SCOPE OF WORK
GROUNDWATER MONITORING WELL INSTALLATION

DRAFT

FORMER HIDDEN VALLEY ELECTRONICS SITE
VESTAL, BROOME COUNTY, NEW YORK

WORK ASSIGNMENT NO. D003826-9

Submitted to:

New York State Department of Environmental Conservation
Albany, New York

Submitted by:

MACTEC Engineering and Consulting
Portland, Maine
Project Number: 3616042017

SEPTEMBER 2006

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Portland, Maine
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Submitted by:	Approved by:
_____	_____
John W. Peterson, P.M.	William J. Weber, P.E.
Project Manager	Program Manager

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1.0 SUMMARY

MACTEC is requesting a bid from you as part of the NYSDEC Standby contract for the Former Hidden Valley Electronics (HVE) site in Vestal, Broome County, New York (Site). The scope of work presented herein is planned for September 2006.

Please review the following site information, description of proposed groundwater monitoring well installation, and the attached bid sheet, well development protocol, and figure of proposed well locations. The bid sheet (Attachment 1) has the quantities input; please provide your estimated duration of work based on the description below, including well installation and development.

A group site walkover is planned during which the proposed location of the groundwater wells will be discussed with the utility companies. MACTEC shall be responsible for obtaining necessary permits and site access. Work to be conducted will occur on several off-site properties (see Figure 1.1 – Proposed Monitoring Wells):

- the New York State Department of Transportation property where the Miller's Sunoco/KOST Tire groundwater and soil vapor extraction treatment facility resides;
- the KOST Tire property; and
- possibly the State Route 434 right-of-way.

Once the proposed groundwater well locations have been determined based upon utility locations and accessibility MACTEC will apply for and obtain the required permits.

2.0 SITE INFORMATIONN

The HVE Site is located at 1808 Vestal Parkway East (NY Route 434), in the Town of Vestal, Broome County, New York. Chlorinated solvents were reportedly used by the former Hidden Valley Electronics Corporation in an on-site degreaser in the early 1990s. Although no source areas were discovered during the RI investigation, solvents, including TCE and 1,1,1-TCA (chlorinated volatile organics [VOCs]) have been detected in groundwater and soil at the HVE Site. Contaminants detected in Site groundwater may be the result of releases of small amounts of contaminants either to the ground surface in the vicinity of the former storage shed to the south of the Site building, or to soils below the site building. These contaminants have migrated from soils to groundwater.

The highest concentrations of contaminants in groundwater onsite were detected in samples collected from monitoring well TW-2, located immediately north of the Site building. 1,1,1-TCA and TCE were detected at concentrations of 1300 µg/L and 2300 µg/L, respectively, in comparison to the NYS Class GA Groundwater Standard of 5 µg/L for both compounds. 1,1,1-TCA, TCE, and several other chlorinated VOCs have been detected in monitoring wells downgradient of the Site.

3.0 PROPOSED GROUNDWATER MONITORING WELL INSTALLATION

The installation of three six-inch groundwater monitoring wells is proposed at the approximate locations depicted on Figure 1.1. The monitoring wells shall be 6-inch I.D., flush mounted, with 20-foot screens installed with the top of screen positioned 10 feet below normal groundwater levels, and PVC construction. Depth to groundwater within this area is anticipated to be on the order of 18 to 20 feet.

Fieldwork to be conducted under this scope of work will be conducted in accordance with the specifications presented in the Quality Assurance Program Plan (QAPP) (ABB-ES, 1995) and the Site-specific QAPjP, included as Appendix A to the Site Work Plan (MACTEC, 2004). Health and Safety procedures for on-site activities are presented in the Program Health and Safety Plan (HASP) (ABB-ES, 1994) and the Site-specific HASP, included as Appendix B to the Site-specific Remedial Investigation/Feasibility Study Work Plan (MACTEC, 2004).

Monitoring wells will be developed using surge block method as presented in Subsection 4.7 of the QAPP (ABB-ES, 1995 [see Attachment 2]). Field parameters, including pH, temperature, specific conductivity, and turbidity will be measured for each well volume removed. The wells will be developed until the turbidity of the well water discharge is less than 50 nephelometric units, or for a maximum duration of 2 hours. Wells will be allowed to set for approximately 24 hours before development.

4.0 REFERENCES

ABB Environmental Services (ABB-ES), 1995. *Program Quality Assurance Program Plan*. Prepared for the New York State Department of Environmental Conservation, Albany, New York. June 1995.

ABB Environmental Services (ABB-ES), 1994. *Program Health and Safety Plan, Part II, Revision 1*. Prepared for New York State Department of Environmental Conservation, Albany, New York. June 1994.

MACTEC Engineering and Consulting, P.C. (MACTEC), 2004. Remedial Investigation/Feasibility Study Work Plan, Hidden Valley Electronics. Prepared for the New York State Department of Environmental Conservation, Albany, New York. August 2004.

FIGURE 1.1 – PROPOSED MONITORING WELLS

Note: 2002 Aerial photo from NYS GIS Clearinghouse.

FIGURE 1.1
INTERIM REMEDIAL MEASURE
PROPOSED MONITORING WELLS
HIDDEN VALLEY ELECTRONICS SITE
VESTAL, NEW YORK

MACTEC

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ATTACHMENT 1 – BID QUOTATION SCHEDULE FOR DRILLING SERVICES

ATTACHMENT 1

FIRM NAME: GEOLOGIC NY, INC.
BID QUOTATION SCHEDULE FOR DRILLING SERVICES

ITEM NO.	DESCRIPTION	UNITS	UNIT COSTS LEVEL D	QUANTITY	SUBTOTAL
	MOBILIZATION and PER DIEM				
1	Mobilization	$/ls	500	1	$ 500.00
2	Modified Level C personal protection	$/psn/d.	N/A		
	DRILLING TECHNIQUES (Without Sampling)				
	HOLLOW STEM AUGERS				
	0-50 Feet in Depth				
3	8.25-Inch ID Hollow Stem Augers	$/lf.	40.00	150	$ 6,000.00
	WELL SCREEN				
	PVC				
4a	Continuous Slot PVC Screen, 6-inch ID, Installed	$/lf.	50.00	60	$ 3,000.00
	Stainless Steel				
4b	SS Well Screen, 6-inch ID, Installed,	$/lf.	100.00	0	$ -
	WELL RISER				
	PVC				
5	PVC Well Riser, 6-inch ID, Schedule 40	$/lf.	25.00	90	$ 2,250.00
	PROTECTIVE CASINGS (incl. installation)				
	FLUSH MOUNT				
6	Flush-Mount, 12.0-inch ID well cover with 6.0-inch locking j-plug	$/ea.	275.00	3	$ 825.00
	STAND-BY TIME				
7	Stand-by Time	$/hr.	160.00		$ -

ATTACHMENT 1

FIRM NAME: GEOLOGIC NY, INC.
BID QUOTATION SCHEDULE FOR DRILLING SERVICES

ITEM NO.	DESCRIPTION	UNITS	UNIT COSTS LEVEL D	QUANTITY	SUBTOTAL
	DECONTAMINATION				
8	Construction of One (1) Decontamination Steam-Cleaning Pad to Collect Solid and Liquid Contaminants	$/ls.	265.00	1	$ 265.00
9	Decontamination of Drill Rig, Tools, and All Other Equipment Between Borings	$/hr.	160.00	3	$ 480.00
	CONTAINERIZATION OF DRILLING MATERIALS				
10	Supply Clean DOT-Approved 55-gallon Drums with Wood Pallets	$/ea.	58.00	6	$ 348.00
11	Moving 55-gallon Drums to Borehole; Filling, Transporting, and Staging or Emptying of Drilling Fluid/ Development Water Drums	$/ea.	79.00	3	$ 237.00
12	Moving 55-gallon Drums to Borehole; Filling, Transporting,and Staging or Emptying of Drill Cutting Drums	$/ea.	79.00	3	$ 237.00
	WELL DEVELOPMENT <u>0-50 Feet in Depth</u>				
13	6-inch Wells by Airlift Method	$/hr.			$ -
14	6-inch Wells by Overpumping with Submersible Pump	$/hr.			$ -
15	6-inch Wells by Pump and Surge Method (assumes 4 wells, two hours ea)	$/hr.	160.00	16	$ 2,560.00
	TOTAL				$ 16,702.00

NOTES:
$/lf. = dollars per linear foot
$/hr. = dollars per hour
$/ea. = dollars per unit
$/ls. = dollars per lump sum unit
$/psn/d. = dollars per person per day
N/A = not applicable

ATTACHMENT 2 –
WELL DEVELOPMENT PROCEDURES

Well Development. Well development is a process of pumping or purging a new monitoring well, designed to stabilize and increase the permeability of the filter pack around the well screen and to restore the permeability of the formation which may have been reduced by drilling operations. The selection of the well development method will be made by the site hydrogeologist based on the drilling methods, well construction and installation details, and the site geology. Monitoring wells should be allowed to set for a minimum of 24 hours before well development to allow for the seal and grout to set (NYSDEC TAGM 4007). Any equipment introduced into the well will be decontaminated in accordance with the procedures presented in the HASP. Water levels will be taken from each well before and after development (NYSDEC TAGM 4007). To avoid aeration of the filter pack, the water level will not be allowed, to the extent feasible, to fall below the top of the filter pack during development.

Well development may be accomplished using one of several methods including:

- Overpumping, which uses a pump (e.g., submersible or peristaltic) or compressed air (air lift) to remove water from the well.
- Surge block which uses a plunger, the approximate diameter of the well, to agitate water in and out of the screen. No water is removed from the well.
- Compressed air which develops a well by either backwashing (forcing water out of the well and reducing pressure to let water flow back in) or surging (releasing a large volume of air suddenly into an open well below the water table producing a strong surge due to resistance of water head, friction and inertia). Water is pumped from the well using airlift.

In accordance with NYSDEC TAGM 4007, well development will continue until the pumped water has a turbidity reading of 50 NTUs or less. Field measurements of turbidity, temperature, pH, and specific conductivity will be recorded for each well volume removed. Should a well fail to achieve the required turbidity within a reasonable amount of time (to be specified in the site-specific Work Plan), field personnel will provide the field data to the site manager who will contact the NYSDEC Project Manager for guidance on how to proceed. An average of two weeks should be allowed between development and subsequent sampling or water level measurements to allow the aquifer to re-equilibrate.

Well development will be documented in the field notebook and on the Well Development Record (Figure 4-13).