RDMS DocID 106612

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: **Safety-Kleen Systems, Inc.**
Facility Address: **86 Highway 202 Leeds, Maine**
Facility EPA ID #: **MED 980 667 810**

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?

__X__ 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).

RCRA RECORDS CENTER
FACILITY Safety-Kleen
I.D. NO. MED 980667810
FIL R-13
CT: #106612

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?

__X__ 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:
Groundwater is not used as a drinking water supply at this site. Site investigations from late 1980s determined that the issues of concern were petroleum discharges, VOCs and most recently two metals, arsenic and manganese.

The first Comprehensive Hydrogeological Study of the site occurred in April 1989. The primary reason for the study was to rebut the presumption that the facility was a hazard to the environment because it is located such that a nearby sand and gravel aquifer and drinking water supply wells may be threatened. The Department also requested the establishment of an upgradient well for use in monitoring the impacts of the facility; plans for ground water remediation, a corrective action plan and an updated facility closure plan to accurately reflect these activities; and information to document that owners of wells located within one quarter mile of the facility were provided with an opportunity to have their water tested. The study concluded that no impacts were identified for the off-site wells. However, in two on-site wells chlorinated hydrocarbons, perchloroethylene (PCE) and trichloroethane (TCA) were identified as having impacted ground water. Mineral spirits and PCE were detected in soil samples collected adjacent to the Tank and truck loading areas. The April 1989 study by Wang Engineering detected mineral spirits, perchloroethylene (PCE) and other volatile organic compounds in soil samples from both surface soils and soil borings. Initially five on-site wells and eight off-site wells were tested. The geology of the site is identified as containing approximately 80 feet of soil overlying bedrock. The soil consists primarily of river and lake, sand and silt deposits. The sand and silt deposits are up to twenty feet thick, but borings to the south and west of the site show that the deposits become thin or are absent. The underlying marine silt and clay deposits average approximately forty feet in thickness.

Eight domestic drinking water supply wells surrounding the facility were sampled and analyzed in 1989 by representatives of the DEP and Safety-Kleen. The samples were analyzed for volatile organic compounds and each sample gave values below the detection limits. Groundwater monitoring continues at the site which includes quarterly sampling and analysis of monitoring wells. Water levels are measured on a quarterly basis at the site and groundwater appears to flow at a very slow rate in a radial pattern from the above ground tank storage (AST) and warehouse areas.

Twelve (12) monitoring wells (including the facility supply well) were part of the ground water monitoring program. Analysis consists of EPA modified method 8240 for 40 volatile organic compounds (VOC's) and EPA modified method 8015 for Total Petroleum Hydrocarbons (TPH) and subsequently modified to use Maine's Gasoline Range Organics using HETL Method 4.2.17 . The TPH method was used primarily for the identification of mineral spirits impacts. Results indicated that three of the twelve wells sampled contained VOC's. In August 2001, membrane interface probe (MIP) profiling was conducted in 48 locations

locations across the site and adjacent areas south of the facility on the nearby golf course. Results were reported to the Agency in the "*Interim Phase I Report on Additional Activities*" (March 2002, Phase I Report).

Based upon quarterly sampling, four wells consistently yielded detectable levels of compounds on a sporadic basis. Low levels of PCE ranging from 5 to 15 ppb (Maximum Exposure Guidelines or MEG of 7 ppb), trichloroethene (well below MEG of 32 ppb) and cis-1,2 dichloroethene (well below MEG of 70 ppb) had been sporadically detected in well MW-1. PCE concentrations below the MEG of 7 ppb had been detected in well MW-5. Compounds detected in groundwater samples collected from well GT-14 during sample events included GRO (ranging from 25 to 217 ppb with a MEG of 50 ppb), m,p-xylenes (range from 2 to 242 ppb with MEG of 14 ppb), ethylbenzene (range from 71 to 183 in GT-14 with a MEG of 70 ppb), naphthalene (at 82 ppb with MEG of 14 ppb), and tri-chloroethane (well below theMEG of 200 ppb). GRO compounds were sporadically detected in groundwater samples collected from well GT-15.

In the summer of 2003, a revised monitoring program was implemented with additional monitoring wells installed. A comprehensive baseline set of water quality data was collected in August 2003. In April 2004, 62 locations had MRC bioremediation products applied to the subsurface soils and four monitoring events have been conducted since the injection occurred. The contaminants of concern that remain are PCE, TCE, 1,2-DCE, chlorobenzene, naphthalene, xylene, manganese and arsenic. Vinyl chloride was detected in one well, MW-10M at 0.3 ppb. Except for two wells, most of the total VOCs have decreased over the baseline results or are non-detect.

For soil samples, perchloroethylene (PCE) at concentrations up to 2.6 ppm were detected in soil north of the office/warehouse storage area from an investigation conducted in 1994. Soil samples collected between the mineral spirits warehouse and the truck containment area contained mineral spirits in the range of 890 to 2500 ppm, for PCE up to 420 ppm, trichloroethylene (TCE) up to 24 ppm, and dichloroethylene (DCE) at 10 ppm. Samples collected east of the truck containment area contained up to 60 ppm of mineral spirits and 1.8 ppm DCE. Concentrations generally declined with depth at all locations. Field results were confirmed by laboratory analysis of select samples. This soil will be dealt with in time if and when closure of the facility is completed; for now risk to structures prevent and further soil removals.

References:

Comprehensive Hydrogeological Study by Wang Engineering, April 1989
Safety-Kleen Transfer and Renewal license dated Feb. 5, 2005
Interim Phase I Report on Additional Activities (Barton & Loguidice, March 2002, Phase I Report)
Monitoring Status Report Volume 1 and 2, (Barton & Loguidice, June 2005)

Footnotes:

[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).

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

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)?

__X___ 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:

Safety-Kleen was required to re-construct the return-and-fill building adjacent to the clean and waste 12,000 gallon mineral spirits storage tanks. This removal action resulted from identification of cracks in the concrete pad under the building, and open joints along the junction between the pad and the walls. In March 1993, workers uncovered soil contaminated with mineral spirits. Safety-Kleen removed approximately 100 cubic yards of contaminated soil from within and under the warehouse. Five of six soil clean-up confirmation samples showed mineral spirits concentrations ranging from 38 to 2600 ppm in the soils remaining in place. A report dated April 1993 by Geraghty & Miller provides results for the excavation and sampling program within the mineral spirits warehouse.

Safety-Kleen implemented a subsequent removal action on June 8, 1994. They removed an additional 12 cubic yards of contaminated soil. Soil removal ceased when the walls of the excavation approached the truck containment area and the above ground storage tanks. Safety-Kleen excavated an additional 80 cubic yards on September 20, 1994 when they removed and replaced the truck containment area. Upon final termination of the excavation program, soils in the north wall, south wall, and bottom of the excavated area showed mineral spirits concentrations ranging from 13 to 100 ppm. In addition, the south wall showed perchloroethylene (PCE) concentrations of 150 ppm. Safety-Kleen provided results of this excavation and confirmation sampling program in letter reports dated July 15, 1994, December 5, 1994, and February 17, 1995.

In 1998 groundwater samples were collected from soil borings advanced on the golf course property located south of the facility and along the western side of the S-K facility using geoprobe sampling equipment to assess groundwater quality. In three of the fourteen borings, soil samples were collected continuously to assess subsurface stratigraphy to a depth of approximately 20 feet below grade (bgs) (the approximate depth of the screen of existing well MW-8U). PCE was not detected in groundwater samples collected from the shallower intervals of any of the borings installed in October 1998. PCE was detected in water samples collected from the lowermost intervals for several of the borings.

Based upon the results of both the October 1998 and the August 2001 programs which is summarized in the Phase I Report (March, 2002), it appears that impacts to groundwater originate from two discrete locations. The first is the AST area located behind the return and fill building (area of borings RF-12 through RF-15) and the second area is adjacent to the western side of the warehouse building. The source of impacts in the

former AST area is likely to be related to surface spills approximately at depths of 10-13 feet bgs. Based upon the results of the August 2001 program it appears that impacts relating to the ASTs were removed during the 1994 excavation activities. Groundwater samples collected from boring RF-13 do not indicate concentrations indicative of an appreciable source of groundwater impacts.

Impacts originating from the western side of the warehouse building are due to improper PCE drum storage and likely to have migrated west, southwest and southeast. Groundwater is migrating principally in a horizontal direction within the upper and lower silt and sand units above and below the clayey silt layer encountered between 12 and 15 ft bgs.

Due to the Department's concerns with any potential off-site migration of groundwater impacts, the Department required active remedial measures. In the summer of 2003 a revised monitoring program was implemented with additional monitoring wells installed. A comprehensive baseline set of water quality data was collected in August 2003. In April 2004, 62 locations had MRC bioremediation products applied to the subsurface and four monitoring events have been conducted since the injection occurred. The contaminants of concern that remain are PCE, TCA, TCE, 1,2 DCE, chlorobenzene, naphthalene, xylene, manganese and arsenic. Except for two wells, most of the total VOCs have decreased over the baseline results or are non-detect. The plume continues to be monitored and is expected to remain within the current area of contaminated groundwater.

Reference(s):
Safety-Kleen Transfer and Renewal license dated Feb. 5, 2005
Interim Phase I Report on Additional Activities (Barton & Loguidice, March 2002, Phase I Report]
Status Report Volume 1 and 2, Barton & Loguidice June 2005

[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.

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

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

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

__X___ 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):_____

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

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)?

_**NA**__ 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 judgement/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):_____

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

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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])?

__**NA**___ 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):_____

_____

_____

_____

[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.

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

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?"

__X___ 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): Quarterly groundwater monitoring will continue on site for the foreseeable future. Slight modifications to the monitoring program were completed in a letter of approval dated August 2, 2005 after our review of the five quarters of data since the new wells were installed and baseline monitoring was conducted in August 2003. Fifteen monitoring wells will be monitored into the future for a select list of parameters.

See Table 1 Summary of Groundwater Sample Analysis 2005-2006, approved changes to program, pg 1-4.
See Figure 1 for well locations, HRC Injection points and Soil boring locations used with MIP.
See Figure 4 for the deep level groundwater contour plan with well locations identified.

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

1.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).

___x__ 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 Safety Kleen Systems, Inc. facility , EPA ID # 980 667 810, located at 86 Highway 202 Leeds, Maine. 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 (signature) Joan M. Jones Date 9/30/05
(print) Joan M. Jones
(title Environmental Specialist III

Supervisor (signature) Stacy A. Ladner Date 9/30/05
(print Stacy A. Ladner
(title Unit Manager
State-Maine

Locations where References may be found:
Maine DEP File Room, Augusta, Maine 04333

Contact telephone and e-mail numbers

(name) Joan M. Jones
(phone #) 207-287-7879
(e-mail) Joan.M.Jones@maine.gov

EI 750 Safety Kleen.doc /C

Table 1. Summary of Groundwater Sample Analysis - 2005-2006
Safety-Kleen
Leeds, Maine

Well ID	Water Level	VOCs 8260B	Vinyl Chloride (Preserved)	Vinyl Chloride (un-preserved)	Maine GRO	Metals (Tot&Diss Mn and Fe)	Arsenic	Chloride	Ethene and Ethane	Methane	Nitrate, nitrite, sulfate, sulfide	Alkalinity	Ammonia
	AUGUST/SEPTEMBER 2005												
GT-14	X	1			1	1	1						
MW-9M	X	1				1	1			1	1	1	
MW-9D	X	1			1								
MW-10M	X	1			1								
MW-10D	X	1											
MW-11S	X												
MW-11M	X	1			1	1	1			1	1	1	
MW-11D	X	1			1	1	1						
MW-12S	X												
MW-12M	X	1				1	1			1	1	1	
MW-12D	X	1			1	1	1						
MW-13S	X	1			1	1	1						
MW-13M	X	1											
MW-14M	X	1				1	1						
MW-14D	X	1				1	1						
MW-15S	X												
MW-15M	X	1			1	1	1			1	1	1	
MW-15D	X	1											
Dug Well		1											

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	NOVEMBER/DECEMBER 2005												
GT-14	X	1											
MW-9M	X	1											
MW-9D	X	1											
MW-10M	X	1											
MW-10D	X	1											
MW-11S	X												
MW-11M	X	1											
MW-11D	X	1											
MW-12S	X												
MW-12M	X	1											
MW-12D	X	1											
MW-13S	X	1											
MW-13M	X	1											
MW-14M	X	1											
MW-14D	X	1											
MW-15S	X												
MW-15M	X	1											
MW-15D	X	1											

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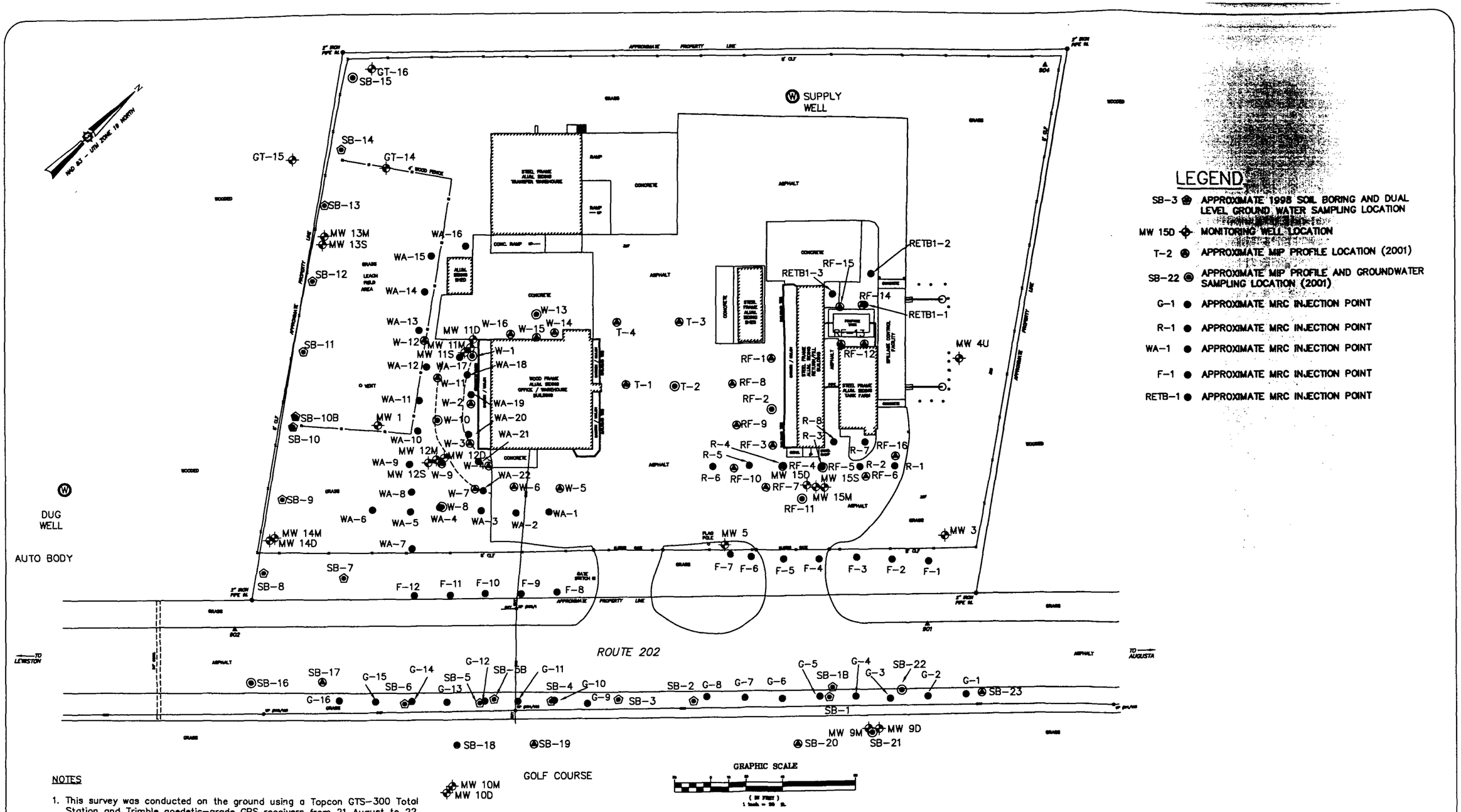
	MARCH/APRIL 2006												
GT-14	X	1			1	1	1						
MW-9M	X	1				1	1			1	1	1	
MW-9D	X	1			1								
MW-10M	X	1			1								
MW-10D	X	1											
MW-11S	X												
MW-11M	X	1			1	1	1			1	1	1	
MW-11D	X	1			1	1	1						
MW-12S	X												
MW-12M	X	1				1	1			1	1	1	
MW-12D	X	1			1	1	1						
MW-13S	X	1			1	1	1						
MW-13M	X	1											
MW-14M	X	1				1	1						
MW-14D	X	1				1	1						
MW-15S	X												
MW-15M	X	1			1	1	1			1	1	1	
MW-15D	X	1											

Table 1. Summary of Groundwater Sample Analysis - 2005-2006
Safety-Kleen
Leeds, Maine

Well ID	Water Level	VOCs 8260B	Vinyl Chloride (Preserved)	Vinyl Chloride (un-preserved)	Maine GRO	Metals (Tot&Diss Mn and Fe)	Arsenic	Chloride	Ethene and Ethane	Methane	Nitrate, nitrite, sulfate, sulfide	Alkalinity	Ammonia
	AUGUST/SEPTEMBER 2006												
GT-14	X	1			1	1	1						
MW-9M	X	1				1	1			1	1	1	
MW-9D	X	1			1								
MW-10M	X	1			1								
MW-10D	X	1											
MW-11S	X												
MW-11M	X	1			1	1	1			1	1	1	
MW-11D	X	1			1	1	1						
MW-12S	X												
MW-12M	X	1				1	1			1	1	1	
MW-12D	X	1			1	1	1						
MW-13S	X	1			1	1	1						
MW-13M	X	1											
MW-14M	X	1				1	1						
MW-14D	X	1				1	1						
MW-15S	X												
MW-15M	X	1			1	1	1			1	1	1	
MW-15D	X	1											
Dug Well		1											

Notes:

1. Vinyl Chloride preserved and un-preserved analyses were removed from all wells since VC was not detected in any well except well MW-10D since the inception of the sampling program at the site. Where it was detected, the unpreserved vs. preserved results were not signifcantly different.
2. Maine GRO analyses were removed from all wells except where detected since the baseline sampling event.
3. Well MW-4U was removed from the sample program since it is an older well and DEP stated it is not necessarily representative of background.
4. VOC analysis was removed from all wells in which VOCs have not been detected to date.
5. Chloride, ethene, ethane, and ammonia were removed from the analyte list since they have not been detected or varied appreciably.
6. Metals analyses were removed from wells that did not show levels above or near MEGs.
7. Sampling of the dug well for VOCs will continue on an annual basis.
8. Wells MW-11S, 12S, and 15S have been removed from the sampling program since VOCs have not been detected in these locations and the shallow interval is not considered to be a predominant migration pathway.



NOTES

1. This survey was conducted on the ground using a Topcon GTS-300 Total Station and Trimble goedetic-grade GPS receivers from 21 August to 22 August 2003. A field check was conducted on 8 October 2003.
2. The horizontal datum is the North American datum of 1983 (NAD 83), Universal Transverse Mercator (UTM) Zone 19, North. All units shown are U.S. Survey Feet.
3. Elevations refer to the North American Vertical Datum of 1988 (NAVD 88).
4. The boundary line shown was derived from Deed Book 1604, Page 60 (1982) and monuments found in the field. No boundary survey was conducted.

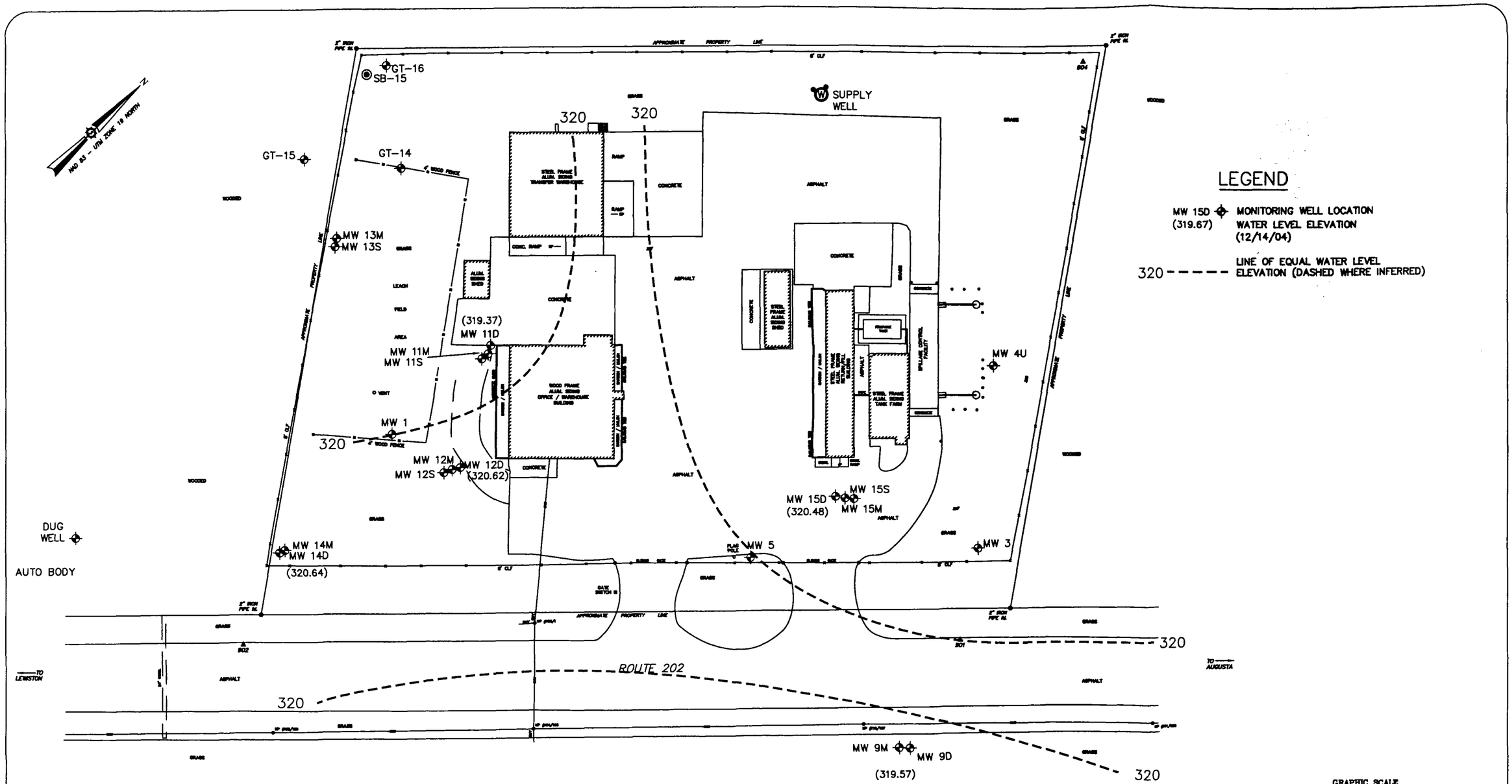
Barton & Loguidice, P.C.
Consulting Engineers
290 Elwood Davis Road / Box 3107, Syracuse, New York 13220

MRC INJECTION LOCATION PLAN
SHOWING THE
SAFETY-KLEEN SITE
IN
LEEDS, MAINE
ANDROSCOGGIN COUNTY

OCT. 2004 614-009-10

Figure 1

Project No. 614-009



NOTES

1. This survey was conducted on the ground using a Topcon GTS-300 Total Station and Trimble goedetic-grade GPS receivers from 21 August to 22 August 2003. A field check was conducted on 8 October 2003.
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Barton & Loguidice, P.C.
Consulting Engineers
290 Elwood Davis Road / Box 3107, Syracuse, New York 13220

GROUNDWATER CONTOUR PLAN
DEEP INTERVAL (12/14/04)
(LOWER FINE SAND)
SAFETY-KLEEN SITE
IN
LEEDS, MAINE
ANDROSCOGGIN COUNTY
JUNE 2005 614-009-40

Figure
4
Project No.
614-009