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June 27, 2005

Mr. George Heitzman, PE
Senior Environmental Engineer
NYSDEC Division of Environmental Remediation
625 Broadway
Albany, NY 12233 - 7013

Re: Supplemental Investigations
South Troy Industrial Park
Troy, New York
ERP No. B00163-4
CTMA Project No. 04.9138

Dear Mr. Heitzman:

This letter presents the scope of work and justification for additional site investigations relative to the current findings of the site investigations and Interim Remedial Measures (IRM) completed to date. The overall purpose of the supplemental investigation is to determine the nature and extent of the subsurface contamination within the northeast portion of Parcel #1 and within Parcel #2, and to develop specific remedial alternatives to address the identified contamination. The source of the contamination within the northeastern portion of Parcel #1 is the tank and drums found during the initial site investigation. The source of contamination within Parcel #2 is currently unknown, but should be defined through completion of this supplemental work. As previously discussed, if the contamination within Parcel #2 is determined to be migrating onto the site from an off-site source, the responsibility for its remediation will be evaluated by the Department.

Summary of Relevant Findings

The site investigations to date have disclosed the presence of a buried steel storage tank and two 55 gallon drums within the northeastern portion of Parcel #1, and the existence of petroleum contamination within Parcel #2 (southeast corner of the intersection of Main Street and East Industrial Park Road). The tank and drums were removed as an IRM; however, soil and groundwater contamination remain and have not yet been fully delineated. The source of the petroleum contamination within Parcel #2 has not yet been determined, nor has the extent of the contamination been delineated. The City of Troy has conducted investigations at the "Alamo", the property adjacent to and immediately north of Parcel #2. Evidence of groundwater contamination was

discovered at one of the boring/monitoring wells (A-W-1) installed by the City's consultant and reportedly was consistent with a heavy fuel oil (i.e. No. 6 Oil).

Performance of Investigative Activities

The proposed investigations will be completed in accordance with the approved Site Investigation Work Plan. Overall, this supplemental phase of investigative activities includes completion of soil borings and probes, monitoring well installations, collection of soil and groundwater samples for laboratory analysis, data validation and site survey work. Approved methods for completing these tasks are addressed within the Work Plan and therefore are not provided in detail herein.

Proposed Supplemental Investigations

Parcel 2

Parcel two will be further evaluated through the advancement of Geoprobe borings and the installation of small diameter PVC monitoring wells. As the fill (i.e. slag) within Parcel #2 was not as heavy as that found in other portions of the site, conventional auger drilling should not be necessary. Based on the evidence of petroleum contamination on the Alamo site to the north, the historic presence of a gasoline station east of the site (currently Mr. Subb) and the presence of petroleum constituents within Parcel #2, it is proposed to complete a series of Geoprobes along the northern and eastern boundaries of Parcel #2. The intent of this effort is to assist in determining if the contamination within Parcel #2 is related to the migration of a contaminant plume from off site locations to the north and the east, if the contamination is associated with the buried oil pipeline traversing the site, and to further define the subsurface conditions relative to the potential existence of an infilled buried stream channel. Additional borings and monitoring wells may be installed along the western and southern portions of Parcel #2 to define the extent of the contamination and to determine if it has migrated off-site. Off-site borings and monitoring wells are not contemplated during this phase of work, but such need will be evaluated within the context of these supplemental investigations. Any off-site work would likely require access agreements with the property owners.

The locations of the proposed Geoprobes are depicted in Figure 1. Eleven (11) probes are proposed along the northern property boundary, three (3) along the eastern, five (5) along the southern and three (3) along the western property boundaries. The Geoprobe boring locations will be completed first to develop a better understanding the geologic

conditions and to identify subjective evidence and distribution of contamination within the site. The probes will be advanced to approximately 20 feet with samples collected at continuous four (4) foot intervals. In consultation with the client and NYSDEC Project Manager, up to six (6) of the boring locations will selected for subsequent monitoring well locations. It is anticipated that the installation of the monitoring wells will be completed immediately following the completion of the probes.

Recovered soil samples will be screened for evidence of organic contamination with a photo ionization detector (PID). Depending on the field screening results, one soil sample from above the water table elevation may be recovered for laboratory analysis. If subjective evidence of contaminants is not noted at a boring location, a soil sample may not be collected for laboratory analysis. The soil samples selected for analysis will be analyzed for volatile organic compounds (VOCs) by EPA Method 8260 and semi-volatile organic compounds (SVOCs) by EPA Method 8270, respectively.

Northeast Portion of Parcel 1

It is proposed to complete additional soil borings within the immediate vicinity of the tank and drum removal area to define the extent of soil and groundwater contamination, as well as to provide the data necessary to evaluate remedial alternatives. As heavy fill (slag) is known to be present, the boreholes will be advanced with conventional hollow stem auger casing rather than Geoprobe methods. A total of 5 borings are proposed to be completed as shown in Figure 1. The borings and monitoring wells will be completed in accordance with our current Site Investigation Work Plan. The majority of the borings will be completed hydraulically downgradient from the removed tank and drum location. Not all borings will be converted to monitoring well locations. It is anticipated that 3 of the 5 borings will be converted to monitoring wells; however, the actual number of wells and final locations will be dependent on the field observations during completion of the work. Shallow and deep well clusters will also be considered dependent upon the vertical distribution of the contamination. The monitoring wells may also serve as future vapor extraction points if such efforts are deemed necessary and effective.

The primary contaminants of concern identified at CTM-1 and CTM-1S are volatile organic compounds (VOCs) and to a lesser extent semi-volatile organic compounds (SVOCs) (naphthalene only). Several metals were detected in soils and groundwater; however, these are more likely related to the slag, not the material contained within the tank and drums. Recovered soil samples will be screened for evidence of organic contamination with a photo ionization detector (PID). Depending on the field screening

results, one soil sample from above the water table elevation may be recovered for laboratory analysis. If subjective evidence of contaminants is not noted at a boring location, a soil sample may not be collected for laboratory analysis. The soil samples selected for analysis will be analyzed for volatile organic compounds (VOCs) by EPA Method 8260 and semi-volatile organic compounds (SVOCs) by EPA Method 8270, respectively. In general, the sample exhibiting the highest PID screen value will be secured for analysis.

Well Development, Sampling, Analysis and Survey

Following the installation of the monitoring wells, each will be developed to restore the hydraulic connection with the aquifer. Development water will be retained in 55 gallon drums for subsequent evaluation and disposal. The probe/boring and well locations will be surveyed to establish their locations and elevations within the site relative to the project datum. The survey work will include tying in the City' monitoring well (A-W-1) on the Alamo site to assist in defining groundwater movement within the area.

Within 2 weeks following the installation and development of the wells, each will be purged per the Work Plan and sampled for laboratory analysis. The groundwater samples from the monitoring wells within both Parcel #1 and #2 will be analyzed for volatile and semi-volatile organic compounds by EPA Methods 8260 and 8270, respectively. The pre-existing monitoring wells in each area (CTM-1, CTM-1S, CTM-7, CTM-9 and MW-3) will also be sampled within each area of concern.

Report of Investigations

The data and information developed from these supplemental investigations will be evaluated and presented within the draft Remedial Investigation and Remedial Alternatives Report.

Fees for Supplemental Investigations

The fees for this work will be charged in accordance with our existing agreement. Once this supplemental scope of investigation has been reviewed, modified if necessary and approved, we will prepare the estimated costs for the work. In review of our current project charges, a State Assistance Contract (SAC) amendment will be required.

Schedule

The supplemental investigations can be initiated within 2 to 3 weeks following approval to proceed. The subsurface investigations should be completed within 2 weeks thereafter. Accounting for 4 week laboratory turnaround time, and 4 weeks for data validation, the results of the investigation should be available for review within 10 to 12 weeks following project authorization. As indicated above, the results of the supplemental investigation will be incorporated into the draft Remedial Investigation/Remedial Alternative Report.

If you have any questions or require any additional information, please call our office at your convenience.

Respectfully submitted,

C.T. MALE ASSOCIATES, P.C.

Kirk Moline
Project Manager

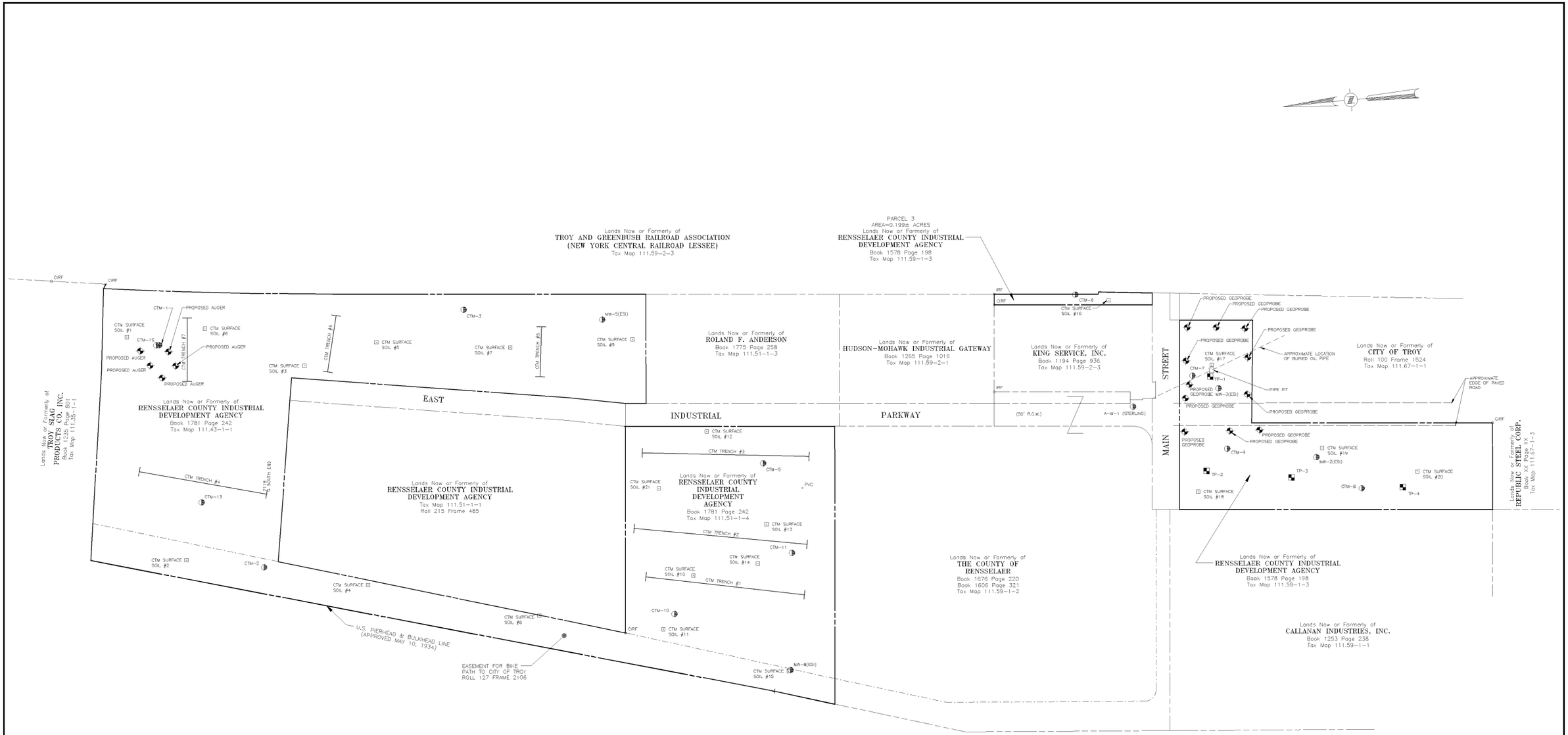
Attachment: Site Map with Proposed Probe/Boring Locations

C: Mr. Daniel Pollay, RCIDA
David Roecker, P.E., CTMA

NO XREFS

PROJECT NUMBER: 04.9138

CAD DWG. FILE NAME: PROP BORINGS.DWG



MAP NOTES

1. THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.

MAP REFERENCES

1. "FIELD SURVEY OF SITE SAMPLING LOCATIONS, MAIN STREET, SOUTH TROY INDUSTRIAL PARK, BROWNFIELDS INVESTIGATION", PREPARED BY C.T. MALE ASSOCIATES, P.C., DWG. NO. 05-0104, DATED NOVEMBER 30, 2004.

LEGEND

CIRF	CAPPED IRON ROD FOUND
IRF	IRON ROD FOUND
CTM SURFACE SOIL #11	C.T. MALE SURFACE SOIL SAMPLE
CTM-9	C.T. MALE MONITORING WELL/TEST BORING
MW-5(ES)	EMPIRE SOILS INVESTIGATION MONITOR WELL
CTM-4	C.T. MALE TEST PIT
SB	SOIL BORING
	C.T. MALE EXPLORATORY TRENCH
A-W-1 (STERLING)	STERLING MONITOR WELL
PROPOSED AUGER	APPROXIMATE LOCATION OF PROPOSED SOIL BORING TO BE ADVANCED VIA AUGER METHOD
PROPOSED GEOPROBE	APPROXIMATE LOCATION OF PROPOSED SOIL BORING TO BE ADVANCED VIA GEOPROBE METHOD

BAR SCALE
100 0 50 100 200
1 inch = 100 ft.

DATE	REVISIONS RECORD/DESCRIPTION	DRAFTER	CHECK	APPR.
	1			
	2			
	3			
	4			
	5			
	6			
	7			
	8			
	9			

DESIGNED:
DRAFTED : J.MARX
CHECKED : K.MOLINE
PROJ. NO: 04.9138
SCALE : 1"=100'
DATE : JUNE 29, 2005

FIGURE 1
PROPOSED BORING AND PROBE LOCATION MAP

SOUTH TROY INDUSTRIAL PARK
BROWNFIELD INVESTIGATION

CITY OF TROY — RENSSELAER COUNTY, NEW YORK

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SHEET 1 OF 1
DWG. NO: