
PARSONS

**MATERIALS
MANAGEMENT PLAN
CHEMOURS LOUVIERS SITE
COD 007060981**

Prepared for:

The Chemours Company FC, LLC
Corporate Remediation Group
1007 Market Street
PO Box 2047
Wilmington, Delaware 19801

Prepared by:

PARSONS
1776 Lincoln Street
Denver, CO 80203

January 2022

Chemours PN 504507
Parsons PN 452224

TABLE OF CONTENTS

- 1.0 Introduction 1**
 - 1.1 Purpose1**
 - 1.2 Report Organization.....1**
- 2.0 Background information 2**
 - 2.1 Site Description.....2**
 - 2.2 Site History2**
 - 2.3 Regulatory Setting2**
 - 2.4 Previous Investigations3**
 - 2.5 SWMU/AOC Specific Wastes – Use Restricted SWMUs – Capped6**
 - 2.6 SWMU Specific Wastes – Use Restricted SWMUs – Not Capped6**
 - 2.7 General Site Waste Materials6**
 - 2.8 Groundwater7**
- 3.0 Materials Management Procedures 8**
 - 3.1 Use Restricted and Capped SWMUs/AOCs.....8**
 - 3.2 Use Restricted SWMUs without Caps9**
 - 3.3 General Site Activities9**
 - 3.3.1 Concrete Foundations and Slabs.....9
 - 3.3.2 Underground Pipes and Sanitary Systems9
 - 3.4 Groundwater10**
 - 3.5 Management of Specific Materials.....10**
- 4.0 CDPHE Contact 12**
 - 4.1 Documentation or Proposed Disturbance.....12**
 - 4.2 Training12**
- 5.0 References 13**

FIGURES

- Figure 1 Site Location Map
- Figure 2 SWMU and AOC Locations and Status
- Figure 3 Groundwater Restricted Use Areas
- Figure 4 Maximum Depth of Restricted Use Groundwater

TABLES

Table 1	SWMU/AOC Status and COCs
Table 2	SWMU 7 Analytical Data for Soil Beneath Cover
Table 3	AOC 4 Analytical Data for Soil Beneath Cover
Table 4	2020 Groundwater Analytical Results
Table 5	2021 Groundwater PFOA and PFOS Analytical Results

APPENDICES

Appendix A	Photographs of Potential Hazardous and Non-Hazardous Materials
Appendix B	Historical Plant Maps
Appendix C	Expray [®] Information

ACRONYMS

Acronym	Definition / Description
ACM	Asbestos containing material
AOC	Area of concern
CABI	(Colorado) certified asbestos building inspector
CDPHE	Colorado Department of Public Health and the Environment
Chemours	The Chemours Company FC, LLC
COC	Constituent of concern
CRG	Corporate Remediation Group
DuPont	E.I. du Pont de Nemours and Company, Inc.
HMWMD	Hazardous Materials and Waste Management Division (of CDPHE)
MMP	Material management Plan
PETN	Pentaerythritol tetranitrate
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RSL	(USEPA) regional screening level
Site	Chemours Site in Louviers, Colorado
SWMU	Solid waste management unit
THQ	Target hazard quotient
TR	Target risk (cancer)
URS	URS Corporation
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

This Materials Management Plan (MMP) has been prepared for The Chemours Company FC, LLC (Chemours) Site in Louviers, Colorado (the Site). This MMP will be used to support future earth moving and groundwater related activities at the Site and is a required part of the Colorado Department of Public Health and Environment's (CDPHE's) guidance regarding use restrictions.

1.1 Purpose

The MMP will guide current and future landowners in managing previously unidentified environmental conditions that may be encountered at the Site. In addition, this document provides guidance for working around areas where contamination was purposely left on site under soil caps and in the vicinity of those previously contaminated areas that were cleaned up to unrestricted use. This document includes procedures to identify and manage contaminated soils, contaminated groundwater, industrial debris, and explosives residues that might be encountered during site redevelopment activities. This plan summarizes and documents the condition of the Site as of the preparation of this document and is to be used in conjunction with the Site's environmental use restrictions. If soil is to be disturbed within the boundaries of any use-restricted area, then a plan shall be submitted to CDPHE-HMWMD for review and approval prior to any soil disturbance.

1.2 Report Organization

Following this introduction, the MMP is organized as follows:

- Section 2.0 summarizes the Site history, regulatory environment, investigations and remedial actions completed, and potential contaminants that could be encountered.
- Section 3.0 describes the material management procedures.
- Section 4.0 presents agency contact information.
- Section 5.0 presents references for documents cited in the text.

2.0 BACKGROUND INFORMATION

2.1 Site Description

The Chemours Louviers Site is located approximately 25 miles south of Denver, Colorado, west of U.S. Route 85 and the Village of Louviers in Douglas County, as shown on **Figure 1**.

The original property included 1,520 acres. The former manufacturing area (labeled Chemours Louviers Site in **Figure 1**) covered approximately 350 acres, while the remaining 1,170 acres were a buffer zone for explosives manufacturing operations that generally consisted of three areas outside the former manufacturing area. In 2002, DuPont donated 506 acres of the northeastern buffer zone to Douglas County Open Space. In 2014, DuPont sold 332 acres to Douglas County that included the Moore Road buffer land (295 acres) and 37 acres within the former western manufacturing area. In 2016, DuPont completed the donation of an additional 349 acres of the south buffer zone that was under a conservation easement to Douglas County Open Space. These donated/sold areas and the current Louviers Site boundaries are depicted on **Figure 1**. **Figure 2** presents the locations of each of the solid waste management units (SMWUs) and areas of concern (AOCs) that were identified at the Site and identifies those SWMUs and AOCs that were not remediated to unrestricted use (unit labels are outlined in white).

2.2 Site History

The Site began operating in 1908 as a DuPont¹ facility manufacturing nitroglycerin dynamite (DuPont Corporate Remediation Group [CRG] 1999). The Site manufactured dynamite through 1972. The Site also manufactured pentaerythritol tetranitrate (PETN), PETN products, and various blasting agents until the facility closed in 1989. Initial environmental investigations were conducted in the early 1990s to ascertain the impacts of former site manufacturing operations. In 1998, DuPont entered a Compliance Order on Consent (Order No. 98-08-28-01) with the CDPHE to investigate site waste management areas, soil, and groundwater. Since 1998, the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) has been completed (DuPont CRG 2002, 2004a, 2004b, 2007a), and remedial actions have been conducted at 20 of the Site's SWMUs and four AOCs. All contaminated soils and waste materials identified during the RFI process have been remediated to either unrestricted use or restricted use. Table 1 lists each SWMU and AOC, its use status, and materials remaining if use is designated as restricted. It also identifies the constituents of concern (COCs) that were found at each SWMU or AOC.

2.3 Regulatory Setting

The Site is an interim status RCRA facility, with the CDPHE Hazardous Materials and Waste Management Division (HMWMD) as the lead agency. Additionally, the CDPHE and DuPont entered into a Compliance Order on Consent (No. 98-08-28-01) pursuant to the CDPHE authority under the Colorado Revised Statutes of the Colorado Hazardous Waste Act, sections 25-15-308(2) and sections 25-15-301 through 316, and the Colorado Hazardous Waste Regulations, 6 Code of Colorado Regulations (CCR) 1007-3, as the duly authorized program pursuant to RCRA. Currently, all RCRA interim

¹ E. I. du Pont de Nemours and Company, the Site's former owner.

status permitted units have been clean closed, and closure has been approved by the CDPHE.

As of December 2020, Chemours has completed the investigation and remediation requirements of the compliance order for all other identified waste units and is working to submit a Notice of Completion to the CDPHE stating all requirements of the order have been met.

2.4 Previous Investigations

Numerous soil and groundwater investigations have been completed at the Site since the late 1980s. The purpose of these investigations was to identify the presence of and characterize the nature and extent of site-related COCs. The major investigation report documents are summarized below. These reports may be acquired from CDPHE-HMWMD's record center. Please visit the following link for more information: <https://cdphe.colorado.gov/hmwmd-records-review>.

Document	Description	Reference
Current Conditions Report	Preliminary report of historical information that forms the basis for the preparation of the RFI work plan	DuPont CRG 1999
Part I Phase I RFI Report – High Priority SWMUs	Presented the results of investigations at high-priority SWMUs 4, 5, 10, 18, 21, 23A and C, 31E, F, G, H I, K L, M, N and O	DuPont CRG 2002
Part II Phase I RFI Report	Presented the results of investigations at medium-priority SWMUs 3, 6, 7, 8, 9, 11, 15, 20, 24 and 31J	DuPont CRG 2004a
Part III Phase 1 RFI Report	Presented the results of investigations at low-priority SWMUs 1, 2, 12, 14, 17, 19, 22, 27, 28, 29, 33, and 34	DuPont CRG 2004b
Site-wide Grid Sampling Report	Presented results of a random grid sampling of non-SWMU site areas and results of samples biased to suspected locations of contamination not previously identified	DuPont CRG 2004c
Phase II RFI Report	Presented the results of additional investigation at SWMUs 7, 10, 29, 32, 36 and AOCs 2, 3 and 4	DuPont CRG 2007a
Ecological Evaluation	Characterized ecological receptors and their potential exposure to site related constituents	DuPont CRG 2008b

Document	Description	Reference
Corrective Measures Study Report	Presented the proposed remedial actions based on chemical concentrations and risk assessments	DuPont CRG 2009
Corrective Measures Implementation Plan SWMU 13 (North and South Solar Ponds)	Presented data and proposed remedial action for soil pond sediments and soils	URS Corporation (URS) 2010
Hazardous Waste Storage Building – SWMU 26 Closure Report	Documented investigation and clean closure of SWMU 26	URS 2013
Open Burning Area (SWMU 25) Investigation Report	Presented the results of investigation conducted as part of the RCRA closure process	URS 2014b
SWMU 18 Polycyclic Aromatic Hydrocarbon Investigation Results	Presented results of additional investigation collected for a NFA determination at SWMU 18	Parsons 2017a
AOC 5 Investigation Results	Presents results of soil investigation conducted at AOC 5 for TNT	Parsons 2017b
Remedial Action Work Plan SWMUs 6, 29, 31A, B, C, L and O	Presented additional data collected at subject SWMUs prior to implementing proposed remediation	Parsons 2020

The investigation work discussed in the above reports focused on delineating COCs in soil and groundwater at the Site. Soil COCs were delineated to residential criteria both horizontally and at depth. The criteria used historically were the Colorado Soil Remediation Objectives. However, the CDPHE now uses United States Environmental Protection Agency (USEPA) regional screening levels (RSLs). For groundwater, the CDPHE uses the Colorado groundwater standards in Regulation 41. USEPA groundwater screening levels are used when there is no Colorado groundwater standard for the COC detected. The USEPA RSLs, showing a target cancer risk (TR) equal to 1E-06 and target hazard quotient (THQ) of 1.0, may be found at the following link: <https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables>.

The following table summarizes the reports prepared for remedial actions conducted at the Site. These reports include post-excavation soil data or limits of installed soil covers and remaining soil COC concentrations and locations. These reports may be acquired from CDPHE-HMWMD's record center. Please visit the following link for more information: <https://cdphe.colorado.gov/hmwmd-records-review>.

Document	Description	Reference
Remedial Action Completion Report Asbestos Containing Material Consolidation and Capping of SWMUs 1 and 2	Described collection of asbestos containing material (ACM) from 26 site locations and consolidation and capping of SWMUs 1 and 2; closure information for SWMU 22 also included	DuPont CRG 2006
Soil Removal report for Buckley Fuel Tank Area of Concern	Documented removal of soil containing petroleum hydrocarbons from AOC 2	DuPont CRG 2008a
Hazardous Waste Storage Building – SWMU 26 Closure Report	Documented investigation and clean closure of SWMU 26	URS 2013
Remedial Action Completion Report, SWMU 13 – Solar Ponds	Documented remediation of solar ponds to unrestricted use.	URS 2014a
SWMU 36 Remedial Action Completion Report	Documented SWMU 36 soil excavation, stabilization, and off-site disposal	URS 2014c
S&D Garage AOC Closure Report	Documented capping of arsenic containing soil at AOC 4	URS 2014d
SWMU 11 Remedial Action Completion Report	Documented capping of wastes at SWMU 11	AECOM 2016
Trap Range AOC Remedial Action Completion Report	Documented excavation to unrestricted use, stabilization, and disposal of AOC 3 soils	AECOM 2017
SWMU 7 Remedial Action Completion Report	Documented construction of a soil cover over soils containing arsenic, lead, and demolition debris at SWMU 7 (Landfill No. 1)	AECOM 2019a
SWMU 10 Remedial Action Completion Report	Documented soil cover construction at SWMU 10 (Landfill No. 4)	AECOM 2019b
SWMU 12 Remedial Action Completion Report	Documented soil cover construction at SWMU 12 (Landfill No. 6)	AECOM 2019c
SWMU 25 (Burning Grounds) RCRA Closure Report	Documented clean closure of the former site burning ground	AECOM 2019d
SWMU 8 (Landfill No. 2) Remedial Action Completion Report	Documented final closure by soil cover for SWMU 8 (Landfill No. 2)	AECOM 2019e

Document	Description	Reference
SWMU 23A&C and AOC 5 Remedial Action Completion Report	Documented excavation of soils to unrestricted use criteria at SWMUs 23A&C and AOC 5	Parsons 2019
Remedial Action Completion Report SWMUs 6, 29, 31A, 31B, 31L and 31O	Documented excavation of soils to unrestricted use criteria and off-site disposal at the listed SWMUs	Parsons 2021

2.5 SWMU/AOC Specific Wastes – Use Restricted SWMUs – Capped

SWMUs 1, 2, 7, 8, 9, 10, 11, 12 and AOC 4 are waste disposal areas related to former plant operations that have been capped with soil. In the case of SWMUs 1 and 2, a PVC liner was also placed on top of the waste. These landfills contain demolition debris, non-burnable plant waste (e.g., scrap metal), and asbestos. SWMUs 1 and 2 were asbestos landfills. SWMU 7 and AOC 4 also have soils containing arsenic above residential screening levels. Data for soils left under the soil cover for SWMU 7 and AOC 4, respectively, are presented in Tables 2 and 3. SWMU 8 also contains PETN sediments from the solar pond closure. The sediments contain up to 2.5% PETN, which is below the 5% soil reactivity concentration for PETN.

2.6 SWMU Specific Wastes – Use Restricted SWMUs – Not Capped

SWMUs 4 and 5 are known as blasting cap disposal areas and are located along the security fence in the northwest portion of the Site. Although the Site did not manufacture blasting caps, blasting caps were used in testing of dynamite and other products. Additionally, when the plant was in operation, the Site accepted returned damaged or defective blasting caps sold by DuPont. These caps were taken out to a remote 13-acre field (SWMU 5), bundled with a good detonator, placed in a ground squirrel hole, and detonated to destroy the blasting caps. In later years, destruction operations were consolidated at a small area within SWMU 5 known as SWMU 4. Over the years, blasting cap debris found at SWMUs 4 and 5 has included undetonated blasting caps, fragments of blasting caps and cap wire (typically copper wire with blue and yellow insulated leg wires, although other colors are possible). While the entire Site has been inspected for these materials and all suspected debris has been removed, it is possible that functional blasting caps could remain in the surface and subsurface soils. Appendix A presents photographs of blasting caps in product form and as found at the Site, photographs of explosives found at the Site during remediation, and photographs of FASLOC cartridges.

2.7 General Site Waste Materials

While every effort has been made by past site owners to identify and remove waste materials from the Site, some waste materials may remain in areas not identified as SWMUs or AOCs. These waste materials may include, but are not limited to, ACM (typically roofing shingles or building siding made from cement, asbestos and silica), nitrate containing materials, lead or soils containing heavy metals (arsenic and or lead), polycyclic aromatic hydrocarbons, or explosive residues. Asbestos siding and roofing materials were used in the construction of site buildings. Demolition of these building may have left pieces of the ACM at former building locations. As previously discussed, blasting cap remnants might exist at other areas of the Site but as yet have not been

observed. Lead was a commonly used material at Louviers for flooring in explosive manufacturing buildings. Arsenic found at the Site was a by-product of heating pyrite to extract sulfur which was subsequently used in the manufacture of sulfuric acid during the early years of manufacturing. The sulfur burner was near the plant entrance gate.

2.8 Groundwater

Past operations have caused shallow groundwater at the Site to be impacted by nitrates and chemicals used or created during the manufacture of dynamite and PETN. Groundwater sampling has been conducted on a regular basis since 1991. The most recent regular sampling event was conducted in April 2020. Table 4 summarizes the results. In June/July and November 2021, additional groundwater samples were collected for perfluorooctanoic acid (PFOA) and perfluorooctyl sulfonate (PFOS) analyses. The results for these samples indicated that these classes of compounds do not exceed regulatory action levels. Table 5 summarizes the PFOA and PFOS results. COCs exceeding Colorado groundwater quality standards in shallow groundwater at the Site include 2,4-dinitrotoluene, nitrate and perchlorate (Table 4). Several chemicals detected in groundwater do not have a Colorado groundwater quality screening criteria but exceed USEPA Tap Water RSLs. These chemicals include 1,3-dinitrobenzene, 2,4,6-trinitrotoluene, 2,6-dinitrotoluene, 2-amino-4,6-dinitrotoluene, 2-nitrotoluene, 4-amino-2,6-dinitrotoluene, and nitroglycerin. The use of shallow groundwater where these chemicals are found is restricted. Figures 3 and 4 present the areas and aquifers that are restricted from use at the Site. Groundwater COCs are present in the Site's alluvial aquifer (present in the site uplands and along Plum Creek) and the Upper Denver Formation above elevation 5520 feet. These Denver aquifer units are known at the Site as the A1 and A3 Sands. In general, any contact with groundwater within the area depicted on Figures 3 and 4 above elevation 5520 may cause exposure to these chemicals. Only authorized and properly trained personnel should handle shallow groundwater.

3.0 MATERIALS MANAGEMENT PROCEDURES

The following site materials management procedures have been developed for the Louviers Site. In general, earth disturbing activities (excavation, grading and/or drilling) may be conducted at the Site without issue. However, personnel should review site documentation applicable to the proposed work locations. Site documents are available at the CDPHE offices in Denver and at the Louviers Library. A set of reports is also maintained at the Site. Knowledge of previously identified environmental conditions of proposed work areas is critical to maintaining the safety of human health and the environment. Questions the owner and their contractor must consider prior to engaging in soil disturbing activities include:

- What was the former use of the proposed work area?
- Is the soil disturbance going to impact an area that is under a use restriction?
- Is the soil disturbance adjacent to a use restricted area?
- Is the soil disturbance in an area where site COCs were detected above residential screening standards and that have been remediated?
- Is the soil disturbance in an area where site COCs were previously detected below the residential screening standards?
- Will the soil disturbance require management of groundwater?
- How will waste materials be managed?
- How will we protect workers, the general public, and the environment from disturbed environmental media?

If the proposed soil disturbance is going to be conducted in an area of restricted use, then a work plan must be provided to the CDPHE for their review and approval before work is initiated. In addition, a worker health and safety plan and waste management plan must be prepared.

COCs that have been identified and remediated in site soils include asbestos, arsenic, lead, residuals from the manufacture of explosives, and products including dinitrotoluene, PETN, trinitrotoluene, fuel oils, and nitrates. COCs identified in groundwater that exceed screening levels include dinitrotoluenes and nitrates (refer to Table 4).

3.1 Use Restricted and Capped SWMUs/AOCs

Eight SWMUs (1, 2, 7, 8, 9, 10, 11, and 12) and AOC 4 are landfills or contaminated soil areas that were closed by constructing soil covers over the waste material (**Figure 2**). The units have been assigned use restrictions that limit the future use of these units. Disturbance of these areas by the current owner or lessee is prohibited without CDPHE approval. Per the use restrictions, CDPHE approval would require the submittal of a written plan to the CDPHE that describes the reason for the work, how materials will be managed, and how workers, the general public, and the environment will be protected if the material is disturbed. Table 1 lists all the SWMUs and AOCs at the Site along with their COCs and identifies those that have been capped, clean closed, use restricted, or required no further action. Tables 2 and 3, respectively, present data from SWMU 7 and AOC 4 for soils that contain COCs above residential screening levels. In general, materials that have been capped include soils containing arsenic (AOC 4), asbestos

(SWMUs 1, 2, 7, 8, 9, 10, 11, and 12), arsenic and lead (SWMU 7), PETN sediments (SWMU 8), and demolition debris and non-burnable plant wastes (SWMUs 7, 8, 9, 10, 11, and 12). The use restrictions also define the types of activities that may take place without authorization from CDPHE. If materials below caps must be disturbed, a plan must first be submitted to the CDPHE that describes the nature of the work, the anticipated wastes to be encountered, how those waste materials will be managed, and how disturbance to the cap will be repaired. Persons proposing such work must be experienced in hazardous waste site operations and have the experience and tools to identify potential contamination.

3.2 Use Restricted SWMUs without Caps

Earth moving activities that will directly affect SWMUs 4 and 5 may be conducted with approval from CDPHE as long as the personnel engaged in this work are familiar with hazardous waste site operations and handling blasting caps. The work plan prepared for disturbing this SWMU should include procedures to visually screen soils prior to and during excavation. The use of handheld metal detectors is encouraged. Personnel not operating equipment should maintain a safe working distance from the equipment during soil disturbances, and the equipment should be fitted with enclosed cabs. Spot inspections of disturbed soil should be made by qualified individuals. Work must be stopped if cap remnants or cap wires are found; these must then be inspected and removed. Any soil from SWMUs 4 and 5 that is re-used on site may only be used as deep fill and may not be placed at the ground surface.

3.3 General Site Activities

Earth moving activities conducted outside use restricted SWMUs do not require any special precautions to be taken. However, it is recommended that the area to be disturbed is first checked for the presence of ACM prior to moving surface soil. This applies to land that is located outside the boundaries of the use restricted SWMUs. If earth moving activities encounter fill material, wastes or other non-natural items, work must stop until the area can be evaluated by qualified personnel. Appendix B contains historical maps of the plant when in full operation. These may be helpful in identifying locations of past foundations during earth moving activities.

3.3.1 Concrete Foundations and Slabs

During earth moving activities, old foundations related to former site buildings not previously identified as SWMUs may be encountered. It is possible that soils around these foundations could contain asbestos, lead, scrap metal, and other debris. If former Site buildings are encountered, the foundations and soil should be inspected for ACM, contaminated soils, and demolition debris. If no environmental issues are identified, the concrete may be left in place, crushed, and used as backfill, or it can be sent off site for disposal. Contaminated soils encountered will require proper management and disposal. ACM must be managed according to Colorado's asbestos regulations found in the Regulations Pertaining to Solid Waste (6 CCR 1007-2 Part 1 Section 5 – Asbestos Waste Management).

3.3.2 Underground Pipes and Sanitary Systems

Underground terra cotta pipes are known to exist at the Site. These pipes are typically related to old sanitary waste receptacles (cesspools) that were used to manage Site

sanitary wastes emanating from change houses, offices, and laboratories. Investigations conducted at several of the cesspools did not identify the presence of contamination. However, the cesspools are made of concrete or brick and may be encountered during significant earth moving operations. The cesspools may present safety hazards if compromised (covers broken).

3.4 Groundwater

If shallow groundwater is to be contacted during earth moving or drilling activities, precautions should be taken to avoid exposure to the COCs found in site groundwater (refer to Table 4 and Figure 4). COCs may be present in groundwater below areas of the Site that have never been used for manufacturing or waste disposal activities or have been remediated to clean closure (refer to past RFI and groundwater sampling documentation). Water may not be removed from the ground during excavation dewatering until a dewatering permit has been received from the State. Water generated during exploratory drilling, well drilling or sampling operations must be containerized and managed in accordance with all state and federal regulations. Personnel must be experienced with hazardous waste site operations if drilling into groundwater above elevation 5560 feet on the west side of the facility or groundwater within 160 feet of the surface and elevation 5520 feet on the east half of the facility or groundwater between 0 and 120 feet depending on where drilling is planned. Refer to the groundwater restricted use area depicted in Figures 3 and 4. Also, if drilling will occur through restricted use groundwater, boreholes must be cased off from the aquifers when drilling through them. The most recent groundwater report should be consulted to identify COCs and concentrations within the area to be drilled or sampled.

3.5 Management of Specific Materials

During site soil disturbing activity, it is possible that ACM, COCs in soil and groundwater, or blasting caps may be encountered. While the likelihood is small, it should not be discounted. The following procedures should be used when specific conditions are encountered.

ACM – ACM has been found on site. Any debris encountered on site other than green waste glass, stone, metal and rubber, should be inspected by a Colorado certified asbestos building inspector (CABI) to confirm the absence or presence of ACM. If the material is deemed to contain asbestos, the Owner shall manage the material in accordance with Colorado's asbestos-in-soil requirements found in the Regulations Pertaining to Solid Waste (6 CCR 1007-2 Part 1 Section 5 – Asbestos Waste Management). Note that SWMUs 1 and 2 on site are asbestos landfills, and asbestos is known to exist in other site landfills where building debris has been buried, including SWMUs 7, 8, 10, 11 and 12.

Asphalt - No special procedures are required to handle asphalt removed from roads at the Louviers facility. The material may be used as fill or disposed of off site.

Unnatural material in the ground – Should fill material or other debris be encountered during soil disturbance activities, the area should be evaluated by a person with hazardous waste site experience and familiarity with various screening techniques and soil sampling procedures for asbestos, heavy metals, explosives, and organic compounds. These materials should be tested prior to removal or reuse on the Site.

Explosive residuals or blasting caps – If suspected explosive materials are encountered, work shall be stopped and the material tested with an Expray[®] kit or other explosives field screening tools that will identify the presence or absence and chemical type of the explosives manufactured at the Site. Personnel should be familiar with the use of this kit and how to interpret the results real time. If blasting caps are found, they should be inspected and managed by qualified personnel familiar with handling these items because certain precautions and procedures must be taken. The qualified personnel can be from the former manufacturing operation, a licensed blaster, or an explosives handling technician from the local police jurisdiction or military installation. Under no circumstances should inexperienced personnel handle explosive materials. Appendix C contains Expray[®] information for screening soils.

Discolored or stained soils – Should discolored or stained soils be encountered during soil disturbance, work should stop until the source of the staining can be verified. Soils can be screened with photoionization detectors to detect the presence of organic compounds (not a site COC) or screened with a field test kit to identify the presence of explosives or a portable X-ray fluorescence device to detect the presence of metals like lead and arsenic. Samples may also be collected for laboratory analyses for metals and/or semi-volatile chemicals. Analytes should be selected based on those identified during the RFI process in nearby SWMUs.

4.0 CDPHE CONTACT

4.1 Documentation or Proposed Disturbance

If any soil disturbance activities are planned that will affect restricted use SWMUs, AOCs, or shallow groundwater, CDPHE is to be notified in writing by submitting a work plan. The contact information for the CDPHE is:

Mr. Richard Mruz, Jr., REHS
Work Leader
Hazardous Waste Corrective Action Unit
Hazardous Materials and Waste Management Division
Colorado Department of Public Health and environment
HMWMD -B2
4300 Cherry Creek Drive South
Denver, Colorado 80246
Telephone: 303.692.3332
Richard.Mruz@state.co.us

4.2 Training

Personnel who will be involved with soil disturbance activities outside restricted use SWMUs require no special training. However, it is recommended that one person on the crew be trained in identifying ACM and blasting caps/ explosives.

Personnel involved with activities that will disturb restricted use area soil and any site groundwater must have OSHA² 1910.120 Hazardous Waste Site Operations (HAZWOPER) training. In addition, a CABI should be present when excavating in these SWMU. All applicable federal, state, and local regulations governing contaminated soils debris, asbestos, or explosives must be adhered to.

² OSHA – Occupational Safety and Health Administration

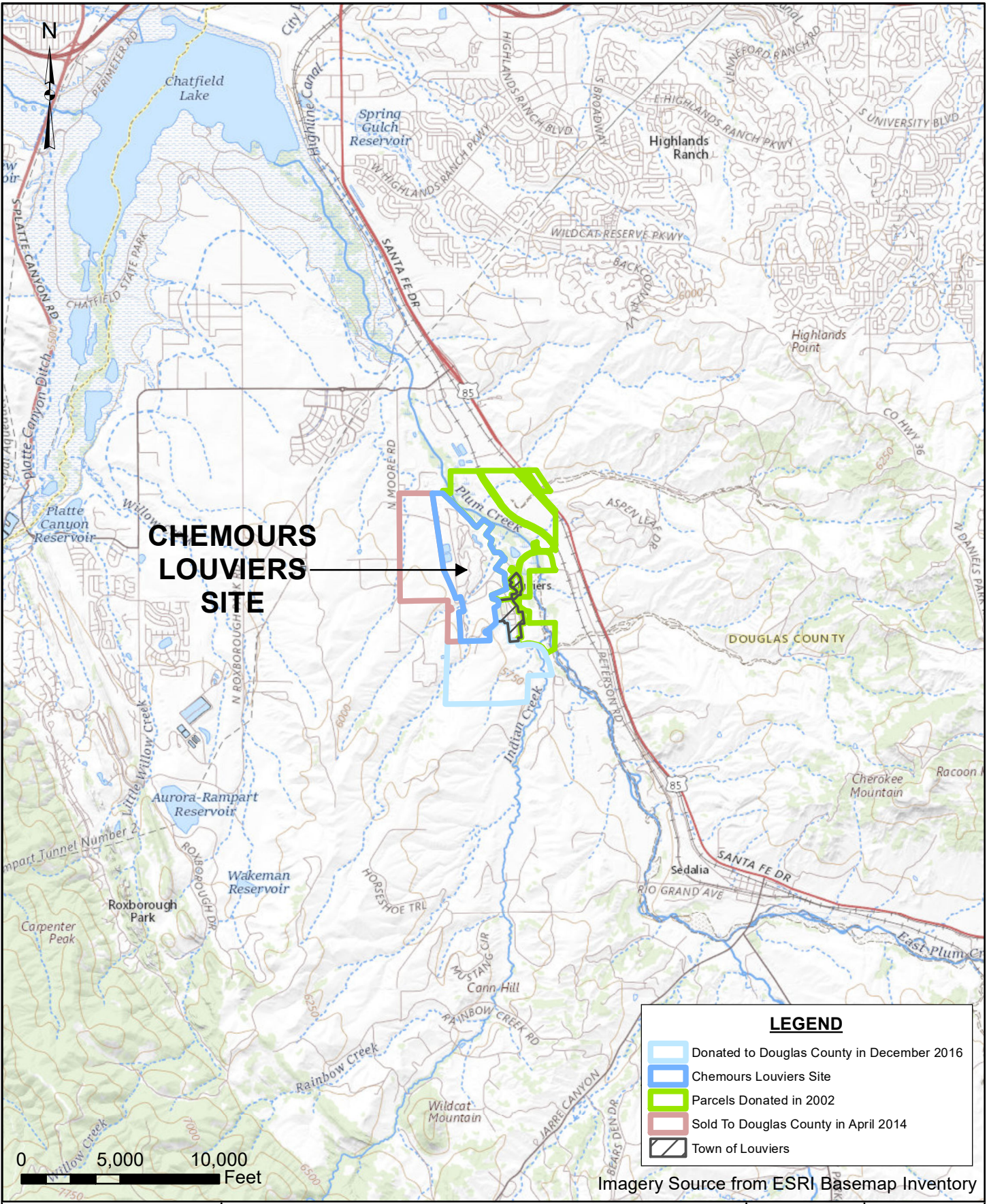
5.0 REFERENCES

- AECOM. 2016. SWMU 11 Remedial Action Completion Report, Chemours Louviers Site, Louviers Colorado. October.
- AECOM. 2017. Trap Range AOC Remedial Action Completion Report.
- AECOM. 2019a. SWMU 7 Remedial Action Completion Report, Chemours Louviers Site, Louviers Colorado. April.
- AECOM. 2019b. SWMU 10 Remedial Action Completion Report, Chemours Louviers Site, Louviers Colorado. April
- AECOM. 2019c. SWMU 12 Remedial Action Completion Report, Chemours Louviers Site, Louviers Colorado. April
- AECOM. 2019d. SWMU 25 (Burning Grounds) RCRA Closure Report.
- AECOM. 2019e. SWMU 8 (Landfill No. 2) Remedial Action Completion Report, Chemours, Louviers Site, Louviers, Colorado. December
- DuPont CRG. 1999. Current Conditions Report, DuPont Louviers Colorado.
- DuPont CRG. 2002. Part I – Phase I RFI Report for DuPont Louviers Site.
- DuPont CRG. 2004a. Part II – Phase I RFI Report, DuPont Louviers Site. July 30
- DuPont CRG. 2004b. Part III – Phase I RFI Report, DuPont Louviers Site. September 13.
- DuPont CRG. 2004c. Site-Wide Grid Sampling Report. December 17.
- DuPont CRG. 2006. Remedial Action Completion Report, Asbestos Containing Material Consolidation and Capping of SWMUs 1 and 2, Louviers Site, Louviers, Colorado. December.
- DuPont CRG. 2007a. Phase II RFI Report. January.
- DuPont CRG. 2007b. Post-Closure Plan, SWMUs 1 and 2 For the DuPont Louviers Site, Louviers, Colorado. April
- DuPont CRG. 2008a. Soil Removal Report for Buckley Fuel Tank Area of Concern.
- DuPont CRG. 2008b. Ecological Evaluation.
- DuPont CRG. 2009. Corrective Measures Study Report.
- DuPont Environmental Remediation Services. 1991. Environmental Site Assessment Phase 1, DuPont Louviers Site, Louviers Colorado. March.
- Parsons. 2017a. SWMU 18 Polycyclic Aromatic Hydrocarbon Investigation Results.

- Parsons. 2017b. AOC 5 Investigation Results.
- Parsons. 2019. SWMU 23A&C and AOC 5 Remedial Action Completion Report.
- Parsons. 2020. Remedial Action Work Plan SWMUs 6, 29, 31A, B, C, L and O.
- Parsons. 2021. Remedial Action Completion Report SWMUs 6, 29, 31A, 31B, 31L and 31O.
- URS. 2010. Corrective Measures Implementation Plan SWMU 13 (North and South Solar Ponds).
- URS. 2013. Hazardous Waste Storage Building – SWMU 26 Closure Report.
- URS. 2014a. Remedial Action Completion Report, SWMU 13 – Solar Ponds.
- URS. 2014b. Open Burning Area (SWMU 25) Investigation Report.
- URS. 2014c. SWMU 36 Remedial Action Completion Report.

FIGURES

Document Path: F:\GIS\Louivers\2021 Materials Management Plan (MMP)\FIGURE 1 Site Location Map.mxd



**CHEMOURS
LOUIERS
SITE**

LEGEND

- Donated to Douglas County in December 2016
- Chemours Louivers Site
- Parcels Donated in 2002
- Sold To Douglas County in April 2014
- Town of Louivers

Imagery Source from ESRI Basemap Inventory

PARSONS
Parsons Environment & Infrastructure

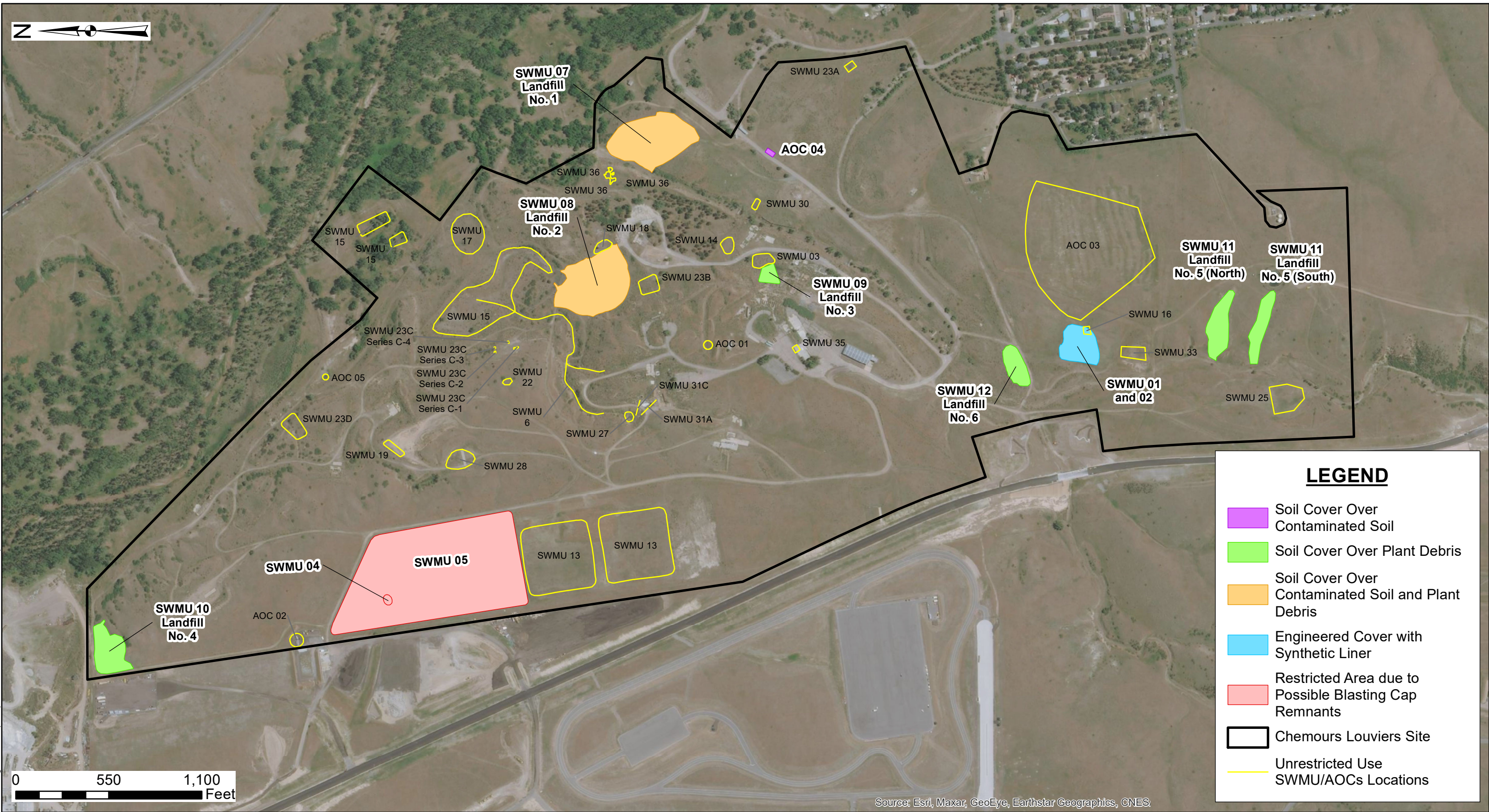
2200 West Loop South
Suite 200
Houston, Texas 77027

Title:
**Site Location Map
Materials Management Plan
Chemours Louivers Site
Louivers, Colorado 80131**

Drawn/Approved: RAH/	File Project Number: 452224
Date: 8/4/2021	Figure Number: 1
Revised:	
File Name: FIGURE 1 Site Location Map	



Document Path: F:\GIS\Louviers\2021\Materials Management Plan (MMP)\FIGURE 2 SWMU and STATUS Location Map.mxd



LEGEND

- Soil Cover Over Contaminated Soil
- Soil Cover Over Plant Debris
- Soil Cover Over Contaminated Soil and Plant Debris
- Engineered Cover with Synthetic Liner
- Restricted Area due to Possible Blasting Cap Remnants
- Chemours Louviers Site
- Unrestricted Use SWMU/AOCs Locations















PARSONS

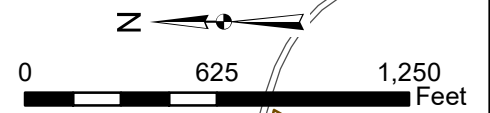
2200 West Loop South
Suite 200
Houston, Texas 77027

Title:
**SWMU and AOC Locations and Status
Materials Management Plan
Chemours Louviers Site
Louviers, Colorado 80131**

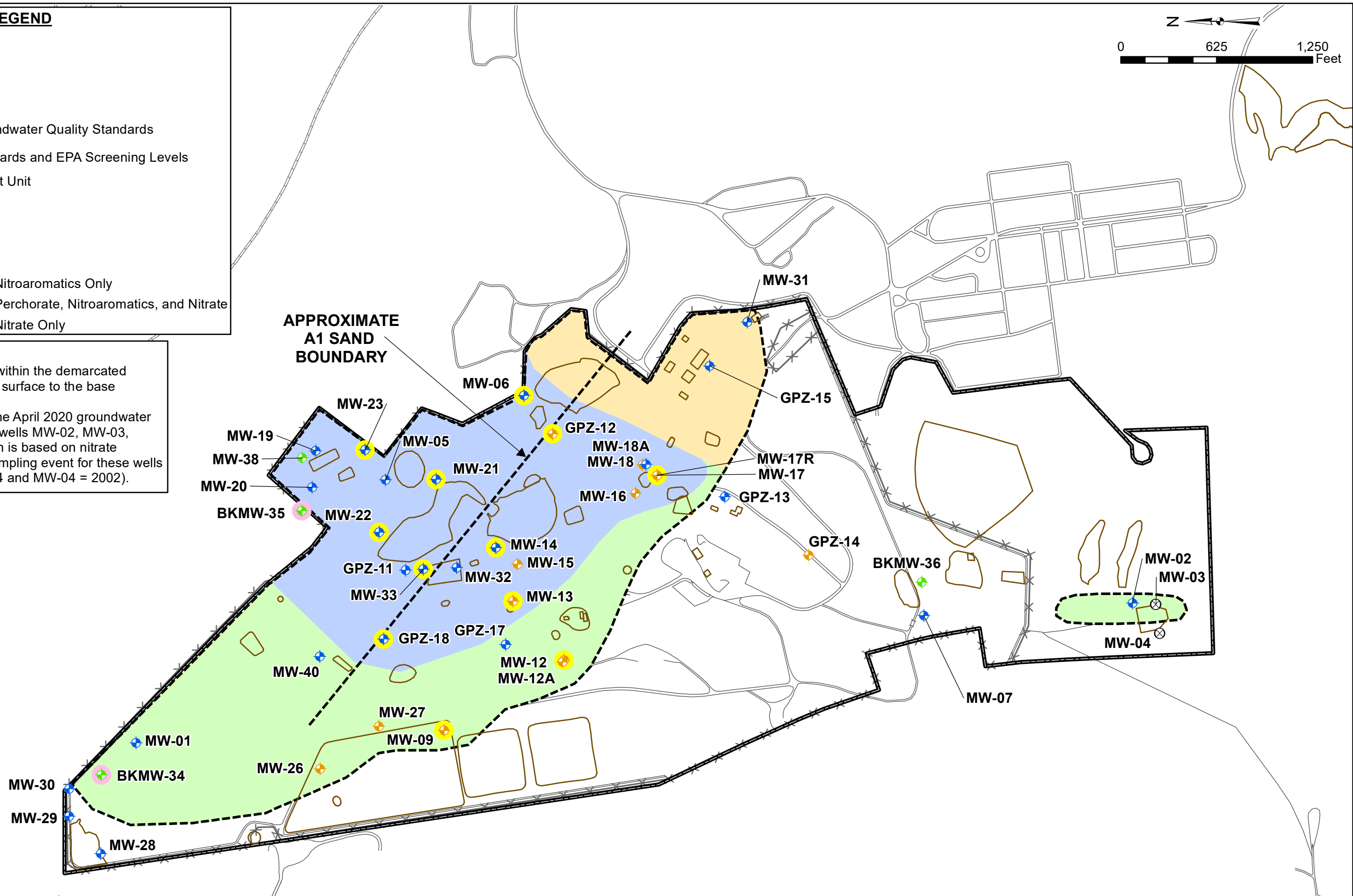
Drawn/Approved: RAH/	File Project Number: 452224.04080
Date: 8/4/2021	Figure Number: 2
Revised:	
File Name: FIGURE 2 SWMU and STATUS Location Map	

LEGEND

-  Alluvium Well
-  A1 Sand Well
-  A3 Sand Well
-  Abandoned Well
-  Exceeds Colorado Groundwater Quality Standards
-  Exceeds Colorado Standards and EPA Screening Levels
-  Solid Waste Management Unit
-  Chemours Louviers Site
-  Security Fence
-  Pavement
-  Restricted Use
-  Restricted Use Area for Nitroaromatics Only
-  Restricted Use Area for Perchlorate, Nitroaromatics, and Nitrate
-  Restricted Use Area for Nitrate Only



NOTES:
 1) Use restricted groundwater within the demarcated areas extends from the ground surface to the base of the A3 sand.
 2) Restricted areas based on the April 2020 groundwater sampling with the exception of wells MW-02, MW-03, and MW-04. This use restriction is based on nitrate concentrations from the last sampling event for these wells (MW-02 = 1996, MW-03 = 2004 and MW-04 = 2002).

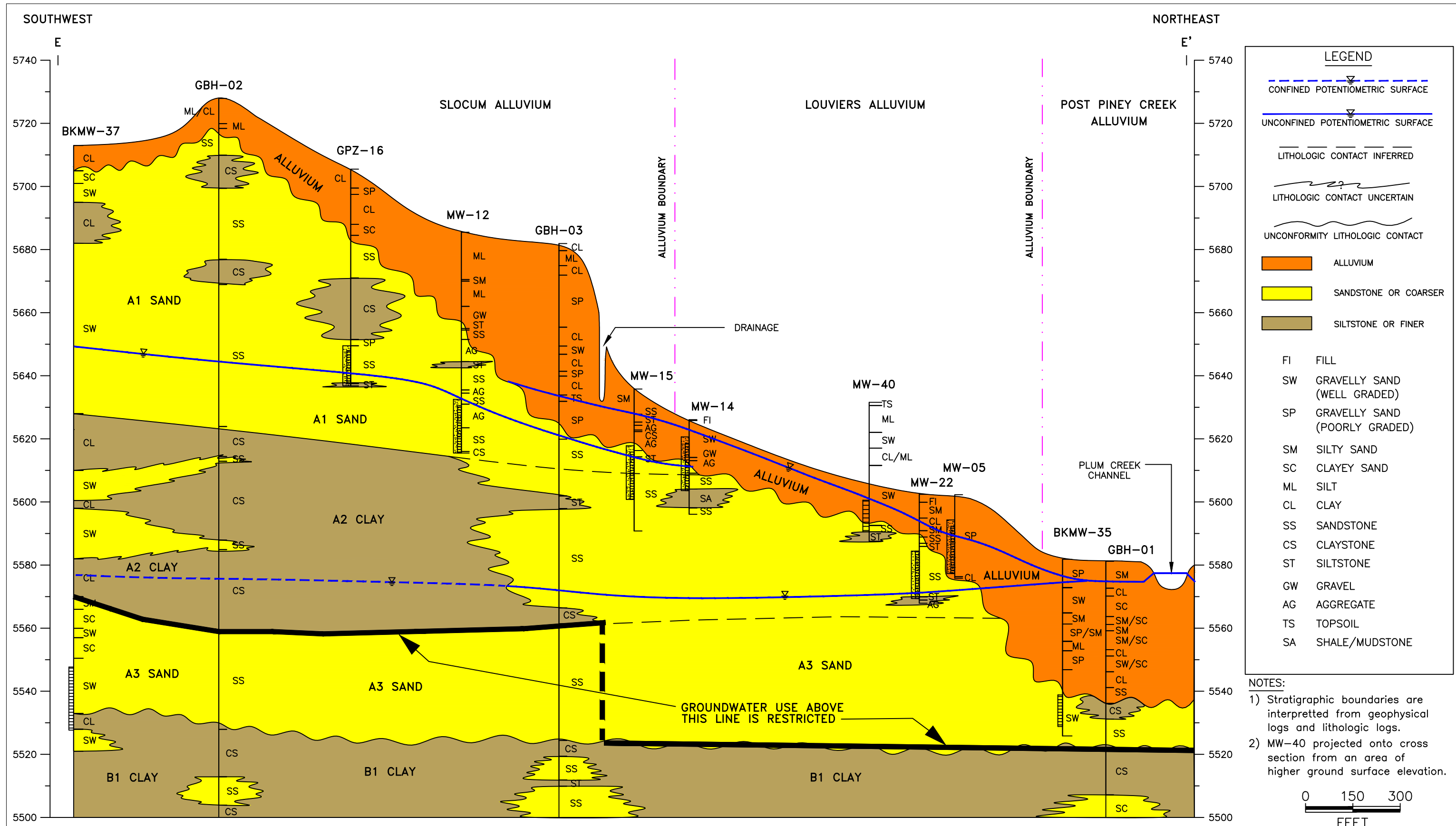


Path: F:\GIS\Louviers\2021\Materials Management Plan (MMP)\superceded save old\FIGURE 3 GROUNDWATER RESTRICTED USE AREA MAP.mxd

PARSONS
 Parsons Environment & Infrastructure
 2200 West Loop South
 Suite 200
 Houston, Texas 77027

Title: Groundwater Restricted Use Areas
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado 80131

Drawn/Approved: RAH/	File Project Number: 452224.04080
Date: 8/4/2021	Figure Number: 3
Revised:	
File Name: FIGURE 3 GROUNDWATER RESTRICTED USE AREA MAP	



FILE: CS3395B_02022021.DWG IN GIS\2021\MMP\ (DERIVED FROM LOUVIERS\GEO\SECTIONS\CS3395B)

PARSONS
 Parsons Environment & Infrastructure
 2200 West Loop South
 Suite 200
 Houston, Texas 77027

TITLE: Maximum Depth of Restricted Use Groundwater
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado 80131

DWN: RAH	DES: -	PROJECT NO.: 452224
CHKD: -	APPD: -	FIGURE NO.: 4
DATE: 6/8/04	REV.: 2/3/2021	

TABLES

Table 1. SWMU/AOC Status and COCs
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

SWMU No.	Identification	Status	COCs	Date of NFA or Remedial Action Approval
1	Asbestos Pit	Use restricted	asbestos	2/14/2007
2	Asbestos Pit	Use restricted	asbestos	2/14/2007
3	Limestone Pit	NFA		9/29/2009 - covered by GW
4	Cap Destruction Area (below ground detonation)	Use restricted	blasting caps	12/13/2002
5	Cap Destruction Area (open detonation)	Use restricted	blasting caps	12/13/2002
6	Nitroglycerin Ditches Medium	Clean closed		
7	Landfill #1	Use restricted	arsenic, demolition debris	5/2/2019
8	Landfill #2	Use restricted	PETN, demolition debris	Final Closure 2/12/2020
9	Landfill #3	Use restricted	FASLOC, demolition debris	Groundwater Impacts only
10	Landfill #4	Use restricted	demolition debris	4/8/2019
11	Landfill #5	Use restricted	demolition debris	2/27/2017
12	Landfill #6	Use restricted	demolition debris	4/8/2019
13	Solar Ponds - 2	Clean Closed	PETN	3/11/2014
14	Equalization Pond (dry)	NFA		9/29/2009
15	Recycle Ponds - 3 (dry)	NFA		9/29/2009
16	Lead Pile	NFA		10/13/2000
17	Powerhouse Ash Piles (2)	NFA		9/27/2004
18	Emulsion Separation Tanks	NFA		7/10/2017
19	Emulsion Pit	NFA	fuel oil, nitrates	9/29/2009
20	Landfill #7 (Indian Creek Landfill)	Use restricted		NFA and Release from Order July 22, 2015.
21	Cap Destruction Area	Property sold to Douglas County		12/13/2002
22	Asbestos Waste	Clean closed		9/29/2009 Remediation in 2005
23	DNT Storage A & C	Clean Closed		7/24/2019
23	Areas B & D	NFA	DNT	10/13/2000
24	Landfill #8 (Village of Louviers) Medium	Use restriction recorded - Feb 2015		NFA and Release from Order July 22, 2015.
25	Plant Burning Ground (Permitted)	Clean Closed	DNT, metals, PAHs, PETN	4/4/2019
26	PETN Magazine (Permitted)	Property sold to Douglas County	blasting caps, PETN	12/11/2013
27	PETN Tank System (2)	NFA	PETN	9/27/2004
28	PETN Process Equipment Storage Area	NFA	PETN	9/27/2004
29	PETN Manufacturing	Clean closed	lead	
30	New Plant Laboratory	NFA		9/29/2009 NFA with SWMU 31D
31	Plant Process Drains (F,G,H,I,K,M,N)	NFA		12/13/2002
31	Plant Process Drains - SWMU 31A PETN Nitrator	Clean closed	PETN, lead, PAHs	
31	Plant Process Drains - SWMU 31B - Acetone Pad	Clean closed	PETN, lead, mercury, PAHs	
31	Plant Process Drains SWMU 31C - Acid Tower Pad	NFA		5/4/2020
31	Plant Process Drains SWMU 31L - Neut House	Clean closed	lead	
31	Plant Process Drains SWMU 31O - Power House	Clean closed	PAHs	
31	Plant Process Drains (J)	NFA		
31	Plant Process Drains (D, E)	NFA		9/29/2009
32	Explosive Waste Disposal	Property sold to Douglas County		3/19/2007
33	Ammonium Nitrate Crystallizing Area	NFA		9/27/2004
34	Plant Sanitary Sewer	NFA		9/27/2004
35	Satellite Waste Accumulation Area	NFA		9/29/2009 NFA with SWMU 31E
36	Bare Areas Near SWMU 7	NFA		5/16/2014
AOC 1	AN Crystallizer near SWMU 29	NFA		9/27/2004
AOC 2	Buckley Fuel Oil Tank	Clean closed	fuel oils	11/20/2008
AOC 3	Trap Range	Clean closed	lead, arsenic antimony	3/14/2017
AOC 4	S&D Garage	Use restricted	arsenic	5/7/2014
AOC 5	Bare Spot near Nilite Area	Clean Closed	TNT, DNT	7/24/2019
	Groundwater	Use restricted	DNT, perchlorate, nitrate	9/22/2009

COCs = Constituents of concern
 NFA = No further action
 PETN = Pentaerythritol tetranitrate
 FASLOC = Product name for mine bolt epoxy
 DNT = Dinitrotoluene
 PAHs = Polyaromatic hydrocarbons
 TNT = Trinitrotoluene

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-06	S07-06	S07-05	S07-05	S07-04	S07-04	S07-04
Field Sample ID				10582730	10582733	10582737	10582740	10582744	10582747	10582750
Date Sampled				10/03/2002	10/03/2002	10/03/2002	10/03/2002	10/03/2002	10/03/2002	10/03/2002
Sample Purpose				FS	FS	FS	FS	FS	FS	DUP
Start Depth - End Depth				0 - 2	6 - 8	0 - 2	6 - 8	0 - 2	6 - 8	6 - 8
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--	--	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	--	--	--	--	--	--	--
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	--	--	--	--	--	--	--
Asbestos	93-116 PLM	%	--	<0.1 [U]	<0.1 [U]	<0.1 [U]	<0.1 [U]	<0.1 [U]	<0.1 [U]	<0.1 [U]

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-03	S07-03	S07-02	S07-02	S07-01	S07-01	S07-07
Field Sample ID				10582754	10582757	10582761	10582764	10582768	10582771	11748756
Date Sampled				10/03/2002	10/03/2002	10/03/2002	10/03/2002	10/03/2002	10/03/2002	09/08/2003
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth				0 - 2	6 - 8	0 - 2	6 - 8	0 - 2	6 - 8	0 - 2
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--	--	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	--	--	--	--	--	--	19
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	--	--	--	--	--	--	120 J
Asbestos	93-116 PLM	%	--	<0.1 [U]	<0.1 [U]	<0.1 [U]	<0.1 [U]	<0.1 [U]	<0.1 [U]	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-10	S07-11	S07-08	S07-09	S07-12	S07-10	S07-12
Field Sample ID				11748763	11748765	11748767	11748769	11748773	12836585	12836587
Date Sampled				09/08/2003	09/08/2003	09/08/2003	09/08/2003	09/08/2003	12/05/2003	12/05/2003
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth				0 - 2	0 - 2	0 - 2	0 - 2	0 - 2	6 - 8	6 - 8
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--	--	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	240	6.3	2.1	2500	77	100	26
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	--	--	9.5 J	--	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-13	S07-09	S07-20	S07-14	S07-14	S07-15	S07-16
Field Sample ID				12836589	12836591	12836593	12836595	12836597	12836599	12836601
Date Sampled				12/04/2003	12/05/2003	12/07/2003	12/04/2003	12/04/2003	12/04/2003	12/04/2003
Sample Purpose				FS	FS	FS	DUP	FS	FS	FS
Start Depth - End Depth				0 - 2	6 - 8	6 - 8	0 - 2	0 - 2	0 - 2	0 - 2
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--	--	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	66	160	310	93	100	1.9	1.5
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	--	--	--	--	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-17	S07-17	S07-18	S07-18	S07-19	S07-19	S07-20
Field Sample ID				12836603	12836604	12836606	12836607	12836609	12836610	12836611
Date Sampled				12/07/2003	12/07/2003	12/07/2003	12/07/2003	12/07/2003	12/07/2003	12/07/2003
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth				0 - 2	6 - 8	0 - 2	6 - 8	0 - 2	6 - 8	0 - 2
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--	--	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	11	1.8	17	7.6	4.1	3.6	210
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	--	--	--	--	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-09	S07-21	S07-21	S07-22	S07-22	S07-23	S07-23
Field Sample ID				12836612	12836614	12836615	12836617	12836618	12836620	12836621
Date Sampled				12/05/2003	12/07/2003	12/07/2003	12/07/2003	12/07/2003	12/07/2003	12/07/2003
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth					0 - 2	6 - 8	0 - 2	6 - 8	0 - 2	6 - 8
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--	--	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	--	370 J	73 J	410 J	6.2 J	640 J	6.1 J
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	--	--	--	--	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-24	S07-24	S07-23	S07-32	S07-29	S07-29	S07-30
Field Sample ID				12836623	12836624	12836626	12868536	12868538	12868539	12868543
Date Sampled				12/07/2003	12/07/2003	12/07/2003	12/11/2003	12/10/2003	12/10/2003	12/11/2003
Sample Purpose				FS	FS	DUP	FS	FS	FS	FS
Start Depth - End Depth				0 - 2	6 - 8		6 - 8	0 - 2	6 - 8	0 - 2
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--	--	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	12 J	1.7 J	630 J	7.1	12	7.6	1.1
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	--	--	--	--	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-30	S07-31	S07-31	S07-32	S07-25	S07-25	S07-26
Field Sample ID				12868544	12868546	12868547	12868550	12868552	12868553	12868557
Date Sampled				12/11/2003	12/11/2003	12/11/2003	12/11/2003	12/07/2003	12/07/2003	12/08/2003
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth				6 - 8	0 - 2	6 - 8	0 - 2	0 - 2	6 - 8	0 - 2
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--	--	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	3.7	<1.0	40	58	2.8	1.2	1.9
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	--	--	--	--	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-26	S07-27	S07-27	S07-28	S07-28	S07-09	S07-34
Field Sample ID				12868558	12868560	12868760	12868846	12868890	13237208	13237210
Date Sampled				12/08/2003	12/09/2003	12/09/2003	12/09/2003	12/09/2003	04/20/2004	04/21/2004
Sample Purpose				FS	FS	FS	FS	FS	FS	DUP
Start Depth - End Depth				6 - 8	0 - 2	6 - 8	0 - 2	6 - 8	12 - 14	
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--	--	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	1.8	9.3	1.5	23	140	16	1.4
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	--	--	--	--	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-12	S07-14	S07-14	S07-13	S07-20	S07-21	S07-28
Field Sample ID				13237212	13237214	13237215	13237217	13237219	13237221	13237223
Date Sampled				04/20/2004	04/20/2004	04/20/2004	04/21/2004	04/20/2004	04/20/2004	04/21/2004
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth				12 - 14	6 - 8	12 - 14	4 - 5	12 - 14	12 - 14	12 - 14
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--	--	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	100	2.8	13	160	16	170	3.1
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	--	--	--	--	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-31	S07-33	S07-10	S07-10	S07-37	S07-34	S07-34
Field Sample ID				13237225	13237227	13237229	13237231	13237233	13237235	13237236
Date Sampled				04/21/2004	04/20/2004	04/20/2004	04/20/2004	04/21/2004	04/21/2004	04/21/2004
Sample Purpose				FS	FS	DUP	FS	FS	FS	FS
Start Depth - End Depth				12 - 14	0 - 2	12 - 14	12 - 14	12 - 14	0 - 2	6 - 8
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--	--	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	3.1	1.7	16	17	1.9	1.2	29
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	--	--	--	--	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-34	S07-35	S07-35	S07-35	S07-36	S07-36	S07-36
Field Sample ID				13237237	13237239	13237240	13237241	13237243	13237244	13237245
Date Sampled				04/21/2004	04/21/2004	04/21/2004	04/21/2004	04/21/2004	04/21/2004	04/21/2004
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth				12 - 14	0 - 2	6 - 8	12 - 14	0 - 2	6 - 8	12 - 14
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--	--	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	2.7	1.7	5	4.4	2.8	5.4	2
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	--	--	--	--	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-37	S07-37	S07-45	S07-45	S07-45	S07-21	S07-12
Field Sample ID				13237246	13237247	13237249	13237250	13237251	13281095	13281096
Date Sampled				04/21/2004	04/21/2004	04/21/2004	04/21/2004	04/21/2004	04/20/2004	04/20/2004
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth				0 - 2	6 - 8	0 - 2	6 - 8	12 - 14	18 - 20	18 - 20
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--	--	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	2.7	<1.1	120	120	8	29	40
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	--	--	--	--	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-12	S07-12	S07-12	S07-12	S07-21	S07-21	S07-21
Field Sample ID				15872902	15872904	15872905	15872906	15872908	15872909	15872910
Date Sampled				11/28/2005	11/28/2005	11/28/2005	11/28/2005	11/29/2005	11/29/2005	11/29/2005
Sample Purpose				DUP	FS	FS	FS	FS	FS	FS
Start Depth - End Depth					24 - 26	30 - 32	36 - 38	24 - 26	30 - 32	36 - 38
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--	--	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	1.9	2	1.5	1.2	3	2.3	1.7
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	--	--	--	--	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-01	S07-01	S07-02	S07-02	S07-03	S07-03	S07-04
Field Sample ID				8776562	8776682	8776803	8776923	8777044	8777164	8777285
Date Sampled				10/03/2002	10/03/2002	10/03/2002	10/03/2002	10/03/2002	10/03/2002	10/03/2002
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth				0 - 2	6 - 8	0 - 2	6 - 8	0 - 2	6 - 8	0 - 2
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	0.0091	<0.0053	<0.0053	<0.0052	<0.0060	<0.0052	<0.0043
Tetrachloroethene	8260B	MG/KG	24	0.006	<0.0053	<0.0053	<0.0052	<0.0060	<0.0052	<0.0043
Arsenic	6010B	MG/KG	8.03*	87	3.1	3.8	1.5	470	7.5	62
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--	--
Lead	6010B	MG/KG	400	650	3.8	18	4.9	11	4.1	320
Asbestos	93-116 PLM	%	--	--	--	--	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				S07-04	S07-04	S07-05	S07-05	S07-06	S07-06
Field Sample ID				8777405	8777525	8777646	8777766	8777887	8778007
Date Sampled				10/03/2002	10/03/2002	10/03/2002	10/03/2002	10/03/2002	10/03/2002
Sample Purpose				FS	DUP	FS	FS	FS	FS
Start Depth - End Depth				6 - 8	6 - 8	0 - 2	6 - 8	0 - 2	6 - 8
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	<0.0052	<0.0053	<0.0072	<0.0051	<0.0052	<0.0051
Tetrachloroethene	8260B	MG/KG	24	<0.0052	<0.0053	<0.0072	<0.0051	<0.0052	<0.0051
Arsenic	6010B	MG/KG	8.03*	2.3	2.1	2.2	1	66	21
Arsenic	6010C	MG/KG	8.03*	--	--	--	--	--	--
Lead	6010B	MG/KG	400	5.1	7	6.8	2.2	80	3.9
Asbestos	93-116 PLM	%	--	--	--	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				SWMU7-01	SWMU7-01	SWMU7-02
Field Sample ID				SR0816-SWMU7-01-C	SR0816-SWMU7-01-CD	SR0816-SWMU7-02-C
Date Sampled				08/03/2016	08/03/2016	08/03/2016
Sample Purpose				FS	DUP	FS
Start Depth - End Depth				0 - 0.5	0 - 0.5	0 - 0.5
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--
Arsenic	6010B	MG/KG	8.03*	--	--	--
Arsenic	6010C	MG/KG	8.03*	360	470	370
Lead	6010B	MG/KG	400	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				SWMU7-03	SWMU7-04	SWMU7-05
Field Sample ID				SR0816-SWMU7-03-C	SR0816-SWMU7-04-C	SR0816-SWMU7-05-C
Date Sampled				08/03/2016	08/03/2016	08/03/2016
Sample Purpose				FS	FS	FS
Start Depth - End Depth				0 - 0.5	0 - 0.5	0 - 0.5
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--
Arsenic	6010B	MG/KG	8.03*	--	--	--
Arsenic	6010C	MG/KG	8.03*	290	83	220
Lead	6010B	MG/KG	400	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 2. SWMU 7 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louvier, Colorado

Location ID				SWMU7-06	SWMU7-07	SWMU7-08
Field Sample ID				SR0816-SWMU7-06-C	SR0816-SWMU7-07-C	SR0816-SWMU7-08-C
Date Sampled				08/03/2016	08/03/2016	08/03/2016
Sample Purpose				FS	FS	FS
Start Depth - End Depth				0 - 0.5	0 - 0.5	0 - 0.5
Parameter	Analytical Method	Units	EPA Regional Screening Criteria Residential Soils May 2020	Result	Result	Result
1,2-Dichloroethane	8260B	MG/KG	0.46	--	--	--
Tetrachloroethene	8260B	MG/KG	24	--	--	--
Arsenic	6010B	MG/KG	8.03*	--	--	--
Arsenic	6010C	MG/KG	8.03*	380	720	140
Lead	6010B	MG/KG	400	--	--	--
Asbestos	93-116 PLM	%	--	--	--	--

* Site Background concentration used in place of EPA Screening Level

FS = Field Sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per kilogram

U = Undetected

J = Concentration estimated

C = Composite sample

Table 3. AOC 4 Analytical Data for Soil Beneath Cover
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID				UST01-01	UST01-01	UST01-01	UST01-01	UST01-01	UST01-04	UST01-04
Field Sample ID				15872436	15872437	15872438	15872439	15872440	15872442	15872443
Date Sampled				11/29/2005	11/29/2005	11/29/2005	11/29/2005	11/29/2005	11/29/2005	11/29/2005
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth (feet)				2 - 4	6 - 8	10 - 12	14 - 16	18 - 20	2 - 4	6 - 8
Parameter	Analytical Method	Units	EPA Regional Screening Level Residential Soil May 2020	Result	Result	Result	Result	Result	Result	Result
Tetrachloroethene	8260B	MG/KG	24	0.0074	0.8	0.0022 J	0.0067	0.048	0.015	0.045
Naphthalene	8260B	MG/KG	2	0.00049 B	<0.047	<0.00037	<0.00037	<0.00041	<0.00037	<0.00039
Arsenic	6010B	MG/KG	8.03*	59	22	1.9	0.91 J	3.1	9.6	35

* Arsenic site background concentration used in lieu of EPA Screening Level

FS = Field sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per Kilogram

B = Parameter found in blank

J = Concentration is an estimated value

Table 3. AOC 4 Analytical Data for Soil Beneath Cover
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID				UST01-04	UST01-04	UST01-04	UST01-04	UST01-06	UST01-06	UST01-06
Field Sample ID				15872444	15872445	15872446	15872448	15872450	15872451	15872452
Date Sampled				11/29/2005	11/29/2005	11/29/2005	11/29/2005	11/29/2005	11/29/2005	11/29/2005
Sample Purpose				FS	FS	FS	DUP	FS	FS	FS
Start Depth - End Depth (feet)				10 - 12	14 - 16	18 - 20		2 - 4	6 - 8	10 - 12
Parameter	Analytical Method	Units	EPA Regional Screening Level Residential Soil May 2020	Result	Result	Result	Result	Result	Result	Result
Tetrachloroethene	8260B	MG/KG	24	0.00091 J	0.0095	0.036	0.13	0.0057	0.023	<0.00028
Naphthalene	8260B	MG/KG	2	<0.00036	<0.00041	<0.00043	<0.00045	<0.00038	<0.00039	<0.00058
Arsenic	6010B	MG/KG	8.03*	14	19	45	8.9	72	2.3	0.79 J

* Arsenic site background concentration used in lieu of EPA Screening Level

FS = Field sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per Kilogram

B = Parameter found in blank

J = Concentration is an estimated value

Table 3. AOC 4 Analytical Data for Soil Beneath Cover
Materials Management Plan
Chemours Louviers Site
Louviers, Colorado

Location ID				UST01-06	UST01-06	UST01-02	UST01-02	UST01-02	UST01-02	UST01-02
Field Sample ID				15872453	15872454	15880796	15880797	15880798	15880799	15880800
Date Sampled				11/29/2005	11/29/2005	11/30/2005	11/30/2005	11/30/2005	11/30/2005	11/30/2005
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth (feet)				14 - 16	18 - 20	2 - 4	6 - 8	10 - 12	14 - 16	18 - 20
Parameter	Analytical Method	Units	EPA Regional Screening Level Residential Soil May 2020	Result	Result	Result	Result	Result	Result	Result
Tetrachloroethene	8260B	MG/KG	24	0.00060 J	0.024	0.071	0.00051 J	0.007	0.00032 J	0.044
Naphthalene	8260B	MG/KG	2	<0.00044	<0.00043	0.00050 B	<0.00040	<0.00036	<0.00035	<0.00040
Arsenic	6010B	MG/KG	8.03*	2.6	1.3	93	24	11	13	2.1

* Arsenic site background concentration used in lieu of EPA Screening Level

FS = Field sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per Kilogram

B = Parameter found in blank

J = Concentration is an estimated value

Table 3. AOC 4 Analytical Data for Soil Beneath Cover
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID				UST01-03	UST01-03	UST01-03	UST01-03	UST01-03	UST01-07	UST01-07
Field Sample ID				16509132	16509133	16509134	16509135	16509136	16509138	16509139
Date Sampled				05/15/2006	05/15/2006	05/15/2006	05/15/2006	05/15/2006	05/16/2006	05/16/2006
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth (feet)				0 - 2	2 - 4	6 - 8	10 - 12	14 - 16	10 - 12	14 - 16
Parameter	Analytical Method	Units	EPA Regional Screening Level Residential Soil May 2020	Result	Result	Result	Result	Result	Result	Result
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Naphthalene	8260B	MG/KG	2	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	5.5	2.1	3	<0.67	1.8	3.4	220

* Arsenic site background concentration used in lieu of EPA Screening Level

FS = Field sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per Kilogram

B = Parameter found in blank

J = Concentration is an estimated value

Table 3. AOC 4 Analytical Data for Soil Beneath Cover
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID				UST01-07	UST01-08	UST01-08	UST01-08	UST01-08	UST01-08	UST01-08	UST01-08
Field Sample ID				16509140	16509142	16509143	16509144	16509145	16509146	16509147	16509147
Date Sampled				05/16/2006	05/16/2006	05/16/2006	05/16/2006	05/16/2006	05/16/2006	05/16/2006	05/16/2006
Sample Purpose				FS	FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth (feet)				18 - 20	0 - 2	2 - 4	6 - 8	10 - 12	14 - 16	18 - 20	18 - 20
Parameter	Analytical Method	Units	EPA Regional Screening Level Residential Soil May 2020	Result	Result	Result	Result	Result	Result	Result	Result
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--	--
Naphthalene	8260B	MG/KG	2	--	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	520	29	65	44	120	25	1.7	

* Arsenic site background concentration used in lieu of EPA Screening Level

FS = Field sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per Kilogram

B = Parameter found in blank

J = Concentration is an estimated value

Table 3. AOC 4 Analytical Data for Soil Beneath Cover
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID				UST01-09	UST01-03	UST01-03	UST01-03	UST01-04	UST01-04	UST01-04
Field Sample ID				16509149	16509150	16509151	16509152	16509154	16509155	16509156
Date Sampled				05/16/2006	05/15/2006	05/15/2006	05/15/2006	05/15/2006	05/15/2006	05/15/2006
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth (feet)				0 - 2	18 - 20	22 - 24	26 - 28	0 - 2	22 - 24	26 - 28
Parameter	Analytical Method	Units	EPA Regional Screening Level Residential Soil May 2020	Result	Result	Result	Result	Result	Result	Result
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Naphthalene	8260B	MG/KG	2	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	<0.69	2.1	1.3	1.7	9	3.6	0.93 J

* Arsenic site background concentration used in lieu of EPA Screening Level

FS = Field sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per Kilogram

B = Parameter found in blank

J = Concentration is an estimated value

Table 3. AOC 4 Analytical Data for Soil Beneath Cover
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID				UST01-05	UST01-05	UST01-05	UST01-05	UST01-05	UST01-05	UST01-05
Field Sample ID				16509158	16509159	16509160	16509161	16509162	16509163	16509164
Date Sampled				05/15/2006	05/15/2006	05/15/2006	05/15/2006	05/15/2006	05/15/2006	05/15/2006
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth (feet)				0 - 2	2 - 4	6 - 8	10 - 12	14 - 16	18 - 20	22 - 24
Parameter	Analytical Method	Units	EPA Regional Screening Level Residential Soil May 2020	Result	Result	Result	Result	Result	Result	Result
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Naphthalene	8260B	MG/KG	2	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	3.9	3.5	1.8	<0.67	1.2	1.8	1.6

* Arsenic site background concentration used in lieu of EPA Screening Level

FS = Field sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per Kilogram

B = Parameter found in blank

J = Concentration is an estimated value

Table 3. AOC 4 Analytical Data for Soil Beneath Cover
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID				UST01-05	UST01-07	UST01-07	UST01-07	UST01-08	UST01-10	UST01-09
Field Sample ID				16509165	16509166	16509167	16509168	16509170	16509172	16509173
Date Sampled				05/15/2006	05/16/2006	05/16/2006	05/16/2006	05/16/2006	05/16/2006	05/16/2006
Sample Purpose				FS	FS	FS	FS	DUP	DUP	FS
Start Depth - End Depth (feet)				26 - 28	0 - 2	2 - 4	6 - 8			2 - 4
Parameter	Analytical Method	Units	EPA Regional Screening Level Residential Soil May 2020	Result	Result	Result	Result	Result	Result	Result
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Naphthalene	8260B	MG/KG	2	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	1.2	5.6	56	1.3	45	2.9	19

* Arsenic site background concentration used in lieu of EPA Screening Level

FS = Field sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per Kilogram

B = Parameter found in blank

J = Concentration is an estimated value

Table 3. AOC 4 Analytical Data for Soil Beneath Cover
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID				UST01-09	UST01-09	UST01-09	UST01-09	UST01-10	UST01-10	UST01-10
Field Sample ID				16509174	16509175	16509176	16509177	16509179	16509180	16509181
Date Sampled				05/16/2006	05/16/2006	05/16/2006	05/16/2006	05/16/2006	05/16/2006	05/16/2006
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth (feet)				6 - 8	10 - 12	14 - 16	18 - 20	0 - 2	2 - 4	6 - 8
Parameter	Analytical Method	Units	EPA Regional Screening Level Residential Soil May 2020	Result	Result	Result	Result	Result	Result	Result
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Naphthalene	8260B	MG/KG	2	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	4.4	64	24	<0.68	3.6	2.7	1.7

* Arsenic site background concentration used in lieu of EPA Screening Level

FS = Field sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per Kilogram

B = Parameter found in blank

J = Concentration is an estimated value

Table 3. AOC 4 Analytical Data for Soil Beneath Cover
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID				UST01-10	UST01-11	UST01-11	UST01-11	UST01-11	UST01-05	UST01-19
Field Sample ID				16509182	16509184	16509185	16509186	16509187	16509189	17066817
Date Sampled				05/16/2006	05/16/2006	05/16/2006	05/16/2006	05/16/2006	05/15/2006	09/18/2006
Sample Purpose				FS	FS	FS	FS	FS	DUP	FS
Start Depth - End Depth (feet)				10 - 12	0 - 2	2 - 4	6 - 8	10 - 12		0 - 2
Parameter	Analytical Method	Units	EPA Regional Screening Level Residential Soil May 2020	Result	Result	Result	Result	Result	Result	Result
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Naphthalene	8260B	MG/KG	2	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	<0.68	4.7	1200	11	6.3	1.4	4.5 J

* Arsenic site background concentration used in lieu of EPA Screening Level

FS = Field sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per Kilogram

B = Parameter found in blank

J = Concentration is an estimated value

Table 3. AOC 4 Analytical Data for Soil Beneath Cover
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID				UST01-19	UST01-20	UST01-16	UST01-15	UST01-16	UST01-17	UST01-18
Field Sample ID				17066818	17066820	17066822	17066824	17066826	17066828	17066830
Date Sampled				09/18/2006	09/18/2006	09/18/2006	09/18/2006	09/18/2006	09/18/2006	09/18/2006
Sample Purpose				FS	FS	DUP	FS	FS	FS	FS
Start Depth - End Depth (feet)				3 - 4	2 - 4		2 - 4	2 - 4	2 - 4	0 - 2
Parameter	Analytical Method	Units	EPA Regional Screening Level Residential Soil May 2020	Result	Result	Result	Result	Result	Result	Result
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Naphthalene	8260B	MG/KG	2	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	31 J	2.3 J	22 J	200 J	19 J	240 J	4.0 J

* Arsenic site background concentration used in lieu of EPA Screening Level

FS = Field sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per Kilogram

B = Parameter found in blank

J = Concentration is an estimated value

Table 3. AOC 4 Analytical Data for Soil Beneath Cover
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID				UST01-18	UST01-27	UST01-28	UST01-29	UST01-23	UST01-24	UST01-25
Field Sample ID				17066831	17096145	17096147	17096149	17096151	17096153	17096155
Date Sampled				09/18/2006	09/19/2006	09/19/2006	09/19/2006	09/19/2006	09/19/2006	09/19/2006
Sample Purpose				FS	FS	FS	FS	FS	FS	FS
Start Depth - End Depth (feet)				2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4	2 - 4
Parameter	Analytical Method	Units	EPA Regional Screening Level Residential Soil May 2020	Result	Result	Result	Result	Result	Result	Result
Tetrachloroethene	8260B	MG/KG	24	--	--	--	--	--	--	--
Naphthalene	8260B	MG/KG	2	--	--	--	--	--	--	--
Arsenic	6010B	MG/KG	8.03*	53 J	27	24	5.1	5.8	3.9	69

* Arsenic site background concentration used in lieu of EPA Screening Level

FS = Field sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per Kilogram

B = Parameter found in blank

J = Concentration is an estimated value

Table 3. AOC 4 Analytical Data for Soil Beneath Cover
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID				UST01-26
Field Sample ID				17096157
Date Sampled				09/19/2006
Sample Purpose				FS
Start Depth - End Depth (feet)				2 - 4
Parameter	Analytical Method	Units	EPA Regional Screening Level Residential Soil May 2020	Result
Tetrachloroethene	8260B	MG/KG	24	--
Naphthalene	8260B	MG/KG	2	--
Arsenic	6010B	MG/KG	8.03*	2.4

* Arsenic site background concentration used in lieu of EPA Screening Level

FS = Field sample

DUP = Duplicate Sample

MG/KG = Milligram(s) per Kilogram

B = Parameter found in blank

J = Concentration is an estimated value

Table 4. 2020 Groundwater Analytical Results
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID						EQBLK	EQBLK	BKMW-34	BKMW-34
Date Sampled						04/14/2020	04/15/2020	04/14/2020	04/14/2020
Sample Purpose						EB	EB	DUP	FS
Parameter Name	Analytical Method	Filtered	Units	EPA Tap Water Screening Level May 2020	CO_GW	Result	Result	Result	Result
1,3,5-Trinitrobenzene	8321A	N	MG/L	0.59		<0.000018	<0.000018		
1,3-Dinitrobenzene	8321A	N	MG/L	0.002		<0.000015	<0.000015		
1-Methyl-3-Nitrobenzene	8321A	N	MG/L	0.0017		<0.000027	<0.000027		
1-Methyl-4-Nitrobenzene	8321A	N	MG/L	0.0043		<0.000028	<0.000028		
2,4,6-Trinitrotoluene	8321A	N	MG/L	0.0025		<0.000024	<0.000024		
2,4-Dinitrotoluene	8321A	N	MG/L	0.00024	0.00011	<0.000021	<0.000021		
2,6-Dinitrotoluene	8321A	N	MG/L	0.000049		<0.000024	<0.000024		
2-Amino-4,6-Dinitrotoluene	8321A	N	MG/L	0.0019		<0.000023	<0.000023		
2-Nitrotoluene	8321A	N	MG/L	0.00031		<0.000024	<0.000024		
4-Amino-2,6-Dinitrotoluene	8321A	N	MG/L	0.0019		<0.000021	<0.000021		
Nitrobenzene	8321A	N	MG/L	0.00014	0.0035	<0.000036	<0.000036		
Nitroglycerin	8321A	N	MG/L	0.002		<0.000018	<0.000018		
Nitrate	9056	N	MG/L	32	10	0.11 J	<0.090	10 J	11 J
Nitrite	9056	N	MG/L	2	1	<0.049	<0.049	<0.049	<0.049
HMX	8321A	N	MG/L	1		<0.000021	<0.000021		
PETN	8321A	N	MG/L	0.019		<0.000019	<0.000020		
Perchlorate	6860	Y	MG/L	0.014	0.0049	<0.0000040	0.000024 J		
RDX	8321A	N	MG/L	0.00097		<0.000023	<0.000023		
Tetryl	8321A	N	MG/L	0.039		<0.000023	<0.000023		

Exceeds Colorado Groundwater Quality Standards

Exceeds EPA Regional Screening Levels for Tap Water

Exceeds Colorado Standards and EPA Screening Levels

CO_GW = Colorado Groundwater Quality Standards

MG/L = Milligram(s) per liter

HMX = Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine

PETN = Pentaerythritol tetranitrate

J = Estimated concentration

B = COC found in blank

EQBLK/EB = Equipment blank

FS = Field sample

DUP = Duplicate sample

Table 4. 2020 Groundwater Analytical Results
Materials Management Plan
Chemours Louviers Site
Louviers, Colorado

					Location ID	BKMW-35	BKMW-36	GPZ-12	GPZ-18	MW-38
					Date Sampled	04/15/2020	04/14/2020	04/14/2020	04/14/2020	04/15/2020
					Sample Purpose	FS	FS	FS	FS	FS
Parameter Name	Analytical Method	Filtered	Units	EPA Tap Water Screening Level May 2020	CO_GW	Result	Result	Result	Result	Result
1,3,5-Trinitrobenzene	8321A	N	MG/L	0.59		<0.000018				<0.000018
1,3-Dinitrobenzene	8321A	N	MG/L	0.002		<0.000015				<0.000015
1-Methyl-3-Nitrobenzene	8321A	N	MG/L	0.0017		<0.000027				<0.000027
1-Methyl-4-Nitrobenzene	8321A	N	MG/L	0.0043		<0.000028				<0.000028
2,4,6-Trinitrotoluene	8321A	N	MG/L	0.0025		<0.000024				<0.000023
2,4-Dinitrotoluene	8321A	N	MG/L	0.00024	0.00011	0.00068				<0.000020
2,6-Dinitrotoluene	8321A	N	MG/L	0.000049		0.00041				<0.000023
2-Amino-4,6-Dinitrotoluene	8321A	N	MG/L	0.0019		0.000042 J				<0.000022
2-Nitrotoluene	8321A	N	MG/L	0.00031		0.000070 J				<0.000023
4-Amino-2,6-Dinitrotoluene	8321A	N	MG/L	0.0019		0.000078 J				<0.000020
Nitrobenzene	8321A	N	MG/L	0.00014	0.0035	<0.000035				<0.000035
Nitroglycerin	8321A	N	MG/L	0.002		<0.000018				<0.000018
Nitrate	9056	N	MG/L	32	10	17 J	0.18 J	47 J	93 J	0.12 J
Nitrite	9056	N	MG/L	2	1	<0.049	<0.049	<0.049	0.35 J	<0.049
HMX	8321A	N	MG/L	1		<0.000020				<0.000020
PETN	8321A	N	MG/L	0.019		<0.000019				<0.000019
Perchlorate	6860	Y	MG/L	0.014	0.0049	0.013				0.000026 B
RDX	8321A	N	MG/L	0.00097		<0.00011				<0.000045
Tetryl	8321A	N	MG/L	0.039		<0.000023				<0.000022

Exceeds Colorado Groundwater Quality Standards

Exceeds EPA Regional Screening Levels for Tap Water

Exceeds Colorado Standards and EPA Screening Levels

CO_GW = Colorado Groundwater Quality Standards

MG/L = Milligram(s) per liter

HMX = Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine

PETN = Pentaerythritol tetranitrate

J = Estimated concentration

B = COC found in blank

EQBLK/EB = Equipment blank

FS = Field sample

DUP = Duplicate sample

Table 4. 2020 Groundwater Analytical Results
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID						MW-12	MW-19	MW-05	MW-06	MW-09
Date Sampled						04/14/2020	04/15/2020	04/14/2020	04/14/2020	04/14/2020
Sample Purpose						FS	FS	FS	FS	FS
Parameter Name	Analytical Method	Filtered	Units	EPA Tap Water Screening Level May 2020	CO_GW	Result	Result	Result	Result	Result
1,3,5-Trinitrobenzene	8321A	N	MG/L	0.59			<0.000018	0.000024 J	<0.000018	
1,3-Dinitrobenzene	8321A	N	MG/L	0.002			<0.000015	<0.000015	<0.000015	
1-Methyl-3-Nitrobenzene	8321A	N	MG/L	0.0017			<0.000027	<0.000027	<0.000027	
1-Methyl-4-Nitrobenzene	8321A	N	MG/L	0.0043			<0.000028	<0.000028	<0.000028	
2,4,6-Trinitrotoluene	8321A	N	MG/L	0.0025			<0.000023	<0.000024	<0.000023	
2,4-Dinitrotoluene	8321A	N	MG/L	0.00024	0.00011		<0.000020	0.000069 J	0.00023	
2,6-Dinitrotoluene	8321A	N	MG/L	0.000049			<0.000023	<0.000024	0.000075 J	
2-Amino-4,6-Dinitrotoluene	8321A	N	MG/L	0.0019			<0.000022	<0.000023	<0.000022	
2-Nitrotoluene	8321A	N	MG/L	0.00031			<0.000023	<0.000024	0.000040 J	
4-Amino-2,6-Dinitrotoluene	8321A	N	MG/L	0.0019			<0.000020	0.000021 J	<0.000020	
Nitrobenzene	8321A	N	MG/L	0.00014	0.0035		<0.000035	<0.000036	<0.000035	
Nitroglycerin	8321A	N	MG/L	0.002			<0.000018	<0.000018	<0.000018	
Nitrate	9056	N	MG/L	32	10	140 J	0.87 J	0.72	35 J	94 J
Nitrite	9056	N	MG/L	2	1	<0.049	<0.049	<0.049	<0.049	<0.049
HMX	8321A	N	MG/L	1			<0.00020	<0.00010	<0.000020	
PETN	8321A	N	MG/L	0.019			<0.000019	<0.000019	<0.000019	
Perchlorate	6860	Y	MG/L	0.014	0.0049		0.0011	0.00015	0.046	
RDX	8321A	N	MG/L	0.00097			<0.00022	<0.000023	<0.000022	
Tetryl	8321A	N	MG/L	0.039			<0.000022	<0.000023	<0.000022	

Exceeds Colorado Groundwater Quality Standards

Exceeds EPA Regional Screening Levels for Tap Water

Exceeds Colorado Standards and EPA Screening Levels

CO_GW = Colorado Groundwater Quality Standards

MG/L = Milligram(s) per liter

HMX = Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine

PETN = Pentaerythritol tetranitrate

J = Estimated concentration

B = COC found in blank

EQBLK/EB = Equipment blank

FS = Field sample

DUP = Duplicate sample

Table 4. 2020 Groundwater Analytical Results
Materials Management Plan
Chemours Louviers Site
Louviers, Colorado

Location ID						MW-13	MW-14	MW-20	MW-21	MW-22
Date Sampled						04/15/2020	04/15/2020	04/15/2020	04/14/2020	04/15/2020
Sample Purpose						FS	FS	FS	FS	FS
Parameter Name	Analytical Method	Filtered	Units	EPA Tap Water Screening Level May 2020	CO_GW	Result	Result	Result	Result	Result
1,3,5-Trinitrobenzene	8321A	N	MG/L	0.59		<0.000018	<0.000018	<0.000019	0.000035 J	<0.000018
1,3-Dinitrobenzene	8321A	N	MG/L	0.002		<0.000015	<0.000015	<0.000016	0.00012	0.00038
1-Methyl-3-Nitrobenzene	8321A	N	MG/L	0.0017		<0.000027	<0.000026	<0.000028	0.000041 J	0.00097
1-Methyl-4-Nitrobenzene	8321A	N	MG/L	0.0043		<0.000028	<0.000027	<0.000029	0.000051 J	0.00066
2,4,6-Trinitrotoluene	8321A	N	MG/L	0.0025		0.000027 J	<0.000023	<0.000024	0.0014	0.00057
2,4-Dinitrotoluene	8321A	N	MG/L	0.00024	0.00011	<0.000021	0.000042 J	0.000030 J	0.0043	0.019
2,6-Dinitrotoluene	8321A	N	MG/L	0.000049		<0.000024	<0.000023	<0.000024	0.00084	0.12
2-Amino-4,6-Dinitrotoluene	8321A	N	MG/L	0.0019		<0.000023	<0.000022	<0.000023	<0.000023	0.0054 J
2-Nitrotoluene	8321A	N	MG/L	0.00031		<0.000024	<0.000023	<0.000024	0.00012	0.015
4-Amino-2,6-Dinitrotoluene	8321A	N	MG/L	0.0019		<0.000021	<0.000020	<0.000021	<0.000021	0.011
Nitrobenzene	8321A	N	MG/L	0.00014	0.0035	<0.000036	<0.000035	<0.000037	<0.000036	0.000078 J
Nitroglycerin	8321A	N	MG/L	0.002		0.0021	0.0035	<0.000019	0.00011 J	0.00011 J
Nitrate	9056	N	MG/L	32	10	66 J	120 J	4.1 J	100 J	80 J
Nitrite	9056	N	MG/L	2	1	<0.049	<0.049	<0.049	<0.049	0.13 J
HMX	8321A	N	MG/L	1		<0.00021	<0.00020	<0.00021	<0.00010	<0.0020
PETN	8321A	N	MG/L	0.019		0.00056	0.0016	<0.000020	<0.000020	<0.000019
Perchlorate	6860	Y	MG/L	0.014	0.0049	0.0018	0.0012	0.0013	0.016	0.0027
RDX	8321A	N	MG/L	0.00097		<0.00023	<0.00022	<0.00023	<0.000023	<0.0023
Tetryl	8321A	N	MG/L	0.039		<0.000023	<0.000022	<0.000023	<0.000023	<0.000023

Exceeds Colorado Groundwater Quality Standards

Exceeds EPA Regional Screening Levels for Tap Water

Exceeds Colorado Standards and EPA Screening Levels

CO_GW = Colorado Groundwater Quality Standards

MG/L = Milligram(s) per liter

HMX = Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine

PETN = Pentaerythritol tetranitrate

J = Estimated concentration

B = COC found in blank

EQBLK/EB = Equipment blank

FS = Field sample

DUP = Duplicate sample

Table 4. 2020 Groundwater Analytical Results
Materials Management Plan
Chemours Louviers Site
Louviers, Colorado

Location ID						MW-23	MW-23	MW-31	MW-33	MW-17R
Date Sampled						04/15/2020	04/15/2020	04/15/2020	04/15/2020	04/15/2020
Sample Purpose						DUP	FS	FS	FS	FS
Parameter Name	Analytical Method	Filtered	Units	EPA Tap Water Screening Level May 2020	CO_GW	Result	Result	Result	Result	Result
1,3,5-Trinitrobenzene	8321A	N	MG/L	0.59		0.000035 J	0.000031 J	<0.000018	<0.000018	<0.000018
1,3-Dinitrobenzene	8321A	N	MG/L	0.002		0.000028 J	0.000030 J	<0.000015	0.0045	0.000066 J
1-Methyl-3-Nitrobenzene	8321A	N	MG/L	0.0017		<0.000026	<0.000028	<0.000027	0.00083	0.000040 J
1-Methyl-4-Nitrobenzene	8321A	N	MG/L	0.0043		<0.000028	<0.000029	<0.000028	0.00042	0.000036 J
2,4,6-Trinitrotoluene	8321A	N	MG/L	0.0025		0.000042 J	0.000041 J	<0.000024	0.0045	0.000082 J
2,4-Dinitrotoluene	8321A	N	MG/L	0.00024	0.00011	0.0013	0.0012	<0.000020	0.0078	0.0019
2,6-Dinitrotoluene	8321A	N	MG/L	0.000049		0.00026	0.00024	0.000077 J	0.036	0.00023
2-Amino-4,6-Dinitrotoluene	8321A	N	MG/L	0.0019		0.000026 J	0.000030 J	<0.000023	0.0013	<0.000022
2-Nitrotoluene	8321A	N	MG/L	0.00031		0.000031 J	0.000036 J	0.000082 J	0.0038	0.00015
4-Amino-2,6-Dinitrotoluene	8321A	N	MG/L	0.0019		0.000048 J	0.000065 J	<0.000020	0.0017 J	<0.000020
Nitrobenzene	8321A	N	MG/L	0.00014	0.0035	<0.000035	<0.000036	<0.000035	0.00035	<0.000035
Nitroglycerin	8321A	N	MG/L	0.002		<0.000018	<0.000019	<0.000018	0.000096 J	<0.000018
Nitrate	9056	N	MG/L	32	10	33 J	33 J	1.0 J	100 J	110 J
Nitrite	9056	N	MG/L	2	1	<0.049	<0.049	<0.049	0.12 J	<0.049
HMX	8321A	N	MG/L	1		<0.000020	<0.000021	<0.00041	<0.00051	<0.00020
PETN	8321A	N	MG/L	0.019		<0.000019	<0.000020	<0.000019	<0.000019	0.000030 J
Perchlorate	6860	Y	MG/L	0.014	0.0049	0.016	0.016	0.00012	0.0026	0.74
RDX	8321A	N	MG/L	0.00097		<0.00011	<0.000023	<0.00045	<0.00056	<0.00022
Tetryl	8321A	N	MG/L	0.039		<0.000022	<0.000023	<0.000023	<0.000022	<0.000022

Exceeds Colorado Groundwater Quality Standards

Exceeds EPA Regional Screening Levels for Tap Water

Exceeds Colorado Standards and EPA Screening Levels

CO_GW = Colorado Groundwater Quality Standards

MG/L = Milligram(s) per liter

HMX = Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine

PETN = Pentaerythritol tetranitrate

J = Estimated concentration

B = COC found in blank

EQBLK/EB = Equipment blank

FS = Field sample

DUP = Duplicate sample

Table 5. 2021 Groundwater PFOA and PFOS Analytical Results
 Materials Management Plan
 Chemours Louviers Site
 Louviers, Colorado

Location ID				MW-14	MW-14	MW-06	MW-06	MW-09
Date Sampled				06/29/2021	11/04/2021	06/30/2021	11/04/2021	07/01/2021
Sample Purpose				FS	FS	FS	FS	FS
Parameter Name	Analytical Method	Filtered	Report Units	Report Result	Report Result	Report Result	Report Result	Report Result
PFOA	537 Modified	N	MG/L	0.0000031	0.0000031	0.000015	0.000015	<0.000002
PFOS	537 Modified	N	MG/L	<0.000002	<0.000002	<0.000002	<0.000002	<0.000002

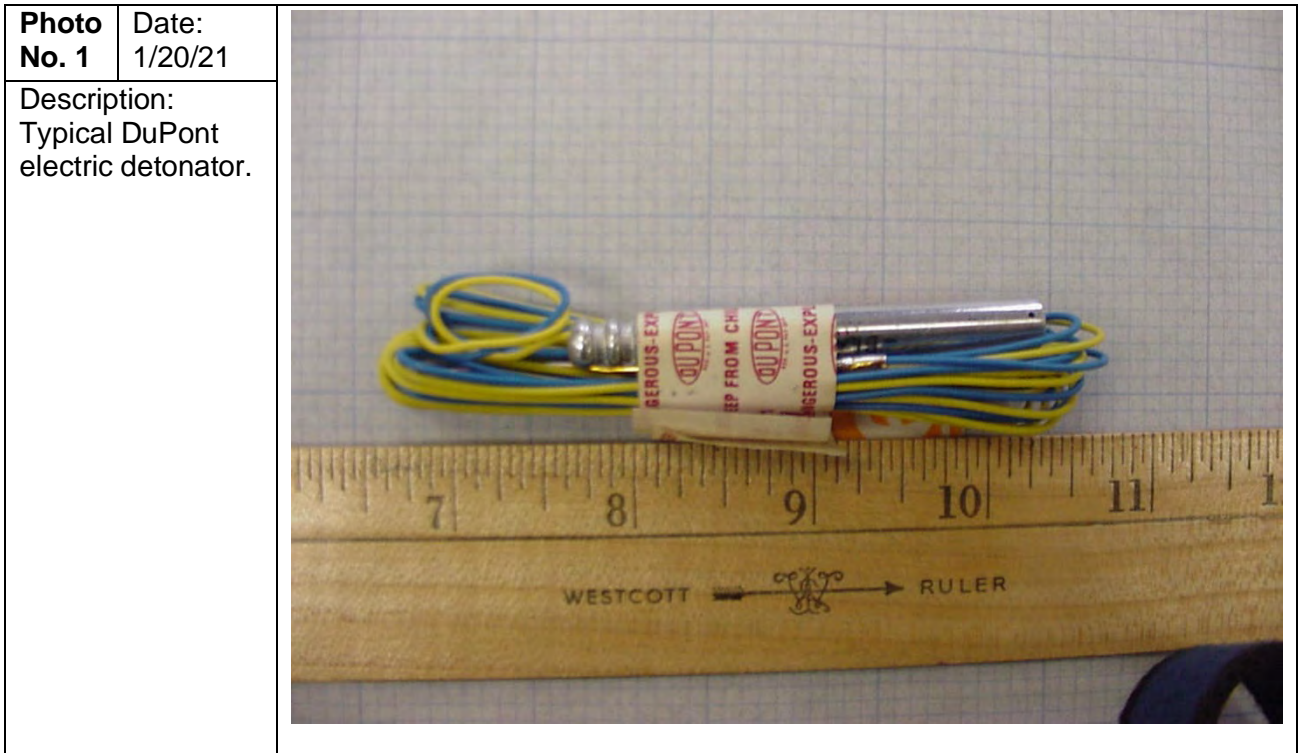
Location ID				MW-09	MW-21	MW-21	MW-33	MW-33
Date Sampled				11/04/2021	06/29/2021	11/04/2021	06/29/2021	11/04/2021
Sample Purpose				FS	FS	FS	FS	FS
Parameter Name	Analytical Method	Filtered	Report Units	Report Result	Report Result	Report Result	Report Result	Report Result
PFOA	537 Modified	N	MG/L	<0.000002	0.0000066	0.0000046	<0.000002	<0.000002
PFOS	537 Modified	N	MG/L	<0.000002	<0.000002	<0.000002	<0.000002	<0.000002

PFOA = Perfluorooctanoic acid
 PFOS = Perfluorooctyl sulfonate
 FS = Field sample
 MG/L = Milligrams per liter
 N = No

**APPENDIX A
PHOTOGRAPHS OF POTENTIAL HAZARDOUS
AND NON-HAZARDOUS MATERIALS**

PHOTOGRAPHIC LOG

Blasting Caps, Explosive Related Items and Other Products Found at Louviers 1/22/21



PHOTOGRAPHIC LOG
Blasting Caps, Explosive Related Items and Other Products Found at Louviers
1/22/21


Photo No. 3	Date: 1/20/21	
Description: Typical detonators. Detonator on right is non-electric.		

Photo No. 4	Date: 1/20/21	
Description: Water Gel (Tovex) and dynamite cartridge.		

PHOTOGRAPHIC LOG

Blasting Caps, Explosive Related Items and Other Products Found at Louviers 1/22/21

Photo No. 5	Date:	
Description: Blasting cap remnants found during demolition of SWMU 26 PETN Magazine. Magazine was used for blasting cap storage in the early days of operation.		

Photo No. 6	Date:	
Description: Blasting cap remnants found during demolition of SWMU 26 PETN Magazine. Photograph depicts caps as found beneath building.		

PHOTOGRAPHIC LOG

**Blasting Caps, Explosive Related Items and Other Products Found at Louviers
1/22/21**

Photo No. 7	Date: 1/20/21	
Description: Blasting caps as found below SWMU 26. The caps have cloth insulated leg wires.		

Photo No. 8	Date:	
Description: Miners safety detonators found below SWMU 26.		

PHOTOGRAPHIC LOG
Blasting Caps, Explosive Related Items and Other Products Found at Louviers
1/22/21

Photo No. 9	Date:	
Description: Cap wire at SWMU 5.		

Photo No. 10	Date:	
Description: Closeup of cap wire from SWMU 5.		

PHOTOGRAPHIC LOG
Blasting Caps, Explosive Related Items and Other Products Found at Louviers
1/22/21

Photo No. 11	Date:	
Description: Detonated blasting caps and wire.		

Photo No. 12	Date:	
Description: Detonated blasting caps found near SWMUs 5 and 26.		

PHOTOGRAPHIC LOG
Blasting Caps, Explosive Related Items and Other Products Found at Louviers
1/22/21

Photo No. 13	Date: 7/30/13	
Description: PETN found at SWMU 6 during remediation. White chunky material at center of photograph.		

Photo No. 14	Date: 8/15/18	
Description: Layer of PETN found at SWMU 25 Burning Ground during remediation. White layer in middle of photograph is PETN.		

PHOTOGRAPHIC LOG
Blasting Caps, Explosive Related Items and Other Products Found at Louviers
1/22/21

Photo No. 15	Date:	
Description: PETN found at SWMU 13 Solar Ponds during remediation.		

Photo No. 16	Date: 5/7/19	
Description: Positive Expray® result for PETN.		

PHOTOGRAPHIC LOG
Blasting Caps, Explosive Related Items and Other Products Found at Louviers
1/22/21



Photo No. 17	Date: 9/13/18	
Description: DNT stained soil found during remediation of SWMU 23C. DNT stained soil is dark orange color in photograph.		

Photo No. 18	Date: 9/13/18	
Description: Expray [®] showing positive result for DNT at SWMU 23C, as indicated by the blue tint.		

PHOTOGRAPHIC LOG

**Blasting Caps, Explosive Related Items and Other Products Found at Louviers
1/22/21**

Photo No. 19	Date: 4/14/16	
Direction: North		
Description: Bare soil at AOC 5 caused by surface disposal of water gel explosive containing TNT. Area has since been remediated.		

Photo No. 20	Date: 3/23/17	
Description: TNT pellets in soil at AOC 5 prior to remediation.		

PHOTOGRAPHIC LOG

**Blasting Caps, Explosive Related Items and Other Products Found at Louviers
1/22/21**

Photo No. 21	Date: 3/16/15	
Description: Part of a water gel bag found on the Louviers Site at AOC 5 prior to remediation.		

Photo No. 22	Date: 5/18/18	
Description: Detonating cord found at AOC 5 prior to remediation.		

PHOTOGRAPHIC LOG

**Blasting Caps, Explosive Related Items and Other Products Found at Louviers
1/22/21**

Photo No. 21	Date: 3/16/15
Description: New detonating cord made at neighboring facility to Louviers. This product contains PETN.	



Photo No. 21	Date: 11/7/05
Description: Asbestos containing material – non friable.	

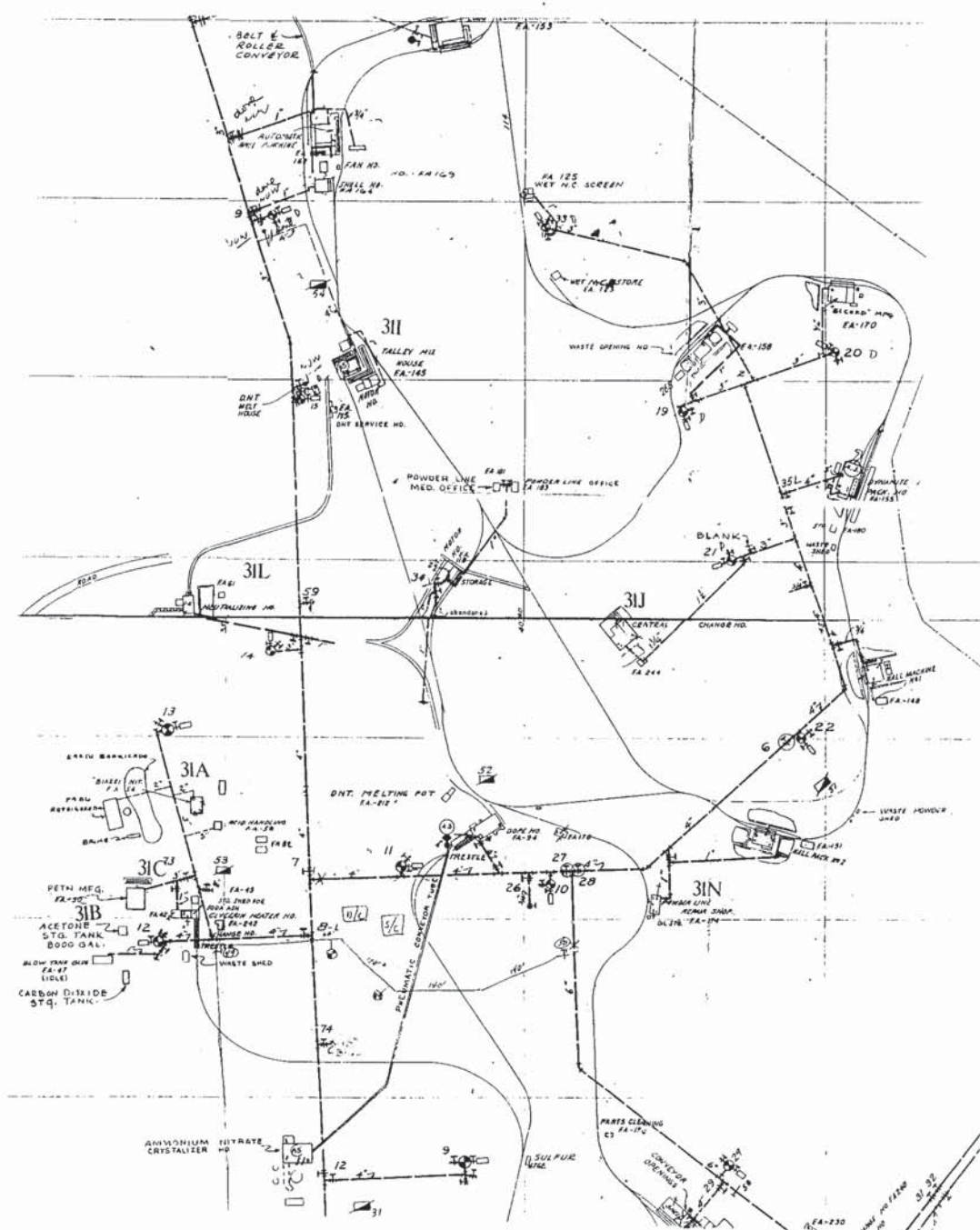


PHOTOGRAPHIC LOG

Blasting Caps, Explosive Related Items and Other Products Found at Louviers 1/22/21



APPENDIX B HISTORICAL PLANT MAPS



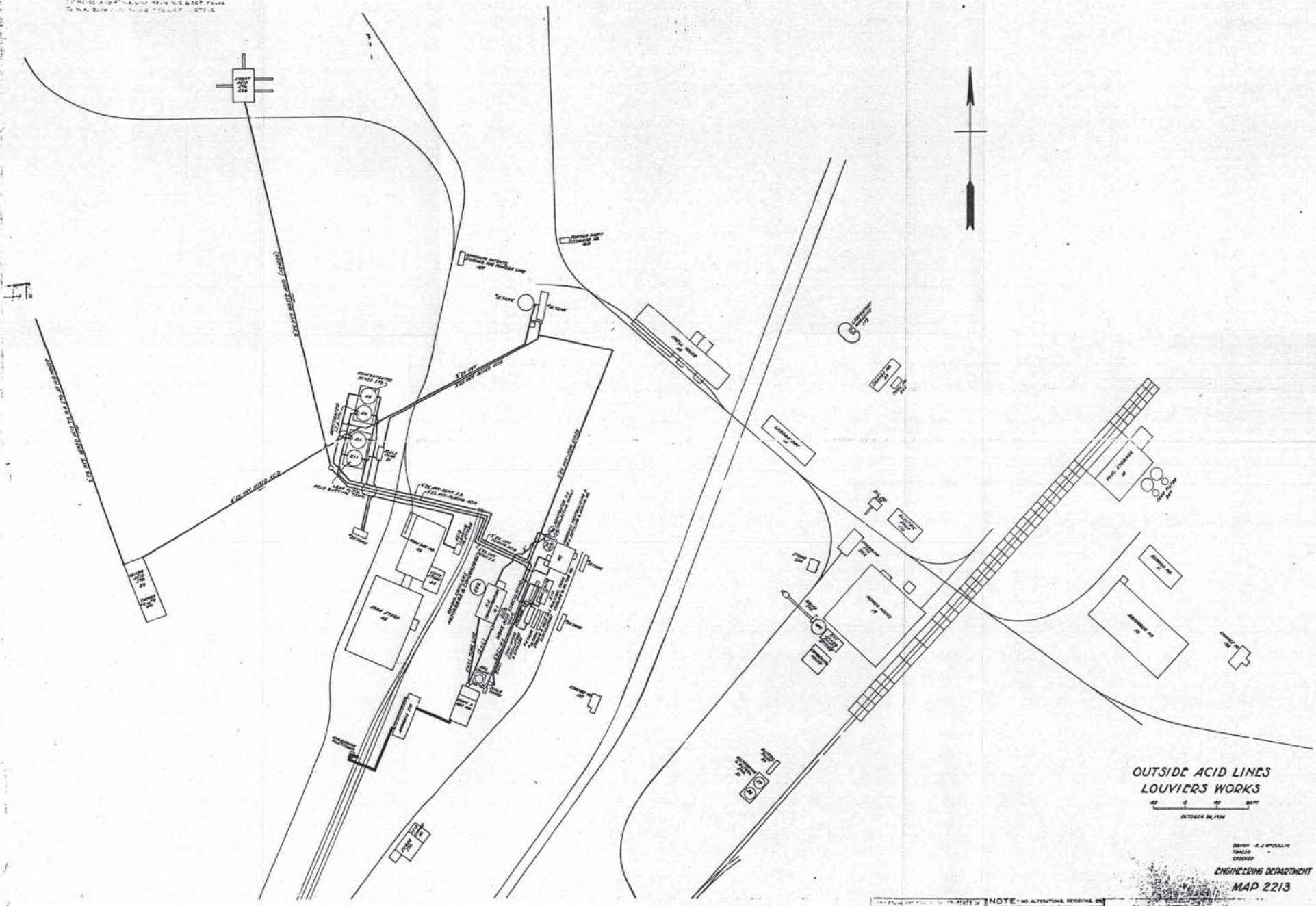

Corporate Remediation Group
 An Alliance between
 DuPont and URS Diamond
 140 Cypress Station Drive, Suite 140
 Houston, Texas 77090

TITLE:
**Map 2206 Sheet 2 West
 Louviers Part 1 Phase I RFI Workplan
 DuPont Louviers Site**

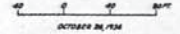
DWN:
 DES.:
 CHKD: **RTK**
 APPD: **BZH**
 DATE: 2/15/01
 REV:

PROJECT NO.:
4237-01
 FIGURE NO.:
9

MAP 2, 1934 - W.A. BLOW CASE HOUSE, 112450, LOCATION
 OF HOUSE AND 4" DIA. LINE FROM N.E. & REP. HOUSE
 TO W.A. BLOW HOUSE THROUGH DISTRICT



OUTSIDE ACID LINES
 LOUVIERS WORKS



OCTOBER 26, 1934

DANNY A. J. SPILLER
 ENGINEER
 ENGINEERING DEPARTMENT
 MAP 2213

NOTE - NO ALTERATIONS, REVISIONS OR
 CHANGES TO BE MADE IN THIS DRAWING
 WITHOUT THE APPROVAL OF THE ENGINEER
 IN CHARGE OF THE PROJECT



MICROFILMED BY D.F. & R. SECTION, ENG. DEPT. DATE: JAN 1 1974



1 2 3 4 5 6 7 8 9 10

MICROFILMED BY D.F.A.R. SECTION, ENG. DEPT. DATE: JAN 9 1974

1:25,000
SHEET 10

1:25,000
SHEET 10

**APPENDIX C
EXPRAY® INFORMATION**

EXPRAY Use and Application

EXPRAY is a field test kit designed to detect and identify trace levels of explosives and explosive residues. The kits have been extensively used in forensic investigations since 1991, and have been invaluable in their expedition of the apprehension of criminals. In the forensic, and, more recently, environmental capacities in which the kit has been utilized, it has proven to be the perfect combination of quick results (less than one minute per test), sensitivity (nanogram level), reliability, ease of transport (under two pounds), ease of operation (no special training and no power requirements), and inexpensive price (less than \$3 per test) to accommodate specific detection needs.

EXPRAY can be used to supply valuable qualitative information during environmental, criminal and forensic investigations. Listed below is a sampling of applications:

- Use to determine if process equipment or a surface has been in contact with explosives
- Certify scrap for disposal
- Soil sample screening
- Prescreen extracts for immunoassay analysis to determine if an explosive is present and if so identify which test (TNT or RDX) should be performed.
- Supplementary tool for detection of explosive devices or residues
- Use to screen for the presence of explosive materials in suspicious letters or packages
- Disclosure of chemicals contained in explosive devices, facilitating linking of previously collected evidence
- Disclosure of category of explosive used, enabling bomb teams to follow proper disposal or disarmament protocols
- Sweep crime scenes
- Allows for fast screening of suspects in the field, without interfering with other forensic tests.
- Kit sensitivity allows detection on almost any surface.

Through a series of sequential reactions, EXPRAY distinguishes between 1) polynitroaromatics, 2) nitrate esters and nitramines, and 3) inorganic nitrate compounds. Based on a patented procedure, this aerosol kit identifies these classes of compounds accurately, quickly, and distinctively. Refer to Tables 1 and 2 for a partial list of explosive compounds and mixtures detected.

The collector papers are laminated on one side and covered with a thin layer of glue on the other side to ensure good collection of specimen.

EXPRAY can be used as an investigative aid to distinguish between an explosive and non-explosive material. Through two or three very simple consecutive tests the kit will provide visual evidence of traces of the explosives listed below. The traces can be found on any surface suspected to have been in contact with explosives.

What does each can test for?

Expray-1 – Group A (Nitroaromatics) - Letter 'E' on the front. This type of explosives includes TNT, Tetryl, TNB, DNT, picric acid and its salts.

Expray-2 – Group B (Nitrate esters and nitramines) - Letter 'X' on the front. This type of explosives includes Dynamite, Nitroglycerine, RDX, PETN, Semtex, Nitrocellulose, smokeless powder, and Tetryl. NOTE: Most plastic types of explosives belong to this group.

Expray-3 – Group I (Inorganic nitrates) - Letter 'I' on the front. The nitrates based explosives include ANFO (ammonium nitrate-fuel oil), commercial and improvised explosives based on inorganic nitrates, black powder, flash powder, gun powder, potassium nitrate, and ammonium nitrate.

How do I use the EXPRAY kit?

Most explosives are not water-soluble and traces can be found months and years after the explosives have been removed. Directions are also printed on each can and inside cover of the Expray kit carrying case.

1. Wipe suspected surface with special collector test paper. (A small amount of soil or extract can be placed on the collection paper.)
2. Spray test paper briefly with Expray-1. If a dark brown-violet color (similar to the color of the label) appears this indicates the presence of TNT; an orange color indicates the presence of Tetryl and other GROUP A explosives.
3. If after spraying with the Expray-1 there is no color reaction, then spray the same test paper with Expray-2.
4. The almost immediate appearance of a pink color change (similar to the color of the 'X' letter on the label) indicates the presence of GROUP B explosives. Most plastic types of explosives belong to this group, including Semtex. [Tetryl belongs to both Groups, so it will change from orange (color change caused by EXPRAY-1) to pink after being sprayed with EXPRAY-2.]
5. If there is still no reaction after using the Expray cans 1 and 2, but presence of explosives is still suspected, spray the same paper with Expray-3. A pink reaction indicates the presence of nitrates, which could be part of an improvised explosive.

How can I be sure the kit is working properly?

The kit is equipped with verification papers that allow the technician to verify that the kit is working. To test the reagents, simply spray one of the EXPRAY cans on unused verification papers. If the letters EX come up, then the reagents are still good.

Do I have to use the collection papers?

No, the collection papers are provided as a convenient way to collect samples. Any clean white paper can be used. Although not recommended the spray can be used on any surface that contrasts with the developed color.

How sensitive is the kit?

Laboratory tests found the kit can detect particles as small as 20 nanograms. Such small particles can be found on hands, on working surfaces (tables, desk) and on the outer side of envelopes or parcels in which explosives were sent. Even after an explosion, unexploded particles can be found in the area, which can give an immediate clue about the nature of the explosion.

For detection of plastic explosives only, can "EXPRAY-2" be used without "EXPRAY-1"?

No, the reagents must be used sequentially in order to ensure accurate results.

How long after handling the explosive can traces be found?

Most explosives are not water soluble, and it is very hard to get rid of traces on the hands even after washing with water and soap. Explosive traces can be found on undisturbed objects even months and years after the actual explosive has been removed.

Is the result of the testing with EXPRAY accepted as evidence in court?

No, in order to gain evidence for court, further laboratory examination of the material is necessary.

If so, why use the kit?

Without a field kit, the technician performing an investigation cannot know which object should be sent for laboratory examination. The result is usually flooding the laboratory with numerous samples suspected of having explosive contamination, resulting in heightened possibility for error as well as increased time of testing. By using the kit, the technician can screen several samples/objects and send to the laboratory only those that give a positive result with EXPRAY, thus saving time and money in the laboratory.

Note: Some propellants and explosives are mixed with plasticizers (such as Bis(2-ethylhexyl)phthalate) that can mask the presence of some of the compounds, a solvent may be necessary in these circumstances to properly expose the energetic material and allow detection.

CHEMISTRY PRINCIPLES OF THE EXPRAY KIT

Nitroaromatics such as TNT, TNB, picric acid and its derivatives form highly colored compounds (Meisenheimer Complexes) upon reaction with alkali. Common alkali formulations for explosive analysis contain 5 to 10 percent tetrabutylammonium hydroxide in ethanol or water.

Nitrate esters such as nitroglycerine (NG), EGNG, PETN, and nitrocellulose (NC) under similar conditions will undergo alkaline hydrolysis producing nitrate ions (NO_2^-), which can be readily detected with the Griess reaction. This includes the action of nitrate ions on an aromatic amine, usually sulfanilic acid, in an acidic medium. The diazonium ion that is then formed is complexed with an aromatic nucleophile to produce a colored azo dye.

Nitramines such as RDX, HMX, and tetryl also undergo alkaline cleavage to form nitrate ions, which produce the same colored azo compound by the Griess reaction. Dimethyl sulfoxide (DMSO) is used as a solvent for the alkaline reagent. This solvent accelerates the color formation with plastic explosives. A combination of sulfanilamide and N-(1-naphthyl) ethylenediamine gives a fast and intensified color reaction.

As for the inorganic nitrates, a fine zinc dust is used to reduce them to nitrite ions that then react with the Griess reagent.

NOTES

There is no way of distinguishing between innocent fertilizers and nitrate-based explosives, so care should be taken when interpreting the results.

The spraying order must not be altered and all three sprays should be used when testing, in order to perform a complete test. If Expray-2 is sprayed after a positive result was obtained with Expray-1, a change to pink color is an indication of a double base or a triple base explosive (such as Composition B and triple base gunpowder). Even when Group B explosives only are tested, one should start with EXPRAY-1 and only then spray with EXPRAY-2. If nitrate based explosives are suspected, one should still start with EXPRAY-1, then move to EXPRAY-2 and only then apply EXPRAY-3.

Stability and Storage

All three reagents have been tested after accelerated aging experiment (50°C, 8 weeks). However, it is recommended that when not in use, that the cans should be stored a cool, dry place. The cans should always be stored in an upright position, and the carrying case of the EXPRAY kit should be stored in standing position. The cans are guaranteed for one year after purchase. However, the reagents should remain effective almost indefinitely.

False positives:

Any fertilizer containing nitrates will react to EXPRAY-3 (after 'E' and 'X'). If nitrite compounds (such as sodium nitrite) are tested, a color reaction will be obtained even after applying EXPRAY-1 and EXPRAY-2. No other false positives are known, but one should note that only the colors listed should be observed.

If a different color appears in any stage, it should be disregarded. Furthermore, an unreacted test paper left in the open-air will gradually change in color to light pink. Note that there are some varnishes and lacquers made of nitrocellulose (which is a group B explosive), and if the kit is applied directly to a surface treated with such coatings, a positive (pink) reaction will appear. The varnishes do not disperse residues, so that touching a varnished surface will not cause positive reaction on the touching hand or surface.

Health and Safety

In general, all spray products should be treated carefully. Do not: puncture the can, throw into fire, or expose to extreme heat.

Spray can should be held in upright position, and exposure to direct sunlight (especially in a parked car in the summer) should be avoided. Usually it is recommended to use the sprays in a ventilated area and to avoid inhalation of the spray. Do not smoke while spraying, as the propellant is flammable.

**TABLE 1
COMPOUNDS DETECTED BY EXPRAY**


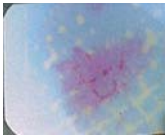
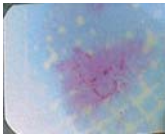





Product:	EXPRAY - 1	EXPRAY - 2	EXPRAY - 3
Detects:	Polynitro-Aromatics	Nitrate-esters Nitramines	Inorganic Nitrate Compounds
Group:	Group A	Group B	Improvised

#	Substance	Color	Substance	Color	Substance	Color
1	TNT	Dark Brown	Semtex	Pink	Ammonium Nitrate	Pink
2	TNB	Dark Brown	RDX	Pink	Potassium Nitrate	Pink
3	DNT	Blue-Green	HMX	Pink	Sodium Nitrate	Pink
4	Picric Acid	Yellow	PETN	Pink	Barium Nitrate	Pink
5	Tri Nitro Naphthalene	Violet	EGDN	Pink	Black Powder	Pink
6	Lead Styphnate	Yellow	Nitroglycerine	Pink	Strontium Nitrate	Pink
7	Tetryl	Orange	Tetryl	Pink	Silver Nitrate	Pink
8	Ammonium Picrate	Yellow	Nitrocellulose	Pink		
9	Nitroxylene	Brown	Smokeless Powder	Pink		
10	DDNP	Orange-Brown	Haleite	Pink		
11			Nitroguanidine	Pink		
12			DEGN	Pink		
13			EDDN	Pink		
14			BTN	Pink		

TABLE 2
CROSS REFERENCE TABLE FOR TRADE NAMES OF EXPLOSIVES DETECTED BY
EXPRAY

#	Name of Explosive	Composition	Detected by Expray Can
1	Amatol	Ammonium Nitrate + TNT	1, 3
2	Ammonal	Ammonium Nitrate + TNT + Aluminum Powder	1, 3
3	Ammongelite		1, 2
4	Ammonium Perchlorate		Not Detected
5	ANFO	Ammonium Nitrate + Fuel Oil	3
6	C3	TNT + DNT + RDX + NC + Tetryl	1, 2
7	C4	RDX	2
8	Composition B	RDX + TNT	1, 2
9	Cordite	NC + NG	2
10	Cyclonite	RDX	2
11	Demolux	RDX + EGDN	2
12	Dynamite	Nitroglycerin	2
13	Gelanite	Nitrocellulose + Nitroglycerin	2
14	Gun Cotton	Nitrocellulose	2
15	HBX, H6	RDX + TNT	1, 2
16	Lead Azide		Not Detected
17	Mercury Fulminate		Not Detected
18	Octogen	HMX	2
19	Octol	HMX + TNT	1, 2
20	Pentolite	TNT + PETN	1, 2
21	Pentrite	PETN	2
22	Picratol	TNT + Picric Acid	1
23	Semtex H	RDX + PETN	2
24	Tetrytol	Tetryl + TNT	1, 2
25	Torpex	TNT + RDX + Aluminum Powder	1, 2
26	Tritonal	TNT + Aluminum Powder	1
27	Water Gel	Ammonium Nitrate + Magnesium	3

EXPLOSIVE DETECTION COLOR CHART

	EXPRAY 1 DROP-EX 1 GROUP A Polynitro-Aromatics	EXPRAY 2 DROP-EX 2 GROUP B Nitrate-esters Nitramines	EXPRAY 3 DROP-EX 3 GROUP C Inorganic Nitrate Compounds	DROP-EX 4 GROUP D Chlorates/Bromates	DROP-EX 5 GROUP D Chlorates/Peroxides
TNT TNB					
DNT		Semtex	Ammonium Nitrate	Potassium Chlorate	Chlorate Compounds
Picric Acid Lead Styphnate		RDX	Potassium Nitrate	Sodium Chlorate	Triacetone triperoxide {TATP}
Tri Nitro Naphalene		HMX	Sodium Nitrate	Bromates	
		PETN	Barium Nitrate		
		EGDN	Black Powder		
		Nitro Glycerin			
		Nitro Cellulose			
		Tetryl			
		Smokeless Powder			