

FMC Corporation

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Transmitted via Email

June 24, 2019

Mr. Nathan Freeman NYSDEC Project Coordinator Division of Environmental Remediation, Remedial Bureau B New York State Department of Environmental Conservation 625 Broadway, 12th Floor Albany, New York 12233-7016

 Re: OU6 Reach T1 BC-Block Supplemental Sampling Work Plan FMC Corporation, Middleport, NY Order on Consent and Administrative Settlement – Index No. CO 9-20140625-40 EPA ID No. NYD002126845 DER Site No. 932104

Dear Mr. Freeman:

As stipulated in Condition VII.D.2. of the above referenced order, FMC Corporation (FMC) is preparing to conduct additional soil sampling at BC-Block properties in Operable Unit 6 (OU6). FMC proposes to conduct the sampling in accordance with the attached work plan, which is provided for review and approval by the New York State Department of Environmental Conservation (NYSDEC). In order to allow time to obtain access to the properties, complete the sampling, and incorporate the results in the revised Corrective Measures Study (CMS) Report for OU6, FMC requests that the NYSDEC provide approval by no later than July 8, 2019.

Please do not hesitate to contact me by telephone at (215) 299-5833 or email at <u>elizabeth.madara@fmc.com</u> if you have questions or need additional information.

Sincerely,

FMC CORPORATION

Elizabeth Madara

Elizabeth Madara Remediation Project Manager

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OU6 REACH T1 BC-BLOCK SUPPLEMENTAL SAMPLING WORK PLAN FMC CORPORATION – MIDDLEPORT, NEW YORK FACILITY

1 Background

FMC Corporation (FMC) owns and operates a pesticide formulating and packaging facility ("Facility") located in the Village of Middleport and the Town of Royalton, New York. Investigative, monitoring, and remedial activities have been implemented by FMC to address constituents in soil and other environmental media at the Facility and in off-site areas. These activities are being conducted in a phased approach in which separate study areas and/or environmental media have been organized into eleven operable units (OUs). The work proposed herein is subject to the terms and conditions of an Order on Consent and Administrative Settlement (Index No. CO 9-20140625-40) between FMC and the New York State Department of Environmental Conservation (NYSDEC), effective June 6, 2019 (Order), which now guides the process and nature of the work to be addressed in each OU.

Condition VII.D.2. of the Order stipulates that FMC will collect additional soil samples at Properties BC7 through BC10 (four residential properties) within Reach T1 (i.e., south of the Erie Canal) of the off-site study area identified as Tributary One and Flood Plain South of Pearson/Stone Roads Study Area (OU6). Reach T1 consists of the first approximately 1,600 stream feet of Tributary One (to Jeddo Creek) and associated flood plain downstream of the Facility's historical (pre-1977) discharge outfall to Tributary One. Stream sediment and flood plain soil were evaluated for constituents historically manufactured, formulated, handled, and/or used at the Facility. Arsenic was the constituent most frequently detected above background concentrations, and defines the extent of impact. A detailed description of Reach T1, and the results of prior investigations, is provided in the *RCRA Facility Investigation (RFI) Report Volume V – Tributary One and Flood Plain South of Pearson/Stone Roads* (RFI Volume V; Final June 2010) and in the *Tributary One South Study Area (OU6) Reach T1 Interim Corrective Measure (ICM) Pre-Design Report* (PDI Report; Final May 2017). RFI Volume V proposed that Properties BC7 through BC10 be excluded from the Corrective Measures Study (CMS) for OU6 based on the magnitude and distribution of soil arsenic concentrations, as well as the identification of likely non-FMC related sources (e.g., ash) identified.

The purpose of this OU6 Reach R1 BC-Block Supplemental Sampling Work Plan (Supplemental Sampling Work Plan) is to further evaluate soil arsenic concentrations within these properties and thereby determine whether it is appropriate to include these properties (or portions thereof) in the CMS.

2 Investigation Tasks

Investigation tasks will include the following:

- Task 1: Property Access, Inspection, and Survey
- Task 2: Soil Sampling and Analysis
- Task 3: Reporting

2.1 Task 1: Property Access, Inspection, and Survey

Four properties are proposed for sampling (Properties BC7 through BC10) as shown on Figure 1. FMC will request written access permission from the property owners to conduct the sampling work, and will follow, as appropriate, with a telephone call. Should any property owners refuse access, or are unresponsive, the NYSDEC Project Manager will be notified for purposes of assisting in gaining access through the use of its regulatory authority, consistent with the requirements of Condition VII.D.2. of the Order.

Topographical survey of these properties was conducted by a New York State (NYS) licensed surveyor during PDI activities in 2017 and is reflected on Figure 1. The 17 proposed soil sampling locations are also shown on Figure 1, along with previous sampling locations on or adjacent to Properties BC7 through BC10. The proposed sampling locations will be staked in the field by a surveyor using a global positioning system (GPS) surveying unit or other appropriate surveying equipment.

Buried utility lines will be identified based on inquiry of the property owner, Digsafely New York, the Village of Middleport, and utility owners.

The proposed sampling locations might need to be field-adjusted to avoid a buried utility line, above ground obstruction (e.g., vegetation), or based on other field conditions, with approval of NYSDEC's field representative. The horizontal coordinates and ground surface elevations of the final sampling locations will be measured and recorded by the surveyor.

2.2 Task 2: Soil Sampling and Analysis

At each of the 17 locations, soil samples will be collected from the 0- to 3-inch and 3- to 6-inch depth intervals, and then on 6-inch depth intervals to a depth of 24 inches below surface grade (total five samples per location).

Soil sampling and analysis for total arsenic will be conducted as follows:

- FMC will notify the NYSDEC at least 7 days prior to commencing field work, in accordance Condition D.4.b. of Module II of Exhibit E to the Order.
- As with past soil sampling in OU6, soil samples will be collected and analyzed in accordance with the
 methods and procedures provided in the Sampling and Analysis Plan, which is Appendix B to the Tributary
 One South of Pearson/Stone Roads and Culvert 105 North of the Canal RFI/CMS Work Plan (October 2003).
 It is anticipated that samples will be collected either with hand-held tools or a track-mounted "Geoprobe" unit,
 depending on accessibility and ground conditions.
- Duplicate samples and matrix spike / matrix spike duplicate pair samples will be collected at a frequency of one per 20 field samples. Split samples will be provided to the NYSDEC, if requested at the time of sampling.
- Samples will be analyzed for total arsenic in accordance with USEPA Standard Method SW-846 6010C.
 Sample analyses will be conducted by a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP) certified laboratory qualified to perform the required analyses. The laboratory will provide full Category B Contract Laboratory Program (CLP) quality assurance data packages.
- Analytical results will be validated in accordance with USEPA CLP guidelines, with the validation results documented in a Data Usability Summary Report (DUSR). The final validated data will be submitted to the NYSDEC EQUIS database system.
- Sampling will involve de minimis disturbance of soil, and volatile organic compounds (VOCs) are not constituents of concern. Hence, the soil sampling activities are not expected to result in dust or VOCs in ambient air beyond the immediate work area. Therefore, air monitoring will not be conducted.

2.3 Task 3: Reporting

As identified in Condition VII.D.2. of the Order, FMC will submit the analytical data to the NYSDEC within 20 days after receipt of validated data from all of the properties sampled (summary table and in EQUIS database system).

To the extent that FMC believes that it is not liable for contamination at a property or properties sampled, FMC will submit a report detailing its legal and technical position consistent with the requirements of Condition VII.D.2. of the Order.

3 Schedule

Following approval of this Supplemental Sampling Work Plan by the NYSDEC, FMC will seek written access permission from the subject property owners to grant FMC legal permission to perform the investigation field work. As previously noted, FMC will notify the NYSDEC at least 7 days prior to commencing field work.

Assuming receipt of approval of this Supplemental Sampling Work Plan from NYSDEC (estimated by July 8, 2019), the work will proceed based on the following preliminary schedule, subject to timely property access permission and acceptable weather and field conditions:

Anticipated Start Date	Duration	Activity
• July 8, 2019	3 weeks	Obtain access permission, utility clearance, staking and survey of proposed sampling locations
 Week of July 29, 2019 	2 days	Soil sampling and ship samples to analytical laboratory
 August 2, 2019 	4 weeks	Sample analysis and data validation
 August 30, 2019 	20 days	Submittal of analytical data to NYSDEC (by September 19, 2019)

Attachment

Figure 1 Proposed Sampling Locations



		ARSE	NIC CON	CENTRA	TION (mg/	/Kg)			
SAMPLE ID	MATRIX	0-3"	3-6"	6-12"	12-18"	18-24"	24-30"	30-36"	
T3.2W3	SOIL	5.0	6.8	14.1	12.6	16.0			
T3.2W4	SOIL	4.3	7.7	5.9	3.3	1.4			
T3.4W1	SOIL	6.0	7.0	11.5	16.2	11.1			
T3.4W2	SOIL	4.7	8.1	14.0	10.5	8.1			
T3.4W3	SOIL	1.5	5.3	4.1	8.4				
T3.4W4	SOIL	3.7	4.8	2.8	3.0				
T3.6W1	SOIL	10.6	8.2	6.3	12.1	18.5	16.4		
T3.6W2	SOIL	4.3	5.5	3.4	4.8				
T3.6W3	SOIL		2.1	1.9	2.1				
T4-SR	SEDIMENT	89.8	EXPOSED BEDROCK - NO DEEPER SAMPLE						
T4W1	SOIL	28.5	381.0	4.4	2.5	2.3	1.7		
T4W1-R	SOIL	19.7	20.1	6.3	1.9	1.4	1.6		
T4W2	SOIL	18.1	20.2	32.3	27.1	10.9	3.2		
T4W3	SOIL	23.7	21.1	7.2	7.4	4.9	6.4		
T4.4W1	SOIL	10.8	14.7	13.3	9.1	5.8			
T4.4W2	SOIL	16.3	14.9	1.4	2.1				
T4.6W1	SOIL	20.1	16.8	9.8	1.8	1.1			
T5S	SEDIMENT	83.3		EXPOSE	D BEDROCK	K - NO DEEP	ER SAMPLE		
T5W1	SOIL	16.1	9.5	14.3	15.8	8.2			
T6W6	SOIL	12.9	15.5	21.5	4.4	2.9	3.1 (24-26")		
BC12-1	SOIL	16.2	26.3	22.0	11.7	8.9	7.3		
BC12-2	SOIL	15.1	18.0	18.7	10.5	6.8	5.3		
BC12-3	SOIL	47.2	76.8	39.2	30.1	18.2	9.5		
BC12-4	SOIL	4.7	3.8	3.2	16.0				
TSCSB1	SOIL	8.8	8.9	11.2	6.4				
TSCSB2	SOIL	24.7	48.4	48.4	31.2	20.7	11.1	9.1	
TSCSB3	SOIL	35.6	32.5	19.9	7.4				
TSDSB1	SOIL	4.6	12.3	12.6	4.5				
TSDSB2	SOIL	52	53	41	1.9				
TSDSB3	SOIL	16.6	21.3	15.0	52				
TSDSB4	SOIL	21.2	22.8	14.2	6.5				
TSESB1	SOIL	15.5	20.7	7.5	27				
TSESB2	SOIL	17.5	21.9	97	3.9				
TSESB2	SOIL	11.9	12.7	11.2	4.5				
TSESB4	SOIL	10.4	10.2	77	3.8				
TSESB1	SOIL	13.1	13.6	6.3	4.0				
TSFSB2	SOIL	16.1	17.4	8.8	6.4				
TSFSB3	SOIL	16.2	17.1	11.6	2.9				
TSFSB4	SOIL	21.2	16.8	4.1					
TSGSB1	SOIL	16.6	17.6	9.1	7.1				
TSGSB2	SOIL	26.3	26.0	16.6	7.1				
TSGSB2	SOIL	20.4	19.5	6.2	32				
700000	SOIL	2.4	22	2.5	2.8				
ISGSBA	001	2.4	2.2	0.7	6.3				
TSGSB4	SOIL	10.1	13.8	8/					
TSGSB4 TSHSB1 TSHSB2	SOIL	10.1	13.8 22.8	8.7 20.2	3.4				





Plot Date: 24 June 2019 11:35 AM



LEGEND:

PROPERTY ID



PRIOR SAMPLING LOCATION

PROPOSED SAMPLING LOCATION

APPROXIMATE FEMA 100-YEAR FLOODPLAIN BOUNDARY

TRIBUTARY ONE SOUTH STUDY AREA - OPERABLE UNIT 6 (OU6)

ARSENIC SAMPLE CONCENTRATIONS:

>
50
40
30
20
<

> 100 mg/kg

- 50 100 mg/kg
- 40 50 mg/kg
- 30 40 mg/kg
- 20 30 mg/kg
- < 20 mg/kg

NOTES:

- 1. BASE MAP FROM OCTOBER 2016 SURVEY PROVIDED BY McINTOSH & McINTOSH, INC. SURVEYORS, WITH A HORIZONTAL DATUM OF NAVD83/2011 AND A VERTICAL DATUM OF NAVD88.
- FLOODPLAIN BOUNDARIES APPROXIMATED USING FEMA FLOOD INSURANCE RATE MAPS 36063C0276E AND 36063C0278E (EFFECTIVE DATE: SEPTEMBER 17, 2010).
- 3. ARSENIC CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (mg/kg), EQUIVALENT TO PARTS-PER-MILLION (PPM), PROVIDED WITHOUT QUALIFIERS (IF ANY) AND AS AN AVERAGE WITH DUPLICATE OR SPLIT SAMPLES (IF ANY).
- 4. COLOR LABEL AT EACH SAMPLING LOCATION ON FIGURE REPRESENTS THE MAXIMUM CONCENTRATION AT ANY SAMPLE DEPTH INTERVAL SHOWN IN TABLE.



FMC CORPORATION MIDDLEPORT, NEW YORK OU6 REACH T1 BC-BLOCK Project No. 11190970-10 Date June 2019

PROPOSED SAMPLING LOCATIONS

