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January 31, 2007

Mr. Chris Kanakis
New Jersey Department of Environmental Protection
Office of Brownfield Reuse
401 East State Street, PO Box 028
Trenton, New Jersey 08865

VIA FedEx

Subject: Former Ingersoll Rand Company Facility located at
942 Memorial Parkway, Phillipsburg, Warren County, New Jersey
NJDEP Case Nos.: NJD002395382 / 99685 / 2000050 / 2004306
(ENSR Project Number 03710-173)

Dear Chris,

On behalf of Ingersoll Rand, enclosed please find four copies of the Annual Groundwater Monitoring Report for the former Ingersoll Rand facility in Phillipsburg, Warren County, New Jersey. Additionally, enclosed for your convenience is a PDF version of this document on CD-ROM.

The objective of the ongoing remedial investigation is to gather sufficient information and data to define the extent of groundwater contamination in excess of applicable standards. This report presents activities conducted onsite during August 2005 through July 2006 and includes quarterly gauging events, semi-annual groundwater sampling events, and the installation of monitoring well MW56A. The report also includes a Proposed Remedial Action Work Plan and an Interim Classification Exemption Area submittal. The certification page for this report will be submitted separately.

If you have any questions, please feel free to call me at (732) 981-0200 or Dawn Horst at (201) 573-3031.

Sincerely,

Marybeth Hayes
Project Manager

Gregg Micalizio
Senior Project Manager

enclosure

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File 03710-pburg

Prepared for:
Ingersoll Rand Company
Montvale, New Jersey

Groundwater Annual Monitoring Report for the Former Ingersoll Rand Facility in Phillipsburg, New Jersey

Final-Electronic Document

ENSR Corporation
January 2007
Document No.: 03710-173-0910

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REPORT CERTIFICATION
Annual Groundwater Monitoring Report for the Former Ingersoll Rand Facility in Phillipsburg, New Jersey – January 2007

The following certification shall be signed by the highest-ranking individual at the site with overall responsibility for that site or activity. Where there is no individual at the site with overall responsibility for that site or activity, this certification shall be signed by the individual having responsibility for the overall operation of the site or activity.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information, and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

Typed/Printed Name Aaron Kleinbaum, Esq., P.E.

Title Assistant General Counsel and Director of Environmental Safety and Health

Signature _____ Date _____

Sworn to and Subscribed Before Me on this _____

Date of _____ 20_____

_____
Notary

Contents

1.0 Introduction 1-1

1.1 Objective 1-2

2.0 Historical information 2-1

2.1 Site history 2-1

2.2 Project history 2-1

2.2.1 Previous groundwater related submissions and agency correspondence 2-2

2.2.2 Onsite groundwater investigation history 2-3

2.2.3 LNAPL recovery history 2-5

2.2.4 Offsite potable well search history 2-6

3.0 Technical overview 3-1

3.1 Offsite potable well investigation 3-2

3.1.1 Well search 3-2

3.1.2 Offsite potable well sampling 3-3

3.1.3 Potential source review 3-3

3.2 Onsite potable wells 3-4

3.2.1 WW1 3-4

3.2.2 WW2 3-4

3.2.3 WW3 3-4

3.3 Aquifer characterization 3-5

3.3.1 Geophysical investigations 3-5

3.3.2 Salt slug testing 3-6

3.3.3 Packer testing 3-7

3.3.4 Aquifer pump test 3-9

3.4 Well retrofits 3-10

3.5 Pilot-hole drilling for deep well installation 3-10

3.6 LNAPL recovery and groundwater treatment 3-11

3.7 Groundwater monitoring 3-12

3.7.1 Groundwater elevation and LNAPL thickness 3-12

3.7.2 Groundwater sampling 3-12

3.7.2.1 Passive diffusion bag sampling 3-13

3.7.2.2 Conventional groundwater sampling 3-13

3.7.2.3 Low flow groundwater sampling 3-14

3.8 Cleanup criteria 3-14

3.9 Reliability of data 3-14

4.0 Results and discussion 4-1

4.1 Offsite potable well investigation 4-1
4.1.1 Well search 4-1
4.1.2 Offsite potable well sampling 4-1
4.1.2.1 March 10, 2006 sampling event 4-1
4.1.2.2 April 11 and 14, 2006 sampling event 4-1
4.1.3 Potential source review 4-2

4.2 Onsite potable wells 4-3
4.2.1 WW1 4-3
4.2.2 WW2 4-3
4.2.3 WW3 4-4

4.3 Aquifer characterization 4-5
4.3.1 Geophysical investigations 4-5
4.3.2 Salt slug testing 4-8
4.3.3 Packer testing 4-10
4.3.4 Aquifer pump test 4-17

4.4 Well retrofits 4-18

4.5 Pilot hole drilling for deep well installation 4-20

4.6 LNAPL recovery and groundwater treatment 4-23

4.7 Groundwater monitoring 4-24
4.7.1 Groundwater elevation and LNAPL thickness results 4-24
4.7.2 Groundwater analytical results 4-25
4.7.2.1 Passive diffusion bag sampling results 4-26
4.7.2.2 Conventional groundwater sampling results 4-31
4.7.2.3 Low flow sampling - field parameter results 4-32

5.0 Conceptual site model 5-1

5.1 Physical settings 5-1
5.1.1 Location and surroundings 5-1
5.1.2 Topography and drainage 5-1

5.2 Surface water and wetlands 5-1

5.3 Soils and surficial geology 5-2

5.4 Bedrock geology 5-2

5.5 Hydrogeology 5-3
5.5.1 Depth to groundwater 5-3
5.5.2 Site-wide groundwater flow 5-3
5.5.3 Local groundwater flow 5-4

5.6 Potential sources of contaminants to groundwater 5-5
5.6.1 LNAPL 5-6
5.6.2 Chlorinated solvents 5-6

5.7 Nature and extent of contaminants in groundwater 5-7
5.7.1 LNAPL 5-7

5.7.2 CVOCs ... 5-8
5.8 Fate and transport ... 5-11
5.8.1 LNAPL fate and transport ... 5-11
5.8.2 Chlorinated VOCs fate and transport ... 5-11
5.9 Potential receptors ... 5-13
5.10 Conceptual model summary ... 5-13

6.0 Conclusions and recommendations ... 6-1
6.1 Offsite potable well investigation ... 6-1
6.1.1 Conclusions ... 6-1
6.1.2 Recommendations ... 6-2
6.2 Onsite potable wells ... 6-2
6.2.1 Conclusions ... 6-2
6.2.2 Recommendations ... 6-2
6.3 Well retrofits ... 6-3
6.3.1 Conclusions ... 6-3
6.3.2 Recommendations ... 6-3
6.4 Pilot hole drilling for deep well installation ... 6-3
6.4.1 Conclusions ... 6-3
6.4.2 Recommendations ... 6-3
6.5 LNAPL recovery and groundwater treatment ... 6-3
6.5.1 Conclusions ... 6-3
6.5.2 Recommendations ... 6-3
6.6 Groundwater investigation and data analysis ... 6-4
6.6.1 Conclusions ... 6-4
6.6.2 Recommendations ... 6-4
6.7 Aquifer characterization and conceptual site model update ... 6-5
6.7.1 Conclusions ... 6-5
6.7.2 Recommendations ... 6-6

7.0 Remedial action work plan ... 7-1
7.1 Site summary ... 7-1
7.1.1 Remedial action selection report ... 7-1
7.1.2 Summary of proposed remedial actions ... 7-2
7.1.3 Post remedial monitoring program ... 7-3
7.1.3.1 Groundwater monitoring well network ... 7-3
7.1.3.2 Sentinel well network ... 7-3
7.1.4 Quality assurance/quality control project plan ... 7-3
7.1.5 Site-specific health and safety plan ... 7-3
7.1.6 Preliminary cost estimate for natural remediation ... 7-4
7.1.7 Total cost to date ... 7-4
7.1.8 Preliminary schedule ... 7-5

7.2 Cleanup goals 7-5
7.3 Permits and approvals 7-5
7.4 Remedial technologies evaluation 7-5
7.4.1 EPA natural attenuation screening process 7-5
7.4.2 Lines of evidence 7-6
7.4.3 Historical groundwater data trend analysis 7-6
7.4.4 Conclusions and recommendations 7-6
7.5 Progress report submittal 7-7

8.0 References 8-1

List of Appendices

Appendix A Laboratory Reports & EDDs

Appendix B Environmental Database Report

Appendix C Geophysical Reports

Appendix D Salt Slug Test Results

Appendix E Packer Testing Plots

Appendix F Pump Test Evaluation

Appendix G Well Information - Retrofit/pilot hole permits and well construction and boring logs

Appendix H Groundwater Sampling Logs

Appendix I Private Well Abandonment Letter

Appendix J Bill of Lading

Appendix K Monitored Natural Attenuation Technical Memo

Appendix L Classification Exception Application

Appendix M Quality Assurance Project Plan

Appendix N Health and Safety Plan

List of Tables

Table 1	Summary of Onsite Monitoring and Recovery Wells
Table 2A-2D	Summary of Groundwater Gauging Measurements
Table 2E	Summary of LNAPL Monthly Gauging Measurements
Table 3	Offsite Potable Well Locations for Sampling
Table 4	Summary of Analytical Results – Volatile Organic Compounds Offsite Potable Well Groundwater Sampling
Table 5	Summary of Geophysical and Hydrogeological Activities
Table 6	Summary of Passive Diffusion Bag Analytical Results – Volatile Organic Compounds
Table 7	Summary of Packer Testing Analytical Results – Volatile Organic Compounds
Table 8	Summary of Groundwater Analytical Results for Pilot Hole Packer Testing
Table 9	Sample Summary Table – Onsite Groundwater Sampling: October 2005 and May 2006
Table 10	Summary of Conventional Groundwater Analytical Results – Volatile Organic Compounds
Table 11	Summary of Groundwater Analytical Results - Monitoring Natural Attenuation Parameters
Table 12	Summary of Physical Parameters for the October 2005 and May 2006 Groundwater Sampling
Table 13	Summary of QA/QC Analytical Results for Trip Blanks – Volatile Organic Compounds
Table 14	Summary of QA/QC Analytical Results for Trip Blanks – Onsite Groundwater Sampling
Table 15	Summary of QA/QC Analytical Results for Field Blanks – Onsite Groundwater Sampling
Table 16	Historical Summary of VOC Parameters - April 2002 to Present
Table 17	Summary Evaluation of Alternative Remedial Actions for VOCs in Groundwater
Table 18	Summary Evaluation of Alternative Remedial Actions for LNAPL on Groundwater
Table 19	Summary of Wells to be Sampled for Natural Remediation Alternative (2007 – 2037)
Table 20	Total Costs to Date (1995 – September 2006)

List of Figures

Figure 1 Site Location Map

Figure 2 Site Plan with Monitoring & Recovery Well Locations

Figure 3 Groundwater Elevation Map – October 2005

Figure 4 Groundwater Elevation Map – January 2006

Figure 5 Groundwater Elevation Map – April 2006

Figure 6 Groundwater Elevation Map – July 2006

Figure 7 Extent of LNAPL Impacts

Figure 8 Offsite Potable Well Sampling Results

Figure 9 Location of Potential Offsite Sources

Figure 10 Well Locations Where COCs Exceed the NJDEP Groundwater Quality Standards

Figure 11 Geologic Cross Sections with Select Fracture Projections (A and B)

Figure 12 Geologic Cross Sections with Select Fracture Projections (C and E)

Figure 13 Geologic Cross Sections with Select Fracture Projections (D)

Figure 14 Bedrock Elevation Contours

Figure 15 Site Map Showing Fracture Plane Orientations, Select Bedding Plane Orientations & Site Geology

1.0 Introduction

On behalf of Ingersoll Rand Company ("Ingersoll Rand"), ENSR is submitting this Annual Groundwater Monitoring Report and Supplemental Remedial Investigation Report ("2006 AGWMR"). This report will incorporate the groundwater remedial investigative activities conducted during the reporting period of August 1, 2005 to July 31, 2006 at the former Ingersoll Rand facility located in Phillipsburg, New Jersey (the "site"). Offsite investigations conducted through September 2006 (beyond the scope of the reporting period) are also discussed herein. This work was conducted in accordance with the following documents:

- March 14, 1994 Administrative Consent Order ("ACO") between the State of New Jersey and Ingersoll Rand (which is being administered by the New Jersey Department of Environmental Protection ("NJDEP") Office of Brownfield Reuse) and the updated ACO dated August 10, 2004 between Preferred Real Estate Investments, Inc. ("PREI") and the State of New Jersey following transfer of property ownership;
- 2002 Technical Requirements for Site Remediation ("TRSR") N.J.A.C.7:26E; including amendments dated February 3, 2003, July 4, 2004, and July 5, 2005;
- NJDEP approved February 2002 Groundwater Remedial Investigation Work Plan ("2002 GW-RIWP") as well as the August 2005 Groundwater Remedial Investigation Work Plan ("2005 GW-RIWP");
- Recommendations included in the January 2005 and December 2005 Annual Groundwater Monitoring Report and Supplemental Remedial Investigation Report ("2005 AGWMR"); and
- NJDEP's email comments dated March 21, 2006 and the April 5, 2006 meeting between NJDEP, Ingersoll Rand, ENSR, and the current site owner, PREI.

The site is shown on the USGS 7.5-minute Topographic Quadrangle Map for Easton, PA-NJ included as Figure 1. The subject site is shown on the site plan, Figure 2. This 2006 AGWMR describes the groundwater related activities completed at the site between August 1, 2005 and July 31, 2006 in accordance with the various plans. These activities include:

- Offsite potable well sampling;
- Onsite former potable well investigation and sampling;
- Geophysical investigations;
- Aquifer investigation including packer testing, salt slug testing, and pump testing;
- Well retrofitting;
- Installation of two pilot holes in preparation for deep well installation;
- Quarterly gauging events;
- Semi-annual groundwater monitoring;
- Development of a draft Remedial Action Work Plan ("RAWP"); and
- Submittal of a draft Classification Exception Area ("CEA").

1.1 Objective

The objectives of onsite groundwater investigations include:

- Confirm and/or establish horizontal and vertical delineation of liquid non-aqueous phase liquid ("LNAPL") and dissolved-phase impacts;
- Assess locations in which additional data is required;
- Determine trends in product thickness and dissolved-phase concentrations at individual wells and over the entire site;
- Assess potential sources of LNAPL and dissolved-phase impacts;
- Determine possible migration pathways for LNAPL and dissolved-phase impacts; and
- Update conceptual site model and develop a draft RAWP and draft CEA.

The objectives of the offsite groundwater investigations include:

- Identification of potential offsite receptor wells;
- Evaluation of offsite groundwater; and
- Delineation of onsite impacts to offsite receptor locations.

The investigative activities conducted during the reporting period are discussed in further detail in the remaining sections of the report as structured below:

2.0 Historical information

3.0 Technical overview

4.0 Results

5.0 Conceptual site model

6.0 Draft remedial action work plan

7.0 Conclusions and recommendations

8.0 References

2.0 Historical information

2.1 Site history

Ingersoll Rand began facility construction in 1903 and underwent various expansions and renovations throughout the following 100 years. According to previous reports, the facility produced products such as pumps, turbo equipment, air and gas compressors, rock drills, and mining equipment. The facility also maintained an active iron and steel foundry onsite, which was operated to process the raw materials for manufacturing operations. Since 1973, facility operations have been declining. Restructuring activities resulted in closing or moving of almost all previous facility operations. In September 2004, Ingersoll Rand sold the property to PREI (Phillipsburg Associates, LP; Phillipsburg Associates I, LP; Phillipsburg Associates II, LP; and Phillipsburg Associates III, LP). Currently, the activities conducted on site include pump research and design and assembly and associated activities by FlowServe, Inc. and Curtiss Wright; structural steel fabrication by Stateline; snap ring manufacturing by Truarc; insurance agency called Brown&Brown; cell tower hardware distribution by Eupen; pharmaceutical research temporary office by Celldex, and school bus operations by Village Bus. Various unused buildings utilized in former manufacturing processes are vacant or have been demolished. A detailed history along with historic site plans was provided in the October 2004 Site History Report ("SHR"). PREI is in the process of planning additional development at the site through lease of unused building space and lease or sale of portions of the property.

Groundwater investigations at the site began voluntarily by Ingersoll Rand as early as the mid-1970s when LNAPL was discovered on the groundwater table. Subsequent investigation identified a plume of LNAPL at the site. A detailed background of investigative activities was provided in the 1994 Draft RIWP, the November 2002 GW-RIR, and the 2004 Site History Report ("SHR"). Groundwater monitoring reports have been submitted annually to the NJDEP providing results of the on-going groundwater remedial investigations.

2.2 Project history

Groundwater investigations at the site began voluntarily by Ingersoll Rand in the mid-1970s when LNAPL was discovered on the groundwater table. Additional environmental investigations at the site commenced in response to NJDEP inspections that identified a potentially leaking aboveground storage tank ("AST") in the facility area. Of the Areas of Concern ("AOCs") identified at the site between 1986 and 2004, several groundwater related AOCs were identified: AOC-18 (MW05, MW24, and MW26 area), AOC-42 (groundwater west of LNAPL Plume), AOC-43 (LNAPL Plume), and AOC-44 (Dissolved Phase Chlorinated Compounds). A network of monitoring wells, recovery wells, and test holes has been installed throughout the site to monitor groundwater and recover LNAPL. A summary of site wells is presented in Table 1 and shown on Figure 2. All groundwater AOCs are now being addressed as part of a site-wide groundwater investigation.

Groundwater analytical data have been historically collected for many of the onsite wells and have been submitted to NJDEP in various reports and presentations. From January 1995 through April 2002, monthly groundwater level and product thickness data were collected for this site and submitted to NJDEP. Since that time, ENSR has been collecting water level and product thickness data on a quarterly basis with annual submissions to NJDEP. Previous groundwater related submittals and historic activities conducted at the site are outlined in the following subsections.

2.2.1 Previous groundwater related submissions and agency correspondence

The following is a list of previous groundwater related submissions to the NJDEP regarding the ongoing groundwater investigations:

- *Progress Report – Groundwater Investigation Report* (Woodward-Clyde, 1976);
- *Report on the Hydrogeologic Investigation of the Phillipsburg Landfill* (Capsule, 1983);
- *Progress Report: Installation of Additional Wells as Required by Discharge to Groundwater Permit* NJ0078484 (Tellus, 1992);
- *Progress Report: Installation of Monitoring Wells 24, 25, 26* (Tellus, 1993);
- *Draft Remedial Investigation Work Plan* (Tellus, 1994);
- *Supplement to the Draft Remedial Investigation Work Plan* (Tellus, 1994);
- *Groundwater Reports – Update to the Supplement to the Draft Remedial Investigation Workplan* (ENSR, 1995);
- *Free Product Remedial Investigation Report* (ENSR, September 1997);
- *Remedial Investigation Report – AOC 18* (ENSR, March 2000);
- *NFA Request for Old Landfill (AOC-29)* (ENSR, April 2002)
- *Groundwater Remedial Investigation Work Plan* (ENSR, February 2002);
- *Groundwater Remedial Investigation Report* (ENSR, November 2002);
- *Annual Groundwater Monitoring Report and Supplemental Remedial Investigation Report* (ENSR, November 2003);
- *2004 Annual Groundwater Monitoring Report and Supplemental Remedial Investigation Report* (ENSR, January 2005);
- *Groundwater Remedial Investigation Workplan (GW-RIWP) and Response to NJDEP Comments Dated October 25, 2004* (ENSR, August 2005); and
- *Annual Groundwater Monitoring Report and Supplemental Remedial Investigation Report* (ENSR, December 2005).

Specific NJDEP correspondence relevant to the ongoing groundwater investigations are as follows:

- October 18, 1994 – Re: Ingersoll Rand Draft Remedial Investigation Work Plan;
- March 28, 1995 – Re: Ingersoll Rand Supplement to the Draft Remedial Investigation Work Plan;
- February 11, 1998 – Re: Free Product Remediation Investigation;
- October 12, 2000 – Re: Report of AOC 18 Remedial Investigation;
- March 6, 2002 – Re: Southside AOC Remedial Investigation Report;
- July 9, 2002 – Re: Groundwater Remedial Investigation Workplan;
- October 28, 2003 – Re: Groundwater Remedial Investigation Report; and
- October 25, 2004 – Re: Annual Groundwater Monitoring Report, ENSR Response to NJDEP letter Dated October 28, 2003, and Preliminary Assessment.

2.2.2 Onsite groundwater investigation history

A brief description of the history of the onsite groundwater investigation is presented in the following paragraphs. For additional information, please refer to Section 2.2.1 which provides a list of report submissions that provide detail of the summary activities below.

Groundwater investigations at the site were commenced in response to the identification of LNAPL on the groundwater surface beneath the plant area in the 1970s during the installation of a potable well. Based on historical accounts, IR began investigation into the source of oil after connection of the well to the facility water system caused employees to complain of oil in the showers. In 1975 IR conducted a dye test from an "oil dump" area identified at the landfill. After pumping approximately 500,000 gallons from the well over a 16 hour period no dye was recovered. Several other pumping events were conducted to remove oil from the well. Discharge was either to Spray Pond or to ground surface south of the AST-farm. In August 1975, EPA visited the site and required that IR prepare a plan for removal of oil from the well and permit applications for the landfill and for surface water discharges. Investigations in late 1975 identified oil at WW-3 (installed 1903). Through the remaining years of the 1970s, water usage was scaled back and problems with oil impacts were noted at all production wells. To mitigate these problems, initial pumping at wells would be diverted through the Spray Pond's oil skimmers until "acceptable" levels were achieved. At that time, water could be diverted to the plant water system.

By the early 1980s, due to agency directives and permit stipulations, IR installed five monitoring wells (MW-1 through MW-5) in the vicinity of oil impact. An additional nine wells (recovery wells RW-1 through RW-7, MW-2A, and TH-36) were installed through the remaining portion of the decade. In 1987, IR installed dual pump recovery systems at the recovery wells, designed to depress water levels and skim oil from the water surface. Water was discharged through an oil water separator to the Spray Pond and oil was recovered in small ASTs located at or near each well-head. LNAPL recovery operation is summarized in the following section.

Since the installation of monitoring and recovery wells at the site to address the LNAPL, groundwater cleanup activities were placed under the oversight of a NJPDES Discharge to Groundwater (DGW) permit (Permit No. NJ0078484). Under this permit IR installed approximately 45 monitoring and recovery wells between July 1982 and November 1992. Reports detailing a portion of these activities were submitted between 1992 and 1994 and included the 1992 *Installation of Additional Monitoring Wells as Required by DGW Permit NJ0078484*, the 1992 *Progress Report – Installation of Monitoring Wells*, and the 1993 *Progress Report – Installation of Monitoring Wells 24, 25, and 26*. These reports presented continuing activities to investigate and remediate the LNAPL plume.

After submission of the 1994 *Draft RIWP*, NJDEP indicated that groundwater investigations would no longer be conducted under the DGW permit due to a change in regulations, and continued investigation would be conducted under the facility's ACO. Further, as presented in NJDEP's October 18, 1994 letter, a more complete groundwater investigation would be required.

In response, a 1995 *Groundwater Reports – Update to Supplement to the Draft Remedial Investigation Workplan* was submitted to NJDEP and provided additional information regarding LNAPL remediation, groundwater monitoring activities, and the likelihood that the Landfill was not contributing to groundwater impacts.

NJDEP responded to the above submissions in a March 28, 1995 letter indicating more information and a complete groundwater investigation are still required.

In September 1997 a *Free Product Remedial Investigation Report* was submitted to NJDEP and detailed activities conducted to characterize groundwater flow and LNAPL conditions through the use of pumping tests. Results of this study indicated that a groundwater divide was present through the central portion of the site and LNAPL would not likely have the ability to migrate westward; product may have the ability to migrate southeast

although hydraulic conductivity is very low except where solution cavities exist. Recommendations included continued product recovery with water table depression to maintain hydrodynamic control of the western portion of the LNAPL plume.

NJDEP responded to the 1997 report in a February 11, 1998 letter indicating that a more comprehensive hydrogeologic study should be completed.

During 1998 and 1999 supplemental activities were conducted to evaluate the LNAPL identified at MW-5 which was identified as AOC-18. Findings, reported in the 2000 *Remedial Investigation Report – AOC 18*, indicated that LNAPL from the main plume area (AOC 43) may be migrating to the MW-5 area and that no appreciable dissolved phase impact has occurred from the LNAPL plume. Recommendations made in this report included the continuation of LNAPL recovery and the evaluation of MW-5 for the installation of a LNAPL recovery system. A pneumatic recovery system was installed in late 2002 as a pilot test for recovery operations at that location. This recovery system went online in early 2004.

NJDEP response, dated October 12, 2000 indicated that continued remedial investigation data shall be submitted in electronic format and can be conducted in site-wide or AOC-by-AOC submittals.

In 2002, in response to NJDEP's March 6, 2002 letter indicating that a groundwater investigation of the Old Landfill would be required, a review of groundwater data was initiated. This review was conducted simultaneously with the preparation of a comprehensive *Remedial Investigation Work Plan for Groundwater*, which was submitted in 2002 along with an *NFA request for the Old Landfill* documenting the data review of wells in the vicinity of that AOC.

NJDEP accepted the *Remedial Investigation Work Plan for Groundwater* in their July 9, 2002 letter and indicated that continued investigative activities pursuant to the approved Groundwater Investigation Work Plan would be required to determine if the Landfill was a continuing source of impact to the groundwater.

Pursuant to the accepted *Remedial Investigation Work Plan for Groundwater* activities to evaluate site-wide groundwater were conducted through 2002. Activities included the preparation of a groundwater analytical database, preparation of a geologic database, comprehensive groundwater sampling, down-hole geophysical investigations, product thickness gauging, LNAPL fingerprinting, and a well search. Results of this investigation were presented in 2002 a *Groundwater Remedial Investigation Report*. As documented, recommendations included verification of well search results, installation of additional wells, collection of additional LNAPL samples for fingerprinting, continued product recovery, collection of groundwater samples using Passive Diffusion Bags to assess vertical concentration trends, removal of BN compounds from future sampling, and further evaluation of metals impacts at select wells. IR began implementing recommendations through 2003 and submitted its first *Annual Groundwater Monitoring Report and Supplemental Remedial Investigation Report* detailing the results of the activities conducted from mid-2002 through mid-2003.

NJDEP's responded to the 2002 *Remedial Investigation Work Plan for Groundwater* in their letter dated October 28, 2003. NJDEP recommendations included a review of the potable water wells, continued verification of well search results, conducting an alternative review of site geology, conduct additional horizontal and vertical delineation of dissolved phase groundwater impacts, and evaluate metals impact in groundwater in relation to metal impacted soil identified at the site.

IR responded to the NJDEP's October 28, 2003 letter in a 2004 *Response to NJDEP Letter Dated 10-28-03* providing additional information as requested. IR has since continued to implement groundwater monitoring and investigation activities in support of the development of a Remedial Action Work Plan for groundwater.

Pursuant to the accepted GW-RIWP and subsequent report recommendations, activities conducted from 2002 to mid-2005 to evaluate site-wide groundwater included the following: prepared a groundwater analytical and geologic database, conducted comprehensive groundwater sampling in 2002 followed by semi-annual

sampling of select wells for analysis of volatile organic compounds ("VOCs") and metals to assess vertical dissolved concentration trends in individual wells, completed down-hole geophysical investigations, continued quarterly product thickness and water elevation gauging, collected LNAPL samples from various locations for fingerprint analysis, conducted a local well search, installed additional monitoring wells, and continued product recovery.

Ingersoll Rand has reported these groundwater monitoring and investigation activities throughout this time period in Annual Monitoring Report and Supplemental Remedial Investigation Report submissions to NJDEP. Ingersoll Rand has not received NJDEP comment on the last three groundwater reports. Based on the results of the last AGWMR submitted in December 2005, ENSR concluded that concentrations of chlorinated VOCs detected in wells varied over time with seasonal variations appearing to affect results at a few specific well locations (i.e. MW04). However, specific groups of chlorinated VOCs have consistently been detected at specific wells. Groundwater results confirmed that the conceptual site model in that chlorinated VOC releases that occurred at various areas of the site have resulted in several localized areas of impact; however, vertical delineation of chlorinated VOC impacts had not been fully completed and the extent of impacts at the southwestern site boundary has not been horizontally delineated. Therefore, in conjunction with continued semi-annual groundwater monitoring for VOCs and continued operation of the LNAPL/groundwater recovery system, ENSR recommend a program of hydrogeologic testing and chemical sampling, including salt-slug testing, pump testing, packer testing, and installation of a deep well to aid in completing the site delineation. Furthermore, a well search was initiated to identify off-site potable wells within a half-mile radius of the southwestern corner of the site for sampling purposes.

With respect to metals, the 2004/2005 sampling period confirmed concentrations of metals to be less than current GWQS; therefore, ENSR recommended discontinuing the sampling for metals at the site.

Sections 3.0 to 4.7 present subsequent investigative work and findings.

2.2.3 LNAPL recovery history

As previously indicated, a dual pump LNAPL recovery and groundwater treatment system was installed in 1987 to remove liquid and dissolved phase contaminant mass from the groundwater. The recovery system was in disrepair by the late 1990s. In September 1997, a Free Product Remedial Investigation Report was submitted to NJDEP and detailed activities were conducted to characterize groundwater flow and LNAPL conditions through the use of pumping tests. Results of this study indicated that a groundwater divide was present through the central portion of the site, and LNAPL would not likely have the ability to migrate westward; product may have the ability to migrate southeast although hydraulic conductivity is very low except where solution cavities exist. Recommendations included continued product recovery with water table depression to maintain hydrodynamic control of the western portion of the LNAPL plume. In late 2002, a pneumatic recovery system was installed as a pilot test for recovery operations at well MW05 and in 2004 and 2005 pumps and controls were upgraded or replaced on the wells associated with the remainder of the LNAPL recovery system.

The system is actively running at this time. To date, approximately 34,041 gallons of LNAPL have been recovered. However, compared to the volume recovered prior to 1995 product recovery has diminished in recent years and has fluctuated between 34 and 318 gallons per year between 1996 and 2005.

Recovery wells are gauged on a monthly basis and monitoring wells and recovery wells located at the site are gauged on a quarterly basis. Past gauging events have shown that the LNAPL plume extends across the site from recovery well RW17 in the east to well RW09 and recovery well RW12 to the west; from well RW17 and well RW05 in the northwest to well RW09 in the north; and to groundwater monitoring well MW05 to the south. Groundwater monitoring well MW05 is no longer gauged, due to its connection to the recovery system and the associated installation of various pumps, piping, and equipment. The possible origins of the fuel oil have been discussed in previous submittals and include significant releases that have been well documented. To a lesser

extent, cutting and lubricating oil releases have also occurred historically at the site. There does not appear to be any continuing sources for the LNAPL.

The quarterly groundwater gauging results from this reporting period are shown in Table 2A through 2D and the monthly LNAPL gauging results are shown in Table 2E. Groundwater elevations and product thicknesses measured during this reporting period are illustrated on Figures 3 through 6 and the limits of the LNAPL impacts are illustrated on Figure 7. Section 3.6 of this report contains current information on the LNAPL recovery program.

2.2.4 Offsite potable well search history

Pursuant to the accepted 2002 GW-RIWP, activities to evaluate site-wide groundwater have been conducted and have included a local well search pursuant to N.J.A.C.7:26E-3.7(e)3 in which the results of this investigation were presented in the 2002 GW-RIR. The remaining portion of this section summarizes the investigation as it relates to offsite concerns.

Based on the NJDEP Bureau of Water Allocation ("BWA") well search results, several domestic water supply wells were identified within one half-mile of the site. However, the plotted locations of many wells did not appear accurate. Due to these inaccuracies, it was recommended that an attempt be made to correct the addresses and verify the locations of any potential receptor wells.

Ingersoll Rand began implementing recommendations through 2003 and submitted the November 2003 AGWMR detailing the results of the activities conducted from mid-2002 through mid-2003. A second attempt was made to correct the inaccuracies of the well search during this time. To reduce the total amount of wells to be corrected, ENSR removed from consideration all Ingersoll Rand-owned wells as well as all soil boring permits since these are not considered potential receptors. To correct the locations of the remaining wells (including potable wells, industrial wells, monitoring wells, recovery wells, etc.), ENSR used an address matching script in ESRI's ArcView™ GIS to locate the property at which the identified wells may be located.

As requested by NJDEP in their October 25, 2004, a well search was to be conducted within a half-mile downgradient of impacted wells in Cameron Area (i.e., MW34) and the field south of the Old Landfill (i.e., MW37). The well search was to identify any properties that have potable well(s) currently or previously located on those subject properties as well as to further address location discrepancies as reported in the January 2004 AGWMR. This 2006 AGWMR includes the plan for the continued offsite groundwater investigation associated with the former Ingersoll Rand facility, including concerns and comments expressed by the NJDEP (see Sections 4.1, 5.9 and 6.1).

3.0 Technical overview

The objectives of the ongoing remedial investigation are to gather sufficient information and data to define the extent of groundwater and LNAPL impacts, identify possible sources of groundwater and LNAPL impacts, identify gaps in data, determine trends in LNAPL thickness and dissolved concentrations, and characterize the fate and transport of constituents so that remedial alternatives (specifically monitored natural attenuation) can be evaluated.

The following subsections describe in detail the activities conducted between August 2005 and July 2006. Activities have been conducted in accordance with ENSR's February 2002 GW-RIWP and August 2005 GW-RIWP, the February 2002 Quality Assurance Project Plan ("QAPP"), the Technical Requirements for Site Remediation (N.J.A.C.7:26E), the May 1992 and August 2005 NJDEP *Field Sampling Procedures Manual* ("FSPM"), and the 1997 SRP article "The Low Down on Low-Flow".

Onsite groundwater samples were analyzed for priority pollutant VOCs with a library search of the 10 largest unidentified peaks via Environmental Protection Agency ("EPA") Method 624. Offsite potable well water samples were analyzed for VOCs via EPA Method 524. Laboratory analytical data reports are provided in Appendix A.

Activities conducted during this reporting period are as follows.

Offsite Potable Well Search

- Completed a one half-mile radius search utilizing county and local records;
- Identified off-site properties who confirmed the presence of a potable well and collected groundwater samples for drinking water VOCs;
- Completed city water connection for one offsite property and installed a Point of Entry Treatment system ("POET") in another offsite property; and
- Completed a radius search of other potentially responsible parties for the impacts identified at the offsite properties.

Onsite Potable Wells

- Disconnected WW-1 from use as potable water for the site;
- Conducted geophysical investigation, video-logging, and groundwater sampling of potable well WW2;
- Completed obstruction/pipe removal in potable well WW3; and
- Conducted video-logging and groundwater sampling of WW3.

Aquifer Characterization

- Assessed the vertical flow at select monitoring or recovery wells via salt slug conductivity testing;
- Conducted packer testing at select monitoring or recovery wells for identification of water-bearing zones and evaluation of vertical variation in concentration;
- Conducted one targeted pump test at MW06 to assess formation transmissivity and fracture conductivity/connectivity at the southeast impact boundary; and
- Updated geologic database with new information gathered.

Upgrade and Retrofit of Onsite Wells

- Completed geophysical logging and/or hydrologic testing for the wells scheduled for retrofitting;
- Determined likely retrofit construction at these selected monitoring wells; and
- Completed well retrofit and re-development of five monitoring wells and one recovery well.

Pilot Hole Installation for vertical delineation

- Installed two deep pilot holes southeast of a suspected source area to assess vertical extent of impacts through packer testing at targeted intervals.

Groundwater & LNAPL Recovery System

- Completed upgrade of groundwater and LNAPL recovery system; and
- Continued operation of the Groundwater and LNAPL recovery system.

Groundwater Monitoring and Sampling

- Continued semi-annual sampling for VOCs including Monitored Natural Attenuation ("MNA") parameters for two sampling events; and
- Continued quarterly product thickness and water level gauging of all site wells.

3.1 Offsite potable well investigation

3.1.1 Well search

Due to the difficulty in obtaining accurate well location data from the previously conducted BWA well searches, ENSR conducted a more thorough investigation of local potable wells through a search of county and local records. Using a one-half mile radius, ENSR petitioned the local water company, Aqua New Jersey Inc. ("Aqua", formerly known as Consumers New Jersey Water Company) to provide a client list consisting of all residents and/or businesses that were connected to city water within the search radius.

Based on the client list provided by Aqua, ENSR cross referenced the information with the owner information on local tax maps. ENSR excluded properties that had confirmed connection to city water as well as railroad lines, parking lots, and utility easements as these properties were unlikely to have potable wells. Properties identified as vacant or parks were assessed visually to confirm that no structures were present that may have unidentified water sources. Based on the above, the well search list was narrowed to 69 properties that did not have confirmed water source and may have private potable wells.

On October 10, 2005, ENSR provided the list of these properties to Aqua in an effort to confirm if those properties were connected to city water. Aqua was able to confirm connection at 29 properties leaving 40 properties with unconfirmed potable water sources. This reduced list was submitted to the Warren County Health Department to determine if there were any records on potable wells for those properties. During this time frame, ENSR completed site visits to the Phillipsburg and Lopatcong Townships municipal buildings for the purpose of obtaining any additional information on the remaining. Subsequently, the health department confirmed that only one property location had a private potable well.

Based on the investigations previously conducted as well as a review of ownership which revealed that several properties were contiguous and owned by the same individual narrowing the search further to 33 overall property locations that potentially had a potable well (i.e, there were no records that they were connected to city water). To assess whether these properties were serviced by private potable wells, ENSR convened a meeting with the Phillipsburg Town Council and Mayor and the Lopatcong Township Engineer and

Environmental Counsel; and subsequently sent requests for information to the owners of the 33 properties identified in the well search investigation. Specifically, the request for information asked for confirmation of whether the property was being serviced by potable well(s) and if so, if construction information could be provided.

Responses from the property owners confirmed 11 properties with private potable wells. Fifteen property owners replied that no well was present on their property. Seven owners did not respond to ENSR's inquiry. Two properties were identified as being served by the same well and no longer owned by two separate individuals. Overall, 10 wells were identified through this process.

Based on the results of ENSR's potable well search, ENSR requested written authorization to sample the potable wells at each of the 10 properties identified. Authorization to sample the wells was granted; however, none of the homeowners were able to provide any information regarding the well depth or well construction. The final results of the well search are discussed in more detail in section 4.1.1.

On February 23, 2006, ENSR personnel conducted another windshield survey as well as a "targeted" door-to-door survey of seven properties that did not respond to ENSR's initial mail and telephone inquiries to confirm the presence or absence of a private potable well. Visual observations indicated that six of these locations did not have a well. One well-head was observed at 482 Lock Street south of Lopatcong Creek, but ENSR was unable to contact the property owner to request access to sample the potable well. ENSR verbally notified NJDEP and the Warren County Health Department that the owner could not be contacted and proceeded with the collection of samples from locations for which we were provided access (see sections 3.1.2 and 4.1.2). Based on the data collected from neighboring residences, and the fact that all samples collected from residences south of Lopatcong Creek did not have any detectable volatile compounds of concern, no further attempts to contact the owner of this property is warranted.

3.1.2 Offsite potable well sampling

The private potable wells identified based on the above-referenced well search were sampled following the potable well sampling methods detailed in the August 2005 NJDEP Field Sampling Procedures Manual ("FSMP"). Potable well sampling events were conducted on March 10, 2006 and April 11 and 14, 2006. Groundwater samples were collected from exterior spigots on each property (with the exception of the 425 Lock Street residence) and prior to any kind of filtration system. Sampling conducted at 425 Lock Street was collected from the kitchen sink faucet since the outside water lines had been winterized and were inaccessible at the time of sample collected. In this instance, the aerator was removed from the kitchen faucet prior to beginning the sampling activities.

As per the FSPM, water was allowed to run for a minimum of 15 minutes prior to sampling. Samples were collected by directly filling laboratory-supplied 40 milliliter vials that contained hydrochloric acid preservative. Samples were labeled with an abbreviated version of the street address, the sample date and time, and the analysis requested. Samples were then placed in an ice-filled cooler to reduce sample temperature to approximately 4° Celsius and were submitted under standard chain of custody procedures to STL-Edison for analysis of VOCs via EPA Method 524.2.

The results of the potable well sampling events are discussed in Section 4.1.2 of this report. A summary of the offsite wells is included in Table 3, the results of the analysis of drinking water collected from offsite wells is included in Table 4 and illustrated in Figure 8. Laboratory analytical reports are included in Appendix A.

3.1.3 Potential source review

To assess alternative sources of potential groundwater impacts beyond the site boundaries, ENSR conducted an Environmental Data Resources ("EDR") database search for spills and releases located in the area between the site, the Lopatcong Creek, and the Delaware River. The database search report identified

approximately 500 properties of interest that were reported in at least one environmental database. The locations of these properties are depicted on the figure in the EDR report (executive summary page 25) included as Appendix B. Based on the property type and on which database the property appeared, properties were identified that have the potential to contribute to chlorinated VOC groundwater impacts. To acquire additional information on the identified properties, ENSR conducted an area-wide canvass on June 22, 2006 to confirm locations and visually assess the properties as well as to determine other potential sources of groundwater impacts. Considering the local geology and expected groundwater flow directions, ENSR limited its canvass to properties south and west of the of the former Ingersoll Rand facility between the site, Lopatcong Creek, and the Delaware River. Locations of interest were photo-documented and cataloged with a Global Positioning System ("GPS"). A review of the results of this survey is provided in Section 4.1.3. Refer to Figure 9 for a list and locations of identified properties of concern.

3.2 Onsite potable wells

To aid in both the horizontal and vertical delineation of the dissolved phase impacts, ENSR evaluated the potential conversion of the former potable well(s) WW1 (aka WW1P or 1P), WW2 (aka OLD WW), and WW3 into deep monitoring wells.

Refer to Section 4.2 for results of the geophysical logging and Section 4.7.2 for results of the groundwater analysis of wells WW2 and WW3. Refer to Table 5 for a summary of the geophysical activities conducted during this reporting period and Appendix C for geologic logging results provided by the contractors. Refer to Table 6 for a summary of groundwater analytical results via PDB sampling and Figure 10 for an illustration of VOC results which were greater than GWQS across the site.

3.2.1 WW1

Based on information provided by the current property owner, the active potable/production well WW1 was taken off-line in April 2006 and the property was connected to the municipal water supply. To date, no documentation of this has been provided by the property owner, but visual inspection of the well by ENSR indicates that it has been disconnected. Based on our visual inspection, the water line from the pump house to the wellhead and the electric connection associated with the well was removed. ENSR proposes to conduct investigations at this location in 2007.

3.2.2 WW2

In August 2005, Mid-Atlantic Geosciences, LLC, ("Mid-Atlantic") of Centreville, Maryland conducted down-hole geophysical investigations at former potable well WW2. These investigations were comprised of video, caliper, temperature, fluid conductivity, natural gamma and electric logs in former potable well WW2. Investigations were conducted using the procedures outlined in the 2002 and 2005 GW-RIWP. Procedures generally consisted of lowering the camera or appropriate data collection probe into the well and moving it slowly through the open-borehole to collect images or data from the well. Based on evaluation of the geophysical data, ENSR collected groundwater samples at WW2 via PDB samplers deployed at discrete-depths. Depths were selected based on the visual interpretation of the identified fracture locations in the videolog where large potentially water-bearing fractures were identified. Based on verbal conversations, the NJDEP BWA approved the selected depths for sampling. On November 4, 2005 and May 2, 2006, groundwater samples were collected from former potable well WW2 using PDB sampling methods at the following depths: 88, 227, 335, 429 and 485 feet below ground surface ("bgs"). Groundwater samples were submitted to a NJ-certified laboratory for analysis of VOCs via EPA Method 624.

3.2.3 WW3

Based on a down-hole video log conducted in March 2005, there appeared to be an obstruction in former potable well WW3 at approximately 127 feet bgs. In October 2005, Plainfield Well Drilling was contracted to

remove that obstruction to allow further investigation of the well. A follow-up video log was conducted in December 2005 to determine the well construction as well as evaluate the open borehole for possible water bearing fractures and/or open voids. Based on the visual approximation of fracture locations, on May 2, 2006, ENSR collected groundwater samples in former potable well WW3 via PDB samplers deployed at discrete-depths of 98, 215, 292, 341, 472, 615, 725, and 757 feet bgs. All groundwater samples were submitted to a NJ-certified laboratory for analysis of VOCs via EPA Method 624.

3.3 Aquifer characterization

Pursuant to the 2005 GW-RIWP ENSR conducted aquifer characterization activities to assess groundwater flow and chemical transport mechanisms. These aquifer tests included additional geophysical logging (specifically caliper, optical or acoustic televiewer logging, and/or gamma logging), salt-slug conductivity testing, packer testing, and a pump-test. Each activity was conducted using the procedures referenced in the 2005 GW-RIWP. Each of these activities is detailed in the following subsections.

3.3.1 Geophysical investigations

Over the course of the reporting period, down-hole geophysical logging was conducted by Mid-Atlantic, Enviroscan of Lancaster, Pennsylvania, or Earthdata Northeast, Inc. of Exton, Pennsylvania ("Earthdata"). Geophysical logging included one or more of the following methods: optical televiewer ("OPTV"), high-resolution acoustic televiewer ("ATV"), caliper logging, and/or gamma logging.

OPTV testing was conducted at the following nine locations: MW11, MW12, MW18, MW19, MW24, MW27, MW31, MW36 and MW41. ATV testing was conducted at PH1, PH2, and THWLS. Caliper testing was conducted at the following 15 locations: MW08, MW09, MW11, MW12, MW18, MW19, MW24, MW27, MW31, MW36, MW41, THWLS, WW2, PH1, and PH2. Gamma testing was conducted at the following eight locations: MW08, MW09, MW12, MW16, MW33A, MW34, MW49, THWLS, WW2, and RW15.

Geophysical logging was completed by lowering a three-arm caliper, an OPTV probe (in instances of poor optical visibility an ATV probe was used) down the well casing of select wells and through the length of the open borehole of the well. The OPTV (or ATV) probe was used to record high-resolution imagery of the location and character of features such as fractures and solution openings. OPTV/ATV also provides the strike and dip of planar features, such as fractures and bedding planes. OPTV/ATV data was recorded electronically in real time and hardcopy logs were produced for reporting and record-keeping requirements.

Caliper logs were obtained from select wells to measure changes in the average diameter of the borehole due to fractures, solution cavities, and/or natural void spaces or caverns. In caliper logging, a caliper tool is lowered to the bottom of the boring, where three spring-loaded arms are opened remotely. While being raised, the arms act together to continuously measure and average width of the boring. Variations in diameter from the known drilled diameter indicate that a fracture may be present in the bedrock. Caliper logs provide the best information about locations of potential fractures and other information needed to support other testing programs (such as packer testing). The caliper logs are also used to correct other logs for hole-diameter effects.

The natural gamma radiation probe records the amount of gamma radiation emitted by the rocks surrounding a borehole, caused by the decay of uranium, thorium, potassium-40. This probe is lowered through the water column, continuously measuring the intensity of naturally occurring background radiation emitted by the formation. The gamma log helps to delineate changes in rock types and can record the presence of clay within the formation (which may be present in fracture zones). At this site the primary rock formation is dolomite (a calcium and magnesium carbonate). Possible locations of clay shale lenses within this formation are recorded by the gamma radiation probe as a sudden spike in the intensity of the radiation. Relative increases in the measured radiation may indicate a fracture or fracture zone or the presence of a silt/clay layer within the dolomite.

All OPTV, ATV, caliper, and gamma logs were recorded electronically and hardcopy logs were produced for reporting and record-keeping requirements.

As previously stated, temperature, fluid conductivity, and electric (resistivity) logs were collected from former potable well, WW2. Temperature logs represent the temperature of the surrounding air or water within a boring. Changes in temperature can aid in interpreting where water is entering or leaving a boring, thereby identifying potential fractures in bedrock. Fluid conductivity logs, which are collected simultaneously with temperature logs, aid in identifying fractures in bedrock by monitoring changes in fluid electrolyte measurements, or the relative amount of dissolved solids in groundwater within a boring. Fluid producing fractures in bedrock generally exhibit differing compositions than the standing water.

Electric, or resistivity, logs are collected with a series of electrodes distributed throughout the well. As bedrock composition changes throughout the open bore-hole changes in current flow can be detected due to variety in mineral composition or porosity. Therefore, differences in resistance of current flow (measured in ohms) can be measured throughout the depth of a boring.

Refer to Section 4.3.1 for discussion of the results of the geophysical testing. Refer to Table 5 for a summary of the geophysical activities conducted during this reporting period and Appendix C for geologic logging results provided by the contractors.

3.3.2 Salt slug testing

Salt slug testing consists of adding a predetermined slug of salt solution with elevated specific conductance at a predetermined depth in each well. If downward flow is known or suspected, the slug should be released just below the water level, or in between the water level and the shallowest known or suspected hydraulically active fracture. If upward flow is known or suspected and if the depth of the deepest inflowing fracture is known or suspected, the slug should be emplaced at or just above the deepest suspected inflowing fracture. If these things are unknown, the default procedure is to release the slug just below the water level. The well is then monitored for conductivity and temperature changes. As the solution drifts downward through the water column, the specific conductance within the water column will change. The general drift of the solution may be affected by active fractures within the well, providing knowledge of which water-bearing fractures are active. Qualitative salt slug testing is applicable in wells or boreholes that may intersect one or more discrete hydraulically active zones and/or where up-flow or down-flow within the well is suspected (Michalski et al., 1990). The typical application is bedrock wells or boreholes in which fracture flow predominates (crystalline rocks or sedimentary rocks with little primary porosity) and which have long sections of screened or open borehole. Salt slug testing may be sensitive to low flows that may be below the detection limit of heat pulse flowmeters or other flow assessment techniques.

In July and August 2005, ENSR conducted salt slug testing at MW06, MW32, and MW35. Conductivity logging of these three wells were completed by Mid-Atlantic. Between March 13, 2006 and March 20, 2006, ENSR subcontracted Earthdata to conduct salt slug testing at the following nine locations: MW08, MW09, MW12, MW16, MW33A, MW34, MW49, THWLS, RW15 and RW16. Prior to inserting the salt slug depth to water measurements and a baseline temperature and conductivity log was conducted. Depth of the salt slug positioning was determined based on the presence of down-flow or up-flow in the well. If downward flow was known or suspected, the slug was released just below the water level, or in between the water level and the shallowest known or suspected hydraulically active fracture. If upward flow was known or suspected and if the depth of the deepest inflowing fracture was known or suspected, the slug was released at or just above the deepest suspected inflowing fracture. If neither of these flows were known, the default procedure was to release the slug just below the water level and/or at potential water-bearing fractures.

Using as a guide the following study, *Characterization of Transmissive Fractures by Simple Tracing of In-Well Flow* by A. Michalski and G.M. Klepp, salt solutions were prepared in the field to a concentration in the solution of approximately 10,000 milligrams-per-Liter ("mg/L") (compare to seawater at 35,000 mg/L), which is 38

grams of salt to one gallon of water. The measured specific conductance of the solution was between 15,000 and 17,000 umhos/cm. Salt solution was added to each well in an amount of that would not result in an increase in head more than the diameter of the well. For a 6-inch well, a 6-inch head increase is about 0.75 gallons. For an 8-inch well, an 8-inch head increase is about 1.74 gallons. The slug was then lowered through the water column in a release device. Once the predetermined depth was reached the devise was opened allowing the salt slug to gently enter the water column. The time and depth were noted and all release materials were then removed from the well. Conductivity and temperature were then measured continuously throughout the length of the slug by lowering the conductivity probe at a speed of approximately 5 feet-per-minute to the depth at which conductivity returned to ambient levels. The probe was returned to the top of the water column and the process was repeated in order to determine the speed of the salt slug's conductivity peak movement downward through the open borehole. The approximate time it will take the salt slug's conductivity peak to reach the bottom of the well is then calculated and the conductivity recording procedure is repeated until the conductivity peak reaches the bottom of the well, the lowest fracture, a major out-flowing fracture, or disperses so as to be unidentifiable.

The primary goal of the qualitative salt slug testing is to identify the depths of hydraulically active fractures in each well. This is done using plots of conductivity versus depth, with successive logging runs' results plotted on the same graph. If possible, temperature data was also plotted on this graph. Generally, in-flow zones will appear as blips or slope changes on the leading or following edges of the conductivity peak, as it moves down (or up) the borehole in successive logging runs (Michalski and Klepp, 1990 and Britton, 2004). In-flow zones that were not evident under ambient conditions may appear on the pumping runs. Outflow zones will be evidenced not only as blips or slope changes but as depths where the overall size of the conductivity spike (its integrated area) is noticeably less after the conductivity spike passes the zone. Also, it is possible to calculate the rate at which the conductivity spike moves down (or up) the borehole.

In instances where flow was not observed under ambient conditions (MW06, MW35, and RW16), ENSR induced pumping conditions. A two-inch stainless steel Grundfos® pump with dedicated polyethylene tubing was lowered approximately one foot from the bottom of the well. The pumping rate was set at approximately one gallon per minute. Since pumping conditions did not appear to influence the movement of the salt slug, pumping was discontinued during the salt slug testing of the remaining wells.

All conductivity and temperature logging were recorded electronically in the field. Hard copy logs were produced in the field for record-keeping, reporting, and comparison with final logs completed after data analysis. This new information was incorporated into the geophysical database and utilized to update the site conceptual site model ("CSM") and used to help guide well retro-fitting and selecting zones for packer testing.

Refer to Section 4.3.2 for discussion of the results of the salt slug testing. Refer to Table 5 for a summary of the geophysical activities conducted during this reporting period and Appendix D for salt slug logging results provided by the contractors.

3.3.3 Packer testing

Between August 15 and 18, 2005, ENSR conducted packer testing at the following four groundwater monitoring well locations: MW04, MW06, MW35, and MW37. Between May 22 and June 9, 2006, ENSR conducted packer testing on an additional 12 locations: MW11, MW13, MW16, MW26, MW27, MW33A, MW34, THWLS, RW09, RW11, RW15, and RW16. Packer tests were conducted in the open borehole sections of each of these wells using the procedures outlined in the 2005 GW-RIWP in order to characterize smaller sections of the open boreholes and reduce the contributory effects of fractures/zones in other sections of the long open borehole wells.

Packer testing allows a relatively small section of an open borehole to be isolated from the rest of the borehole. Once a section is isolated, information specific to that interval can be obtained, including hydraulic head, yield or permeability, water-bearing potential of fracture zones, and groundwater concentrations. Short

of replacing a single, long well with several shorter wells, packer testing is the only method to obtain this type of information.

The packer assembly was lowered to the desired test interval, inflated, and adjusted by the ENSR's subcontractor (Earthdata) in order to isolate the interval. Successful isolation was judged based on: the air pressure measured by the inflatable packers; stabilization of different water levels (transducer readings) above, within, and below the packers; and/or lack of water level response above and below the packers when pumping is started within the test interval. Once the interval was successfully isolated, water levels (transducer readings) were allowed to stabilize above, within, and below the packers. Once stabilized, the data was recorded and hydraulic heads calculated. This data is used to calculate vertical gradients in the aquifer (i.e., upward or downward) and is detailed in Section 4.3.3.

Once water levels stabilized, the pump within the test interval was started at a relatively low rate of between 0.1 and 0.25 gpm. Water level response to pumping was monitored to provide hydraulic data and to ensure that the water level was not drawn below the level of the pump intake. Water level response in the intervals above and below the packer was also monitored to ensure the zone is hydraulically isolated.

During pumping, a groundwater sample was collected from within the test interval using low-flow sampling techniques. Purging rates were minimized to not exceed about one liter per minute ("L/min"). Field parameters were measured and, when stabilized, samples were collected directly from the discharge of a Grundfos® submersible pump at flow rates maintained at low levels. Heat shrouds could not be used due to a lack of space within the equipment set-up. Therefore, the VOC data from samples collected during packer testing are considered screening data. All other sampling procedures, including groundwater purging and pump flow rates, were conducted using low-flow techniques as described in the NJDEP's Low Down on Low-Flow (November 1997) and EPA's Low-Flow Groundwater sampling Procedures (April 1996). Packer testing groundwater samples were submitted to a NJ-certified laboratory for analysis of VOCs.

After sample collection, pumping rates were increased to estimate the yield of the test interval. At the completion of testing, the packers were deflated and moved within the hole to the next interval to be tested or removed for decontamination and redeployment.

Groundwater samples were submitted to a NJ-certified laboratory for analysis of VOCs. Groundwater purging and sampling was conducted using low-flow techniques as described in the NJDEP's Low Down on Low-Flow (November 1997) and EPA's Low-Flow Groundwater sampling Procedures (April 1996).

The results from packer tests were used to select appropriate open intervals for the well retro-fitting, to help to delineate vertical extent of contamination, and to provide specific information concerning the fate and transport of chlorinated VOCs across the site.

At each well, interval sizes were selected based on geologic and geophysical data as the intervals most likely to be successfully isolated. The interval is measured from the base of the upper packer to the top of the lower packer, and represents the length of the borehole in the isolated section to be tested. Interval size was predetermined prior to beginning each packer test so that so that the tools could be lowered into the hole once, and would not need adjustment between test intervals. In general, packer test measurement information was collected from top of well casing.

Packer testing intervals were as follows:

- MW04 (100 to 110 feet and 115 to 127 feet),
- MW06 (96 to 127 feet and 180 to 195 feet),
- MW11 (92 to 120 feet, 140 to 165 feet, and 165 to 199 feet),
- MW13 (94 to 115 feet, 135 to 160 feet and 170 to 199 feet),
- MW16 (110 to 135 feet, 135 to 160 feet, and 162 to 197 feet),

- MW26 (95 to 120 feet and 117 to 154 feet),
- MW27 (85 to 110 feet and 110 to 138 feet),
- MW33A (90 to 121 feet),
- MW34 (93 to 110 feet and 110 to 126 feet),
- MW35 (93 to 123 feet, 110 to 123 feet, and 124 to 143 feet),
- MW37 (55 to 72 feet, 88 to 98 feet, and 98 to 104 feet),
- RW09 (110 to 135 feet, 135 to 160 feet and 165 to 200 feet),
- RW11 (92 to 117 feet, 115 to 140 feet and 147 to 171 feet),
- RW15 (91 to 107 feet, 110 to 135 feet and 130 to 152 feet),
- RW16 (98 to 125 feet and 125 to 155 feet), and
- THWLS (98 to 113 feet and 113 to 124 feet).

Refer to Section 4.3.3 for discussion of the results of the packer testing investigation. Refer to Table 5 for a summary of the geophysical activities conducted during this reporting period and Appendix E for packer testing plots. Table 7 provides a summary of the packer testing groundwater analytical results. Results of VOCs that are greater than GWQS are illustrated on Figure 10. Laboratory analytical reports are provided in Appendix A.

3.3.4 Aquifer pump test

Between August 26 and September 6, 2005, ENSR conducted an aquifer pump test in order to evaluate hydraulic connections between wells/fractures and possible migration pathways in the southwest portion of the site. The pump test was performed at monitoring well location MW06 located south of the onsite permitted Class II-A Landfill. During the pump test, ENSR monitored nearby wells MW2A, MW33A, MW34, MW35, and MW52. Monitoring locations were selected based on the results of other geophysical investigations (i.e., geophysics, packer testing, and salt slug testing) that indicated the possibility for hydraulic connection of these well locations.

Mini-troll data-loggers were deployed into wells MW2A, MW06, MW33A, MW34, MW35, and MW52 three days prior to initiating the pump test to provide background water level monitoring data. Subsequently, the pump test began with step-drawdown pumping at MW06 was conducted in order to establish a desired pumping rate. The step-drawdown test was conducted at well MW06 by lowering a 3-inch Grundfos pump with 1-inch polyethylene/PVC tubing to within approximately two feet of the bottom of the well (approximately 193 feet bgs). A flow restrictor valve was then attached to the end of the tubing in order to control the flow rate (measured in gallons per minute [“gpm”]). The step-drawdown pumping began at three gpm (as established based upon the latest purging information and packer testing of MW06). Depth to water measurements were recorded manually every five minutes and purge rates were adjusted over time based on field observations.

Once the pumping rate was stabilized and drawdown rates were declining, the settings on the mini-trolls were modified from collecting linearly spaced (e.g., one data collected per minute) to logarithmically spaced measurements for the remainder of data collection. Pumping was continued at the stabilized rate of 15 gpm for three days. Purged water was discharged downgradient from monitoring well MW06 at a distance to ensure there was no risk of recirculation. The active pumping was overseen by ENSR personnel 24 hours a day, during which depth to water measurements were manually collected and flow rate was checked every two hours to verify electronically collected data. Depth to water measurements were also manually collected every two hours from wells MW03, MW04, and MW39. The discharge location was inspected periodically during the pump test in order to ensure that the tubing was properly placed and that discharge was not infiltrating any of the monitored wells or recharging into the expected zone of influence/cone of depression of MW06. Prior to the end of the 72-hour pumping period, ENSR personnel manually collected one more round of depth to water measurements from wells MW2A, MW33A, MW34, MW35, MW52, MW03, MW04, MW39, and finally MW06.

After pumping ceased at MW06, electronic groundwater elevation measurements continued to be collected for another three days. Additionally, one manual round of depth to water measurements was collected during the

recovery period these wells to verify electronic data. Once well MW06 restabilized, the pump and tubing was removed and decontaminated and all data were recovered.

All data was downloaded and analyzed using appropriate methods to estimate aquifer hydraulic characteristics (such as transmissivity). In addition, the relative responses in various wells were evaluated to aid in understanding hydraulic connections between wells and fractures and update the CSM accordingly.

Refer to Section 4.3.4 for a discussion of the results of the pump test. Refer to Table 5 for a summary of the geophysical activities conducted during this reporting period and Appendix F for elevation data collected during the pump test.

3.4 Well retrofits

Previously installed monitoring wells at the site were constructed with steel casing installed at least 10 feet into competent bedrock while the remaining well depth was left as an open borehole, typically in excess of 25 feet (refer to the well summary table, Table 1, for additional details). Based on site observations, several monitoring wells have collapsed over time due to the presence of voids, as well as highly-fractured and weathered areas of bedrock. Due to the collapse of some of these monitoring wells and lack of available borehole logs, Ingersoll Rand has been re-evaluating the well construction and the potential to retrofit selected wells at the most appropriate intervals for sampling at each location. Evaluation has been based on current well installation requirements, depth of identified bedrock fractures, and analytical results from previous groundwater sampling events.

During this reporting period, ENSR personnel completed oversight of the retrofit activities of five groundwater monitoring wells (MW06, MW12, MW15, MW24 and THWLS) and one recovery well (RW10). The monitoring well permits issued were approved by the NJDEP BWA on October 25, 2005. The wells were originally 8-inch diameter open borehole wells and were all converted into 4-inch diameter steel-screened wells. The final well construction consisted of screened/perforated steel casing installed within the existing borehole to create a screened interval of 25 feet across the selected interval. ENSR selected the final intervals to be screened based on chemical, geophysical, and hydrogeological data.

Retrofit activities for monitoring wells MW06, MW12, MW15, MW24 and recovery well RW10 occurred during November and December 2005. Drilling activities were completed by a licensed NJ driller, SGS Environmental, Inc. (SGS) of West Creek, NJ, under the supervision of ENSR.

On January 11 and 12, 2006, another licensed New Jersey driller, Plainfield Well Drilling Company of Martinsville, New Jersey was onsite, under the supervision of ENSR, to locate and re-drill monitoring well THWLS. On July 6, 2006, SGS was onsite to complete the retrofit activities for this well.

Refer to Section 4.4 for more detailed description of the well retrofitting results. Refer to Table 5 for a summary of the geophysical activities conducted during this reporting period and Appendix C for the geologic logs. Copies of the well construction logs, permits and Form A's are included in Appendix G.

3.5 Pilot-hole drilling for deep well installation

As discussed in the August 2005 GW-RIWP, ENSR is conducting vertical delineation at the site in a phased approach to address NJDEP's request for the installation of a deep bedrock well between the Main Facility Area and monitoring wells MW04 and MW37 in an attempt to intersect a potentially impacted fracture along the downgradient dip of the bedding plane. This surface of the bedding plane is estimated to be located near the former Building 91 (located just south of the former solvent storage area adjacent to Building 9) where an identified cesspool from Building 91 was reported to have drained waste directly into the bedrock. In effort to characterize the deeper downgradient portions of this bedding plane, ENSR proposed to install a deep

bedrock monitoring well (MW56) at the northwest corner of the Old Landfill that would intersect this feature and assess the vertical extents of impacts at that location.

In considering the collapsing nature of the bedrock formation and past difficulties during well drilling and installation, ENSR proposed to drill pilot boreholes to various depths and conduct appropriate geophysics and hydrologic investigations to first characterize, then determine the most appropriate well construction of the proposed deep well MW56. Well construction would be modified as necessary based on the results of pilot borehole geophysical and hydrogeological investigations, conditions observed during drilling, and NJDEP BWA well construction regulations.

Between March 14 through 28, 2006 and between June 28 through July 26, 2006, ENSR directed SGS to drill and temporarily case two pilot-holes, PH1 and PH2, using dual rotary drilling methods. Drilling progressed in approximately 100 foot intervals below the bedrock surface. Once each interval was drilled, geophysics, consisting of caliper logging and ATV logging, was performed by Earthdata. Based on this data, up to two 25-foot intervals would be selected for packer tests and groundwater sampling. During the packer testing, ENSR collected groundwater samples for VOCs using low-flow sampling methods pursuant to the 2005 FSPM, and monitored water levels above and below the packer zone. Groundwater samples were submitted to a NJ-certified laboratory for 24-hour turn around time and no field/trip blanks were collected since the data was being utilized for qualitative versus quantitative purposes. Based on the information obtained from the compiled geophysics, groundwater analysis, and packer testing, ENSR proposed that a well be constructed in pilot-hole PH2 to provide a vertical delineation location.

Refer to Section 4.5 for details of the pilot-hole drilling, geophysics, packer test sampling and results. The final well construction has been determined and a letter requesting approval will be submitted to NJDEP BWA as well as the case management team. Copies of the boring logs, construction permits, and Form A's are included in Appendix G. Copies of the geophysical logs are included in Appendix C. Groundwater analytical results are summarized for the pilot-hole packer testing in Table 8. Results that are greater than GWQS are illustrated on Figure 10. Copies of the laboratory analytical reports are included in Appendix A.

3.6 LNAPL recovery and groundwater treatment

In 1987, a product recovery and groundwater treatment system was installed to remove liquid phase contaminant mass from the groundwater. The system is operated under the conditions of a New Jersey Pollutant Discharge Elimination System ("NJPDES"), Discharge to Surface Water ("DSW") Permit (No. NJ0004049). The discharge point is identified as DSN002A. The system includes sixteen groundwater and LNAPL recovery wells, of which eight were operational during this reporting period (see Figure 2). The operating recovery wells were RW01, RW02, RW03, RW04, RW05, RW06, RW8A and RW17. Each of the recovery well is equipped with two pumps; one that depresses the groundwater table and transfers water to the oil/water separator via subsurface piping that conveys groundwater from each wellhead to the oil/water separator building (Building 104). The other pump is a product skimming pump that recovers the LNAPL from the well and discharges into an aboveground storage tank located in the immediate vicinity of each well.

A security fence is installed around the perimeter of each of the recovery wells. The fence is eight-feet high with a double door gate for access. All components (i.e. wellhead, piping, electrical controls, valves and aboveground storage tank) for the recovery system are enclosed within the fence.

The passive oil/water separation system consists of three 10,000-gallon single walled steel tanks in series. Industrial wastewater discharge outfall 002A is the location of the discharge from the oil/water separators which passively treat the groundwater from the nine recovery wells. Outfall 002A discharges into the Spray Pond.

Effluent samples are collected for laboratory analysis every month and results are submitted to the NJDEP on Discharge Monitoring Reports ("DMRs"). Refer to the previously submitted DMRs for the effluent monitoring

results. In addition, recovery wells are gauged on a monthly basis for LNAPL thickness and LNAPL/water mixture is removed from the site for offsite disposal when necessary.

In addition, recovery wells are gauged on a monthly basis using the procedures outlined in the FSPM. The ASTs are gauged on a monthly basis. Water removed from each well is measured on a monthly basis via flow totalizers located at each well head.

Refer to Table 2E for a summary of monthly LNAPL gauging and Section 4.6 for a discussion of LNAPL recovery for this reporting period.

3.7 Groundwater monitoring

3.7.1 Groundwater elevation and LNAPL thickness

As discussed in the August 2005 GW-RIWP and the 2002 GW-RIR, ENSR conducted monthly gauging operations and then began quarterly gauging of site wells in April 2002. For the current reporting period, ENSR conducted quarterly gauging activities on October 6, 2005, January 12, 2006, April 27, 2006, and July 28, 2006.

Gauging was conducted using a dedicated interface probe and water level indicator using methods described in the NJDEP FSPM (2005, NJDEP). All gauging data were recorded in a dedicated field notebook, checked to assure QA/QC standards as per the internal QAPP, and imported into the groundwater database as described in the 2005 GW-RIWP. LNAPL thickness and groundwater elevation tables were generated from the database, and groundwater contour maps were produced for continued trend analysis. Using the groundwater elevation data, groundwater contours were generated using Golden Software's Surfer® version 7.0 and overlain on the site map. Wells at which LNAPL was encountered are identified on these figures and observed LNAPL thickness is reported. Due to the irregularity of LNAPL thickness within the fractured bedrock aquifer at the site, product thickness isopleths have not been generated.

Refer to Section 4.7.1 for a discussion of groundwater elevations at the site. Groundwater elevation and product thickness data are summarized in Tables 2A through 2D and illustrated on Figures 3 through 6. Limits of the LNAPL plume are illustrated on Figure 7.

3.7.2 Groundwater sampling

During the October 2005 sampling event, to assess the vertical and horizontal extent of dissolved-phase groundwater impacts, a total of 37 monitoring and recovery wells were sampled. Thirty four wells were sampled using PDB samplers deployed at multiple depths within each well and three monitoring wells were sampled using conventional purging and sampling methods. In addition, groundwater samples were collected from 19 monitoring and recovery wells for the analysis of monitored natural attenuation parameters via low flow sampling methods. A summary of all groundwater samples collected during this sampling round is included in Table 9.

During the May 2006 sampling event, a total of 39 monitoring and recovery wells were sampled. Thirty seven wells were sampled using PDB samplers deployed at multiple depths within each well; two monitoring wells were sampled using conventional purging and sampling methods; and 19 monitoring and recovery wells were purged using low flow methods. In addition, as stated in Section 3.2, PDB samples were collected from former potable well WW2 in November 2005 and from wells WW2 and WW3 in May 2006.

The selection of wells were based on data needs including, but not limited to, determining and/or maintaining horizontal and vertical delineation, assessing dissolved-phase impacts, and assessing potential source areas.

Wells at which PDBs were deployed were selected based on a previous detection of one or more chlorinated VOC greater than NJDEP Ground Water Quality Standards ("GWQS"). Deployment depths for PDBs were determined by reviewing fracture locations reported on boring and/or drilling logs, well construction details, and/or geophysical data from the 2002 through 2005 groundwater investigation. Wells at which samples were collected by conventional techniques were selected to maintain horizontal delineation of groundwater impacts at the site. The following subsections detail the specific procedures used during these sampling events.

3.7.2.1 Passive diffusion bag sampling

In attempt to characterize the vertical stratification of dissolved-phase constituents, ENSR sampled 34 monitoring and recovery wells in October 2005 and 37 wells in May 2006 using PDB samplers at multiple depths within each well. The deployment depth for PDB samplers is detailed in Table 9. The PDBs were installed on October 6 and 7, 2005 and April 17 and 18, 2006 using the methods described in the User's Guide for Polyethylene-Based Passive Diffusion Bag Samplers to Obtain Volatile Organic Compound Concentrations in Wells (USGS, 2001) as well as the August 2005 NJDEP FSPM. Specifically, PDBs were field-filled with laboratory-grade, analyte free, deionized water supplied by Severn Trent Laboratories of Edison, NJ (STL-Edison) and were hung on polypropylene rope. Each rope was labeled with the corresponding well identification number and rings were placed at the pre-selected deployment depths prior to field mobilization. The PDB sample string was hung from an eyehook installed on the steel casing and left to equilibrate with the ambient groundwater conditions for two weeks. Samples were collected on October 10 and 11 2005, and May 1 and 2, 2006 by pouring the water from each PDB into laboratory supplied glassware. Samples were labeled with the well identification appended with a letter code corresponding to the depth that the PDB was deployed, the sample date and time, and the analysis requested. Samples were then placed in an ice-filled cooler to reduce sample temperature to approximately 4º Celsius and were submitted under standard chain of custody procedures to STL-Edison (October, 2005) and Accutest Laboratories (Accutest) of Dayton, NJ (May 2006) for analysis of VOCs with a library search of the 10 largest unidentified peaks via EPA Method 624.

In addition, PDBs were installed in former potable well WW2 on October 21, 2005 and wells WW2 and WW3 on April 18, 2006. Samples were collected from well WW2 on November 4, 2005 and wells WW2 and WW3 on May 2, 2006, respectively. PDBs were installed and sampled in a manner consistent with that stated above, placed on ice and submitted to STL-Edison and Accutest for analysis of VOCs. Results of the PDB sampling are discussed in under Section 4.7.2.1. Results of the PDB sampling are included in Table 6. Results that are greater than GWQS are illustrated on Figure 10. Copies of laboratory analytical reports are included in Appendix A and groundwater sampling logs are included in Appendix H.

3.7.2.2 Conventional groundwater sampling

After completion of PDB sample collection, a conventional sampling program was conducted on October 19 and 20, 2005 and on May 10 and 11, 2006. Three wells, MW01, MW15, and RW13, were sampled in October 2005 and two wells, MW01 and RW13, were sampled in April 2005, per the methods described in the NJDEP FSPM (2005, NJDEP).

Using a two-inch stainless steel Grundfos® pump with a heat shroud and dedicated polyethylene tubing, the pump was lowered to below the water table prior to commencement of purging. Based on the drawdown of water during purging, the pump was lowered accordingly. Purge water was pumped into a water quality meter, Horiba U-22, and water quality parameters were recorded at the beginning and end of the purge. Groundwater quality parameters including temperature, pH, conductivity, dissolved oxygen, turbidity, and oxidation-reduction potential were recorded in field logs and dedicated field notebooks and transposed to electronic logs, included in Appendix H.

Upon completion of purging approximately three well volumes, groundwater samples were collected directly from the tubing and poured into laboratory supplied glassware. The samples were labeled with sample ID, date and time collected, requested analysis, and the sampler's initials. Samples were then placed in an ice-

filled cooler to reduce the sample temperature to approximately four degrees Celsius and submitted to STL-Edison and Accutest for analysis of VOCs.

Refer to Section 3.7.2.2 for a discussion of groundwater analytical results via conventional sampling methods. Results of the conventional groundwater sampling are included in Table 10. Results that are greater than GWQS are illustrated on Figure 10. Copies of laboratory analytical reports are included in Appendix A and groundwater sampling logs are included in Appendix H.

3.7.2.3 Low flow groundwater sampling

Low-flow groundwater sampling was conducted between October 12 and 18, 2005 and May 3 and 9, 2006 at well locations MW03, MW04, MW06, MW12, MW16, MW18, MW20, MW30, MW33A, MW34, MW35, MW37, MW42, MW47, MW49, MW51A, MW53, RW9, and 16 in accordance with NJDEP Low-Down on Low Flow (SRP News, Vol.9 No.3), the August 2005 NJDEP FSPM, and the USEPA's Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures (EPA, 1996). Specific procedures employed are as follows.

A two-inch diameter stainless steel Grundfos® submersible pump with a heat shroud was lowered to a pre-selected depth determined by selecting a possible water bearing fracture as identified by geophysical logging or the drilling log as well as results from previous sampling events at each well location. Dedicated polyethylene tubing was used to connect the pump to a Horiba® U-22 water quality meter with an in-line, flow through cell. Groundwater was purged at each monitor well location at approximately one gpm or less to control drawdown, and water quality parameters were collected at approximately three to five minute intervals. Water quality parameters were recorded on field logs and dedicated field notebooks later transcribed to an electronic version. The groundwater purging and sampling logs are included in Appendix H.

Upon stabilization of groundwater quality parameters, samples were collected directly from the dedicated polyethylene tubing (prior to entering flow-through cell) into laboratory supplied glassware and labeled with sample ID, date and time collected, requested analysis, and samplers initials. Samples were then placed in an ice-filled cooler to reduce the sample temperature to approximately four degrees Celsius and submitted to a NJ-certified laboratory for analysis natural attenuation parameters, including alkalinity (bicarbonate and carbonate), dissolved ammonia, chloride, heterotrophic plate count, ferric and ferrous iron, methane, ethane, ethene, nitrate, nitrite, sulfate and sulfide.

Refer to Section 4.7.2.3 for a discussion of the groundwater analytical results via low flow results and Section 5.0 for a more detailed analysis and discussion of the monitored natural attenuation processes at the site. Results of the monitored natural attenuation sampling are included in Table 11 and results of the physical parameter monitoring are included on Table 12. Copies of laboratory analytical reports are included in Appendix A and groundwater sampling logs are included in Appendix H.

3.8 Cleanup criteria

Contaminants identified in groundwater samples collected from the site wells include chlorinated VOCs. Additionally, LNAPL was identified on the groundwater surface at several well locations across the site. For purposes of this report, concentrations of compounds of concern are being compared to the NJDEP Groundwater Quality Standards (N.J.A.C. 7:9-6), the interim specific groundwater cleanup criteria, and the interim generic groundwater cleanup criteria.

3.9 Reliability of data

This section describes reliability of all field and laboratory derived data collected from August 2005 to July 2006. QA/QC summary tables for trip and/or field blanks collected during the offsite potable well sampling, and onsite well sampling are included in Tables 13 through 15.

A limited data assessment was performed on analytical results reported for the October 2005 and May 2006 sampling events. Analyses were performed by two laboratories, Accutest Laboratories of Dayton, New Jersey (NJ 12129) and Severn Trent Laboratory of Edison, New Jersey (NJ 12028). All analyses were performed in accordance with EPA-approved analytical protocols. Quality assurance analytical measures were implemented in accordance with the *Technical Site Requirements for Site Remediation* (N.J.A.C 7:26E) and complied with the requirements for a NJDEP-certified laboratory. The data assessment was based upon the results of trip blanks, field blanks and field duplicates as well as laboratory reported data for:

- Holding time
- Laboratory method blanks
- Matrix spike/matrix spike duplicates
- Laboratory duplicates
- Laboratory control samples (blank spikes)

All results were compared to laboratory control limits. Only laboratory summaries were checked; the quality control results reported by the laboratory were not verified from raw data. It should be noted that not all of the laboratory quality control samples listed above were performed for each analysis reported. However, with the exception of the Heterotrophic Plate Count, each analysis reported a laboratory blank result, the result of a spike analysis (either blank spike or matrix spike) as a measure of analytical accuracy, and either a matrix spike duplicate or laboratory duplicate as an assessment of precision. With the exception of the non-detected results for 2-Chloroethyl vinyl ether which are discussed below, only minor quality issues are reported for these data sets.

Holding time was measured based on the date of sample collection reported on the chain-of-custody. It is generally recommended that ferrous iron be determined onsite with a minimum of sample handling; the laboratory did perform the ferrous iron samples within 24 hours but it is recommended that the ferrous iron and associated ferric iron results be considered estimated values based on holding time. All other samples were analyzed within the required holding time.

Laboratory method blanks, field blanks and trip blanks were free of target analytes and no data qualification is required based on blank data.

Laboratory control samples (blank spikes) were within limits; matrix spikes were within limits with the exception of the volatile compound 2-Chloroethyl vinyl ether. Recovery of this compound was below 10% in all cases and generally at or near 0% recovery; it was noted in the laboratory report that this compound is unstable in an acid preserved sample. All non-detected results for 2-Chloroethyl vinyl ether are considered unusable for decision making purposes based on matrix spike recoveries in acid preserved samples. High recovery was noted for acrolein in several laboratory control samples and matrix spikes, however since this compound was not detected in project samples no qualification of data is required.

Reported concentrations for 1,1-DCE in MW16B, MW16BP, MW16C, MW15A, MW15B, MW32A, MW32B, RW14A, TH36A, THWLSA and reported concentrations for TCE and 1,1,1-TCA in MW49A, WW3A, WW3D, WW3E, WW3F, WW3G, WW3H, WW3HP, RW09A, RW16B and RW16BP collected on May 2, 2006 are considered estimated based on laboratory duplicate precision. The result for MC in MW13C, collected on May 23, 2006 should be considered estimated based on laboratory duplicate precision; results for 1,1-DCE in MW16A and MW11C, collected on May 30, 2006 and May 31, 2006, respectively are also qualified as estimated based on laboratory duplicate precision. The results for 1,2-DCA in the field duplicate pair RW16B/RW16BP should be considered estimated based on precision. A control limit of ±20% Relative Percent Difference ("RPD") was used for the evaluation of laboratory duplicates; ±30% RPD was used as the limit for field duplicates.

All other data are considered usable as reported based on associated quality control data reported by the laboratory.

Quality assurance and quality control measures of data collection were also evaluated in relation to the following scopes of work: geophysical logging, salt slug testing, packer testing and the aquifer pump test.

Geophysical logging activities, including OPTV, ATV, caliper logging, and gamma logging were conducted according to the subcontractor's standard operating procedures and as described in the 2005 GW-RIWP. No issues relating to data quality were encountered during the logging process.

In 2005, salt slug testing was originally conducted by ENSR personnel and conductivity/temperature logging was conducted by the subcontractor, Mid-Atlantic. ENSR personnel utilized a bomber sampler to release the salt slug solution at a pre-determined depth. The sampler was slowly lowered into the well via nylon string simultaneously with another string attached to the release ring. In most cases, despite careful measurements and deployment methods, the release of the salt slug appeared to occur at the top of the water column. ENSR personnel also attempted to use polyethylene tubing to deploy the salt slug solution. The tubing was lowered to the pre-determined depth and the solution was then poured in directly. However, the pressure difference between the tubing and the well head did not allow for the salt slug to release at depth, despite several attempts. However, there were no reported data quality issues with the conductivity/temperature logging of MW06 or MW35 collected at that time. Mid-Atlantic did have technical difficulties with the conductivity probe during the salt slug testing of MW32; therefore, any data collected from this well was not utilized for analysis of hydrogeological conditions.

In 2006, ENSR subcontracted with Earthdata to conduct additional salt slug testing. Earthdata utilized hand pumping methods to deploy the salt slug solution through polyethylene tubing to the pre-determined depths. This method proved to be an efficient method of deploying the slug solution, with the exception of the salt slug testing at MW33A. There appeared to be a slight pressure difference during the removal of the tubing from the well which allowed the salt slug solution to be equally distributed throughout the open borehole. With the exception of the data collected from MW33A, there were no reported issues with data quality. Any data collected from MW33A was not utilized for analysis of hydrogeological conditions.

In relation to the packer testing data collected from the onsite monitoring wells, no data quality issues were reported. During the field activities, Earthdata experienced technical difficulties with the electronic data relating to the packer testing of interval 1 from MW11 and interval 2 from MW16. Therefore, these intervals were not utilized for analysis of hydrogeological conditions. In addition, due to the presence of the packers, a heat shroud could not be used during the packer sampling; therefore, the results of the packer test sampling should be considered screening results.

With regards to the aquifer pump test, data quality was affected by slight changes in depth to water measurements collected during the 10-day period. Based on ENSR's assessment, it appears as though the changes were caused by either adjustments of the mini-trolls while actively logging, movement of the mini-trolls during manual gauging, and/or the mini-trolls were tampered with during the overnight hours. These fluctuations in depth to water measurements were taken into account during the analysis of the pump test data. This data was considered usable for analysis of hydrogeological conditions.

4.0 Results and discussion

4.1 Offsite potable well investigation

4.1.1 Well search

As described in Section 3.1.1, ENSR identified 10 private potable wells within a one-half mile search radius of the onsite impacted wells. These properties are listed on Table 3 and a map of the offsite well locations is provided as Figure 3. One additional well was observed at a property at which the owner was unresponsive to multiple requests for information. Regardless, this well was located south of Lopatcong Creek where other potable wells (as reported in Section 4.1.2) did not have any reported impacts. Furthermore, based on ENSR's review of groundwater flow beneath the site and topographic gradient, Lopatong Creek provides a hydrogeologic barrier between the site and properties located beyond the creek. Therefore, it is not likely that access to this potable well will be necessary.

4.1.2 Offsite potable well sampling

As described in Section 3.1.2, potable well samples from private wells were collected and analyzed to assess potential chlorinated VOC impacts. Analytical results were received electronically from the laboratory and imported into the groundwater database for analysis. The following section discusses the results of the groundwater sampling of the offsite potable wells. A summary of the offsite well locations is provided in Table 3.

4.1.2.1 March 10, 2006 sampling event

On March 10, 2006, ten groundwater samples were collected from ten offsite private potable wells. Analytical results for the drinking water from the potable wells located at 840 South Main Street reported concentrations of trichloroethene ("TCE") at 1.6 parts per billion ("ppb"). TCE was the only target constituent detected at a concentration greater than the NJ Drinking Water Standards at any offsite sampling location. Analytical results for the remaining nine properties reported concentrations of all target constituents that do not exceed the NJ Drinking Water Standards. Table 4 summarizes the analytical results and Figure 8 depicts the property locations. Based on a review of the laboratory non-conformance summaries and QA/QC data, no data quality issues were identified. Laboratory analytical data reports are included in Appendix A.

Upon receipt of the drinking water analytical results, Ingersoll Rand authorized ENSR to provide an alternative drinking water source to the residents of 840 South Main Street. ENSR notified NJDEP, the Warren County Health Department, and the Mayor of Phillipsburg of the preliminary analytical results as well as our delivery of bottled water. In the meantime, short term and long term alternatives were assessed to provide both residences with drinking water. On April 9, 2006, ENSR setup an account with Poland Spring to provide coolers and a monthly supply of bottled drinking water to the residents at 840 South Main Street.

4.1.2.2 April 11 and 14, 2006 sampling event

On April 11 and 14, 2006, five groundwater samples were collected from five offsite residential properties which had reported concentrations of TCE in the March 2006 analytical results. Analytical results from April 2006 for the potable well located at 840 South Main Street reported a concentration of TCE at 1.6 ppb, (identical to the March 2006 sample analytical results). The remaining four properties reported TCE concentrations that do not exceed the NJ Drinking Water Standards. Table 4 summarizes the analytical results and Figure 8 depicts the property locations. Based on a review of the laboratory non-conformance summaries and QA/QC data, no data quality issues were identified. Laboratory analytical data reports are included in Appendix A.

Following confirmation of the analytical data, ENSR notified the NJDEP hotline to report the investigation. NJDEP Case No. 0604-07-1420-38 was assigned to 481 Lock Street, Phillipsburg, New Jersey 08865, and NJDEP Case No. 0604-07-1426-38 was assigned to 840 South Main Street, Phillipsburg, New Jersey 08865. Based on a letter dated April 12, 2006 to NJDEP's Case Assignment Office, ENSR, on behalf of Ingersoll Rand, requested that NJDEP oversight for these case numbers be referred to the current case manager of the former Ingersoll Rand site.

Based on the April 2006 results, ENSR continued to provide bottled drinking water to the 840 South Main Street property until a permanent water source was selected and implemented. Since city water connection is available along South Main Street, ENSR, on behalf on Ingersoll Rand, responded pro-actively by providing oversight of city water connection to the 840 South Main Street residence. The connection activities were completed by a licensed plumber, Durnin Plumbing of Phillipsburg, NJ. The city water connection was completed in September 2006. In addition, ENSR subcontracted with a licensed driller, SGS, to complete the potable well abandonment at this residence. The well was abandoned in accordance with N.J.A.C. 7.9D and as authorized with the NJDEP BWA. Please refer to Appendix I for a copy of the well abandonment record.

Potable well sampling conducted by a third party (in relation to the sale of the property) at the 481 Lock Street property in July 2006 reported TCE at a concentration of 1.6 ppb. ENSR subsequently provided the property owner with bottled water and authorized the delivery service of bottled water by Poland Spring. Since city water connection services are not available along this stretch of Lock Street, ENSR evaluated carbon filtration of the chlorinated VOC through the use of a POET system. With permission from the property owner, ENSR completed oversight of the installation of a POET system at the 481 Lock Street residence on October 24, 2006.

4.1.3 Potential source review

Based on the results of the database search and windshield survey, several properties of interest were identified as having potential sources of TCE. Properties of interest were identified based on a list of criteria including:

- Properties with vehicle repair and maintenance facilities that may have used TCE as a degreasing agent;
- Properties on NJDEP's Known Contaminated Sites List (KCSL) with previously reported spills/releases or open cases involving similar compounds of concern; or
- Properties with manufacturing operations that may use or have used TCE or similar compounds during daily operations.

Using these criteria, a list of potential offsite sources of TCE impacts to the well located at 840 South Main Street was compiled. Refer to Figure 9 for a list and locations of these potential offsite sources of TCE. Several properties were identified in the immediate vicinity or presumed upgradient of 840 South Main Street. Hardison Auto Service and Sales abuts 840 South Main Street, utilizes underground gasoline storage tanks and is listed on the state release database. Additional properties listed on state spills or release databases in the vicinity of 840 Main Street include Tony's Tire Service (located at the corner of Center and Green Streets); Dota Brothers service station (located at the corner of Pursel and Wilbur); and Atlantic States Pipe (located at 183 Sitgreaves Street). Based on the activities conducted at these properties and those listed in the table on Figure 9, these properties should be considered as potential sources of TCE contamination to nearby potable wells.

Previous flooding events in the past two years also have the potential to affect surface and groundwater in the area near the site. These flood waters likely have an effect on the migration of contaminants both on the surface and in the underlying groundwater. A further assessment of the geologic properties of the area would be necessary to determine the actual effects of flooding

If the TCE impacts at 840 South Main Street are related to environmental conditions at the former Ingersoll Rand facility, a migration pathway must be established from the site to the potable well. To evaluate the potential of contaminant migration from the site the following factors were considered:

- Delineation at the southern property boundary;
- Groundwater flow direction;
- Other potential sources of TCE contamination; and
- Well construction of the potable well at 840 South Main Street.

Based on groundwater analytical data collected at the former Ingersoll Rand facility, chlorinated VOC impacts remain undelineated at the southwest and southern borders of the site. Based on the geologic model, groundwater flow is generally conducted by strike and structural features.

The private potable well at 840 South Main Street is located one half-mile southwest of the site boundary. To our knowledge, there are no other wells located between the site boundary and the private property that are capable of defining the down-gradient edge of the contaminant plume between the site and 840 South Main Street. Although 1.6 ppb TCE was detected at the 840 South Main Street well, it is unlikely that this contamination is site related because the well is hand dug and not completed in bedrock formation. The onsite monitoring wells' water bearing zone is located in the dolomite formation and the wells are constructed to a depth ranging from 100 to 150 feet in the dolomite bedrock formation.

Additionally the potable well was not constructed in accordance with the standards required in N.J.A.C. 7.9D. Therefore, it is particularly susceptible to contamination from local surface sources. The well is also located within the flood plain of the Delaware River and it is susceptible to flood water, surface water runoff, and potential nearby offsite sources.

TCE is a common contaminant which could originate from a variety of sources. Therefore, its presence at 840 South Main Street does not conclusively prove that it is related to the former Ingersoll Rand facility. Based on groundwater analytical data collected at the site, chlorinated VOC impacts remain undelineated at the southwest and southern borders of the site. Ingersoll Rand has proposed the installation of an offsite monitoring well southwest of the former facility and anticipates installation of this well in mid-2007.

4.2 Onsite potable wells

As previously stated, in order to aid in both the horizontal and vertical delineation of the dissolved phase impacts, ENSR evaluated former potable wells WW2 and WW3 for the potential of conversion into deep monitoring wells.

4.2.1 WW1

No investigations were conducted at WW1 during this reporting period as it was taken off-line in April 2006. Similar down-hole investigations have been proposed at this location and will be conducted in the near future.

4.2.2 WW2

In August 2005, Mid-Atlantic was onsite under the supervision of ENSR, to conduct down-hole caliper, temperature, fluid conductivity, natural gamma and electric logs in former potable well WW2. Based on ENSR's oversight of the down-hole geophysics, there were no observable indications of impacted groundwater in WW2 (e.g., sheens, staining or free product). Based on the results of Mid-Atlantic's geophysical logging, the well is constructed of 10-inch diameter steel casing, which extends to a depth of 223 feet bgs and appeared to be in good condition. The total depth that was logged on the day of the survey was approximately 485 feet.

The natural gamma and resistivity logs indicated two minor lithologic shifts (changes in rock type) at approximately 225 feet and 455 feet bgs and one major lithologic shift at approximately 360 feet bgs. Caliper logs indicated a fracture at approximately 335 feet bgs, which corresponds to slight shifts in fluid conductivity at this depth. This indicates that water may be entering this fracture in WW2. Caliper logs also indicated a number of changes in diameter throughout the open borehole, the most significant of which was detected at approximately 227 feet.

Based on ENSR's review of the geologic data from former potable well WW2, and ENSR's knowledge of the nature of impacted groundwater at this site, ENSR proposed to collect groundwater samples, biased towards the highest probable degree of impact using PDBs at the following depths below the top of the well casing:

- Approximately 88 feet (top of the water table);
- 227 feet (below the bottom of the well casing and location of a large, open fracture);
- 335 feet (location of a large, open fracture);
- 429 feet (location of a large, open fracture); and
- 485 feet (bottom of well).

Groundwater analytical results from these samples, detailed in Section 4.7, did not indicate the presence of constituents of concern at concentrations exceeding the GWQS.

4.2.3 WW3

Available documentation indicates that WW3 was drilled in 1903 and retrofitted in 1915. No additional records have been located documenting the 1903 well installation. The 1915 well retrofit record indicated that WW3 was completed to a depth of 806 feet bgs. Visual inspection of the well, including a video log conducted on March 21, 2005, revealed that the well was constructed with a 10-inch diameter outer steel casing and a 6-inch diameter steel inner casing. A four-inch diameter pump column was located within the 6-inch diameter inner casing. Further interior inspection of the well was prohibited at that time by an obstruction (debris) within the 4-inch pipe at a depth of 127 feet.

Based on the information provided in the well record, it was believed that the 6-inch diameter solid casing had been installed to a depth of 760 feet (including a packer from 755.5 to 760 feet) and that the well was completed with 6-inch diameter perforated steel casing to 802 feet. A sand pack was placed around the perforated pipe. The perforation diameters (8/10 and 7/8-inch) were larger than sand grains; therefore, it was believed that sand was allowed to infiltrate the perforated casing, possibly to serve as a filter.

On October 22, 2005, Plainfield was contracted by ENSR to remove the obstruction in WW3. The obstruction was believed to have been caused by accumulated debris that could not pass below a 1.25-inch diameter brass air line located within the pump column. Removal of the obstruction necessitated removal of the entire pump column. The bottom 40-feet of the pump column was perforated and encased in sand. A packer was located above the perforated pipe. Based on observations made during removal of the pump column, it was believed that the pump column was housed within the 6-inch diameter casing and that the 6-inch diameter casing had been installed to a depth of approximately 760 feet.

A second video log of WW3 was completed on December 15, 2005. The video log revealed that the inner 6-inch diameter casing extends to a depth of 95 feet and that the 10-inch casing extends to a depth of 201 feet. The 4-inch diameter pump column appeared to also have functioned as a well casing, which was not expected. The annular space between 201 feet and 755.5 feet (top of the packer) was open borehole (rock). The video log was completed at a depth of 759.67 feet (the top of the sand pack). Copies of the video were provided to NJDEP in a letter dated January 3, 2006.

Based on ENSR's review of the video of WW3 and our knowledge of the nature of impacted groundwater at this site, ENSR proposed to collect groundwater samples, biased towards the highest probable degree of impact using PDBs at the following depths below the top of the well casing:

- Approximately 96 feet (top of the water table);
- 215 feet (black staining associated with a fracture);
- 292 feet (black staining associated with a fracture);
- 340.42 to 341.83 feet (location of large, open fracture);
- 472.41 feet (fracture);
- 615 feet (area of secondary mineralization);
- 725 feet (area of secondary mineralization); and
- 759.67 feet (bottom of accessible open borehole).

Groundwater analytical results from these samples, detailed in Section 4.7, indicated that TCE and vinyl chloride were present at concentrations in excess of the GWQS.

Refer to Section 4.7 for results of the groundwater sampling from wells WW2 and WW3. Copies of the geophysical logging conducted on wells WW2 and WW3 are included in Appendix C.

4.3 Aquifer characterization

4.3.1 Geophysical investigations

In order to obtain accurate well construction information, identify potential water bearing fractures, determine fracture orientations, and identify different geologic units, additional geophysical investigations were conducted during this reporting period. Subcontractors utilized by ENSR to conduct the geophysical logging included Mid-Atlantic Geosciences and Earthdata Northeast. The results, combined with the historical results from the April 2002, July 2003 and August 2004 investigations, show a complex system of fractured dolomite with shale layers. Bedrock fractures were observed above and below the water table. A copy of the geophysical reports from Mid-Atlantic Geoscience and Earthdata are included in Appendix C. Pertinent results from the wells analyzed during the reporting period are listed below. Note that ENSR has underlined the depths of fractures described in the text below where the data was confirmed by caliper log.

- MW08 – The caliper measured a median diameter of 8.2 inch borehole. The borehole is relatively smooth except for openings around 67, 130, and 154 feet btoc with respective diameters of 8.6, 9.2, and 8.7 inches. The averaged natural gamma radiation measured in the well was approximately 25 American Petroleum Institute Counts per Second ("API Cs"). Over most of the borehole the rock types seem relatively uniform based on gamma emissions. Areas of relatively high gamma emissions occur from 7 to 35, 65 to 80, 85 to 90, 93 to 98, 125 to 134, and 163 to 167 feet btoc. Peaks of over 50 API Cs occurred at 8, 27, 67, and 88 feet btoc with respective peak values of 57, 58, 69, and 68 API Cs. This geophysical data, along with the salt slug data presented in Section 3.3.2 and historic knowledge, has been interpreted to indicate that there are no significant water-bearing fractures present at this well.
- MW09 – The caliper measured a median diameter of 8.2 inch borehole. The borehole is relatively smooth except for opening at approximately 53 (11.8 inches), 73 (8.7 inches), 78 (9.2 inches), 84 (8.9 inches), 93 to 95 (8.6 inches), 141 (8.7 inches), and 160 to 163 (9.1 inches) feet btoc. The average natural gamma radiation measured in the well was approximately 20 API Cs. Areas of relatively high gamma emissions occur at approximately 7 to 15 (unconsolidated material), 47 to 58, 62 to 71, 84 to 85, 104 to 105, 145 to 148, and 177 to 185 feet btoc. A peak of over 50 API Cs

occurred at 58 feet btoc with a peak value of 56 API Cs. This geophysical data, along with the salt slug data presented in Section 3.3.2 and historic knowledge indicates that there are no significant water-bearing fractures present at this well.

- MW11 – The OPTV log was interpreted to have an open fracture at 105.1 feet btoc which is confirmed by the caliper log. Partial fractures were interpreted to be located at 77.1, 77.2, 77.3, 80.7, 146.9, 151.0, 153.7, 155.3, 157.8, 164.1, 164.7, 170.2, 171.1, and 175.0 feet btoc (underlined depths of fractures were also confirmed by the caliper log). This geophysical data, along with historic knowledge indicates that there are no significant water-bearing fractures present at this well and that the well does not recharge quickly.
- MW12 – The OPTV log recorded partial fractures at 159.8 feet btoc (underlined depths of fractures were also confirmed by the caliper log). Additional openings measured by the caliper but not interpreted as open fractures from the OPTV log occurred at 157 feet (which is related to the fracture at 159.8 due to the steep dipping of the fracture at approximately 79˚) and 167 feet btoc. The average natural gamma radiation measured in the well was approximately 30 API Cs. Over most of the borehole the rock types seem relatively uniform based on gamma emissions. Areas of relatively high gamma emissions occur from 155 and 161 feet btoc. There were no peaks of over 50 API Cs. This geophysical data, along with salt slug data presented in Section 3.3.2 and historic knowledge, has been interpreted to indicate that there are two significant water-bearing fractures present at this well at 75 and 156 feet btoc.
- MW16 – The average natural gamma radiation measured in the well was approximately 20 API Cs. Areas of relatively high gamma emissions occur at approximately 40 to 45, 80 to 84, 95 to 101, 110 to 115, 168 to 175, and 187 to 190 feet btoc. Peaks of over 50 API Cs occurred at 15, 98, and 188 feet btoc with respective peak values of 59, 57 and 52 API Cs. This geophysical data, along with the salt slug data presented in Section 3.3.2 and historic knowledge, has been interpreted to indicate that there are no significant water-bearing fractures present at this well.
- MW18 – The OPTV log identified some wide fractures at 72.9 and 75.5 feet btoc (underlined depths of fractures were also confirmed by the caliper log). Interpreted partial fractures were recorded at 70.0, 77.7, 86.9, 88.5, 89.4, 92.3, and 110.1 feet btoc. This geophysical data, along with the salt slug data presented in Section 3.3.2 and historic knowledge, has been interpreted to indicate that there are no significant water-bearing fractures present at this well.
- MW19 – The OPTV log recorded a wide fracture at 118.7 feet btoc (underlined depths of fractures were also confirmed by the caliper log). Open fractures were interpreted at 108.2 and 146.1 feet btoc. Partial fractures were recorded at 72.6, 74.9, 75.2, 80.1, 85.9, 88.4, 97.1, 106.7, and 112.2 feet btoc. Additional openings measured by the caliper but not interpreted as open fractures from the OPTV log occur at 122, 125, and 131 feet btoc. This geophysical data, along with historic knowledge, has been interpreted to indicate that there are no significant water-bearing fractures present at this well.
- MW24 – The OPTV log recorded partial fractures at 125.2, 129.0, and 144.0 feet btoc (underlined depths of fractures were also confirmed by the caliper log). The averaged natural gamma radiation measured in the well was approximately 25 API Cs. Over most of the borehole the rock types seem relatively uniform based on gamma emissions. Areas of relatively high gamma emissions occur from 61, 86, 93, 105, 111, and 133 feet btoc. Peaks of over 50 API Cs occurred at 61, 86, and 111 feet btoc with respective peak values of 75, 55, and 60 API Cs. This geophysical data, along with historic knowledge, has been interpreted to indicate that there are three significant water-bearing fractures present at this well at 125, 129, and 144 feet btoc.
- MW27 – The OPTV log was interpreted to have open fractures at 127.0 and 133.3 feet btoc (underlined depths of fractures were also confirmed by the caliper log). A partial fracture was interpreted at 72.9 feet btoc. Additional openings measured by the caliper but not interpreted as open fractures from the OPTV log occur at 58.5, 70, 106, and 121 feet btoc. This geophysical

data, along with historic knowledge, has been interpreted to indicate that there are no significant water-bearing fractures present at this well. The partial fracture detected by the OPTV log is not a significant water bearing fracture.

- MW31 – The OPTV log was interpreted to contain open fractures at 104.6, 108.1, 111.8, 132.5, 139.9, 146.2, 147.3, 148.9, 157.7, 158.1, 159.8, 164.1, and 165.1 feet btoc (underlined depths of fractures were also confirmed by the caliper log). This geophysical data, along with historic knowledge, has been interpreted to indicate that there are no significant water-bearing fractures present at this well.
- MW33A – The average natural gamma radiation measured in the well was approximately 15 API Cs. Areas of relatively high gamma emissions occur at approximately 38 to 44, 50 to 53, and 106 to 110 feet btoc. Peaks of over 50 API Cs occurred at 74 and 93 feet btoc with respective peak values of 93 and 58 feet btoc. These peaks have a high amplitude compared to the base gamma emissions for the borehole, indicating the possible presence of a clay/shale layer at this depth. This geophysical data, along with historic knowledge, has been interpreted to indicate that there are no significant water-bearing fractures present at this well.
- MW34 – The average natural gamma radiation measured in the well was approximately 40 API Cs. Between 20 and 50 feet btoc, the average natural gamma radiation measured was approximately 70 API Cs below this depth the average is about 25 API Cs. The bottom of the casing is at 75.5 feet btoc and the bedrock is at a depth of about 67 feet bgs, which explains the change in average gamma emissions between the two borehole intervals. Areas of relatively high gamma emissions occur at approximately 60 to 63, 65 to 67, 76 to 81, 85 to 89, and 103 to 105 feet btoc. Other peaks of over 50 API Cs occurred at 77 and 79 feet btoc with respective peak values of 60 and 57 API Cs. This geophysical data, along with the salt slug data presented in Section 3.3.2 and historic knowledge, has been interpreted to indicate that there are four significant water-bearing fractures present at this well at 101, 106, 114, and 123 feet btoc.
- MW36 – The OPTV log recorded partial open fractures at 84.9, 90.1, 104.9, 131.0, and 135.2 feet btoc (underlined depths of fractures were also confirmed by the caliper log). This geophysical data, along with historic knowledge, has been interpreted to indicate that there are no significant water-bearing fractures present at this well.
- MW41 – The OPTV log recorded partial open fractures at 53.1, 71.8, and 88.2 feet btoc (underlined depths of fractures were also confirmed by the caliper log). Additional openings measured by the caliper but not interpreted as open fractures from the OTV log occur at 92 to 101 and 109 feet btoc. This geophysical data, along with historic knowledge, has been interpreted to indicate that there are no significant water-bearing fractures present at this well.
- MW49 – Between the top of the borehole to 38 feet btoc the average gamma emissions are about 25 API Cs and from about 38 feet btoc to the bottom of the borehole the emission average about 65 API Cs. The casing depth is located around 38 feet btoc and could be the reason why the change in average emissions happens at this depth. Peaks of over 100 API Cs occurred at 41 and 52 feet btoc with respective values of 100 and 115 API Cs. This geophysical data, along with the salt slug data presented in Section 3.3.2 and historic knowledge, has been interpreted to indicate that there is one significant water-bearing fractures present at this well at 54 feet btoc.
- RW15 – The average natural gamma radiation measured in the well was approximately 30 API Cs with a general gradual increase in gamma emissions from 75 to 153 feet btoc from 10 to 70 API Cs. Between 5 and 30 feet btoc, the average natural gamma radiation measured was approximately 60 API Cs and it dropped to about 25 API Cs. The reason for this drop is because the bedrock is located around 31 feet btoc. Areas of relatively high areas of gamma emissions are 60 to 70, 100 to 105, 107 to 115, and 148 to 152 feet btoc. Other peaks of over 50 API Cs occurred at 63, 68, 102, 112, 123, 125, 137, and 151 feet btoc with respective peak values of 50, 51, 52, 52, 53, 53, 53, and 91 API Cs. This geophysical data, along with the salt slug data

presented in Section 3.3.2 and historic knowledge, has been interpreted to indicate that there are two significant water-bearing fractures present at this well at 96 and 113 feet btoc.

- THWLS – The caliper measured a median diameter 6.2 inch borehole. The width of the borehole exceeded this by more than an inch at 66, 69, 84 to 88, 103, 108, 115, and 122 feet btoc with respective diameters of 8.5, 7.8, 8.7, 8.9, 7.6, 14.1, and 10.8 inch. The gamma logs show relatively high emissions at the openings identified by the caliper. Another area of high gamma emissions is between 74-82 feet btoc. The ATV log indicated the presence of fractures at 97.1, 99.1, 99.2, 102.6, 103.1 to 106.2, 106.6 to 107.8, 108.2 to 110.8, 111.7, 117.4 to 119.8, and 123.5 feet btoc. The subcontractor did not distinguish whether the fractures identified were sealed, partial open, open, or wide. This geophysical data, along with the salt slug data presented in Section 3.3.2 and historic knowledge, has been interpreted to indicate that there are four significant water-bearing fractures present at this well at 105, 107, 110, and 118 feet btoc.

4.3.2 Salt slug testing

During July and August 2005 and March 2006, ENSR conducted qualitative salt slug tests to identify in-flow and out-flow regimes which intersect the boreholes on site. In 2005, salt slug tests were conducted on wells MW06, MW32, MW33A and MW35 by ENSR. The remaining wells were tested in 2006 by a subcontractor. The salt slug logs are described below and copies are included in Appendix D. Monitoring wells, MW32 and MW33A, will not be discussed below; please refer to Section 3.9 for more information.

The following is a summary of the results of the salt slug testing conducted in 2005:

- MW06 – Salt slugs were released at approximately 96 and 119 feet btoc. At the 96-foot release, the conductivity vs. time profile was moving downward, with a very slight loss of mass observed over time. A profile slope change is visible at about 107 through 108 feet btoc, indicating a possible inflow area. At the 119-foot release, the conductivity vs. time profile was moving downward. No significant slope changes are observed in the 119-foot profiles. This salt slug data, along with historic knowledge based on previous geophysical investigations, the results of which are summarized in Table 1, has been interpreted to indicate that there is one significant water-bearing fracture present at this well at 118 feet btoc.
- MW35 – Salt slugs were released at the surface of the water column, approximately 90 feet btoc. The conductivity vs. time profile showed no vertical movement, but did show a significant amount of mass lost over time however the depth at which the mass is being lost is difficult to determine from the salt slug profiles. A slope change is observed at 100 feet btoc indicating a possible area of outflow. Due to equipment malfunctions at this site the salt slug released at the top of the water column instead of the target depth of 120 feet. This salt slug data, along with historic knowledge, has been interpreted to indicate that there are no significant water-bearing fractures present at this well.

The following is a summary of the results of the salt slug testing conducted in 2006:

- MW08 – Salt slugs were released at approximately 90, 120, and 134 btoc. At the 90-foot release, conductivity vs. time profiles showed no discernable vertical movement. Loss of salt mass (area underneath the profile curve) and profile slope changes occurred at 95 feet, indicating a possible outflow. At the 120 feet btoc release, the peak showed no discernable vertical movement. Loss of salt mass does not seem prevalent. At the 134 feet btoc release, the conductivity vs. time profiles show that the salt slug moved downward. The conductivity profile also seemed to be diluted relatively quickly throughout the recording process. This may be due to inflow above the release which is supported by caliper log data that indicates an opening at around 132 feet btoc.

- MW09 – Salt slugs were released at approximately 152 and 160 feet btoc. Measured conductivity vs. time profiles did not show vertical movement or loss of mass. Slope changes are not observed across concentration curves. Based on the results, there was no measurable flow within MW09.
- MW12 – A salt slug was released at approximately 101 feet btoc. Measured conductivity vs. time profiles did not indicate vertical movement or loss of mass. A profile slope change is visible at 104 feet on the first profile which may indicate an inflow area. However, subsequent profiles show no profile slope change. Based on this data, there is no measurable flow in this well; however, it may be possible that there is some water movement within the fracture at 104 feet.
- MW16 – Salt slugs were released at approximately 94, 104, 122 and 156 feet btoc. At the 94-foot release, conductivity vs. time profiles showed no discernable vertical movement. No slope changes are observed in the 98 foot profiles. At the 104-foot release, the conductivity vs. time profiles show no discernable vertical movement. Loss of mass and a slope change were observed at 106 and 109 feet, indicating possible outflows. In addition, the mass of the salt-slug (as interpreted by the area of the conductivity profile) seem to dramatically decrease between the first and second conductivity profiles. At the 122-foot release, the conductivity vs. time profiles showed no discernable vertical movement or loss of mass. No significant slope change is observed throughout the duration of the test. At the 156-foot release, the conductivity vs. time profiles showed no vertical movement or loss of mass. Minor inflow signatures are visible in the first conductivity profile at 156 and 160 feet. However, this signature is not visible in the subsequent profiles.
- MW34 – Salt slugs were released at approximately 100 and 110 feet btoc. At the 100 feet btoc release, the conductivity vs. time profiles appeared to move downward at a very slow rate. No loss of salt mass was observed nor were visible profile slope changes evident. For the 110-foot release, the data are provided in the appendix, but are not considered conclusive.
- MW49 – A salt slug was released at approximately 43 feet btoc. The conductivity vs. time profile shows no vertical movement or loss of mass. There are no visible profile slope changes across concentration profile curves. Based on the results, there was no measurable flow within MW49.
- RW15 – Salt slugs were released at approximately 92 and 118 feet btoc. At the 92-foot release, the conductivity vs. time profile appears to be moving downward. No loss of salt mass was observed. There were no visible profile slope changes across concentration profile curves. At the 118-foot release, all conductivity profiles showed no vertical movement or loss of mass. There are no visible significant profile slope changes across concentration profile curves; however, there may be some inflow around 119 and 121 feet.
- RW16 – Salt slugs were released at approximately 105 and 134 feet btoc. At the 102-foot release, the conductivity vs. time profiles showed no discernable vertical movement. There may be a loss of salt mass and profile slope changes occurred at 106 feet, indicating a possible outflow. A profile slope change was also observed at 112 feet, indicating a possible inflow. At the 134-foot release, the conductivity vs. time profile showed no discernable vertical movement. Loss of salt mass was not observed. There are no visible profile slope changes across concentration profile curves. This salt slug data, along with historic knowledge, has been interpreted to indicate that there is one identified water bearing fracture present at this well at 106 feet btoc.
- THWLS – Salt slugs were released at approximately 98 and 109 feet btoc. At the 96-foot release, the conductivity vs. time profile shows no discernable vertical movement. Loss of salt mass is visible around 101 feet, indicating a possible outflow. In addition, caliper and ATV logs indicate a large fracture zone in this area. At the 108-foot release, the conductivity profiles showed no discernable vertical movement. Loss of salt mass and slope changes occurred at 112 feet, indicating a possible outflow. Additionally, the ATV logs indicate a large fracture zone around 108 to 111 feet.

4.3.3 Packer testing

Between August 15 and 18, 2005, ENSR conducted packer testing on four monitoring wells: MW04, MW06, MW35, and MW37. Between May 22 and June 9, 2006 ENSR conducted additional packer tests on 12 wells: MW11, MW13, MW16, MW26, MW27, MW33A, MW34, THWLS, RW09, RW11, RW15 and RW16. Groundwater samples collected via low flow sampling methods during the packer tests were analyzed for VOCs. The analytical results pertaining to the packer testing is provided in Table 7. Water level responses under pumping conditions for the tested intervals are plotted in Appendix E. Pertinent results from the packer testing for the selected wells are listed below.

As stated in Section 3.3.3, the packer testing was conducted to evaluate the properties of short vertical intervals within the borehole, rather than the properties of the entire borehole. In typical pump test and low flow sampling, test and sample results depend on the conditions of the entire borehole. The tests were very successful in that they demonstrated different water bearing capabilities of the vertical intervals. Furthermore, important information was obtained on potential vertical interconnections. In those cases where leaking across packers may have occurred, the measured water quality and response to pumping are still considered representative of the isolated interval. This is because a leak across a packer would only contribute a small amount of water to the isolated interval, with the bulk of the water coming from within the isolated interval.

The following is a summary of the results of the packer testing conducted in 2005:

<u>MW04</u>

The first packer test was conducted between 100 to 110 feet btoc. The initial water level in the well was measured via pressure transducers at 88 feet btoc. After pressurizing the packers, the water level within the isolated interval rose by a relatively small amount (less than 0.5 feet). During low flow sampling conducted from a pump placed within the 100 to 110 zone, the well was pumped at 0.07 gpm, resulting in a stabilized drawdown of less than 0.5 feet over a half hour period. The well was then pumped at five gpm for another half hour, resulting in a drawdown of 3 feet. Drawdown did not stabilize at this pumping rate. The water level in the zones above and below the packer reacted in tandem with the isolated interval throughout the pump test. The water level above declined from 88 to 90 feet btoc, and the water level below declined from 87 to 90 feet btoc. These changes indicated that the isolated interval was connected to the intervals above and below the packer, either through fractures or though a leaky packer seal.

The second packer test was conducted between 115 to 127 feet btoc. The initial water level in the well was 88 feet btoc. After pressurizing the packers, the water level within the isolated interval rose by of a relatively small amount (less than 0.5 feet). During low flow sampling, the well was pumped from within the 115 to 127 foot interval at 0.12 gpm, resulting in a stabilized drawdown of a relatively small amount (less than 0.5 feet) over a half hour period. The well was then pumped at five gpm for another half hour, resulting in a stabilized drawdown of approximately 3 feet. Water level measurements from below the isolated interval reacted under pumping conditions declining from 88 to 90 feet btoc during five gpm pumping. These changes indicated that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal.

<u>MW06</u>

The first packer test was conducted in this well between 96 to 127 feet btoc. The initial water level in the well was 96 feet btoc. After pressurizing the packers, the water level within the isolated interval was measured at 95 feet btoc. During low flow sampling, the well was pumped from within the 96 to 127 foot interval at 0.15 gpm, resulting in a stabilized drawdown of a relatively small amount (less than 0.5 feet) over a forty-five minute period. The well was then pumped at five gpm for another half hour, resulting in a maximum drawdown of five feet. Drawdown did not stabilize during the increased pumping rate. Throughout the packer test, the water level below the isolated interval remained constant at 96 feet btoc.

The second packer test was conducted between 180 to 195 feet btoc. The initial water level in the well was 96 feet btoc. After pressurizing the packers, the water level within the isolated interval rose by a relatively small amount (less than 0.5 feet). During low flow sampling, the well was pumped at 0.15 gpm, resulting in a stable drawdown of a relatively small amount (less than 0.5 feet) over a half hour period. The well was then pumped at 4.9 gpm for another half hour, resulting in a maximum stable drawdown 1.5 feet. Throughout the packer test, the water level above the isolated interval remained constant at 96 feet btoc.

MW35

The first packer test was conducted between 93 to 123 feet btoc. The initial water level in the well was 96 feet btoc. After pressurizing the packers and deflating the upper packer, the water level within the isolated interval rose to 95 feet btoc. During low flow sampling, the well was at 0.15 gpm resulting in a total drawdown of three feet over a 45 minute period. The water levels were continuing to decrease before the pumping rate was increased. The well was then pumped at 0.5 gpm for another 20 minutes, resulting in rapid dewatering necessitating the termination of pumping activites. The water level in the lower interval reacted slightly to the pumping, declining a relatively small amount (less than 0.5 feet) from 95 feet btoc over the course of the pump test. These changes indicated that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal.

The second packer test was conducted between 110 to 123 feet btoc. The initial water level in the well was 94 feet btoc. After pressurizing the packers, the water level within the isolated interval did not discernibly change. During low flow sampling, the well was pumped from within the 110 to 123 foot interval at 0.15 gpm, resulting in a stabilized drawdown of approximately five feet over a half hour period. The well was then pumped at one gpm for less than five minutes, resulting in rapid dewatering and the need to discontinue pumping operations. The water level above and below the packer interval reacted slightly to the pumping, both declining a relatively small amount (less than 0.5 feet) from 94 feet btoc over the course of the pump test. These changes indicated that the isolated interval was connected to the intervals above and below the packer, either through fractures or though a leaky packer seal.

The third packer test at this well was conducted between 124 to 143 feet btoc. The initial water level in the well was 94 feet btoc. After pressurizing the packers, the water level within the isolated interval rose by a relatively small amount (less than 0.5 feet). During low flow sampling, the well was pumped at 0.20 gpm, resulting in a stabilized drawdown of a relatively small amount (less than 0.5 feet) over a half hour period. The well was then pumped at 4.0 gpm for another 20 minutes, which resulted in no discernable additional drawdown. Throughout the packer test, the water level above the interval remained constant at 94 feet btoc.

MW37

The first packer test was conducted between 55 to 72 feet btoc. The initial water level in the well was 55 feet btoc. After pressurizing the packers, the water level within the isolated dropped to 53 feet btoc. During low flow sampling, the well was pumped at 0.15 gpm, resulting in a stabilized drawdown of two feet over a half hour period. The well was then pumped at one gpm for 15 minutes, resulting in rapid dewatering and the need to discontinue pumping. Throughout the packer test, the water level below the isolated interval remained constant at 55 feet btoc.

The second packer test was conducted between 88 to 98 feet btoc. Prior to placing the packers, water level in the well was 57 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 56 feet btoc. During low flow sampling, the well was pumped at 0.11 gpm, resulting in a stable drawdown of seven feet over a half hour period. The well was then pumped at 0.5 gpm for 10 minutes followed by 0.35 gpm for 10 minutes, resulting in a maximum drawdown 21 feet. Drawdown appeared to be stabilizing at this pumping rate. Throughout the packer test, the water level above the isolated interval remained constant at 56 feet btoc. The water level below reacted slightly to the pumping, declining from 57 to 58 feet btoc over the

course of the pump test. These changes indicated that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal.

The third packer test was conducted between 98 to 104 feet btoc. The initial water level in the well was 55 feet btoc. After pressurizing the packers, the water level within the isolated interval rose by a relatively small amount (less than 0.5 feet). During low flow sampling, the well was pumped at 0.15 gpm, resulting in a stable drawdown of less than 0.5 feet over a forty-five minute period. The well was then pumped at 6.25 gpm for another 30-minutes, resulting in a maximum stable drawdown of approximately two feet. The water level above behaved nearly identically to the water level within the isolated interval. These changes indicated that the isolated interval was connected to the interval above the packer, either through fractures or though a leaky packer seal.

The following is a summary of the results of the packer testing conducted in 2006:

MW11

The first packer test was conducted between 91 to 120 feet btoc. The initial water level in the well was 91 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 88 feet btoc. During low flow sampling the well was pumped at 0.22 gpm, resulting in a drawdown that stabilized at approximately 11 feet over a half hour period during low-flow pumping. The well was then pumped at two gpm for another half hour, resulting in a drawdown that stabilized at approximately 21 feet below the initial water level. Throughout the packer test, the water level below the isolated interval remained constant at 95 feet btoc.

The second packer test was conducted between 140 to 165 feet btoc. The initial water level in the well was 93 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 90 feet btoc. During low flow sampling the well was pumped at 0.12 gpm, resulting in a drawdown of 20 feet over a half hour period. Drawdown did not appear to stabilize during this period. The well was then pumped at 0.20 gpm for another half hour, resulting in a maximum stabilized drawdown of 25 feet. Throughout the packer test, the water level above the isolated interval remained constant at 91 feet btoc, and the water level below remained constant at 100 feet btoc.

The third packer test interval was between 165 to 199 feet btoc. Water level data was collected for this interval, but due to technical error, this data was overwritten and could not be analyzed.

MW13

The first packer test was conducted between 95 to 115 feet btoc. The initial water level in the well was 95 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 93 feet btoc. During low flow sampling, the well was pumped at 0.15 gpm, resulting in a drawdown of two feet over a half hour period. Drawdown did not appear to have stabilized at this rate and was continuing to steadily increase. The well was then pumped at an increased rate which proceeded, within ten minutes, to dewater the interval and necessitated the discontinuation of pumping after 15 minutes. Throughout the packer test, the water level below the interval remained constant at 95 feet btoc.

The second packer test was conducted between 135 to 160 feet btoc. The initial water level in the well was 95 feet btoc. After pressurizing the packers, the water level within the isolated interval dropped to 100 feet btoc. During low flow sampling, the well was pumped at 0.16 gpm, which resulted in no discernable drawdown over a half hour period. The interval was then pumped at approximately five gpm, resulting in a stabilized drawdown to 143 feet btoc. Throughout the packer test, the water level above the isolated interval remained constant at 90 feet btoc. The water level below reacted under pumping conditions, declining to 113 feet btoc during pumping. These changes indicated that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal.

The third packer test was conducted between 170 to 199 feet btoc. The initial water level in the well was 98 feet btoc. After pressurizing the packers, the water level remained at this depth. During low flow sampling, the well was pumped at 0.15 gpm, resulting in a stable drawdown of two feet over a half hour period. The well was then pumped at 3.5 gpm for 11 minutes, resulting in a stable drawdown of 26 feet. Subsequently, the pumping rate was raised to 20 gpm, which rapidly dewatered the interval. The pumping was then slowed to 6.25 gpm, which allowed drawdown to stabilize at 137 feet btoc. The pumping rate was then increased to nine gpm for 14 minutes, resulting in a continually increasing drawdown that reached a magnitude of 67 feet before pumping was finally discontinued. The water level in the interval above the packer reacted under pumping conditions declining from 95 to 117 feet btoc during rapid pumping. These changes indicated that the isolated interval was connected to the interval above the packer, either through fractures or though a leaky packer seal.

MW16

The first packer test interval was conducted between 162 to 197 feet btoc. The initial water level in the well was 83 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 78 feet btoc. During low flow sampling, the interval was pumped at 0.12 gpm over an hour period, resulting in continually increasing drawdown that reached a magnitude of 28 feet before pumping was discontinued. The interval was then pumped at one gpm for nine minutes, 1.2 gpm for 10 minutes, and 1.3 gpm for 11 minutes. Drawdown appeared to approach stability at each of these rates with respective values of 61, 63, and 64 feet. The water level in the interval above the packer declined from an initial value 80 feet btoc to 85 feet btoc. Due to the steady, gradual rate of decline, this change in water level was probably not caused by connection between the two intervals, but rather indicates that the well is returning to equilibrium with the rest of aquifer after the packer added temporary water elevation gain.

The second packer test interval was conducted between 110 to 135 feet btoc. The initial water level in the well was 92 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 88 feet btoc. During low flow sampling, the pumping rate was never stabilized. Low flow pumping was first attempted with a Grundfos pump, but due to its small specific capacity, the well did not react well to the Grundfos pump. Field personnel switched to a submersible pump, and initially dewatered the interval with this pump by pumping too quickly, then slowed pumping down. After the water level had risen, the interval was pumped at 0.9 gpm for another half hour, resulting in a stable drawdown of 37 feet. Throughout the packer test, the water level in the interval above the packer remained constant at 86 feet btoc, and the water level in the interval below remained constant at 89 feet btoc.

MW26

The first packer test interval was conducted between 117 to 154 feet btoc. The initial water level in the well was 74 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 72 feet btoc. During low flow sampling, the interval was pumped at 0.15 gpm, resulting in a stable drawdown of 19 feet over a 40 minute period. The interval was then pumped at 0.50 gpm for a half hour, resulting in a stable drawdown of 29 feet. Throughout the packer test, the water level in the interval above the packer remained constant at 70 feet btoc.

The second packer test interval was conducted between 95 to 120 feet btoc. The initial water level in the well was 74 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 71 feet btoc. During low flow sampling, the interval was pumped at 0.17 gpm, resulting in a stable drawdown of six feet over a half hour period. The interval was then pumped at 2.4 gpm for another half hour, resulting in a stable drawdown of 39 feet. Throughout the packer test, the water level in the interval above the packer remained constant at 70 feet btoc. The water level in the interval below reacted in tandem with the isolated interval, experiencing six feet of drawdown during 2.4 gpm pumping. These changes indicated that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal.

MW27

The first packer test interval was conducted between 110 to 138 feet btoc. The initial water level in the well was 86 feet btoc. After pressurizing the packers, the water level depth did not appear to change. During low flow sampling, the interval was pumped at 0.15 gpm, resulting in a stable drawdown of one foot over a half hour period. Due to technical problems, the pumping rate was somewhat uneven, and pumps were switched after low flow sampling. The interval was then pumped at 17.5 gpm for another half hour, resulting in a stable drawdown of 17 feet. The water level in the interval above the packer reacted in tandem with the isolated interval, experiencing six feet of drawdown during 17.5 gpm pumping. These changes indicated that the isolated interval was connected to the interval above the packer, either through fractures or though a leaky packer seal.

The second packer test interval was conducted between 85 to 110 feet btoc. The initial water level in the well was 86 feet btoc. After pressurizing the packers the water level depth did not appear to change. During low flow sampling, the interval was pumped at 0.15 gpm, which did not result in any noticeable drawdown over a half hour period. The interval was then pumped at 4.0 gpm for another half hour, resulting in a stable drawdown of eight feet. Throughout the packer test, the water level in the interval below the packer remained constant at 86 feet btoc.

MW33A

The packer test interval was conducted between 90 to 121 feet btoc. The initial water level in the well was 90 feet btoc. After pressurizing the packers, the water level depth did not appear to change. During low flow sampling, the interval was pumped at 0.13 gpm, which did not result in any noticeable drawdown over a half hour period. The interval was then pumped at 19 gpm for another half hour, resulting in a drawdown of two feet. Drawdown did not stabilize at this pumping rate. Water was not monitored above or below the packers.

MW34

The first packer test interval was conducted between 93 to 110 feet btoc. The initial water level in the well was 93 feet btoc. After pressurizing the packers, the water level depth did not appear to change. During low flow sampling, the interval was pumped at 0.15 gpm, which did not result in any noticeable drawdown over a half hour period. The interval was then pumped at 4.6 gpm for another half hour, resulting in a stable drawdown of one foot. The water level in the interval below the packer reacted in tandem with the isolated interval, although it experiencing less than half a foot of drawdown during the 4.6 gpm pumping test. These changes indicated that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal.

The second packer test interval was conducted between 110 to 126 feet btoc. The initial water level in the well was 93 feet btoc. After pressurizing the packers, the water level depth did not appear to change. During low flow sampling, the interval was pumped at 0.25 gpm, which did not result in any noticeable drawdown over a one hour period. The interval was then pumped at 13 gpm for another half hour, resulting in a stable drawdown of one foot. The water level in the interval above the packer reacted in tandem with the isolated interval, although it experienced less than half a foot of drawdown during the 13.0 gpm pumping test. These changes indicated that the isolated interval was connected to the interval above the packer, either through fractures or though a leaky packer seal.

RW09

The first packer test interval was conducted between 165 to 200 feet btoc. The initial water level in the well was 54 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 45 feet btoc. During low flow sampling, the interval was pumped at 0.10 gpm, resulting in continually increasing drawdown that reached a maximum of 32 feet over a half hour period. The interval was then pumped at 0.25

gpm for another half hour, resulting in continually increasing drawdown that reached a maximum of 60 feet. Throughout the packer test, the water level in the interval above the packer remained constant at 55 feet btoc.

The second packer test interval was conducted between 135 to 160 feet btoc. The initial water level in the well was 61 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 58 feet btoc. During low flow sampling, the interval was pumped at 0.10 gpm, resulting in continually increasing drawdown that reached a maximum of 33 feet over a half hour period. Throughout the packer test, the water level in the interval above the packer remained constant at 56 feet btoc. The water level in the interval below the packer reacted in tandem with the isolated interval, experiencing 19 feet of drawdown during low flow sampling. These changes indicate that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal.

The third packer test interval was conducted between 110 to 135 feet btoc. The initial water level in the well was 61 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 55 feet btoc. During low flow sampling, the interval was pumped at 0.1 gpm, resulting in a stable drawdown of 27 feet over a half hour period. Throughout the packer test, the water level in the interval above the packer remained constant at 56 feet btoc. The water level in the interval below experienced a significant decrease in water level elevation. Because these loses began before pumping was started, these changes probably represent the well equalizing with the aquifer surrounding it after the packer isolated it from higher pressure water above.

RW11

The first packer test interval was conducted between 147 to 171 feet btoc. The initial water level in the well was 67 feet btoc. After pressurizing the packers, the water level within the isolated interval was 65 feet btoc. During low flow sampling, the interval was pumped at 0.10 gpm, resulting in a stable drawdown of 13 feet over a half hour period. The interval was then pumped at 1.0 gpm for another half hour, resulting in a stable drawdown of 114 feet. Throughout the packer test, the water level in the interval above the packer remained constant at 67 feet btoc.

The second packer test interval was conducted between 115 to 140 feet btoc. The initial water level in the well was 75 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 72 feet btoc. During low flow sampling the interval was pumped at 0.1 gpm, resulting in a stable drawdown of 13 feet over a one hour period. The interval was then pumped at 13 gpm for ten minutes, resulting in a stable drawdown of 25 feet. Throughout the packer test, the water level in the interval above the packer remained constant at 74 feet btoc, and the water level in the interval below slowly decreased from 65 to 74 feet btoc as the well equalized the pressure differential created by the packer.

The third packer test interval was conducted between 92 to 117 feet btoc. The initial water level in the well was 75 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 73 feet btoc. During low flow sampling, the interval was pumped at 0.15 gpm, resulting in a stable drawdown of 11 feet over a half hour period. Throughout the packer test, the water level above the packer remained constant at 72 feet btoc, and the water level in the interval below slowly decreased from 70 to 72 feet btoc as the well equalized the pressure differential created by the packer.

RW15

The first packer test interval was conducted between 130 to 152 feet btoc. The initial water level in the well was 84 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 83 feet btoc. During low flow sampling, the interval was pumped at 0.15 gpm over a half hour period, resulting in continually increasing drawdown that reach a magnitude of 21ft before pumping was finally discontinued. Throughout the packer test, the water level in the interval above the packer remained constant at 84 feet btoc.

The second packer test interval was conducted between 110 to 135 feet btoc. The initial water level in the well was 84 feet btoc. After pressurizing the packers, the water level within the isolated interval fell to 85 feet btoc. During low flow sampling, the interval was pumped at 0.22 gpm, which did not result in any apparent drawdown. The interval was then pumped at 18 gpm for 11 minutes and 13.2 gpm for 20 minutes, resulting continually increasing drawdown that reached a magnitude of 38 ft before pumping was finally discontinued. Throughout the packer test, the water level in the interval above the packer remained constant at 85 feet btoc. The water level in the interval below the packer remained constant at 94 feet during low flow sampling, but began to experience drawdown during the 18 gpm pumping test. A maximum of three feet of drawdown was experienced by this interval. These changes indicated that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal.

The third packer test interval was conducted between 91 to 107 feet btoc. The initial water level in the well was 85 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 83 feet btoc. The interval was pumped at four gpm for 15 minutes, resulting in continually increasing drawdown that reached a magnitude of ten ft before pumping was discontinued. The pumping rate was then decreased to 1.1 gpm and the water level rose to 88 feet btoc after 45 minutes when pumping was discontinued. Throughout the packer test, the water level in the interval below the packer remained constant at 84 feet btoc.

RW16

The first packer test interval was conducted between 98 to 125 feet btoc. The initial water level in the well was 99 feet btoc. After pressurizing the packers, the water level depth within the isolated interval did not appear to change. During low flow sampling the interval was pumped at an unknown rate, which did not result in any discernable drawdown. The interval was then pumped at five gpm for half hour, resulting in a drawdown of seven feet. Drawdown did not stabilize at this pumping rate and continued to steadily decline. The water level in the interval below the packer reacted in tandem with the isolated interval, experiencing one foot of drawdown during rapid pumping sampling. These changes indicated that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal.

The second packer test interval was conducted between 125 to 155 feet btoc. The initial water level in the well was 99 feet btoc. After pressurizing the packers, the water level within the isolated interval rose to 97 feet btoc. During low flow sampling, the interval was pumped at 0.1 gpm, resulting in a stable drawdown of 12 feet over a half hour period. The interval was then pumped at 0.5 gpm for five minutes, which dewatered the interval and necessitated the discontinuation of pumping. Throughout the packer test, the water level in the interval above the packer remained constant at 100 feet btoc.

THWLS

The first packer test interval was conducted between 113 to 124 feet btoc. The initial water level in the well was 97 feet btoc. After pressurizing the packers, the water level depth within the isolated interval did not appear to change. During low flow sampling, the interval was pumped at 0.25 gpm, resulting in a stable drawdown of 2 feet over a 45 minute period. The interval was then pumped at 1.8 gpm for a half hour, resulting in a stable drawdown of 14 feet. Throughout the packer test, the water level in the interval above the packer remained constant at 98 feet btoc.

The second packer test interval was conducted between 98 to 113 feet btoc. The initial water level in the well was not measured. After pressurizing the packers, the water level within the isolated interval was 98 feet btoc. During low flow sampling the interval was pumped at 0.18 gpm, which did not result in discernable drawdown over a forty minute period. The interval was then pumped at 5.5 gpm for another half hour, resulting in a stable drawdown of a relatively small amount (less than 0.5 feet). The water level in the interval below the packer reacted in tandem with the isolated interval, also experiencing a relatively small amount (less than 0.5 feet) of drawdown. These changes indicated that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal.

As shown on Table 7, analytical results indicate that groundwater samples collected from five wells (MW11, MW13 [95 to 115 foot interval], MW16 [162 to 197 foot intervals], MW26, and MW27) had trace amounts of VOCs reported in at least one interval; none of which were detected in excess of GWQS. Two wells (MW13 [135 to 160 foot and 170 to 199 foot intervals] and RW11 [147 to 171 foot interval]) had no detectable compounds in at least one interval. Analytical results indicated that the remaining wells (MW04, MW06, MW16, MW33A, MW34, MW35, MW37, RW9, RW11 [92 to 117 foot and 115 to 140 foot intervals], RW15, RW16, and THWLS) had concentrations of one or more of the following compounds in excess of the GWQS:

- 1,1,1-trichloroethane ("1,1,1-TCA") (0.5 - 126 micrograms per Liter ["ug/L"]),
- 1,1,2-trichloroethane ("1,1,2-TCA") (3.3 ug/L),
- 1,1-dichloroethane ("1,1-DCA") (1.1 - 433 ug/L),
- 1,1-dichloroethylene ("1,1-DCE") (0.6 – 27.7 ug/L),
- 1,2-dichloroethane ("1,2-DCA") (18.4 – 25.6 ug/L),
- chloroethane (12.2 – 2,210 ug/L),
- cis-1,2-dichloroethene ("cis-1,2-DCE") (0.5 - 182 ug/L),
- methylene chloride ("MC")(1.1 – 3.7 ug/L),
- tetrachloroethene ("PCE") (1 - 14 ug/L),
- TCE (1.2 - 19 ug/L), and
- vinyl chloride ("VC") (3 ug/L - 130 ug/L).

4.3.4 Aquifer pump test

Starting August 26, 2005, and continuing through September 4, 2005, ENSR completed a pump test on MW06 and monitored water levels at surrounding wells in order to evaluate fracture transmissivity and connectivity in the bedrock formation beneath the site. Monitoring wells MW2A, MW33A, MW34, and MW52 were monitored along with MW06 for three and a half days prior to pumping to understand background trends in the aquifer. Monitoring wells MW03, MW04, and MW39 were monitored manually during the active portion of the pump test. Water levels were also monitored at MW06, but data fluctuations were recorded showing wide variation in water levels at this location. This likely indicates that the transducer in the well was tampered with during the background evaluation. Between August 26, 2005, at 5:30 PM and August 30, 2005, at 8:00 AM, the groundwater elevation in these wells dropped an average of 0.12 feet. A graph of groundwater elevation changes prior to pumping is shown in Appendix F.

On August 30, 2005, ENSR began a step drawdown test at well MW06. Monitoring well MW06 had an initial groundwater elevation of 252.69 feet. Field personnel began the step drawdown test by pumping at three gpm and then increased the pumping rate in two to three gpm intervals over the course of the next three hours to 17 gpm. As a result of the step drawdown test, a pumping rate of 15 gpm was selected for the pump test. Pumping was continued at approximately 15 gpm over following three days and resulted in a maximum drawdown(s) of 3.84 feet in MW06, which demonstrates that this is a relatively high yield well, with a specific capacity of 3.9 gallons per minute per foot ("gpm/ft") of drawdown. After approximately 72 hours of continuous pumping at MW06, pumping was discontinued and groundwater elevations were observed during a 72-hour recovery period. Groundwater elevation returned to 252.68 feet by September 4, 2006, five days later.

Other than the pumped well MW06, only MW35 experienced significant drawdown during the test. MW35 is approximately 500 feet south of MW06. On August 29, 2005, groundwater elevation in MW35 was 255.13 feet. Over the course of the test, drawdown steadily increased to a maximum value of 0.83 feet by the end of the pumping. After pumping ended, groundwater elevation at MW35 returned to an elevation of 254.62 feet by September 4, 2006.

Other monitored wells, including MW2A, MW03, MW04, MW34, MW33A, and MW52, experienced less than eight inches of drawdown. Refer to Figure 2, Site Plan, for the locations of these wells; they range from approximately 500 feet to approximately 1,200 feet from MW06. The decline experienced by these wells can largely be attributed to regional water level decline indicated by measurements taken prior to pumping.

The drawdown pattern recorded during this test is characteristic of the fractured bedrock geology at the site, as described in detail in the 2004 AGWMR. Based on the lithologic data collected from the soil borings and wells, bedrock fractures are present at various depths throughout the site as illustrated on the cross-sections provided on Figures 11 through 13. Additionally, the bedrock displays characteristics of an active karst aquifer, as sink holes periodically appear on the site, and wells often collapse and have to be re-drilled or abandoned. Large, open void spaces have also been encountered during drilling activities at various locations on site.

In reference to MW06, MW35 is located parallel to the strike of the formation bedding planes, the primary bedrock structural feature at the site. The results of the pump test indicate that there is a direct hydraulic connection between MW06 and MW35 (along strike), rather then between MW06, MW2A, MW03, MW04, MW06, MW34, MW33A, and MW52 (perpendicular to strike). The formation bedding planes are oriented generally with a northeast to southwest strike and a dip of approximately 45 degrees to the southeast. Other nearby monitored wells not parallel to strike, including MW2A, MW03, MW04, MW06, MW34, MW33A, and MW52, experienced virtually no drawdown. The pumping test demonstrated that groundwater flow (and transport) in this area is anisotropic, with preferred directions of flow parallel to the strike of the fractures. .

Transmissivity of the formation surrounding MW06 was roughly estimated at 1,000 to 2,000 square feet per day ("ft^2/day").

4.4 Well retrofits

Between November and December 2005, ENSR personnel completed oversight of the retrofitting of five groundwater monitoring wells (MW06, MW12, MW15, MW24 and THWLS) and one recovery well (RW10). SGS used air-rotary drilling methods to complete the retrofitting by re-drilling most of the wells to the original depth. Based on chemical, geophysical, and hydrogeological data, in general each well was retrofitted with a 25-foot screen (either perforated or stainless steel) across an appropriate interval and steel riser was grouted in place to the ground surface. Based on the Monitoring Well Records submitted to the NJDEP BWA, the following describes the well construction for each retrofit.

Well MW15 was originally constructed with an 8-inch PVC outer casing from the surface to 78 feet bgs with an open borehole extending to 150 feet. Recent gauging data indicated that the PVC in this well was collapsed or obstructed at 127 feet. On November 7, 2005, MW15 was redrilled using an air rotary drill rig to its original depth of 150 feet bgs. Based on the investigations conducted at this location the lower interval of the well was determined to be the most transmissive and as such the most likely to have the ability to transport dissolved phase impacts across the site. Therefore, a 4-inch diameter perforated steel screen was installed from 125 to 150 feet bgs with a 4-inch steel riser casing extending to the surface. Pursuant to the variance request for alternate well construction, which was approved by NJDEP, due to the instability of the formation, two packers were installed at 121 and 125 feet bgs to seal the borehole above the screened interval. The remaining annular space was grouted with a bentonite slurry to ground surface.

Well MW12 was originally constructed with an 8-inch steel outer casing from the surface to 60 feet bgs with an open borehole extending to 175 feet. Recent gauging data indicated that this well was collapsed or obstructed at 157 feet. On November 8, 2005, SGS attempted to redrill MW12 using an air rotary drill rig to its original depth of 175 feet bgs; however, during the drilling activities, a large void (possibly a water bearing fracture) was encountered from 175 to 185 feet. Therefore, this lower interval of the well was determined to be the most transmissive and as such the most likely to have the ability to transport dissolved phase impacts across the site. Based on this information and other investigations conducted at this location, a 4-inch diameter

perforated steel screen was installed from 160 to 185 feet bgs with a 4-inch steel riser casing extending to the surface. Pursuant to the variance request for alternate well construction, which was approved by NJDEP, due to the instability of the formation, two packers were installed at 157 and 160 feet bgs to seal the borehole above the screened interval. The remaining annular space was grouted with a bentonite slurry to ground surface.

Well MW24 was originally constructed with an 8-inch steel outer casing from the surface to 62 feet bgs with an open borehole extending to 157 feet. Recent gauging data indicated that this well was collapsed or obstructed at 150 feet. On November 9, 2005, MW24 was redrilled using an air rotary drill rig to its original depth of 157 feet bgs. Based on the investigations conducted at this location the lower interval of the well was determined to be the most transmissive and as such the most likely to have the ability to transport dissolved phase impacts across the site. Therefore, a 4-inch diameter perforated steel screen was installed from 132 to 157 feet bgs with a 4-inch steel riser casing extending to the surface. Pursuant to the variance request for alternate well construction, which was approved by NJDEP, due to the instability of the formation, two packers were installed at 129 and 132 feet bgs to seal the borehole above the screened interval. The remaining annular space was grouted with a bentonite slurry to ground surface.

Well MW06 was originally constructed with an 8-inch steel outer casing from the surface to 60 feet bgs with an open borehole extending to 195 feet. Recent gauging data indicated that this well was still open to its original depth of 195 feet; however, a screened interval was deemed necessary. On November 11, 2005, MW06 was redrilled using an air rotary drill rig to its original depth of 195 feet bgs. Based on the investigations conducted at this location the lower interval of the well was determined to be the most transmissive and as such the most likely to have the ability to transport dissolved phase impacts across the site. Therefore, a 4-inch diameter perforated steel screen was installed from 170 to 195 feet bgs with a 4-inch steel riser casing extending to the surface. No packers were installed in this well. The remaining annular space was grouted with a bentonite slurry to ground surface.

Well RW10 was originally constructed with an 8-inch steel outer casing from the surface to 60 feet bgs with an open borehole extending to 175 feet. Recent gauging data indicated that this well was collapsed or obstructed at 174 feet. On November 15, 2005, RW10 was redrilled using an air rotary drill rig to its original depth of 175 feet bgs. Based on the investigations conducted at this location the lower interval of the well was determined to be the most transmissive and as such the most likely to have the ability to transport dissolved phase impacts across the site. Therefore, a 4-inch diameter perforated steel screen was installed from 150 and 175 feet bgs with a 4-inch steel riser casing extending to the surface. No packers were installed in this well. The remaining annular space was grouted with a bentonite slurry to ground surface.

Well THWLS was originally constructed with an 8-inch steel outer casing from the surface to 60 feet bgs with an open borehole extending to 127 feet. Recent gauging data indicated that this well was collapsed or obstructed at 93 feet. On January 11 and 12, 2006, THWLS was redrilled by Plainfield using an air rotary drill rig to 125 feet bgs. Additional geophysical investigations were then conducted at this location following the redrilling activities. Based on these investigations, the lower interval of the well was determined to be the most transmissive and as such the most likely to have the ability to transport dissolved phase impacts across the site. Therefore, on July 5, 2006, SGS returned to the site to complete the retrofit of the well. Well THWLS was grouted from 115 to 125 feet bgs. A 3-inch diameter perforated steel screen was installed from 90 to 115 feet bgs with a 3-inch steel riser casing extending to the surface. No packers were installed in this well. The remaining annular space was grouted with a bentonite slurry to ground surface.

The locations of these wells are shown on Figure 2. Well permits and record information, Form A's, and well construction logs are included in Appendix G. To date, these well have not been re-surveyed. Form B's will be provided in a forthcoming report after a site-wide well re-survey is completed.

4.5 Pilot hole drilling for deep well installation

Between March 14 and 28, 2006, and between June 28 and July 26, 2006, SGS, under the supervision of ENSR, installed two pilot holes (pilot hole 1 [PH1] and pilot hole 2 [PH2], respectively) using dual rotary drilling methods. Refer to Figure 2 for the location of pilot holes PH1 and PH2.

Pilot-Hole 1

Pilot hole PH1 was drilled to a total depth of 410 feet bgs. A 10-inch diameter boring was initially advanced to bedrock surface (32 feet bgs) and a 10-inch steel casing was temporarily set in place in accordance with the boring permit and the requirements of the approved Minor Landfill Disruption Permit. The 10-inch boring was then advanced to a depth of 196 feet bgs. Eight-inch steel casing was advanced to 196 feet bgs in an effort to maintain an open borehole during the continuing investigative activities. An 8-inch open borehole was then advanced to a total depth of 410 feet bgs.

Based on ENSR's observations during drilling, possible fractures were observed between 82 and 83.5 feet bgs, 162 and 173 feet bgs, at 314 feet bgs, at 317 feet bgs, between 327 and 328 feet bgs, at 345 feet bgs, at 365 feet bgs, at 377 feet bgs, at 383 feet bgs, at 385 feet bgs and at 401 feet bgs. Water was observed at 94 feet bgs. Prior to setting casing, geophysical testing was conducted as described in Section 3.5. Interpretation of the geologic logs indicated the following for pilot hole PH1 (referred to on the logs as MW56).

- The caliper measured a median diameter of 8.2 inches for the borehole. The caliper indicated significant openings at 291, 298, and 318 feet btoc which respective diameters of 8.7, 14.2, and 8.7 inches.
- The ATV log indicated the presence of fractures throughout the borehole and are depicted in the geophysical report included in Appendix C and the boring log for PH1 included in Appendix G. ENSR evaluated these logs and characterized each identified fracture according to the Paillet scale (Paillet et al., 1989 and Vernon et al., 1993).

Based on the observations and data collected during drilling and geophysical investigation, groundwater samples and packer tests were conducted on four intervals within PH1. Groundwater samples were collected using low-flow procedures within each packer interval to assess vertical stratification of impact based on the geology. Water level measurements were collected during sampling to determine changes in vertical head at various depths, to assess the interconnectivity of vertical fractures, and/or determine the "fit" of the packer. Water level responses collected from the tested intervals are plotted in Appendix E. Results of the sampling conducted during the packer testing from pilot-hole PH1 are summarized in Table 8 and copies of the laboratory results are provided in Appendix A. The resulting pilot-hole configuration is provided in the boring log included in Appendix G. Pertinent results from the packer testing of pilot-hole PH1 are described as follows.

- Groundwater samples were collected at 182 feet (grab sample) and at 225 to 250 feet bgs, 276 to 301 feet bgs, and 297 to 322 feet bgs during packer testing.
- Groundwater analytical results from the samples collected reported concentrations of TCE and PCE greater than the GWQS at 225 to 250 feet bgs and 276 to 301 feet bgs. These results are shown on Figure 8. The TCE and PCE impacted groundwater appears to be limited to a highly fractured zone between about 220 and 301 feet bgs in pilot-hole PH1. No TCE and/or PCE impacted groundwater was detected in lesser fractured intervals above this zone (i.e., 182 feet bgs) or below this zone (i.e., 297 feet bgs). This zone consists of a vertically interconnected network of fractures, and the observed variability between the 225 feet and 256 feet bgs samples is related to natural heterogeneity within the interconnected fracture network.
- The first packer test at PH1 was conducted between 225 to 250 feet btoc. The initial water level in the well was 93 feet btoc. After pressurizing the packers, the water level within the isolated

interval rose to 62 feet btoc. During low flow sampling the well was pumped at 0.3 gpm, resulting in a stabilized drawdown of seven feet over a half hour period. The well was then pumped at four and five gpm for half hour periods, resulting in maximum drawdown of 96 and 122 feet, respectively. Throughout the packer test, the water level above the isolated interval remained constant at 94 feet btoc, and the water level below remained constant at 92 feet btoc.

- The second packer test was conducted between 264 to 289 feet btoc. No groundwater samples were collected from this interval because this interval was used to assess hydrogeologic conditions only. The initial water level in the well was 93 feet btoc. After pressurizing the packers, the water level depth within the isolated interval did not change. The well was pumped at 4.69, 7.25, and 14.80 gpm for six, five, and 13 minutes, respectively. These pumping rates resulted in the following respective drawdown values: 0.5, one, and three feet. Drawdown stabilized at these pumping rates. Throughout the packer test, the water level above the isolated interval remained constant at 93 feet btoc. These changes indicated that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal.
- The third packer test interval was between 276 to 301 feet btoc. The initial water level in the well was 92 feet btoc. After pressurizing the packers, the water level depth within the isolated interval did not change. The well was pumped for approximately ten minutes at each of these rates: 4.64, 8.36, 11.06, and 14.88 gpm. This resulted in the following respective drawdown: 0.5, 0.8, and one foot. The water level below the isolated interval was nearly identical to the isolated interval's water level. This indicates that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal. The water level above the isolated interval showed a gradual decline that may also indicate connection through a fracture or leaking packer.
- The fourth packer test interval was between 297 to 322 feet btoc. The initial water level in the well was measured via pressure transducers at 91 feet botc. After pressurizing the packers, the water level within the isolated interval rose by a relatively small amount (less than 0.5 feet). During low flow sampling the well was pumped at 0.2 gpm, resulting in no discernable drawdown within the pumping interval. The well was then pumped at 22 gpm for another half-hour resulting in a stable drawdown of one foot. The water level below the interval was still stabilizing after packer inflation at the time low-flow sampling started. By the end of the low-flow sampling period, the water level below the interval was starting to stabilize at about 93.5 feet btoc. During the 22 gpm pumping test, this interval reacted to pumping, declining approximately one foot. Water level measurements from above the isolated interval remained stable at 91 feet btoc throughout low flow pumping. During 22 gpm pumping this interval reacted to pumping, declining approximately one foot. These changes indicated that the isolated interval was connected to the interval below and above the packer, either through fractures or though a leaky packer seal.
- The fifth packer test was conducted between 366 and 391 feet btoc. The initial water level within the well was 92 feet btoc. During the pump test, the isolated interval was dewatered almost instantly and as a result, the pump test was discontinued. Throughout the short pumping period, the water levels measured above and below the isolated interval remained constant at 92 feet btoc.
- The sixth packer test was conducted between 376 and 410 feet btoc. The initial water level with the well was 91 feet btoc. During the pump test, the isolated interval was dewatered almost instantly, and as a result, the pump test was discontinued. Throughout the short pumping period, the water level measured above the isolated interval remained constant at 92 feet btoc.

<u>Pilot-Hole 2</u>

Deep pilot-hole PH2 was drilled in close proximity to PH1, and to a deeper depth in order to provide additional information to the conceptual site model as well as to avoid any potential of collapse of pilot-hole PH1 with

further drilling. Pilot-hole PH2 was also drilled using a dual rotary drill rig to a total depth of 511 feet bgs. A 12-inch diameter boring was initially advanced to bedrock surface (70 feet bgs) and a 12-inch steel casing was temporarily set in place in accordance with the boring permit and the requirements of the approved Minor Landfill Disruption Permit. The 12-inch boring was then advanced to a depth of 411 feet bgs and an eight-inch steel casing was temporarily set in place. An 8-inch open borehole was then advanced to a total depth of 511 feet bgs.

Based on ENSR's observations during drilling, possible fractures were observed between 40 and 45 feet bgs, 55 and 68 feet bgs, at 285 feet bgs, at 308 feet bgs, at 312 feet bgs, at 335 feet bgs, at 370 feet bgs, between 376 and 377 feet bgs, between 381 and 383 feet bgs, at 385 feet bgs, between 437 and 438 feet bgs, at 440 feet bgs, at 445 feet bgs, and at 447 feet bgs. Water was observed at 90 feet bgs. Prior to setting casing, geophysical testing was conducted as described in Section 3.5. Interpretation of the geologic logs indicated the following for pilot-hole PH2 (referred to on the logs as MW56A).

- The caliper measured a median diameter of 8.5 inches for the borehole. The caliper indicated significant openings at 450 and 460 feet btoc with respective diameters of 8.8 and 8.7 inches. The caliper indicated that the borehole starts to decrease in size starting around 475 feet btoc. The diameter ends at about 7.5 inches. This is due to a partial collapse of the borehole walls after the drill rods were removed.
- The ATV log indicated the presence of fractures throughout the borehole and are depicted in the geophysical report included in Appendix C and the boring log for PH2 included in Appendix G. ENSR reviewed the ATV logs and characterized each identified fracture according to the Paillet scale (Paillet et al., 1989 and Vernon et al., 1993).

Based on the observations and data collected during drilling and geophysical investigation, groundwater samples and packer tests were conducted on two intervals within PH2. Groundwater samples were collected using low-flow procedures within each packer interval to assess vertical stratification of impact based on the geology. Water level measurements were collected during sampling to determine changes in vertical head at various depths, to assess the interconnectivity of vertical fractures, and/or determine the "fit" of the packer. Water level responses collected from the tested intervals are plotted in Appendix E. Results of the sampling conducted during the packer testing from pilot hole PH2 are summarized in Table 8 and copies of the laboratory results are provided in Appendix A. The resulting pilot hole configuration is provided in the boring log included in Appendix G. Pertinent results from the packer testing of pilot hole PH2 are described as follows.

- Groundwater samples were collected at only two intervals, 445 to 470 feet bgs and 473 to 498 feet bgs, due to rapid dewatering in the remaining three intervals during packer testing.
- Groundwater analytical results from the samples collected reported no impacted groundwater was detected in the lower fracture intervals. These results are shown on Figure 8. As previously mentioned, the TCE and PCE impacted groundwater is limited to a highly fractured zone between about 220 and 301 feet bgs in this vicinity. No TCE and/or PCE impacted groundwater was detected in lower fractured intervals.
- The first packer test at PH2 was conducted between 427 to 452 feet btoc. The initial water level in the well was 93 feet btoc. No groundwater samples were analyzed from this interval because this interval was used to assess hydrogeologic conditions only. After pressurizing the packers, the water level depth did not change. During low flow sampling, the well quickly dewatered through rapid pumping. Pumping was slowed to 0.42 gpm, resulting in a maximum drawdown of 302 feet. Over the next several hours the well was pumped several different rates, including 0.25, 0.26, and 0.36 gps, resulting in respective drawdown values of 283, 202, and 213 feet. Throughout the packer test, the water level above the isolated interval remained constant at 93 feet btoc, and the water level below also remained constant at 93 feet btoc.

- The second packer test at PH2 was conducted between 445 to 470 feet btoc. The initial water level in the well was 91 feet btoc. After pressurizing the packers, the water level depth did not change. During low flow sampling, the well quickly dewatered through rapid pumping. Pumping was slowed to 0.4 gpm, resulting in a maximum drawdown of 30 feet over approximately 2.5 hours. Drawdown stabilized at this pumping rate. The well was then pumped at 2.26 gpm for another hour, resulting in a maximum drawdown of 313 feet. Drawdown stabilized at this pumping rate. Throughout the packer test, the water level above the isolated interval remained constant at 91 feet btoc. The water level above the isolated interval reacted in tandem with the isolated interval, experiencing 47 feet of drawdown during the 2.26 gpm pumping test. These changes indicated that the isolated interval was connected to the interval above the packer, either through fractures or though a leaky packer seal.
- The third packer test at PH2 was conducted between 473 to 498 feet btoc. The initial water level in the well was 93 feet btoc. After pressurizing the packers, the water level depth did not change. During low flow sampling, the well quickly dewatered through rapid pumping. Pumping was slowed to 0.43 gpm, resulting in a maximum drawdown of 207 feet over a one hour period. Drawdown stabilized at this pumping rate. Throughout the packer test, the water level above the isolated interval remained constant at 93 feet btoc. The water level below the isolated interval reacted in tandem with the isolated interval, experiencing 77 feet of drawdown during 0.43 gpm pumping. These changes indicated that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal.
- The fourth packer test at PH2 was conducted between 477 to 502 feet btoc. No groundwater samples were collected from this interval because this interval was used to assess hydrogeologic conditions only. The initial water level in the well was 95 feet btoc. After pressurizing the packers, the water level within the isolated interval was 84 feet btoc. During low flow sampling, the well was pumped at varying rates, between 0.46 and 0.65 gpm, resulting in a maximum drawdown of 259 feet. Throughout the packer test, the water level above the isolated interval remained constant at 95 feet btoc. The water level below the isolated interval reacted in tandem with the isolated interval, experiencing 43 feet of drawdown during the 0.65 gpm pumping test. These changes indicated that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal.
- The fifth packer test at PH2 was conducted between 480 to 505 feet btoc. No groundwater samples were collected from this interval because this interval was used to assess hydrogeologic conditions only. The initial water level in the well was 91 feet btoc. After pressurizing the packers, the water level depth did not change. During low flow sampling, the pumping rate was never stabilized. Maximum drawdown was 338 feet. Throughout the packer test, the water level above the isolated interval remained constant at 91 feet btoc. The water level below the isolated interval reacted approximately in tandem with the isolated interval, experiencing 118 feet of drawdown during low flow sampling. These changes indicated that the isolated interval was connected to the interval below the packer, either through fractures or though a leaky packer seal.

4.6 LNAPL recovery and groundwater treatment

During this reporting period, approximately 3,336 gallons of LNAPL/water mixture has been recovered by the LNAPL recovery system. Approximately 40 gallons are estimated to be LNAPL.

Monitoring wells and recovery wells are gauged on a quarterly basis for groundwater table elevation and the presence of LNAPL, as shown in Tables 2A through 2D. Furthermore, recovery wells are gauged on a monthly basis for the presence of LNAPL, as shown in Table 2E. The most recent limits of the LNAPL plume, as gauged during the July 2006 gauging event, are illustrated on Figure 7. Currently the impacts extend across the site from recovery well RW17 in the east to well RW09 and groundwater monitoring well MW11 to the west. LNAPL has not historically been present in well MW11, indicating that the LNAPL impacts have

extended in slightly in the westerly direction. The LNAPL impacts also extend and from well RW15 and well RW05 in the north and northwest to groundwater monitoring well MW26 to the south. The presence of LNAPL has fluctuated in wells MW25 and MW26 during this reporting period, indicating that the LNAPL impacts have extended slightly in the southerly direction. Note that well MW05 is currently not gauged due to the presence of recovery system equipment.

In general, LNAPL accumulation in site wells has decreased since the system was first installed at the site; however, compared to last reporting period, LNAPL has been detected in more wells during this reporting period. The additional wells in which LNAPL has been detected during this reporting period include MW11, MW25 and MW26. It should be noted that the recovery system was turned off between June and November 2005, for upgrade activities of eight active recovery wells.

Compared to the 2005 LNAPL plume configuration, the plume is “thinner” in width, but it has lengthened slightly. The 2006 LNAPL gauging data indicate that the plume has migrated slightly to the south and southwest. In 2005, the southern end of eastern plume “finger” extended to MW05, and the southwest end of the entire plume extended to RW12. The July 2006 LNAPL gauging data indicate that the eastern plume “finger” extends 120 feet south beyond MW05 (out to MW25 and MW26), and it extends 100 feet north to MW12 (seen as a "bud" on Figure 7). The southwest end of the entire plume extends another 240 feet beyond RW12 to MW11. This is likely due to the disruption in the LNAPL recovery system experienced in 2005. All recovery wells (except for RW07) are currently operational, and it is expected that the LNAPL plume will subsequently show a reduction in extent.

The plume extends approximately 3,000 feet northeast to southwest, and is approximately 500 feet wide across most of the plume. In one area, from MW12 to MW26, the plume is approximately 1,500 feet long running north to south. This is in agreement with the site conceptual model (see section 5.7.1), which posits that the bedrock fracture system has influenced the overall distribution of the LNAPL plume. The operation of the LNAPL recovery system is expected to control any significant migration of the LNAPL plume; however, as a result of higher permeability along fractures, any changes to the plume may be expected to occur primarily to the northeast and southwest along these fractures.

Based on ENSR’s review of the quarterly gauging data, LNAPL thickness at the limits of the plume (MW11, MW12, MW25 and MW26) did not fluctuate significantly between gauging events. However, certain recovery wells (RW01, RW04, RW08, RW8A, RW17) fluctuated by as much as 2.94 feet between gauging events. This is most likely attributed to the pumping effectiveness of the recovery system and/or the period of shut down.

Flow through the groundwater treatment system ranged between approximately 14,000 and 21,000 gallons per month. Effluent analytical results were submitted on a monthly basis, as required. Consistent with previous reporting periods, there have been no permit violations during this reporting period.

LNAPL/water mixture that is recovered from the site is removed for offsite disposal on an annual basis. During this reporting period, an average of 8, 33, 6, and 50 gallons were recovered from recovery wells RW01, RW04, RW05, and RW8A, respectively. Wells RW02, RW03, RW06, and RW17 did not report any product recovery during this reporting period. On December 6, 2005, 351 gallons of LNAPL/water mixture was collected from the site by Lorco Petroleum Systems for disposal and recycling at their own permitted facility in Elizabeth, New Jersey. A copy of the bill of lading is included as Appendix J.

4.7 Groundwater monitoring

4.7.1 Groundwater elevation and LNAPL thickness results

As previously discussed, groundwater gauging measurements were collected in October 2005, January 2006, April 2006, and July 2006.

Based on the construction of most of the wells at the site, the measured groundwater elevations represent vertically average groundwater heads. Generally, groundwater elevation in the main plant area decreases toward the southeast. However, an area of higher groundwater elevation is present in the vicinity of RW09, at the center of the facility buildings. This creates components of the gradient to the south and southwest in the area just north of the New Landfill, to the west in the area near the Stormwater Retention Basin, and north and northeast in the northern portion of the facility. Additionally, groundwater in the southern portion of the site generally follows a potentiometric gradient across the landfills from west to east or in an east-southeast direction. Actual directions of groundwater flow in any portion of the site would be dependent on the presence of water bearing fractures and their orientation.

Based on a review of groundwater gauging data, presented in Tables 2A through 2D, it appears that groundwater elevation may be seasonally influenced. The data indicates that groundwater elevations slightly increased from October 2005 to January 2006, decreased in April 2006, and increased again in July 2006.

The results of each of the groundwater gauging events are briefly described below.

The October 2005 groundwater gauging results are summarized in Table 2A and a groundwater elevation contour map is provided as Figure 3. Groundwater elevations in October 2005 ranged from 225.51 feet above mean sea level ("AMSL") to 297.55 feet AMSL. LNAPL was encountered in 16 of the 70 wells gauged and thickness ranged from 0.01 to 2.95 feet with an average thickness of 0.56 feet and a median thickness of 0.01 feet.

The January 2006 groundwater gauging results are summarized in Table 2B and a groundwater elevation contour map is provided as Figure 4. Groundwater elevations in January 2006 ranged from 226.89 feet AMSL to 307.47 feet AMSL. LNAPL was encountered in 18 of the 72 wells gauged and thickness ranged from 0.01 to 2.56 feet with an average thickness of 0.39 feet and a median thickness of 0.02 feet.

The April 2006 groundwater gauging results are summarized in Table 2C and a groundwater elevation contour map is provided as Figure 5. Groundwater elevations in April 2006 ranged from 226.45 feet AMSL to 304.98 feet AMSL. LNAPL was encountered in 18 of the 71 wells gauged with thickness ranging from 0.01 to 2.44 feet thick at an average thickness of 0.58 feet and a median thickness of 0.25 feet.

The July 2006 groundwater gauging results are summarized on Table 2D and a groundwater elevation contour map is provided as Figure 6. Groundwater elevations in July 2006 ranged from 226.82 feet AMSL to 304.22 feet AMSL. LNAPL was encountered in 20 of the 70 wells gauged with thickness ranging from 0.01 to 3.44 feet at an average thickness of 0.72 feet and a median thickness of 0.38 feet.

Due to the complex bedrock composition beneath the site and varying screened intervals at each well, hydraulic gradients were not calculated across the site.

Figure 7 presents the maximum area of LNAPL impacts on the groundwater surface based on the gauging data collected between October 2005 and July 2006.

4.7.2 Groundwater analytical results

As discussed in Section 3.6.2, semi-annual groundwater sampling was conducted in October 2005 and May 2006, which included the collection of groundwater samples using passive diffusion bag, conventional, and low flow sampling methods. Analytical results were received electronically from the laboratory and imported into the groundwater database for analysis. Laboratory analytical data reports are included in Appendix A. The following subsections discuss the results of the PDB, conventional and low flow groundwater sample analysis, respectively. Refer to Table 9 for a summary of all groundwater samples collected during the semi-annual sampling events on site.

4.7.2.1 Passive diffusion bag sampling results

October 2005 sampling event

As shown on Table 9, groundwater samples were collected from 34 monitoring and/or recovery wells via PDB sampling methods and analyzed for VOCs. Four duplicate samples, five field and three trip blanks were also collected and analyzed for VOCs. Refer to Table 6 for analytical results of the groundwater and duplicate samples; and refer to Table 14 and 15 for analytical results of the field and trip blanks, respectively.

Analytical results indicate that groundwater collected from varying depths in seven wells (MW02, MW03, MW11, MW19 [at a depth of 145 feet], MW50, RW10, and RW11 [at a depth of 170]) had trace amounts of VOCs reported, none of which were detected at concentrations greater than the GWQS; and groundwater collected from 16 wells at varying depths (MW12, MW13, MW18, MW19 [at a depth of 147 feet], MW20, MW24, MW26, MW27, MW30, MW47, MW48, MW49, MW51A, MW52, MW53, and MW54) reported no VOC compounds detected. Groundwater collected from the remaining wells (MW04, MW06, MW32, MW33A, MW34, MW35, MW37, RW9, RW11 [at a depth of 115], RW15, RW16, TH36, and THWLS) reported concentrations of one or more of the following compounds at concentrations greater than the GWQS (maximum detected concentrations across the site is shown parenthetically): 1,1,1-TCA (91 ug/L); 1,1-DCA (620 ug/L); 1,1-DCE (21 ug/L); 1,2-dichloroethane ("1,2-DCA") (8.3 ug/L); carbon tetrachloride ("CT") 3.4 ug/L); chloroethane (840 ug/L); cis-1,2-DCE (380 ug/L); MC (3.3 ug/L); PCE (7.8 ug/L); TCE (23 ug/L), and VC (160 ug/L). Figure 10 shows groundwater analytical results for compounds which were reported at concentrations greater than the GWQS at each well.

In November 2005, PDBs were retrieved from former potable well WW2 at the depths of 88, 227, 335, 429, and 485 feet. According to analytical results, trace concentrations of VOCs were detected at depth of 88 (toluene), 227 (chloroethane), 335 (chloroethane and vinyl chloride), 429 (chloroethane and VC), and 485 (toluene), none of which were detected at concentrations greater than the GWQS. Analytical results for PDB sampling of WW2 are summarized in Table 6.

May 2006 sampling event

As shown on Table 9, groundwater samples were collected from 37 monitoring and/or recovery wells via PDB sampling methods and analyzed for VOCs. Four duplicate samples, four field and three trip blanks were also collected and analyzed for VOCs. Refer to Table 6 for analytical results of the groundwater and duplicate samples; and refer to Table 14 and 15 for analytical results of the field and trip blanks, respectively.

Analytical results indicate that groundwater collected from varying depths in nine wells (MW2A, MW03, MW06 [at a depth of 172 feet], MW11, MW15, MW50, RW10, RW14, and TH36) had trace amounts of VOCs reported; none of which were detected at concentrations greater than GWQS; and groundwater collected from varying depths in 17 wells (MW12, MW13, MW18, MW19, MW20, MW24, MW26, MW27, MW30, MW47, MW48, MW49, MW51A, MW52, MW53, MW54, and RW11 [at a depth of 115]) reported no VOC compounds detected. Groundwater collected from the (MW04, MW06, MW16, MW32, MW33A, MW34, MW35, MW37, RW9, RW11 [at a depth of 115], RW15, RW16, and THWLS) reported concentrations of one or more of the following compounds at concentrations greater than the GWQS: 1,1,1-TCA (96.2 ug/L); 1,1-DCA (188 ug/L); 1,1-DCE (18.5 ug/L); 1,2-DCA (22.1 ug/L); CT (2.7 ug/L); chloroethane (1,260 ug/L); cis-1,2-DCE (173 ug/L); PCE (10.6 ug/L); TCE (17.4 ug/L), and VC (169 ug/L). Figure 10 shows groundwater analytical results for compounds which were reported at concentrations greater than the GWQS at each well.

In May 2006, PDBs were retrieved at varying depths in former potable wells WW2 (88, 227, 335, 429, and 485 feet) and WW3 (98, 215, 292, 341, 472, 615, 725, and 757 feet). According to analytical results, trace concentrations of VOCs were detected in the groundwater collected from well WW2; however, no VOCs were detected at concentrations greater than the GWQS. Trace concentrations of VOCs were also detected in

groundwater collected from well WW3 at depths of 292, 341, 472, 615, 725, and 757 feet, of which the detected concentrations of TCE and/or VC were greater than the GWQS.

Analytical results for PDB sampling of WW2 and WW3 are summarized in Table 6 and the impacts at WW3 that were greater than GWQS are illustrated on Figure 10.

Specific comparison of the October 2005 and May 2006 sampling events

The PDB sample depths may vary between events since the depth to bottom of the monitoring and recovery wells can change over time. Depth to bottom measurements are gauged in each well prior to PDB deployment so if necessary, the tether can be re-adjusted. It should be noted that the PDB sampling depths within MW06, MW12, MW15, MW24, RW10, and THWLS were modified after these wells were retrofitted. ENSR attempted to continue with the original sampling depths; however, new depths were selected based on possible water bearing fractures and/or placed within five feet of the top of screen and/or five feet from the bottom.

MW2A – PDB samples were collected at depths of 120 feet (October 2005) and 125 feet (May 2006). Trace concentrations of VOCs were detected during both sampling events; however, all concentrations were less than GWQS. Detected VOCs included 1,1,1-TCA, which decreased from October 2005 to May 2006; 1,1-DCE, which was detected in October 2005 but not in May 2006; and trichlorofluoromethane, which was also detected only in October 2005.

MW03 – PDB samples were collected at depth of 115 feet in both October 2005 and May 2006. Trace concentrations of VOCs were detected during both sampling events; however, all concentrations were less than GWQS. Detected VOCs included 1,1,1-TCA and 1,1-DCA which decreased from October 2005 to May 2006; cis-1,2-dichloroethene (1,2-DCE) and TCE, which were detected in October 2005 but not in May 2006.

MW04 – PDB samples were collected at depths of 96, 108 and 120 feet in both October 2005 and May 2006. Cis-1,2-DCE was detected at concentrations greater than GWQS in 2005 but below GWQS in 2006 at all depths. Detected concentrations were relatively constant at all depths within each sampling round. Concentrations of PCE, TCE and VC were detected at all depths greater than GWQS and remained relatively stable during both sampling rounds and with depth.

MW06 – PDB samples were collected at depths of 110, 145 and 187 feet in October 2005 and 172 and 187 feet in May 2006. 1,1,1-TCA and 1,1-DCE were detected at concentrations greater than GWQS in October 2005 but less than GWQS in May 2006 at all depths. TCE was detected at concentrations greater than GWQS in October 2005 and at a depth of 187 in May 2006, but less than GWQS at a depth of 172 in May 2006. Concentrations were relatively stable with increasing depths during both sampling rounds.

MW11 – PDB samples were collected at depths of 100, 150 and 190 feet in October 2005 and May 2006. Trace concentrations of 1,1,1-TCA were detected at all depths and remained relatively stable across both sampling rounds and with increasing depth. No other compounds were detected above laboratory method detection limits.

MW12 – PDB samples were collected at depths of 110, 126, and 156 feet in October 2005 and 163 and 183 feet in May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW12 during this sampling period.

MW13 - PDB samples were collected at depths of 157, and 189 feet in October 2005 and May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW13 during this sampling period.

MW15 – PDB samples were collected at depths of 130 and 136 feet in May 2006. Prior to completion of the retrofit of MW15, the well has been sampled via conventional methods because of the short water column.

Therefore, no samples were collected from well MW15 in October 2005 via PDB sampling. Trace concentrations of 1,1,1-TCA were detected in the sample collected from 130 feet and concentrations of 1,1-DCA were detected at both 130 and 136 feet; however, concentrations were relatively stable when compared. Concentrations were all less than GWQS. No other compounds were detected above laboratory method detection limits.

MW16 – PDB samples were collected at depths of 130, 155 and 190 feet in October 2005 and May 2006. Concentrations of 1,1-DCE were detected at levels greater than GWQS in all depths in both sampling rounds. Concentrations were relatively stable with increasing depths and across sampling rounds.

MW18 – PDB samples were collected at depths of 112 feet in both October 2005 and May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW18 during this sampling period.

MW19 – PDB samples were collected at depths of 135 and 147 feet in both October 2005 and May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW19 during this sampling period.

MW20 – PDB samples were collected at depths of 134 feet in both October 2005 and May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW20 during this sampling period.

MW24 – PDB samples were collected at depths of 145 feet in October 2005 and at depths of 134, 145 and 151 feet in May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW24 during this sampling period.

MW26 - PDB samples were collected at depths of 133 and 145 feet in October 2005 and May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW26 during this sampling period.

MW27 - PDB samples were collected at depths of 137 feet in October 2005 and May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW27 during this sampling period.

MW30 - PDB samples were collected at depths of 75 feet in October 2005 and May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW30 during this sampling period.

MW32 - PDB samples were collected at depths of 118 and 129 feet in October 2005 and May 2006. 1,1-DCE and TCE were detected at concentrations greater than GWQS at varying depths in both sampling rounds. In general, concentrations were greater during the October sampling round but remained relatively stable with increasing depth. Additional detected VOCs demonstrated a similar pattern of higher concentrations during the October 2005 sampling round; however, these constituents were detected at concentrations less than applicable GWQS.

MW33A - PDB samples were collected at depths of 107 and 120 feet in October 2005 and May 2006. TCE was detected at concentrations greater than GWQS at both depths during both sampling rounds. Concentrations at the 107-foot intervals were higher in May 2006 than in October 2005; however, concentrations at the 120-foot depth were higher in October 2005 than in May 2006. In addition, PCE was detected at a concentration greater than GWQS in the 120-foot interval during the October 2005 sampling round.

MW34 - PDB samples were collected at depths of 108, 113 and 120 feet in October 2005 and May 2006. Concentrations of TCE and PCE were detected at varying depths during both sampling rounds. In general, concentrations of TCE remained relatively stable between sampling rounds and across all intervals. Concentrations of PCE generally increased with depth and were only greater than GWQS during the October 2005 sampling round at the 120-foot depth and in the May 2006 sampling round at the 113-foot and 120-foot intervals.

MW35 - PDB samples were collected at depths of 122 and 128 feet in October 2005 and May 2006. Concentrations of 1,1,1-TCA, 1,1-DCE, PCE and TCE were detected greater than GWQS in both sampling rounds at both depths. In general, concentrations were relatively stable across all intervals and both sampling rounds.

MW37 - PDB samples were collected at depths of 60, 86 and 98 feet in October 2005 and May 2006. Concentrations of TCE were detected during both sampling rounds at all depths. In general, concentrations of TCE increased with depth and generally decreased between October 2005 and May 2006. Concentrations of PCE were detected in the 60- and 86-foot sampling intervals during both rounds; however, only the 60-foot sampling interval during the October 2005 sampling rounds was greater than GWQS. In addition, concentrations of CT were detected at all sampling depths and generally increased with depth. The 98-foot sampling interval was greater than GWQS for CT.

MW47 - PDB samples were collected at depths of 136.5 feet in October 2005 and May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW47 during this sampling period.

MW48 - PDB samples were collected at depths of 132 feet in October 2005 and May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW48 during this sampling period.

MW49 - PDB samples were collected at depths of 54 feet in October 2005 and May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW49 during this sampling period.

MW50 - PDB samples were collected at depths of 150 feet in October 2005 and May 2006. Concentrations of 1,1,1-TCA were detected during both sampling rounds and remained relatively stable. Concentrations of TCE were detected during the October 2005 sampling round only. These concentrations were less than the GWQS. No other concentrations of VOCs were detected above laboratory method detection limits during this sampling period.

MW51A - PDB samples were collected at depths of 135 feet in October 2005 and May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW51A during this sampling period.

MW52 - PDB samples were collected at depths of 109 and 170 feet in October 2005 and May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW52 during this sampling period.

MW53 - PDB samples were collected at depths of 127 and 140 feet in October 2005 and May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW53 during this sampling period.

MW54 - PDB samples were collected at depths of 120 feet in October 2005 and May 2006. No concentrations of VOCs were detected above laboratory method detection limits in any of the groundwater samples submitted from well MW54 during this sampling period.

RW09 - PDB samples were collected at depths of 90, 118, 147, 160 and 188 feet in October 2005 and May 2006. Concentrations of 1,1-DCE, cis-1,2-DCE, PCE, TCE and/or VC were detected greater than GWQS in well RW09 during this sampling round. Concentrations of 1,1-DCE were detected above laboratory method detection limits in all intervals 147 feet and above and were greater than GWQS in only the 147 foot sampling interval during the October 2005 sampling round. Concentrations of cis-1,2-DCE were detected above laboratory method detection limits in all intervals 160 feet and above and were greater than GWQS in all but the 160-foot interval during the October 2005 sampling round. In general, concentrations of 1,2-DCE decreased between October 2005 and May 2006 and no discernable patterns occured with increasing depth. Concentrations of PCE were detected greater than the GWQS in all intervals 147 feet and above during the May 2006 sampling round and in all intervals 118 feet and above during the October 2005 sampling round. In general, concentrations of PCE decreased between October 2005 and May 2006 and no discernable patterns occured with increasing depth. Concentrations of TCE were detected above GWQS in all intervals 147 feet and above. In general, concentrations of TCE decreased between October 2005 and May 2006 and no discernable patterns occured with increasing depth. Finally, concentrations of VC were detected greater than GWQS at all sampling intervals during both sampling rounds. No discernable pattern was observed between sampling rounds or with increasing depth relative to VC concentrations in well RW09.

RW10 - PDB samples were collected at depths of 170 feet in October 2005 and 152 and 170 feet in May 2006, after the well was retrofit. ENSR maintained the original sampling depth (170 feet) as well as incorporated the 152-foot depth to represent the five feet of the water at the top of the screened interval as requested by NJDEP. Concentrations of 1,1-TCA were detected above laboratory method detection limits in both sampling rounds and was higher during the October 2005 sampling round. Concentrations of and 1,1-DCE were detected during the October 2005 sampling round only. These concentrations were all less than the GWQS. No other concentrations of VOCs were detected above laboratory method detection limits during this sampling period.

RW11 - PDB samples were collected at depths of 115 and 170 feet in October 2005 and May 2006. Concentrations of PCE were detected above laboratory method detection limits in the 115-foot sampling interval during both sampling rounds. These concentrations were greater than the GWQS in both samples and relatively constant between rounds. PCE was not detected in the deeper depth interval.

RW14 - One PDB sample was collected at a depth of 140 feet in May 2006. Concentrations of 1,1,1-TCA, 1,1-DCA, 1,1-DCE, cis-1,2-DCE and TCE were detected above laboratory method detection limits in the sample submitted from well RW14; however, only TCE was detected greater than GWQS.

RW15 - PDB samples were collected at depths of 113, 135 and 156 feet in October 2005 and May 2006. Concentrations of PCE and TCE were detected greater than GWQS at all depths during both sampling rounds. In general, concentrations were greater during the May 2006 sampling round and remained relatively constant with increasing depth.

RW16 - PDB samples were collected at depths of 121 and 141.5 feet in October 2005 and May 2006. Concentrations of 1,1,1-TCA, 1,1-DCA, 1,1-DCE, 1,2-DCA, chlororethane, TCE and/or VC were detected greater than GWQS in at least one sampling interval during at least one of the two sampling rounds. 1,1,1-TCE was detected greater than GWQS at both depths in the October 2005 sampling round only. Concentrations were below GWQS but above detection limits during the May 2006 sampling round and for both sampling rounds, concentrations decreased with increasing depth. 1,1-DCA was detected at all depths during both sampling rounds; however, concentrations were greater than GWQS during the October 2005 sampling round at both depths and during the May 2006 sampling round at the 121-foot sampling interval only. Concentrations of 1,1-DCA were significantly higher in October 2005 versus May 2006 and decreased significantly with depth during both sampling rounds. 1,1-DCE was detected greater than GWQS at all depths during both sampling rounds. Concentrations decreased slightly with depth and were highest in the 121-foot sampling interval during the October 2005 sampling round. 1,2-DCA was detected at concentrations above laboratory method detection limits during the May 2006 sampling round only. Furthermore, these

concentrations were greater than the GWQS and decreased slightly with depth. Concentrations of chloroethane were detected greater than GWQS at both depths during both sampling rounds. Concentrations were higher during the May 2006 sampling round and generally decreased with increasing depth. TCE was detected above laboratory method detection limits in the 141.5-foot sampling interval during the October 2005 sampling round only at concentrations greater than GWQS. VC was detected at concentrations greater than GWQS at both depths during both sampling rounds. Concentrations were higher in October 2005 and decreased with increasing depths.

TH36 - PDB samples were collected at depths of 110 feet in October 2005 and May 2006. Concentrations of 1,1,1-TCA, 1,1-DCA, cis-1,2-DCE, PCE and/or TCE were detected above laboratory method detection limits in at least one of the two sampling rounds. Of these, only the concentration of PCE detected during the October 2005 sampling round was greater than GWQS. In general, concentrations of all of these compounds decreased slightly between October 2005 and May 2006.

THWLS - PDB samples were collected at depths of 104, 110, 116 and 123 feet during the May 2006 sampling round only. Concentrations of 1,1,1-TCA, 1,1-DCA, 1,1-DCE, TCE and/or VC were detected greater than GWQS in at least one sampling interval during the May 2006 sampling round. All concentrations for all five compounds generally increased with increasing depth.

WW2 - PDB samples were collected at depths of 88, 227, 335, 429 and 485 feet in November 2005 and May 2006. Concentrations of chloroethane, toluene, TICs and VC were detected in at least one interval during at least one sampling round. However, all concentrations were less than GWQS. Concentrations of chloroethane were detected in the 227-, 335- and 429-foot sampling intervals during the November 2005 sampling round only and increased slightly with increasing depth. Concentrations of toluene were detected in the 88- and 485–foot sampling intervals during the November sampling only and were only slightly higher in the lower depth interval. Concentrations of total TIC were detected in the 88- and 429-foot sampling intervals in the May 2006 sampling round only and decreased with increasing depth. Concentrations of VC were detected in the 335- and 429-foot sampling intervals during the May 2006 sampling round only and increased only slightly with increasing depth.

WW3 - PDB samples were collected at depths of 98, 215, 292, 341, 472, 615, 725 and 757 feet in May 2006 only. Concentrations of cis-1,2-DCE, TCE and VC were detected in at least one interval during the May 2006 sampling round. Concentrations of cis-1,2-DCE were detected above laboratory method detection limits but less than GWQS in all sampling intervals 292 feet and below with no discernable pattern with increasing depth. Concentrations of TCE were detected above laboratory method detection limits in all sampling intervals 292 feet and below with the exception of the 615-foot interval. Detected concentrations of TCE were greater than GWQS and generally decreased with increasing depth. Concentrations of VC were detected above GWQS in all sampling intervals 292 feet and below and generally increased with increasing depth.

4.7.2.2 Conventional groundwater sampling results

<u>October 2005 sampling event</u>

Three wells were sampled during the October 2005 sampling event using conventional methods. Groundwater analytical results reported that all concentrations of VOCs were less than GWQS in the groundwater samples collected from wells MW01, MW15 and RW13, with the exception of concentrations of PCE in groundwater samples collected from wells MW15 and RW13, and concentrations of 1,1-DCE in the sample collected from well MW15. Results are summarized in Table 10 and results that are greater the GWQS are illustrated on Figure 10.

May 2006 sampling event

Two wells were sampled during the May 2006 sampling event using conventional methods. According to groundwater analytical results, all concentrations of VOCs were less than GWQS in the groundwater samples collected from wells MW01 and RW13, with the exception of concentrations of tetrachloroethene and 1,1-DCE in the sample collected from well RW13. Results are summarized in Table 10 and results that are greater the GWQS are illustrated on Figure 10.

Specific comparison of the October 2005 and May 2006 sampling events

MW01 – Concentrations of VOCs were below laboratory detection limits for all compounds in both the October 2005 and the May 2006 sampling events. A duplicate groundwater sample was also submitted from this well in October 2005 and May 2006, and all compounds were also below detectable limits in the duplicate samples.

MW15 – A sample was submitted from this well during the October 2005 sampling round. Subsequently, MW15 was retrofitted and sampled via PDBs during the May 2006 sampling round.

RW13 – Concentrations of the detected compounds 1,1,1-TCA, 1,1,-DCA, and 1,1-DCE generally increased from 2005 to the 2006 sampling rounds. While concentrations of PCE remained relatively stable between rounds.

4.7.2.3 Low flow sampling - field parameter results

October 2005 sampling event

As shown in Table 12, field parameters collected from sampled wells across the site indicate that groundwater pH ranged between 6.68 and 7.80 across the site. Dissolved oxygen ("DO") measurements at each of the wells indicated that groundwater across the site was oxygenated at concentrations greater than 2.0 mg/l. Oxidation-reduction potential ("ORP") appears to be mainly oxidative across the site ranging between 0 mV and 210 mV, except at MW12, MW20, MW53, RW09 and RW16, where groundwater ORP appeared reductive and ranged between -97 mV and -197 mV.

May 2006 sampling event

As shown in Table 12, field parameters collected from sampled wells across the site indicate that groundwater pH from all the wells sampled in May 2006 ranged between 6.69 and 7.85. DO measurements at each of the wells indicated that groundwater across the site was oxygenated at concentrations greater than 2.0 mg/l, with the exception of groundwater at wells MW04 and MW53, which reported anaerobic conditions (less than 2.0 mg/l). ORP was observed to be mainly oxidative across the site ranging between 0 mV and 156 mV, except at MW03, MW12, MW16, MW20, MW53, RW9 and RW16, where groundwater ORP appeared reductive and ranged between -36 mV and -187 mV.

Results of the geochemistry analysis are summarized in Table 11. Refer to the MNA technical memorandum included in Appendix K and Section 5.0 for an in depth discussion of the natural attenuation parameter analytical results and ENSR's evaluation of MNA processes at the site.

5.0 Conceptual site model

This section describes the conceptual model for the former Ingersoll Rand site, which has been based on the information and data collected at the site over many years. Data collected in 2005 to 2006 is presented in Sections 3.0 and 4.0 above. Previous data is presented in earlier reports and summarized in Section 2.2.

A conceptual model describes the environmental setting and physical features of a site, potential sources of releases to the environment, the presence of chemicals in environmental media, and migration pathways to potential receptors. It provides a framework for understanding site data and making decisions. In particular, it supports evaluation of remedial alternatives.

5.1 Physical settings

5.1.1 Location and surroundings

The former Ingersoll Rand facility is located at 942 Memorial Parkway in Phillipsburg, New Jersey and occupies approximately 383 acres within the Town of Phillipsburg and Lopatcong Township. The facility consists of multiple buildings, foundations of former buildings, roads, parking areas, two landfills, several manmade ponds, landscaped areas, and agricultural fields.

As shown on Figure 1, the former Ingersoll Rand facility is situated on a small hilltop at approximately 360 feet above mean sea level (AMSL). Topographic elevation decreases to the east, south, and west, but most steeply toward the southeast. The area surrounding the site is of mixed commercial, residential, and agricultural use. Eastward, the site is bounded by Route 22. Some commercial development is present along Route 22, but beyond those properties, the land continues to be used primarily for agricultural activities. The southern portion of the site is largely bounded by Lock Street and some residential development. Land use beyond Lock Street is mixed agricultural and wooded. The northern portion of the site is bounded by a railroad right of way and Route 22. In this area, Route 22 is heavily developed with commercial and residential structures. The western boundary of the site at Roseberry, Center, and Green Streets is largely residential with some commercial development.

5.1.2 Topography and drainage

General topography at the former Ingersoll Rand facility ranges from gently to steeply sloping as the property is situated on a small hilltop. At the former Ingersoll Rand facility, topography begins to slope steeply to the west, south, and southeast; and moderately to the east.

The facility buildings are present at an approximate elevation of 360 feet AMSL with the lowest elevations at the site nearing 225 feet AMSL. The facility area is generally level and slopes off steeply towards Roseberry Street on the west side and towards the eastern and southern farm fields. Surface runoff in the plant area, on paved (impervious) surfaces, is generally channeled into a storm sewer network, which drains storm water from the western portion of the site into the Storm Water Retention Basin and from the eastern portion of the site into the Spray Pond and Inverse Ponds. Much of the precipitation that falls on the remaining permeable surfaces (agricultural fields, lawns, etc.) likely infiltrates to the subsurface.

5.2 Surface water and wetlands

There are three drainage ditches and four manmade ponds on the former Ingersoll Rand facility. Three of the manmade ponds (the Spray Pond and two Inverse Ponds) and one drainage ditch abut the Old Landfill to the north and east which have been determined to be non-jurisdictional water bodies by NJDEP Land Use

Regulation Program (LURP). Lopatcong Creek is located along the southern property boundary. The Delaware River is located one mile southwest of the facility.

Based on New Jersey Flood Water and Wetland maps and ENSR's previous wetland delineation activities, one emergent wetland is present on the site in the northeast detention basin. The geology and structure of the bedrock underlying the site were described in detail in the 2004 AGWMR & SRIR and is briefly summarized here.

5.3 Soils and surficial geology

The naturally occurring soils at the site consist of clayey or silty carbonate rock residuum and rock rubble resulting from the in-situ weathering of the underlying carbonate rock formations. Throughout the site, these soils were likely overlain by glacial till of the Port Murray Formation, which pre-dates the Illinoian and Wisconsinan glacial deposits common in northern New Jersey (Stone, Stanford, and Witte, 2002). It appears that much of the Port Murray Formation till may have been disturbed or removed in the process of facility development in the early 1900's or during earlier agricultural activity.

Native soil, present outside areas of fill or encountered during drilling beneath the fill, is typically characterized as orange-brown silty clay. Fill material was also imported from local areas and appears similar to the native site soils. Fill is present over much of the former manufacturing portion of the site and consists of mainly black sand sometimes mixed with other debris. Fill was generated onsite as the sand used in the foundry casting process was spent. Spent foundry sand was used onsite to level ground for construction projects or was disposed of (for much of the site's operational history) at the Old Landfill. Thickness of the fill varies across the site and ranges from zero to 40 feet. Fill is expected to be thickest at the Old Landfill (AOC-29) located toward the southern end of the facility.

5.4 Bedrock geology

The geology and structure of the bedrock underlying the site were described in detail in the 2005 GW-RIWP and the 2004 and 2005 AGWMRs and is summarized here.

Bedrock underlying the site consists of three major geologic units (as mapped by Drake, 1967) ranging in age from the late Cambrian through the early Ordovician periods. The first, the Allentown Formation, which is present throughout the western portion of the site, consists of a very fine to medium grained, gray to dark gray dolomite, with some interbedded shale or shaley dolomite. Boring logs from monitoring wells, recovery wells, and test holes in this area of the site indicate that bedrock surface elevation increases from west to east until apparently coming in contact with the Rickenbach Formation. The contact creates a ridge in the bedrock topography which traverses the facility area of the site from north to south (see Figure 14). Bedrock was encountered in several soil boring locations at depths ranging from two to greater than 30 feet.

The Rickenback Formation, a part of the Beekman Group of Lower Ordovician age (approximately 415 million years old) is a fine to coarse grained, light to dark gray dolomite with some breccia and chert beds and some shaley beds. This formation is present throughout much of the eastern portion of the site.

The Epler Formation, which contacts the Rickenbach Formation at the southeastern portion of the site, consists of interbedded, very fine grained, light to medium gray limestone, and fine to medium grained light to dark gray dolomite.

The two different formations of dolomite in this area (Allentown and Rickenbach) are difficult to distinguish due to their lithologic similarities and general lack of fossils. In the Phillipsburg area, the formations described above are folded in a recumbent fashion. A thrust fault (the Wipporwhill Thrust Fault) and an antiform (the Lopatcong Antiform) may be located within one half-mile of the site.

Based on data collected from the soil borings, wells, and geophysical testing conducted at the site, bedrock fractures are present at various depths throughout the site. Additionally, the bedrock displays characteristics of an active karst aquifer, as sink holes periodically appear on the site, and wells often collapse and have to be redrilled or abandoned. Large, open void spaces have also been encountered during drilling activities at various locations onsite. Some of these features are shown on geologic cross-sections in Figures 11 through 13.

The primary structural features of the bedrock beneath the site are the formation bedding planes. Detailed geophysical testing (presented in the 2004 AGWMR), indicates the fractures are oriented generally with a northeast to southwest strike and a dip of approximately 45° to the southeast. In the northeastern portion of the site, the strike appears to shift more east to west. The presence of the fractures in individual boreholes is shown on the cross-sections in Figures 11, 12 and 13. Figure 15 presents the major bedding plane orientations at wells at which geophysical investigations have identified the depth and orientation of the major structural features. The occurrence of fractures often coincides with the presence of shale beds within the overall carbonate aquifer.

5.5 Hydrogeology

5.5.1 Depth to groundwater

Groundwater at the site is present in the fractures and openings in the bedrock. A summary of well construction information is provided as Table 1. Groundwater is not present in the overburden above the bedrock.

The depth to groundwater ranges from less than five feet near Lopatcong Creek to greater than 100 feet in the uplands (Tables 1 and 2A through 2D). Groundwater levels are measured on a quarterly basis, and indicate great fluctuations in groundwater levels. Fluctuations up to 50 feet have been measured at certain wells. Due to large seasonal variations in the groundwater levels, site monitoring and recovery wells have been constructed as open-borehole wells, often with open borehole lengths of 125 to 150 feet.

There is an active groundwater pumping system in operation at the site, to contain and recover LNAPL. Pumping from the recovery wells affects the depths to groundwater.

5.5.2 Site-wide groundwater flow

Groundwater contour maps for the 2005 to 2006 monitoring period are presented as Figures 3 through 6. In those wells with large open boreholes, it is likely that the measured groundwater levels are not representative of the potentiometric surface, but instead represent an average for the borehole. However, the groundwater contour maps show overall hydraulic gradients from the uplands at the site (the manufacturing area) to the lowlands, especially in the vicinity of the Lopatcong Creek.

Consistent with regional hydrogeology, vertical gradients are expected to be downward in the uplands, and upward in the lowlands, representing discharge to the Creek. Water level data from MW49, located near Lopatcong Creek, do show an upward vertical gradient: water levels in the well are much higher than encountered during drilling, and are occasionally above the ground surface. The data from the packer testing (Section 4.3.3 above) show downward vertical gradients at many of the wells in the uplands.

The flow of groundwater within the bedrock is primarily related to the size, number, and interconnection of the openings present in the rock. As described in the geology above, the primary openings in the bedrock beneath the site are associated with bedding planes. Other openings, such as faults, fractures, and joints may also be present. In a carbonate aquifer system, the rock itself is soluble, allowing potential solution cavities to form and existing fracture networks to widen through chemical reactions between the groundwater and the rock.

Therefore, the structure of the bedrock creates anisotropy that affects groundwater flow (and chemical transport). It is easier for groundwater to flow within the openings and fractures in the rock, which represent zones of higher permeability. It is more difficult for groundwater to flow through the less permeable, solid rock that separates these zones. Therefore, groundwater will tend to flow within these fractures, generally in the northeast/southwest directions due to the dominant orientations of the fractures at the site. Similarly, depending on hydraulic gradients, the groundwater will tend to preferential flow vertically up or down the dip of the fractures, simply due to their higher permeability.

As shown in the geologic conceptual model, there are other less important fracture orientations (see Figure 15). So while the dominant direction of flow will be northeast and southwest, there will also be other components of flow.

The importance of fracture flow is confirmed by examining the distribution of the LNAPL plume (shown on Figure 7). It is distinctly elongated from northeast to southwest, showing it is easier for the LNAPL to migrate within bedding fracture than perpendicular to them.

5.5.3 Local groundwater flow

The geologic work has demonstrated that an important fracture network exists, oriented northeast-southwest and dipping to the southeast. However, the presence of these fractures does not necessarily indicate significant water-bearing zones, or significant influence on groundwater flow and transport. Substantial work was performed in 2005 and 2006 to better understand the hydrogeologic system beneath the site (as described in Sections 3.0 and 4.0 above), particularly relative to fracture permeability and interconnectedness, and their influence on contaminant migration.

For example, as described in Section 4.3.2, the salt slug testing results provided evidence that many fractures observed during drilling and geophysical testing are water-bearing. The salt slug test showed locations where fresh water appears to be entering the well and where the salt solution may be leaving, which indicates the fractures that are capable of moving water. The packer testing focused on specific fractures and directly tested whether they yield water, by isolating them and attempting to pump. The packer testing also provided analytical data for a specific vertical interval within the borehole, isolated by the packers from the remainder of the borehole.

Based on the data gathered from the most recent investigation, refinements have been made to the hydrogeologic conceptual model and are summarized below.

Vertical hydraulic gradients. At wells where they can be observed, vertical gradients appear to be generally downward. This is shown in many of the salt slug tests, although the salt solution will have a higher density than water and therefore, will tend to move downward simply due to gravity. However, clear downward flow is seen in certain wells (e.g., MW34, RW15). In addition, the packer testing can indicate hydraulic heads above and below in comparison to the tested interval. Once the packers are inflated, heads in the different intervals should stabilize, and the differences should reflect the different head conditions. In most of the wells tested, the data indicate heads are generally greater in shallow intervals and lower in deeper intervals, indicating a vertical gradient downward.

Well yield and permeability. Many of the wells at the site do not yield significant volumes of water, despite their relatively long open intervals. This indicates a general lack of water-bearing fractures. Packer testing was typically conducted in wells with higher yields for feasibility of testing. The packer testing generally demonstrated that for wells with reasonable yield and a long open interval, there was typically one primary water-bearing zone with other intervals that provided little or no water.

For wells with yield and shorter open intervals (less than about 50 feet), much of the length of the borehole was water-bearing. That is, there was not necessarily a single short section of the borehole that was water-

bearing. During some of the packer tests, it was not possible to completely isolate the tested intervals. This may be due to fracture interconnections either on the walls of the boreholes or in the bedrock outside the wells. These observations suggest that water-bearing fractures may also occur in zones rather than single, isolated fractures. This is also shown in the salt slug testing at MW35.

The data collected provides no evidence to suggest that small fractures are important in the hydrogeologic system beneath the site. In fact, many of the wells on the site, despite extended open intervals, do not yield sufficient water to collect a representative groundwater sample by pumping. In wells that do have sufficient yield, the water-bearing capacity seems limited to specific fractures or zones, and is not distributed throughout the length of the wells. Therefore, small-scale fractures do not appear to contribute significantly to the groundwater flow system (and therefore, to potential transport of contaminants) at the site.

Aquifer Anisotropy and Fracture Interconnection. The pumping test conducted at well MW06 provided a demonstration of the importance of the northeast-southwest fracture system on the groundwater flow. Pumping at well MW06 resulted in significant drawdown only at well MW35, located to the southwest along the bedrock strike. Little or no drawdown was observed at other wells that are located in other directions.

The pumping test also indicated that fractures may be connected across significant distances. Wells MW06 and MW35 are located approximately 400 feet from each other. While this information is from a single pumping test, similar behavior is seen in the distribution of the LNAPL plume and in the occurrence of dissolved constituents in groundwater (discussed below). The extent of the LNAPL plume is shown on the map in Figure 7, and on the cross-section in Figure 12. Cross-section C-C' (Figure 12) is oriented parallel to the bedrock strike. As shown in the section and on the map, the presence of LNAPL in wells extends approximately 3,000 feet (wells MW20 to MW11) to the northeast and southwest, parallel to the strike of the bedrock fractures. In contrast, the width of LNAPL perpendicular to strike is less than 1000 feet, or one-third the extent along strike. Cross-section C-C' may be examined for the presence of interconnected fractures; such fractures appear to be present at elevations of approximately 195, 225, and 250 feet AMSL. At these elevations, there are fractures that were noted in several wells across the section.

As shown in cross-section E-E' (Figure 12), also oriented parallel to strike, there is a common fracture between wells MW35 and MW06 at an elevation of approximately 232 feet AMSL.

Similarly, the occurrence of flow (and transport) downward with the dip of the fractures is shown in the vertical distribution of dissolved contaminants, for example, at proposed deep well MW56 (pilot holes PH1, PH2). The interpretation of the chemicals in groundwater and their potential fate and transport are discussed in more detail below.

5.6 Potential sources of contaminants to groundwater

As discussed in detail in the 2004 SHR, Ingersoll Rand conducted a variety of manufacturing operations at the facility, including the manufacturing of molds, pumps, compressors, and drills. Facility documents indicate manufacturing operations remained similar throughout facility history. Molding and casting occurred in the northwest corner of the site, drill manufacturing occurred in the northeast corner of the developed portion of the site, with compressor manufacturing located south of the drill manufacturing area. Pump manufacturing was originally conducted in the southwest corner of the site but moved to the central facility area in the 1980s. Metal castings were finished via cutting and grinding operations, sand and shot blasting, heat treating, pickling, welding, coating, plating, or painting and were assembled into finished products. The completed drills, pumps, and compressors were tested onsite.

Constituents detected in groundwater beneath the site include VOCs (specifically chlorinated solvents) and LNAPL. The LNAPL appears to be highly degraded fuel oil, and does not appear to be associated with any constituents dissolved in groundwater.

A detailed discussion of the documented releases, suspected sources areas, and soil investigations in source areas is provided in previous reports. A brief summary of the potential sources that could have impacted groundwater is provided below.

5.6.1 LNAPL

A number of significant releases of No. 2 fuel oil were documented in the facility records, starting from the 1940s, including:

- An estimated 200,000 to 250,000 gallons of No. 2 fuel oil was released at one point in the 1940s where a pipe ruptured near Building #13, and the loss was not discovered for several days over a holiday weekend.
- Also in the 1940s, approximately 20,000 gallons of No. 2 fuel oil was released from a ruptured pipeline near Building #4.
- A 50,000 to 60,000 gallon No. 2 fuel oil leak was reported in a pipeline outside Building #8A in the 1960s.
- Approximately 38,000 gallons of an oil/water mixture was released from the eight inverse ponds located on the east of the site over four days in 1975. The oily component of this release appears to have been largely cutting oils.
- Soil investigations performed at the site have encountered soils impacted by oils and/or fuels, for example, beneath the former underground Quench Oil Tanks and the current oil water separators, which previously served at facility “day tanks”.
- Other historical records document more minor spills of substances including No. 2 and No. 6 fuel oils, gasoline, waste oil, and lubricating oil.

These records indicate that various quantities of oils and/or fuels were historically released which resulted in the LNAPL plume. Groundwater recovery operations to address LNAPL were started in the 1980s and continue to the present. Groundwater sampling in the vicinity of the LNAPL plume indicates that it is not associated with any dissolved constituents in groundwater, which is consistent with the LNAPL being present in the subsurface for many decades.

Extensive soil investigations and remediation were performed between 1996 and 2005. Based on the soil investigations reported in separate submissions, there appears to be no continuing sources of LNAPL remaining at the site.

5.6.2 Chlorinated solvents

In contrast to the fuel oil, there have been no documented releases of solvents at the facility. Given the type of manufacturing operations, it is possible that chlorinated solvents would have been used locally and in relatively small volumes. Solvents were not manufactured at the site, and were not used in high volumes in the manufacturing of large, heavy equipment. The following summarizes the investigations conducted to determine potential sources of dissolved chlorinated VOCs:

- Various buildings were identified that may have employed the use of solvents. Based on the facility documents reviewed, only a few dispersed operational areas were identified where chlorinated VOCs are known or likely to have been used. These areas include Building #14, the solvent storage area located south of Building #9, the air trappage tank at Building #12, and the cesspool west of Building #91.

- As reported in the 2005 Main Facility Area S/IRI/RAW, soil investigations completed in the area of Building #91 did not identify any remaining soil source materials that have the potential to act as continuing source to groundwater.
- Soil investigation results at AOC-19 (Air Trappage Tank at Building #12) indicated PCE concentrations of 1.5 and 7.6 mg/kg from two samples collected in one soil boring. Impacts in this area have been delineated and remedial action was proposed in the 2005 SI/RI/RAW for the Main Facility Area to include deed restrictions and engineering controls. NJDEP has not yet approved or commented on this proposal.
- As described in the 2005 SI/RI/RAW for the Main Facility Area, no VOCs were detected in the soil samples collected during an investigation completed in the solvent storage area south of Building #9. Soil borings extended to the bedrock. .

As outlined above, based on soil analytical data, there are only a few areas with detectable concentrations of chlorinated VOCs present in soil and there are no identified sources of chlorinated VOCs in the soil that have the ability to impact groundwater. No specific source areas for the chlorinated VOCs present in groundwater have been identified, despite significant investigation of the soil throughout the site.

Based on the results of ENSR's comprehensive investigations, no significant releases of chlorinated solvents have been identified and no ongoing source areas have been found. Given the manufacturing history of the site and the concentrations observed in groundwater, it is more likely that historic solvent releases were minor and non-point in nature. Furthermore, such spills are likely to have occurred long ago prior to the implementation of formal handling and management practices in the 1970s. Since they were likely small in nature and time has passed, residual concentrations in soils may have attenuated over time leaving the low levels of chlorinated VOCs that are found in certain wells at the site.

5.7 Nature and extent of contaminants in groundwater

Tables 2A through 2D summarize groundwater elevation and LNAPL thickness data, and Figure 7 shows the limits of the LNAPL plume. Groundwater analytical data is presented on Table 4 (Summary of Offsite Well Results), Table 6 (Passive Diffusion Bag Results), Table 7 (Packer Testing Results), Table 8 (Deep Well Packer Testing Results), Table 10 (Conventional Well Sampling Results), and Table 16 (Historical Summary of VOC Parameters – April 2002 to Present). Groundwater analytical data are also shown on the maps in Figures 8 and 10.

5.7.1 LNAPL

The extent of the LNAPL is shown on Figure 7. The limits of the LNAPL plume have been defined based on the presence of LNAPL detected in individual wells. Ingersoll Rand has operated a groundwater pumping and oil recovery system since 1987 to contain and recover the LNAPL.

The bedrock fracture system has greatly influenced the distribution of the LNAPL plume. As a result of higher permeability along fractures, the plume has migrated primarily to the northeast and southwest. The extent of the plume in these directions is approximately 3,000 feet. By contrast, perpendicular to strike, the plume extent is approximately 1,500 feet, or about one-half the extent parallel to bedrock strike.

Data from LNAPL fingerprinting has shown that the LNAPL is old and highly degraded and is comprised of mixed #2 and other fuel oil as well as cutting and lubricating oils. Based on groundwater analytical data that has been collected from wells with LNAPL, there appears to be no current dissolution of soluble fractions from the LNAPL into the groundwater. Based on previous fingerprint analytical sample results, the LNAPL consists of residual, stable fractions, consistent with the age and degraded nature of the LNAPL.

5.7.2 CVOCs

Chlorinated VOCs are present in a number of wells at the site, generally at relatively low concentrations (less than about 200 ug/l). They are present in wells sporadically across the site, and so do not form a contiguous plume of chlorinated VOCs. In addition, in the various wells across the site, different groups of chlorinated VOCs are present. For example, chlorinated ethenes (e.g., PCE, TCE) may dominate in some wells, and chlorinated ethanes (e.g., 1,1,1- TCA) in other wells. This is consistent with the conceptual model of relatively small, sporadic releases taking place in local areas around the site, rather than one or more very large spills.

Further, as shown by the results of our investigations, there are no dissolved BTEX compounds in the groundwater although there is an LNAPL plume on the groundwater beneath the site. Meanwhile, dissolved chlorinated VOCs are found at wells across the site in varying concentrations without any DNAPL or other identified source. Based on historic investigations as well as the historic use of these compounds, chlorinated VOCs were not used until the 1950s or 1960s, whereas various fuel and cutting oils were used at the site since the early 1900s making it more probable that LNAPL sources are much older than the chlorinated VOCs.

Using the results of the MNA analysis (discussed in Appendix K), which indicate that geochemical conditions are less favorable for the degradation for the chlorinated VOCs, longer periods of time are required to complete the degradation of chlorinated VOCs in the groundwater at the site. Conversely, the geochemical conditions are more favorable for the degradation of dissolved phase petroleum hydrocarbons at the site, thus we observe the general absence of these compounds in the groundwater as they would have degraded more quickly in the groundwater at the site.

The levels of chlorinated VOCs at specific wells in excess of NJ groundwater quality standards are shown on the map in Figure 10. Chlorinated ethenes (PCE, TCE, cis-1,2-DCE, vinyl chloride) are present in wells in center of the manufacturing area, the Cameron Area, and wells MW04 and MW37 in the southern cornfield. The highest concentrations are 380 ug/l of cis-1,2-DCE in well RW09, and 183 ug/l of TCE in PH1/PH2 (the deep pilot holes). All other concentrations of chlorinated ethenes were less than 100 ug/l in October 2005 and May 2006.

In the Cameron Area near the southwest boundary of the site, concentrations of chlorinated ethenes were less than 10 ug/l. Higher concentrations (up to 80 ug/l) were detected at well MW04 which is located approximately 960 feet east of the Cameron Area. Well MW37, located approximately 480 feet southeast of MW04, was reported to have concentrations of ethenes less than 25 ug/l. Lower concentrations of TCE (less than 2 ug/l) were detected in domestic wells located south of the site along Lopatcong Creek (see Figure 8).

Chlorinated ethanes (1,1,1-TCA, 1,1-DCA, chloroethane) are detected in wells in the center of the former manufacturing area, and in the Cameron Area. The highest concentrations are 1260 ug/l of chloroethane and 620 ug/l of 1,1-DCA at well RW16, and 188 ug/l of 1,1-DCA at well THWLS.

In the Cameron Area, the maximum concentration of 1,1,1-TCA was 56 ug/l in well MW06 and 89 ug/l in well MW35. Chloroethanes were not detected in any other wells above the NJDEP groundwater quality standards. These constituents were not detected any offsite domestic wells.

Based on the data from the site, the horizontal extent of the chlorinated VOCs has largely been defined. In the center of the manufacturing area, the limits to the north, east, and west have been defined. To the south, TCE in groundwater extends offsite to domestic wells, being present in one at the NJDEP groundwater quality standard (1.0 ug/l). The extent to the southeast is defined by Lopatcong Creek, which is the regional point of groundwater discharge. Therefore, groundwater is expected to discharge to the Creek and not flow any further to the south. This is confirmed by the sampling of domestic wells on the south side of the Creek, showing no VOCs present. Data from the wells in the Cameron Area suggest chlorinated VOCs (both chlorinated ethanes and chlorinated ethenes) are not delineated at the property boundary.

The construction of the monitoring wells at the site with relatively long open intervals was not designed to obtain data on the vertical distribution of chlorinated VOCs in groundwater. Groundwater sampling using PDBs can provide some information about vertical distribution, but depending on the flow regime within individual wells, the PDB data may represent some degree of mixing. However, recent screening groundwater analytical results from packer testing, the deep well installation, and well retro-fitting can be used to aid in interpreting the vertical extent of chlorinated VOCs, and in evaluating how representative the PDB results are.

For example, at well MW06, the hydrogeologic testing indicated the presence of water-bearing fractures at a depth of about 105 to 110 feet, and a very significant water-bearing zone at about 180 to 185 feet. Packer testing was performed at these two intervals. Chlorinated VOC concentrations in the shallower zone were consistent with PDB data from the 110-foot depth (40 to 50 ug/l of 1,1,1-TCA; 5 to 6 ug/l of TCE). However, chlorinated VOC concentrations in the deeper zone during packer testing were about 20% of the levels measured in the PDB samples from a similar depth. This well was then retrofit. Because of the need to define the vertical extent of constituents and its water-bearing capacity, the deepest zone was selected for the retro-fit well. Chlorinated VOC concentrations in the retro-fit well were lower still.

This information suggests that the following interpretation of chlorinated VOC distribution in MW06 and implications for groundwater conditions over the entire site.

- PDB sampling from the shallower zone is representative of the groundwater in the formation, as shown by the consistency between PDB and packer testing results.
- The salt slug and packer testing suggested the presence of a downward gradient and flow in the borehole. As the concentrations in the PDB sample analytical results from the middle zone is similar to the shallow zone, and there are no water-bearing fractures observed in the middle zone, it is likely that the groundwater being sampled in the middle zone is flowing downward from the shallower zone.
- The concentrations from the packer testing sample analytical results in the deepest interval are lower than the PDB sample analytical results from this zone. The PDB sampling in the deeper zone is biased high due most likely to the downward gradient and flow in the well, which transported higher concentrations from the shallower zone. This was confirmed when MW06 was retrofit to be open only at the deeper depth; i.e., concentrations measured in the retrofit well were less than the concentrations prior to retrofit of the well.
- The markedly reduced concentrations in MW06 following the retro-fit indicate that the vertical extent of the CVOCs is limited. At MW06, the vertical extent of chlorinated VOCs is likely to be less than 180 feet deep. This suggests that in general previous data from the wells at the site has given a biased impression of the vertical extent.
- While the concentrations measured using PDBs may be biased, they are not grossly in error based on their similarity (order of magnitude) to samples from packer testing. That is, the mixing in the borehole, which influenced the PDB data, does not result in obscuring the presence of zones with significantly higher (orders of magnitude) contaminant concentrations. There is no reason to modify the conceptual site model of relatively low concentrations of chlorinated VOCs in groundwater.

Although the above observations are based on well MW06 only (the well in which the full spectrum of testing was performed), the observations are generally consistent at other wells. Additional interpretations of groundwater conditions include the following:

- Significantly elevated concentrations (orders of magnitude) of chlorinated VOCs were not found in any of the packer testing of vertically isolated zones, compared to PDB or conventional sampling results. Therefore, this is no indication that significantly elevated concentrations of chlorinated VOCs are present in the bedrock at the site. And there is no reason to suspect residual DNAPL

or other source area that is a continuing source of high concentrations in the groundwater. In the deep pilot hole, where there has been no potential for vertical mixing over time, the maximum concentrations measured were less than 200 ug/l, lower than the onsite maximum concentrations.

- At wells such as MW13, MW26, and MW27, no VOCs have been detected in PDB and conventional sampling. The packer testing confirmed no VOCs present in these wells (two VOCs, methylene chloride and toluene, were occasionally detected, but they are most likely due to laboratory blank contamination). These results confirm that there are no VOCs present in these wells, regardless of the sampling method or the specific vertical interval tested. This provides further support that the previous sampling at the site is representative, and there are no individual vertical zones of contamination within these wells that have not been previously identified.
- In wells where the yield is generally poor, there is little difference between VOC concentrations in PDBs from different depths and packer testing at different depths. The low yields of these wells indicate very slow flow or movement in the well. Because there are no significant water-bearing zones in these wells, any VOCs present are not a significant part of the groundwater flow system.
- At wells with shorter water columns and shorter open intervals (less than 50 feet), there is often little difference in conditions observed in different vertical intervals within the well. For example, at wells such as MW35, MW34, and MW04, the PDB results are similar within each well. Good yield was obtained in each packer tested interval, and the packer testing results were similar to each other and similar to the PDB results. These findings suggest that fractures occur in zones, and it may be only with open intervals greater than about 50 feet that vertical differences within the well become important.
- In wells where there are differences between analytical results from different vertical intervals, there is typically one zone that has higher VOC concentrations. The location (depth or elevation) of this zone varies from well to well. Beneath areas where historic releases are assumed to have taken place (the main manufacturing area, the Cameron Area) and northeast/southwest of these areas (along bedrock strike), the higher VOCs seem to be in shallower zones (RW16, THWLS, MW06, MW35, LNAPL plume). Away from source areas, the higher VOCs have been observed to be in deeper zones, most likely reflecting down-dip movement (e.g., at the deep test-hole).
- The results from well MW06 and from the deep pilot hole both demonstrate that there is a vertical limit to the extent of the chlorinated VOCs in groundwater.

The presence of chlorinated VOCs can also be examined across wells:

- It appears that not only are MW06 and MW35 hydraulically connected (based on the pumping test), but their chlorinated VOCs appear related. Similar groups of chlorinated VOCs are present in both wells in a common water-bearing zone at an elevation of about 230 feet AMSL. Given the results of the pumping test, the connection between the chemicals in the wells would be expected.
- There appears to be a similar relationship between the hydrogeology and chemistry in wells RW16 and THWLS. A similar list of chlorinated VOCs in present in both wells in a common water-bearing zone at an elevation of approximately 235 feet AMSL. Well THWLS is located southwest of RW16.
- In contrast, there appears to be little relationship between chlorinated VOCs observed in MW04 and in MW37, both located in the southern cornfield. Although TCE is present in both wells, the other chlorinated ethenes are only present in MW04, and carbon tetrachloride is only present in MW37. Given their relative locations with respect to the bedrock structure, a significant hydraulic connection between the two would not be expected, and this is supported by the different chemistry in the two wells.

In contrast to the LNAPL, which is present in many wells and forms a contiguous plume, based on the discussion above, there appears to be little connection between the chlorinated VOCs in various wells both in terms of chemistry and hydraulic connection.

The sporadic and generally non-continuous distribution of chlorinated VOCs in groundwater is consistent with the results of the soil investigations and the type of sources discussed above. That is, the source of the chlorinated VOCs in groundwater is attributed to the small scale and localized historical use of solvents, with minor releases over time rather than one or more major release in a specific source area(s).

5.8 Fate and transport

The previous sections have discussed the current horizontal and vertical distribution of chemicals in groundwater and the physical system (geology and hydrogeology) in which the chemicals are present. The fate and transport is a discussion of how the chemicals may move within this system (transport) and what may happen to them as they move (fate).

5.8.1 LNAPL fate and transport

As discussed above, the distribution of the LNAPL is strongly influenced by the structure of the bedrock formation, with the primary movement northeast and southwest along bedding plane fractures. The extent of LNAPL to the south perpendicular to the major northeast-southwest bedrock strike is anticipated to be caused by the variations in expected historic source locations and the natural variation in groundwater elevation which may aid in the transport of LNAPL in vertical or subvertical fractures that provide interconnection between bedding fractures.

Data from LNAPL fingerprinting has shown that the LNAPL is old and highly degraded. No dissolution of soluble fractions from the LNAPL into the groundwater has been documented and they are expected to have already attenuated. The fingerprint data from previous LNAPL sampling is consistent with that of highly weathered fuel oil and cutting oil and consist of the residual, stable fractions. Therefore, the residual LNAPL is unlikely to change in character in the future.

There is an active groundwater pumping and product recovery system at the site that locally depresses groundwater elevations and prevents migration of the LNAPL. While the groundwater and LNAPL system remains in operation, there should be no significant migration of LNAPL. There are currently no plans to shut-down the recovery system. Based on the data collected over the past several years, the LNAPL plume appears to be stable.

5.8.2 Chlorinated VOCs fate and transport

Chlorinated VOCs are present sporadically around the site in specific fractures or fracture zones. They will continue to migrate with the advective groundwater flow as influenced by the anisotropic nature of the bedrock. That is, chlorinated VOCs will tend to move predominantly northeast-southwest and down the dip of the fractures to the southeast with the primary fracture orientation as potentiometric gradients allow.

In addition to the primary directions of transport controlled by the most significant fracture orientation, there are other smaller components of transport in other directions associated with less important fracture orientations. The existence of these more minor components is shown in the presence of VOCs in monitoring wells with poor yields and in non-water bearing zones within wells.

The primary pathways of migration within the site are within water-bearing fracture zones. These water-bearing zones have higher permeability and so are able to effectively move water and transmit chemicals. Although chemicals are present in non-water bearing zones, transport within these zones will be very slow due to the lack of permeability. However, over time, chemicals may slowly leave the non-water-bearing zones and

enter the water-bearing zones, providing a source of chemicals at diluted, low concentrations to the water-bearing zones.

The processes acting on the VOCs in the groundwater typically includes retardation, dispersion, and degradation. These processes all act to attenuate the migration of VOCs, either slowing their migration or reducing concentrations.

Retardation is caused by partitioning between the liquid (groundwater) and solid (aquifer) phases, which causes the rate of chemical movement to typically be slower than the rate of groundwater movement. For organic chemicals, retardation is usually caused by partitioning to organic solids within the aquifer matrix. Because the carbonate bedrock aquifer at the site is unlikely to contain significant organic carbon, retardation is expected to be a relatively unimportant attenuation process.

Dispersion is the reduction of chemical concentrations due to mixing between waters with higher and lower concentrations. Dispersion in porous media is important and predictable. However, the importance of dispersion in fractured rock aquifers varies greatly depending on the specifics of the groundwater flow system and is often of little influence in high yield and high flow groundwater systems.

VOCs are known to degrade over time in many groundwater systems, causing concentrations to decrease. Degradation processes may be biological or abiotic. Different classes of chemicals are effectively degraded in different types of subsurface environments. For chlorinated VOCs, the primary process of degradation is known as reductive dechlorination, where the chemicals are used as electron acceptors by microbes in anaerobic (low oxygen) environments.

The groundwater conditions at the former Ingersoll Rand site have been studied to evaluate the importance and effectiveness of these natural attenuation processes. The evaluation is presented in a technical memorandum, included as Appendix K to this report. The evaluation consisted of considering lines of evidence for the natural attenuation processes, including observation of decreasing mass/concentrations, evaluation of geochemical conditions consistent with reductive dechlorination, and examining the presence of bacteria in the groundwater. The results of the evaluation suggest that natural attenuation of chlorinated VOCs in groundwater is taking place at the site, based on the following findings

- Geochemical conditions are generally appropriate to support reductive dechlorination, especially beneath the former manufacturing area;
- Degradation products from degradation of PCE, TCE, and 1,1,1-TCA are present;
- Concentrations in wells are generally decreasing or stable over time; and,
- Heterotrophic plate counts demonstrate that bacteria are present in most of the impacted wells at the site.

While degradation of chlorinated VOCs does appear to be taking place, it is a process that takes time, as demonstrated by the continued presence of these constituents in the wells. The geochemical conditions documented in the groundwater at the site are more favorable for degradation of petroleum hydrocarbons (that is, the dissolved components of the LNAPL) than for the chlorinated VOCs. The use of chlorinated solvents is relatively new (post World War II) compared to petroleum hydrocarbons. These factors in combination are the reasons for the persistence of the low levels of chlorinated VOCs in the groundwater relative to dissolved petroleum hydrocarbons potentially associated with the LNAPL.

It is not likely that there will be future additional migration of chlorinated VOCs in groundwater. There are no continuing sources to groundwater, and the observed concentrations in wells have been shown to be stable or decreasing over time. Although concentrations may fluctuate, the overall trend is stable or decreasing, as provided in the MNA Technical Memorandum (Appendix K), summary table of trends). Therefore, the

distribution of chlorinated VOCs in groundwater appears to be at steady-state, or decreasing in areas such as the vicinity of the main site building and southwest side of site. As documented in the Remedial Action Work Plan in Section 7.0, ENSR proposes a long-term monitoring program be in place to confirm the lack of migration of the dissolved chlorinated VOCs beneath the site.

In summary, the chlorinated VOCs in groundwater will tend to migrate predominantly with the structure of the bedrock (northeast-southwest and down-dip to the southeast) in water-bearing fracture zones, with other components of migration present but less important. During migration, dispersion/dilution and degradation (by reductive dechlorination) will act to reduce concentrations over time and distance. Due to these processes, the distribution of chlorinated VOCs appears to be at steady-state and may be decreasing in certain areas. Additional future migration of chlorinated VOCs is not likely, except possibly within the LNAPL containment area, if the pumping system were to be shutdown.

5.9 Potential receptors

The former Ingersoll Rand site and most of the surrounding area is provided drinking water by the municipal water distribution system. An extremely detailed survey of potential groundwater users in the vicinity of the site has been conducted; the results are discussed in Section 4.1. In summary, few residences were identified as possibly having private potable wells including those in the area south of the property on Lock Street as the municipal water supply has not been extended eastward on Lock Street. These private potable wells are potential receptors of possible impacts identified on the former Ingersoll Rand site.

Groundwater sampling at several private water supply wells located south of the former Ingersoll Rand property indicated concentrations of TCE present in groundwater at or slightly less than the groundwater quality criteria. These results are presented in Section 4.1. Third party sampling of one private well (481 Locke Street) in July 2006 found TCE present at 1.6 ppb. Additionally, one private well location located approximately one-half mile southwest of the site (840 South Main Street) was reported to have TCE concentrations greater than the GWQS. However, based on the investigations presented in Sections 3 and 4 of this report, it is not anticipated that these impacts are related to TCE concentrations at the former Ingersoll Rand site.

Based on the conceptual model, which indicates potential groundwater discharge at or near Lopatcong Creek, this surface water body is another potential receptor. However, based on the fact that Lopatcong Creek is a fast moving and well aerated stream, it is not anticipated that any identified groundwater impacts have the ability to degrade the surface water quality at this location.

Pursuant to the 2005 NJDEP Vapor Intrusion Guidance, structures above the area of impacted groundwater may be a potential receptor for volatilization of VOCs in groundwater. A preliminary indoor air quality evaluation at several buildings on the former Ingersoll Rand facility have indicated chlorinated VOC impacts greater than the indoor air screening levels but less than OSHA permissible exposure limits. This evaluation was reported as part of the 2005 SI/RI/RAW of the Main Facility Area of the site and no additional work was proposed relative to indoor air monitoring. NJDEP has not yet approved or commented on recommendations included in that report.

5.10 Conceptual model summary

The aspects of the conceptual site model are summarized below.

- The geology beneath the site is a fracture dolomitic bedrock, with primary fractures oriented northeast-southwest and dipping to the southeast.
- Groundwater is present in the bedrock fractures or fracture zones, which creates anisotropy in the groundwater flow system. Flow takes place preferentially in the fractures zones (northeast-

southwest orientation), and less so in other directions. Outside the fracture zones, the bedrock has relatively low permeability.

- The hydraulic gradient is generally southward towards Lopatcong Creek. In the uplands the vertical gradient is downward. In the lowlands, vertically gradients are expected to be upward with discharge to Lopatcong Creek.
- Historic releases of fuel oils and to a lesser extent cutting and lubricating oils are well documented and have resulted in the presence of LNAPL in groundwater below the facility. Based on the extensive sampling conducted to date, there are no continuing sources of LNAPL contributing to the impact.
- The LNAPL consists of old, highly degraded residual hydrocarbon fractions with no dissolved component. It is present as a plume extending northeast to southwest parallel to the bedrock structure. Ingersoll Rand operates a groundwater pumping and LNAPL recovery system to recover and contain further migration of LNAPL.
- Chlorinated VOCs including ethenes (PCE, TCE, DCE, vinyl chloride) and ethanes (1,1,1-TCA, 1,1-DCA, chloroethane) are present at relatively low concentrations in wells sporadically around the site, including the main manufacturing area, the Cameron Area, and the southern cornfield. TCE has been detected in domestic wells to the south of the site. The extent of the chlorinated VOCs is defined to the north, east, and west of the manufacturing area. To the southeast, the extent is limited by Lopatcong Creek, the regional groundwater discharge point. To the southwest, the extent has not been fully defined, and chlorinated VOCs in groundwater may extend off site.
- Vertical delineation has been defined in the vicinity of the future location of deep well MW56 based on sampling results from pilot hole PH2. However, the vertical limit is expected to vary across the site depending on distance from source(s) and the presence of water-bearing zones.
- The packer testing, designed to test conditions in vertically isolated intervals, did not reveal any previously undetected zones of increased impacts. Chlorinated VOC concentrations from conventional sampling, PDBs, and packer testing, while variable for different reasons, are not extremely different from each other. In particular, there is no evidence suggesting DNAPL may be present to act as a continuing source.
- In contrast to the LNAPL, the extent of connection of chlorinated VOCs across wells appears limited. No extensive, contiguous plume of chlorinated VOCs is present. Instead, there are several distinct smaller areas of impact, due to the nature of the likely sources, that is, relatively small scale and taking place at multiple areas at the site.
- The primary pathways of migration for chlorinated VOCs are within water-bearing fracture zones. These water-bearing zones have higher permeability and so are to be able to effectively move water and transmit chemicals. While chemicals may be present in non-water bearing zones, transport within these zones is very slow due to their relatively low permeability. However, over time, chemicals may slowly leave the non-water-bearing zones and enter the water-bearing zones, and then be transported more quickly.
- The importance and effectiveness of natural attenuation processes was evaluated by considering lines of evidence. The results of the evaluation suggest that natural attenuation of chlorinated VOCs in groundwater is taking place at the site, based on the following findings (1) geochemical conditions are appropriate to support reductive dechlorination, especially beneath the former manufacturing area; (2) degradation products from the likely source products of PCE, TCE, and 1,1,1-TCA are present; (3) concentrations in wells are generally decreasing or stable over time; and, (4) the heterotrophic plate counts demonstrate that bacteria are present in most of the impacted wells at the site. While degradation of chlorinated VOCs does appear to be taking place, it is a process that takes time.

- In general, it is unlikely that there will be future additional migration of chlorinated VOCs in groundwater. There are no continuing sources to groundwater, and the observed concentrations in wells have been shown to be stable or decreasing over time. Although concentrations may fluctuate, the overall trend is stable or decreasing. Therefore, the distribution of chlorinated VOCs in groundwater appears to be at steady-state, and may be decreasing in certain areas.
- The chlorinated VOCs in groundwater will tend to migrate predominantly with the structure of the bedrock (northeast-southwest and down-dip to the southeast) in water-bearing fracture zones, with other components of migration present but less important. During migration, dispersion/dilution and degradation (by reductive dechlorination) will act to reduce concentrations over time and distance. These processes are acting such that the distribution of chlorinated VOCs appears to be at steady-state and may be decreasing in certain areas. Additional future migration of chlorinated VOCs is not likely.
- The potential receptors for groundwater at the site include: Lopatcong Creek, which is a local groundwater discharge point, and domestic water supply wells located along Lock Street between the site and Lopatcong Creek
- A MNA evaluation was conducted for the Ingersoll Rand facility to evaluate whether natural attenuation of the chlorinated VOCs in groundwater may be occurring. Groundwater data used for this evaluation consisted of historical VOC data and more recent geochemical data. The results of the evaluation were that the MNA is a feasible remedial alternative for the chlorinated VOCs at the site. The results are discussed further in Section 7.0 and Appendix K.

6.0 Conclusions and recommendations

This section provides conclusions and recommendations based on the data for the August 2005 to July 2006 reporting period.

6.1 Offsite potable well investigation

6.1.1 Conclusions

The results of ENSR's offsite potable well search resulted in the identification of 11 offsite potable wells, of which, permission was granted by homeowners for ENSR to collect samples from ten wells for laboratory analysis of VOCs. Analytical results of the initial and confirmatory sampling indicated concentrations of TCE were detected above the NJ Drinking Water Standards in drinking water collected from the potable well located at 840 South Main Street. Based on the detection of TCE, ENSR coordinated for an alternative drinking water source (Poland Spring/Deer Park) to be provided to the residents of 840 South Main Street. NJDEP, the Warren County Health Department, and the Mayor of Phillipsburg were also notified of the analytical results.

A second round of groundwater sampling was conducted on April 11 and 14, 2006 at five wells; each which had the same reported concentrations of TCE as the March 2006 analytical results. Analytical results for the potable well located at 840 South Main Street again reported a concentration of TCE at 1.6 ppb The remaining four properties reported concentrations which did not exceed the NJDEP GWQS.

Potable well sampling conducted by a third party (in relation to the sale of the property) at the 481 Lock Street property in July 2006 reported TCE at a concentration of 1.6 ppb. ENSR subsequently provided the property owner with bottled water and authorized the delivery service of bottled water by Poland Spring.

Since city water connection services are not available near the 481 Lock Street residence, ENSR evaluated carbon filtration of the chlorinated VOC through the use of a Point-Of-Entry Treatment ("POET") system. With permission from the property owner, ENSR completed oversight of the installation of a POET system at the 481 Lock Street residence on October 24, 2006.

Since city water connection is available along South Main Street, ENSR, on behalf on Ingersoll Rand, responded pro-actively by providing oversight of city water connection to the 840 South Main Street residence. The city water connection was completed in September 2006. In addition, ENSR subcontracted with a licensed driller, SGS, to complete the potable well abandonment at this residence. The well was abandoned in accordance with N.J.A.C. 7.9D and as authorized with the NJDEP BWA.

The potable well located at 840 South Main Street is not likely hydraulically connected through the bedrock strike and fracture system and the TCE impacts detected in the potable well are not related to the subject site. Further, based on an evaluation of local properties, there are a number of other potential sources in closer proximity to the property located at 840 South Main Street, and the potable well is hand dug and not completed in bedrock formation. The onsite wells' water bearing zone is located in the dolomite bedrock formation and the wells are constructed to a depth ranging from 100 to 200 feet in the dolomite bedrock formation. Additionally the potable well was not constructed in accordance with the standards required in N.J.A.C. 7.9D. Therefore, it is particularly susceptible to contamination from local surface sources. The well is also located within the flood plain of the Delaware River and it is susceptible to flood water, surface water runoff, and potential nearby offsite sources.

6.1.2 Recommendations

ENSR recommends no further remedial action with regards to potable well sampling of offsite wells based on the two rounds of groundwater sampling. Analytical results indicate that VOCs are at or below the NJ Drinking Water Standards. ENSR recommends further sampling of the potable wells at three Lock Street properties (425, 437, and 441 Lock Street) and suggests incorporating this sampling into the semi-annual groundwater sampling events for the calendar year 2007.

Although dissolved chlorinated VOC impacts at the site have not been fully delineated to the southwest, based on the updated conceptual site model and the offsite investigations conducted to date, the TCE impacts identified at 840 South Main Street are likely not related to the former Ingersoll Rand facility. A number of potential sources of TCE have been identified in the immediate vicinity of 840 South Main Street. As discussed in Section 6.6.2, ENSR and Ingersoll Rand have proposed the installation of an offsite monitoring well southwest of the former facility in order to delineate the extent of dissolved chlorinated VOC impacts relative to the former Ingersoll Rand facility. The installation of the offsite monitoring well is tentatively scheduled for mid-2007 and is expected to provide confirmation that TCE impacts identified at the 840 South Main Street property are not related to impacts identified at the former Ingersoll Rand facility.

6.2 Onsite potable wells

6.2.1 Conclusions

In April 2006, the active potable/production well WW1 was taken off-line and the former Ingersoll Rand property was connected to municipal water, thereby removing potential impact to human receptors at the facility. WW1 was not sampled during this reporting period and was previously treated for CVOC impacts via an air stripper.

Based on analytical results and ENSR's review of the geologic data from former potable wells WW2 and WW3, concentrations of TCE and VC greater than GWQS are present in groundwater collected from well WW3 only. No impacts have been identified in WW2.

6.2.2 Recommendations

Based on the results of the former potable well investigation, ENSR recommends conducting additional investigation at WW1 to evaluate well construction and the potential to convert the former potable well to a permanent monitoring well. To complete the investigation ENSR proposes to remove the pump that is currently installed and to conduct a down-hole video log to assess well construction and/or the walls of the open borehole.

Based on the lack of continuing impact at WW2, ENSR proposes to abandon this well pursuant to N.J.A.C.7:9D.

Due to the presence of select VOCs greater than GWQS in groundwater collected from former potable well WW3, ENSR recommends conducting one more sampling event for October 2006. Based on those results, ENSR will evaluate the possibility of converting former potable well WW3 into a groundwater monitoring well. If the well is to be converted, ENSR proposes to ream out the interval from 760 to 806 feet btoc and complete videologging. Potential water bearing fractures will be determined and additional sampling depths via PDBs will be selected.

6.3 Well retrofits

6.3.1 Conclusions

During this reporting period, five groundwater monitoring wells (MW06, MW12, MW15, MW24 and THWLS) and one recovery well (RW10) were retrofit with 25 feet of steel screen and a steel riser pipe grouted into place. The new screened interval has isolated the interval of concern at each of these wells and will provide a more accurate representation of groundwater conditions beneath the site during sampling.

6.3.2 Recommendations

Based on ENSR's interpretation of current well conditions, ENSR recommends wells MW18, MW20 and MW38 be retrofit in order to prevent further collapse and isolate the most appropriate water bearing intervals.

6.4 Pilot hole drilling for deep well installation

6.4.1 Conclusions

During this reporting period, shallow pilot PH1 (aka MW56) was drilled to a total depth of 410 feet bgs and deep pilot hole PH2 (aka MW56A) was drilled to a total depth of 511 feet bgs. Groundwater sampling and geologic investigations, including caliper, ATV and packer testing were conducted on both pilot holes in order to determine the appropriate depth and construction of the proposed deep well MW56D. Based on the analytical results of the groundwater samples collected from both pilot holes, the TCE and PCE impacted groundwater in this area is limited to a highly fractured zone between about 220 and 301 feet bgs. No TCE or PCE impacted groundwater was detected below this zone in either pilot hole.

6.4.2 Recommendations

In order to define the vertical limit of impacted groundwater at the site, ENSR proposes to install one deep bedrock well, MW56, at the site. Well MW56 will be installed in open boring pilot hole PH2 and will be completed to a depth 500 feet bgs with a 25-foot screened interval between 475 and 500 feet bgs. This well will be screened at a depth with no reported impact in order to continue to delineate vertical impacts at the site.

At this time, ENSR also proposes to maintain the existing shallow Pilot Hole 1 open for possible further evaluation, if necessary.

6.5 LNAPL recovery and groundwater treatment

6.5.1 Conclusions

LNAPL recovery has generally decreased over the years. This year approximately 40 gallons of LNAPL were removed from the site.

6.5.2 Recommendations

ENSR recommends continued operation of the groundwater and LNAPL recovery system, including periodic operation and maintenance site visits, gauging events and effluent discharge sampling and continued monthly NJPDES reporting, as required.

6.6 Groundwater investigation and data analysis

6.6.1 Conclusions

Semi-annual groundwater sampling was conducted in October 2005 and May 2006, which included the collection of groundwater samples using passive diffusion bag, conventional, and low flow sampling methods. Groundwater collected from the wells MW04, MW06, MW15, MW16, MW32, MW33A, MW34, MW35, MW37, RW09, RW11, RW13, RW15, RW16, TH36, and THWLS reported concentrations of various chlorinated VOCs at concentrations greater than the GWQS. In general, concentrations of chlorinated VOCs detected in wells have varied over time. Seasonal variations appear to affect results at a few specific well locations with a decreasing trend from October 2005 to May 2006.

Chlorinated VOCs including ethenes (PCE, TCE, DCE, vinyl chloride) and ethanes (1,1,1-TCA, 1,1-DCA, chloroethane) are present at relatively low concentrations in wells sporadically around the site, including the main facility area, the Cameron Area, and the southern cornfield. As previously stated, TCE has been detected in domestic wells to the south of the site. The extent of the chlorinated VOCs is defined to the north, east, and west of the manufacturing area. To the southeast, the extent is limited by Lopatcong Creek, a local groundwater discharge point. To the southwest, the extent has not been fully defined. Therefore, ENSR proposes to install an offsite well. The vertical extent of the chlorinated VOCs has not been defined at many specific locations; however, testing indicates that there is a vertical limit. The vertical extent is expected to vary across the site depending on distance from source(s) and the presence of water-bearing zones.

There are no zones of very high concentration present that might not have been previously identified due to the well construction or sampling methods. Chlorinated VOC concentrations from conventional sampling, PDBs, and packer testing, while variable for different reasons, are not extremely different from each other.

Groundwater results confirm the conceptual site model in that chlorinated VOC releases that occurred at various areas of the site have resulted in several localized areas of impact.

6.6.2 Recommendations

Much of the groundwater monitoring at the site takes place using PDB sampling methods. Some of the advantages and disadvantages of the PDBs were identified based on the results of the detailed hydrogeologic testing. The disadvantage is that for wells with active vertical flow, the PDB samples may represent some mixing of water from different intervals within the borehole. However, if the PDB samples are biased, they are not grossly in error, as shown by the packer testing results. They allow for the collection of samples at vertically discrete intervals, and they provide samples that are more representative then using pumping methods. The purpose of regular monitoring at the site is to observe and document the stability and/or decrease of dissolved chlorinated VOCs over time. To meet these objectives, PDB samples are recommended. The selected vertical intervals for deployment of the PDBs will be reviewed in light of the information collected during the hydrogeologic testing.

ENSR proposes to install an offsite well beyond the southwest property boundary in order to delineate the dissolved chlorinated VOC impacts in this direction.

ENSR proposes to institute a CEA at the site boundaries in conjunction with further delineation investigations along the southwestern boundary of the site. Groundwater sampling for VOCs using PDB and conventional methods are proposed for each well sampled during the October 2006 and April 2007 sampling rounds contingent upon the lack of product in each well. In addition, groundwater gauging events will be reduced to semi-annually, to be conducted in conjunction with groundwater sampling at the site.

6.7 Aquifer characterization and conceptual site model update

6.7.1 Conclusions

The geologic aquifer characterization investigations conducted at the site during this reporting period has demonstrated that an important fracture network exists, oriented northeast-southwest and dipping to the southeast. The substantial work performed in 2005 and 2006 was conducted to better understand the hydrogeologic system beneath the site, particularly relative to fracture permeability and interconnectedness, and their influence on contaminant migration.

Vertical hydraulic gradients. The results of salt slug tests generally indicated that vertical gradients are generally downward. In most of the wells tested via packer testing, the data indicate heads are generally greater in shallow intervals and lower in deeper intervals, indicating a vertical gradient downward.

Well yield and permeability. Many of the wells at the site do not yield significant volumes of water, despite their relatively long open intervals, indicating a general lack of water-bearing fractures. The packer testing generally demonstrated that for wells with reasonable yield and a long open interval, there was typically one primary water-bearing zone in the wells tested. Other intervals tested had lower yield, or yielded little or no water. For wells with yield and shorter open intervals (less than about 50 feet), much of the length of the borehole was water-bearing. During some of the packer tests, it was not possible to completely isolate the tested intervals, possibly due to fracture interconnections which suggest that water-bearing fractures may also occur in zones rather than single, isolated fractures. There is no evidence to suggest that extremely small fractures are important in the hydrogeologic system beneath the site.

Aquifer Anisotropy and Fracture Interconnection. The pumping test conducted at well MW06 provided a demonstration of the importance of the northeast-southwest fracture system on the groundwater flow. Pumping at well MW06 resulted in significant drawdown only at well MW35, located to the southwest along the bedrock strike. Little or no drawdown was observed at other wells that are located in other directions.

The pumping test also indicated that fractures may be connected across significant distances. Wells MW06 and MW35 are located approximately 400 feet from each other. Similar behavior is seen in the distribution of the LNAPL plume and in the occurrence of dissolved constituents in groundwater. The presence of LNAPL in wells extends approximately 3,000 feet to the northeast and southwest, parallel to the strike of the bedrock fractures. In contrast, the spread of LNAPL is a maximum of about 1000 feet, or one-third the extent, in other directions. Interconnected fractures appear to be present at elevations of approximately 195, 225, and 250 feet AMSL in cross-section C-C'. As shown in cross-section E-E', also oriented parallel to strike, there is a common fracture between wells MW35 and MW06 at an elevation of approximately 232 feet AMSL. Similarly, the occurrence of flow (and transport) downward with the dip of the fractures is shown in the vertical distribution of dissolved contaminants, for example, at proposed deep well MW56 (pilot holes PH1, PH2).

The aspects of the conceptual site model are summarized below.

- The geology beneath the site is a fracture dolomitic bedrock, with primary fractures oriented northeast-southwest and dipping to the southeast. Groundwater is present in the bedrock fractures or fracture zones, which creates anisotropy in the groundwater flow system in a primarily northeast- southwest orientation.
- As previously stated, there are currently LNAPL impacts consisting of highly degraded fuel oil from historic sources located beneath the site extending northeast to southwest parallel to the bedrock structure. Ingersoll Rand operates a groundwater pumping and LNAPL recovery system designed to contain further migration of LNAPL.
- Dissolved chlorinated VOCs are present at relatively low concentrations in several distinct small areas of impact located sporadically around the site. The horizontal extent of the chlorinated

impacts has not been fully defined along the southwestern boundary of the site. The vertical extent of the chlorinated VOCs has not been defined at many specific locations; however, groundwater analytical results from deep intervals at the site (PH2, WW2, and WW3) indicate that there is a vertical limit.

- Based on ENSR's interpretation of site subsurface conditions, the chlorinated VOCs in groundwater will tend to migrate predominantly with the structure of the bedrock (northeast-southwest and down-dip to the southeast) in water-bearing fracture zones. During migration, dispersion/dilution and degradation will act to reduce concentrations over time and distance. These processes are acting such that the distribution of chlorinated VOCs appears to be at steady-state or decreasing in certain areas and indicate that future migration of chlorinated VOCs is not likely.
- The potential receptors for dissolved chlorinated VOC-impacted groundwater at the site include: Lopatcong Creek, which is the regional groundwater discharge point, and domestic water supply wells located along Lock Street between the site and Lopatcong Creek.
- There are currently no potential receptors identified relative to the LNAPL impacts due to the fact that the plume is contained and does not appear to be migrating.

6.7.2 Recommendations

No additional geophysical investigations are planned at this time relative to further defining the geologic model of the site.

7.0 Remedial action work plan

This section presents the proposed Remedial Action Work Plan (RAWP) to address residual concentrations of petroleum-related (from historic oil spills and releases) and dissolved-phase chlorinated VOC impacts (from apparently dispersed sources during historic site operations) to groundwater at the site. These historic releases have been discussed previously in Section 2. The objectives of this work are to maintain Ingersoll Rand's compliance with the ACO, and to determine an effective remedial alternative to complete groundwater remedial activities at the former Ingersoll Rand facility.

This RAWP has been prepared in accordance with the NJDEP's Guide for the Submission of Remedial Action Work Plans (March 1995), using site groundwater data and the CSM developed by ENSR (found in Section 5.0 of this report). Site background and historical information are presented in Section 2.0. The results of the groundwater investigations conducted within the last year in support of this RAWP are discussed in Sections 3.0 and 4.0.

7.1 Site summary

Much of the Site Summary information required per the NJDEP Guide for the Submission of Remedial Action Work Plans *(March 1995)* has been previously presented in this report. Please refer to the following sections within this report for this information:

- A description of the site including site use and acreage and local land use – refer to Section 2.0, Historical Information;
- A summary of all sampling data - refer to Section 4.0, Results;
- A discussion of Areas of Environmental Concern and discharges resulting in the impacts to groundwater - refer to Section 2.0, Historical Information;
- A Receptor Evaluation – refer to Section 4.1, 4.2 and 5.5 for well search information and location of surface water bodies; and
- Conceptual Site Model – refer to Section 5.0.

The following information in this section focuses on ENSR's technical evaluation and recommendation to implement natural remediation as the remedial action for groundwater at this site.

7.1.1 Remedial action selection report

As documented in Sections 2.0 and 5.0, groundwater impacts identified in the Main Facility Area consist of LNAPL and VOCs. Several specific and area wide concerns have been identified in the Main Facility Area for which remedial action is appropriate. Previous sections of this report describe the nature and extent of the investigations conducted and the results of analysis of groundwater samples collected, specifically identifying areas and/or concerns that require further action. This section describes and evaluates remedial alternatives to address dissolved-phase petroleum hydrocarbons and chlorinated solvents in the groundwater on the property. These remedial alternatives were evaluated on the basis of cost, effectiveness, implementability, and community benefit in accordance with the New Jersey Technical Requirements (N.J.A.C. 7:26E).

As described previously in Section 2.2, groundwater quality investigations at the site have reported the detection of chlorinated VOCs in excess of current NJDEP groundwater quality standards. Monitoring well locations are depicted in Figure 2. Groundwater analytical results are summarized in Tables 6, 7, 8, and 10 and results that are greater the GWQS are illustrated on Figure 10.

The constituents of concern (COCs) in groundwater consist of chlorinated VOCs and LNAPL. Based upon the locations and concentrations of these COCs, six remedial options were identified and evaluated as presented in Table 17 (chlorinated VOCs) and Table 18 (LNAPL).

Table 17 – Summary Evaluation of Alternative Remedial Actions for chlorinated VOCs in Groundwater

Remedial Action	Cost	Short-Term Effectiveness	Implementability	Community Benefit
Natural Remediation with Classification Exemption Area	Low	Low	High	Medium
Sparge Curtain	High	Medium	Medium	Medium
In-situ Chemical Oxidation	High	Medium	Low	Medium
Permeable Reactive Barrier Walls	High	Medium	Low	Medium
Pump and Treat	High	Medium	Medium	Medium

Table 18 – Summary Evaluation of Alternative Remedial Actions for LNAPL on Groundwater

Remedial Action	Cost	Short-Term Effectiveness	Implementability	Community Benefit
Product Recovery via Pump and Treat	Medium	High	High	High
Multi-Phase Extraction	High	High	High	High
In-situ Chemical Oxidation	Medium	Medium	Medium	High

Based upon an evaluation of these technologies, the preferred alternative to be implemented is Natural Remediation (NR) in conjunction with filing a Classification Exemption Area (CEA) for dissolved phase VOCs and the continued operation of the groundwater and LNAPL recovery system for the separate phase hydrocarbon. This alternative is considered to be the most cost-effective and implementable with reasonable benefit to the community. The rationale for selecting this alternative is discussed in greater detail in Section 6.4. Documents in support of the CEA are included in Appendix L.

7.1.2 Summary of proposed remedial actions

The proposed remedial actions for the groundwater at the site are NR and continued operation and maintenance (O&M) of the LNAPL recovery system.

Groundwater Monitoring Program

The groundwater monitoring program that will support this remedial action is proposed to consist of periodic sampling 44 wells (i.e., monitoring wells, LNAPL recovery wells, and former production wells) for VOCs + 10 TICs by EPA 624. In addition, groundwater samples are proposed to be collected for geochemical parameters at approximately 5-year intervals starting in 2011. Actual periodicity will be reevaluated prior to initiating the sampling.

LNAPL Recovery System

ENSR will continue operation and maintenance services for the groundwater and LNAPL recovery system in accordance with the requirements of the NJPDES-DSW Permit and the system-specific O&M manual. The O&M services will be provided by a technician under the supervision of a licensed N-2 industrial wastewater operator. The N-2 operator will also inspect system operations at approximately every 6 weeks, depending on site activities and system performance.

During periods of system shutdown and repair of the recovery wells, ENSR will manually bail product from the wells. ENSR will subcontract with a waste oil disposal firm to remove all recovered LNAPL from the recovery well ASTs, as needed. ENSR estimates the ASTs will be emptied twice annually.

7.1.3 Post remedial monitoring program

The following describes the monitoring wells that will be sampled to continue to document groundwater quality and the sentinel wells that will be sampled to monitor for the potential migration of the groundwater plume beyond its current boundaries.

7.1.3.1 Groundwater monitoring well network

As discussed in Section 6.1.2, the proposed groundwater monitoring program will consist of sampling the 44 wells on an annual basis for the next six years, and then bi-annually thereafter until long term trends can be established. The analytical data will be evaluated by ENSR biannually pursuant to biennial certification requirements of the CEA to evaluate and revise the monitoring program as may be necessary. That evaluation will be documented in a letter report that will accompany the biennial certification. Samples for geochemical parameters (see list of parameters in Table 19) are proposed to be collected at 5-year intervals starting in 2011. Refer to Table 19 – Summary of Monitoring Program for Natural Remediation Alternative. Actual periodicity will be reevaluated prior to initiating the sampling.

7.1.3.2 Sentinel well network

As part of the sentinel well network, four existing monitoring wells (MW17, MW48, MW36, MW39) will be sampled among the other 44 wells specified in Table 19 and analyzed also for VOCs + 10 TICs by EPA 624. These wells will not be sampled for geochemical parameters. Based upon ENSR's periodic review of the sample data, the sentinel well network may be adjusted, modified, or revised during the continuing monitoring program, as needed.

7.1.4 Quality assurance/quality control project plan

ENSR will conduct the post remedial groundwater monitoring program in accordance with our site-specific Quality Assurance Project Plan. A copy of the current May 2006 QAPP is included as Appendix M.

7.1.5 Site-specific health and safety plan

In accordance with the requirements of N.J.A.C. 7:26E-1.9 and the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operation and Emergency Response Standard (29 CFR 1910.120), the existing site-specific Health and Safety Plan (HASP) will be modified as appropriate prior to the initiation of any field activities. The site-specific HASP will contain the following information:

- Site Background and History;
- Scope of Field Activities;
- Chemical and Physical Hazard Assessment;

- Air Monitoring Requirements;
- Personal Protective Equipment Requirements;
- Site Control and Decontamination Procedures; and
- Training and Medical Monitoring Requirements.

All individuals working at or visiting the work areas of the site will be subject to the applicable provisions of the HASP.

A copy of the current HASP is provided as Appendix N.

7.1.6 Preliminary cost estimate for natural remediation

ENSR developed a preliminary cost estimate to implement the NR alternative and continue to operate and monitor the LNAPL recovery system at the site for the next 30 years. This was based on $55,000 to conduct a single groundwater sampling event, $20,000 to manage and evaluate the data and prepare an annual summary report, $50,000 for the annual operation and maintenance of the LNAPL recovery system, and $10,000 for annual project management activities. The NPV was calculated based on an annual inflation rate of 5 percent and a rate of return of 6 percent. The preliminary cost to conduct the proposed Natural Remediation and operation and maintenance of the LNAPL recovery system for an estimated 30-year period is $7.81 MM.

7.1.7 Total cost to date

Site investigation and remedial activities have been conducted at this site to assess and monitor groundwater quality since 1995 by ENSR. The costs to date for the groundwater studies are summarized in Table 20 below.

Table 20 – Total Costs to Date (1995 – September 2006)

Activity	Approximate Costs to Date
a. tank removal and disposal costs;	$ 0
b. capital costs including monitoring systems and equipment;	$127,500
c. mobilization costs: operation and maintenance including labor, utilities and repairs;	$255,000
d. consulting and labor costs including engineering, environmental, legal and administrative costs;	$1,632,000
e. analytical/laboratory costs;	$510,000
f. sample collection costs	Included in Activity D
g. disposal costs including transportation, waste transfer fees and facility tipping fees.	$25,500
Total Approximate Cost Incurred	**$ 2.55 MM**

7.1.8 Preliminary schedule

The following schedule is a preliminary estimate of the events to be performed associated with the RAWP. In accordance with the Remedial Action Schedule, per NJAC 7:26E-6.5, after the RAWP is approved by the NJDEP, ENSR will revise the schedule to identify the projected month/year for each task. At this time, ENSR has projected the following activities:

- Conduct semi-annual sampling (until the RAWP is approved).
- Reduce sampling frequency to once annually and begin submission of biennial certifications upon approval of the RAWP.
- Reduce sampling frequency to biannual and continue biennial certifications six years after RAWP approval.
- Re-evaluate groundwater data on a biannual basis to assess continuing protectiveness and appropriateness of the remedy.

7.2 Cleanup goals

The cleanup goals for this proposed remedial action will be in accordance with the NJDEP Groundwater Quality Criteria for constituents of concern, as stated in Section 3.8.

7.3 Permits and approvals

Prior to the implementation of the RAWP any required local, State, or Federal permits will be obtained. ENSR will continue to operate the LNAPL recovery system under a NJPDES DSW permit. In addition, we also anticipate having to address the DRBC requirements.

7.4 Remedial technologies evaluation

ENSR completed a technical evaluation of site data for the proposed natural remediation groundwater alternative at the former Ingersoll Rand facility and has included a technical memorandum in Appendix K. The objective of the evaluation was to assess if natural remediation is a feasible alternative at the site for residual dissolved chlorinated VOC impacts. The protocol for this evaluation was based on the USEPA Natural Attenuation Screening Process and evaluation of Lines of Evidence as identified by the Office of Solid Waste and Emergency Response Directive 9200.4-17 (1997) (OSWER). Both are discussed in the September 1998 USEPA Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water.

7.4.1 EPA natural attenuation screening process

The EPA screening process is a method that allows the investigator to determine numerically if there is the potential for natural biodegradation of chlorinated VOCs to be occurring in the environment. For most chlorinated solvents, specifically PCE and 1,1,1-TCA and their degradation products, reductive dechlorination is the initial form of degradation that occurs in an anaerobic environment. The screening process is designed to recognize geochemical environments where reductive dechlorination is plausible. However, the screening process also recognizes that degradation of select CVOCs can also occur in aerobic environments. The screening involves comparing the results for a select list of parameters to assigned EPA values and scoring each parameter based on how the results compared to the EPA value. The overall score provides an indication if biodegradation is occurring on the site; the higher the score, the greater the chance that natural attenuation is occurring.

The USEPA Screening Process was conducted for select monitoring wells for two data sets; October 2004 and 2005 CVOC and October 2005 geochemical data, and for May 2006 CVOC and geochemical data.

7.4.2 Lines of evidence

The OSWER Directive 9200.4-17 (1997) identifies three lines of evidence that can be used to estimate natural attenuation of chlorinated hydrocarbons. The three lines of evidence are as follows:

(1) Historical groundwater and/or soil chemistry data that demonstrate a clear and meaningful trend of decreasing contaminant mass and/or concentration over time at appropriate monitoring or sampling points.

(2) Hydrogeologic and geochemical data that demonstrates indirectly the type of natural attenuation processes active at the site, and the rate at which such processes will reduce contaminant concentrations to required levels.

(3) Data from the field or microcosm studies which directly demonstrate the occurrence of a particular natural attenuation process and its ability to degrade the contaminants of concern.

It is not necessary to analyze all three lines of evidence. The OSWER Directive provides guidance that states that each line of evidence be evaluated depending on if the prior line of evidence is not sufficient to make a determination of whether natural attenuation is occurring. For example, if the historical groundwater data evaluation identified in Item (1) is not sufficient, then Item (2) would be evaluated and so on. For this natural remediation evaluation, ENSR evaluated Item (1) for groundwater data and Item (2) for geochemical data. Also, the heterotrophic plate count was analyzed at each monitoring well. This potentially provides information, in conjunction with other geochemical data, regarding food source and if aerobic or anaerobic conditions are present.

7.4.3 Historical groundwater data trend analysis

Trend analysis plots were generated for the VOC data collected by ENSR from 2002 and 2006. The chlorinated VOC results for some monitoring wells were all non-detect (ND), therefore no trend was observed. These wells include MW12, MW18 and MW20 (located east of the main site building); MW42 and MW47 (background wells located on the north side of the site); MW51A (west side of the Site), MW53, MW30 and MW49 (located on the south side of the site). The remaining monitoring wells exhibited decreasing trends, seasonal fluctuations, and/or current stable concentrations with or without decreasing trends. Detailed observations for each of monitoring well are provided in Appendix K.

7.4.4 Conclusions and recommendations

The conclusions have been developed based on the analysis of select monitoring wells at the site for the EPA Natural Attenuation Screening Process, the Lines of Evidence including trend analysis and geochemical data evaluation as well as the heterotrophic bacteria plate counts for each monitoring well. When combining the results of each evaluation tool, it is evident that natural attenuation is taking place on the site. The evaluation of monitoring wells RW16, RW09 and MW04 indicate strong evidence that natural remediation is occurring near the main facility and on the south side of the site. Favorable geochemistry, the presence of chlorinated VOC degradation products, and stable to decreasing concentration trends are the evidence for this conclusion.

Areas of the site where moderate natural remediation activity was observed include wells MW16 and RW13 (west side of main facility); MW53 (directly north of MW04); MW37 (directly south of MW04); and MW33A, MW34, MW35 (along the west side of the southern portion of the site). This conclusion is due to the observations of decreasing trends and moderately favorable geochemistry/presence of degradation products along the west side of the site, favorable geochemistry at well MW53 and decreasing trends at well MW37 in the area of well MW04, and favorable geochemistry and presence of daughter products at the west side of the main facility.

Two locations where natural remediation activity was assessed to be low (i.e., wells MW03 and MW06 – south side of the site) have stable chlorinated VOC concentrations. The stable concentrations indicate the residual contamination has reached steady-state conditions indicating concentrations will not increase or will decrease over time. Since these concentrations are below applicable groundwater quality criteria, continued monitoring of these locations is anticipated to demonstrate active remediation is not needed.

The locations where natural remediation activity was assessed to be low include wells MW12, MW18, MW20, MW30, MW42, MW47, MW49 and MW51A. All of these areas are not of concern as specified in the following discussion. The area east of the main facility includes wells MW12, MW18 and MW20 which do not exhibit detectable levels of PCE and 1,1,1-TCA and associated degradation products. Therefore, this area is not of concern regarding these contaminants. Wells MW42 and MW47 are background wells located on the north and south edges of the Site and were sampled and evaluated for the purpose of assessing background conditions. Wells MW49, MW51A, and MW30 do not have detectable levels of PCE and 1,1,1-TCA and associated degradation products, so these are not areas of concern as well. Moreover, these wells define the extent of residual dissolved phase impacts in these areas of the site.

In summary, natural attenuation has been evaluated to be a feasible remedial action for portions of the site that exhibit residual concentrations of chlorinated VOCs in groundwater. ENSR's investigations indicate that dissolved concentrations of chlorinated VOCs at the site are stable or decreasing at most sampling locations and that conditions are generally appropriate for natural attenuation of these compounds. Natural attenuation in conjunction with the proposed monitoring program and the implementation of a Classification Exception Area to address any potential receptor concerns will adequately address the dissolved chlorinated VOCs at the site. This approach has been demonstrated to be effective at similar sites, given that no apparent continuing source areas of chlorinated VOCs are present the site and dissolved chlorinated VOC concentrations are decreasing overtime across the site.

7.5 Progress report submittal

ENSR proposes that continuing progress of groundwater remedial activities are reported in biennial reports that will accompany the biennial certification required as part of an approved CEA.

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Tables

TABLE 1
Summary of Onsite Monitoring and Recovery Wells
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Well	Permit No./Retrofit Permit No.	Original Date Installed & Date of Retrofit	Original / Retrofit Well Depth (ft)	Most Recent Depth (ft) (07/28/2006)	Surface Elevation	Depth to Bedrock (ft)	Bedrock Elevation	DTW (ft) (07/28/2006)	Water Elevation	NJSP-X (1983)	NJSP-Y (1983)	Casing Material	Outer / Inner Casing Depth (ft)	Screened Interval (Screen Material & Depth) Open Borehole	Outer / Inner Casing Diameter (Inches)	Fracture Depth (ft)	Dip Azimuth	Dip Angle
MW01	24-15860-7	1/1/1985	120	125.5	363.72	90	273.72	93.80	265.68	307302.72	678719.85	steel	65	Open Borehole	6	97.8	N304	54.3
																102.5	N212	45.3
																109.7	N337	45.8
																111.9	N178	10.6
																114.85	N161	26.2
																120.1	N059	75.4
																121.8	N036	40
MW02A	24-25893-8	10/23/1989	125	128.45	354.33	43	311.33	89.97	258.83	306138.04	676386.80	steel	60	Open Borehole	6	No geophysical completed to date		
MW03	24-15863-1	1/1/1985	110	117.42	339.68	5	334.68	74.11	261.42	307052.45	676191.80	steel	25	Open Borehole	6	100.31	N115	60.6SE
MW04	24-15864-0	1/1/1985	120	127.6	317.2	5	312.20	84.41	230.78	307593.97	676491.29	steel	40	Open Borehole	6	122.3	N299	67.5
MW05	24-15865-8	1/1/1985	120	NG	326.36	20	306.36	NG	326.36	307523.07	677301.41	steel	27.5	Open Borehole	6	80.5	N124	53.5
MW06	24-28445-9/24-0004-529	11/8/1991 & 11/30/2005	195/195	194.47	350.39	22	328.39	89.96	259.66**	306433.47	676085.03	steel	60/170	#10 Stainless Steel Screen from 170-195	8/4	117.84	N118	50.9SE
MW08	24-28442-4	11/11/1991	200	174.3	363.63	21	342.63	83.39	276.13	307532.26	678515.71	steel	45	Open Borehole	8	No signficant water bearing fractures observed		
MW09	24-28443-2	11/6/1991	190	188.55*	347.12	17.5	329.62	73.61	274.48	307760.27	678109.20	steel	40	Open Borehole	8	No signficant water bearing fractures observed		
MW10	24-27446-7	11/13/1991	150	143.6	356.22	20	336.22	73.13	278.01	307373.61	677909.73	steel	54	Open Borehole	8	No geophysical completed to date		
MW11	24-28444-1	11/16/1991	200	199.4*	364.25	45	319.25	78.60	274.94	306396.19	677512.56	steel	70	Open Borehole	8	No signficant water bearing fractures observed		
MW12	24-28574-9/24-00044-525	12/6/1991 & 11/17/2005	175/185	183.3	364.15	17	347.15	93.32	265.96**	307551.15	678712.10	steel	60/160	Perforated Steel Casing from 160-185	8/4	74.65	N271	70.6W
																155.5	339	79.2
MW13	24-28713-0	12/11/1991	200	199.3	359.58	35	324.58	90.34	265.78	307387.98	677624.13	steel	61	Open Borehole	8	109.25	N281	52.5W
																112.57	N135	41.1SE
																156.16	N132	39.1SE
MW15	24-28745-8/24-00044-528	1/29/1992 & 11/28/2005	150	138.9	362.72	37	325.72	93.61	264.6**	306853.02	677319.62	steel	78/125	Perforated Steel Casing from 125-150	8/4	No geophysical completed to date		
MW16	24-28744-0	1/20/1992	200	197.05	363.66	21	342.66	86.02	271.05	306352.29	677316.37	steel	70	Open Borehole	8	No signficant water bearing fractures observed		
MW17	24-29053-0	2/5/1992	157	155.5	324.39	38	286.39	54.81	265.05	308800.76	678904.87	steel	61	Open Borehole	8	132.3	N181	36.6
MW18	24-29054-8	2/14/1992	150	113.02	347.63	27	320.63	77.00	265.99	308111.91	678874.63	steel	60	Open Borehole	8	No signficant water bearing fractures observed		
MW19	24-29052-1	3/20/1992	150	149.1	340.66	25	315.66	85.92	249.38	308423.71	678342.01	steel	63	Open Borehole	8	No signficant water bearing fractures observed		
MW20	24-29146-3	4/3/1992	160	136.6	333.58	36	297.58	65.27	264.53	308513.65	678750.35	steel	65	Open Borehole	8	72.5	N153	44.2
																103.4	N191	68.5
MW21	24-29144-7	3/27/1992	200	198.6	355.85	15	340.85	73.62	277.80	307742.85	678657.82	steel	63	Open Borehole	8	No geophysical completed to date		
MW24	24-30001/24-00044-527	11/9/1992 & 11/23/2005	157/157	150.25	362.77	25	337.77	95.35	263.21**	306175.40	677718.62	steel	62/132	Perforated Steel Casing from 132-157	8/4	125	92	65.8
																129	93	66.6
																144	106.8	30
MW25	24-30003	11/2/1992	160	160*	319.66	18	301.66	68.05	245.73	307677.89	677401.44	steel	50	Open Borehole	8	71.75	N342	76.6NW
																78.47	N341	64.8NW
																79.92	N136	52.2SE
																130.81	N004	70.1N
MW26	24-30002	11/5/1992	160	154.6*	318.76	11	307.76	87.45	245.56	307599.33	677199.64	steel	50	Open Borehole	8	No signficant water bearing fractures observed		
MW27	24-36865	11/11/1998	140	138.35	351.81	25	326.81	87.78	266.9	307170.46	677443.47	steel	49.5	Open Borehole	6	No signficant water bearing fractures observed		
MW28A	24-37450	4/8/1999	125	NG	343.53	24	319.53	47.98	286.17	307574.63	677794.17	steel	38.5	Open Borehole	6	108.9	N129	49.8
MW29	24-36868	11/6/1998	145	107.1	326.84	10	316.84	67.61	251.82	307792.94	677638.52	steel	25.5	Open Borehole	6	81.06	N149	33.7SE
MW30	24-36869	11/5/1998	100	77.65	289.93	27	262.93	52.69	233.23	307948.34	677068.91	steel	50	Open Borehole	6	No geophysical completed to date		
MW31	24-36870	11/24/1998	175	173.2	367.35	27	340.35	94.36	268.55	306343.97	678111.05	steel	48.5	Open Borehole	6	No signficant water bearing fractures observed		
MW32	24-36871	11/13/1998	150	129.18	366.63	42	324.63	94.89	267.49	306913.71	677512.58	steel	58.5	Open Borehole	6	103.4	N111	46.6
																106.3	N98	40.8
																123.4	N251	50.1
																128.2	N129	61.7

Notes:

All depths are reported in feet (ft) from top of well casing, except depth to bedrock which is measured from ground surface.

Elevations are reported in ft Above Mean Sea Level (AMSL) in NAVD 88.

Most recent depth measurements are from recent gauging/groundwater activities.

Fracture depth, azimuth, and angle were identified by optical televiewer (OPTV) or acoustic televiewer (ATV). Data collected in 2005/2006 included dip angle directions; earlier data did not.

NG - Not gauged because of collapse, obstructions, and/or presence of free product.

* - Estimated depth from previous gauging/groundwater events.

** - Casing elevations have changed due to recent upgrade and retrofit activities, groundwater elevations are estimated.

NR - Not reported/recorded

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MW33A	24-37362	1/28/1999	125	121.25	351.36	8	343.36	85.09	262.22	305685.77	676712.11	steel	49.5	Open Borehole	6	No signficant water bearing fractures observed		
MW34	24-36984	1/21/1999	130	126.4	351.07	67	284.07	88.11	258.90	305723.63	676153.68	steel	75.5	Open Borehole	6	100.8	N110	53.7
																106.3	N124	59.7
																113.7	N116	56.9
																122.8	N110	69.4
MW35	24-36990	2/1/1999	145	138.7*	350.32	43	307.32	88.22	257.72	306273.89	675714.10	steel	49.5	Open Borehole	6	No signficant water bearing fractures observed		
MW36	24-36986	2/9/1999	150	144.95	332.52	5	327.52	95.50	232.00	307325.27	675547.38	steel	24.5	Open Borehole	6	No signficant water bearing fractures observed		
MW37	24-36987	2/12/1999	100	104.0	284.59	5	279.59	53.09	230.28	307977.93	676246.15	steel	33.5	Open Borehole	6	No signficant water bearing fractures observed		
MW38	24-36988	2/11/1999	150	74.0	310.09	5	305.09	NG	310.09	307653.32	675709.23	steel	49.5	Open Borehole	6	No signficant water bearing fractures observed		
MW39	24-36989	1/20/1999	150	134.0	341.07	15	326.07	69.80	264.25	306782.99	675364.08	steel	24.5	Open Borehole	6	No signficant water bearing fractures observed		
MW40	24-38016	1/6/2000	140	138.0	347.85	15	332.85	75.25	266.62	305903.47	678745.03	steel	33.5	Open Borehole	6	89.91	N315	76NW
MW41	24-38015	1/4/2000	150	145.8	347.91	15	332.91	72.75	269.42	305829.97	678199.12	steel	28.5	Open Borehole	6	No signficant water bearing fractures observed		
MW42	24-38014	12/21/1999	125	122.8	345.57	7	338.57	74.45	267.66	305593.72	679536.77	steel	28.5	Open Borehole	6	91.27	N121	36.7SE
																91.48		
																117.91	N129	48.9SE
																118.5	N130	58.9SE
MW43A	24-38751	1/24/2000	103	102.3	341.15	90	251.15	71.81	267.55	305509.57	678606.37	steel	75	Open Borehole	4	No geophysical completed to date		
MW44	24-38012	1/24/2000	115	97.7	340.59	26	314.59	73.4	263.81	305503.14	677766.47	steel	38.5	Open Borehole	6	No signficant water bearing fractures observed		
MW45	24-38011	1/14/2000	75	71.9	308.05	50	258.05	46.91	268.26	305125.63	678761.12	steel	50	Open Borehole	4	No geophysical completed to date		
MW46	24-0042-633	6/10/2003	180	105.1	374.4	35	339.4	NG	374.4	306663.2	679782.2	steel	45	Open Borehole	6	113.63	281	21W
																114.36	43	45.4NE
MW47	24-0042-634	6/17/2003	165	137.21	361.67	12	349.67	87.1	268.42	307595.4	679959.1	steel	23	Open Borehole	6	85.54	329	75NW
																137.64	191	31.2S
MW48	24-0042-635	6/20/2003	135	135.4	329.23	10	319.23	NG	232.83	308979.2	677841.2	steel	23	Open Borehole	6	No signficant water bearing fractures observed		
MW49	24-0042-636	6/26/2003	62	56.45	230.74	12	218.74	3.92	226.45	308751.1	676120.8	steel	38	Open Borehole	6	54.43	158	35.2SE
MW50	24-0042-637	6/12/2003	155	153.4	346.22	45	301.22	85.25	256.27	306007.7	675755.7	steel	58	Open Borehole	6	No signficant water bearing fractures observed		
MW51	24-0042-638	6/12/2003	155	83.1	346.55	20	326.55	NA	346.55	305443.2	676496.5	steel	45	Open Borehole	6	No geophysical completed to date		
MW51A	24-00043903	12/13/2004	140	137.25	346.55	21	325.55	83.35	263.95	Not Surveyed	Not Surveyed	steel	115	Open Borehole	6	No geophysical completed to date		
MW52	24-0042-639	6/24/2003	170	172.1	360.29	37	323.29	92.71	262.94	307087.1	677172.9	steel	58	Open Borehole	6	93.38	303	54.6NW
																109.4	98	47.5E
MW53	24-0042-640	7/3/2003	160	163.7	357	61	296	118.85	235.75	307518.4	676816.8	steel	72	Open Borehole	6	126.73	122	40.7SE
MW54	24-00043-153	2/18/2004	125	124.55	361.43	28	333.43	97.2	266.43	306848.6	678300.2	steel	100	Open Borehole	8	No geophysical completed to date		
MW56 (PH1)	2400044523	3/28/2006	410	N/A	N/A	32	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Open Borehole	N/A	272	127	51
																292	342	70
																300	338	47
																317	122	45
																319	370	66
																321	347	63
MW56A (PH2)	2400044829	7/26/2006	510	N/A	N/A	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Open Borehole	N/A	455	25	57
RW01	24-22756-1	8/13/1987	150	NG	351.54	35	316.54	79.45	279.64	307761.80	678311.58	steel	44	Open Borehole	8	No geophysical completed to date		
RW02	24-23078-2	11/8/1987	150	NG	360.46	27	333.46	84.62	283.71**	307529.96	678212.14	steel	41.5	Open Borehole	10	No signficant water bearing fractures observed		
RW03	24-23816		151	149.9*	350.2	17	333.2	70.33	280.2**	307916.62	678411.61	steel	53	Open Borehole	10	93.6	N168	43
																115.2	N120	31
RW04	24-23180-1	11/21/1987	150	NG	362.96	27	335.96	91.75	263.81**	307143.30	678012.67	steel	84	Open Borehole	10	No geophysical completed to date		
RW05	24-25010	10/12/1988	175	NG	359.66	25	334.66	82.39	277.39	307762.57	678412.77	steel	84.7	Open Borehole	8	128.61	N357	78.2N
																131.85	N185	77.5N
																135.13	N008	73N
RW06	24-24671-9	10/13/1988	200	NG	358.63	27	331.63	85.49	278.23**	307607.75	678312.75	steel	50	Open Borehole	8	No geophysical completed to date		
RW07	24-24672-7	10/14/1988	175	91.2	360.11	15	345.11	87.07	288.71**	307453.15	678259.60	steel	34.7	Open Borehole	8	No signficant water bearing fractures observed		
RW08	24-24680-8	10/18/1988	175	NG	361.01	25	336.01	90.35	276.08	307450.00	678111.53	steel	50	Open Borehole	8	No geophysical completed to date		
RW08A	24-27026-1	6/8/1990	197	NG	360.3	22	338.3	86.76	269.9**	307460.00	678111.53	steel	50	Open Borehole	8	118.2	N158	46.3
																126	N137	40
RW09	24-27000-8	6/6/1990	200	NG	363.67	16	347.67	60.5	304.98	306527.86	678118.54	steel	50	Open Borehole	8	118.4	N154	43
																147.3	N117	58
RW10	24-27061-0/24-00044-526	6/13/1990 & 11/15/2005	175/175	172.8	363.14	20	343.14	87.77	269.54**	306143.51	678222.67	steel	50/150	#10 Stainless Steel Screen from 150-175	8/4	No signficant water bearing fractures observed		
RW11	24-27086-5	6/15/1990	175	171.75	362.42	22	340.42	58.2	287.92	306596.90	678539.62	steel	50	Open Borehole	8	No signficant water bearing fractures observed		
RW12	24-27105-5	6/19/1990	170	173.57*	363.16	32	331.16	91.91	266.64	306524.01	677612.58	steel	70	Open Borehole	6	113.01	N111	39.2SE
																114.76	N116	35.4SE
																119.11	N129	34.3SE
																126.93	N118	38SE

Notes:

All depths are reported in feet (ft) from top of well casing, except depth to bedrock which is measured from ground surface.

Elevations are reported in ft Above Mean Sea Level (AMSL) in NAVD 88.

Most recent depth measurements are from recent gauging/groundwater activities.

Fracture depth, azimuth, and angle were identified by optical televiewer (OPTV). Data collected in 2005/2006 included dip angle directions; earlier data did not.

NG - Not gauged because of collapse, obstructions, and/or presence of free product.

* - Estimated depth from previous gauging/groundwater events.

** - Casing elevations have changed due to recent upgrade and retrofit activities, groundwater elevations are estimated.

[a] - Fractures are not necessarily hydraulically active, but are large areas where flow may be occurring

NR - Not reported/recorded

TABLE 1
Summary of Onsite Monitoring and Recovery Wells
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Well	Permit No./Retrofit Permit No.	Original Date Installed & Date of Retrofit	Original / Retrofit Well Depth (ft)	Most Recent Depth (ft) (07/28/2006)	Surface Elevation	Depth to Bedrock (ft)	Bedrock Elevation	DTW (ft) (07/28/2006)	Water Elevation	NJSP-X (1983)	NJSP-Y (1983)	Casing Material	Outer / Inner Casing Depth (ft)	Screened Interval (Screen Material & Depth) Open Borehole	Outer / Inner Casing Diameter (Inches)	Fracture Depth (ft)	Dip Azimuth	Dip Angle
RW13	24-27106-3	6/20/1990	170	166.7	360.21	21	339.21	89.88	265.26	306443.13	677107.21	steel	60	Open Borehole	6	160.81	N123	42.7SE
RW14	24-27126-8	7/2/1990	170	142.0	362.07	70	292.07	92.66	265.15	306908.38	677508.47	steel	130	Open Borehole	6	No geophysical completed to date		
RW15	24-27075-0	7/5/1990	170	152.5*	362.07	31	331.07	80.06	274.91	307299.65	678315.08	steel	60	Open Borehole	6	96	N140	22.1
																112.7	N122	45.2
RW16	24-27074-1	2/27/1991	155	148.4	363.35	47	316.35	92.45	265.86	307067.81	678215.64	steel	51	Open Borehole	8	106.4	N356	78.1
RW17 (MW14)	24-28746-6	1/1/1985	150	NG	341.8	20	321.8	76.2	263.62**	308249.31	678608.21	steel	75	Open Borehole	8	122.9	N167	34.8
TH36	24-23044-8	10/27/1987	125	116.5	361.15	25	336.16	60.9	293.28	306370.73	677714.95	steel	35	Open Borehole	6	No signficant water bearing fractures observed		
THBF (RW#A)	2423179-7	--	117	49.2	351.16	12	339.16	NG	351.16	307860	678444	steel	20	Open Borehole	14	122.5		
THby4 (TH34)	24-23044	10/13/1987	127	124.9	373.37	20	353.37	93.31	277.82	307151	678008	NR	NR	Open Borehole	6	No signficant water bearing fractures observed		
THWLS (TH28)	24-23178/24-00044818	10/21/1987 & 7/6/2006	127/115	112.83	373.47	60	313.47	91.07	280.43**	306953.00	678038	steel	60/90	#10 Stainless Steel Screen from 90-115	6/3	105	306	60
																107	376	3
																110	346	56
																118	168	53
WW1 (1P)	44-1	1/1/1934	460	NG	350	35	315	83.17	261.6	307057.21	677818.30	steel	223	Open Borehole	10	No geophysical completed to date		
WW2 (Old WW)	24-10334	12/15/1974	503	NG	354.01	38	316.01	82.27	261.71	307779.23	678377.67	steel	227	Open Borehole	10	No signficant water bearing fractures observed		
WW3	NA	1903	806	760	NR	NR	NR	91.2	NR	Not Surveyed	Not Surveyed	steel	95/201	Open Borehole	10/6	No geophysical completed to date		

Notes:

All depths are reported in feet (ft) from top of well casing, except depth to bedrock which is measured from ground surface.

Elevations are reported in ft Above Mean Sea Level (AMSL) in NAVD 88.

Most recent depth measurements are from recent gauging/groundwater activities.

Fracture depth, azimuth, and angle were identified by optical televiewer (OPTV). Data collected in 2005/2006 included dip angle directions; earlier data did not.

NG - Not gauged because of collapse, obstructions, and/or presence of free product.

* - Estimated depth from previous gauging/groundwater events.

** - Casing elevations have changed due to recent upgrade and retrofit activities, groundwater elevations are estimated.

[a] - Fractures are not necessarily hydraulically active, but are large areas where flow may be occurring

NR - Not reported/recorded

TABLE 2A
Summary of Groundwater Gauging Measurements: October 2005
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Well ID	Date	Casing Elevation (ft-AMSL)	Depth to Water (ft)	GW Elevation (ft-AMSL)	Product Thickness (ft)	Depth to Bottom (ft)
MW01	10/6/2005	363.72	104.17	259.55	none	127.10
MW02A	10/6/2005	354.33	99.60	254.73	none	127.70
MW03	10/6/2005	339.68	84.21	255.47	none	117.20
MW04	10/6/2005	317.20	89.18	228.02	none	127.45
MW05	10/6/2005	326.36	NG	NG	NG	NG
MW06	10/6/2005	350.39	100.30	253.71	none	195.00
MW08	10/6/2005	363.63	91.40	272.23	none	173.58
MW09	10/6/2005	347.12	87.23	259.89	none	188.35
MW10	10/6/2005	356.22	91.20	265.02	none	143.50
MW11	10/6/2005	364.25	95.59	268.81	0.20	NG
MW12	10/6/2005	364.15	104.32	259.85	0.02	NG
MW13	10/6/2005	359.58	102.12	257.46	none	199.20
MW15	10/6/2005	362.72	104.40	258.32	none	127.48
MW16	10/6/2005	363.66	99.31	264.35	none	197.31
MW17	10/6/2005	324.39	65.22	259.17	none	155.65
MW18	10/6/2005	347.63	88.00	259.63	none	113.20
MW19	10/6/2005	340.66	101.49	239.17	none	149.30
MW20	10/6/2005	333.58	74.75	258.83	none	136.60
MW21	10/6/2005	355.85	86.20	269.65	none	198.80
MW24	10/6/2005	362.77	105.80	256.97	none	148.95
MW25	10/6/2005	319.66	82.82	236.85	0.01	159.30
MW26	10/6/2005	318.76	81.80	236.96	none	156.00
MW27	10/6/2005	351.81	91.63	260.18	none	138.20
MW28A	10/6/2005	343.53	74.50	269.59	0.65	NG
MW29	10/6/2005	326.84	85.91	240.93	none	114.15
MW30	10/6/2005	289.93	60.40	229.53	none	90.25
MW31	10/6/2005	367.35	102.60	264.75	none	171.30
MW32	10/6/2005	366.63	105.35	261.28	none	134.20
MW33A	10/6/2005	351.36	94.71	256.65	none	121.70
MW34	10/6/2005	351.07	97.35	253.72	none	126.50
MW35	10/6/2005	350.32	98.03	252.29	none	143.20
MW36	10/6/2005	332.52	103.70	228.82	none	144.80
MW37	10/6/2005	284.59	56.50	228.09	none	103.80
MW38	10/6/2005	310.09	NG	NG	NG	NG
MW39	10/6/2005	341.07	90.15	250.92	none	134.08
MW40	10/6/2005	347.85	87.27	260.58	none	137.90
MW41	10/6/2005	347.91	84.84	263.07	none	145.65
MW42	10/6/2005	345.57	83.06	262.51	none	122.85
MW43A	10/6/2005	341.15	80.70	260.45	none	102.30
MW44	10/6/2005	340.59	81.35	259.24	none	97.52
MW45	10/6/2005	308.05	44.25	263.80	none	71.00
MW46	10/6/2005	374.40	NG	NG	NG	NG
MW47	10/6/2005	361.67	101.10	260.57	none	138.60
MW48	10/6/2005	329.23	100.00	229.23	none	135.10
MW49	10/6/2005	230.74	5.23	225.51	none	56.78
MW50	10/6/2005	346.22	94.71	251.51	none	153.30
MW51	10/6/2005	346.55	NG	NG	NG	NG
MW51A	10/6/2005	347.53	91.80	254.75	none	137.30

NOTES:

Depths are presented in feet (ft) below casing elevation.

Elevations are presented in feet (ft) above mean sea level (AMSL).

Depth to bottom was not gauged (NG) at the onsite wells, if product was encountered in the well, and/or if an obstruction was present at depth.

Depth to water at six well locations were not gauged (NG) during this event due to accessibilty issues or due to the collapse of the well.

Correction calculation for wells with product = {well elevation - [depth to water - (product thickness *product density)]}

Product density has been assumed to be 0.866.

TABLE 2A
Summary of Groundwater Gauging Measurements: October 2005
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Well ID	Date	Casing Elevation (ft-AMSL)	Depth to Water (ft)	GW Elevation (ft-AMSL)	Product Thickness (ft)	Depth to Bottom (ft)
MW52	10/6/2005	360.29	103.50	256.79	none	172.00
MW53	10/6/2005	357.00	125.66	231.34	none	145.65
MW54	10/6/2005	361.43	101.35	260.08	none	124.60
RW01	10/6/2005	348.76	85.65	268.44	2.95	NG
RW02*	10/6/2005	--	91.98	--	0.52	NG
RW03*	10/6/2005	--	82.81	--	none	147.10
RW04*	10/6/2005	--	101.85	--	1.00	NG
RW05	10/6/2005	356.76	91.30	268.39	0.03	NG
RW06*	10/6/2005	--	94.15	--	2.54	NG
RW07*	10/6/2005	--	89.32	--	0.02	NG
RW08	10/6/2005	361.01	94.41	266.76	0.18	NG
RW08A*	10/6/2005	--	91.26	--	0.06	NG
RW09	10/6/2005	363.67	66.20	297.55	0.09	NG
RW10	10/6/2005	363.14	99.49	263.65	none	172.23
RW11	10/6/2005	362.42	87.80	274.62	none	171.50
RW12	10/6/2005	363.16	102.36	260.84	0.05	NG
RW13	10/6/2005	360.21	101.20	259.01	none	166.70
RW14	10/6/2005	362.07	103.12	258.95	none	143.70
RW15	10/6/2005	362.07	96.54	265.53	none	165.70
RW16	10/6/2005	363.35	103.61	259.83	0.10	NG
RW17*	10/6/2005	--	88.01	--	1.03	NG
TH36	10/6/2005	361.15	81.27	279.88	none	116.60
THBF	10/6/2005	351.16	NG	NG	NG	NG
THby4	10/6/2005	373.37	102.27	271.11	0.01	NG
THWLS	10/6/2005	373.47	NG	NG	NG	NG
WW1	10/6/2005	Est. 350	92.00	258.00	none	NG
WW2	10/6/2005	Est. 350	94.10	255.90	none	NG

NOTES:

Depths are presented in feet (ft) below casing elevation.

Elevations are presented in feet (ft) above mean sea level (AMSL).

Depth to bottom was not gauged (NG) at the onsite wells, if product was encountered in the well, and/or if an obstruction was present at depth.

Depth to water at six well locations were not gauged (NG) during this event due to accessibilty issues or due to the collapse of the well.

Correction calculation for wells with product = {well elevation - [depth to water - (product thickness *product density)]}

Product density has been assumed to be 0.866.

WW2 is OLD WW and WW1 is WW1P.

* Upgrading activities commenced in July 2005, therefore, casing elevations have changed and have not been re-surveyed.

TABLE 2B
Summary of Groundwater Gauging Measurements: January 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Well ID	Date	Casing Elevation (ft-AMSL)	Depth to Water (ft)	GW Elevation (ft-AMSL)	Product Thickness (ft)	Depth to Bottom (ft)
MW01	1/12/2006	363.72	94.15	269.57	none	125.55
MW02A	1/12/2006	354.33	88.54	265.79	none	127.85
MW03	1/12/2006	339.68	75.78	263.90	none	117.40
MW04	1/12/2006	317.20	84.31	232.89	none	127.65
MW05	1/12/2006	326.36	NG	NG	NG	NG
MW06*	1/12/2006	--	91.60	262.41	none	194.50
MW08	1/12/2006	363.63	84.36	279.27	none	173.52
MW09	1/12/2006	347.12	75.30	271.82	none	188.23
MW10	1/12/2006	356.22	72.86	283.36	none	143.70
MW11	1/12/2006	364.25	81.96	282.30	0.01	NG
MW12*	1/12/2006	--	95.17	268.99	0.01	183.30
MW13	1/12/2006	359.58	90.60	268.98	none	199.40
MW15*	1/12/2006	--	95.14	267.58	none	138.50
MW16	1/12/2006	363.66	88.51	275.15	none	197.27
MW17	1/12/2006	324.39	56.61	267.78	none	155.68
MW18	1/12/2006	347.63	78.87	268.76	none	113.20
MW19	1/12/2006	340.66	86.66	254.00	none	149.21
MW20	1/12/2006	333.58	67.73	265.85	none	136.65
MW21	1/12/2006	355.85	75.76	280.09	none	198.70
MW24*	1/12/2006	--	96.88	265.89	none	153.25
MW25	1/12/2006	319.66	67.32	252.34	none	159.30
MW26	1/12/2006	318.76	66.51	252.26	0.01	NG
MW27	1/12/2006	351.81	82.30	269.51	none	138.40
MW28A	1/12/2006	343.53	52.08	292.00	0.63	NG
MW29	1/12/2006	326.84	67.60	259.24	none	114.20
MW30	1/12/2006	289.93	50.95	238.98	none	77.70
MW31	1/12/2006	367.35	95.98	271.37	none	173.22
MW32	1/12/2006	366.63	96.30	270.33	none	134.40
MW33A	1/12/2006	351.36	86.72	264.64	none	121.66
MW34	1/12/2006	351.07	89.65	261.42	none	126.45
MW35	1/12/2006	350.32	89.97	260.35	none	NG
MW36	1/12/2006	332.52	98.78	233.74	none	144.90
MW37	1/12/2006	284.59	53.06	231.53	none	103.99
MW38	1/12/2006	310.09	NG	NG	NG	NG
MW39	1/12/2006	341.07	74.49	266.58	none	134.00
MW40	1/12/2006	347.85	78.85	269.00	none	138.00
MW41	1/12/2006	347.91	73.64	274.27	none	145.80
MW42	1/12/2006	345.57	76.23	269.34	none	122.90
MW43A	1/12/2006	341.15	71.35	269.80	none	102.35
MW44	1/12/2006	340.59	74.98	265.61	none	97.70
MW45	1/12/2006	308.05	38.54	269.51	none	72.00
MW46	1/12/2006	374.40	105.50	268.90	none	105.80
MW47	1/12/2006	361.67	90.82	270.85	none	138.80
MW48	1/12/2006	329.23	93.20	236.03	none	135.00
MW49	1/12/2006	230.74	3.85	226.89	none	56.45
MW50	1/12/2006	346.22	86.85	259.37	none	153.40
MW51	1/12/2006	346.55	NG	NG	NG	NG

NOTES:

Depths are presented in feet (ft) below casing elevation.

Elevations are presented in feet (ft) above mean sea level (AMSL).

Depth to bottom was not gauged (NG) at the onsite wells, if product was encountered in the well, and/or if an obstruction was present at depth.

Depth to water for four wells were not gauged (NG) during this event due to accessibilty issues or due to the collapse of the well.

Correction calculation for wells with product = {well elevation - [depth to water - (product thickness *product density)]}

Product density has been assumed to be 0.866.

* Casing elevations have changed due to recent upgrade and retrofit activities, groundwater elevations are estimated.

TABLE 2B
Summary of Groundwater Gauging Measurements: January 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Well ID	Date	Casing Elevation (ft-AMSL)	Depth to Water (ft)	GW Elevation (ft-AMSL)	Product Thickness (ft)	Depth to Bottom (ft)
MW51A	1/12/2006	346.55	83.97	262.58	none	137.30
MW52	1/12/2006	360.29	94.74	265.55	none	172.01
MW53	1/12/2006	357.00	118.45	238.55	none	163.05
MW54	1/12/2006	361.43	92.18	269.25	none	124.30
RW01	1/12/2006	351.54	75.11	276.44	0.01	NG
RW02*	1/12/2006	--	77.47	283.44	0.52	NG
RW03*	1/12/2006	--	71.61	278.61	0.02	NG
RW04*	1/12/2006	--	92.85	271.02	1.05	NG
RW05	1/12/2006	359.66	81.12	278.56	0.02	NG
RW06*	1/12/2006	--	82.46	278.39	2.56	NG
RW07*	1/12/2006	--	76.15	284.35	0.45	NG
RW08	1/12/2006	361.01	78.95	282.23	0.20	NG
RW08A*	1/12/2006	--	75.78	284.55	0.03	NG
RW09	1/12/2006	363.67	56.21	307.47	0.01	NG
RW10*	1/12/2006	--	88.13	275.01	none	172.75
RW11	1/12/2006	362.42	55.94	306.48	none	171.77
RW12	1/12/2006	363.16	93.55	269.63	0.02	NG
RW13	1/12/2006	360.21	91.23	268.98	none	166.70
RW14	1/12/2006	362.07	94.09	267.98	none	142.10
RW15	1/12/2006	362.07	82.63	279.45	0.01	165.40
RW16	1/12/2006	363.35	94.50	268.86	0.01	NG
RW17*	1/12/2006	--	76.87	266.20	1.47	NG
TH36	1/12/2006	361.15	64.01	297.14	none	116.55
THBF	1/12/2006	351.16	NG	NG	NG	NG
THby4	1/12/2006	373.37	92.51	280.86	none	NG
THWLS*	1/12/2006	--	93.49	279.98	none	124.85
WW1	1/12/2006	Est. 350	88.65	261.35	none	NG
WW2	1/12/2006	Est. 350	85.02	264.98	none	NG

NOTES:

Depths are presented in feet (ft) below casing elevation.

Elevations are presented in feet (ft) above mean sea level (AMSL).

Depth to bottom was not gauged (NG) at the onsite wells, if product was encountered in the well, and/or if an obstruction was present at depth.

Depth to water for four wells were not gauged (NG) during this event due to accessibilty issues or due to the collapse of the well.

Correction calculation for wells with product = {well elevation - [depth to water - (product thickness *product density)]}

Product density has been assumed to be 0.866.

* Casing elevations have changed due to recent upgrade and retrofit activities, groundwater elevations are estimated.

TABLE 2C
Summary of Groundwater Gauging Measurements: April 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Well ID	Date	Casing Elevation (ft-AMSL)	Depth to Water (ft)	GW Elevation (ft-AMSL)	Product Thickness (ft)	Depth to Bottom (ft)
MW01	4/27/2006	363.72	98.04	265.68	none	125.65
MW02A	4/27/2006	354.33	95.50	258.83	none	128.40
MW03	4/27/2006	339.68	78.26	261.42	none	117.45
MW04	4/27/2006	317.20	86.42	230.78	none	127.60
MW05	4/27/2006	326.36	NG	NG	NG	NG
MW06*	4/27/2006	--	94.35	259.66	none	194.45
MW08	4/27/2006	363.63	87.50	276.13	none	174.20
MW09	4/27/2006	347.12	72.64	274.48	none	188.55
MW10	4/27/2006	356.22	78.21	278.01	none	143.65
MW11	4/27/2006	364.25	89.31	274.94	0.01	NG
MW12*	4/27/2006	--	98.19	265.96	0.01	NG
MW13	4/27/2006	359.58	93.80	265.78	none	199.40
MW15*	4/27/2006	--	98.12	264.60	none	135.00
MW16	4/27/2006	363.66	92.61	271.05	none	197.32
MW17	4/27/2006	324.39	59.34	265.05	none	155.62
MW18	4/27/2006	347.63	81.64	265.99	none	113.25
MW19	4/27/2006	340.66	91.28	249.38	none	149.25
MW20	4/27/2006	333.58	69.05	264.53	none	136.60
MW21	4/27/2006	355.85	78.05	277.80	none	198.65
MW24*	4/27/2006	--	99.56	263.21	none	144.20
MW25	4/27/2006	319.66	73.93	245.73	0.20	NG
MW26	4/27/2006	318.76	73.20	245.56	0.01	NG
MW27	4/27/2006	351.81	84.91	266.90	none	138.36
MW28A	4/27/2006	343.53	51.55	286.17	0.63	NG
MW29	4/27/2006	326.84	75.02	251.82	none	107.10
MW30	4/27/2006	354.33	56.70	233.23	none	77.50
MW31	4/27/2006	367.35	98.80	268.55	none	173.24
MW32	4/27/2006	366.63	99.14	267.49	none	134.58
MW33A	4/27/2006	351.36	89.14	262.22	none	121.65
MW34	4/27/2006	351.07	92.17	258.90	none	126.50
MW35	4/27/2006	350.32	92.60	257.72	none	NG
MW36	4/27/2006	332.52	100.52	232.00	none	144.98
MW37	4/27/2006	284.59	54.31	230.28	none	104.50
MW38	4/27/2006	310.09	NG	NG	NG	74.05
MW39	4/27/2006	341.07	76.82	264.25	none	134
MW40	4/27/2006	347.85	81.23	266.62	none	138.02
MW41	4/27/2006	347.91	78.49	269.42	none	145.82
MW42	4/27/2006	345.57	77.91	267.66	none	123.00
MW43A	4/27/2006	341.15	73.60	267.55	none	102.35
MW44	4/27/2006	340.59	76.78	263.81	none	97.70
MW45	4/27/2006	308.05	39.79	268.26	none	72.00
MW46	4/27/2006	374.40	NG	NG	NG	115.70
MW47	4/27/2006	361.67	93.25	268.42	none	138.75
MW48	4/27/2006	327.00	96.40	232.83	none	135.40
MW49	4/27/2006	230.74	4.29	226.45	none	56.48
MW50	4/27/2006	346.22	89.95	256.27	none	153.32
MW51	4/27/2006	346.55	NG	NG	NG	83.25
MW51A	4/27/2006	346.55	82.60	263.95	none	137.25

NOTES:

Depths are presented in feet (ft) below casing elevation.

Elevations are presented in feet (ft) above mean sea level (AMSL).

Depth to bottom was not gauged (NG) at the onsite wells, if product was encountered in the well, and/or if an obstruction was present at depth.

Depth to water at five well locations were not gauged (NG) during this event due to accessibilty issues or the collapse of the well.

Correction calculation for wells with product = {well elevation - [depth to water - (product thickness *product density)]}

Product density has been assumed to be 0.866.

* Casing elevations have changed due to recent upgrade and retrofit activities, groundwater elevations are estimated.

TABLE 2C
Summary of Groundwater Gauging Measurements: April 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Well ID	Date	Casing Elevation (ft-AMSL)	Depth to Water (ft)	GW Elevation (ft-AMSL)	Product Thickness (ft)	Depth to Bottom (ft)
MW52	4/27/2006	360.29	97.35	262.94	none	172.40
MW53	4/27/2006	357.00	121.25	235.75	none	162.98
MW54	4/27/2006	361.43	95.00	266.43	none	124.60
RW01	4/27/2006	351.54	71.90	279.64	0.52	NG
RW02*	4/27/2006	--	81.88	278.58	0.54	NG
RW03*	4/27/2006	--	73.45	276.75	0.17	NG
RW04*	4/27/2006	--	94.96	268.00	1.84	NG
RW05	4/27/2006	359.66	82.27	277.39	0.44	NG
RW06*	4/27/2006	358.63	82.73	275.90	2.44	NG
RW07*	4/27/2006	360.11	82.23	277.88	0.25	NG
RW08	4/27/2006	361.01	84.93	276.08	1.23	NG
RW08A*	4/27/2006	--	81.84	278.46	0.24	NG
RW09	4/27/2006	363.67	58.69	304.98	0.02	NG
RW10*	4/27/2006	--	93.60	269.54	none	172.89
RW11	4/27/2006	362.42	74.50	287.92	none	171.80
RW12	4/27/2006	363.16	96.52	266.64	0.06	NG
RW13	4/27/2006	360.21	94.95	265.26	none	166.72
RW14	4/27/2006	362.07	96.92	265.15	none	142.10
RW15	4/27/2006	362.07	87.16	274.91	none	NG
RW16	4/27/2006	363.35	97.49	265.86	0.01	NG
RW17*	4/27/2006	--	79.14	262.66	1.80	NG
TH36	4/27/2006	361.15	67.87	293.28	none	116.53
THBF	4/27/2006	351.16	NG	NG	NG	49.20
THby4	4/27/2006	373.37	95.55	277.82	none	125.05
THWLS*	4/27/2006	--	96.40	277.07	none	124.75
WW1	4/27/2006	Est. 350	88.40	261.60	none	NG
WW2	4/27/2006	Est. 350	88.29	261.71	none	NG

NOTES:

Depths are presented in feet (ft) below casing elevation.

Elevations are presented in feet (ft) above mean sea level (AMSL).

Depth to bottom was not gauged (NG) at the onsite wells, if product was encountered in the well, and/or if an obstruction was present at depth.

Depth to water at five well locations were not gauged (NG) during this event due to accessibilty issues or the collapse of the well.

Correction calculation for wells with product = {well elevation - [depth to water - (product thickness *product density)]}

Product density has been assumed to be 0.866.

* Casing elevations have changed due to recent upgrade and retrofit activities, groundwater elevations are estimated.

TABLE 2D
Summary of Groundwater Gauging Measurements: July 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Well ID	Date	Casing Elevation (ft-AMSL)	Depth to Water (ft)	GW Elevation (ft-AMSL)	Product Thickness (ft)	Depth to Bottom (ft)
MW01	7/28/2006	363.72	93.80	269.92	none	125.50
MW02A	7/28/2006	354.33	89.97	264.36	none	128.45
MW03	7/28/2006	339.68	74.11	265.57	none	117.42
MW04	7/28/2006	317.20	84.41	232.79	none	127.60
MW05	7/28/2006	326.36	NG	NG	NG	NG
MW06*	7/28/2006	--	89.96	260.43	none	194.47
MW08	7/28/2006	363.63	83.39	280.24	none	174.30
MW09	7/28/2006	347.12	73.61	273.51	0.20	NG
MW10	7/28/2006	356.22	73.13	283.09	none	143.60
MW11	7/28/2006	364.25	78.60	285.65	0.01	NG
MW12*	7/28/2006	--	93.32	270.83	0.02	NG
MW13	7/28/2006	359.58	90.34	269.24	none	199.30
MW15*	7/28/2006	--	93.61	269.11	none	138.90
MW16	7/28/2006	363.66	86.02	277.64	none	197.05
MW17	7/28/2006	324.39	54.81	269.58	none	155.50
MW18	7/28/2006	347.63	77.00	270.63	none	113.02
MW19	7/28/2006	340.66	85.92	254.74	none	149.10
MW20	7/28/2006	333.58	65.27	268.31	none	136.60
MW21	7/28/2006	355.85	73.62	282.23	none	198.60
MW24*	7/28/2006	--	95.35	267.42	none	150.25
MW25	7/28/2006	319.66	68.05	251.61	0.05	NG
MW26	7/28/2006	318.76	87.45	231.31	0.05	NG
MW27	7/28/2006	351.81	87.78	264.03	none	138.35
MW28A	7/28/2006	343.53	47.98	295.55	0.66	NG
MW29	7/28/2006	326.84	67.61	259.23	none	107.10
MW30	7/28/2006	354.33	52.69	301.64	none	77.65
MW31	7/28/2006	367.35	94.36	272.99	none	173.20
MW32	7/28/2006	366.63	94.89	271.74	none	129.18
MW33A	7/28/2006	351.36	85.09	266.27	none	121.25
MW34	7/28/2006	351.07	88.11	262.96	none	126.40
MW35	7/28/2006	350.32	88.22	262.10	none	NG
MW36	7/28/2006	332.52	95.50	237.02	none	144.95
MW37	7/28/2006	284.59	53.09	231.50	none	104.00
MW38	7/28/2006	310.09	NG	NG	NG	74.00
MW39	7/28/2006	341.07	69.80	271.27	none	134.00
MW40	7/28/2006	347.85	75.25	272.60	none	138.00
MW41	7/28/2006	347.91	72.75	275.16	none	145.80
MW42	7/28/2006	345.57	74.45	271.12	none	122.80
MW43A	7/28/2006	341.15	71.81	269.34	none	102.30
MW44	7/28/2006	340.59	73.40	267.19	none	97.70
MW45	7/28/2006	308.05	46.91	261.14	none	71.90
MW46	7/28/2006	374.40	NG	NG	NG	105.10
MW47	7/28/2006	361.67	87.10	274.57	none	137.21
MW48	7/28/2006	327.00	NG	NG	none	135.40
MW49	7/28/2006	230.74	3.92	226.82	none	56.45
MW50	7/28/2006	346.22	85.25	260.97	none	153.40
MW51	7/28/2006	346.55	NG	NG	NG	83.10
MW51A	7/28/2006	346.55	83.35	263.20	none	137.25

NOTES:

Depths are presented in feet (ft) below casing elevation.

Elevations are presented in feet (ft) above mean sea level (AMSL).

Depth to bottom was not gauged (NG) at the onsite wells, if product was encountered in the well, and/or if an obstruction was present at depth.

Depth to water at six well locations were not gauged (NG) during this event due to accessibilty issues or the collapse of the well.

Correction calculation for wells with product = {well elevation - [depth to water - (product thickness *product density)]}

Product density has been assumed to be 0.866.

* Casing elevations have changed due to recent upgrade and retrofit activities, groundwater elevations are estimated.

TABLE 2D
Summary of Groundwater Gauging Measurements: July 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Well ID	Date	Casing Elevation (ft-AMSL)	Depth to Water (ft)	GW Elevation (ft-AMSL)	Product Thickness (ft)	Depth to Bottom (ft)
MW52	7/28/2006	360.29	92.71	267.58	none	172.10
MW53	7/28/2006	357.00	118.85	238.15	none	163.70
MW54	7/28/2006	361.43	97.20	264.23	none	124.55
RW01	7/28/2006	351.54	79.45	272.09	0.95	NG
RW02*	7/28/2006	--	84.62	275.84	0.56	NG
RW03*	7/28/2006	--	70.33	279.87	0.14	NG
RW04*	7/28/2006	--	91.75	271.21	1.46	NG
RW05	7/28/2006	359.66	82.39	277.27	0.07	NG
RW06*	7/28/2006	--	85.49	273.14	2.23	NG
RW07*	7/28/2006	--	87.07	273.04	0.70	NG
RW08	7/28/2006	361.01	90.35	270.66	1.69	NG
RW08A*	7/28/2006	--	86.76	273.54	1.01	NG
RW09	7/28/2006	363.67	60.50	303.17	3.40	NG
RW10*	7/28/2006	--	87.77	275.37	none	172.80
RW11	7/28/2006	362.42	58.20	304.22	none	171.75
RW12	7/28/2006	363.16	91.91	271.25	0.05	NG
RW13	7/28/2006	360.21	89.88	270.33	none	166.70
RW14	7/28/2006	362.07	92.66	269.41	none	142
RW15	7/28/2006	362.07	80.06	282.01	0.01	NG
RW16	7/28/2006	363.35	92.45	270.90	0.01	NG
RW17*	7/28/2006	--	76.20	265.60	1.11	NG
TH36	7/28/2006	361.15	60.90	300.25	none	116.50
THBF	7/28/2006	351.16	NG	NG	NG	49.20
THby4	7/28/2006	373.37	93.31	280.06	none	124.90
THWLS*	7/28/2006	--	91.07	282.40	none	112.83
WW1	7/28/2006	Est. 350	83.17	266.83	none	NG
WW2	7/28/2006	Est. 350	82.27	267.73	none	NG

NOTES:

Depths are presented in feet (ft) below casing elevation.

Elevations are presented in feet (ft) above mean sea level (AMSL).

Depth to bottom was not gauged (NG) at the onsite wells, if product was encountered in the well, and/or if an obstruction was present at depth.

Depth to water at six well locations were not gauged (NG) during this event due to accessibilty issues or the collapse of the well.

Correction calculation for wells with product = {well elevation - [depth to water - (product thickness *product density)]}

Product density has been assumed to be 0.866.

* Casing elevations have changed due to recent upgrade and retrofit activities, groundwater elevations are estimated.

TABLE 2E
Summary of LNAPL Monthly Gauging Measurements: August 2005 to July 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Date	RW01	RW02	RW03	RW04	RW05	RW06	RW07	RW08	RW17
				Product thickness (feet)					
8/1/2005	0.93	0.06	1.48	0.06	0.08	2.55	0.03	0.36	-
9/6/2005	3.03	0.75	-	0.80	0.08	2.49	0.03	0.29	1.48
10/1/2005	3.03	2.57	-	0.98	0.02	0.51	0.08	0.24	1.55
11/1/2005	2.37	0.19	-	0.92	0.02	2.60	0.38	0.19	1.48
12/12/2005	0.20	0.52	-	1.01	0.01	2.62	0.19	0.27	1.12
1/12/2006	0.01	0.52	0.02	1.05	0.02	2.56	0.45	0.03	1.47
2/6/2006	0.12	0.45	0.02	1.03	0.03	2.60	0.04	0.22	1.60
3/6/2006	0.01	0.48	0.12	1.55	-	2.64	0.03	0.00	1.65
4/4/2006	0.04	0.51	0.14	1.23	0.03	2.37	0.04	0.20	1.71
4/27/2006	0.52	0.54	0.17	1.84	0.44	2.44	0.25	0.24	1.80
May 2006	-	-	-	-	-	-	-	-	-
June 2006	-	-	-	-	-	-	-	-	-
7/27/2006	1.05	0.56	0.14	1.46	0.07	2.23	0.70	1.01	1.11
9/5/2006	0.30	0.40	-	1.30	-	1.90	-	3.50	0.20

NOTE:
"-" indicates LNAPL not measured

TABLE 3
Offsite Potable Well Locations for Sampling
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Block	Lot	Property Location	Owner's Name	Owner's Mailing Address	City/State/Zip	Zip Code
LOPATCONG TWP						
100	6.05	1095 US HWY 22	STOWAWAY SELF STORAGE	P.O. BOX 5297	NORTH BRANCH, N.J.	08876
102	2.01**	700 LOCK STREET	PELLOWSKI, PETER & ANGELA	700 LOCK STREET	PHILLIPSBURG NJ	08865
102	2.02**	600 LOCK STREET	PELLOWSKI, PETER & ANGELA (formerly William and Helen Koch)	700 LOCK STREET	PHILLIPSBURG NJ	08865
102	7	480 LOCK STREET	MANN, CHESTER J. JR.	480 LOCK STREET	PHILLIPSBURG, N.J.	08865
102	8 & 8.01	476 LOCK STREET	LEE, JAMES	476 LOCK STREET	PHILLIPSBURG, N.J.	08865
102	6	482 LOCK STREET***	DIAZ, JAMES F AND MARYANN	482 LOCK STREET	PHILLIPSBURG, N.J.	08865
PHILLIPSBURG TOWN						
2505	38	840 SOUTH MAIN STREET	HARDISON, GEORGE & DORIS M	481 LOCK STREET	PHILLIPSBURG, NJ	08865
2614	5	1126 MELROSE STREET	WYANT, HARRY L JR	1125 PEARL STREET	PHILLIPSBURG NJ	08865
3301	5	481 LOCK STREET	HARDISON, GEORGE & DORIS	481 LOCK STREET	PHILLIPSBURG, N.J.	08865
3301	6	441 LOCK STREET	BALAS, JEFFREY	441 LOCK STREET	PHILLIPSBURG NJ	08865
3301 & 102	7 & 11	437 LOCK STREET	COX, DONALD P	437 LOCK ST.	PHILLIPSBURG, N. J.	08865
3301 & 102	7 & 10	425 LOCK STREET	DANIELE, GRACIELA	255 WEST 19TH ST.	NEW YORK, N. Y.	10011

NOTES:
* Property information obtained on the New Jersey Property Search website:
** The same well services Block 102, Lot 2.01 and Block 102, Lot 2.02.
*** ENSR was unable to contact this property owner.

TABLE 4
Summary of Analytical Results - Volatile Organic Compounds
Offsite Potable Well Groundwater Sampling
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Location ID	1126MEL	425LOCK	425LOCK	437LOCK	437LOCK
		Lab ID	715193	715188	726515	715166	725158
		Sample Date	3/10/2006	3/10/2006	4/14/2006	3/10/2006	4/11/2006
Analyte	**CAS-RN**	**GWQS**					
1,1,1,2-Tetrachloroethane	630-20-6	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	71-55-6	30	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	79-00-5	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	75-34-3	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethylene	75-35-4	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropanone	513-88-2	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,1-Dichloropropene	563-58-6	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	96-18-4	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	9	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	95-63-6	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-Chloropropane	96-12-8	1	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	95-50-1	600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	107-06-2	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	78-87-5	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	108-67-8	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	541-73-1	600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	142-28-9	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	106-46-7	75	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1-Chlorobutane	109-69-3	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2,2-Dichloropropane	594-20-7	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Chlorotoluene	95-49-8	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	591-78-6	100	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2-Nitropropane	79-46-9	-	25 U	25 U	25 U	25 U	25 U
4-Chlorotoluene	106-43-4	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-Pentanone	108-10-1	400	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Acetone	67-64-1	700	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Acrylonitrile	107-13-1	50	25 U	25 U	25 U	25 U	25 U
Allyl Chloride	107-05-1	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Benzene	71-43-2	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromobenzene	108-86-1	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	75-27-4	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	75-25-2	4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	74-83-9	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Disulfide	75-15-0	800	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Carbon tetrachloride	56-23-5	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroacetonitrile	107-14-2	-	25 U	25 U	25 U	25 U	25 U
Chlorobenzene	108-90-7	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobromomethane	74-97-5	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	75-00-3	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	67-66-3	6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	74-87-3	30	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	156-59-2	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	10061-01-5	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	124-48-1	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromoethane	106-93-4	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	75-71-8	1000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Diethyl Ether	60-29-7	1000	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Ethyl methacrylate	97-63-2	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Ethylbenzene	100-41-4	700	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	87-68-3	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachloroethane	67-72-1	10	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Iodomethane	74-88-4	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Isopropylbenzene	98-82-8	800	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl Acrylate	96-33-3	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Methyl Acrylonitrile	126-98-7	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Methyl Ethyl Ketone (MEK)	78-93-3	300	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Methyl methacrylate	80-62-6	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Methyl Tertiary Butyl Ether (MTBE)	1634-04-4	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene bromide	74-95-3	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene Chloride	75-09-2	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
N/Aphthalene	91-20-3	300	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	104-51-8	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Nitrobenzene	98-95-3	10	25 U	25 U	25 U	25 U	25 U
Pentachloroethane	76-01-7	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
p-Isopropyltoluene	99-87-6	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Propionitrile	107-12-0	-	25 U	25 U	25 U	25 U	25 U
Propyl benzene	103-65-1	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	135-98-8	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	100-42-5	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
t-1,2-Dichloro-2-butene	110-57-6	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
tert-Butylbenzene	98-06-6	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrahydrofuran	109-99-9	20	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Toluene	108-88-3	1000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Xylenes	1330-20-7	1000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trans-1,2-Dichloroethene	156-60-5	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	10061-02-6	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	79-01-6	1	0.5 U	0.7	0.6	0.7	0.7
Trichlorofluoromethane	75-69-4	2000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	75-01-4	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:

All results are reported in milligrams per kilogram (µg/L).

GWQS are the NJDEP Groundwater Quality Standards.

BOLD values indicate exceedances of the GWQC.

UNDERLINED values indicate the Method Detection Limit (MDL) exceeds the GWQC.

CAS-RN = Chemical Abstract Service Registry Number.

U = Indicates that the analyte was not detected at the reported MDL.

TABLE 4
Summary of Analytical Results - Volatile Organic Compounds
Offsite Potable Well Groundwater Sampling
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Location ID	441LOCK	441LOCK	476LOCK	480LOCK
		Lab ID	715165	725183	715155	715189
		Sample Date	3/10/2006	4/11/2006	3/10/2006	3/10/2006
Analyte	**CAS-RN**	**GWQS**				
1,1,1,2-Tetrachloroethane	630-20-6	10	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	71-55-6	30	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	79-00-5	3	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	75-34-3	50	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethylene	75-35-4	2	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropanone	513-88-2	-	2.5 U	2.5 U	2.5 U	2.5 U
1,1-Dichloropropene	563-58-6	-	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	-	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	96-18-4	2	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	9	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	95-63-6	100	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-Chloropropane	96-12-8	1	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	95-50-1	600	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	107-06-2	2	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	78-87-5	1	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	108-67-8	100	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	541-73-1	600	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	142-28-9	100	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	106-46-7	75	0.5 U	0.5 U	0.5 U	0.5 U
1-Chlorobutane	109-69-3	-	2.5 U	2.5 U	2.5 U	2.5 U
2,2-Dichloropropane	594-20-7	-	0.5 U	0.5 U	0.5 U	0.5 U
2-Chlorotoluene	95-49-8	-	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	591-78-6	100	2.5 U	2.5 U	2.5 U	2.5 U
2-Nitropropane	79-46-9	-	25 U	25 U	25 U	25 U
4-Chlorotoluene	106-43-4	-	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-Pentanone	108-10-1	400	2.5 U	2.5 U	2.5 U	2.5 U
Acetone	67-64-1	700	2.5 U	2.5 U	2.5 U	2.5 U
Acrylonitrile	107-13-1	50	25 U	25 U	25 U	25 U
Allyl Chloride	107-05-1	-	2.5 U	2.5 U	2.5 U	2.5 U
Benzene	71-43-2	1	0.5 U	0.5 U	0.5 U	0.5 U
Bromobenzene	108-86-1	-	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	75-27-4	1	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	75-25-2	4	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	74-83-9	10	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Disulfide	75-15-0	800	2.5 U	2.5 U	2.5 U	2.5 U
Carbon tetrachloride	56-23-5	2	0.5 U	0.5 U	0.5 U	0.5 U
Chloroacetonitrile	107-14-2	-	25 U	25 U	25 U	25 U
Chlorobenzene	108-90-7	50	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobromomethane	74-97-5	-	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	75-00-3	100	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	67-66-3	6	0.5 U	0.5 U	0.6	0.5 U
Chloromethane	74-87-3	30	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	156-59-2	70	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	10061-01-5	-	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	124-48-1	10	0.5 U	0.5 U	0.5 U	0.5 U
Dibromoethane	106-93-4	-	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	75-71-8	1000	0.5 U	0.5 U	0.5 U	0.5 U
Diethyl Ether	60-29-7	1000	2.5 U	2.5 U	2.5 U	2.5 U
Ethyl methacrylate	97-63-2	-	2.5 U	2.5 U	2.5 U	2.5 U
Ethylbenzene	100-41-4	700	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	87-68-3	1	0.5 U	0.5 U	0.5 U	0.5 U
Hexachloroethane	67-72-1	10	2.5 U	2.5 U	2.5 U	2.5 U
Iodomethane	74-88-4	-	2.5 U	2.5 U	2.5 U	2.5 U
Isopropylbenzene	98-82-8	800	0.5 U	0.5 U	0.5 U	0.5 U
Methyl Acrylate	96-33-3	-	2.5 U	2.5 U	2.5 U	2.5 U
Methyl Acrylonitrile	126-98-7	-	2.5 U	2.5 U	2.5 U	2.5 U
Methyl Ethyl Ketone (MEK)	78-93-3	300	2.5 U	2.5 U	2.5 U	2.5 U
Methyl methacrylate	80-62-6	-	2.5 U	2.5 U	2.5 U	2.5 U
Methyl Tertiary Butyl Ether (MTBE)	1634-04-4	70	0.5 U	0.5 U	0.5 U	0.5 U
Methylene bromide	74-95-3	-	0.5 U	0.5 U	0.5 U	0.5 U
Methylene Chloride	75-09-2	3	0.5 U	0.5 U	0.5 U	0.5 U
N/Aphthalene	91-20-3	300	0.5 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	104-51-8	100	0.5 U	0.5 U	0.5 U	0.5 U
Nitrobenzene	98-95-3	10	25 U	25 U	25 U	25 U
Pentachloroethane	76-01-7	-	2.5 U	2.5 U	2.5 U	2.5 U
p-Isopropyltoluene	99-87-6	100	0.5 U	0.5 U	0.5 U	0.5 U
Propionitrile	107-12-0	-	25 U	25 U	25 U	25 U
Propyl benzene	103-65-1	100	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	135-98-8	-	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	100-42-5	100	0.5 U	0.5 U	0.5 U	0.5 U
t-1,2-Dichloro-2-butene	110-57-6	-	2.5 U	2.5 U	2.5 U	2.5 U
tert-Butylbenzene	98-06-6	-	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	1	0.5 U	0.5 U	0.5 U	0.5 U
Tetrahydrofuran	109-99-9	20	2.5 U	2.5 U	2.5 U	2.5 U
Toluene	108-88-3	1000	0.5 U	0.5 U	0.5 U	0.5 U
Total Xylenes	1330-20-7	1000	0.5 U	0.5 U	0.5 U	0.5 U
Trans-1,2-Dichloroethene	156-60-5	100	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	10061-02-6	-	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	79-01-6	1	0.6	0.6	0.5 U	0.5 U
Trichlorofluoromethane	75-69-4	2000	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	75-01-4	5	0.5 U	0.5 U	0.5 U	0.5 U

Notes:

All results are reported in milligrams per kilogram (µg/L).

GWQS are the NJDEP Groundwater Quality Standards.

BOLD values indicate exceedances of the GWQC.

UNDERLINED values indicate the Method Detection Limit (MDL) exceeds the GWQC.

CAS-RN = Chemical Abstract Service Registry Number.

U = Indicates that the analyte was not detected at the reported MDL.

TABLE 4
Summary of Analytical Results - Volatile Organic Compounds
Offsite Potable Well Groundwater Sampling
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Location ID	481LOCK	481LOCK	700LOCK	840SMST	840SMST
		Lab ID	715154	725184	715190	715152	725163
		Sample Date	3/10/2006	4/11/2006	3/10/2006	3/10/2006	4/11/2006
Analyte	**CAS-RN**	**GWQS**					
1,1,1,2-Tetrachloroethane	630-20-6	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	71-55-6	30	0.5 U	0.5 U	0.5 U	0.9	0.9
1,1,2,2-Tetrachloroethane	79-34-5	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	79-00-5	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	75-34-3	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5
1,1-Dichloroethylene	75-35-4	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropanone	513-88-2	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
1,1-Dichloropropene	563-58-6	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	96-18-4	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	9	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	95-63-6	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-Chloropropane	96-12-8	1	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	95-50-1	600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	107-06-2	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	78-87-5	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	108-67-8	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	541-73-1	600	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	142-28-9	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	106-46-7	75	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1-Chlorobutane	109-69-3	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2,2-Dichloropropane	594-20-7	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Chlorotoluene	95-49-8	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	591-78-6	100	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
2-Nitropropane	79-46-9	-	25 U	25 U	25 U	25 U	25 U
4-Chlorotoluene	106-43-4	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-Pentanone	108-10-1	400	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Acetone	67-64-1	700	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Acrylonitrile	107-13-1	50	25 U	25 U	25 U	25 U	25 U
Allyl Chloride	107-05-1	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Benzene	71-43-2	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromobenzene	108-86-1	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	75-27-4	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	75-25-2	4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	74-83-9	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Disulfide	75-15-0	800	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Carbon tetrachloride	56-23-5	2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroacetonitrile	107-14-2	-	25 U	25 U	25 U	25 U	25 U
Chlorobenzene	108-90-7	50	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobromomethane	74-97-5	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	75-00-3	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	67-66-3	6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	74-87-3	30	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	156-59-2	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5
cis-1,3-Dichloropropene	10061-01-5	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	124-48-1	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromoethane	106-93-4	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	75-71-8	1000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Diethyl Ether	60-29-7	1000	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Ethyl methacrylate	97-63-2	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Ethylbenzene	100-41-4	700	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	87-68-3	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachloroethane	67-72-1	10	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Iodomethane	74-88-4	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Isopropylbenzene	98-82-8	800	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl Acrylate	96-33-3	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Methyl Acrylonitrile	126-98-7	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Methyl Ethyl Ketone (MEK)	78-93-3	300	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Methyl methacrylate	80-62-6	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Methyl Tertiary Butyl Ether (MTBE)	1634-04-4	70	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene bromide	74-95-3	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene Chloride	75-09-2	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
N/Aphthalene	91-20-3	300	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	104-51-8	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Nitrobenzene	98-95-3	10	25 U	25 U	25 U	25 U	25 U
Pentachloroethane	76-01-7	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
p-Isopropyltoluene	99-87-6	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Propionitrile	107-12-0	-	25 U	25 U	25 U	25 U	25 U
Propyl benzene	103-65-1	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	135-98-8	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	100-42-5	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
t-1,2-Dichloro-2-butene	110-57-6	-	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
tert-Butylbenzene	98-06-6	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrahydrofuran	109-99-9	20	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U
Toluene	108-88-3	1000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Total Xylenes	1330-20-7	1000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trans-1,2-Dichloroethene	156-60-5	100	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	10061-02-6	-	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethylene	79-01-6	1	1	1	0.5 U	**1.6**	**1.6**
Trichlorofluoromethane	75-69-4	2000	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl Chloride	75-01-4	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes:

All results are reported in milligrams per kilogram (µg/L).

GWQS are the NJDEP Groundwater Quality Standards.

BOLD values indicate exceedances of the GWQC.

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U = Indicates that the analyte was not detected at the reported MDL.

TABLE 5
Summary of Geophysical and Hydrogeological Activities
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Well	Geophysical Logging Date	Geophysical Logging Activity	Salt Slug Test Date	Salt Slug Release Depths (ft)	Packer Test Date	Packer Test Intervals (ft)	Pump Test (8/29-9/3/2005)
MW02A							monitor
MW03							manual monitor
MW04					8/18/2005	100-110, 115-127	manual monitor
MW06			7/27/2005	95.21, 113, 125	8/16/2005	96-127, 180-195	pump well
MW08	3/14 and 3/21/2006	Caliper, Gamma	3/15/2006	95, 120, 140			
MW09	3/15 and 3/22/2006	Caliper, Gamma	3/16/2005	160			
MW11	8/26/2005	OPTV, Caliper			5/31/2006	92-120, 140-165, 165-199	
MW12	11/14/2005 and 3/21/2006	OPTV, Caliper, Gamma	3/16/2006	105, 165			
MW13					5/23/2006	95-115, 135-160, 170-199	
MW16	3/22/2006	Gamma	3/20/2006	98, 108, 125, 160	5/26/2006	110-135, 135-160, 162-197	
MW18	8/16/2005	OPTV, Caliper					
MW19	8/16/2005	OPTV, Caliper					
MW24	11/14/2005	OPTV, Caliper, Gamma					
MW26					6/6/2006	95-120, 117-154	
MW27	8/24/2005	OPTV, Caliper			6/8/2006	85-110, 110-138	
MW31	8/25/2005	OPTV, Caliper					
MW32			8/17/2005	101, 120			
MW33A	3/23/2006	Gamma	3/17/2006	Throughout Water Column	5/23/2006	90-121	monitor
MW34	3/24/2006	Gamma	3/21/2006	104, 111	5/22/2006	93-110, 110-126	monitor
MW35			7/28/2005	92.6, 125	8/15/2005	93-123, 110-123, 124-143	monitor
MW36	8/25/2005	OPTV, Caliper					
MW37					8/17/2005	55-72, 88-98, 98-104	
MW39							manual monitor
MW41	8/24/2005	OPTV, Caliper					
MW49	3/24/2006	Gamma	3/17/2006	42			
MW52							monitor
RW09					6/2/2006	110-135, 135-160, 165-200	
RW11					5/25/2006	92-117, 115-140, 147-171	
RW15	3/24/2006	Gamma	3/14/2006	94, 120	6/9/2006	91-107, 110-135, 130-152	
RW16			3/13/2006	105, 135	6/1/2006	98-125, 125-155	
THWLS (TH28)	3/17/2006 and 6/28/2006	Caliper, Gamma, ATV	3/17/2006	100, 112, 120	6/5/2006	98-113, 113-124	
WW2	8/15/2005	Conductivity, Temperature, Caliper, Gamma, Electric					
PH1	3/15-3/16/2006, 3/23/2006 and 6/28/2006	Caliper, ATV			3/24/2006, 7/5/2006	225-250, 264-289, 276-301, 297-322	
PH2	7/24 and 7/27/2006	Caliper, ATV			8/2-8/8/2006	427-552, 445-470, 473-498, 477-502, 480-505	

Notes:
Packer testing and salt slug depths are measured from top of casing (TOC).
DTW measurements for the aquifer pump test were monitored using Mini-Trolls. Manual measurements were monitored using a water level indicator probe.
OPTV = Optical Televiewer
ATV = Acoustic Televiewer
Blank cell= indicated testing was not conducted at that well.

TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW02AA	MW02A	MW03A	MW03A	MW04A
		Lab ID	676698	J29228-1	676699	J29228-2	676700
		Sample Date	10/10/2005	5/1/2006	10/10/2005	5/1/2006	10/10/2005
		Sample Depth	120	125	115	115	96
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	5.8	3.2	2	1.1	0.6
1,1,2,2-Tetrachloroethane	79-34-5	1	0.3 U	0.26 U	0.3 U	0.26 U	0.3 U
1,1,2-Trichloroethane	79-00-5	3	0.3 U	0.61 U	0.3 U	0.61 U	0.3 U
1,1-Dichloroethane	75-34-3	50	0.3 U	0.78 J	4	2.3	1.5
1,1-Dichloroethylene	75-35-4	2	0.9	0.98 J	0.4 U	0.58 U	0.4 U
1,2-Dichlorobenzene	95-50-1	600	NR	0.3 U	NR	0.3 U	NR
1,2-Dichloroethane	107-06-2	2	0.3 U	0.48 U	0.3 U	0.48 U	0.3 U
1,2-Dichloropropane	78-87-5	1	0.3 U	0.4 U	0.3 U	0.4 U	0.3 U
1,3-Dichlorobenzene	541-73-1	600	NR	0.23 U	NR	0.23 U	NR
1,4-Dichlorobenzene	106-46-7	75	NR	0.69 U	NR	0.69 U	NR
2-Chloroethyl Vinyl Ether	110-75-8	100	0.4 U	0.73 U	0.4 U	0.73 U	0.4 U
Acrolein	107-02-8	-	NR	13 U	NR	13 U	NR
Acrylonitrile	107-13-1	50	NR	4.7 U	NR	4.7 U	NR
Benzene	71-43-2	1	0.3 U	0.18 U	0.3 U	0.18 U	0.3 U
Bromodichloromethane	75-27-4	1	0.3 U	0.14 U	0.3 U	0.14 U	0.3 U
Bromoform	75-25-2	4	0.2 U	0.27 U	0.2 U	0.27 U	0.2 U
Bromomethane	74-83-9	10	0.3 U	0.75 U	0.3 U	0.75 U	0.3 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.4 U	0.13 U	0.4 U	0.13 U	0.4 U
Chloroethane	75-00-3	100	0.2 U	0.33 U	0.2 U	0.33 U	0.2 U
Chloroform	67-66-3	6	0.5 U	0.19 U	0.5 U	0.19 U	0.5 U
Chloromethane	74-87-3	30	0.3 U	0.42 U	0.3 U	0.42 U	0.3 U
cis-1,2-Dichloroethene	156-59-2	70	0.4 U	0.56 U	1.4	0.64 J	**72**
cis-1,3-Dichloropropene	10061-01-5	-	0.2 U	0.22 U	0.2 U	0.22 U	0.2 U
Dibromochloromethane	124-48-1	10	0.3 U	0.18 U	0.3 U	0.18 U	0.3 U
Dichlorodifluoromethane	75-71-8	1000	NR	0.76 U	NR	0.76 U	NR
Ethylbenzene	100-41-4	700	0.5 U	0.23 U	0.5 U	0.23 U	0.5 U
Methylene Chloride	75-09-2	3	0.5 U	0.19 U	0.5 U	0.19 U	0.5 U
Tetrachloroethene	127-18-4	1	0.4 U	0.28 U	0.4 U	0.28 U	**7.4**
Toluene	108-88-3	1000	0.4 U	0.31 U	0.4 U	0.31 U	0.4 U
Total Xylenes	1330-20-7	1000	0.4 U	0.25 U	0.4 U	0.25 U	0.4 U
Trans-1,2-Dichloroethene	156-60-5	100	0.4 U	0.38 U	0.4 U	0.38 U	1.3
trans-1,3-Dichloropropene	10061-02-6	-	0.2 U	0.16 U	0.2 U	0.16 U	0.2 U
Trichloroethylene	79-01-6	1	0.4 U	0.24 J	0.9	0.48 J	**20**
Trichlorofluoromethane	75-69-4	2000	0.8	1.2 U	0.2 U	1.2 U	0.2 U
Vinyl Chloride	75-01-4	5	0.3 U	0.35 U	0.3 U	0.35 U	**34**

Notes:

All results are reported in micrograms per liter (µg/L).

Depths are presented in feet from top of casing.

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BOLD values indicate that the result exceeds the GWQC.

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CAS-RN = Chemical Abstract Service Registry Number.

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TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	**MW04A**	**MW04B**	**MW04B**	**MW04C**	**MW04C**
		Lab ID	**J29228-3**	**676701**	**J29228-4**	**676702**	**J29228-5**
		Sample Date	**5/1/2006**	**10/10/2005**	**5/1/2006**	**10/10/2005**	**5/1/2006**
		Sample Depth	**96**	**108**	**108**	**120**	**120**
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	0.64 J	0.7	0.65 J	0.8	0.63 J
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.3 U	0.26 U	0.3 U	0.26 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.3 U	0.61 U	0.3 U	0.61 U
1,1-Dichloroethane	75-34-3	50	1.1	1.8	1.4	1.7	1.4
1,1-Dichloroethylene	75-35-4	2	0.72 J	0.4 U	0.78 J	0.4 U	0.69 J
1,2-Dichlorobenzene	95-50-1	600	0.3 U	NR	0.3 U	NR	0.3 U
1,2-Dichloroethane	107-06-2	2	0.48 U	0.3 U	0.48 U	0.3 U	0.48 U
1,2-Dichloropropane	78-87-5	1	0.4 U	0.3 U	0.4 U	0.3 U	0.4 U
1,3-Dichlorobenzene	541-73-1	600	0.23 U	NR	0.23 U	NR	0.23 U
1,4-Dichlorobenzene	106-46-7	75	0.69 U	NR	0.69 U	NR	0.69 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.73 U	0.4 U	0.73 U	0.4 U	0.73 U
Acrolein	107-02-8	-	13 U	NR	13 U	NR	13 U
Acrylonitrile	107-13-1	50	4.7 U	NR	4.7 U	NR	4.7 U
Benzene	71-43-2	1	0.18 U	0.3 U	0.18 U	0.3 U	0.18 U
Bromodichloromethane	75-27-4	1	0.14 U	0.3 U	0.14 U	0.3 U	0.14 U
Bromoform	75-25-2	4	0.27 U	0.2 U	0.27 U	0.2 U	0.27 U
Bromomethane	74-83-9	10	0.75 U	0.3 U	0.75 U	0.3 U	0.75 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.13 U	0.4 U	0.13 U	0.4 U	0.13 U
Chloroethane	75-00-3	100	0.33 U	0.2 U	0.33 U	0.2 U	0.33 U
Chloroform	67-66-3	6	0.19 U	0.5 U	0.19 U	0.5 U	0.19 U
Chloromethane	74-87-3	30	0.42 U	0.3 U	0.42 U	0.3 U	0.42 U
cis-1,2-Dichloroethene	156-59-2	70	42.7	**75**	52.9	**81**	51.8
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.2 U	0.22 U	0.2 U	0.22 U
Dibromochloromethane	124-48-1	10	0.18 U	0.3 U	0.18 U	0.3 U	0.18 U
Dichlorodifluoromethane	75-71-8	1000	0.76 U	NR	0.76 U	NR	0.76 U
Ethylbenzene	100-41-4	700	0.23 U	0.5 U	0.23 U	0.5 U	0.23 U
Methylene Chloride	75-09-2	3	0.19 U	0.5 U	0.19 U	0.5 U	0.19 U
Tetrachloroethene	127-18-4	1	**6.7**	**7.1**	**10.6**	**7.8**	**9.4**
Toluene	108-88-3	1000	0.31 U	0.4 U	0.31 U	0.4 U	0.31 U
Total Xylenes	1330-20-7	1000	0.25 U	0.4 U	0.25 U	0.4 U	0.25 U
Trans-1,2-Dichloroethene	156-60-5	100	0.86 J	1.5	0.83 J	1	0.8 J
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.2 U	0.16 U	0.2 U	0.16 U
Trichloroethylene	79-01-6	1	**13.9**	**21**	**17.3**	**22**	**16.8**
Trichlorofluoromethane	75-69-4	2000	1.2 U	0.2 U	1.2 U	0.2 U	1.2 U
Vinyl Chloride	75-01-4	5	**18.9**	**34**	**25.2**	**37**	**24.9**

Notes:

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TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW06A	MW06A	MW06B	MW06B	MW06C
		Lab ID	676714	J29228-10	676715	J29228-11	676716
		Sample Date	10/10/2005	5/1/2006	10/10/2005	5/1/2006	10/10/2005
		Sample Depth	110	172	145	187	187
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	**54**	1.1	**55**	6.3	**56**
1,1,2,2-Tetrachloroethane	79-34-5	1	0.3 U	0.26 U	0.3 U	0.26 U	0.3 U
1,1,2-Trichloroethane	79-00-5	3	0.3 U	0.61 U	0.3 U	0.61 U	0.3 U
1,1-Dichloroethane	75-34-3	50	14	2.2	14	1.1	15
1,1-Dichloroethylene	75-35-4	2	**2.9**	0.58 U	**3.3**	1.5	**3**
1,2-Dichlorobenzene	95-50-1	600	NR	0.3 U	NR	0.3 U	NR
1,2-Dichloroethane	107-06-2	2	0.3 U	0.48 U	0.3 U	0.48 U	0.3 U
1,2-Dichloropropane	78-87-5	1	0.3 U	0.4 U	0.3 U	0.4 U	0.3 U
1,3-Dichlorobenzene	541-73-1	600	NR	0.23 U	NR	0.23 U	NR
1,4-Dichlorobenzene	106-46-7	75	NR	0.69 U	NR	0.69 U	NR
2-Chloroethyl Vinyl Ether	110-75-8	100	0.4 U	0.73 U	0.4 U	0.73 U	0.4 U
Acrolein	107-02-8	-	NR	13 U	NR	13 U	NR
Acrylonitrile	107-13-1	50	NR	4.7 U	NR	4.7 U	NR
Benzene	71-43-2	1	0.3 U	0.18 U	0.3 U	0.18 U	0.3 U
Bromodichloromethane	75-27-4	1	0.3 U	0.14 U	0.3 U	0.14 U	0.3 U
Bromoform	75-25-2	4	0.2 U	0.27 U	0.2 U	0.27 U	0.2 U
Bromomethane	74-83-9	10	0.3 U	0.75 U	0.3 U	0.75 U	0.3 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.4 U	0.13 U	0.4 U	0.13 U	0.4 U
Chloroethane	75-00-3	100	0.2 U	0.33 U	0.2 U	0.33 U	0.2 U
Chloroform	67-66-3	6	0.5 U	0.19 U	0.5 U	0.19 U	0.5 U
Chloromethane	74-87-3	30	0.3 U	0.42 U	0.3 U	0.42 U	0.3 U
cis-1,2-Dichloroethene	156-59-2	70	0.4 U	0.56 U	0.4 U	0.56 U	0.4 U
cis-1,3-Dichloropropene	10061-01-5	-	0.2 U	0.22 U	0.2 U	0.22 U	0.2 U
Dibromochloromethane	124-48-1	10	0.3 U	0.18 U	0.3 U	0.18 U	0.3 U
Dichlorodifluoromethane	75-71-8	1000	NR	0.76 U	NR	0.76 U	NR
Ethylbenzene	100-41-4	700	0.5 U	0.23 U	0.5 U	0.23 U	0.5 U
Methylene Chloride	75-09-2	3	0.5 U	0.19 U	0.5 U	0.19 U	0.5 U
Tetrachloroethene	127-18-4	1	0.5	0.28 U	0.5	0.28 U	0.5
Toluene	108-88-3	1000	0.4 U	0.31 U	0.4 U	0.31 U	0.4 U
Total Xylenes	1330-20-7	1000	0.4 U	0.25 U	0.4 U	0.25 U	0.4 U
Trans-1,2-Dichloroethene	156-60-5	100	0.4 U	0.38 U	0.4 U	0.38 U	0.4 U
trans-1,3-Dichloropropene	10061-02-6	-	0.2 U	0.16 U	0.2 U	0.16 U	0.2 U
Trichloroethylene	79-01-6	1	**3.4**	0.24 J	**3.8**	**1.3**	**3.7**
Trichlorofluoromethane	75-69-4	2000	0.2 U	1.2 U	0.2 U	1.2 U	0.2 U
Vinyl Chloride	75-01-4	5	0.3 U	0.35 U	0.3 U	0.35 U	0.3 U

Notes:

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TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW11A	MW11A	MW11B	MW11B	MW11C
		Lab ID	676745	J29360-4	676746	J29360-5	676747
		Sample Date	10/11/2005	5/2/2006	10/11/2005	5/2/2006	10/11/2005
		Sample Depth	100	100	150	150	190
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	1.8	1.9	1.7	1.8	1.5
1,1,2,2-Tetrachloroethane	79-34-5	1	0.3 U	0.26 U	0.3 U	0.26 U	0.3 U
1,1,2-Trichloroethane	79-00-5	3	0.3 U	0.61 U	0.3 U	0.61 U	0.3 U
1,1-Dichloroethane	75-34-3	50	0.7	0.7 U	0.6	0.7 U	0.8
1,1-Dichloroethylene	75-35-4	2	0.4 U	0.58 U	0.4 U	0.58 U	0.4 U
1,2-Dichlorobenzene	95-50-1	600	NR	0.3 U	NR	0.3 U	NR
1,2-Dichloroethane	107-06-2	2	0.3 U	0.48 U	0.3 U	0.48 U	0.3 U
1,2-Dichloropropane	78-87-5	1	0.3 U	0.4 U	0.3 U	0.4 U	0.3 U
1,3-Dichlorobenzene	541-73-1	600	NR	0.23 U	NR	0.23 U	NR
1,4-Dichlorobenzene	106-46-7	75	NR	0.69 U	NR	0.69 U	NR
2-Chloroethyl Vinyl Ether	110-75-8	100	0.4 U	0.73 U	0.4 U	0.73 U	0.4 U
Acrolein	107-02-8	-	NR	13 U	NR	13 U	NR
Acrylonitrile	107-13-1	50	NR	4.7 U	NR	4.7 U	NR
Benzene	71-43-2	1	0.3 U	0.18 U	0.3 U	0.18 U	0.3 U
Bromodichloromethane	75-27-4	1	0.3 U	0.14 U	0.3 U	0.14 U	0.3 U
Bromoform	75-25-2	4	0.2 U	0.27 U	0.2 U	0.27 U	0.2 U
Bromomethane	74-83-9	10	0.3 U	0.75 U	0.3 U	0.75 U	0.3 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.4 U	0.13 U	0.4 U	0.13 U	0.4 U
Chloroethane	75-00-3	100	0.2 U	0.33 U	0.2 U	0.33 U	0.2 U
Chloroform	67-66-3	6	0.5 U	0.19 U	0.5 U	0.19 U	0.5 U
Chloromethane	74-87-3	30	0.3 U	0.42 U	0.3 U	0.42 U	0.3 U
cis-1,2-Dichloroethene	156-59-2	70	0.4 U	0.56 U	0.4 U	0.56 U	0.4 U
cis-1,3-Dichloropropene	10061-01-5	-	0.2 U	0.22 U	0.2 U	0.22 U	0.2 U
Dibromochloromethane	124-48-1	10	0.3 U	0.18 U	0.3 U	0.18 U	0.3 U
Dichlorodifluoromethane	75-71-8	1000	NR	0.76 U	NR	0.76 U	NR
Ethylbenzene	100-41-4	700	0.5 U	0.23 U	0.5 U	0.23 U	0.5 U
Methylene Chloride	75-09-2	3	0.5 U	0.19 U	0.5 U	0.19 U	0.5 U
Tetrachloroethene	127-18-4	1	0.4 U	0.5 J	0.4 U	0.28 U	0.4 U
Toluene	108-88-3	1000	0.4 U	0.31 U	0.4 U	0.31 U	0.4 U
Total Xylenes	1330-20-7	1000	0.4 U	0.25 U	0.4 U	0.25 U	0.4 U
Trans-1,2-Dichloroethene	156-60-5	100	0.4 U	0.38 U	0.4 U	0.38 U	0.4 U
trans-1,3-Dichloropropene	10061-02-6	-	0.2 U	0.16 U	0.2 U	0.16 U	0.2 U
Trichloroethylene	79-01-6	1	0.4 U	0.2 U	0.4 U	0.2 U	0.4 U
Trichlorofluoromethane	75-69-4	2000	0.2 U	1.2 U	0.2 U	1.2 U	0.2 U
Vinyl Chloride	75-01-4	5	0.3 U	0.35 U	0.3 U	0.35 U	0.3 U

Notes:

All results are reported in micrograms per liter (µg/L).

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TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	**MW11C**	**MW11CP**	**MW12A**	**MW12A**	**MW12B**
		Lab ID	**J29360-6**	**676748**	**676749**	**J29360-26**	**676750**
		Sample Date	**5/2/2006**	**10/11/2005**	**10/11/2005**	**5/2/2006**	**10/11/2005**
		Sample Depth	**190**	**190**	**110**	**163**	**126**
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	1.7	1.4	0.3 U	0.24 U	0.3 U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.3 U	0.3 U	0.26 U	0.3 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.3 U	0.3 U	0.61 U	0.3 U
1,1-Dichloroethane	75-34-3	50	0.7 U	0.8	0.3 U	0.7 U	0.3 U
1,1-Dichloroethylene	75-35-4	2	0.58 U	0.4 U	0.4 U	0.58 U	0.4 U
1,2-Dichlorobenzene	95-50-1	600	0.3 U	NR	NR	0.3 U	NR
1,2-Dichloroethane	107-06-2	2	0.48 U	0.3 U	0.3 U	0.48 U	0.3 U
1,2-Dichloropropane	78-87-5	1	0.4 U	0.3 U	0.3 U	0.4 U	0.3 U
1,3-Dichlorobenzene	541-73-1	600	0.23 U	NR	NR	0.23 U	NR
1,4-Dichlorobenzene	106-46-7	75	0.69 U	NR	NR	0.69 U	NR
2-Chloroethyl Vinyl Ether	110-75-8	100	0.73 U	0.4 U	0.4 U	0.73 U	0.4 U
Acrolein	107-02-8	-	13 U	NR	NR	13 U	NR
Acrylonitrile	107-13-1	50	4.7 U	NR	NR	4.7 U	NR
Benzene	71-43-2	1	0.18 U	0.3 U	0.3 U	0.18 U	0.3 U
Bromodichloromethane	75-27-4	1	0.14 U	0.3 U	0.3 U	0.14 U	0.3 U
Bromoform	75-25-2	4	0.27 U	0.2 U	0.2 U	0.27 U	0.2 U
Bromomethane	74-83-9	10	0.75 U	0.3 U	0.3 U	0.75 U	0.3 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.13 U	0.4 U	0.4 U	0.13 U	0.4 U
Chloroethane	75-00-3	100	0.33 U	0.2 U	0.2 U	0.33 U	0.2 U
Chloroform	67-66-3	6	0.19 U	0.5 U	0.5 U	0.19 U	0.5 U
Chloromethane	74-87-3	30	0.42 U	0.3 U	0.3 U	0.42 U	0.3 U
cis-1,2-Dichloroethene	156-59-2	70	0.56 U	0.4 U	0.4 U	0.56 U	0.4 U
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.2 U	0.2 U	0.22 U	0.2 U
Dibromochloromethane	124-48-1	10	0.18 U	0.3 U	0.3 U	0.18 U	0.3 U
Dichlorodifluoromethane	75-71-8	1000	0.76 U	NR	NR	0.76 U	NR
Ethylbenzene	100-41-4	700	0.23 U	0.5 U	0.5 U	0.23 U	0.5 U
Methylene Chloride	75-09-2	3	0.19 U	0.5 U	0.5 U	0.19 U	0.5 U
Tetrachloroethene	127-18-4	1	0.28 U	0.4 U	0.4 U	0.44 J	0.4 U
Toluene	108-88-3	1000	0.31 U	0.4 U	0.4 U	0.31 U	0.4 U
Total Xylenes	1330-20-7	1000	0.25 U	0.4 U	0.4 U	0.25 U	0.4 U
Trans-1,2-Dichloroethene	156-60-5	100	0.38 U	0.4 U	0.4 U	0.38 U	0.4 U
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.2 U	0.2 U	0.16 U	0.2 U
Trichloroethylene	79-01-6	1	0.2 U	0.4 U	0.4 U	0.2 U	0.4 U
Trichlorofluoromethane	75-69-4	2000	1.2 U	0.2 U	0.2 U	1.2 U	0.2 U
Vinyl Chloride	75-01-4	5	0.35 U	0.3 U	0.3 U	0.35 U	0.3 U

Notes:

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Depths are presented in feet from top of casing.

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TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	**MW12B**	**MW12C**	**MW13A**	**MW13A**	**MW13B**
		Lab ID	**J29360-27**	**676751**	**676725**	**J29360-2**	**676726**
		Sample Date	**5/2/2006**	**10/11/2005**	**10/10/2005**	**5/2/2006**	**10/10/2005**
		Sample Depth	**183**	**156**	**157**	**157**	**189**
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	0.24 U	0.3 U	0.3 U	0.24 U	0.3 U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.3 U	0.3 U	0.26 U	0.3 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.3 U	0.3 U	0.61 U	0.3 U
1,1-Dichloroethane	75-34-3	50	0.7 U	0.3 U	0.3 U	0.7 U	0.3 U
1,1-Dichloroethylene	75-35-4	2	0.58 U	0.4 U	0.4 U	0.58 U	0.4 U
1,2-Dichlorobenzene	95-50-1	600	0.3 U	NR	NR	0.3 U	NR
1,2-Dichloroethane	107-06-2	2	0.48 U	0.3 U	0.3 U	0.48 U	0.3 U
1,2-Dichloropropane	78-87-5	1	0.4 U	0.3 U	0.3 U	0.4 U	0.3 U
1,3-Dichlorobenzene	541-73-1	600	0.23 U	NR	NR	0.23 U	NR
1,4-Dichlorobenzene	106-46-7	75	0.69 U	NR	NR	0.69 U	NR
2-Chloroethyl Vinyl Ether	110-75-8	100	0.73 U	0.4 U	0.4 U	0.73 U	0.4 U
Acrolein	107-02-8	-	13 U	NR	NR	13 U	NR
Acrylonitrile	107-13-1	50	4.7 U	NR	NR	4.7 U	NR
Benzene	71-43-2	1	0.18 U	0.3 U	0.3 U	0.18 U	0.3 U
Bromodichloromethane	75-27-4	1	0.14 U	0.3 U	0.3 U	0.14 U	0.3 U
Bromoform	75-25-2	4	0.27 U	0.2 U	0.2 U	0.27 U	0.2 U
Bromomethane	74-83-9	10	0.75 U	0.3 U	0.3 U	0.75 U	0.3 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.13 U	0.4 U	0.4 U	0.13 U	0.4 U
Chloroethane	75-00-3	100	0.33 U	0.2 U	0.2 U	0.33 U	0.2 U
Chloroform	67-66-3	6	0.19 U	0.5 U	0.5 U	0.19 U	0.5 U
Chloromethane	74-87-3	30	0.42 U	0.3 U	0.3 U	0.42 U	0.3 U
cis-1,2-Dichloroethene	156-59-2	70	0.56 U	0.4 U	0.4 U	0.56 U	0.4 U
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.2 U	0.2 U	0.22 U	0.2 U
Dibromochloromethane	124-48-1	10	0.18 U	0.3 U	0.3 U	0.18 U	0.3 U
Dichlorodifluoromethane	75-71-8	1000	0.76 U	NR	NR	0.76 U	NR
Ethylbenzene	100-41-4	700	0.23 U	0.5 U	0.5 U	0.23 U	0.5 U
Methylene Chloride	75-09-2	3	0.19 U	0.5 U	0.5 U	0.19 U	0.5 U
Tetrachloroethene	127-18-4	1	0.28 U	0.4 U	0.4 U	0.28 U	0.4 U
Toluene	108-88-3	1000	0.31 U	0.4 U	0.4 U	0.31 U	0.4 U
Total Xylenes	1330-20-7	1000	0.25 U	0.4 U	0.4 U	0.25 U	0.4 U
Trans-1,2-Dichloroethene	156-60-5	100	0.38 U	0.4 U	0.4 U	0.38 U	0.4 U
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.2 U	0.2 U	0.16 U	0.2 U
Trichloroethylene	79-01-6	1	0.2 U	0.4 U	0.4 U	0.2 U	0.4 U
Trichlorofluoromethane	75-69-4	2000	1.2 U	0.2 U	0.2 U	1.2 U	0.2 U
Vinyl Chloride	75-01-4	5	0.35 U	0.3 U	0.3 U	0.35 U	0.3 U

Notes:

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TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW13B	MW15A	MW15B	MW16A	MW16A
		Lab ID	J29360-3	J29360-11	J29360-12	676741	J29360-7
		Sample Date	5/2/2006	5/2/2006	5/2/2006	10/11/2005	5/2/2006
		Sample Depth	189	130	136	130	130
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	0.24 U	1.3	0.84 J	9.1	12.6
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.26 U	0.26 U	0.3 U	0.26 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.61 U	0.61 U	0.3 U	0.61 U
1,1-Dichloroethane	75-34-3	50	0.7 U	4.7	5.1	6.6	5.2
1,1-Dichloroethylene	75-35-4	2	0.58 U	0.76 J	0.58 U	**4.6**	**4.9**
1,2-Dichlorobenzene	95-50-1	600	0.3 U	0.3 U	0.3 U	NR	0.3 U
1,2-Dichloroethane	107-06-2	2	0.48 U	0.48 U	0.48 U	0.3 U	0.48 U
1,2-Dichloropropane	78-87-5	1	0.4 U	0.4 U	0.4 U	0.3 U	0.4 U
1,3-Dichlorobenzene	541-73-1	600	0.23 U	0.23 U	0.23 U	NR	0.23 U
1,4-Dichlorobenzene	106-46-7	75	0.69 U	0.69 U	0.69 U	NR	0.69 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.73 U	0.73 U	0.73 U	0.4 U	0.73 U
Acrolein	107-02-8	-	13 U	13 U	13 U	NR	13 U
Acrylonitrile	107-13-1	50	4.7 U	4.7 U	4.7 U	NR	4.7 U
Benzene	71-43-2	1	0.18 U	0.18 U	0.18 U	0.3 U	0.18 U
Bromodichloromethane	75-27-4	1	0.14 U	0.14 U	0.14 U	0.3 U	0.14 U
Bromoform	75-25-2	4	0.27 U	0.27 U	0.27 U	0.2 U	0.27 U
Bromomethane	74-83-9	10	0.75 U	0.75 U	0.75 U	0.3 U	0.75 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.13 U	0.13 U	0.13 U	0.4 U	0.13 U
Chloroethane	75-00-3	100	0.33 U	0.33 U	0.33 U	0.2 U	0.33 U
Chloroform	67-66-3	6	0.19 U	0.19 U	0.19 U	0.5 U	0.19 U
Chloromethane	74-87-3	30	0.42 U	0.42 U	0.42 U	0.3 U	0.42 U
cis-1,2-Dichloroethene	156-59-2	70	0.56 U	0.73 J	0.66 J	0.4 U	0.56 U
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.22 U	0.22 U	0.2 U	0.22 U
Dibromochloromethane	124-48-1	10	0.18 U	0.18 U	0.18 U	0.3 U	0.18 U
Dichlorodifluoromethane	75-71-8	1000	0.76 U	0.76 U	0.76 U	NR	0.76 U
Ethylbenzene	100-41-4	700	0.23 U	0.23 U	0.23 U	0.5 U	0.23 U
Methylene Chloride	75-09-2	3	0.19 U	0.19 U	0.19 U	0.5 U	0.19 U
Tetrachloroethene	127-18-4	1	0.28 U	0.28 U	0.28 U	0.8	0.39 J
Toluene	108-88-3	1000	0.31 U	0.31 U	0.31 U	0.4 U	0.31 U
Total Xylenes	1330-20-7	1000	0.25 U	0.25 U	0.25 U	0.4 U	0.25 U
Trans-1,2-Dichloroethene	156-60-5	100	0.38 U	0.38 U	0.38 U	0.4 U	0.38 U
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.16 U	0.16 U	0.2 U	0.16 U
Trichloroethylene	79-01-6	1	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U
Trichlorofluoromethane	75-69-4	2000	1.2 U	1.2 U	1.2 U	0.2 U	1.2 U
Vinyl Chloride	75-01-4	5	0.35 U	0.35 U	0.35 U	0.3 U	0.35 U

Notes:

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TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW16B	MW16B	MW16BP	MW16BP	MW16C
		Lab ID	676742	J29360-8	676743	J29360-9	676744
		Sample Date	10/11/2005	5/2/2006	10/11/2005	5/2/2006	10/11/2005
		Sample Depth	155	155	155	155	190
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	5.8	8.3	5.8	8.6	7.3
1,1,2,2-Tetrachloroethane	79-34-5	1	0.3 U	0.26 U	0.3 U	0.26 U	0.3 U
1,1,2-Trichloroethane	79-00-5	3	0.3 U	0.61 U	0.3 U	0.61 U	0.3 U
1,1-Dichloroethane	75-34-3	50	3	3.6	2.4	3.7	1.9
1,1-Dichloroethylene	75-35-4	2	**3.3**	**3.6**	**2.5**	**4**	**3.3**
1,2-Dichlorobenzene	95-50-1	600	NR	0.3 U	NR	0.3 U	NR
1,2-Dichloroethane	107-06-2	2	0.3 U	0.48 U	0.3 U	0.48 U	0.3 U
1,2-Dichloropropane	78-87-5	1	0.3 U	0.4 U	0.3 U	0.4 U	0.3 U
1,3-Dichlorobenzene	541-73-1	600	NR	0.23 U	NR	0.23 U	NR
1,4-Dichlorobenzene	106-46-7	75	NR	0.69 U	NR	0.69 U	NR
2-Chloroethyl Vinyl Ether	110-75-8	100	0.4 U	0.73 U	0.4 U	0.73 U	0.4 U
Acrolein	107-02-8	-	NR	13 U	NR	13 U	NR
Acrylonitrile	107-13-1	50	NR	4.7 U	NR	4.7 U	NR
Benzene	71-43-2	1	0.3 U	0.18 U	0.3 U	0.18 U	0.3 U
Bromodichloromethane	75-27-4	1	0.3 U	0.14 U	0.3 U	0.14 U	0.3 U
Bromoform	75-25-2	4	0.2 U	0.27 U	0.2 U	0.27 U	0.2 U
Bromomethane	74-83-9	10	0.3 U	0.75 U	0.3 U	0.75 U	0.3 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.4 U	0.13 U	0.4 U	0.13 U	0.4 U
Chloroethane	75-00-3	100	0.2 U	0.33 U	0.2 U	0.33 U	0.2 U
Chloroform	67-66-3	6	0.5 U	0.19 U	0.5 U	0.19 U	0.5 U
Chloromethane	74-87-3	30	0.3 U	0.42 U	0.3 U	0.42 U	0.3 U
cis-1,2-Dichloroethene	156-59-2	70	0.4 U	0.56 U	0.4 U	0.56 U	0.4 U
cis-1,3-Dichloropropene	10061-01-5	-	0.2 U	0.22 U	0.2 U	0.22 U	0.2 U
Dibromochloromethane	124-48-1	10	0.3 U	0.18 U	0.3 U	0.18 U	0.3 U
Dichlorodifluoromethane	75-71-8	1000	NR	0.76 U	NR	0.76 U	NR
Ethylbenzene	100-41-4	700	0.5 U	0.23 U	0.5 U	0.23 U	0.5 U
Methylene Chloride	75-09-2	3	0.5 U	0.19 U	0.5 U	0.19 U	0.5 U
Tetrachloroethene	127-18-4	1	0.7	0.43 J	0.5	0.39 J	0.9
Toluene	108-88-3	1000	0.4 U	0.31 U	0.4 U	0.31 U	0.4 U
Total Xylenes	1330-20-7	1000	0.4 U	0.25 U	0.4 U	0.25 U	0.4 U
Trans-1,2-Dichloroethene	156-60-5	100	0.4 U	0.38 U	0.4 U	0.38 U	0.4 U
trans-1,3-Dichloropropene	10061-02-6	-	0.2 U	0.16 U	0.2 U	0.16 U	0.2 U
Trichloroethylene	79-01-6	1	0.4 U	0.2 U	0.4 U	0.2 U	0.5
Trichlorofluoromethane	75-69-4	2000	0.2 U	1.2 U	0.2 U	1.2 U	0.3
Vinyl Chloride	75-01-4	5	0.3 U	0.35 U	0.3 U	0.35 U	0.3 U

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Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW16C	MW18A	MW18A	MW19A	MW19A
		Lab ID	J29360-10	676732	J29228-34	676734	J29228-36
		Sample Date	5/2/2006	10/11/2005	5/1/2006	10/11/2005	5/1/2006
		Sample Depth	190	112	112	135	135
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	7.5	0.3 U	0.24 U	0.3 U	0.24 U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.3 U	0.26 U	0.3 U	0.26 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.3 U	0.61 U	0.3 U	0.61 U
1,1-Dichloroethane	75-34-3	50	4.3	0.3 U	0.7 U	0.3 U	0.7 U
1,1-Dichloroethylene	75-35-4	2	**3.9**	0.4 U	0.58 U	0.4 U	0.58 U
1,2-Dichlorobenzene	95-50-1	600	0.3 U	NR	0.3 U	NR	0.3 U
1,2-Dichloroethane	107-06-2	2	0.48 U	0.3 U	0.48 U	0.3 U	0.48 U
1,2-Dichloropropane	78-87-5	1	0.4 U	0.3 U	0.4 U	0.3 U	0.4 U
1,3-Dichlorobenzene	541-73-1	600	0.23 U	NR	0.23 U	NR	0.23 U
1,4-Dichlorobenzene	106-46-7	75	0.69 U	NR	0.69 U	NR	0.69 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.73 U	0.4 U	0.73 U	0.4 U	0.73 U
Acrolein	107-02-8	-	13 U	NR	13 U	NR	13 U
Acrylonitrile	107-13-1	50	4.7 U	NR	4.7 U	NR	4.7 U
Benzene	71-43-2	1	0.18 U	0.3 U	0.18 U	0.3 U	0.18 U
Bromodichloromethane	75-27-4	1	0.14 U	0.3 U	0.14 U	0.3 U	0.14 U
Bromoform	75-25-2	4	0.27 U	0.2 U	0.27 U	0.2 U	0.27 U
Bromomethane	74-83-9	10	0.75 U	0.3 U	0.75 U	0.3 U	0.75 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.13 U	0.4 U	0.13 U	0.4 U	0.13 U
Chloroethane	75-00-3	100	0.33 U	0.2 U	0.33 U	0.2 U	0.33 U
Chloroform	67-66-3	6	0.19 U	0.5 U	0.19 U	0.5 U	0.19 U
Chloromethane	74-87-3	30	0.42 U	0.3 U	0.42 U	0.3 U	0.42 U
cis-1,2-Dichloroethene	156-59-2	70	0.56 U	0.4 U	0.56 U	0.4 U	0.56 U
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.2 U	0.22 U	0.2 U	0.22 U
Dibromochloromethane	124-48-1	10	0.18 U	0.3 U	0.18 U	0.3 U	0.18 U
Dichlorodifluoromethane	75-71-8	1000	0.76 U	NR	0.76 U	NR	0.76 U
Ethylbenzene	100-41-4	700	0.23 U	0.5 U	0.23 U	0.5 U	0.23 U
Methylene Chloride	75-09-2	3	0.19 U	0.5 U	0.19 U	0.5 U	0.19 U
Tetrachloroethene	127-18-4	1	0.66 J	0.4 U	0.28 U	0.4 U	0.28 U
Toluene	108-88-3	1000	0.31 U	0.4 U	0.31 U	0.4 U	0.31 U
Total Xylenes	1330-20-7	1000	0.25 U	0.4 U	0.25 U	0.4 U	0.25 U
Trans-1,2-Dichloroethene	156-60-5	100	0.38 U	0.4 U	0.38 U	0.4 U	0.38 U
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.2 U	0.16 U	0.2 U	0.16 U
Trichloroethylene	79-01-6	1	0.34 J	0.4 U	0.2 U	0.6	0.2 U
Trichlorofluoromethane	75-69-4	2000	1.2 U	0.2 U	1.2 U	0.2 U	1.2 U
Vinyl Chloride	75-01-4	5	0.35 U	0.3 U	0.35 U	0.3 U	0.35 U

Notes:

All results are reported in micrograms per liter (µg/L).

Depths are presented in feet from top of casing.

GWQS - NJDEP Groundwater Quality Standards.

BOLD values indicate that the result exceeds the GWQC.

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CAS-RN = Chemical Abstract Service Registry Number.

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TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW19B	MW19B	MW20A	MW20A	MW24A
		Lab ID	676735	J29228-37	676733	J29228-35	676728
		Sample Date	10/11/2005	5/1/2006	10/11/2005	5/1/2006	10/10/2005
		Sample Depth	147	147	134	134	145
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	0.3 U	0.24 U	0.3 U	0.24 U	0.3 U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.3 U	0.26 U	0.3 U	0.26 U	0.3 U
1,1,2-Trichloroethane	79-00-5	3	0.3 U	0.61 U	0.3 U	0.61 U	0.3 U
1,1-Dichloroethane	75-34-3	50	0.3 U	0.7 U	0.3 U	0.7 U	0.3 U
1,1-Dichloroethylene	75-35-4	2	0.4 U	0.58 U	0.4 U	0.58 U	0.4 U
1,2-Dichlorobenzene	95-50-1	600	NR	0.3 U	NR	0.3 U	NR
1,2-Dichloroethane	107-06-2	2	0.3 U	0.48 U	0.3 U	0.48 U	0.3 U
1,2-Dichloropropane	78-87-5	1	0.3 U	0.4 U	0.3 U	0.4 U	0.3 U
1,3-Dichlorobenzene	541-73-1	600	NR	0.23 U	NR	0.23 U	NR
1,4-Dichlorobenzene	106-46-7	75	NR	0.69 U	NR	0.69 U	NR
2-Chloroethyl Vinyl Ether	110-75-8	100	0.4 U	0.73 U	0.4 U	0.73 U	0.4 U
Acrolein	107-02-8	-	NR	13 U	NR	13 U	NR
Acrylonitrile	107-13-1	50	NR	4.7 U	NR	4.7 U	NR
Benzene	71-43-2	1	0.3 U	0.18 U	0.3 U	0.18 U	0.3 U
Bromodichloromethane	75-27-4	1	0.3 U	0.14 U	0.3 U	0.14 U	0.3 U
Bromoform	75-25-2	4	0.2 U	0.27 U	0.2 U	0.27 U	0.2 U
Bromomethane	74-83-9	10	0.3 U	0.75 U	0.3 U	0.75 U	0.3 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.4 U	0.13 U	0.4 U	0.13 U	0.4 U
Chloroethane	75-00-3	100	0.2 U	0.33 U	0.2 U	0.33 U	0.2 U
Chloroform	67-66-3	6	0.5 U	0.35 J	0.5 U	0.19 U	0.5 U
Chloromethane	74-87-3	30	0.3 U	0.42 U	0.3 U	0.42 U	0.3 U
cis-1,2-Dichloroethene	156-59-2	70	0.4 U	0.56 U	0.4 U	0.56 U	0.4 U
cis-1,3-Dichloropropene	10061-01-5	-	0.2 U	0.22 U	0.2 U	0.22 U	0.2 U
Dibromochloromethane	124-48-1	10	0.3 U	0.18 U	0.3 U	0.18 U	0.3 U
Dichlorodifluoromethane	75-71-8	1000	NR	0.76 U	NR	0.76 U	NR
Ethylbenzene	100-41-4	700	0.5 U	0.23 U	0.5 U	0.23 U	0.5 U
Methylene Chloride	75-09-2	3	0.5 U	0.19 U	0.5 U	0.19 U	0.5 U
Tetrachloroethene	127-18-4	1	0.4 U	0.28 U	0.4 U	0.28 U	0.4 U
Toluene	108-88-3	1000	0.4 U	0.31 U	0.4 U	0.31 U	0.4 U
Total Xylenes	1330-20-7	1000	0.4 U	0.25 U	0.4 U	0.25 U	0.4 U
Trans-1,2-Dichloroethene	156-60-5	100	0.4 U	0.38 U	0.4 U	0.38 U	0.4 U
trans-1,3-Dichloropropene	10061-02-6	-	0.2 U	0.16 U	0.2 U	0.16 U	0.2 U
Trichloroethylene	79-01-6	1	0.4 U	0.2 U	0.4 U	0.2 U	0.4 U
Trichlorofluoromethane	75-69-4	2000	0.2 U	1.2 U	0.2 U	1.2 U	0.2 U
Vinyl Chloride	75-01-4	5	0.3 U	0.35 U	0.3 U	0.35 U	0.3 U

Notes:

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TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW24A	MW24B	MW24C	MW26A	MW26A
		Lab ID	J29228-25	J29228-26	J29228-27	676739	J29228-39
		Sample Date	5/1/2006	5/1/2006	5/1/2006	10/11/2005	5/1/2006
		Sample Depth	134	145	151	133	145
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	0.24 U	0.24 U	0.24 U	0.3 U	0.24 U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.26 U	0.26 U	0.3 U	0.26 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.61 U	0.61 U	0.3 U	0.61 U
1,1-Dichloroethane	75-34-3	50	0.7 U	0.7 U	0.7 U	0.3 U	0.7 U
1,1-Dichloroethylene	75-35-4	2	0.58 U	0.58 U	0.58 U	0.4 U	0.58 U
1,2-Dichlorobenzene	95-50-1	600	0.3 U	0.3 U	0.3 U	NR	0.3 U
1,2-Dichloroethane	107-06-2	2	0.48 U	0.48 U	0.48 U	0.3 U	0.48 U
1,2-Dichloropropane	78-87-5	1	0.4 U	0.4 U	0.4 U	0.3 U	0.4 U
1,3-Dichlorobenzene	541-73-1	600	0.23 U	0.23 U	0.23 U	NR	0.23 U
1,4-Dichlorobenzene	106-46-7	75	0.69 U	0.69 U	0.69 U	NR	0.69 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.73 U	0.73 U	0.73 U	0.4 U	0.73 U
Acrolein	107-02-8	-	13 U	13 U	13 U	NR	13 U
Acrylonitrile	107-13-1	50	4.7 U	4.7 U	4.7 U	NR	4.7 U
Benzene	71-43-2	1	0.18 U	0.18 U	0.18 U	0.3 U	0.18 U
Bromodichloromethane	75-27-4	1	0.14 U	0.14 U	0.14 U	0.3 U	0.14 U
Bromoform	75-25-2	4	0.27 U	0.27 U	0.27 U	0.2 U	0.27 U
Bromomethane	74-83-9	10	0.75 U	0.75 U	0.75 U	0.3 U	0.75 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.13 U	0.13 U	0.13 U	0.4 U	0.13 U
Chloroethane	75-00-3	100	0.33 U	0.33 U	0.33 U	0.2 U	0.33 U
Chloroform	67-66-3	6	0.19 U	0.19 U	0.19 U	0.5 U	0.19 U
Chloromethane	74-87-3	30	0.42 U	0.42 U	0.42 U	0.3 U	0.42 U
cis-1,2-Dichloroethene	156-59-2	70	0.56 U	0.56 U	0.56 U	0.4 U	0.56 U
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.22 U	0.22 U	0.2 U	0.22 U
Dibromochloromethane	124-48-1	10	0.18 U	0.18 U	0.18 U	0.3 U	0.18 U
Dichlorodifluoromethane	75-71-8	1000	0.76 U	0.76 U	0.76 U	NR	0.76 U
Ethylbenzene	100-41-4	700	0.23 U	0.23 U	0.23 U	0.5 U	0.23 U
Methylene Chloride	75-09-2	3	0.19 U	0.19 U	0.19 U	0.5 U	0.19 U
Tetrachloroethene	127-18-4	1	0.28 U	0.28 U	0.28 U	0.4 U	0.28 U
Toluene	108-88-3	1000	0.31 U	0.31 U	0.31 U	0.4 U	0.31 U
Total Xylenes	1330-20-7	1000	0.25 U	0.25 U	0.25 U	0.4 U	0.25 U
Trans-1,2-Dichloroethene	156-60-5	100	0.38 U	0.38 U	0.38 U	0.4 U	0.38 U
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.16 U	0.16 U	0.2 U	0.16 U
Trichloroethylene	79-01-6	1	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U
Trichlorofluoromethane	75-69-4	2000	1.2 U	1.2 U	1.2 U	0.2 U	1.2 U
Vinyl Chloride	75-01-4	5	0.35 U	0.35 U	0.35 U	0.3 U	0.35 U

Notes:

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TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW26B	MW26B	MW27A	MW27A	MW30A
		Lab ID	676740	J29228-40	676724	J29360-1	676765
		Sample Date	10/11/2005	5/1/2006	10/10/2005	5/2/2006	10/11/2005
		Sample Depth	145	133	137	137	75
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	0.3 U	0.24 U	0.3 U	0.24 U	0.3 U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.3 U	0.26 U	0.3 U	0.26 U	0.3 U
1,1,2-Trichloroethane	79-00-5	3	0.3 U	0.61 U	0.3 U	0.61 U	0.3 U
1,1-Dichloroethane	75-34-3	50	0.3 U	0.7 U	0.3 U	0.7 U	0.3 U
1,1-Dichloroethylene	75-35-4	2	0.4 U	0.58 U	0.4 U	0.58 U	0.4 U
1,2-Dichlorobenzene	95-50-1	600	NR	0.3 U	NR	0.3 U	NR
1,2-Dichloroethane	107-06-2	2	0.3 U	0.48 U	0.3 U	0.48 U	0.3 U
1,2-Dichloropropane	78-87-5	1	0.3 U	0.4 U	0.3 U	0.4 U	0.3 U
1,3-Dichlorobenzene	541-73-1	600	NR	0.23 U	NR	0.23 U	NR
1,4-Dichlorobenzene	106-46-7	75	NR	0.69 U	NR	0.69 U	NR
2-Chloroethyl Vinyl Ether	110-75-8	100	0.4 U	0.73 U	0.4 U	0.73 U	0.4 U
Acrolein	107-02-8	-	NR	13 U	NR	13 U	NR
Acrylonitrile	107-13-1	50	NR	4.7 U	NR	4.7 U	NR
Benzene	71-43-2	1	0.3 U	0.18 U	0.3 U	0.18 U	0.3 U
Bromodichloromethane	75-27-4	1	0.3 U	0.14 U	0.3 U	0.14 U	0.3 U
Bromoform	75-25-2	4	0.2 U	0.27 U	0.2 U	0.27 U	0.2 U
Bromomethane	74-83-9	10	0.3 U	0.75 U	0.3 U	0.75 U	0.3 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.4 U	0.13 U	0.4 U	0.13 U	0.4 U
Chloroethane	75-00-3	100	0.2 U	0.33 U	0.2 U	0.33 U	0.2 U
Chloroform	67-66-3	6	0.5 U	0.19 U	0.5 U	0.19 U	0.5 U
Chloromethane	74-87-3	30	0.3 U	0.42 U	0.3 U	0.42 U	0.3 U
cis-1,2-Dichloroethene	156-59-2	70	0.4 U	0.56 U	0.4 U	0.56 U	0.4 U
cis-1,3-Dichloropropene	10061-01-5	-	0.2 U	0.22 U	0.2 U	0.22 U	0.2 U
Dibromochloromethane	124-48-1	10	0.3 U	0.18 U	0.3 U	0.18 U	0.3 U
Dichlorodifluoromethane	75-71-8	1000	NR	0.76 U	NR	0.76 U	NR
Ethylbenzene	100-41-4	700	0.5 U	0.23 U	0.5 U	0.23 U	0.5 U
Methylene Chloride	75-09-2	3	0.5 U	0.19 U	0.5 U	0.19 U	0.5 U
Tetrachloroethene	127-18-4	1	0.4 U	0.28 U	0.4 U	0.28 U	0.4 U
Toluene	108-88-3	1000	0.4 U	0.31 U	0.4 U	0.31 U	0.4 U
Total Xylenes	1330-20-7	1000	0.4 U	0.25 U	0.4 U	0.25 U	0.4 U
Trans-1,2-Dichloroethene	156-60-5	100	0.4 U	0.38 U	0.4 U	0.38 U	0.4 U
trans-1,3-Dichloropropene	10061-02-6	-	0.2 U	0.16 U	0.2 U	0.16 U	0.2 U
Trichloroethylene	79-01-6	1	0.4 U	0.2 U	0.4 U	0.2 U	0.4 U
Trichlorofluoromethane	75-69-4	2000	0.2 U	1.2 U	0.2 U	1.2 U	0.2 U
Vinyl Chloride	75-01-4	5	0.3 U	0.35 U	0.3 U	0.35 U	0.3 U

Notes:

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U - Indicates that the analyte was not detected at the reported MDL.

TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW30A	MW32A	MW32A	MW32B	MW32B
		Lab ID	J29228-41	676722	J29360-13	676723	J29360-14
		Sample Date	5/1/2006	10/10/2005	5/2/2006	10/10/2005	5/2/2006
		Sample Depth	75	118	118	129	129
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	0.24 U	7.7	4.3	7.6	4.7
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.3 U	0.26 U	0.3 U	0.26 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.3 U	0.61 U	0.3 U	0.61 U
1,1-Dichloroethane	75-34-3	50	0.7 U	14	7.3	14	7.8
1,1-Dichloroethylene	75-35-4	2	0.58 U	**2.4**	**2.1**	**2.2**	1.6
1,2-Dichlorobenzene	95-50-1	600	0.3 U	NR	0.3 U	NR	0.3 U
1,2-Dichloroethane	107-06-2	2	0.48 U	0.3 U	0.48 U	0.3 U	0.48 U
1,2-Dichloropropane	78-87-5	1	0.4 U	0.3 U	0.4 U	0.3 U	0.4 U
1,3-Dichlorobenzene	541-73-1	600	0.23 U	NR	0.23 U	NR	0.23 U
1,4-Dichlorobenzene	106-46-7	75	0.69 U	NR	0.69 U	NR	0.69 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.73 U	0.4 U	0.73 U	0.4 U	0.73 U
Acrolein	107-02-8	-	13 U	NR	13 U	NR	13 U
Acrylonitrile	107-13-1	50	4.7 U	NR	4.7 U	NR	4.7 U
Benzene	71-43-2	1	0.18 U	0.3 U	0.18 U	0.3 U	0.18 U
Bromodichloromethane	75-27-4	1	0.14 U	0.3 U	0.14 U	0.3 U	0.14 U
Bromoform	75-25-2	4	0.27 U	0.2 U	0.27 U	0.2 U	0.27 U
Bromomethane	74-83-9	10	0.75 U	0.3 U	0.75 U	0.3 U	0.75 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.13 U	0.4 U	0.13 U	0.4 U	0.13 U
Chloroethane	75-00-3	100	0.33 U	0.2 U	0.33 U	0.2 U	0.33 U
Chloroform	67-66-3	6	0.19 U	0.6	0.45 J	0.5 U	0.49 J
Chloromethane	74-87-3	30	0.42 U	0.3 U	0.42 U	0.3 U	0.42 U
cis-1,2-Dichloroethene	156-59-2	70	0.56 U	2.5	1.3	2.8	1.3
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.2 U	0.22 U	0.2 U	0.22 U
Dibromochloromethane	124-48-1	10	0.18 U	0.3 U	0.18 U	0.3 U	0.18 U
Dichlorodifluoromethane	75-71-8	1000	0.76 U	NR	0.76 U	NR	0.76 U
Ethylbenzene	100-41-4	700	0.23 U	0.5 U	0.23 U	0.5 U	0.23 U
Methylene Chloride	75-09-2	3	0.19 U	0.5 U	0.19 U	0.5 U	0.19 U
Tetrachloroethene	127-18-4	1	0.28 U	0.6	0.51 J	0.8	0.61 J
Toluene	108-88-3	1000	0.31 U	0.4 U	0.31 U	0.4 U	0.31 U
Total Xylenes	1330-20-7	1000	0.25 U	0.4 U	0.25 U	0.4 U	0.25 U
Trans-1,2-Dichloroethene	156-60-5	100	0.38 U	0.4 U	0.38 U	0.4 U	0.38 U
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.2 U	0.16 U	0.2 U	0.16 U
Trichloroethylene	79-01-6	1	0.2 U	**2.4**	**1.2**	**2.2**	**1.4**
Trichlorofluoromethane	75-69-4	2000	1.2 U	0.2 U	1.2 U	0.2 U	1.2 U
Vinyl Chloride	75-01-4	5	0.35 U	0.3 U	0.35 U	0.3 U	0.35 U

Notes:

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TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	**MW33AA**	**MW33AA**	**MW33AB**	**MW33AB**	**MW34A**
		Lab ID	**676712**	**J29228-19**	**676713**	**J29228-20**	**676708**
		Sample Date	**10/10/2005**	**5/1/2006**	**10/10/2005**	**5/1/2006**	**10/10/2005**
		Sample Depth	**107**	**107**	**120**	**120**	**108**
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	2	1.6	3	1.4	2.2
1,1,2,2-Tetrachloroethane	79-34-5	1	0.3 U	0.26 U	0.3 U	0.26 U	0.3 U
1,1,2-Trichloroethane	79-00-5	3	0.3 U	0.61 U	0.3 U	0.61 U	0.3 U
1,1-Dichloroethane	75-34-3	50	0.9	0.7 U	1.4	0.7 U	0.4
1,1-Dichloroethylene	75-35-4	2	1.1	1.1	1.5	0.96 J	0.6
1,2-Dichlorobenzene	95-50-1	600	NR	0.3 U	NR	0.3 U	NR
1,2-Dichloroethane	107-06-2	2	0.3 U	0.48 U	0.3 U	0.48 U	0.3 U
1,2-Dichloropropane	78-87-5	1	0.3 U	0.4 U	0.3 U	0.4 U	0.3 U
1,3-Dichlorobenzene	541-73-1	600	NR	0.23 U	NR	0.23 U	NR
1,4-Dichlorobenzene	106-46-7	75	NR	0.69 U	NR	0.69 U	NR
2-Chloroethyl Vinyl Ether	110-75-8	100	0.4 U	0.73 U	0.4 U	0.73 U	0.4 U
Acrolein	107-02-8	-	NR	13 U	NR	13 U	NR
Acrylonitrile	107-13-1	50	NR	4.7 U	NR	4.7 U	NR
Benzene	71-43-2	1	0.3 U	0.18 U	0.3 U	0.18 U	0.3 U
Bromodichloromethane	75-27-4	1	0.3 U	0.14 U	0.3 U	0.14 U	0.3 U
Bromoform	75-25-2	4	0.2 U	0.27 U	0.2 U	0.27 U	0.2 U
Bromomethane	74-83-9	10	0.3 U	0.75 U	0.3 U	0.75 U	0.3 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.4 U	0.13 U	0.4 U	0.13 U	0.4 U
Chloroethane	75-00-3	100	0.2 U	0.33 U	0.2 U	0.33 U	0.2 U
Chloroform	67-66-3	6	0.5 U	0.19 U	0.5 U	0.19 U	0.5 U
Chloromethane	74-87-3	30	0.3 U	0.42 U	0.3 U	0.42 U	0.3 U
cis-1,2-Dichloroethene	156-59-2	70	0.4 U	0.56 U	0.4 U	0.56 U	0.4 U
cis-1,3-Dichloropropene	10061-01-5	-	0.2 U	0.22 U	0.2 U	0.22 U	0.2 U
Dibromochloromethane	124-48-1	10	0.3 U	0.18 U	0.3 U	0.18 U	0.3 U
Dichlorodifluoromethane	75-71-8	1000	NR	0.76 U	NR	0.76 U	NR
Ethylbenzene	100-41-4	700	0.5 U	0.23 U	0.5 U	0.23 U	0.5 U
Methylene Chloride	75-09-2	3	0.5 U	0.19 U	0.5 U	0.19 U	0.5 U
Tetrachloroethene	127-18-4	1	1	1	**1.3**	0.94 J	0.8
Toluene	108-88-3	1000	0.4 U	0.31 U	0.4 U	0.31 U	0.4 U
Total Xylenes	1330-20-7	1000	0.4 U	0.25 U	0.4 U	0.25 U	0.4 U
Trans-1,2-Dichloroethene	156-60-5	100	0.4 U	0.38 U	0.4 U	0.38 U	0.4 U
trans-1,3-Dichloropropene	10061-02-6	-	0.2 U	0.16 U	0.2 U	0.16 U	0.2 U
Trichloroethylene	79-01-6	1	**1.9**	**2.5**	**3.5**	**2**	**2.7**
Trichlorofluoromethane	75-69-4	2000	0.2 U	1.2 U	0.2 U	1.2 U	0.2 U
Vinyl Chloride	75-01-4	5	0.3 U	0.35 U	0.3 U	0.35 U	0.3 U

Notes:

All results are reported in micrograms per liter (µg/L).

Depths are presented in feet from top of casing.

GWQS - NJDEP Groundwater Quality Standards.

BOLD values indicate that the result exceeds the GWQC.

UNDERLINED values indicate the Method Detection Limit (MDL) exceeds the GWQC.

CAS-RN = Chemical Abstract Service Registry Number.

J - Indicates that the analyte was detected at a concentration less than the MDL and is estimated.

NR - Indicates that the analyte was not requested.

P - Indicates a duplicate sample.

U - Indicates that the analyte was not detected at the reported MDL.

TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	**MW34A**	**MW34B**	**MW34B**	**MW34C**	**MW34C**
		Lab ID	**J29228-15**	**676709**	**J29228-16**	**676710**	**J29228-17**
		Sample Date	**5/1/2006**	**10/10/2005**	**5/1/2006**	**10/10/2005**	**5/1/2006**
		Sample Depth	**108**	**113**	**113**	**120**	**120**
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	1.9	1.8	1.7	2	1.6
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.3 U	0.26 U	0.3 U	0.26 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.3 U	0.61 U	0.3 U	0.61 U
1,1-Dichloroethane	75-34-3	50	0.7 U	0.3 U	0.7 U	0.3 U	0.7 U
1,1-Dichloroethylene	75-35-4	2	0.63 J	0.4 U	0.65 J	0.6	0.64 J
1,2-Dichlorobenzene	95-50-1	600	0.3 U	NR	0.3 U	NR	0.3 U
1,2-Dichloroethane	107-06-2	2	0.48 U	0.3 U	0.48 U	0.3 U	0.48 U
1,2-Dichloropropane	78-87-5	1	0.4 U	0.3 U	0.4 U	0.3 U	0.4 U
1,3-Dichlorobenzene	541-73-1	600	0.23 U	NR	0.23 U	NR	0.23 U
1,4-Dichlorobenzene	106-46-7	75	0.69 U	NR	0.69 U	NR	0.69 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.73 U	0.4 U	0.73 U	0.4 U	0.73 U
Acrolein	107-02-8	-	13 U	NR	13 U	NR	13 U
Acrylonitrile	107-13-1	50	4.7 U	NR	4.7 U	NR	4.7 U
Benzene	71-43-2	1	0.18 U	0.3 U	0.18 U	0.3 U	0.18 U
Bromodichloromethane	75-27-4	1	0.14 U	0.3 U	0.14 U	0.3 U	0.14 U
Bromoform	75-25-2	4	0.27 U	0.2 U	0.27 U	0.2 U	0.27 U
Bromomethane	74-83-9	10	0.75 U	0.3 U	0.75 U	0.3 U	0.75 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.13 U	0.4 U	0.13 U	0.4 U	0.13 U
Chloroethane	75-00-3	100	0.33 U	0.2 U	0.33 U	0.2 U	0.33 U
Chloroform	67-66-3	6	0.19 U	0.5 U	0.19 U	0.5 U	0.19 U
Chloromethane	74-87-3	30	0.42 U	0.3 U	0.42 U	0.3 U	0.42 U
cis-1,2-Dichloroethene	156-59-2	70	0.56 U	0.4 U	0.8 J	1	0.75 J
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.2 U	0.22 U	0.2 U	0.22 U
Dibromochloromethane	124-48-1	10	0.18 U	0.3 U	0.18 U	0.3 U	0.18 U
Dichlorodifluoromethane	75-71-8	1000	0.76 U	NR	0.76 U	NR	0.76 U
Ethylbenzene	100-41-4	700	0.23 U	0.5 U	0.23 U	0.5 U	0.23 U
Methylene Chloride	75-09-2	3	0.19 U	0.5 U	0.19 U	0.5 U	0.19 U
Tetrachloroethene	127-18-4	1	0.9 J	1	**1.1**	**1.9**	**1.7**
Toluene	108-88-3	1000	0.31 U	0.4 U	0.31 U	0.4 U	0.31 U
Total Xylenes	1330-20-7	1000	0.25 U	0.4 U	0.25 U	0.4 U	0.25 U
Trans-1,2-Dichloroethene	156-60-5	100	0.38 U	0.4 U	0.38 U	0.4 U	0.38 U
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.2 U	0.16 U	0.2 U	0.16 U
Trichloroethylene	79-01-6	1	**2.7**	**2.7**	**2.8**	**3**	**2.6**
Trichlorofluoromethane	75-69-4	2000	1.2 U	0.2 U	1.2 U	0.2 U	1.2 U
Vinyl Chloride	75-01-4	5	0.35 U	0.3 U	0.35 U	0.3 U	0.35 U

Notes:

All results are reported in micrograms per liter (µg/L).

Depths are presented in feet from top of casing.

GWQS - NJDEP Groundwater Quality Standards.

BOLD values indicate that the result exceeds the GWQC.

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CAS-RN = Chemical Abstract Service Registry Number.

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P - Indicates a duplicate sample.

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TABLE 6
Summary of Passive Diffusion Bag (PDB) Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW35A	MW35A	MW35B	MW35B
		Lab ID	676706	J29228-12	676707	J29228-13
		Sample Date	10/10/2005	5/1/2006	10/10/2005	5/1/2006
		Sample Depth	122	122	128	128
Analyte	**CAS-RN**	**GWQS**				
1,1,1-Trichloroethane	71-55-6	30	**88**	**88.9**	**57**	**82.4**
1,1,2,2-Tetrachloroethane	79-34-5	1	0.3 U	0.26 U	0.3 U	0.26 U
1,1,2-Trichloroethane	79-00-5	3	0.3 U	0.61 U	0.3 U	0.61 U
1,1-Dichloroethane	75-34-3	50	16	17.1	10	15.5
1,1-Dichloroethylene	75-35-4	2	**5**	**4.2**	**3.6**	**4.2**
1,2-Dichlorobenzene	95-50-1	600	NR	0.3 U	NR	0.3 U
1,2-Dichloroethane	107-06-2	2	0.3 U	0.48 U	0.3 U	0.48 U
1,2-Dichloropropane	78-87-5	1	0.3 U	0.4 U	0.3 U	0.4 U
1,3-Dichlorobenzene	541-73-1	600	NR	0.23 U	NR	0.23 U
1,4-Dichlorobenzene	106-46-7	75	NR	0.69 U	NR	0.69 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.4 U	0.73 U	0.4 U	0.73 U
Acrolein	107-02-8	-	NR	13 U	NR	13 U
Acrylonitrile	107-13-1	50	NR	4.7 U	NR	4.7 U
Benzene	71-43-2	1	0.3 U	0.18 U	0.3 U	0.18 U
Bromodichloromethane	75-27-4	1	0.3 U	0.14 U	0.3 U	0.14 U
Bromoform	75-25-2	4	0.2 U	0.27 U	0.2 U	0.27 U
Bromomethane	74-83-9	10	0.3 U	0.75 U	0.3 U	0.75 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.4 U	0.13 U	0.4 U	0.13 U
Chloroethane	75-00-3	100	0.2 U	0.33 U	0.2 U	0.33 U
Chloroform	67-66-3	6	0.5 U	0.19 U	0.5 U	0.19 U
Chloromethane	74-87-3	30	0.3 U	0.42 U	0.3 U	0.42 U
cis-1,2-Dichloroethene	156-59-2	70	0.8	0.56 U	0.7	0.56 U
cis-1,3-Dichloropropene	10061-01-5	-	0.2 U	0.22 U	0.2 U	0.22 U
Dibromochloromethane	124-48-1	10	0.3 U	0.18 U	0.3 U	0.18 U
Dichlorodifluoromethane	75-71-8	1000	NR	0.76 U	NR	0.76 U
Ethylbenzene	100-41-4	700	0.5 U	0.23 U	0.5 U	0.23 U
Methylene Chloride	75-09-2	3	0.5 U	0.19 U	0.5 U	0.19 U
Tetrachloroethene	127-18-4	1	**2.3**	**2.5**	**2.2**	**2.4**
Toluene	108-88-3	1000	0.4 U	0.31 U	0.4 U	0.31 U
Total Xylenes	1330-20-7	1000	0.4 U	0.25 U	0.4 U	0.25 U
Trans-1,2-Dichloroethene	156-60-5	100	0.4 U	0.38 U	0.4 U	0.38 U
trans-1,3-Dichloropropene	10061-02-6	-	0.2 U	0.16 U	0.2 U	0.16 U
Trichloroethylene	79-01-6	1	**8.1**	**6.3**	**6.5**	**5.8**
Trichlorofluoromethane	75-69-4	2000	0.2 U	1.2 U	0.2 U	1.2 U
Vinyl Chloride	75-01-4	5	0.3 U	0.35 U	0.3 U	0.35 U

Notes:

All results are reported in micrograms per liter (µg/L).

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TABLE 7
Summary of Packer Testing Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW6A	MW6B	MW35A	MW35B	MW35C
		Lab ID	661887	661888	661003	661002	661001
		Sample Date	8/16/2005	8/16/2005	8/15/2005	8/15/2005	8/15/2005
		Depth Interval	96-127	180-195	93-123	110-123	124-143
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	**39**	7.6	**66**	**61**	**42**
1,1,2,2-Tetrachloroethane	79-34-5	1	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,1,2-Trichloroethane	79-00-5	3	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,1-Dichloroethane	75-34-3	50	11	1.6	14	13	9
1,1-Dichloroethylene	75-35-4	2	**2.8**	1.3	**3.9**	**4.2**	**3.5**
1,2-Dichlorobenzene	95-50-1	600	NR	NR	NR	NR	NR
1,2-Dichloroethane	107-06-2	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichloropropane	78-87-5	1	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,3-Dichlorobenzene	541-73-1	600	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	106-46-7	75	NR	NR	NR	NR	NR
2-Chloroethyl Vinyl Ether	110-75-8	100	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Acrolein	107-02-8	-	NR	NR	NR	NR	NR
Acrylonitrile	107-13-1	50	NR	NR	NR	NR	NR
Benzene	71-43-2	1	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Bromodichloromethane	75-27-4	1	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Bromoform	75-25-2	4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromomethane	74-83-9	10	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Chloroethane	75-00-3	100	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloroform	67-66-3	6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	74-87-3	30	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
cis-1,2-Dichloroethene	156-59-2	70	0.4 U	0.4 U	0.5	0.5	0.5
cis-1,3-Dichloropropene	10061-01-5	-	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dibromochloromethane	124-48-1	10	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorodifluoromethane	75-71-8	1000	NR	NR	NR	NR	NR
Ethylbenzene	100-41-4	700	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene Chloride	75-09-2	3	1.5	0.5 U	0.6	0.5 U	0.5 U
Tetrachloroethene	127-18-4	1	1	0.4 U	**2.3**	**2.4**	**2.1**
Toluene	108-88-3	1000	0.6	0.4 U	1.3	1	0.4 U
Total Xylenes	1330-20-7	1000	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,2-Dichloroethene	156-60-5	100	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
trans-1,3-Dichloropropene	10061-02-6	-	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethylene	79-01-6	1	**4.4**	**1.2**	**5.2**	**5.2**	**4.4**
Trichlorofluoromethane	75-69-4	2000	0.2 U	0.6	0.2 U	0.2 U	0.2 U
Vinyl Chloride	75-01-4	5	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U

Notes:

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Depths are presented in feet from top of casing.
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BOLD values indicate that the result exceeds the GWQS.

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CAS-RN = Chemical Abstract Service Registry Number.

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N - Indicates the presumptive evidence of a compound.
NR - Indicates that the analyte was not requested.
U - Indicates that the analyte was not detected at the reported MDL.

TABLE 7
Summary of Packer Testing Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW37A	MW37B	MW37C	MW4A	MW4B
		Lab ID	661891	662403	661892	662404	662405
		Sample Date	8/17/2005	8/18/2005	8/17/2005	8/18/2005	8/18/2005
		Depth Interval	55-72	88-98	98-104	100-110	115-127
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	0.3 U	0.3 U	0.3 U	0.5	0.6
1,1,2,2-Tetrachloroethane	79-34-5	1	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,1,2-Trichloroethane	79-00-5	3	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,1-Dichloroethane	75-34-3	50	0.3 U	0.3 U	0.3 U	1.2	1.3
1,1-Dichloroethylene	75-35-4	2	0.4 U	0.4 U	0.4 U	0.6	0.6
1,2-Dichlorobenzene	95-50-1	600	NR	NR	NR	NR	NR
1,2-Dichloroethane	107-06-2	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichloropropane	78-87-5	1	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,3-Dichlorobenzene	541-73-1	600	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	106-46-7	75	NR	NR	NR	NR	NR
2-Chloroethyl Vinyl Ether	110-75-8	100	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Acrolein	107-02-8	-	NR	NR	NR	NR	NR
Acrylonitrile	107-13-1	50	NR	NR	NR	NR	NR
Benzene	71-43-2	1	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Bromodichloromethane	75-27-4	1	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Bromoform	75-25-2	4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromomethane	74-83-9	10	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Carbon tetrachloride	56-23-5	2	0.6	**2.1**	1.9	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Chloroethane	75-00-3	100	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Chloroform	67-66-3	6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	74-87-3	30	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
cis-1,2-Dichloroethene	156-59-2	70	0.4 U	0.4 U	0.4 U	64	**76**
cis-1,3-Dichloropropene	10061-01-5	-	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Dibromochloromethane	124-48-1	10	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Dichlorodifluoromethane	75-71-8	1000	NR	NR	NR	NR	NR
Ethylbenzene	100-41-4	700	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene Chloride	75-09-2	3	0.5 U	1.2	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	1	0.4 U	0.4 U	0.4 U	**14**	**12**
Toluene	108-88-3	1000	1	11	1	2.8	1.3
Total Xylenes	1330-20-7	1000	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trans-1,2-Dichloroethene	156-60-5	100	0.4 U	0.4 U	0.4 U	0.8	0.8
trans-1,3-Dichloropropene	10061-02-6	-	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethylene	79-01-6	1	**6.4**	**15**	**16**	**17**	**19**
Trichlorofluoromethane	75-69-4	2000	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vinyl Chloride	75-01-4	5	0.3 U	0.3 U	0.3 U	**37**	**48**

Notes:

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U - Indicates that the analyte was not detected at the reported MDL.

TABLE 7
Summary of Packer Testing Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	**MW11A**	**MW11B**	**MW11C**	**MW13A**	**MW13B**	**MW13C**
		Lab ID	**J31877-5**	**J31877-4**	**J31877-3**	**J31407-5**	**J31407-6**	**J31407-4**
		Sample Date	**5/31/2006**	**5/31/2006**	**5/31/2006**	**5/24/2006**	**5/24/2006**	**5/23/2006**
		Depth Interval	**92-120**	**140-165**	**165-199**	**95-115**	**135-160**	**170-199**
Analyte	**CAS-RN**	**GWQS**						
1,1,1-Trichloroethane	71-55-6	30	2.4	2.2	2.3	0.24 U	0.24 U	0.24 U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U
1,1-Dichloroethane	75-34-3	50	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
1,1-Dichloroethylene	75-35-4	2	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U
1,2-Dichlorobenzene	95-50-1	600	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichloroethane	107-06-2	2	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichloropropane	78-87-5	1	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,3-Dichlorobenzene	541-73-1	600	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,4-Dichlorobenzene	106-46-7	75	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
Acrolein	107-02-8	-	13 U	13 U	13 U	13 U	13 U	13 U
Acrylonitrile	107-13-1	50	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
Benzene	71-43-2	1	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bromodichloromethane	75-27-4	1	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Bromoform	75-25-2	4	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Bromomethane	74-83-9	10	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroethane	75-00-3	100	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Chloroform	67-66-3	6	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Chloromethane	74-87-3	30	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
cis-1,2-Dichloroethene	156-59-2	70	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U	0.56 U
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Dibromochloromethane	124-48-1	10	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Dichlorodifluoromethane	75-71-8	1000	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
Ethylbenzene	100-41-4	700	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Methylene Chloride	75-09-2	3	0.82 J	0.95 J	0.19 U	1.5	0.69 J	0.3 J
Tetrachloroethene	127-18-4	1	1	0.79 J	0.81 J	0.28 U	0.28 U	0.28 U
Toluene	108-88-3	1000	0.47 J	0.93 J	1.2	1.1	0.77 J	0.31 U
Total Xylenes	1330-20-7	1000	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trans-1,2-Dichloroethene	156-60-5	100	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trichloroethylene	79-01-6	1	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	75-69-4	2000	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Vinyl Chloride	75-01-4	5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U

Notes:

All results are reported in micrograms per liter (µg/L).
Depths are presented in feet from top of casing.
GWQS = NJDEP Groundwater Quality Standards
BOLD values indicate that the result exceeds the GWQS.

UNDERLINED values indicate the Method Detection Limit (MDL) exceeds the GWQS.
CAS-RN = Chemical Abstract Service Registry Number.

J - The analyte was detected at a concentration less than the MDL and is estimated.
N - Indicates the presumptive evidence of a compound.
NR - Indicates that the analyte was not requested.
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TABLE 7
Summary of Packer Testing Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW16A	MW16B	MW16C	MW26A	MW26B
		Lab ID	J31877-2	J31877-1	J31653-4	J32690-4	J32690-3
		Sample Date	5/30/2006	5/30/2006	5/26/2006	6/7/2006	6/7/2006
		Depth Interval	110-135	135-160	162-197	95-120	117-154
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	10.3	6.6	13.3	0.24 U	0.24 U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U
1,1-Dichloroethane	75-34-3	50	6.5	6.1	4.4	0.7 U	0.7 U
1,1-Dichloroethylene	75-35-4	2	**2.1**	**3.4**	1.1	0.58 U	0.58 U
1,2-Dichlorobenzene	95-50-1	600	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichloroethane	107-06-2	2	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichloropropane	78-87-5	1	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,3-Dichlorobenzene	541-73-1	600	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,4-Dichlorobenzene	106-46-7	75	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
Acrolein	107-02-8	-	13 U	13 U	13 U	13 U	13 U
Acrylonitrile	107-13-1	50	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
Benzene	71-43-2	1	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bromodichloromethane	75-27-4	1	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Bromoform	75-25-2	4	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Bromomethane	74-83-9	10	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroethane	75-00-3	100	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Chloroform	67-66-3	6	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Chloromethane	74-87-3	30	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
cis-1,2-Dichloroethene	156-59-2	70	0.56 U	0.56 U	0.56 U	0.56 U	0.84 J
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Dibromochloromethane	124-48-1	10	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Dichlorodifluoromethane	75-71-8	1000	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
Ethylbenzene	100-41-4	700	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Methylene Chloride	75-09-2	3	2.4	0.82 J	0.19 U	0.75 J	1.9
Tetrachloroethene	127-18-4	1	0.82 J	0.9 J	0.87 J	0.28 U	0.28 U
Toluene	108-88-3	1000	3	8.8	0.7 J	5.3	5
Total Xylenes	1330-20-7	1000	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trans-1,2-Dichloroethene	156-60-5	100	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trichloroethylene	79-01-6	1	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	75-69-4	2000	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Vinyl Chloride	75-01-4	5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U

Notes:

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GWQS = NJDEP Groundwater Quality Standards
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TABLE 7
Summary of Packer Testing Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW27A	MW27B	MW33AA	MW34A	MW34B
		Lab ID	J32860-2	J32860-1	J31407-3	J31407-2	J31407-1
		Sample Date	6/8/2006	6/8/2006	5/23/2006	5/22/2006	5/22/2006
		Depth Interval	85-110	110-138	90-121	93-110	110-126
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	0.24 U	0.24 U	1.4	1.9	1.7
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U
1,1-Dichloroethane	75-34-3	50	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
1,1-Dichloroethylene	75-35-4	2	0.58 U	0.58 U	0.93 J	0.58 U	0.77 J
1,2-Dichlorobenzene	95-50-1	600	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichloroethane	107-06-2	2	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichloropropane	78-87-5	1	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,3-Dichlorobenzene	541-73-1	600	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,4-Dichlorobenzene	106-46-7	75	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
Acrolein	107-02-8	-	13 U	13 U	13 U	13 U	13 U
Acrylonitrile	107-13-1	50	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
Benzene	71-43-2	1	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bromodichloromethane	75-27-4	1	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Bromoform	75-25-2	4	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Bromomethane	74-83-9	10	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroethane	75-00-3	100	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Chloroform	67-66-3	6	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Chloromethane	74-87-3	30	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
cis-1,2-Dichloroethene	156-59-2	70	0.56 U	0.56 U	0.56 U	0.58 J	1.2
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Dibromochloromethane	124-48-1	10	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Dichlorodifluoromethane	75-71-8	1000	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
Ethylbenzene	100-41-4	700	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Methylene Chloride	75-09-2	3	0.19 U	0.79 J	0.27 J	0.19 U	0.55 J
Tetrachloroethene	127-18-4	1	0.28 U	0.28 U	**2**	**1.4**	**2.4**
Toluene	108-88-3	1000	4.8	1.5	0.45 J	1.4	0.86 J
Total Xylenes	1330-20-7	1000	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Trans-1,2-Dichloroethene	156-60-5	100	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trichloroethylene	79-01-6	1	0.2 U	0.2 U	**2**	**2.5**	**2.9**
Trichlorofluoromethane	75-69-4	2000	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Vinyl Chloride	75-01-4	5	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U

Notes:

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TABLE 7
Summary of Packer Testing Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	RW09A	RW09B	RW09C	RW11B	RW11C	RW11D
		Lab ID	J32178-3	J32178-2	J32178-1	J31653-3	J31653-2	J31653-1
		Sample Date	6/2/2006	6/2/2006	6/2/2006	5/26/2006	5/25/2006	5/25/2006
		Depth Interval	110-135	135-160	165-200	92-117	115-140	147-171
Analyte	**CAS-RN**	**GWQS**						
1,1,1-Trichloroethane	71-55-6	30	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U
1,1-Dichloroethane	75-34-3	50	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
1,1-Dichloroethylene	75-35-4	2	0.88 J	0.8 J	0.73 J	0.58 U	0.58 U	0.58 U
1,2-Dichlorobenzene	95-50-1	600	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
1,2-Dichloroethane	107-06-2	2	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichloropropane	78-87-5	1	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,3-Dichlorobenzene	541-73-1	600	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,4-Dichlorobenzene	106-46-7	75	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
Acrolein	107-02-8	-	13 U	13 U	13 U	13 U	13 U	13 U
Acrylonitrile	107-13-1	50	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
Benzene	71-43-2	1	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bromodichloromethane	75-27-4	1	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Bromoform	75-25-2	4	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Bromomethane	74-83-9	10	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroethane	75-00-3	100	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Chloroform	67-66-3	6	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Chloromethane	74-87-3	30	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
cis-1,2-Dichloroethene	156-59-2	70	**182**	**155**	**120**	0.56 U	0.56 U	0.56 U
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Dibromochloromethane	124-48-1	10	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Dichlorodifluoromethane	75-71-8	1000	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
Ethylbenzene	100-41-4	700	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Methylene Chloride	75-09-2	3	0.82 J	1.1	0.19 U	1.1	0.82 J	0.19 U
Tetrachloroethene	127-18-4	1	**1.7**	**1.8**	0.28 U	**3.3**	**4.6**	0.5 J
Toluene	108-88-3	1000	1.2	0.95 J	1	2.4	1.4	0.31 U
Total Xylenes	1330-20-7	1000	0.25 J	0.28 J	0.33 J	0.25 U	0.25 U	0.25 U
Trans-1,2-Dichloroethene	156-60-5	100	0.38 U	0.72 J	1.1	0.38 U	0.38 U	0.38 U
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trichloroethylene	79-01-6	1	**4.5**	**4.2**	**2.4**	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	75-69-4	2000	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Vinyl Chloride	75-01-4	5	**90.5**	**125**	**130**	0.35 U	0.35 U	0.35 U

Notes:

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TABLE 7
Summary of Packer Testing Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	RW15A	RW15B	RW15C	RW16A	RW16B
		Lab ID	J32860-5	J32860-4	J32860-3	J32178-5	J32178-4
		Sample Date	6/9/2006	6/9/2006	6/9/2006	6/1/2006	6/1/2006
		Depth Interval	91-107	110-135	130-152	98-125	125-155
Analyte	**CAS-RN**	**GWQS**					
1,1,1-Trichloroethane	71-55-6	30	1.8	1.2	1.3	**126**	**30.3**
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.26 U	0.26 U	0.52 U	0.52 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.61 U	0.61 U	**3.3**	1.2 U
1,1-Dichloroethane	75-34-3	50	0.7 U	0.7 U	0.7 U	**433**	**114**
1,1-Dichloroethylene	75-35-4	2	0.58 U	0.58 U	0.58 U	**27.7**	**7.6**
1,2-Dichlorobenzene	95-50-1	600	0.3 U	0.3 U	0.3 U	0.61 U	0.61 U
1,2-Dichloroethane	107-06-2	2	0.48 U	0.48 U	0.48 U	**25.6**	**18.4**
1,2-Dichloropropane	78-87-5	1	0.4 U	0.4 U	0.4 U	0.8 U	0.8 U
1,3-Dichlorobenzene	541-73-1	600	0.23 U	0.23 U	0.23 U	0.46 U	0.46 U
1,4-Dichlorobenzene	106-46-7	75	0.69 U	0.69 U	0.69 U	1.4 U	1.4 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.73 U	0.73 U	0.73 U	1.5 U	1.5 U
Acrolein	107-02-8	-	13 U	13 U	13 U	26 U	26 U
Acrylonitrile	107-13-1	50	4.7 U	4.7 U	4.7 U	9.3 U	9.3 U
Benzene	71-43-2	1	0.18 U	0.18 U	0.18 U	0.37 J	0.35 U
Bromodichloromethane	75-27-4	1	0.14 U	0.14 U	0.14 U	0.28 U	0.28 U
Bromoform	75-25-2	4	0.27 U	0.27 U	0.27 U	0.55 U	0.55 U
Bromomethane	74-83-9	10	0.75 U	0.75 U	0.75 U	1.5 U	1.5 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.61 U	0.61 U
Chlorobenzene	108-90-7	50	0.13 U	0.13 U	0.13 U	0.25 U	0.25 U
Chloroethane	75-00-3	100	0.33 U	0.33 U	0.33 U	**2210**	**1510**
Chloroform	67-66-3	6	0.19 U	0.19 U	0.19 U	0.38 U	0.38 U
Chloromethane	74-87-3	30	0.42 U	0.42 U	0.42 U	0.84 U	0.84 U
cis-1,2-Dichloroethene	156-59-2	70	9.4	5.7	5.7	10	3.1
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.22 U	0.22 U	0.43 U	0.43 U
Dibromochloromethane	124-48-1	10	0.18 U	0.18 U	0.18 U	0.35 U	0.35 U
Dichlorodifluoromethane	75-71-8	1000	0.76 U	0.76 U	0.76 U	1.5 U	1.5 U
Ethylbenzene	100-41-4	700	0.23 U	0.23 U	0.23 U	0.45 U	0.45 U
Methylene Chloride	75-09-2	3	0.19 U	1.2	0.39 J	1.9 J	**3.7**
Tetrachloroethene	127-18-4	1	**7.3**	**5.1**	**4.7**	0.56 U	0.56 U
Toluene	108-88-3	1000	0.72 J	2.2	1.4	1.2 J	1.2 J
Total Xylenes	1330-20-7	1000	0.25 U	0.25 U	0.25 U	2.7	0.77 J
Trans-1,2-Dichloroethene	156-60-5	100	0.38 U	0.38 U	0.38 U	0.76 U	0.76 U
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.16 U	0.16 U	0.32 U	0.32 U
Trichloroethylene	79-01-6	1	**3.5**	**2.3**	**1.9**	**2.5**	0.91 J
Trichlorofluoromethane	75-69-4	2000	1.2 U	1.2 U	1.2 U	2.5 U	2.5 U
Vinyl Chloride	75-01-4	5	0.35 U	0.35 U	0.35 U	**29.4**	**11.2**

Notes:

All results are reported in micrograms per liter (µg/L).
Depths are presented in feet from top of casing.
GWQS = NJDEP Groundwater Quality Standards
BOLD values indicate that the result exceeds the GWQS.

UNDERLINED values indicate the Method Detection Limit (MDL) exceeds the GWQS.
CAS-RN = Chemical Abstract Service Registry Number.

J - The analyte was detected at a concentration less than the MDL and is estimated.
N - Indicates the presumptive evidence of a compound.
NR - Indicates that the analyte was not requested.
U - Indicates that the analyte was not detected at the reported MDL.

TABLE 7
Summary of Packer Testing Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	**THWLSA**	**THWLSB**
		Lab ID	**J32690-2**	**J32690-1**
		Sample Date	**6/6/2006**	**6/5/2006**
		Depth Interval	**98-113**	**113-124**
Analyte	**CAS-RN**	**GWQS**		
1,1,1-Trichloroethane	71-55-6	30	**56.7**	**64.6**
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.26 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.61 U
1,1-Dichloroethane	75-34-3	50	**156**	**143**
1,1-Dichloroethylene	75-35-4	2	**9.4**	**12.1**
1,2-Dichlorobenzene	95-50-1	600	0.3 U	0.3 U
1,2-Dichloroethane	107-06-2	2	0.48 U	0.48 U
1,2-Dichloropropane	78-87-5	1	0.4 U	0.4 U
1,3-Dichlorobenzene	541-73-1	600	0.23 U	0.23 U
1,4-Dichlorobenzene	106-46-7	75	0.69 U	0.69 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.73 U	0.73 U
Acrolein	107-02-8	-	13 U	13 U
Acrylonitrile	107-13-1	50	4.7 U	4.7 U
Benzene	71-43-2	1	0.18 U	0.18 U
Bromodichloromethane	75-27-4	1	0.14 U	0.14 U
Bromoform	75-25-2	4	0.27 U	0.27 U
Bromomethane	74-83-9	10	0.75 U	0.75 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.13 U	0.13 U
Chloroethane	75-00-3	100	28.1	12.2
Chloroform	67-66-3	6	0.19 U	0.19 U
Chloromethane	74-87-3	30	0.42 U	0.42 U
cis-1,2-Dichloroethene	156-59-2	70	3.1	2.4
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.22 U
Dibromochloromethane	124-48-1	10	0.18 U	0.18 U
Dichlorodifluoromethane	75-71-8	1000	0.76 U	0.76 U
Ethylbenzene	100-41-4	700	0.23 U	0.23 U
Methylene Chloride	75-09-2	3	0.88 J	0.19 U
Tetrachloroethene	127-18-4	1	0.71 J	0.99 J
Toluene	108-88-3	1000	8.5	0.35 J
Total Xylenes	1330-20-7	1000	0.25 U	0.25 U
Trans-1,2-Dichloroethene	156-60-5	100	0.38 U	0.38 U
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.16 U
Trichloroethylene	79-01-6	1	**2.6**	**2.8**
Trichlorofluoromethane	75-69-4	2000	1.2 U	1.2 U
Vinyl Chloride	75-01-4	5	4.2	3

Notes:

All results are reported in micrograms per liter (µg/L).
Depths are presented in feet from top of casing.
GWQS = NJDEP Groundwater Quality Standards
BOLD values indicate that the result exceeds the GWQS.

UNDERLINED values indicate the Method Detection Limit (MDL) exceeds the GWQS.
CAS-RN = Chemical Abstract Service Registry Number.

J - The analyte was detected at a concentration less than the MDL and is estimated.
N - Indicates the presumptive evidence of a compound.
NR - Indicates that the analyte was not requested.
U - Indicates that the analyte was not detected at the reported MDL.

TABLE 8
Summary of Groundwater Analytical Results for Pilot Hole Packer Testing
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Location ID	**PH1**	**PH1**	**PH1**	**PH1**	**PH2**	**PH2**
		Sample ID	**PH10182**	**MW56 276**	**MW56225**	**PH10297**	**PH2473**	**PH2445**
		Lab ID	**J25068-1**	**J25909-1**	**J26056-1**	**J34992-1**	**J37567-1**	**J37751-1**
		Sample Date	**3/15/2006**	**3/24/2006**	**3/27/2006**	**7/5/2006**	**8/4/2006**	**8/7/2006**
		Start Depth	**182**	**276**	**225**	**297**	**473**	**445**
Analyte	**CAS-RN**	**GWQS**						
1,1,1-Trichloroethane	71-55-6	30	0.24 U	2.2	2.7	0.24 U	0.39 J	2
1,1,2,2-Tetrachloroethane	79-34-5	1	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	79-00-5	3	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U
1,1-Dichloroethane	75-34-3	50	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
1,1-Dichloroethylene	75-35-4	2	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U
1,2-Dichlorobenzene	95-50-1	600	NR	NR	NR	0.3 U	0.3 U	0.3 U
1,2-Dichloroethane	107-06-2	2	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichloropropane	78-87-5	1	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,3-Dichlorobenzene	541-73-1	600	NR	NR	NR	0.23 U	0.23 U	0.23 U
1,4-Dichlorobenzene	106-46-7	75	NR	NR	NR	0.69 U	0.69 U	0.69 U
2-Chloroethyl Vinyl Ether	110-75-8	100	NR	NR	NR	0.73 U	0.73 U	0.73 U
Acrolein	107-02-8	-	NR	NR	NR	13 U	13 U	13 U
Acrylonitrile	107-13-1	50	NR	NR	NR	4.7 U	4.7 U	4.7 U
Benzene	71-43-2	1	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bromodichloromethane	75-27-4	1	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Bromoform	75-25-2	4	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Bromomethane	74-83-9	10	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorobenzene	108-90-7	50	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Chloroethane	75-00-3	100	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Chloroform	67-66-3	6	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Chloromethane	74-87-3	30	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
cis-1,2-Dichloroethene	156-59-2	70	0.56 U	1.6	1.3	0.56 U	0.56 U	0.56 U
cis-1,3-Dichloropropene	10061-01-5	-	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Dibromochloromethane	124-48-1	10	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Dichlorodifluoromethane	75-71-8	1000	NR	NR	NR	0.76 U	0.76 U	0.76 U
Ethylbenzene	100-41-4	700	0.23 U	0.23 U	0.23 U	0.23 U	0.45 J	0.61 J
Methylene Chloride	75-09-2	3	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Tetrachloroethene	127-18-4	1	0.28 U	**98.6**	**106**	0.28 U	0.28 U	0.28 U
Toluene	108-88-3	1000	11.4	145	72	23.4	69.7	172
Total Xylenes	1330-20-7	1000	0.25 U	0.25 U	0.25 U	0.25 U	0.55 J	0.53 J
Trans-1,2-Dichloroethene	156-60-5	100	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
trans-1,3-Dichloropropene	10061-02-6	-	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Trichloroethylene	79-01-6	1	0.2 U	**70.9**	**183**	0.2 U	0.2 U	0.2 U
Trichlorofluoromethane	75-69-4	2000	NR	NR	NR	1.2 U	1.2 U	1.2 U
Vinyl Chloride	75-01-4	5	0.35 U	0.49 J	0.35 U	0.35 U	0.35 U	0.35 U

Notes:

All results are reported in micrograms per liter (µg/L).

Depths are presented in feet from top of casing.

GWQS= NJDEPGroundwater Quality Standards

BOLD values indicate that the result exceeds the GWQC.

CAS-RN = Chemical Abstract Service Registry Number.

J - The analyte was detected at a concentration less than the MDL and is estimated.

N - Indicates the presumptive evidence of a compound.

NR - Indicates that the analyte was not requested.

U - Indicates that the analyte was not detected at the reported MDL.

TABLE 9
Sample Summary

Onsite Groundwater Sampling: October 2005 and May 2006

Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW02AA	676698	10/10/2005	120	N	WG	VOCS GC/MS (E624)	H051	None
MW03A	676699	10/10/2005	115	N	WG	VOCS GC/MS (E624)	H051	None
MW04A	676700	10/10/2005	96	N	WG	VOCS GC/MS (E624)	H051	None
MW04B	676701	10/10/2005	108	N	WG	VOCS GC/MS (E624)	H051	None
MW04C	676702	10/10/2005	120	N	WG	VOCS GC/MS (E624)	H051	None
MW06A	676714	10/10/2005	110	N	WG	VOCS GC/MS (E624)	H051	None
MW06B	676715	10/10/2005	145	N	WG	VOCS GC/MS (E624)	H051	None
MW06C	676716	10/10/2005	187	N	WG	VOCS GC/MS (E624)	H051	None
MW13A	676725	10/10/2005	157	N	WG	VOCS GC/MS (E624)	H051	None
MW13B	676726	10/10/2005	189	N	WG	VOCS GC/MS (E624)	H051	None
MW24A	676728	10/10/2005	145	N	WG	VOCS GC/MS (E624)	H051	None
MW27A	676724	10/10/2005	137	N	WG	VOCS GC/MS (E624)	H051	None
MW32A	676722	10/10/2005	118	N	WG	VOCS GC/MS (E624)	H051	None
MW32B	676723	10/10/2005	129	N	WG	VOCS GC/MS (E624)	H051	None
MW33AA	676712	10/10/2005	107	N	WG	VOCS GC/MS (E624)	H051	None
MW33AB	676713	10/10/2005	120	N	WG	VOCS GC/MS (E624)	H051	None
MW34A	676708	10/10/2005	108	N	WG	VOCS GC/MS (E624)	H051	None
MW34B	676709	10/10/2005	113	N	WG	VOCS GC/MS (E624)	H051	None
MW34C	676710	10/10/2005	120	N	WG	VOCS GC/MS (E624)	H051	None
MW35A	676706	10/10/2005	122	N	WG	VOCS GC/MS (E624)	H051	None
MW35B	676707	10/10/2005	128	N	WG	VOCS GC/MS (E624)	H051	None
MW37A	676703	10/10/2005	60	N	WG	VOCS GC/MS (E624)	H051	None
MW37B	676704	10/10/2005	86	N	WG	VOCS GC/MS (E624)	H051	None
MW37C	676705	10/10/2005	98	N	WG	VOCS GC/MS (E624)	H051	None
MW51AA	676711	10/10/2005	135	N	WG	VOCS GC/MS (E624)	H051	None
MW52A	676717	10/10/2005	109	N	WG	VOCS GC/MS (E624)	H051	None
MW52B	676718	10/10/2005	170	N	WG	VOCS GC/MS (E624)	H051	None
MW53A	676719	10/10/2005	127	N	WG	VOCS GC/MS (E624)	H051	None
MW53B	676720	10/10/2005	140	N	WG	VOCS GC/MS (E624)	H051	None

NOTES:

Column - Dup: Y=Duplicate, N=Not Duplicate
CL = control limit
BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
WG = Water - Groundwater

See hardcopy Laboratory Data Reports for detailed information regarding nonconformances, including acronym definitions.

TABLE 9
Sample Summary

Onsite Groundwater Sampling: October 2005 and May 2006

Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
RW10A	676727	10/10/2005	170	N	WG	VOCS GC/MS (E624)	H051	None
RW11A	676729	10/10/2005	115	N	WG	VOCS GC/MS (E624)	H051	None
RW11B	676730	10/10/2005	170	N	WG	VOCS GC/MS (E624)	H051	None
TH36A	676721	10/10/2005	110	N	WG	VOCS GC/MS (E624)	H051	None
MW11A	676745	10/11/2005	100	N	WG	VOCS GC/MS (E624)	H051	None
MW11B	676746	10/11/2005	150	N	WG	VOCS GC/MS (E624)	H051	None
MW11C	676747	10/11/2005	190	N	WG	VOCS GC/MS (E624)	H051	None
MW11CP	676748	10/11/2005	190	Y	WG	VOCS GC/MS (E624)	H051	None
MW12A	676749	10/11/2005	110	N	WG	VOCS GC/MS (E624)	H051	None
MW12B	676750	10/11/2005	126	N	WG	VOCS GC/MS (E624)	H051	None
MW12C	676751	10/11/2005	156	N	WG	VOCS GC/MS (E624)	H051	None
MW16A	676741	10/11/2005	130	N	WG	VOCS GC/MS (E624)	H051	None
MW16B	676742	10/11/2005	155	N	WG	VOCS GC/MS (E624)	H051	None
MW16BP	676743	10/11/2005	155	Y	WG	VOCS GC/MS (E624)	H051	None
MW16C	676744	10/11/2005	190	N	WG	VOCS GC/MS (E624)	H051	None
MW18A	676732	10/11/2005	112	N	WG	VOCS GC/MS (E624)	H051	None
MW19A	676734	10/11/2005	135	N	WG	VOCS GC/MS (E624)	H051	None
MW19B	676735	10/11/2005	147	N	WG	VOCS GC/MS (E624)	H051	None
MW20A	676733	10/11/2005	134	N	WG	VOCS GC/MS (E624)	H051	None
MW26A	676739	10/11/2005	133	N	WG	VOCS GC/MS (E624)	H051	None
MW26B	676740	10/11/2005	145	N	WG	VOCS GC/MS (E624)	H051	None
MW30A	676765	10/11/2005	75	N	WG	VOCS GC/MS (E624)	H051	None
MW47A	676737	10/11/2005	136.5	N	WG	VOCS GC/MS (E624)	H051	None
MW48A	676736	10/11/2005	132	N	WG	VOCS GC/MS (E624)	H051	None
MW49A	676764	10/11/2005	54	N	WG	VOCS GC/MS (E624)	H051	None
MW50A	676766	10/11/2005	150	N	WG	VOCS GC/MS (E624)	H051	None
MW54A	676738	10/11/2005	120	N	WG	VOCS GC/MS (E624)	H051	None
RW09A	676758	10/11/2005	90	N	WG	VOCS GC/MS (E624)	H051	None
RW09B	676759	10/11/2005	118	N	WG	VOCS GC/MS (E624)	H051	None

NOTES:

Column - Dup: Y=Duplicate, N=Not Duplicate
CL = control limit
BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
WG = Water - Groundwater

See hardcopy Laboratory Data Reports for detailed information regarding nonconformances, including acronym definitions.

TABLE 9
Sample Summary

Onsite Groundwater Sampling: October 2005 and May 2006

Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
RW09C	676760	10/11/2005	147	N	WG	VOCS GC/MS (E624)	H051	None
RW09D	676761	10/11/2005	160	N	WG	VOCS GC/MS (E624)	H051	None
RW09E	676762	10/11/2005	188	N	WG	VOCS GC/MS (E624)	H051	None
RW09EP	676763	10/11/2005	188	Y	WG	VOCS GC/MS (E624)	H051	None
RW15A	676752	10/11/2005	113	N	WG	VOCS GC/MS (E624)	H051	None
RW15B	676753	10/11/2005	135	N	WG	VOCS GC/MS (E624)	H051	None
RW15C	676754	10/11/2005	156	N	WG	VOCS GC/MS (E624)	H051	None
RW16A	676755	10/11/2005	121	N	WG	VOCS GC/MS (E624)	H051	None
RW16B	676756	10/11/2005	141.5	N	WG	VOCS GC/MS (E624)	H051	None
RW16BP	676757	10/11/2005	141.5	Y	WG	VOCS GC/MS (E624)	H051	None
MW03	677027	10/12/2005	115	N	WG	FER-IRON (FER-IRON)	H106	None
		10/12/2005	115	N	WG	ALKALINITY, CARBONATE (2320B)	H106	None
		10/12/2005	115	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H106	None
		10/12/2005	115	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H106	None
		10/12/2005	115	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H106	None
		10/12/2005	115	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H106	None
		10/12/2005	115	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H106	None
		10/12/2005	115	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H106	None
		10/12/2005	115	N	WG	CHLORIDE (4500 CLB)	H106	None
		10/12/2005	115	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H106	None
		10/12/2005	115	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H106	None
MW04	677028	10/12/2005	108	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H106	None
		10/12/2005	108	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H106	None

NOTES:

Column - Dup: Y=Duplicate, N=Not Duplicate
CL = control limit
BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
WG = Water - Groundwater

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TABLE 9
Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW04	677028	10/12/2005	108	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H106	None
		10/12/2005	108	N	WG	ALKALINITY, CARBONATE (2320B)	H106	None
		10/12/2005	108	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H106	None
		10/12/2005	108	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H106	None
		10/12/2005	108	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H106	None
		10/12/2005	108	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H106	None
		10/12/2005	108	N	WG	FER-IRON (FER-IRON)	H106	None
		10/12/2005	108	N	WG	CHLORIDE (4500 CLB)	H106	None
		10/12/2005	108	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H106	None
MW35	677030	10/12/2005	122	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H106	None
		10/12/2005	122	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H106	None
		10/12/2005	122	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H106	None
		10/12/2005	122	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H106	None
		10/12/2005	122	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H106	None
		10/12/2005	122	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H106	None
		10/12/2005	122	N	WG	FER-IRON (FER-IRON)	H106	None
		10/12/2005	122	N	WG	CHLORIDE (4500 CLB)	H106	None
		10/12/2005	122	N	WG	ALKALINITY, CARBONATE (2320B)	H106	None
		10/12/2005	122	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H106	None
		10/12/2005	122	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H106	None

NOTES:

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BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
WG = Water - Groundwater

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TABLE 9
Sample Summary

Onsite Groundwater Sampling: October 2005 and May 2006

Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW37	677029	10/12/2005	86	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H106	None
		10/12/2005	86	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H106	None
		10/12/2005	86	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H106	None
		10/12/2005	86	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H106	None
		10/12/2005	86	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H106	None
		10/12/2005	86	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H106	None
		10/12/2005	86	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H106	None
		10/12/2005	86	N	WG	FER-IRON (FER-IRON)	H106	None
		10/12/2005	86	N	WG	CHLORIDE (4500 CLB)	H106	None
		10/12/2005	86	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H106	None
		10/12/2005	86	N	WG	ALKALINITY, CARBONATE (2320B)	H106	None
MW33A	677518	10/13/2005	107	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H221	None
		10/13/2005	107	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H221	MS/MSD-Duplicate RPD for Sulfate is biased high.
		10/13/2005	107	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H221	None
		10/13/2005	107	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H221	None
		10/13/2005	107	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H221	None
		10/13/2005	107	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H221	None
		10/13/2005	107	N	WG	CHLORIDE (4500 CLB)	H221	None
		10/13/2005	107	N	WG	ALKALINITY, CARBONATE (2320B)	H221	None

NOTES:

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GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
WG = Water - Groundwater

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TABLE 9
Sample Summary

Onsite Groundwater Sampling: October 2005 and May 2006

Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW33A	677518	10/13/2005	107	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H221	None
		10/13/2005	107	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H221	None
		10/13/2005	107	N	WG	FER-IRON (FER-IRON)	H221	None
MW34	677516	10/13/2005	113	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H221	None
		10/13/2005	113	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H221	None
		10/13/2005	113	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H221	None
		10/13/2005	113	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H221	None
		10/13/2005	113	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H221	None
		10/13/2005	113	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H221	None
		10/13/2005	113	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H221	None
		10/13/2005	113	N	WG	ALKALINITY, CARBONATE (2320B)	H221	None
		10/13/2005	113	N	WG	CHLORIDE (4500 CLB)	H221	None
		10/13/2005	113	N	WG	FER-IRON (FER-IRON)	H221	None
		10/13/2005	113	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H221	MS/MSD-Duplicate RPD for Sulfate is biased high.
MW42	677515	10/13/2005	118	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H221	None
		10/13/2005	118	N	WG	ALKALINITY, CARBONATE (2320B)	H221	None
		10/13/2005	118	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H221	None
		10/13/2005	118	N	WG	FER-IRON (FER-IRON)	H221	None
		10/13/2005	118	N	WG	CHLORIDE (4500 CLB)	H221	None
		10/13/2005	118	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H221	None
		10/13/2005	118	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H221	MS/MSD-Duplicate RPD for Sulfate is biased high.

NOTES:

Column - Dup: Y=Duplicate, N=Not Duplicate
CL = control limit
BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
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TABLE 9
Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW42	677515	10/13/2005	118	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H221	None
		10/13/2005	118	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H221	None
		10/13/2005	118	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H221	None
		10/13/2005	118	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H221	None
MW51A	677517	10/13/2005	135	N	WG	ALKALINITY, CARBONATE (2320B)	H221	None
		10/13/2005	135	N	WG	CHLORIDE (4500 CLB)	H221	None
		10/13/2005	135	N	WG	FER-IRON (FER-IRON)	H221	None
		10/13/2005	135	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H221	None
		10/13/2005	135	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H221	None
		10/13/2005	135	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H221	None
		10/13/2005	135	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H221	None
		10/13/2005	135	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H221	None
		10/13/2005	135	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H221	MS/MSD-Duplicate RPD for Sulfate is biased high.
		10/13/2005	135	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H221	None
		10/13/2005	135	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H221	None
MW18	677819	10/14/2005	90	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H278	None
		10/14/2005	90	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H278	None
		10/14/2005	90	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H278	None

NOTES:

Column - Dup: Y=Duplicate, N=Not Duplicate
CL = control limit
BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
WG = Water - Groundwater

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TABLE 9
Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW18	677819	10/14/2005	90	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H278	None
		10/14/2005	90	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H278	None
		10/14/2005	90	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H278	None
		10/14/2005	90	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H278	None
		10/14/2005	90	N	WG	ALKALINITY, CARBONATE (2320B)	H278	None
		10/14/2005	90	N	WG	CHLORIDE (4500 CLB)	H278	None
		10/14/2005	90	N	WG	FER-IRON (FER-IRON)	H278	None
		10/14/2005	90	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H278	None
MW20	677820	10/14/2005	134	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H278	None
		10/14/2005	134	N	WG	ALKALINITY, CARBONATE (2320B)	H278	None
		10/14/2005	134	N	WG	CHLORIDE (4500 CLB)	H278	None
		10/14/2005	134	N	WG	FER-IRON (FER-IRON)	H278	None
		10/14/2005	134	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H278	None
		10/14/2005	134	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H278	None
		10/14/2005	134	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H278	None
		10/14/2005	134	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H278	None
		10/14/2005	134	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H278	None
		10/14/2005	134	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H278	None
		10/14/2005	134	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H278	None
MW47	677818	10/14/2005	136.5	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H278	None

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MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
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Sample Summary

Onsite Groundwater Sampling: October 2005 and May 2006

Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW47	677818	10/14/2005	136.5	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H278	None
		10/14/2005	136.5	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H278	None
		10/14/2005	136.5	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H278	None
		10/14/2005	136.5	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H278	None
		10/14/2005	136.5	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H278	None
		10/14/2005	136.5	N	WG	FER-IRON (FER-IRON)	H278	None
		10/14/2005	136.5	N	WG	CHLORIDE (4500 CLB)	H278	None
		10/14/2005	136.5	N	WG	ALKALINITY, CARBONATE (2320B)	H278	None
		10/14/2005	136.5	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H278	None
		10/14/2005	136.5	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H278	None
MW53	677821	10/14/2005	127	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H278	None
		10/14/2005	127	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H278	None
		10/14/2005	127	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H278	None
		10/14/2005	127	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H278	None
		10/14/2005	127	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H278	None
		10/14/2005	127	N	WG	ALKALINITY, CARBONATE (2320B)	H278	None
		10/14/2005	127	N	WG	CHLORIDE (4500 CLB)	H278	None
		10/14/2005	127	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H278	None
		10/14/2005	127	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H278	None
		10/14/2005	127	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H278	None

NOTES:

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GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
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TABLE 9
Sample Summary

Onsite Groundwater Sampling: October 2005 and May 2006

Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW53	677821	10/14/2005	127	N	WG	FER-IRON (FER-IRON)	H278	None
MW06	678010	10/17/2005	115	N	WG	CHLORIDE (4500 CLB)	H325	None
		10/17/2005	115	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H325	None
		10/17/2005	115	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H325	None
		10/17/2005	115	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H325	None
		10/17/2005	115	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H325	None
		10/17/2005	115	N	WG	ALKALINITY, CARBONATE (2320B)	H325	None
		10/17/2005	115	N	WG	FER-IRON (FER-IRON)	H325	None
		10/17/2005	115	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H325	None
		10/17/2005	115	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H325	None
		10/17/2005	115	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H325	None
		10/17/2005	115	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H325	None
MW12	678012	10/17/2005	127	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H325	None
		10/17/2005	127	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H325	None
		10/17/2005	127	N	WG	FER-IRON (FER-IRON)	H325	None
		10/17/2005	127	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H325	None
		10/17/2005	127	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H325	None
		10/17/2005	127	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H325	None
		10/17/2005	127	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H325	None
		10/17/2005	127	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H325	None

NOTES:

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GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
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TABLE 9
Sample Summary

Onsite Groundwater Sampling: October 2005 and May 2006

Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW12	678012	10/17/2005	127	N	WG	ALKALINITY, CARBONATE (2320B)	H325	None
		10/17/2005	127	N	WG	CHLORIDE (4500 CLB)	H325	None
		10/17/2005	127	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H325	None
MW16	678011	10/17/2005	155	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H325	None
		10/17/2005	155	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H325	None
		10/17/2005	155	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H325	None
		10/17/2005	155	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H325	None
		10/17/2005	155	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H325	None
		10/17/2005	155	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H325	None
		10/17/2005	155	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H325	None
		10/17/2005	155	N	WG	FER-IRON (FER-IRON)	H325	None
		10/17/2005	155	N	WG	ALKALINITY, CARBONATE (2320B)	H325	None
		10/17/2005	155	N	WG	CHLORIDE (4500 CLB)	H325	None
		10/17/2005	155	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H325	None
MW30	678009	10/17/2005	75	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H325	None
		10/17/2005	75	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H325	None
		10/17/2005	75	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H325	None
		10/17/2005	75	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H325	None
		10/17/2005	75	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H325	None

NOTES:

Column - Dup: Y=Duplicate, N=Not Duplicate
CL = control limit
BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
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TABLE 9
Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW30	678009	10/17/2005	75	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H325	None
		10/17/2005	75	N	WG	FER-IRON (FER-IRON)	H325	None
		10/17/2005	75	N	WG	CHLORIDE (4500 CLB)	H325	None
		10/17/2005	75	N	WG	ALKALINITY, CARBONATE (2320B)	H325	None
		10/17/2005	75	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H325	None
		10/17/2005	75	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H325	None
MW49	678433	10/18/2005	54	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H389	None
		10/18/2005	54	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H389	None
		10/18/2005	54	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H389	None
		10/18/2005	54	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H389	None
		10/18/2005	54	N	WG	ALKALINITY, CARBONATE (2320B)	H389	None
		10/18/2005	54	N	WG	CHLORIDE (4500 CLB)	H389	None
		10/18/2005	54	N	WG	FER-IRON (FER-IRON)	H389	None
		10/18/2005	54	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H389	MS/MSD-Duplicate RPD for Sulfate is biased high.
		10/18/2005	54	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H389	None
		10/18/2005	54	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H389	None
		10/18/2005	54	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H389	None
RW09	678434	10/18/2005	119	N	WG	FER-IRON (FER-IRON)	H389	None
		10/18/2005	119	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H389	None
		10/18/2005	119	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H389	None
		10/18/2005	119	N	WG	ALKALINITY, CARBONATE (2320B)	H389	None

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GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
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Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
RW09	678434	10/18/2005	119	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H389	None
		10/18/2005	119	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H389	None
		10/18/2005	119	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H389	MS/MSD-Duplicate RPD for Sulfate is biased high.
		10/18/2005	119	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H389	None
		10/18/2005	119	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H389	None
		10/18/2005	119	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H389	None
		10/18/2005	119	N	WG	CHLORIDE (4500 CLB)	H389	None
RW16	678435	10/18/2005	121	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	H389	None
		10/18/2005	121	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	H389	None
		10/18/2005	121	N	WG	INDUCTIVELY COUPLED PLASMA (ICP) METALS SCREEN (E200.7)	H389	None
		10/18/2005	121	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	H389	None
		10/18/2005	121	N	WG	SULFATE (AS SO4), TURBIDIMETRIC (E375.4)	H389	MS/MSD-Duplicate RPD for Sulfate is biased high.
		10/18/2005	121	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	H389	None
		10/18/2005	121	N	WG	ALKALINITY, CARBONATE (2320B)	H389	None
		10/18/2005	121	N	WG	FER-IRON (FER-IRON)	H389	None
		10/18/2005	121	N	WG	CHLORIDE (4500 CLB)	H389	None
		10/18/2005	121	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	H389	None
		10/18/2005	121	N	WG	NATURAL ATTENUATION - METHANE, ETHANE, ETHENE (NAT_ATT)	H389	None
RW13	679273	10/19/2005	115	N	WG	VOCS GC/MS (E624)	H547	None
MW01	679275	10/20/2005	99	N	WG	VOCS GC/MS (E624)	H547	None
MW01P	679276	10/20/2005	99	Y	WG	VOCS GC/MS (E624)	H547	None

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MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
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Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW15	679277	10/20/2005	98	N	WG	VOCS GC/MS (E624)	H547	None
WW2A	684309	11/4/2005	88	N	WG	VOCS GC/MS (E624)	I456	None
WW2B	684310	11/4/2005	227	N	WG	VOCS GC/MS (E624)	I456	None
WW2C	684311	11/4/2005	335	N	WG	VOCS GC/MS (E624)	I456	None
WW2D	684312	11/4/2005	429	N	WG	VOCS GC/MS (E624)	I456	None
WW2E	684313	11/4/2005	485	N	WG	VOCS GC/MS (E624)	I456	None
MW02A	J29228-1	5/1/2006	125	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW03A	J29228-2	5/1/2006	115	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW04A	J29228-3	5/1/2006	96	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW04B	J29228-4	5/1/2006	108	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW04C	J29228-5	5/1/2006	120	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW06A	J29228-10	5/1/2006	172	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.

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GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
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Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW06B	J29228-11	5/1/2006	187	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW18A	J29228-34	5/1/2006	112	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW19A	J29228-36	5/1/2006	135	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW19B	J29228-37	5/1/2006	147	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW20A	J29228-35	5/1/2006	134	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW24A	J29228-25	5/1/2006	134	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW24B	J29228-26	5/1/2006	145	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW24C	J29228-27	5/1/2006	151	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW26A	J29228-39	5/1/2006	145	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW26B	J29228-40	5/1/2006	133	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW30A	J29228-41	5/1/2006	75	N	WG	VOCS GC/MS (E624)	J29228	BSR for Vinyl chloride are outside CL. MSR for 2-Chloroethyl vinyl ether are outside control limits. MSDR for 2-Chloroethyl vinyl ether are outside CL. MS and MSDR for Benzene are outside CL. Outside CL due to high level in sample relative to SA.
MW33AA	J29228-19	5/1/2006	107	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.

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GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
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Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW33AB	J29228-20	5/1/2006	120	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW34A	J29228-15	5/1/2006	108	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW34B	J29228-16	5/1/2006	113	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW34C	J29228-17	5/1/2006	120	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW35A	J29228-12	5/1/2006	122	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW35B	J29228-13	5/1/2006	128	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW37A	J29228-6	5/1/2006	60	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.

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GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
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Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW37B	J29228-7	5/1/2006	86	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW37C	J29228-8	5/1/2006	98	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW37CP	J29228-9	5/1/2006	98	Y	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW47A	J29228-33	5/1/2006	136.5	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW48A	J29228-38	5/1/2006	132	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW50A	J29228-14	5/1/2006	150	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW51AA	J29228-18	5/1/2006	135	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for 1,1-Dichloroethane, 1,1-Dichloroethene are outside CL for sample J29228-2DUP. High RPD due to low concentration of hit.
MW52A	J29228-23	5/1/2006	109	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW52B	J29228-24	5/1/2006	170	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW53A	J29228-21	5/1/2006	127	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW53B	J29228-22	5/1/2006	140	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.

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MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
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Sample Summary

Onsite Groundwater Sampling: October 2005 and May 2006

Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW54A	J29228-32	5/1/2006	120	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
RW10A	J29228-28	5/1/2006	152	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
RW10B	J29228-29	5/1/2006	170	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
RW11A	J29228-30	5/1/2006	115	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
RW11B	J29228-31	5/1/2006	170	N	WG	VOCS GC/MS (E624)	J29228	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW11A	J29360-4	5/2/2006	100	N	WG	VOCS GC/MS (E624)	J29360	J29360-1MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
MW11B	J29360-5	5/2/2006	150	N	WG	VOCS GC/MS (E624)	J29360	J29360-1MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
MW11C	J29360-6	5/2/2006	190	N	WG	VOCS GC/MS (E624)	J29360	J29360-1MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
MW12A	J29360-26	5/2/2006	163	N	WG	VOCS GC/MS (E624)	J29360	MSR for 2-Chloroethyl vinyl ether are outside CL. Because this compound is unstable in acid preserved sample.
MW12B	J29360-27	5/2/2006	183	N	WG	VOCS GC/MS (E624)	J29360	MSR for 2-Chloroethyl vinyl ether are outside CL. Because this compound is unstable in acid preserved sample. MSR for 2-Chloroethyl vinyl ether are outside CL. Because this compound is unstable in acid preserved sample.
MW13A	J29360-2	5/2/2006	157	N	WG	VOCS GC/MS (E624)	J29360	J29360-1MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
MW13B	J29360-3	5/2/2006	189	N	WG	VOCS GC/MS (E624)	J29360	J29360-1MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
MW15A	J29360-11	5/2/2006	130	N	WG	VOCS GC/MS (E624)	J29360	RPD(s) for Duplicate for 1,1-Dichloroethene are outside CL for sample J29360-16DUP. High RPD due to low concentration of hit J29360-15MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.

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GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
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TABLE 9
Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW15B	J29360-12	5/2/2006	136	N	WG	VOCS GC/MS (E624)	J29360	RPD(s) for Duplicate for 1,1-Dichloroethene are outside CL for sample J29360-16DUP. High RPD due to low concentration of hit J29360-15MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
MW16A	J29360-7	5/2/2006	130	N	WG	VOCS GC/MS (E624)	J29360	J29360-1MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
MW16B	J29360-8	5/2/2006	155	N	WG	VOCS GC/MS (E624)	J29360	RPD(s) for Duplicate for 1,1-Dichloroethene are outside CL for sample J29360-16DUP. High RPD due to low concentration of hit J29360-15MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
MW16BP	J29360-9	5/2/2006	155	Y	WG	VOCS GC/MS (E624)	J29360	RPD(s) for Duplicate for 1,1-Dichloroethene are outside CL for sample J29360-16DUP. High RPD due to low concentration of hit J29360-15MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
MW16C	J29360-10	5/2/2006	190	N	WG	VOCS GC/MS (E624)	J29360	RPD(s) for Duplicate for 1,1-Dichloroethene are outside CL for sample J29360-16DUP. High RPD due to low concentration of hit J29360-15MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
MW27A	J29360-1	5/2/2006	137	N	WG	VOCS GC/MS (E624)	J29360	J29360-1MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
MW32A	J29360-13	5/2/2006	118	N	WG	VOCS GC/MS (E624)	J29360	RPD(s) for Duplicate for 1,1-Dichloroethene are outside CL for sample J29360-16DUP. High RPD due to low concentration of hit J29360-15MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
MW32B	J29360-14	5/2/2006	129	N	WG	VOCS GC/MS (E624)	J29360	RPD(s) for Duplicate for 1,1-Dichloroethene are outside CL for sample J29360-16DUP. High RPD due to low concentration of hit J29360-15MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.

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MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
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TABLE 9
Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW49A	J29360-31	5/2/2006	54	N	WG	VOCS GC/MS (E624)	J29360	MSR for cis-1,3-Dichloropropene are outside CL due to MI. RPD(s) for Duplicate for TCA, PCE are outside CL for sample J29360-32DUP. J29360-31MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
RW09A	J29360-41	5/2/2006	90	N	WG	VOCS GC/MS (E624)	J29360	MS/MSDR for Toluene, Xylenes (total) are outside CL due to high level in sample relative to SA. J29357-1MS/MSD for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
RW09B	J29360-42	5/2/2006	118	N	WG	VOCS GC/MS (E624)	J29360	MS/MSDR for Toluene, Xylenes (total) are outside CL due to high level in sample relative to SA. J29357-1MS/MSD for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
RW09C	J29360-43	5/2/2006	147	N	WG	VOCS GC/MS (E624)	J29360	MS/MSDR for Toluene, Xylenes (total) are outside CL due to high level in sample relative to SA. J29357-1MS/MSD for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
RW09D	J29360-44	5/2/2006	160	N	WG	VOCS GC/MS (E624)	J29360	None
RW09E	J29360-45	5/2/2006	188	N	WG	VOCS GC/MS (E624)	J29360	MS/MSDR for Toluene, Xylenes (total) are outside CL due to high level in sample relative to SA. J29357-1MS/MSD for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
RW14A	J29360-15	5/2/2006	140	N	WG	VOCS GC/MS (E624)	J29360	RPD(s) for Duplicate for 1,1-Dichloroethene are outside CL for sample J29360-16DUP. High RPD due to low concentration of hit J29360-15MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
RW15A	J29360-28	5/2/2006	113	N	WG	VOCS GC/MS (E624)	J29360	MSR for 2-Chloroethyl vinyl ether are outside CL. Because this compound is unstable in acid preserved sample. MSR for 2-Chloroethyl vinyl ether are outside CL. Because this compound is unstable in acid preserved sample.
RW15B	J29360-29	5/2/2006	135	N	WG	VOCS GC/MS (E624)	J29360	MSR for 2-Chloroethyl vinyl ether are outside CL. Because this compound is unstable in acid preserved sample.

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MSR = Matrix Spike Recovery
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Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

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RW15C	J29360-30	5/2/2006	156	N	WG	VOCS GC/MS (E624)	J29360	Sample(s) J29360-22MS, J29360-23DUP were used as the QC samples indicated. MSR for 2-Chloroethyl vinyl ether are outside CL. Because this compound is unstable in acid preserved sample.
RW16A	J29360-46	5/2/2006	121	N	WG	VOCS GC/MS (E624)	J29360	None
RW16B	J29360-47	5/2/2006	141.5	N	WG	VOCS GC/MS (E624)	J29360	MS/MSDR for Toluene, Xylenes (total) are outside CL due to high level in sample relative to SA. J29357-1MS/MSD for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
RW16BP	J29360-48	5/2/2006	141.5	Y	WG	VOCS GC/MS (E624)	J29360	MS/MSDR for Toluene, Xylenes (total) are outside CL due to high level in sample relative to SA. J29357-1MS/MSD for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
TH36A	J29360-16	5/2/2006	110	N	WG	VOCS GC/MS (E624)	J29360	RPD(s) for Duplicate for 1,1-Dichloroethene are outside CL for sample J29360-16DUP. High RPD due to low concentration of hit J29360-15MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
THWLSA	J29360-17	5/2/2006	104	N	WG	VOCS GC/MS (E624)	J29360	RPD(s) for Duplicate for 1,1-Dichloroethene are outside CL for sample J29360-16DUP. High RPD due to low concentration of hit J29360-15MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
THWLSB	J29360-18	5/2/2006	110	N	WG	VOCS GC/MS (E624)	J29360	J29360-1MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
THWLSC	J29360-19	5/2/2006	116	N	WG	VOCS GC/MS (E624)	J29360	J29360-1MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
THWLSD	J29360-20	5/2/2006	123	N	WG	VOCS GC/MS (E624)	J29360	J29360-1MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
WW2A	J29360-21	5/2/2006	88	N	WG	VOCS GC/MS (E624)	J29360	J29199-6MS/MSD for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
WW2B	J29360-22	5/2/2006	227	N	WG	VOCS GC/MS (E624)	J29360	MSR for 2-Chloroethyl vinyl ether are outside CL. Because this compound is unstable in acid preserved sample. MSR for 2-Chloroethyl vinyl ether are outside CL. Because this compound is unstable in acid preserved sample.

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MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
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Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
WW2C	J29360-23	5/2/2006	335	N	WG	VOCS GC/MS (E624)	J29360	MSR for 2-Chloroethyl vinyl ether are outside CL. Because this compound is unstable in acid preserved sample.
WW2D	J29360-24	5/2/2006	429	N	WG	VOCS GC/MS (E624)	J29360	MSR for 2-Chloroethyl vinyl ether are outside CL. Because this compound is unstable in acid preserved sample. MSR for 2-Chloroethyl vinyl ether are outside CL. Because this compound is unstable in acid preserved sample.
WW2E	J29360-25	5/2/2006	485	N	WG	VOCS GC/MS (E624)	J29360	MSR for 2-Chloroethyl vinyl ether are outside CL. Because this compound is unstable in acid preserved sample.
WW3A	J29360-32	5/2/2006	98	N	WG	VOCS GC/MS (E624)	J29360	MSR for cis-1,3-Dichloropropene are outside CL due to MI. RPD(s) for Duplicate for TCA, PCE are outside CL for sample J29360-32DUP. J29360-31MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
WW3B	J29360-33	5/2/2006	215	N	WG	VOCS GC/MS (E624)	J29360	MS/MSDR for Toluene, Xylenes (total) are outside CL due to high level in sample relative to SA. J29357-1MS/MSD for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
WW3C	J29360-34	5/2/2006	292	N	WG	VOCS GC/MS (E624)	J29360	MS/MSDR for Toluene, Xylenes (total) are outside CL due to high level in sample relative to SA. J29357-1MS/MSD for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
WW3D	J29360-35	5/2/2006	341	N	WG	VOCS GC/MS (E624)	J29360	MSR for cis-1,3-Dichloropropene are outside CL due to MI. RPD(s) for Duplicate for TCA, PCE are outside CL for sample J29360-32DUP. J29360-31MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
WW3E	J29360-36	5/2/2006	472	N	WG	VOCS GC/MS (E624)	J29360	MSR for cis-1,3-Dichloropropene are outside CL due to MI. RPD(s) for Duplicate for TCA, PCE are outside CL for sample J29360-32DUP. J29360-31MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
WW3F	J29360-37	5/2/2006	615	N	WG	VOCS GC/MS (E624)	J29360	MSR for cis-1,3-Dichloropropene are outside CL due to MI. RPD(s) for Duplicate for TCA, PCE are outside CL for sample J29360-32DUP. J29360-31MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.

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MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery

PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane

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Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

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WW3G	J29360-38	5/2/2006	725	N	WG	VOCS GC/MS (E624)	J29360	MSR for cis-1,3-Dichloropropene are outside CL due to MI. RPD(s) for Duplicate for TCA, PCE are outside CL for sample J29360-32DUP. J29360-31MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
WW3H	J29360-39	5/2/2006	757	N	WG	VOCS GC/MS (E624)	J29360	MSR for cis-1,3-Dichloropropene are outside CL due to MI. RPD(s) for Duplicate for TCA, PCE are outside CL for sample J29360-32DUP. J29360-31MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
WW3HP	J29360-40	5/2/2006	757	Y	WG	VOCS GC/MS (E624)	J29360	MSR for cis-1,3-Dichloropropene are outside CL due to MI. RPD(s) for Duplicate for TCA, PCE are outside CL for sample J29360-32DUP. J29360-31MS for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
MW03	J29485-1	5/3/2006	115	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29485	None
		5/3/2006	115	N	WG	ALKALINITY, CARBONATE (A45002)	J29485	None
		5/3/2006	115	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29485	None
		5/3/2006	115	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29485	None
		5/3/2006	115	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29485	None
		5/3/2006	115	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29485	None
		5/3/2006	115	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29485	None
		5/3/2006	115	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29485	None
		5/3/2006	115	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29485	None
		5/3/2006	115	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29485	None
		5/3/2006	115	N	WG	IRON, FERROUS (A3500)	J29485	None

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MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
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Former Ingersoll Rand Facility - Phillipsburg, New Jersey

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MW04	J29485-2	5/3/2006	108	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29485	None
		5/3/2006	108	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29485	None
		5/3/2006	108	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29485	None
		5/3/2006	108	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29485	None
		5/3/2006	108	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29485	None
		5/3/2006	108	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29485	None
		5/3/2006	108	N	WG	ALKALINITY, CARBONATE (A45002)	J29485	None
		5/3/2006	108	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29485	None
		5/3/2006	108	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29485	None
		5/3/2006	108	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29485	None
		5/3/2006	108	N	WG	IRON, FERROUS (A3500)	J29485	None
MW35	J29485-4	5/3/2006	122	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29485	None
		5/3/2006	122	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29485	None
		5/3/2006	122	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29485	None
		5/3/2006	122	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29485	None
		5/3/2006	122	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29485	None
		5/3/2006	122	N	WG	IRON, FERROUS (A3500)	J29485	None
		5/3/2006	122	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29485	None

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MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
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MW35	J29485-4	5/3/2006	122	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29485	None
		5/3/2006	122	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29485	None
		5/3/2006	122	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29485	None
		5/3/2006	122	N	WG	ALKALINITY, CARBONATE (A45002)	J29485	None
MW37	J29485-3	5/3/2006	86	N	WG	ALKALINITY, CARBONATE (A45002)	J29485	None
		5/3/2006	86	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29485	None
		5/3/2006	86	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29485	None
		5/3/2006	86	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29485	None
		5/3/2006	86	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29485	None
		5/3/2006	86	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29485	None
		5/3/2006	86	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29485	None
		5/3/2006	86	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29485	None
		5/3/2006	86	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29485	None
		5/3/2006	86	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29485	None
		5/3/2006	86	N	WG	IRON, FERROUS (A3500)	J29485	None
MW33A	J29629-4	5/4/2006	107	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29629	None
		5/4/2006	107	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29629	None
		5/4/2006	107	N	WG	ALKALINITY, CARBONATE (A45002)	J29629	None

NOTES:

Column - Dup: Y=Duplicate, N=Not Duplicate
CL = control limit
BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
WG = Water - Groundwater

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TABLE 9
Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW33A	J29629-4	5/4/2006	107	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29629	None
		5/4/2006	107	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29629	None
		5/4/2006	107	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29629	None
		5/4/2006	107	N	WG	IRON, FERROUS (A3500)	J29629	None
		5/4/2006	107	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29629	None
		5/4/2006	107	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29629	None
		5/4/2006	107	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29629	None
		5/4/2006	107	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29629	None
MW34	J29629-2	5/4/2006	113	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29629	None
		5/4/2006	113	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29629	None
		5/4/2006	113	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29629	None
		5/4/2006	113	N	WG	IRON, FERROUS (A3500)	J29629	None
		5/4/2006	113	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29629	None
		5/4/2006	113	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29629	None
		5/4/2006	113	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29629	None
		5/4/2006	113	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29629	None
		5/4/2006	113	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29629	None
		5/4/2006	113	N	WG	ALKALINITY, CARBONATE (A45002)	J29629	None
		5/4/2006	113	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29629	None

NOTES:

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BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
WG = Water - Groundwater

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TABLE 9
Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW42	J29629-1	5/4/2006	118	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29629	None
		5/4/2006	118	N	WG	ALKALINITY, CARBONATE (A45002)	J29629	None
		5/4/2006	118	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29629	None
		5/4/2006	118	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29629	None
		5/4/2006	118	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29629	None
		5/4/2006	118	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29629	None
		5/4/2006	118	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29629	None
		5/4/2006	118	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29629	None
		5/4/2006	118	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29629	None
		5/4/2006	118	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29629	None
		5/4/2006	118	N	WG	IRON, FERROUS (A3500)	J29629	None
MW51A	J29629-3	5/4/2006	135	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29629	None
		5/4/2006	135	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29629	None
		5/4/2006	135	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29629	None
		5/4/2006	135	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29629	None
		5/4/2006	135	N	WG	ALKALINITY, CARBONATE (A45002)	J29629	None
		5/4/2006	135	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29629	None
		5/4/2006	135	N	WG	IRON, FERROUS (A3500)	J29629	None
		5/4/2006	135	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29629	None

NOTES:

Column - Dup: Y=Duplicate, N=Not Duplicate
CL = control limit
BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
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TABLE 9
Sample Summary

Onsite Groundwater Sampling: October 2005 and May 2006

Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW51A	J29629-3	5/4/2006	135	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29629	None
		5/4/2006	135	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29629	None
		5/4/2006	135	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29629	None
MW18	J29751-2	5/5/2006	90	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29751	None
		5/5/2006	90	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29751	None
		5/5/2006	90	N	WG	IRON, FERROUS (A3500)	J29751	None
		5/5/2006	90	N	WG	ALKALINITY, CARBONATE (A45002)	J29751	None
		5/5/2006	90	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29751	None
		5/5/2006	90	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29751	None
		5/5/2006	90	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29751	None
		5/5/2006	90	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29751	None
		5/5/2006	90	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29751	None
		5/5/2006	90	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29751	None
		5/5/2006	90	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29751	None
MW47	J29751-1	5/5/2006	136.5	N	WG	ALKALINITY, CARBONATE (A45002)	J29751	None
		5/5/2006	136.5	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29751	None
		5/5/2006	136.5	N	WG	IRON, FERROUS (A3500)	J29751	None
		5/5/2006	136.5	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29751	None

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GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
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TABLE 9
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Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW47	J29751-1	5/5/2006	136.5	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29751	None
		5/5/2006	136.5	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29751	None
		5/5/2006	136.5	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29751	None
		5/5/2006	136.5	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29751	None
		5/5/2006	136.5	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29751	None
		5/5/2006	136.5	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29751	None
		5/5/2006	136.5	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29751	None
MW06	J29941-2	5/8/2006	187	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29941	None
		5/8/2006	187	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29941	None
		5/8/2006	187	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29941	None
		5/8/2006	187	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29941	None
		5/8/2006	187	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29941	None
		5/8/2006	187	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29941	MS and MSDR for Iron are outside CL. SA low relative to the sample amount. Refer to lab control or spike blank for recovery information.
		5/8/2006	187	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29941	None
		5/8/2006	187	N	WG	IRON, FERROUS (A3500)	J29941	None
		5/8/2006	187	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29941	None
		5/8/2006	187	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29941	None
		5/8/2006	187	N	WG	ALKALINITY, CARBONATE (A45002)	J29941	None

NOTES:

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BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
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TABLE 9
Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW12	J29995-1	5/8/2006	180	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29995	None
		5/8/2006	180	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29995	None
		5/8/2006	180	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29995	None
		5/8/2006	180	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29995	None
		5/8/2006	180	N	WG	IRON, FERROUS (A3500)	J29995	None
		5/8/2006	180	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29995	None
		5/8/2006	180	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29995	None
		5/8/2006	180	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29995	None
		5/8/2006	180	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29995	None
		5/8/2006	180	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29995	None
		5/8/2006	180	N	WG	ALKALINITY, CARBONATE (A45002)	J29995	None
MW16	J29941-4	5/8/2006	155	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29941	None
		5/8/2006	155	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29941	None
		5/8/2006	155	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29941	None
		5/8/2006	155	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29941	None
		5/8/2006	155	N	WG	IRON, FERROUS (A3500)	J29941	None
		5/8/2006	155	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29941	None
		5/8/2006	155	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29941	MS and MSDR for Iron are outside CL. SA low relative to the sample amount. Refer to lab control or spike blank for recovery information.

NOTES:

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CL = control limit
BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
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TABLE 9
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Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW16	J29941-4	5/8/2006	155	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29941	None
		5/8/2006	155	N	WG	ALKALINITY, CARBONATE (A45002)	J29941	None
		5/8/2006	155	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29941	None
		5/8/2006	155	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29941	None
MW49	J29941-1	5/8/2006	54	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29941	None
		5/8/2006	54	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29941	None
		5/8/2006	54	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29941	None
		5/8/2006	54	N	WG	ALKALINITY, CARBONATE (A45002)	J29941	None
		5/8/2006	54	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29941	MS and MSDR for Iron are outside CL. SA low relative to the sample amount. Refer to lab control or spike blank for recovery information.
		5/8/2006	54	N	WG	IRON, FERROUS (A3500)	J29941	None
		5/8/2006	54	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29941	None
		5/8/2006	54	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29941	None
		5/8/2006	54	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29941	None
		5/8/2006	54	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29941	None
		5/8/2006	54	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29941	None
MW53	J29941-3	5/8/2006	127	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J29941	None
		5/8/2006	127	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J29941	None
		5/8/2006	127	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J29941	None
		5/8/2006	127	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J29941	MS and MSDR for Iron are outside CL. SA low relative to the sample amount. Refer to lab control or spike blank for recovery information.

NOTES:

Column - Dup: Y=Duplicate, N=Not Duplicate
CL = control limit
BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
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TABLE 9
Sample Summary

Onsite Groundwater Sampling: October 2005 and May 2006

Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW53	J29941-3	5/8/2006	127	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J29941	None
		5/8/2006	127	N	WG	IRON, FERROUS (A3500)	J29941	None
		5/8/2006	127	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J29941	None
		5/8/2006	127	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J29941	None
		5/8/2006	127	N	WG	ALKALINITY, CARBONATE (A45002)	J29941	None
		5/8/2006	127	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J29941	None
		5/8/2006	127	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J29941	None
MW20	J30052-2	5/9/2006	134	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J30052	None
		5/9/2006	134	N	WG	ALKALINITY, CARBONATE (A45002)	J30052	None
		5/9/2006	134	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J30052	None
		5/9/2006	134	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J30052	MSR for Iron are outside CL.
		5/9/2006	134	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J30052	None
		5/9/2006	134	N	WG	IRON, FERROUS (A3500)	J30052	None
		5/9/2006	134	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J30052	None
		5/9/2006	134	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J30052	None
		5/9/2006	134	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J30052	RPD(s) for Duplicate for Ethene are outside control limits for sample J30154-1DUP. RPD acceptable due to low dup and sample concentrations.
		5/9/2006	134	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J30052	None
		5/9/2006	134	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J30052	RPD(s) for Duplicate for Sulfate are outside CL for sample GP33571-D1. RPD acceptable due to low duplicate and sample concentrations.

NOTES:

Column - Dup: Y=Duplicate, N=Not Duplicate
CL = control limit
BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
WG = Water - Groundwater

See hardcopy Laboratory Data Reports for detailed information regarding nonconformances, including acronym definitions.

TABLE 9
Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW30	J30052-1	5/9/2006	75	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J30052	None
		5/9/2006	75	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J30052	None
		5/9/2006	75	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J30052	RPD(s) for Duplicate for Ethene are outside CL for sample J30154-1DUP. RPD acceptable due to low dup and sample concentrations.
		5/9/2006	75	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J30052	None
		5/9/2006	75	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J30052	None
		5/9/2006	75	N	WG	IRON, FERROUS (A3500)	J30052	None
		5/9/2006	75	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J30052	None
		5/9/2006	75	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J30052	MSR for Iron are outside CL.
		5/9/2006	75	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J30052	None
		5/9/2006	75	N	WG	ALKALINITY, CARBONATE (A45002)	J30052	None
		5/9/2006	75	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J30052	None
RW09	J30052-3	5/9/2006	119	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J30052	MSR for Iron are outside CL.
		5/9/2006	119	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J30052	None
		5/9/2006	119	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J30052	None
		5/9/2006	119	N	WG	IRON, FERROUS (A3500)	J30052	None
		5/9/2006	119	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J30052	None
		5/9/2006	119	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J30052	None

NOTES:

Column - Dup: Y=Duplicate, N=Not Duplicate
CL = control limit
BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
WG = Water - Groundwater

See hardcopy Laboratory Data Reports for detailed information regarding nonconformances, including acronym definitions.

TABLE 9
Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
RW09	J30052-3	5/9/2006	119	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J30052	RPD(s) for Duplicate for Ethene are outside CL for sample J30154-1DUP. RPD acceptable due to low dup and sample concentrations.
		5/9/2006	119	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J30052	None
		5/9/2006	119	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J30052	None
		5/9/2006	119	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J30052	None
		5/9/2006	119	N	WG	ALKALINITY, CARBONATE (A45002)	J30052	None
RW16	J30052-4	5/9/2006	121	N	WG	INORGANIC ANIONS BY ION CHROMATOGRAPHY (SW9056)	J30052	None
		5/9/2006	121	N	WG	NONHALOGENATED ORGANICS USING GC/FID (SW8015)	J30052	RPD(s) for Duplicate for Ethene are outside CL for sample J30154-1DUP. RPD acceptable due to low dup and sample concentrations.
		5/9/2006	121	N	WG	NITROGEN, NITRATE-NITRITE (COLORIMETRIC AUTOMATED, CADMIUM REDUCTION) (E353.2)	J30052	None
		5/9/2006	121	N	WG	NITROGEN (AMMONIA - COLORIMETRIC, AUTOMATED PHENATE) (E350.1)	J30052	None
		5/9/2006	121	N	WG	IRON, FERROUS (A3500)	J30052	None
		5/9/2006	121	N	WG	SPECTROPHOTOMETRIC MANUAL (NITRITE) (A4500N02B)	J30052	None
		5/9/2006	121	N	WG	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY (SW6010)	J30052	MSR for Iron are outside CL.
		5/9/2006	121	N	WG	HETEROTROPHIC PLATE COUNT (SM 19 9215B)	J30052	None
		5/9/2006	121	N	WG	ALKALINITY, CARBONATE (A45002)	J30052	None
		5/9/2006	121	N	WG	SULFIDE, TITRIMETRIC, IODINE (E376.1)	J30052	None
		5/9/2006	121	N	WG	ALKALINITY (TITRIMETRIC) (E310.1)	J30052	None
RW13	J30312-1	5/10/2006	105	N	WG	VOCS BY GC/MS CAPILLARY COLUMN TECHNIQUE (SW8260)	J30312	MSR for 2-Chloroethyl vinyl ether are outside CL. MSDR for 2-Chloroethyl vinyl ether are outside CL.

NOTES:

Column - Dup: Y=Duplicate, N=Not Duplicate
CL = control limit
BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
WG = Water - Groundwater

See hardcopy Laboratory Data Reports for detailed information regarding nonconformances, including acronym definitions.

TABLE 9
Sample Summary
Onsite Groundwater Sampling: October 2005 and May 2006
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
MW01	J30312-3	5/11/2006	105	N	WG	VOCS BY GC/MS CAPILLARY COLUMN TECHNIQUE (SW8260)	J30312	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. MSDR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
MW01P	J30312-4	5/11/2006	105	Y	WG	VOCS BY GC/MS CAPILLARY COLUMN TECHNIQUE (SW8260)	J30312	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. MSDR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
F101005	676731	10/10/2005	0	N	WQ	VOCS GC/MS (E624)	H051	None
T101005	676768	10/10/2005	0	N	WQ	VOCS GC/MS (E624)	H051	None
F101105	676767	10/11/2005	0	N	WQ	VOCS GC/MS (E624)	H051	None
F101905	679274	10/19/2005	0	N	WQ	VOCS GC/MS (E624)	H547	None
F102005	679278	10/20/2005	0	N	WQ	VOCS GC/MS (E624)	H547	None
T102005	679279	10/20/2005	0	N	WQ	VOCS GC/MS (E624)	H547	None
F110405	684314	11/4/2005	0	N	WQ	VOCS GC/MS (E624)	I456	None
T110405	684315	11/4/2005	0	N	WQ	VOCS GC/MS (E624)	I456	None
F050106	J29228-42	5/1/2006	0	N	WQ	VOCS GC/MS (E624)	J29228	BSR for Vinyl chloride are outside CL. MSR for 2-Chloroethyl vinyl ether are outside control limits. MSDR for 2-Chloroethyl vinyl ether are outside CL. MS and MSDR for Benzene are outside CL. Outside CL due to high level in sample relative to SA.
T050106	J29228-43	5/1/2006	0	N	WQ	VOCS GC/MS (E624)	J29228	BSR for Vinyl chloride are outside CL. MSR for 2-Chloroethyl vinyl ether are outside control limits. MSDR for 2-Chloroethyl vinyl ether are outside CL. MS and MSDR for Benzene are outside CL. Outside CL due to high level in sample relative to SA.
F050206	J29360-49	5/2/2006	0	N	WQ	VOCS GC/MS (E624)	J29360	MS/MSDR for Toluene, Xylenes (total) are outside CL due to high level in sample relative to SA. J29357-1MS/MSD for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.
T050206	J29360-50	5/2/2006	0	N	WQ	VOCS GC/MS (E624)	J29360	MS/MSDR for Toluene, Xylenes (total) are outside CL due to high level in sample relative to SA. J29357-1MS/MSD for 2-Chloroethyl vinyl ether: Because this compound is unstable in acid preserved sample.

NOTES:

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GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
WQ = Water Quality (Blanks)
WG = Water - Groundwater

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TABLE 9
Sample Summary

Onsite Groundwater Sampling: October 2005 and May 2006

Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Sample ID	Lab ID	Date	Depth	Dup	Matrix	Analysis (Method)	Lab Job #	Nonconformance
T050806	J30312-6	5/8/2006	0	N	WQ	VOCS BY GC/MS CAPILLARY COLUMN TECHNIQUE (SW8260)	J30312	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for Ethylbenzene are outside CL for sample J30444-3DUP. Outside CL due to MI.
F051006	J30312-2	5/10/2006	0	N	WQ	VOCS BY GC/MS CAPILLARY COLUMN TECHNIQUE (SW8260)	J30312	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. MSDR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample.
F051106	J30312-5	5/11/2006	0	N	WQ	VOCS BY GC/MS CAPILLARY COLUMN TECHNIQUE (SW8260)	J30312	MSR for 2-Chloroethyl vinyl ether are outside CL because this compound is unstable in acid preserved sample. RPD(s) for Duplicate for Ethylbenzene are outside CL for sample J30444-3DUP. Outside CL due to MI.

NOTES:

Column - Dup: Y=Duplicate, N=Not Duplicate
CL = control limit
BSR = Blank Spike Recovery
GC/MS - GAS CHROMATGRAPH/MASS SPECTROMETRY
MI = Matrix index
MS = Matrix Spike
MSDR = Matrix Spike Duplicate Recovery (s)
MSR = Matrix Spike Recovery
PCE = Tetrachloroethene
SA = Spike amount
TCA = 1,1,1-Trichloroethane
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TABLE 10
Summary of Conventional Groundwater Analytical Results
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	**MW01**	**MW01P**	**MW01**	**MW01P**	**MW15**	**RW13**	**RW13**
		Lab ID	**679275**	**679276**	**J30312-3**	**J30312-4**	**679277**	**679273**	**J30312-1**
		Sample Date	**10/20/2005**	**10/20/2005**	**5/11/2006**	**5/11/2006**	**10/20/2005**	**10/19/2005**	**5/10/2006**
		Depth	**99**	**99**	**105**	**105**	**98**	**115**	**105**
Analyte	**CAS-RN**	**GWQS**							
1,1,1-Trichloroethane	71-55-6	30	0.3 U	0.3 U	0.28 U	0.28 U	6.4	2.9	0.28
1,1,2,2-Tetrachloroethane	79-34-5	1	0.3 U	0.3 U	0.28 U	0.28 U	0.3 U	0.3 U	0.28 U
1,1,2-Trichloroethane	79-00-5	3	0.3 U	0.3 U	0.32 U	0.32 U	0.3 U	0.3 U	0.32 U
1,1-Dichloroethane	75-34-3	50	0.3 U	0.3 U	0.23 U	0.23 U	11	1	0.23
1,1-Dichloroethylene	75-35-4	2	0.4 U	0.4 U	0.33 U	0.33 U	**2.1**	0.8	0.33
1,2-Dichlorobenzene	95-50-1	600	NR	NR	0.2 U	0.2 U	NR	NR	0.2 U
1,2-Dichloroethane	107-06-2	2	0.3 U	0.3 U	0.29 U	0.29 U	0.3 U	0.3 U	0.29 U
1,2-Dichloropropane	78-87-5	1	0.3 U	0.3 U	0.2 U	0.2 U	0.3 U	0.3 U	0.2 U
1,3-Dichlorobenzene	541-73-1	600	NR	NR	0.32 U	0.32 U	NR	NR	0.32 U
1,4-Dichlorobenzene	106-46-7	75	NR	NR	0.24 U	0.24 U	NR	NR	0.24 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.4 U	0.4 U	0.68 U	0.68 U	0.4 U	0.4 U	0.68 U
Acrolein	107-02-8	-	NR	NR	47 U	47 U	NR	NR	47 U
Acrylonitrile	107-13-1	50	NR	NR	5.3 U	5.3 U	NR	NR	5.3 U
Benzene	71-43-2	1	0.3 U	0.3 U	0.21 U	0.21 U	0.3 U	0.3 U	0.21 U
Bromodichloromethane	75-27-4	1	0.3 U	0.3 U	0.17 U	0.17 U	0.3 U	0.3 U	0.17 U
Bromoform	75-25-2	4	0.2 U	0.2 U	0.54 U	0.54 U	0.2 U	0.2 U	0.54 U
Bromomethane	74-83-9	10	0.3 U	0.3 U	0.22 U	0.22 U	0.3 U	0.3 U	0.22 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.29 U	0.29 U	0.3 U	0.3 U	0.29 U
Chlorobenzene	108-90-7	50	0.4 U	0.4 U	0.22 U	0.22 U	0.4 U	0.4 U	0.22 U
Chloroethane	75-00-3	100	0.2 U	0.2 U	0.56 U	0.56 U	0.2 U	0.2 U	0.56 U
Chloroform	67-66-3	6	0.5 U	0.5 U	0.22 U	0.22 U	0.5 U	0.5 U	0.22 U
Chloromethane	74-87-3	30	0.3 U	0.3 U	0.35 U	0.35 U	0.3 U	0.3 U	0.35 U
cis-1,2-Dichloroethene	156-59-2	70	0.4 U	0.4 U	0.18 U	0.18 U	3.8	0.4 U	0.18 U
cis-1,3-Dichloropropene	10061-01-5	-	0.2 U	0.2 U	0.15 U	0.15 U	0.2 U	0.2 U	0.15 U
Dibromochloromethane	124-48-1	10	0.3 U	0.3 U	0.19 U	0.19 U	0.3 U	0.3 U	0.19 U
Dichlorodifluoromethane	75-71-8	1000	NR	NR	0.75 U	0.75 U	NR	NR	0.75 U
Ethylbenzene	100-41-4	700	0.5 U	0.5 U	0.2 U	0.2 U	0.5 U	0.5 U	0.2 U
Methylene Chloride	75-09-2	3	0.5 U	0.5 U	0.27 U	0.27 U	0.5 U	0.5 U	0.27 U
Tetrachloroethene	127-18-4	1	0.4 U	0.4 U	0.28 U	0.28 U	**1.2**	**1.6**	0.28
Toluene	108-88-3	1000	0.4 U	0.4 U	0.2 U	0.2 U	0.4 U	0.4 U	0.2 U
Total Xylenes	1330-20-7	1000	0.4 U	0.4 U	0.31 U	0.31 U	0.4 U	0.4 U	0.31 U
Trans-1,2-Dichloroethene	156-60-5	100	0.4 U	0.4 U	0.42 U	0.42 U	0.4 U	0.4 U	0.42 U
trans-1,3-Dichloropropene	10061-02-6	-	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Trichloroethylene	79-01-6	1	0.4 U	0.4 U	0.29 U	0.29 U	**1.5**	0.4 U	0.29 J
Trichlorofluoromethane	75-69-4	2000	0.2 U	0.2 U	0.25 U	0.25 U	0.2 U	0.2 U	0.25 U
Vinyl Chloride	75-01-4	5	0.3 U	0.3 U	0.29 U	0.29 U	0.3 U	0.3 U	0.29 U

Notes:

All results are reported in micrograms per liter (µg/L).

Depths are presented in feet from top of casing.

GWQS = NJDEP Groundwater Quality Standards

BOLD values indicate that the result exceeds the GWQS.

CAS-RN = Chemical Abstract Service Registry Number.

J - The analyte was detected at a concentration less than the MDL and is estimated.

NR - Indicates that the analyte was not requested.

P - Indicates a duplicate sample.

U - Indicates that the analyte was not detected at the reported MDL.

TABLE 11
Summary of Groundwater Analytical Results
Monitoring Natural Attentuation Parameters
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	**MW03**	**MW03**	**MW04**	**MW04**	**MW06**
		Lab ID	**677027**	**J29485-1**	**677028**	**J29485-2**	**678010**
		Sample Date	**10/12/2005**	**5/3/2006**	**10/12/2005**	**5/3/2006**	**10/17/2005**
		Start Depth	**115**	**115**	**108**	**108**	**115**
Analyte	**CAS-RN**	**GWQS**					
Alkalinity Bicarbonate	ALK-BC	-	398	407	769	808	236
Alkalinity Carbonate	ALK-C	-	5 U	5 U	5 U	5 U	5 U
Ammonia (as N), Dissolved	7664-41-7	-	0.1 U	0.92	0.7	0.32	0.1 U
Chloride	16887-00-6	250	45.8	30.7	25.6	16.4	5 U
Ethane (µg/L)	74-84-0	100	5 U	0.1 U	5 U	0.1 U	5 U
Ethene (µg/L)	74-85-1	-	5 U	0.1 U	5 U	0.23	5 U
Heterotrophic Plate Count (Cfu/mL)	Heterotrophs	-	1245	215000	237	1000 U	145
Iron, Ferric	FE(FC)	-	ND	2.9	ND	0.2 U	ND
Iron, Ferrous	FE(FS)	-	ND	0.15	ND	0.1 U	ND
Methane (µg/L)	74-82-8	-	5 U	672	14	9.08	5 U
Nitrate (as N)	14797-55-8	10	2.6	1.7	0.11	0.38	0.97
Nitrite (as N)	14797-65-0	1	NR	0.01 U	NR	0.01 U	NR
Sulfate	14808-79-8	250	93.5	107	70.8	69.4	178
Sulfide	18496-25-8	-	1 U	2 U	1 U	2 U	1 U

Notes:

All results are reported in milligrams per liter except where noted.

Depths are presented in feet from top of casing.

GWQS= NJDEP Groundwater Quality Standards

CAS-RN = Chemical Abstract Service Registry Number.

ND - Not Detected.

NR - Indicates that the analyte was not requested.

U - Indicates that the analyte was not detected at the reported RDL.

TABLE 11
Summary of Groundwater Analytical Results
Monitoring Natural Attentuation Parameters
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	**MW06**	**MW12**	**MW12**	**MW16**	**MW16**
		Lab ID	**J29941-2**	**678012**	**J29995-1**	**678011**	**J29941-4**
		Sample Date	**5/8/2006**	**10/17/2005**	**5/8/2006**	**10/17/2005**	**5/8/2006**
		Start Depth	**187**	**127**	**180**	**155**	**155**
Analyte	**CAS-RN**	**GWQS**					
Alkalinity Bicarbonate	ALK-BC	-	291	333	277	269	301
Alkalinity Carbonate	ALK-C	-	5 U	5 U	5 U	5 U	5 U
Ammonia (as N), Dissolved	7664-41-7	-	0.1 U	0.1 U	0.1 U	0.1	0.1 U
Chloride	16887-00-6	250	11.3	50.6	39.2	54.6	73.4
Ethane (µg/L)	74-84-0	100	0.1 U	5 U	0.1 U	5 U	0.1 U
Ethene (µg/L)	74-85-1	-	0.1 U	5 U	0.1 U	5 U	0.1 U
Heterotrophic Plate Count (Cfu/mL)	Heterotrophs	-	550	62	300	540	5500
Iron, Ferric	FE(FC)	-	0.72	1.4	6.4	0.34	0.3 U
Iron, Ferrous	FE(FS)	-	0.2 U	0.21	0.2 U	ND	0.2 U
Methane (µg/L)	74-82-8	-	0.1 U	44	10.1	5 U	0.1 U
Nitrate (as N)	14797-55-8	10	1.6	0.58	0.28	0.61	0.74
Nitrite (as N)	14797-65-0	1	0.01 U	NR	0.01 U	NR	0.01 U
Sulfate	14808-79-8	250	**469**	22.1	21.3	48.4	58.9
Sulfide	18496-25-8	-	2 U	1 U	2 U	1 U	2 U

Notes:

All results are reported in milligrams per liter except where noted.

Depths are presented in feet from top of casing.

GWQS= NJDEP Groundwater Quality Standards

CAS-RN = Chemical Abstract Service Registry Number.

ND - Not Detected.

NR - Indicates that the analyte was not requested.

U - Indicates that the analyte was not detected at the reported RDL.

TABLE 11
Summary of Groundwater Analytical Results
Monitoring Natural Attentuation Parameters
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	**MW18**	**MW18**	**MW20**	**MW20**	**MW30**	**MW30**
		Lab ID	**677819**	**J29751-2**	**677820**	**J30052-2**	**678009**	**J30052-1**
		Sample Date	**10/14/2005**	**5/5/2006**	**10/14/2005**	**5/9/2006**	**10/17/2005**	**5/9/2006**
		Start Depth	**90**	**90**	**134**	**134**	**75**	**75**
Analyte	**CAS-RN**	**GWQS**						
Alkalinity Bicarbonate	ALK-BC	-	294	233	357	323	197	155
Alkalinity Carbonate	ALK-C	-	5 U	5 U	5 U	5 U	5 U	5 U
Ammonia (as N), Dissolved	7664-41-7	-	0.1	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chloride	16887-00-6	250	8.9	6.6	13.1	12.7	20	59.4
Ethane (µg/L)	74-84-0	100	5 U	0.1 U	25 U	0.1 U	5 U	0.1 U
Ethene (µg/L)	74-85-1	-	5 U	0.1 U	25 U	0.1 U	5 U	0.1 U
Heterotrophic Plate Count (Cfu/mL)	Heterotrophs	-	380	350	34	100	354	300
Iron, Ferric	FE(FC)	-	0.25	1.1	0.36	6.4	1	0.4
Iron, Ferrous	FE(FS)	-	ND	0.1 U	0.39	0.2 U	ND	0.2 U
Methane (µg/L)	74-82-8	-	9.2	0.1 U	420	767	5 U	0.1 U
Nitrate (as N)	14797-55-8	10	3.2	7.8	0.8	0.14	0.14	0.11 U
Nitrite (as N)	14797-65-0	1	NR	0.01 U	NR	0.14	NR	0.1 U
Sulfate	14808-79-8	250	19.1	29.7	10.2	11.3	35.9	39.6
Sulfide	18496-25-8	-	1 U	2 U	1 U	2 U	1 U	2 U

Notes:

All results are reported in milligrams per liter except where noted.

Depths are presented in feet from top of casing.

GWQS= NJDEP Groundwater Quality Standards

CAS-RN = Chemical Abstract Service Registry Number.

ND - Not Detected.

NR - Indicates that the analyte was not requested.

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TABLE 11
Summary of Groundwater Analytical Results
Monitoring Natural Attentuation Parameters
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	**MW33A**	**MW33A**	**MW34**	**MW34**	**MW35**	**MW35**
		Lab ID	**677518**	**J29629-4**	**677516**	**J29629-2**	**677030**	**J29485-4**
		Sample Date	**10/13/2005**	**5/4/2006**	**10/13/2005**	**5/4/2006**	**10/12/2005**	**5/3/2006**
		Start Depth	**107**	**107**	**113**	**113**	**122**	**122**
Analyte	**CAS-RN**	**GWQS**						
Alkalinity Bicarbonate	ALK-BC	-	313	305	327	302	370	330
Alkalinity Carbonate	ALK-C	-	5 U	5 U	5 U	5 U	5 U	5 U
Ammonia (as N), Dissolved	7664-41-7	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chloride	16887-00-6	250	41.9	79.8	13.8	66.5	18.6	29.5
Ethane (µg/L)	74-84-0	100	5 U	0.1 U	5 U	0.1 U	5 U	0.1 U
Ethene (µg/L)	74-85-1	-	5 U	0.1 U	5 U	0.1 U	5 U	0.1 U
Heterotrophic Plate Count (Cfu/mL)	Heterotrophs	-	152	1000	371	100	1590	500
Iron, Ferric	FE(FC)	-	0.17	0.2 U	0.18	0.2 U	ND	0.2 U
Iron, Ferrous	FE(FS)	-	ND	0.1 U	ND	0.1 U	ND	0.1 U
Methane (µg/L)	74-82-8	-	5 U	0.1 U	5 U	0.1 U	5 U	0.1 U
Nitrate (as N)	14797-55-8	10	3	3.6	5	3	2.1	2.6
Nitrite (as N)	14797-65-0	1	NR	0.01 U	NR	0.01 U	NR	0.01 U
Sulfate	14808-79-8	250	105	84.8	89.3	66.9	78.1	83.9
Sulfide	18496-25-8	-	1 U	2 U	1 U	2 U	1 U	2 U

Notes:

All results are reported in milligrams per liter except where noted.

Depths are presented in feet from top of casing.

GWQS= NJDEP Groundwater Quality Standards

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TABLE 11
Summary of Groundwater Analytical Results
Monitoring Natural Attentuation Parameters
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	**MW37**	**MW37**	**MW42**	**MW42**	**MW47**	**MW47**
		Lab ID	**677029**	**J29485-3**	**677515**	**J29629-1**	**677818**	**J29751-1**
		Sample Date	**10/12/2005**	**5/3/2006**	**10/13/2005**	**5/4/2006**	**10/14/2005**	**5/5/2006**
		Start Depth	**86**	**86**	**118**	**118**	**136.5**	**136.5**
Analyte	**CAS-RN**	**GWQS**						
Alkalinity Bicarbonate	ALK-BC	-	348	323	257	239	256	317
Alkalinity Carbonate	ALK-C	-	5 U	5 U	5 U	5 U	5 U	5 U
Ammonia (as N), Dissolved	7664-41-7	-	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chloride	16887-00-6	250	12.1	10.5	50.9	41.9	27.3	89
Ethane (µg/L)	74-84-0	100	5 U	0.1 U	5 U	0.1 U	5 U	0.1 U
Ethene (µg/L)	74-85-1	-	5 U	0.1 U	5 U	0.1 U	5 U	0.1 U
Heterotrophic Plate Count (Cfu/mL)	Heterotrophs	-	18870	26300	920	100	486	200
Iron, Ferric	FE(FC)	-	ND	0.2 U	ND	0.2 U	0.46	0.81
Iron, Ferrous	FE(FS)	-	ND	0.1 U	ND	0.1 U	ND	0.1 U
Methane (µg/L)	74-82-8	-	5 U	0.1 U	5 U	0.1 U	5 U	23.6
Nitrate (as N)	14797-55-8	10	**11.5**	**16.4**	5	4.4	5.6	2.2
Nitrite (as N)	14797-65-0	1	NR	0.01 U	NR	0.01 U	NR	0.01 U
Sulfate	14808-79-8	250	36.5	25.6	21.9	25.4	35	65.2
Sulfide	18496-25-8	-	1 U	2 U	1 U	2 U	1 U	2 U

Notes:

All results are reported in milligrams per liter except where noted.

Depths are presented in feet from top of casing.

GWQS= NJDEP Groundwater Quality Standards

CAS-RN = Chemical Abstract Service Registry Number.

ND - Not Detected.

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TABLE 11
Summary of Groundwater Analytical Results
Monitoring Natural Attentuation Parameters
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	MW49	MW49	MW51A	MW51A	MW53	MW53
		Lab ID	678433	J29941-1	677517	J29629-3	677821	J29941-3
		Sample Date	10/18/2005	5/8/2006	10/13/2005	5/4/2006	10/14/2005	5/8/2006
		Start Depth	54	54	135	135	127	127
Analyte	**CAS-RN**	**GWQS**						
Alkalinity Bicarbonate	ALK-BC	-	208	200	246	242	768	763
Alkalinity Carbonate	ALK-C	-	5 U	5 U	5 U	5 U	5 U	5 U
Ammonia (as N), Dissolved	7664-41-7	-	0.13	0.1 U	0.11	0.1 U	1.8	3.1
Chloride	16887-00-6	250	32.5	33.4	52.4	51.3	50.9	57.2
Ethane (µg/L)	74-84-0	100	5 U	0.1 U	5 U	0.1 U	5 U	0.1 U
Ethene (µg/L)	74-85-1	-	5 U	0.1 U	5 U	0.1 U	5 U	0.1 U
Heterotrophic Plate Count (Cfu/mL)	Heterotrophs	-	505	600	1220	100	51700	2900
Iron, Ferric	FE(FC)	-	0.39	6	1.8	13.2	1.9	1.1
Iron, Ferrous	FE(FS)	-	ND	0.2 U	ND	0.1 U	0.28	0.2 U
Methane (µg/L)	74-82-8	-	5 U	0.1 U	5 U	0.15	13	3.93
Nitrate (as N)	14797-55-8	10	7.6	7	3.7	3.5	0.1 U	0.15
Nitrite (as N)	14797-65-0	1	NR	0.01 U	NR	0.01 U	NR	0.01 U
Sulfate	14808-79-8	250	26.2	28	31.8	28.4	45.4	16.8
Sulfide	18496-25-8	-	1 U	2 U	1 U	2 U	1 U	2 U

Notes:

All results are reported in milligrams per liter except where noted.

Depths are presented in feet from top of casing.

GWQS= NJDEP Groundwater Quality Standards

CAS-RN = Chemical Abstract Service Registry Number.

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NR - Indicates that the analyte was not requested.

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TABLE 11
Summary of Groundwater Analytical Results
Monitoring Natural Attentuation Parameters
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	RW09	RW09	RW16	RW16
		Lab ID	678434	J30052-3	678435	J30052-4
		Sample Date	10/18/2005	5/9/2006	10/18/2005	5/9/2006
		Start Depth	119	119	121	121
Analyte	**CAS-RN**	**GWQS**				
Alkalinity Bicarbonate	ALK-BC	-	312	283	480	448
Alkalinity Carbonate	ALK-C	-	5 U	5 U	5 U	5 U
Ammonia (as N), Dissolved	7664-41-7	-	0.28	0.38	0.86	0.96
Chloride	16887-00-6	250	139	98.3	82.9	245
Ethane (µg/L)	74-84-0	100	250 U	4	120 U	20.1
Ethene (µg/L)	74-85-1	-	250 U	0.94	120 U	2.8
Heterotrophic Plate Count (Cfu/mL)	Heterotrophs	-	416	1500	529	2900
Iron, Ferric	FE(FC)	-	1.3	4.3	1.7	7.8
Iron, Ferrous	FE(FS)	-	3.3	0.2 U	4.6	2
Methane (µg/L)	74-82-8	-	3600	8330	3000	8540
Nitrate (as N)	14797-55-8	10	0.1 U	0.11 U	0.1 U	0.11 U
Nitrite (as N)	14797-65-0	1	NR	0.01 U	NR	0.01 U
Sulfate	14808-79-8	250	5 U	2 U	5 U	2 U
Sulfide	18496-25-8	-	1 U	2 U	1 U	2 U

Notes:

All results are reported in milligrams per liter except where noted.

Depths are presented in feet from top of casing.

GWQS= NJDEP Groundwater Quality Standards

CAS-RN = Chemical Abstract Service Registry Number.

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TABLE 12
Summary of Physical Parameters
for the October 2005 and May 2006 Groundwater Sampling Events
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

Well ID	Date	pH	Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (^oC)	ORP (mV)	DTW (ft)	Sampling Method
MW01	10/12/05	7.79	0.259	58	9.88	17.41	194	96.05	Conventional
MW03	10/12/05	6.97	1.040	7	6.41	14.27	41	78.60	Low Flow
MW04	10/12/05	6.78	1.500	36	4.98	15.04	29	85.40	Low Flow
MW06	10/22/05	6.97	1.040	7	6.41	14.27	41	78.60	Low Flow
MW12	10/17/05	7.19	0.876	16	5.63	14.55	-97	95.71	Low Flow
MW15	10/20/05	6.99	0.614	2	6.27	16.15	210	95.85	Conventional
MW16	10/17/05	7.48	0.852	0	5.37	16.11	61	85.71	Low Flow
MW18	10/14/05	7.15	0.636	32	5.03	14.04	26	80.20	Low Flow
MW20	10/14/05	7.13	0.736	45	5.05	12.76	-176	67.93	Low Flow
MW30	10/17/05	7.30	0.559	0	6.84	13.95	102	53.57	Low Flow
MW33A	10/13/05	7.24	0.973	21	7.55	16.61	53	88.61	Low Flow
MW34	10/13/05	7.18	0.822	31	7.66	16.89	62	90.71	Low Flow
MW35	10/12/05	7.04	0.868	6	9.35	14.18	80	91.39	Low Flow
MW37	10/12/05	7.22	0.807	51	9.23	13.60	51	52.38	Low Flow
MW42	10/13/05	7.23	0.738	22	9.09	14.00	106	79.33	Low Flow
MW47	10/14/05	7.10	0.707	26	9.39	13.26	121	88.89	Low Flow
MW49	10/22/05	7.23	0.649	15	8.91	11.52	146	79.33	Low Flow
MW51A	10/13/05	7.43	0.742	47	7.14	15.11	25	86.41	Low Flow
MW53	10/14/05	6.68	1.690	83	4.00	17.79	-68	119.61	Low Flow
RW09	10/18/05	7.17	1.110	27	2.94	17.64	-187	52.77	Low Flow
RW13	10/19/05	7.80	0.950	3.6	5.08	15.25	0	124.80	Conventional
RW16	10/18/05	6.93	1.220	21	3.21	16.33	-197	94.64	Low Flow

Notes:

All reported values are from last reading.
S/cm - Siemens per centimeter
NTU - Nephelometric Turbidity
mg/L - milligrams per Liter
^oC - Temperature in degrees Celsius

ORP - Oxidation-Reduction Potential
mV - milliVolts
DTW - Depth to Water, ft - feet below top of casing

TABLE 12
Summary of Physical Parameters
for the October 2005 and May 2006 Groundwater Sampling Events
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Well ID	Date	pH	Conductivity (S/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (^oC)	ORP (mV)	DTW (ft)	Sampling Method
MW1	5/11/06	7.85	0.437	0	8.99	15.52	156	99.73	Conventional
MW3	5/3/06	6.87	1.070	5.3	2.54	15.05	-101	78.95	Low Flow
MW4	5/3/06	6.78	1.560	0	1.82	16.13	50	86.75	Low Flow
MW6	5/8/06	7.16	1.370	4.1	6.42	13.69	45	95.48	Low Flow
MW12	5/8/06	7.29	0.635	186	3.12	14.23	-143	98.93	Low Flow
MW16	5/8/06	7.29	0.838	0	3.43	17.00	-10	94.24	Low Flow
MW18	5/5/06	7.19	0.543	5.1	5.36	15.36	90	82.62	Low Flow
MW20	5/9/06	7.18	0.622	0	2.49	13.34	-187	70.33	Low Flow
MW30	5/9/06	6.98	0.543	2.3	9.61	13.35	59	41.08	Low Flow
MW33A	5/4/06	7.09	1.000	7.8	7.67	18.95	64	89.83	Low Flow
MW34	5/4/06	7.13	0.861	0	6.70	17.37	83	92.82	Low Flow
MW35	5/3/06	7.06	0.846	7.7	7.44	14.76	92	93.28	Low Flow
MW37	5/3/06	7.26	0.771	6.1	7.55	13.79	75	54.39	Low Flow
MW42	5/4/06	7.18	0.636	12	7.93	13.81	102	78.54	Low Flow
MW47	5/4/06	6.91	0.950	11.7	7.47	13.43	71	95.74	Low Flow
MW49	5/8/06	7.30	0.563	22.9	8.31	11.61	81	4.62	Low Flow
MW51A	5/4/06	7.19	0.670	44.1	5.97	16.53	9	86.91	Low Flow
MW53	5/8/06	6.69	1.490	34.4	1.70	19.31	-36	122.36	Low Flow
RW9	5/9/06	7.08	0.815	0	2.25	17.41	-179	61.95	Low Flow
RW13	5/10/06	7.14	0.980	9.7	6.34	19.38	129	103.83	Conventional
RW16	5/9/06	6.78	1.740	0	2.02	17.42	-148	98.74	Low Flow

Notes:

All reported values are from last reading.
S/cm - Siemens per centimeter
NTU - Nephelometric Turbidity
mg/L - milligrams per Liter
^oC - Temperature in degrees Celsius
ORP - Oxidation-Reduction Potential
mV - milliVolts
DTW - Depth to Water, ft - feet below top of casing

TABLE 13
Summary of QA/QC Analytical Results for Trip Blanks - Volatile Organic Compounds
Offsite Potable Well Groundwater Sampling
Former Ingersoll Rand Facility -Phillipsburg, New Jersey

		Sample ID	**T031006**	**T041106**	**T041406**
		Lab ID	**715194**	**725159**	**726516**
		Sample Date	**3/10/2006**	**4/11/2006**	**4/14/2006**
Analyte	**CAS-RN**	**GWQS**			
1,1,1,2-Tetrachloroethane	630-20-6	10	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	71-55-6	30	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	79-00-5	3	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	75-34-3	50	0.5 U	0.5 U	0.5 U
1,1-Dichloroethylene	75-35-4	2	0.5 U	0.5 U	0.5 U
1,1-Dichloropropanone	513-88-2	-	2.5 U	2.5 U	2.5 U
1,1-Dichloropropene	563-58-6	-	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	87-61-6	-	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	96-18-4	2	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	120-82-1	9	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	95-63-6	100	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-Chloropropane	96-12-8	1	1 U	1 U	1 U
1,2-Dichlorobenzene	95-50-1	600	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	107-06-2	2	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	78-87-5	1	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	108-67-8	100	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	541-73-1	600	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	142-28-9	100	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	106-46-7	75	0.5 U	0.5 U	0.5 U
1-Chlorobutane	109-69-3	-	2.5 U	2.5 U	2.5 U
2,2-Dichloropropane	594-20-7	-	0.5 U	0.5 U	0.5 U
2-Chlorotoluene	95-49-8	-	0.5 U	0.5 U	0.5 U
2-Hexanone	591-78-6	100	2.5 U	2.5 U	2.5 U
2-Nitropropane	79-46-9	-	25 U	25 U	25 U
4-Chlorotoluene	106-43-4	-	0.5 U	0.5 U	0.5 U
4-Methyl-2-Pentanone	108-10-1	400	2.5 U	2.5 U	2.5 U
Acetone	67-64-1	700	2.5 U	2.5 U	2.5 U
Acrylonitrile	107-13-1	50	25 U	25 U	25 U
Allyl Chloride	107-05-1	-	2.5 U	2.5 U	2.5 U
Benzene	71-43-2	1	0.5 U	0.5 U	0.5 U
Bromobenzene	108-86-1	-	0.5 U	0.5 U	0.5 U
Bromodichloromethane	75-27-4	1	0.5 U	0.5 U	0.5 U
Bromoform	75-25-2	4	0.5 U	0.5 U	0.5 U
Bromomethane	74-83-9	10	0.5 U	0.5 U	0.5 U
Carbon Disulfide	75-15-0	800	2.5 U	2.5 U	2.5 U
Carbon tetrachloride	56-23-5	2	0.5 U	0.5 U	0.5 U
Chloroacetonitrile	107-14-2	-	25 U	25 U	25 U
Chlorobenzene	108-90-7	50	0.5 U	0.5 U	0.5 U
Chlorobromomethane	74-97-5	-	0.5 U	0.5 U	0.5 U
Chloroethane	75-00-3	100	0.5 U	0.5 U	0.5 U
Chloroform	67-66-3	6	0.5 U	0.5 U	0.5 U
Chloromethane	74-87-3	30	0.5 U	0.5 U	0.5 U
cis-1,2-Dichloroethene	156-59-2	70	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	10061-01-5	-	0.5 U	0.5 U	0.5 U
Dibromochloromethane	124-48-1	10	0.5 U	0.5 U	0.5 U
Dibromoethane	106-93-4	-	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	75-71-8	1000	0.5 U	0.5 U	0.5 U
Diethyl Ether	60-29-7	1000	2.5 U	2.5 U	2.5 U
Ethyl methacrylate	97-63-2	-	2.5 U	2.5 U	2.5 U
Ethylbenzene	100-41-4	700	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	87-68-3	1	0.5 U	0.5 U	0.5 U
Hexachloroethane	67-72-1	10	2.5 U	2.5 U	2.5 U
Iodomethane	74-88-4	-	2.5 U	2.5 U	2.5 U
Isopropylbenzene	98-82-8	800	0.5 U	0.5 U	0.5 U
Methyl Acrylate	96-33-3	-	2.5 U	2.5 U	2.5 U
Methyl Acrylonitrile	126-98-7	-	2.5 U	2.5 U	2.5 U
Methyl Ethyl Ketone (MEK)	78-93-3	300	2.5 U	2.5 U	2.5 U
Methyl methacrylate	80-62-6	-	2.5 U	2.5 U	2.5 U
Methyl Tertiary Butyl Ether (MTBE)	1634-04-4	70	0.5 U	0.5 U	0.5 U
Methylene bromide	74-95-3	-	0.5 U	0.5 U	0.5 U
Methylene Chloride	75-09-2	3	0.5 U	0.5 U	0.5 U

TABLE 13
Summary of QA/QC Analytical Results for Trip Blanks - Volatile Organic Compounds
Offsite Potable Well Groundwater Sampling
Former Ingersoll Rand Facility -Phillipsburg, New Jersey

		Sample ID	**T031006**	**T041106**	**T041406**
		Lab ID	**715194**	**725159**	**726516**
		Sample Date	**3/10/2006**	**4/11/2006**	**4/14/2006**
Analyte	**CAS-RN**	**GWQS**			
Naphthalene	91-20-3	300	0.5 U	0.5 U	0.5 U
n-Butylbenzene	104-51-8	100	0.5 U	0.5 U	0.5 U
Nitrobenzene	98-95-3	10	25 U	25 U	25 U
Pentachloroethane	76-01-7	-	2.5 U	2.5 U	2.5 U
p-Isopropyltoluene	99-87-6	100	0.5 U	0.5 U	0.5 U
Propionitrile	107-12-0	-	25 U	25 U	25 U
Propyl benzene	103-65-1	100	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	135-98-8	-	0.5 U	0.5 U	0.5 U
Styrene	100-42-5	100	0.5 U	0.5 U	0.5 U
t-1,2-Dichloro-2-butene	110-57-6	-	2.5 U	2.5 U	2.5 U
tert-Butylbenzene	98-06-6	-	0.5 U	0.5 U	0.5 U
Tetrachloroethene	127-18-4	1	0.5 U	0.5 U	0.5 U
Tetrahydrofuran	109-99-9	20	2.5 U	2.5 U	2.5 U
Toluene	108-88-3	1000	0.5 U	0.5 U	0.5 U
Total Xylenes	1330-20-7	1000	0.5 U	0.5 U	0.5 U
Trans-1,2-Dichloroethene	156-60-5	100	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	10061-02-6	-	0.5 U	0.5 U	0.5 U
Trichloroethylene	79-01-6	1	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	75-69-4	2000	0.5 U	0.5 U	0.5 U
Vinyl Chloride	75-01-4	5	0.5 U	0.5 U	0.5 U

Notes:
All results are reported in micrograms per liter (µg/L).
GWQS = NJDEP Groundwater Quality Standards
BOLD values indicate that the result exceeds the GWQC.
UNDERLINED values indicate the Method Detection Limit (MDL) exceeds the GWQC.
CAS-RN = Chemical Abstract Service Registry Number.
U = Indicates that the analyte was not detected at the reported MDL.

TABLE 14
Summary of QA/QC Analytical Results for Trip Blanks - On-site Groundwater Sampling
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	T101005	T102005	T110405	T050106	T050206	T050806
		Lab ID	676768	679279	684315	J29228-43	J29360-50	J30312-6
		Sample Date	10/10/2005	10/20/2005	11/4/2005	5/1/2006	5/2/2006	5/8/2006
Analyte	**CAS-RN**	**GWQS**						
1,1,1-Trichloroethane	71-55-6	30	0.3 U	0.3 U	0.3 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.3 U	0.3 U	0.3 U	1 U	1 U	1 U
1,1,2-Trichloroethane	79-00-5	3	0.3 U	0.3 U	0.3 U	1 U	1 U	1 U
1,1-Dichloroethane	75-34-3	50	0.3 U	0.3 U	0.3 U	1 U	1 U	1 U
1,1-Dichloroethylene	75-35-4	2	0.4 U	0.4 U	0.4 U	1 U	1 U	1 U
1,2-Dichlorobenzene	95-50-1	600	NR	NR	NR	1 U	1 U	1 U
1,2-Dichloroethane	107-06-2	2	0.3 U	0.3 U	0.3 U	1 U	1 U	1 U
1,2-Dichloropropane	78-87-5	1	0.3 U	0.3 U	0.3 U	1 U	1 U	1 U
1,3-Dichlorobenzene	541-73-1	600	NR	NR	NR	1 U	1 U	1 U
1,4-Dichlorobenzene	106-46-7	75	NR	NR	NR	1 U	1 U	1 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.4 U	0.4 U	0.4 U	5 U	5 U	10 U
Acrolein	107-02-8	-	NR	NR	NR	50 U	50 U	50 U
Acrylonitrile	107-13-1	50	NR	NR	NR	10 U	10 U	50 U
Benzene	71-43-2	1	0.3 U	0.3 U	0.3 U	1 U	1 U	1 U
Bromodichloromethane	75-27-4	1	0.3 U	0.3 U	0.3 U	1 U	1 U	1 U
Bromoform	75-25-2	4	0.2 U	0.2 U	0.2 U	1 U	1 U	4 U
Bromomethane	74-83-9	10	0.3 U	0.3 U	0.3 U	1 U	1 U	2 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	1 U	1 U	1 U
Chlorobenzene	108-90-7	50	0.4 U	0.4 U	0.4 U	1 U	1 U	1 U
Chloroethane	75-00-3	100	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U
Chloroform	67-66-3	6	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U
Chloromethane	74-87-3	30	0.3 U	0.3 U	0.3 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	156-59-2	70	0.4 U	0.4 U	0.4 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	10061-01-5	-	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U
Dibromochloromethane	124-48-1	10	0.3 U	0.3 U	0.3 U	1 U	1 U	1 U
Dichlorodifluoromethane	75-71-8	1000	NR	NR	NR	2 U	2 U	5 U
Ethylbenzene	100-41-4	700	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U
Methylene Chloride	75-09-2	3	0.5 U	0.5 U	0.5 U	1 U	1 U	2 U
Tetrachloroethene	127-18-4	1	0.4 U	0.4 U	0.4 U	1 U	1 U	1 U
Toluene	108-88-3	1000	0.4 U	0.4 U	0.4 U	1 U	1 U	1 U
Total TIC, Volatile	TICNA	-	NR	NR	NR	0	0	0
Total Xylenes	1330-20-7	1000	0.4 U	0.4 U	0.4 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene	156-60-5	100	0.4 U	0.4 U	0.4 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	10061-02-6	-	0.2 U	0.2 U	0.2 U	1 U	1 U	1 U
Trichloroethylene	79-01-6	1	0.4 U	0.4 U	0.4 U	1 U	1 U	1 U
Trichlorofluoromethane	75-69-4	2000	0.2 U	0.2 U	0.2 U	2 U	2 U	5 U
Vinyl Chloride	75-01-4	5	0.3 U	0.3 U	0.3 U	2 U	2 U	1 U

Notes:

All results are reported in micrograms per liter (µg/L).
GWQS = NJDEP Groundwater Quality Standards

CAS-RN = Chemical Abstract Service Registry Number.
NR - Indicates that the analyte was not requested.
U - Indicates that the analyte was not detected at the reported MDL.

TABLE 15
Summary of QA/QC Analytical Results for Field Blanks - On-site Groundwater Sampling
Volatile Organic Compounds
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

		Sample ID	F101005	F101105	F101905	F102005	F110405	F050106	F050206	F051006	F051106
		Lab ID	676731	676767	679274	679278	684314	J29228-42	J29360-49	J30312-2	J30312-5
		Sample Date	10/10/2005	10/11/2005	10/19/2005	10/20/2005	11/4/2005	5/1/2006	5/2/2006	5/10/2006	5/11/2006
Analyte	**CAS-RN**	**GWQS**									
1,1,1-Trichloroethane	71-55-6	30	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.24 U	0.24 U	0.28 U	0.28 U
1,1,2,2-Tetrachloroethane	79-34-5	1	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.26 U	0.26 U	0.28 U	0.28 U
1,1,2-Trichloroethane	79-00-5	3	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.61 U	0.61 U	0.32 U	0.32 U
1,1-Dichloroethane	75-34-3	50	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.7 U	0.7 U	0.23 U	0.23 U
1,1-Dichloroethylene	75-35-4	2	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.58 U	0.58 U	0.33 U	0.33 U
1,2-Dichlorobenzene	95-50-1	600	NR	NR	NR	NR	NR	0.3 U	0.3 U	0.2 U	0.2 U
1,2-Dichloroethane	107-06-2	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.48 U	0.48 U	0.29 U	0.29 U
1,2-Dichloropropane	78-87-5	1	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.4 U	0.4 U	0.2 U	0.2 U
1,3-Dichlorobenzene	541-73-1	600	NR	NR	NR	NR	NR	0.23 U	0.23 U	0.32 U	0.32 U
1,4-Dichlorobenzene	106-46-7	75	NR	NR	NR	NR	NR	0.69 U	0.69 U	0.24 U	0.24 U
2-Chloroethyl Vinyl Ether	110-75-8	100	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.73 U	0.73 U	0.68 U	0.68 U
Acrolein	107-02-8	-	NR	NR	NR	NR	NR	13 U	13 U	47 U	47 U
Acrylonitrile	107-13-1	50	NR	NR	NR	NR	NR	4.7 U	4.7 U	5.3 U	5.3 U
Benzene	71-43-2	1	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.18 U	0.18 U	0.21 U	0.21 U
Bromodichloromethane	75-27-4	1	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.14 U	0.14 U	0.17 U	0.17 U
Bromoform	75-25-2	4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.27 U	0.27 U	0.54 U	0.54 U
Bromomethane	74-83-9	10	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.75 U	0.75 U	0.22 U	0.22 U
Carbon tetrachloride	56-23-5	2	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.29 U	0.29 U
Chlorobenzene	108-90-7	50	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.13 U	0.13 U	0.22 U	0.22 U
Chloroethane	75-00-3	100	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.33 U	0.33 U	0.56 U	0.56 U
Chloroform	67-66-3	6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.19 U	0.19 U	0.22 U	0.22 U
Chloromethane	74-87-3	30	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.42 U	0.42 U	0.35 U	0.35 U
cis-1,2-Dichloroethene	156-59-2	70	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.56 U	0.56 U	0.18 U	0.18 U
cis-1,3-Dichloropropene	10061-01-5	-	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.22 U	0.22 U	0.15 U	0.15 U
Dibromochloromethane	124-48-1	10	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.18 U	0.18 U	0.19 U	0.19 U
Dichlorodifluoromethane	75-71-8	1000	NR	NR	NR	NR	NR	0.76 U	0.76 U	0.75 U	0.75 U
Ethylbenzene	100-41-4	700	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.23 U	0.23 U	0.2 U	0.2 U
Methylene Chloride	75-09-2	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.19 U	0.19 U	0.27 U	0.27 U
Tetrachloroethene	127-18-4	1	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	108-88-3	1000	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.31 U	0.31 U	0.2 U	0.2 U
Total Xylenes	1330-20-7	1000	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.25 U	0.25 U	0.31 U	0.31 U
Trans-1,2-Dichloroethene	156-60-5	100	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.38 U	0.38 U	0.42 U	0.42 U
trans-1,3-Dichloropropene	10061-02-6	-	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.16 U	0.16 U	0.2 U	0.2 U
Trichloroethylene	79-01-6	1	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.2 U	0.2 U	0.29 U	0.29 U
Trichlorofluoromethane	75-69-4	2000	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	1.2 U	1.2 U	0.25 U	0.25 U
Vinyl Chloride	75-01-4	5	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.35 U	0.35 U	0.29 U	0.29 U

Notes:

All results are reported in micrograms per liter (µg/L).

GWQS = NJDEP Groundwater Quality Standards

CAS-RN = Chemical Abstract Service Registry Number.

NR - Indicates that the analyte was not requested.

U - Indicates that the analyte was not detected at the reported MDL.

TABLE 16A
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**MW04A**									**MW04B**								
Lab ID			347429	383772	423938	463778	517912	569962	625354	676700	J29228-3	347430	383773	423939	463779	517913	569963	625355	676701	J29228-4
Depth			107	96	96	96	96	96	96	96	96	120	108	108	108	108	108	108	108	108
Sample Date			04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06	04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06
Sample Time			11:00	8:40	9:00	9:50	9:30	8:45	10:45	9:38	8:45	11:05	8:45	9:05	9:55	9:35	8:50	10:50	9:40	8:48
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**																		
1,1,1-Trichloroethane	71-55-6	30	1.2	1	1.4	0.8	1.7	0.5	0.8	0.6	(0.64) J	1.2	1	1.5	0.8	1.8	(0.3) U	0.9	0.7	(0.65) J
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.5) U	(0.3) U	(0.61) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.5) U	(0.3) U	(0.61) U
1,1-Dichloroethane	75-34-3	50	3.3	3	(0.2) U	1.9	1	1.2	0.5	1.5	1.1	3.1	3.2	1.2	2	1.1	1.3	0.6	1.8	1.4
1,1-Dichloroethylene	75-35-4	2	0.8	0.9	(0.4) U	0.9	(0.4) U	0.6	(0.3) U	(0.4) U	(0.72) J	0.9	0.8	(0.4) U	0.9	(0.4) U	0.6	(0.3) U	(0.4) U	(0.78) J
1,2-Dichloroethane	107-06-2	2	(0.40) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.40) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.40) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.40) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U
Chloroethane	75-00-3	100	(0.50) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.50) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U
cis-1,2-Dichloroethene	156-59-2	70	**89**	**100**	0.6	**70**	0.9	69	1.1	**72**	42.7	**87**	**110**	1.3	**82**	1.1	**76**	1.4	**75**	**52.9**
Methylene Chloride	75-09-2	3	(0.90) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U	(0.90) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U
Trans-1,2-Dichloroethene	156-60-5	100	0.7	0.6	(0.2) U	0.9	(0.2) U	0.4	(0.3) U	1.3	(0.86) J	0.5	0.5	(0.2) U	1.2	(0.2) U	0.5	(0.3) U	1.5	(0.83) J
Tetrachloroethene	127-18-4	1	**8.1**	**7.6**	(0.3) U	**15**	(0.3) U	**7.7**	(0.4) U	**7.4**	**6.7**	**7.9**	**7.9**	0.5	**18**	(0.3) U	**8.1**	(0.4) U	**7.1**	10.6
Trichloroethylene	79-01-6	1	**32**	**31**	(0.2) U	**21**	0.5	**19**	0.4	**20**	**13.9**	**31**	**32**	0.5	**24**	0.6	**20**	0.6	**21**	**17.3**
Vinyl Chloride	75-01-4	5	**26**	**43**	(0.5) U	**28**	(0.5) U	**33**	(0.4) U	**34**	**18.9**	**26**	**47**	(0.5) U	**34**	(0.5) U	**37**	(0.4) U	**34**	**25.2**
Total VOCs	--	--	161.1	187.1	2	138.5	4.1	131.4	2.8	136.8	84.3	157.6	202.4	5	162.9	4.6	143.5	3.5	141.4	107.4

NOTES:
All results are reported in micrograms per liter (ug/L).
PDB = Passive Diffusion Bag.
VOCs = Volatile Organic Compounds.
Depths are reported in feet (ft) below top of well casing.
Sample IDs ending in "P" indicate that it is a duplicate sample.
CAS_RN = Chemical Abstracts Service Registry Number.
[1] The analytes presented include only these for which at least on analytical
U - Indicates that the analyte was not detected at the Method Detection Limit (MDL) shown in parenthesis.
ND = Not Detected.
Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16A
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**MW04C**								**MW06A**						
Lab ID			383774	423940	463780	517914	569964	625356	676702	J29228-5	347434	383784	517926	569975	625370	676714	J29228-10
Depth			120	120	120	120	120	120	120	120	110	110	110	110	110	110	172
Sample Date			10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06	04/29/02	10/15/02	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06
Sample Time			8:50	9:10	10:00	9:40	8:55	10:55	9:45	8:52	11:45	9:35	11:35	11:10	13:05	11:10	9:40
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**															
1,1,1-Trichloroethane	71-55-6	30	1	1.6	0.8	1.2	0.5	0.9	0.8	(0.63) J	**57**	**55**	**41**	**43**	**46**	**54**	1.1
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.5) U	(0.3) U	(0.61) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.5) U	(0.3) U	(0.61) U
1,1-Dichloroethane	75-34-3	50	3.4	1.7	2.1	1.8	1.2	1.1	1.7	1.4	19	21	13	11	12	14	2.2
1,1-Dichloroethylene	75-35-4	2	0.8	(0.4) U	0.9	(0.4) U	0.6	0.4	(0.4) U	(0.69) J	**10**	**4.2**	**4.3**	**4.3**	**4**	**2.9**	(1) U
1,2-Dichloroethane	107-06-2	2	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.40) U	(0.4) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.40) U	(0.4) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U
Chloroethane	75-00-3	100	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.50) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U
cis-1,2-Dichloroethene	156-59-2	70	**120**	12	**84**	19	**78**	**57**	**81**	**51.8**	(0.3) U	(0.3) U	(0.2) U	(0.4) U	(0.4) U	(0.4) U	(1) U
Methylene Chloride	75-09-2	3	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	0.5	(1) U	(0.90) U	(0.9) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U
Trans-1,2-Dichloroethene	156-60-5	100	0.6	(0.2) U	1.1	(0.2) U	0.5	5	7.8	9.4	(0.20) U	(0.2) U	(0.2) U	(0.3) U	1	(0.4) U	(1) U
Tetrachloroethene	127-18-4	1	**7.5**	**4**	**16**	**4.2**	**7.8**	**0.7**	**1**	(0.8) J	0.5	**1**	**1**	0.8	(0.3) U	0.5	(1) U
Trichloroethylene	79-01-6	1	**33**	**4.9**	**23**	**6.1**	**21**	**7.2**	**22**	**16.8**	**4.9**	**4.4**	**6**	**5.6**	**6.2**	**3.4**	(0.24) J
Vinyl Chloride	75-01-4	5	**49**	(0.5) U	**34**	3.6	**39**	**9.9**	**37**	**24.9**	(0.3) U	(0.3) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U
Total VOCs	--	--	215.3	24.2	161.9	35.9	148.6	82.2	151.8	104.3	91.4	85.6	65.3	64.7	69.2	74.8	3.3

NOTES:

All results are reported in micrograms per liter (ug/L).

PDB = Passive Diffusion Bag.

VOCs = Volatile Organic Compounds.

Depths are reported in feet (ft) below top of well casing.

Sample IDs ending in "P" indicate that it is a duplicate sample.

CAS_RN = Chemical Abstracts Service Registry Number.

[1] The analytes presented include only these for which at least on analytical

U - Indicates that the analyte was not detected at the Method Detection Limit (MDL) shown in parenthesis.

ND = Not Detected.

Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16A
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**MW06B**							**MW06C**					
Lab ID			347435	383785	517927	569976	625371	676715	J29228-11	347436	383786	517928	569977	625372	676716
Depth			140	145	145	145	145	145	187	185	187	187	187	187	187
Sample Date			04/29/02	10/15/02	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06	04/29/02	10/15/02	04/06/04	10/04/04	04/18/05	10/10/05
Sample Time			11:50	9:40	11:40	11:15	13:10	11:15	9:50	11:55	9:45	11:45	11:20	13:15	11:20
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**													
1,1,1-Trichloroethane	71-55-6	30	**55**	**60**	**42**	**43**	**45**	**55**	6.3	25	**43**	26	16	**39**	**56**
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.5) U	(0.3) U	(0.61) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.5) U	(0.3) U
1,1-Dichloroethane	75-34-3	50	18	23	14	12	12	14	1.1	6.3	16	7.8	4.1	11	15
1,1-Dichloroethylene	75-35-4	2	**9.3**	**4.8**	**4.3**	**4.4**	**3.7**	**3.3**	**1.5**	**5.3**	**4.5**	**3**	1.7	**3.4**	**3**
1,2-Dichloroethane	107-06-2	2	(0.40) U	(0.4) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.40) U	(0.4) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U
1,2-Dichloropropane	78-87-5	1	(0.40) U	(0.4) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.40) U	(0.4) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.3) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U
Chloroethane	75-00-3	100	(0.50) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.50) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U
cis-1,2-Dichloroethene	156-59-2	70	(0.3) U	(0.3) U	(0.2) U	(0.4) U	(0.4) U	(0.4) U	(1) U	(0.3) U	(0.3) U	(0.2) U	(0.4) U	(0.4) U	(0.4) U
Methylene Chloride	75-09-2	3	(0.90) U	(0.9) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U	(0.90) U	(0.9) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.20) U	(0.2) U	(0.2) U	(0.3) U	0.7	(0.4) U	(1) U	(0.20) U	(0.2) U	(0.2) U	(0.3) U	0.7	0.5
Tetrachloroethene	127-18-4	1	0.5	0.6	0.7	0.7	(0.3) U	0.5	(1) U	0.3	0.6	0.6	(0.4) U	(0.3) U	(0.4) U
Trichloroethylene	79-01-6	1	**4.6**	**4.8**	**5.9**	**5.6**	**6**	**3.8**	**1.3**	**2.6**	**3.8**	**4**	**2.1**	**5.2**	**3.7**
Vinyl Chloride	75-01-4	5	(0.3) U	(0.3) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U	(0.3) U	(0.3) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U
Total VOCs	--	--	87.4	93.2	66.9	65.7	67.4	76.1	10.2	39.5	67.9	41.4	23.9	59.3	78.2

NOTES:
All results are reported in micrograms per liter (µg/L).
PDB = Passive Diffusion Bag.
VOCs = Volatile Organic Compounds.
Depths are reported in feet (ft) below top of well casing.
Sample IDs ending in "P" indicate that it is a duplicate sample.
CAS_RN = Chemical Abstracts Service Registry Number.
[1] The analytes presented include only these for which at least on analytical
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ND = Not Detected.
Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16A
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**MW15A**		**MW15B**		**MW16A**								**MW16P**
Lab ID			383791	J29360-11	383792	J29360-12	383808	423953	463792	517923	569956	625763	676741	J29360-7	463795
Depth			120	130	135	136	130	130	130	130	130	130	130	130	130
Sample Date			10/15/02	05/02/06	10/15/02	05/02/06	10/16/02	04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	10/11/05	05/02/06	09/23/03
Sample Time			11:30	8:45	11:35	8:50	8:25	11:05	12:00	11:05	10:30	10:54	11:05	8:20	12:15
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**													
1,1,1-Trichloroethane	71-55-6	30	3.2	1.3	2.9	(0.84) J	7.8	6.9	7.6	6.9	5.3	11	9.1	12.6	7.3
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.61) U	(0.3) U	(0.61) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.61) U	(0.3) U
1,1-Dichloroethane	75-34-3	50	5	4.7	5.3	5.1	6.1	6.6	6.1	6.5	4.5	3.5	6.6	5.2	5.9
1,1-Dichloroethylene	75-35-4	2	1	(0.76) J	1.1	(1) U	**3.6**	**4**	**4.2**	**4**	**3.8**	**3.7**	**4.6**	**4.9**	**4.2**
1,2-Dichloroethane	107-06-2	2	(0.4) U	(1) U	(0.4) U	(1) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.3) U
1,2-Dichloropropane	78-87-5	1	(0.4) U	(1) U	(0.4) U	(1) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.2) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(1) U	(0.3) U	(1) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.2) U
Chloroethane	75-00-3	100	(0.5) U	(1) U	(0.5) U	(1) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.5) U
cis-1,2-Dichloroethene	156-59-2	70	5.8	(0.73) J	5.7	(0.66) J	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	0.6	(0.4) U	(1) U	(0.2) U
Methylene Chloride	75-09-2	3	(0.9) U	(1) U	(0.9) U	(1) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U	(0.8) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.2) U	(1) U	(0.2) U	(1) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.4) U	(1) U	(0.2) U
Tetrachloroethene	127-18-4	1	0.3	(1) U	(0.2) U	(1) U	**2.4**	**1**	**1.3**	0.6	0.9	**5.5**	0.8	(1) U	**1.4**
Trichloroethylene	79-01-6	1	**1.2**	(1) U	**1.2**	(1) U	0.7	(0.2) U	0.6	0.3	0.4	**1.5**	(0.4) U	(1) U	0.6
Vinyl Chloride	75-01-4	5	(0.3) U	(2) U	(0.3) U	(2) U	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U	(0.5) U
Total VOCs	--	--	16.5	7	16.2	7.1	20.6	18.5	19.8	18.3	14.9	25.8	21.1	22.7	19.4

NOTES:

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PDB = Passive Diffusion Bag.

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Depths are reported in feet (ft) below top of well casing.

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CAS_RN = Chemical Abstracts Service Registry Number.

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TABLE 16A
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**MW16B**								**MW16BP**		
Lab ID			383809	423954	463793	517924	569957	625764	676742	J29360-8	625765	676743	J29360-9
Depth			155	155	155	155	155	155	155	155	155	155	155
Sample Date			10/16/02	04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	10/11/05	05/02/06	04/19/05	10/11/05	05/02/06
Sample Time			8:30	11:10	12:05	11:10	10:35	10:59	11:10	8:25	11:02	11:15	8:30
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**											
1,1,1-Trichloroethane	71-55-6	30	5.8	2.8	7.6	6.5	5.6	10	5.8	8.3	10	5.8	8.6
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.61) U	(0.3) U	(0.3) U	(0.61) U
1,1-Dichloroethane	75-34-3	50	2.5	3.1	5.4	6	4	4.2	3	3.6	4.2	2.4	3.7
1,1-Dichloroethylene	75-35-4	2	**2.5**	**2.2**	**3.8**	**4**	**3.4**	**2.8**	**3.3**	**3.6**	**2.8**	**2.5**	**4**
1,2-Dichloroethane	107-06-2	2	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.4) U	(0.3) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.4) U	(0.3) U	(1) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(1) U
Chloroethane	75-00-3	100	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.4) U	(0.2) U	(1) U
cis-1,2-Dichloroethene	156-59-2	70	(0.3) U	(0.2) U	0.3	(0.2) U	(0.4) U	1.5	(0.4) U	(1) U	1.5	(0.4) U	(1) U
Methylene Chloride	75-09-2	3	(0.9) U	2.7	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U	(0.9) U	(0.5) U	(1) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.4) U	(1) U	(0.3) U	0.5	(0.39) J
Tetrachloroethene	127-18-4	1	0.7	(0.3) U	**1.9**	0.5	**1.5**	**6.7**	0.7	(1) U	**6.4**	(0.4) U	(1) U
Trichloroethylene	79-01-6	1	0.4	(0.2) U	0.7	0.4	0.7	**2.7**	(0.4) U	(1) U	**2.8**	(0.4) U	(1) U
Vinyl Chloride	75-01-4	5	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U	(0.4) U	(0.3) U	(2) U
Total VOCs	--	--	11.9	10.8	19.7	17.4	15.2	27.9	12.8	15.5	27.7	11.2	16.3

NOTES:
All results are reported in micrograms per liter (ug/L).
PDB = Passive Diffusion Bag.
VOCs = Volatile Organic Compounds.
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TABLE 16A
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**MW16C**								**MW32A**							
Lab ID			383810	423955	463794	517925	569958	625766	676744	J29360-10	347447	383787	423958	463790	517931	569978	625392	676722
Depth			190	190	190	190	190	190	190	190	118	118	118	118	118	118	118	118
Sample Date			10/16/02	04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	10/11/05	05/02/06	04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05
Sample Time			8:35	11:15	12:10	11:15	10:40	11:07	11:20	8:35	14:45	11:00	11:45	11:35	12:25	11:30	14:05	13:40
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**																
1,1,1-Trichloroethane	71-55-6	30	4	4.8	4.8	6.2	4.4	9.9	7.3	7.5	7.4	7.6	3.1	4.5	4.1	4.7	3.9	7.7
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U
1,1-Dichloroethane	75-34-3	50	(0.3) U	1.4	3.7	3.1	3.3	4.4	1.9	4.3	13	12	5.4	7.3	6.2	8.8	7.2	14
1,1-Dichloroethylene	75-35-4	2	1.7	1.5	**2.7**	1.7	**2.4**	**2.8**	**3.3**	**3.9**	**3**	**2.5**	1.1	1.9	1.6	1.8	1.5	**2.4**
1,2-Dichloroethane	107-06-2	2	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.40) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U
1,2-Dichloropropane	78-87-5	1	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.40) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U
Chloroethane	75-00-3	100	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.50) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U
cis-1,2-Dichloroethene	156-59-2	70	(0.3) U	(0.2) U	(0.2) U	0.9	0.4	1.5	(0.4) U	(1) U	4	3.7	2	3.8	2.7	2.5	1.7	2.5
Methylene Chloride	75-09-2	3	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U	(0.90) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	5.7	(0.4) U	(1) U	(0.20) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.4) U	0.6
Tetrachloroethene	127-18-4	1	0.5	0.5	0.7	**3.1**	**1.2**	(0.3) U	0.9	(0.66) J	0.6	0.6	0.5	0.5	0.6	0.5	(0.3) U	(0.4) U
Trichloroethylene	79-01-6	1	(0.1) U	(0.2) U	0.4	**1.6**	0.7	**2.5**	0.5	(0.34) J	**2.4**	**2.1**	**1**	**1.7**	**1.8**	**1.7**	**1.3**	**2.4**
Vinyl Chloride	75-01-4	5	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U	(0.3) U	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U
Total VOCs	--	--	6.2	8.2	12.3	16.6	12.4	26.8	13.9		30.4	28.5	13.1	19.7	17	20	15.6	29.6

NOTES:
All results are reported in micrograms per liter (µg/L).
PDB = Passive Diffusion Bag.
VOCs = Volatile Organic Compounds.
Depths are reported in feet (ft) below top of well casing.
Sample IDs ending in "P" indicate that it is a duplicate sample.
CAS_RN = Chemical Abstracts Service Registry Number.
[1] The analytes presented include only these for which at least on analytical
U - Indicates that the analyte was not detected at the Method Detection Limit (MDL) shown in parenthesis.
ND = Not Detected.
Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16A
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID				**MW32B**									**MW32P**
Lab ID			J29360-13	347448	383788	423959	463791	517932	569979	625393	676723	J29360-14	423978
Depth			118	127	129	129	129	129	129	129	129	129	129
Sample Date			05/02/06	04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05	05/02/06	04/23/03
Sample Time			9:00	14:50	11:05	11:50	11:40	12:30	11:40	14:10	13:45	9:05	11:55
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**											
1,1,1-Trichloroethane	71-55-6	30	4.3	8.5	8	3.5	4.7	4.1	4.9	3.6	7.6	4.7	3.2
1,1,2-Trichloroethane	79-00-5	3	(0.61) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.61) U	(0.3) U
1,1-Dichloroethane	75-34-3	50	7.3	14	13	5.5	7.6	6.6	8.8	6.9	14	7.8	5.3
1,1-Dichloroethylene	75-35-4	2	**2.1**	**3.1**	**2.9**	1.2	**2**	1.6	**2**	**1.2**	**2.2**	**1.6**	1.1
1,2-Dichloroethane	107-06-2	2	(1) U	(0.40) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.3) U
1,2-Dichloropropane	78-87-5	1	(1) U	(0.40) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.2) U
Carbon tetrachloride	56-23-5	2	(1) U	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.2) U
Chloroethane	75-00-3	100	(1) U	(0.50) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.5) U
cis-1,2-Dichloroethene	156-59-2	70	1.3	4.4	4.5	2.4	3.7	2.6	2.6	1.7	2.8	1.3	2
Methylene Chloride	75-09-2	3	(1) U	(0.90) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U	(0.8) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.51) J	(0.20) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.4) U	0.8	(0.61) J	(0.2) U
Tetrachloroethene	127-18-4	1	(1) U	0.6	0.7	0.3	0.7	0.6	0.5	(0.3) U	(0.4) U	(1) U	0.5
Trichloroethylene	79-01-6	1	**1.2**	**2.5**	**2**	**1.2**	**1.7**	**1.8**	**1.8**	**1.2**	**2.2**	**1.4**	0.9
Vinyl Chloride	75-01-4	5	(2) U	(0.3) U	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U	(0.5) U
Total VOCs	--	--	16.2	33.1	31.1	14.1	20.4	17.3	20.6	14.6	29.6	16.8	13

NOTES:
All results are reported in micrograms per liter (ug/L).
PDB = Passive Diffusion Bag.
VOCs = Volatile Organic Compounds.
Depths are reported in feet (ft) below top of well casing.
Sample IDs ending in "P" indicate that it is a duplicate sample.
CAS_RN = Chemical Abstracts Service Registry Number.
[1] The analytes presented include only these for which at least on analytical
U - Indicates that the analyte was not detected at the Method Detection Limit (MDL) shown in parenthesis.
ND = Not Detected.
Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16A
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**MW33AA**								
Lab ID			347441	383780	423949	463786	517920	569952	625368	676712	J29228-19
Depth			120	107	107	107	107	107	107	107	107
Sample Date			04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06
Sample Time			13:40	9:50	10:30	11:05	10:35	10:10	12:35	10:55	11:20
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**									
1,1,1-Trichloroethane	71-55-6	30	3.5	7.5	4.9	5.4	1.4	3.5	3.2	2	1.6
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.61) U
1,1-Dichloroethane	75-34-3	50	1.1	2	(0.2) U	1.2	(0.2) U	0.6	0.6	0.9	(1) U
1,1-Dichloroethylene	75-35-4	2	1.9	**5.1**	**2.9**	**3.1**	1	**2.1**	**1.5**	**1.1**	**1.1**
1,2-Dichloroethane	107-06-2	2	(0.40) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.40) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U
Chloroethane	75-00-3	100	(0.50) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U
cis-1,2-Dichloroethene	156-59-2	70	(0.3) U	(0.3) U	(0.2) U	0.5	(0.2) U	(0.4) U	(0.4) U	(0.4) U	(1) U
Methylene Chloride	75-09-2	3	(0.90) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.20) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	2.2	1	(1) U
Tetrachloroethene	127-18-4	1	**1.3**	**4.1**	**3.7**	**2.9**	0.5	**1.7**	(0.3) U	(0.4) U	**1**
Trichloroethylene	79-01-6	1	**3.2**	**9.4**	**8**	**6.5**	**2.2**	**4.7**	**4.2**	**1.9**	**2.5**
Vinyl Chloride	75-01-4	5	(0.3) U	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U
Total VOCs	--	--	11	28.1	19.5	19.6	5.1	12.6	11.7	6.9	6.2

NOTES:
All results are reported in micrograms per liter (ug/L).
PDB = Passive Diffusion Bag.
VOCs = Volatile Organic Compounds.
Depths are reported in feet (ft) below top of well casing.
Sample IDs ending in "P" indicate that it is a duplicate sample.
CAS_RN = Chemical Abstracts Service Registry Number.
[1] The analytes presented include only these for which at least on analytical
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TABLE 16A
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**MW33AB**								**MW33AP**		
Lab ID			383781	423950	463787	517921	569953	625369	676713	J29228-20	347442	517922	569954
Depth			120	120	120	120	120	120	120	120	120	120	107
Sample Date			10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06	04/29/02	04/06/04	10/04/04
Sample Time			9:55	10:35	11:10	10:40	10:10	12:40	10:59	11:25	13:45	10:45	10:20
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**											
1,1,1-Trichloroethane	71-55-6	30	5.9	3	3.3	1.2	2	1.9	3	1.4	3.4	1.4	3.4
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.61) U	(0.3) U	(0.3) U	(0.3) U
1,1-Dichloroethane	75-34-3	50	1.7	(0.2) U	0.9	(0.2) U	0.5	0.5	1.4	(1) U	1.1	(0.2) U	0.5
1,1-Dichloroethylene	75-35-4	2	**3.7**	1.5	1.7	0.7	0.9	0.9	1.5	(0.96) J	1.5	1.1	1.9
1,2-Dichloroethane	107-06-2	2	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.40) U	(0.3) U	(0.4) U
1,2-Dichloropropane	78-87-5	1	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.40) U	(0.2) U	(0.4) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.2) U	(0.3) U
Chloroethane	75-00-3	100	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.50) U	(0.5) U	(0.4) U
cis-1,2-Dichloroethene	156-59-2	70	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.4) U	(1) U	(0.3) U	(0.2) U	(0.4) U
Methylene Chloride	75-09-2	3	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U	(0.90) U	(0.8) U	(0.9) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	1.9	1.3	(0.94) J	(0.20) U	(0.2) U	(0.3) U
Tetrachloroethene	127-18-4	1	**3.8**	**2.1**	**2.6**	0.9	**1.7**	(0.3) U	(0.4) U	(1) U	**1.4**	0.5	**1.8**
Trichloroethylene	79-01-6	1	**7.3**	**4**	**3.6**	**1.4**	**2.8**	**2.5**	**3.5**	**2**	**3.1**	**2.3**	**4.6**
Vinyl Chloride	75-01-4	5	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U	(0.3) U	(0.5) U	(0.4) U
Total VOCs	--	--	22.4	10.6	12.1	4.2	7.9	7.7	10.7		10.5	5.3	12.2

NOTES:
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VOCs = Volatile Organic Compounds.
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Sample IDs ending in "P" indicate that it is a duplicate sample.
CAS_RN = Chemical Abstracts Service Registry Number.
[1] The analytes presented include only these for which at least on analytical
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TABLE 16A
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**MW34A**								
Lab ID			347437	383777	423946	463783	517917	569972	625364	676708	J29228-15
Depth			108	108	108	108	108	108	108	108	108
Sample Date			04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06
Sample Time			12:05	9:30	10:10	10:45	10:15	9:45	12:05	10:37	10:35
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**									
1,1,1-Trichloroethane	71-55-6	30	1.7	3.8	2.6	3.1	3	1.7	2.3	2.2	1.9
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U
1,1-Dichloroethane	75-34-3	50	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	0.4	(1) U
1,1-Dichloroethylene	75-35-4	2	(0.3) U	0.9	(0.4) U	0.9	0.8	(0.3) U	0.4	0.6	(0.63) J
1,2-Dichloroethane	107-06-2	2	(0.40) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.40) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U
Chloroethane	75-00-3	100	(0.50) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U
cis-1,2-Dichloroethene	156-59-2	70	1.2	2.3	0.5	0.4	0.9	(0.4) U	(0.4) U	(0.4) U	(1) U
Methylene Chloride	75-09-2	3	(0.90) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	0.9	(0.5) U	(1) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.20) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.4) U	(1) U
Tetrachloroethene	127-18-4	1	0.6	**3.1**	0.5	**1**	**1.2**	0.4	0.9	0.8	(0.9) J
Trichloroethylene	79-01-6	1	**2.3**	**4.2**	**1.8**	**2.4**	**3.2**	**1.3**	2.3	**2.7**	**2.7**
Vinyl Chloride	75-01-4	5	(0.3) U	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U
Total VOCs	--	--	5.8	14.3	5.4	7.8	9.1	3.4	6.8	6.7	4.6

NOTES:
All results are reported in micrograms per liter (µg/L).
PDB = Passive Diffusion Bag.
VOCs = Volatile Organic Compounds.
Depths are reported in feet (ft) below top of well casing.
Sample IDs ending in "P" indicate that it is a duplicate sample.
CAS_RN = Chemical Abstracts Service Registry Number.
[1] The analytes presented include only these for which at least on analytical
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ND = Not Detected.
Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16A
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**MW34B**									**MW34C**							
Lab ID			347438	383778	423947	463784	517918	569973	625365	676709	J29228-16	383779	423948	463785	517919	569974	625366	676710	J29228-17
Depth			113	113	113	113	113	118	113	113	113	120	120	120	120	120	120	120	120
Sample Date			04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06
Sample Time			12:10	9:35	10:15	10:50	10:20	9:48	12:10	10:39	10:40	9:40	10:20	10:55	10:25	9:50	12:15	10:40	10:45
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**																	
1,1,1-Trichloroethane	71-55-6	30	4.6	4.4	4.6	3.1	3	1.7	2	1.8	1.7	5	3.2	4.1	3.1	1.7	2.4	2	1.6
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U
1,1-Dichloroethane	75-34-3	50	0.9	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U
1,1-Dichloroethylene	75-35-4	2	1.9	1.1	0.6	0.9	0.7	(0.3) U	(0.3) U	(0.4) U	(0.65) J	1	(0.4) U	0.8	0.9	0.4	0.6	0.6	(0.64) J
1,2-Dichloroethane	107-06-2	2	(0.40) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.40) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U
Chloroethane	75-00-3	100	(0.50) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U
cis-1,2-Dichloroethene	156-59-2	70	7.6	2.4	5.3	0.8	1.9	(0.4) U	0.4	(0.4) U	(0.8) J	5.1	2.2	2.9	2.2	0.8	0.9	1	(0.75) J
Methylene Chloride	75-09-2	3	(0.90) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.20) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.4) U	(1) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.4) U	(1) U
Tetrachloroethene	127-18-4	1	**2.5**	**4.1**	**4.2**	**1.4**	**1.2**	0.5	0.7	1	1.1	**5.7**	**1.6**	**3.2**	**1.6**	**1.2**	**1.8**	**1.9**	**1.7**
Trichloroethylene	79-01-6	1	**7.7**	**4.4**	**7.6**	**2.8**	**3.2**	**1.4**	**1.9**	**2.7**	**2.8**	**6.5**	**3.4**	**4.9**	**3.8**	**2.4**	**3.4**	**3**	**2.6**
Vinyl Chloride	75-01-4	5	(0.3) U	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U
Total VOCs	--	--	25.2	16.4	22.3	9	10	3.6	5	5.5	5.6	23.3	10.4	15.9	11.6	6.5	9.1	8.5	5.9

NOTES:
All results are reported in micrograms per liter (µg/L).
PDB = Passive Diffusion Bag.
VOCs = Volatile Organic Compounds.
Depths are reported in feet (ft) below top of well casing.
Sample IDs ending in "P" indicate that it is a duplicate sample.
CAS_RN = Chemical Abstracts Service Registry Number.
[1] The analytes presented include only these for which at least on analytical
U - Indicates that the analyte was not detected at the Method Detection Limit (MDL) shown in parenthesis.
ND = Not Detected.
Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16A
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**MW35A**									**MW35B**								
Lab ID			347439	383775	423944	463781	517915	569968	625360	676706	J29228-12	347440	383776	423945	463782	517916	569969	625361	676707	J29228-13
Depth			122	122	122	122	122	122	122	122	122	128	128	128	128	128	128	128	128	128
Sample Date			04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06	04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06
Sample Time			12:25	9:10	9:55	10:25	9:55	9:40	11:30	10:15	10:00	12:30	9:15	10:00	10:30	10:00	9:35	11:35	10:19	10:05
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**																		
1,1,1-Trichloroethane	71-55-6	30	**82**	**140**	**150**	**140**	**100**	**93**	**130**	**88**	**88.9**	**82**	**81**	**88**	**150**	**71**	**53**	**70**	**57**	**82.4**
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.7) U	(0.7) U	(0.3) U	(0.3) U	(0.6) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U
1,1-Dichloroethane	75-34-3	50	26	41	**60**	**50**	34	21	**50**	16	17.1	25	22	26	49	21	10	16	10	15.5
1,1-Dichloroethylene	75-35-4	2	**16**	**10**	**7.4**	**8.2**	**6.2**	**6.6**	**5.7**	**5**	**4.2**	**16**	**7.5**	**5.7**	**9.5**	**4.3**	**4.4**	**4.6**	**3.6**	**4.2**
1,2-Dichloroethane	107-06-2	2	(0.40) U	(0.4) U	(0.5) U	(0.5) U	(0.3) U	(0.4) U	(0.7) U	(0.3) U	(1) U	(0.40) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.40) U	(0.4) U	(0.5) U	(0.5) U	(0.2) U	(0.4) U	(0.7) U	(0.3) U	(1) U	(0.40) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.2) U	(0.3) U	(0.6) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U
Chloroethane	75-00-3	100	(0.50) U	(0.5) U	(0.9) U	(0.9) U	(0.5) U	(0.4) U	(0.7) U	(0.2) U	(1) U	(0.50) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U
cis-1,2-Dichloroethene	156-59-2	70	1.2	1.1	(0.5) U	1.2	1.2	0.4	(0.7) U	0.8	(1) U	1.3	1.2	0.7	1.2	1.3	(0.4) U	(0.4) U	0.7	(1) U
Methylene Chloride	75-09-2	3	(0.90) U	(0.9) U	(1.6) U	(1.6) U	(0.8) U	(0.9) U	1.8	(0.5) U	(1) U	(0.90) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.20) U	(0.2) U	(0.5) U	(0.5) U	(0.2) U	(0.3) U	(0.7) U	(0.4) U	(1) U	(0.20) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.4) U	(1) U
Tetrachloroethene	127-18-4	1	**1.4**	**4.8**	**3.4**	**4.3**	**2.2**	**2.2**	**3.3**	**2.3**	**2.5**	**2.6**	**3.1**	**2.6**	**6.2**	**2.5**	**1.3**	**2**	**2.2**	**2.4**
Trichloroethylene	79-01-6	1	**11**	**14**	**14**	**14**	**9**	**8.4**	**11**	**8.1**	**6.3**	**12**	**9.9**	**9.2**	**12**	**7.1**	**5.9**	**6**	**6.5**	**5.8**
Vinyl Chloride	75-01-4	5	(0.3) U	(0.3) U	(1.1) U	(1.1) U	(0.5) U	(0.4) U	(0.7) U	(0.3) U	(2) U	(0.3) U	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U
Total VOCs	--	--	137.6	210.9	234.8	217.7	152.6	131.6	201.8	120.2	119	138.9	124.7	132.2	227.9	107.2	74.6	98.6	80	110.3

NOTES:

All results are reported in micrograms per liter (ug/L).

PDB = Passive Diffusion Bag.

VOCs = Volatile Organic Compounds.

Depths are reported in feet (ft) below top of well casing.

Sample IDs ending in "P" indicate that it is a duplicate sample.

CAS_RN = Chemical Abstracts Service Registry Number.

[1] The analytes presented include only these for which at least on analytical

U - Indicates that the analyte was not detected at the Method Detection Limit (MDL) shown in parenthesis.

ND = Not Detected.

Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16A
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**MW35BP**	**MW37A**								**MW37B**							
Lab ID			625362	383769	423941	463775	517908	569965	6625357	676703	J29228-6	383770	423942	463776	517909	569966	625358	676704	J29228-7
Depth			128	60	60	60	60	60	60	60	60	86	86	86	86	86	86	86	86
Sample Date			04/18/05	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06
Sample Time			11:40	8:10	9:15	9:05	9:00	9:30	11:15	10:00	9:00	8:15	9:20	9:10	9:05	9:32	11:20	10:04	9:05
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**																	
1,1,1-Trichloroethane	71-55-6	30	**74**	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U
1,1-Dichloroethane	75-34-3	50	16	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U
1,1-Dichloroethylene	75-35-4	2	**4.2**	(0.3) U	(0.4) U	(0.4) U	(0.4) U	(0.3) U	(0.3) U	(0.4) U	(1) U	(0.3) U	(0.4) U	(0.4) U	(0.4) U	(0.3) U	(0.3) U	(0.4) U	(1) U
1,2-Dichloroethane	107-06-2	2	(0.4) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.4) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U
Carbon tetrachloride	56-23-5	2	(0.3) U	1.2	1.3	**2**	1.8	0.8	0.8	1	1.5	**6.2**	**4.6**	**4.4**	1.8	0.7	0.9	1.8	(0.58) J
Chloroethane	75-00-3	100	(0.4) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U
cis-1,2-Dichloroethene	156-59-2	70	(0.4) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.4) U	(1) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.4) U	(1) U
Methylene Chloride	75-09-2	3	(0.9) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	**3.3**	(1) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	1.4	1.3
Trans-1,2-Dichloroethene	156-60-5	100	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.4) U	(1) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.4) U	(1) U
Tetrachloroethene	127-18-4	1	**2**	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.4) U	(1) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.4) U	(1) U
Trichloroethylene	79-01-6	1	**6.4**	**17**	**13**	**19**	**17**	**11**	**9.5**	**8.2**	**11.6**	**62**	**48**	**40**	**18**	**11**	**9.8**	**15**	**4.7**
Vinyl Chloride	75-01-4	5	(0.4) U	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U
Total VOCs	--	--	102.6	18.2	14.3	21	18.8	11.8	10.3	12.5	13.1	68.2	52.6	44.4	19.8	11.7	10.7	18.2	6

NOTES:
All results are reported in micrograms per liter (ug/L).
PDB = Passive Diffusion Bag.
VOCs = Volatile Organic Compounds.
Depths are reported in feet (ft) below top of well casing.
Sample IDs ending in "P" indicate that it is a duplicate sample.
CAS_RN = Chemical Abstracts Service Registry Number.
[1] The analytes presented include only these for which at least on analytical
U - Indicates that the analyte was not detected at the Method Detection Limit (MDL) shown in parenthesis.
ND = Not Detected.
Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16A
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**MW37C**								**MW37CP**
Lab ID			383771	423943	463777	517910	569967	625359	676705	J29228-8	J29228-9
Depth			98	98	98	98	98	98	98	98	98
Sample Date			10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	10/10/05	05/01/06	05/01/06
Sample Time			8:20	9:25	9:15	9:10	9:35	11:25	10:09	9:10	9:15
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**									
1,1,1-Trichloroethane	71-55-6	30	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(1) U
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(1) U
1,1-Dichloroethane	75-34-3	50	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(1) U
1,1-Dichloroethylene	75-35-4	2	(0.3) U	(0.4) U	(0.4) U	(0.4) U	(0.3) U	(0.3) U	(0.4) U	(1) U	(1) U
1,2-Dichloroethane	107-06-2	2	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(1) U
Carbon tetrachloride	56-23-5	2	**6.5**	**5.1**	**3.7**	1.8	**2.5**	**1.9**	**3.4**	**2.7**	**2.3**
Chloroethane	75-00-3	100	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(1) U
cis-1,2-Dichloroethene	156-59-2	70	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.4) U	(1) U	(1) U
Methylene Chloride	75-09-2	3	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U	(1) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.4) U	(1) U	(1) U
Tetrachloroethene	127-18-4	1	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.4) U	(1) U	(1) U
Trichloroethylene	79-01-6	1	**64**	**53**	**34**	**19**	**25**	**20**	**23**	**17.4**	**15.1**
Vinyl Chloride	75-01-4	5	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U	(2) U
Total VOCs	--	--	70.5	58.1	37.7	20.8	27.5	21.9	26.4	20.1	17.4

NOTES:

All results are reported in micrograms per liter (ug/L).

PDB = Passive Diffusion Bag.

VOCs = Volatile Organic Compounds.

Depths are reported in feet (ft) below top of well casing.

Sample IDs ending in "P" indicate that it is a duplicate sample.

CAS_RN = Chemical Abstracts Service Registry Number.

[1] The analytes presented include only these for which at least on analytical

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TABLE 16B
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**RW09A**								**RW09B**									
Lab ID			347413	383798	423960	463805	517948	625359	676758	J29360-41	569992	347414	383799	423961	463806	517949	569993	625785	676759	J29360-42
Depth			118	90	90	90	90	90	90	90	90	147	118	118	118	118	118	118	118	118
Sample Date			04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	04/19/05	10/11/05	05/02/06	10/04/04	04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	10/11/05	05/02/06
Sample Time			12:00	14:25	12:10	14:35	15:15	15:27	14:00	14:35	15:15	12:05	14:30	12:15	14:40	15:20	15:20	15:32	14:05	14:40
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**																		
1,1,1-Trichloroethane	71-55-6	30	(0.50) U	(1.3) U	(0.3) U	(0.2) U	(0.2) U	(0.6) U	(0.7) U	(1) U	(0.3) U	(0.50) U	(1.3) U	(0.8) U	(0.2) U	(0.2) U	(0.3) U	(0.6) U	(1.7) U	(1) U
1,1,2-Trichloroethane	79-00-5	3	(0.60) U	(1.4) U	(0.7) U	(0.3) U	(0.3) U	(0.6) U	(0.7) U	(1) U	(0.3) U	(0.60) U	(1.4) U	(1.7) U	(0.3) U	(0.3) U	(0.3) U	(0.6) U	(1.6) U	(1) U
1,1-Dichloroethane	75-34-3	50	(0.50) U	(1.4) U	(0.5) U	(0.2) U	(0.2) U	(0.7) U	(0.6) U	(1) U	(0.4) U	(0.50) U	(1.4) U	(1.2) U	(0.2) U	(0.2) U	(0.4) U	(0.7) U	(1.6) U	(1) U
1,1-Dichloroethylene	75-35-4	2	0.7	(1.4) U	(0.9) U	0.7	0.5	(0.7) U	1.9	1.4	0.4	(0.60) U	(1.4) U	**(2.2) U**	1	0.8	0.5	(0.7) U	(1.8) U	1.3
1,2-Dichloroethane	107-06-2	2	(0.70) U	(1.8) U	(0.5) U	(0.3) U	(0.3) U	(0.7) U	(0.6) U	(1) U	(0.4) U	(0.70) U	(1.8) U	(1.3) U	(0.3) U	(0.3) U	(0.4) U	(0.7) U	(1.4) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.70) U	**(1.8) U**	(0.5) U	(0.2) U	(0.2) U	(0.7) U	(0.6) U	(1) U	(0.4) U	(0.70) U	**(1.8) U**	**(1.2) U**	(0.2) U	(0.2) U	(0.4) U	(0.7) U	**(1.4) U**	(1) U
Carbon tetrachloride	56-23-5	2	(0.60) U	(1.5) U	(0.4) U	(0.2) U	(0.2) U	(0.6) U	(0.6) U	(1) U	(0.3) U	(0.60) U	(1.5) U	(1) U	(0.2) U	(0.2) U	(0.3) U	(0.6) U	(1.6) U	(1) U
Chloroethane	75-00-3	100	(1.0) U	(2.4) U	(0.9) U	(0.5) U	(0.5) U	(0.7) U	(0.5) U	(1) U	(0.4) U	(1.0) U	(2.4) U	(2.3) U	(0.5) U	(0.5) U	(0.4) U	(0.7) U	(1.2) U	(1) U
cis-1,2-Dichloroethene	156-59-2	70	**310**	**290**	**250**	**96**	**110**	**170**	**380**	**151**	**120**	**260**	**420**	**320**	**160**	**190**	**140**	**190**	**330**	**165**
Methylene Chloride	75-09-2	3	(1.8) U	**(4.4) U**	(1.6) U	(0.8) U	(0.8) U	1.8	(1) U	(1) U	(0.9) U	(1.8) U	**(4.4) U**	**(4) U**	(0.8) U	(0.8) U	(0.9) U	(1.8) U	(2.6) U	(1) U
Trans-1,2-Dichloroethene	156-60-5	100	0.6	(1.2) U	(0.5) U	0.7	0.5	1.3	2.9	1.9	(0.3) U	0.8	(1.2) U	(1.2) U	0.8	0.8	0.4	2.2	4.6	1.5
Tetrachloroethene	127-18-4	1	**3.4**	**(1.2) U**	**2**	**1**	0.5	(0.7) U	**3.9**	**1.6**	0.4	**2.6**	**(1.2) U**	**1.9**	**1.7**	**1**	0.5	(0.7) U	**4.2**	**2**
Trichloroethylene	79-01-6	1	**11**	(0.6) U	**4**	**1.3**	**1.3**	0.8	**4.7**	**2.4**	**1**	**7.6**	(0.6) U	**4.4**	**2.7**	**2.6**	**1.4**	**1.6**	**4.8**	**2.3**
Vinyl Chloride	75-01-4	5	**77**	**84**	**56**	**52**	**50**	**82**	**73**	**91.1**	**63**	**71**	**94**	**70**	**65**	**66**	**69**	**87**	**66**	**50.8**
Total VOCs	--	--	402.7	374	312	151.7							514	396.3	231.2	261.2	211.8	280.8	409.6	222.9

NOTES:

All results are reported in micrograms per liter (**g**/L).

PDB = Passive Diffusion Bag.

VOCs = Volatile Organic Compounds.

Depths are reported in feet (ft) below top of well casing.

Sample IDs ending in "P" indicate that it is a duplicate sample.

CAS_RN = Chemical Abstracts Service Registry Number.

[1] The analytes presented include only these for which at least on

U - Indicates that the analyte was not detected at the Method Detection Limit (MDL) shown in parenthesis.

ND = Not Detected.

Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16B
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**RW09C**									**RW09D**								
Lab ID			347415	383800	423962	463807	517950	569994	625786	676760	J29360-43	347416	383801	423963	463808	517951	569995	625787	676761	J29360-44
Depth			160	147	147	147	147	147	147	147	147	188	160	160	160	160	160	160	160	160
Sample Date			04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	10/11/05	05/02/06	04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	10/11/05	05/02/06
Sample Time			12:10	14:35	12:20	14:45	15:25	15:22	15:37	14:10	14:45	12:15	14:40	12:25	14:50	15:30	15:25	15:42	14:15	14:50
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**																		
1,1,1-Trichloroethane	71-55-6	30	(0.3) U	(1.3) U	(0.8) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(1.7) U	(1) U	(1.3) U	(1.3) U	(0.3) U	(0.8) U	(0.2) U	(0.3) U	(0.3) U	(0.7) U	(1) U
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(1.4) U	(1.7) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1.6) U	(1) U	(1.4) U	(1.4) U	(0.7) U	(1.7) U	(0.3) U	(0.3) U	(0.3) U	(0.7) U	(1) U
1,1-Dichloroethane	75-34-3	50	(0.3) U	(1.4) U	(1.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(1.6) U	(1) U	(1.4) U	(1.4) U	(0.5) U	(1.2) U	(0.2) U	(0.4) U	(0.4) U	(0.6) U	(1) U
1,1-Dichloroethylene	75-35-4	2	0.4	(1.4) U	**(2.2) U**	0.8	0.6	0.4	0.7	**2.2**	1.5	(1.4) U	(1.4) U	(0.9) U	**(2.2) U**	0.6	(0.3) U	(0.3) U	(0.7) U	**0.83 J**
1,2-Dichloroethane	107-06-2	2	(0.40) U	(1.8) U	(1.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(1.4) U	(1) U	(1.8) U	(1.8) U	(0.5) U	(1.3) U	(0.3) U	(0.4) U	(0.4) U	(0.6) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.40) U	**(1.8) U**	**(1.2) U**	(0.2) U	(0.2) U	(0.4) U	(0.4) U	**(1.4) U**	(1) U	**(1.8) U**	**(1.8) U**	(0.5) U	**(1.2) U**	(0.2) U	(0.4) U	(0.4) U	(0.6) U	(1) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(1.5) U	(1) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(1.6) U	(1) U	(1.5) U	(1.5) U	(0.4) U	(1) U	(0.2) U	(0.3) U	(0.3) U	(0.6) U	(1) U
Chloroethane	75-00-3	100	(0.50) U	(2.4) U	(2.3) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(1.2) U	(1) U	(2.4) U	(2.4) U	(0.9) U	(2.3) U	(0.5) U	(0.4) U	(0.4) U	(0.5) U	(1) U
cis-1,2-Dichloroethene	156-59-2	70	**140**	**390**	**300**	**140**	**150**	**130**	**170**	**370**	**173**	27	**140**	59	44	**140**	30	**140**	55	**141**
Methylene Chloride	75-09-2	3	(0.90) U	**(4.4) U**	**(4) U**	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(2.6) U	(1) U	**(4.4) U**	**(4.4) U**	(1.6) U	**(4) U**	(0.8) U	(0.9) U	(0.9) U	(1) U	(1) U
Trans-1,2-Dichloroethene	156-60-5	100	0.8	(1.2) U	(1.2) U	0.9	0.6	0.4	0.8	2.2	2.5	(1.2) U	(1.2) U	(0.5) U	(1.2) U	0.8	(0.3) U	0.8	(0.9) U	1.8
Tetrachloroethene	127-18-4	1	0.3	**(1.2) U**	**1.6**	**1.3**	0.6	(0.4) U	0.4	**(2.2) U**	**1.4**	**(1.2) U**	**(1.2) U**	**1.3**	**(1.6) U**	(0.3) U	(0.4) U	(0.4) U	(0.4) U	(1) U
Trichloroethylene	79-01-6	1	**2.1**	(0.6) U	**6.2**	**3**	**1.5**	**1.2**	**1.3**	**2.6**	**2.4**	(0.60) U	(0.6) U	0.7	(0.9) U	0.5	(0.4) U	0.7	(0.7) U	(1) U
Vinyl Chloride	75-01-4	5	**180**	**110**	**78**	**72**	**85**	**72**	**130**	**79**	**71.3**	**330**	**350**	**300**	**280**	**120**	**150**	**160**	**160**	**169**
Total VOCs	--	--	323.6	500	385.8	218	238.3	204	303.2	456	252.1	357	490	361	324	261.9	180	301.5	215	311.8

NOTES:
All results are reported in micrograms per liter (**g**/L).
PDB = Passive Diffusion Bag.
VOCs = Volatile Organic Compounds.
Depths are reported in feet (ft) below top of well casing.
Sample IDs ending in "P" indicate that it is a duplicate sample.
CAS_RN = Chemical Abstracts Service Registry Number.
[1] The analytes presented include only these for which at least on
U - Indicates that the analyte was not detected at the Method Detection Limit (MDL) shown in parenthesis.
ND = Not Detected.
Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16B
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**RW09E**								**RW09EP**	**RW11A**							
Lab ID			383802	423964	463809	517952	569996	625788	676762	J29360-45	676763	383803	423972	463796	517935	569982	625756	676729	J29228-31
Depth			193	188	188	188	188	188	188	188	188	115	115	115	115	115	115	115	115
Sample Date			10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	10/11/05	05/02/06	10/11/05	10/16/02	04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	10/10/05	05/01/06
Sample Time			14:45	12:30	14:55	15:35	15:28	15:47	14:20	14:55	14:25	7:35	15:45	12:25	14:00	13:25	9:30	14:30	13:10
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**																	
1,1,1-Trichloroethane	71-55-6	30	(0.5) U	(0.3) U	(0.8) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	0.7	(0.2) U	0.4	0.3	(0.3) U	0.4	0.5	(1) U
1,1,2-Trichloroethane	79-00-5	3	(0.6) U	(0.7) U	(1.7) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U
1,1-Dichloroethane	75-34-3	50	(0.5) U	(0.5) U	(1.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U
1,1-Dichloroethylene	75-35-4	2	(0.6) U	3.1	**(2.2) U**	0.5	(0.3) U	0.6	(0.4) U	(1) U	(0.4) U	(0.3) U	(0.4) U	(0.4) U	(0.4) U	(0.3) U	(0.3) U	(0.4) U	(1) U
1,2-Dichloroethane	107-06-2	2	(0.7) U	(0.5) U	(1.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.3) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.7) U	(0.5) U	**(1.2) U**	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.3) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U
Carbon tetrachloride	56-23-5	2	(0.6) U	(0.4) U	(1) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U
Chloroethane	75-00-3	100	(1) U	(0.9) U	(2.3) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.2) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U
cis-1,2-Dichloroethene	156-59-2	70	**75**	**320**	(1.2) U	**130**	0.7	140	12	1.1	13	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.4) U	(1) U
Methylene Chloride	75-09-2	3	(1.8) U	(1.6) U	**(4) U**	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U	(0.5) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.5) U	1	(1.2) U	0.6	(0.3) U	0.8	(0.4) U	(1) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.4) U	(1) U
Tetrachloroethene	127-18-4	1	**1.4**	**1.9**	**(1.6) U**	(0.3) U	(0.4) U	(0.4) U	(0.4) U	(1) U	(0.4) U	**1.9**	**1.2**	**1.3**	**1.1**	**1**	**1.6**	**2.7**	**2.6**
Trichloroethylene	79-01-6	1	**1.7**	**2.6**	(0.9) U	0.6	(0.4) U	0.7	0.8	(1) U	0.8	(0.1) U	(0.2) U	0.3	0.3	(0.4) U	(0.4) U	(0.4) U	0.29
Vinyl Chloride	75-01-4	5	**200**	**350**	**380**	**110**	**160**	**160**	**93**	**14.6**	**95**	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U
Total VOCs	--	--	278.1	678.6	380	241.7	160.7	302.1	105.8	15.7		2.6	1.2	2	1.7	1	2	3.2	2.89

NOTES:
All results are reported in micrograms per liter (**g**/L).
PDB = Passive Diffusion Bag.
VOCs = Volatile Organic Compounds.
Depths are reported in feet (ft) below top of well casing.
Sample IDs ending in "P" indicate that it is a duplicate sample.
CAS_RN = Chemical Abstracts Service Registry Number.
[1] The analytes presented include only these for which at least on
U - Indicates that the analyte was not detected at the Method Detection Limit (MDL) shown in parenthesis.
ND = Not Detected.
Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16B
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**RW11B**								**RW14A**						
Lab ID			383803	423972	463796	517935	569982	625757	676730	J29228-31	383789	423956	463788	517929	569970	625391	J29360-15
Depth			170	170	170	170	170	170	170	170	118	118	118	118	118	164.5	140
Sample Date			10/16/02	04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	10/10/05	05/01/06	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/18/05	05/02/06
Sample Time			7:40	15:50	12:30	14:05	11:35	9:35	14:34	13:15	11:10	11:30	11:25	12:15	11:25	14:00	9:15
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**															
1,1,1-Trichloroethane	71-55-6	30	(0.3) U	0.3	0.3	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	7	2	1.5	1.2	1	1	4.3
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U
1,1-Dichloroethane	75-34-3	50	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	0.5	0.3	(1) U	12	6.7	5.7	4.2	3.5	3.8	7.6
1,1-Dichloroethylene	75-35-4	2	0.7	(0.4) U	0.8	0.7	0.6	0.9	0.6	0.7 J	3	0.9	1.3	0.8	0.8	0.7	1.7
1,2-Dichloroethane	107-06-2	2	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(1) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(1) U
Chloroethane	75-00-3	100	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(1) U
cis-1,2-Dichloroethene	156-59-2	70	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.4) U	(1) U	3.8	2.2	2.2	1.4	1	1.4	1.3
Methylene Chloride	75-09-2	3	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(1) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.4) U	(1) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(1) U
Tetrachloroethene	127-18-4	1	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.4) U	(1) U	0.4	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	0.43 J
Trichloroethylene	79-01-6	1	(0.1) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.4) U	(1) U	**2.1**	0.8	0.8	0.7	0.7	0.8	**1.2**
Vinyl Chloride	75-01-4	5	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(2) U
Total VOCs	--	--	0.7	0.3	1.1	0.7	0.6	1.4	0.9	0	28.3	12.6	11.5	8.3	7	7.7	16.1

NOTES:

All results are reported in micrograms per liter (**g**/L).

PDB = Passive Diffusion Bag.

VOCs = Volatile Organic Compounds.

Depths are reported in feet (ft) below top of well casing.

Sample IDs ending in "P" indicate that it is a duplicate sample.

CAS_RN = Chemical Abstracts Service Registry Number.

[1] The analytes presented include only these for which at least on

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ND = Not Detected.

Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16B
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**RW14B**					**RW15A**								
Lab ID			383790	423957	463789	517930	569971	347427	383795	423967	463798	517941	RW15A	625772	676752	J29360-28
Depth			155	165	165	165	165	113	113	113	113	113	113	113	113	113
Sample Date			10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	10/11/05	05/02/06
Sample Time			11:15	11:35	11:30	12:20	11:35	10:30	13:55	14:10	13:35	14:35	13:40	12:55	13:20	12:35
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**														
1,1,1-Trichloroethane	71-55-6	30	6.7	2.8	4	3.5	4.2	1	2.6	1.8	1.5	1.2	0.8	0.8	0.9	1.1
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U
1,1-Dichloroethane	75-34-3	50	12	4.9	7	6.9	8.5	3.6	3.5	0.9	0.7	0.6	(0.4) U	(0.4) U	0.6	(1) U
1,1-Dichloroethylene	75-35-4	2	2.6	0.9	1.9	1.7	1.8	(0.3) U	(0.3) U	(0.4) U	0.6	(0.4) U	(0.3) U	(0.3) U	(0.4) U	(1) U
1,2-Dichloroethane	107-06-2	2	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.40) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.40) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U
Chloroethane	75-00-3	100	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.50) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U
cis-1,2-Dichloroethene	156-59-2	70	4.2	2.1	3.6	2.4	2.4	7.2	58	12	7.6	4	3.5	1.1	4.6	5.6
Methylene Chloride	75-09-2	3	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.90) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	0.9	(0.5) U	(1) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.20) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	0.3	(0.4) U	(1) U
Tetrachloroethene	127-18-4	1	0.3	(0.3) U	0.4	(0.3) U	(0.4) U	0.7	**2.5**	**7.9**	**9.6**	**7.1**	**4.5**	**2.9**	**1.8**	**5.7**
Trichloroethylene	79-01-6	1	**2**	0.8	**1.5**	**1.5**	**1.7**	**3.1**	**12**	**5.7**	**4.1**	**2.9**	**1.7**	0.9	**1.8**	**2.9**
Vinyl Chloride	75-01-4	5	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	**7.3**	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U
Total VOCs	--	--	27.8	11.5	18.4	16	18.6	22.9	78.6	28.3	24.1	15.8	10.5	6.9	9.7	15.3

NOTES:

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PDB = Passive Diffusion Bag.

VOCs = Volatile Organic Compounds.

Depths are reported in feet (ft) below top of well casing.

Sample IDs ending in "P" indicate that it is a duplicate sample.

CAS_RN = Chemical Abstracts Service Registry Number.

[1] The analytes presented include only these for which at least on

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ND = Not Detected.

Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16B
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			RW15B									RW15C									RW15D
Lab ID			347408	383796	423968	463799	517942	569985	625773	676753	J29360-29	347409	383797	423969	463800	517943	569986	625774	676754	J29360-30	347410
Depth			128	135	135	135	135	135	135	135	135	142	156	156	155	155	156	156	156	156	156
Sample Date			04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	10/11/05	05/02/06	04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	10/11/05	05/02/06	04/29/02
Sample Time			10:35	14:00	14:15	13:40	14:40	13:45	13:00	13:25	12:40	10:40	14:05	14:20	13:45	14:45	13:50	13:05	13:30	12:45	10:45
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**																			
1,1,1-Trichloroethane	71-55-6	30	1	1.3	1.8	1.6	1	0.9	0.7	1	1.1	1	1.4	1.8	1.8	1.1	0.8	0.7	1	1.1	0.9
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U
1,1-Dichloroethane	75-34-3	50	3.8	3.6	(0.2) U	0.8	(0.2) U	0.4	(0.4) U	0.7	(1) U	3.9	3.5	1	0.8	0.7	0.5	(0.4) U	0.9	(1) U	3.6
1,1-Dichloroethylene	75-35-4	2	(0.3) U	(0.3) U	(0.4) U	0.5	(0.4) U	(0.3) U	(0.3) U	(0.4) U	(1) U	(0.3) U	(0.3) U	(0.4) U	0.6	(0.4) U	(0.3) U	(0.3) U	(0.4) U	(1) U	(0.3) U
1,2-Dichloroethane	107-06-2	2	(0.40) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.40) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.40) U
1,2-Dichloropropane	78-87-5	1	(0.40) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.40) U	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.40) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U
Chloroethane	75-00-3	100	(0.50) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.50) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.50) U
cis-1,2-Dichloroethene	156-59-2	70	8	12	13	8.9	4.1	4.8	1	7.2	5.7	8.2	15	12	9	4.3	5	1	7.4	5.6	7.7
Methylene Chloride	75-09-2	3	(0.90) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U	(0.90) U	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U	(0.90) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.20) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.4) U	(1) U	(0.20) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.4) U	(1) U	(0.20) U
Tetrachloroethene	127-18-4	1	0.9	**2.7**	**6.5**	**7.4**	**3.3**	**2.8**	**1.5**	**1.8**	**4.3**	0.7	**2.3**	**5.3**	**4.9**	**3.5**	**2.5**	**1.8**	**2**	**4.5**	0.8
Trichloroethylene	79-01-6	1	**3.4**	**5.6**	**5.4**	**4.5**	**2.7**	**2.4**	0.8	**2.6**	**2.9**	**3.3**	**5.8**	**4.9**	**4.2**	**2.8**	**2.4**	0.8	**2.7**	**2.9**	**3.2**
Vinyl Chloride	75-01-4	5	**7.5**	4.7	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	0.6	(2) U	**6.8**	2.8	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U	**7.6**
Total VOCs	--	--	24.6	29.9	26.7	23.7	11.1	11.3	4	13.9	14	23.9	30.8	25	21.3	12.4	11.2	4.3	14	14.1	23.8

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PDB = Passive Diffusion Bag.

VOCs = Volatile Organic Compounds.

Depths are reported in feet (ft) below top of well casing.

Sample IDs ending in "P" indicate that it is a duplicate sample.

CAS_RN = Chemical Abstracts Service Registry Number.

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ND = Not Detected.

Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16B
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			RW16A									RW16B											
Lab ID			347411	383793	423970	463803	517944	569987	625775	676755	J29360-46	347412	383794	423971	463804	517945	569988	625776	676756	J29360-48	625777	676757	J29360-48
Depth			121	121	121	121	121	121	121	121	121	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5
Sample Date			04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	10/11/05	05/02/06	04/29/02	10/15/02	04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	10/11/05	05/02/06	4/19/2005	10/11/2005	5/2/2006
Sample Time			11:35	13:15	14:35	14:15	14:55	13:55	13:12	13:40	15:10	11:40	13:20	14:40	14:20	15:05	14:00	13:17	13:45	15:15	13:20	13:50	15:20
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**																					
1,1,1-Trichloroethane	71-55-6	30	**96**	**310**	**66**	**110**	**290**	**68**	**160**	**91**	7.1	**88**	**400**	**51**	**110**	**170**	**78**	**87**	**49**	2.4 J	**130**	**44**	2.5
1,1,2-Trichloroethane	79-00-5	3	(2.8) U	**8.1**	**(6.8) U**	**(3.4) U**	**5.2**	(2.8) U	**4**	**(3.3) U**	(1) U	(2.8) U	**7.8**	**(8.5) U**	**(6.8) U**	**(3.4) U**	(2.8) U	2.9	(1.6) U	(2.5) U	**3.1**	(1.6) U	(2.5) U
1,1-Dichloroethane	75-34-3	50	**460**	**600**	**310**	**310**	**360**	**220**	**340**	**620**	**92.6**	**440**	**620**	**140**	**190**	**560**	**250**	**250**	**360**	40.2	**340**	**340**	41.9
1,1-Dichloroethylene	75-35-4	2	14	33	70	16	**26**	**9.8**	**24**	**21**	**4.4**	12	40	55	**(8.6) U**	**18**	**7.2**	**14**	**3.4**	**3.6**	**23**	**3.2**	**3.7**
1,2-Dichloroethane	107-06-2	2	**18**	**25**	**48**	**24**	(0.5) U	**15**	**7.3**	**(2.9) U**	**22.1**	**18**	**25**	**44**	**26**	**10**	**14**	**5.9**	(1.4) U	**13**	**7.1**	**8.3**	**14**
1,2-Dichloropropane	78-87-5	1	**(3.5) U**	**(3.5) U**	**(4.6) U**	**(2.3) U**	(0.5) U	**(3.7) U**	**(3.7) U**	**(2.9) U**	(1) U	**(3.5) U**	**(3.5) U**	**(5.8) U**	**(4.6) U**	**(2.3) U**	**(3.7) U**	**(1.8) U**	**(1.4) U**	**(2.5) U**	**(3.7) U**	**(1.4) U**	**(2.5) U**
Carbon tetrachloride	56-23-5	2	**(3.0) U**	**(3) U**	**(3.8) U**	(1.9) U	(0.4) U	**(3) U**	**(3) U**	**(3.1) U**	(1) U	**(3.0) U**	**(3) U**	**(4.8) U**	**(3.8) U**	(1.9) U	**(3) U**	(1.5) U	(1.6) U	**(2.5) U**	**(3) U**	(1.6) U	**(2.5) U**
Chloroethane	75-00-3	100	**1300**	**970**	**2600**	**1200**	**390**	**1100**	**790**	**840**	**1260**	**1200**	**950**	**2600**	**2800**	**280**	**1000**	**450**	**320**	**940**	**740**	**280**	**1050**
cis-1,2-Dichloroethene	156-59-2	70	(3.1) U	16	36	5.7	18	(3.5) U	16	8	(1) U	(3.1) U	16	27	(4.8) U	8.4	(3.5) U	11	(2.2) U	(2.5) U	15	(2.2) U	(2.5) U
Methylene Chloride	75-09-2	3	**(8.8) U**	**(8.8) U**	**(16) U**	**(8.1) U**	(1.6) U	**(9.1) U**	**(9.1) U**	**(5.1) U**	1.1	**(8.8) U**	**(8.8) U**	**(20) U**	**(16) U**	**(8.1) U**	**(9.1) U**	**12**	(2.6) U	(2.1) U	**(9.1) U**	(2.6) U	(2.1) U
Trans-1,2-Dichloroethene	156-60-5	100	(2.3) U	(2.3) U	(5) U	(2.5) U	(0.5) U	(3.3) U	3.3	4.3	(1) U	(2.3) U	(2.3) U	(6.2) U	(5) U	(2.5) U	(3.3) U	(1.6) U	(2.2) U	(2.5) U	(3.3) U	(2.2) U	(2.5) U
Tetrachloroethene	127-18-4	1	**(2.4) U**	**(2.4) U**	**(6.2) U**	**(3.1) U**	**2.5**	**(3.6) U**	**(3.6) U**	**(4.5) U**	(1) U	**(2.4) U**	**(2.4) U**	**(7.8) U**	**(6.2) U**	**(3.1) U**	**(3.6) U**	**(1.8) U**	**(2.2) U**	**(2.5) U**	**(3.6) U**	**(2.2) U**	**(2.5) U**
Trichloroethylene	79-01-6	1	**(1.2) U**	**(1.2) U**	**(3.6) U**	**(1.8) U**	**7.4**	**(4) U**	**9.6**	**(3.7) U**	0.49 j	**(1.2) U**	**(1.2) U**	**(4.5) U**	**(3.6) U**	**11**	**(4) U**	**6.5**	**5.7**	**(2.5) U**	**8**	**5.1**	**(2.5) U**
Vinyl Chloride	75-01-4	5	**19**	(2.9) U	**(11) U**	**24**	**21**	**15**	**24**	**30**	**12.7**	**20**	(2.9) U	**49**	**(11) U**	**34**	**14**	**12**	**15**	**8.2**	**22**	**14**	**8**
Total VOCs	--	--	1907	1962.1	3130	1689.7	1120.1	1427.8	1378.2	1614.3	1400	1778	2058.8	2966	3126	1091.4	1363.2	851.3	753.1	1005	1288.2	694.6	1120.1

NOTES:

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Sample IDs ending in "P" indicate that it is a duplicate sample.

CAS_RN = Chemical Abstracts Service Registry Number.

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TABLE 16B
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**TH36A**								**TH36P**		
Lab ID			383805	423974	463810	517946	569989	625761	676721	J29360-16	383811	463811	517947
Depth			110	110	110	110	110	110	110	110	110	110	110
Sample Date			10/16/02	04/23/03	09/23/03	04/06/04	10/04/04	4/19/2005	########	5/2/2006	10/16/02	09/23/03	04/06/04
Sample Time			8:50	16:20	15:05	15:00	14:30	10:20	13:30	9:25	8:55	15:10	15:50
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**											
1,1,1-Trichloroethane	71-55-6	30	1.6	2.4	2.4	2	2.5	1.8	2.8	2.7	1.7	2.2	2
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.3) U	(0.3) U
1,1-Dichloroethane	75-34-3	50	1.9	5.4	4.3	1.9	4	2	1.6	1	2.2	4.1	1.9
1,1-Dichloroethylene	75-35-4	2	0.4	(0.4) U	(0.4) U	(0.4) U	(0.3) U	(0.3) U	(0.4) U	(1) U	0.4	(0.4) U	0.5
1,2-Dichloroethane	107-06-2	2	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.4) U	(0.3) U	(0.3) U
1,2-Dichloropropane	78-87-5	1	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(1) U	(0.4) U	(0.2) U	(0.2) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(1) U	(0.3) U	(0.2) U	(0.2) U
Chloroethane	75-00-3	100	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(1) U	(0.5) U	(0.5) U	(0.5) U
cis-1,2-Dichloroethene	156-59-2	70	1.2	0.9	1.6	2.8	(0.4) U	29	2.3	1.3	1.1	1.6	2.9
Methylene Chloride	75-09-2	3	(0.9) U	(0.8) U	(0.8) U	(0.8) U	(0.9) U	(0.9) U	(0.5) U	(1) U	(0.9) U	(0.8) U	(0.8) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.4) U	(1) U	(0.2) U	(0.2) U	(0.2) U
Tetrachloroethene	127-18-4	1	0.6	0.4	0.7	**1**	0.4	**6.8**	**1.1**	0.78 J	0.7	0.6	**1.2**
Trichloroethylene	79-01-6	1	0.5	0.4	0.6	**1**	(0.4) U	**4.7**	0.8	0.52 J	0.5	0.5	**1**
Vinyl Chloride	75-01-4	5	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(2) U	(0.3) U	(0.5) U	(0.5) U
Total VOCs	--	--	6.2	9.5	9.6	8.7	6.9	44.3	8.6	5	6.6	9	9.5

NOTES:

All results are reported in micrograms per liter (**g**/L).

PDB = Passive Diffusion Bag.

VOCs = Volatile Organic Compounds.

Depths are reported in feet (ft) below top of well casing.

Sample IDs ending in "P" indicate that it is a duplicate sample.

CAS_RN = Chemical Abstracts Service Registry Number.

[1] The analytes presented include only these for which at least on

U - Indicates that the analyte was not detected at the Method Detection Limit (MDL) shown in parenthesis.

ND = Not Detected.

Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16B
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Passive Diffusion Bag Sampling

Sample ID			**THWLSA**						**THWLSAP**	**THWLSB**				**THWLSC**	**THWLSD**
Lab ID			423965	463801	517933	569990	625769	J29360-17	625770	423966	463802	517934	J29360-18	J29360-19	J29360-20
Depth			110	110	110	110	110	104	110	123	123	123	110	116	123
Sample Date			04/23/03	09/23/03	04/06/04	10/04/04	04/19/05	05/02/06	04/19/05	04/23/03	09/23/03	04/06/04	05/02/06	05/02/06	05/02/06
Sample Time			13:50	14:00	12:45	14:52	11:39	9:40	11:44	13:55	14:05	12:50	9:45	9:50	9:55
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**													
1,1,1-Trichloroethane	71-55-6	30	**86**	**120**	**140**	**31**	14	**66.8**	14	**58**	**35**	**120**	**70.6**	**73.6**	**96.2**
1,1,2-Trichloroethane	79-00-5	3	(0.7) U	(1.7) U	1.1	(0.6) U	(0.3) U	(1) U	(0.3) U	(1.7) U	(0.7) U	1.2	(1) U	(1) U	(1) U
1,1-Dichloroethane	75-34-3	50	**260**	**280**	**280**	**120**	18	**128**	18	**250**	**230**	**310**	**138**	**145**	**188**
1,1-Dichloroethylene	75-35-4	2	12	19	**23**	**6.4**	1	**9**	1	16	14	**23**	**12.1**	**12.3**	**18.5**
1,2-Dichloroethane	107-06-2	2	1.4	1.6	(0.5) U	(0.7) U	(0.4) U	(1) U	(0.4) U	(1.3) U	**2.4**	(0.5) U	(1) U	(1) U	(1) U
1,2-Dichloropropane	78-87-5	1	(0.5) U	**(1.2) U**	(0.5) U	(0.7) U	(0.4) U	(1) U	(0.4) U	**(1.2) U**	(0.5) U	(0.5) U	(1) U	(1) U	(1) U
Carbon tetrachloride	56-23-5	2	(0.4) U	(1) U	(0.4) U	(0.6) U	(0.3) U	(1) U	(0.3) U	(1) U	(0.4) U	(0.4) U	(1) U	(1) U	(1) U
Chloroethane	75-00-3	100	81	94	64	22	3.2	4.5	3.1	**100**	87	51	5.7	6.6	16.1
cis-1,2-Dichloroethene	156-59-2	70	4.6	6.2	5.3	1.4	(0.4) U	1.3	(0.4) U	5.8	6.5	4.7	1.7	1.7	2.7
Methylene Chloride	75-09-2	3	(1.6) U	**(4) U**	(1.6) U	(1.8) U	(0.9) U	(1) U	(0.9) U	**(4) U**	(1.6) U	(1.6) U	(1) U	(1) U	(1) U
Trans-1,2-Dichloroethene	156-60-5	100	(0.5) U	(1.2) U	(0.5) U	(0.7) U	(0.3) U	(1) U	(0.3) U	(1.2) U	(0.5) U	(0.5) U	(1) U	(1) U	(1) U
Tetrachloroethene	127-18-4	1	(0.6) U	**(1.6) U**	(0.6) U	(0.7) U	(0.4) U	0.36 J	(0.4) U	**(1.6) U**	(0.6) U	(0.6) U	0.48 J	0.36 J	0.43 J
Trichloroethylene	79-01-6	1	**2.7**	**4.4**	**4.8**	(0.8) U	(0.4) U	**2**	(0.4) U	**2.7**	**2.6**	**4.6**	**2.5**	**2.5**	**3.3**
Vinyl Chloride	75-01-4	5	4.7	**14**	**11**	4.3	(0.4) U	1.4 J	(0.4) U	**16**	**26**	**14**	1.8 J	1.9 J	**7**
Total VOCs	--	--	452.4	539.2	529.2	185.1	36.2	211.6	36.1	448.5	403.5	528.5	230.6	241.7	331.8

NOTES:
All results are reported in micrograms per liter (**g**/L).
PDB = Passive Diffusion Bag.
VOCs = Volatile Organic Compounds.
Depths are reported in feet (ft) below top of well casing.
Sample IDs ending in "P" indicate that it is a duplicate sample.
CAS_RN = Chemical Abstracts Service Registry Number.
[1] The analytes presented include only these for which at least on
U - Indicates that the analyte was not detected at the Method Detection Limit (MDL) shown in parenthesis.
ND = Not Detected.
Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16C
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Conventional Low Flow Sampling

Field ID			**MW2A**					**MW2AP**	**MW04**	**MW06**		
Lab ID			348228	424612	465533	522751	576532	522753	348654	349141	424934	465853
Sample Date			5/2/2002	4/25/2003	9/25/2003	4/23/2004	10/21/2004	4/23/2004	5/6/2002	5/7/2002	4/28/2003	9/29/2003
Sample Time			10:20	10:15	15:20	12:15	13:45	12:20	12:10	13:25	11:40	16:10
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**										
1,1,1-Trichloroethane	71-55-6	30	25	19	12	8.4	5.1	8.6	1.2	17	**140**	**80**
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U
1,1-Dichloroethane	75-34-3	50	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.2) U	3.4	4.3	49	26
1,1-Dichloroethylene	75-35-4	2	**4.6**	**2.1**	1.4	1.2	0.6	1.5	0.7	**3**	**7.4**	**4.7**
1,2-Dichloroethane	107-06-2	2	(0.3) U	(0.3) U	(0.2) U	(0.3) U	(0.4) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(0.3) U
1,2-Dichloropropane	78-87-5	1	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.2) U	(0.4) U	(0.4) U	(0.2) U	(0.2) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.2) U	(0.3) U	(0.3) U	(0.2) U	(0.2) U
Chloroethane	75-00-3	100	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U
cis-1,2-Dichloroethene	156-59-2	70	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.2) U	**97**	(0.3) U	(0.2) U	(0.2) U
trans-1,2-Dichloroethene	156-60-5	100	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.2) U	0.5	(0.2) U	(0.2) U	(0.2) U
Tetrachloroethene	127-18-4	1	0.9	0.8	0.5	0.6	(0.4) U	0.6	**14**	0.4	**3**	**2**
Trichloroethylene	79-01-6	1	0.6	0.6	0.4	0.4	(0.4) U	0.4	**31**	**1.9**	**12**	**6.6**
Vinyl Chloride	75-01-4	5	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.5) U	**34**	(0.3) U	(0.5) U	(0.5) U
Total VOCs	--	--	31.1	22.5	14.3	10.6	5.7	11.1	181.8	26.6	211.4	119.3

NOTES:

All results are reported in micrograms per liter (υg/L).

VOCs = Volatile Organic Compounds.

Depths are reported in feet (ft) below top of well casing.

Sample IDs ending in "P" indicate that it is a duplicate sample.

CAS_RN = Chemical Abstracts Service Registry Number.

[1] The analytes presented include only these for which at least on analytical results reported a concentration in excess of the NJDEP Groundwater Quailty Standards (GWQS).

U - Indicates that the analyte was not detected at the Method Detection Limit (MDL) shown in parenthesis.

ND = Not Detected.

Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16C
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Conventional Low Flow Sampling

Field ID			**MW15**							**MW16**	**MW32**	
Lab ID			349626	424614	468969	518880	574575	628170	679277	348496	349145	349146
Sample Date			5/10/2002	4/25/2003	10/6/2003	4/9/2004	10/18/2004	4/26/2005	10/20/2005	5/3/2002	5/8/2002	5/8/2002
Sample Time			11:15	15:10	11:15	12:15	15:30	11:50	14:05	14:45	10:30	15:20
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**										
1,1,1-Trichloroethane	71-55-6	30	3.8	2.8	1.7	2.6	3.5	3.3	6.4	7.1	8.1	7.6
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U
1,1-Dichloroethane	75-34-3	50	5	3.2	1.8	3.5	5.8	4.8	11	6.2	14	14
1,1-Dichloroethylene	75-35-4	2	1.3	0.7	(0.4) U	0.7	1.2	1	**2.1**	**2.9**	**2.1**	1.5
1,2-Dichloroethane	107-06-2	2	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.3) U	(0.4) U	(0.4) U	(0.4) U
1,2-Dichloropropane	78-87-5	1	(0.4) U	(0.2) U	(0.2) U	(0.2) U	(0.4) U	(0.4) U	(0.3) U	(0.4) U	(0.4) U	(0.4) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U
Chloroethane	75-00-3	100	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.2) U	(0.5) U	(0.5) U	(0.5) U
cis-1,2-Dichloroethene	156-59-2	70	5.7	3.3	1.4	2.8	3.9	2.5	3.8	0.5	3.9	3.8
trans-1,2-Dichloroethene	156-60-5	100	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.3) U	(0.3) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U
Tetrachloroethene	127-18-4	1	**1.2**	0.6	(0.3) U	0.5	0.9	0.8	**1.2**	**8.2**	**1.4**	**1.3**
Trichloroethylene	79-01-6	1	**1.5**	0.8	0.4	0.8	**1**	0.9	**1.5**	**1.3**	**2.4**	**2.1**
Vinyl Chloride	75-01-4	5	(0.3) U	(0.5) U	(0.5) U	(0.5) U	(0.4) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U
Total VOCs	--	--	18.5	11.4	5.3	10.9	16.3	13.3	26	26.2	31.9	30.3

NOTES:

All results are reported in micrograms per liter (υg/L).

VOCs = Volatile Organic Compounds.

Depths are reported in feet (ft) below top of well casing.

Sample IDs ending in "P" indicate that it is a duplicate sample.

CAS_RN = Chemical Abstracts Service Registry Number.

[1] The analytes presented include only these for which at least on analytical results reported a concentration in excess of the NJDEP Groundwater Quailty Standards (GWQS).

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ND = Not Detected.

Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 16C
Historical Groundwater Analytical Summary from April 2002 to Present
Former Ingersoll Rand Facility
Phillipsburg, New Jersey

Conventional Low Flow Sampling

Field ID			**MW33A**	**MW34**	**MW35**	**MW37**	**RW11**	**RW13**			**RW13P**	**RW14**	**RW15**	**TH36**	**THWLS**
Lab ID			348225	348226	348229	347681	349137	348495	629041	679273	629042	349625	387208	349616	386607
Sample Date			5/1/2002	5/1/2002	5/2/2002	4/30/2002	5/8/2002	5/3/2002	4/28/2005	10/19/2005	4/28/2005	5/10/2002	10/30/2002	5/9/2002	10/28/2002
Sample Time			10:30	14:30	12:40	11:20	14:10	15:18	12:10	17:45	12:15	9:30	8:40	13:55	10:35
VOCs via EPA Method 624[1]	**CAS_RN**	**GWQS**													
1,1,1-Trichloroethane	71-55-6	30	4.3	4.2	**70**	(0.3) U	(0.3) U	2.8	4.8	2.9	4.7	5.1	2.1	2.3	5.5
1,1,2-Trichloroethane	79-00-5	3	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U
1,1-Dichloroethane	75-34-3	50	(0.3) U	(0.3) U	19	(0.3) U	(0.3) U	1.5	(0.3) U	1	(0.3) U	8.9	1.2	2.3	**140**
1,1-Dichloroethylene	75-35-4	2	**2.1**	1.2	**12**	(0.3) U	(0.3) U	0.8	1.3	0.8	1.4	(0.3) U	0.4	0.6	**4.4**
1,2-Dichloroethane	107-06-2	2	(0.4) U	(0.4) U	(0.4) U	(0.4) U	(0.4) U	(0.4) U	1.8	(0.3) U	1.9	(0.4) U	(0.4) U	(0.4) U	(0.7) U
1,2-Dichloropropane	78-87-5	1	(0.4) U	(0.4) U	(0.4) U	(0.4) U	(0.4) U	(0.4) U	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.4) U	(0.7) U
Carbon tetrachloride	56-23-5	2	(0.3) U	(0.3) U	(0.3) U	**4.6**	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.6) U
Chloroethane	75-00-3	100	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.5) U	(0.2) U	(0.2) U	(0.2) U	(0.5) U	(0.5) U	(0.5) U	35
cis-1,2-Dichloroethene	156-59-2	70	(0.3) U	6.1	1.4	(0.3) U	(0.3) U	(0.3) U	(0.4) U	(0.4) U	(0.4) U	1.8	28	2.1	1.5
trans-1,2-Dichloroethene	156-60-5	100	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.2) U	(0.5) U
Tetrachloroethene	127-18-4	1	**3.6**	**6.5**	**3.6**	(0.20) U	**4.9**	**1.2**	**1.6**	**1.6**	**1.8**	0.9	**4.9**	**2.5**	(0.5) U
Trichloroethylene	79-01-6	1	**3.8**	**7.1**	**9.2**	**42**	(0.10) U	(0.10) U	0.6	(0.4) U	0.6	**1.5**	**9**	0.9	(0.2) U
Vinyl Chloride	75-01-4	5	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	(0.3) U	**20**
Total VOCs	--	--	13.8	25.1	115.2	46.6	4.9	6.3	10.1	6.3	10.4	18.2	45.6	10.7	206.4

NOTES:

All results are reported in micrograms per liter (ug/L).

VOCs = Volatile Organic Compounds.

Depths are reported in feet (ft) below top of well casing.

Sample IDs ending in "P" indicate that it is a duplicate sample.

CAS_RN = Chemical Abstracts Service Registry Number.

[1] The analytes presented include only these for which at least on analytical results reported a concentration in excess of the NJDEP Groundwater Quailty Standards (GWQS).

U - Indicates that the analyte was not detected at the Method Detection Limit (MDL) shown in parenthesis.

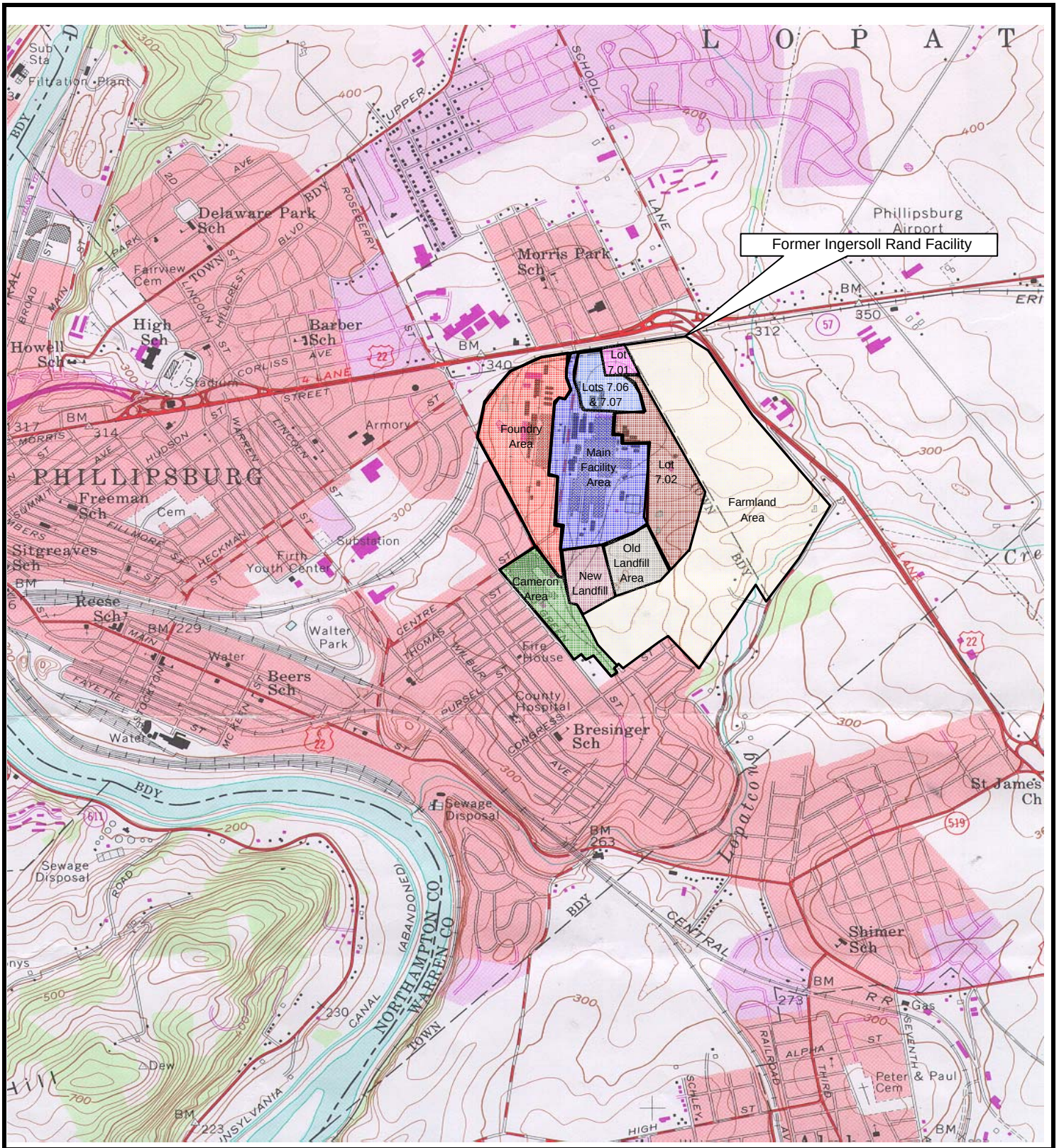
ND = Not Detected.

Bold indicates that the concentration exceeds the NJDEP GWQS.

TABLE 19
Summary of Wells to be Sampled for Natural Remediation Alternative (2007 - 2037)
Former Ingersoll Rand Facility - Phillipsburg, New Jersey

	Well ID	Sample Method and Depth(s) in feet
Monitoring Well Network	MW02A	PDB - 125
	MW03	PDB - 115
	MW04	PDB - 96, 108, 120
	MW06	PDB - 172, 187
	MW11	PDB - 100, 150, 190
	MW12	PDB - 163, 183 (if DTB is shorter, adjust)
	MW13	PDB - 157, 189
	MW15	PDB - 130, 136
	MW16	PDB - 130, 155, 190
	MW18	PDB - 112
	MW19	PDB - 135, 147
	MW20	PDB - 134
	MW24	PDB - 134, 145, 151 (if DTB is shorter, adjust)
	MW26	PDB - 145, 133
	MW27	PDB - 137
	MW30	PDB - 75
	MW32	PDB - 118, 129 (if DTB is shorter, adjust)
	MW33A	PDB - 107, 120
	MW34	PDB - 108, 113, 120
	MW35	PDB - 122, 128
	MW37	PDB - 60, 86, 98
	MW47	PDB - 136.5
	MW48	PDB - 132
	MW49	PDB - 54
	MW50	PDB - 150
	MW51A	PDB - 135
	MW52	PDB - 109, 170
	MW53	PDB - 127, 140
	MW54	PDB - 120
	RW09	PDB - 64, 80, 90, 102, 118, 130, 147, 160, 171, 188, 193
	RW10	PDB - 152, 170
	RW11	PDB - 115, 170
	RW14	PDB - 140
	RW15	PDB - 113, 135, 156
	RW16	PDB - 96, 106, 121, 141.5, 146
	TH36	PDB - 110
	THWLS	PDB - 104, 110, 114 (within 2 ft of bottom)
	MW38 and MW56	To be determined
	MW01	Conventional sampling, Just below water (fractures at 98, 103, 110, 112, 115, 120, 122)
	RW13	Conventional sampling, Just below water (fracture at 161)
Sentinel Wells	MW17	PDB - 92, 105, 113, 132, 141, and 150
	MW36	To be determined
	MW39	PDB - 78, 126, 132
	MW48	PDB - 102, 107, 126, 132

Figures



Scale: 1:24,000

Ingersoll Rand Company

Groundwater-Annual Monitoring Report
USGS 7.5' Topographic
Quadrangle - Easton, PA-NJ, 1954 (Photorevised 1981)

Former Ingersoll Rand Facility

942 Memorial Parkway
Phillipsburg, New Jersey

January 2007 Job No. 03710-173

Figure 1: Site Location Map

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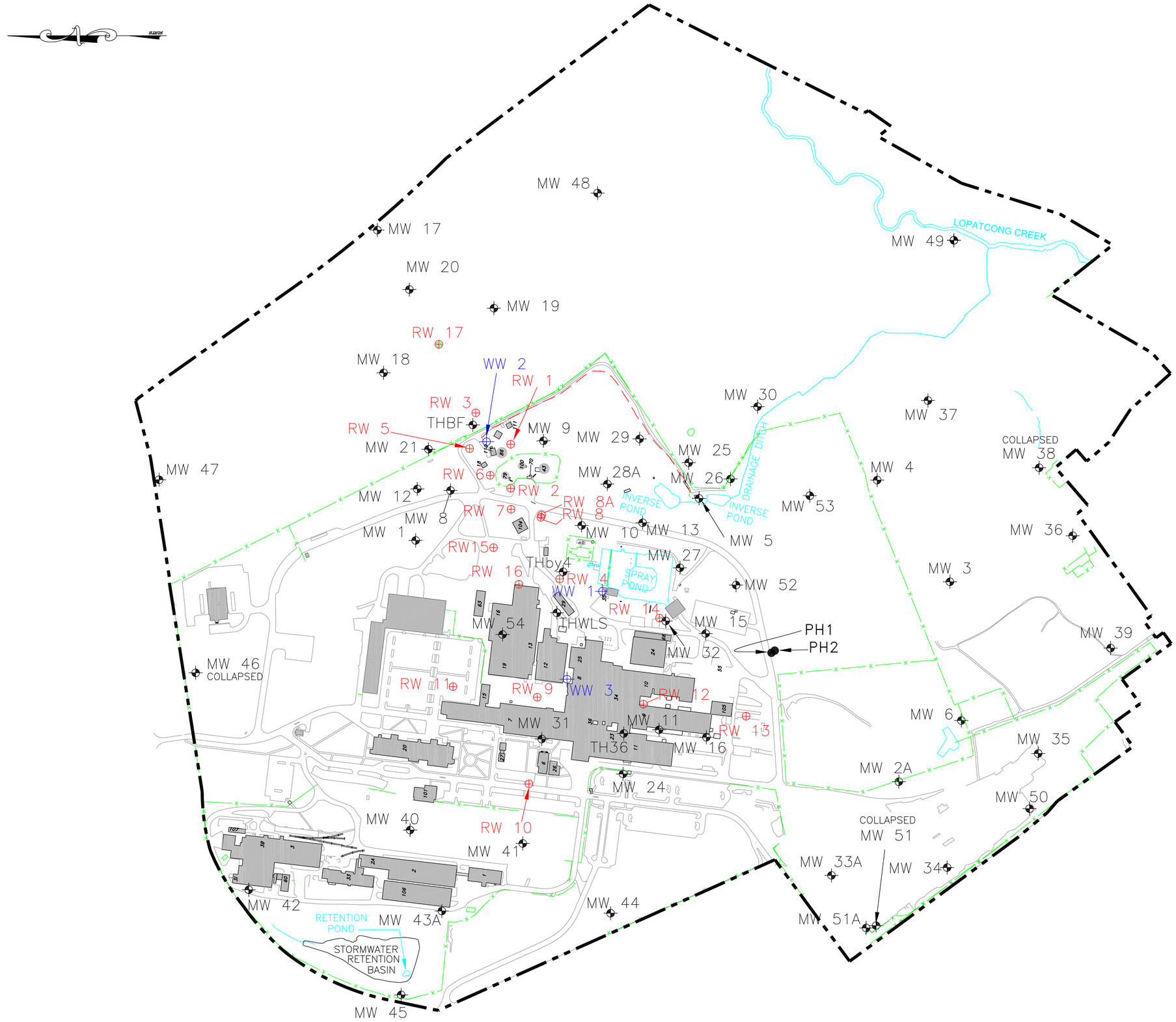

LEGEND

- MONITORING WELL
- RECOVERY WELL
- PRODUCTION WELL
- BOREHOLE
- SURFACE WATER/FEATURES AND DRAINAGE
- EXISTING FENCELINE
- FORMER INGERSOLL RAND PROPERTY BOUNDARY

NOTES:

1. LOCATIONS OF BASEMAP AND STRUCTURES SHOWN ARE BASED ON SURVEYED MAP IN STATE PLANE NAD83, FEET
2. PROPERTY LINES SHOWN HEREON ARE BASED ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND CO.," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1590–G, DATED AUGUST 15, 2003; AND ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND COMPANY," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1147–G, DATED FEBRUARY 7, 1992, LAST REVISED JUNE 15, 1992.
3. WELL LOCATIONS ARE APPROXIMATE.

REVISIONS			
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DESIGNED BY: JH
DRAWN BY: /JK
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APPROVED BY:

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SITE PLAN WITH MONITORING & RECOVERY WELL LOCATIONS

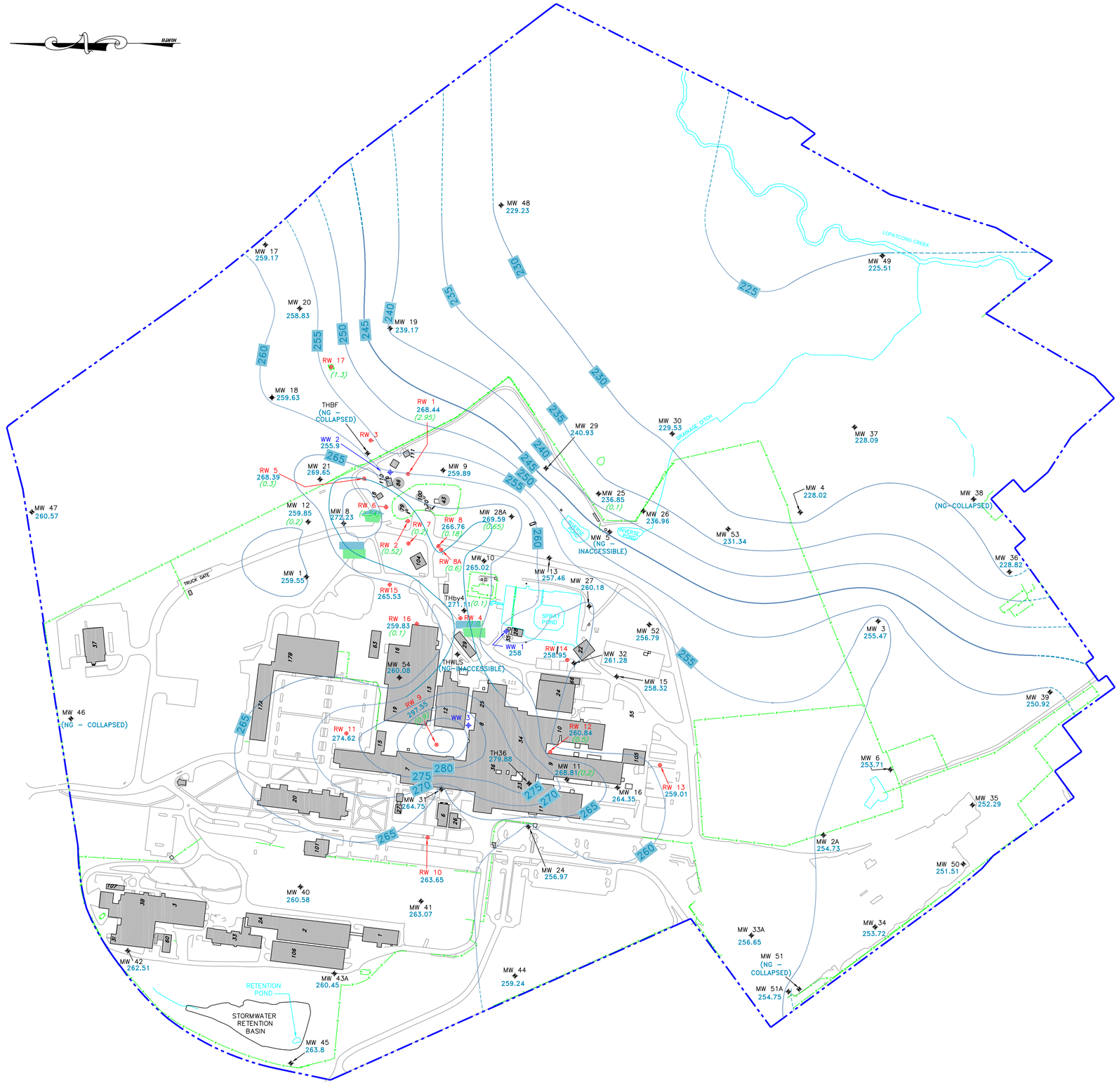
FORMER INGERSOLL RAND FACILITY
PHILLIPSBURG, NEW JERSEY

SCALE: AS SHOWN
DATE: 09/14/06
PROJECT NUMBER: 03710–173

FIGURE NUMBER: 2

SHEET NUMBER: 1 of 1

Piscataway on \\Ssc\Piscataway\0\Project\Ingersoll Rand\03710-173\Cadd\Groundwater\Site Plan



Legend

- SURFACE WATER/FEATURES AND DRAINAGE
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- FORMER INGERSOLL RAND PROPERTY BOUNDARY
- EXISTING FENCELINE
- MONITORING WELL
- RECOVERY WELL (ID: RW 5; ELEVATION: 268.39; PRODUCT THICKNESS: (0.03))
- PRODUCTION WELL
- 17 — CURRENT BUILDING OUTLINE AND ID
- NG = NOT GAUGED DUE TO INACCESSIBILITY OR COLLAPSE OF THE WELL

GROUNDWATER ELEVATION DATA IS REPORTED IN FEET ABOVE MEAN SEA LEVEL

PRODUCT THICKNESS OF LIQUID PHASE HYDROCARBON (LPH) IS REPORTED IN FEET

NOTE: DUE TO UPGRADE ACTIVITIES OF THE RECOVERY SYSTEM, THE FOLLOWING WELLS HAVE NOT BEEN RESURVEYED. THE WELLS WERE GAUGED, HOWEVER, THE DATA WAS NOT INCLUDED IN THE CONTOUR MAPPING, AND THERE ARE DASHED LINES AROUND THE WELLS IN QUESTION.

WELL	DEPTH TO WATER (FEET)
RW 17	88.01
RW 2	91.98
RW 3	82.81
RW 4	101.85
RW 6	94.15
RW 7	89.32
RW 8A	91.26

NOTES:

1. LOCATIONS OF BASEMAP AND STRUCTURES SHOWN ARE BASED ON SURVEYED MAP IN STATE PLANE NAD83, FEET.
2. PROPERTY LINES SHOWN HEREON ARE BASED ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND CO.," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1590–G, DATED AUGUST 15, 2003; AND ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND COMPANY," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1147–G, DATED FEBRUARY 7, 1992, LAST REVISED JUNE 15, 1992.
3. GROUNDWATER ELEVATION DATA IS REPORTED IN FEET ABOVE MEAN SEA LEVEL
4. PRODUCT THICKNESS OF LIGHT NON ARVEOUS PHASE LIQUIDS (LNAPL) IS REPORTED IN FEET.
5. CASING ELEVATIONS FOR WELLS IN ABOVE TABLE HAVE CHANGED DUE TO RECENT UPGRADES AND RETROFIT ACTIVITIES. GROUNDWATER ELEVATIONS ARE ESTIMATED AND THE DATA WAS NOT INCLUDED IN THE CONTOUR MAPPING.

240 120 0 240
Scale in Feet

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APPROVED BY:

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GROUNDWATER ELEVATION MAP OCTOBER 2005

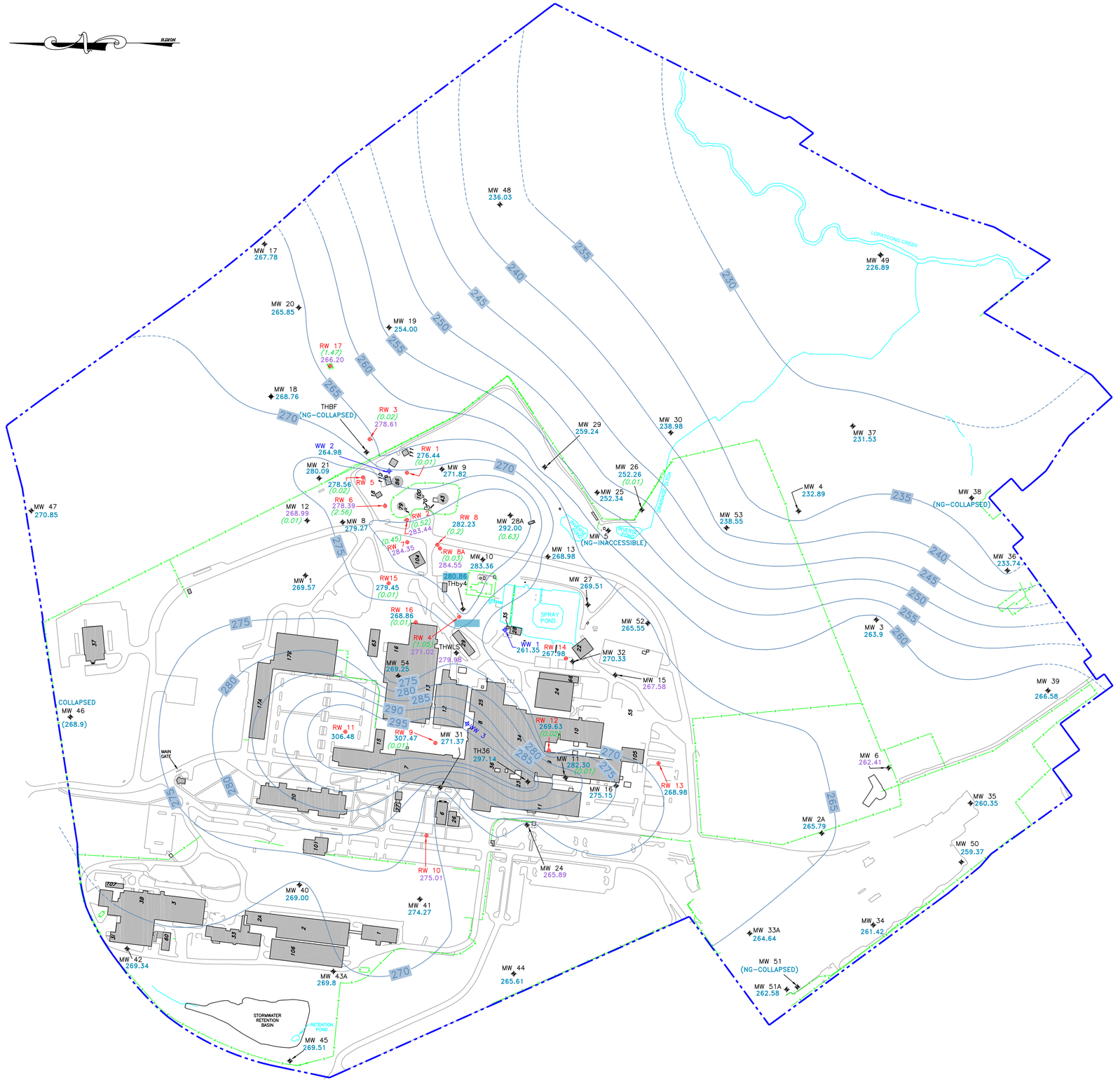
FORMER INGERSOLL RAND FACILITY
PHILLIPSBURG, NEW JERSEY

SCALE: AS SHOWN
DATE: 09/12/06
PROJECT NUMBER: 03710-167

FIGURE NUMBER: 3

SHEET NUMBER: 1 of 1

Piscataway on \\Ssfs\Piscataway\(j) Project\Ingersoll Rand\03710-173\Cadd\ Groundwater 2006\10-05 GW Elev.Rev



Legend

- SURFACE WATER/FEATURES AND DRAINAGE
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- FORMER INGERSOLL RAND PROPERTY BOUNDARY
- EXISTING FENCELINE
- MONITORING WELL
- RECOVERY WELL (ID; GROUNDWATER ELEVATION; PRODUCT THICKNESS)
- PRODUCTION WELL
- CURRENT BUILDING OUTLINE AND ID

NG = NOT GAUGED DUE TO INACCESSIBILITY OR COLLAPSE OF THE WELL

WELL	DEPTH TO WATER (FEET)	ESTIMATED WATER LEVEL
MW 6	91.6	262.41
MW 12	95.17	268.99
MW 15	95.14	267.58
MW 24	96.88	265.89
RW 2	77.47	283.44
RW 3	71.61	278.61
RW 4	92.85	271.02
RW 6	82.46	278.39
RW 7	76.15	284.35
RW 8A	75.78	284.55
RW 10	88.13	275.01
RW 17	76.87	266.20
THWLS	93.49	279.98

NOTES:

1. LOCATIONS OF BASEMAP AND STRUCTURES SHOWN ARE BASED ON SURVEYED MAP IN STATE PLANE NAD83, FEET.
2. PROPERTY LINES SHOWN HEREON ARE BASED ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND CO.," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1590–G, DATED AUGUST 15, 2003; AND ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND COMPANY," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1147–G, DATED FEBRUARY 7, 1992, LAST REVISED JUNE 15, 1992.
3. GROUNDWATER ELEVATION DATA IS REPORTED IN FEET ABOVE MEAN SEA LEVEL
4. PRODUCT THICKNESS OF LIGHT NON ARVEOUS PHASE LIQUIDS (LNAPL) IS REPORTED IN FEET.
5. CASING ELEVATIONS FOR WELLS IN ABOVE TABLE HAVE CHANGED DUE TO RECENT UPGRADES AND RETROFIT ACTIVITIES. GROUNDWATER ELEVATIONS ARE ESTIMATED AND THE DATA WAS NOT INCLUDED IN THE CONTOUR MAPPING.

240 120 0 240
Scale in Feet

REVISIONS			
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DESIGNED BY: GMat
DRAWN BY: /k/lc
CHECKED BY:
APPROVED BY:

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GROUNDWATER ELEVATION MAP JANUARY 2006

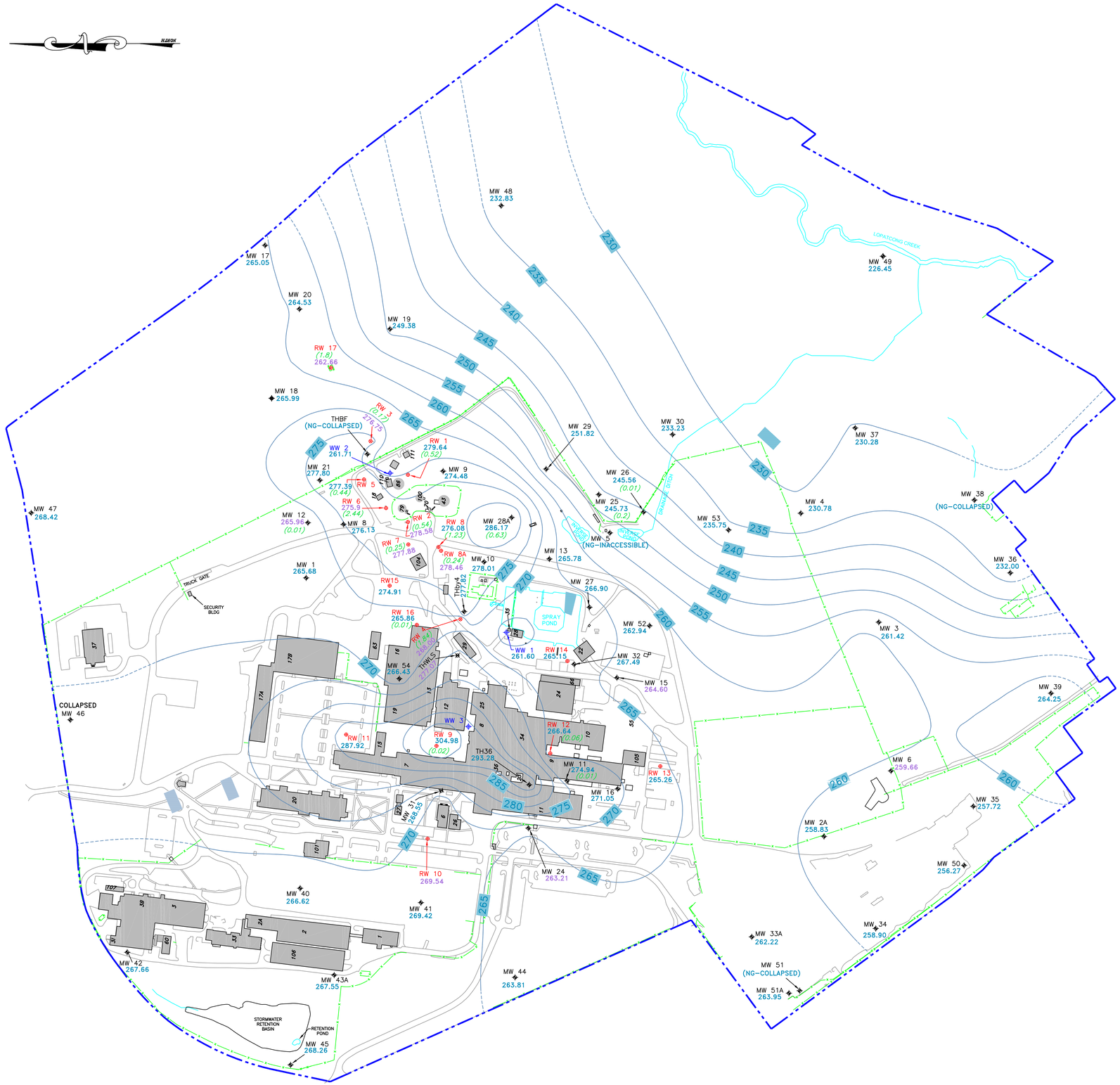
FORMER INGERSOLL RAND FACILITY
PHILLIPSBURG, NEW JERSEY

SCALE: AS SHOWN
DATE: 09/14/06
PROJECT NUMBER: 03710–173

FIGURE NUMBER: 4

SHEET NUMBER: 1 of 1

Plotted by on 10/6/06 Plotted on (J)-Project/Ingersoll Rand/03710-173/Field/Groundwater 2006/01-06 GW Elev Rev



Legend

- SURFACE WATER/FEATURES AND DRAINAGE
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- FORMER INGERSOLL RAND PROPERTY BOUNDARY
- EXISTING FENCELINE
- MONITORING WELL
- RECOVERY WELL (ID; GROUNDWATER ELEVATION; PRODUCT THICKNESS)
- PRODUCTION WELL
- CURRENT BUILDING OUTLINE AND ID
- NG = NOT GAUGED DUE TO INACCESSIBILITY OR COLLAPSE OF THE WELL

WELL	DEPTH TO WATER (FEET)	ESTIMATED WATER LEVEL
MW 6	94.35	259.66
MW 12	98.19	265.96
MW 15	98.12	264.60
MW 24	99.56	263.21
RW 2	81.88	278.58
RW 3	73.45	276.75
RW 4	94.96	268.00
RW 6	82.73	275.90
RW 7	82.23	277.88
RW 8A	81.84	278.46
RW 10	93.60	269.54
RW 17	79.14	262.66
THWLS	96.40	277.07

NOTES:

1. LOCATIONS OF BASEMAP AND STRUCTURES SHOWN ARE BASED ON SURVEYED MAP IN STATE PLANE NAD83, FEET.
2. PROPERTY LINES SHOWN HEREON ARE BASED ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND CO.," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1590–G, DATED AUGUST 15, 2003; AND ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND COMPANY," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1147–G, DATED FEBRUARY 7, 1992, LAST REVISED JUNE 15, 1992.
3. GROUNDWATER ELEVATION DATA IS REPORTED IN FEET ABOVE MEAN SEA LEVEL
4. PRODUCT THICKNESS OF LIGHT NON ARVEOUS PHASE LIQUIDS (LNAPL) IS REPORTED IN FEET.
5. CASING ELEVATIONS FOR WELLS IN ABOVE TABLE HAVE CHANGED DUE TO RECENT UPGRADES AND RETROFIT ACTIVITIES. GROUNDWATER ELEVATIONS ARE ESTIMATED AND THE DATA WAS NOT INCLUDED IN THE CONTOUR MAPPING.

240 120 0 240
Scale in Feet

REVISIONS			
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DESIGNED BY: GMat
DRAWN BY: /jk/lc
CHECKED BY:
APPROVED BY:

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GROUNDWATER ELEVATION MAP
APRIL 2006

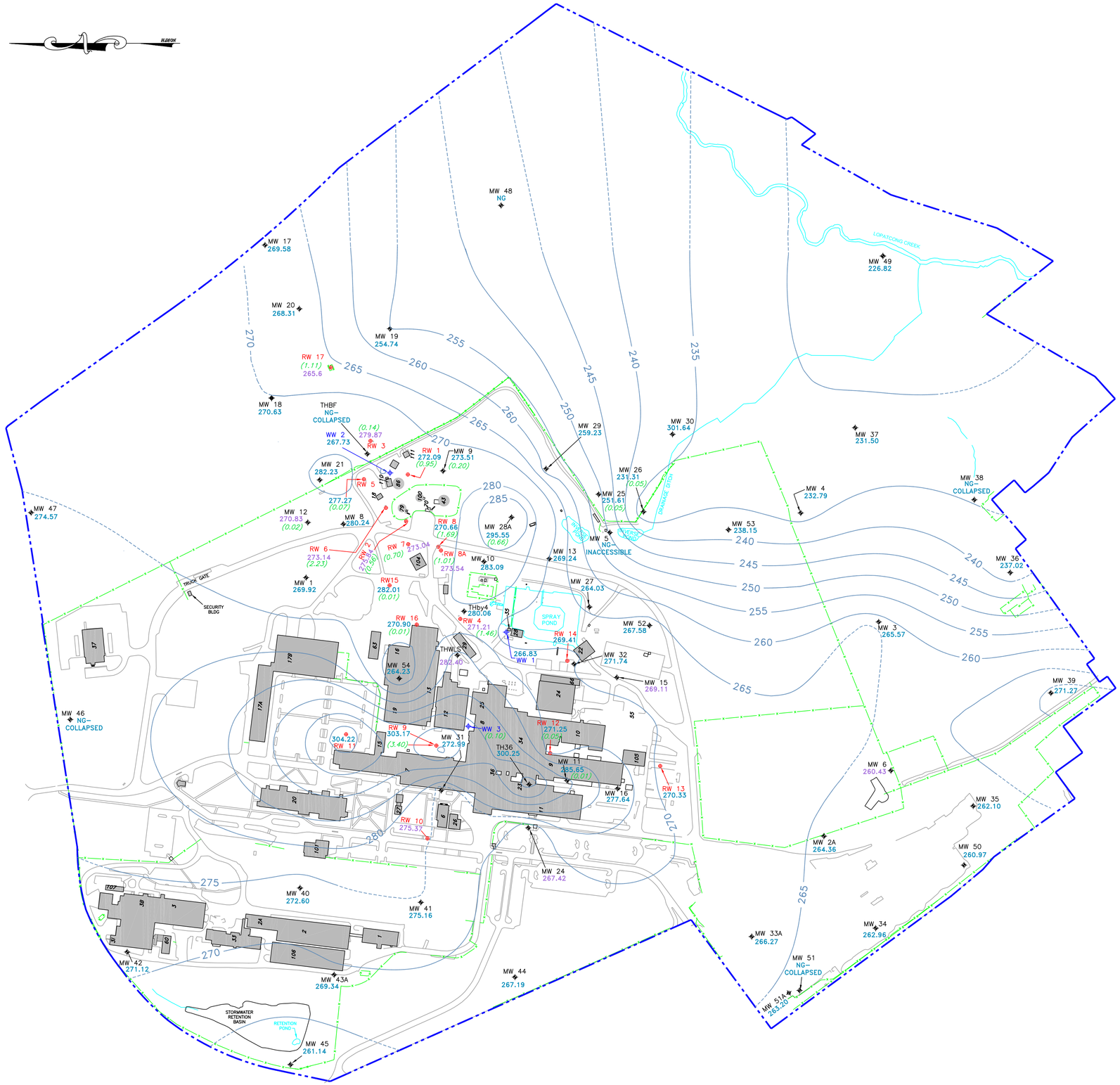
FORMER INGERSOLL RAND FACILITY
PHILLIPSBURG, NEW JERSEY

SCALE: AS SHOWN
DATE: 09/14/06
PROJECT NUMBER: 03710–173

FIGURE NUMBER: 5

SHEET NUMBER: 1 of 1

Plotted by on 10/6/Plotted by/J:\Project\Ingersoll Rand\03710-173\Cadd\Groundwater 2006\04-06 GW Elev Rev



Legend

- SURFACE WATER/FEATURES AND DRAINAGE
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- FORMER INGERSOLL RAND PROPERTY BOUNDARY
- EXISTING FENCELINE
- MONITORING WELL
- RECOVERY WELL (ID, GROUNDWATER ELEVATION, PRODUCT THICKNESS)
- PRODUCTION WELL
- CURRENT BUILDING OUTLINE AND ID
- NG = NOT GAUGED

WELL	DEPTH TO WATER (FEET)	ESTIMATED WATER LEVEL
MW 6	89.96	260.43
MW 12	93.92	270.83
MW 15	93.61	269.11
MW 24	95.35	267.42
RW 2	84.62	275.84
RW 3	70.33	279.87
RW 4	91.75	271.21
RW 6	85.49	273.14
RW 7	87.07	273.04
RW 8A	86.76	273.54
RW 10	87.77	275.37
RW 17	76.20	265.60
THWLS	91.07	282.40

NOTES:

1. LOCATIONS OF BASEMAP AND STRUCTURES SHOWN ARE BASED ON SURVEYED MAP IN STATE PLANE NAD83, FEET.
2. PROPERTY LINES SHOWN HEREON ARE BASED ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND CO.," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1590–G, DATED AUGUST 15, 2003; AND ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND COMPANY," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1147–G, DATED FEBRUARY 7, 1992, LAST REVISED JUNE 15, 1992.
3. GROUNDWATER ELEVATION DATA IS REPORTED IN FEET ABOVE MEAN SEA LEVEL
4. PRODUCT THICKNESS OF LIGHT NON ARVEOUS PHASE LIQUIDS (LNAPL) IS REPORTED IN FEET.
5. CASING ELEVATIONS FOR WELLS IN ABOVE TABLE HAVE CHANGED DUE TO RECENT UPGRADES AND RETROFIT ACTIVITIES. GROUNDWATER ELEVATIONS ARE ESTIMATED AND THE DATA WAS NOT INCLUDED IN THE CONTOUR MAPPING.

240 120 0 240
Scale in Feet

REVISIONS			
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DESIGNED BY: JH
DRAWN BY: /JK
CHECKED BY:
APPROVED BY:

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GROUNDWATER ELEVATION MAP JULY 2006

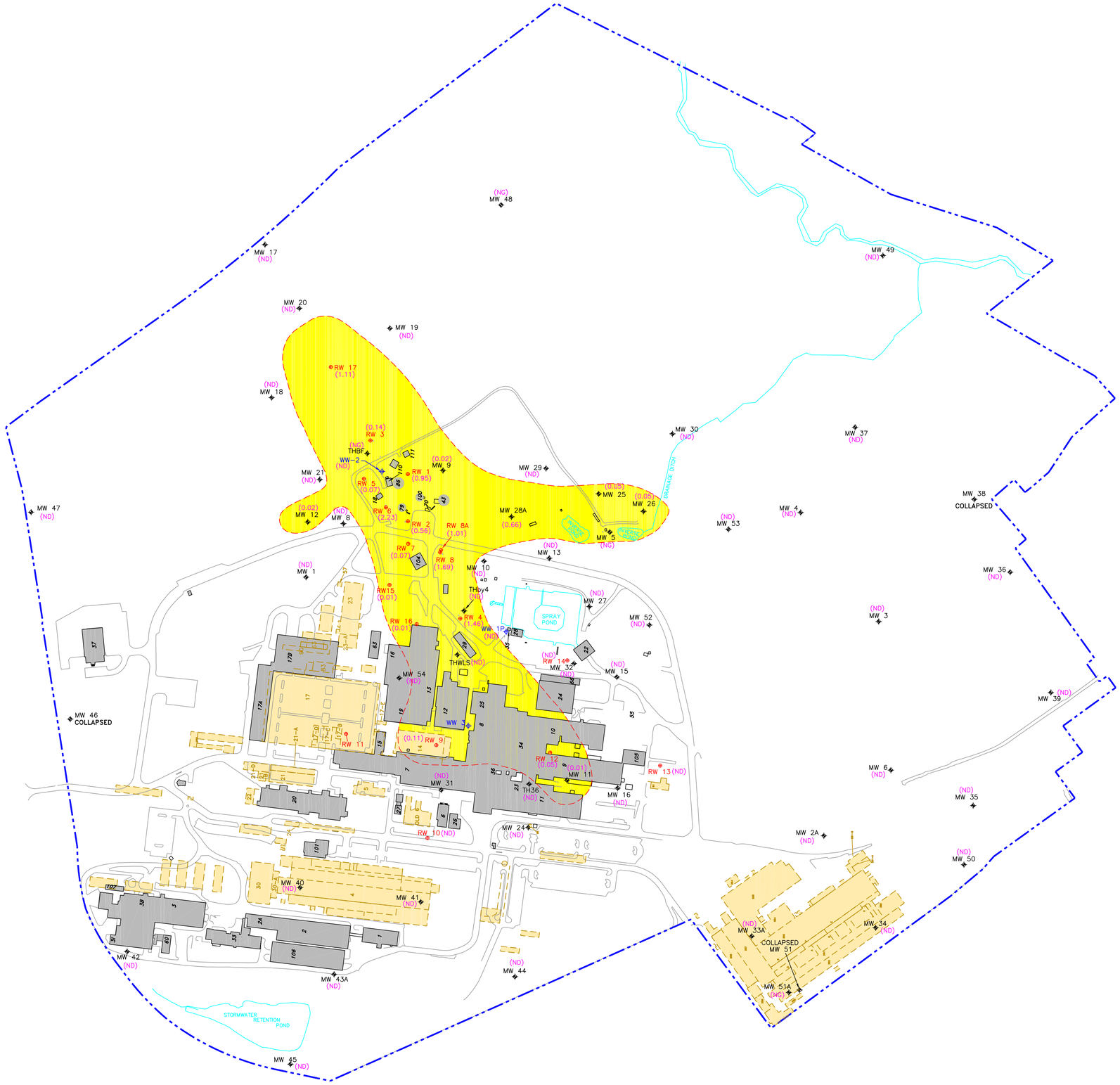
FORMER INGERSOLL RAND FACILITY
PHILLIPSBURG, NEW JERSEY

SCALE: AS SHOWN
DATE: 09/14/06
PROJECT NUMBER: 03710–173

FIGURE NUMBER: 6

SHEET NUMBER: 1 of 1

Piscataway on TASKPlacelandy(J):Project/Ingersoll Rand/03710-173/Cadd/Groundwater/03-06 GW Elev



NORTH

LEGEND

- LANDFILL
- POND
- PROPERTY BOUNDARY
- FENCELINE
- MONITORING WELL
- RECOVERY WELL
- PRODUCTION WELL
- 23 — FORMER BUILDING OUTLINE AND ID
- 17 — CURRENT BUILDING OUTLINE AND ID
- AREA OF PRODUCT IMPACT
- (1.11) JULY 2006 PRODUCT THICKNESS (FT)
- (ND) NO PRODUCT DETECTED
- (NG) NOT GAUGED

NOTES:

1. LOCATIONS OF BASEMAP AND STRUCTURES SHOWN ARE BASED ON SURVEYED MAP IN STATE PLANE NAD83, FEET
2. PROPERTY LINES SHOWN HEREON ARE BASED ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND CO.," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1590–G, DATED AUGUST 15, 2003; AND ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND COMPANY," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1147–G, DATED FEBRUARY 7, 1992, LAST REVISED JUNE 15, 1992.

240 120 0 240
Scale in Feet

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EXTENT OF LNAPL IMPACTS

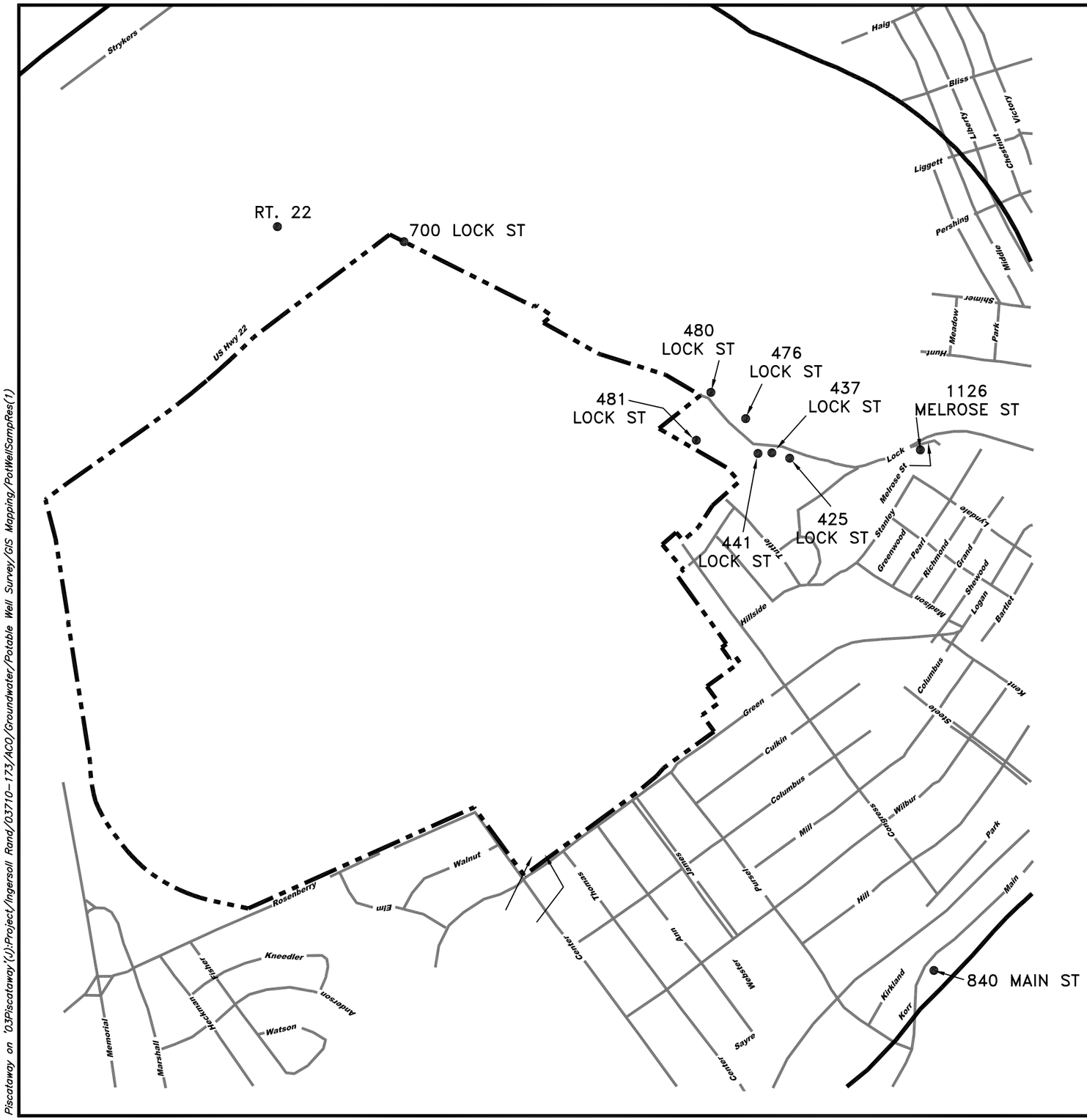
FORMER INGERSOLL RAND COMPANY
PHILLIPSBURG, NEW JERSEY

SCALE: AS SHOWN
DATE: 09/14/06
PROJECT NUMBER: 03710–173

FIGURE NUMBER: 7

SHEET NUMBER: 1 of 1

FILENAME: LNAPL PLUME.DWG



NORTH

Legend

- APPROXIMATE FORMER INGERSOLL RAND SITE BOUNDARIES
- APPROXIMATE 1/2 MILE SITE BUFFER
- ROADS
- ON-SITE WELL LOCATION
- APPROXIMATE LOCATION OF PROPERTIES WITH CONFIRMED POTABLE WELLS

Property Location (Owner's Name)	March 10, 2006 Sampling Event	April 11, 2006 Sampling Event
	Trichloroethylene Results*	Trichloroethylene Results*
425 Lock St., Phillipsburg, NJ (Graciela Daniele)	0.7 ppb	0.6 ppb
437 Lock St., Phillipsburg, NJ (Donald Cox)	0.7 ppb	0.7 ppb
441 Lock St., Phillipsburg, NJ (Jeffrey Balas)	0.6 ppb	0.6 ppb
481 Lock St., Phillipsburg, NJ (George & Doris Hardison)	1.0 ppb	1.0 ppb
840 South Main St., Phillipsburg, NJ (George & Doris Hardison)	1.6 ppb	1.6 ppb
1126 Melrose St, Phillipsburg, NJ (Harry Wyatt Jr.)	No target VOCs detected	Not sampled
Route 22, Lopatcong, NJ (Stowaway Self Storage)	No target VOCs detected	Not sampled
476 Lock St, Lopatcong, NJ (James Lee)	Chloroform at 0.6 ppm	Not sampled
480 Lock St, Lopatcong, NJ (Chester Mann Jr.)	No target VOCs detected	Not sampled
700 Lock St, Lopatcong, NJ (Peter & Angela Pellowski)	No target VOCs detected	Not sampled

*NJ Drinking Water Standards for trichloroethylene is 1.0 parts per billion (ppb).

800 400 0 800
Scale in Feet

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: NSO
DRAWN BY: /jk
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APPROVED BY:

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OFF-SITE POTABLE WELL SAMPLING RESULTS

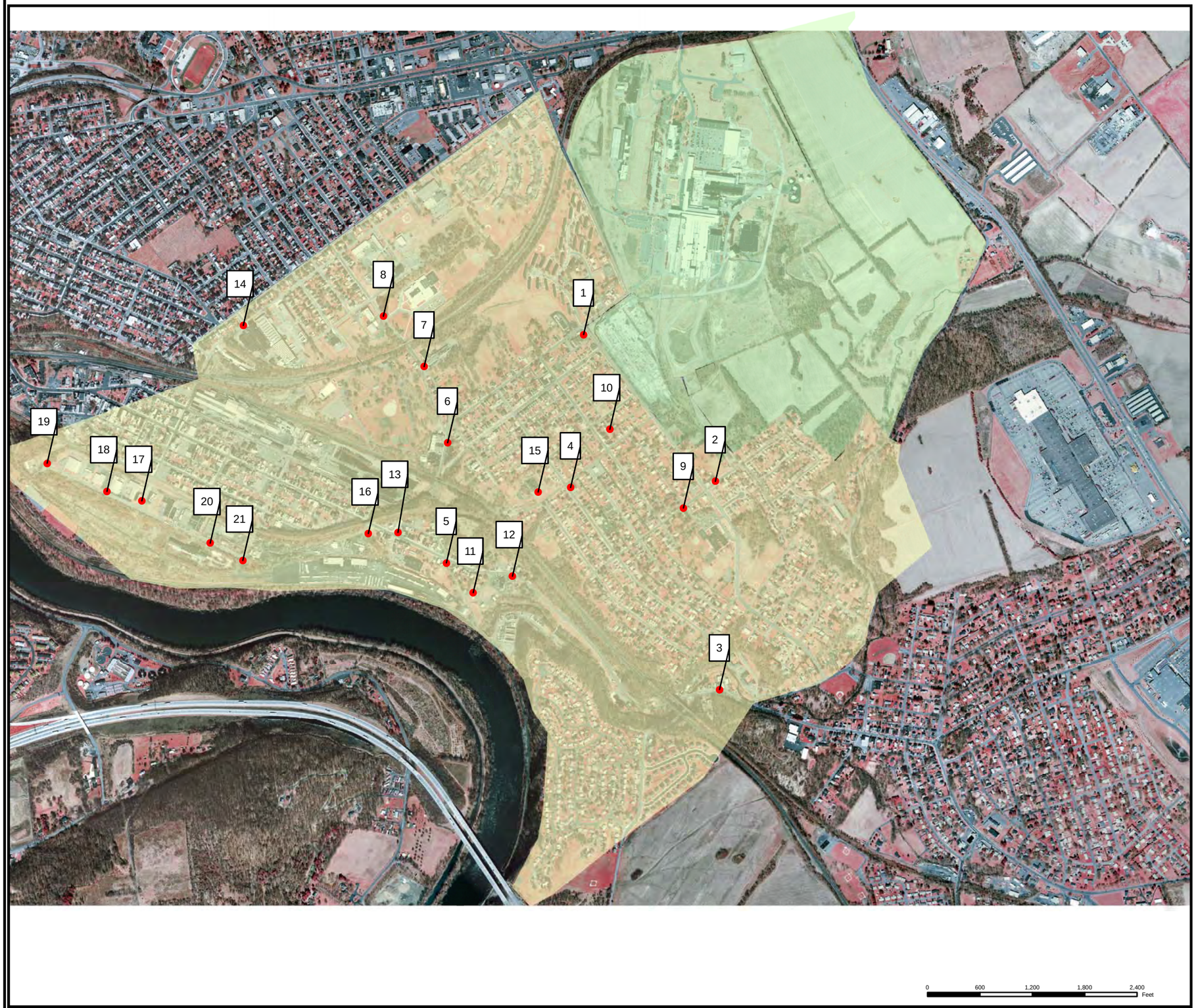
FORMER INGERSOLL RAND FACILITY
PHILLIPSBURG, NEW JERSEY

SCALE: AS SHOWN
DATE: 09/13/06
PROJECT NUMBER: 03710-173

FIGURE NUMBER: 8

SHEET NUMBER: 1 of 1

Piscataway on '03Piscataway1'(J):Project/Ingersoll Rand/03710-173/ACO/Groundwater/Potable Well Survey/GIS Mapping/PotWellSampRes(1)



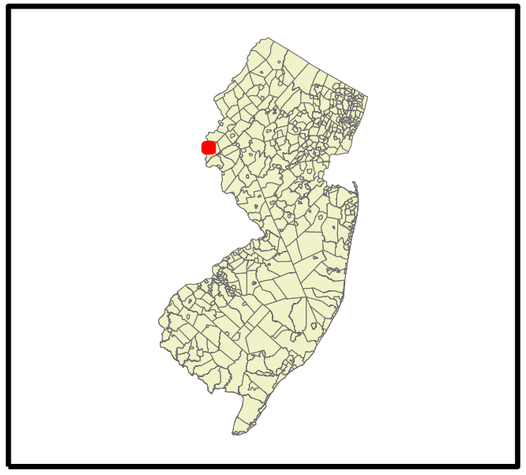
LEGEND

Area of Interest

Former Ingersoll Rand Facility

Potential Offsite Source Locations

Source ID	Description
1	Tony's Tire Service
2	Private Garage
3	Agway
4	Former service station (Dota)
5	Kwik trip & s.main wheel&brake
6	NJ Strand&Cable/Big Sky Ind.
7	Keystone packaging
8	Orbel
9	Classic Creations Woodwork
10	Possible industrial conversion
11	Water Treatment Facilty
12	Hardison Property/Auto Service&S
13	Gulf&used cars
14	HI QU Italian-American Stone
15	Flynn's
16	Karl's Glass & Mirror
17	Royalox
18	Zappa plastic / micro molding
19	Phillipsburg pistol club
20	Abandoned mfg facility
21	Fasco/R.Craft/MWs in street



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DRAWN BY: AMrato
CHECKED BY: GRM
APPROVED BY:

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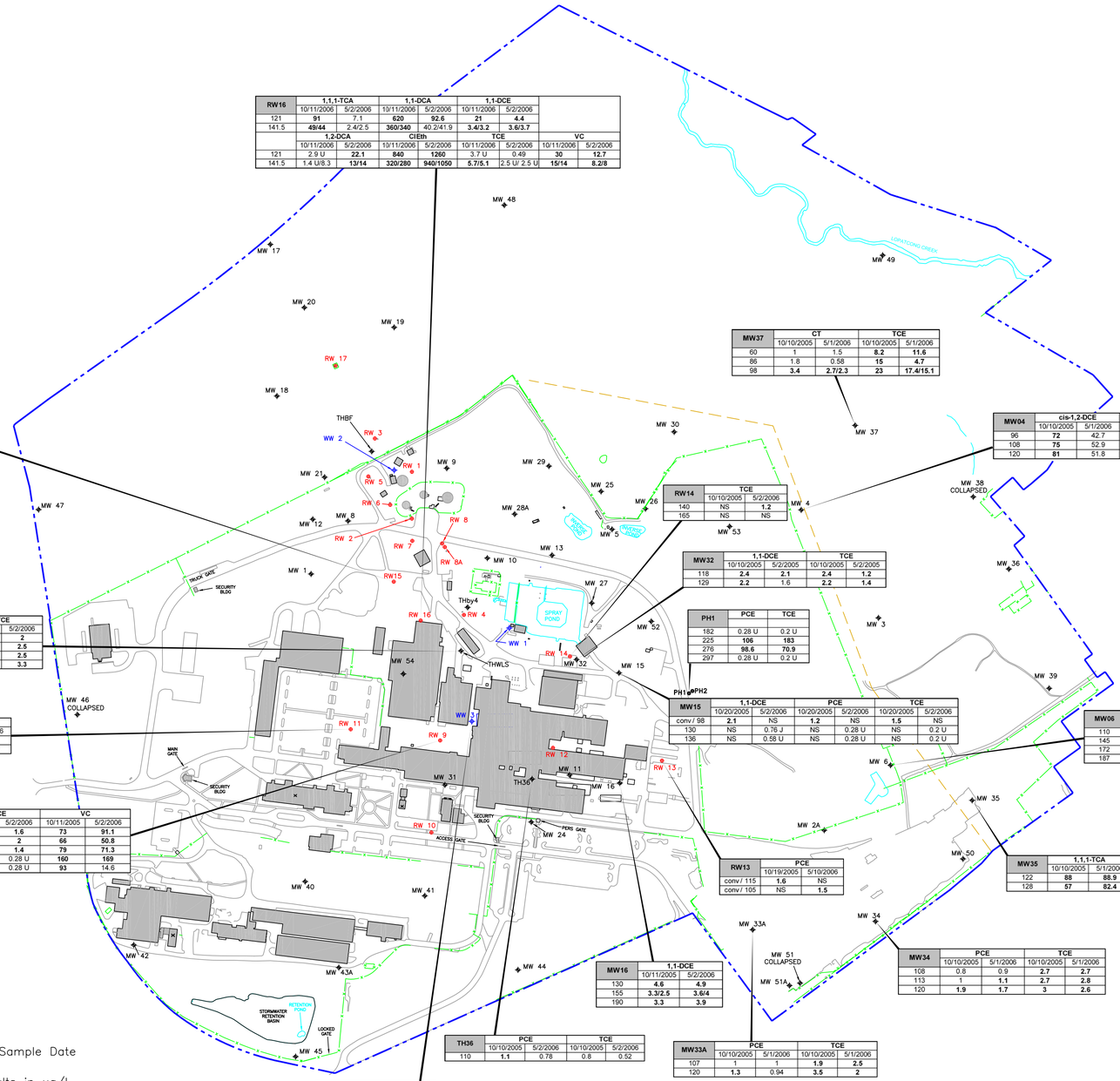
LOCATION OF POTENTIAL OFFSITE SOURCES
FORMER INGERSOLL RAND FACILITY
PHILLIPSBURG, NEW JERSEY

SCALE: AS SHOWN
DATE: 07/26/2006
PROJECT NUMBER: 03710-0907

FIGURE NUMBER: 9

SHEET NUMBER: 1 of 1

File path: J:\Project\Ingersoll Rand\03710-173\GIS\IR_Area_study_offsites_sources_07252006.mxd



RW16	1,1,1-TCA		1,1-DCA		1,1-DCE		
	10/11/2006	5/2/2006	10/11/2006	5/2/2006	10/11/2006	5/2/2006	
121	**91**	7.1	**620**	**92.6**	**21**	**4.4**	
141.5	**49/44**	2.4/2.5	**360/340**	40.2/41.9	**3.4/3.2**	**3.6/3.7**	
	1,2-DCA		CIEth		TCE		VC	
	10/11/2006	5/2/2006	10/11/2006	5/2/2006	10/11/2006	5/2/2006	10/11/2006	5/2/2006
121	2.9 U	**22.1**	**840**	**1260**	3.7 U	0.49	**30**	**12.7**
141.5	1.4 U/8.3	**13/14**	**320/280**	**940/1050**	**5.7/5.1**	2.5 U/ 2.5 U	**15/14**	**8.2/8**

MW37	CT		TCE	
	10/10/2005	5/1/2006	10/10/2005	5/1/2006
60	1	1.5	**8.2**	**11.6**
86	1.8	0.58	**15**	**4.7**
98	**3.4**	**2.7/2.3**	**23**	**17.4/15.1**

RW15	PCE		TCE	
	10/11/2005	5/2/2006	10/11/2005	5/2/2006
113	**1.8**	**5.7**	**1.8**	**2.9**
135	**1.8**	**4.3**	**2.6**	**2.9**
156	**2**	**4.5**	**2.7**	**2.9**

MW04	cis-1,2-DCE		PCE		TCE		VC	
	10/10/2005	5/1/2006	10/10/2005	5/1/2006	10/10/2005	5/1/2006	10/10/2005	5/1/2006
96	**72**	42.7	**7.4**	**6.7**	**20**	**13.9**	**34**	**18.9**
108	**75**	52.9	**7.1**	**10.6**	**21**	**17.3**	**34**	**25.2**
120	**81**	51.8	**7.8**	**9.4**	**22**	**16.8**	**37**	**24.9**

RW14	TCE	
	10/10/2005	5/2/2006
140	NS	**1.2**
165	NS	NS

MW32	1,1-DCE		TCE	
	10/10/2005	5/2/2005	10/10/2005	5/2/2005
118	**2.4**	**2.1**	**2.4**	**1.2**
129	**2.2**	1.6	**2.2**	**1.4**

THWLS	1,1,1-TCA		1,1-DCA		1,1-DCE		TCE	
	10/10/2005	5/2/2006	10/10/2005	5/2/2006	10/10/2005	5/2/2006	10/11/2005	5/2/2006
104	NS	**66.8**	NS	**128**	NS	**9**	NS	**2**
110	NS	**70.6**	NS	**138**	NS	**12.1**	NS	**2.5**
116	NS	**73.6**	NS	**145**	NS	**12.3**	NS	**2.5**
123	NS	**96.2**	NS	**188**	NS	**18.5**	NS	**3.3**

PH1	PCE	TCE
182	0.28 U	0.2 U
225	**106**	**183**
276	**98.6**	**70.9**
297	0.28 U	0.2 U

MW15	1,1-DCE		PCE		TCE	
	10/20/2005	5/2/2006	10/20/2005	5/2/2006	10/20/2005	5/2/2006
conv / 98	**2.1**	NS	**1.2**	NS	**1.5**	NS
130	NS	0.76 J	NS	0.28 U	NS	0.2 U
136	NS	0.58 U	NS	0.28 U	NS	0.2 U

MW06	1,1,1-TCA		1,1-DCE		TCE	
	10/10/2005	5/1/2006	10/10/2005	5/1/2006	10/10/2005	5/1/2006
110	**54**	NS	**2.9**	NS	**3.4**	NS
145	**55**	NS	**3.3**	NS	**3.8**	NS
172	NS	1.1	NS	0.58 U	NS	0.24
187	**56**	6.3	**3**	1.5	**3.7**	**1.3**

RW11	PCE	
	10/10/2005	5/1/2006
115	**2.7**	**2.6**
170	0.4 U	0.28 U

RW09	1,1-DCE		cis-1,2-DCE		TCE		PCE		VC	
	10/11/2005	5/2/2006	10/11/2005	5/2/2006	10/11/2005	5/2/2006	10/11/2005	5/2/2006	10/11/2005	5/2/2006
90	1.9	1.4	**380**	**151**	**4.7**	2.4	**3.9**	**1.6**	**73**	**91.1**
118	1.8 U	1.3	**330**	**165**	**4.8**	**2.3**	**4.2**	**2**	**66**	**50.8**
147	**2.2**	1.5	**370**	**173**	**2.6**	**2.4**	2.2 U	**1.4**	**79**	**71.3**
160	0.7 U	0.83 J	55	**141**	0.7 U	0.20 U	0.7 U	0.28 U	**160**	**169**
188	0.4 U/0.4 U	0.58 U	12	1.1	0.8	0.20 U	0.4 U	0.28 U	**93**	14.6

RW13	PCE	
	10/19/2005	5/10/2006
conv / 115	**1.6**	NS
conv / 105	NS	**1.5**

MW35	1,1,1-TCA		1,1-DCE		PCE		TCE	
	10/10/2005	5/1/2006	10/10/2005	5/1/2006	10/10/2005	5/1/2006	10/10/2005	5/1/2006
122	**88**	**88.9**	**5**	**4.2**	**2.3**	**2.5**	**8.1**	**6.3**
128	**57**	**82.4**	**3.6**	**4.2**	**2.2**	**2.4**	**6.5**	**5.8**

MW16	1,1-DCE	
	10/11/2005	5/2/2006
130	**4.6**	**4.9**
155	**3.3/2.5**	**3.6/4**
190	**3.3**	**3.9**

MW34	PCE		TCE	
	10/10/2005	5/1/2006	10/10/2005	5/1/2006
108	0.8	0.9	**2.7**	**2.7**
113	1	**1.1**	**2.7**	**2.8**
120	**1.9**	**1.7**	**3**	**2.6**

TH36	PCE		TCE	
	10/10/2005	5/2/2006	10/10/2005	5/2/2005
110	**1.1**	0.78	0.8	0.52

MW33A	PCE		TCE	
	10/10/2005	5/1/2006	10/10/2005	5/1/2006
107	1	1	**1.9**	**2.5**
120	**1.3**	0.94	**3.5**	**2**

WW3	TCE	VC
	5/2/2006	5/2/2006
98	0.2 U	0.35 U
215	0.2 U	0.35 U
292	**2**	**14.2**
341	**1.7**	**10.5**
472	**1.5**	**10.9**
615	0.98 J	**6.1**
725	**1.3**	**10.3**
757	**1.2/1.3**	**10/10.8**

KEY:

Analyte

Well ID

RW11	PCE	
	10/10/2005	5/1/2006
115	**2.7**	**2.6**
170	0.4 U	0.28 U

Sample Date

Sample Depth in Feet

Results in ug/L. **Bold** indicates exceedance of NJDEP Ground Water Quality Standards (GWQS).

Compound	Abbreviation	GWQS
1,1,1-Trichloroethane	1,1,1-TCA	30
1,1,2-Trichloroethane	1,1,2-TCA	3
1,1-Dichloroethane	1,1-DCA	50
1,1-Dichloroethylene	1,1-DCE	2
1,2-Dichloroethane	1,2-DCA	2
Carbon Tetrachloride	CT	2
Chloroethane	CIEth	100
cis-1,2-Dichloroethene	cis-1,2-DCE	70
Tetrachloroethene	PCE	1
Trichloroethylene	TCE	1
Vinyl Chloride	VC	5

VOC Concentrations in groundwater greater than NJDEP,GWQ

Legend

- SURFACE WATER/FEATURES AND DRAINAGE
- FORMER INGERSOLL RAND PROPERTY BOUNDARY
- EXISTING FENCELINE
- MONITORING WELL
- RECOVERY WELL
- PRODUCTION WELL

NOTES:

1. LOCATIONS OF BASEMAP AND STRUCTURES SHOWN ARE BASED ON SURVEYED MAP IN STATE PLANE NAD83, FEET
2. PROPERTY LINES SHOWN HEREON ARE BASED ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND CO.," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1590–G, DATED AUGUST 15, 2003; AND ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND COMPANY," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1147–G, DATED FEBRUARY 7, 1992, LAST REVISED JUNE 15, 1992.
3. MW6, MW12, MW15, MW24, RW10 AND THWLS WERE RETROFIT.

300 150 0 300
Scale in Feet

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: GM
DRAWN BY: /jk
CHECKED BY:
APPROVED BY:

ENSR | AECOM
ENSR CORPORATION
20 NEW ENGLAND AVENUE
PISCATAWAY, NEW JERSEY 08854
PHONE: (732) 981-0200
FAX: (732) 981-0116
WEB: HTTP://WWW.ENSR-AECOM.COM

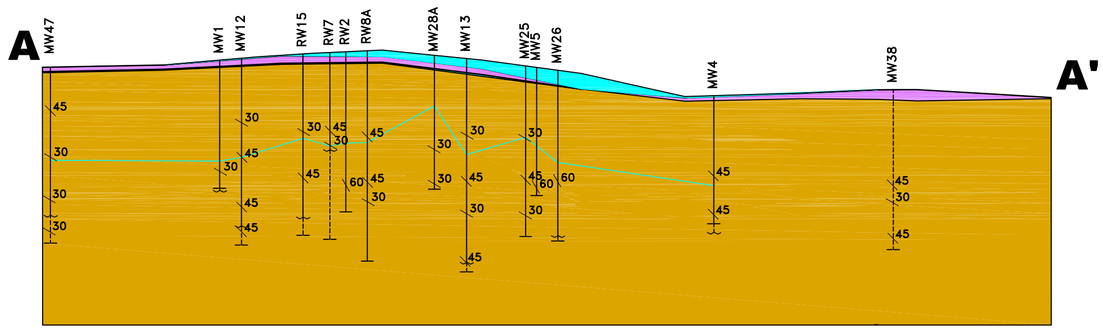
WELL LOCATIONS WHERE CONSTITUENTS OF CONCERN EXCEED NJDEP GROUNDWATER QUALITY STANDARDS

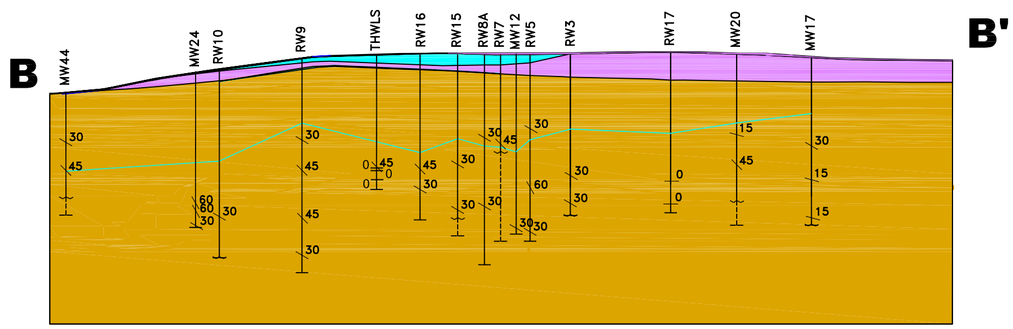
FORMER INGERSOLL RAND FACILITY
PHILLIPSBURG, NEW JERSEY

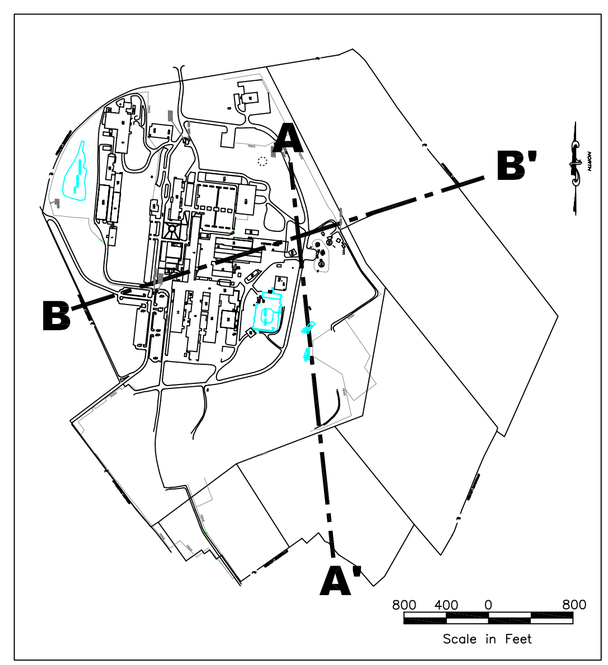
PROJECT NUMBER: 03710–173
DATE: 12/06
SCALE: AS SHOWN

FIGURE NUMBER: **10**

SHEET NUMBER: **1 of 1**







Legend

- Fracture dip to Nearest 15th Degree.
- Fill
- Native Overburden
- Bedrock
- Collapsed Portion of Well
- Original Well Depth More Shallow Than Most Recent Well Depth
- July 2006 Gauging Data

NOTES:

1. CROSS SECTIONS WERE GENERATED FROM DRILLER'S GEOLOGIC LOGS, BOREHOLE GEOPHYSICAL DATA AND ENSR'S INTERPRETED GEOLOGIC DATABASE.
2. WELLS LOCATIONS ARE APPROXIMATE.
3. FRACTURE PROJECTIONS DISPLAY APPARENT FRACTURE DIP ANGLES ADJUSTED TO THE VIEWING PLANE OF THE CROSS–SECTIONS, AND ARE NOT TRUE DIP ANGLES.
4. WELLS MW–12, MW–24, AND THWLS WERE ADDED TO B–B' BY HAND IN 2006. EXCEPT FOR ZONES INTERCEPTED BY THWLS 103–107' AND 108–111' BGS, ADDED FRACTURES ON THESE WELLS DO NOT HAVE EVIDENCE OF BEING HYDROLOGICALLY ACTIVE. THEY ARE CANDIDATES FOR FLOW AND/OR THEY ARE SIGNIFICANT FRACTURE AREAS.

HORIZONTAL SCALE

Scale in Feet

0 250 500 1000

VERTICAL SCALE

Scale In Feet

0 50 100

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: SMcC

DRAWN BY: GM/JK/KM

CHECKED BY:

APPROVED BY:

ENSR | AECOM

20 NEW ENGLAND AVENUE
PISCATAWAY, NEW JERSEY 08854
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GEOLOGIC CROSS SECTIONS WITH SELECT FRACTURE PROJECTIONS

FORMER INGERSOLL RAND FACILITY
PHILLIPSBURG, NEW JERSEY

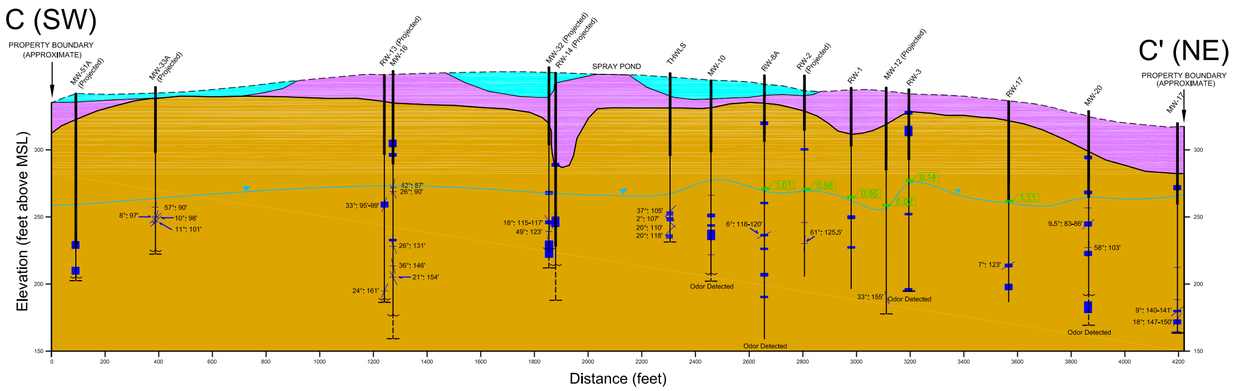
SCALE: AS SHOWN

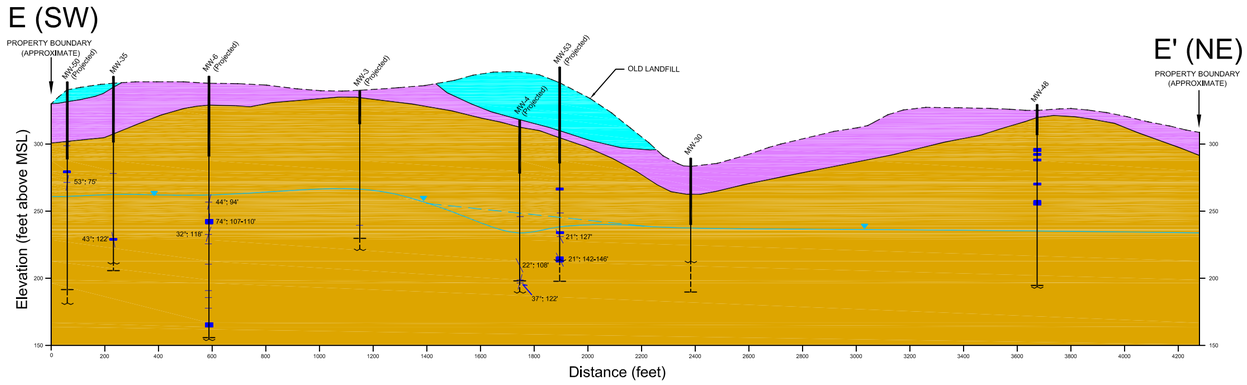
DATE: 10/06/06

PROJECT NUMBER: 03710–167

FIGURE NUMBER: 11

SHEET NUMBER: 1 of 1





Legend:

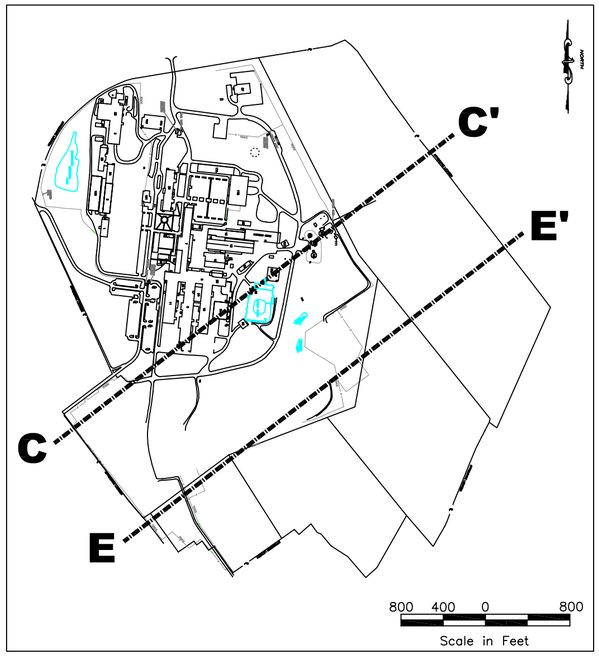
- Casing
- Open borehole
- Fracture zone or void
- Fracture; angle and depth indicated
- Collapsed portion of well
- Original well depth more shallow than most recent well depth
- Thickness of free product; July 2006 Gauging Data
- Water level (feet above msl) July 2006 Gauging Data
- Estimated water level along cross-section line adjusted for projection of MW-4 and MW-53.
- General fracture orientation
- Fill
- Native overburden
- Bedrock

NOTES:

1. CROSS SECTIONS WERE GENERATED FROM DRILLER'S GEOLOGIC LOGS, BOREHOLE GEOPHYSICAL DATA AND ENSR'S INTERPRETED GEOLOGIC DATABASE.
2. WELL LOCATIONS ARE APPROXIMATE.
3. FRACTURE PROJECTIONS DISPLAY APPARENT FRACTURE DIP ANGLES ADJUSTED TO THE VIEWING PLANE OF THE CROSS SECTION AND ARE NOT TRUE DIP ANGLES. FRACTURE DIPS DRAWN ARE ALSO CORRECTED TO REFLECT THE 5:1 VERTICAL EXAGGERATION.
4. MW-51A IS A PERFORATED STEEL CASING FROM 115-140 FEET BELOW GROUND SURFACE

HORIZONTAL SCALE
Scale in Feet
0 200 400 800

VERTICAL SCALE
Scale In Feet
0 40 80



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NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: GM
DRAWN BY: PS\IC\KM
CHECKED BY:
APPROVED BY:

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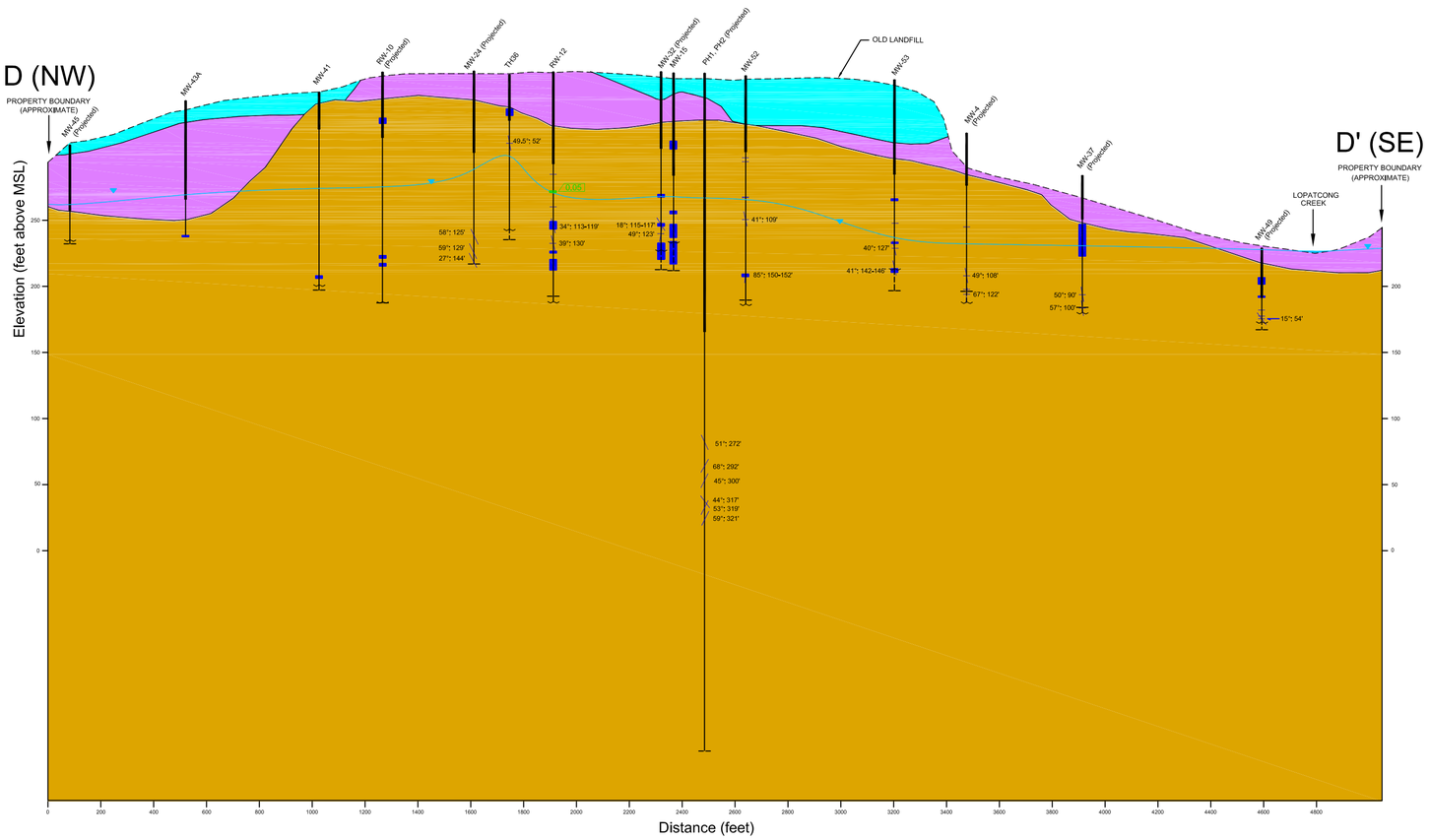
GEOLOGIC CROSS SECTIONS WITH SELECT FRACTURE PROJECTIONS

FORMER INGERSOLL-RAND FACILITY
PHILLIPSBURG, NEW JERSEY

SCALE: AS SHOWN
DATE: 10/06/06
PROJECT NUMBER: 03710-167

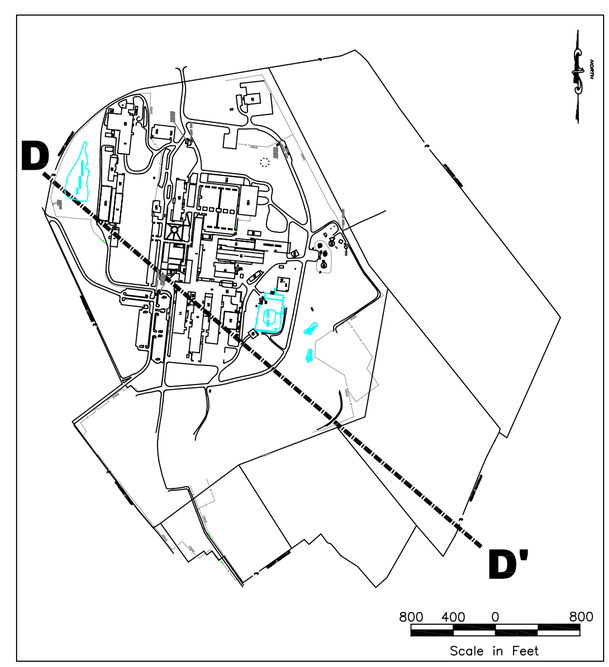
FIGURE NUMBER: 12
SHEET NUMBER: 1 of 1

Piscataway on '03dcPiscataway1(J):Project/Ingersoll Rand/03710-167/CADD/GW 2005/IR xsec CE(1)



Legend:

- Casing
- Open borehole
- Fracture zone or void
- Fracture; angle and depth indicated
- Collapsed portion of well
- Original well depth more shallow than most recent well depth
- Thickness of free product; July 2006 Gauging Data
- Water level (feet above msl) July 2006 Gauging Data
- Estimated water level along cross-section line adjusted for projection of MW-4 and MW-53.
- General fracture orientation
- Fill
- Native overburden
- Bedrock



NOTES:

1. CROSS SECTIONS WERE GENERATED FROM DRILLER'S GEOLOGIC LOGS, BOREHOLE GEOPHYSICAL DATA AND ENSR'S INTERPRETED GEOLOGIC DATABASE.
2. WELL LOCATIONS ARE APPROXIMATE.
3. FRACTURE PROJECTIONS DISPLAY APPARENT FRACTURE DIP ANGLES ADJUSTED TO THE VIEWING PLANE OF THE CROSS SECTION AND ARE NOT TRUE DIP ANGLES. FRACTURE DIPS DRAWN ARE ALSO CORRECTED TO REFLECT THE 5:1 VERTICAL EXAGGERATION

HORIZONTAL SCALE
Scale in Feet
0 200 400 800

VERTICAL SCALE
Scale In Feet
0 40 80

REVISIONS		
NO.:	DESCRIPTION:	DATE: BY:

DESIGNED BY: GM
DRAWN BY: PS\IC\KM
CHECKED BY:
APPROVED BY:

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PISCATAWAY, NEW JERSEY 08854
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FAX: (732) 981-0116
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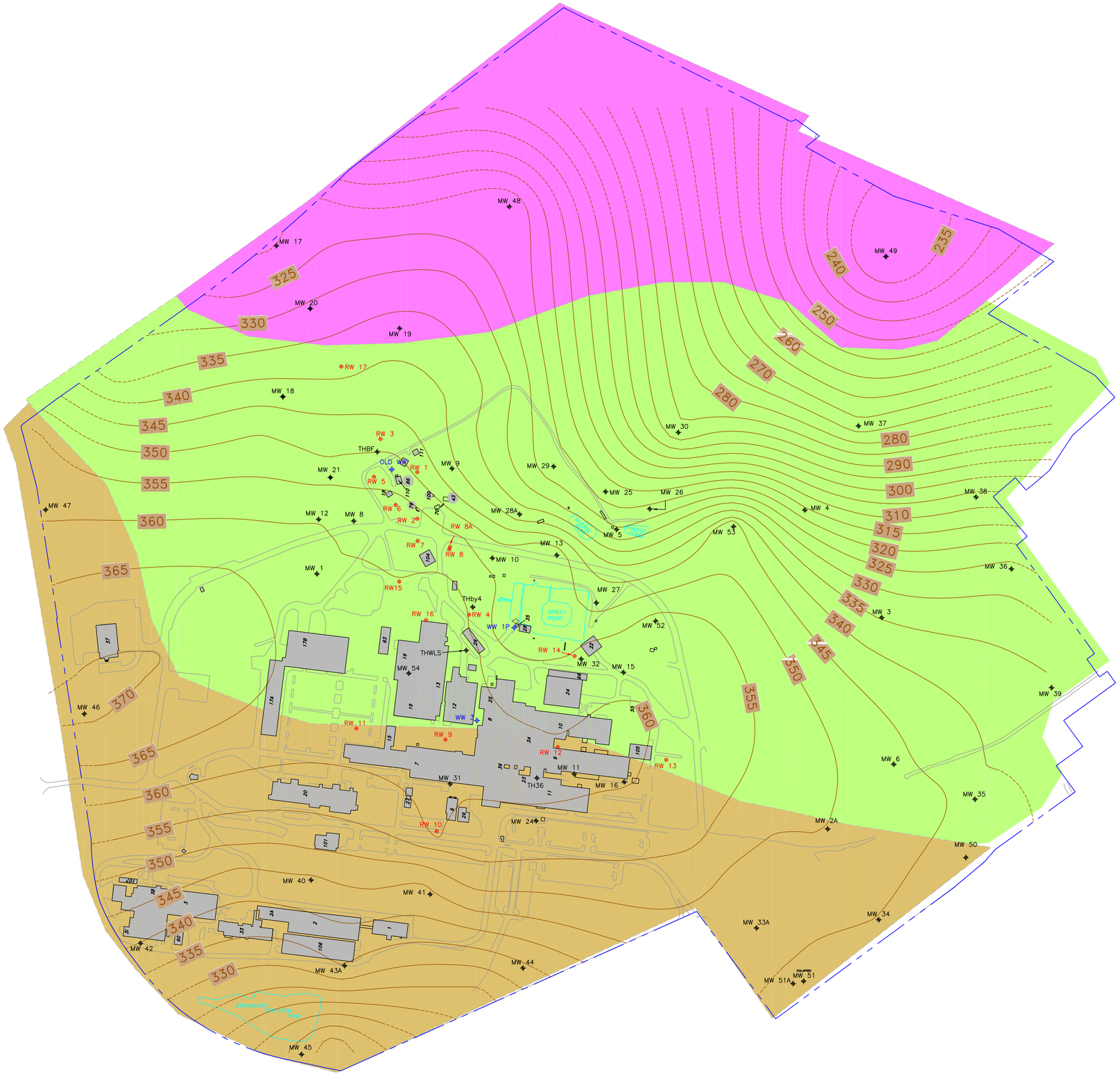
GEOLOGIC CROSS SECTIONS WITH SELECT FRACTURE PROJECTIONS

FORMER INGERSOLL-RAND FACILITY
PHILLIPSBURG, NEW JERSEY

SCALE: AS SHOWN
DATE: 10/06/06
PROJECT NUMBER: 03710-167

FIGURE NUMBER: 13
SHEET NUMBER: 1 of 1

Piscataway on '03c:Piscataway'(U:)-Project/Ingersoll Rand/03710-167/CADD/GW 2005/lr xsec D



Legend

- POND
- PROPERTY BOUNDARY
- BEDROCK ELEVATION CONTOUR (DASHED WHERE INFERRED)
- MONITORING WELL
- RECOVERY WELL
- PRODUCTION WELL
- 17 CURRENT BUILDING OUTLINE AND ID
- EPLER FORMATION - LIMESTONE/DOLOMITE
- RICKENBACH FORMATION - DOLOMITE
- ALLENTOWN FORMATION - DOLOMITE

NOTES:

1. LOCATIONS OF BASEMAP AND STRUCTURES SHOWN ARE BASED ON SURVEYED MAP IN STATE PLANE NAD83, FEET
2. PROPERTY LINES SHOWN HEREON ARE BASED ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND CO.," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1590–G, DATED AUGUST 15, 2003; AND ON A DRAWING ENTITLED "SURVEY OF LANDS FOR INGERSOLL – RAND COMPANY," PREPARED BY STUDER & McELDOWNEY, P.A., DRAWING NO. 1147–G, DATED FEBRUARY 7, 1992, LAST REVISED JUNE 15, 1992.
3. BEDROCK GEOLOGY SOURCE: NJDEP GIS RESOURCE CD–ROM SERIES 1 VOLUME 3 (1996)

240 120 0 240
Scale in Feet

REVISIONS			
NO.:	DESCRIPTION:	DATE:	BY:

DESIGNED BY: GM
DRAWN BY: jk
CHECKED BY:
APPROVED BY:

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ENSR CORPORATION
2241 RT. 206 AT NEW ENGLAND AVENUE
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BEDROCK ELEVATION CONTOUR

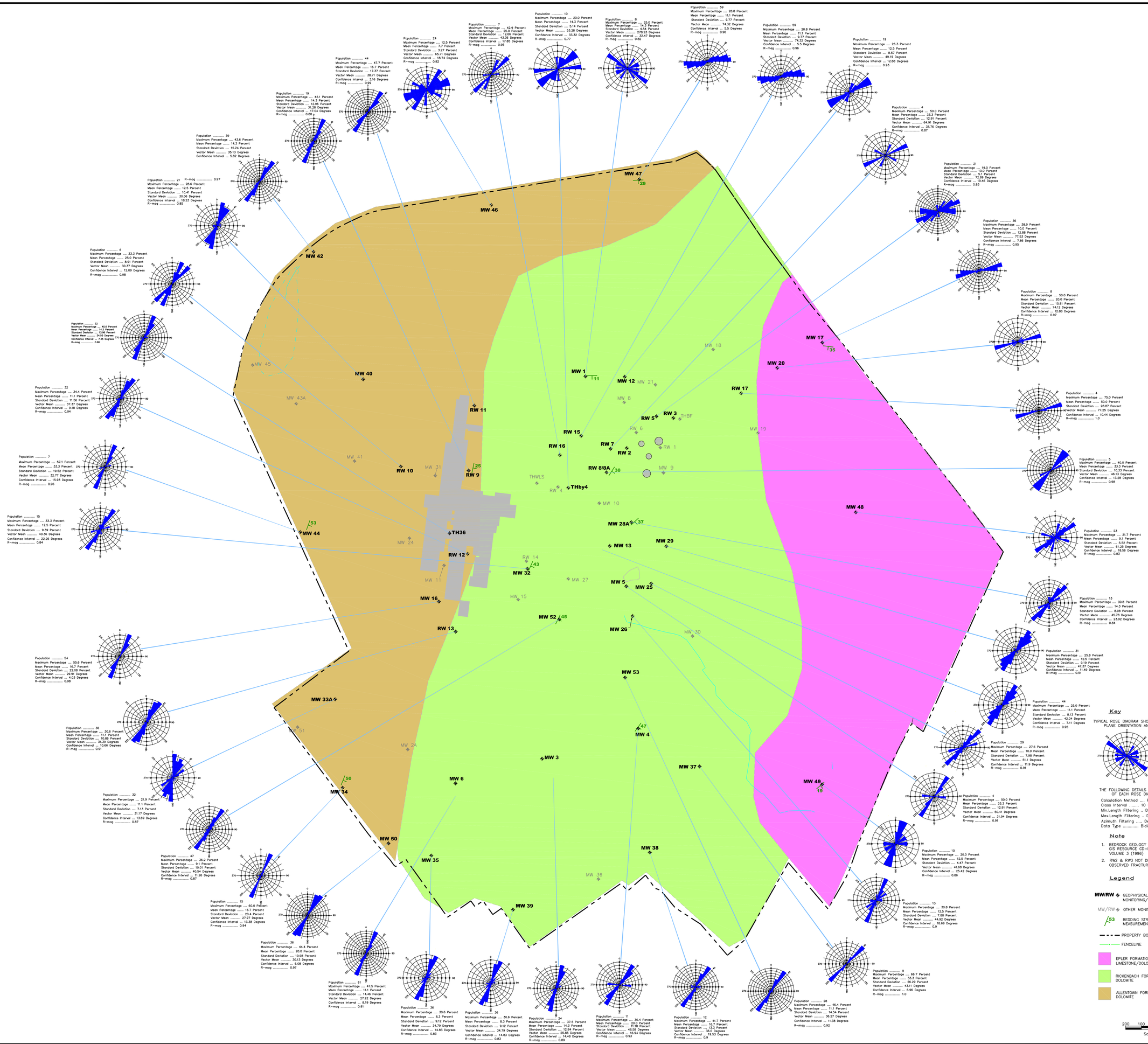
FORMER INGERSOLL RAND COMPANY
PHILLIPSBURG, NEW JERSEY

SCALE: AS SHOWN
DATE: 05/12/05
PROJECT NUMBER: 03710–173

FIGURE NUMBER: 14

SHEET NUMBER: 1 of 1

Plotted by on 'U:\dwf\facsimile\dj\Project\Ingersoll Rand\03710-167\Cadd\Bedrock Elevation Contour



REVISIONS			
NO.	DESCRIPTION:	DATE:	BY:

DESIGNED BY: SMcC
DRAWN BY: /JK
CHECKED BY:
APPROVED BY:

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ENSR CORPORATION
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PHONE: (732) 981-0200
FAX: (732) 981-0116
WEB: HTTP://WWW.ENSR.COM

SITE MAP SHOWING FRACTURE PLANE ORIENTATIONS, SELECT BEDDING PLANE ORIENTATIONS & SITE GEOLOGY

INGERSOLL RAND COMPANY
PHILLIPSBURG, NEW JERSEY

SCALE: AS SHOWN
DATE: 03/23/05
PROJECT NUMBER: 03710-173

DRAWING NUMBER: 15

SHEET NUMBER: 1 of 1

Preliminary on S:\Shared\Cad\Projects\Ingersoll Rand\03710-173\Cad\Groundwater 2005\Building Small Fracture

Appendix A

Laboratory Reports & EDDs

This Appendix is located in the original copy to NJDEP and the electronic document.