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March 8, 2024

Mr. Jared Donaldson  
New York State Department  
of Environmental Conservation  
Division of Environmental Remediation  
625 Broadway  
Albany, New York 12233-7015

Re: **Groundwater/Soil Sampling Work Plan**  
**Former Elka Chemical Corporation Property**  
**340 West Hoffman Ave.**  
**Lindenhurst, Suffolk County, New York**  
**NYSDEC Project No. 152239**

Dear Mr. Donaldson:

Eastern Environmental Solutions/Dermody Consulting is providing this revised letter work plan to obtain a round of groundwater samples from 20 selected groundwater monitoring wells at and upgradient/downgradient of the above-referenced property (the "Site"). In addition, soil samples will be obtained at 9 locations and at two depth intervals, 0-6 and 6-12 inches, at each location. The groundwater and soil samples obtained will be analyzed for Target Compound List volatile and semi-volatile organic compounds (VOCs and SVOCs) by US Environmental Protection Agency Methods 8260 and 8270. The soil samples will be analyzed for the same compounds and using the same methods plus Target Analyte List (TAL) Metals (plus cyanide and hexavalent and trivalent chromium) by USEPA Methods 6010C/7471B/9010C/7196A.

Figure 1 shows the Site layout and on-Site groundwater VOC exceedances of the Class GA groundwater standards (the "Standards"). Figure 2 shows the on-Site exceedances of the Standards for SVOCs. Figure 3 shows the off-Site exceedances for VOCs and Figure 4 shows the exceedances for SVOCs.

Only wells that showed groundwater exceedances of the Standards for VOCs, SVOCs, or both during the prior round of sampling (from 2018) will be re-sampled. In addition, the

upgradient, off-Site wells (GW-1 and GW-2) will be sampled for VOCs although they showed no exceedances of the Standards during the 2018 sampling.

***Purpose***

The purpose of the groundwater and soil sampling is to determine current conditions. This information will be used to design the groundwater remediation plan and to determine if soil on the western portion of the Site meets the Soil Cleanup Objectives.

***Proposed Groundwater Sampling***

Based on the 2018 sampling, it was determined that the groundwater contaminants of concern at and downgradient of the Site consisted of VOCs and SVOCs. The impacted groundwater was primarily confined to the shallow groundwater zone (5 to 10 feet below grade—the depth to the water table is approximately 5 feet and the topography of the Site and vicinity is generally flat). Each well location that is proposed to be sampled contains paired wells including a shallow (5-10 feet below grade), and a deeper well (15-20 feet below grade), although some of the downgradient wells contain piezometers screened at several depths. The upgradient wells (GW-1 and GW-2) contain only shallow wells.

Groundwater samples will be obtained from 20 on-Site shallow and deep wells (see Figure 5 for on-Site well locations) and upgradient and off-Site downgradient wells adjacent and south of West Hoffman Avenue (see Figure 6). The wells to be sampled and the sample analysis and containers for each sample are provided in attached Table 1.

All groundwater monitoring well sampling activities and observations will be recorded in a field book and a daily report and purge logs will be completed for inclusion in the sampling report.

Prior to groundwater sampling, the presence of floating product will be evaluated using an oil/water interface probe. The groundwater monitoring wells will then be purged utilizing a Geotech peristaltic pump with a low-flow controller and dedicated tubing. All wells will be purged at a flow rate of 0.5 liters per minute. Stability parameters will be measured at a minimum of five-minute intervals. Sampling will commence when three consecutive readings are within plus or minus 0.1 pH, 10 mV RedOx Potential, 3 percent temperature and specific conductivity, and 10 percent dissolved oxygen and turbidity (turbidity must also be below 50 NTUs). Prior to collecting the groundwater samples, the flow rate will be decreased to 0.1 liters per minute. The stability parameter readings and water level measurements and depth of well measurements for each monitoring well will be recorded in the field book and recorded on well purging-field water quality measurements forms.

***Proposed Soil Sampling***

Soil sampling will be performed at 9 locations on the unpaved western portion of the Site (see Figure 7). The samples will be collected with a decontaminated stainless steel hand auger. Prior to sampling, the hand auger will be placed in a bucket with liquinox and water. The auger will be scrubbed, rinsed with potable water, and finally rinsed with deionized water.

The samples at each location will be obtained from depths of 0 to 6 inches and then 6 to 12 inches below grade and transferred to laboratory-supplied glassware, sealed, labeled, and placed in a cooler with ice.

***Quality Assurance/ Quality Control (QA/QC) Samples***

For each media (groundwater and soil), one laboratory duplicate sample (marked with an identification that does not reveal that the sample is a duplicate), one matrix spike and one matrix spike duplicate, and one equipment blank will be obtained each day or one for each 20 primary samples collected. For the groundwater equipment blank, laboratory-supplied analyte-free water will be supplied to the intake polyethylene tubing and collected from the discharge polyethylene tubing on the low-flow pump and collected in laboratory-supplied glassware for the analysis of VOCs and SVOCs.

For the soil samples, laboratory-supplied deionized water will be poured over the decontaminated hand auger and collected in laboratory-supplied glassware for the analysis of SVOCs.

Laboratory-prepared trip blanks will be prepared at a rate of one per day or one per 20 samples and analyzed for VOCs. A trip blank will be placed in each cooler containing samples to be analyzed for VOCs. The trip blanks will be analyzed for VOCs. Table 2 provides a summary of the QA/QC sampling.

All samples will be collected and transferred to laboratory-supplied glassware, properly preserved, and placed in an ice-filled cooler for delivery to a NYSDOH ELAP-approved laboratory (York Analytical Laboratories, Inc.) All sample analyses will be performed with NYSDEC ASP Category B deliverables. A chain of custody form will also be completed to document sample possession.

All samples will be labeled and will contain the Site name, the sample identification and sample depth interval, the date the sample was obtained, and the requested laboratory analysis.

The VOC groundwater samples will be collected and transferred to laboratory-supplied 40 milliliter VOC vials with Teflon septa. The VOC samples will be preserved with hydrochloric acid that will be added by the laboratory prior to supplying the vials. The SVOC samples will be collected in one-liter amber glass bottles. All samples will be placed in ice-filled coolers to maintain a temperature of 4 degrees Celsius. The samples will be transferred to the laboratory within 48 hours of sample collection.

All primary groundwater and soil samples as well as all Quality Assurance/Quality Control (QA/QC) samples will be analyzed with NYSDEC ASP Category B deliverables. All laboratory data will be formatted for upload and submitted to NYSDEC as EQuIS Electronic Data Deliverables (EDD).

Laboratory data reports will conform to NYSDEC Category B deliverable requirements. The laboratory data will be validated by an independent third party. Data validation will be performed in accordance with the guidelines established in Appendix 2B of the Final DER-10 Guidance for Site Investigation and Remediation. Validation reports will consist of text results of the review and marked up copies of Form I (results with qualifiers applied by the validator). Validation will consist of target and non-target compounds with corresponding method blank data, spike and surrogate recoveries, sample data, and a final note of validation decision or qualification, along with any pertinent footnote references. Qualifiers applied to the data will be documented in the report text.

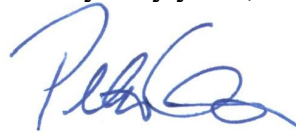
A Data Usability Summary Report (DUSR) will be prepared in accordance with DER-10 procedures and requirements. The DUSR will provide both a quantitative and qualitative analysis of the data. The quantitative aspect is a summary of the data quality as expressed by qualifiers applied to the data; the percent rejected, qualified (i.e., estimated), missing, and fully acceptable data are reported. The qualitative element of the data usability summary is the translation and summary of the validation reports into a discussion useful to data users. The qualitative aspect will discuss the significance of the qualifications applied to the data, especially in terms of those most relevant to the intended use of the data.

A report of all sampling procedures, laboratory results, summary results tables, QA/QC results and a DUSR, and the findings of the sample data will be prepared for submittal to your attention.

The final report (including the DUSR and all QA/QC results) is expected to be submitted to your attention within 60 days of your approval of this work plan.

Should you have any questions, please feel free to contact me.

Very truly yours,

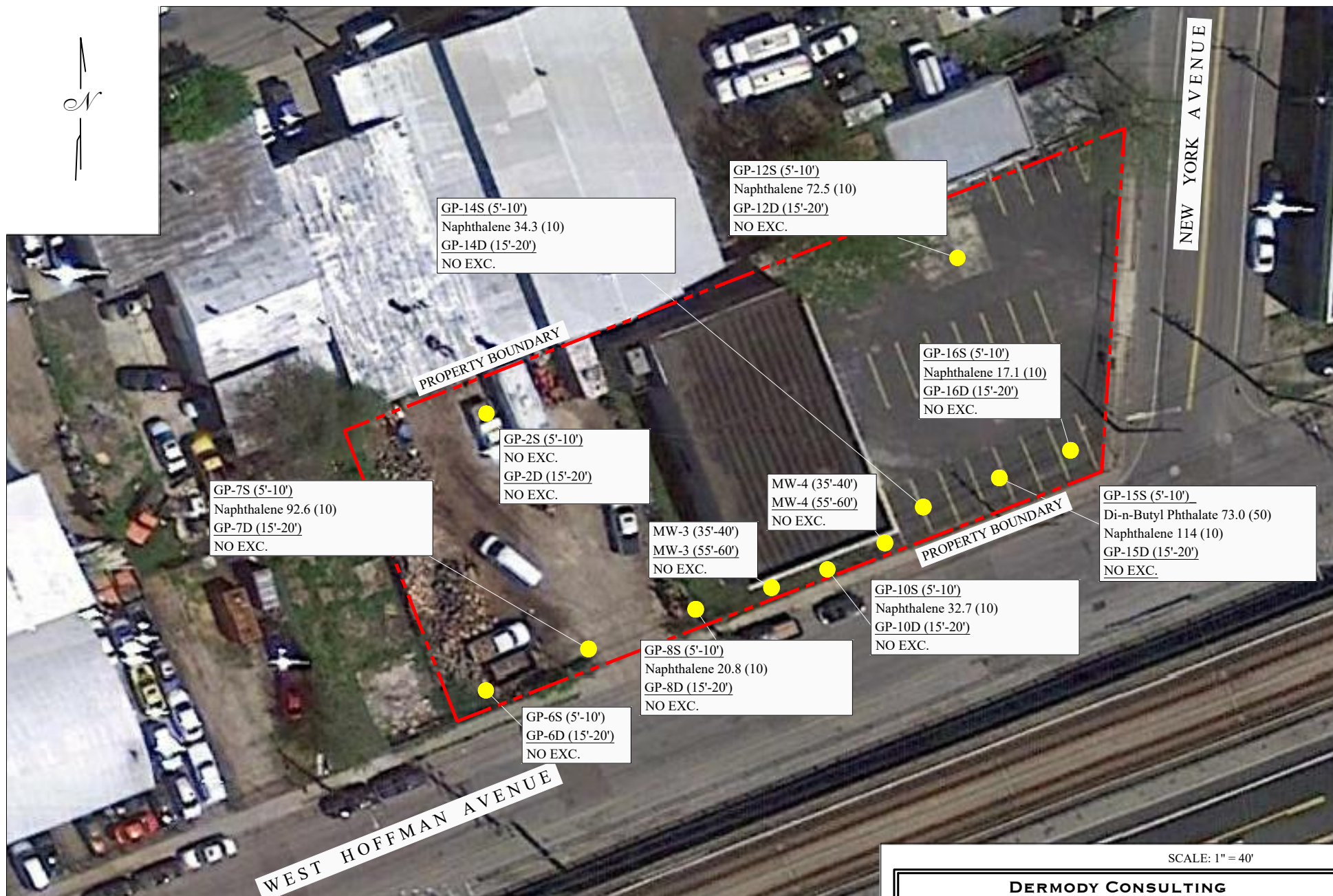
A handwritten signature in blue ink, appearing to read 'Peter Dermody', is positioned above the printed name.

Peter Dermody, C.P.G.  
Principal Hydrogeologist

cc: James Mulvey  
Michael Flynn  
Barry Cohen, Esq.  
Robert Corcoran  
Renata Ockerby, NYSDOH  
Charlotte Bethoney, NYSDOH







SCALE: 1" = 40'

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FIGURE 2

PRIOR ON-SITE GROUNDWATER SAMPLING LOCATIONS AND  
SVOC EXCEEDANCES OF CLASS GA STANDARDS

340 WEST HOFFMAN AVENUE  
LINDENHURST, NEW YORK

**GP-6S**  
NO EXC.

GROUNDWATER SAMPLING LOCATION  
AND SVOC EXCEEDANCES OF CLASS GA STANDARDS. CLASS GA STANDARDS ARE  
SHOWN IN PARENTHESIS. ALL VALUES SHOWN ARE IN mg / l.  
(5\*) THE PRINCIPLE ORGANIC CONTAMINANT STANDARD FOR GROUNDWATER  
OF 5 mcg/l APPLIES TO THIS SUBSTANCE.





LEGEND

SCALE: 1" = 280'



GW-4  
NO EXC.

OFF-SITE GROUNDWATER SAMPLING LOCATION AND VOC EXCEEDANCES OF CLASS GA STANDARDS. CLASS GA STANDARDS ARE SHOWN IN PARENTHESIS. ALL VALUES SHOWN ARE IN mcg / l. (5\*) THE PRINCIPLE ORGANIC CONTAMINANT STANDARD OF 5 mcg / l FOR GROUNDWATER APPLIES TO THIS SUBSTANCE.

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FIGURE 3

PRIOR OFF-SITE GROUNDWATER SAMPLING LOCATIONS AND VOC EXCEEDANCES OF CLASS GA STANDARDS  
340 WEST HOFFMAN AVENUE  
LINDENHURST, NEW YORK





#### LEGEND



GW-4  
NO EXC.

OFF-SITE GROUNDWATER SAMPLING LOCATION  
AND SVOC EXCEEDANCES OF CLASS GA  
STANDARDS. CLASS GA STANDARDS ARE SHOWN IN  
PARENTHESIS. ALL VALUES SHOWN ARE IN mcg / l.

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FIGURE 4  
PRIOR OFF-SITE GROUNDWATER SAMPLING LOCATIONS  
AND SVOC EXCEEDANCES OF  
CLASS GA STANDARDS  
340 WEST HOFFMAN AVENUE  
LINDENHURST, NEW YORK





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FIGURE 5  
2024 PROPOSED ON-SITE GROUNDWATER  
SAMPLING LOCATIONS  
340 WEST HOFFMAN AVENUE  
LINDENHURST, NEW YORK





SCALE: 1" = 280'

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FIGURE 6

2024 PROPOSED OFF-SITE GROUNDWATER  
SAMPLING LOCATIONS

340 WEST HOFFMAN AVENUE  
LINDENHURST, NEW YORK





LEGEND

● S-1 PROPOSED SOIL SAMPLING LOCATION

SCALE: 1" = 40'

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FIGURE 7

2024 PROPOSED ON-SITE SOIL  
SAMPLING LOCATIONS

340 WEST HOFFMAN AVENUE  
LINDENHURST, NEW YORK

**Table 1**  
**Proposed Groundwater and Soil Sampling**  
**Former Elka Chemical Site**

Sample Number	Sample Media	Sample Analysis	Sample Containers
GP-2S	Groundwater	VOCs	3 VOC vials
GP-7S	Groundwater	VOCs, SVOCs	3 VOC vials, 2 Amber Glass 1-liter jars
GP-8S	Groundwater	VOCs, SVOCs	3 VOC vials, 2 Amber Glass 1-liter jars
GP-10S	Groundwater	VOCs, SVOCs	3 VOC vials, 2 Amber Glass 1-liter jars
GP-10D	Groundwater	VOCs	3 VOC vials
GP-12S	Groundwater	VOCs, SVOCs	3 VOC vials, 2 Amber Glass 1-liter jars
GP-12D	Groundwater	VOCs	3 VOC vials
GP-14S	Groundwater	VOCs, SVOCs	3 VOC vials, 2 Amber Glass 1-liter jars
GP-14D	Groundwater	VOCs	3 VOC vials
GP-15S	Groundwater	VOCs, SVOCs	3 VOC vials,
GP-16S	Groundwater	VOCs, SVOCs	3 VOC vials, 2 Amber Glass 1-liter jars
GP-16D	Groundwater	VOCs	3 VOC vials
GW-1	Groundwater	VOCs	3 VOC vials
GW-2	Groundwater	VOCs	3 VOC vials
GW-3S	Groundwater	VOCs, SVOCs	3 VOC vials, 2 Amber Glass 1-liter jars
GW-4S	Groundwater	VOCs, SVOCs	3 VOC vials, 2 Amber Glass 1-liter jars
GW-5S	Groundwater	VOCs	3 VOC vials
GW-7, 7-12' and 15-20'	Groundwater	VOCs	3 VOC vials
GW-12 (20-25')	Groundwater	VOCs	3 VOC vials



**Table 1 (continued)**  
**Proposed Groundwater and Soil Sampling**  
**Former Elka Chemical Site**

<b>Sample Number</b>	<b>Sample Media</b>	<b>Sample Analysis</b>	<b>Sample Containers</b>
<b>S-1</b>	Soil	VOCs, SVOCs, and metals	5- 8 0z. Glass Jars
<b>S-2</b>	Soil	VOCs, SVOCs, and metals	5- 8 0z. Glass Jars
<b>S-3</b>	Soil	VOCs, SVOCs, and metals	5- 8 0z. Glass Jars
<b>S-4</b>	Soil	VOCs, SVOCs, and metals	5- 8 0z. Glass Jars
<b>S-5</b>	Soil	VOCs, SVOCs, and metals	5- 8 0z. Glass Jars
<b>S-6</b>	Soil	VOCs, SVOCs, and metals	5- 8 0z. Glass Jars
<b>S-7</b>	Soil	VOCs, SVOCs, and metals	5- 8 0z. Glass Jars
<b>S-8</b>	Soil	VOCs, SVOCs, and metals	5- 8 0z. Glass Jars
<b>S-9</b>	Soil	VOCs, SVOCs, and metals	5- 8 0z. Glass Jars

**Table 2**  
**QA/QC Samples**  
**Former Elka Chemical Site**

<b>Sample Type</b>	<b>Sample Analysis</b>	<b>Sample Containers Per Day or Per Each 20 Primary Samples</b>
<b>Equipment Blanks</b>	VOCs, SVOCs	6 VOC vials, 4 Amber Glass 1-liter Jars
<b>MS/MSDs (groundwater)</b>	VOCs, SVOCs	6 VOC vials, 4 Amber Glass 1-liter Jars
<b>MS/MSDs (soil)</b>	VOCs, SVOCs, metals	4 – 8 oz. Glass Jars
<b>Duplicate Samples (groundwater)</b>	VOCs, SVOCs	3 VOC vials, 4 Amber Glass 1-liter Jars
<b>Duplicate Samples (soil)</b>	VOCs, SVOCs, metals	4 - 8oz. Glass Jars
<b>Trip Blanks</b>	VOCs	3 VOC Vials per Cooler