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### aec

Response and Remediation Program

### **Atlanta Environmental Consultants**

3440 Blue Springs Rd. Suite 503 Kennesaw, Georgia 30144

February 28, 2011

Phone: 678-738-7004 Fax: 678-738-7005

Ms. Jessica McCarron Hazardous Sites Response Program Georgia Environmental Protection Division 2 Martin Luther King, Jr. Dr S.E., Suite 1462 East Atlanta, Georgia 30334

AEC Report REB-2406

SUBJECT: VRP Application and Conceptual Site Model for Property Containing Roswell Cleaners (formerly Roswell Cleaners & Coin Laundry), 1013
Alpharetta Street, Roswell, Fulton County, Georgia, HSI #10883.

Dear Ms. McCarron:

Thank you for your kind assistance in clarifying and assisting in completion of our Voluntary Remediation Program (VRP) Application requirements for property containing Roswell Cleaners (formerly Roswell Cleaners & Coin Laundry), 1013 Alpharetta Street, Roswell, Fulton County, Georgia (hereinafter Subject Property). Please accept the attached Application and Conceptual Site Model (CSM) to complete the Application. Also attached is a projected Milestone Schedule, as well as our summary of hours.

Once we have received confirmation of enrollment into the VRP and approval of the approach described in the Preliminary CSM, we will begin implementation of the Plan according to the attached milestone schedule. If EPD has any questions or comments regarding the Application or Preliminary CSM, we would be pleased to meet with you at your convenience to discuss the plan.

Thank you.

Sincerely,

Peter T. Kallay, P.E.

Manager, Environmental Services.

Georgia P.E. Number 24002



### - LLC -ATTORNEYS AT LAW

### RICHARD A. WINGATE

(404) 588-2526 DIRECT (404) 588-2530 MAIN (404) 588-2535 FACSIMILE rwingate@hallmanwingate.com

166 Anderson Street, S.E. **SUITE 210** MARIETTA, GEORGIA 30060 www.hallmanwingate.com

February 28, 2011

RECEIVED Georgia EPD

### By Federal Express

Ms. Jessica Jewell McCarron Georgia Department of Natural Resources 2 Martin Luther King Jr. Drive, S.E. Suite 1462 East Atlanta, GA 30334

Response and Remediation Program

MAR - 1 2011

Re:

Richard E. Bowen Roswell Cleaners

1013 Alpharetta Street

Roswell, Fulton County, Georgia

HSI #10883

HW File No. 3174/001

Dear Ms. McCarron:

Enclosed please find a completed VRP Application and Conceptual Site Model together with two CDs for the above-referenced property.

If you have any questions or comments concerning this matter, please do not hesitate to contact the undersigned.

Sincerely,

Richard A. Wingate

For HALLMAN & WINGATE, LLC

RAW:kps Enclosure

c:

Mr. Richard E. Bowen Peter T. Kallay, P.E.

F. Edwin Hallman, Jr., Esq.

### aec

### **Atlanta Environmental Consultants**

3440 Blue Springs Rd. Suite 503 Kennesaw, Georgia 30144



Phone: 678-738-7004

Fax: 678-738-7005

### PROJECTED MILESTONE SCHEDULE

RECEIVED
Georgia EPD

Roswell Cleaners 1013 Alpharetta Street Roswell, Fulton County, Georgia 30075 HSI #10883 MAR - 1 2011

Response and Remediation Program

February 28, 2011

The following presents the projected Milestone Schedule for implementation of the Voluntary Remediation Program (VRP) at property containing Roswell Cleaners (formerly Roswell Cleaners & Coin Laundry), 1013 Alpharetta Street, Roswell, Fulton County, Georgia. HSI #10883.

Plan, Report or Action	Date to be Submitted
Submit Preliminary Conceptual Site Model	at time of VRP Application
Complete Horizontal Delineation where Access is Available	12 months after enrollment
Complete Horizontal Delineation where Access is not Available	24 months
Complete Vertical Delineation	30 months
Final Voluntary Remediation Plan	30 months
Preliminary Cost Estimate for Implementation of Remediation and Associated Actions	30 months
Submit Compliance Status Report Including Required Certifications	60 months
Semi-Annual Status Reports with Updated Conceptual Site Model	Every 6 months

# Voluntary Remediation Plan Application Form and Checklist

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AtlantaEnviro@cs.com	E-MAII Atla	T.	675 738 7005	EAX	678 738 7004	BHONE
		ia 30144	ennesaw, Georgi	Suite 503, K	3440 Blue Springs Road, Suite 503, Kennesaw, Georgia 30144	ADDRESS
			0	nsultants, LL	Atlanta Environmental Consultants, LLC	COMPANY
ER PE 24002	GA PE/PG NUMBER	GA			Peter T. Kallay, P.E.	NAME
GEORGIA CERTIFIED PROFESSIONAL GEOLOGIST OR PROFESSIONAL ENGINEER OVERSEEING CLEANUP	SIONAL ENG	ROFESS	OGIST OR PI	VAL GEOL	TIFIED PROFESSION	GEORGIA CER
rwingate@hallmanwingate.com	E-MAIL rwin	E-N	404 588 2535	FAX	404 588 2530	PHONE
		a 30060	Marietta, Georgia	., Suite 210,	166 Anderson Street, S.E., Suite 210, Marietta, Georgia 30060	ADDRESS
			Landowner	Attorney for	Richard A. Wingate, Esq. Attorney for Landowner	CONTACT PERSON/TITLE
				E. Bowen	Property Owner – Richard E. Bowen	COMPANY NAME
	ATION	FORMA	VRP APPLICANT INFORMATION	VRP A		
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In order to be considered a qualifying property for the VRP:

- (1) The property must have a release of regulated substances into the environment;(2) The property shall not be:
- (A) Listed on the federal National Priorities List pursuant to the federal Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C Section 9601.
- (B) Currently undergoing response activities required by an order of the regional administrator of the federal Environmental Protection Agency; or (C) A facility required to have a permit under Code Section 12-8-66.
- delegation or similar authorization from the United States Environmental Protection Agency (3) Qualifying the property under this part would not violate the terms and conditions under which the division operates and administers remedial programs by
- the director pursuant to Code Section 12-8-94 or Code Section 12-13-6. (4) Any lien filed under subsection (e) of Code Section 12-8-96 or subsection (b) of Code Section 12-13-12 against the property shall be satisfied or settled and released by

In order to be considered a participant under the VRP:

- The participant must be the property owner of the voluntary remediation property or have express permission to enter another's property to perform corrective action.
- The participant must not be in violation of any order, judgment, statute, rule, or regulation subject to the enforcement authority of the director

significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that

I also certify that this property is eligible for the Voluntary Remediation Program (VRP) as defined in Code Section 12-8-105 and I am eligible as a participant as defined in Code Section 12-8-106

טטמס טסטוטון וביט וטט.			
APPLICANT'S SIGNATURE	Richard & Bourn		
APPLICANT'S NAME/TITLE (PRINT)	Richard E. Bowen, property owner	DATE	February 28, 2011
THE PERSON AND PROPERTY OF THE PERSON NAMED IN COLUMN 2 IN COLUMN			

		The following four (4) generic milestones are required in all initial plans with the results reported in the participant's next applicable semi-annual reports to the director. The director may extend the time for or waive these or other milestones in the participant's plan where the director determines, based on a	
		The VRP participant's initial plan and application must include, using all reasonably available current information to the extent known at the time of application, a graphic three-dimensional preliminary conceptual site model (CSM) including a preliminary remediation plan with a table of delineation standards, brief supporting text, charts, and figures (no more than 10 pages, total) that illustrates the site's surface and subsurface setting, the known or suspected source(s) of contamination, how contamination might move within the environment, the potential human health and ecological receptors, and the complete or incomplete exposure pathways that may exist at the site; the preliminary CSM must be updated as the investigation and remediation progresses and an up-to-date CSM must be included in each semi-annual status report submitted to the director by the participant; a <b>PROJECTED MILESTONE SCHEDULE</b> for investigation and remediation of the site, and after enrollment as a participant, must update the schedule in each semi-annual status report to the director describing implementation of the plan during the preceding period. A Gantt chart format is preferred for the milestone schedule.	ប្
	District Control of the Control of t	ONE (1) PAPER COPY AND TWO (2) COMPACT DISC (CD) COPIES OF THE VOLUNTARY REMEDIATION PLAN IN A SEARCHABLE PORTABLE DOCUMENT FORMAT (PDF).	4.
		TAX PLAT OR OTHER FIGURE INCLUDING QUALIFYING PROPERTY BOUNDARIES, ABUTTING PROPERTIES, AND TAX PARCEL IDENTIFICATION NUMBER(S).	3.
		WARRANTY DEED(S) FOR QUALIFYING PROPERTY.	2.
	04/29/10	\$5,000 APPLICATION FEE IN THE FORM OF A CHECK PAYABLE TO THE GEORGIA DEPARTMENT OF NATURAL RESOURCES.	1.
VRP For EPD le #, Comment Only lc.) (Leave Blank)	Location in VRP (i.e. pg., Table #, Figure #, etc.)	DESCRIPTION OF REQUIREMENT	ITEM #
	Georgia, 30068	Marietta STATE/ZIP	CITY
		811 Serramonte Drive	MAILING ADDRESS
•	(770) 565-1924	Richard E. Bowen PHONE#	PROPERTY OWNER(S)
	84°21′ 32" W	3" N	LATITUDE
	Fulton	Roswell	CITY
		et	PROPERTY ADDRESS
	0.647	12-1902-0412-061-6 PROPERTY SIZE (ACRES)	TAX PARCEL ID

					5.d.	5.c.	5.b.	5.a.
Peter T. Kallay PE 24002 Printed Name and GA PE/PG Number Date  Signature and Stamp	The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."	Furthermore, to document my direct oversight of the Voluntary Remediation Plan development, implementation of corrective action, and long term monitoring, I have attached a monthly summary of hours invoiced and description of services provided by me to the Voluntary Remediation Program participant since the previous submittal to the Georgia Environmental Protection Division.	"I certify under penalty of law that this report and all attachments were prepared by me or under my direct supervision in accordance with the Voluntary Remediation Program Act (O.C.G.A. Section 12-8-101, etseg.). I am a professional engineer/professional geologist who is registered with the Georgia State Board of Registration for Professional Engineers and Land Surveyors/Georgia State Board of Registration for Professional Geologists and I have the necessary experience and am in charge of the investigation and remediation of this release of regulated substances.	SIGNED AND SEALED PE/PG CERTIFICATION AND SUPPORTING DOCUMENTATION:	Within 60 months after enrollment, the participant must submit the compliance status report required under the VRP, including the requisite certifications.	Within 30 months after enrollment, the participant must update the site CSM to include vertical delineation, finalize the remediation plan and provide a preliminary cost estimate for implementation of remediation and associated continuing actions; and	Within the first 24 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern extending onto property for which access was not available at the time of enrollment;	Within the first 12 months after enrollment, the participant must complete horizontal delineation of the release and associated constituents of concern on property where access is available at the time of enrollment;
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# AEC Proj. No. REB-2406 Client Richard Bowen Client/File No. HSI Site No. 10883 Time Period May to December 2010

# Atlanta Environmental Consultants TIME REPORT

1013 Alpharetta St., Roswell, GA

Site Loc

Signature Date

January 24, 2011

4.25 Final prep for mee  1.50 Prepare Draft Bul  1.50 Discuss Bullet Po  0.75 Receive new Corr  1.75 Meeting and deta  with Terri Drabek.
Final prep for meeting. Discuss Type IV KRS for Construction Workers. Review & revise. Frep for meeting. Prepare agenda for meeting with Mr. Bowen and Mr. Wingate. Plan meeting with David Reuland.  Prepare Draft Bullet Point List for discussion. Discuss with Mr. Bowen and Mr. Wingate. Review, revise.  Discuss Bullet Point lists prepared by Mr. Bowen, Mr. Wingate and myself. Consolidate and final list.  Receive new Comments Letter from EPD. Review and discuss with Mr. Bowen. Leave message for Mr. Wingate.  Meeting and detailed discussion regarding Johnson & Ettinger Model and other issues in Comments Letter with Terri Drabek.

# AEC No. REB-2406 Client Richard Bowen Client/File No. HSI Site No. 10883 Time Period January - February 2011

# Atlanta Environmental Consultants TIME REPORT

Site Loc .

1013 Alpharetta St., Roswell, GA

Signature

February 25, 2011

		2/25		2/21		2/8	2/3	2/1		1/27			1/24	1/22		1/7	1/6	DATE
23.25		3.75		2.00	2	2.00	1.75	0.75		2.00			3.75	1.50		2.50	1.00	HOURS
	Complete Dominate processing in the superior Company of the superior of the su	Receive and review Terri's and Bonnie's review comments. Finalize Draft Conceptual Site Model Report and Figures.	Submit Draft Report for Professional Review to Terri and Bonnie.	Complete Draft revisions to CSM. Communications with Mr. Bowen and Mr. Wingate: Review Draft Revised CSM	Vap	Conference call with David Reuland, Richard Wingate and Richard Bowen to discuss Vapor Intrusion Evaluation issue.	Receive, review, print and file email correspondence regarding Vapor Intrusion Evaluation. Discuss with Mr. Bowen, Mr. Wingate.	receive copies of correspondence with Mr. Reuland and Mr. Wingate. Discuss with Mr. Bowen and Mr. Wingate.	Take to Post Office and mail Certified Mail.	Receive review comments from Mr. Bowen and Mr. Wingate. Final Response Letter. Prepare Certified Mailing	recommended with Mr. Bowen and Mr. Wingate. Complete Draft Response, ask Mr. Bowen and Mr. Wingate to review.	issues with Response, including approved methods for Vapor Intrusio Survey. Discuss issues, options and approaches	Discuss Report with Terri Drabek: Figures to CADD. Efforts to contact Jessica McCarron and David Reuland to discuss	Draft Response Letter to Georgia EPD Comments Letter. Review and revise. Print Draft and markup	options, presentation and format. Discuss response to most recent correspondence. Plan Meeting with Mr. David Reuland?	Meeting with Mr. Richard Bown and Mr. Wingate to discuss project correspondence, appropriate responses,	Print, copy and file correspondence. Prepare for meeting with Mr. Richard Wingate to discuss project status and direction	ACTIVITY DESCRIPTION

### **CONCEPTUAL SITE MODEL**

### **ROSWELL CLEANERS**

1013 Alpharetta Street Roswell, Fulton County, Georgia 30075 HSI #10883

### Prepared For:

Mr. Richard E. Bowen 811 Serramonte Drive Marietta, Georgia 30068

February 2011

**AEC Project Number REB-2406** 

Peter T. Kallay, P.E.

•

02/28/2011

aec

Atlanta Environmental Consultants 3440 Blue Springs Road, Suite 503 Kennesaw, Georgia 30144

> Phone (678) 738-7004 Fax (678) 569-2419

### **Site Description**

The site, a commercial property in the City of Roswell, Fulton County Tax Parcel # 12-1902-0412-061-6, contains one single story commercial concrete block slab-on-grade building constructed in 1966, based on available records of the Fulton County Tax Assessor. The building currently houses Roswell Cleaners. Part of the building that had formerly housed a coin laundry is vacant at this time. Records indicate the building has been used primarily as a dry cleaners during all or most of its life. It has operated under the names Roswell Sunshine Center, Sunshine Center, Sunshine Cleaners (or Roswell Sunshine Cleaners), Roswell Cleaners & Coin Laundry, and Roswell Cleaners. Figure 1 shows the site location. Figure 2 shows a site plan and possible sources.

### Site Surface and Subsurface Setting

The site is situated on fill material (soil) up to 15 feet deep overlying the original soil horizon. The site, including all areas with soil concentrations of volatile organic compounds (VOC), is capped with concrete or asphalt pavement in good condition, so no contact with these soils by the public will occur. Concentrations in soils primarily occur in the source area, on the property on which Roswell Cleaners is located. A layer of topsoil appears to be present at the top of the original native soils.

No water wells or other groundwater use within a mile of the site is known or suspected, as confirmed by a water well and water sources/water resources survey conducted in conjunction with Hazardous Site Response Act (HSRA) Notification submitted for this site, including drinking water and irrigation wells.

### Environmental Assessment and Graphical 3-Dimensional Conceptual Site Model

Environmental assessment has been conducted onsite, and has indicated the presence of tetra-chloroethene (PCE) and its biodegradation products in soils and groundwater. The samples analyzed that are referenced in this report were collected on August 27, 2008 and analyzed and reported by Advanced Chemistry Labs, Inc., a qualified analytical laboratory, on September 5, 2008. The highest soil concentrations of these compounds were 84.2 milligrams per kilogram (mg/kg) PCE, 5.29 mg/kg trichloroethene (TCE), 2.37 mg/kg cis-dichloroethene (cis-DCE), and 0.841 trans-dichloroethene (trans-DCE), all collected in the soil boring located at MW-4 at 15 feet deep (Figure 3) Concentrations were also identified in groundwater. The highest groundwater concentrations identified were 2.010 milligrams per liter (mg/L) PCE, 0.156 mg/L TCE, 0.315 mg/L cis-DCE, 0.036 mg/L trans-DCE, all in MW-4, and 0.003 mg/L vinyl chloride in MW-2 (Figure 4). A potentiometric map and groundwater flow direction is shown on Figure 5.

The attached Figures, included as part of this CSM, show a graphical three-dimensional representation of soil and groundwater concentrations, sources of contamination, expected contaminant movement, receptors and pathways (Figures 6 through 10).

### Vapor Intrusion Pathway

Atlanta Environmental Consultants will utilize Soil Gas Sampling, a Georgia Environmental Protection Division (EPD) approved method. Collection of soil gas samples will be by use of vapor probes installed through the building's floor slab and appropriately sealed at the probes' entry point through the floor. Several soil gas samples will be collected in building interior

locations well away from the building edges, in accordance with Georgia EPD policies and guidelines. Sampling will be performed in accordance with EPA Method TO-15.

Potential Exposure during Potential Utility or other Subsurface Construction

No utility or other subsurface construction work is planned or proposed. AEC intends to resample soils in the area in which soils previously exceeded Notification Concentrations (NC). In the event soils to the maximum depth of utilities, foundations and/or other structures onsite meet applicable standards, no further action is proposed. In the event soils exceed standards (including site-specific utility and construction worker cleanup standards) and significant work onsite occurs or is proposed, remediation of soils will be considered and may be implemented. Nevertheless, in accordance with Section 391-3-19-.07(10) of the Rules for Hazardous Site Response, site-specific utility and construction worker cleanup standards will be calculated and compared to soil and groundwater concentrations. Workers onsite shall be notified of the presence of soil VOC concentrations prior to beginning work and shall be aware of and trained in use of appropriate engineering controls, work practices, personal protective equipment (PPE) or other appropriate means of precluding or minimizing contact. The construction area shall be barricaded, surrounded with construction fencing and/or employ other appropriate means to preclude access by unauthorized persons.

### Surface Water

Using a scaled U.S. Geological Survey (USGS) 7.5-minute series topographic map, Roswell, GA Quadrangle (Figure 1), a distance of approximately 1,800 feet is indicated in the direction of groundwater flow (east-southeast) from the source to Hog Wallow Creek. Available data does not suggest that any concentrations exceeding applicable standards will reach Hog Wallow Creek or any other surface water body. Were any concentrations to reach Hog Wallow Creek, the most likely point based on the groundwater flow direction determined, is shown on Figure 1. At the calculated rate of groundwater migration, ranging from 7.09 feet/year to 30.47 feet/year, average 15.37 feet/year, groundwater from the site would reach Hog Wallow Creek from 59 to 254 years, in an average of 117 years. This is the rate of groundwater flow and does not take into consideration any retardation or attenuation mechanisms that would have the effect of further slowing the contaminant migration velocity and further increasing the length of time it would take dissolved VOC concentrations to reach Hog Wallow Creek. No other point of withdrawal between the site and Hog Wallow Creek was identified. No groundwater use between the site and Hog Wallow Creek was found; Hog Wallow Creek is the nearest point of exposure. Dissolved concentrations are projected to decrease to below applicable standards before reaching Hog Wallow Creek. Since no likelihood of contact with groundwater between the site and Hog Wallow Creek exists, and no standards will be exceeded when groundwater reaches Hog Wallow Creek, the groundwater pathway is incomplete.

### Additional Investigations

Completion of horizontal delineation where access is available was proposed in 12 months and completion of horizontal delineation where access is not available was proposed in 24 months. These delineation activities shall include current, former or existing dry cleaning machines and along sanitary sewers and/or other underground utility lines in these areas following the proposed schedule. Delineation will be completed to the Voluntary Remediation Program Type I Residential Risk Reduction Standards. Appropriate investigation and testing to verify whether any possible on-going releases are occurring will be conducted.



### Suspected Sources of Regulated Substances

The Subject Property has been the location of a successive series of businesses operating dry cleaners over a period exceeding 40 years. Dry cleaners most commonly use PCE as a dry cleaning solvent. Regulation of purchase, storage, use, handling and accumulation of spent PCE and disposal of PCE was non-existent to very limited from 1966 until 1981, in comparison to current regulations. In general, care in preventing or minimizing drips, spills or releases was less stringent during the earlier years of dry cleaning businesses at this location as compared to more recent years. It is believed that dry cleaners operators followed rules in existence at the times of their operations. PCE may have entered the environment during delivery and handling of containers (e.g., drums and buckets), pouring PCE into dry cleaning machines, draining spent PCE, sweeping and mopping of floors. PCE may have entered the environment from vaporization, drips and spills, PCE-containing filters, rags, mops etc that may have been disposed, spent PCE handling, etc. following common practices and rules, nonexistent, limited, and more regulated, as may have existed over the years.

A NAPA Auto Parts store with a machine shop was formerly located adjacent to the Subject Property and hydraulically upgradient of the site. It is believed that the machine shop may have utilized PCE or TCE as parts cleaning solvents. A former auto body shop, Auto Body Plus, Inc. was also located adjacent to the Subject Property and hydraulically upgradient of the site on the same property on which the NAPA Auto Parts machine shop was located. The auto body shop was also believed to have used solvents in their line of business. Other businesses formerly located in the area potentially having used solvents in their business include an Esso service station, Benson Chevrolet, used auto dealers, auto repair shops, dry cleaners, machine shops, service stations, pest control services and others that may have potentially employed solvents or products containing solvents. Figure 2 shows some possible offsite sources.

Preliminary evaluation of applicable approaches to remediation of the site suggests the following. Soils are not subject to contact with any populations (except trained workers on rare occasions such as utility workers, foundation workers and the like). In order to preclude contact with existing concentrations, the soils will remain capped with asphalt payement, which will be sealed, maintained and kept in good repair as required to provide an effective cap. Workers, on rare occasions when subsurface work may be required, should be appropriately notified regarding the existence of PCE and related compounds and provided with appropriate health and safety information, safe work practices and equipment to minimize exposure in accordance with applicable rules. No utility or subsurface work is planned or proposed. Soils in areas where concentrations exceed Notification Concentrations (NC) will be resampled. In the event soils to the maximum depth of utilities, foundations and/or other structures onsite meet applicable standards, no further action is proposed. In the event soils exceed standards (including sitespecific utility and construction worker cleanup standards) and significant work onsite occurs or is proposed, remediation of soils will be considered and may be implemented. Nevertheless, in accordance with Section 391-3-19-.07(10) of the Rules for Hazardous Site Response, sitespecific utility and construction worker cleanup standards will be calculated and compared to soil and groundwater concentrations. In the event any subsurface work is required, the contractor shall be required to have trained workers or be supervised by a qualified health and safety officer and use barricades, construction fencing or other appropriate means to preclude entry by unauthorized persons.

Groundwater will not come into contact with any populations except trained environmental consultants. Groundwater will be sampled at the time of selection of the most appropriate remedy. The most current Risk Reduction Standards, rules and concentrations (or concentrations



developed using a RRS Evaluation) as adopted by the Georgia Environmental Protection Division (EPD) at the time of this determination will be utilized. The most appropriate remedy appropriate for a commercial setting with no receptors or completed pathways within 1,800 feet of the site will be then selected and implemented. Environmental consultants and well drillers constructing or sampling wells shall be Hazardous Waste Operations (HAZWOPER) trained with up-to-date annual refresher training, and shall be familiar with all safe practices. An appropriate Site Specific Health and Safety Plan shall be maintained, updated, provided to each worker and reviewed in a health and safety meeting prior to beginning work. Available data does not suggest that any concentrations exceeding applicable standards will reach Hog Wallow Creek. In the direction of groundwater flow, using a scaled U. S. Geological Survey (USGS) topographic map, Roswell Quadrangle, indicated a distance of approximately 1,800 feet in the east-southeast groundwater flow direction indicated by our calculations and shown on the potentiometric map included in this document. At the calculated rate of groundwater migration, ranging from 7.09 feet/year to 30.47 feet/year, averaging 15.37 feet/year determined using slug tests, groundwater from the site would reach Hog Wall Creek from 59 to 254 years, an average of 117 years. Attenuation mechanisms may further increase time to reach the creek. At the likely rate of groundwater attenuation, concentrations will not exceed drinking water standards nor in-steam water quality standards by the time groundwater from the site reaches Hog Wallow Creek. No other point of withdrawal between the site and Hog Wallow Creek has been identified or is known to exist.

### **Proposed Additional Assessment and Risk Reduction Standards**

The source appears to be in the area of MW-4. Soil concentrations of PCE and its biodegradation products are non-detectable or very low in all other soil samples collected in soil borings conducted prior to installation of monitoring wells. Groundwater will be delineated to appropriate concentrations representative of appropriate standards for commercial property with no receptors or completed pathways within 1,500 feet of the site. The most current Risk Reduction Standards, rules and concentrations (or concentrations developed using a RRS Evaluation) as adopted by the Georgia Environmental Protection Division (EPD) at the time of the delineation will be utilized. Type III Risk Reduction Standards may be adopted as the applicable standard following evaluation of all data collected after delineation has been completed. In the event site-specific risk reduction standards are proposed, a point of demonstration well will be proposed along with an appropriate monitoring schedule.

### Site Delineation Concentration Criteria

Site delineation will be completed to Voluntary Remediation Program Type I Residential Risk Reduction Standards. Risk Reduction Standards (RRS) proposed for groundwater are as follows, from Table 1 of Appendix III unless otherwise noted:

Constituent	Delineation of Groundwater Stds (mg/l)
Tetrachloroethene (PCE)	0.005
Trichloroethene (TCE)	0.005
Cis-Dichloroethene (cis-DCE)	0.07*
Trans-DCE	0.1
Vinyl Chloride	0.002

<sup>\*</sup> Federal Maximum Contaminant Level (MCL).

Risk Reduction Standards proposed for soils are as follows, from Appendix I:

Constituent	Delineation of Soil Standards (mg/kg)
PCE	0.18
TCE	0.13
Cis-DCE	0.53
Trans-DCE	0.53

### **Proposed Engineering Controls**

Engineering Controls, consisting of an asphalt cover, is the primary proposed remedy. In the event additional delineation or investigation work suggests other points of exposure, they will be addressed as appropriate. In the event engineering controls are proposed or utilized, a long-term maintenance and monitoring plan will be included as part of the proposed engineering controls remedy.



















