LANGAN

Technical Excellence
Practical Experience
Client Responsiveness

January 26, 2024

Mr. Steven Moeller
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203-2999

RE: Fourth Quarter 2023 – Status Report
Former Stauffer Management Company LLC Site
Lewiston, New York
Langan Project No.: 130117301

Dear Mr. Moeller:

Attached is the status report for the fourth quarter of 2023 activities at the Stauffer Management Company LLC site in Lewiston, New York. Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. (Langan) has conducted the operation, maintenance, and monitoring activities for the treatment system on behalf of Stauffer Management Company (SMC).

Please call me if you need any additional information or if you have comments.

Sincerely,

Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.

Matthew Ambrusch, PE, MBA
Associate Principal – Remediation Technology

MW:ma

Enclosure(s): Table 1 – System Extraction and Discharge Flow Rates
Table 2 – Weekly Mid-Carbon Sampling Results
Table 3 – Monthly Influent Sampling Results
Table 4 – Monthly Effluent Sampling Results
Table 5 – Quarterly Effluent (SPDES) Sampling Results

cc: Kurt Batsel (Dextra Group)
John-Paul Rossi (SMC)
Stewart Abrams, PE (Langan)
Matthew Wenrick, PE (Langan)

1. Operation and Maintenance Activities

Between October 1 and December 31, 2023, treatment system operations, consisting of the extraction of groundwater via 11 extraction wells, continued. The chemical feed system has been running continuously since initiating operation on February 11, 2019. The operation of the chemical feed system has proven effective at prolonging bag filter change-outs with no observed decrease in treatment system performance.

Per the New York State Department of Environmental Conservation (NYSDEC) Order on Consent Case No. CO 1-20181004 executed by the NYSDEC on June 12, 2019, wastes generated on site as a result of the operation of the treatment system are managed as U-listed hazardous waste.

1.1 Groundwater Extraction Wells

Groundwater extraction continued at wells EW-1R through EW-6, DPA-202, DPA-203, OW-3 and LR-66, except during minor periods of planned downtime due to bag filter change-outs, carbon exchanges, and other general maintenance tasks. Outside of these downtimes, all extraction wells have been operational at full and continuous capacity throughout the reporting quarter with the following exceptions:

- DPA-201 remained off-line due to a lack of sufficient groundwater in the well to support pumping. Depth to groundwater will continue to be measured periodically at this well; the pump will be recommissioned when groundwater levels return to a suitable level for sustained pumping.
- EW-1R was shut down on January 5, 2023, due to pump motor failure likely caused by corrosion; the pump, motor, electrical cable, and down-hole tubing were replaced on June 15, 2023. EW-1R shut down again on July 26, 2023, with similar issues. After evaluation of the cause of the recurring failures, an alternative pump type coupled with a sacrificial anode (to protect against galvanic corrosion) was procured, installed, and has been in operation since November 28, 2023.
- DPA-203 has historically been a low yielding well with an approximate recovery of 100 gallons for 2023. As part of the scope of the conceptual site model activities, a new well, intended for extraction purposes, was installed within close proximity to DPA-203. This new well, EW-7, extends to a deeper depth than DPA-203 and is therefore expected to provide a capture zone beyond the capture zone of DPA-203. Initial pump testing of EW-7 showed a poor yield relative to EW-5 and EW-6 and expected pumping rates would be less than the efficient range of a small submersible electric pump. Therefore, the pump, air and water conveyance lines, flow totalizer, and manifold connections previously dedicated to DPA-203 were reassigned to EW-7.

Approximately 2,930,000 gallons of water were recovered from the extraction wells during the quarter, resulting in an average flow rate of approximately 22.4 gallons per minute as measured by the combined data from the well-specific influent flow meters. A summary of the system totalizer readings is provided as **Table 1**.

1.2 Groundwater Treatment System

Chemical feed delivery system operations continued throughout the quarter. Disposal of accumulated spent bag filters was completed on November 29, 2023. A liquid-phase granular activated carbon (GAC) exchange was determined to be unnecessary during the quarter.

General system maintenance of the treatment system and other miscellaneous tasks were also completed during the quarter, as needed, to maintain normal and safe system operations.

Langan proposed the suspension of the quarterly status reports, to begin at the start of 2024. In a response letter provided by the NYSDEC to Langan, dated December 8, 2023, the agency stated that quarterly reporting can be reduced to semi-annually. As such this will be the last quarterly status report submission. Additionally, the agency stated that one of the two semi-annual reports would replace the existing annual OM&M report as an Annual OM&M and Periodic Review Report (PRR). This annual report would also fulfill the requirements of the triennial PRR.

2. Sampling

The following sampling events were conducted during the fourth quarter of 2023:

Semi-monthly Volatile Organic Compound (VOC) Mid-Carbon Sampling: Semi-monthly samples were collected at the midpoint of carbon treatment between the lead and lag treatment vessels. The samples were collected to assess breakthrough of contaminants from the lead carbon vessel. **Table 2** presents the sampling results.

Contaminants were detected in the mid-carbon sampling beginning October 5, 2023. However, elevated contaminant concentrations (i.e., total mid-carbon concentration approaching 10% of the total influent concentration) were not detected during the quarter and therefore a carbon exchange was not completed during the reporting period. A summary of the mid-carbon constituent detections is provided below.

- Elevated chloroform concentrations (up to 120 micrograms per liter [µg/L]) were detected starting on October 5, 2023, and continued throughout the quarter.
- Minor methylene chloride concentrations (up to 9.3 µg/L) were detected throughout the quarter.
- A carbon disulfide concentration (an estimated 0.44 µg/L) was reported during the quarter.
- Minor carbon tetrachloride concentrations (up to an estimated 17 µg/L) were detected throughout the quarter.

Monthly Influent VOC Sampling: **Table 3** presents the results of the monthly combined influent VOC sampling. Carbon disulfide, carbon tetrachloride, chloroform, methylene chloride, tetrachloroethene, and trichloroethene were all detected above their respective groundwater quality criteria. The highest concentrations were observed during the December 19, 2023, sampling event, with a total site-specific parameter list VOC concentration of 10,580 µg/L.

Monthly Effluent VOC Sampling: **Table 4** presents the results of the monthly effluent VOC sampling. Throughout the quarter, all VOC concentrations were under both their respective daily discharge limit and their respective method detection limits.

Quarterly Effluent Sampling: The New York State Pollutant Discharge Elimination System (SPDES) equivalent semi-volatile organic compounds, metals, and total recoverable phenolic parameters were collected on November 27, 2023. **Table 5** presents the effluent SPDES equivalent sampling results. Nickel was detected at an estimated concentration of 4.9 µg/L; discharge of nickel was below the pounds-per-day SPDES mass-based equivalent discharge limit. Zinc was detected at an estimated concentration of 330 µg/L; discharge of zinc was below the pounds-per-day SPDES mass-based equivalent discharge limit. No other metals were detected. Semi-volatile organic compounds were not detected. Total recoverable phenolics were detected at an estimated concentration of 4.9 µg/L; this concentration of total recoverable phenolics was below the SPDES equivalent discharge limit.

3. Deliverables in the Fourth Quarter

- Response to NYSDEC comments and revised Q3 2023 Status Report submitted to the NYSDEC on December 12, 2023.
- November 29, 2023 spent bag filter event Generator Copy of Hazardous Waste Manifest provided to the NYSDEC and Michigan Department of Environmental Quality.

4. Activities Planned from January through June 2024

- Treatment system operations will continue through the first half of 2024.
- The chemical feed system will continue to operate full-time through the first half of 2024; optimizations will be made, as necessary.
- Routine treatment system sampling and maintenance will continue throughout the first half of 2024.
- The change-out of the lead GAC vessel is expected to occur in February of 2024.
- The disposal of spent bag filters is planned to occur before April 2024.
- The disposal of investigative derived waste, which has been sampled and characterized during the fourth quarter of 2023, will be disposed of as soon as arrangements with the disposal facility can be finalized.

Table 1
System Extraction and Discharge Flow Rates
Former Stauffer Management Company, LLC
Lewiston, New York
Langan Project No.: 130117301
1/8/2024

Date	Duration of Operation Since Last Monitoring Event	Totalizer Readings											
		EW-1		EW-2		EW-3		EW-4/T-4		EW-5/DPA-201		EW-6	
		Totalizer	Calculated Flow Rate	Totalizer	Calculated Flow Rate	Totalizer	Calculated Flow Rate	Totalizer	Calculated Flow Rate	Totalizer	Calculated Flow Rate	Totalizer	Calculated Flow Rate
	Minutes	Gallons	GPM	Gallons	GPM	Gallons	GPM	Gallons	GPM	Gallons	GPM	Gallons	GPM
9/28/2023	20,160	1,013,791	0.00	10,409,925	8.16	12,502,147	9.03	633,036	0.45	11,811,170	4.58	5,259,414	4.02
10/23/2023	36,000	1,013,791	0.00	10,685,396	7.65	12,792,048	8.05	639,539	0.18	11,985,941	4.85	5,355,526	2.67
11/15/2023	33,120	1,013,791	0.00	10,877,238	5.79	12,980,130	5.68	639,802	0.01	12,111,862	3.80	5,394,811	1.19
12/7/2023	31,680	1,048,573	1.10	11,131,496	8.03	13,231,497	7.93	647,549	0.24	12,222,645	3.50	5,402,835	0.25
12/21/2023	20,160	1,065,428	0.84	11,212,383	4.01	13,309,521	3.87	654,601	0.35	12,267,103	2.21	5,444,128	2.05
1/2/2024	17,280	1,082,999	1.02	11,354,110	8.20	13,438,902	7.49	661,021	0.37	12,410,917	8.32	5,535,095	5.26
Totals / Averages		**69,208**	**0.49**	**944,185**	**6.97**	**936,755**	**7.01**	**27,985**	**0.27**	**599,747**	**4.54**	**275,681**	**2.57**

Notes:
GPM - gallons per minute
1. Grey boxes denote calculated data
2. Calculated flow rates assume the well was operating at all times within that particular operational timeframe.

Prepared by: MW
Reviewed by: MA
\\langan.com\data\LAW\data3\130117301\Project Data_Discipline\Environmental\Treatment System OM&M\Master Extraction Volume Data

LANGAN

Table 1
System Extraction and Discharge Flow Rates
Former Stauffer Management Company, LLC
Lewiston, New York
Langan Project No.: 130117301
1/8/2024

Date	Duration of Operation Since Last Monitoring Event	Totalizer Readings											
		DPA-202		DPA-203/EW-7		OW-3		LR-66		Sum of Influent		Effluent	
		Totalizer	Calculated Flow Rate	Totalizer	Calculated Flow Rate	Totalizer	Calculated Flow Rate	Totalizer	Calculated Flow Rate	Sum of Totalizers	Sum of Flow Rates	Totalizer	Calculated Flow Rate
	Minutes	Gallons	GPM	Gallons	GPM	Gallons	GPM	Gallons	GPM	Gallons	GPM	Gallons	GPM
9/28/2023	20,160	390,080	0.16	4,707	0.003	10,049,724	0.000	985,859	0.005	53,059,853	26.4	72,104,791	25.0
10/23/2023	36,000	390,750	0.02	4,709	0.000	10,049,722	0.000	987,339	0.041	53,904,761	23.5	72,927,347	22.8
11/15/2023	33,120	391,391	0.02	4,798	0.003	10,049,722	0.000	993,098	0.174	54,456,643	16.7	73,480,803	16.7
12/7/2023	31,680	394,864	0.11	4,811	0.000	10,053,847	0.130	1,003,850	0.339	55,141,967	21.6	74,155,825	21.3
12/21/2023	20,160	406,877	0.60	4,811	0.000	10,057,264	0.169	1,011,012	0.355	55,433,128	14.4	74,409,728	12.6
1/2/2024	17,280	419,435	0.73	4,811	0.000	10,059,889	0.152	1,017,904	0.399	55,985,083	31.9	74,849,273	25.4
Totals / Averages		**29,355**	**0.27**	**104**	**0.00**	**10,165**	**0.08**	**32,045**	**0.22**	**2,925,230**	**22.43**	**2,744,482**	**20.65**

Notes:
GPM - gallons per minute
1. Grey boxes denote calculated data
2. Calculated flow rates assume the well was operating at all times within that particular operational timeframe.

Table 2
Semi-monthly Mid-Carbon Sampling Results
Former Stauffer Management Company, LLC
Lewiston, New York
Langan Project No.: 130117301
1/18/2024

Analyte	CAS Number	Discharge Limit (Daily Maximum)	Location	CBT	CBT	CBT	CBT	CBT	CBT	CBT
			Sample Name	CBT-100523	CBT-100623	CBT-101923	CBT-111023	CBT-112723	CBT-120723	CBT-121923
			Sample Date	10/5/2023	10/6/2023	10/19/2023	11/10/2023	11/27/2023	12/7/2023	12/19/2023
			Unit	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds										
Benzene	71-43-2	10	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<2.0 U
Carbon Disulfide	75-15-0	Monitor	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	0.44 J	<2.0 U
Carbon Tetrachloride	56-23-5	**10**	ug/l	2.6	2.4	1	**9.4**	**17**	3.4	<2.0 U
Chlorobenzene	108-90-7	10	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<2.0 U
Chloroform	67-66-3	**10**	ug/l	**11**	**10**	5.9	**12**	**57**	**120 D**	**43**
Methylene Chloride	75-09-2	**10**	ug/l	1.8	1.5	0.83 J	<1.0 U	**7.4**	**9.3**	2
Tetrachloroethene (PCE)	127-18-4	10	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<2.0 U
Toluene	108-88-3	10	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<2.0 U
Trichloroethene (TCE)	79-01-6	10	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<1.0 U	<2.0 U
Total Concentration	--	NS	ug/l	15.4	13.9	7.73	21.4	81.4	133.14	45

Notes:
Results compared to Discharge Limit (Daily Maximum)
CAS - Chemical Abstract Service
NS - No standard
ug/l - Microgram per liter

Qualifiers:
J – The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U – The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.

Exceedance Summary:
10 - Result exceeds Discharge Limit (Daily Maximum)
10 - MDL or RL greater than the applicable standard

LANGAN

Table 3
Monthly Influent Sampling Results
Former Stauffer Management Company, LLC
Lewiston, New York
Langan Project No.: 130117301
1/18/2024

Analyte	CAS Number	NYSDEC TOGs	Location	INF	INF	INF	INF
			Sample Name	INF-100523	INF-101923	INF-112723	INF-121923
			Sample Date	10/5/2023	10/19/2023	11/27/2023	12/19/2023
			Unit	Result	Result	Result	Result
Volatile Organic Compounds							
Benzene	71-43-2	1	ug/l	<50 U	<50 U	<50 U	<200 U
Carbon Disulfide	75-15-0	**60**	ug/l	**100**	**110**	**740**	**780**
Carbon Tetrachloride	56-23-5	**5**	ug/l	**2300**	**1400**	**1800**	**7000**
Chlorobenzene	108-90-7	5	ug/l	<50 U	<50 U	<50 U	<200 U
Chloroform	67-66-3	**7**	ug/l	**960**	**800**	**1100**	**2600**
Methylene Chloride	75-09-2	**5**	ug/l	**39 J**	**67**	**98**	<200 U
Tetrachloroethene (PCE)	127-18-4	**5**	ug/l	**47 J**	**38 J**	**39 J**	**200**
Toluene	108-88-3	5	ug/l	<50 U	<50 U	<50 U	<200 U
Trichloroethene (TCE)	79-01-6	**5**	ug/l	**73**	**56**	**76**	<200 U
Total Concentration	--	NS	ug/l	3519	2471	3853	10580

Notes:
Groundwater sample results were compared to the NYSDEC Title 6 of the Official Compilation of NYCRR Part 703.5 and the NYSDEC TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values for Class GA Water (June 1998).
NYSDEC - New York State Department of Environmental Conservation
TOGS - Technical and Operational Guidance Series
CAS - Chemical Abstract Service
NS - No standard
ug/l - Microgram per liter

Qualifiers:
J – The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U – The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.

Exceedance Summary:
10 - Result exceeds NYSDEC TOGs
10 - MDL or RL greater than the applicable standard

Table 4
Monthly Effluent Sampling Results
Former Stauffer Management Company, LLC
Lewiston, New York
Langan Project No.: 130117301
1/18/2024

Analyte	CAS Number	Discharge Limit (Daily Maximum)	Location	EFF	EFF	EFF	EFF
			Sample Name	EFF-100523	EFF-101923	EFF-112723	EFF-121923
			Sample Date	10/5/2023	10/19/2023	11/27/2023	12/19/2023
			Unit	Result	Result	Result	Result
Volatile Organic Compounds							
Benzene	71-43-2	10	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U
Carbon Disulfide	75-15-0	Monitor	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U
Carbon Tetrachloride	56-23-5	10	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U
Chlorobenzene	108-90-7	10	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U
Chloroform	67-66-3	10	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U
Methylene Chloride	75-09-2	10	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U
Tetrachloroethene (PCE)	127-18-4	10	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U
Toluene	108-88-3	10	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U
Trichloroethene (TCE)	79-01-6	10	ug/l	<1.0 U	<1.0 U	<1.0 U	<1.0 U
Total Concentration	--	NS	ug/l	ND	ND	ND	ND

Notes:
Results compared to Discharge Limit (Daily Maximum)
CAS - Chemical Abstract Service
NS - No standard
ug/l - Microgram per liter
ND - Not detected

Qualifiers:
U – The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.

Exceedance Summary:
10 - Result exceeds Discharge Limit (Daily Maximum)
10 - MDL or RL greater than the applicable standard

Table 5
Quarterly Effluent (SPDES) Sampling Results
Former Stauffer Management Company, LLC
Lewiston, New York
Langan Project No.: 130117301
1/18/2024

Analyte	CAS Number	Discharge Limit (Daily Maximum)	Location	EFF	Discharge Rate
			Sample Name	EFF-112723	
			Sample Date	11/27/2023	
			Unit	Result	lbs/day
Semi-Volatile Organic Compounds					
2,4-Dichlorophenol	120-83-2	1	ug/l	<5.0 U	-
Hexachloroethane	67-72-1	5	ug/l	<5.0 U	-
Naphthalene	91-20-3	10	ug/l	<5.0 U	-
Metals					
Arsenic	7440-38-2	0.036*	ug/l	<15 U	-
Chromium, Total	7440-47-3	0.072*	ug/l	<4.0 U	-
Copper	7440-50-8	0.1*	ug/l	<10 U	-
Lead	7439-92-1	0.16*	ug/l	<10 U	
Nickel	7440-02-0	0.072*	ug/l	4.9 J	0.0010
Selenium	7782-49-2	0.48*	ug/l	<25 U	-
Zinc	7440-66-6	0.86*	ug/l	330 B	0.0694
General Chemistry					
Phenolics, Total Recoverable	TOTPHEN	10	ug/l	4.9 J	-

Notes:
* - Limit is in pounds per day (lbs/day)
Results compared to Discharge Limit (Daily Maximum)
CAS - Chemical Abstract Service
ug/l - Microgram per liter

Qualifiers:
J – The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample.
U – The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the RL or the sample concentration for results impacted by blank contamination.
B - The analyte was found in the associated analysis batch blank.

Exceedance Summary:
10 - Result exceeds Discharge Limit (Daily Maximum)
10 - MDL or RL greater than the applicable standard