DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS Code (CA750)
Migration of Contaminated Groundwater Under Control

Facility Name: **Spirol International Corporation**
Facility Address: **30 Rock Avenue Danielson, Connecticut 06239**
Facility EPA ID #: **CTD 001140862**

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

✓ If yes - check here and continue with #2 below.

___ If no - re-evaluate existing data, or

___ If data are not available, skip to #8 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

2. Is **groundwater** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

✓ If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

___ If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

___ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

Groundwater contamination was identified in the area of the Spirol facility in the late 1980's. In 1992, Spirol entered into a Stipulation for Judgment with the Connecticut Department of Environmental Protection (CTDEP) that required certain actions with respect to environmental issues. One of these actions is to continue groundwater monitoring at the Site and to report findings to the CTDEP. Since that time, a network of groundwater monitoring wells has been installed in order to characterize and monitor the groundwater conditions. In total, 37 groundwater monitoring wells have been installed. Monitoring well locations are shown on the site plan included as the attached **Figure 1**. In May 2004, a **Supplemental Hydrogeologic Investigation Report** was submitted to the CTDEP and the United States Environmental Protection Agency (USEPA). This report presented key findings and conclusions addressing the data gaps identified by EPA Region I relevant to an Environmental Indicator RCRIS Code CA 750, Migration of Contaminated Groundwater Under Control determination for the site.

Specifically, one of the key findings of the **Supplemental Hydrogeologic Investigation Report** was that groundwater containing site contaminants is not migrating toward the adjacent Hopkins Well Field under current and normal pumping conditions. This finding was supported by data generated through quarterly groundwater monitoring activities on the site. The groundwater flow model completed during the well field's Level A Mapping activities indicated that contaminants from the site may be drawn toward the Hopkins Well Field under the worst case conditions of maximum pumping rate under prolonged drought conditions (although this finding does not take into account the impact on local groundwater flow of the braided-stream and wetland conditions between the site and the wellfield). The **Supplemental Hydrogeologic Investigation Report** concluded that quarterly monitoring of select "sentinel wells" at the north end of the Spirol site, in conjunction with the monitoring program conducted by the Connecticut Water Company at the wellfield, was considered protective of the existing use of the groundwater as a public drinking water supply.

Currently, groundwater monitoring is performed in accordance with the revised Groundwater Monitoring Program submitted to the Connecticut Department of Environmental Protection (CTDEP) on May 31, 2005. This program designates select monitoring wells for quarterly and for annual groundwater sampling in order to focus on two primary issues identified in the Supplemental Hydrogeologic Investigation Report. First, to provide periodic analytical data to document that site-related contaminants are not migrating to the Hopkins well field to the north through the quarterly sampling of four monitoring wells that were selected based on the hydrogeologic data used to develop the Level A mapping boundaries for the well field; and second more generally to monitor the stability and degradation of groundwater contamination through an annual more comprehensive sampling event. Groundwater sampling under this program has occurred during the months of February, May, and August of 2005. Prior to this groundwater monitoring program various monitoring wells have been routinely (either quarterly, semiannually, or annually) sampled over the past twenty years.

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

2. Continued.

In September 2003 a Sensitive Receptor Survey was completed for the facility. This Sensitive Receptor Survey was conducted for the purpose of identifying sensitive receptors within a ¼ mile of the Spirol Facility. The survey concluded that there were no existing uses of groundwater downgradient (west) of the site.

Appropriate protective "levels" used in this evaluation include the CTDEP Remediation Standard Regulations (RSRs) Groundwater Protection Criteria (GWPC), Surface Water Protection Criteria (SWPC), and Residential Groundwater Volatilization Criteria (Residential GWVC). The GWPC applies to groundwater classified as "GA", or to groundwater within an area of "GB" classification when an existing use of groundwater has been identified. The Spirol property is located in an area of "GB" groundwater classification.

The primary contaminants of concern (COCs) in groundwater at the site are trichloroethene (TCE), 1,1,1-trichloroethane (1,1,1-TCA), and cadmium. Secondary contaminants include breakdown products of TCE and 1,1,1-TCA such as 1,1-dichloroethene (DCE), cis-1,2-DCE, trans-1,2-DCE, and 1,1-dichloroethane; cyanide, and TPH. The primary source of the VOC plumes is located in the area formerly used for degreasing within the manufacturing building. The source of cadmium and cyanide is the former lagoons located in the northwest portion of the site.

Groundwater monitoring results from the past three years are summarized in the attached **Table 1**. Both TCE and 1,1,1-TCA contaminant plumes occur primarily in the intermediate and deep flow systems (approximately 30 to 70 feet below ground surface) and have migrated there over time due to the strong vertically downward gradients present across the site as well as the relatively high density of these compounds. Current information indicates that the VOC plumes migrate in the intermediate and deep flow systems to the west toward the Five Mile River with a decrease in groundwater concentrations. The concentration of VOCs observed in groundwater samples collected from the most downgradient monitoring wells (05MW-23I and 05MW-23D) within the intermediate and deep aquifers are below the applicable criteria established in the CT RSRs (SWPC and Residential GWVC). Additionally, the results of the Sensitive Receptor Survey performed in 2003 indicate that there were no existing uses of groundwater downgradient (west) of the site.

Current and historic groundwater monitoring results indicate that cadmium and zinc are present in the shallow flow system in a limited area downgradient (west) of the location of the former lagoons primarily in monitoring wells MW-3, MW-4, and MW-5. Current groundwater data for these monitoring wells indicate that the concentration of cadmium range from 0.012 mg/L to 0.264 mg/L and the concentration of zinc range from 0.041 mg/L to 0.186 mg/L. The cadmium and zinc-containing groundwater discharges to a limited portion of the Five Mile River and is bounded by the river. An alternative SWPC was calculated in accordance with Section 22a-133k-3(b)(3) of the CT RSRs for cadmium (7.3 mg/L) and zinc (379 mg/L). The contaminant loading to the Five Mile River, for both cadmium and zinc, has been determined to be at an acceptable level.

Additionally, cyanide has been detected in the shallow groundwater aquifer downgradient of the location of the former lagoons primarily in monitoring wells MW-04, MW-05, and MW-06. Current groundwater data for these monitoring wells indicate that the concentration of cyanide range from 0.01 mg/L to 0.075 mg/L. This shallow groundwater discharges to a limited portion of the Five Mile River and is bounded by the river. An alternative SWPC was calculated in accordance with Section 22a-133k-3(b)(3) of the CT RSRs for cyanide (34 mg/L). The concentration of cyanide in the shallow aquifer has been determined to be at an acceptable level.

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] as defined by the monitoring locations designated at the time of this determination)?

✓ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"[2]).

___ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"[2]) - skip to #8 and enter "NO" status code, after providing an explanation.

___ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

A detailed hydrogeologic evaluation of data for the site was conducted in order to develop an understanding of the flow of groundwater across the site. This evaluation was included in the **Supplemental Hydrogeologic Report** submitted in May of 2004. In general the hydrogeology at the site is dominated by two distinct flow systems. The first is the shallow aquifer system which flows to the west and discharges to the Five Mile River. The second flow system involves the intermediate/deep aquifer flow system that flows beneath the Five Mile River where it likely assumes a more regional flow direction toward the southwest. The groundwater contaminants associated with the former lagoons (cadmium, cyanide, and zinc) are primarily migrating within the shallow flow system. The VOC contaminant plumes are associated with the intermediate/deep aquifers due to the strong downward vertical gradients and the high relative densities (greater than water) of the contaminants.

Shallow groundwater from the site is dominated by westerly flow toward the Five Mile River, ultimately discharging to the river. As such, the migration of cadmium, zinc, and cyanide contamination, limited to the shallow flow system, is stable with the Five Mile River acting as a downgradient boundary for the contamination.

The concentration of cyanide detected within the intermediate aquifer (monitoring wells MW-11I and 05MW-23I) is consistent with historic groundwater data for cyanide within the intermediate aquifer (0.013 mg/L detected in MW-14I in 1996). Therefore, the contaminant plume is considered stable. Additionally, the analytical results for cyanide detected in groundwater samples collected from these monitoring wells indicate concentrations are below the applicable criteria established in the CT RSRs.

Contamination within the intermediate and deep aquifers consists of VOCs, specifically TCE and 1,1,1-TCA. Secondary contaminants within these aquifers are breakdown products of the primary contaminants such as 1,1-dichloroethene (DCE), cis-1,2-DCE, trans-1,2-DCE, and 1,1-dichloroethane. The migration of these contaminants has stabilized. This determination is based on the following: source removal, contaminant degradation, decreasing contaminant concentrations over time, and decreasing concentrations downgradient. First, the source of contamination from the former degreasing operations within the facility has been removed. A soil vapor extraction (SVE) system was activated onsite in April 2000 to address three areas with elevated concentrations of chlorinated volatile organic compounds (VOCs).

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[2] "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation

3. Continued.

In April 2003, W&C engineering personnel reviewed the system performance to date and determined that it would be an appropriate time to evaluate overall remediation progress by allowing the system to remain inactive. Analytical results of this soil vapor samples, collected every six months since that time, indicate that no VOCs were detected at concentrations exceeding the CT RSR criteria for soil vapor in residential settings. Second, degradation products of the primary contaminants of concern have been detected in groundwater samples collected from monitoring wells immediately downgradient of the source location, from monitoring wells across the site in the direction of the contaminant plume and from a monitoring well at the site boundary. The presence of degradation products indicates that natural attenuation of site related VOCs is occurring on the site. Third, analytical results collected during the previous three years indicate that the concentration of both 1,1,1-TCA and TCE have decreased over time. This change in groundwater contamination is most readily observed in monitoring well 03MW-22I. Groundwater samples collected from May 2003 through May 2005 indicate that the highest concentration of TCE within the groundwater plume (groundwater collected from monitoring well 03MW-22I) has decreased from 1900 µg/L to 455 µg/L. Additionally, the highest concentration of 1,1,1-TCA within the plume (groundwater collected from monitoring well 03MW-04D) also decreased from 1900 µg/L to 447 µg/L over the same time period. Similar, although less pronounced, decreases can be observed in groundwater samples collected from monitoring wells MW-11I, MW-17I, MW-18I, and MW-18D. Finally, groundwater analytical data collected in February and May 2005 from the 05MW-23 well cluster indicate that the concentrations of the primary contaminants of concern are one to two orders of magnitude below contamination levels observed at farther upgradient monitoring wells and the concentrations of all detected VOCs at this well cluster (05MW-23) are below the applicable criteria established in the CT RSRs. This decrease in contamination concentration further supports the conclusion of a stable groundwater plume that is decreasing in size and contaminant concentration.

4. Does "contaminated" groundwater **discharge** into **surface water** bodies?

✓ If yes - continue after identifying potentially affected surface water bodies.

___ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

___ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

The Five Mile River abuts the western portion of the site and creates the geographical western boundary of the site. Based on hydrogeologic models developed for the site, shallow groundwater contaminated with inorganics discharges to a limited portion of the Five Mile River. In February 2005 a groundwater sample was collected from a newly installed monitoring well (05MW-23S) screened within the shallow aquifer. Analytical results indicate that cadmium was not present in the shallow groundwater adjacent to the Five Mile River above the laboratory reporting limit of 0.0025 mg/L. Analytical results also indicate that the concentration of cyanide was below the laboratory reporting limit of 0.01 mg/L in the groundwater sample collected from monitoring well 05MW-23S. In May 2005, analytical results from a groundwater sample collected from monitoring well 05MW-23S indicate that zinc is present in the shallow aquifer adjacent to the Five Mile River, but at levels below the SWPC (5 mg/L). The groundwater sample collected from 05MW-23S was also analyzed for cadmium and cyanide, neither constituent was detected at a concentration above the applicable criteria established in the CT RSRs (both concentrations were below the laboratory's minimum reporting limit).

4. Continued.

Groundwater within the intermediate and deep aquifers does not discharge to the Five Mile River. Groundwater elevations observed in the 05MW-23 well cluster in May 2005 indicate that the vertical hydraulic gradient between the shallow and intermediate aquifers was 1.14 ft downward and the vertical hydraulic gradient between the intermediate and deep aquifers was 0.14 ft downward. Such large vertical gradients support the findings of the **Supplemental Hydrogeologic Report** with regard to contamination and groundwater flow patterns between the three distinct aquifers. Based on hydrogeologic models and these observed downward vertical hydraulic gradients in the 05MW-23 well cluster, groundwater within these two aquifers migrates westward at a depth of approximately 30 to 70 ft. bgs underneath the Five Mile River.

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration[3] of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

✓ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration[3] of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgment/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

— If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration[3] of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations[3] greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

— If unknown - enter "IN" status code in #8.

Rationale and Reference(s):

To determine if site cadmium levels were protective of the Five Mile River upon discharge, alternative SWPC were previously calculated and indicated that cadmium did not exceed the alternative criteria (Fuss & O'Neill, 1996). However, the surface water quality standards have become more stringent since the Fuss & O'Neill report. Therefore, the calculations were updated with the new surface water quality standards for cadmium (CTDEP, 2002).

An updated alternate SWPC was calculated as part of the supplemental hydrogeological report submitted in May 2004. The 7Q10 was previously reported as 1,209,600 cubic feet/day and is used in the updated calculation. The discharge calculated from the site is approximately 34 cubic feet/day. This discharge was calculated using the width (150 ft.) of the cadmium plume's impingement on the Five Mile River and an interpreted saturated depth of 25 feet for the plume based on historical groundwater concentrations of cadmium in groundwater collected from MW-14I (an intermediate well).

[3] As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

5. Continued.

Using the lower value of Human Health or Aquatic Life Criteria for cadmium (1.35 ug/l) the alternative SWPC for groundwater contamination was calculated to be 12.1 mg/l, as presented in the Supplemental Hydrogeological Report (May 2004).

Since the submission of the Supplemental Hydrogeological Report (May 2004), additional site hydrogeologic data was obtained from the installation of three new monitoring wells, 05MW-023S, 05MW-023I, and 05MW-023D (Refer to **Figure 1**). The analytical results from groundwater samples collected in February 2005 and May 2005 from monitoring well 05MW-23S indicate that the concentration of cadmium, in the shallow aquifer adjacent to Five Mile River, is below the laboratory reporting limit of 0.0025 mg/L (see **Table 1**). In order to establish a highly conservative alternative SWPC for cadmium discharge to the Five Mile River, this new data point (05MW-23S) was used to establish a new width of 250 ft. as opposed to the previous value of 150 ft. for the cadmium plume's impingement on the Five Mile River. The previously used width (150 ft.) was based on groundwater grab samples (slotted/screened augers) collected by Fuss & O'Neill in 1997. All other assumptions made for the previous calculations were held constant. The resulting alternate SWPC for cadmium was calculated to be 7.3 mg/L. Current groundwater data indicate that the concentration of cadmium range from 0.012 mg/L to 0.264 mg/L within the groundwater plume. Comparing the calculated alternate SWPC for cadmium with the current and historical groundwater data indicate that the levels of cadmium in groundwater discharging to the Five Mile River are acceptable.

In May 2005, groundwater samples collected from select monitoring wells were analyzed for zinc and cyanide. In order to determine whether or not the observed levels of zinc and cyanide were protective of the Five Mile River, alternative SWPC were calculated for these two constituents.

For cyanide, the discharge calculated from the site is approximately 45.5 cubic feet/day. This discharge was calculated using the width (180 ft.) of the cyanide plume's impingement on the Five Mile River and an interpreted saturated depth of 28.1 feet for the plume based on current groundwater concentrations of cyanide in groundwater collected from MW-11I (an intermediate well). Using the lower value of Human Health or Aquatic Life Criteria for cyanide (5.20ug/l) the alternative surface water criteria for groundwater contamination was calculated to be 34 mg/l.

For zinc, the discharge calculated from the site is approximately 51.75 cubic feet/day. This discharge was calculated using the width (230 ft.) of the zinc plume's impingement on the Five Mile River and an interpreted saturated depth of 25 feet for the plume based on current groundwater concentrations of zinc in groundwater collected from MW-14I (an intermediate well). Using the lower value of Human Health or Aquatic Life Criteria for zinc (65 ug/l) the alternative SWPC for groundwater contamination was calculated to be 379 mg/l.

Current groundwater data indicate that the concentration of cyanide range from 0.01 mg/L to 0.075 mg/L and the concentration of zinc range from 0.041 mg/L to 0.186 mg/L. Comparing the calculated alternate SWPC for cyanide (34 mg/L) and zinc (379 mg/L) with the current and historical groundwater data indicate that the levels of both cyanide and zinc in groundwater discharging to the Five Mile River are acceptable.

6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be "**currently acceptable**" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented[4])?

   ___ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR
   2) providing or referencing an interim-assessment[5], appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

   ___ If no - (the discharge of "contaminated" groundwater can not be shown to be "**currently acceptable**") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

   ___ If unknown - skip to 8 and enter "IN" status code.

Rationale and Reference(s): NA

[4] Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

[5] The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

✓ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

___ If no - enter "NO" status code in #8.

___ If unknown - enter "IN" status code in #8.

Rationale and Reference(s):

Groundwater monitoring will continue on a quarterly basis as outlined in the **Groundwater Monitoring Plan** dated May 31, 2005 submitted to the CTDEP and the USEPA.

Groundwater samples will be collected from four (4) monitoring wells (MW-15, MW-16, MW-21I, and MW-21D) on a quarterly basis. These wells were identified in the Supplemental Report as being "sentinel wells" that will indicate whether site-related contaminants are migrating toward the Hopkins well field. The basis for selecting these wells was (1) the results of the Level A mapping completed by Whitman and Howard in 1992, and (2) the hydrogeologic conceptual model prepared by W&C and presented in the Supplemental Hydrogeologic Investigation Report.

In addition to the quarterly sampling events planned for the four sentinel wells, groundwater samples will be collected from fourteen (14) monitoring wells on an annual basis in order to track groundwater conditions and to monitor contaminant attenuation over time.

During February 2005, three new monitoring wells were installed in a well cluster with one of the wells screened to intercept the water table, another to monitor the intermediate zone of the aquifer, and the third to monitor the deeper aquifer above bedrock. These new wells (05MW-23S, 05MW-23I, and 05MW-23D) are located near the existing piezometer 03PZFMR-04 on the eastern bank of the Five Mile River on the Spirol property. Groundwater samples will be collected from the three new wells, and from monitoring wells 03MW-04D, MW-11I, MW-17D, MW-17I and 03MW-22I, in order to monitor and track the attenuation of the VOC groundwater plume through time. These monitoring wells will be sampled on a quarterly basis in 2005 and annually thereafter.

RCRA Corrective Action
Environmental Indicator (EI) RCRIS Code (CA750)
Migration of Contaminated Groundwater Under Control

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

YE — YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Spirol International Corporation facility, EPA ID # CTD001140862, located at 30 Rock Avenue Danielson, Connecticut 06239. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

___ NO - Unacceptable migration of contaminated groundwater is observed or expected.

___ IN - More information is needed to make a determination.

Completed by Carolyn J. Casey CAROLYN J. CASEY, RCRA FACILITY MANAGER Date 10/4/05

Supervisor (signature) _____ Date 10/4/05

(title) Section Chief
RCRA Corrective Action Section
EPA Region 1

Locations where References may be found: Table 1 and Figure 1 are attached.

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BOSTON MA 02114

Contact telephone and e-mail numbers

SPIROL INTERNATIONAL.
MICHAEL WOZNICKI
860-774-8571 X 4317

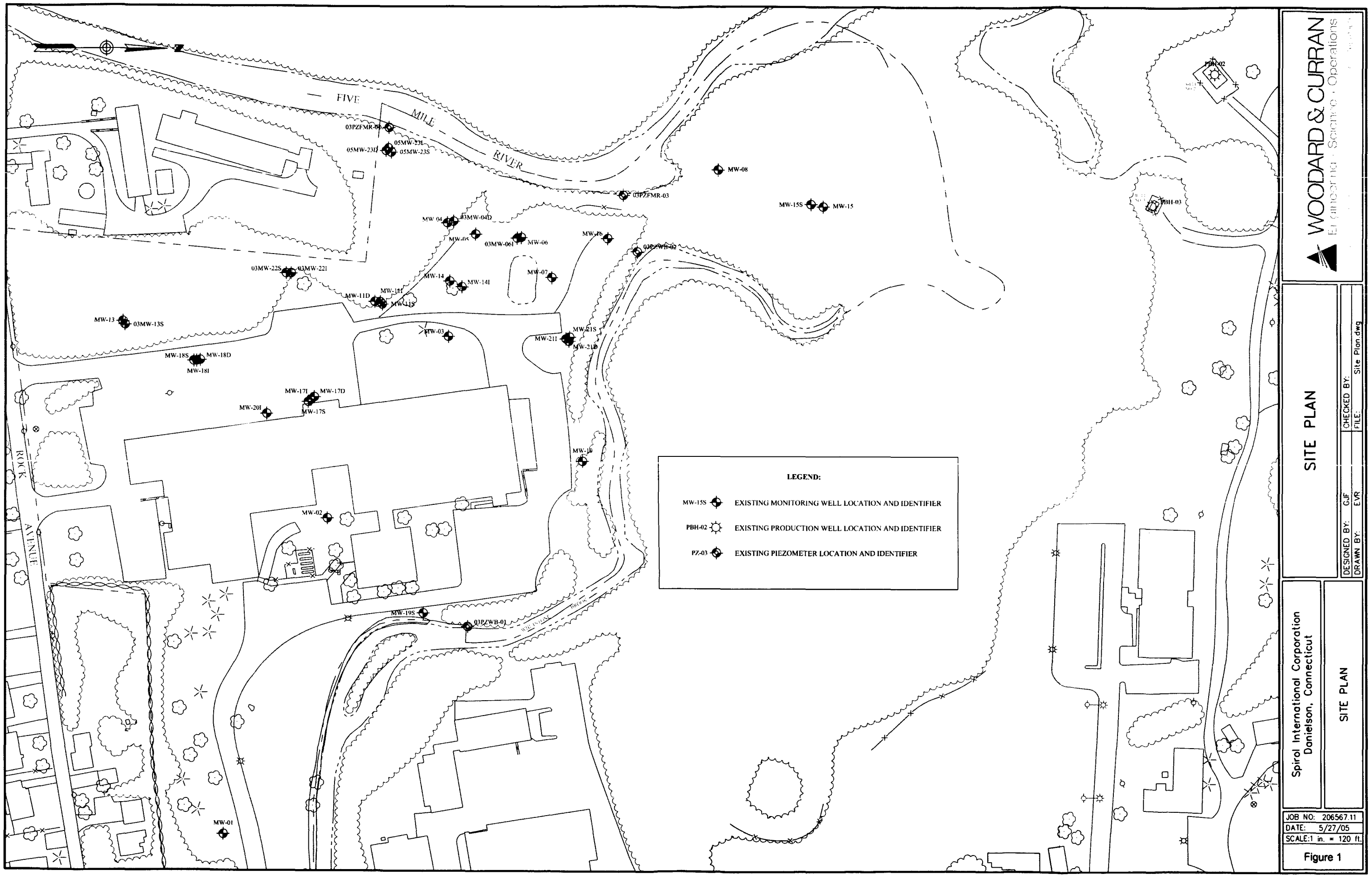
FIVE MILE RIVER
ROCK AVENUE
03PZFMR-06
05MW-23I
05MW-23D
05MW-23S
MW-08
03PZFMR-03
MW-15S
MW-15
PBH-02
PBH-03
MW-04
03MW-04D
MW-05
03MW-06I
MW-06
MW-16
03PZWB-02
03MW-22S
03MW-22I
MW-14
MW-14I
MW-07
MW-11D
MW-11I
MW-11S
MW-13
03MW-13S
MW-03
MW-21I
MW-21S
MW-21D
MW-18S
MW-18D
MW-18I
MW-17I
MW-17D
MW-17S
MW-20I
MW-12
MW-02
MW-19S
03PZWB-01
MW-01
LEGEND:
MW-15S EXISTING MONITORING WELL LOCATION AND IDENTIFIER
PBH-02 EXISTING PRODUCTION WELL LOCATION AND IDENTIFIER
PZ-03 EXISTING PIEZOMETER LOCATION AND IDENTIFIER
WOODARD & CURRAN
Engineering · Science · Operations
SITE PLAN
DESIGNED BY: GJF
DRAWN BY: EVR
CHECKED BY:
FILE: Site Plan.dwg
Spirol International Corporation
Danielson, Connecticut
SITE PLAN
JOB NO: 206567.11
DATE: 5/27/05
SCALE:1 in. = 120 ft.
Figure 1

Table 1
Summary of
Groundwater Analytical Results

Spirol International Corporation
Danielson, Connecticut

Monitoring Well	Sample Collection Date	Volatile Organic Compounds Detected (µg/L)																				Total Cyanide (mg/L)	Total Metals (mg/L)		
		Acrylonitrile	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Chloroform	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Isopropylbenzene	p-Propylbenzene	PCE	1,1,1-TCA	TCE	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl Chloride	MTBE	1,4 Dioxane	Tot. Xylenes[3]		Barium	Cadmium	Zinc
Cleanup Criteria (µg/L)	SWPC	20	NE	NE	NE	14100	NE	2970	96	NE	NE	NE	NE	88	62000	2340	NE	NE	15750	NE	NE	NE	34[1]	NE	7.3[2]	379[2]
	Res. GWVC	NE	1500	1500	NE	26	3000	6.5	190	830	1000	2800	NE	340	6500	27	360	280	1.6	21000	NE	NE	NE	NE	NE	NE
MW-02	May-03	ND	1.3	3.9	2.1	ND	ND	ND	ND	1.9	ND	5.5	2	ND	ND	ND	ND	5.6	ND	ND	ND	3.4	NA	NA	NA	NA
	August-03	ND	ND	ND	1.41	ND	ND	ND	ND	ND	ND	4.36	ND	ND	ND	ND	2.87	2.3	ND	ND	ND	2.2	NA	NA	NA	NA
	November-03	ND	ND	3.57	1.73	ND	ND	ND	ND	5.56	ND	3.12	ND	ND	ND	2.38	ND	ND	1.03	ND	ND	1.5	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	NA	NA	NA	NA
MW-03	May-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.023	NA
	August-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.042	NA
	November-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.012	NA
	February-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0148	NA
MW-04	May-03	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	0.13	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	0.2	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	0.23	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	0.246	NA
	May-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.03	0.0108	0.196	0.0412
03MW-04D	May-03	ND	ND	ND	ND	ND	180.0	ND	**720.0**	39.0	ND	ND	ND	84.0	1900.0	**29.0**	ND	ND	ND	35.0	430.0	ND	NA	NA	ND	NA
	August-03	ND	ND	ND	ND	ND	73.0	ND	**368**	21.4	ND	ND	ND	53.4	851	ND	ND	ND	ND	ND	1,200	ND	NA	NA	ND	NA
	November-03	ND	ND	ND	ND	ND	67.4	ND	**297**	ND	ND	ND	ND	46	776	ND	ND	ND	ND	ND	676	ND	NA	NA	ND	NA
	Feb/Apr-04	ND	ND	ND	ND	ND	167.0	2.4	**370**	28.7	ND	ND	ND	54.7	732	17.1	ND	ND	ND	15.3	385	ND	NA	NA	ND	NA
	February-05	ND	ND	ND	ND	ND	93.0	ND	**230 (J)**	27.2	ND	ND	ND	58.4	685	13.1	ND	ND	ND	5.6	391	NA	NA	NA	ND	NA
	May-05	ND	ND	ND	ND	ND	66.9	ND	**191**	20	ND	ND	ND	29	447	ND	ND	ND	ND	ND	865	ND	ND	0.0106	0.0048	ND
MW-05	May-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.16	NA
	August-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.28	NA
	November-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.264	NA
	February-04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.209	NA
	May-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.075	0.0171	0.242	0.186
MW-06	May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	May-05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	0.01	0.019	ND	ND
03MW-06I	May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
MW-08	May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	ND	NA
MW-11I	May-03	ND	ND	ND	ND	5.8	50.0	ND	**260.0**	14.0	ND	ND	ND	41.0	370.0	**36.0**	ND	ND	ND	10.0	540.0	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	25.6	197	**9.6**	**1,230**	76.6	ND	ND	ND	**243**	1,770	**204**	ND	ND	ND	29.5	2,210	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	50.2	ND	**234**	16.9	ND	ND	ND	43.2	362	**32.3**	ND	ND	ND	10.2	525	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	5.05	50.2	ND	**245**	16.0	ND	ND	ND	44.1	320	**33.4**	ND	ND	ND	10.4	336	NA	NA	NA	NA	NA
	February-05	ND	ND	ND	ND	ND	45.4	ND	**219**	15.6	ND	ND	ND	44.3	308	**27.4**	ND	ND	ND	11.4	270	NA	NA	NA	NA	NA
	May-05	ND	ND	ND	ND	ND	36.2	ND	**188**	12.0	ND	ND	ND	30.4	223	19.7	ND	ND	ND	8.3	565	ND	0.01	0.008	ND	ND
MW-11D	May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-13	May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
03MW-13S	May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA

Table 1
Summary of
Groundwater Analytical Results

Spirol International Corporation
Danielson, Connecticut

Monitoring Well	Sample Collection Date	Volatile Organic Compounds Detected (µg/l)																				Total Cyanide (mg/L)	Total Metals (mg/L)		
		Acrylonitrile	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Chloroform	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	Isopropylbenzene	p-Isopropyltoluene	PCE	1,1,1-TCA	TCE	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl Chloride	MTBE	1,4 Dioxane	TPH (mg/L)		Barium	Cadmium	Zinc
Cleanup Criteria (µg/L)	SWPC	20	NE	NE	NE	14100	NE	2970	96	NE	NE	NE	NE	88	62000	2340	NE	NE	15750	NE	NE	NE	34[1]	NE	7.3[2]	379[3]
	Res. GWVC	NE	1500	1500	NE	26	3000	6.5	190	830	1000	2800	NE	340	6500	27	360	280	1.6	21000	NE	NE	NE	NE	NE	NE
MW-14	May-03	ND	ND	ND	ND	ND	23.0	ND	74.0	6.7	ND	ND	ND	11.0	190.0	3.8	ND	ND	ND	3.9	290.0	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	12.4	ND	45.8	ND	ND	ND	ND	5.25	96.4	ND	ND	ND	ND	ND	203	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	11.4	ND	34.4	ND	ND	ND	ND	ND	83.8	ND	ND	ND	ND	ND	103	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	26.8	ND	71.7	7.17	ND	ND	ND	10.10	188	3.47	ND	ND	ND	3.60	241	NA	NA	NA	NA	NA
MW-14I	May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-15	May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	August-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	May-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-15S	May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
MW-16	May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	August-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	May-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	0.0083	ND	ND
MW-17S	May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.84	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
MW-17I	May-03	ND	ND	ND	ND	ND	ND	ND	**170.0**	ND	ND	ND	ND	13.0	120.0	5.7	ND	ND	ND	ND	40.0	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	14.6	ND	ND	ND	ND	3.31	17	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	63.5	ND	ND	ND	ND	ND	43.7	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	21.4	ND	ND	ND	ND	2.55	23.4	1	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-05	ND	ND	ND	ND	ND	ND	ND	17	ND	ND	ND	ND	2.3	23	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	May-05	ND	ND	ND	ND	ND	ND	ND	14.5	ND	ND	ND	ND	2.1	18.4	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
MW-17D	May-03	ND	ND	1.0	ND	ND	7.2	ND	5.1	15.0	ND	ND	ND	ND	7.3	**120.0**	ND	ND	**2.0**	ND	ND	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	15.6	ND	ND	ND	ND	5.30	**132**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	2.82	ND	1.69	23.7	ND	ND	ND	ND	3.00	**208**	ND	ND	**2.78**	ND	ND	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	4.48	ND	2.14	21.6	ND	ND	ND	ND	3.56	**188**	ND	ND	**3.39**	ND	ND	NA	NA	NA	NA	NA
	February-05	ND	ND	ND	ND	ND	3.3	ND	2.4	15.9	ND	ND	ND	ND	4	**141**	ND	ND	**2.5**	ND	ND	NA	NA	NA	NA	NA
	May-05	ND	ND	1.7	ND	ND	3.6	ND	2.5	17.3	ND	ND	ND	ND	3.5	**139**	ND	ND	**2**	ND	ND	NA	NA	NA	NA	NA
MW-18I	May-03	ND	ND	ND	ND	ND	1.6	ND	41.0	ND	ND	ND	ND	6.2	28.0	**110.0**	ND	ND	ND	ND	36.0	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	1.34	ND	45.6	ND	ND	ND	ND	7.43	29.9	**133**	ND	ND	ND	ND	31	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	1.39	ND	42	ND	ND	ND	ND	6.66	31.6	**112**	ND	ND	ND	ND	17.5	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	1.3	ND	32.7	ND	ND	ND	ND	4.63	25.3	**85.3**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	May-05	ND	ND	ND	ND	1.1	2.3	1	66.7	1.2	ND	ND	ND	6.9	45.1	**105**	ND	ND	ND	ND	56.90	ND	NA	NA	NA	NA
MW-18D	May-03	ND	ND	ND	ND	ND	5.9	1.3	85.0	2.3	ND	ND	ND	9.0	56.0	**120.0**	ND	ND	ND	ND	80.0	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	5.51	1.17	**107**	2.56	ND	ND	ND	10.6	62.9	**141**	ND	ND	ND	ND	64.2	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	6.24	1.28	**100**	2.41	ND	ND	ND	9.72	67.8	**95.9**	ND	ND	ND	ND	53.8	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	1.27	ND	19.3	ND	ND	ND	ND	2.05	12.8	24.8	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	May-05	ND	ND	ND	ND	ND	5.6	1.2	**97.3**	1.9	ND	ND	ND	10.1	61	**99.5**	ND	ND	ND	ND	48	NA	NA	NA	NA	NA
MW-21S	May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	February-04	0.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	May-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	0.0072	ND	ND

Table 1
Summary of
Groundwater Analytical Results

Spirol International Corporation
Danielson, Connecticut

		Volatile Organic Compounds Detected (µg/l)																					Total Metals (mg/L)		
Monitoring Well	**Sample Collection Date**	**Acrylonitrile**	**n-Butylbenzene**	**sec-Butylbenzene**	**tert-Butylbenzene**	**Chloroform**	**1,1-DCA**	**1,2-DCA**	**1,1-DCE**	**cis-1,2-DCE**	**trans-1,2-DCE**	**Isopropylbenzene**	**n-Propylbenzene**	**PCE**	**1,1,1-TCA**	**TCE**	**1,2,4-Trimethylbenzene**	**1,3,5-Trimethylbenzene**	**Vinyl Chloride**	**MTBE**	**1,4 Dioxane**	**Total VOCs (µg/L)**	**Total Cyanide (mg/L)**	**Barium**	**Cadmium**	**Zinc**
Cleanup Criteria (µg/L)	SWPC	20	NE	NE	NE	14100	NE	2970	96	NE	NE	NE	NE	88	62000	2340	NE	NE	15750	NE	NE	NE	34[1]	NE	7.3[2]	379[3]
	Res. GWVC	NE	1500	1500	NE	26	3000	6.5	190	830	1000	2800	NE	340	6500	27	360	280	1.6	21000	NE	NE	NE	NE	NE	NE
MW-21I	May-03	ND	ND	ND	ND	ND	ND	ND	1.3	1.9	ND	ND	ND	ND	ND	3.7	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	1.00	ND	ND	4.10	1.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	1.34	ND	ND	4.89	1.24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	1.47	ND	ND	5.16	1.34	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA
	August-04	ND	ND	ND	ND	ND	1.10	ND	ND	4.30	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-04	ND	ND	ND	ND	ND	1.30	ND	ND	5.0	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-05	ND	ND	ND	ND	ND	ND	ND	ND	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	May-05	ND	ND	ND	ND	ND	ND	ND	ND	1.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	0.0564	ND	ND
MW-21D	May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	1.56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	2.00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-04	0.61	ND	ND	ND	ND	1.15	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	August-04	ND	ND	ND	ND	ND	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-04	ND	ND	ND	ND	ND	1.80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.4	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	May-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
03MW-22S	May-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.73	ND	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
03MW-22I	May-03	ND	ND	ND	ND	ND	ND	ND	**760.0**	ND	ND	ND	ND	58.0	620.0	**1900.0**	46.0	ND	ND	ND	61.0	NA	NA	NA	NA	NA
	August-03	ND	ND	ND	ND	ND	ND	ND	**346**	ND	ND	ND	ND	32.4	230	**968**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	November-03	ND	ND	ND	ND	ND	ND	5.25	**302**	ND	ND	ND	ND	29.2	237	**817**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-04	ND	ND	ND	ND	ND	ND	ND	**266**	ND	ND	ND	ND	31.4	222	**866**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	February-05	ND	ND	ND	ND	ND	ND	ND	**235**	ND	ND	ND	ND	31.5	175	**691**	ND	ND	ND	ND	ND	NA	NA	NA	NA	NA
	May-05	ND	ND	ND	ND	ND	ND	ND	**211**	ND	ND	ND	ND	19.7	123	**455**	ND	ND	ND	ND	358	ND	NA	NA	NA	NA
05MW-23S	February-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	NA
	May-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0324	ND	0.121
05MW-23I	February-05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	NA
	May-05	ND	ND	ND	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	2.4	ND	ND	ND	ND	ND	ND	ND	0.013	0.0326	ND	ND
05MW-23D	February-05	ND	ND	ND	ND	1.6	ND	ND	3.3	ND	ND	ND	ND	1	6	10.4	ND	ND	ND	ND	ND	NA	NA	NA	ND	NA
	May-05	ND	ND	ND	ND	1.4	ND	ND	3.4	ND	ND	ND	ND	1.0	6.0	10.2	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND

Notes:
1. Calculated alternate SWPC for cyanide per Section 22a-133k-3(b)(3) of the CT RSRs.
2. Calculated alternate SWPC for cadmium per Section 22a-133k-3(b)(3) of the CT RSRs.
3. Calculated alternate SWPC for zinc per Section 22a-133k-3(b)(3) of the CT RSRs.
SWPC: Surface Water Protection Criteria as established by the CTDEP RSRs.
Res. GWVC: Residential Volatilization Criteria as established by the CTDEP RSRs.
NE: Criteria Not Established or not applicable in the CTDEP RSRs.
NA: Not Analyzed.
ND: Constituent not detected above the analytical method detection limit.
Shaded cells indicate a concentration exceeding the applicable CT RSRs (SWPC or Res. GWVC).