92	J	1.8	F	GW
0046	06/22/92	U	0.30	F	GC/GP
0063	06/22/92	U	0.30	F	GC/GP
0063	06/22/92	U	0.30	D	GC/GP
0076	06/22/92	U	0.30	F	GW
0119	06/19/92	U	0.30	F	GM/SP
0123	06/16/92	U	0.30	F	GW
0124	06/16/92	U	0.30	D	SP/GP
0125	06/20/92	U	0.30	F	ML/GM
0152	06/18/92	U	0.30	F	CL/GC/SH
0155	06/18/92	U	0.30	F	SP
0158	06/20/92	U	0.30	F	SP/SM
0303	06/16/92	U	0.30	F	TI/CL/SP
0304	06/16/92	U	0.30	F	GC/GM
0305	06/22/92	U	0.30	F	GM/GC/CL
0305	06/22/92	U	0.30	D	GM/GC/CL
0306	06/18/92	U	0.30	F	GC
0307	06/21/92	U	0.30	F	GW/SH
0309	06/19/92	U	0.30	F	SH
0310	06/20/92	U	0.30	F	LS
0311	06/17/92	U	0.30	F	GC
0312	06/20/92	U	0.30	F	GC/SH
0313	06/21/92	U	0.30	F	GW
0314	06/19/92	U	0.30	F	CL/SH
0315	06/20/92	U	0.30	F	ML/GM/GP
0317	06/20/92	U	0.30	F	GM/SM
0319	06/19/92	U	0.30	F	SM/SP
0320	06/19/92	U	0.30	F	CL/SW
0601 *	06/22/92	U	0.30	F	NA
0601 *	06/22/92	U	0.30	D	NA
0605 *	06/22/92	U	0.30	F	NA
0712 *	06/23/92	U	0.30	F	SH/LS
0714 *	06/23/92	U	0.30	F	SH/LS
0721 *	06/23/92	U	0.30	F	SH/LS
0721 *	06/23/92	U	0.30	D	SH/LS
0722 *	06/23/92	U	0.30	F	SH/LS
0723 *	06/23/92	U	0.30	F	SH/LS
0724 *	06/23/92	U	0.30	F	SH/LS
0725 *	06/23/92	U	0.30	F	SH/LS
0727 *	06/23/92	U	0.30	F	SH/LS
0156	06/17/92	UJ	0.49	F	GM/SP
0118	06/17/92	UJ	0.35	F	SM/SP
0115	06/17/92	UJ	0.30	F	LS/SH

Table 52. 1,1,1-Trichloroethane validated concentrations for the June 1992 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0138	06/17/92	UJ	0.30	F	SP
0159	06/17/92	UJ	0.30	F	SP/GP
0160	06/17/92	UJ	0.30	F	GP

*	Not validated
J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 53. Trichloroethene validated concentrations for the June 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0726 *	06/23/92		60.	F	SH/LS
0307	06/21/92		8.8	F	GW/SH
0605 *	06/22/92		8.3	F	NA
0602 *	06/22/92		7.6	F	NA
0725 *	06/23/92		6.5	F	SH/LS
0313	06/21/92		6.2	F	GW
0601 *	06/22/92		4.7	D	NA
0601 *	06/22/92		4.5	F	NA
0607 *	06/22/92		4.1	F	NA
0712 *	06/23/92		3.8	F	SH/LS
0727 *	06/23/92		3.7	F	SH/LS
0714 *	06/23/92		3.4	F	SH/LS
0063	06/22/92	J	47.	F	GC/GP
0063	06/22/92	J	45.	D	GC/GP
0305	06/22/92	J	35.	D	GM/GC/CL
0305	06/22/92	J	31.	F	GM/GC/CL
0312	06/20/92	J	21.	F	GC/SH
0153	06/18/92	J	12.	F	CL/GW/SH
0306	06/18/92	J	8.5	F	GC
0152	06/18/92	J	8.2	F	CL/GC/SH
0154	06/18/92	J	8.1	D	GP
0154	06/18/92	J	8.0	F	GP
0315	06/20/92	J	5.3	F	ML/GM/GP
0155	06/18/92	J	4.4	F	SP
0115	06/17/92	J	3.9	F	LS/SH
0124	06/16/92	J	2.4	D	SP/GP
0071	06/23/92	J	2.1	F	GW
0271	06/22/92	J	1.8	F	GW
0046	06/22/92	J	1.7	F	GC/GP
0076	06/22/92	J	1.6	F	GW
0304	06/16/92	J	0.79	F	GC/GM
0119	06/19/92	U	1.2	F	GM/SP
0309	06/19/92	U	1.2	F	SH
0311	06/17/92	U	1.2	F	GC
0314	06/19/92	U	1.2	F	CL/SH
0319	06/19/92	U	1.2	F	SM/SP
0320	06/19/92	U	1.2	F	CL/SW
0721 *	06/23/92	U	1.2	F	SH/LS
0721 *	06/23/92	U	1.2	D	SH/LS
0722 *	06/23/92	U	1.2	F	SH/LS
0723 *	06/23/92	U	1.2	F	SH/LS
0724 *	06/23/92	U	1.2	F	SH/LS
0159	06/17/92	UJ	1.5	F	SP/GP
0118	06/17/92	UJ	1.2	F	SM/SP
0123	06/16/92	UJ	1.2	F	GW
0124	06/16/92	UJ	1.2	F	SP/GP
0125	06/20/92	UJ	1.2	F	ML/GM
0126	06/16/92	UJ	1.2	F	SM/GM
0129	06/16/92	UJ	1.2	F	SM/SP
0138	06/17/92	UJ	1.2	F	SP
0156	06/17/92	UJ	1.2	F	GM/SP
0158	06/20/92	UJ	1.2	F	SP/SM
0160	06/17/92	UJ	1.2	F	GP

Table 53. Trichloroethene validated concentrations for the June 1992 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0303	06/16/92	UJ	1.2	F	TI/CL/SP
0310	06/20/92	UJ	1.2	F	LS
0317	06/20/92	UJ	1.2	F	GM/SM

*	Not validated
J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 54. Tetrachloroethene validated concentrations for the June 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0601 *	06/22/92		16.	D	NA
0601 *	06/22/92		13.	F	NA
0307	06/21/92		11.	F	GW/SH
0313	06/21/92		11.	F	GW
0153	06/18/92		6.0	F	CL/GW/SH
0727 *	06/23/92		2.7	F	SH/LS
0714 *	06/23/92		2.2	F	SH/LS
0154	06/18/92		1.4	D	GP
0154	06/18/92		1.3	F	GP
0726 *	06/23/92		0.67	F	SH/LS
0602 *	06/22/92		0.35	F	NA
0063	06/22/92	J	23.	F	GC/GP
0063	06/22/92	J	23.	D	GC/GP
0305	06/22/92	J	21.	D	GM/GC/CL
0305	06/22/92	J	19.	F	GM/GC/CL
0306	06/18/92	J	4.5	F	GC
0115	06/17/92	J	1.9	F	LS/SH
0046	06/22/92	J	1.7	F	GC/GP
0155	06/18/92	J	0.68	F	SP
0271	06/22/92	J	0.60	F	GW
0071	06/23/92	J	0.52	F	GW
0315	06/20/92	J	0.33	F	ML/GM/GP
0605 *	06/22/92	U	0.30	F	NA
0607 *	06/22/92	U	0.30	F	NA
0712 *	06/23/92	U	0.30	F	SH/LS
0721 *	06/23/92	U	0.30	F	SH/LS
0721 *	06/23/92	U	0.30	D	SH/LS
0722 *	06/23/92	U	0.30	F	SH/LS
0723 *	06/23/92	U	0.30	F	SH/LS
0724 *	06/23/92	U	0.30	F	SH/LS
0725 *	06/23/92	U	0.30	F	SH/LS
0152	06/18/92	UJ	4.5	F	CL/GC/SH
0118	06/17/92	UJ	0.30	F	SM/SP
0119	06/19/92	UJ	0.30	F	GM/SP
0123	06/16/92	UJ	0.30	F	GW
0124	06/16/92	UJ	0.30	F	SP/GP
0124	06/16/92	UJ	0.30	D	SP/GP
0126	06/16/92	UJ	0.30	F	SM/GM
0129	06/16/92	UJ	0.30	F	SM/SP
0138	06/17/92	UJ	0.30	F	SP
0156	06/17/92	UJ	0.30	F	GM/SP
0159	06/17/92	UJ	0.30	F	SP/GP
0160	06/17/92	UJ	0.30	F	GP
0303	06/16/92	UJ	0.30	F	TI/CL/SP
0304	06/16/92	UJ	0.30	F	GC/GM
0309	06/19/92	UJ	0.30	F	SH
0311	06/17/92	UJ	0.30	F	GC
0314	06/19/92	UJ	0.30	F	CL/SH
0319	06/19/92	UJ	0.30	F	SM/SP
0320	06/19/92	UJ	0.30	F	CL/SW
0076	06/22/92	R		F	GW
0125	06/20/92	R		F	ML/GM
0158	06/20/92	R		F	SP/SM

Table 54. Tetrachloroethene validated concentrations for the June 1992 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0310	06/20/92	R		F	LS
0312	06/20/92	R		F	GC/SH
0317	06/20/92	R		F	GM/SM

*	Not validated
J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
R	Rejected value
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 55. 1,2–trans–Dichloroethene validated concentrations for the June 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0726 *	06/23/92		5.8	F	SH/LS
0312	06/20/92		1.8	F	GC/SH
0046	06/22/92	U	1.0	F	GC/GP
0063	06/22/92	U	1.0	F	GC/GP
0063	06/22/92	U	1.0	D	GC/GP
0071	06/23/92	U	1.0	F	GW
0076	06/22/92	U	1.0	F	GW
0119	06/19/92	U	1.0	F	GM/SP
0123	06/16/92	U	1.0	F	GW
0124	06/16/92	U	1.0	F	SP/GP
0124	06/16/92	U	1.0	D	SP/GP
0125	06/20/92	U	1.0	F	ML/GM
0126	06/16/92	U	1.0	F	SM/GM
0129	06/16/92	U	1.0	F	SM/SP
0152	06/18/92	U	1.0	F	CL/GC/SH
0153	06/18/92	U	1.0	F	CL/GW/SH
0154	06/18/92	U	1.0	F	GP
0154	06/18/92	U	1.0	D	GP
0155	06/18/92	U	1.0	F	SP
0158	06/20/92	U	1.0	F	SP/SM
0271	06/22/92	U	1.0	F	GW
0303	06/16/92	U	1.0	F	TI/CL/SP
0304	06/16/92	U	1.0	F	GC/GM
0305	06/22/92	U	1.0	F	GM/GC/CL
0305	06/22/92	U	1.0	D	GM/GC/CL
0306	06/18/92	U	1.0	F	GC
0307	06/21/92	U	1.0	F	GW/SH
0309	06/19/92	U	1.0	F	SH
0310	06/20/92	U	1.0	F	LS
0311	06/17/92	U	1.0	F	GC
0313	06/21/92	U	1.0	F	GW
0314	06/19/92	U	1.0	F	CL/SH
0315	06/20/92	U	1.0	F	ML/GM/GP
0317	06/20/92	U	1.0	F	GM/SM
0319	06/19/92	U	1.0	F	SM/SP
0320	06/19/92	U	1.0	F	CL/SW
0601 *	06/22/92	U	1.0	F	NA
0601 *	06/22/92	U	1.0	D	NA
0602 *	06/22/92	U	1.0	F	NA
0605 *	06/22/92	U	1.0	F	NA
0607 *	06/22/92	U	1.0	F	NA
0712 *	06/23/92	U	1.0	F	SH/LS
0714 *	06/23/92	U	1.0	F	SH/LS
0721 *	06/23/92	U	1.0	F	SH/LS
0721 *	06/23/92	U	1.0	D	SH/LS
0722 *	06/23/92	U	1.0	F	SH/LS
0723 *	06/23/92	U	1.0	F	SH/LS
0724 *	06/23/92	U	1.0	F	SH/LS
0725 *	06/23/92	U	1.0	F	SH/LS
0727 *	06/23/92	U	1.0	F	SH/LS
0115	06/17/92	UJ	1.0	F	LS/SH
0118	06/17/92	UJ	1.0	F	SM/SP
0138	06/17/92	UJ	1.0	F	SP

Table 55. 1,2–trans–Dichloroethene validated concentrations for the June 1992 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0156	06/17/92	UJ	1.0	F	GM/SP
0159	06/17/92	UJ	1.0	F	SP/GP
0160	06/17/92	UJ	1.0	F	GP

*	Not validated
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 56. Chloroethene validated concentrations for the June 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0119	06/19/92	U	1.8	F	GM/SP
0152	06/18/92	U	1.8	F	CL/GC/SH
0155	06/18/92	U	1.8	F	SP
0306	06/18/92	U	1.8	F	GC
0309	06/19/92	U	1.8	F	SH
0311	06/17/92	U	1.8	F	GC
0314	06/19/92	U	1.8	F	CL/SH
0319	06/19/92	U	1.8	F	SM/SP
0320	06/19/92	U	1.8	F	CL/SW
0601 *	06/22/92	U	1.8	F	NA
0601 *	06/22/92	U	1.8	D	NA
0602 *	06/22/92	U	1.8	F	NA
0605 *	06/22/92	U	1.8	F	NA
0607 *	06/22/92	U	1.8	F	NA
0712 *	06/23/92	U	1.8	F	SH/LS
0714 *	06/23/92	U	1.8	F	SH/LS
0721 *	06/23/92	U	1.8	F	SH/LS
0721 *	06/23/92	U	1.8	D	SH/LS
0722 *	06/23/92	U	1.8	F	SH/LS
0723 *	06/23/92	U	1.8	F	SH/LS
0724 *	06/23/92	U	1.8	F	SH/LS
0725 *	06/23/92	U	1.8	F	SH/LS
0726 *	06/23/92	U	1.8	F	SH/LS
0727 *	06/23/92	U	1.8	F	SH/LS
0046	06/22/92	UJ	1.8	F	GC/GP
0063	06/22/92	UJ	1.8	F	GC/GP
0063	06/22/92	UJ	1.8	D	GC/GP
0071	06/23/92	UJ	1.8	F	GW
0076	06/22/92	UJ	1.8	F	GW
0115	06/17/92	UJ	1.8	F	LS/SH
0118	06/17/92	UJ	1.8	F	SM/SP
0123	06/16/92	UJ	1.8	F	GW
0124	06/16/92	UJ	1.8	F	SP/GP
0124	06/16/92	UJ	1.8	D	SP/GP
0125	06/20/92	UJ	1.8	F	ML/GM
0126	06/16/92	UJ	1.8	F	SM/GM
0129	06/16/92	UJ	1.8	F	SM/SP
0138	06/17/92	UJ	1.8	F	SP
0153	06/18/92	UJ	1.8	F	CL/GW/SH
0154	06/18/92	UJ	1.8	F	GP
0154	06/18/92	UJ	1.8	D	GP
0156	06/17/92	UJ	1.8	F	GM/SP
0158	06/20/92	UJ	1.8	F	SP/SM
0159	06/17/92	UJ	1.8	F	SP/GP
0160	06/17/92	UJ	1.8	F	GP
0271	06/22/92	UJ	1.8	F	GW
0303	06/16/92	UJ	1.8	F	TI/CL/SP
0304	06/16/92	UJ	1.8	F	GC/GM
0305	06/22/92	UJ	1.8	F	GM/GC/CL
0305	06/22/92	UJ	1.8	D	GM/GC/CL
0307	06/21/92	UJ	1.8	F	GW/SH
0310	06/20/92	UJ	1.8	F	LS
0312	06/20/92	UJ	1.8	F	GC/SH

Table 56. Chloroethene validated concentrations for the June 1992 groundwater sampling event (concluded)

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0313	06/21/92	UJ	1.8	F	GW
0315	06/20/92	UJ	1.8	F	ML/GM/GP
0317	06/20/92	UJ	1.8	F	GM/SM

*	Not validated
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
NA	Not applicable
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded
SW	Sand or gravelly sand, well graded
TI	Till

Table 57. Tritium nonvalidated concentrations for the June 1992 groundwater sampling event

Well Id	Date	Value (nCi/L)	Uncertainty Value	Sample Type	FOC
0727	06/23/92	329.800	2.600	F	SH/LS
0714	06/23/92	297.700	2.500	F	SH/LS
0601	06/22/92	99.000	1.400	F	NA
0601	06/22/92	96.800	1.400	D	NA
0605	06/22/92	52.000	1.100	F	NA
0115	06/17/92	30.700	0.800	F	LS/SH
0721	06/23/92	29.700	0.800	D	SH/LS
0721	06/23/92	29.200	0.800	F	SH/LS
0607	06/22/92	22.000	0.700	F	NA
0722	06/23/92	21.700	0.700	F	SH/LS
0310	06/20/92	12.500	0.600	F	LS
0312	06/20/92	11.000	0.500	F	GC/SH
0152	06/18/92	10.700	0.500	F	CL/GC/SH
0303	06/16/92	9.100	0.500	F	TI/CL/SP
0153	06/18/92	8.200	0.500	F	CL/GW/SH
0307	06/21/92	7.900	0.500	F	GW/SH
0046	06/22/92	7.700	0.500	F	GC/GP
0723	06/23/92	7.600	0.500	F	SH/LS
0306	06/18/92	7.600	0.500	F	GC
0313	06/21/92	7.300	0.500	F	GW
0305	06/22/92	7.100	0.500	D	GM/GC/CL
0305	06/22/92	6.700	0.500	F	GM/GC/CL
0063	06/22/92	6.700	0.500	F	GC/GP
0063	06/22/92	6.500	0.500	D	GC/GP
0315	06/20/92	5.400	0.400	F	ML/GM/GP
0314	06/19/92	4.300	0.400	F	CL/SH
0726	06/23/92	4.100	0.400	F	SH/LS
0154	06/18/92	3.800	0.400	F	GP
0138	06/17/92	3.400	0.400	F	SP
0724	06/23/92	3.400	0.400	F	SH/LS
0119	06/19/92	3.300	0.400	F	GM/SP
0317	06/20/92	3.000	0.400	F	GM/SM
0725	06/23/92	3.000	0.400	F	SH/LS
0126	06/16/92	2.700	0.400	F	SM/GM
0154	06/18/92	2.300	0.300	D	GP
0155	06/18/92	2.300	0.300	F	SP
0124	06/16/92	2.000	0.300	D	SP/GP
0124	06/16/92	1.900	0.300	F	SP/GP
0071	06/23/92	1.900	0.300	F	GW
0271	06/22/92	1.800	0.300	F	GW
0304	06/16/92	1.700	0.300	F	GC/GM
0129	06/16/92	1.700	0.300	F	SM/SP
0712	06/23/92	1.600	0.300	F	SH/LS
0320	06/19/92	1.400	0.300	F	CL/SW
0602	06/22/92	1.100	0.300	F	NA
0076	06/22/92	1.100	0.300	F	GW
0319	06/19/92	1.000	0.300	F	SM/SP
0311	06/17/92	0.860	0.300	F	GC
0118	06/17/92	0.810	0.300	F	SM/SP
0125	06/20/92	0.760	0.300	F	ML/GM
0309	06/19/92	0.700	0.290	F	SH
0158	06/20/92	0.590	0.290	F	SP/SM
0159	06/17/92	0.260	0.280	F	SP/GP

Table 57. Tritium nonvalidated concentrations for the June 1992 groundwater sampling event (concluded)

Well Id	Date	Value (nCi/L)	Uncertainty Value	Sample Type	FOC
0160	06/17/92	0.140	0.270	F	GP
0123	06/16/92	0.070	0.290	F	GW
0156	06/17/92	0.050	0.270	F	GM/SP

F Field sample
D Duplicate field sample

FOC Formation of completion

CL Lean clays, sandy clays, or gravelly clays
GC Clayey gravel or clayey sandy gravel
GM Silty gravel or silty gravelly sand
GP Gravel or sandy gravel, poorly graded
GW Gravel or sandy gravel, well graded
LS Limestone
ML Silts, sandy or gravelly silts, diatomaceous soils
NA Not applicable
SH Shale
SM Silty sand or silty gravelly sand
SP Sand or gravelly sand, poorly graded
SW Sand or gravelly sand, well graded
TI Till

Table 58. Summary of selected groundwater quality data, September 1992

		Validated Data					Non-validated Data
		Analyte					
Sample Subset	Criterion	TCA	TCE	PCE	DCE	VC	H3
All September 1992 samples	Number of Sample Locations	22	22	22	22	22	22
	Number of Analyses	25	25	25	25	25	25
	Number of Detections	2	8	8	0	2	22
	Number of U's	23	3	11	17	14	3
	Number of J's	0	1	0	0	2	0
	Number of UJ's	0	13	6	8	7	0
	Maximum Concentration	1.7	20	12	–	2.6	25.4
Source-area samples	Number of Sample Locations	16	16	16	16	16	16
	Number of Analyses	18	18	18	18	18	18
	Number of Detections	0	8	8	0	2	17
	Number of U's	18	3	4	17	7	1
	Number of J's	0	1	0	0	2	0
	Number of UJ's	0	6	6	1	7	0
	Maximum Concentration	–	20	12	–	2.6	25.4
Non-source-area samples	Number of Sample Locations	6	6	6	6	6	6
	Number of Analyses	7	7	7	7	7	7
	Number of Detections	2	0	0	0	0	5
	Number of U's	5	0	7	0	7	2
	Number of J's	0	0	0	0	0	0
	Number of UJ's	0	7	0	7	0	0
	Maximum Concentration	1.7	–	–	–	–	3.22
Unconsolidated samples	Number of Sample Locations	20	20	20	20	20	20
	Number of Analyses	23	23	23	23	23	23
	Number of Detections	2	8	7	0	2	21
	Number of U's	21	2	10	16	13	2
	Number of J's	0	0	0	0	2	0
	Number of UJ's	0	13	6	7	6	0
	Maximum Concentration	1.7	20	12	–	2.6	11.7
Bedrock Samples	Number of Sample Locations	2	2	2	2	2	2
	Number of Analyses	2	2	2	2	2	2
	Number of Detections	0	0	1	0	0	1
	Number of U's	2	1	1	1	1	1
	Number of J's	0	1	0	0	0	0
	Number of UJ's	0	0	0	1	1	0
	Maximum Concentration	–	2.8J	1.7	–	–	25.4

- Source-area samples were collected by known or suspected contaminant sources.
- Non-source-area samples were collected away from known or suspected contaminant sources.
- Unconsolidated samples were collected from wells completed in unconsolidated materials, or across the unconsolidated/bedrock interface.
- Bedrock samples were collected from wells, seeps, or test-pits completed in bedrock.
- U's mean the parameter was analyzed for, but was not detected.
- J's mean that the associated value is an estimated quantity.
- UJ's mean The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
- All maximum concentrations in ug/L except for tritium concentrations, which is nCi/L.
- TCA is 1,1,1-trichloroethane.
- TCE is trichloroethene.
- PCE is tetrachloroethene.
- DCE is 1,2 – trans- dichloroethene.
- VC is vinyl chloride.
- H3 is tritium.

Table 59. 1,1,1–Trichloroethane validated concentrations for the September 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0129	09/15/92		1.7	F	SM/SP
0126	09/14/92		0.36	D	SM/GM
0046	09/16/92	U	0.30	F	GC/GP
0063	09/16/92	U	0.30	F	GC/GP
0071	09/16/92	U	0.30	F	GW
0071	09/16/92	U	0.30	D	GW
0076	09/16/92	U	0.30	F	GW
0115	09/15/92	U	0.30	F	LS/SH
0118	09/14/92	U	0.30	F	SM/SP
0126	09/14/92	U	0.30	F	SM/GM
0138	09/14/92	U	0.30	F	SP
0152	09/17/92	U	0.30	F	CL/GC/SH
0154	09/17/92	U	0.30	F	GP
0155	09/17/92	U	0.30	F	SP
0159	09/15/92	U	0.30	F	SP/GP
0160	09/15/92	U	0.30	F	GP
0271	09/16/92	U	0.30	F	GW
0305	09/16/92	U	0.30	F	GM/GC/CL
0306	09/17/92	U	0.30	F	GC
0306	09/17/92	U	0.30	D	GC
0307	09/17/92	U	0.30	F	GW/SH
0309	09/16/92	U	0.30	F	SH
0312	09/17/92	U	0.30	F	GC/SH
0313	09/17/92	U	0.30	F	GW
0315	09/16/92	U	0.30	F	ML/GM/GP

U — The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.

F — Field sample
D — Duplicate field sample

FOC — Formation of completion

CL — Lean clays, sandy clays, or gravelly clays
GC — Clayey gravel or clayey sandy gravel
GM — Silty gravel or silty gravelly sand
GP — Gravel or sandy gravel, poorly graded
GW — Gravel or sandy gravel, well graded
LS — Limestone
ML — Silts, sandy or gravelly silts, diatomaceous soils
SH — Shale
SM — Silty sand or silty gravelly sand
SP — Sand or gravelly sand, poorly graded

Table 60. Trichloroethene validated concentrations for the September 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0312	09/17/92		20.	F	GC/SH
0306	09/17/92		16.	D	GC
0306	09/17/92		14.	F	GC
0152	09/17/92		8.3	F	CL/GC/SH
0307	09/17/92		7.6	F	GW/SH
0313	09/17/92		6.1	F	GW
0154	09/17/92		5.1	F	GP
0155	09/17/92		3.5	F	SP
0115	09/15/92	J	2.8	F	LS/SH
0046	09/16/92	U	1.2	F	GC/GP
0063	09/16/92	U	1.2	F	GC/GP
0309	09/16/92	U	1.2	F	SH
0305	09/16/92	UJ	37.	F	GM/GC/CL
0315	09/16/92	UJ	6.8	F	ML/GM/GP
0071	09/16/92	UJ	2.5	F	GW
0071	09/16/92	UJ	2.5	D	GW
0076	09/16/92	UJ	1.7	F	GW
0271	09/16/92	UJ	1.7	F	GW
0118	09/14/92	UJ	1.2	F	SM/SP
0126	09/14/92	UJ	1.2	F	SM/GM
0126	09/14/92	UJ	1.2	D	SM/GM
0129	09/15/92	UJ	1.2	F	SM/SP
0138	09/14/92	UJ	1.2	F	SP
0159	09/15/92	UJ	1.2	F	SP/GP
0160	09/15/92	UJ	1.2	F	GP

J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded

Table 61. Tetrachloroethene validated concentrations for the September 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0313	09/17/92		12.	F	GW
0307	09/17/92		11.	F	GW/SH
0306	09/17/92		8.4	D	GC
0306	09/17/92		7.3	F	GC
0152	09/17/92		5.6	F	CL/GC/SH
0115	09/15/92		1.7	F	LS/SH
0154	09/17/92		0.86	F	GP
0155	09/17/92		0.44	F	SP
0063	09/16/92	U	0.30	F	GC/GP
0118	09/14/92	U	0.30	F	SM/SP
0126	09/14/92	U	0.30	F	SM/GM
0126	09/14/92	U	0.30	D	SM/GM
0129	09/15/92	U	0.30	F	SM/SP
0138	09/14/92	U	0.30	F	SP
0159	09/15/92	U	0.30	F	SP/GP
0160	09/15/92	U	0.30	F	GP
0309	09/16/92	U	0.30	F	SH
0312	09/17/92	U	0.30	F	GC/SH
0315	09/16/92	U	0.30	F	ML/GM/GP
0305	09/16/92	UJ	21.	F	GM/GC/CL
0046	09/16/92	UJ	0.83	F	GC/GP
0071	09/16/92	UJ	0.52	F	GW
0071	09/16/92	UJ	0.51	D	GW
0271	09/16/92	UJ	0.44	F	GW
0076	09/16/92	UJ	0.40	F	GW

U — The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.

UJ — The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

F — Field sample

D — Duplicate field sample

FOC — Formation of completion

CL — Lean clays, sandy clays, or gravelly clays

GC — Clayey gravel or clayey sandy gravel

GM — Silty gravel or silty gravelly sand

GP — Gravel or sandy gravel, poorly graded

GW — Gravel or sandy gravel, well graded

LS — Limestone

ML — Silts, sandy or gravelly silts, diatomaceous soils

SH — Shale

SM — Silty sand or silty gravelly sand

SP — Sand or gravelly sand, poorly graded

Table 62. 1,2–trans–Dichloroethene validated concentrations for the September 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0046	09/16/92	U	1.0	F	GC/GP
0063	09/16/92	U	1.0	F	GC/GP
0071	09/16/92	U	1.0	F	GW
0071	09/16/92	U	1.0	D	GW
0076	09/16/92	U	1.0	F	GW
0152	09/17/92	U	1.0	F	CL/GC/SH
0154	09/17/92	U	1.0	F	GP
0155	09/17/92	U	1.0	F	SP
0271	09/16/92	U	1.0	F	GW
0305	09/16/92	U	1.0	F	GM/GC/CL
0306	09/17/92	U	1.0	F	GC
0306	09/17/92	U	1.0	D	GC
0307	09/17/92	U	1.0	F	GW/SH
0309	09/16/92	U	1.0	F	SH
0312	09/17/92	U	1.0	F	GC/SH
0313	09/17/92	U	1.0	F	GW
0315	09/16/92	U	1.0	F	ML/GM/GP
0115	09/15/92	UJ	1.0	F	LS/SH
0118	09/14/92	UJ	1.0	F	SM/SP
0126	09/14/92	UJ	1.0	F	SM/GM
0126	09/14/92	UJ	1.0	D	SM/GM
0129	09/15/92	UJ	1.0	F	SM/SP
0138	09/14/92	UJ	1.0	F	SP
0159	09/15/92	UJ	1.0	F	SP/GP
0160	09/15/92	UJ	1.0	F	GP

U — The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ — The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

F — Field sample
D — Duplicate field sample

FOC — Formation of completion

CL — Lean clays, sandy clays, or gravelly clays
GC — Clayey gravel or clayey sandy gravel
GM — Silty gravel or silty gravelly sand
GP — Gravel or sandy gravel, poorly graded
GW — Gravel or sandy gravel, well graded
LS — Limestone
ML — Silts, sandy or gravelly silts, diatomaceous soils
SH — Shale
SM — Silty sand or silty gravelly sand
SP — Sand or gravelly sand, poorly graded

Table 63. Chloroethene validated concentrations for the September 1992 groundwater sampling event

Well Id	Date	Qualifier	Value (µg/L)	Sample Type	FOC
0154	09/17/92		2.6	F	GP
0155	09/17/92		2.0	F	SP
0071	09/16/92	J	2.0	F	GW
0071	09/16/92	J	2.0	D	GW
0115	09/15/92	U	1.8	F	LS/SH
0118	09/14/92	U	1.8	F	SM/SP
0126	09/14/92	U	1.8	F	SM/GM
0126	09/14/92	U	1.8	D	SM/GM
0129	09/15/92	U	1.8	F	SM/SP
0138	09/14/92	U	1.8	F	SP
0152	09/17/92	U	1.8	F	CL/GC/SH
0159	09/15/92	U	1.8	F	SP/GP
0160	09/15/92	U	1.8	F	GP
0306	09/17/92	U	1.8	F	GC
0306	09/17/92	U	1.8	D	GC
0307	09/17/92	U	1.8	F	GW/SH
0312	09/17/92	U	1.8	F	GC/SH
0313	09/17/92	U	1.8	F	GW
0046	09/16/92	UJ	1.8	F	GC/GP
0063	09/16/92	UJ	1.8	F	GC/GP
0076	09/16/92	UJ	1.8	F	GW
0271	09/16/92	UJ	1.8	F	GW
0305	09/16/92	UJ	1.8	F	GM/GC/CL
0309	09/16/92	UJ	1.8	F	SH
0315	09/16/92	UJ	1.8	F	ML/GM/GP

J	The associated value is an estimated quantity.
U	The parameter was analyzed for, but was not detected. The associated value is the sample quantitation limit.
UJ	The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded

Table 64. Tritium nonvalidated concentrations for the September 1992 groundwater sampling event

Well Id	Date	Value (nCi/L)	Uncertainty Value	Sample Type	FOC
0115	09/15/92	25.400	6.600	F	LS/SH
0312	09/17/92	11.700	1.200	F	GC/SH
0152	09/17/92	10.600	1.200	F	CL/GC/SH
0063	09/16/92	7.600	0.860	F	GC/GP
0313	09/17/92	7.380	0.810	F	GW
0305	09/16/92	7.280	0.800	F	GM/GC/CL
0306	09/17/92	7.270	0.800	D	GC
0306	09/17/92	7.230	0.790	F	GC
0307	09/17/92	6.990	0.760	F	GW/SH
0046	09/16/92	6.940	0.760	F	GC/GP
0315	09/16/92	6.220	0.690	F	ML/GM/GP
0126	09/14/92	3.220	0.390	F	SM/GM
0138	09/14/92	3.210	0.390	F	SP
0126	09/14/92	3.020	0.370	D	SM/GM
0154	09/17/92	2.930	0.400	F	GP
0071	09/16/92	2.500	0.330	F	GW
0071	09/16/92	2.460	0.320	D	GW
0155	09/17/92	2.070	0.290	F	SP
0271	09/16/92	1.970	0.270	F	GW
0129	09/15/92	1.970	0.270	F	SM/SP
0076	09/16/92	1.420	0.260	F	GW
0118	09/14/92	0.772	0.167	F	SM/SP
0159	09/15/92	< 0.500	*	F	SP/GP
0160	09/15/92	< 0.500	*	F	GP
0309	09/16/92	< 0.500	*	F	SH

*	Uncertainty not applicable; sample result below minimum detectable activity (MDA)
F	Field sample
D	Duplicate field sample
FOC	Formation of completion
CL	Lean clays, sandy clays, or gravelly clays
GC	Clayey gravel or clayey sandy gravel
GM	Silty gravel or silty gravelly sand
GP	Gravel or sandy gravel, poorly graded
GW	Gravel or sandy gravel, well graded
LS	Limestone
ML	Silts, sandy or gravelly silts, diatomaceous soils
SH	Shale
SM	Silty sand or silty gravelly sand
SP	Sand or gravelly sand, poorly graded

Table 65. Summary of selected groundwater quality data, October 1990 through September 1992

		Validated Data					Non-validated Data
		Analyte					
Sample Subset	Criterion	TCA	TCE	PCE	DCE	VC	H3
All samples	Number of Sample Locations	294	294	294	293	294	294
	Number of Analyses	327	327	327	326	327	326
	Number of Detections	14	74	62	20	2	290
	Number of U's	206	125	156	243	191	36
	Number of J's	41	88	67	3	4	0
	Number of UJ's	66	40	36	60	130	0
	Number of R's	0	0	6	0	0	0
	Maximum Concentration	3.2	60	28	8.5	2.6	329.8
Source-area samples	Number of Sample Locations	203	203	203	202	203	202
	Number of Analyses	227	227	227	226	227	225
	Number of Detections	8	73	61	20	2	220
	Number of U's	147	54	82	174	137	5
	Number of J's	29	84	61	3	4	0
	Number of UJ's	43	16	18	29	84	0
	Number of R's	0	0	5	0	0	0
	Maximum Concentration	3.2	60	28	8.5	2.6	329.8
Non-source-area samples	Number of Sample Locations	91	91	91	91	91	92
	Number of Analyses	100	100	100	100	100	101
	Number of Detections	6	1	1	0	0	70
	Number of U's	59	71	74	69	54	31
	Number of J's	12	4	6	0	0	0
	Number of UJ's	23	24	18	31	46	0
	Number of R's	0	0	1	0	0	0
	Maximum Concentration	3	3.9	0.4	–	–	15.3
Unconsolidated samples	Number of Sample Locations	229	229	229	228	229	230
	Number of Analyses	258	258	258	257	258	258
	Number of Detections	11	54	52	16	2	226
	Number of U's	152	92	108	186	141	32
	Number of J's	33	76	61	2	4	0
	Number of UJ's	62	36	32	53	111	0
	Number of R's	0	0	5	0	0	0
	Maximum Concentration	3	42	28	8.5	2.6	24
Bedrock Samples	Number of Sample Locations	52	52	52	52	52	64
	Number of Analyses	54	54	54	54	54	68
	Number of Detections	0	10	4	3	0	64
	Number of U's	41	28	39	43	35	4
	Number of J's	8	12	6	1	0	0
	Number of UJ's	5	4	4	7	19	0
	Number of R's	0	0	1	0	0	0
	Maximum Concentration	1.4	45	16	2.6	–	329.8

- Source-area samples were collected by known or suspected contaminant sources.
- Non-source-area samples were collected away from known or suspected contaminant sources.
- Unconsolidated samples were collected from wells completed in unconsolidated materials, or across the unconsolidated/bedrock interface.
- Bedrock samples were collected from wells, seeps, or test-pits completed in bedrock.
- U's mean the parameter was analyzed for, but was not detected.
- J's mean that the associated value is an estimated quantity.
- UJ's mean The parameter was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.
- All maximum concentrations in ug/L except for tritium concentrations, which is nCi/L.
- TCA is 1,1,1-trichloroethane.
- TCE is trichloroethene.
- PCE is tetrachloroethene.
- DCE is 1,2 – trans- dichloroethene.
- VC is vinyl chloride.
- H3 is tritium.

Table 66. Sample Analyses Subjected to Data Validation

OCTOBER/NOVEMBER 1990

Batch Number	Sample Number	Analyses Validated
REA 36375	MND01-0152-0001	v
	MND01-0153-0001	v
	MND01-0500-1001	v
	MND01-0306-0001	v,sv
	MND01-0310-0001	v,sv
	MND01-0501-0001	v
REA 36385	MND01-0155-0001	v
	MND01-0307-0001	v
	MND01-0313-0001	v
	MND01-0315-0001	v
	MND01-0502-0001	v
	MND01-0503-0001	v
REA 36389	MND01-0063-0001	v,sv,p/p,m
	MND01-0122-0001	v
	MND01-0305-0001	v,sv,p/p,m
	MND01-0309-3001	v,sv
	MND01-0320-0001	v,sv
	MND01-0504-0001	v
	MND01-0505-0001	v
REA 36395	MND01-0137-0001	v
	MND01-0151-0001	v
	MND01-0120-0001	v
	MND01-0129-0001	v,sv,p/p,m
	MND01-0601-0001	v
	MND01-0512-0001	v
	MND01-0311-0001	v,m
	MND01-0302-0001	v,sv
	MND01-0301-0001	v,sv,m
	MND01-0511-0001	v
	MND01-0318-0001	v,sv
	MND01-0319-0001	v,sv
	MND01-0123-0001	v
	MND01-0124-0001	v
	MND01-0532-0001	v
	MND01-0509-0001	v
	MND01-0158-0001	v
	MND01-0159-0001	v
	MND01-0160-0001	v
	MND01-0112-0001	v
	MND01-0111-0001	v
	MND01-0506-0001	v

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Batch Number	Sample Number	Analyses Validated
	MND01-0510-0001	v
	MND01-0533-0001	v
	MND01-0117-0001	v
	MND01-0156-0001	v
	MND01-0115-0001	v
	MND01-0508-0001	v
	MND01-0127-0001	v
	MND01-0531-0001	v
	MND01-0154-0001	v
	MND01-0507-0001	v
	MND01-0534-0001	m
	MND01-0535-0001	sv,p/p
REA 36404	MND01-0514-0001	v
	MND01-0126-0001	v
	MND01-0317-1001	v
	MND01-0608-0001	v
	MND01-0513-0001	v
	MND01-0312-0001	v
	MND01-0076-0001	v
	MND01-0046-0001	v
	MND01-0071-0001	v
	MND01-0536-0001	v
	MND01-0271-0001	v
REA 36408	MND01-0602-0001	v
	MND01-0303-0001	v,sv
	MND01-0537-0001	v,sv
	MND01-0314-0001	v,sv
	MND01-0607-0001	v
	MND01-0605-0001	v
	MND01-0118-0001	v,sv,p/p,m
	MND01-0304-0001	v,sv
	MND01-0515-0001	v
	MND01-0516-0001	v

JANUARY/FEBRUARY 1991

Batch Number	Sample Number	Analyses Validated
REA 36544	MND01-0071-0001	v,sv,p/p,m
	MND01-0076-0001	v,sv,p/p,m
	MND01-0271-1001	v,sv,p/p,m
	MND01-0305-0001	v,sv,p/p,m
	MND01-0315-0001	v
	MND01-0502-0001	v

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Batch Number	Sample Number	Analyses Validated
	MND01-0503-0001	v
	MND01-0530-0001	v,sv,p/p,m
REA 36551	MND01-0115-0001	v
	MND01-0122-0001	v
	MND01-0159-0001	v
	MND01-0307-0001	v,sv,p/p,m
	MND01-0313-0001	v,sv,p/p,m
	MND01-0504-0001	v
	MND01-0505-0001	v
REA 36554	MND01-0118-0001	v,sv,p/p,m
	MND01-0129-0001	v,sv,p/p,m
	MND01-0312-0001	v
	MND01-0506-0001	v
REA 36555	MND01-0046-0001	v
	MND01-0063-0001	v
	MND01-0126-0001	v
	MND01-0160-0001	v
	MND01-0306-0001	v
	MND01-0507-0001	v
	MND01-0508-0001	v
	MND01-0509-0001	v
	MND01-0532-0001	v

APRIL/MAY 1991

Batch Number	Sample Number	Analyses Validated
REA 36676	MND01-0118-0001	sv,p/p,m
	MND01-0129-0001	sv,p/p,m
	MND01-0301-0001	m
REA 36680	MND01-0123-0001	v
	MND01-0126-0001	v,sv,p/p,m
	MND01-0156-0001	v
	MND01-0304-0001	v
	MND01-0503-0001	v
	MND01-0530-0001	v,sv,p/p,m
REA 36681	MND01-0115-0001	v
	MND01-0117-0001	v
	MND01-0120-0001	v
	MND01-0124-0001	v
	MND01-0127-0001	v
	MND01-0138-0001	v,sv,p/p,m
	MND01-0159-0001	v
	MND01-0303-0001	v

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Batch Number	Sample Number	Analyses Validated
	MND01-0311-0001	v
	MND01-0504-0001	v
	MND01-0505-0001	v
	MND01-0506-0001	v
REA 36686	MND01-0315-0001	v
	MND01-0512-0001	v
	MND01-0152-0001	v
	MND01-0314-0001	v
	MND01-0510-0001	v
	MND01-0533-0001	v
	MND01-0531-0001	v
	MND01-0160-0001	v
	MND01-0112-0001	v
	MND01-0508-0001	v
	MND01-0310-0001	v,m
	MND01-0507-0001	v
	MND01-0509-0001	v
	MND01-0122-0001	v
	MND01-0155-0001	v
	MND01-0153-0001	v
	MND01-0154-0001	v
	MND01-0305-0001	v,sv,p/p,m
	MND01-0511-0001	v
	MND01-0306-0001	v
	MND01-0318-0001	v
REA 36691	MND01-0046-0001	v
	MND01-0063-0001	v,sv,p/p,m
	MND01-0071-0001	v,sv,p/p,m
	MND01-0076-0001	v,sv,p/p,m
	MND01-0151-0001	v
	MND01-0271-0001	v,sv,p/p,m
	MND01-0309-0001	v
	MND01-0312-0001	v
	MND01-0534-0001	v
	MND01-0513-0001	v
	MND01-0514-0001	v
REA 36694	MND01-0111-0001	v
	MND01-0158-0001	v
	MND01-0307-0001	v,sv,p/p,m
	MND01-0313-0001	v,sv,p/p,m
	MND01-0319-0001	v
	MND01-0320-0001	v
	MND01-0515-0001	v

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Batch Number	Sample Number	Analyses Validated
	MND01-0516-0001	v
	MND01-0535-0001	v
REA 36698	MND01-0118-0001	v
	MND01-0129-0001	v
	MND01-0301-0001	v
	MND01-0302-0001	v
	MND01-0317-0001	v
	MND01-0517-0001	v
	MND01-0518-0001	v
	MND01-0520-0001	v
	MND01-0601-0001	v,sv,p/p,m
	MND01-0602-0001	v,sv,p/p,m
	MND01-0605-0001	v,m
	MND01-0607-0001	v,sv,p/p,m
	MND01-0608-0001	v,m
	MND01-0620-0001	v,sv,p/p,m
	MND01-0622-0001	v,m
REA 36701	MND01-0621-0001	v,m
	MND01-0623-0001	v
	MND01-0624-0001	v
	MND01-0519-0001	v

JULY/AUGUST 1991

Batch Number	Sample Number	Analyses Validated
REA 36922	MND01-0118-0001	v,sv,p/p,m
	MND01-0129-0001	v,sv,p/p,m
	MND01-0138-0001	v,sv,p/p,m
	MND01-0530-0001	v,sv,p/p,m
	MND01-0501-0001	v
REA 36927	MND01-0126-0001	v,sv,p/p,m
	MND01-0160-0001	v
	MND01-0502-0001	v
REA 36933	MND01-0115-0001	v
	MND01-0122-0001	v
	MND01-0159-0001	v
	MND01-0503-0001	v
	MND01-0115-2001	v
	MND01-0305-0001	v,sv,p/p,m
	MND01-0531-0001	v,sv,p/p,m
REA 36942	MND01-0315-0001	v
	MND01-0155-0001	v
	MND01-0154-0001	v

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Batch Number	Sample Number	Analyses Validated
	MND01-0152-0001	v
	MND01-0306-0001	v
	MND01-0307-0001	v,sv,p/p,m
	MND01-0313-0001	v,sv,p/p,m
	MND01-0504-0001	v
	MND01-0505-0001	v
	MND01-0506-0001	v
	MND01-0313-2001	v,sv,p/p,m
REA 36947	MND01-0063-0001	v,sv,p/p,m
	MND01-0071-0001	v,sv,p/p,m
	MND01-0271-0001	v,sv,p/p,m
	MND01-0046-0001	v
	MND01-0601-0001	v
	MND01-0602-0001	v
	MND01-0620-0001	v
	MND01-0312-0001	v
	MND01-0507-0001	v
	MND01-0532-0001	v
	MND01-0533-0001	v
	MND01-0508-0001	v

DECEMBER 1991

Batch Number	Sample Number	Analyses Validated
9112L714	MND01-0118-0001	v,sv,p/p,metals
(Anions in REA 37209)	MND01-0301-0001	v
	MND01-0302-0001	v,anions
	MND01-0303-0001	v
	MND01-0303-2001	v
9112L734	MND01-0123-0001	v
	MND01-0127-0001	v
	MND01-0138-2001	v
	MND01-0138-0001	v
	MND01-0156-0001	v
	MND01-0304-0001	v
9112L754	MND01-0155-0001	v
	MND01-0155-1001	v
	MND01-0159-0001	v
	MND01-0159-2001	v
	MND01-0112-0001	v
	MND01-0160-0001	v
	MND01-0124-1001	v
	MND01-0122-0001	v

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Batch Number	Sample Number	Analyses Validated
	MND01-0122-1001	v
	MND01-0115-0001	v
	MND01-0126-1001	v,sv,p/p,metals
	MND01-0311-0001	v
9112L771	MND01-0152-0001	v
(Anions in REA 37221)	MND01-0153-0001	v
	MND01-0154-0001	v
	MND01-0306-0001	v,anions
	MND01-0307-0001	v,sv,p/p,metals,anions
	MND01-0309-0001	v,anions
	MND01-0310-0001	v,metals, anions
	MND01-0314-0001	v
	MND01-0318-0001	v
	MND01-0601-0001	v,anions
	MND01-0602-0001	v,anions
	MND01-0607-0001	v,anions
	MND01-0608-0001	v
	MND01-0307-2001	v
9112L806	MND01-0063-0001	v,sv,p/p, metals, anions
(Anions in REA 37235)	MND01-0076-0001	v,sv,p/p, metals, anions
	MND01-0271-0001	v,sv,p/p, metals, anions
	MND01-0071-0001	v,sv,p/p, metals, anions
	MND01-0071-1001	v,sv,p/p, anions
	MND01-0046-0001	v
	MND01-0312-0001	v
	MND01-0312-2001	v
	MND01-0317-0001	v
	MND01-0317-1001	v
	MND01-0111-0001	v
	MND01-0305-0001	anions
	MND01-0305-4001	anions
9112L824	MND01-0120-0001	v
	MND01-0129-0001	v,sv,p/p,metals
	MND01-0137-4001	v
	MND01-0151-4001	v
	MND01-0305-0001	v,sv,p/p,metals,anions
	MND01-0305-1001	v
	MND01-0305-4001	v,sv,p/p,metals,anions
	MND01-0313-0001	v,sv,p/p,metals
	MND01-0315-0001	v
	MND01-0313-2001	v
	MND01-0600-3001	v

Table 66. (page 8 of 11)

Batch Number	Sample Number	Analyses Validated
9112L836	MND01-0319-0001	v
	MND01-0320-0001	v
	MND01-0117-0001	v
	MND01-0151-0001	v
	MND01-0151-3001	v
	MND01-0137-0001	v
	MND01-0137-2001	v
	MND01-0137-3001	v
	MND01-0158-0001	v

MARCH 1992

Batch Number	Sample Number	Analyses Validated
9203L722	MND01-0118-0001	v,sv,p/p,m,anions
	MND01-0118-1001	v,sv,p/p,m,anions
	MND01-0118-2001	v
	MND01-0129-0001	v,sv,p/p,m,anions
	MND01-0129-3001	v
	MND01-0138-0001	v,anions
9203L736	MND01-0126-0001	v,sv,p/p,m,anions
	MND01-0159-0001	v,anions
	MND01-0159-2001	v
9203L751	MND01-0115-0001	v
	MND01-0115-4001	v
	MND01-0122-0001	v
	MND01-0152-0001	v
	MND01-0152-2001	v
	MND01-0305-0001	v,sv,p/p,m
	MND01-0315-0001	v
9203L773	MND01-0154-0001	v,anions
	MND01-0155-0001	v,anions
	MND01-0306-0001	v,anions
	MND01-0306-3001	v
	MND01-0309-0001	v,anions
	MND01-0312-0001	v,anions
	MND01-0313-0001	v,sv,p/p,m,anions
	MND01-0313-2001	v
9203L783	MND01-0046-0001	v
	MND01-0063-0001	v,sv,p/p,m,anions
	MND01-0063-1001	v,sv,p/p,m,anions
	MND01-0071-0001	v,sv,p/p,m,anions
	MND01-0071-1001	v

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Batch Number	Sample Number	Analyses Validated
	MND01-0076-0001	v,sv,p/p,m,anions
	MND01-0160-0001	v,anions
	MND01-0160-2001	v
	MND01-0307-0001	v,sv,p/p,m,anions
	MND01-0800-3001	v

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Batch Number	Sample Number	Analyses Validated
9206L698	MND01-0123-0001	v,cations,anions
	MND01-0124-0001	v,cations,anions
	MND01-0124-1001	v,cations,anions
	MND01-0126-0001	v,sv,p/p,m,anions
	MND01-0129-0001	v,sv,p/p,m,anions
	MND01-0303-0001	v,cations,anions
	MND01-0304-0001	v,cations,anions
	MND01-0304-2001	v
9206L714	MND01-0115-0001	v,cations,anions
	MND01-0115-4001	v,cations,anions
	MND01-0118-0001	v,sv,p/p,m
	MND01-0138-0001	v,cations,anions
	MND01-0156-0001	v,cations,anions
	MND01-0156-2001	v
	MND01-0156-3001	v
	MND01-0159-0001	v,cations,anions
	MND01-0160-0001	v,cations,anions
	MND01-0311-0001	v,cations,anions
9206L734	MND01-0119-0001	v,anions
	MND01-0152-0001	v,cations,anions
	MND01-0152-2001	v
	MND01-0152-3001	v
	MND01-0153-0001	v,cations,anions
	MND01-0154-0001	v,cations,anions
	MND01-0154-1001	v,cations,anions
	MND01-0155-0001	v,cations,anions
	MND01-0306-0001	v,cations,anions
	MND01-0309-0001	v,cations,anions
	MND01-0314-0001	v,anions
	MND01-0319-0001	v,cations,anions
	MND01-0319-3001	v
	MND01-0320-0001	v,cations,anions

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Batch Number	Sample Number	Analyses Validated
9206L747	MND01-0125-0001	v,cations,anions
	MND01-0158-0001	v,cations,anions
	MND01-0307-0001	v,sv,p/p,m,anions
	MND01-0307-3001	v
	MND01-0310-0001	v,m,anions
	MND01-0312-0001	v,cations,anions
	MND01-0313-0001	v,sv,p/p,m,anions
	MND01-0313-2001	v
	MND01-0315-0001	v,cations,anions
	MND01-0317-0001	v,cations,anions
9206L764	MND01-0046-0001	v,cations,anions
	MND01-0063-0001	v,sv,p/p,m,anions
	MND01-0063-1001	v,sv,p/p,m,anions
	MND01-0076-0001	v,sv,p/p,m,anions
	MND01-0271-0001	v,sv,p/p,m,anions
	MND01-0305-0001	v,sv,p/p,m,anions
	MND01-0305-1001	v,m,anions
	MND01-0305-2001	v
9206L768	MND01-0601-0001	cations
	MND01-0601-1001	cations
	MND01-0602-0001	cations
	MND01-0605-0001	cations
	MND01-0607-0001	cations
9206L780	MND01-0071-0001	v,sv,p/p,m,anions
	MND01-0071-2001	v

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Batch Number	Sample Number	Analyses Validated
9209L889	MND01-0118-0001	v
	MND01-0118-2001	v
	MND01-0126-0001	v
	MND01-0126-1001	v
	MND01-0138-0001	v
9209L908	MND01-0115-0001	v,cations,anions
	MND01-0115-4001	v,cations,anions
	MND01-0129-0001	v,sv,p/p,m,anions
	MND01-0129-2001	v
	MND01-0159-0001	v,cations,anions
	MND01-0160-0001	v,cations,anions
9209L933	MND01-0046-0001	v,cations,anions
	MND01-0063-0001	v,sv,p/p,m,anions

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Batch Number	Sample Number	Analyses Validated
	MND01-0063-2001	v
	MND01-0071-0001	v,sv,p/p,m,anions
	MDN01-0071-1001	v,cations,anions
	MND01-0076-0001	v,sv,p/p,m,anions
	MND01-0271-0001	v,sv,p/p,m,anions
	MND01-0305-0001	v
	MND01-0305-3001	v,sv,p/p,m,anions
	MND01-0309-0001	v,cations,anions
	MND01-0315-0001	v,cations,anions
	MND01-0801-3001	v
9209L957	MND01-0154-0001	v,cations,anions
	MND01-0155-0001	v,cations,anions
	MND01-0307-0001	v,sv,p/p,m,anions
	MND01-0313-0001	v,sv,p/p,m,anions
	MND01-0313-3001	v
	MND01-0306-0001	v,cations,anions
	MND01-0306-1001	v,cations,anions
	MND01-0152-0001	v,cations,anions
	MND01-0312-0001	v,cations,anions
	MND01-0802-3001	v
	MND01-0313-2001	v

anions - Chloride, Sulfate, Nitrate-nitrite
cations - Calcium, Iron, Magnesium, Manganese, Potassium, Sodium
m - TAL Metals Analyses
p/p - Pesticide/PCB Analyses
sv - Semivolatile Organic Analyses
v - Volatile Organic Analyses

Table 67. Summary of Qualified Data of Volatile Organic Compounds[a]

Laboratory Batch	Qualifier	Reason for Qualification
REA 36375	J, UJ	Initial calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
REA 36385	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
		Trip blank contamination
		%D high for methylene chloride
REA 36389	J, UJ	Initial calibration
	J, UJ	Single-point calibration
		Trip blank contamination
REA 36395	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
		Trip blank contamination
By CLP method	J, UJ	Initial calibration
	J, UJ	Continuing calibration
REA 36404	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
	J, UJ	Sample 0126-0001 out of holding time by 35 days
		Trip blank contamination
REA 36408	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
		Trip blank contamination
REA 36544	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
REA 36547	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
	J	Surrogate recovery
		Trip blank contamination
REA 36551	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
		Trip blank contamination
REA 36554	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
REA 36555	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation

Table 67. (page 2 of 5)

Laboratory Batch	Qualifier	Reason for Qualification
REA 36680	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
REA 36681	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
REA 36686	J, UJ	Initial calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
	J	Surrogate recovery
REA 36691	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
	J	Surrogate recovery
REA 36694	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
	J	Surrogate recovery
REA 36698	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
	J	Surrogate recovery
REA 36701	J, UJ	Initial calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
REA 36922	J, UJ	Initial calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
REA 36927	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
REA 36933	J, UJ	Initial calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
REA 36942	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
REA 36947	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation

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Laboratory Batch	Qualifier	Reason for Qualification
9112L714	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J, UJ	Less than five-point calibration
	R	Compound not in CC standard
9112L734	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Less than five-point calibration
	R	Compound not in CC standard
9112L754	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J, UJ	Less than five-point calibration
	R	Compound not in CC standard
	J	Analyte confirmation
9112L771	J, UJ	Single-point calibration
	J, UJ	Less than five-point calibration
	R	Compound not in CC standard
	J	Analyte confirmation
9112L806	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J, UJ	Single-point calibration
	J	Analyte confirmation
	R	Compound not in CC standard
9112L824	J, UJ	Initial calibration
	J, UJ	Less than five-point calibration
	J, UJ	Single-point calibration
	R	Compound not in CC standard
	J	Analyte confirmation
		Blank contamination
9112L836	J, UJ	Initial calibration
	J, UJ	Continuing calibration
	J	Single-point calibration
	R	Analyte confirmation
		Compound not in CC standard
By CLP method	J, UJ	Continuing calibration
		Blank contamination
9203L722	J,UJ	Single-point calibration
	J,UJ	Continuing calibration
9203L736	J,UJ	Single-point calibration
	J,UJ	Single-point calibration
		Continuing calibration
9203L751	J,UJ	Single-point calibration
	J,UJ	Continuing calibration
9203L773	J,UJ	Single-point calibration
	J,UJ	Continuing calibration
		Trip blank contamination

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Laboratory Batch	Qualifier	Reason for Qualification
9203L783	J,UJ	Single-point calibration
	J,UJ	Continuing calibration
	J	Analyte confirmation
		Blank contamination
9206L698	J,UJ	Single-point calibration
	J,UJ	Continuing calibration
	R,J	Analyte confirmation
		Blank contamination
9206L714	J,UJ	Single-point calibration
	J,UJ	Initial calibration
	J,UJ	Single-point calibration
	R	Compound not in CC standard and CC standard not within 12 hours
	J	Analyte confirmation
		Blank contamination
9206L734	J,UJ	Single-point calibration
	J,UJ	Initial calibration
	J,UJ	Continuing calibration
	R	Compound not in CC standard and CC standard not within 12 hours
	J	Analyte confirmation
		Blank contamination
9206L747	J,UJ	Single-point calibration
	J,UJ	Initial calibration
	J,UJ	Continuing calibration
	R	Compound not in CC standard and CC standard not within 12 hours
	J	Analyte confirmation
		Blank contamination
9206L764	J,UJ	Single-point calibration
	J,UJ	Initial calibration
	J,UJ	Continuing calibration
	R,J	Compound not in CC standard and CC standard not within 12 hours
	J	Analyte confirmation
		Blank contamination
9206L768	J,UJ	Single-point calibration
	J,UJ	Initial calibration
	J,UJ	Continuing calibration
	R,J	Compound not in CC standard and CC standard not within 12 hours
	J	Analyte confirmation
		Blank contamination

Table 67. (page 5 of 5)

Laboratory Batch	Qualifier	Reason for Qualification
9209L889	J,UJ	Less than five point calibration
	J,UJ	Initial calibration
	J,UJ	Continuing calibration
		Trip blank contamination
9209L908	J,UJ	Less than five point calibration
	J,UJ	Initial calibration
	J,UJ	Continuing calibration
		Trip blank contamination
9209L933	J,UJ	Less than five point calibration
	J,UJ	Initial calibration
	J,UJ	Continuing calibration
		Trip blank contamination
9209L957	J,UJ	Less than five point calibration
	J,UJ	Initial calibration
	J,UJ	Continuing calibration
	J,UJ	Holding time exceeded for -0313-3001
		Trip blank contamination

[a]Qualifications have been applied to selected samples and selected compounds.

Table 68. Summary of Qualified Data for Semivolatile Organic Compounds[a]

Laboratory Batch	Qualifier	Reason for Qualification
REA 36375	R UJ UJ	4-nitroaniline not verified in standard solution Initial calibration Continuing calibration
REA 36389	R UJ UJ	4-nitroaniline not verified in standard solution Initial calibration Continuing calibration
REA 36395	UJ UJ	Initial calibration Continuing calibration
REA 36408	R UJ UJ	4-nitroaniline not verified in standard solution Initial calibration for hexachlorocyclopentadiene Continuing calibration
REA 36544	UJ	Continuing calibration
REA 36551	UJ	Continuing calibration for hexachlorocyclopentadiene
REA 36554	UJ	Continuing calibration for 4-nitrophenol
REA 36555	UJ	Holding time out by one day
REA 36676	UJ	Continuing calibration for benzoic acid
REA 36680	UJ UJ	Continuing calibration for benzoic acid, 3-nitroaniline Continuing calibration
REA 36681	UJ UJ	Initial calibration for Dibenz(a,h)anthracene Continuing calibration for benzoic acid and Indeno(1,2,3-cd) pyrene
REA 36686	UJ UJ	Continuing calibration for benzoic acid Continuing calibration
REA 36691	UJ UJ	Continuing calibration for benzoic acid Continuing calibration for 2,4-dinitrophenol
REA 36694	UJ UJ	Continuing calibration for benzoic acid and 3-nitroaniline Continuing calibration
REA 36698	UJ UJ	Continuing calibration for benzoic acid Continuing calibration
REA 36922	UJ UJ	Continuing calibration for benzoic acid Continuing calibration
REA 36927	UJ UJ	Continuing calibration for benzoic acid Continuing calibration
REA 36933	UJ UJ	Continuing calibration for benzoic acid Continuing calibration
REA 36942	UJ UJ UJ UJ UJ	Re-extraction holding time out 36 days Continuing calibration for benzoic acid Continuing calibration Blank out for bis(2-ethylhexyl)phthalate Surrogates out
REA 36947	UJ UJ UJ	Continuing calibration for benzoic acid Continuing calibration Surrogates out
9112L714	UJ	Blank out for di-n-butylphthalate
9112L754	None	Data accepted

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Laboratory Batch	Qualifier	Reason for Qualification
9112L771	UJ	Continuing calibration for hexachlorocyclopentadiene
9112L806	UJ	Continuing calibration for benzoic acid
9112L824	UJ UJ UJ	Continuing calibration for hexachlorocyclopentadiene Continuing calibration Blank out for di-n-butylphthalate
9203L722	UJ UJ	Continuing calibration Blank out for di-n-butylphthalate Sample -0118-0001 lost during extraction; MS results for non-spiked compounds are acceptable
9203L736	UJ UJ	Continuing calibration Blank out for di-n-butylphthalate
9203L751	UJ UJ	Continuing calibration Blank out for di-n-butylphthalate
9203L773	UJ UJ	Continuing calibration Blank out for di-n-butylphthalate
9203L783	UJ UJ	Continuing calibration Blank out for di-n-butylphthalate and bis(2-ethylhexyl) phthalate
9206L698	UJ UJ	Continuing calibration Blank out for di-n-butylphthalate and bis(2-ethylhexyl) phthalate
9206L714	UJ UJ UJ	Initial calibration Continuing calibration Blank out for di-n-butylphthalate and bis(2-ethylhexyl) phthalate
9206L747	UJ UJ	Continuing calibration Blank out for di-n-butylphthalate and bis(2-ethylhexyl) phthalate, and phenol
9206L764	UJ UJ	Continuing calibration Blank out for di-n-butylphthalate and bis(2-ethylhexyl) phthalate, and phenol
9206L780	UJ UJ	Continuing calibration Blank contamination
9209L908	UJ UJ	Continuing calibration Blank out for di-n-butylphthalate and bis(2-ethylhexyl) phthalate
9209L933	UJ UJ	Continuing calibration Blank out for di-n-butylphthalate and bis(2-ethylhexyl) phthalate
9209L957	UJ UJ	Continuing calibration Blank out for di-n-butylphthalate and bis(2-ethylhexyl) phthalate

[a]Qualifications have been applied to selected samples and selected compounds.

Table 69. Summary of Qualified Data for Pesticide/PCB Compounds[a]

Laboratory Batch	Qualifier	Reason for Qualification
REA 36389 (SOW 2/88)	UJ	Extraction out of hold time
REA 36395 (8080)	None	Data accepted
REA 36408 (SOW 2/88)	None	Data accepted
REA 36544 (SOW 2/88)	None	Data accepted
REA 36551 (SOW 2/88)	None	Data accepted
REA 36554 (SOW 2/88)	None	Data accepted
REA 36555 (SOW 2/88)	None	Data accepted
REA 36676 (SOW 2/88)	None	Data accepted
REA 36680 (SOW 2/88)	None	Data accepted
REA 36681 (SOW 2/88)	None	Data accepted
REA 36686 (SOW 2/88)	None	Data accepted
REA 36691 (SOW 2/88)	None	Data accepted
REA 36694 (SOW 2/88)	None	Data accepted
REA 36698 (SOW 2/88)	None	Data accepted
REA 36922 (8080)	None	Data accepted
REA 36927 (8080)	None	Data accepted
REA 36933 (8080)	None	Data accepted
REA 36942 (8080)	None	Data accepted
REA 36947 (8080)	None	Data accepted
9112L714 (SOW 2/88)	UJ	Continuing calibration for delta-BHC, endrin
9112L754 (SOW 2/88)	None	Data accepted
9112L771 (SOW 2/88)	UJ	Continuing calibration
9112L806 (SOW 2/88)	UJ	Initial calibration for delta-BHC
9112L824 (SOW 2/88)	UJ	Initial calibration for delta-BHC
9203L722 (SOW 3/90)	None	Data accepted
9203L736 (SOW 3/90)	None	Data accepted
9203L751 (SOW 3/90)	None	Data accepted
9203L773 (SOW 3/90)	UJ	Surrogate recovery low
9203L783 (SOW 3/90)	UJ	Surrogate recovery low

Table 69. (page 2 of 2)

Laboratory Batch	Qualifier	Reason for Qualification
9206L698 (SOW 3/90)	UJ	Endrin breakdown
	UJ	Blank out for heptachlor
9206L714 (SOW 3/90)	UJ	Blank out for heptachlor
9206L747 (SOW 3/90)	UJ	Surrogate recovery low
9206L764 (SOW 3/90)	UJ	Surrogate recovery low
9206L780 (SOW 3/90)	None	Data accepted
9209L908 (SOW 3/90)	None	Data accepted
9209L933 (SOW 3/90)	UJ	Continuing calibration for 4,4'-DDT
	UJ	Surrogate recovery low for -0305-0001 and -0063-0001
9209L957 (SOW 3/90)	UJ	Continuing calibration for 4,4'-DDT
	UJ	Surrogate recovery low for -0307-0001 and -0313-0001

[a]Qualifications applied to selected samples and selected compounds.

Table 70. Summary of Qualified Data for Metals[a]

Laboratory Batch	Qualifier	Reason for Qualification
REA 36389 (SOW 3/90)	J	Matrix duplicate for Fe,Al
	J	Matrix spike for Al,As,Se,Tl
REA 36395 (SOW 3/90)	J	ICS for Sb,Cd,Co,V,Cr,Cu,Ni,Ag,Zn
	J	Matrix duplicate out for Fe,Al
	J	Matrix spike out for Al,As,Se,Tl
	J	GFAA spike out for Se,Tl,Pb
REA 36408 (SOW 3/90)	J	Matrix duplicate out for Fe,Al
	J	Matrix spike out for Al,As,Se,Tl
	J	GFAA spike out for Tl
REA 36544 (SOW 7/88)	J	Calibration out for Tl
	J	Preparation blank out for K,Ag
	J	Matrix duplicate out for Zn
	J	Matrix spike out for Se
	J	GFAA spike out for Pb,Se,Tl
REA 36551 (SOW 7/88)	J	Continuing calibration for As,Pb,Se
	J	Preparation blank out for K,Zn
	J	Matrix duplicate out for Zn
	J	Matrix spike out for Se,Pb
	J	GFAA spike out for Pb,Se
REA 36554 (SOW 7/88)	J	Continuing calibration for As,Pb
	J	Preparation blank out for K,Fe
	J	Matrix duplicate out for Zn
	J	Matrix spike out for Se,Pb
	J	GFAA spike out for Pb,Se
REA 36555 (SOW 7/88)	J	Matrix duplicate out for Pb
	J	Matrix spike out for Se,Zn
	J	GFAA spike out for Tl,Se
REA 36676 (SOW 7/88)	J	Calibration blanks out for Zn
	J	Preparation blank out for Zn
	J	GFAA spike out for Tl,Se
REA 36680 (SOW 7/88)	J	Calibration blanks out for Zn
	J	Preparation blank out for Zn
REA 36681 (SOW 7/88)	J	GFAA spike out for Se
REA 36686 (SOW 7/88)	J	Calibration blanks out for Zn,Cu
	J	Preparation blank out for Zn
	J	GFAA spike out for Tl,Pb
REA 36691 (SOW 7/88)	J	Calibration blanks out for Fe
	J	Preparation blank out for Zn,Fe
	J	GFAA spike out for Tl,Pb,As
REA 36694 (SOW 7/88)	J	ICS - Sb,Be,Cd,Co,Cu,Ag,V,Zn
	J	GFAA spike out for Tl,As
REA 36698 (SOW 7/88)	J	GFAA spike out for Tl,As,Se,Pb
REA 36701 (SOW 7/88)	J	ICS - Sb,Be,Cd,Co,Cu,Cr,Ni,Ag,V,Zn
	J	GFAA spike out for Tl,As

Table 70. (page 2 of 4)

Laboratory Batch	Qualifier	Reason for Qualification
REA 36922 (SOW 3/90)	J	Matrix spike out for Se
	J	GFAA spike out for As
REA 36927 (SOW 3/90)	J	Matrix spike out for Se
REA 36933 (SOW 3/90)	J	Preparation blank out for Tl
	J	Matrix spike out for Se
	J	GFAA spike out for Tl,Se
REA 36942 (SOW 3/90	J	ICS - Sb,Be,Cd,Co,Cu,Ag,V,Zn
	J	Matrix spike out for Se
	J	GFAA spike out for Tl,Se,As
REA 36947 (SOW 3/90)	J	Calibration blanks for Fe
	J	Preparation blank out for Fe
	J	Matrix spike out for Se
	J	GFAA spike out for Tl,Se,Pb
9112L714 (SOW 3/90)	J	Calibration blanks for V
	J	Preparation blank out for Cu,Zn
	J	Matrix spike out for Cu,Tl
	J	GFAA spike out for Tl,Pb
	J	Serial dilution out for Ca
9112L754 (SOW 3/90)	J	Calibration blanks for V
	J	Preparation blank out for Cu,Zn
	J	Matrix spike out for Cu,Tl
	J	GFAA spike out for Tl,Pb
9112L771 (SOW 3/90)	J	Calibration blanks for Sb,V
	J	Preparation blank out for Cu
	J	Matrix spike out for Cu,Tl
	J	GFAA spike out for Tl,Pb,Se
9112L806 (SOW 3/90)	J	Calibration blanks for V
	J	Preparation blank out for Cu,Zn
	J	Matrix spike out for Tl
	J	GFAA spike out for Tl,Pb,Se
	J	Serial dilution out for Ca
9112L824 (SOW 3/90)	J	Calibration blanks for V,Mg,Na
	J	Preparation blank out for Cu,Zn
	J	Matrix spike out for Cu,Tl
	J	GFAA spike out for Tl,Pb,Se
	J	Serial dilution out for Ca
	J	ICS out for Sb,V
9203L722	UJ	Calibration blank for V
	J	Serial dilution out for Ca,Mg,Na
	UJ	Matrix spike out for Tl
	UJ	GFAA spike out for Tl
9203L736	UJ	Calibration blank for V
	J	Serial dilution out for Ca,Mg,Na
	UJ	Matrix spike out for Tl
	UJ	GFAA spike out for Tl

Table 70. (page 3 of 4)

Laboratory Batch	Qualifier	Reason for Qualification
9203L751	UJ	Calibration blank for V
	J	Serial dilution out for Ca,Mg,Na
	UJ	Matrix spike out for Tl,Se
	UJ	GFAA spike out for Tl,Se
9203L773	UJ	Calibration blank for V
	J	ICS out for Sb,Co,Cu,Ag,V
	J	Serial dilution out for Ca,Mg,Na
	UJ	Matrix spike out for Tl,Se
	UJ	GFAA spike out for Tl,Se
9203L783	J	Preparation blank for V,Zn
	J	Serial dilution out for Ca,Mg,Na
	J,UJ	GFAA spike out for Tl,Se,Pb
	J,UJ	Matrix spike out for Se
9206L698	UJ	Calibration blank for V
	UJ	Preparation blank for Hg
	UJ	GFAA spike out for Pb
9206L714	UJ	Preparation blank for Hg
	UJ	GFAA spike out for Pb,Sb
	J	Calibration blank for Mg
920L734	J	Serial dilution out for Ca,Mg,Na
9206L747	J	Calibration blank for K,Al,V
	UJ,J	Preparation blank for Hg,Tl,Al,Fe
	J	Matrix spike out for Al,As,Pb,Se,Tl
	J	GFAA spike out for Pb,Se,Tl
9206L764	J,UJ	Calibration blank for V,Tl
	J,UJ	Preparation blank for Hg,Tl,Al
	J	Matrix spike out for A,Pb
	J	GFAA spike out for Pb,Se,Tl
9206L768	None	Data accepted
9206L780	J	Calibration blank for Sb
	J	Preparation blank for Hg
	J	GFAA spike out for Pb
9209L908	J,UJ	Calibration blanks for Cr,Co,Mn,Ag,V,K,Ca,Na
	J,UJ	Preparation blanks for As,V,Zn,Cr,Cu,Fe,Ca,Mg
	UJ	Matrix spike out for Sb,Tl
	UJ	GFAA spike out for Pb,Se,Tl
9209L933	J,UJ	Calibration blanks for Co,Ag,K,Cr,V
	J,UJ	Preparation blanks for As,V,Zn,Cr,Cu,Fe
	UJ	Matrix spike out for Sb,Tl
	UJ	GFAA spike out for Pb,Sb,Tl,As
	J	MSA correlation coefficient out of Pb

Table 70. (page 4 of 4)

Laboratory Batch	Qualifier	Reason for Qualification
9209L957	UJ	Calibration blank for Tl
	J,UJ	Preparation blank for Ag,V,Fe
	UJ	Matrix spike out for Tl
	J	MSA not performed for Pb

[a]Qualification applied to selected samples and selected analytes.

FIGURES 1 THROUGH 56

Locations sampled and associated
selected parameter concentrations
(October/November 1990 through September 1992)

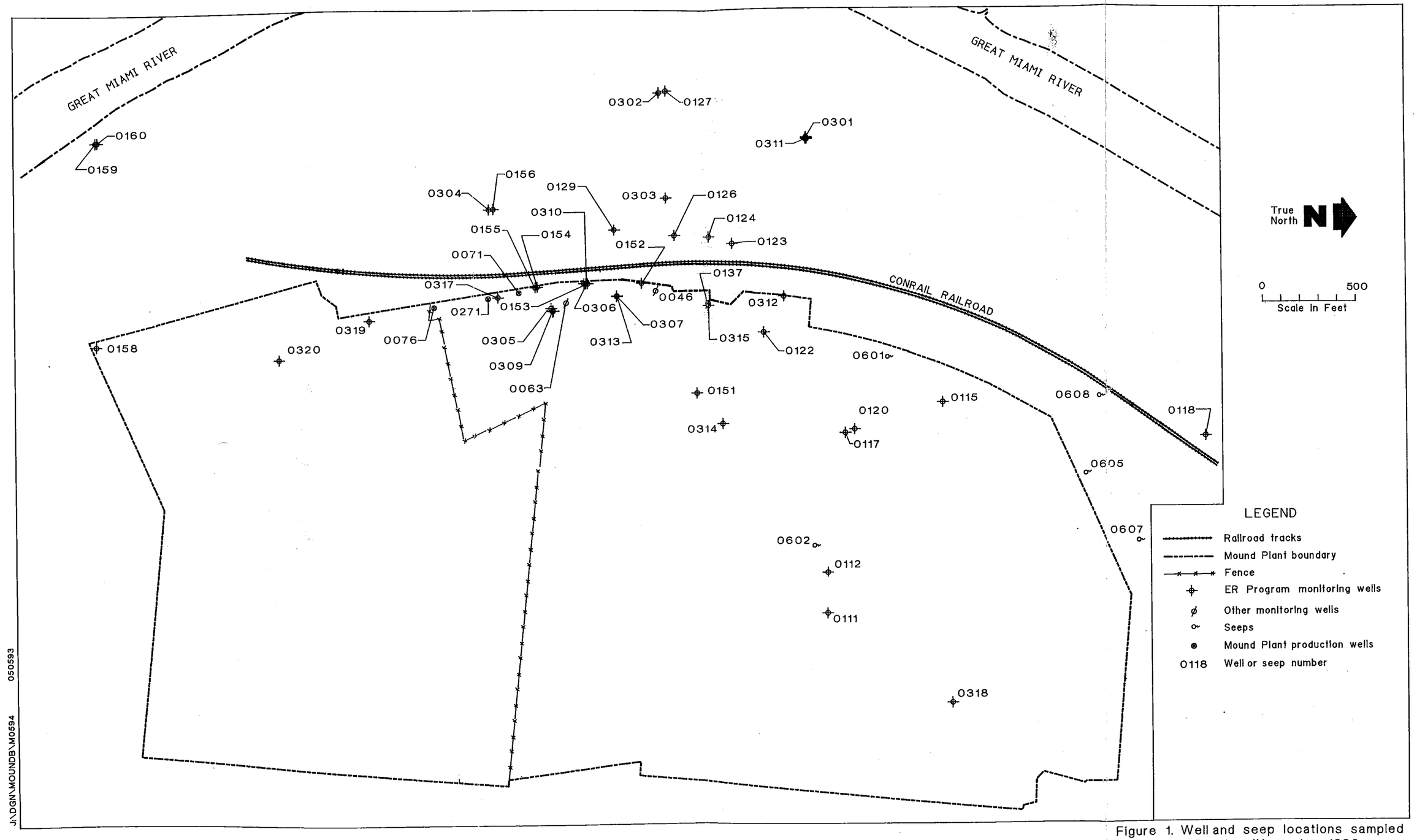

Figure 1. Well and seep locations sampled during the October/November 1990 groundwater sampling event.

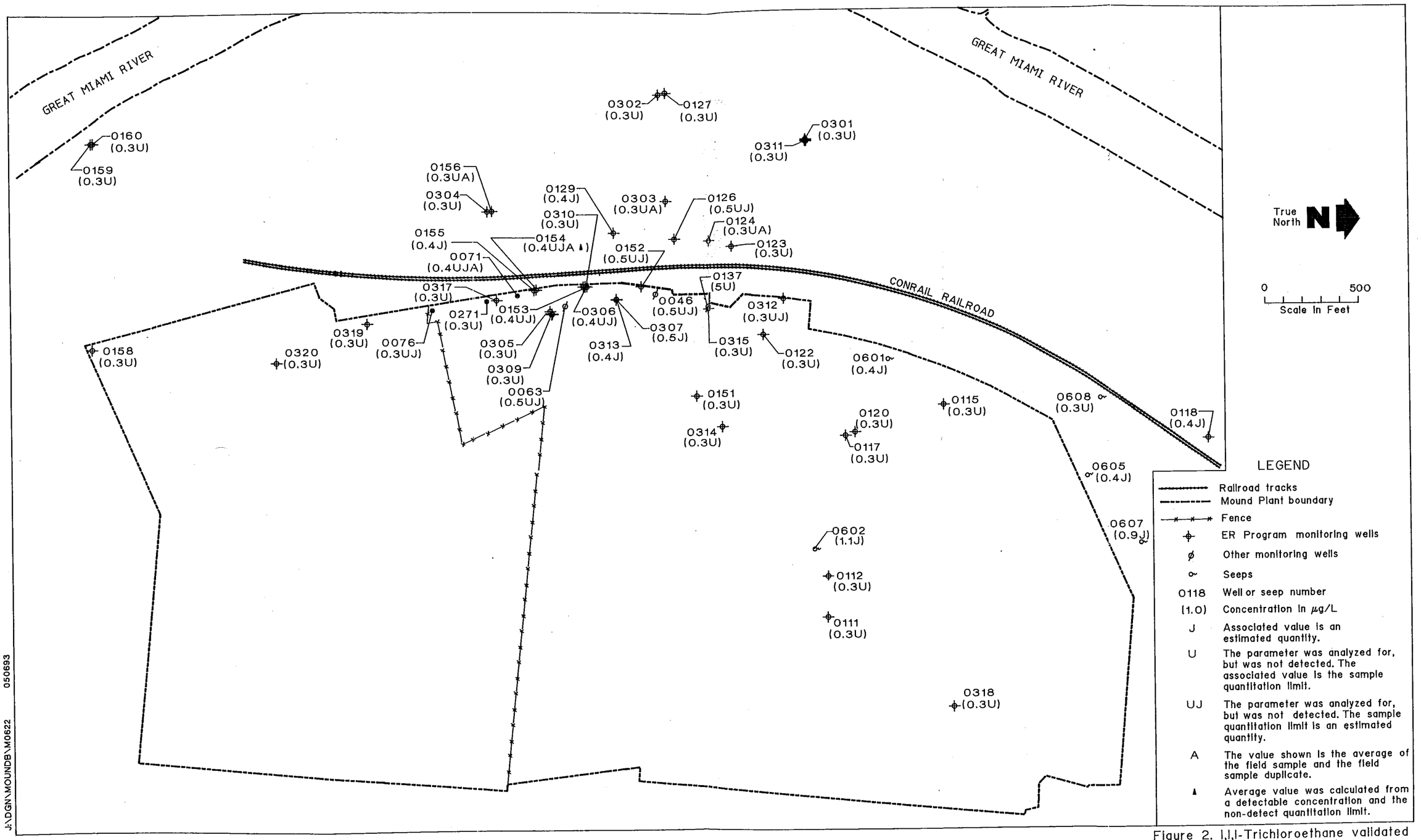

Figure 2. 1,1,1-Trichloroethane validated concentrations in groundwater (µg/L), October/November 1990.

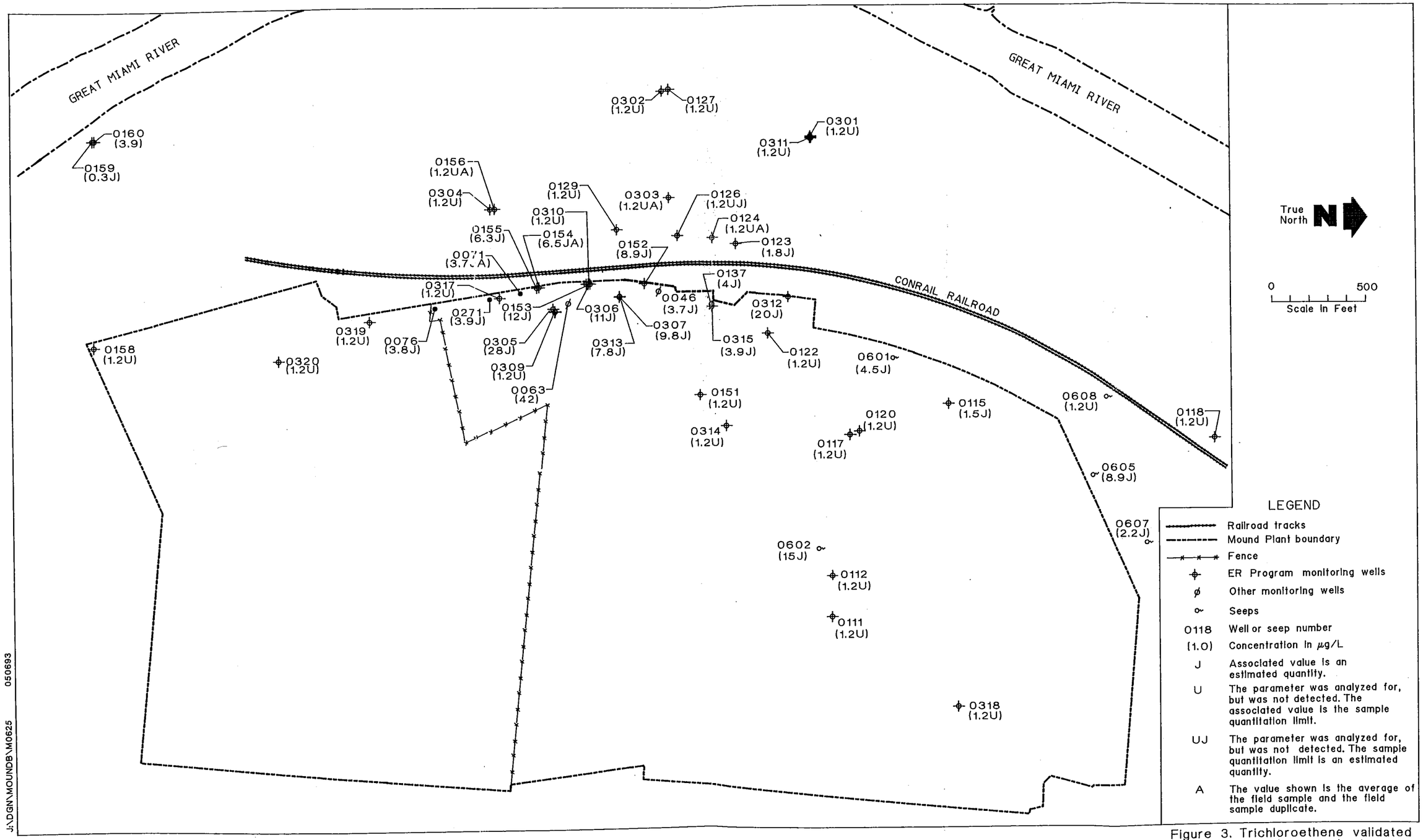

Figure 3. Trichloroethene validated concentrations in groundwater (µg/L), October/November 1990.

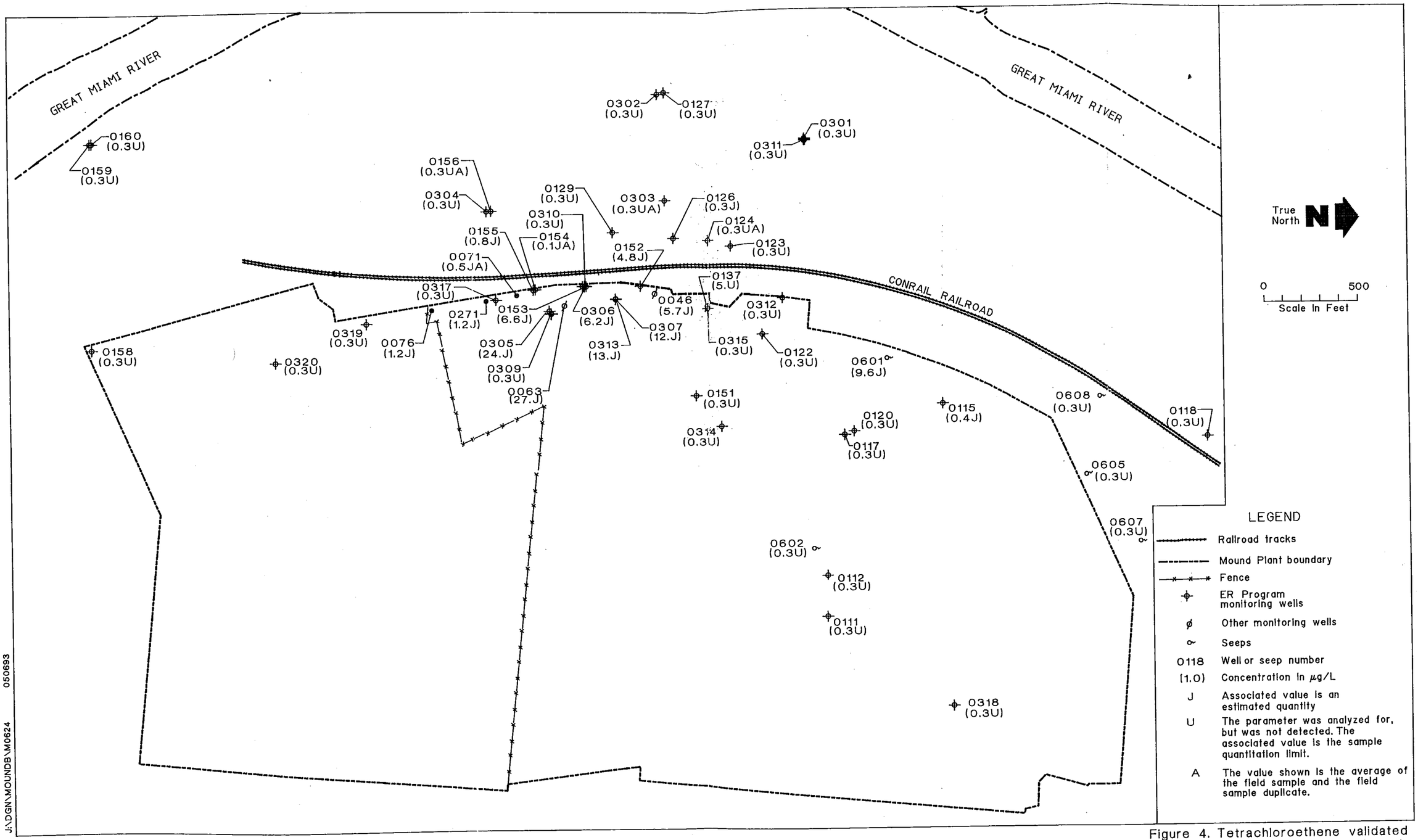

Figure 4. Tetrachloroethene validated concentrations in groundwater (µg/L), October/November 1990.

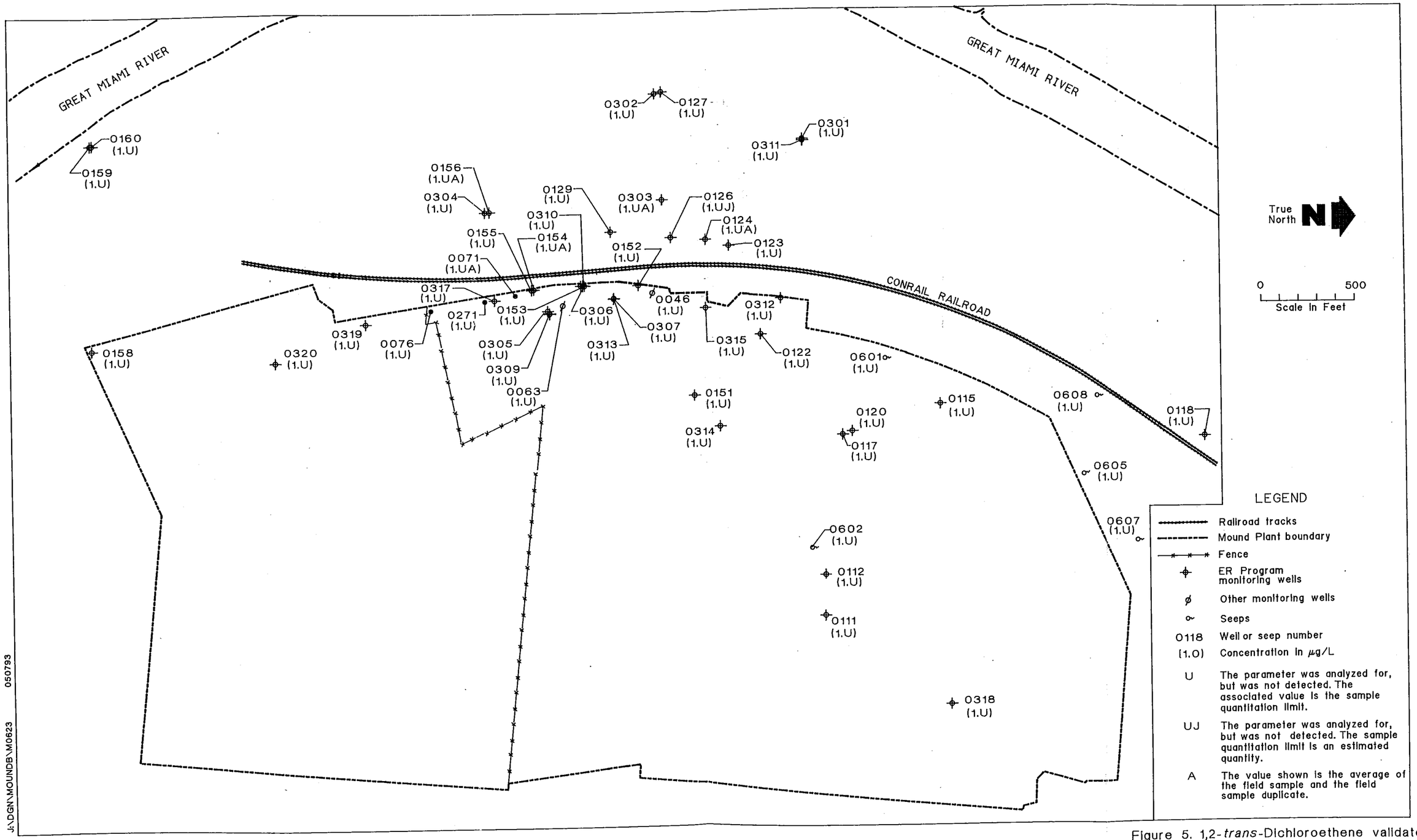

Figure 5. 1,2-*trans*-Dichloroethene validated concentrations in groundwater (µg/L), October/November 1990.

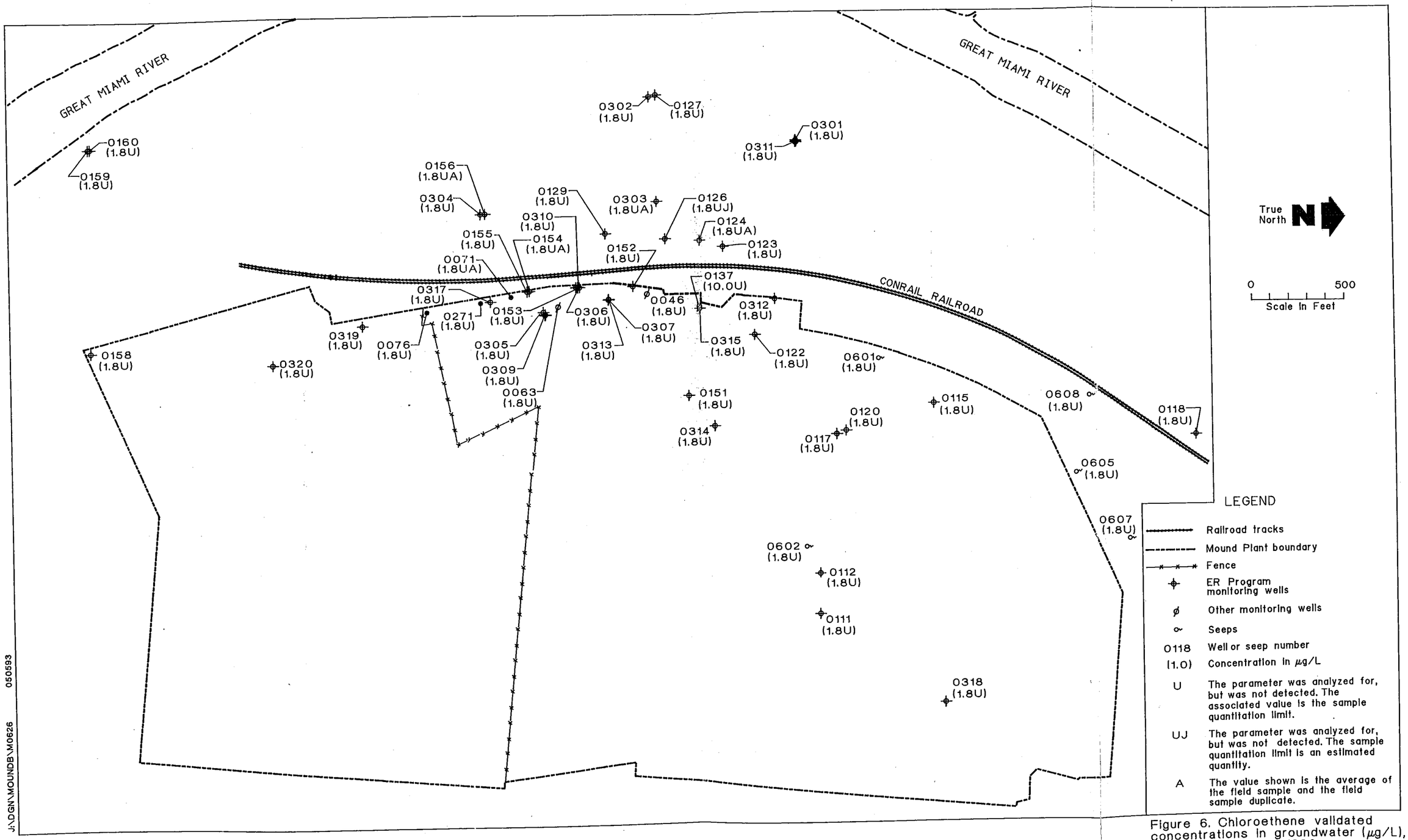

Figure 6. Chloroethene validated concentrations in groundwater (µg/L), October/November 1990.

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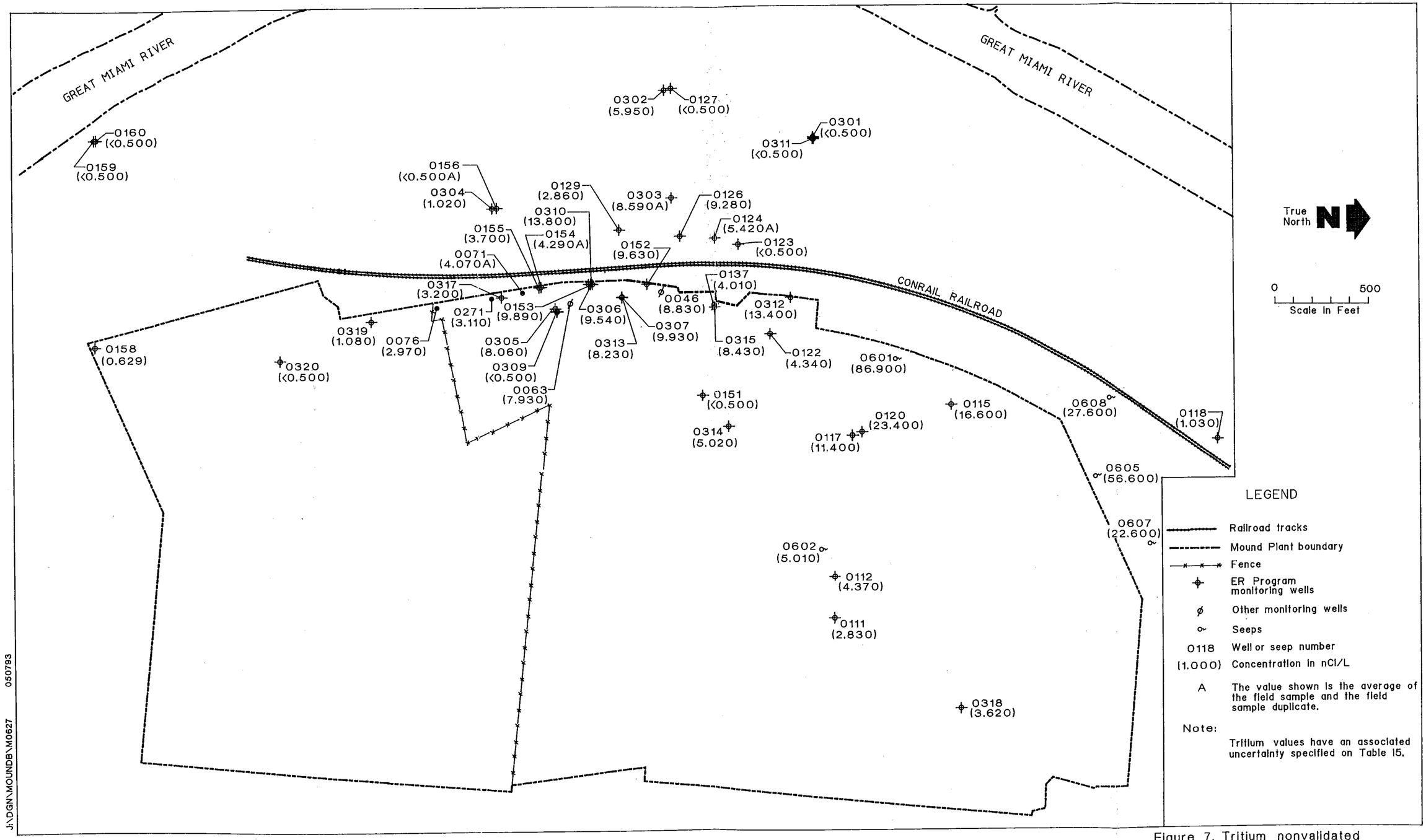

Figure 7. Tritium nonvalidated concentrations in groundwater (nCi/L), October/November 1990.

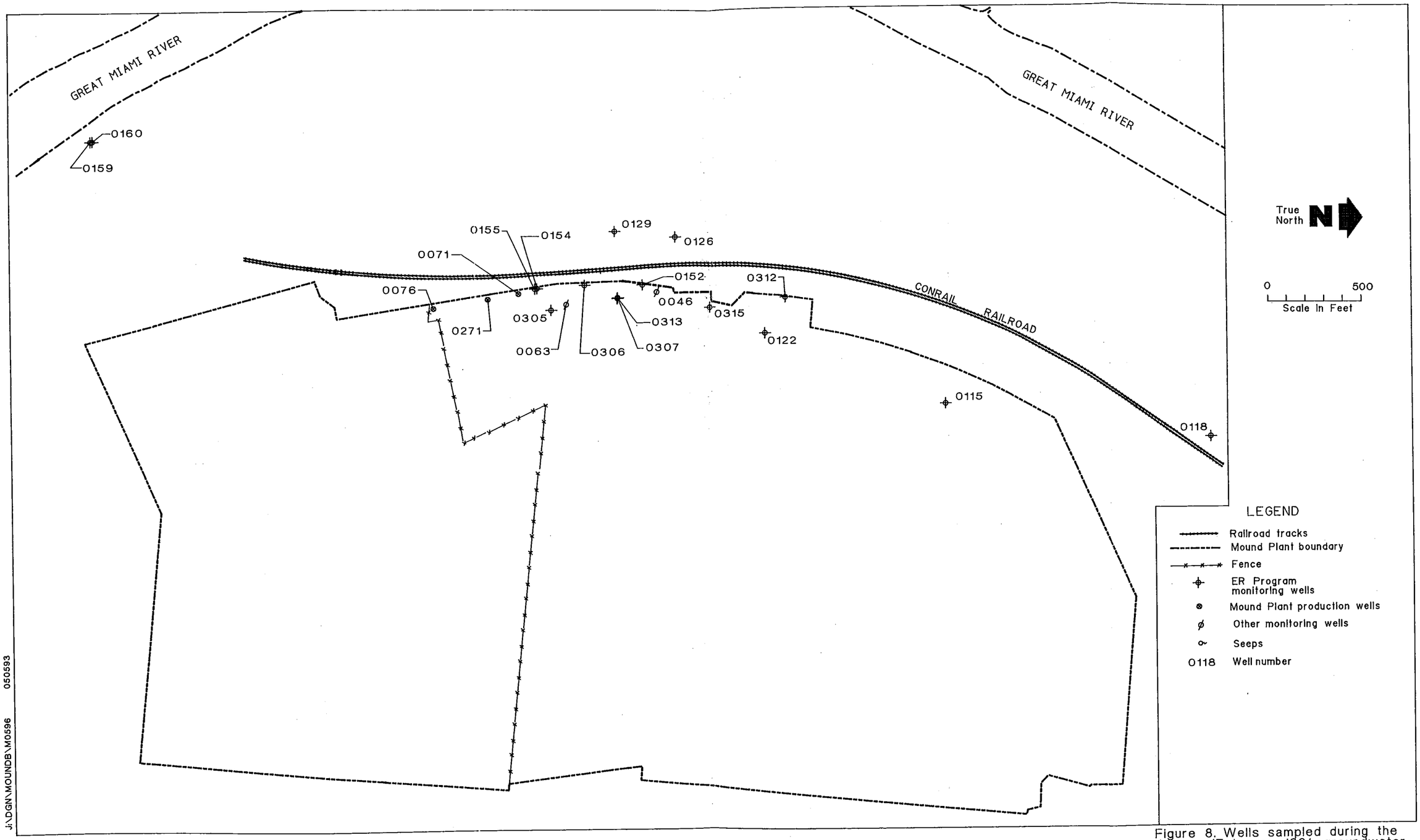

Figure 8. Wells sampled during the January/February 1991 groundwater sampling event.

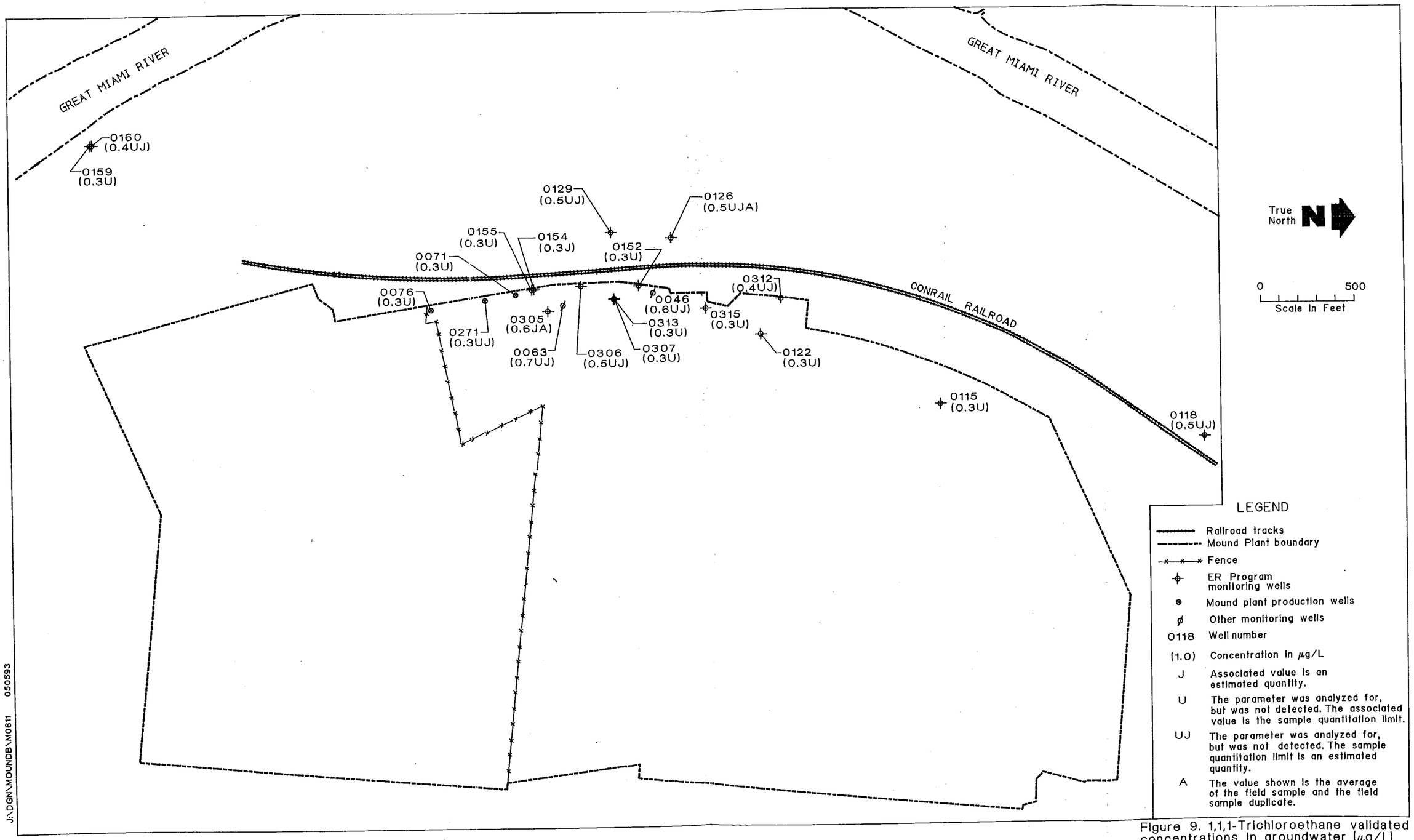

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Figure 9. 1,1,1-Trichloroethane validated concentrations in groundwater (µg/L), January/February 1991.

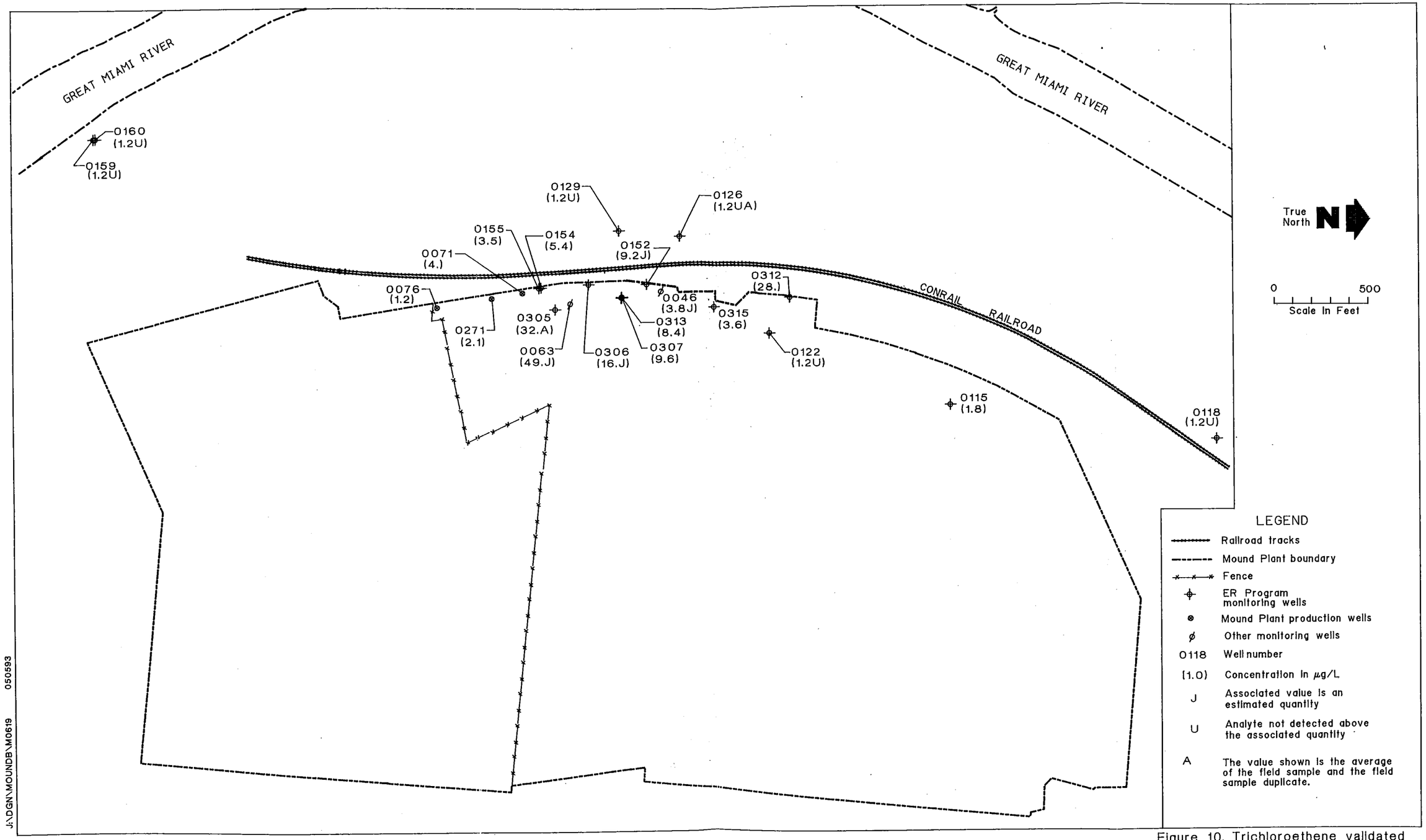

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Figure 10. Trichloroethene validated concentrations in groundwater (µg/L), January/February 1991.

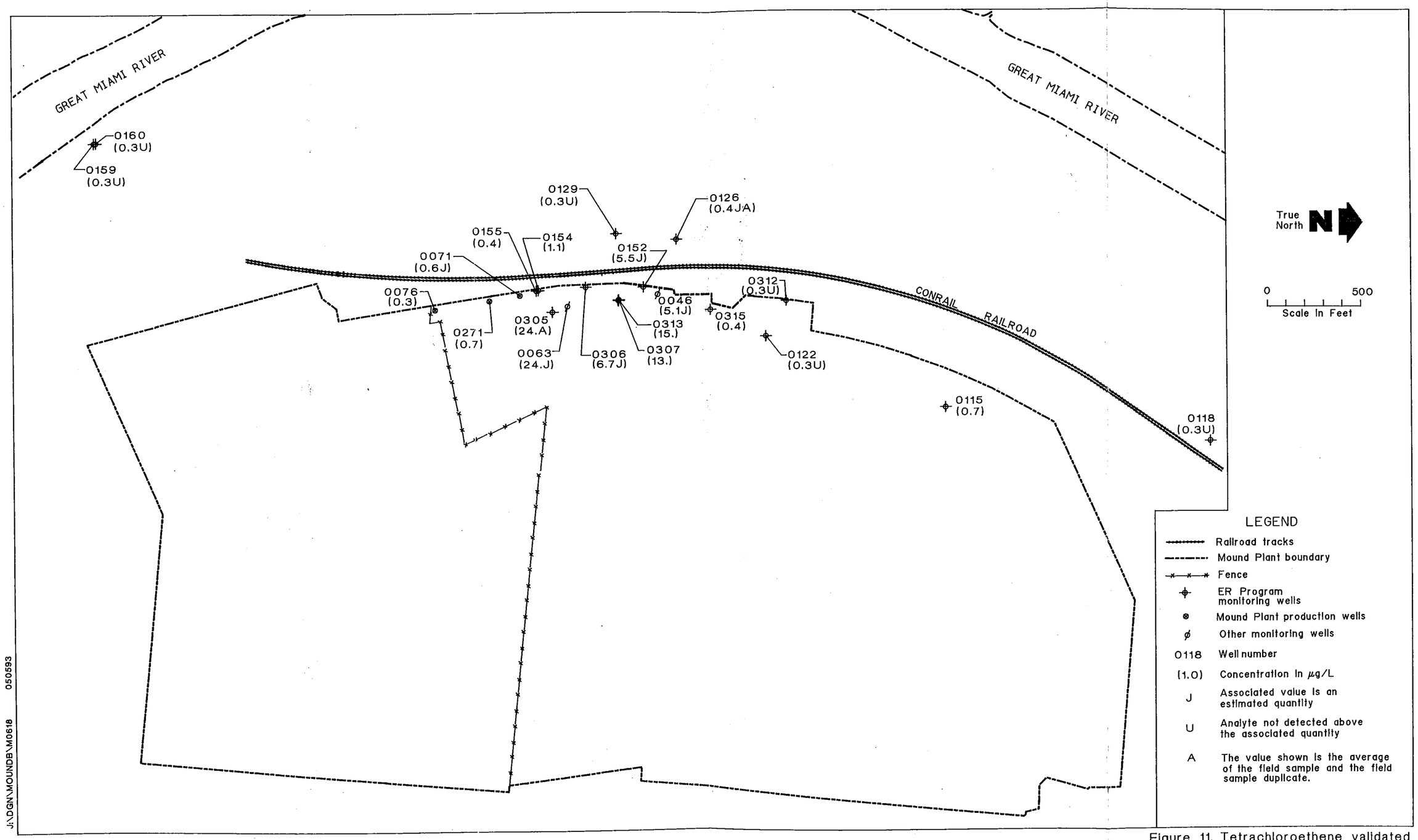

Figure 11. Tetrachloroethene validated concentrations in groundwater (µg/L), January/February 1991.

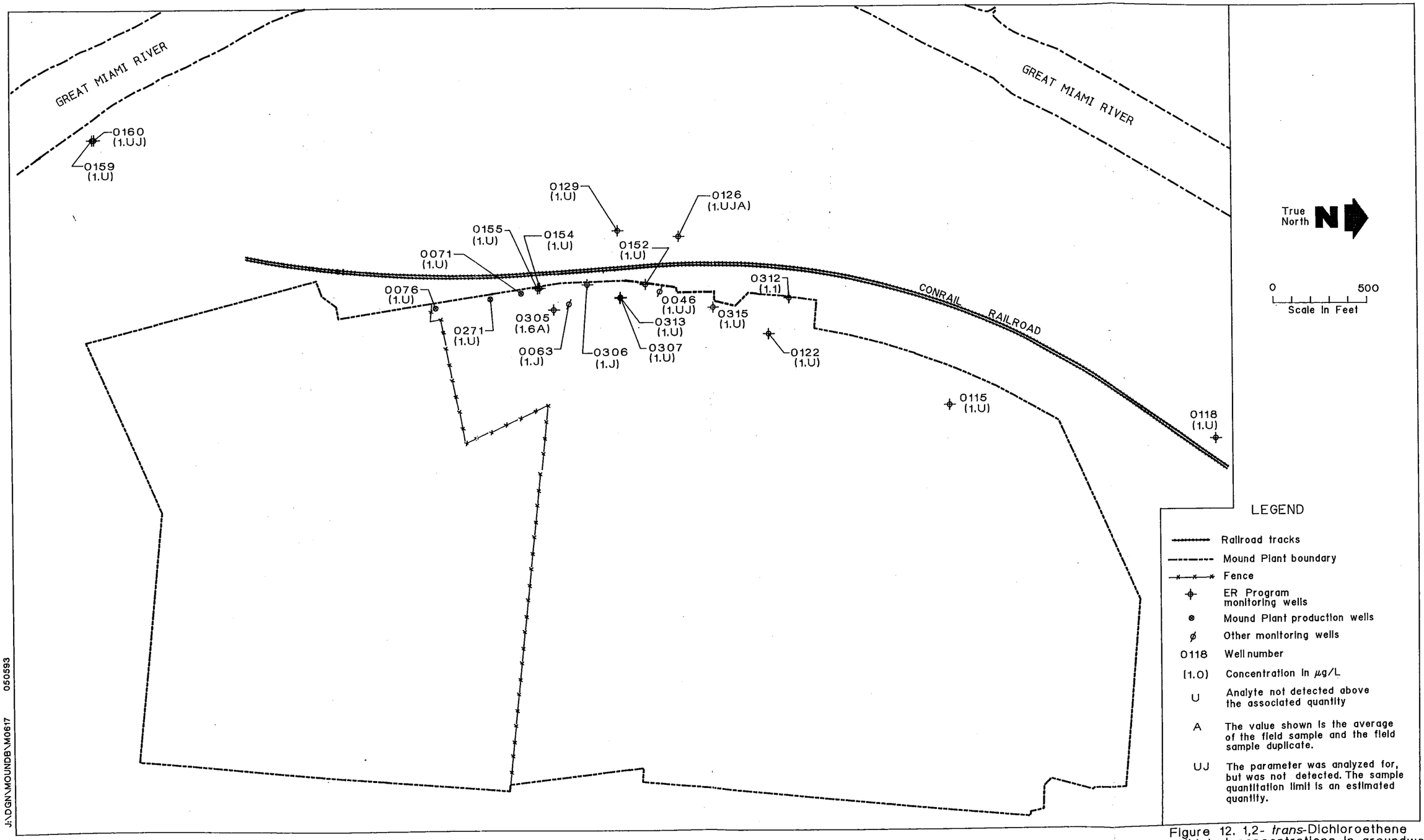

Figure 12. 1,2- *trans*-Dichloroethene validated concentrations in groundwater (µg/L), January/February 1991.

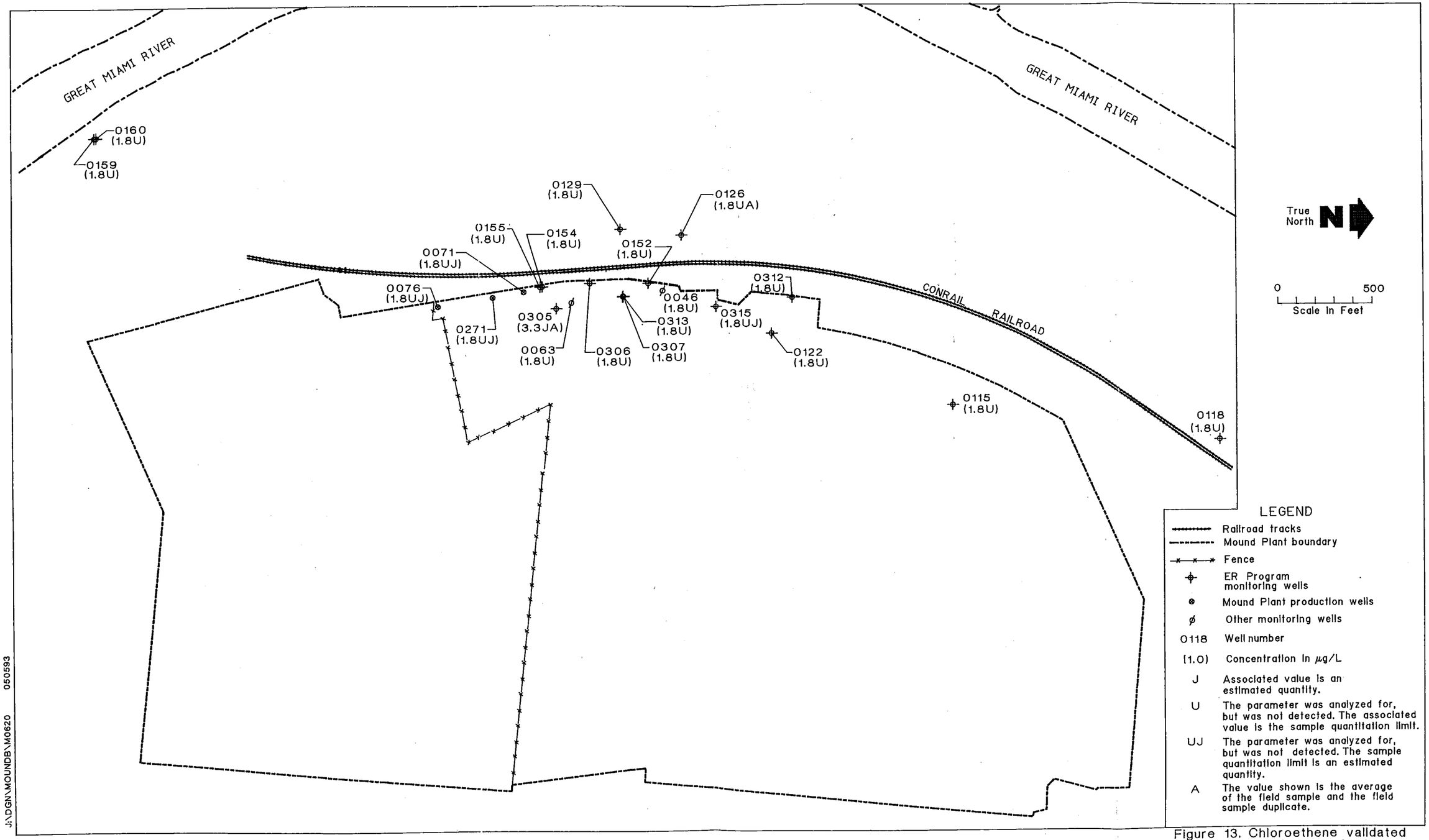

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Figure 13. Chloroethene validated concentrations in groundwater (µg/L), January/February 1991.

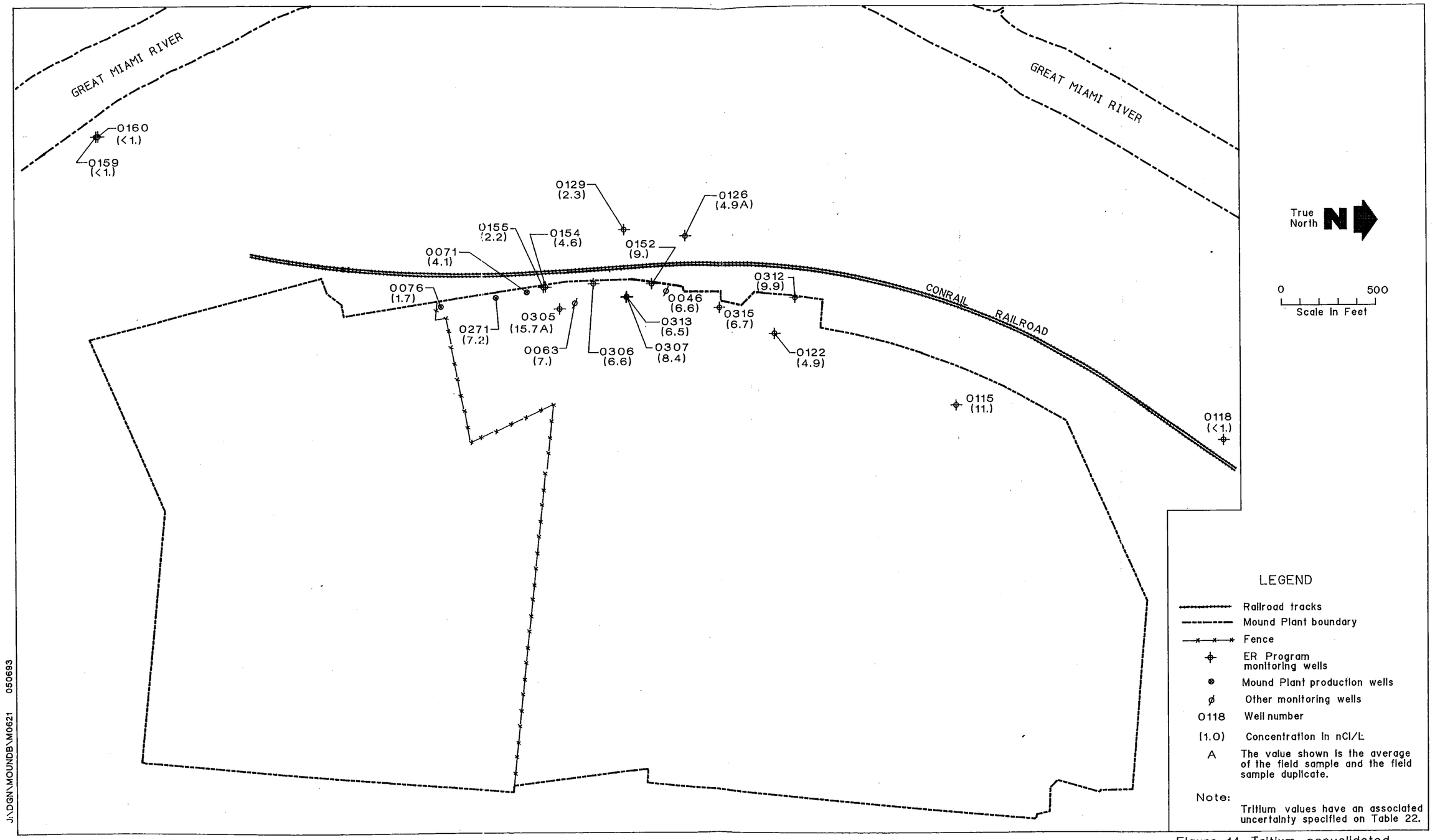

Figure 14. Tritium nonvalidated concentrations in groundwater (nCi/L), January/February 1991.

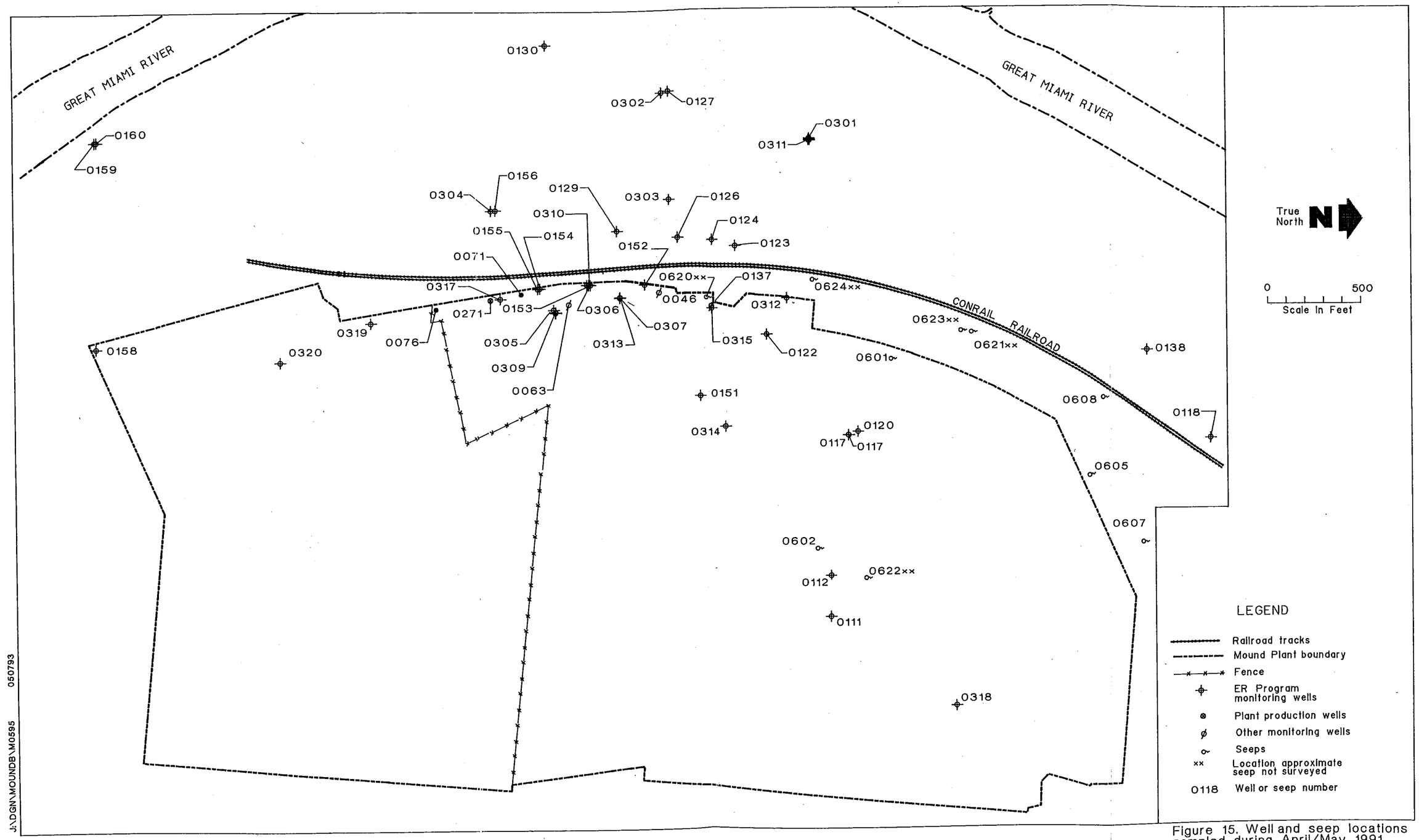

Figure 15. Well and seep locations sampled during April/May 1991 groundwater sampling event.

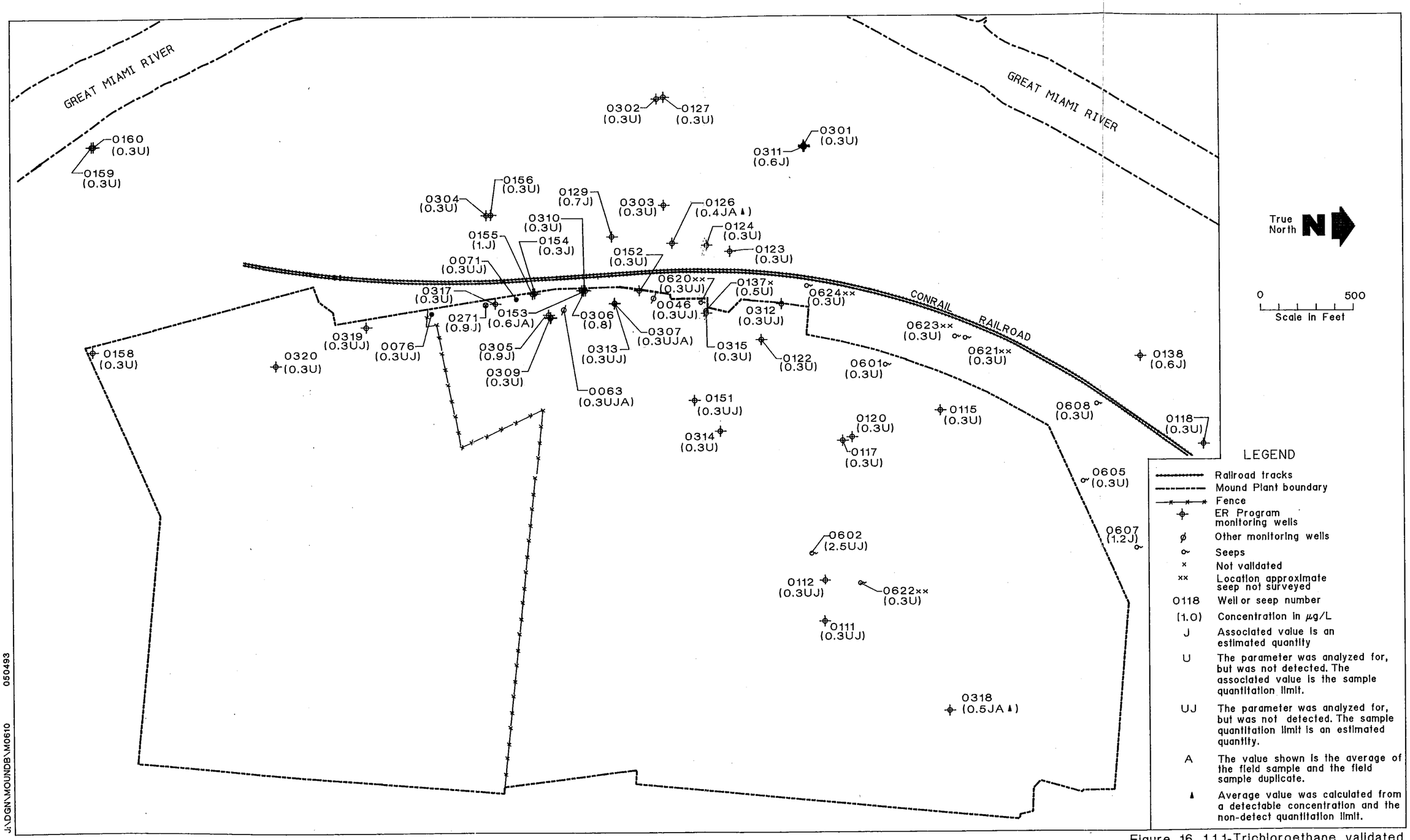

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Figure 16. 1,1,1-Trichloroethane validated concentrations in groundwater (µg/L), April/May 1991.

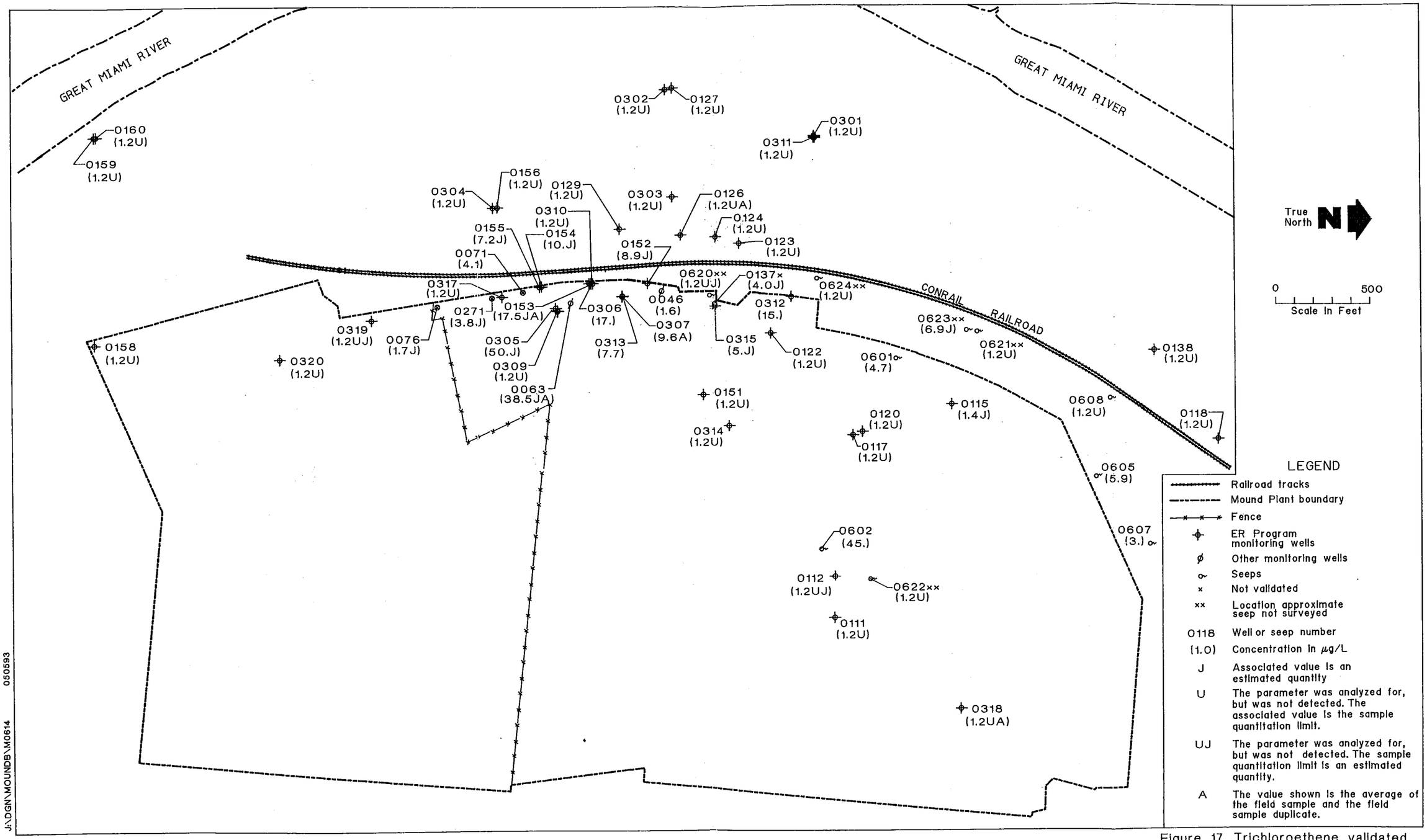

Figure 17. Trichloroethene validated concentrations in groundwater (µg/L), April/May 1991.

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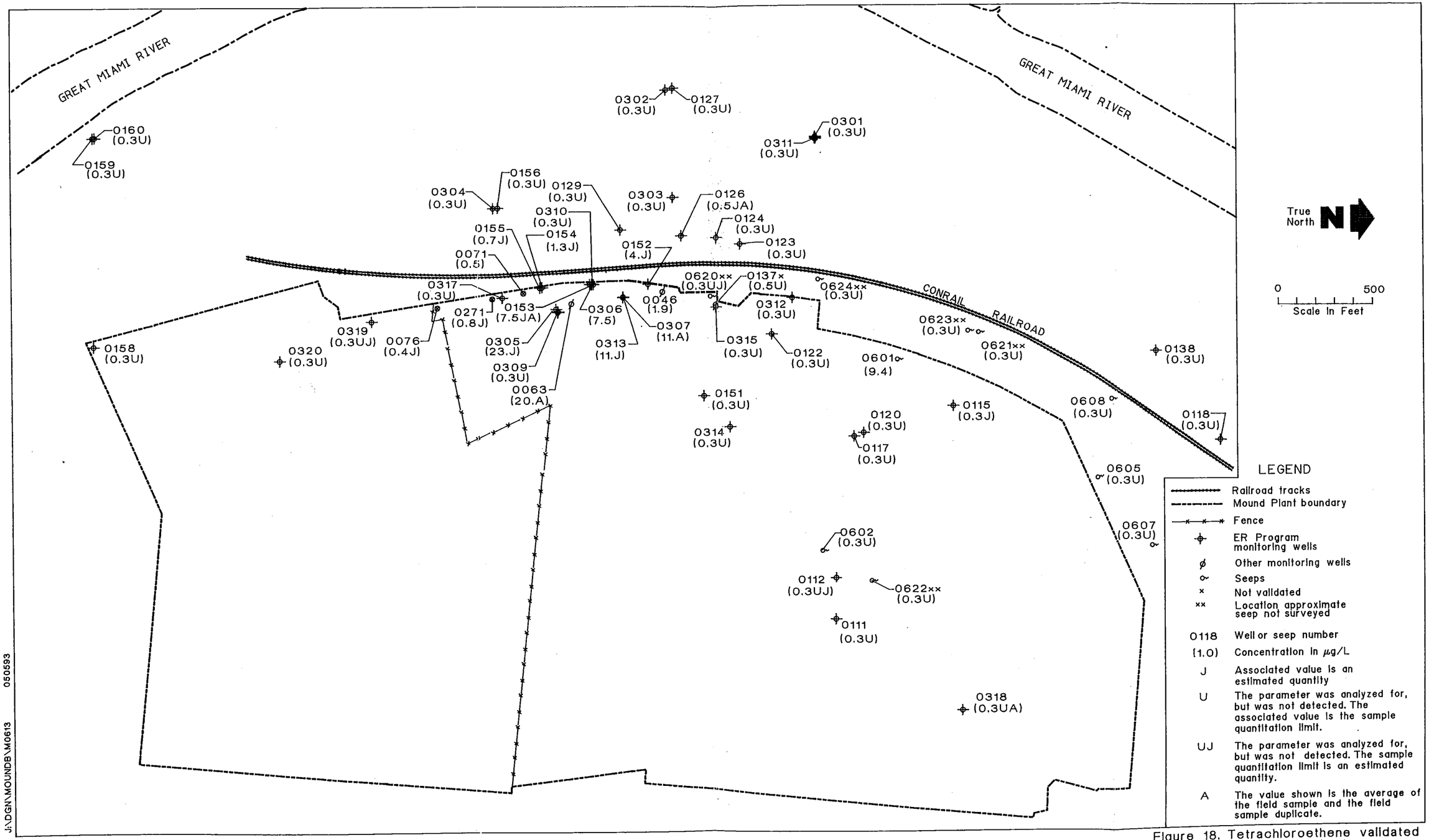

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Figure 18. Tetrachloroethene validated concentrations in groundwater (µg/L), April/May 1991.

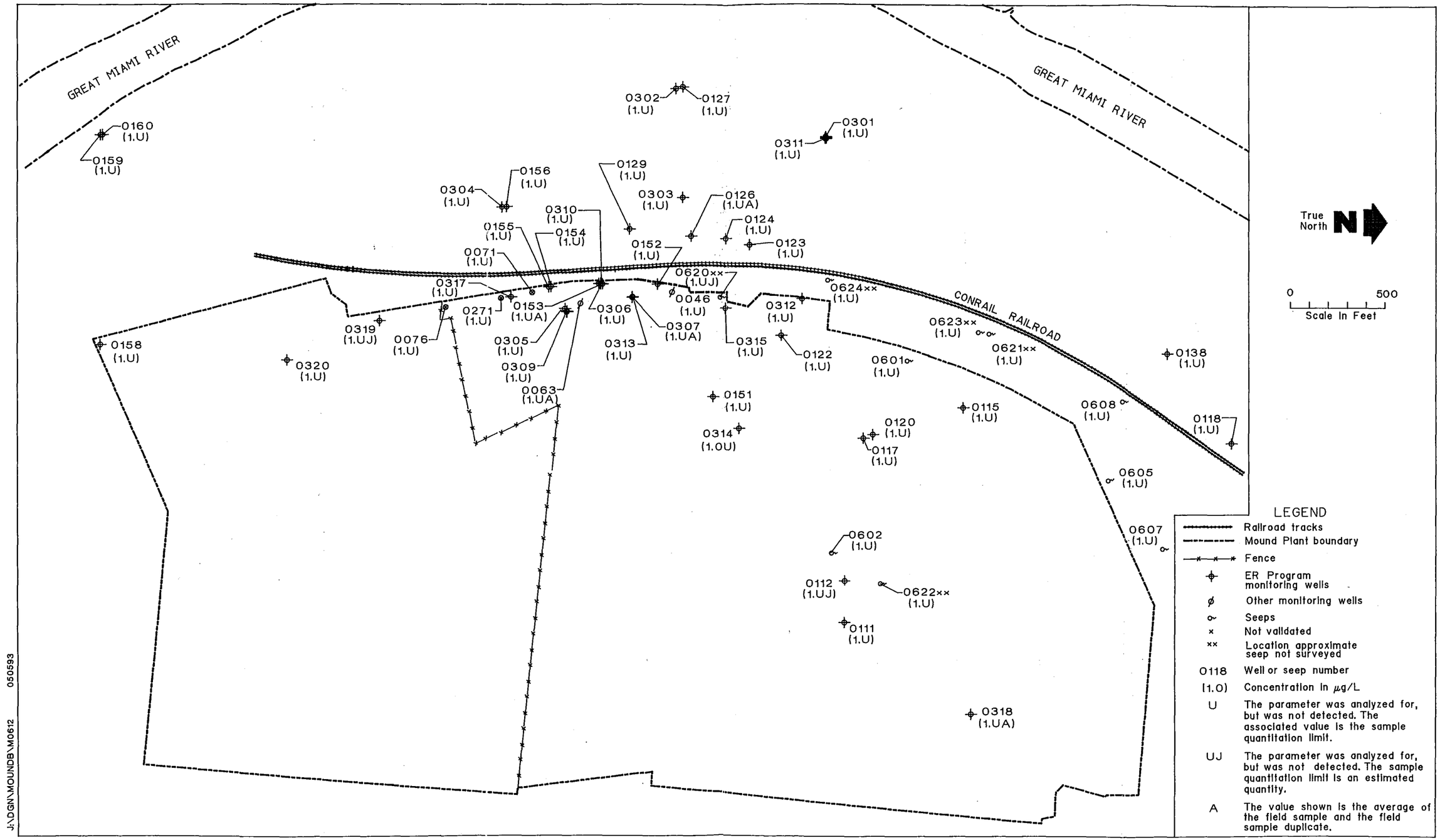

Figure 19. 1,2-*trans*-Dichloroethene validated concentrations in groundwater (µg/L), April/May 1991.

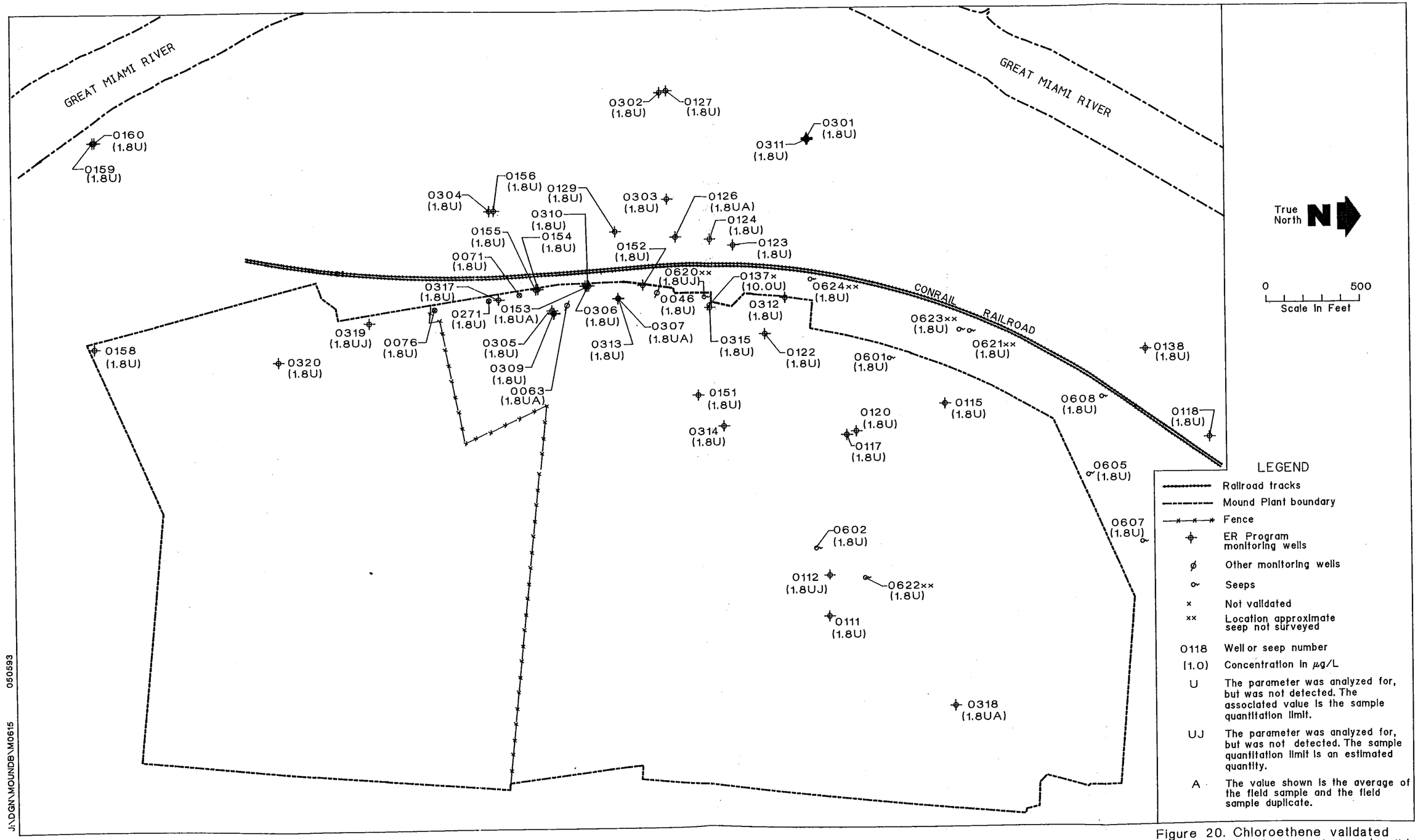

Figure 20. Chloroethene validated concentrations in groundwater (µg/L), April/May 1991.

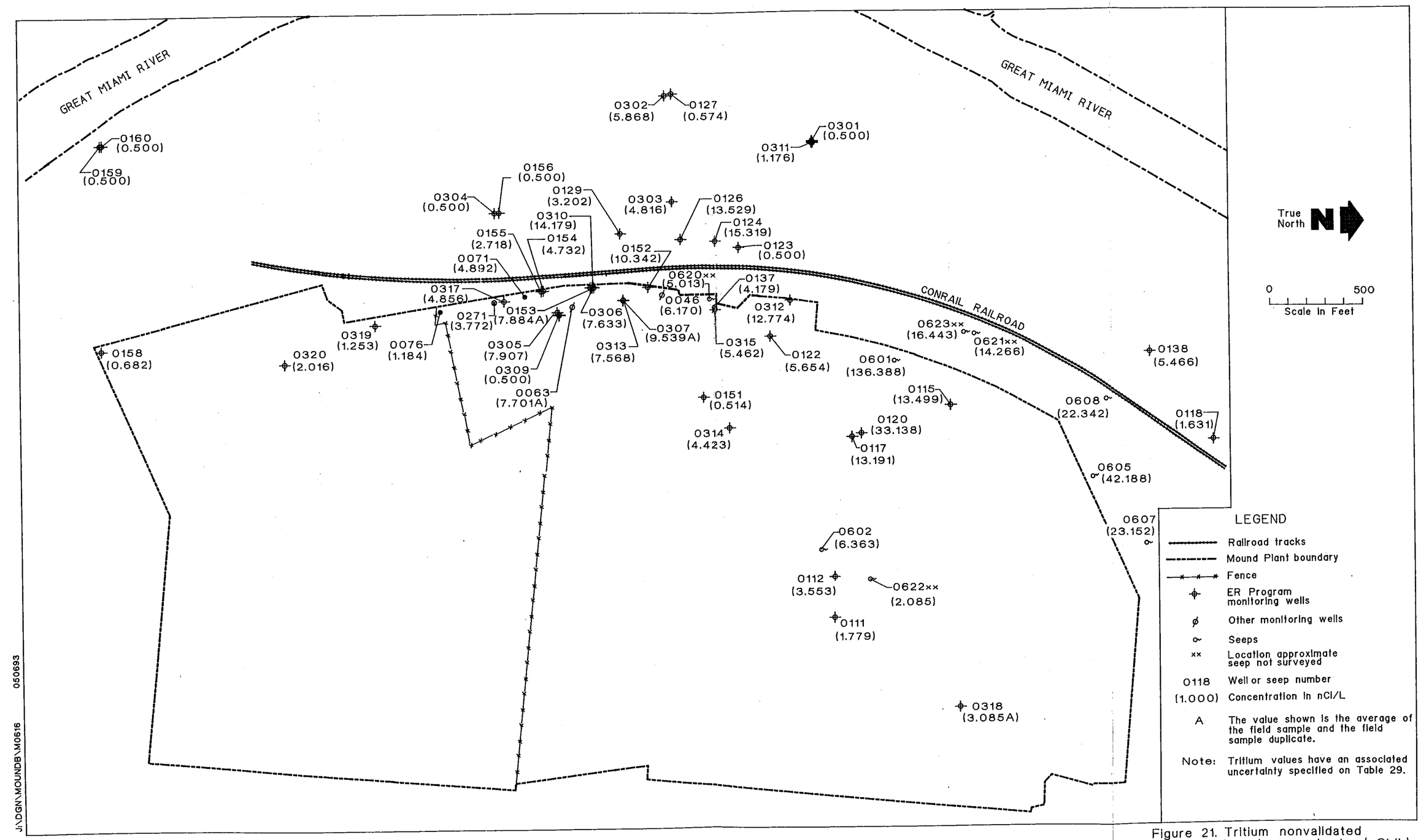

Figure 21. Tritium nonvalidated concentrations in groundwater (nCi/L), April/May 1991.

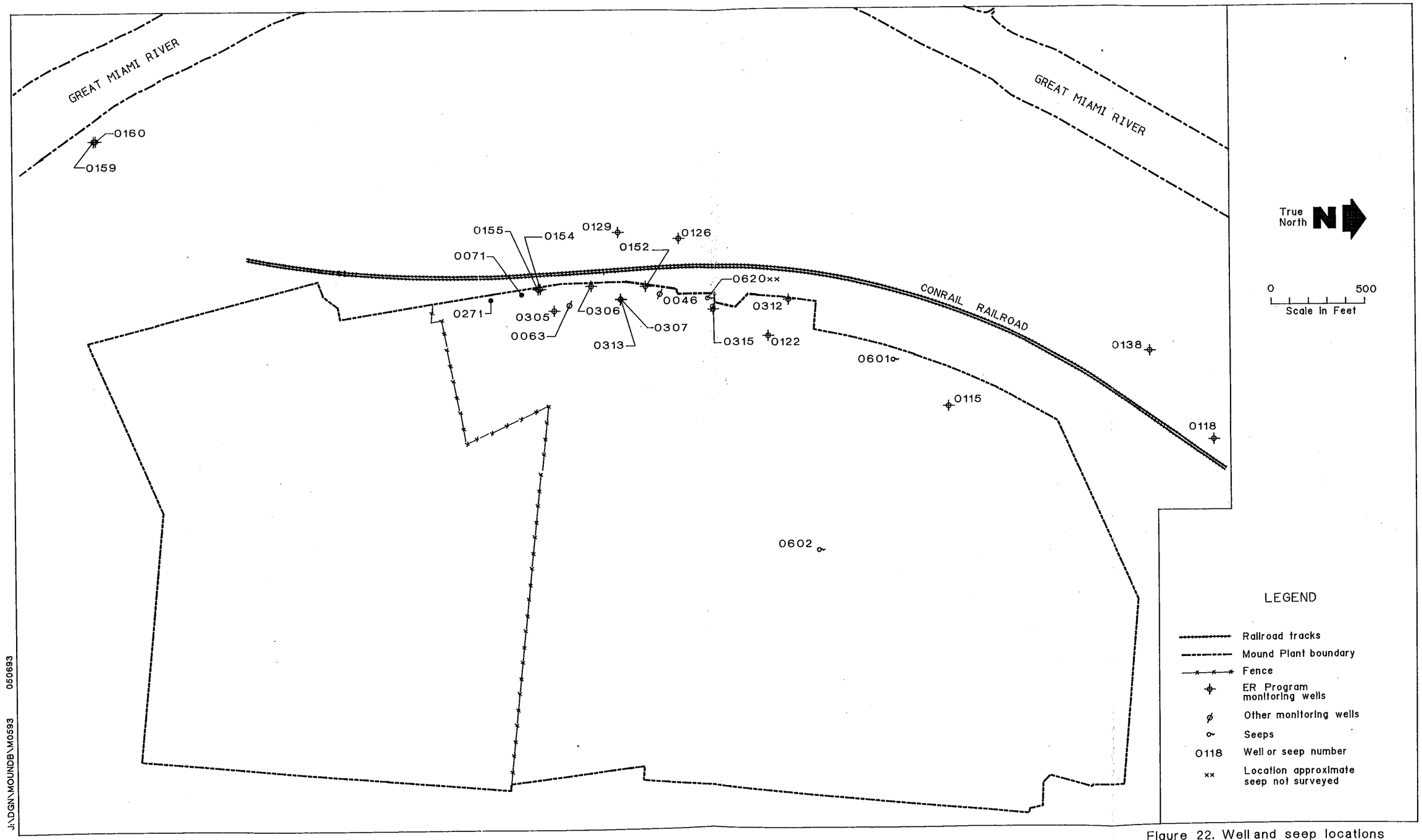

Figure 22. Well and seep locations sampled during the July/August 1991 groundwater sampling event.

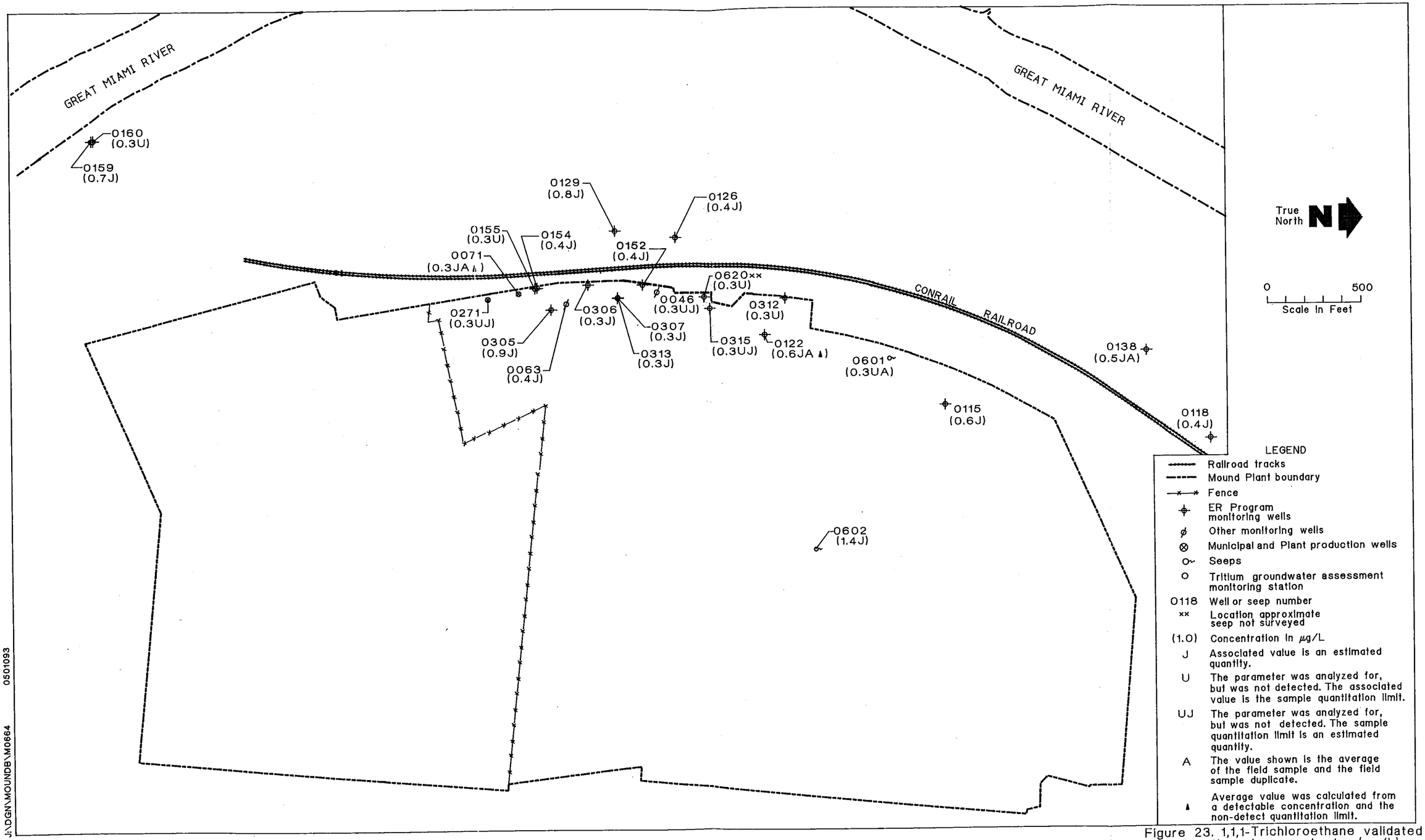

Figure 23. 1,1,1-Trichloroethane validated concentrations in groundwater (µg/L), July/August 1991.

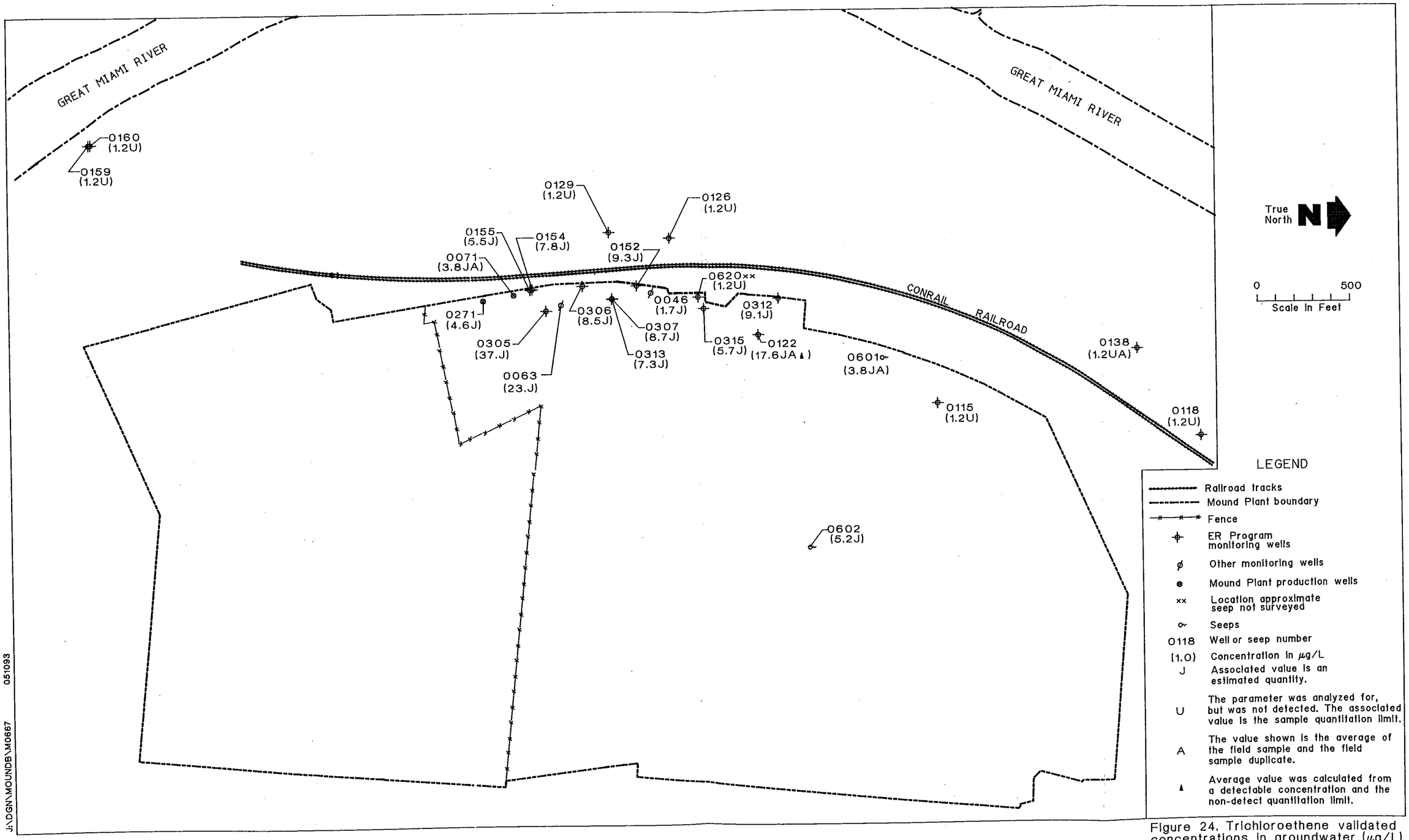

Figure 24. Trichloroethene validated concentrations in groundwater (µg/L), July/August 1991.

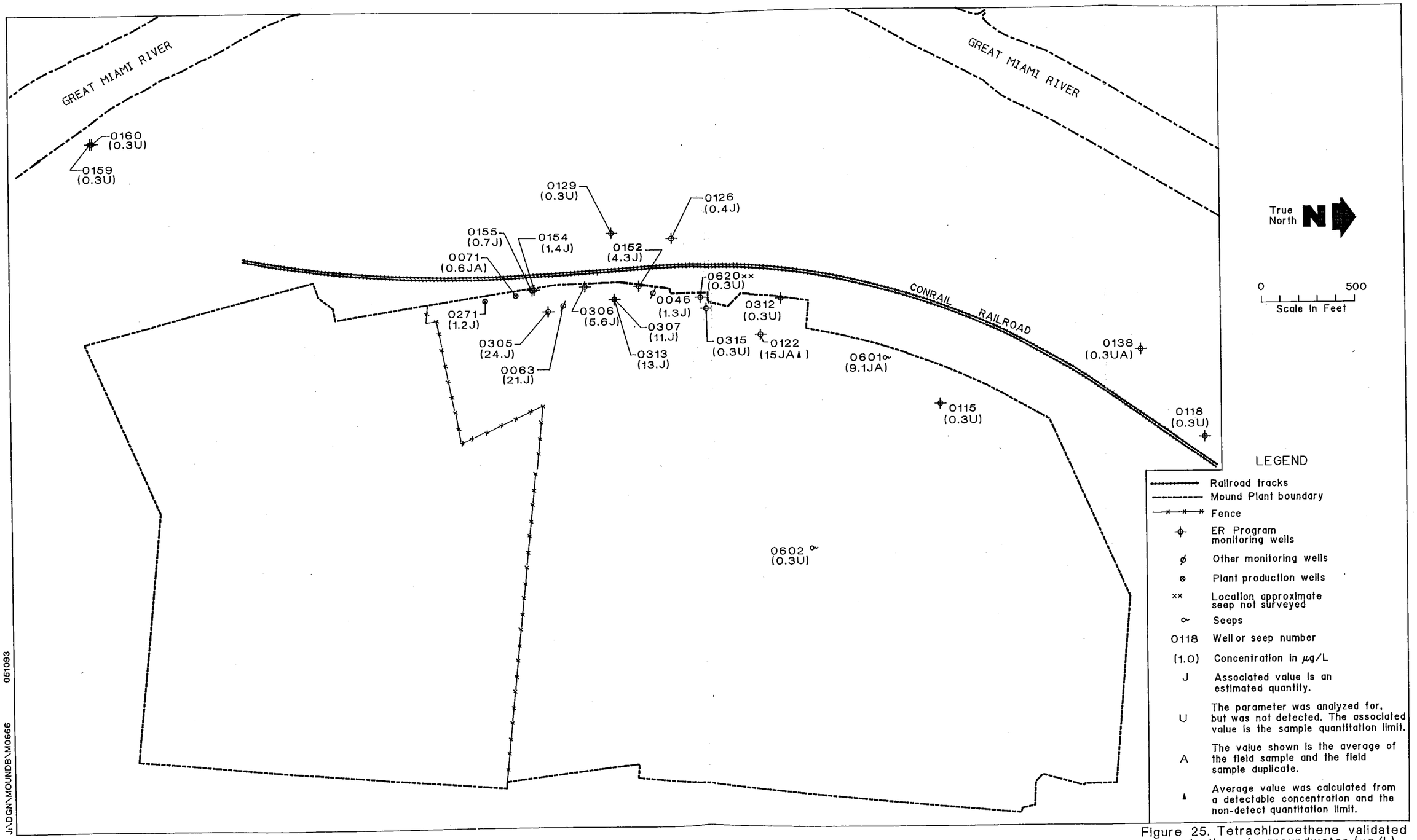

Figure 25. Tetrachloroethene validated concentrations in groundwater (µg/L), July/August 1991.

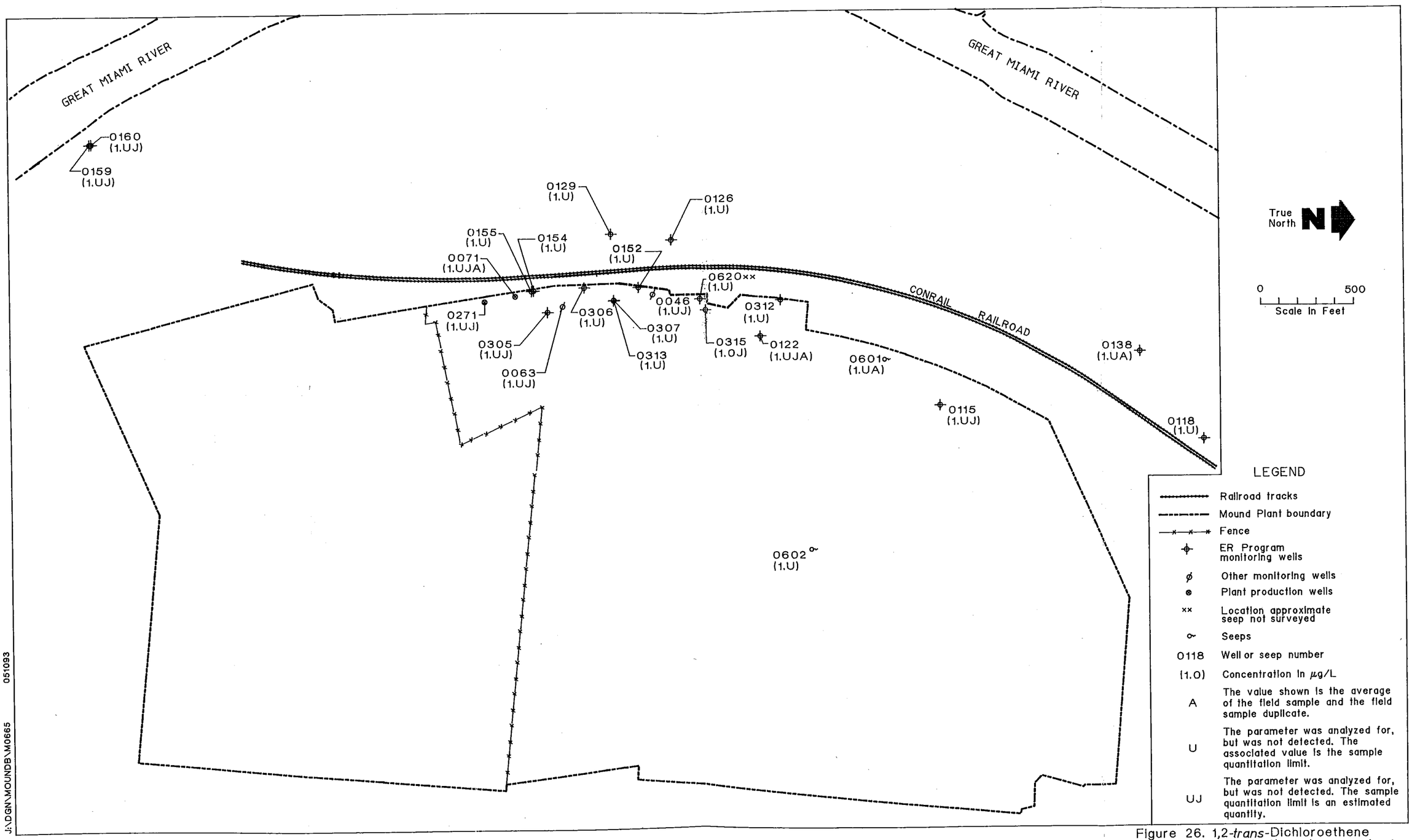

Figure 26. 1,2-*trans*-Dichloroethene validated concentrations in groundwater (µg/L), July/August 1991.

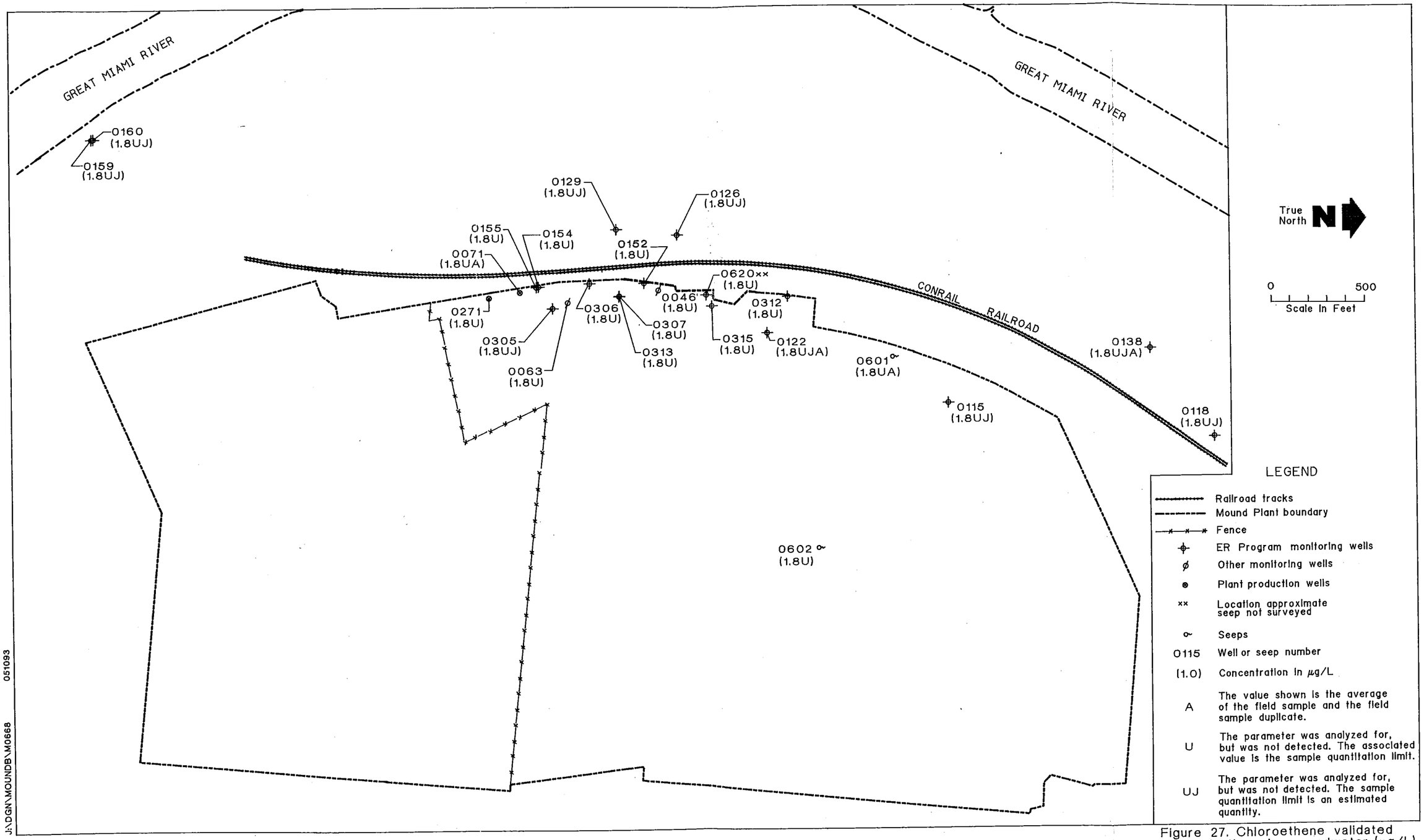

Figure 27. Chloroethene validated concentrations in groundwater (µg/L), July/August 1991.

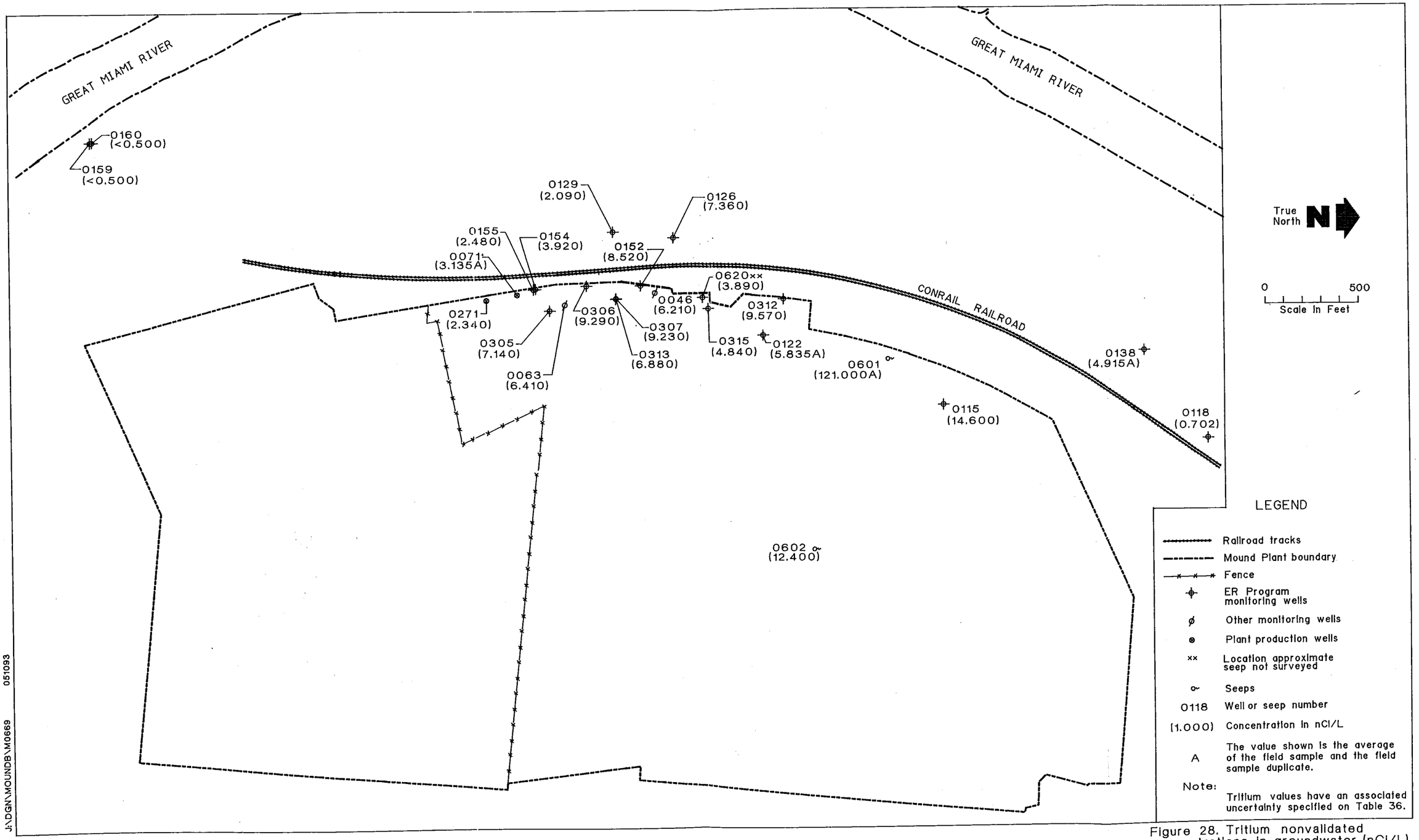

Figure 28. Tritium nonvalidated concentrations in groundwater (nCi/L), July/August 1991.

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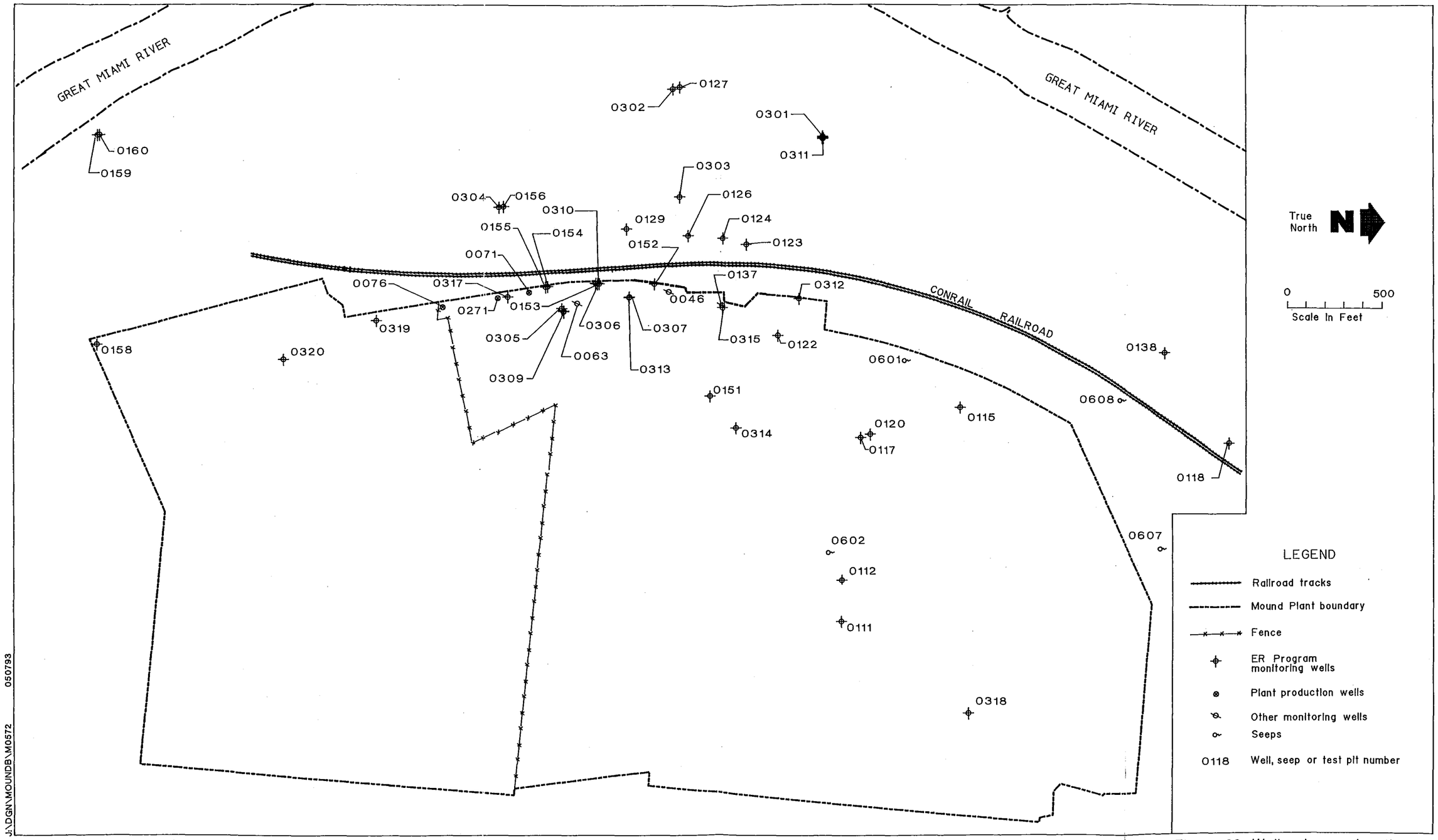

Figure 29. Well and seep locations sampled during the December 1991 groundwater sampling event.

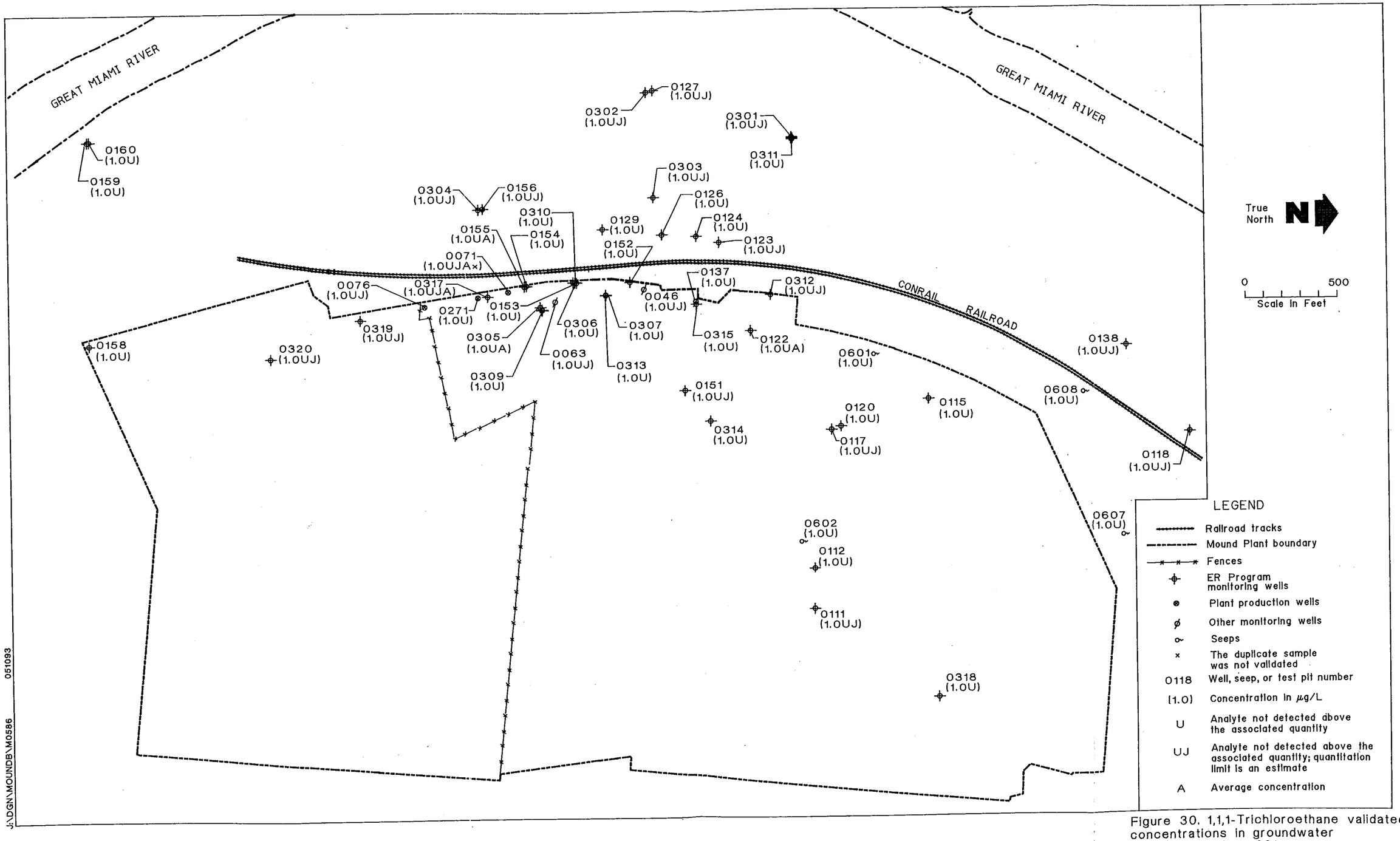

Figure 30. 1,1,1-Trichloroethane validated concentrations in groundwater (µg/L), December 1991.

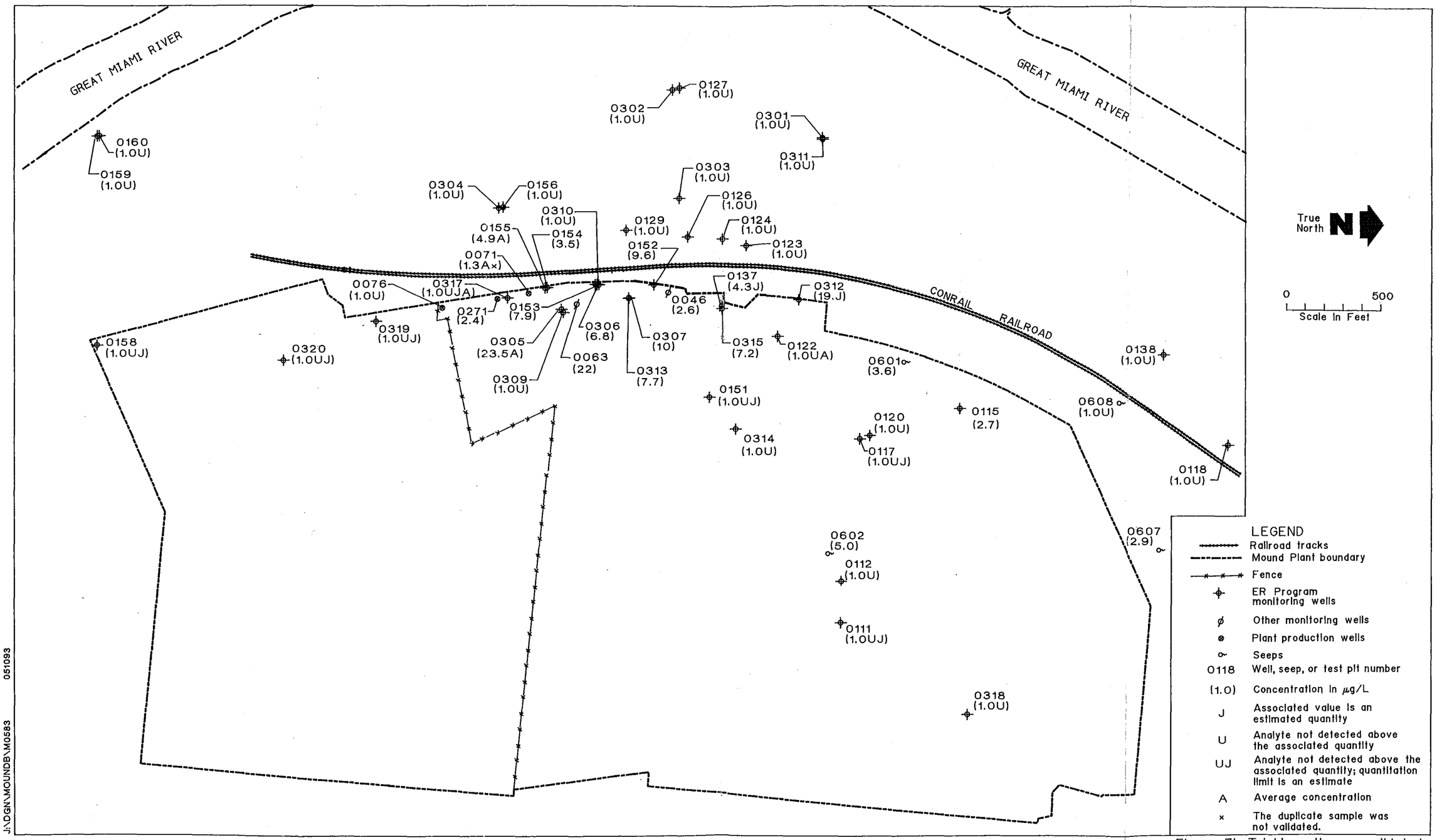

Figure 31. Trichloroethene validated concentrations in groundwater (µg/L), December 1991.

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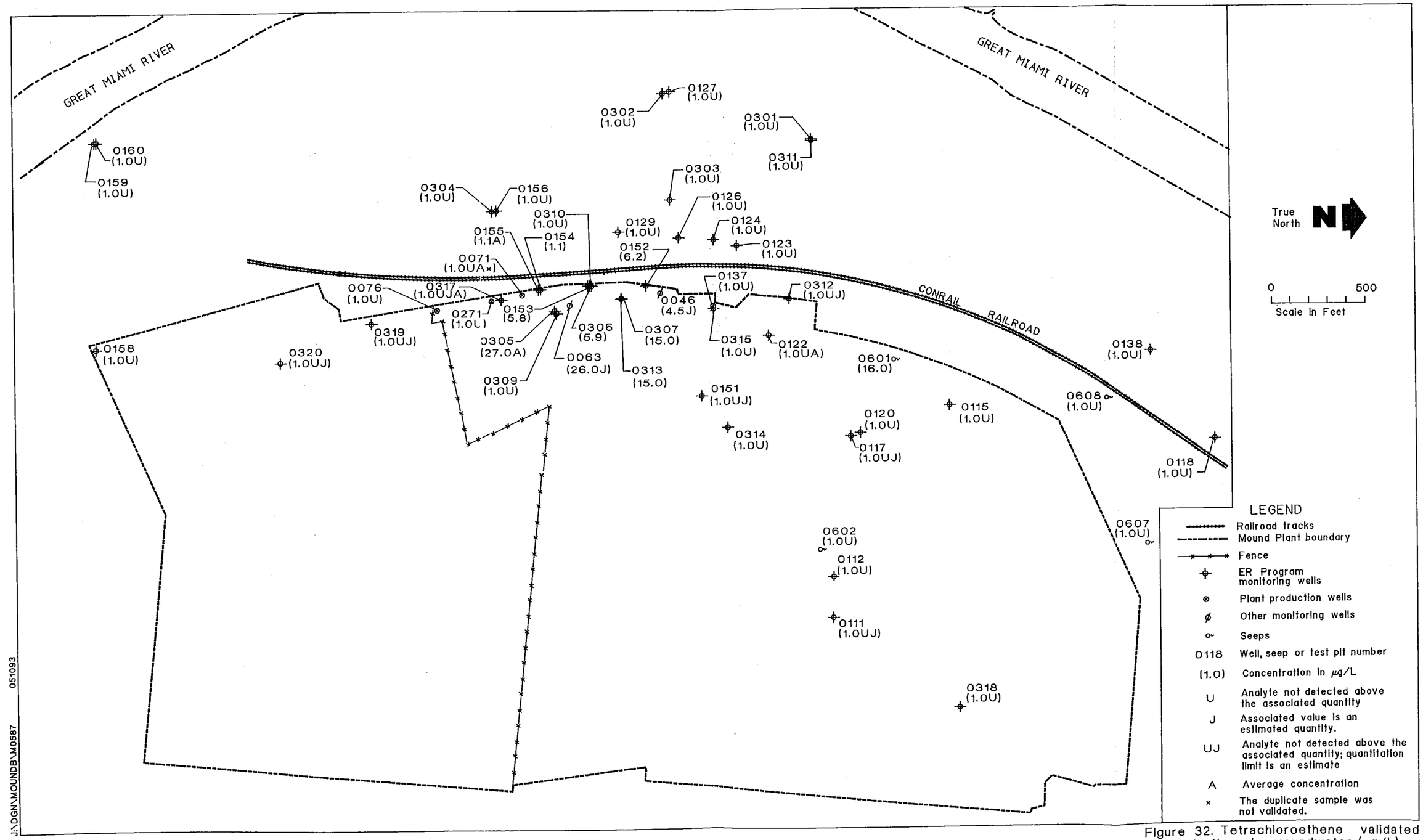

Figure 32. Tetrachloroethene validated concentrations in groundwater (µg/L), December 1991.

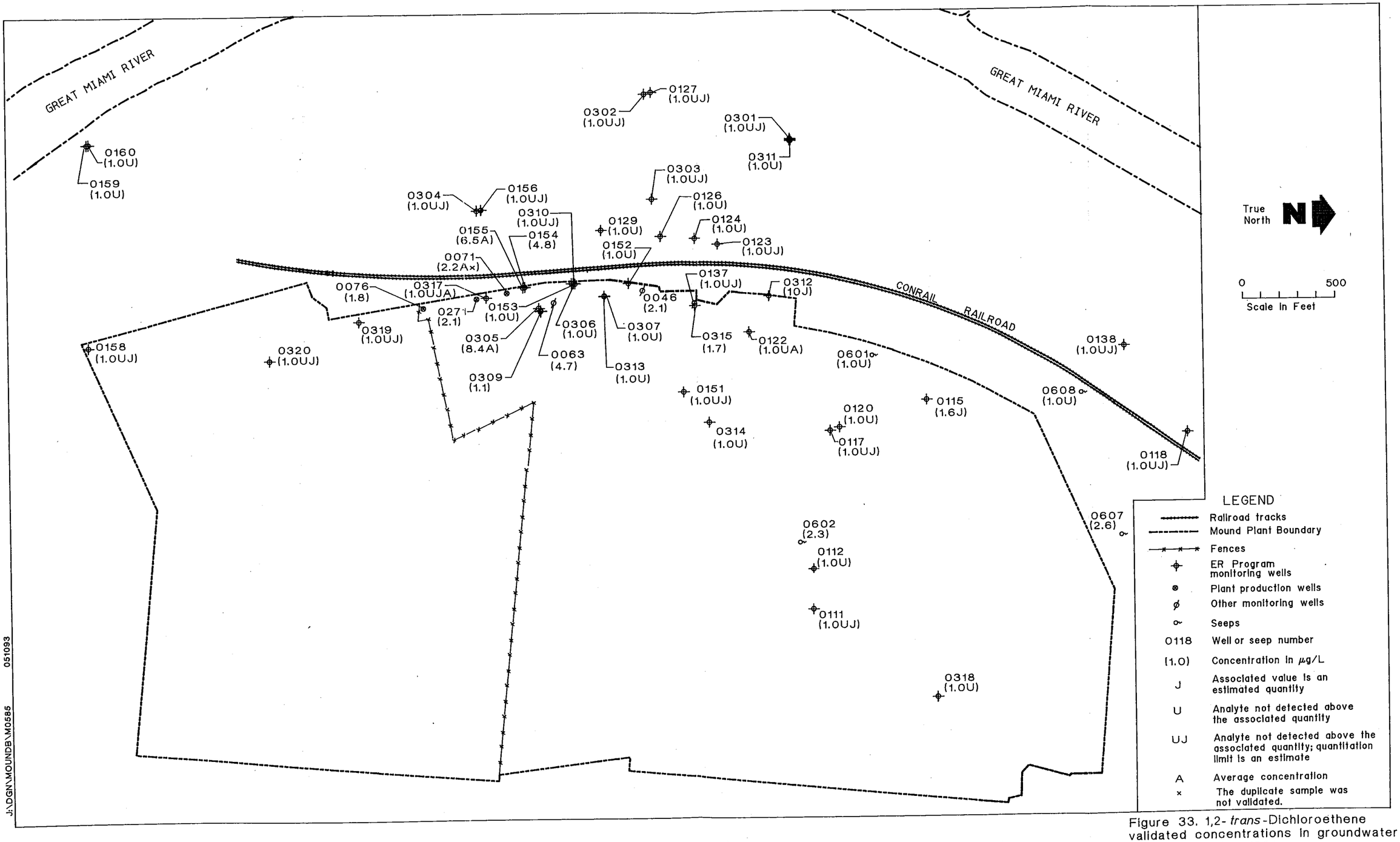

Figure 33. 1,2-*trans*-Dichloroethene validated concentrations in groundwater (µg/L), December 1991.

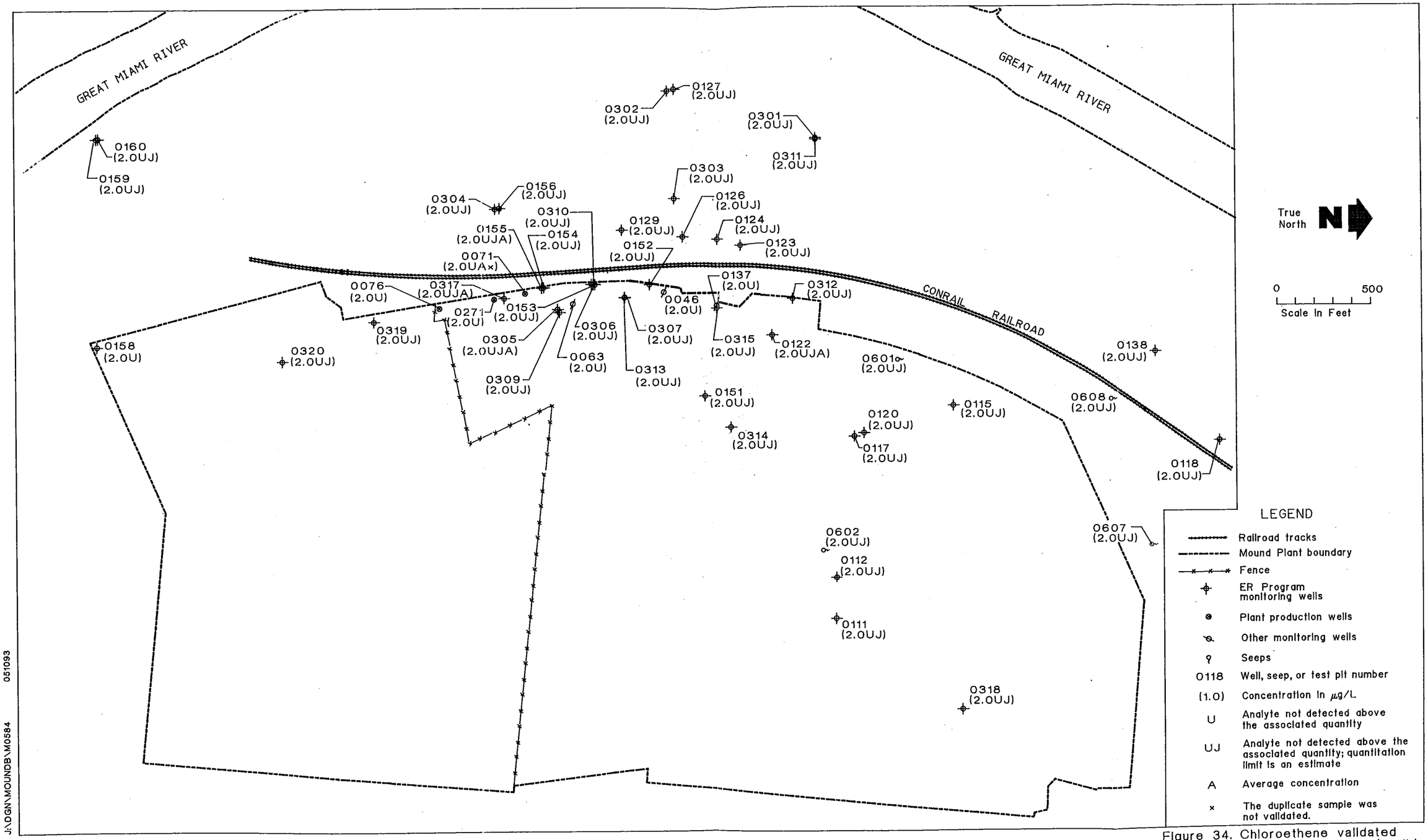

Figure 34. Chloroethene validated concentrations in groundwater (µg/L), December 1991.

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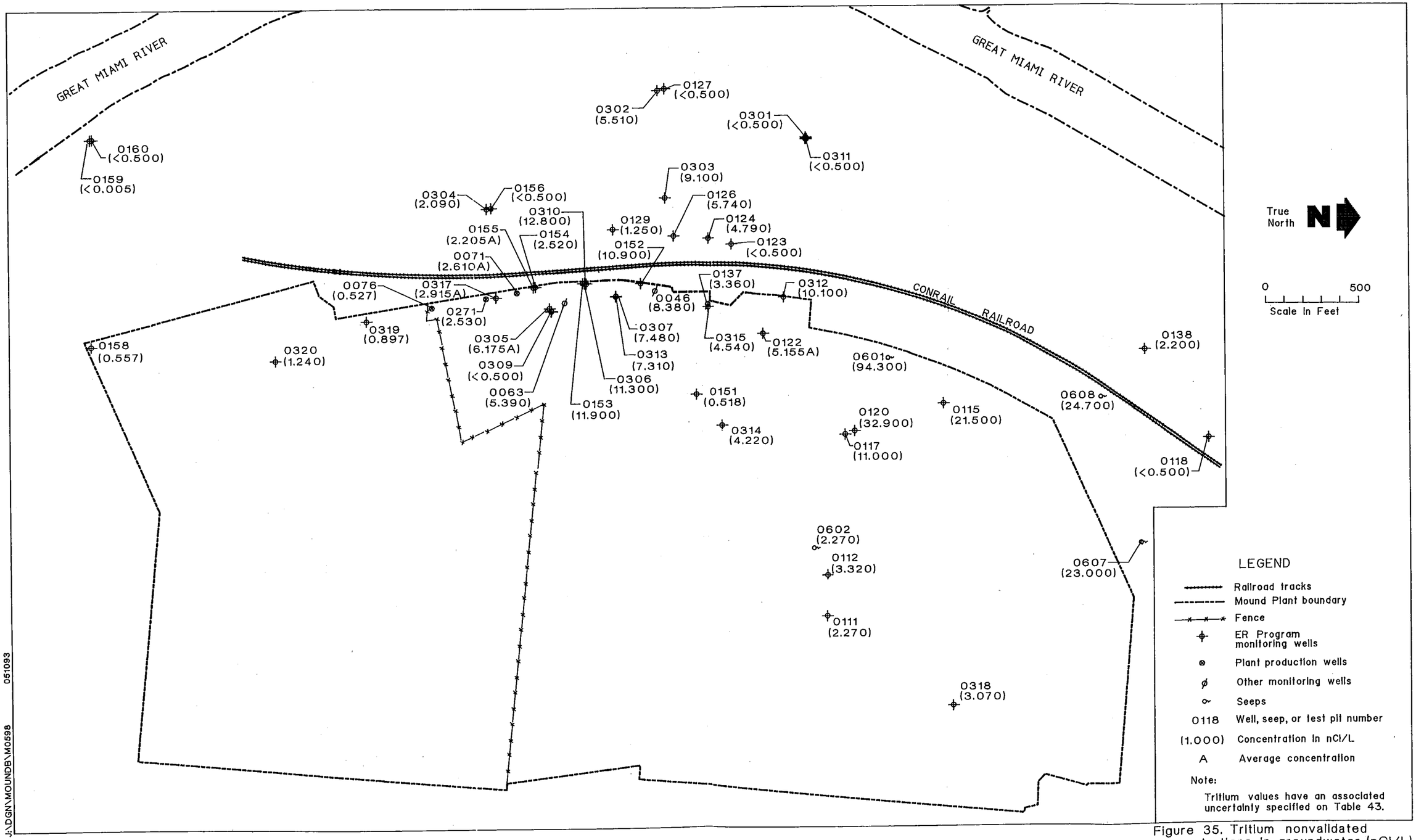

Figure 35. Tritium nonvalidated concentrations in groundwater (nCi/L), December 1991.

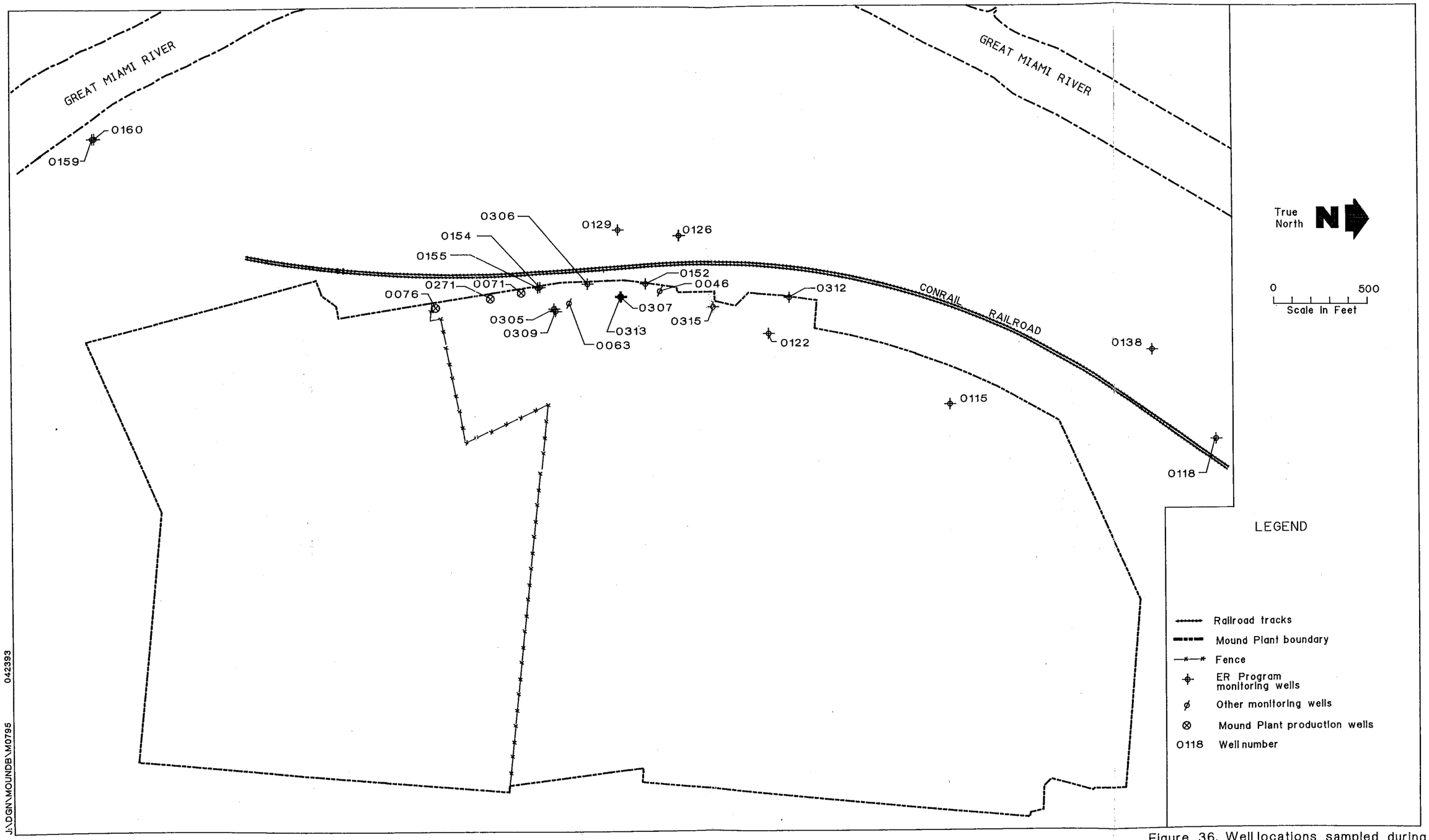

Figure 36. Well locations sampled during the March 1992 groundwater sampling event.

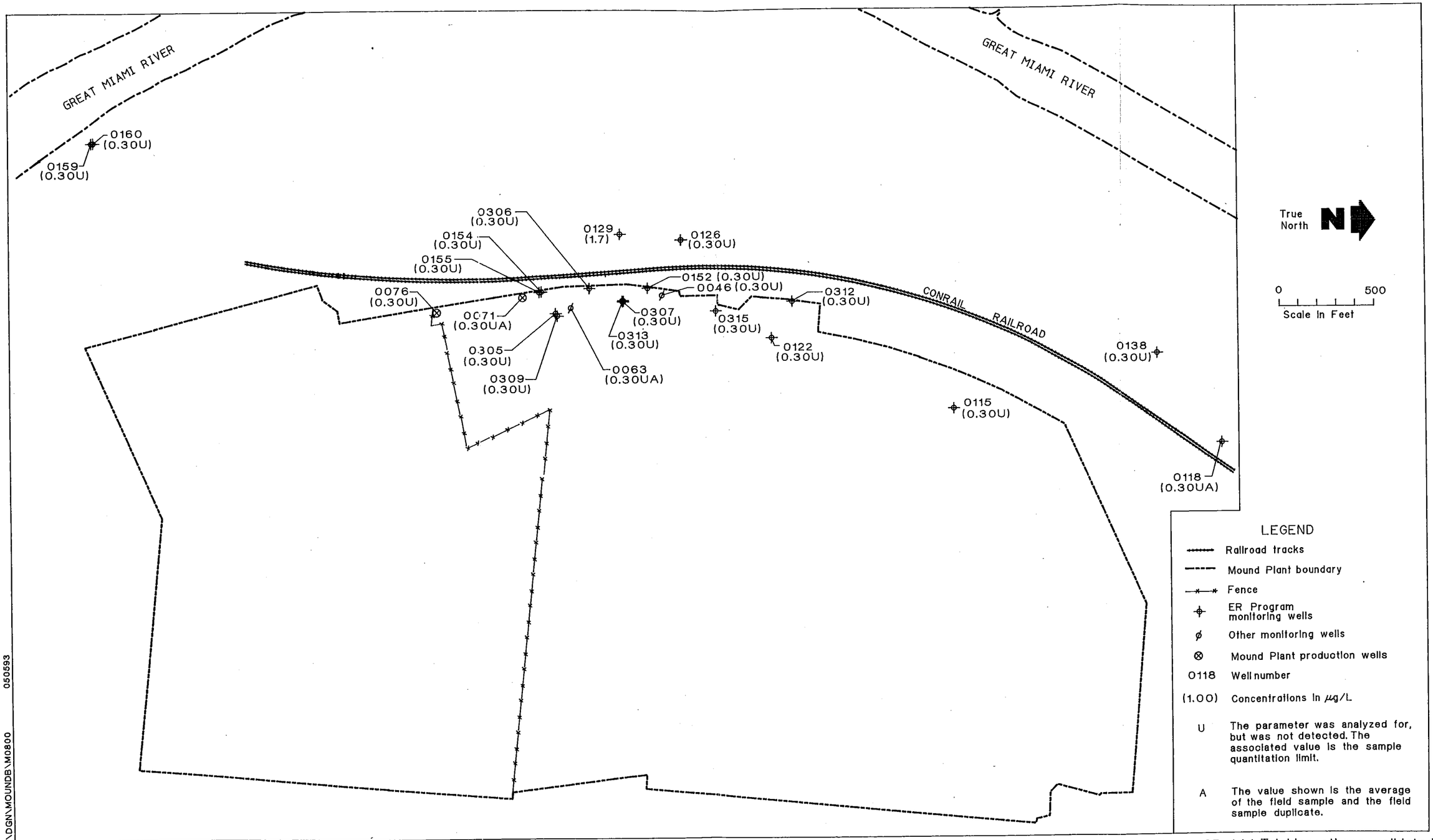

Figure 37. 1,1,1-Trichloroethane validated concentrations in groundwater (µg/L), March 1992.

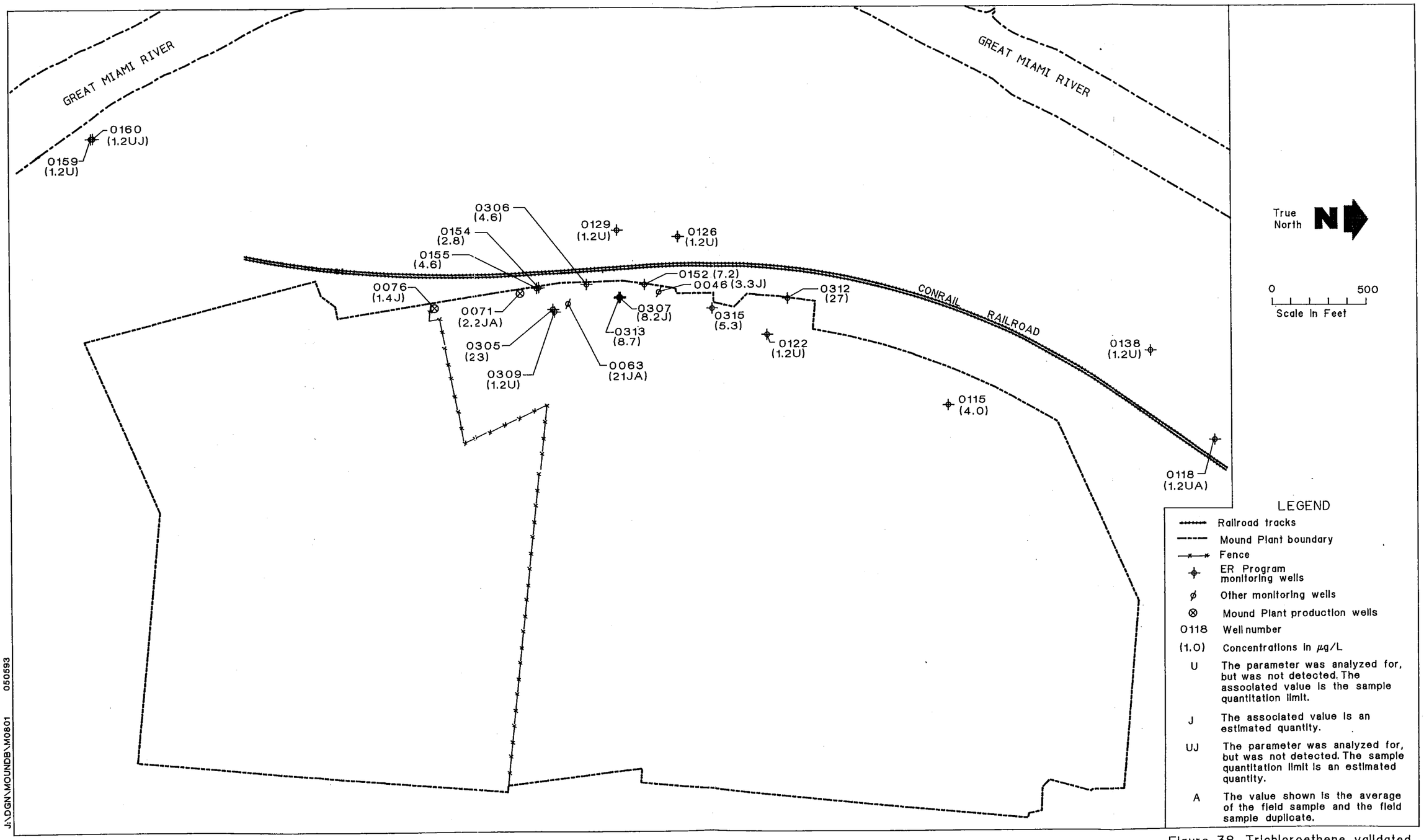

Figure 38. Trichloroethene validated concentrations in groundwater (µg/L), March 1992.

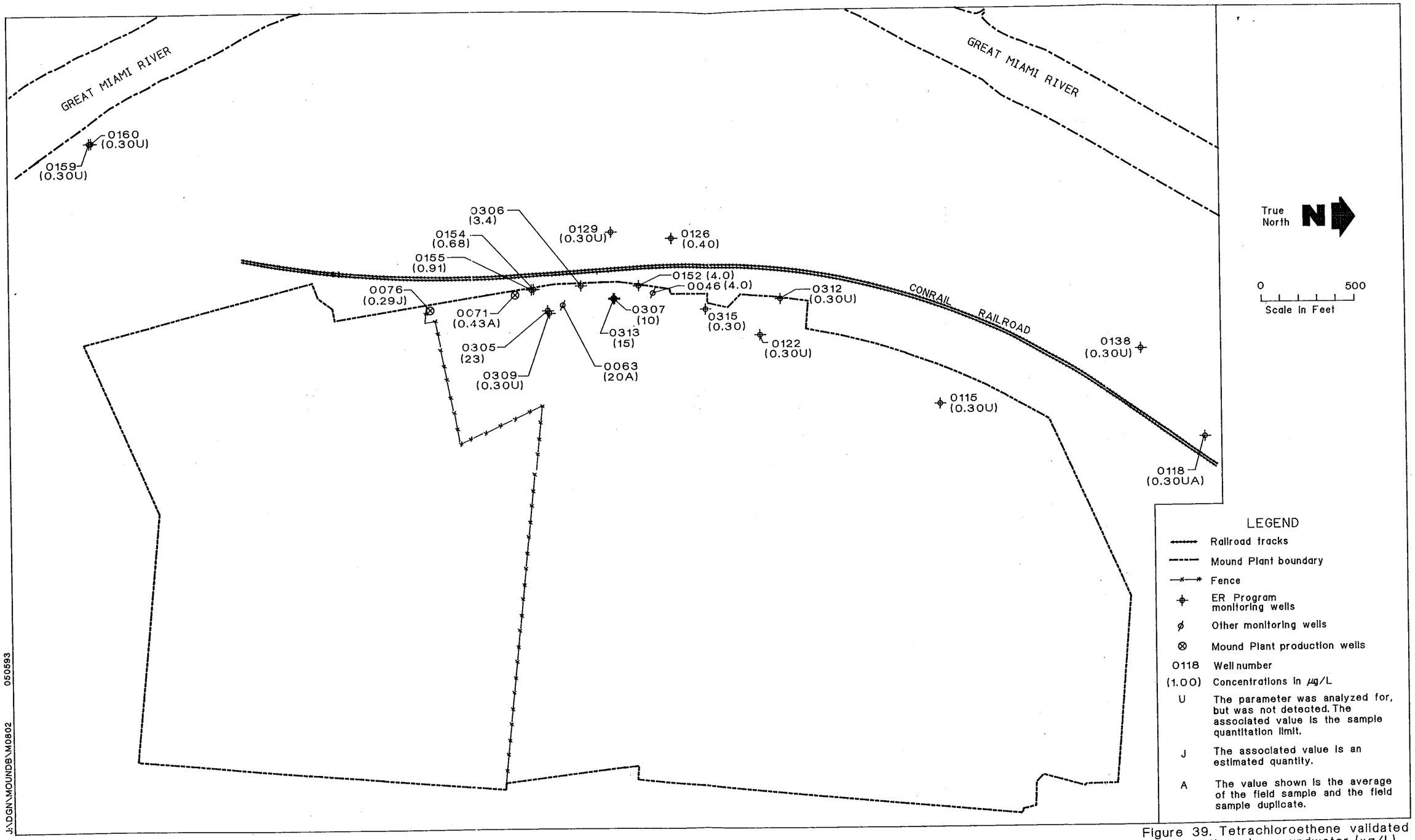

Figure 39. Tetrachloroethene validated concentrations in groundwater (µg/L), March 1992.

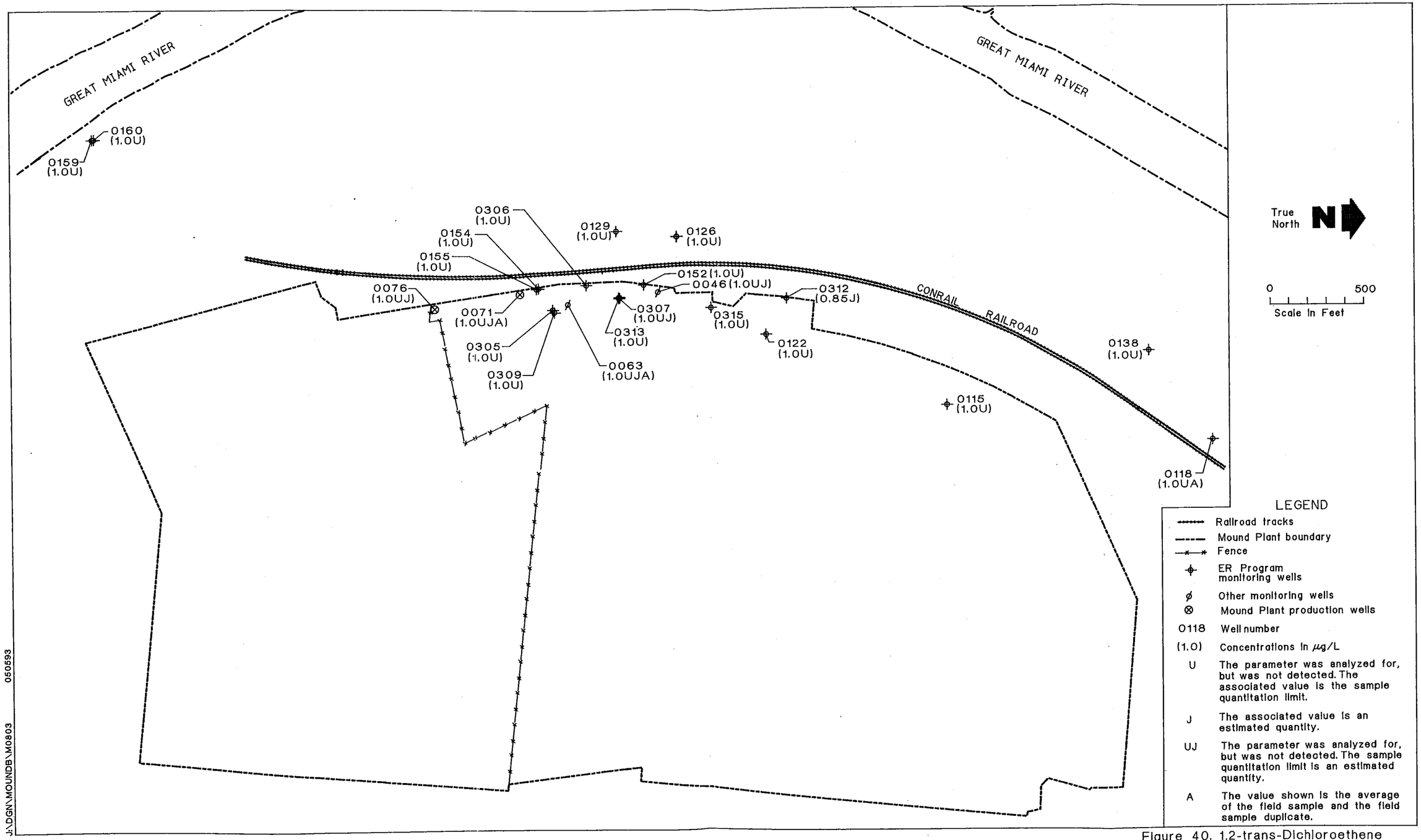

Figure 40. 1,2-trans-Dichloroethene validated concentrations in groundwater (µg/L), March 1992.

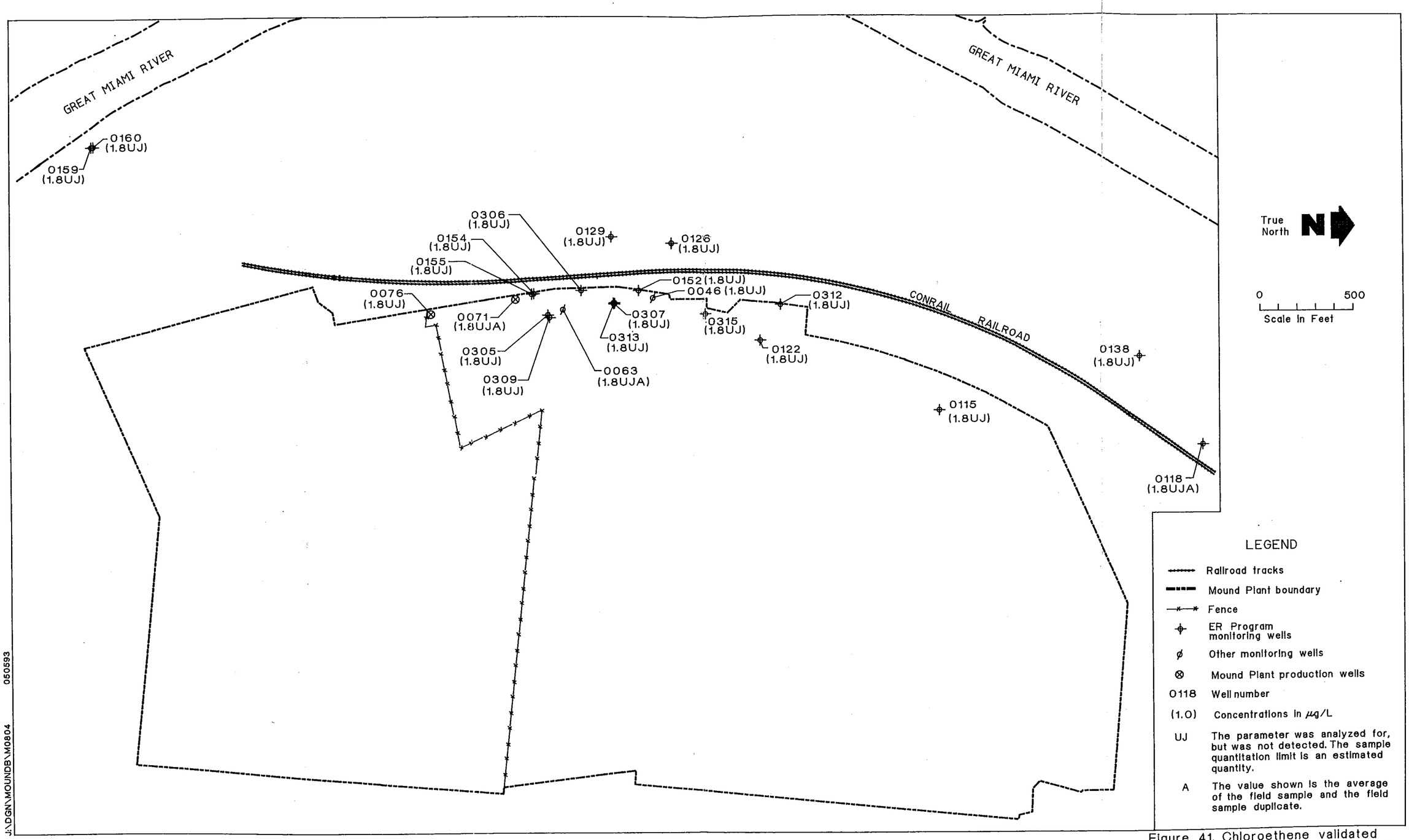

Figure 41. Chloroethene validated concentrations in groundwater (µg/L), March 1992.

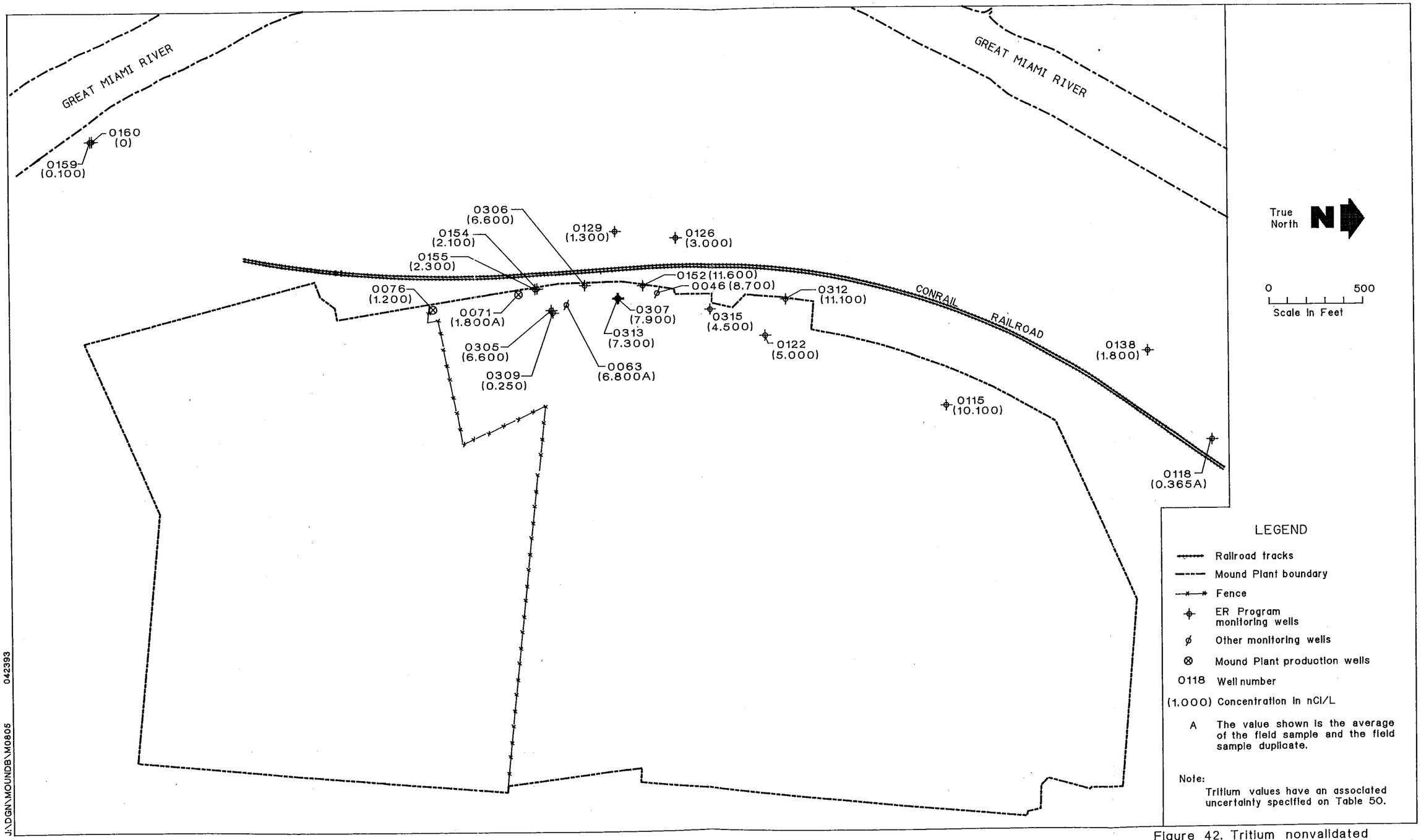

Figure 42. Tritium nonvalidated concentrations in groundwater (nCi/L), March 1992.

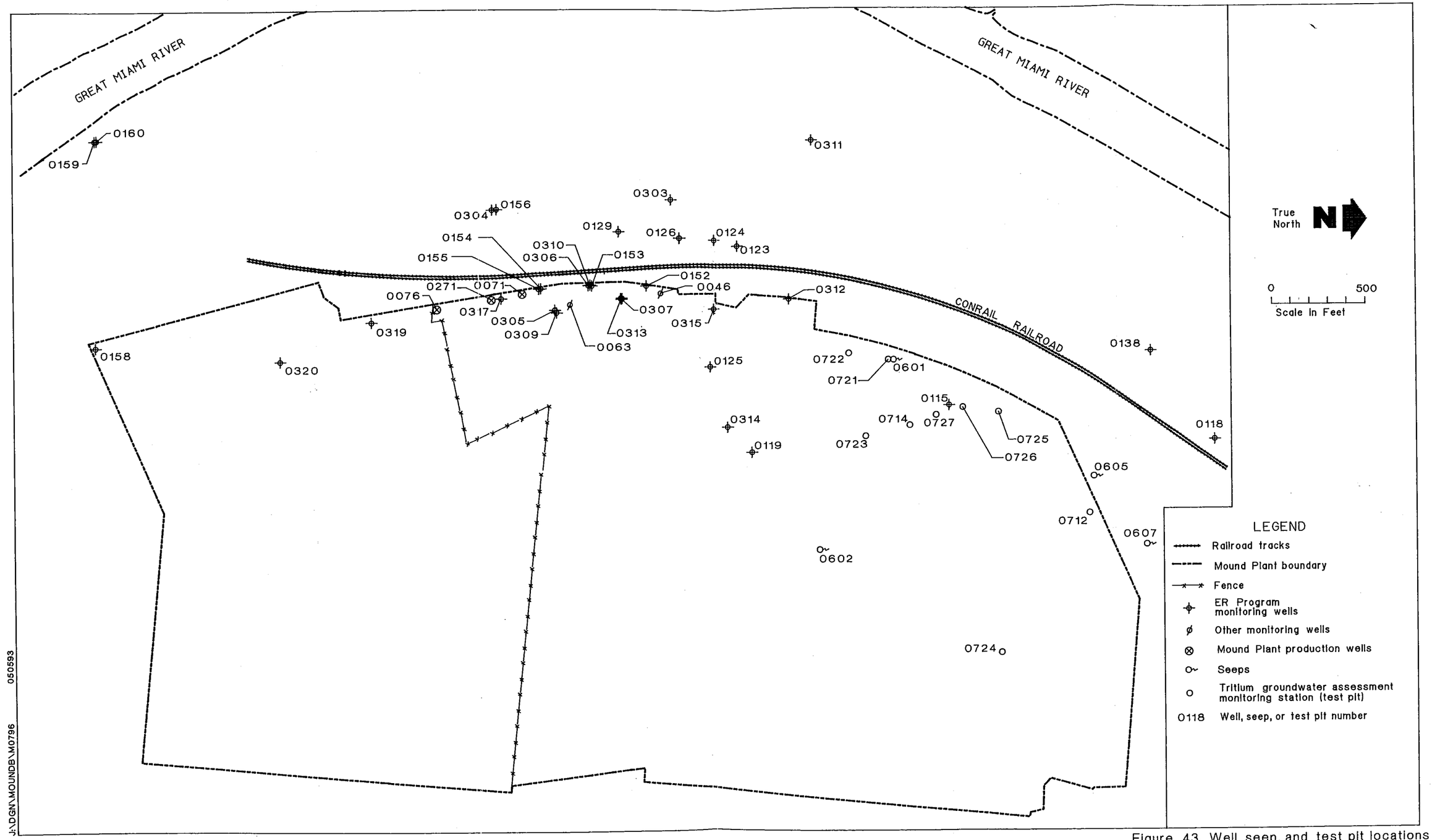

Figure 43. Well, seep, and test pit locations sampled during the June 1992 groundwater sampling event.

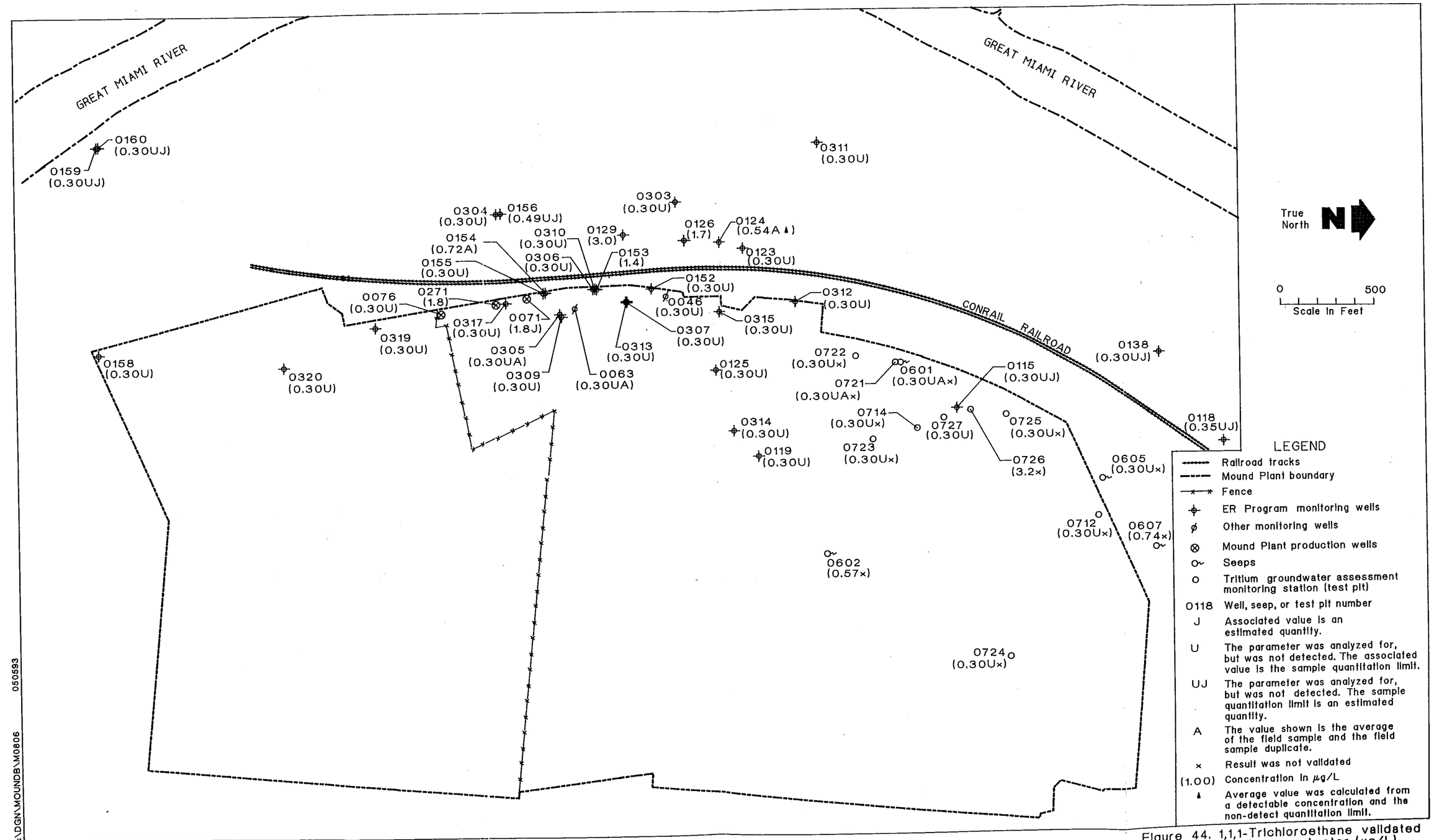

Figure 44. 1,1,1-Trichloroethane validated concentrations in groundwater (µg/L), June 1992.

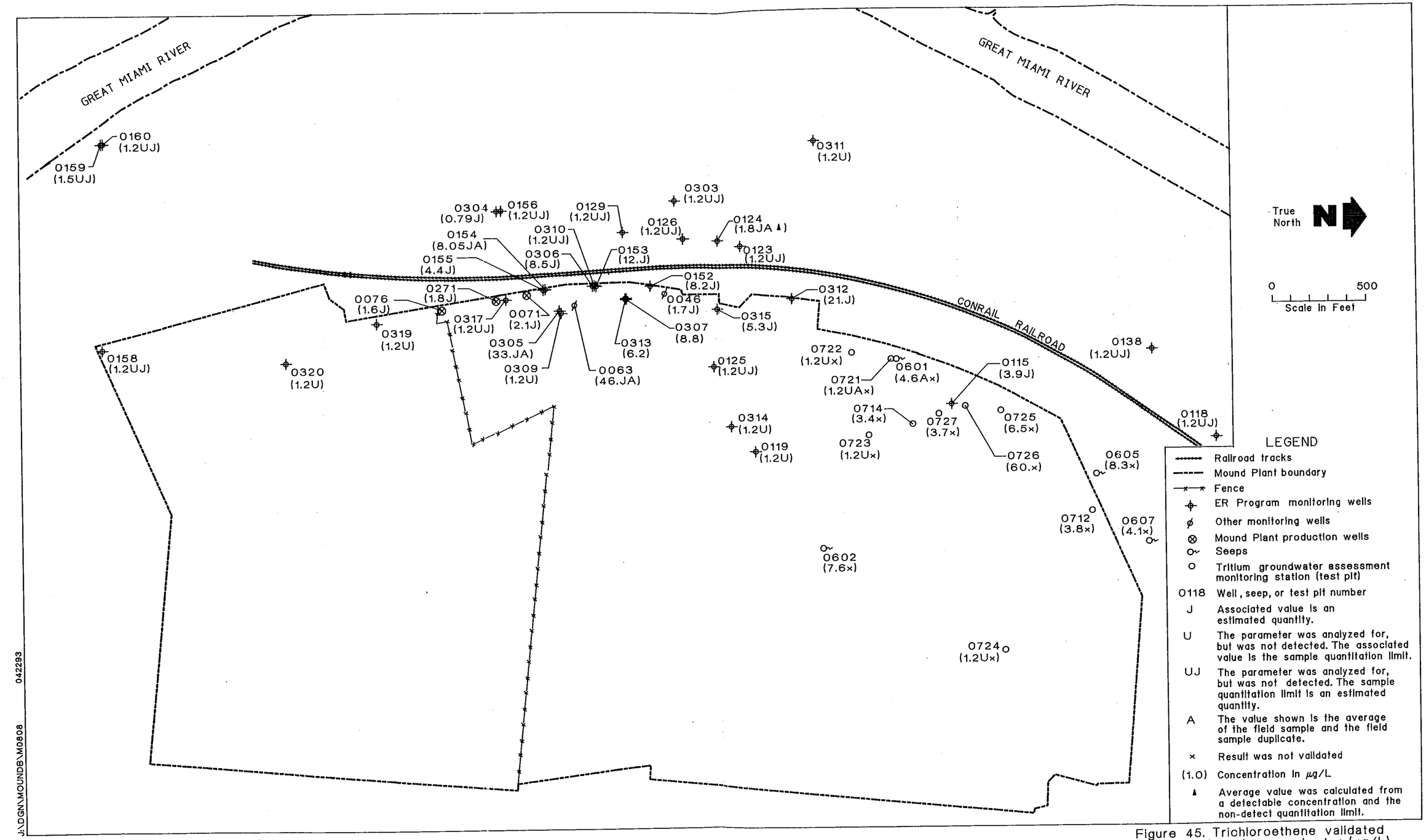

Figure 45. Trichloroethene validated concentrations in groundwater (µg/L), June 1992.

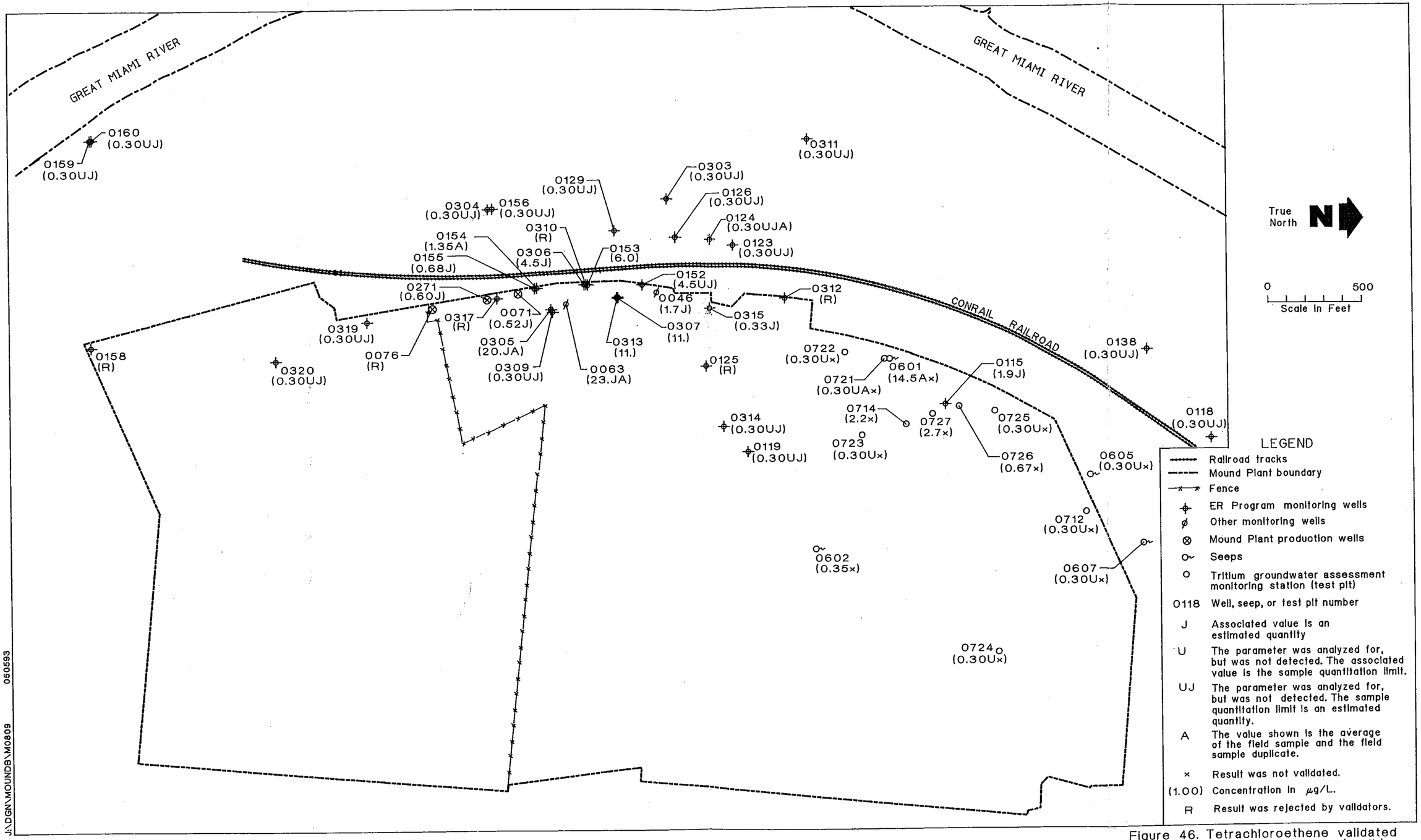

Figure 46. Tetrachloroethene validated concentrations in groundwater (µg/L), June 1992.

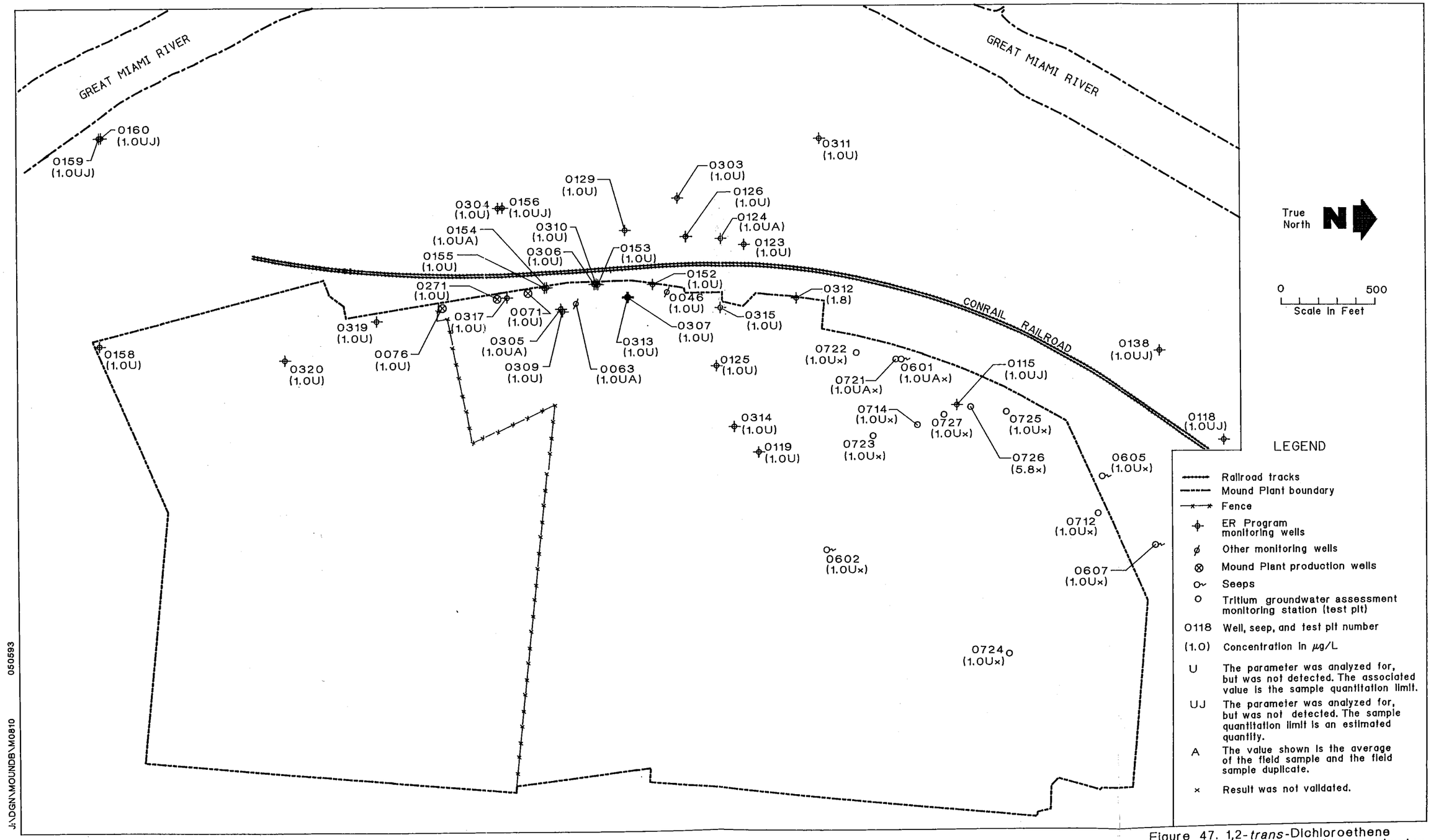

Figure 47. 1,2-*trans*-Dichloroethene validated concentrations in groundwater (µg/L), June 1992.

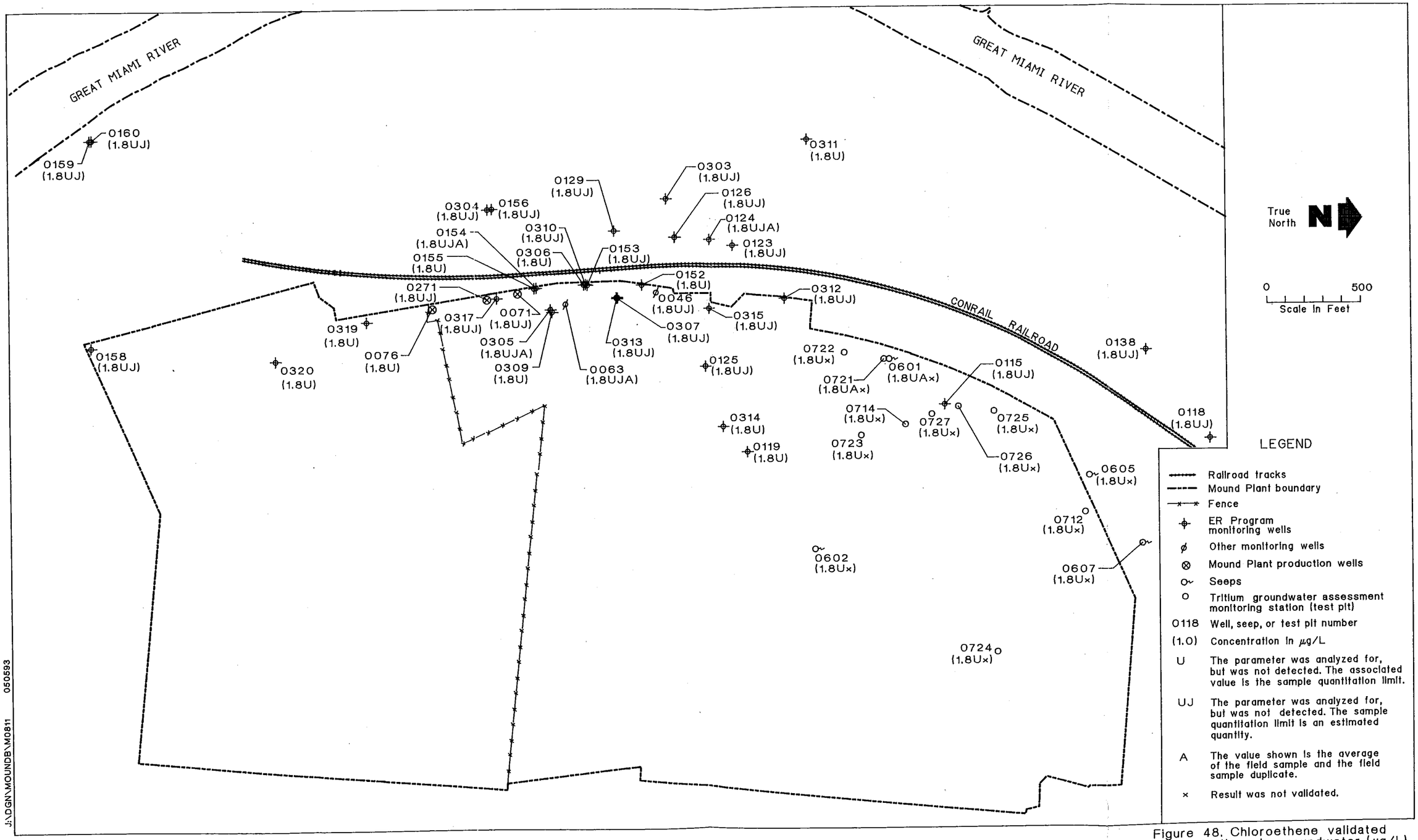

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Figure 48. Chloroethene validated concentrations in groundwater (µg/L), June 1992.

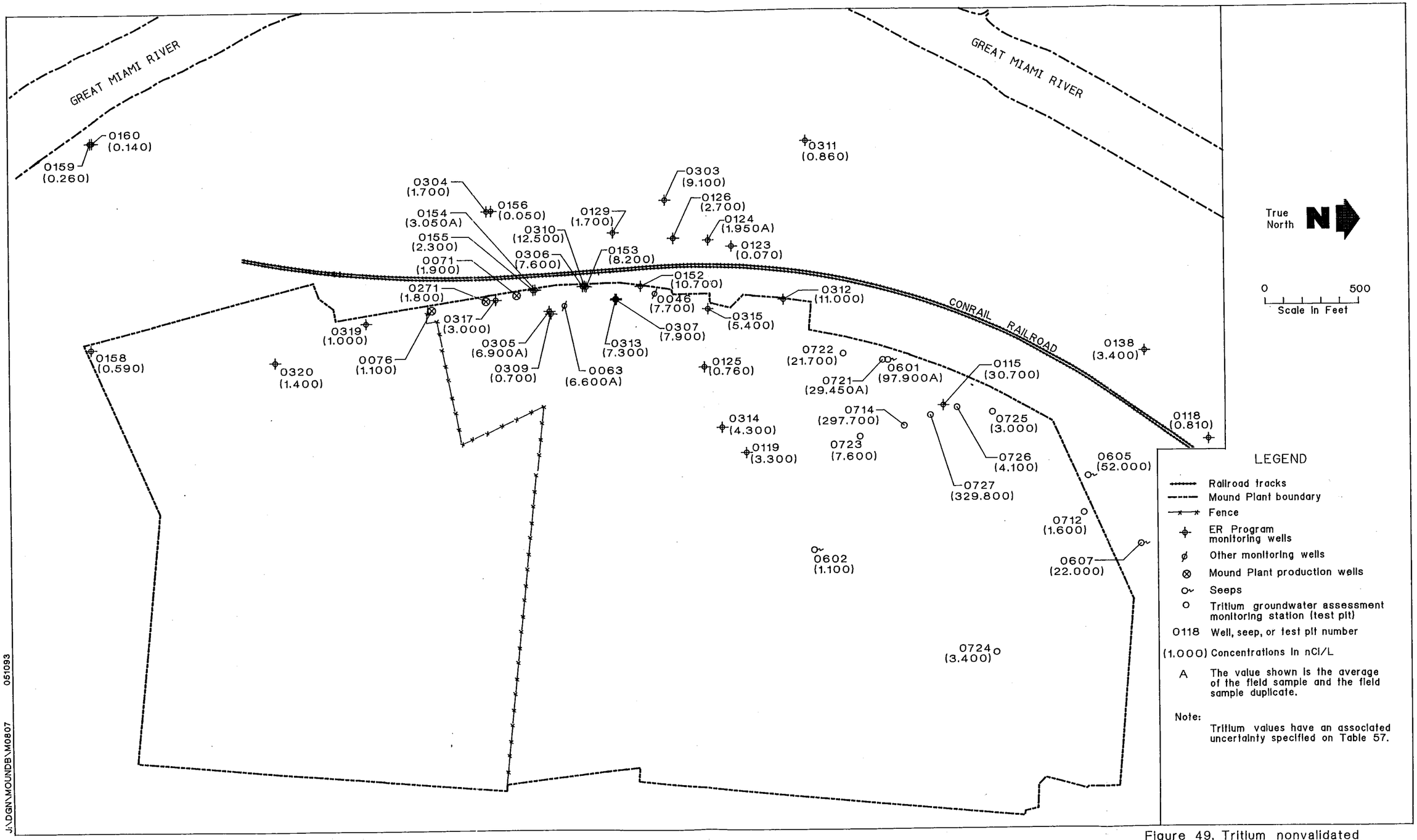

Figure 49. Tritium nonvalidated concentrations in groundwater (nCi/L), June 1992.

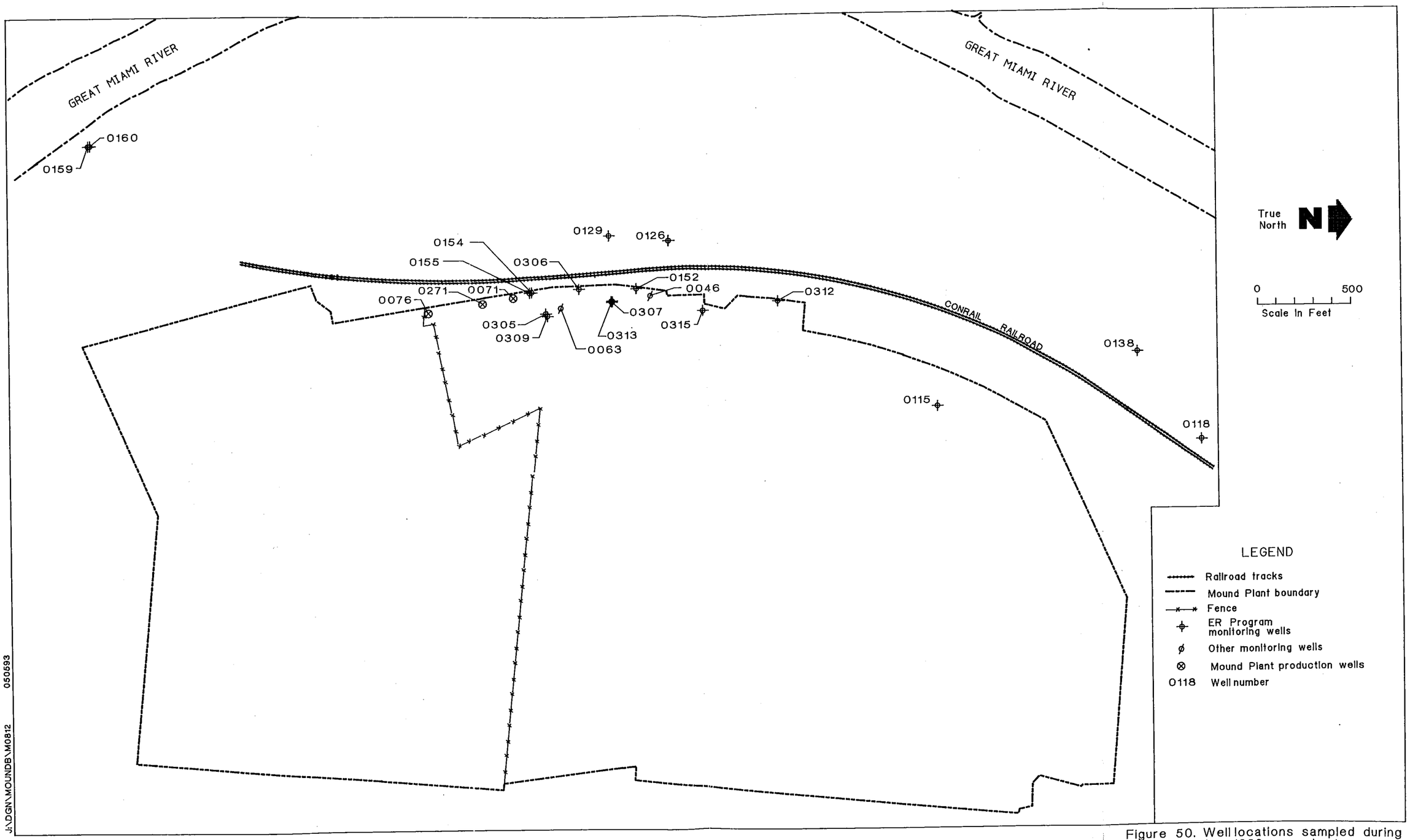

Figure 50. Well locations sampled during the September 1992 groundwater sampling event.

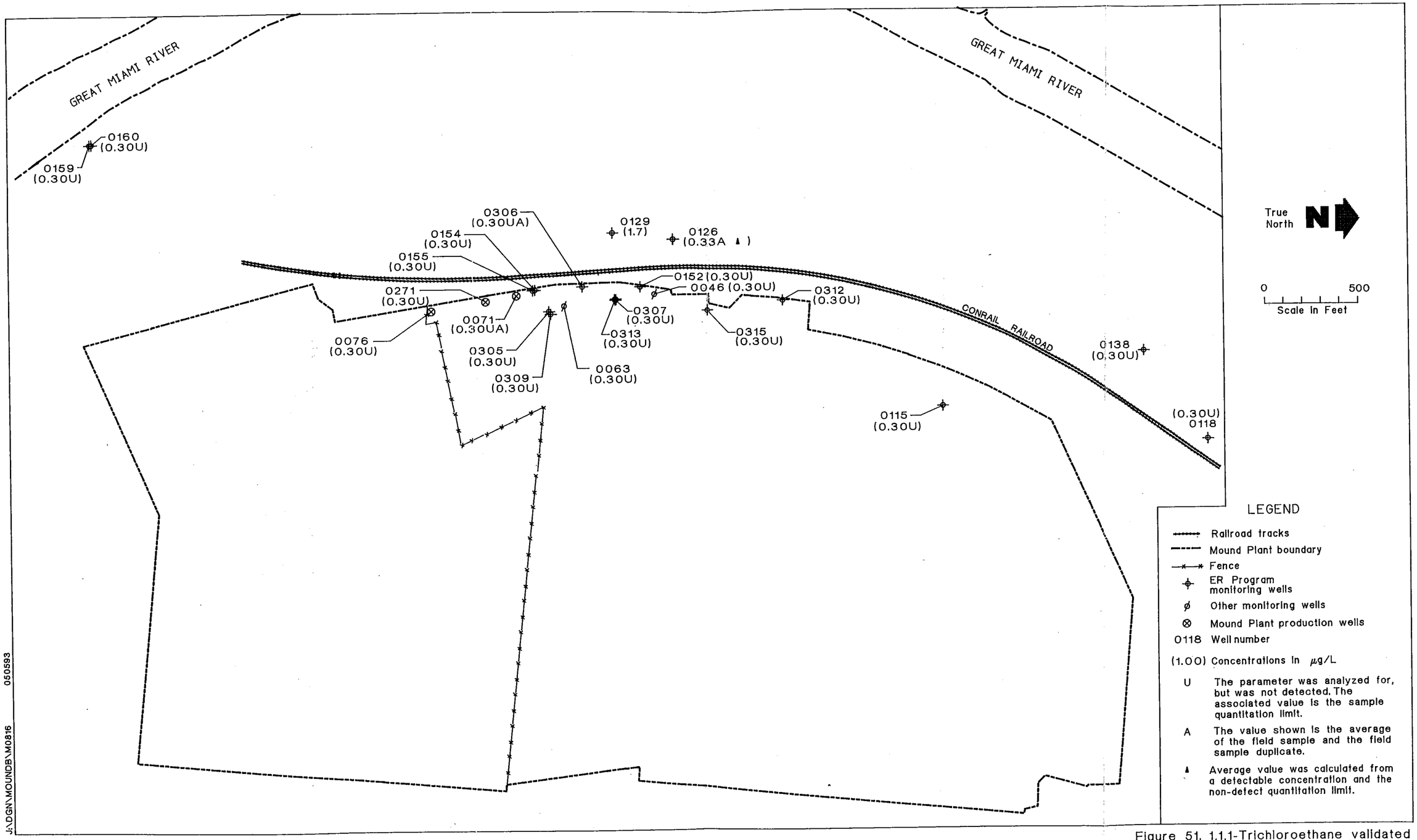

Figure 51. 1,1,1-Trichloroethane validated concentrations in groundwater (µg/L), September 1992.

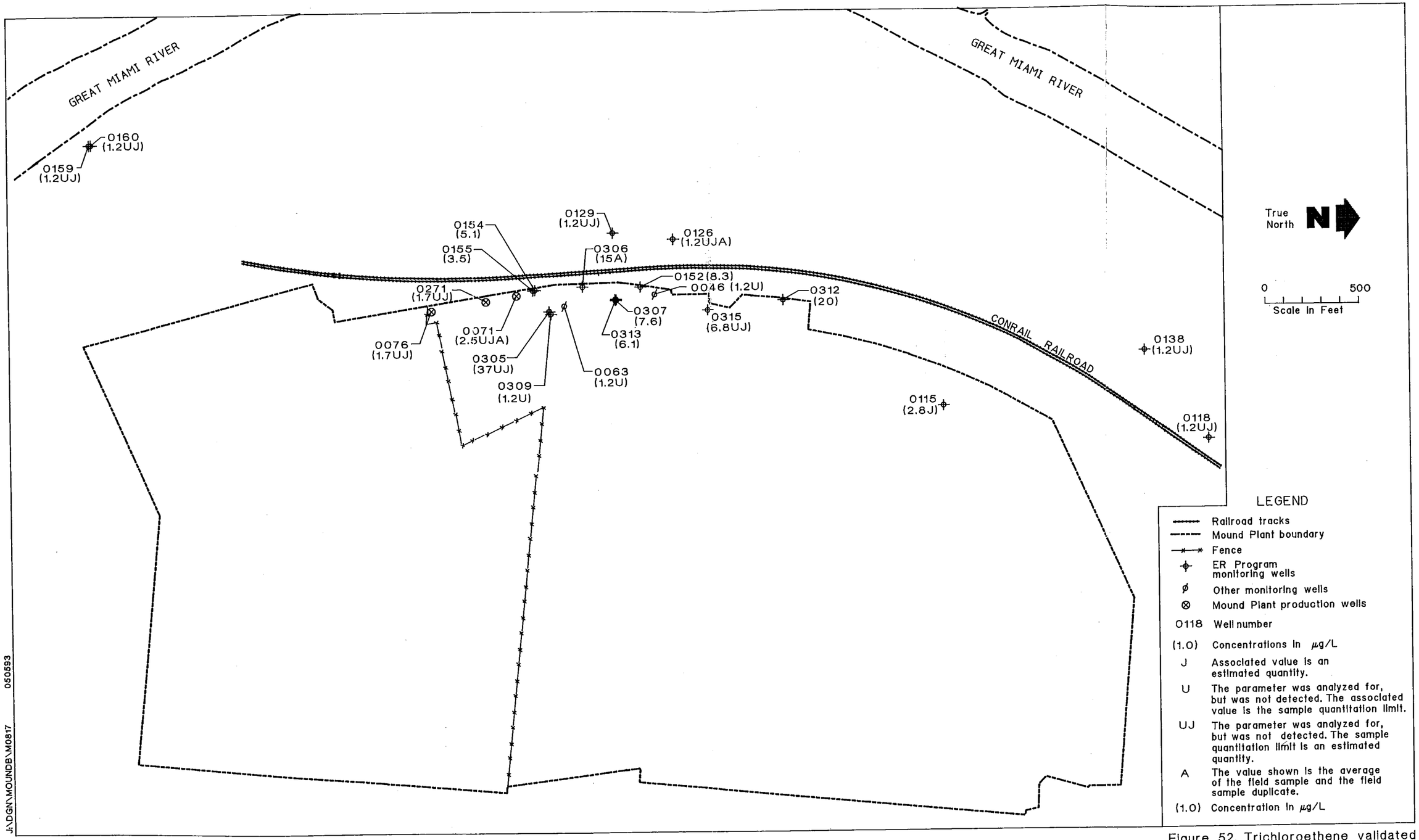

Figure 52. Trichloroethene validated concentrations in (µg/L), September 1992.

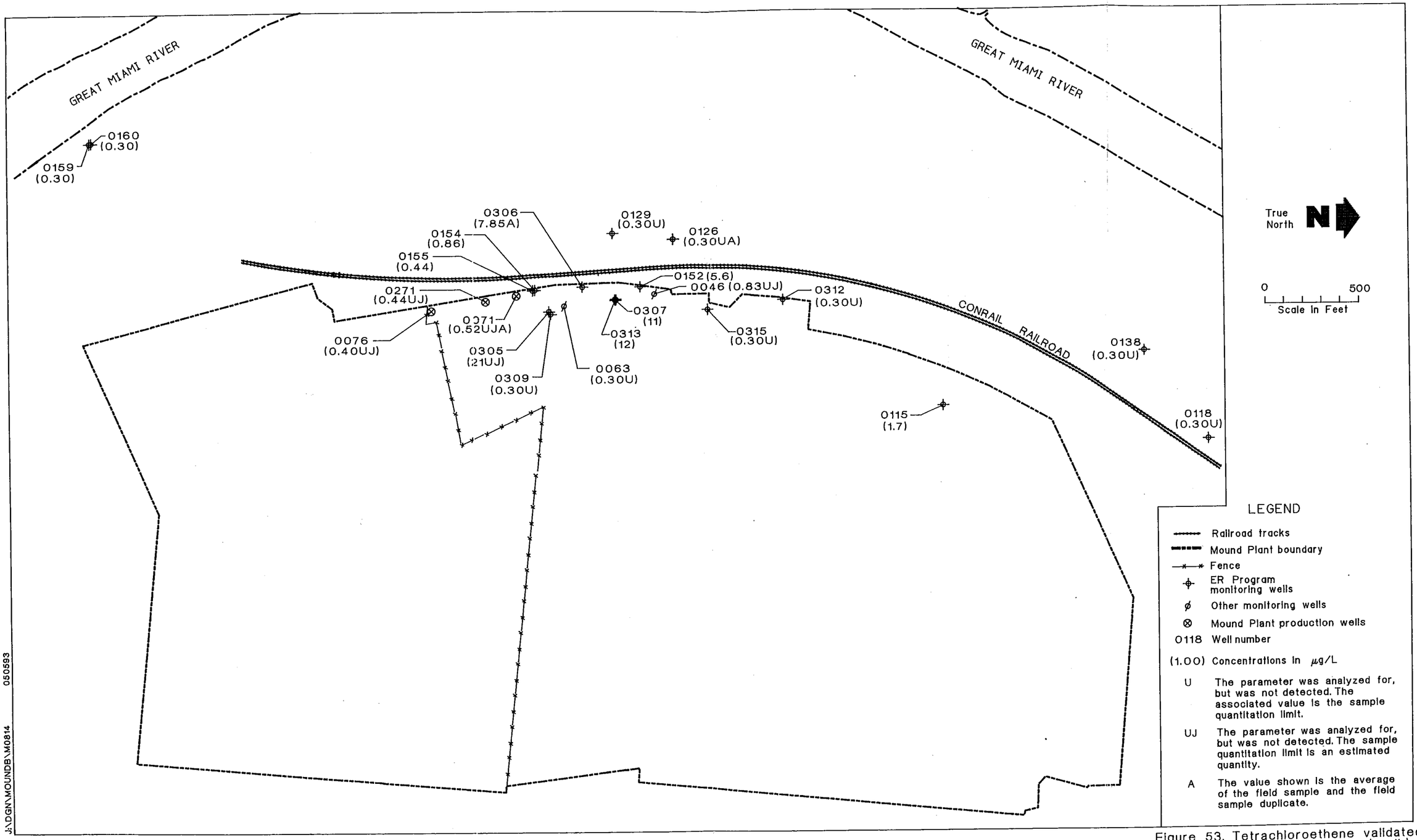

Figure 53. Tetrachloroethene validated concentrations in groundwater (µg/L), September 1992.

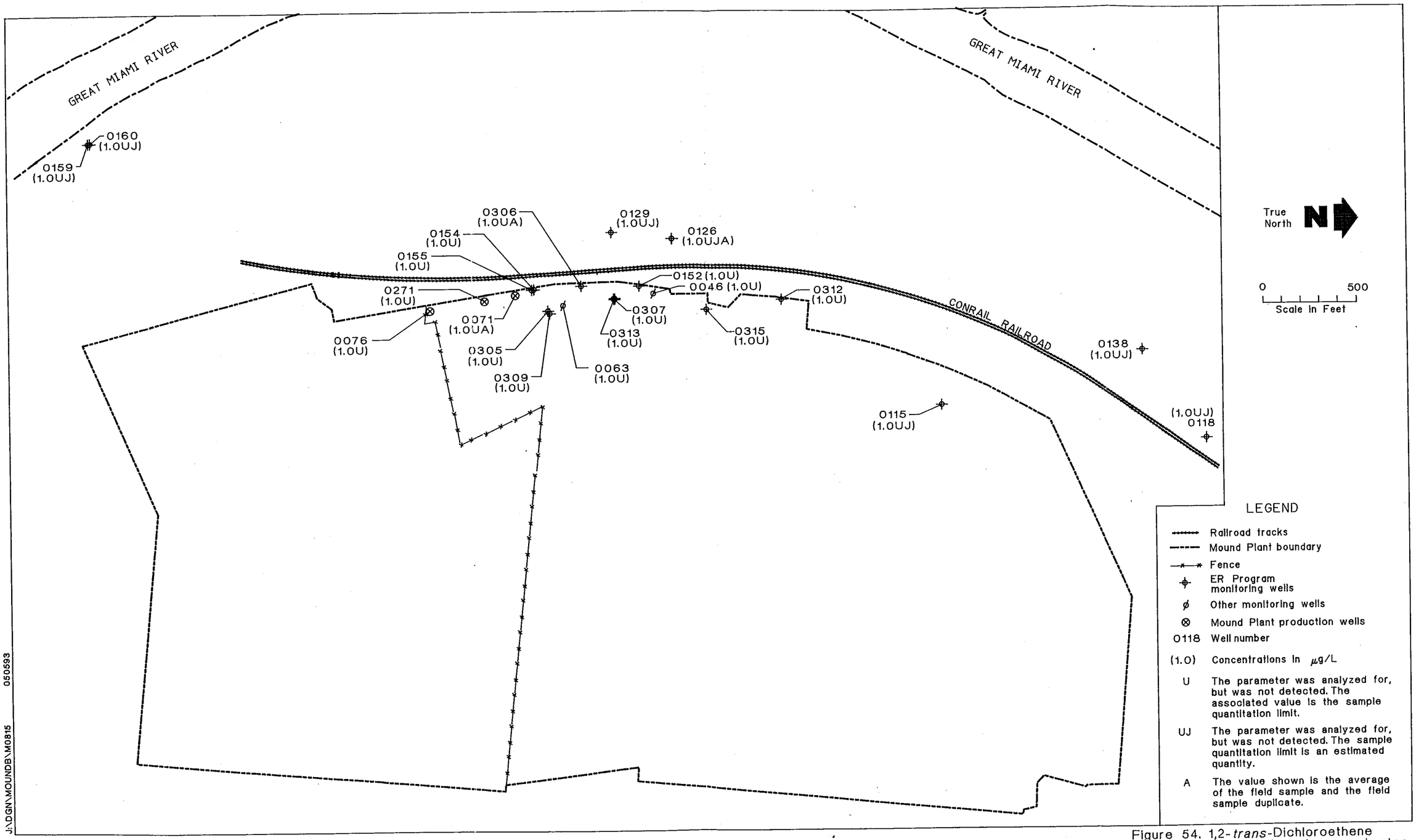

Figure 54. 1,2-*trans*-Dichloroethene validated concentrations in groundwater (μg/L), September 1992.

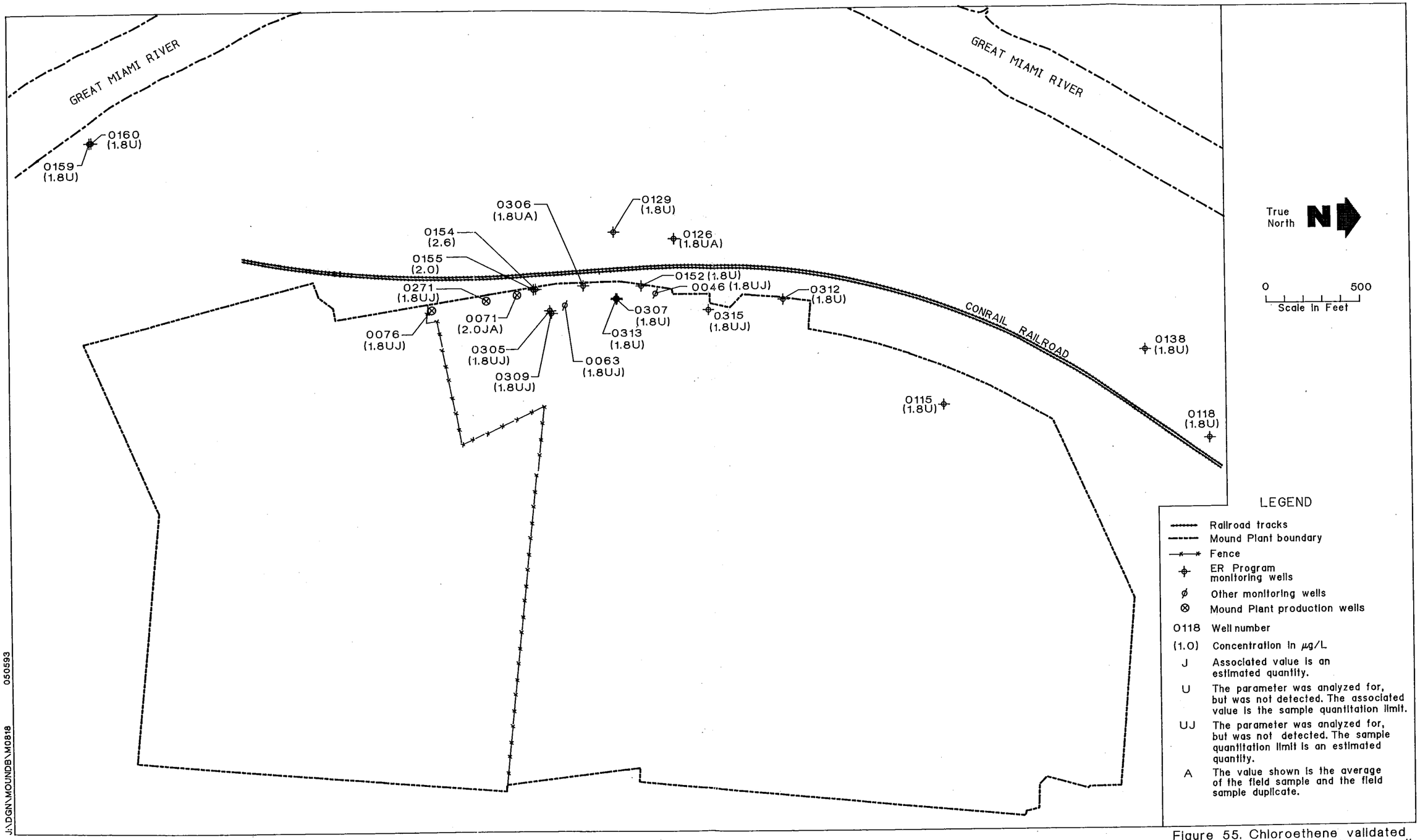

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Figure 55. Chloroethene validated concentrations in groundwater µg/L, September 1992.

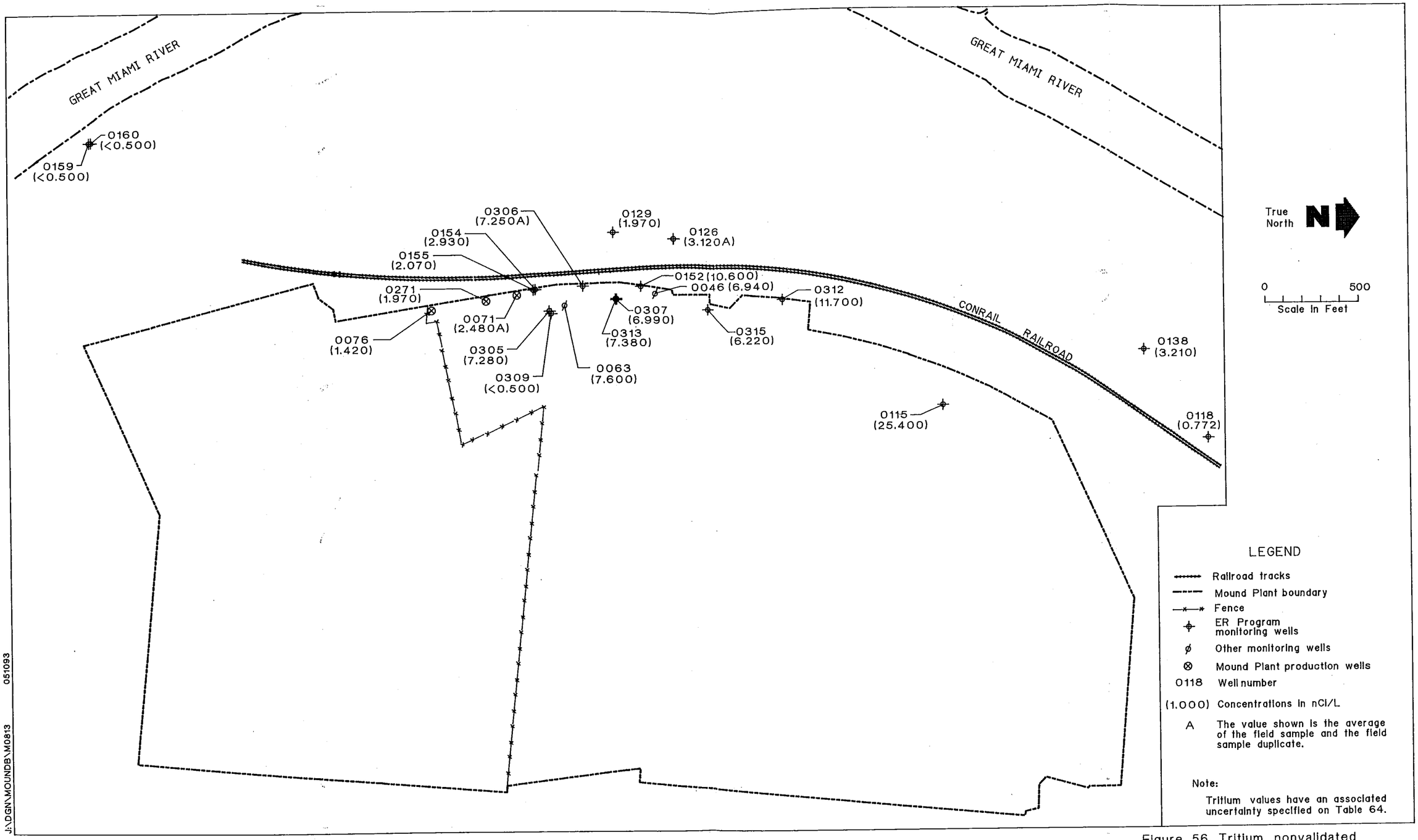

Figure 56. Tritium nonvalidated concentrations in groundwater (nCi/L), September 1992.