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: Univar USA, Inc.

Facility Address: 825 Fisher Street Martinsville, VA 24112

Facility EPA ID #: VAD003111416

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).

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:

Site Background

The Prillaman Chemical Corporation provided hazardous waste management services to its customers under a Permit, which was first issued by the Commonwealth of Virginia in 1984. The Prillaman Chemical Corporation operated a chemical distribution and solvent recycling, blending, and processing operation at the facility site since it was originally established in 1947 until the sale of the facility in 2001. On November 1, 2001, Prillaman Chemical Corporation was sold to Vopak USA, Inc. On July 1, 2002, the Vopak USA, Inc. facility name was changed to Univar USA Inc. (Univar), the current operator and owner of the facility under the Permit. No known industrial usage occurred at this property prior to 1947.

Hazardous wastes managed at the facility primarily included spent solvent wastes and reclaimed wastes generated by the furniture industry and other manufacturers. The facility's Permit was reissued by the DEQ on January 15, 1997, under the authority of the VHWMR and the RCRA Regulations. The facility's Permit authorized hazardous waste management activities (storage and treatment). The facility's Permit also included closure and corrective action (CA) requirements, where the Permittee was required to implement closure, interim measures (IMs), and CA, as necessary to remediate the site for releases of hazardous waste or hazardous constituents from the facility to be protective of human health and the environment.

The total land area of the Univar facility site comprises approximately 2.5 acres with approximately 1.3 acres occupied by the facility's former offices, warehousing, distribution, solvent recycling, solvent processing, and storage operations. The area surrounding the facility is zoned light industrial/residential. The facility is bordered to the north and east by a forested area. The nearest residential area is north of the facility site and approximately 300 feet from the northern property line. The facility is located in a hilly area on a topographic high with an approximately 50-foot drop in elevation to the unnamed tributary to Mulberry Creek. The unnamed tributary to Mulberry Creek flows in a southeasterly direction through the forested area approximately 100 feet north and downgradient from the facility fence line. The unnamed tributary to Mulberry Creek is the northern property line of the Univar facility.

Univar initiated closure of the industrial operations and the permitted hazardous waste management units (HWMUs) in the fall of 2003. The Permittee discovered contamination of the soils, subsoils, groundwater, and surface water at the site during the closure activities required under the facility's Permit. The facility has not completed RCRA "closure" of the permitted container storage and tank storage HWMUs due to detected HCOCs in

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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).

soils, subsoils, groundwater, and surface water. The primary contaminants found were volatile organic compounds (VOCs) and alcohols.

To date, the Permittee has decontaminated, dismantled, and removed from site the container storage and tank storage HWMUs and equipment associated with the raw material and product storage, manufacturing and processing operations, recycling operations, and hazardous waste management, and other waste management in accordance with the facility's Permit Closure Plan. All concrete surfaces in manufacturing and processing, recycling areas, and hazardous waste management areas were also decontaminated using high pressure washing with surfactants and rinsing. All hazardous waste generated from closure of the HWMUs was properly managed, manifested, and shipped off-site to a permitted treatment, storage, and disposal (TSD) facility in accordance with the VHWMR and the RCRA Regulations. The remaining structures at the site include: empty buildings, the concrete foundations and secondary containment structures of the container storage and tank storage areas, and weathered asphalt, which surrounds the former manufacturing and processing complex. No Trespassing Signs and warning signs have been posted along the property boundary and along the tributary to Mulberry creek cautioning people to avoid contact with the creek water.

Current Groundwater Data

Site-wide groundwater samples are compared to the EPA Maximum Contaminant Levels (MCLs) for drinking water or, if an MCL has not been promulgated, the EPA Region III Risk Based Concentrations (RBCs) for tap water. The use of drinking water standards is a conservative measure since groundwater at the facility is not a drinking water source. However, these "levels" are appropriate for the protection of the groundwater resource and its most beneficial use. It should be noted that the Univar site and surrounding Martinsville area are serviced by a public water supply and no known drinking water wells are known to exist in the vicinity of the Univar facility.

The facility has installed numerous groundwater monitoring wells at the facility as part of the closure and CA investigations and the Stream Area IM. Construction activities for implementation of the *IM Plan (Stream Area)* were initiated in July 2006. This IM is designed to mitigate the release of contaminated groundwater at the site to surface waters so to protect human health and the environment. On September 11, 2006, Univar initiated the operation of the *IM Plan (Stream Area*), and the system has operated continuously since September 12, 2006. Quarterly Reports of the *IM Plan (Stream Area*) are being submitted to the DEQ to provide an update the operation and maintenance of the IM and the progress of the IM in mitigating the release of contaminated groundwater at the site to surface waters. The Table 1 displays the organic constituents detected in groundwater collected from site-wide or trench-related groundwater monitoring points in May 2008 which exceeded MCLs or Tap Water RBCs. A site plan of the Univar site is attached, which shows the locations of the groundwater monitoring wells and surface water monitoring points.

Table 1. Organic constituents detected in groundwater collected from monitoring points in May 2008 exceeding MCLs or Tap Water RBCs.

Constituent	Groundwater Monitoring Points (May 2008)										USEPA MCL	Tap Water RBC
	MP-1	MP-2	MP-3	MP-4	MP-8	MP-9	MP-10	MP-10D	MP-11	MP-12		
VOCs (µg/l)												
Benzene	**7.6**	ND	ND	ND	ND	**220**	**8.2**	**140**	ND	**34**	5	--
cis-1,2-Dischloroethene	ND	ND	ND	**100**	ND	**230**	ND	**220**	ND	22	70	--
1,1-Dichloroethane	2.3	2200	2.0	**470**	ND	**460**	ND	**270**	ND	ND	--	2.4
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	**14**	5	--
Dichloromethane	**7.1**	**420**	ND	**6800**	ND	**1400**	ND	**1700**	ND	ND	5	--
Ethylbenzene	84	**700**	ND	ND	ND	ND	26	**720**	ND	130	700	--
4-Methyl-2-pentanone	13	**7500**	ND	**34000**	ND	**65000**	ND	**61000**	ND	**3300**	--	2000
Toluene	33	600	ND	**5700**	1.1	**1200**	ND	**1100**	22	**1200**	1000	--
Vinyl Chloride	ND	**130**	ND	ND	ND	**470**	ND	**350**	**10**	**17**	2	--
Alcohols (mg/l)												
Methanol	ND	**41**	ND	**1300**	ND	**640**	ND	**520**	ND	**41**	--	18

ND – not detected
BOLD – concentration exceeds the MCL or Tap Water RBC
"--" MCL/Tap Water RBC value not available

REFERENCES:

- Soil Vapor Extraction System Design and Work Plan – April 2008, BASCOR Environmental Inc.
- Quarterly Progress Monitoring Report – 4th quarter 2007, BASCOR Environmental Inc.
- Description of Current Conditions Report – May 31, 2006, BASCOR Environmental Inc.
- 1st 2008 Semi-Annual Progress Monitoring Report, Interim Measure for the Stream Area – August 19, 2008, Innovative Engineering Solutions, Inc.

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within the "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:

Migration of contaminated groundwater is mitigated by the IM Stream Area trench system, which is essentially an engineered groundwater treatment system designed to degrade constituents of concern in groundwater prior to discharge of the groundwater to the surface water. Concentrations of groundwater contaminants upgradient of the trench, within the trench and downgradient of the trench have been decreasing with time, indicating that further migration of "contaminated" groundwater is not occurring. Groundwater quality improvement (removal of total VOCs) in locations upgradient of the trench (MP-1, MP-2, and MP-3) may be partially attributable to general groundwater quality improvement at the site (facility shut down, source elimination) and due to the aeration trench itself which may have some very minor flow reversal effects. Please see Table 2 below and the attached site plan.

Table 2. Average percentage removal of constituents of concern since trench operation start-up in September 2006.

Constituent Group of Concern	Groundwater Monitoring Points Upgradient of Trench: MP-1, MP-2, MP-3 (% Removal)	In-Trench Groundwater Monitoring Points: MP-4, MP-5, MP-6, MP-7, MP-8 (% Removal)	Groundwater Monitoring Points Downgradient of Trench: MP-9, MP-10, MP-10D, MP-11, MP-12 (% Removal)
Total VOCs	95.24	100.00	90.16
Chlorinated VOCS	NC	99.99	88.12
BTEX	NC	100.00	95.51
Total Ketones	NC	100.00	89.11
Total Alcohols	NC	100.00	80.8

NC – not calculated in current Semi-Annual Progress Monitoring Report

REFERENCE:

- 1st 2008 Semi-Annual Progress Monitoring Report, Interim Measure for the Stream Area – August 19, 2008, Innovative Engineering Solutions, Inc.

[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.

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

__X__ 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:

Groundwater monitoring points MP-9, MP-10, MP-10D, MP-11, and MP-12 are located downgradient of the IM trench and less than 25 ft upgradient of the receiving stream (unnamed tributary to Mulberry Creek). Data collected from these wells in May of 2008 (Table 1) indicates that contaminated groundwater, with concentrations of VOCs and alcohols above the MCLs or Tap Water RBCs, is discharging to the surface water stream.

REFERENCE:

- 1st 2008 Semi-Annual Progress Monitoring Report, Interim Measure for the Stream Area – August 19, 2008, Innovative Engineering Solutions, Inc.

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 concentrations 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.

   __X__ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentrations 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 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:

Data collected from groundwater monitoring points located downgradient of the IM trench and less than 25 feet upgradient of the receiving stream (unnamed tributary to Mulberry Creek) indicate that concentrations of benzene, 1,1-dichloroethane, dichloromethane, 4-methyl-2-pentanone, and vinyl chloride are greater than 10 times the MCL or tap water RBC and likely discharge to the stream at these elevated concentrations.

REFERENCE:

- 1st 2008 Semi-Annual Progress Monitoring Report, Interim Measure for the Stream Area – August 19, 2008, Innovative Engineering Solutions, Inc.

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

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])?

   _X_ 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:

Surface water samples are collected semi-annually from the unnamed tributary to Mulberry Creek. Concentrations of constituents of concern detected in the surface water samples collected in June 2008 do not exceed 9 VAC 25-260 Virginia Water Quality Standards (Effective September 2007) for aquatic life or human health. In addition, surface water contaminant concentrations decrease in the downstream direction, with some contaminants no longer detected at the farthest downstream sampling location, before surface water exits the Facility property boundary. Please see Table 3 on the following page. SS-2 is the farthest upstream sampling point and SS-5 is the farthest downstream sampling point (see the attached site plan). The attached graph shows the effectiveness of the IM Stream Area aeration trench system by the reduction of VOCs in the stream since the IM began operation.

REFERENCE:

- 1st 2008 Semi-Annual Progress Monitoring Report, Interim Measure for the Stream Area – August 19, 2008, Innovative Engineering Solutions, Inc.

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[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.

Table 2. Constituents of concern detected in surface water samples collected June 2008.

Constituents of Concern Detected in Surface Water Samples (June 2008)	Surface Water Monitoring Points (June 2008)			9 VAC 25-260 Virginia Water Quality Standards (Effective September 2007)			
				Freshwater Aquatic Life		Human Health	
	SS-2	SS-4	SS-5	(Acute Toxicity)	(Chronic Toxicity)	Public Water Supply	All Other Surface Waters
VOCs (ug/l)							
Benzene	3.2	2.1	1.3	--	--	12	710
Chloroethane	23	41	41	--	--	--	--
cis-1,2-Dichloroethene	2.1	1.5	ND	--	--	--	--
1,1-Dichloroethane	5.4	3.1	2.3	--	--	--	--
1,1-Dichloroethene	1.2	ND	ND	--	--	310	17000
Dichloromethane	7.6	7.7	4.6	--	--	47	16000
Ethylbenzene	11	7.6	4.1	--	--	3100	29000
4-Methyl-2-pentanone	130	120	100	--	--	--	--
Tetrachloroethene	1.4	ND	ND	--	--	8.0	89
Toluene	220	160	91	--	--	6800	200000
1,1,1-Trichloroethane	2.5	1.1	ND	--	--	--	--
Vinyl Chloride	1.4	2.1	ND	--	--	0.23	61
Xylene, Total	29	22	13	--	--	--	--

ND – not detected

"--" surface water quality criteria value not available

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:

Surface and groundwater samples will continue to be collected semi-annually as progress of the IM Stream Area Trench System is monitored. In addition, site-wide groundwater sampling in the contaminant source areas will be conducted as progress of the upcoming IM Soil Vapor Extraction System is monitored.

REFERENCE:

- Soil Vapor Extraction System Design and Work Plan – April 2008, BASCOR Environmental Inc.
- Quarterly Progress Monitoring Report – 4th quarter 2007, BASCOR Environmental Inc.
- Description of Current Conditions Report – May 31, 2006, BASCOR Environmental Inc.
- 1st 2008 Semi-Annual Progress Monitoring Report, Interim Measure for the Stream Area – August 19, 2008, Innovative Engineering Solutions, Inc.

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).

__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 **Univar USA, Inc.** facility, EPA ID # **VAD003111416**, located in **Martinsville, VA**. 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 Trisha Johnson Date 9/5/08

(Print) Trisha Johnson

(Title) Environmental Specialist II

Supervisor Leslie A Romanchik Date 9/15/08

(Print) Leslie A. Romanchik

(Title) Director, Office of Hazardous Waste

(EPA Region or State) III/VA

Locations where References may be found:

Department of Environmental Quality
Division of Waste, Office of Hazardous Waste
629 East Main Street
Richmond, VA 23219

Contact telephone and e-mail numbers:

(Name)	Angela Alonso
(Phone #)	(804) 698-4328
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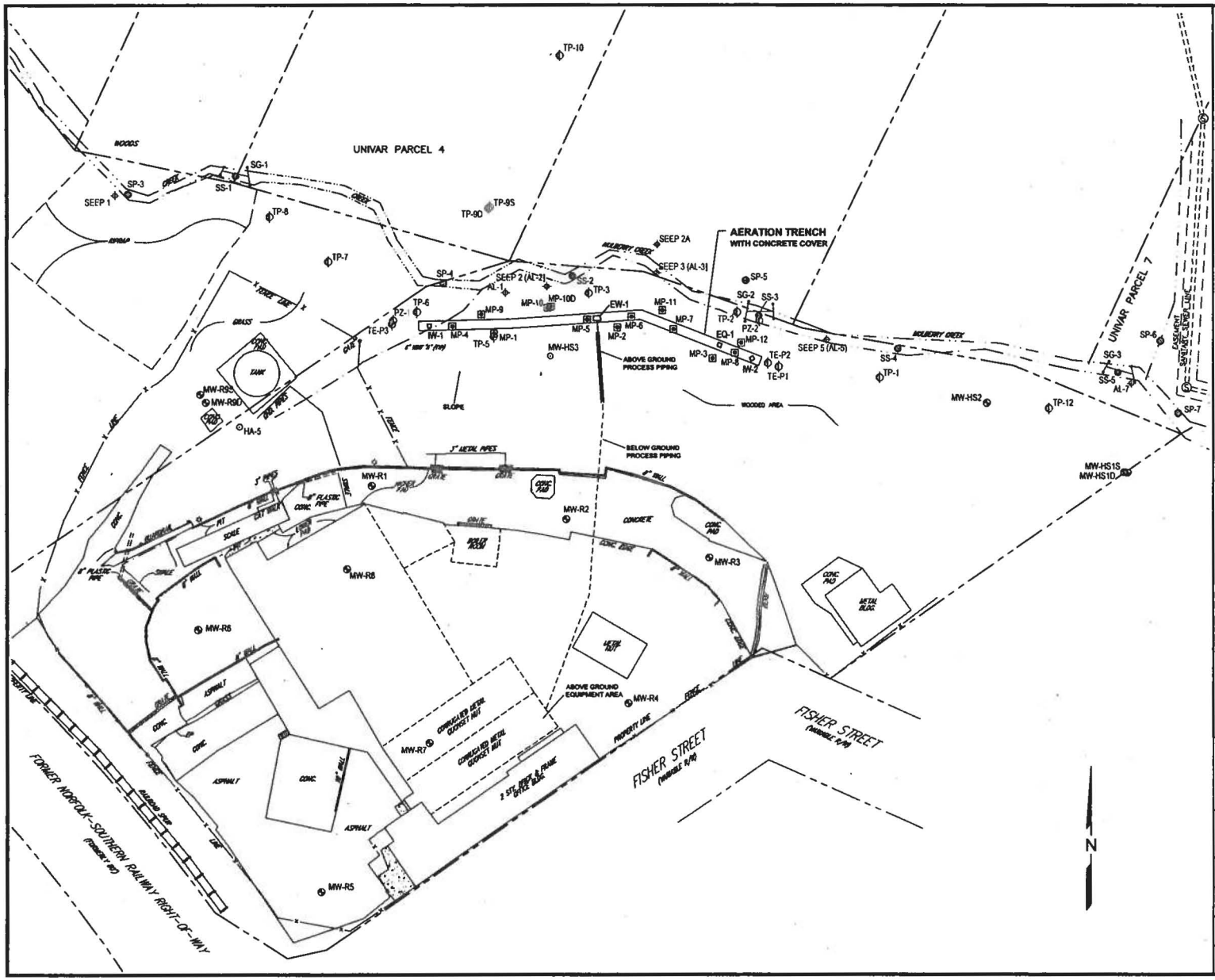
FINAL NOTE: THE MIGRATION OF CONTAMINATED GROUNDWATER UNDER CONTROL EI IS A QUALITATIVE SCREENING OF CURRENT GROUNDWATER CONDITIONS AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF GROUNDWATER QUALITY.



LEGEND

- MONITORING WELL
- PIEZOMETER
- INJECTION OR EXTRACTION WELL (EQ, IW, EW)
- SEEP SAMPLE
- STREAM SAMPLING POINT
- STREAM FLOW GAUGING SEGMENT
- SURFACE WATER SAMPLE
- SOIL BORING
- AERATION MONITORING POINT

MAP SOURCES: 1] "MONITORING WELL SURVEY FOR BASCOR" PREPARED BY J.A. GUSTIN AND ASSOC., COLLINSVILLE, VA, 8/2/07, CAD FILE "407001-A-OUT-08-14-07.DWG"; 2] "STREAM SAMPLING AND GAUGING LOCATION MAP" PREPARED BY BASCOR ENVIRONMENTAL, INC. FOR UNIVAR USA, INC., MARTINSVILLE, VA, 9/21/07, CAD FILE: "STREAM SAMPLE GAUGE LOCATIONS 08-2007 SCALE 1-50.DWG"

0 25' 50' 100'

SCALE IN FEET

iesi
Innovative Engineering Solutions, Inc.
25 SPRING STREET
WALPOLE, MASSACHUSETTS 02081
(508) 668-0033

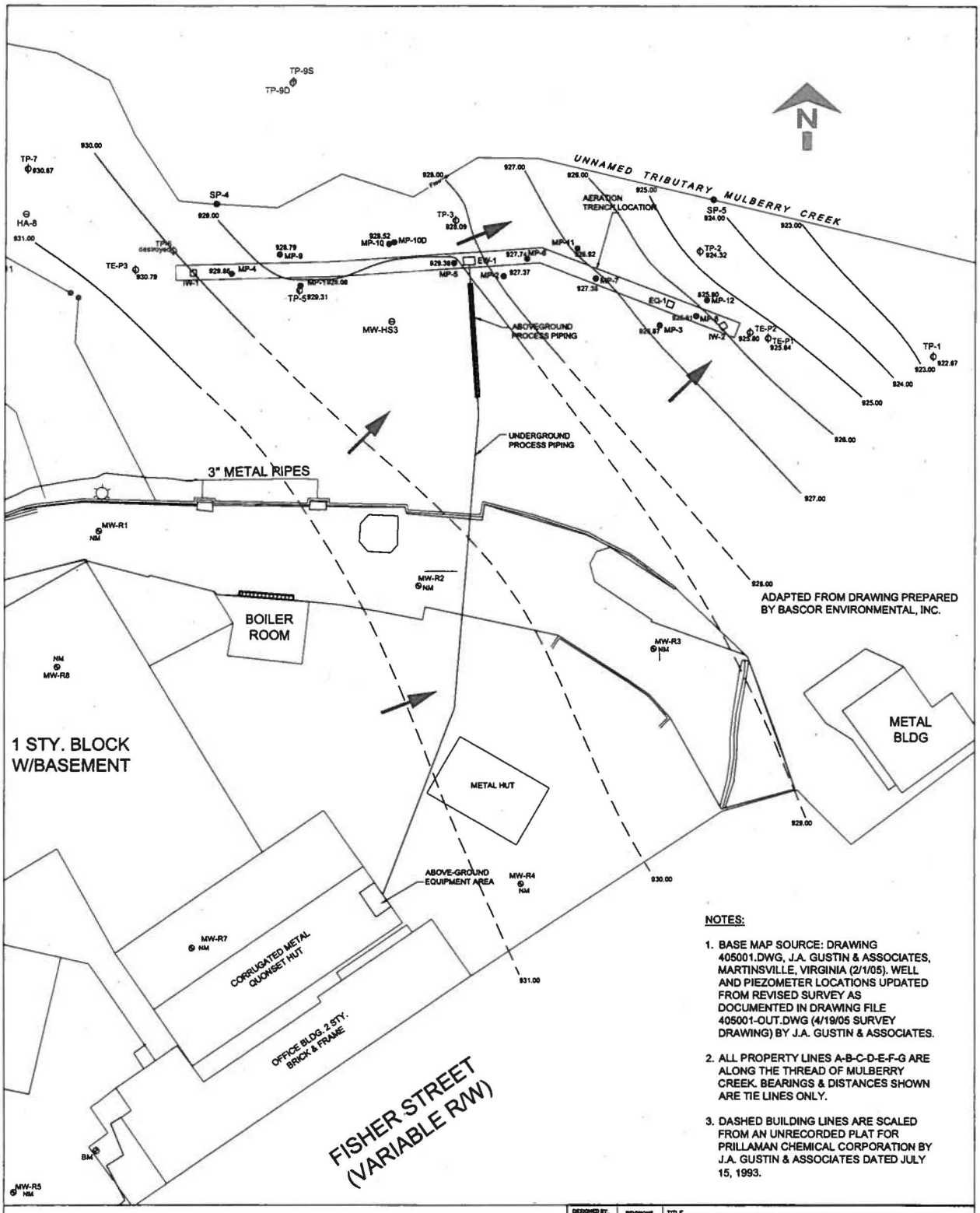
TITLE: SITE PLAN

PROJECT: REMEDIAL SYSTEM (STREAM AREA)

SITE: MARTINSVILLE, VIRGINIA

CLIENT: UNIVAR USA, INC.

DRAWN	CHECKED	FILENAME	DATE	FIGURE
DMR	JB	MARTSV SITE PLAN 2007	10/12/07	2



NOTES:

1. BASE MAP SOURCE: DRAWING 405001.DWG, J.A. GUSTIN & ASSOCIATES, MARTINSVILLE, VIRGINIA (2/1/05). WELL AND PIEZOMETER LOCATIONS UPDATED FROM REVISED SURVEY AS DOCUMENTED IN DRAWING FILE 405001-OUT.DWG (4/19/05 SURVEY DRAWING) BY J.A. GUSTIN & ASSOCIATES.
2. ALL PROPERTY LINES A-B-C-D-E-F-G ARE ALONG THE THREAD OF MULBERRY CREEK. BEARINGS & DISTANCES SHOWN ARE TIE LINES ONLY.
3. DASHED BUILDING LINES ARE SCALED FROM AN UNRECORDED PLAT FOR PRILLAMAN CHEMICAL CORPORATION BY J.A. GUSTIN & ASSOCIATES DATED JULY 15, 1993.

LEGEND

- PROPERTY LINE
- MONITORING WELL
- PIEZOMETER
- SEEP SAMPLE
- AUGER SAMPLE
- TRENCH SYSTEM MONITORING POINT
- INJECTION OR EXTRACTION WELL
- GROUNDWATER FLOW DIRECTION
- 933.00 GROUNDWATER CONTOURS AND ELEVATION

0 20 40
SCALE IN FEET

DESIGNED BY:	BD
DRAWN BY:	JB
CHECKED BY:	SF
APPROVED BY:	SM
REVISIONS NO.	DATE
1	07/08
TITLE	GROUNDWATER ELEVATION CONTOUR MAP MAY 6, 2008
PROJECT	INTERMIN REMEDIAL SYSTEM (STREAM AREA)
SITE	MARTINSVILLE, VIRGINIA
CLIENT	UNIVAR USA

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SCALE:	DATE ISSUED:	DRAWING NO.:	FIGURE NO.
NTS	July, 2008	martav GWL 5-8-08 CMR	3

Figure 4: SS Historical Total VOC Concentrations