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January 12, 2004

Mr. Sal Priore, P.E.
Remedial Bureau C, Section B
New York State Department of Environmental Conservation
625 Broadway, 11th Floor
Albany, New York, 12233-7014

Subject: Stauffer – Old Taylor Farm Site
Supplemental Investigation
Registry No. 706011

Dear Mr. Priore:

Shaw Environmental, Inc. (Shaw) has developed this work plan in response to the New York State Department of Environmental Conservation's (NYSDEC) letter dated July 24, 2003. This correspondence requested that SMC complete additional investigative activities at the Old Taylor Farm Site (Site). These activities, as outlined in Attachment B of this July letter, included the installation of additional overburden and bedrock monitoring wells; continue monthly Culligan sampling, complete quarterly groundwater monitoring of on-site wells, and conduct a slug test to characterize the hydrogeologic properties of the overburden and bedrock water-bearing zones. This letter serves as a description of the work that Shaw will implement in order to address the requested work scope. The resulting geologic and hydrogeologic data will be summarized in a report for submittal to the Department.

1.0 MONITORING WELL INSTALLATION PROGRAM

Four (4) overburden and seven (7) bedrock monitoring wells will be installed by Parratt Wolff, Inc. (Parratt Wolff) of East Syracuse, New York under the oversight of a Shaw geologist. These proposed wells will be located at, or in close proximity to, existing monitoring wells MW-5 though MW-8, approximately 50 feet south of MW-8, within Grid E-9 down topographic gradient from MW-5 and east of the former excavation within or near grid H-8 as requested by the NYSDEC. The approximate location of the wells is shown on **Figure 1**. Actual locations will be determined in the field with the NYSDEC site representatives prior to the installation of these wells.

1.1 Overburden Monitoring Wells

The overburden monitoring wells will be advanced using 4 ¼-inch ID hollow stem auger (HSA) drilling techniques. All cuttings generated during the installation of the well will be drummed and staged on-site prior to being transported for disposal at a licensed and permitted disposal facility. All drilling wastes will be handled by a licensed transport contractor. An overburden well will not be installed at MW-6 because bedrock is approximately 3 feet below ground surface (bgs) in this location nor will overburden wells be installed at proposed monitoring wells MW-10 and MW-11.

The wells will screen the entire water-bearing zone observed within the overburden and be constructed of two (2) inch diameter 0.010 inch slot stainless steel screen and two (2) inch diameter stainless steel casing. A filter pack will likely extend two (2) feet above the top of the screen. Following placement of the filter pack a two (2) foot (minimum) bentonite seal will be installed. The remainder of the borehole will be filled with a Portland/bentonite grout slurry. The wells will be completed above grade with a four (4) inch diameter locking protective casing that will be secured in place with a concrete apron.

1.2 Bedrock Monitoring Wells

The bedrock monitoring wells will be advanced using 6 ¼-inch ID HSA and HQ coring techniques at the proposed locations and will extend approximately 10 to 15 feet deeper than their adjacent, already existing well. The anticipated depth of the new wells, in comparison to the existing wells, is tabulated below. Once bedrock is encountered, the drillers will switch from 6 ¼-inch HSA to HQ coring techniques. A rock socket will be tremie grouted with a Portland cement/bentonite slurry in competent bedrock to serve as a seal to the overburden. The slurry will be left to cure overnight before coring resumes. All cuttings generated during the drilling of the bedrock wells will be drummed and staged at a location appointed by SMC prior to disposal at an off-site disposal facility.

Bedrock Monitoring Wells		Anticipated
Well ID	**Current Well Depth (ft bgs)**	**New Well Depth (ft bgs)**
MW-5	25.5	40
MW-6	23.5	38
MW-7	33.5	48
MW-8	38.5	35 - 50
MW-9	NA	TBD
MW-10	NA	35 - 50
MW-11	NA	35 - 50

NA=Not applicable, new well to be installed ~50 feet south of existing MW-8

Once the slurry has cured, drilling will proceed with HQ coring techniques. Clean, potable water supplied by the driller will be used during coring activities to lubricate the drill bit. A grab sample of the water will be collected for laboratory analysis of VOCs and SVOC's (plus toluic acid) via USEPA Methods 8260 and 8270, respectively. This water will be managed similar to the development and purge water as discussed below. The core barrel will retrieve 5-foot sections of core at a time. The core will be placed in core boxes where the on-site geologist will characterize the core to determine rock quality density (RQD), rock type, presence of precipitate, fractures, fracture orientation, water bearing zones, and any visual staining. Upon completion of monitoring well installation, the core boxes will be stored at a location determined by SMC.

The bedrock wells will screen at least the upper ten (10) feet of the bedrock aquifer and be constructed with of two (2) inch diameter 0.010 inch slot stainless steel screen and two (2) inch diameter stainless steel casing. A sand pack will not be emplaced in this well. Rather, a heavy rubber packer will be placed just below the overburden/bedrock interface. Due to the low yield in the upper bedrock aquifer, this procedure will allow for any water bearing bedrock fractures to contribute to the groundwater found within the well, instead of just the screened interval. The bedrock wells will be completed above-grade with a four (4) inch diameter locking protective casing that will be secured in place with a concrete apron.

2.0 MONITORING WELL DEVELOPMENT

All monitoring wells will "rest" for a minimum of 24-hours prior to development to allow the bentonite/sand pack to settle and cure. Parratt Wolff will develop the newly installed wells by removing a minimum of ten well volumes of water from each monitoring well, purge the wells until dry, or until specific conductivity, pH, turbidity, temperature, oxidation-reduction potential (ORP) and dissolved oxygen (DO) (hydraulic parameters) stabilize as required by the originally approved IRM work plan. All groundwater development data will be recorded on field data sheets or in a dedicated field notebook. Any evidence of potential impacts such as odor or product-type sheen will be closely monitored and recorded. Development water will be containerized, transferred to a poly tank on a truck, and transported to the SMC Skaneateles Falls Facility for treatment and discharged through the wastewater treatment plant under the existing SPDES permit.

3.0 SITE SURVEY

A New York State licensed surveyor will survey each new and existing well location and top of casing relative to several established benchmarks to allow for the preparation of an updated site base map. Two known benchmark locations are on Taylor Road and within an existing stone wall along the access road.

4.0 GROUNDWATER GAUGING AND SAMPLING

Shaw personnel will collect groundwater samples from all wells at least one week subsequent to the development of the newly installed monitoring wells and then on a quarterly basis thereafter for two (2) years at which time the data will be evaluated and the necessity to continue or streamline the groundwater monitoring program will be discussed with the Department.

Prior to sampling, all wells will be gauged for depth-to-water and depth-to-bottom, relative to top of casing, to determine the hydraulic head at each well location. Liquid levels/depth-to-water in each well will be measured monthly for the first year to characterize the seasonality of groundwater flow at the Site. Each monitoring well will be purged of either three well volumes or until hydraulic parameters stabilize using dedicated sampling equipment.

Purge water will be containerized in a poly tank and transported to the Jordon Road facility for treatment and discharge through the wastewater treatment plant under the existing SPDES permit subsequent to approval by the NYSDEC-DOW.

Hydraulic parameters, as well as other pertinent information will be recorded on field data sheets. Depth-to-water levels collected will be used to generate a water elevation table and create a groundwater model of the Site that will be presented at the completion of all field and sampling activities.

Because of historic low level detections of bis (2-ethylhexyl) phthalate, the Shaw representative will wear Teflon gloves while sampling to prevent any field-induced impacts. Samples will be transferred directly into clean laboratory supplied bottles containing the appropriate preservatives. Care will be taken to minimize agitation to the water column, reducing turbidity in the sample and the potential for loss of VOCs. Sample bottles will be labeled in accordance with the *Preliminary Site Assessment Work Plan*, The IT Group, May 23, 1999. Samples will be placed in a cooler, on ice and entered onto a chain-of-custody (COC). At the end of the day, the samples will be transferred to the on-site refrigerator with their COC and held until picked up by the laboratory.

Each well will be sampled for VOCs and SVOCs (plus toluic acid) according to EPA Methods 8260B and 8270C, respectively. Samples will be analyzed by Certified Environmental Services, Inc. (CES). Pertinent QA/QC samples will be collected to facilitate validation of all laboratory data.

5.0 AQUIFER SLUG TESTING

Shaw will perform a slug-test in two of the overburden wells and two of the bedrock wells to determine hydraulic conductivity within these water bearing units. At each monitoring well, two test repetitions will be performed. Depth-to-water and depth-to-bottom will be measured relative to top of casing at the start to determine hydraulic head in each well. Following gauging, real-time groundwater level recorders (Trolls, manufactured by In-Situ, Inc.) will be deployed in the monitoring well. Each unit has an independent memory. Each test run will be set by a lap top computer, which can be disconnected during the run. Data will be downloaded back to the computer. If necessary, the Trolls will be secured and locked within the well casing ensuring security while unattended. The Trolls will be set to run the length of the slug test.

A slug-bar will then be lowered into the well and a known volume of water displaced. The water level in the well is then allowed to return to its approximate static level. Once the static water level is attained the slug bar will be removed from the well. Information from the Trolls will be read into a proprietary computer program (Aqtesolv) or similar program to determine hydraulic conductivity for each monitoring well.

6.0 CULLIGAN WATER TREATMENT SYSTEMS

Shaw will continue to provide oversight for monthly sampling of the Culligan systems at the four (4) Taylor Road residences. Samples will be collected from the influent, mid, and effluent sampling ports located at each system. Subsequent to two rounds (collected over 6 months) of groundwater data generated from the monitoring wells, the frequency of Culligan sampling may be proposed to be changed to a quarterly sampling event (with Departmental and DOH approval) to occur concurrently with the groundwater monitoring events. Data will be provided to the Department within 30 days of receipt.

Culligan personnel will continue to monitor water treatment systems. Any operational issues identified with the systems, as well as normal maintenance activities, will be conducted by Culligan.

7.0 CLOSURE OF EXISTING MONITORING WELLS

Parratt-Wolff will remove the screen, casing and protective “stick-ups” from existing wells where newly installed wells have been installed (MW-5 through 8) after the newly installed wells have been gauged and sampled for the first time. The boreholes for these wells will be grouted to ground surface when decommissioned. Departmental concurrence will be sought prior to decommissioning of these wells. Any spoils generated during the removal of these wells will be characterized for disposal at a licensed and permitted facility.

8.0 PROJECT DELIVERABLES

The anticipated project deliverables will include the following submittals:

- An updated project schedule for site investigation activities.

- A letter report, discussing the installation and development of the monitoring wells. This report will include drill logs for all newly installed groundwater monitoring wells as well as associated field notes and data generated during the drilling program.
- Monthly project updates with associated liquid level readings and the results of Culligan sampling events.
- Quarterly groundwater monitoring reports containing a summary of site sampling events, tabulated groundwater monitoring data and groundwater contour maps.
- A final assessment report summarizing all groundwater investigative and sampling activities will be submitted at the completion of the project.

9.0 PROJECT SCHEDULE

Following the approval from the NYSDEC and a letter to proceed, SMC will schedule the supplemental fieldwork once site access has been granted by the property owner and a revised Order on Consent has be negotiated with the Department. It is anticipated that the installation and development of the monitoring wells will span a period of approximately three (3) to four (4) weeks. After which, the wells will be sampled and surveyed. SMC will provide a summary report of the completed fieldwork three weeks after receipt of all groundwater analytical. Quarterly reports will then be submitted detailing the groundwater gauging and sampling and monthly Culligan sampling for that period.

If you have any questions or comments regarding the proposed work scope please contact either of us at 518-783-1996.

Sincerely,
Shaw Environmental, Inc.

Marc E. Flanagan
Project Geologist

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Senior Project Manager/Hydrogeologist

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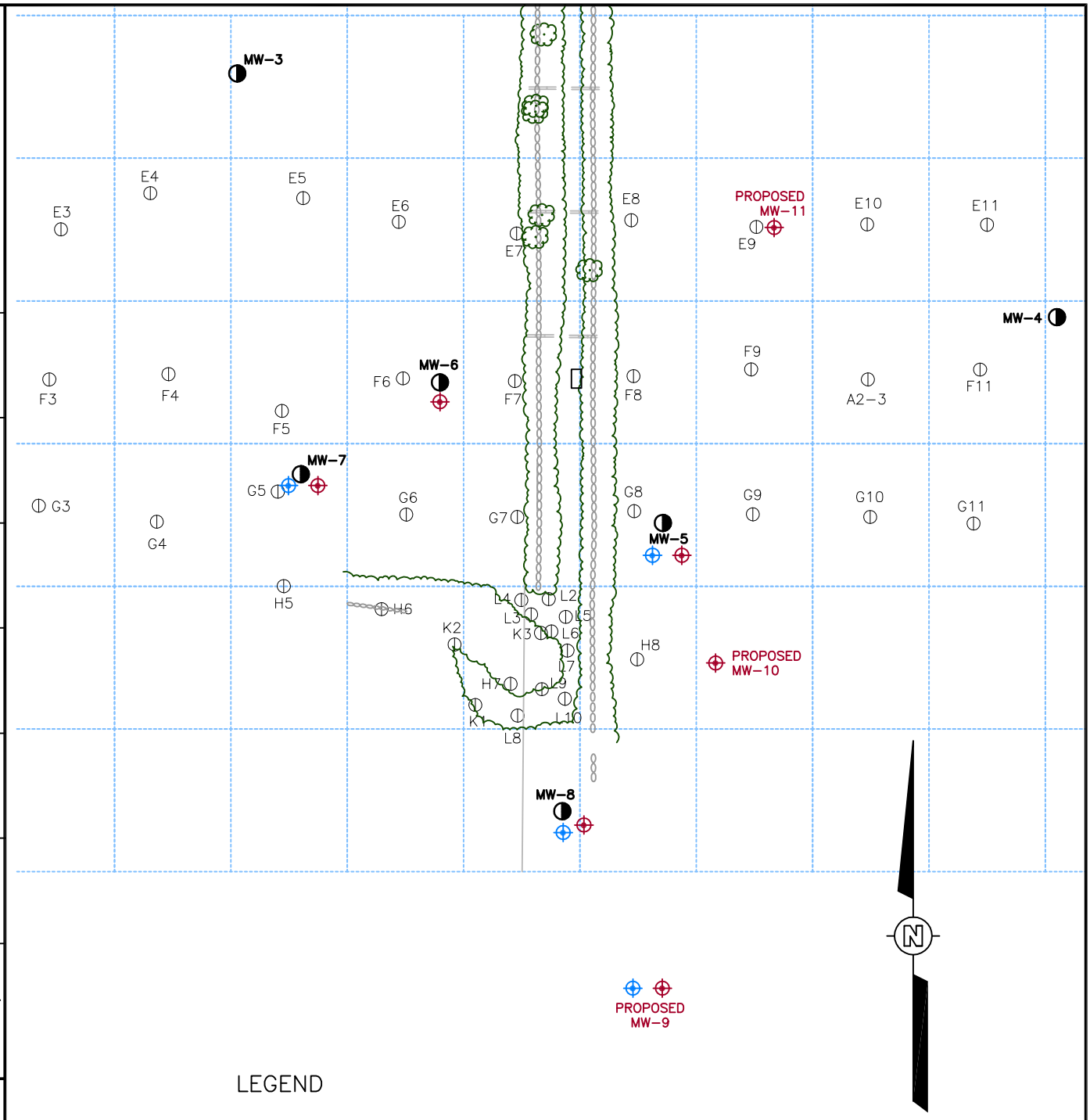

LEGEND

- MW-4 — EXISTING MONITORING WELL
- H7 — HISTORIC GEOPROBE POINT
- EXISTING DECIDUOUS TREE (DIAMETER >10")
- GRID LINE
- PROPERTY LINE
- ROAD LINE
- PROPOSED BEDROCK MONITORING WELL
- PROPOSED OVERBURDEN MONITORING WELL

APPROXIMATE SCALE

0 120 240 FEET

NOTE: PROPOSED MONITORING WELL LOCATIONS WILL BE BASED ON FIELD DECISIONS BETWEEN SMC & NYSDEC REPRESENTATIVES AT THE TIME OF INSTALLATION.

REFERENCE:

BASE MAP SOURCE: KUCERA INTERNATIONAL
SOURCES HERE.

Shaw Environmental, Inc.

SMC OLD TAYLOR FARM
REGISTRY # 7-06-011

FIGURE 1
PROPOSED MONITORING WELL LOCATION MAP
TAYLOR ROAD
SENNETT, NEW YORK

OFFICE	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
ALBANY, NY	S. SHKOLNIK 10-29-03			784101A11

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