



**EPA Presents
Proposed Clean Up Options
for
Vernay Laboratories Inc.
Yellow Springs, OH**

**Public Information Session
October 24, 2019**

Meeting Purpose

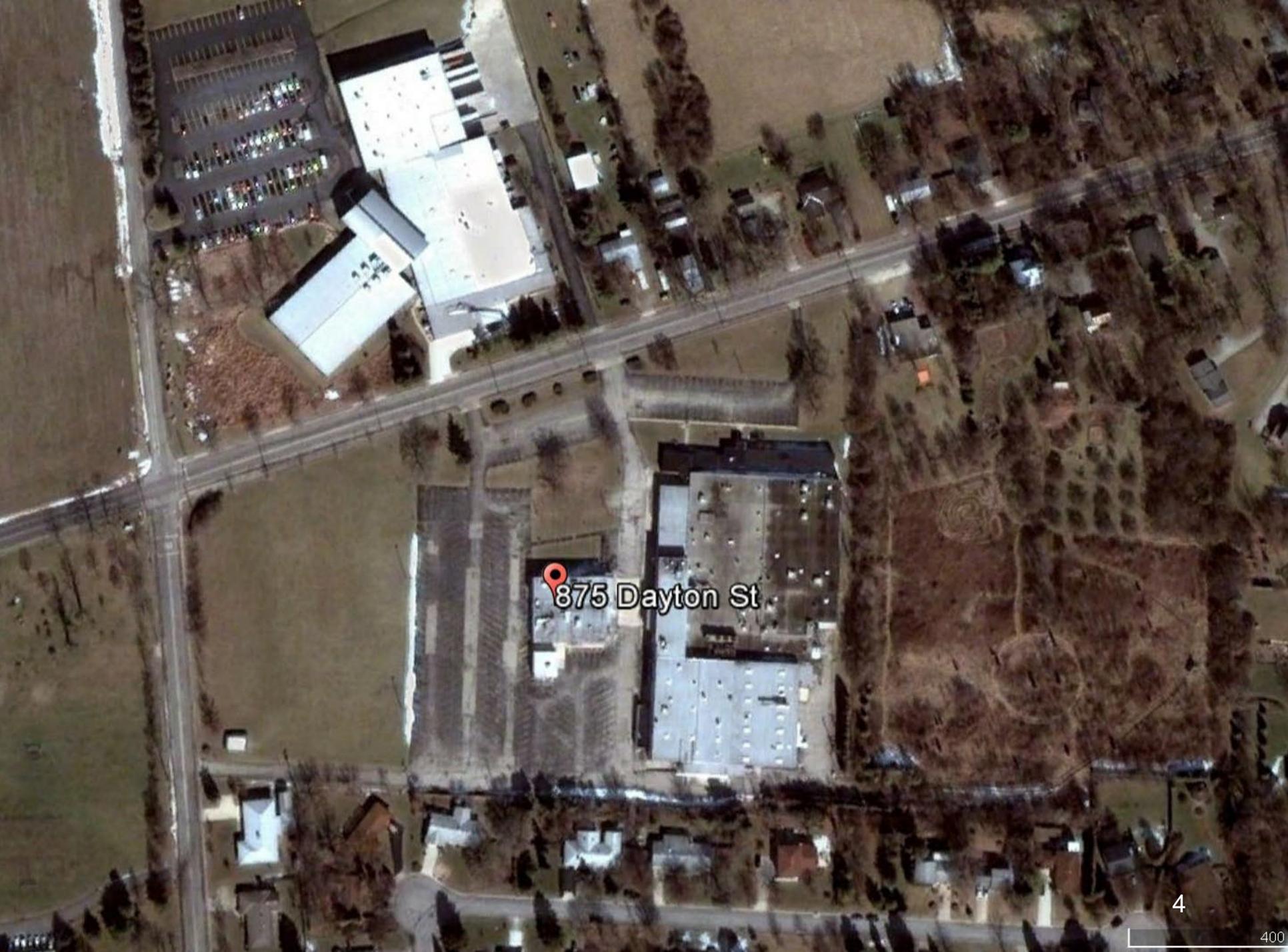


- Provide a brief background on Vernay (the site)
- Summarize investigation activities and current stage of remediation (“corrective action”)
- Solicit community input before EPA drafts proposed final remedies and the formal public comment period begins

Site Background



- The site is located at 875 Dayton Street
- Vernay operated from the early 1950s through 2005
- It manufactured specialty rubber components for the automotive, appliance, and medical industries
- Above ground structures were demolished in 2009
- The property at 825 Dayton Street, aka Rabbit Run Farm, was acquired in 2010



875 Dayton St



875 Dayton St

Legal Framework



- In September 2002, EPA and Vernay signed an administrative order on consent (AOC) under the Resource Conservation and Recovery Act (RCRA)
- The AOC requires Vernay to:
 - determine the type of contaminants involved
 - determine the extent of contamination
 - clean up contamination
 - prevent contaminated groundwater from flowing into unpolluted areas away from the site.
- This is referred to as “corrective action,” and EPA oversees and approves of the work

Release History

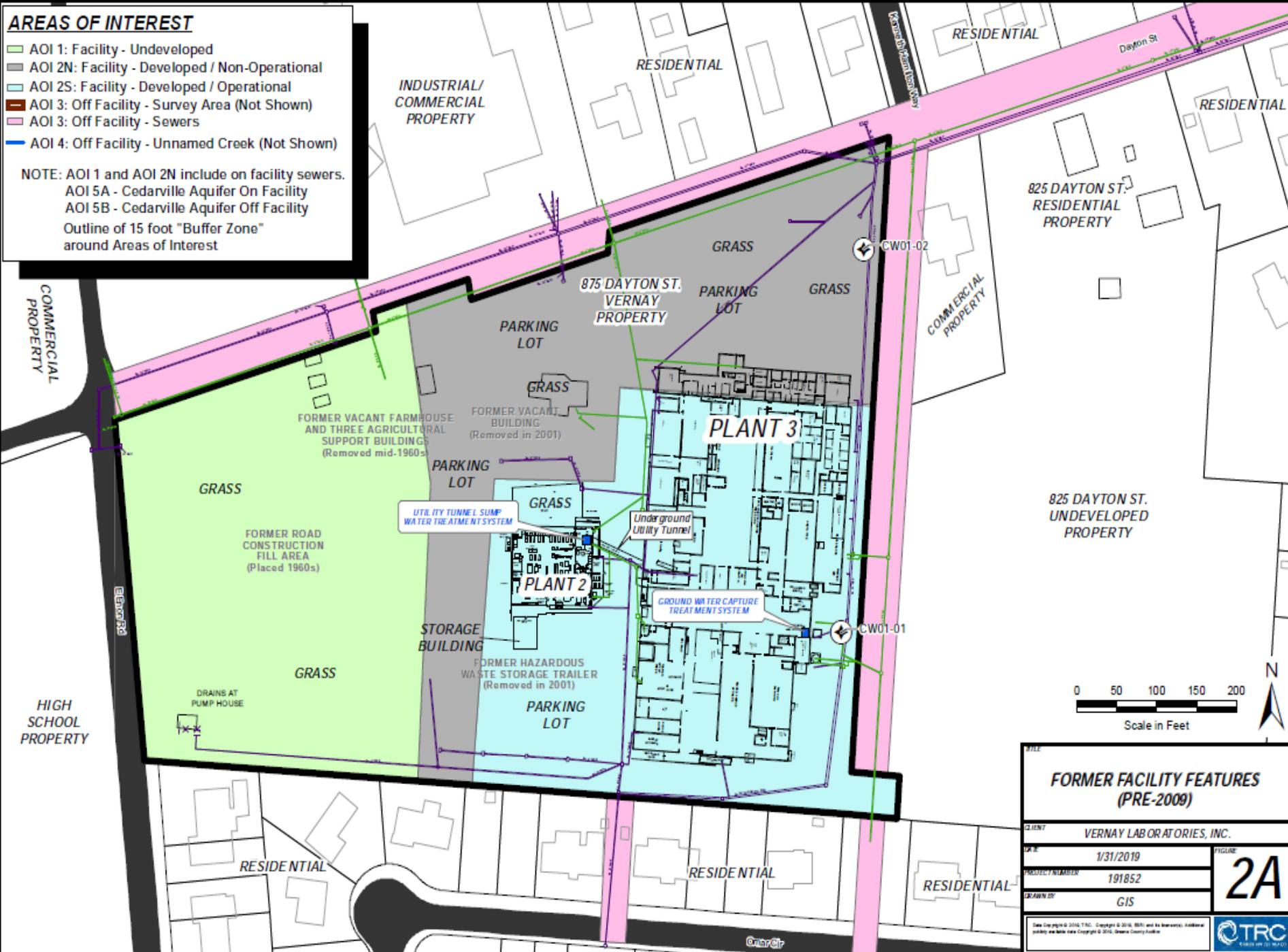


- Source areas of contamination at the site include:
 - Floor Drains and Sewer Lines
 - Drum Storage Areas
 - Loading Docks
 - Storm Water Catch Basin
 - Septic System and Hydraulic Oil Trench
 - Dust Suppression and Weed Control Areas
 - Fill Area
 - Vapor Degreasers

AREAS OF INTEREST

- AOI 1: Facility - Undeveloped
- AOI 2N: Facility - Developed / Non-Operational
- AOI 2S: Facility - Developed / Operational
- AOI 3: Off Facility - Survey Area (Not Shown)
- AOI 3: Off Facility - Sewers
- AOI 4: Off Facility - Unnamed Creek (Not Shown)

NOTE: AOI 1 and AOI 2N include on facility sewers.
 AOI 5A - Cedarville Aquifer On Facility
 AOI 5B - Cedarville Aquifer Off Facility
 Outline of 15 foot "Buffer Zone" around Areas of Interest



TITLE	
FORMER FACILITY FEATURES (PRE-2009)	
CLIENT	
VERNAY LABORATORIES, INC.	
DATE	
1/31/2019	
PROJECT NUMBER	FIGURE
191852	2A
DRAWN BY	
GIS	
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Groundwater Investigation



- Since 1998, Vernay has tested groundwater using a series of monitoring wells
- Investigations have shown that contamination has flowed under Vernay's eastern property boundary
- Groundwater is contaminated with volatile organic compounds (VOCs) - chemicals that evaporate in air easily such as solvents
- The VOCs most prevalent in the groundwater include:
 - Tetrachloroethene (PCE)
 - Trichloroethylene (TCE)
 - 1,2-dichloropropane (1,2-DCP)
- PCE and TCE are used as metal degreasers in manufacturing while 1,2-DCP is a pesticide commonly used many years ago

WELL SURVEY

As part of the RFI and the on-going Corrective Measures Evaluation, annual water well surveys (including sampling of used water wells) were completed by Vernay within the RFI Study Area to identify private water wells that are being used or could be used. The annual survey was conducted by Vernay in cooperation with the Greene County Public Health (GCPH) agency. The current locations and uses of the identified water wells in the survey area are presented on Figure 3. As of 2019, only one property within the Study Area was using private water wells as discussed in CMP Section 3.3.3.

As part of Alternative 5, an annual water well survey will be conducted to identify the presence and use of any wells in the GMZ plume area; if any wells are identified, Vernay will request they be closed at Vernay's expense. Because all known wells in the GMZ have been closed, Vernay will seek again to have a Village ordinance established prohibiting the installation of wells in the GMZ, with a renewable sunset provision.

LEGEND

-  Groundwater Management Zone (GMZ) Conceptual Extent of Dissolved VOCs in the Upper & Middle Cedarville Aquifer Groundwater above the MCL (5 PFB) (updated semi-annually)
-  Conceptual Extent of Dissolved VOCs in the Upper & Middle Cedarville Aquifer Groundwater above 25 PFB (updated semi-annually)

Note: Lower Cedarville Aquifer Monitoring Wells Remain below Drinking Water Criteria

WELLS LEGEND

Post-RFI monitoring locations (AOC Section VI.18.E.)

-  Groundwater Capture Wells/monthly VOCs & water levels
-  MW - semi-annual VOCs & quarterly water levels
-  MW - quarterly water levels
-  Private Water Wells - annual VOCs & quarterly water levels
-  Private Water Wells - not in use
-  Upper Cedarville Aquifer Geoprobe Sample (Non-Detect Beyond Plume Fringe)

Off-Property Water Wells
COCs below MCLs since
sampling began in 1999

Off-Property
COCs below MCLs
Attained in 2013

Off-Property
COCs below MCLs
Model Predicted in 2046

COCs below MCLs
Model Predicted in 2027
at Eastern Property Boundary

Off-Property
COCs below MCLs
Attained in 2000

Off-Property
COCs below MCLs
Attained in 2004



Scale in Feet

WELL SURVEY AREA IN THE GROUNDWATER MANAGEMENT ZONE (GMZ)		
DATE	VERNAY LABORATORIES, INC.	
DATE	6/3/2019	FIGURE
PROJECT NUMBER	191852.0001.0000	3
DRAWN BY	GIS	
		11231 Cornell Park Drive Cincinnati, Ohio 45242 513-489-2255 <small>http://www.vernaylab.com</small>

Soil Investigation



- Vernay collected soil data from 1998 to 2005
- Soil next to and beneath structures at the facility contains VOCs
- The VOCs most prevalent in the soil include:
 - Tetrachloroethene (PCE)
 - Trichloroethene (TCE)
 - cis-1,2-Dichloroethene (cis-1,2-DCE)
 - 1,2-Dichloroethene (1,2-DCE)
 - Vinyl Chloride (VC)
 - 1,2-Dichloropropane (1,2-DCP)
 - Carbon tetrachloride
 - Methylene chloride (MeCl)
 - 1,1,2-trichloro-1,2,2-trifluoroethane (Freon-113)

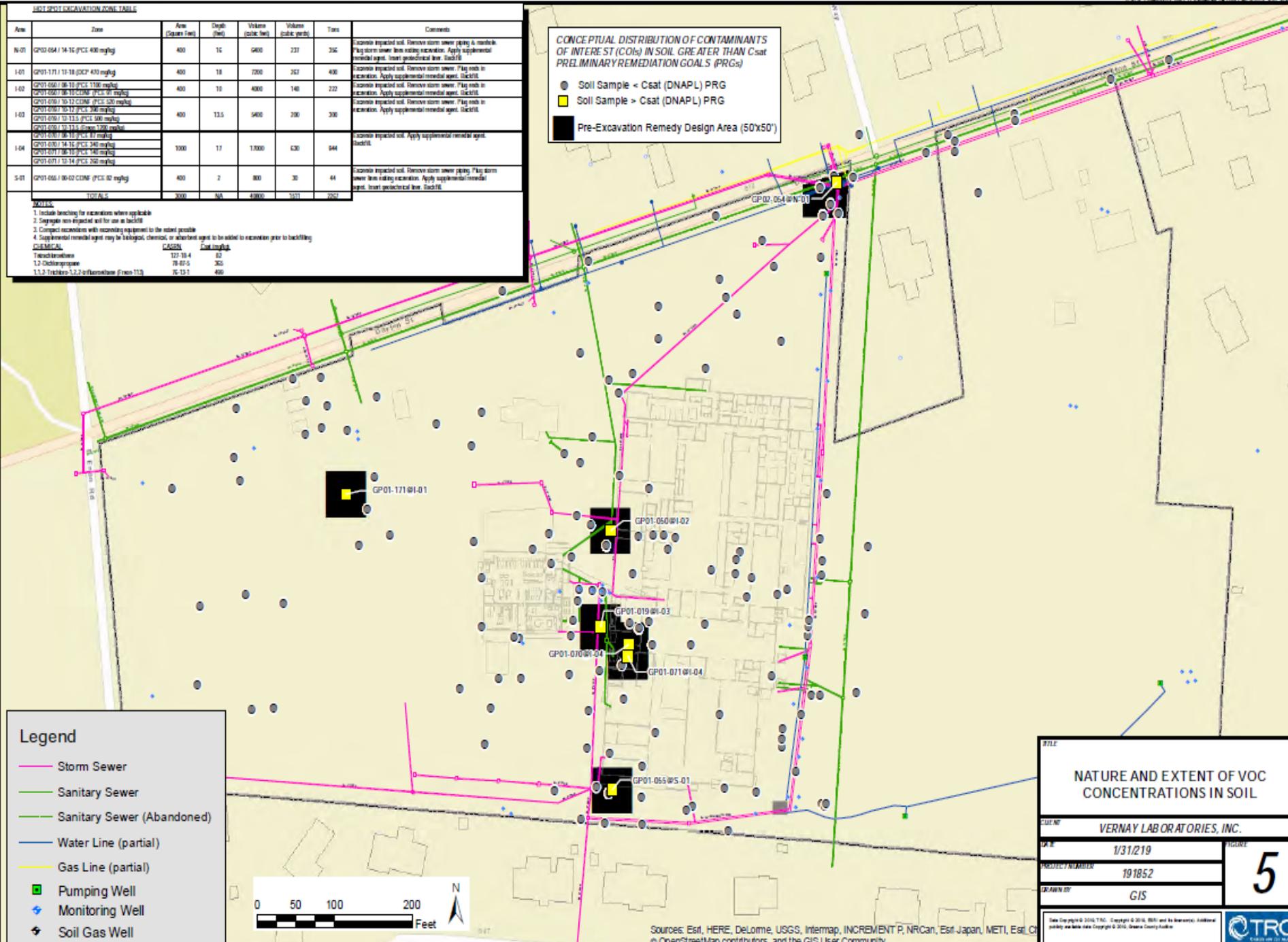
SPOT EXCAVATION COST TABLE

Area	Zone	Area (Square Feet)	Depth (feet)	Volume (cubic yards)	Volume (cubic yards)	Tons	Comments
N-01	GP01-054 / 14-16 (PCE 400 mg/kg)	400	16	6400	227	256	Excavate impacted soil. Remove storm sewer piping & install Plug storm sewer line using excavation. Apply supplemental remedial agent. Insert geotextile liner. Backfill.
1-01	GP01-171 / 11-18 (DCEP 400 mg/kg)	400	18	7200	257	400	Excavate impacted soil. Remove storm sewer. Plug with in excavation. Apply supplemental remedial agent. Backfill.
1-02	GP01-050 / 06-10 (PCE 1100 mg/kg)	400	10	4000	140	222	Excavate impacted soil. Remove storm sewer. Plug with in excavation. Apply supplemental remedial agent. Backfill.
	GP01-057 / 06-10 COME (PCE 91 mg/kg)						
	GP01-056 / 10-12 COME (PCE 500 mg/kg)						
	GP01-058 / 10-12 (PCE 200 mg/kg)						
1-03	GP01-070 / 12-13 (PCE 500 mg/kg)	400	13.5	5400	200	300	Excavate impacted soil. Remove storm sewer. Plug with in excavation. Apply supplemental remedial agent. Backfill.
	GP01-059 / 12-13 (PCE 1200 mg/kg)						
	GP01-057 / 06-10 (PCE 87 mg/kg)						
1-04	GP01-051 / 14-16 (PCE 340 mg/kg)	1000	17	17000	630	944	Excavate impacted soil. Apply supplemental remedial agent. Backfill.
	GP01-071 / 12-14 (PCE 200 mg/kg)						
5-01	GP01-055 / 06-02 COME (PCE 62 mg/kg)	400	2	800	30	44	Excavate impacted soil. Remove storm sewer piping. Plug storm sewer line using excavation. Apply supplemental remedial agent. Insert geotextile liner. Backfill.
TOTALS		3000	96.5	43800	1571	2523	

- NOTES:
1. Include benching for excavations when applicable
 2. Segregate non-impacted soil for use as backfill
 3. Compact excavations with recycling equipment to the extent possible
 4. Supplemental remedial agent may be biological, chemical, or adsorbent agent to be added to excavation prior to backfilling
- CHEMICAL
- | CASRN | Cost (mg/kg) |
|----------|--------------|
| 127-18-4 | 82 |
| 78-87-5 | 365 |
| 15-157-1 | 499 |

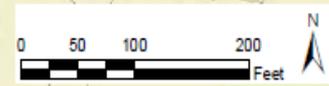
CONCEPTUAL DISTRIBUTION OF CONTAMINANTS OF INTEREST (COIs) IN SOIL GREATER THAN Csat PRELIMINARY REMEDIATION GOALS (PRGs)

- Soil Sample < Csat (DNAPL) PRG
- Soil Sample > Csat (DNAPL) PRG
- Pre-Excavation Remedy Design Area (50'x50')



Legend

- Storm Sewer
- Sanitary Sewer
- Sanitary Sewer (Abandoned)
- Water Line (partial)
- Gas Line (partial)
- Pumping Well
- Monitoring Well
- Soil Gas Well



TITLE
NATURE AND EXTENT OF VOC CONCENTRATIONS IN SOIL

CLIENT
VERNAVY LABORATORIES, INC.

DATE
1/31/219

PROJECT NUMBER
191852

DRAWN BY
GIS

SCALE
5

TRC
CONSULTING ENGINEERS

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Vapor Intrusion Investigation



- In June 2015, EPA requested that Vernay complete a soil vapor investigation of the property and surrounding off-site properties pursuant to new EPA Guidance
- Conducted from February 2016 through April 2018
- The investigation did **not** find evidence of VOCs moving into nearby homes from underground soil gas

Ongoing Cleanup Activities

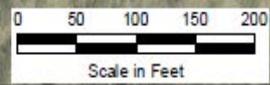


- Vernay has installed a Ground Water Capture Treatment System as an “interim measure”
 - Groundwater is pumped out from beneath the site
 - Chemicals are removed by an activated carbon filter
 - Treated water is discharged to sanitary sewers under a permit
- This “pump and treat” system works to slow the movement of contaminated groundwater, and is currently used as a “source-control measure”
- Over 200,000,000 gallons of groundwater have been removed and treated by this system since it started

CURRENT PROPERTY CONFIGURATION



Looking North towards Dayton Street

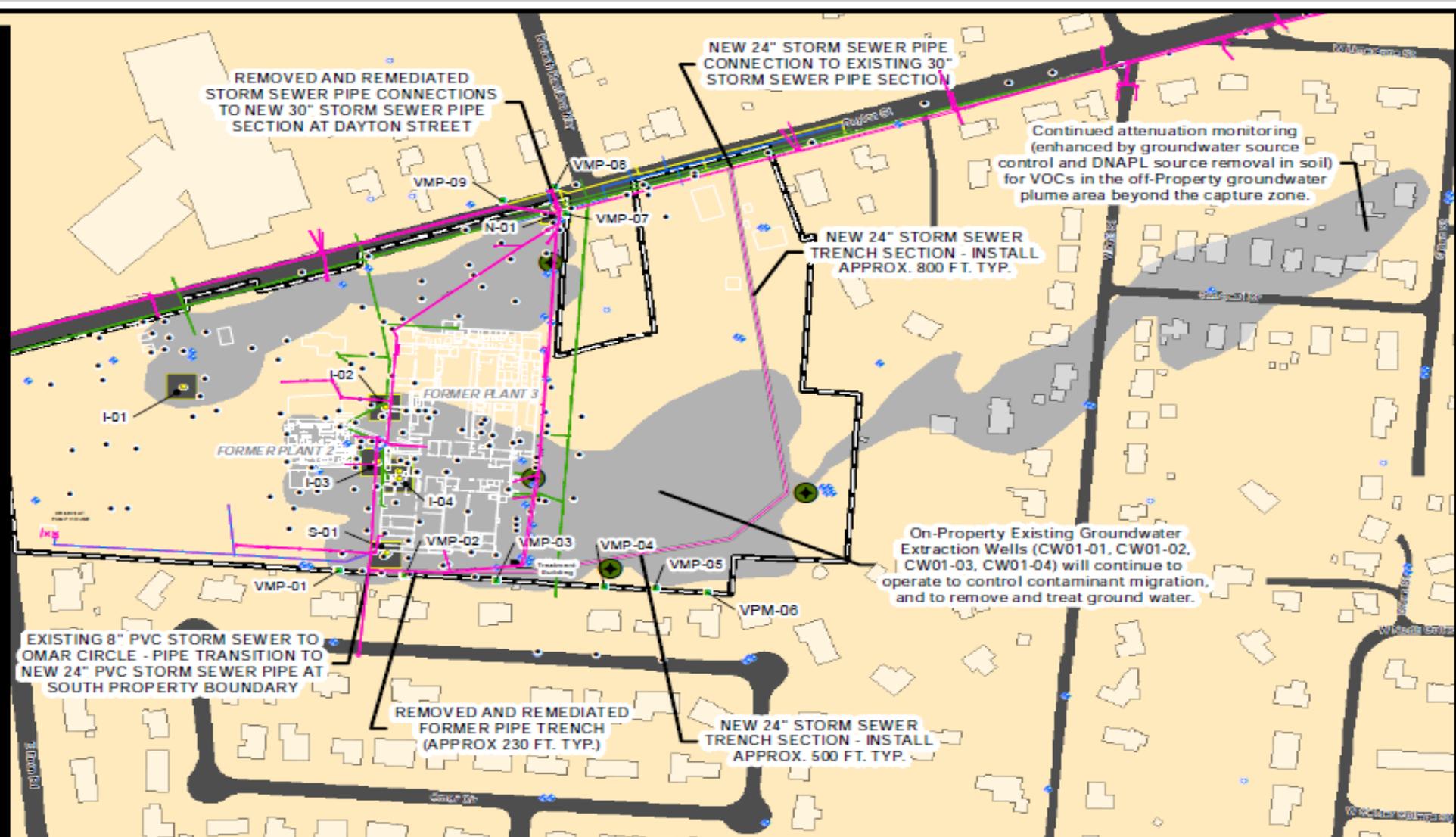


TITLE CURRENT PROPERTY FEATURES (2019)		
CLIENT VERNAY LABORATORIES, INC.		
DATE	1/31/219	SHEET 2B
FIELD NO. / PROJECT	191852	
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Proposed Cleanup Activities



- Vernay has proposed additional cleanup activities in a “Corrective Measures Proposal”
- Storm Sewer Removal & Rerouting Proposal:
 - Storm sewers at the north and south property boundaries will be disconnected from the municipal lines and capped
 - All sewer lines will be cut back 50 feet from the site boundaries; all inlets onsite will be removed
 - More than 600 feet of sewer lines will be removed
 - Approximately 230 feet of storm sewer will be removed from the southern property boundary near Omar Drive
 - The Omar Circle storm sewer will be rerouted to the Dayton Street storm sewer
 - Intended to remove contaminated soils and pathways for contamination to travel



LEGEND

- Remediation Extraction Wells
- Monitoring Wells
- Private Water Wells Outside the GMZ
- Vapor Monitoring Probe
- Soil Sample >Coat (DNAPL)
- Soil Sample <Coat
- Planned Soil Source Excavation
- Residual DNAPL (hot spot) Soil Source Area to be Excavated following Remedial Design Confirmation Sampling (See Detail sheet C-02; CMP Appendix 10)
- Groundwater Management Zone (GMZ) as of 2019 Conceptual Extent of VOCs in Groundwater Off-Property above the MCL
- VERNAY-OWNED PROPERTY BOUNDARY



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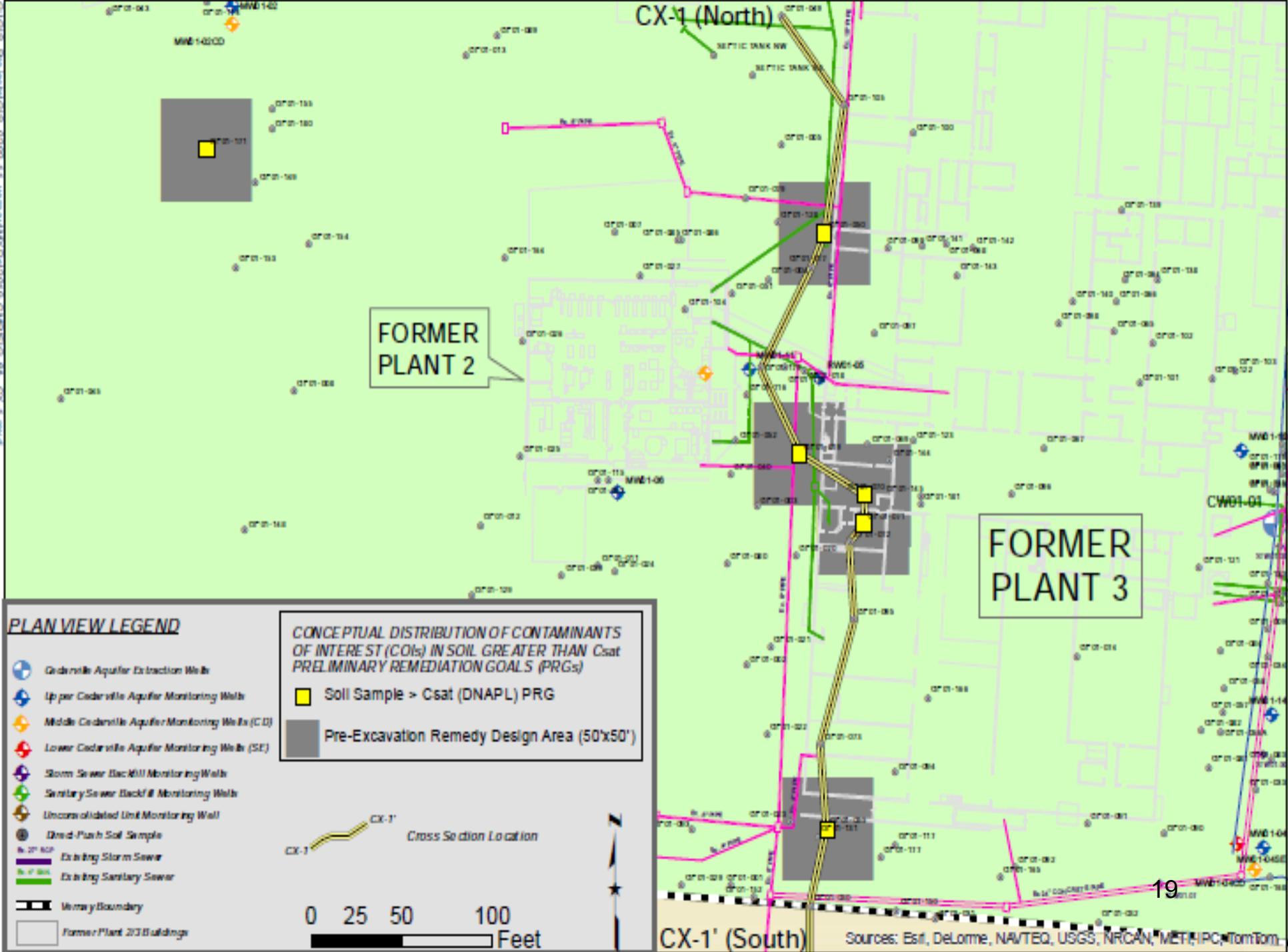
AREAL EXTENT OF PROPOSED CORRECTIVE MEASURE COMPONENTS - ALTERNATIVE 5

DATE	VERNAV LABORATORIES, INC.	
DATE	6/3/2019	FIGURE
PROJECT NUMBER	191852	9
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Proposed Cleanup Activities



- Vernay has proposed to perform soil removal from six identified “hot spots”
- Two “hot spots” will be excavated in conjunction with the storm sewer removal and re-routing activities
- Proposed excavations are 50 feet by 50 feet
- Depth of excavations vary based on the what is known about the contamination
- Additional soil will be removed from areas where sewer lines are removed



CX-1 (North)

FORMER PLANT 2

FORMER PLANT 3

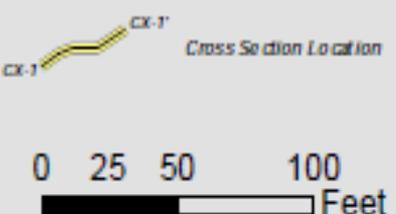
PLAN VIEW LEGEND

- Cedarville Aquifer Extraction Wells
- Up per Cedarville Aquifer Monitoring Wells
- Middle Cedarville Aquifer Monitoring Wells (C/D)
- Lower Cedarville Aquifer Monitoring Wells (SE)
- Storm Sewer Backfill Monitoring Wells
- Sanitary Sewer Backfill Monitoring Wells
- Unconsolidated Unit Monitoring Well
- Direct Push Soil Sample
- Existing Storm Sewer
- Existing Sanitary Sewer
- Property Boundary
- Former Plant 2/3 Buildings

CONCEPTUAL DISTRIBUTION OF CONTAMINANTS OF INTEREST (COIs) IN SOIL GREATER THAN C_{sat} PRELIMINARY REMEDIATION GOALS (PRGs)

Soil Sample > C_{sat} (DNAPL) PRG

Pre-Excavation Remedy Design Area (50'x50')



CX-1' (South)

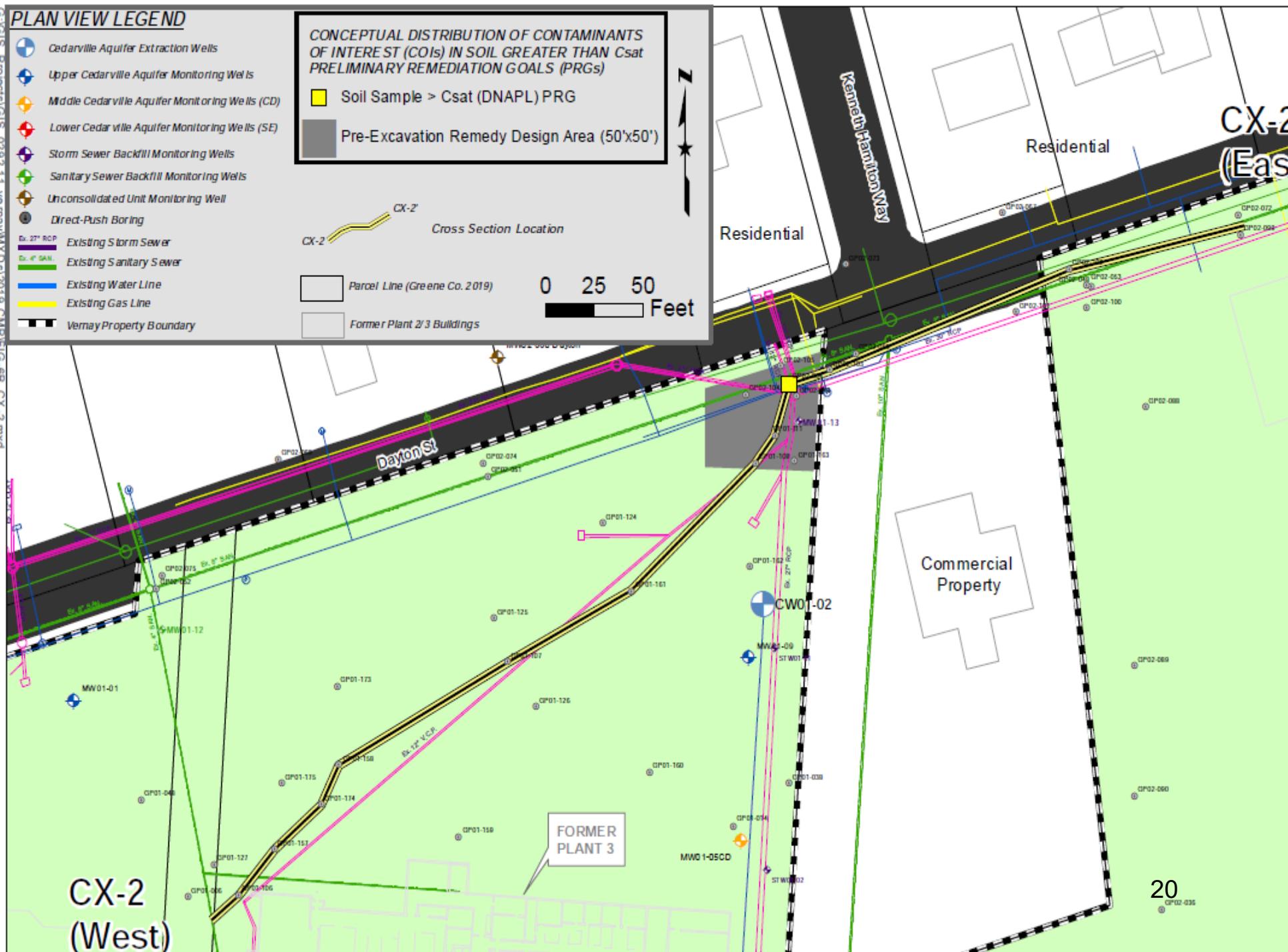
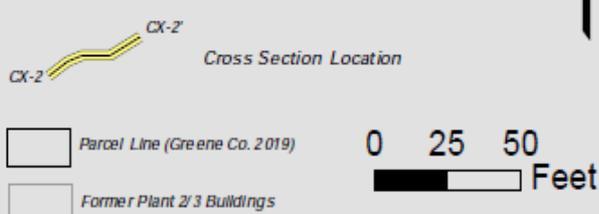
Sources: Est. DeLorme, NAVTEQ, USGS, NRCAN, METI, IPC, TomTom

PLAN VIEW LEGEND

- Cedarville Aquifer Extraction Wells
- Upper Cedarville Aquifer Monitoring Wells
- Middle Cedarville Aquifer Monitoring Wells (CD)
- Lower Cedarville Aquifer Monitoring Wells (SE)
- Storm Sewer Backfill Monitoring Wells
- Sanitary Sewer Backfill Monitoring Wells
- Unconsolidated Unit Monitoring Well
- Direct-Push Boring
- Ex. 27" RCP Existing Storm Sewer
- Ex. 4" SAN Existing Sanitary Sewer
- Existing Water Line
- Existing Gas Line
- Vernay Property Boundary

CONCEPTUAL DISTRIBUTION OF CONTAMINANTS OF INTEREST (COIs) IN SOIL GREATER THAN Csat PRELIMINARY REMEDIATION GOALS (PRGs)

- Soil Sample > Csat (DNAPL) PRG
- Pre-Excavation Remedy Design Area (50'x50')



CX-2 (West)

FORMER PLANT 3

20
CP02-035

Proposed Cleanup Activities



- From 2005-2019, Vernay connected nine properties to the existing municipal water supply system and permanently closed their private water wells
- Ordinance prohibiting the installation of new wells in the “groundwater management zone” is being sought by Vernay
- Village of Yellow Springs would need to approve of ordinance
- Institutional Controls

Next Steps



- EPA
 - Is reviewing the proposed remedies
 - Will approve or modify the document based on the review
 - Draft a Statement of Basis that will provide the cleanup recommendations for public comment

Public Participation



- EPA anticipates the public comment period on the Statement of Basis to begin in early 2020
- The public comment period will be open from 45 days from the date of notification
- Newspaper, radio ads, and web page announcements
- EPA will return to present the Statement of Basis and solicit comments on the document
- Community members will also be able to submit comments online, by mail and by email
- The Corrective Measures Proposal is currently available for public viewing at the Yellow Springs Community Library and on the EPA website at:

<https://www.epa.gov/hwcorrectiveactionsites/hazardous-waste-cleanup-vernay-laboratories-inc-facility-yellow-springs-oh>

Questions?



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